Full wwPDB X-ray Structure Validation Report ⓘ

Mar 6, 2026 – 04:47 AM UTC

PDB ID	:	4V9K / pdb_00004v9k
Title	:	70S ribosome translocation intermediate GDPNP-I containing elongation factor EFG/GDPNP, mRNA, and tRNA bound in the pe*/E state.
Authors	:	Zhou, J.; Lancaster, L.; Donohue, J.P.; Noller, H.F.
Deposited on	:	2013-04-24
Resolution	:	3.50 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references ⓘ) were used in the production of this report:

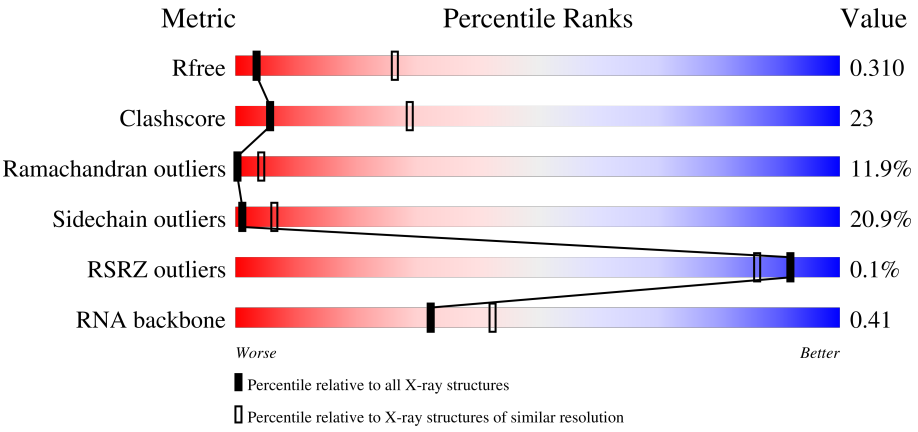
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 3.50 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1085 (3.54-3.46)
Clashscore	190562	1140 (3.54-3.46)
Ramachandran outliers	187476	1113 (3.54-3.46)
Sidechain outliers	187428	1114 (3.54-3.46)
RSRZ outliers	180081	1084 (3.54-3.46)
RNA backbone	3983	1010 (3.98-3.02)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	AB	235	35% 44% 17% .
1	CB	235	37% 46% 15% .
2	AC	207	38% 40% 20% .
2	CC	207	44% 42% 14%

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Mol	Chain	Length	Quality of chain
3	AD	208	35% 49% 13%
3	CD	208	36% 49% 13%
4	AE	151	42% 46% 11%
4	CE	151	52% 34% 15%
5	AF	101	40% 44% 16%
5	CF	101	42% 44% 15%
6	AG	155	44% 48% 8%
6	CG	155	50% 39% 10%
7	AH	138	29% 51% 18%
7	CH	138	30% 55% 14%
8	AI	127	39% 50% 11%
8	CI	127	43% 47% 9%
9	AJ	99	25% 54% 18%
9	CJ	99	33% 51% 14%
10	AK	119	37% 44% 16%
10	CK	119	45% 39% 15%
11	AL	125	18% 42% 24% 15%
11	CL	125	18% 46% 26% 11%
12	AM	125	38% 47% 14%
12	CM	125	36% 45% 18%
13	AN	60	32% 52% 12% 5%
13	CN	60	37% 48% 15%
14	AO	88	47% 40% 10%
14	CO	88	43% 42% 13%
15	AP	84	43% 45% 12%

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Mol	Chain	Length	Quality of chain
15	CP	84	42% 49% 10%
16	AQ	100	37% 44% 17%
16	CQ	100	27% 50% 22%
17	AR	70	39% 47% 13%
17	CR	70	41% 44% 13%
18	AS	79	41% 43% 15%
18	CS	79	42% 39% 18%
19	AT	99	45% 42% 10%
19	CT	99	47% 43% 8%
20	AY	687	33% 47% 16%
20	CY	687	37% 45% 14%
21	AA	1511	33% 52% 15%
21	CA	1511	36% 51% 13%
22	AW	77	25% 56% 19%
22	CW	77	38% 49% 13%
23	AV	23	26% 39% 30%
23	CV	23	22% 57% 13% 9%
24	AU	6	100%
24	CU	6	83% 17%
25	BC	228	22% 44% 28% 6%
25	DC	228	27% 39% 28% 6%
26	BD	275	33% 44% 21%
26	DD	275	32% 50% 16%
27	BE	205	29% 50% 17%
27	DE	205	33% 44% 20%

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Mol	Chain	Length	Quality of chain
28	BF	208	34% 45% 18%
28	DF	208	35% 44% 17%
29	BG	181	36% 49% 13%
29	DG	181	41% 46% 12%
30	BH	167	37% 47% 17%
30	DH	167	40% 46% 15%
31	BJ	170	78% 21%
31	DJ	170	81% 19%
32	BK	140	41% 38% 18%
32	DK	140	39% 39% 20%
33	BN	138	22% 52% 23%
33	DN	138	25% 51% 22%
34	BO	122	33% 52% 12%
34	DO	122	39% 47% 15%
35	BP	146	31% 40% 26%
35	DP	146	28% 40% 25% 6%
36	BQ	141	26% 51% 21%
36	DQ	141	35% 47% 18%
37	BR	117	26% 56% 16%
37	DR	117	28% 54% 18%
38	BS	99	18% 58% 15% 9%
38	DS	99	19% 52% 25%
39	BT	138	27% 50% 20%
39	DT	138	20% 53% 19% 8%
40	BU	117	36% 43% 21%

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Mol	Chain	Length	Quality of chain
40	DU	117	41% 42% 15%
41	BV	101	30% 50% 16%
41	DV	101	28% 50% 21%
42	BW	113	34% 48% 16%
42	DW	113	42% 39% 16%
43	BX	93	42% 39% 18%
43	DX	93	41% 41% 17%
44	BY	107	27% 49% 21%
44	DY	107	36% 39% 21%
45	BZ	185	38% 44% 16%
45	DZ	185	% 34% 48% 15%
46	B0	84	35% 55% 11%
46	D0	84	40% 52% 6%
47	B2	71	32% 52% 15%
47	D2	71	44% 44% 11%
48	B3	60	38% 43% 18%
48	D3	60	37% 48% 15%
49	B5	59	34% 51% 14%
49	D5	59	42% 47% 10%
50	B6	50	20% 52% 22% 6%
50	D6	50	16% 46% 34%
51	B7	49	39% 47% 14%
51	D7	49	45% 43% 12%
52	B8	64	27% 52% 17% 5%
52	D8	64	33% 48% 12% 6%

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Mol	Chain	Length	Quality of chain
53	B9	37	30% 59% 8%
53	D9	37	32% 54% 14%
54	Bf	31	97%
54	Bg	31	100%
54	Df	31	87% 13%
54	Dg	31	100%
55	Bh	30	100%
55	Dh	30	90% 10%
56	B1	93	28% 35% 26% 11%
56	D1	93	25% 42% 25% 9%
57	B4	35	23% 49% 26%
57	D4	35	20% 54% 17% 9%
58	Be	102	66% 26% 8%
58	De	102	60% 30% 8%
59	BA	2879	31% 53% 15%
59	DA	2879	34% 53% 13%
60	BB	119	35% 56% 8%
60	DB	119	43% 46% 11%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
24	5OH	CU	6	-	-	X	-
61	GNP	AY	701	-	-	X	-
61	GNP	CY	701	-	-	X	-

2 Entry composition (i)

There are 62 unique types of molecules in this entry. The entry contains 308422 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	AB	235	Total	C	N	O	S	0	0	0
			1910	1218	342	345	5			
1	CB	235	Total	C	N	O	S	0	0	0
			1910	1218	342	345	5			

- Molecule 2 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	AC	207	Total	C	N	O	S	0	0	0
			1621	1022	315	283	1			
2	CC	207	Total	C	N	O	S	0	0	0
			1621	1022	315	283	1			

- Molecule 3 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	AD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			
3	CD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			

- Molecule 4 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	AE	151	Total	C	N	O	S	0	0	0
			1156	729	218	205	4			
4	CE	151	Total	C	N	O	S	0	0	0
			1156	729	218	205	4			

- Molecule 5 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	AF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			
5	CF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 6 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	AG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			
6	CG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 7 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	AH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			
7	CH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 8 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
8	AI	127	Total	C	N	O	0	0	0
			1011	639	198	174			
8	CI	127	Total	C	N	O	0	0	0
			1011	639	198	174			

- Molecule 9 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	AJ	99	Total	C	N	O	S	0	0	0
			802	504	157	140	1			
9	CJ	99	Total	C	N	O	S	0	0	0
			802	504	157	140	1			

- Molecule 10 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	AK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	CK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			

- Molecule 11 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	AL	125	Total	C	N	O	S	0	0	0
			976	614	196	165	1			
11	CL	125	Total	C	N	O	S	0	0	0
			976	614	196	165	1			

- Molecule 12 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	AM	125	Total	C	N	O	S	0	0	0
			997	617	207	171	2			
12	CM	125	Total	C	N	O	S	0	0	0
			997	617	207	171	2			

- Molecule 13 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	AN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
13	CN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 14 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	AO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
14	CO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

- Molecule 15 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	AP	84	Total	C	N	O	S	0	0	0
			706	446	140	119	1			
15	CP	84	Total	C	N	O	S	0	0	0
			706	446	140	119	1			

- Molecule 16 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	AQ	100	Total	C	N	O	S	0	0	0
			835	534	156	143	2			
16	CQ	100	Total	C	N	O	S	0	0	0
			835	534	156	143	2			

- Molecule 17 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	AR	70	Total	C	N	O	0	0	0
			574	367	112	95			
17	CR	70	Total	C	N	O	0	0	0
			574	367	112	95			

- Molecule 18 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	AS	79	Total	C	N	O	S	0	0	0
			634	405	115	112	2			
18	CS	79	Total	C	N	O	S	0	0	0
			634	405	115	112	2			

- Molecule 19 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	AT	99	Total	C	N	O	S	0	0	0
			762	469	162	129	2			
19	CT	99	Total	C	N	O	S	0	0	0
			762	469	162	129	2			

- Molecule 20 is a protein called Elongation factor G.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	AY	687	Total	C	N	O	S	0	0	0
			5380	3414	922	1024	20			
20	CY	687	Total	C	N	O	S	0	0	0
			5380	3414	922	1024	20			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AY	129	LYS	HIS	conflict	UNP Q72I01

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Chain	Residue	Modelled	Actual	Comment	Reference
AY	226	ASN	HIS	conflict	UNP Q72I01
CY	129	LYS	HIS	conflict	UNP Q72I01
CY	226	ASN	HIS	conflict	UNP Q72I01

- Molecule 21 is a RNA chain called ribosomal RNA 16S.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	AA	1511	Total	C	N	O	P	0	0	0
			32474	14455	6015	10494	1510			
21	CA	1511	Total	C	N	O	P	0	0	0
			32474	14455	6015	10494	1510			

- Molecule 22 is a RNA chain called transfer RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	AW	77	Total	C	N	O	P	0	0	0
			1635	732	291	536	76			
22	CW	77	Total	C	N	O	P	0	0	0
			1635	732	291	536	76			

- Molecule 23 is a RNA chain called messenger RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	AV	23	Total	C	N	O	P	0	0	0
			503	227	106	148	22			
23	CV	23	Total	C	N	O	P	0	0	0
			503	227	106	148	22			

- Molecule 24 is a protein called VIOMYCIN.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
24	AU	6	Total	C	N	O	0	0	0
			48	25	13	10			
24	CU	6	Total	C	N	O	0	0	0
			48	25	13	10			

- Molecule 25 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	BC	228	Total	C	N	O	S	0	0	0
			1742	1101	319	319	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	DC	228	Total	C	N	O	S	0	0	0
			1742	1101	319	319	3			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BC	20	VAL	ILE	conflict	UNP Q72GV9
BC	28	ARG	HIS	conflict	UNP Q72GV9
DC	20	VAL	ILE	conflict	UNP Q72GV9
DC	28	ARG	HIS	conflict	UNP Q72GV9

- Molecule 26 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	BD	275	Total	C	N	O	S	0	0	0
			2145	1353	428	361	3			
26	DD	275	Total	C	N	O	S	0	0	0
			2145	1353	428	361	3			

- Molecule 27 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	BE	205	Total	C	N	O	S	0	0	0
			1569	991	300	272	6			
27	DE	205	Total	C	N	O	S	0	0	0
			1569	991	300	272	6			

- Molecule 28 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	BF	208	Total	C	N	O	S	0	0	0
			1628	1037	304	284	3			
28	DF	208	Total	C	N	O	S	0	0	0
			1628	1037	304	284	3			

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BF	2	LYS	-	insertion	UNP Q72I05
BF	3	GLU	-	insertion	UNP Q72I05
BF	4	VAL	-	insertion	UNP Q72I05

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Chain	Residue	Modelled	Actual	Comment	Reference
BF	5	ALA	-	insertion	UNP Q72I05
BF	6	VAL	-	insertion	UNP Q72I05
DF	2	LYS	-	insertion	UNP Q72I05
DF	3	GLU	-	insertion	UNP Q72I05
DF	4	VAL	-	insertion	UNP Q72I05
DF	5	ALA	-	insertion	UNP Q72I05
DF	6	VAL	-	insertion	UNP Q72I05

- Molecule 29 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	BG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			
29	DG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BG	5	VAL	LEU	conflict	UNP Q72I16
DG	5	VAL	LEU	conflict	UNP Q72I16

- Molecule 30 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	BH	167	Total	C	N	O	S	0	0	0
			1274	806	238	229	1			
30	DH	167	Total	C	N	O	S	0	0	0
			1274	806	238	229	1			

- Molecule 31 is a protein called 50S RIBOSOMAL PROTEIN L10.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
31	BJ	170	Total	C	N	O	0	0	0
			851	510	170	171			
31	DJ	170	Total	C	N	O	0	0	0
			851	510	170	171			

- Molecule 32 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	BK	140	Total	C	N	O	S	0	0	0
			1035	659	183	188	5			
32	DK	140	Total	C	N	O	S	0	0	0
			1035	659	183	188	5			

- Molecule 33 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	BN	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			
33	DN	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			

- Molecule 34 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	BO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			
34	DO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BO	69	ILE	VAL	conflict	UNP Q72I14
DO	69	ILE	VAL	conflict	UNP Q72I14

- Molecule 35 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	BP	146	Total	C	N	O	S	0	0	0
			1114	692	227	193	2			
35	DP	146	Total	C	N	O	S	0	0	0
			1114	692	227	193	2			

- Molecule 36 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	BQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			
36	DQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BQ	32	TYR	PHE	conflict	UNP Q72I11
DQ	32	TYR	PHE	conflict	UNP Q72I11

- Molecule 37 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
37	BR	117	Total	C	N	O	0	0	0
			960	599	202	159			
37	DR	117	Total	C	N	O	0	0	0
			960	599	202	159			

- Molecule 38 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
38	BS	99	Total	C	N	O	0	0	0
			775	488	155	132			
38	DS	99	Total	C	N	O	0	0	0
			775	488	155	132			

- Molecule 39 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	BT	138	Total	C	N	O	S	0	0	0
			1147	713	235	198	1			
39	DT	138	Total	C	N	O	S	0	0	0
			1147	713	235	198	1			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BT	123	GLN	LYS	conflict	UNP Q72JU9
BT	135	ALA	VAL	conflict	UNP Q72JU9
DT	123	GLN	LYS	conflict	UNP Q72JU9
DT	135	ALA	VAL	conflict	UNP Q72JU9

- Molecule 40 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	BU	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	DU	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

- Molecule 41 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	BV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			
41	DV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 42 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	BW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			
42	DW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			

- Molecule 43 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
43	BX	93	Total	C	N	O	0	0	0
			734	477	132	125			
43	DX	93	Total	C	N	O	0	0	0
			734	477	132	125			

- Molecule 44 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	BY	107	Total	C	N	O	S	0	0	0
			818	524	155	134	5			
44	DY	107	Total	C	N	O	S	0	0	0
			818	524	155	134	5			

- Molecule 45 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	BZ	185	Total	C	N	O	S	0	0	0
			1473	939	262	270	2			
45	DZ	185	Total	C	N	O	S	0	0	0
			1473	939	262	270	2			

- Molecule 46 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	B0	84	Total	C	N	O	S	0	0	0
			662	410	140	111	1			
46	D0	84	Total	C	N	O	S	0	0	0
			662	410	140	111	1			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B0	11	ARG	LYS	conflict	UNP Q72HR3
D0	11	ARG	LYS	conflict	UNP Q72HR3

- Molecule 47 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	B2	71	Total	C	N	O	S	0	0	0
			598	370	121	106	1			
47	D2	71	Total	C	N	O	S	0	0	0
			598	370	121	106	1			

- Molecule 48 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	B3	60	Total	C	N	O	S	0	0	0
			477	303	91	82	1			
48	D3	60	Total	C	N	O	S	0	0	0
			477	303	91	82	1			

- Molecule 49 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	B5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			
49	D5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B5	29	THR	ILE	conflict	UNP P62652
D5	29	THR	ILE	conflict	UNP P62652

- Molecule 50 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	B6	50	Total	C	N	O	S	0	0	0
			433	270	88	71	4			
50	D6	50	Total	C	N	O	S	0	0	0
			433	270	88	71	4			

- Molecule 51 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	B7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			
51	D7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			

- Molecule 52 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	B8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			
52	D8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 53 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	B9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
53	D9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 54 is a protein called 50S RIBOSOMAL PROTEIN L7/L12.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
54	Bf	31	Total	C	N	O	0	0	0
			156	93	31	32			
54	Bg	31	Total	C	N	O	0	0	0
			156	93	31	32			
54	Df	31	Total	C	N	O	0	0	0
			156	93	31	32			
54	Dg	31	Total	C	N	O	0	0	0
			156	93	31	32			

- Molecule 55 is a protein called 50S RIBOSOMAL PROTEIN L7/L12.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
55	Bh	30	Total	C	N	O	0	0	0
			151	90	30	31			
55	Dh	30	Total	C	N	O	0	0	0
			151	90	30	31			

- Molecule 56 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	B1	93	Total	C	N	O	S	0	0	0
			732	460	145	126	1			
56	D1	93	Total	C	N	O	S	0	0	0
			732	460	145	126	1			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B1	81	LYS	ARG	conflict	UNP Q72G84
D1	81	LYS	ARG	conflict	UNP Q72G84

- Molecule 57 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
57	B4	35	Total	C	N	O	S	0	0	0
			271	174	44	50	3			
57	D4	35	Total	C	N	O	S	0	0	0
			271	174	44	50	3			

- Molecule 58 is a protein called 50S ribosomal protein L7/L12.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
58	Be	102	Total	C	N	O	0	0	0
			686	430	119	137			
58	De	102	Total	C	N	O	0	0	0
			686	430	119	137			

- Molecule 59 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
59	BA	2879	Total	C	N	O	P	0	0	0
			61997	27594	11582	19943	2878			

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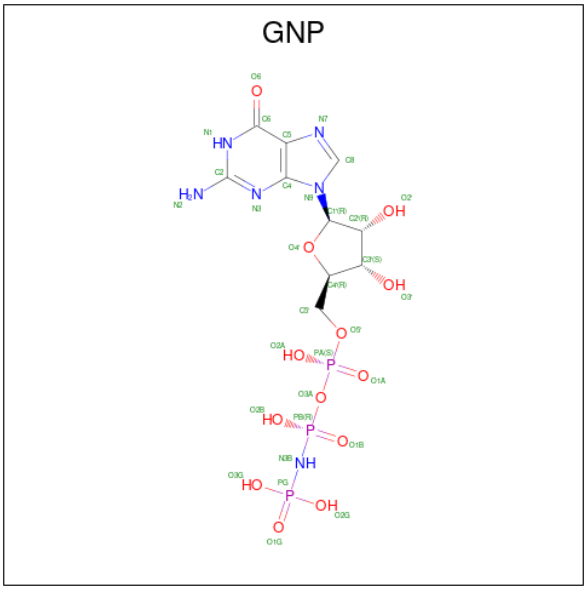
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
59	DA	2879	Total	C	N	O	P	0	0	0
			61997	27594	11582	19943	2878			

- Molecule 60 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
60	BB	119	Total	C	N	O	P	0	0	0
			2551	1136	471	826	118			
60	DB	119	Total	C	N	O	P	0	0	0
			2551	1136	471	826	118			

- Molecule 61 is PHOSPHOAMINOPHOSPHONIC ACID-GUANYLATE ESTER (CCD ID: GNP) (formula: $C_{10}H_{17}N_6O_{13}P_3$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
61	AY	1	Total	C	N	O	P	0	0
			32	10	6	13	3		
61	CY	1	Total	C	N	O	P	0	0
			32	10	6	13	3		

- Molecule 62 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
62	AY	1	Total	Mg	0	0
			1	1		

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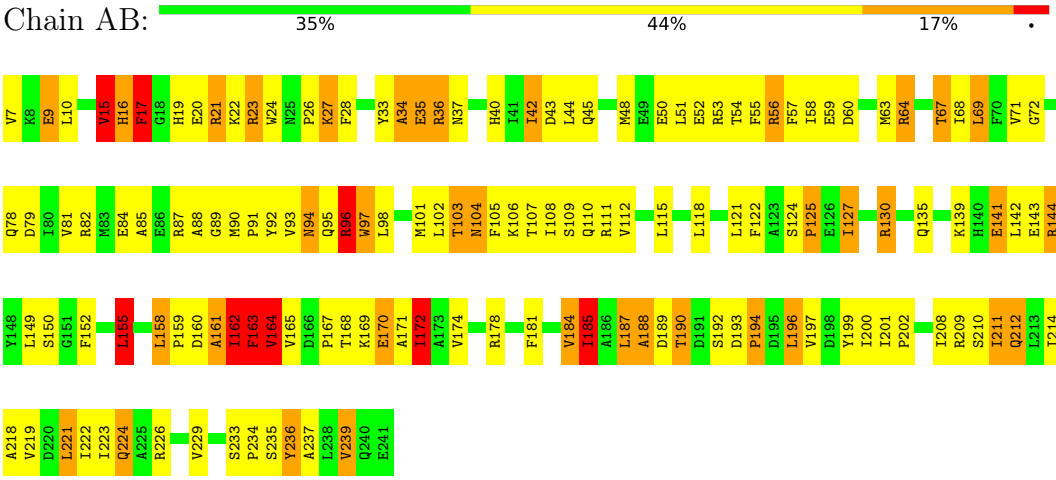
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Mg		
62	CY	1	1	1	0	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

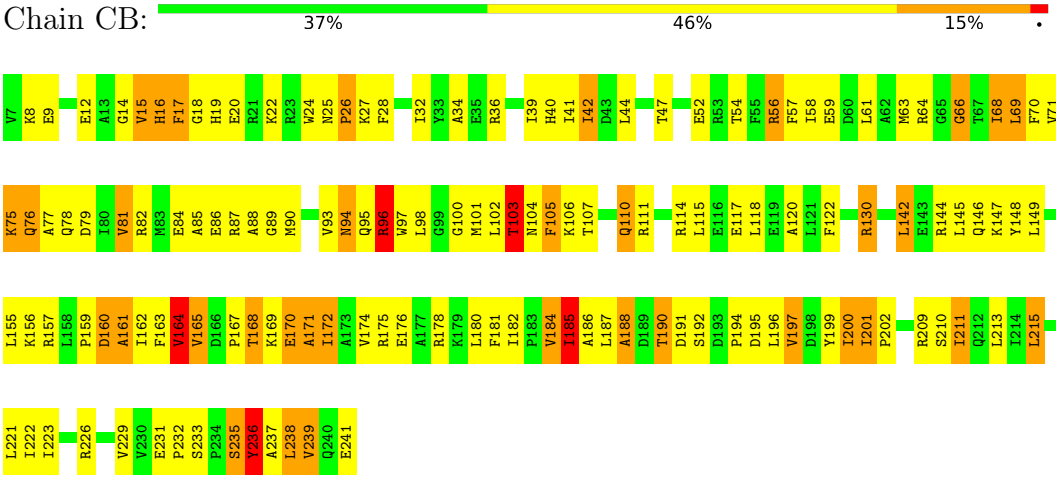
• Molecule 1: 30S ribosomal protein S2

Chain AB:



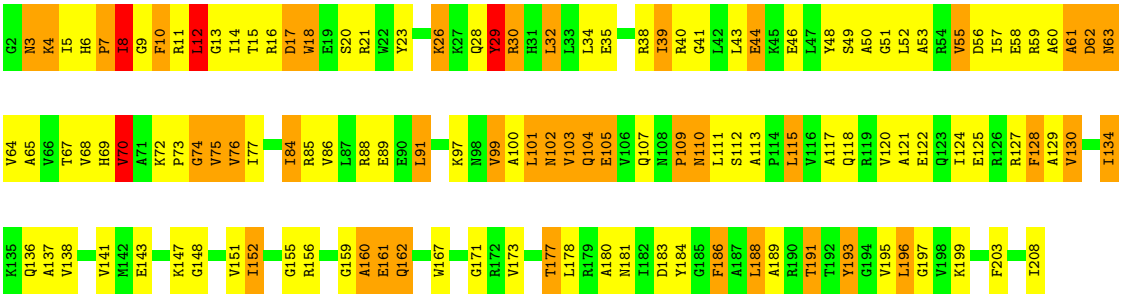
• Molecule 1: 30S ribosomal protein S2

Chain CB:



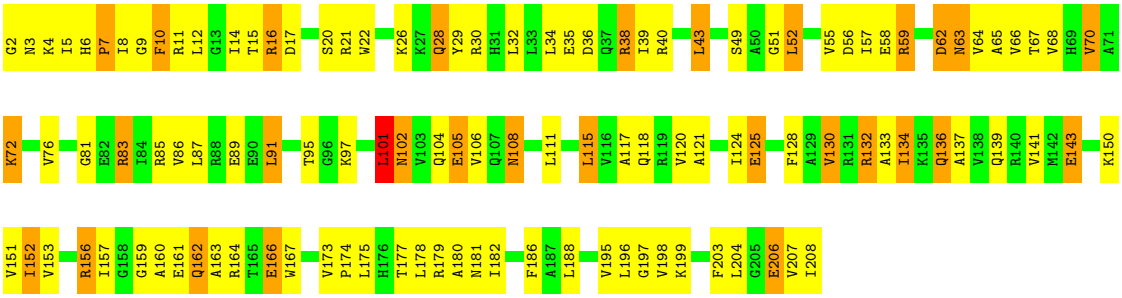
• Molecule 2: 30S ribosomal protein S3

Chain AC:



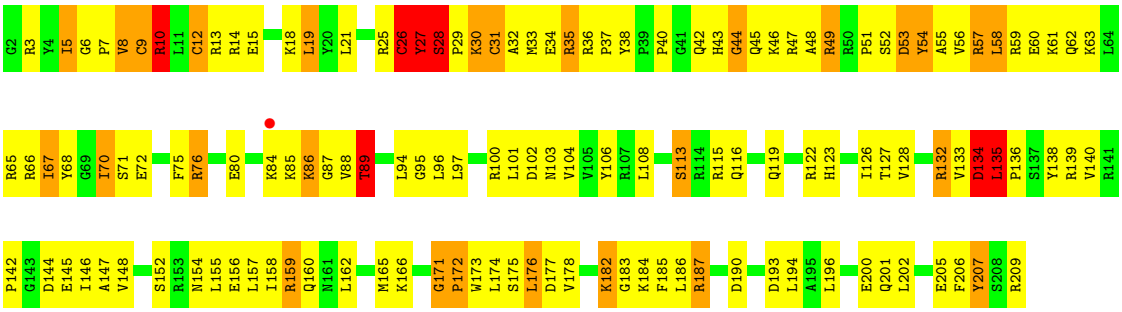
• Molecule 2: 30S ribosomal protein S3

Chain CC:



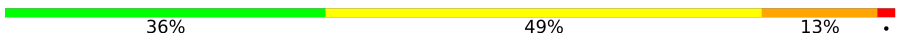
• Molecule 3: 30S ribosomal protein S4

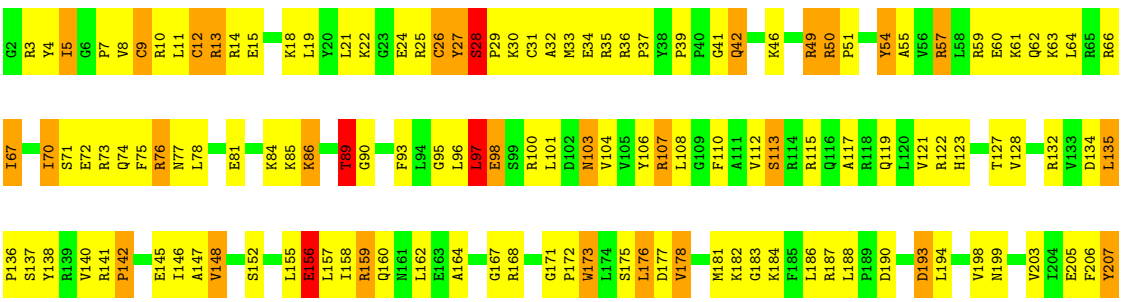
Chain AD:



• Molecule 3: 30S ribosomal protein S4

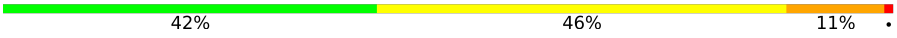
Chain CD:





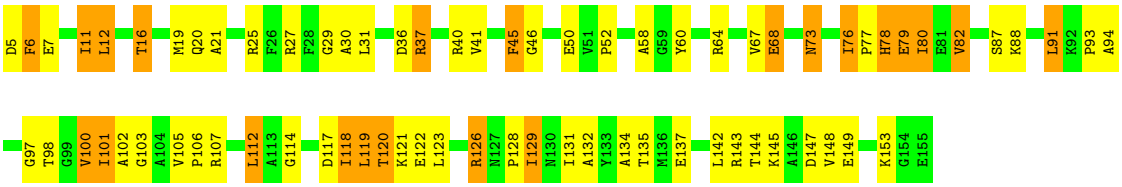
• Molecule 4: 30S ribosomal protein S5

Chain AE:



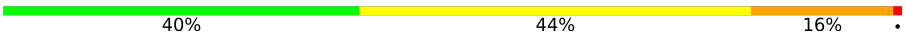
• Molecule 4: 30S ribosomal protein S5

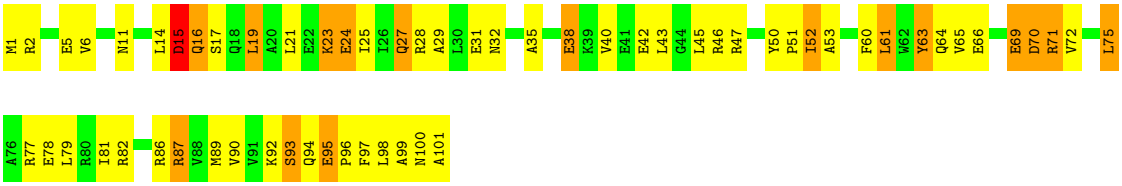
Chain CE:



• Molecule 5: 30S ribosomal protein S6

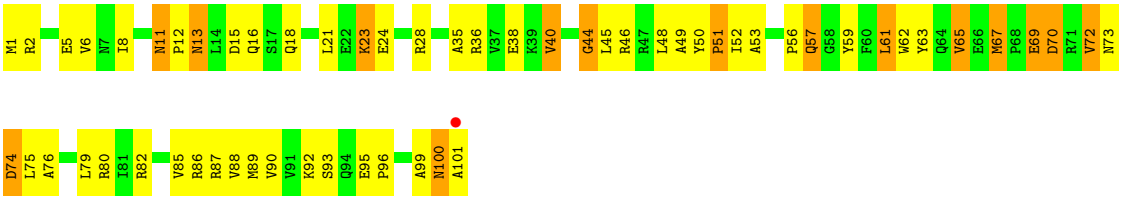
Chain AF:





• Molecule 5: 30S ribosomal protein S6

Chain CF:

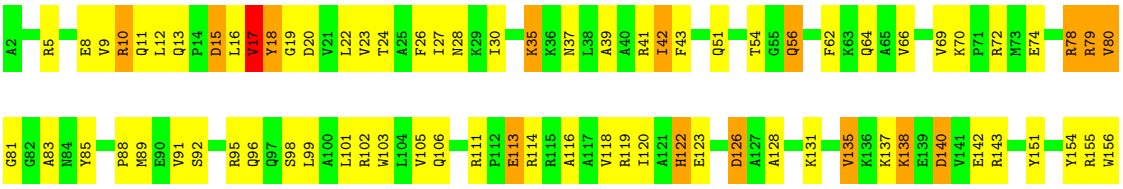


• Molecule 6: 30S ribosomal protein S7

Chain AG:

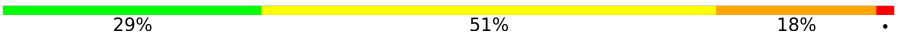
• Molecule 6: 30S ribosomal protein S7

Chain CG:



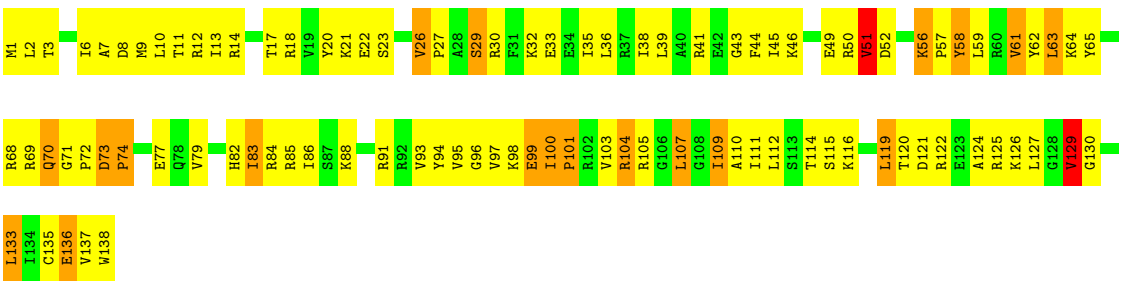
• Molecule 7: 30S ribosomal protein S8

Chain AH:



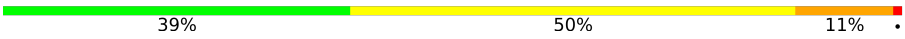
• Molecule 7: 30S ribosomal protein S8

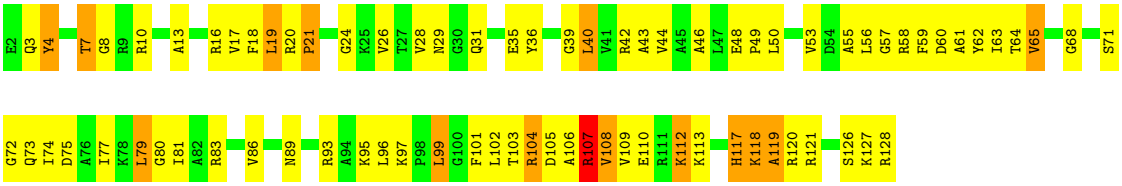
Chain CH:



• Molecule 8: 30S ribosomal protein S9

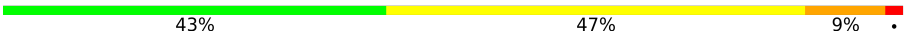
Chain AI:

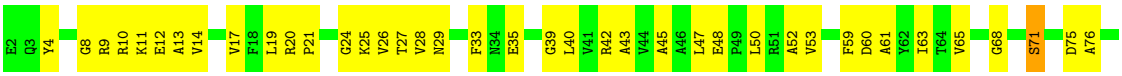




• Molecule 8: 30S ribosomal protein S9

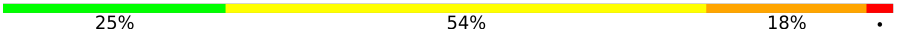
Chain CI:

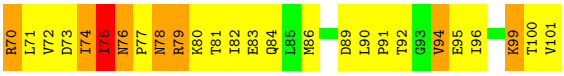




• Molecule 9: 30S ribosomal protein S10

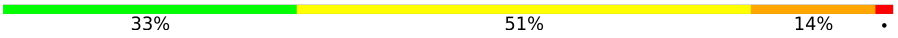
Chain AJ:

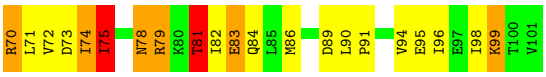




• Molecule 9: 30S ribosomal protein S10

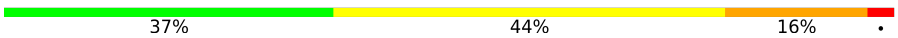
Chain CJ:





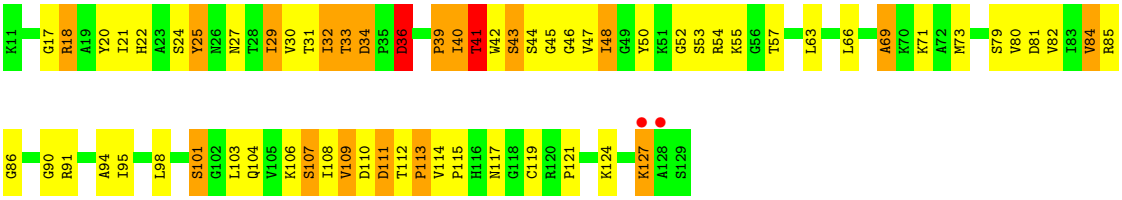
• Molecule 10: 30S ribosomal protein S11

Chain AK:

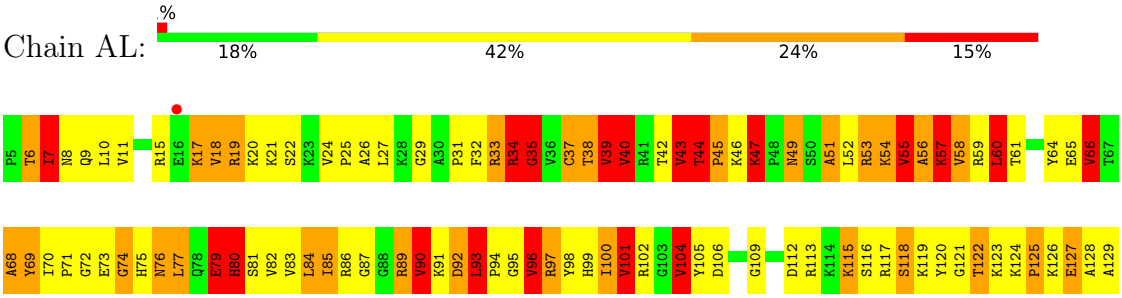


• Molecule 10: 30S ribosomal protein S11

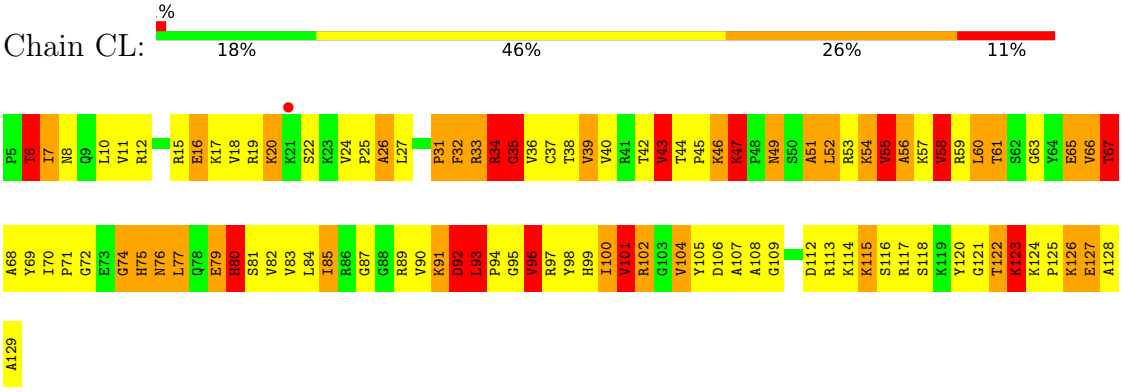
Chain CK:



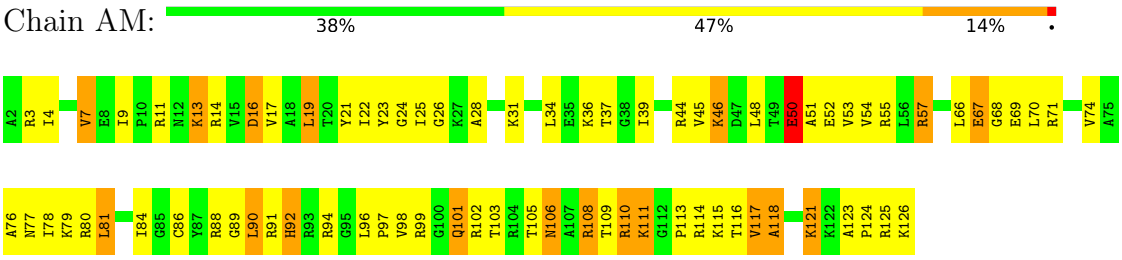
• Molecule 11: 30S ribosomal protein S12



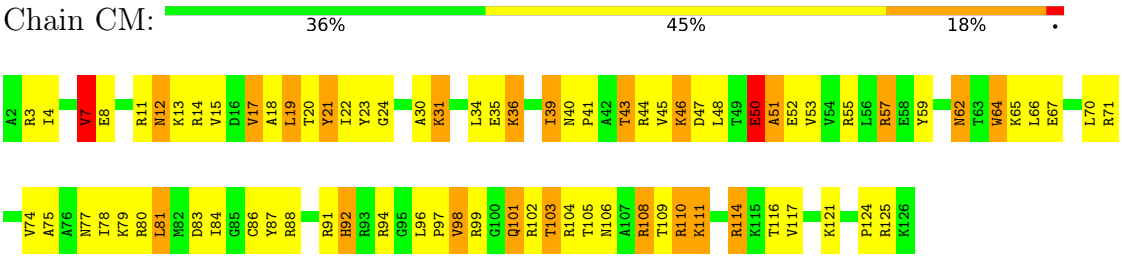
• Molecule 11: 30S ribosomal protein S12



• Molecule 12: 30S ribosomal protein S13

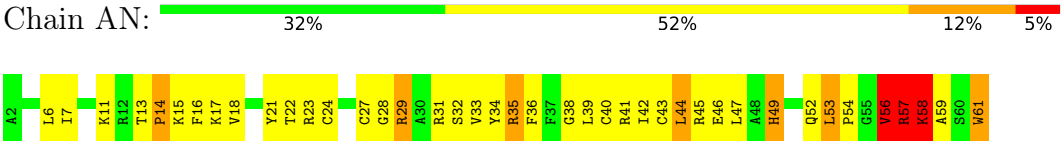


• Molecule 12: 30S ribosomal protein S13



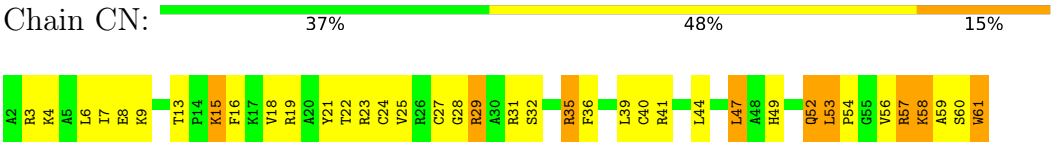
• Molecule 13: 30S ribosomal protein S14 type Z

Chain AN:



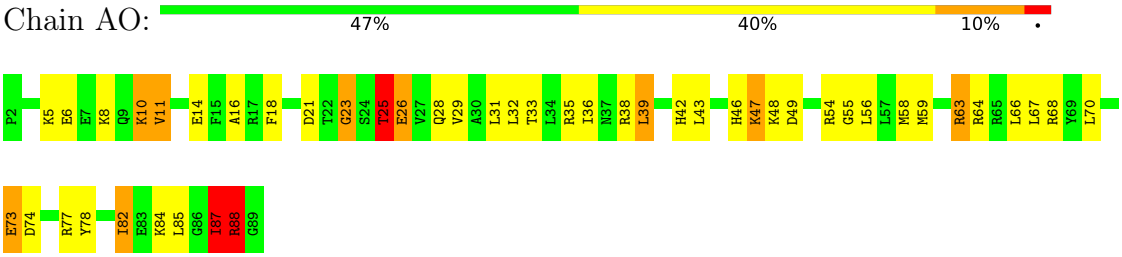
• Molecule 13: 30S ribosomal protein S14 type Z

Chain CN:



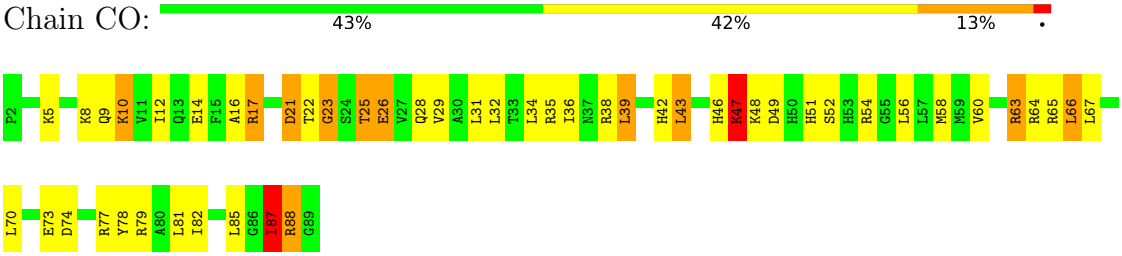
• Molecule 14: 30S ribosomal protein S15

Chain AO:



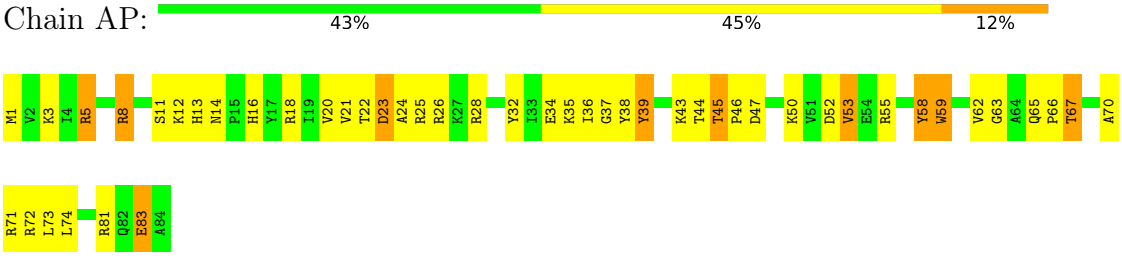
• Molecule 14: 30S ribosomal protein S15

Chain CO:



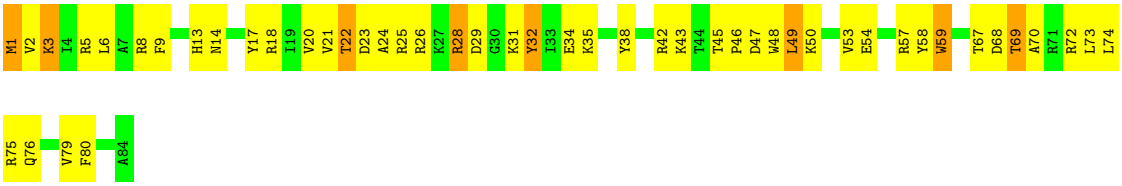
• Molecule 15: 30S ribosomal protein S16

Chain AP:

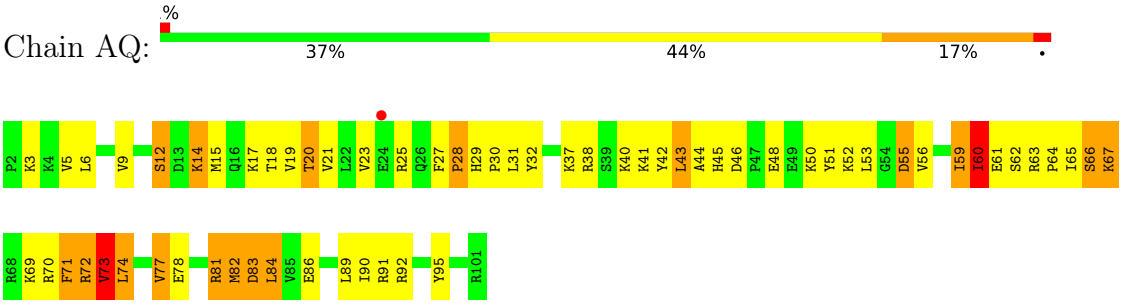


• Molecule 15: 30S ribosomal protein S16

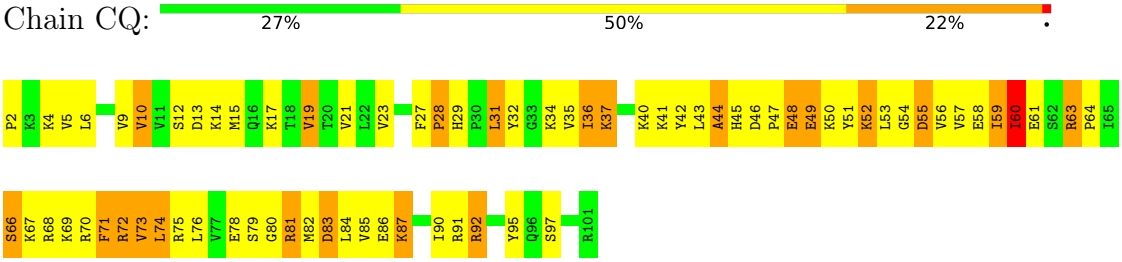
Chain CP:



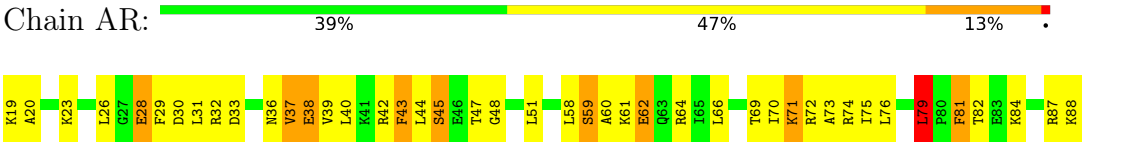
• Molecule 16: 30S ribosomal protein S17



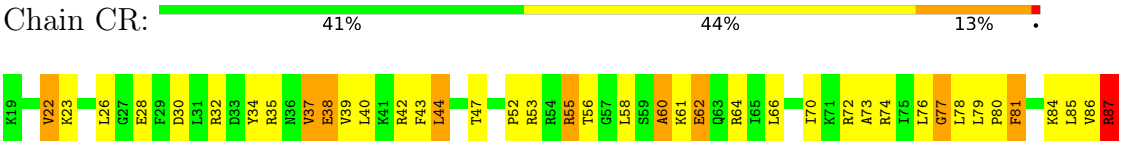
• Molecule 16: 30S ribosomal protein S17



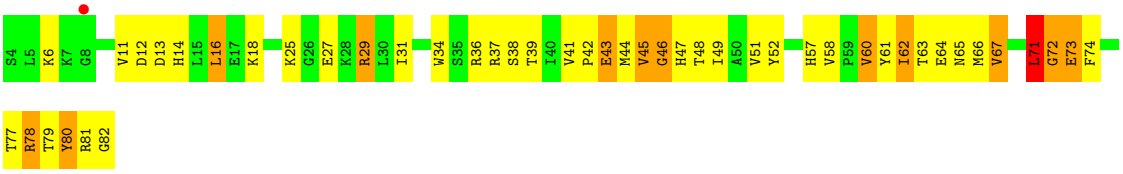
• Molecule 17: 30S ribosomal protein S18



• Molecule 17: 30S ribosomal protein S18

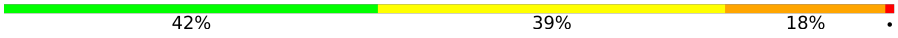


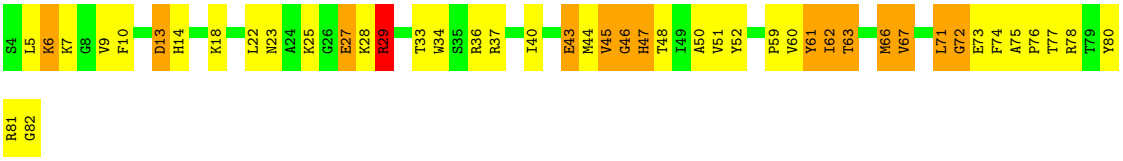
• Molecule 18: 30S ribosomal protein S19



• Molecule 18: 30S ribosomal protein S19

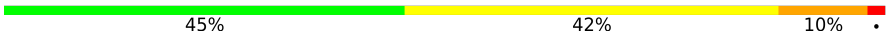
Chain CS:

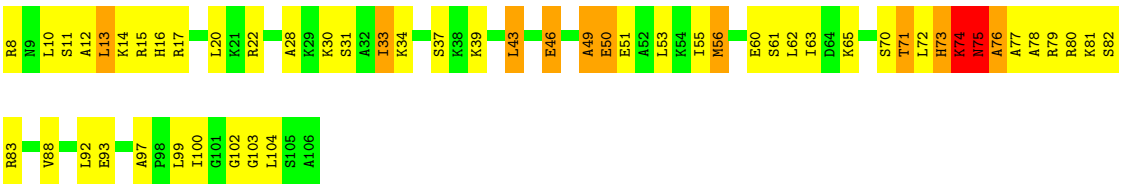




• Molecule 19: 30S ribosomal protein S20

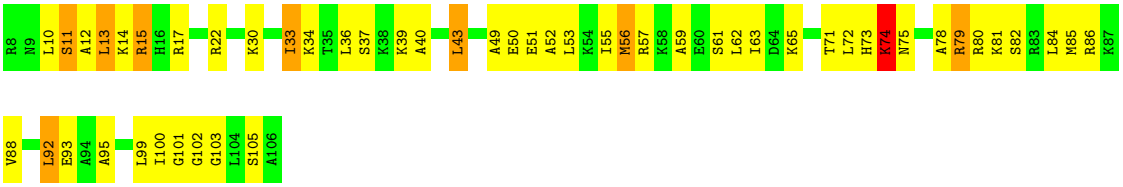
Chain AT:





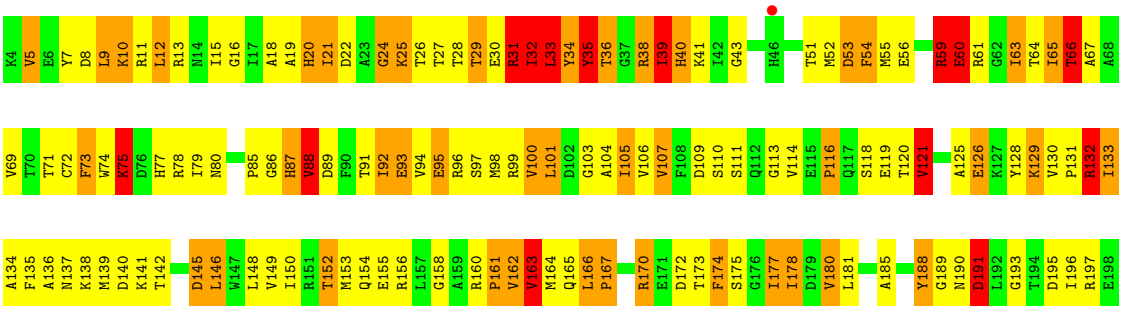
• Molecule 19: 30S ribosomal protein S20

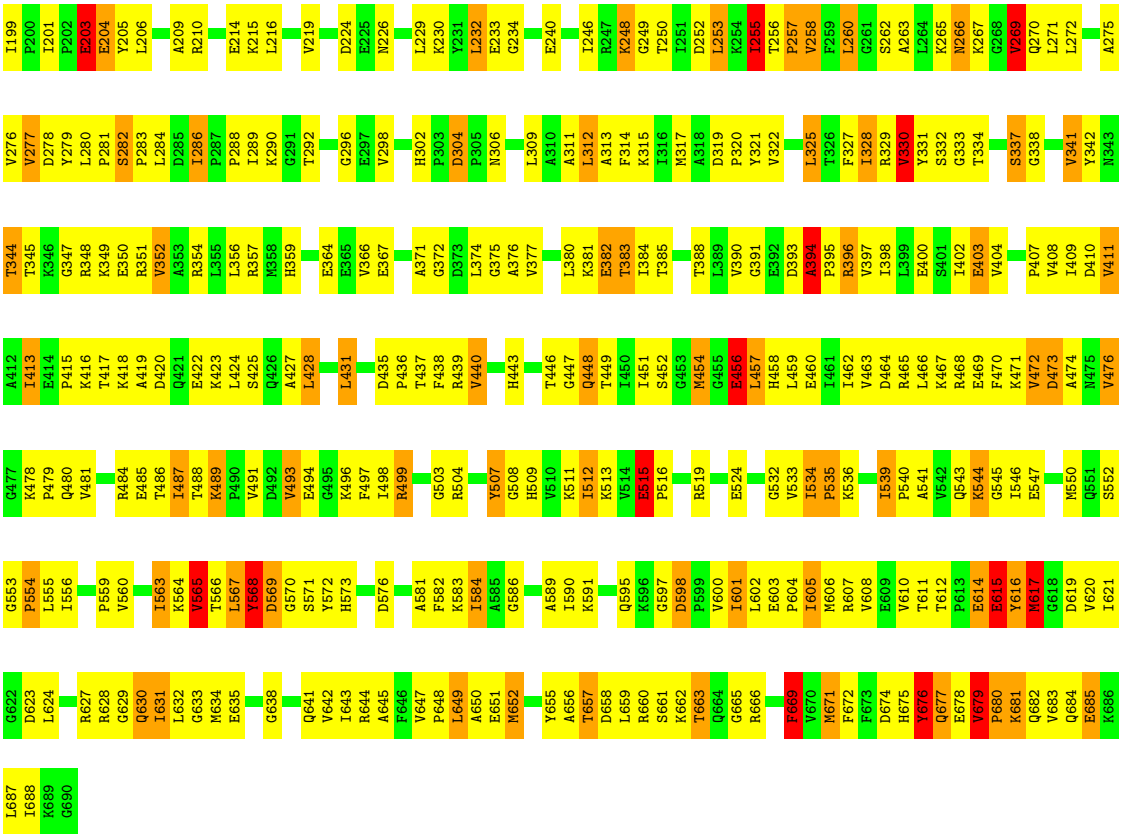
Chain CT:



• Molecule 20: Elongation factor G

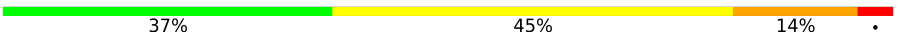
Chain AY:

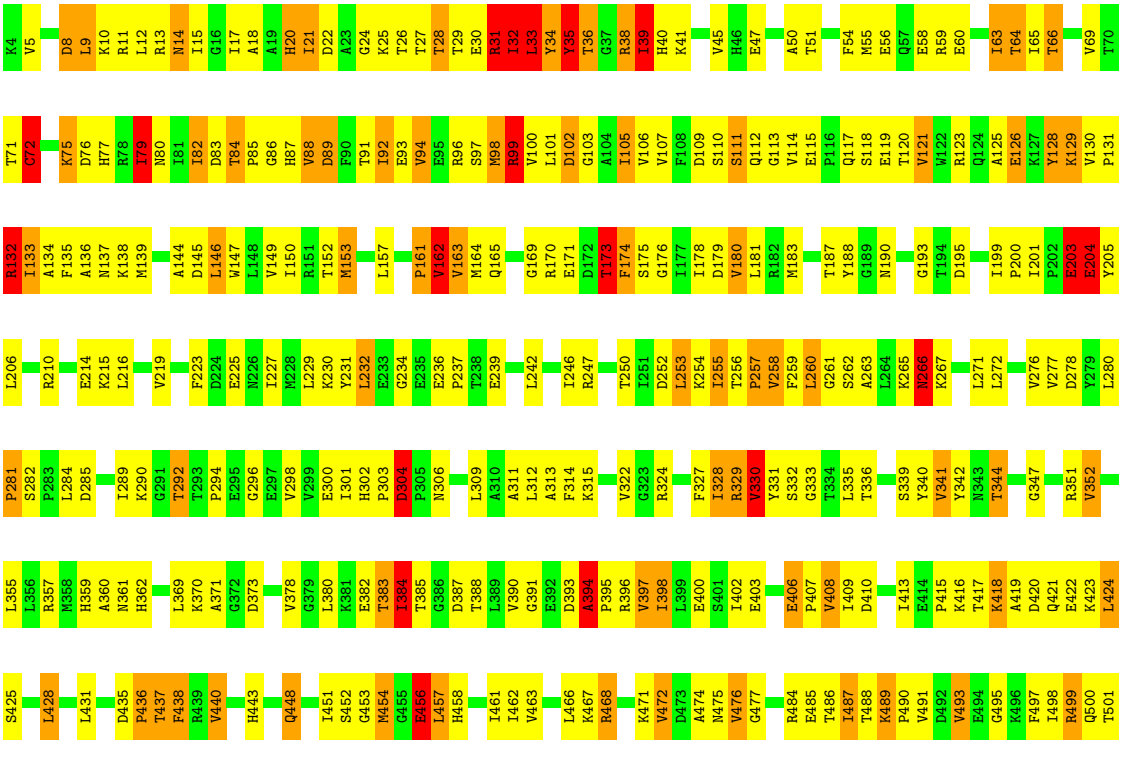


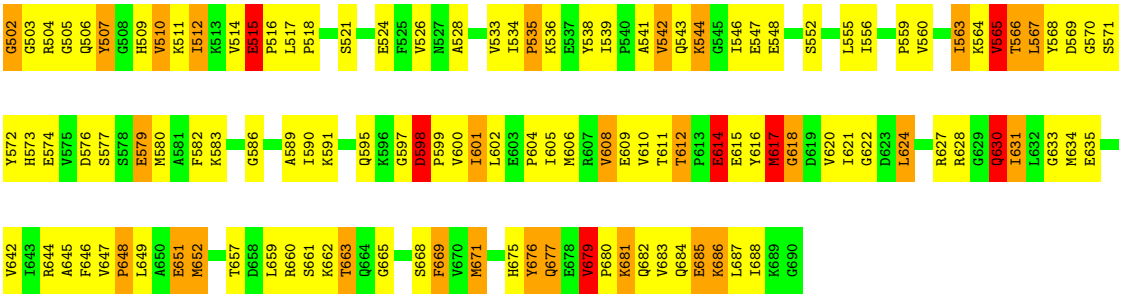


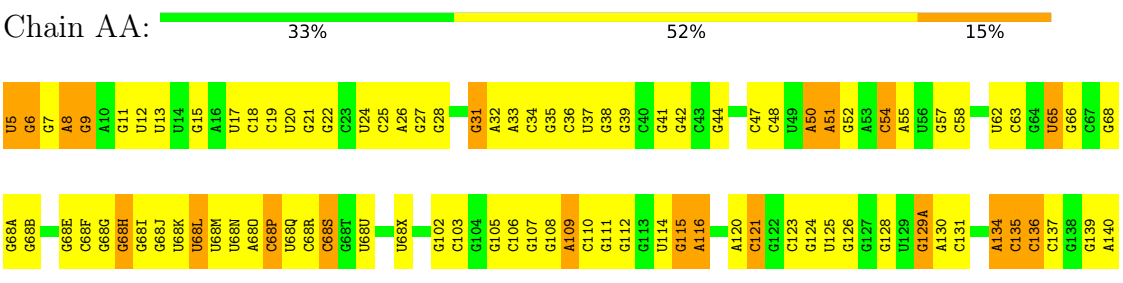
• Molecule 20: Elongation factor G

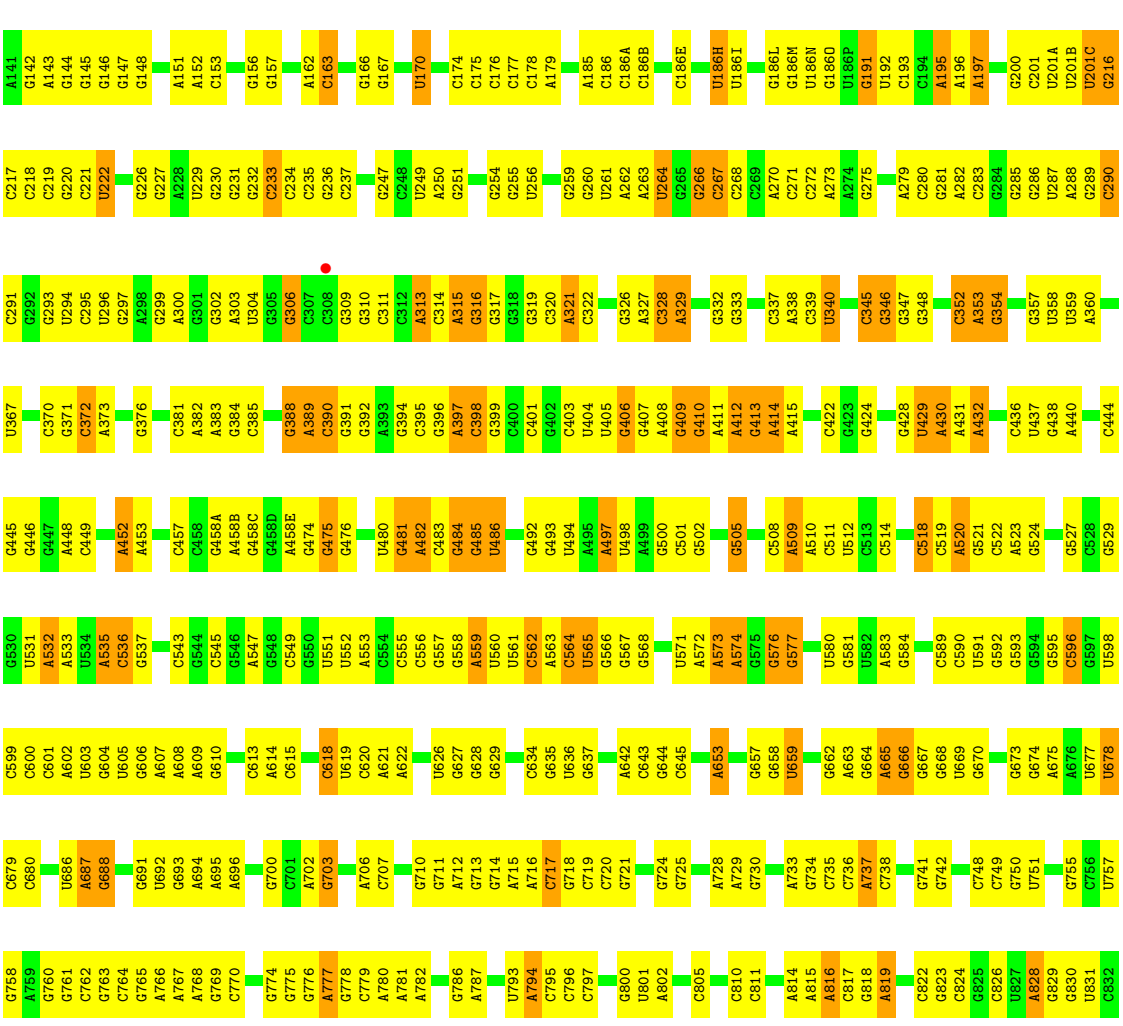
Chain CY:

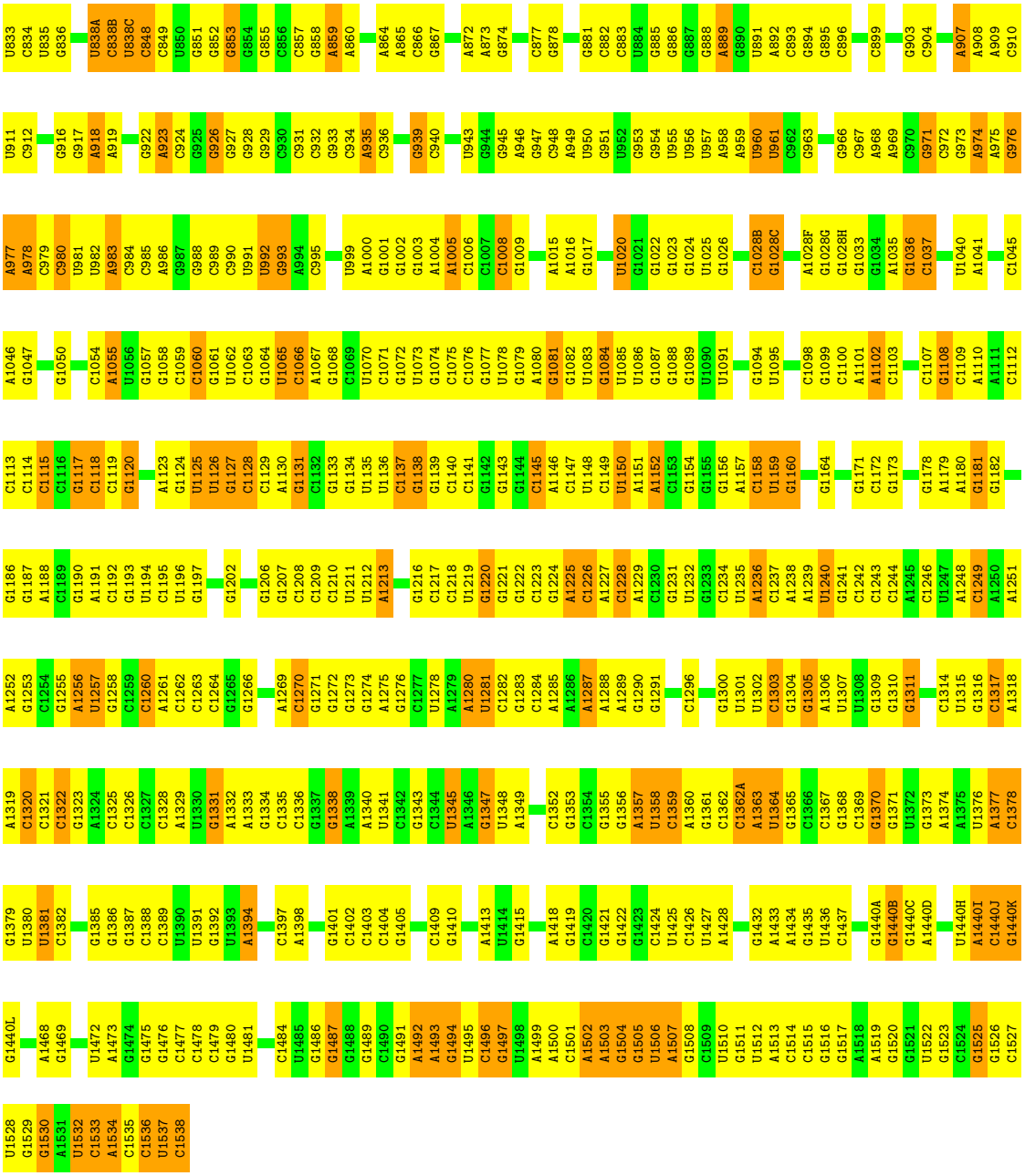






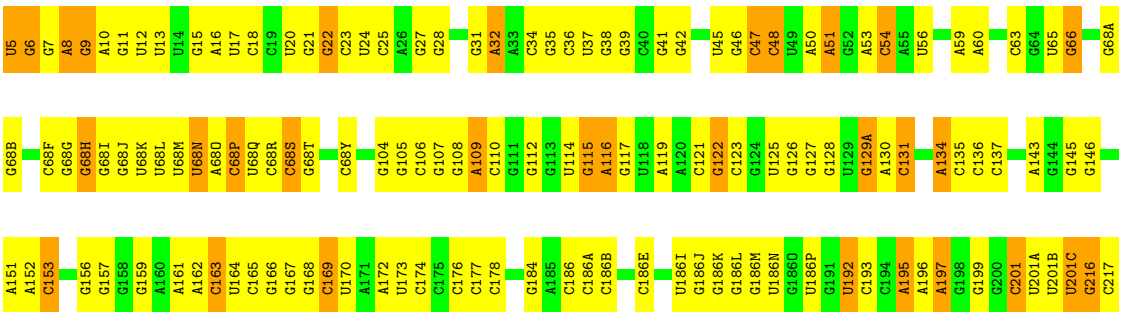


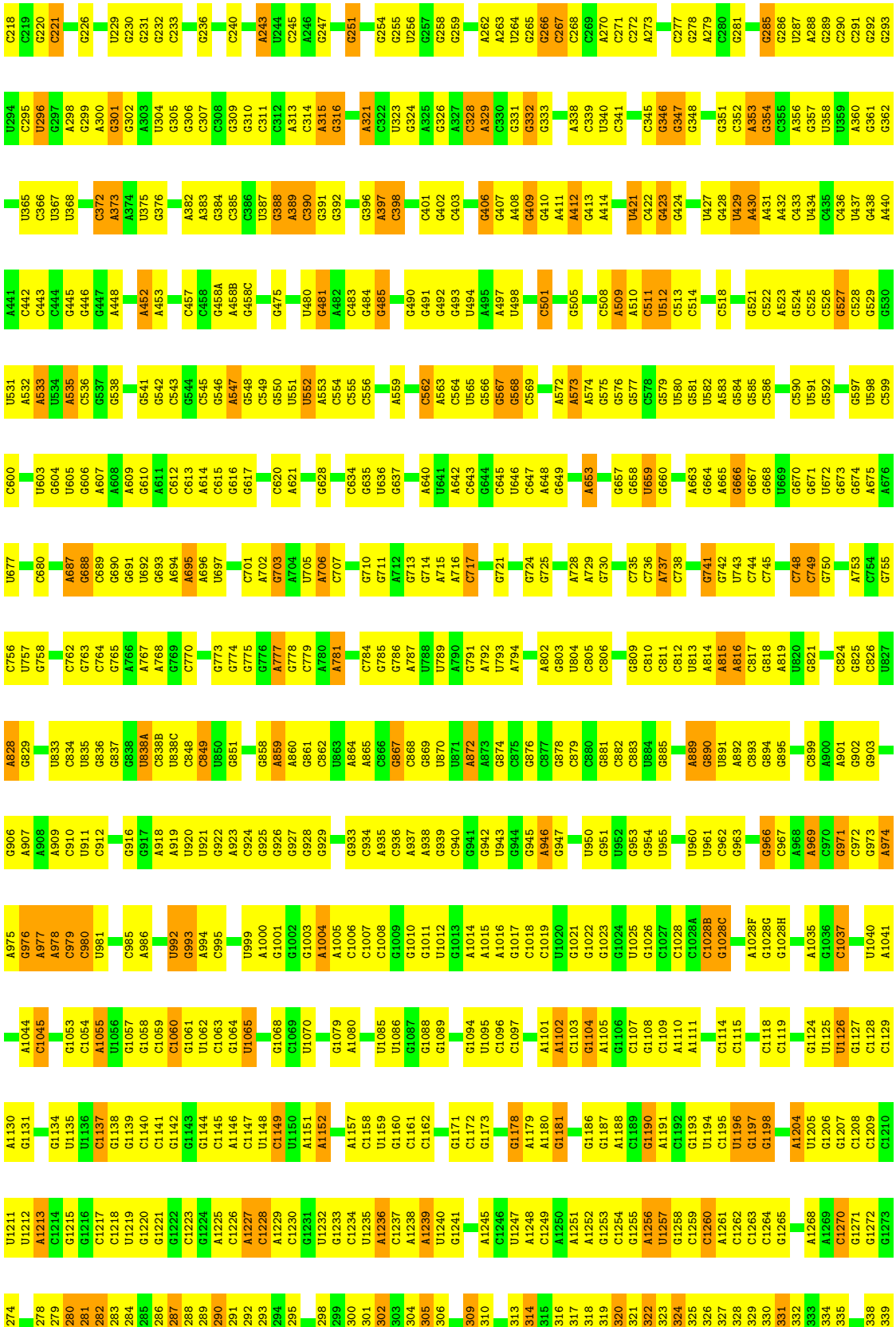


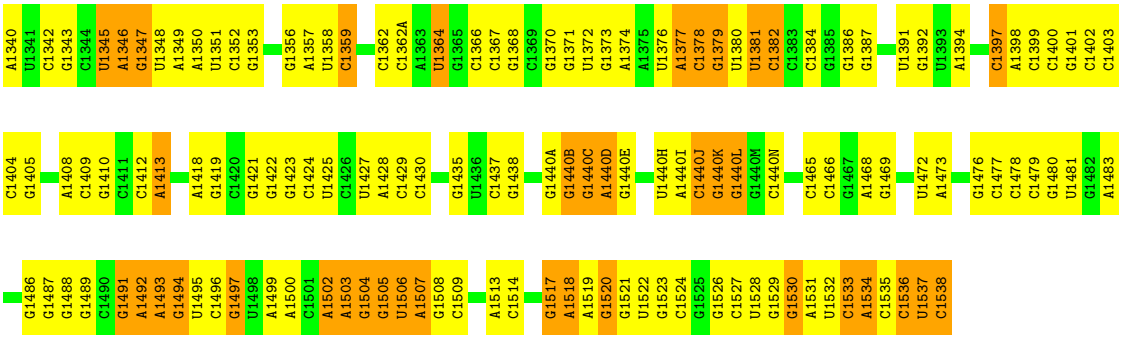


• Molecule 21: ribosomal RNA 16S

Chain CA:

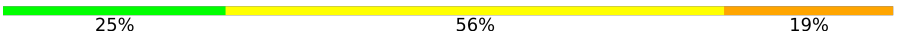


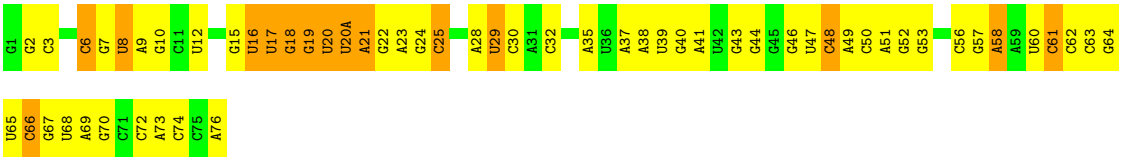




• Molecule 22: transfer RNA

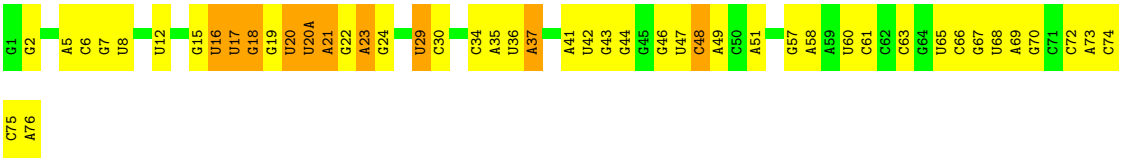
Chain AW:





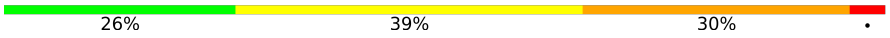
• Molecule 22: transfer RNA

Chain CW:



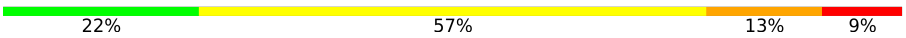
• Molecule 23: messenger RNA

Chain AV:



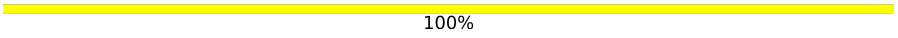
• Molecule 23: messenger RNA

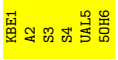
Chain CV:



• Molecule 24: VIOMYCIN

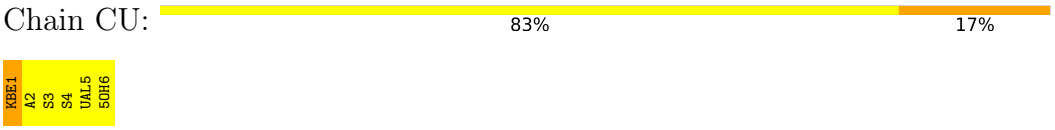
Chain AU:





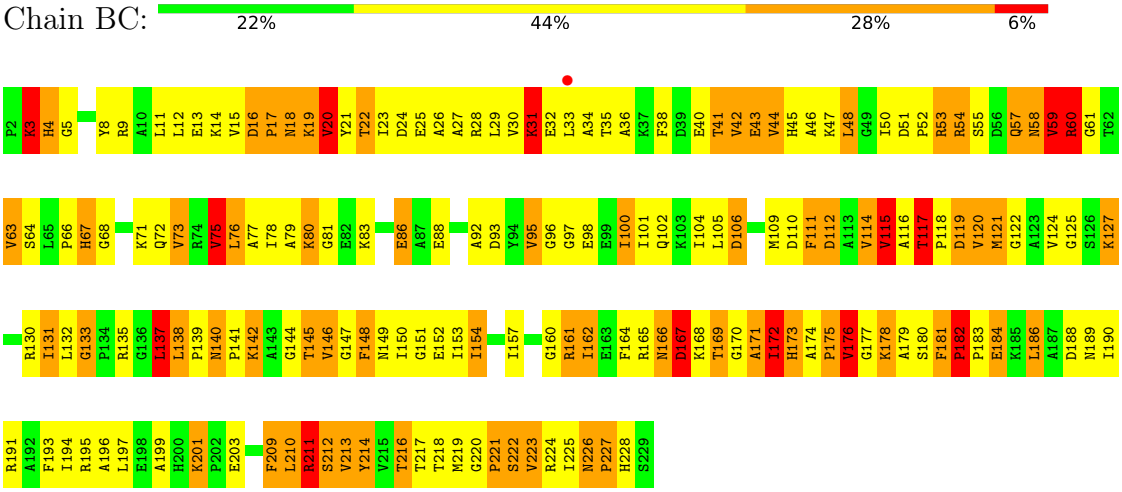
• Molecule 24: VIOMYCIN

Chain CU:



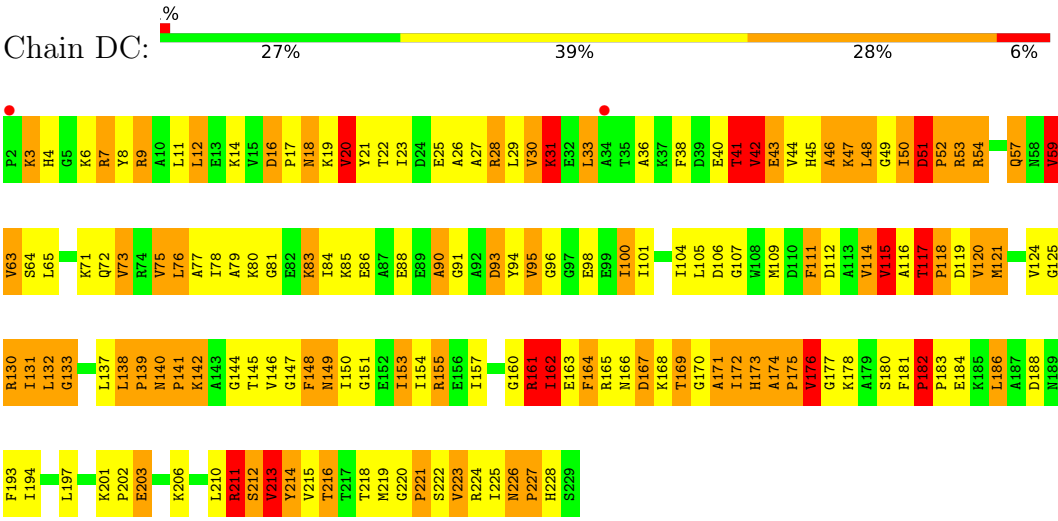
• Molecule 25: 50S ribosomal protein L1

Chain BC:



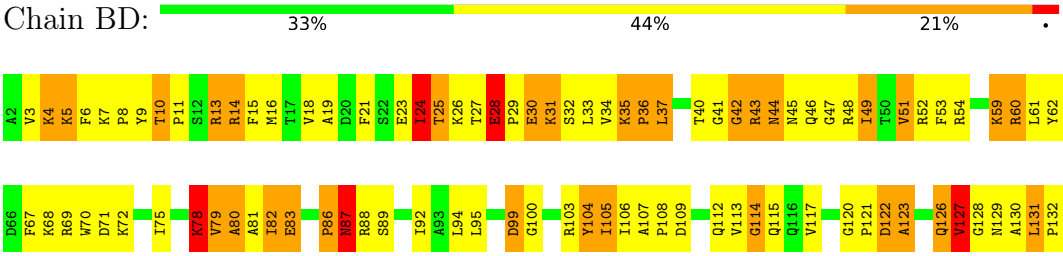
• Molecule 25: 50S ribosomal protein L1

Chain DC:



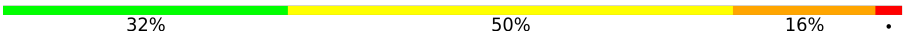
• Molecule 26: 50S ribosomal protein L2

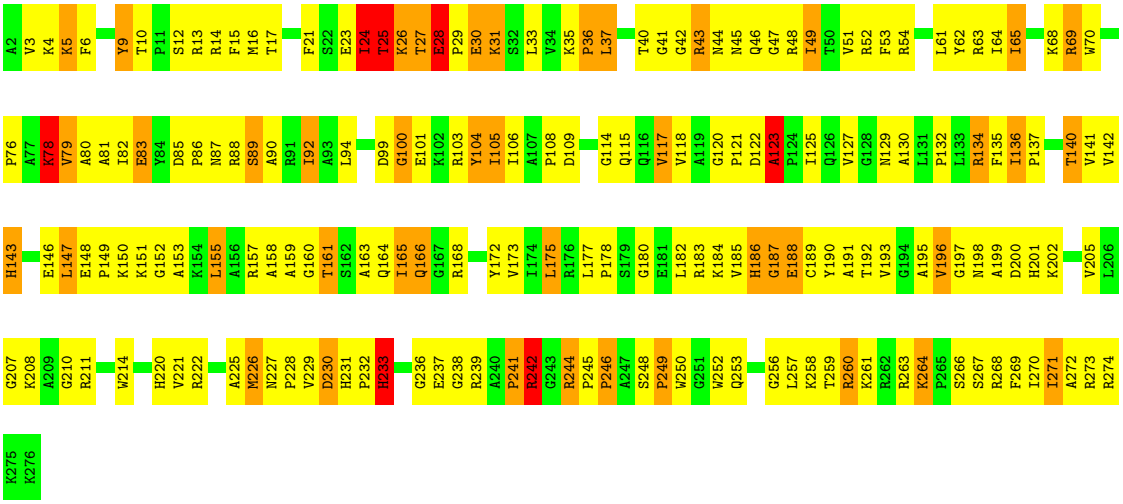
Chain BD:



• Molecule 26: 50S ribosomal protein L2

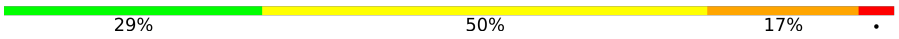
Chain DD:

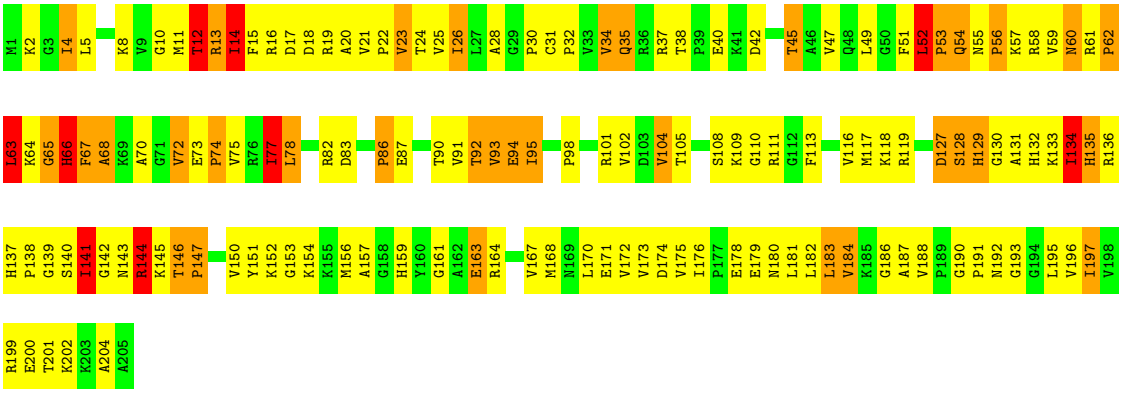




• Molecule 27: 50S ribosomal protein L3

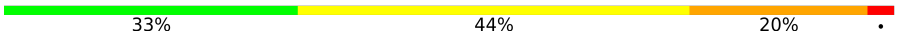
Chain BE:

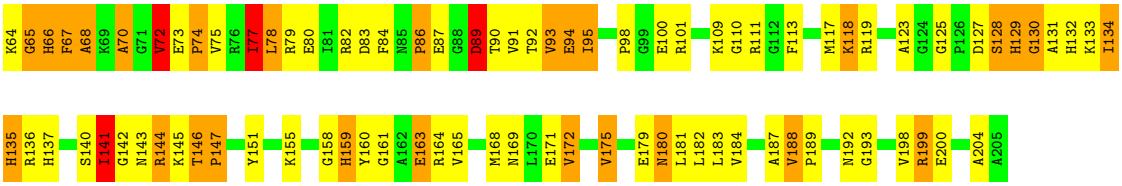




• Molecule 27: 50S ribosomal protein L3

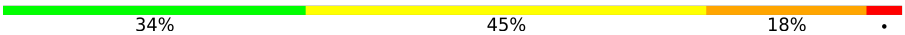
Chain DE:

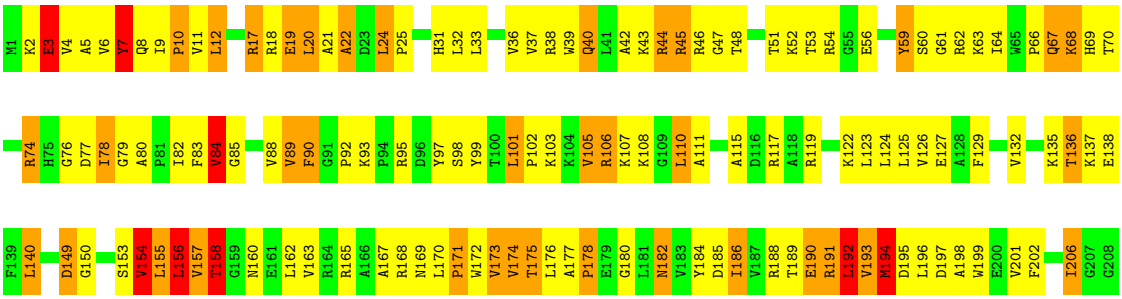




• Molecule 28: 50S ribosomal protein L4

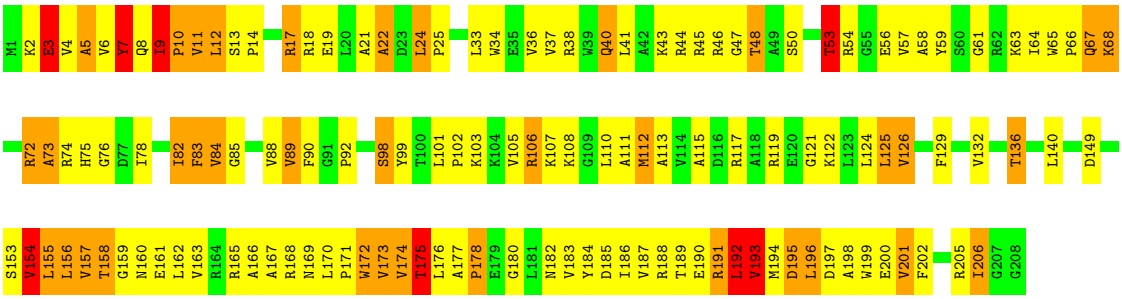
Chain BF:





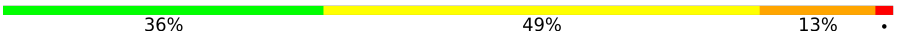
• Molecule 28: 50S ribosomal protein L4

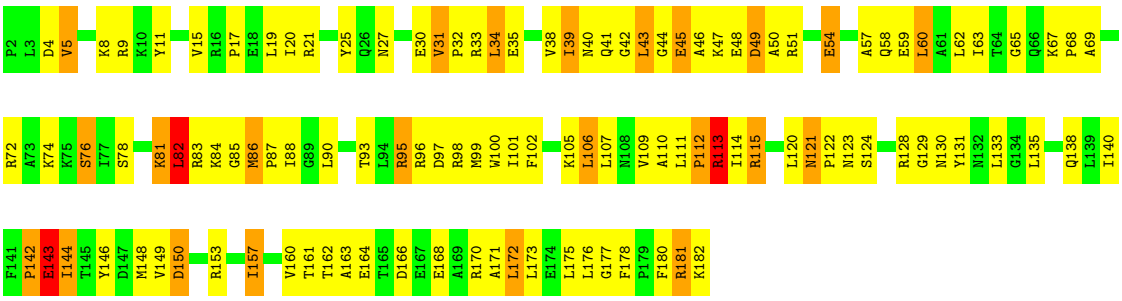
Chain DF:



• Molecule 29: 50S ribosomal protein L5

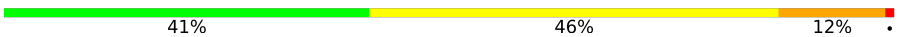
Chain BG:

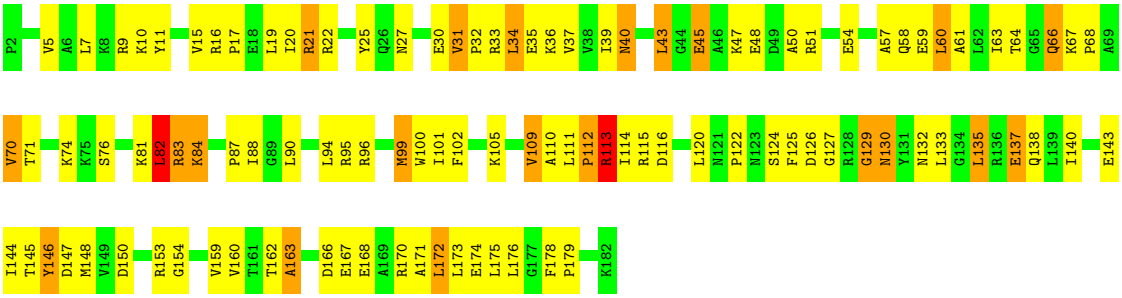




• Molecule 29: 50S ribosomal protein L5

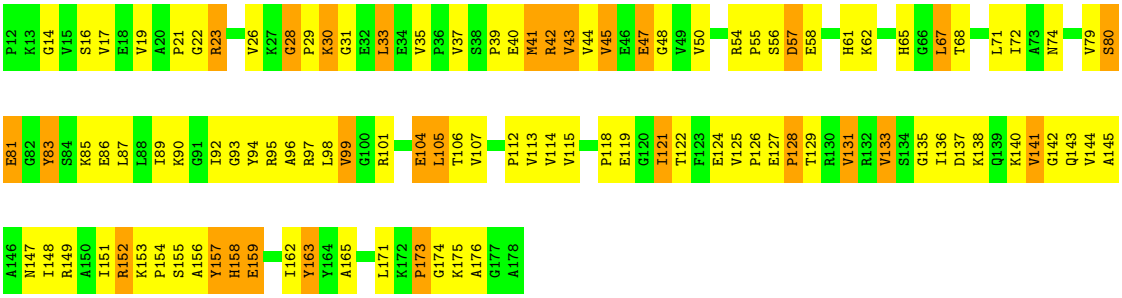
Chain DG:





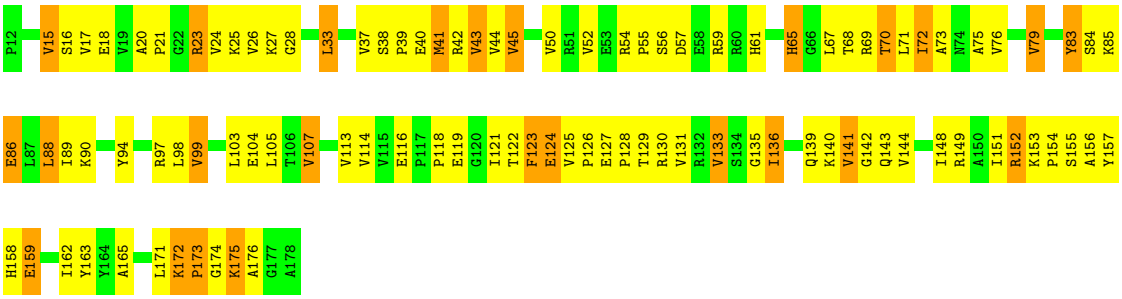
• Molecule 30: 50S ribosomal protein L6

Chain BH:



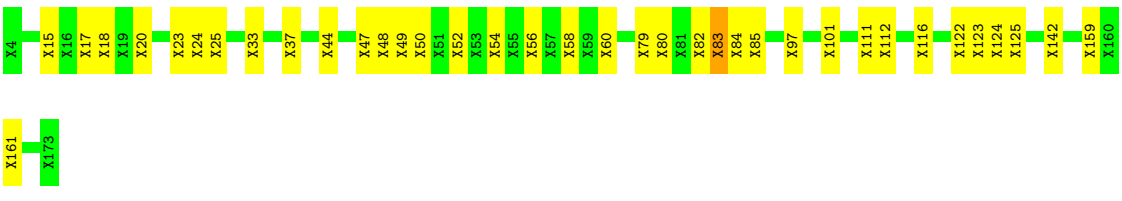
• Molecule 30: 50S ribosomal protein L6

Chain DH:



• Molecule 31: 50S RIBOSOMAL PROTEIN L10

Chain BJ:

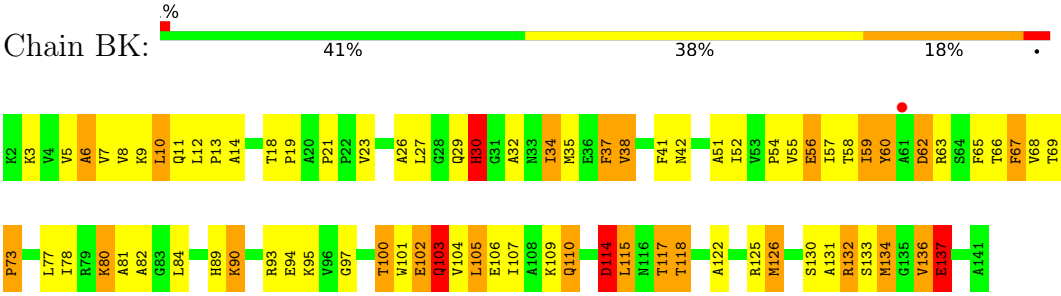


• Molecule 31: 50S RIBOSOMAL PROTEIN L10

Chain DJ:

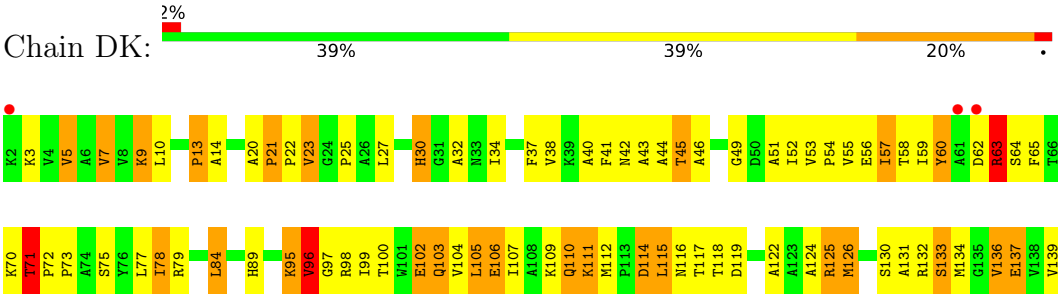
• Molecule 32: 50S ribosomal protein L11

Chain BK:



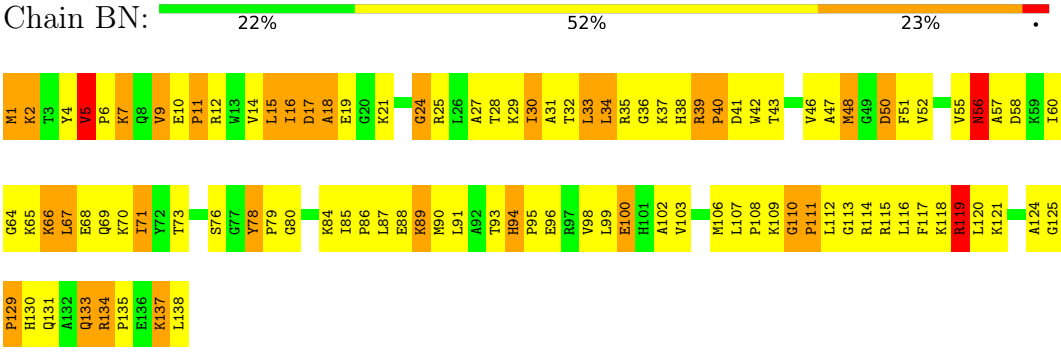
• Molecule 32: 50S ribosomal protein L11

Chain DK:



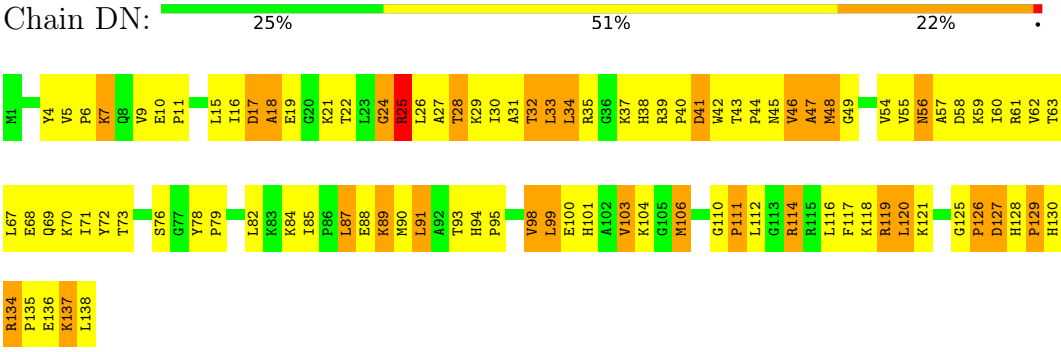
• Molecule 33: 50S ribosomal protein L13

Chain BN:



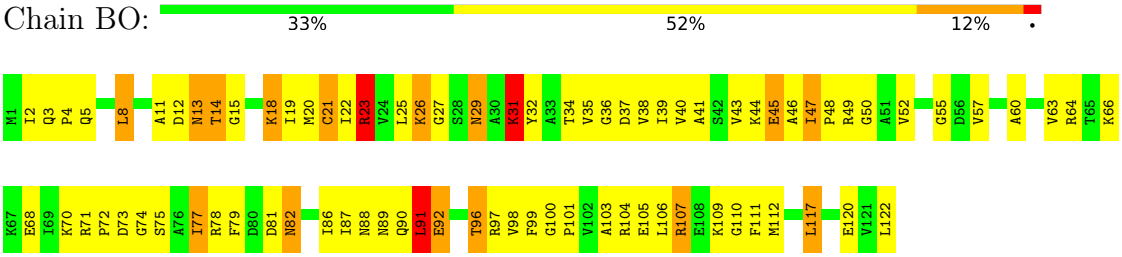
• Molecule 33: 50S ribosomal protein L13

Chain DN:



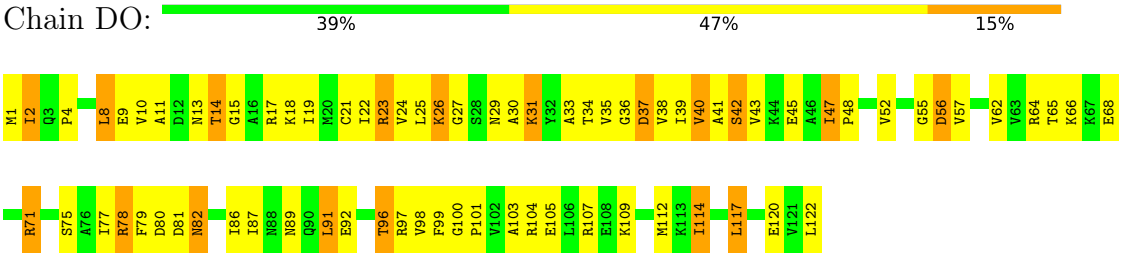
• Molecule 34: 50S ribosomal protein L14

Chain BO:



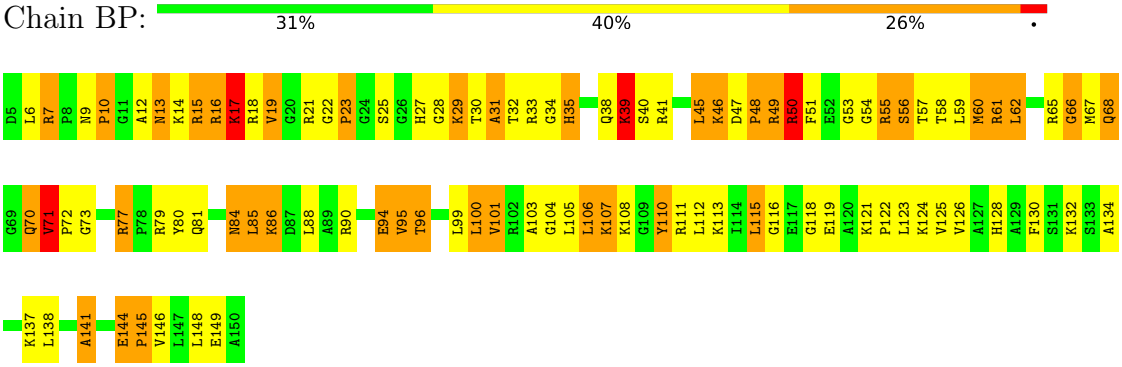
• Molecule 34: 50S ribosomal protein L14

Chain DO:



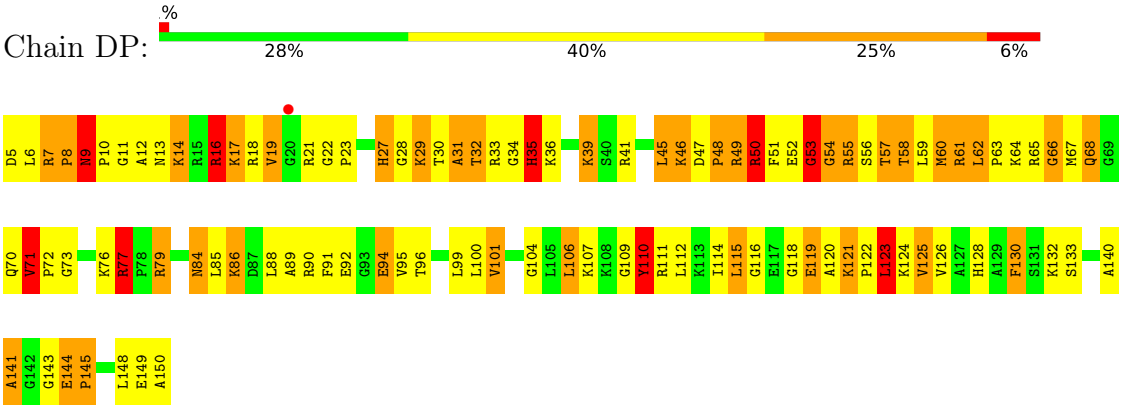
• Molecule 35: 50S ribosomal protein L15

Chain BP:



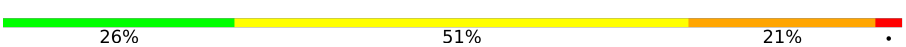
• Molecule 35: 50S ribosomal protein L15

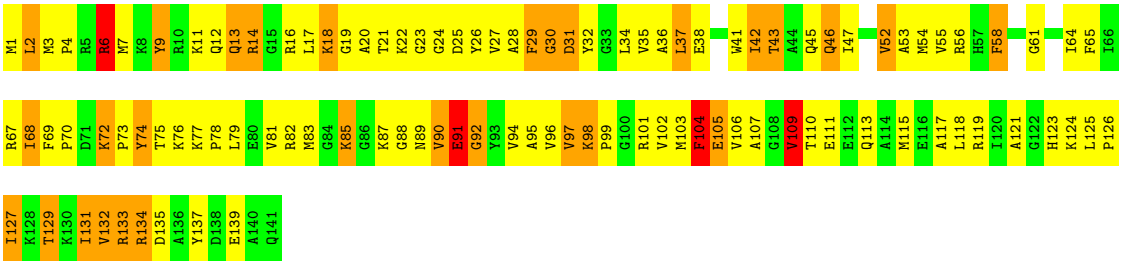
Chain DP:



• Molecule 36: 50S ribosomal protein L16

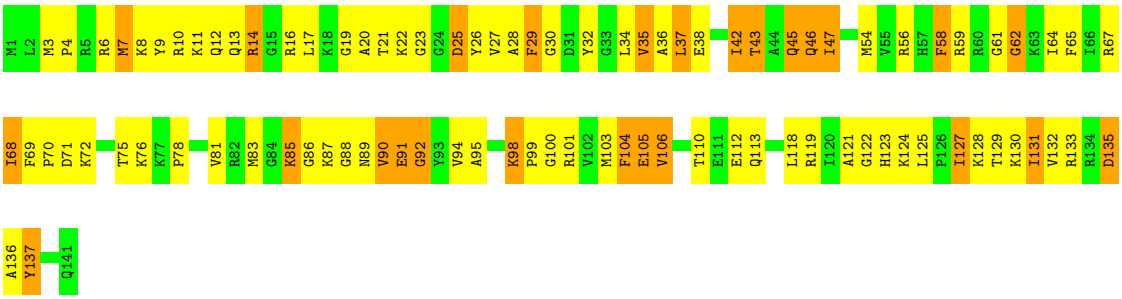
Chain BQ:





• Molecule 36: 50S ribosomal protein L16

Chain DQ:

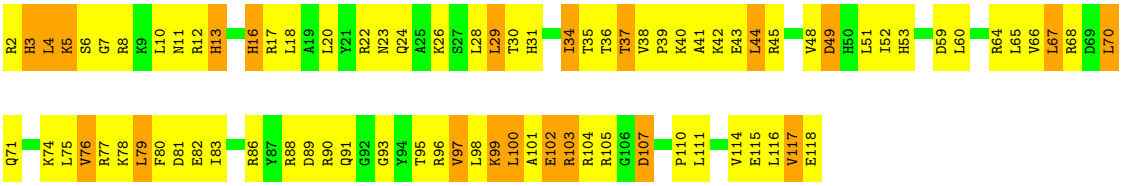


• Molecule 37: 50S ribosomal protein L17

Chain BR:

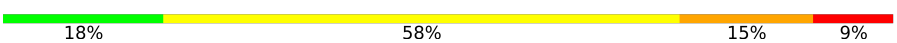
• Molecule 37: 50S ribosomal protein L17

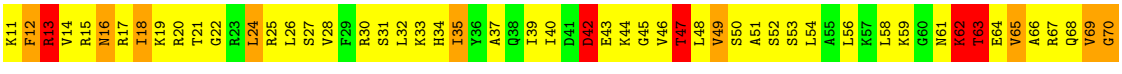
Chain DR:

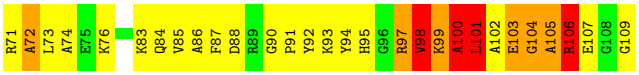


• Molecule 38: 50S ribosomal protein L18

Chain BS:

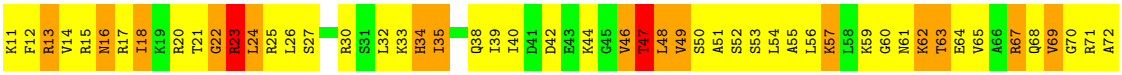






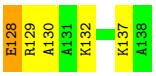
• Molecule 38: 50S ribosomal protein L18

Chain DS:



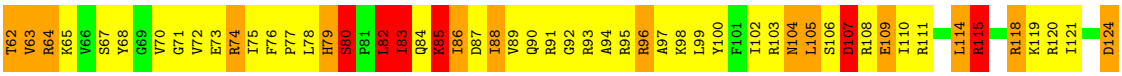
• Molecule 39: 50S ribosomal protein L19

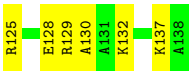
Chain BT:



• Molecule 39: 50S ribosomal protein L19

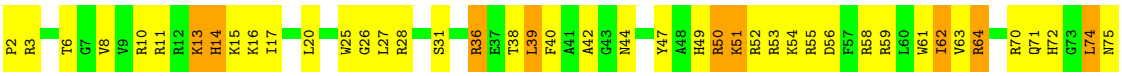
Chain DT:

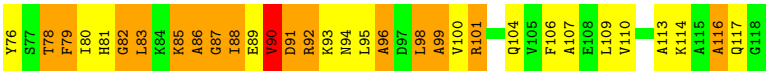




• Molecule 40: 50S ribosomal protein L20

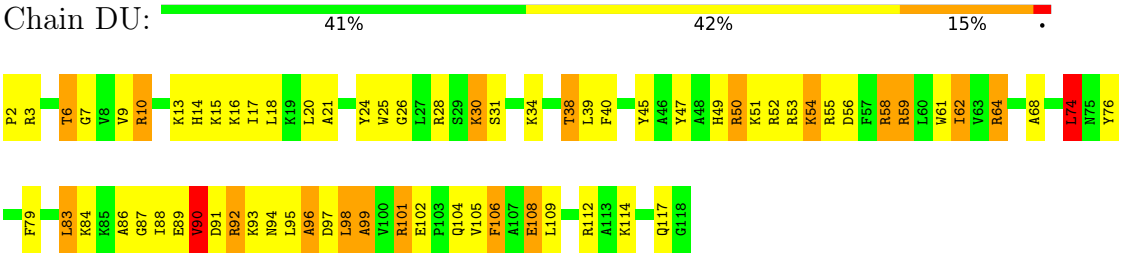
Chain BU:





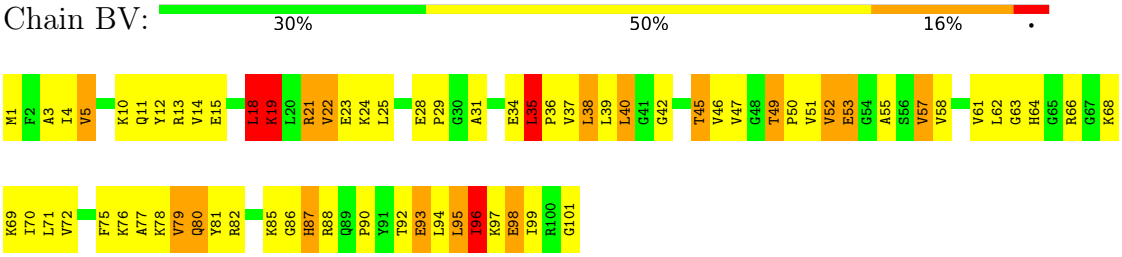
• Molecule 40: 50S ribosomal protein L20

Chain DU:



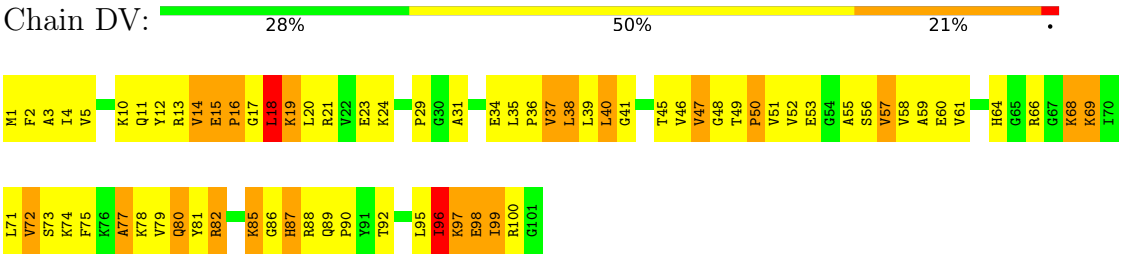
• Molecule 41: 50S ribosomal protein L21

Chain BV:



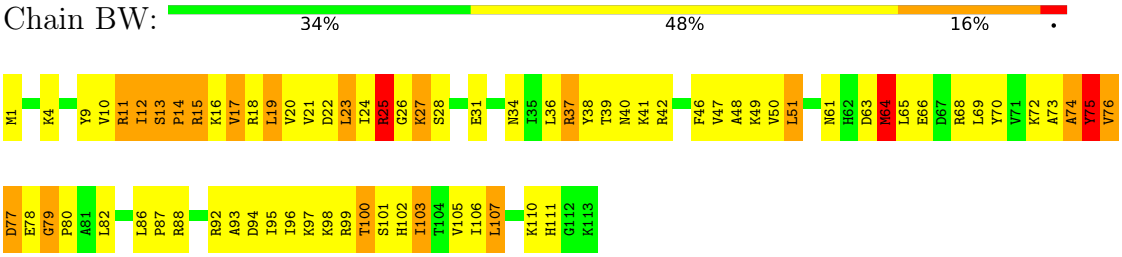
• Molecule 41: 50S ribosomal protein L21

Chain DV:



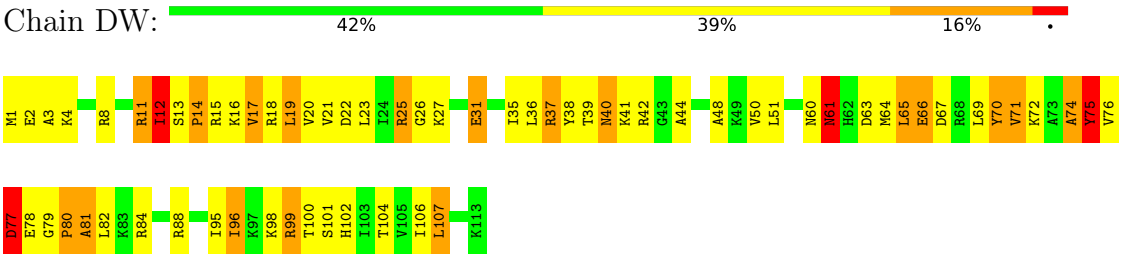
• Molecule 42: 50S ribosomal protein L22

Chain BW:



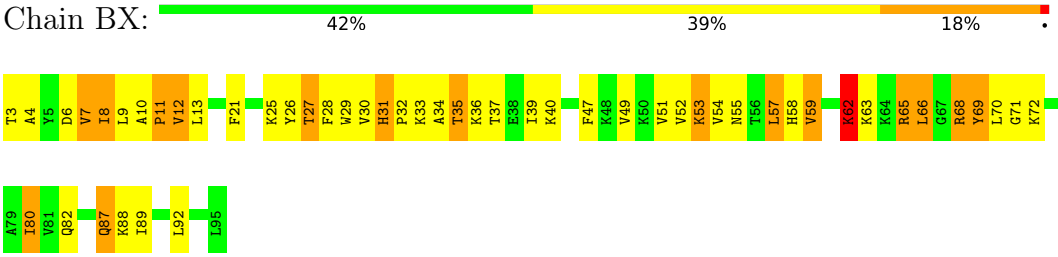
• Molecule 42: 50S ribosomal protein L22

Chain DW:



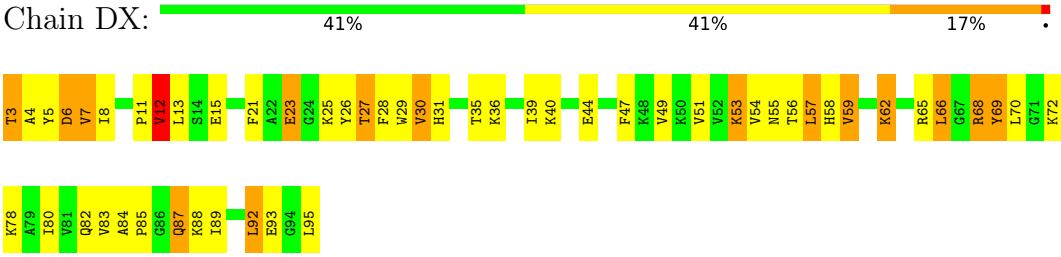
• Molecule 43: 50S ribosomal protein L23

Chain BX:



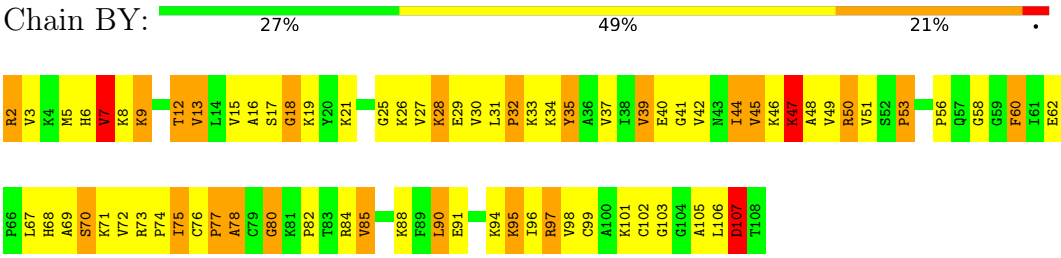
• Molecule 43: 50S ribosomal protein L23

Chain DX:



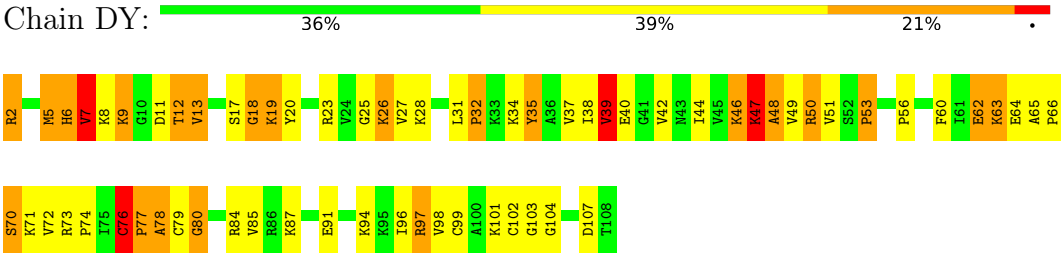
• Molecule 44: 50S ribosomal protein L24

Chain BY:



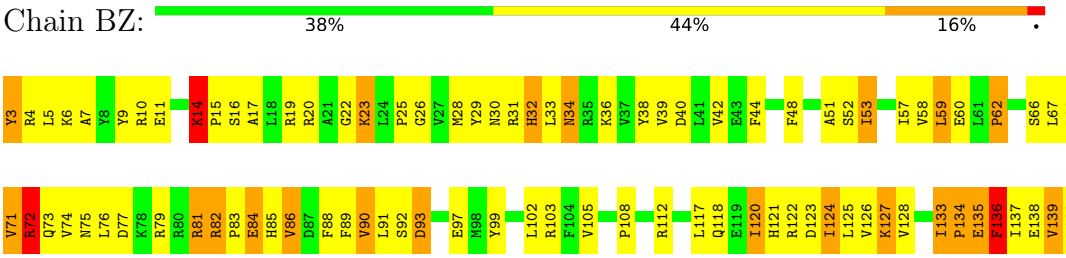
• Molecule 44: 50S ribosomal protein L24

Chain DY:



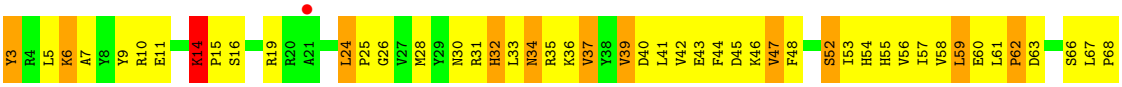
• Molecule 45: 50S ribosomal protein L25

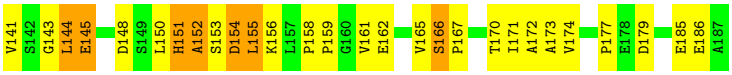
Chain BZ:



• Molecule 45: 50S ribosomal protein L25

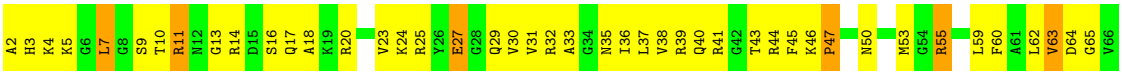
Chain DZ:

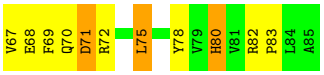




• Molecule 46: 50S ribosomal protein L27

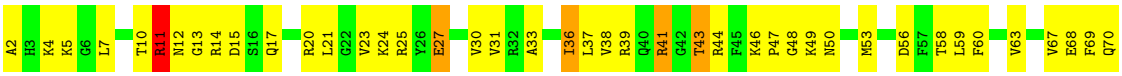
Chain B0:

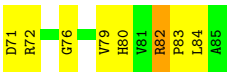




• Molecule 46: 50S ribosomal protein L27

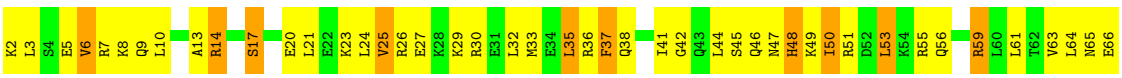
Chain D0:

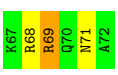




• Molecule 47: 50S ribosomal protein L29

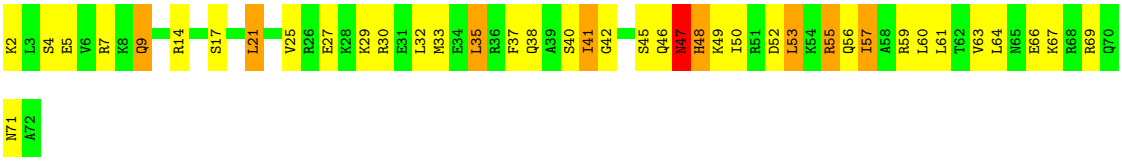
Chain B2:





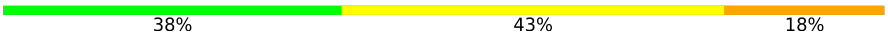
• Molecule 47: 50S ribosomal protein L29

Chain D2:



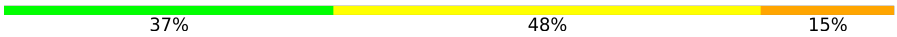
• Molecule 48: 50S ribosomal protein L30

Chain B3:



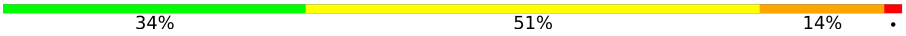
• Molecule 48: 50S ribosomal protein L30

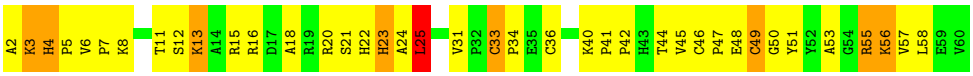
Chain D3:



• Molecule 49: 50S ribosomal protein L32

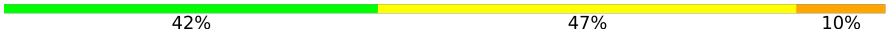
Chain B5:

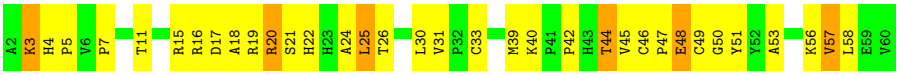




• Molecule 49: 50S ribosomal protein L32

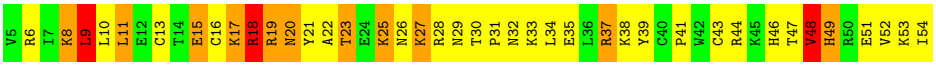
Chain D5:





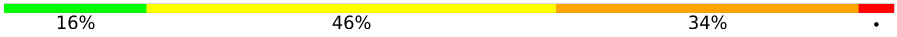
• Molecule 50: 50S ribosomal protein L33

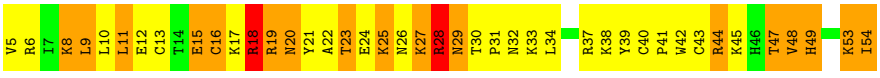
Chain B6:



• Molecule 50: 50S ribosomal protein L33

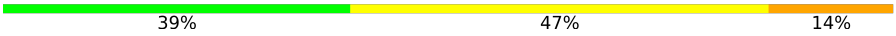
Chain D6:

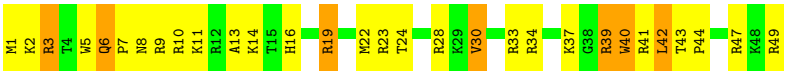




• Molecule 51: 50S ribosomal protein L34

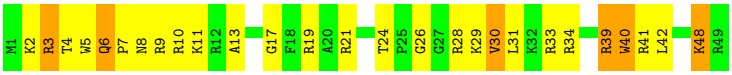
Chain B7:





• Molecule 51: 50S ribosomal protein L34

Chain D7:



• Molecule 52: 50S ribosomal protein L35

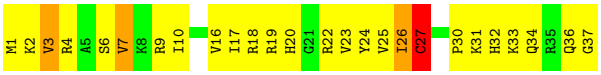
Chain B8:

• Molecule 52: 50S ribosomal protein L35

Chain D8:

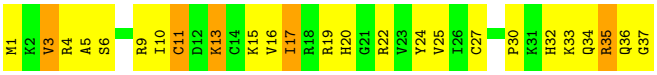
• Molecule 53: 50S ribosomal protein L36

Chain B9:



• Molecule 53: 50S ribosomal protein L36

Chain D9:



• Molecule 54: 50S RIBOSOMAL PROTEIN L7/L12

Chain Bf:

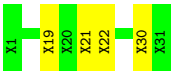
• Molecule 54: 50S RIBOSOMAL PROTEIN L7/L12

Chain Bg:

There are no outlier residues recorded for this chain.

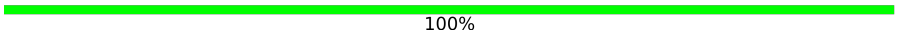
• Molecule 54: 50S RIBOSOMAL PROTEIN L7/L12

Chain Df:



• Molecule 54: 50S RIBOSOMAL PROTEIN L7/L12

Chain Dg:



There are no outlier residues recorded for this chain.

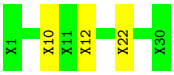
• Molecule 55: 50S RIBOSOMAL PROTEIN L7/L12

Chain Bh:

There are no outlier residues recorded for this chain.

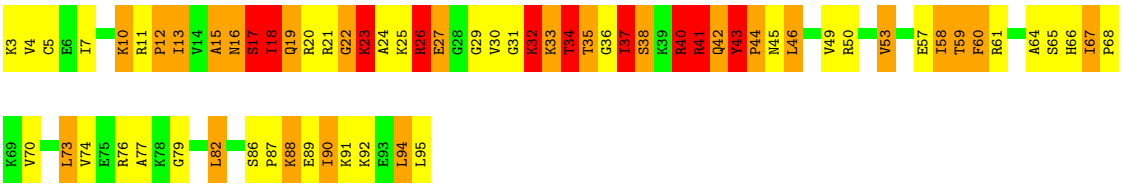
• Molecule 55: 50S RIBOSOMAL PROTEIN L7/L12

Chain Dh:



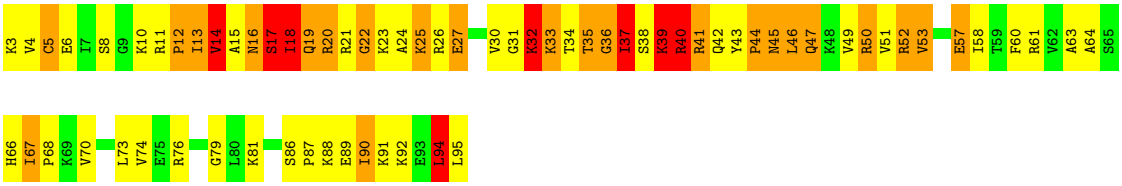
• Molecule 56: 50S ribosomal protein L28

Chain B1:



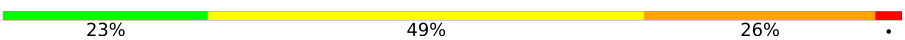
• Molecule 56: 50S ribosomal protein L28

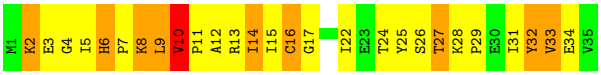
Chain D1:



• Molecule 57: 50S ribosomal protein L31

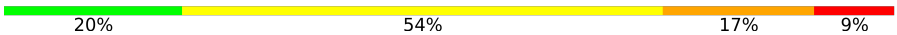
Chain B4:

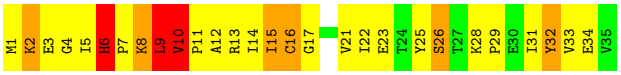




• Molecule 57: 50S ribosomal protein L31

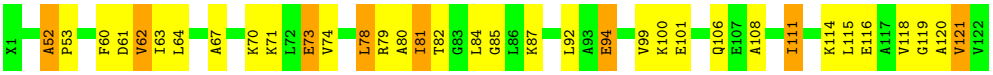
Chain D4:





• Molecule 58: 50S ribosomal protein L7/L12

Chain Be:

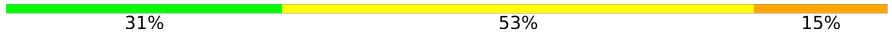


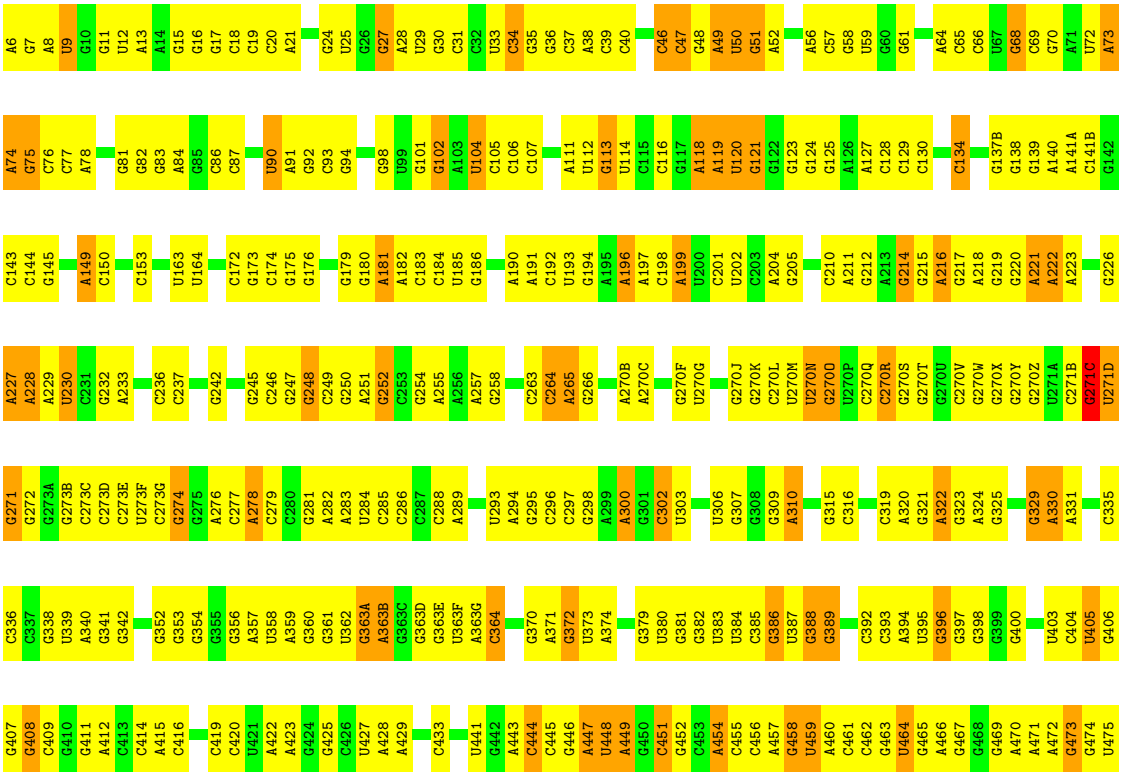
• Molecule 58: 50S ribosomal protein L7/L12

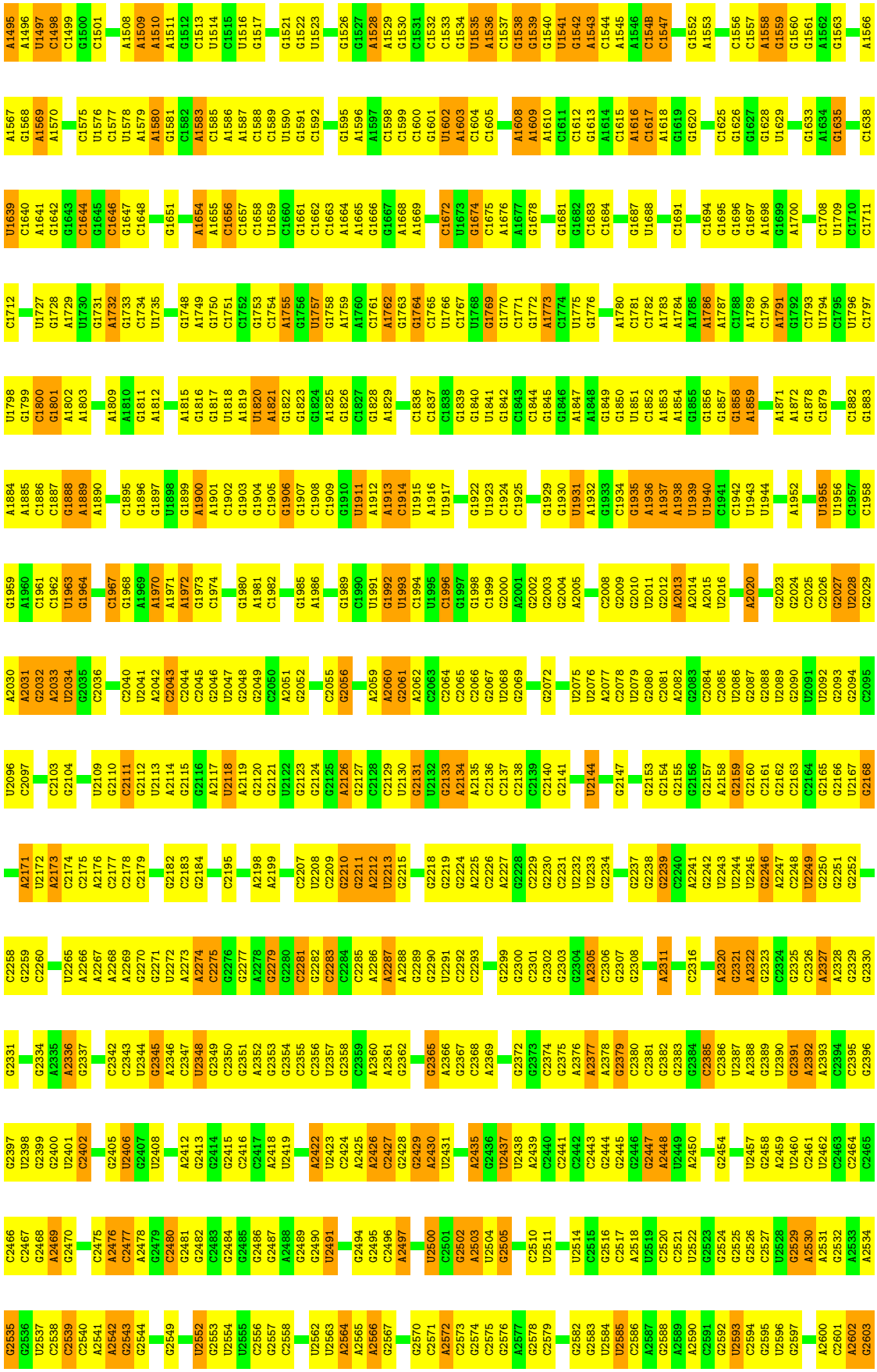
Chain De:

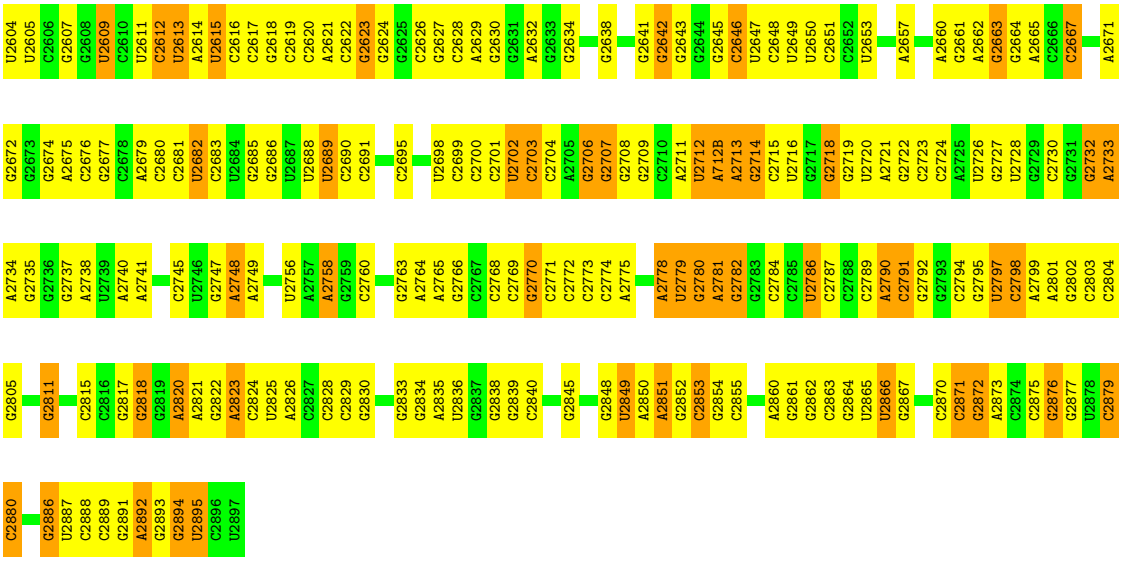
• Molecule 59: 23S ribosomal RNA

Chain BA:



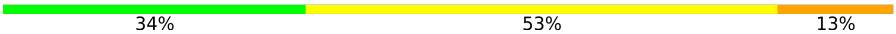


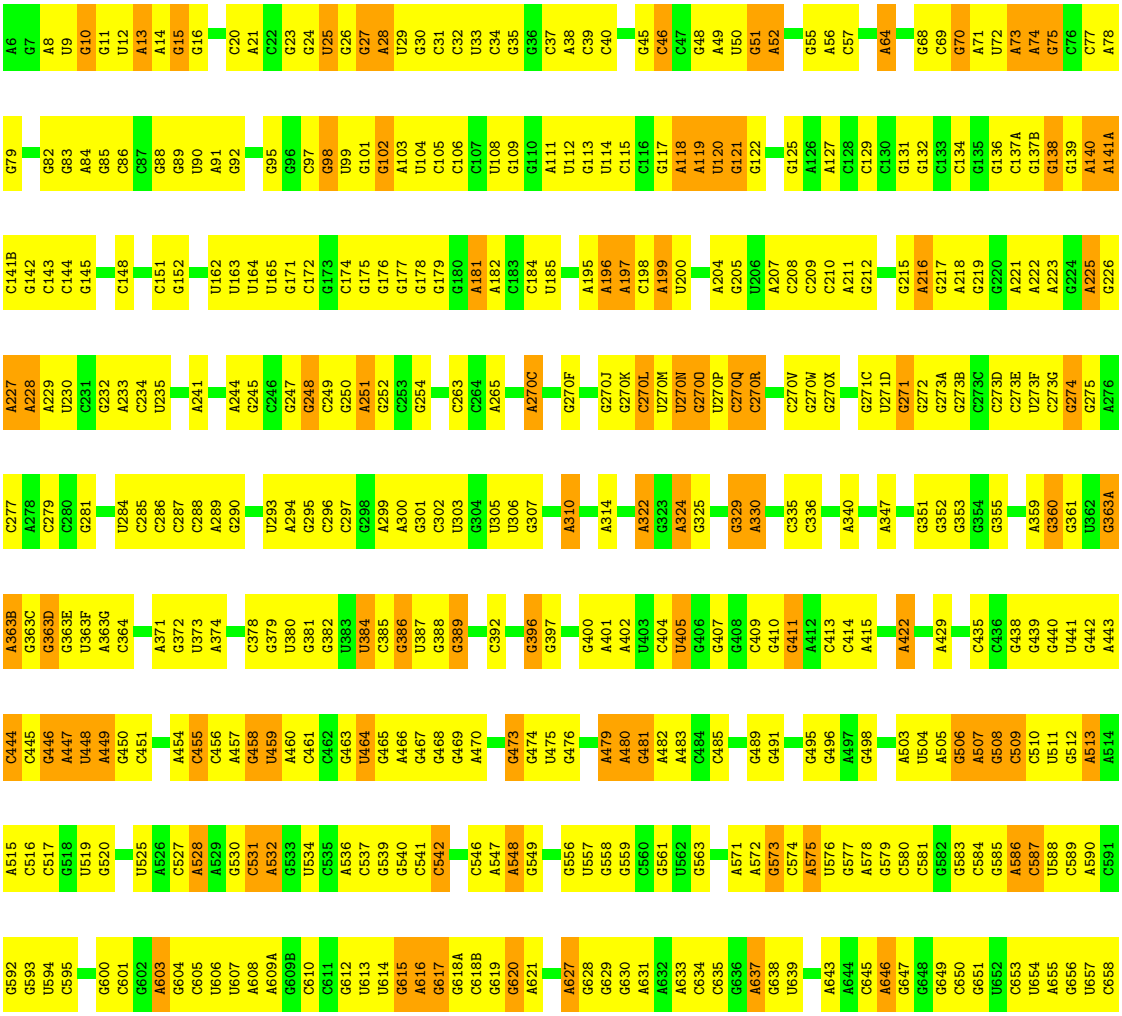


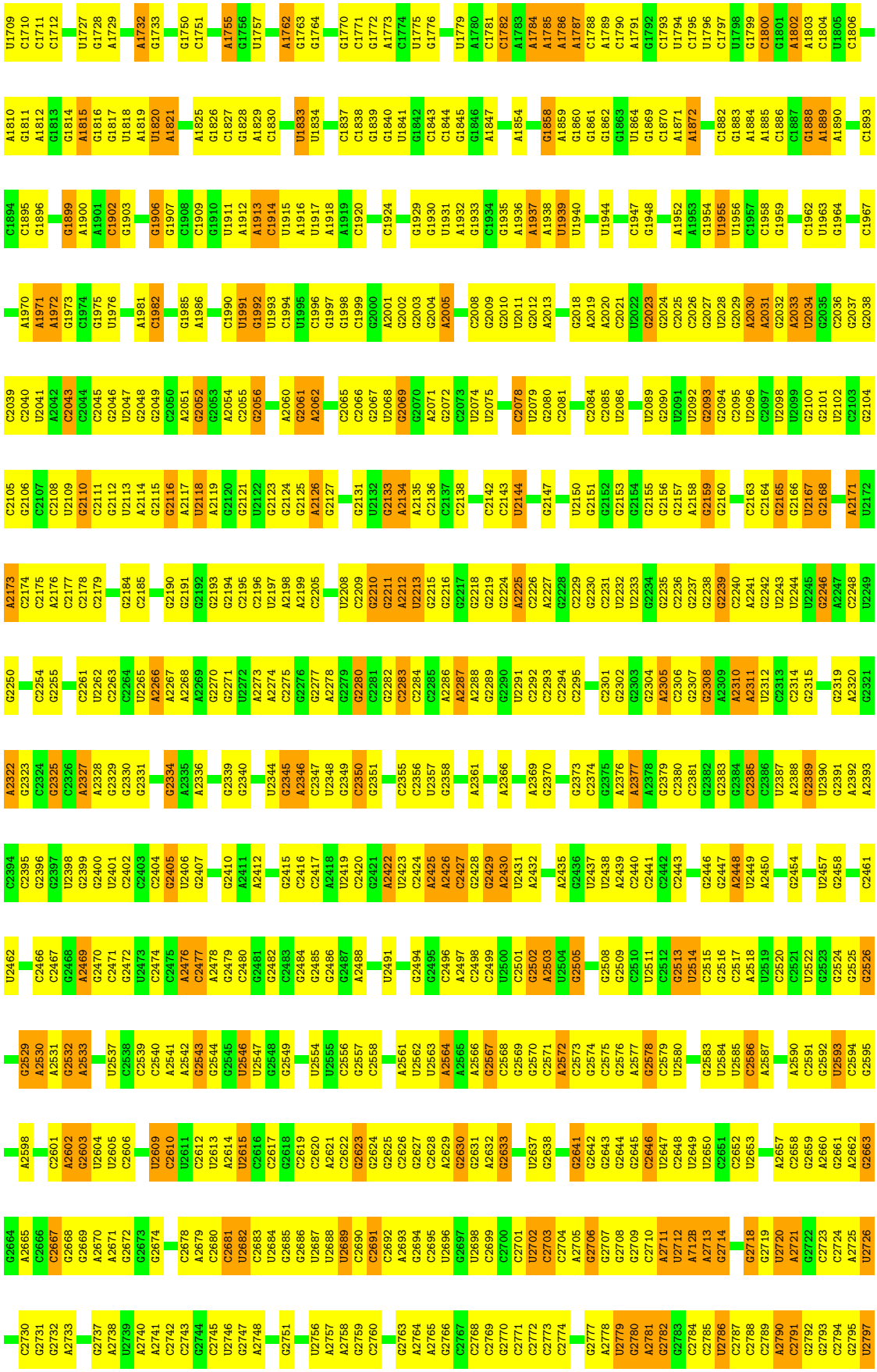


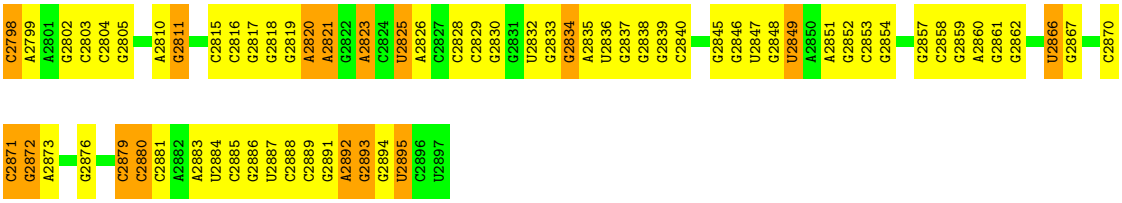
- Molecule 59: 23S ribosomal RNA

Chain DA:



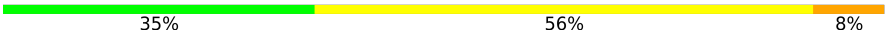


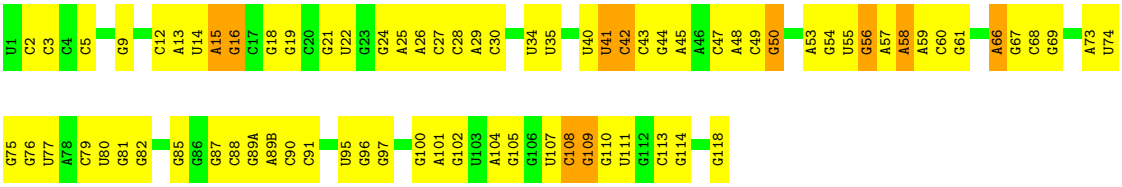




• Molecule 60: 5S ribosomal RNA

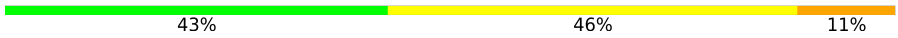
Chain BB:

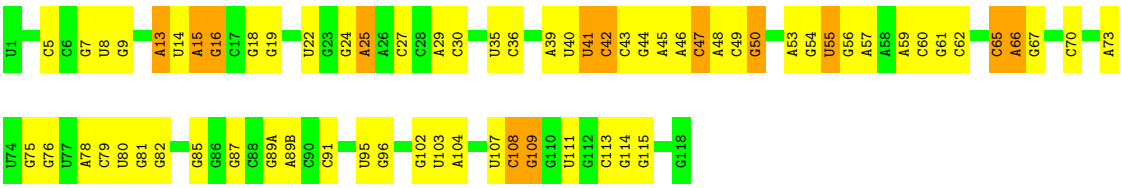




• Molecule 60: 5S ribosomal RNA

Chain DB:





4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	306.01Å 673.49Å 351.98Å 90.00° 92.69° 90.00°	Depositor
Resolution (Å)	40.00 – 3.50 40.00 – 3.50	Depositor EDS
% Data completeness (in resolution range)	(Not available) (40.00-3.50) 75.0 (40.00-3.50)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.30 (at 3.49Å)	Xtriage
Refinement program	CNS 1.2	Depositor
R, R_{free}	0.262 , 0.309 0.270 , 0.310	Depositor DCC
R_{free} test set	38188 reflections (4.29%)	wwPDB-VP
Wilson B-factor (Å^2)	80.5	Xtriage
Anisotropy	0.125	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.23 , 362.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.26$, $< L^2 > = 0.11$	Xtriage
Estimated twinning fraction	0.247 for h,-k,-l	Xtriage
F_o,F_c correlation	0.89	EDS
Total number of atoms	308422	wwPDB-VP
Average B, all atoms (Å^2)	76.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.50% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: UAL, DPP, 5OH, GNP, KBE, MG

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	AB	0.58	0/1945	1.14	18/2621 (0.7%)
1	CB	0.53	0/1945	1.10	18/2621 (0.7%)
2	AC	0.45	0/1645	0.94	4/2216 (0.2%)
2	CC	0.44	0/1645	0.94	6/2216 (0.3%)
3	AD	0.44	0/1733	0.99	8/2318 (0.3%)
3	CD	0.41	0/1733	0.97	5/2318 (0.2%)
4	AE	0.48	0/1172	0.96	0/1576
4	CE	0.44	0/1172	0.99	1/1576 (0.1%)
5	AF	0.48	0/856	0.99	4/1154 (0.3%)
5	CF	0.42	0/856	0.92	1/1154 (0.1%)
6	AG	0.43	0/1276	0.93	1/1709 (0.1%)
6	CG	0.44	0/1276	0.92	0/1709
7	AH	0.42	0/1136	0.91	2/1527 (0.1%)
7	CH	0.42	0/1136	0.96	3/1527 (0.2%)
8	AI	0.45	0/1029	0.91	1/1378 (0.1%)
8	CI	0.43	0/1029	0.90	3/1378 (0.2%)
9	AJ	0.47	0/815	1.08	9/1095 (0.8%)
9	CJ	0.44	0/815	0.97	1/1095 (0.1%)
10	AK	0.55	1/900 (0.1%)	1.00	4/1213 (0.3%)
10	CK	0.50	0/900	0.96	3/1213 (0.2%)
11	AL	0.64	0/992	1.28	16/1327 (1.2%)
11	CL	0.66	0/992	1.22	7/1327 (0.5%)
12	AM	0.45	0/1008	0.93	1/1347 (0.1%)
12	CM	0.44	0/1008	0.92	2/1347 (0.1%)
13	AN	0.44	0/501	0.84	0/664
13	CN	0.40	0/501	0.87	0/664
14	AO	0.55	0/745	0.94	2/992 (0.2%)
14	CO	0.45	0/745	0.87	0/992
15	AP	0.43	0/722	0.91	2/970 (0.2%)
15	CP	0.40	0/722	0.85	0/970
16	AQ	0.55	0/848	1.20	8/1131 (0.7%)
16	CQ	0.54	0/848	1.13	6/1131 (0.5%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
17	AR	0.45	0/579	0.98	2/768 (0.3%)
17	CR	0.38	0/579	0.89	1/768 (0.1%)
18	AS	0.42	0/647	0.98	1/870 (0.1%)
18	CS	0.40	0/647	0.96	1/870 (0.1%)
19	AT	0.48	0/764	0.87	0/1006
19	CT	0.49	0/764	0.94	0/1006
20	AY	0.67	9/5481 (0.2%)	1.12	41/7418 (0.6%)
20	CY	0.73	10/5481 (0.2%)	1.14	41/7418 (0.6%)
21	AA	0.22	0/36351	0.43	0/56736
21	CA	0.21	0/36351	0.42	0/56736
22	AW	0.22	0/1827	0.46	0/2845
22	CW	0.26	1/1827 (0.1%)	0.52	1/2845 (0.0%)
23	AV	0.40	0/568	0.79	2/886 (0.2%)
23	CV	0.55	1/568 (0.2%)	1.07	6/886 (0.7%)
24	AU	0.98	0/11	1.41	0/13
24	CU	0.98	0/11	1.41	0/13
25	BC	0.63	0/1774	1.19	25/2391 (1.0%)
25	DC	0.72	3/1774 (0.2%)	1.27	28/2391 (1.2%)
26	BD	0.52	0/2195	1.00	5/2955 (0.2%)
26	DD	0.52	0/2195	1.02	6/2955 (0.2%)
27	BE	0.53	0/1602	1.13	8/2160 (0.4%)
27	DE	0.46	0/1602	1.08	13/2160 (0.6%)
28	BF	0.55	0/1663	1.17	14/2249 (0.6%)
28	DF	0.55	0/1663	1.21	16/2249 (0.7%)
29	BG	0.80	3/1499 (0.2%)	0.95	5/2016 (0.2%)
29	DG	0.83	4/1499 (0.3%)	1.04	8/2016 (0.4%)
30	BH	0.45	0/1298	0.96	7/1751 (0.4%)
30	DH	0.46	0/1298	0.98	6/1751 (0.3%)
32	BK	0.53	0/1054	1.02	5/1427 (0.4%)
32	DK	0.52	0/1054	1.01	7/1427 (0.5%)
33	BN	0.76	0/1131	1.29	13/1525 (0.9%)
33	DN	0.68	0/1131	1.15	4/1525 (0.3%)
34	BO	0.45	0/943	1.14	11/1269 (0.9%)
34	DO	0.46	0/943	1.06	4/1269 (0.3%)
35	BP	0.45	0/1131	1.07	3/1504 (0.2%)
35	DP	0.45	0/1131	1.11	12/1504 (0.8%)
36	BQ	0.49	0/1143	1.03	7/1527 (0.5%)
36	DQ	0.44	0/1143	0.99	2/1527 (0.1%)
37	BR	0.48	0/974	1.00	3/1302 (0.2%)
37	DR	0.47	0/974	0.94	1/1302 (0.1%)
38	BS	0.57	0/783	1.21	9/1041 (0.9%)
38	DS	0.57	0/783	1.20	6/1041 (0.6%)
39	BT	0.55	0/1161	1.15	9/1549 (0.6%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
39	DT	0.51	0/1161	1.07	6/1549 (0.4%)
40	BU	0.52	0/982	0.95	2/1306 (0.2%)
40	DU	0.56	0/982	0.99	3/1306 (0.2%)
41	BV	0.50	0/790	1.00	5/1057 (0.5%)
41	DV	0.51	0/790	1.06	3/1057 (0.3%)
42	BW	0.51	0/911	1.06	5/1220 (0.4%)
42	DW	0.51	0/911	1.06	5/1220 (0.4%)
43	BX	0.43	0/748	1.01	3/1004 (0.3%)
43	DX	0.44	0/748	1.02	7/1004 (0.7%)
44	BY	0.49	0/831	1.00	1/1108 (0.1%)
44	DY	0.46	0/831	0.95	3/1108 (0.3%)
45	BZ	0.45	0/1505	1.01	3/2042 (0.1%)
45	DZ	0.41	0/1505	0.99	8/2042 (0.4%)
46	B0	0.40	0/671	0.87	0/892
46	D0	0.40	0/671	0.95	3/892 (0.3%)
47	B2	0.45	0/600	0.92	3/793 (0.4%)
47	D2	0.40	0/600	0.88	0/793
48	B3	0.46	0/482	1.12	2/646 (0.3%)
48	D3	0.41	0/482	1.07	2/646 (0.3%)
49	B5	0.46	0/473	0.93	3/639 (0.5%)
49	D5	0.50	0/473	0.96	1/639 (0.2%)
50	B6	0.51	0/440	1.14	3/586 (0.5%)
50	D6	0.48	0/440	1.18	5/586 (0.9%)
51	B7	0.46	0/438	1.00	1/575 (0.2%)
51	D7	0.55	0/438	1.04	2/575 (0.3%)
52	B8	0.53	0/525	1.03	1/691 (0.1%)
52	D8	0.48	0/525	1.03	3/691 (0.4%)
53	B9	0.42	0/310	0.86	1/407 (0.2%)
53	D9	0.37	0/310	0.92	1/407 (0.2%)
56	B1	0.82	3/739 (0.4%)	1.41	14/981 (1.4%)
56	D1	0.83	6/739 (0.8%)	1.36	9/981 (0.9%)
57	B4	0.65	0/276	1.16	2/372 (0.5%)
57	D4	0.72	0/276	1.13	2/372 (0.5%)
58	Be	0.44	0/538	0.93	1/715 (0.1%)
58	De	0.44	0/538	0.95	2/715 (0.3%)
59	BA	0.22	0/69437	0.44	3/108401 (0.0%)
59	DA	0.22	0/69437	0.42	1/108401 (0.0%)
60	BB	0.19	0/2853	0.40	0/4451
60	DB	0.19	0/2853	0.37	0/4451
All	All	0.36	41/330902 (0.0%)	0.68	588/492664 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected

by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	AB	0	2
1	CB	0	1
10	AK	0	1
11	AL	0	1
11	CL	0	1
20	AY	0	3
20	CY	0	8
25	BC	0	3
25	DC	0	2
26	DD	0	1
28	BF	0	2
28	DF	0	2
29	BG	0	1
29	DG	0	1
31	BJ	0	1
31	DJ	0	1
38	BS	0	2
38	DS	0	2
39	BT	0	2
39	DT	0	1
42	DW	0	1
56	B1	0	2
56	D1	0	3
All	All	0	44

All (41) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	CY	502	GLY	C-O	25.88	1.53	1.23
29	DG	112	PRO	CA-C	25.09	1.88	1.52
29	BG	112	PRO	CA-C	25.02	1.88	1.52
20	AY	499	ARG	C-N	15.12	1.56	1.33
20	CY	499	ARG	C-N	10.64	1.48	1.33
20	CY	504	ARG	C-N	10.22	1.48	1.33
20	CY	33	LEU	CA-C	-10.15	1.39	1.52
20	AY	61	ARG	N-CA	9.77	1.58	1.46
20	AY	59	ARG	C-N	8.77	1.46	1.33
20	CY	31	ARG	C-O	8.60	1.35	1.24
23	CV	16	A	O3'-P	-8.40	1.48	1.61
20	CY	33	LEU	N-CA	8.30	1.56	1.46
25	DC	46	ALA	CA-CB	8.30	1.65	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	AY	61	ARG	C-N	-7.37	1.22	1.33
29	DG	113	ARG	C-N	-7.35	1.23	1.33
29	DG	113	ARG	CA-C	-7.26	1.42	1.52
29	BG	113	ARG	CA-C	-7.22	1.42	1.52
20	AY	31	ARG	C-O	7.04	1.33	1.24
20	CY	72	CYS	CA-CB	-7.03	1.41	1.53
29	DG	109	VAL	C-N	-6.99	1.25	1.33
22	CW	37	A	O3'-P	-6.69	1.51	1.61
20	CY	31	ARG	CA-C	6.38	1.61	1.52
56	D1	38	SER	CA-C	6.35	1.61	1.52
10	AK	41	THR	CA-CB	6.29	1.64	1.53
20	AY	33	LEU	N-CA	6.22	1.54	1.46
56	B1	40	ARG	CA-C	6.21	1.61	1.52
25	DC	213	VAL	CA-CB	-5.91	1.47	1.54
56	B1	38	SER	CA-C	5.84	1.60	1.53
20	AY	60	GLU	C-O	-5.73	1.16	1.24
56	D1	40	ARG	CA-C	5.64	1.60	1.52
56	D1	39	LYS	CA-C	5.61	1.59	1.52
56	D1	37	ILE	CA-C	5.49	1.59	1.52
20	CY	32	ILE	C-O	-5.43	1.17	1.24
25	DC	46	ALA	C-O	-5.37	1.17	1.23
56	D1	38	SER	N-CA	5.34	1.53	1.46
56	D1	40	ARG	N-CA	5.34	1.53	1.46
20	AY	60	GLU	CA-C	5.23	1.59	1.52
20	AY	503	GLY	C-N	-5.20	1.26	1.33
20	CY	35	TYR	N-CA	5.19	1.52	1.46
56	B1	40	ARG	N-CA	5.13	1.52	1.46
29	BG	113	ARG	C-N	-5.03	1.26	1.33

All (588) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
28	DF	193	VAL	N-CA-C	-18.82	83.28	109.45
22	CW	37	A	P-O3'-C3'	15.26	143.09	120.20
23	CV	16	A	P-O3'-C3'	14.81	142.41	120.20
20	CY	502	GLY	O-C-N	-14.78	101.35	122.19
23	CV	16	A	O3'-P-O5'	-13.63	83.56	104.00
20	CY	502	GLY	CA-C-N	12.62	146.14	121.41
20	CY	502	GLY	C-N-CA	12.62	146.14	121.41
29	DG	116	ASP	O-C-N	-12.22	106.25	122.38
56	D1	11	ARG	CA-C-N	11.72	134.49	119.84
56	D1	11	ARG	C-N-CA	11.72	134.49	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	B1	11	ARG	CA-C-N	11.03	133.62	119.84
56	B1	11	ARG	C-N-CA	11.03	133.62	119.84
27	BE	52	LEU	CA-C-N	10.93	133.50	119.84
27	BE	52	LEU	C-N-CA	10.93	133.50	119.84
20	CY	503	GLY	O-C-N	-10.57	108.95	122.70
20	CY	255	ILE	CA-C-N	-10.51	112.60	122.37
20	CY	255	ILE	C-N-CA	-10.51	112.60	122.37
1	AB	163	PHE	N-CA-C	-10.29	93.70	109.24
1	AB	172	ILE	N-CA-C	-10.04	100.58	110.72
1	CB	172	ILE	N-CA-C	-9.98	100.83	110.42
38	BS	99	LYS	N-CA-C	-9.95	100.42	111.07
28	DF	174	VAL	N-CA-C	-9.89	96.65	109.80
28	BF	193	VAL	N-CA-C	-9.76	89.03	109.34
23	CV	18	G	C2'-C3'-O3'	9.72	128.28	113.70
56	B1	19	GLN	N-CA-C	-9.66	102.58	114.75
56	D1	17	SER	N-CA-C	-9.56	97.02	110.50
16	CQ	60	ILE	N-CA-C	9.47	122.00	108.17
20	AY	255	ILE	CA-C-N	-9.43	113.99	122.28
20	AY	255	ILE	C-N-CA	-9.43	113.99	122.28
11	CL	26	ALA	N-CA-C	-9.39	101.12	111.36
16	AQ	60	ILE	N-CA-C	9.36	121.60	108.12
34	BO	40	VAL	N-CA-C	-9.29	99.92	110.05
23	AV	18	G	C4'-C3'-O3'	9.18	126.77	113.00
27	DE	52	LEU	CA-C-N	9.14	131.27	119.84
27	DE	52	LEU	C-N-CA	9.14	131.27	119.84
56	B1	17	SER	N-CA-C	-8.93	98.74	110.53
11	AL	44	THR	CA-C-N	8.92	130.99	119.84
11	AL	44	THR	C-N-CA	8.92	130.99	119.84
20	CY	503	GLY	CA-C-N	8.80	138.36	121.54
20	CY	503	GLY	C-N-CA	8.80	138.36	121.54
43	BX	31	HIS	CA-C-N	8.80	128.39	119.24
43	BX	31	HIS	C-N-CA	8.80	128.39	119.24
56	D1	19	GLN	N-CA-C	-8.80	103.66	114.75
28	DF	155	LEU	N-CA-C	-8.65	92.38	110.80
25	DC	31	LYS	N-CA-C	-8.63	101.95	111.36
38	DS	99	LYS	N-CA-C	-8.62	101.58	110.97
28	BF	155	LEU	N-CA-C	-8.60	92.48	110.80
28	BF	174	VAL	N-CA-C	-8.59	98.37	109.80
25	BC	220	GLY	CA-C-N	8.57	130.56	119.84
25	BC	220	GLY	C-N-CA	8.57	130.56	119.84
20	AY	66	THR	N-CA-C	8.47	115.72	108.78
39	BT	48	ILE	CB-CA-C	-8.42	97.48	111.29

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
39	DT	29	ARG	N-CA-C	8.38	122.05	110.24
1	AB	161	ALA	CA-C-N	-8.37	110.40	122.45
1	AB	161	ALA	C-N-CA	-8.37	110.40	122.45
20	AY	489	LYS	N-CA-C	8.32	115.71	108.22
25	BC	111	PHE	N-CA-C	8.25	119.12	108.24
20	CY	72	CYS	N-CA-C	8.18	128.22	110.80
38	DS	97	ARG	N-CA-C	-8.16	100.82	111.02
20	CY	72	CYS	CB-CA-C	-8.12	94.26	110.42
20	CY	647	VAL	CA-C-N	8.09	127.75	119.82
20	CY	647	VAL	C-N-CA	8.09	127.75	119.82
38	BS	103	GLU	N-CA-C	-8.08	102.16	110.97
33	BN	78	TYR	CA-C-N	8.07	128.07	119.76
33	BN	78	TYR	C-N-CA	8.07	128.07	119.76
40	DU	96	ALA	N-CA-C	-8.05	102.90	112.89
43	DX	6	ASP	N-CA-C	-8.05	103.44	113.18
28	BF	156	LEU	CA-C-N	-8.03	108.77	121.62
28	BF	156	LEU	C-N-CA	-8.03	108.77	121.62
36	DQ	98	LYS	CA-C-N	8.01	128.06	119.89
36	DQ	98	LYS	C-N-CA	8.01	128.06	119.89
28	DF	191	ARG	N-CA-C	7.99	121.67	108.49
25	DC	51	ASP	CA-C-N	7.96	129.79	119.84
25	DC	51	ASP	C-N-CA	7.96	129.79	119.84
25	DC	117	THR	CA-C-N	-7.95	109.90	119.84
25	DC	117	THR	C-N-CA	-7.95	109.90	119.84
25	DC	174	ALA	CA-C-N	7.90	129.72	119.84
25	DC	174	ALA	C-N-CA	7.90	129.72	119.84
7	CH	88	LYS	CA-C-N	7.90	129.72	119.84
7	CH	88	LYS	C-N-CA	7.90	129.72	119.84
25	BC	31	LYS	N-CA-C	-7.90	102.67	111.28
16	AQ	59	ILE	CA-C-N	-7.89	112.02	122.99
16	AQ	59	ILE	C-N-CA	-7.89	112.02	122.99
34	DO	47	ILE	CA-C-N	7.87	128.29	119.32
34	DO	47	ILE	C-N-CA	7.87	128.29	119.32
1	AB	162	ILE	CB-CA-C	7.87	122.44	111.19
38	DS	16	ASN	N-CA-C	-7.84	102.81	112.38
33	BN	65	LYS	N-CA-C	-7.76	103.95	113.50
45	DZ	14	LYS	CA-C-N	7.70	128.40	119.47
45	DZ	14	LYS	C-N-CA	7.70	128.40	119.47
38	BS	49	VAL	N-CA-C	7.69	118.88	108.11
38	DS	49	VAL	N-CA-C	7.67	119.12	107.77
9	AJ	86	MET	N-CA-C	-7.66	105.10	114.75
39	BT	29	ARG	N-CA-C	7.59	120.38	110.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	B1	40	ARG	N-CA-C	7.59	126.98	110.80
20	AY	166	LEU	CA-C-N	7.58	129.32	119.84
20	AY	166	LEU	C-N-CA	7.58	129.32	119.84
23	CV	18	G	C4'-C3'-O3'	7.56	124.34	113.00
18	AS	73	GLU	N-CA-C	-7.55	105.24	114.75
11	AL	34	ARG	N-CA-C	7.54	126.85	110.80
20	CY	648	PRO	N-CA-C	7.54	123.70	113.98
20	AY	24	GLY	N-CA-C	7.53	122.60	113.79
23	AV	18	G	C2'-C3'-O3'	7.51	124.96	113.70
32	DK	23	VAL	N-CA-C	-7.49	106.01	113.20
20	CY	79	ILE	N-CA-C	7.48	118.58	108.11
11	AL	26	ALA	N-CA-C	-7.45	103.23	111.36
27	BE	64	LYS	N-CA-C	-7.45	104.58	112.93
5	AF	14	LEU	N-CA-C	7.45	117.06	108.49
25	BC	140	ASN	CA-C-N	7.42	129.12	119.84
25	BC	140	ASN	C-N-CA	7.42	129.12	119.84
29	DG	116	ASP	CA-C-N	7.38	134.27	123.13
29	DG	116	ASP	C-N-CA	7.38	134.27	123.13
11	CL	55	VAL	CB-CA-C	-7.32	99.28	111.29
56	B1	33	LYS	N-CA-C	-7.31	103.95	114.12
9	CJ	86	MET	N-CA-C	-7.26	105.04	114.04
56	B1	42	GLN	N-CA-C	7.24	120.21	107.61
20	AY	515	GLU	CA-C-N	7.24	128.89	119.84
20	AY	515	GLU	C-N-CA	7.24	128.89	119.84
38	BS	16	ASN	N-CA-C	-7.23	103.40	111.71
56	D1	40	ARG	N-CA-C	7.21	126.17	110.80
27	DE	75	VAL	N-CA-C	-7.20	106.87	113.71
11	CL	61	THR	N-CA-C	-7.19	103.96	114.39
20	CY	72	CYS	N-CA-CB	-7.18	98.36	110.49
25	DC	140	ASN	CA-C-N	7.17	128.81	119.84
25	DC	140	ASN	C-N-CA	7.17	128.81	119.84
57	B4	6	HIS	CA-C-N	7.17	128.81	119.84
57	B4	6	HIS	C-N-CA	7.17	128.81	119.84
29	BG	112	PRO	CB-CA-C	7.16	123.38	111.56
28	DF	156	LEU	CA-C-N	-7.16	110.29	120.75
28	DF	156	LEU	C-N-CA	-7.16	110.29	120.75
29	DG	112	PRO	CB-CA-C	7.16	123.37	111.56
20	AY	679	VAL	CA-C-N	7.15	128.77	119.84
20	AY	679	VAL	C-N-CA	7.15	128.77	119.84
43	DX	31	HIS	CA-C-N	7.14	126.67	119.24
43	DX	31	HIS	C-N-CA	7.14	126.67	119.24
20	CY	58	GLU	N-CA-C	-7.14	106.48	114.62

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
46	D0	82	ARG	CA-C-N	7.14	126.39	118.97
46	D0	82	ARG	C-N-CA	7.14	126.39	118.97
20	CY	572	TYR	N-CA-C	7.13	117.66	108.24
28	DF	190	GLU	CA-C-N	-7.13	113.48	123.03
28	DF	190	GLU	C-N-CA	-7.13	113.48	123.03
25	DC	220	GLY	CA-C-N	7.12	128.74	119.84
25	DC	220	GLY	C-N-CA	7.12	128.74	119.84
10	AK	86	GLY	N-CA-C	7.08	122.21	112.52
1	AB	185	ILE	O-C-N	7.06	130.74	122.69
20	AY	32	ILE	CA-C-O	-7.05	111.96	120.78
32	DK	20	ALA	CA-C-N	7.01	127.60	120.38
32	DK	20	ALA	C-N-CA	7.01	127.60	120.38
16	CQ	59	ILE	CA-C-N	-7.00	112.59	122.75
16	CQ	59	ILE	C-N-CA	-7.00	112.59	122.75
50	D6	21	TYR	N-CA-C	7.00	120.08	109.23
25	BC	181	PHE	CA-C-N	6.97	127.56	120.38
25	BC	181	PHE	C-N-CA	6.97	127.56	120.38
50	D6	48	VAL	N-CA-C	6.97	117.58	110.82
28	BF	157	VAL	CB-CA-C	6.94	121.20	111.63
32	BK	67	PHE	N-CA-C	6.92	120.25	109.52
11	AL	101	VAL	N-CA-C	6.92	117.50	111.90
20	AY	503	GLY	CA-C-N	6.90	134.72	121.54
20	AY	503	GLY	C-N-CA	6.90	134.72	121.54
51	B7	37	LYS	N-CA-C	6.88	115.36	108.75
28	BF	190	GLU	CA-C-N	-6.88	112.64	123.24
28	BF	190	GLU	C-N-CA	-6.88	112.64	123.24
39	BT	79	HIS	N-CA-C	6.87	124.74	114.09
33	BN	110	GLY	CA-C-N	6.85	128.41	119.84
33	BN	110	GLY	C-N-CA	6.85	128.41	119.84
34	BO	47	ILE	CA-C-N	6.84	128.39	119.84
34	BO	47	ILE	C-N-CA	6.84	128.39	119.84
32	BK	72	PRO	CA-C-N	6.82	128.37	119.84
32	BK	72	PRO	C-N-CA	6.82	128.37	119.84
35	BP	86	LYS	N-CA-C	-6.80	105.13	113.50
27	BE	65	GLY	N-CA-C	-6.80	104.57	112.73
20	AY	32	ILE	CB-CA-C	6.78	122.41	111.29
40	BU	96	ALA	N-CA-C	-6.78	103.82	111.14
3	AD	171	GLY	CA-C-N	6.78	128.31	119.84
3	AD	171	GLY	C-N-CA	6.78	128.31	119.84
25	DC	16	ASP	CA-C-N	6.78	128.31	119.84
25	DC	16	ASP	C-N-CA	6.78	128.31	119.84
20	CY	132	ARG	N-CA-C	6.76	118.83	108.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	AY	617	MET	N-CA-C	-6.72	104.03	111.82
59	BA	2779	U	OP1-P-O3'	-6.72	87.85	108.00
39	DT	63	VAL	N-CA-C	6.72	117.57	108.17
29	DG	83	ARG	N-CA-C	-6.70	106.05	114.56
41	BV	35	LEU	CA-C-N	6.67	128.18	119.84
41	BV	35	LEU	C-N-CA	6.67	128.18	119.84
34	BO	13	ASN	N-CA-C	-6.67	105.14	113.28
38	BS	12	PHE	N-CA-C	-6.67	103.74	112.41
36	BQ	98	LYS	CA-C-N	6.66	126.68	119.89
36	BQ	98	LYS	C-N-CA	6.66	126.68	119.89
27	BE	23	VAL	N-CA-C	6.65	117.86	107.28
56	D1	14	VAL	N-CA-C	6.64	119.08	108.85
41	BV	49	THR	CA-C-N	-6.64	111.54	119.84
41	BV	49	THR	C-N-CA	-6.64	111.54	119.84
20	AY	503	GLY	O-C-N	-6.64	113.38	123.93
32	BK	35	MET	N-CA-C	-6.63	104.13	111.36
39	BT	130	ALA	N-CA-C	-6.63	105.16	113.18
20	CY	515	GLU	CA-C-N	6.63	128.12	119.84
20	CY	515	GLU	C-N-CA	6.63	128.12	119.84
1	AB	188	ALA	N-CA-C	6.62	120.19	109.40
30	DH	172	LYS	CA-C-N	6.61	128.10	119.84
30	DH	172	LYS	C-N-CA	6.61	128.10	119.84
29	DG	114	ILE	N-CA-CB	-6.60	103.16	111.41
29	BG	114	ILE	N-CA-CB	-6.59	103.17	111.41
3	AD	31	CYS	N-CA-C	-6.58	103.77	112.72
25	DC	226	ASN	CA-C-N	6.57	128.05	119.84
25	DC	226	ASN	C-N-CA	6.57	128.05	119.84
50	D6	38	LYS	N-CA-C	6.57	118.78	110.24
11	CL	34	ARG	N-CA-C	6.56	124.76	110.80
20	AY	553	GLY	CA-C-N	6.55	128.03	119.84
20	AY	553	GLY	C-N-CA	6.55	128.03	119.84
38	DS	103	GLU	N-CA-C	-6.55	104.06	111.07
34	BO	100	GLY	CA-C-N	6.54	126.30	119.76
34	BO	100	GLY	C-N-CA	6.54	126.30	119.76
25	BC	226	ASN	CA-C-N	6.49	127.95	119.84
25	BC	226	ASN	C-N-CA	6.49	127.95	119.84
20	CY	28	THR	N-CA-C	-6.49	104.13	111.07
20	CY	679	VAL	CA-C-N	6.49	127.95	119.84
20	CY	679	VAL	C-N-CA	6.49	127.95	119.84
26	DD	177	LEU	CA-C-N	-6.47	112.33	119.19
26	DD	177	LEU	C-N-CA	-6.47	112.33	119.19
50	B6	21	TYR	N-CA-C	6.46	118.99	109.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	AY	669	PHE	N-CA-C	6.44	116.36	107.73
11	AL	93	LEU	CA-C-N	6.43	127.88	119.84
11	AL	93	LEU	C-N-CA	6.43	127.88	119.84
35	DP	77	ARG	CA-C-N	6.41	127.86	119.84
35	DP	77	ARG	C-N-CA	6.41	127.86	119.84
20	CY	173	THR	N-CA-C	-6.40	105.34	113.02
45	DZ	158	PRO	CA-C-N	6.39	127.82	119.84
45	DZ	158	PRO	C-N-CA	6.39	127.82	119.84
30	DH	89	ILE	N-CA-C	6.38	115.53	106.53
20	AY	534	ILE	CA-C-N	6.36	127.79	119.84
20	AY	534	ILE	C-N-CA	6.36	127.79	119.84
11	AL	61	THR	N-CA-C	-6.35	105.18	114.39
27	DE	125	GLY	CA-C-N	6.35	126.30	119.76
27	DE	125	GLY	C-N-CA	6.35	126.30	119.76
11	AL	55	VAL	CB-CA-C	-6.31	100.94	111.29
51	D7	6	GLN	CA-C-N	6.28	126.64	119.92
51	D7	6	GLN	C-N-CA	6.28	126.64	119.92
1	AB	68	ILE	CA-C-N	-6.28	111.81	123.05
1	AB	68	ILE	C-N-CA	-6.28	111.81	123.05
37	DR	34	ILE	N-CA-C	6.26	116.93	108.17
17	AR	79	LEU	CA-C-N	6.26	126.62	119.93
17	AR	79	LEU	C-N-CA	6.26	126.62	119.93
12	AM	103	THR	N-CA-C	-6.25	105.32	114.39
57	D4	6	HIS	CA-C-N	6.25	127.65	119.84
57	D4	6	HIS	C-N-CA	6.25	127.65	119.84
41	BV	96	ILE	N-CA-C	6.25	122.33	109.34
28	BF	191	ARG	N-CA-C	6.24	120.72	107.67
34	DO	81	ASP	N-CA-C	6.24	116.84	108.23
36	BQ	72	LYS	CA-C-N	6.24	126.21	119.78
36	BQ	72	LYS	C-N-CA	6.24	126.21	119.78
33	BN	94	HIS	CA-C-N	6.23	126.77	120.04
33	BN	94	HIS	C-N-CA	6.23	126.77	120.04
37	BR	34	ILE	N-CA-C	6.23	117.26	108.17
3	CD	28	SER	CA-C-N	-6.23	112.06	119.84
3	CD	28	SER	C-N-CA	-6.23	112.06	119.84
40	BU	50	ARG	N-CA-C	-6.21	104.14	111.03
1	AB	185	ILE	CA-C-N	6.20	133.38	121.54
1	AB	185	ILE	C-N-CA	6.20	133.38	121.54
2	AC	7	PRO	N-CA-C	-6.19	104.93	113.53
47	B2	14	ARG	N-CA-C	-6.19	104.46	111.14
20	CY	489	LYS	N-CA-C	6.18	113.69	108.13
30	BH	121	ILE	N-CA-C	6.17	117.66	108.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
39	BT	76	PHE	CA-C-N	6.17	127.10	120.13
39	BT	76	PHE	C-N-CA	6.17	127.10	120.13
41	DV	96	ILE	N-CA-C	6.17	122.17	109.34
11	AL	60	LEU	CB-CA-C	-6.17	109.45	116.54
20	AY	621	ILE	N-CA-C	-6.16	104.50	110.72
35	DP	9	ASN	N-CA-C	6.16	123.42	109.81
58	Be	82	THR	N-CA-C	-6.12	107.64	114.62
25	DC	121	MET	N-CA-C	-6.12	103.55	111.02
25	BC	149	ASN	N-CA-C	-6.12	105.80	113.20
1	CB	160	ASP	N-CA-C	6.11	123.81	110.80
33	BN	5	VAL	CA-C-N	6.11	125.87	119.76
33	BN	5	VAL	C-N-CA	6.11	125.87	119.76
23	CV	16	A	C5'-C4'-C3'	6.11	125.16	116.00
9	AJ	40	LEU	CA-C-N	6.10	127.47	119.84
9	AJ	40	LEU	C-N-CA	6.10	127.47	119.84
25	BC	211	ARG	N-CA-C	-6.10	97.80	110.80
36	BQ	104	PHE	N-CA-C	6.10	119.43	109.06
25	DC	46	ALA	N-CA-C	6.10	120.21	109.96
1	CB	161	ALA	CA-C-N	-6.10	110.99	121.97
1	CB	161	ALA	C-N-CA	-6.10	110.99	121.97
1	CB	130	ARG	CA-C-N	6.09	127.46	119.84
1	CB	130	ARG	C-N-CA	6.09	127.46	119.84
28	BF	7	TYR	N-CA-C	-6.09	97.83	110.80
56	B1	18	ILE	N-CA-C	6.08	121.99	109.34
25	DC	63	VAL	N-CA-C	6.04	118.06	108.89
38	DS	46	VAL	N-CA-C	6.01	112.64	106.21
28	DF	157	VAL	CB-CA-C	6.01	119.57	111.28
38	BS	70	GLY	N-CA-C	-6.01	105.53	112.50
20	CY	612	THR	CA-C-N	6.01	127.35	119.84
20	CY	612	THR	C-N-CA	6.01	127.35	119.84
20	AY	145	ASP	N-CA-C	6.00	116.16	108.24
48	D3	40	THR	CA-C-N	5.99	127.33	119.84
48	D3	40	THR	C-N-CA	5.99	127.33	119.84
15	AP	37	GLY	N-CA-C	5.99	119.09	111.37
1	CB	25	ASN	CA-C-N	5.98	127.31	119.84
1	CB	25	ASN	C-N-CA	5.98	127.31	119.84
25	BC	121	MET	N-CA-C	-5.98	103.73	111.02
7	AH	47	GLY	N-CA-C	5.97	118.07	110.96
16	CQ	44	ALA	CA-C-N	-5.96	115.09	122.84
16	CQ	44	ALA	C-N-CA	-5.96	115.09	122.84
30	DH	152	ARG	N-CA-C	5.96	118.12	108.34
34	BO	81	ASP	N-CA-C	5.94	116.43	108.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	CY	36	THR	N-CA-C	5.94	123.45	110.80
25	BC	63	VAL	N-CA-C	5.94	118.17	108.97
56	D1	33	LYS	N-CA-C	-5.93	105.35	113.30
39	DT	33	LYS	N-CA-C	5.91	115.65	107.73
33	DN	110	GLY	CA-C-N	5.89	127.20	119.84
33	DN	110	GLY	C-N-CA	5.89	127.20	119.84
11	CL	67	THR	CB-CA-C	-5.88	98.71	110.42
47	B2	6	VAL	N-CA-C	-5.88	104.62	110.62
42	DW	101	SER	N-CA-C	5.88	117.90	109.14
12	CM	98	VAL	N-CA-C	-5.88	105.65	111.88
35	DP	71	VAL	CA-C-N	-5.86	112.52	119.84
35	DP	71	VAL	C-N-CA	-5.86	112.52	119.84
3	CD	97	LEU	N-CA-C	-5.86	105.22	112.72
49	D5	50	GLY	N-CA-C	5.85	118.06	110.45
20	CY	617	MET	N-CA-C	-5.85	104.99	111.36
43	DX	23	GLU	N-CA-C	-5.84	106.32	113.50
33	BN	43	THR	CA-C-N	5.83	127.13	119.84
33	BN	43	THR	C-N-CA	5.83	127.13	119.84
34	DO	40	VAL	N-CA-C	-5.82	103.70	110.05
32	DK	71	THR	CA-C-N	5.82	126.37	120.38
32	DK	71	THR	C-N-CA	5.82	126.37	120.38
2	CC	7	PRO	N-CA-C	-5.82	105.15	113.47
20	CY	618	GLY	N-CA-C	-5.82	105.60	112.64
35	DP	144	GLU	CA-C-N	5.81	127.11	119.84
35	DP	144	GLU	C-N-CA	5.81	127.11	119.84
10	AK	40	ILE	N-CA-C	-5.79	100.73	108.96
56	D1	13	ILE	N-CA-C	5.79	116.00	108.35
28	BF	44	ARG	N-CA-C	-5.78	106.58	113.97
10	CK	32	ILE	N-CA-C	5.77	114.66	106.53
36	BQ	91	GLU	N-CA-C	5.77	123.08	110.80
25	BC	16	ASP	CA-C-N	5.77	127.05	119.84
25	BC	16	ASP	C-N-CA	5.77	127.05	119.84
16	AQ	44	ALA	CA-C-N	-5.76	115.34	122.84
16	AQ	44	ALA	C-N-CA	-5.76	115.34	122.84
28	DF	195	ASP	N-CA-C	-5.76	101.21	110.14
35	DP	86	LYS	N-CA-C	-5.75	105.36	112.90
39	DT	130	ALA	N-CA-C	-5.75	105.76	112.89
56	B1	41	ARG	N-CA-C	5.75	117.25	108.52
39	BT	67	SER	N-CA-C	5.73	118.44	108.76
44	DY	76	CYS	CA-C-N	5.72	127.00	119.84
44	DY	76	CYS	C-N-CA	5.72	127.00	119.84
29	DG	40	ASN	N-CA-C	5.72	116.76	107.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	D1	18	ILE	N-CA-C	5.72	121.24	109.34
45	DZ	173	ALA	N-CA-C	5.72	115.40	107.73
42	BW	75	TYR	N-CA-C	5.72	122.98	110.80
53	B9	27	CYS	N-CA-C	-5.71	98.65	110.80
41	DV	15	GLU	CA-C-N	-5.70	112.72	119.84
41	DV	15	GLU	C-N-CA	-5.70	112.72	119.84
37	BR	109	ALA	CA-C-N	5.70	125.98	119.83
37	BR	109	ALA	C-N-CA	5.70	125.98	119.83
20	CY	72	CYS	CA-CB-SG	-5.70	101.30	114.40
25	DC	133	GLY	CA-C-N	5.69	125.15	119.24
25	DC	133	GLY	C-N-CA	5.69	125.15	119.24
56	B1	43	TYR	CA-C-N	5.69	126.95	119.84
56	B1	43	TYR	C-N-CA	5.69	126.95	119.84
52	D8	61	LEU	N-CA-C	5.68	116.41	108.00
20	AY	286	ILE	CA-C-N	5.68	126.23	120.38
20	AY	286	ILE	C-N-CA	5.68	126.23	120.38
20	AY	54	PHE	N-CA-C	5.67	117.40	108.96
1	AB	162	ILE	N-CA-C	-5.66	100.43	109.20
30	BH	131	VAL	N-CA-C	5.65	116.13	107.77
20	CY	32	ILE	CA-C-O	-5.65	113.72	120.78
28	DF	7	TYR	N-CA-C	-5.64	98.79	110.80
3	CD	167	GLY	N-CA-C	-5.64	107.21	115.72
27	DE	65	GLY	N-CA-C	-5.63	105.97	112.73
2	CC	72	LYS	CA-C-N	5.63	126.00	119.47
2	CC	72	LYS	C-N-CA	5.63	126.00	119.47
35	DP	16	ARG	N-CA-C	-5.63	106.46	113.55
42	DW	71	VAL	N-CA-C	5.62	115.36	107.37
17	CR	55	ARG	N-CA-C	-5.62	107.42	114.56
58	De	69	ALA	N-CA-C	-5.62	106.47	113.15
20	CY	500	GLN	N-CA-C	-5.61	107.68	114.75
30	BH	114	VAL	N-CA-C	5.61	115.67	107.37
30	DH	20	ALA	CA-C-N	5.60	126.84	119.84
30	DH	20	ALA	C-N-CA	5.60	126.84	119.84
30	BH	152	ARG	N-CA-C	5.60	117.98	108.02
28	BF	101	LEU	CA-C-N	5.59	126.83	119.84
28	BF	101	LEU	C-N-CA	5.59	126.83	119.84
58	De	90	LYS	N-CA-C	-5.59	106.41	113.18
8	CI	106	ALA	N-CA-C	-5.59	98.89	110.80
11	CL	35	GLY	N-CA-C	5.59	126.43	113.18
20	AY	416	LYS	CB-CA-C	-5.59	110.12	116.54
20	AY	413	ILE	N-CA-C	5.58	116.31	108.17
12	CM	103	THR	N-CA-C	-5.58	104.72	112.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
26	DD	259	THR	CB-CA-C	-5.58	109.04	117.07
1	AB	185	ILE	N-CA-C	-5.56	100.35	108.97
50	B6	38	LYS	N-CA-C	5.54	117.69	110.43
10	CK	127	LYS	N-CA-C	-5.54	107.17	114.31
3	AD	56	VAL	N-CA-C	-5.53	105.11	110.42
27	BE	190	GLY	CA-C-N	5.53	125.73	120.31
27	BE	190	GLY	C-N-CA	5.53	125.73	120.31
25	DC	47	LYS	N-CA-C	5.53	117.65	108.13
9	AJ	36	GLY	CA-C-N	5.52	126.75	119.84
9	AJ	36	GLY	C-N-CA	5.52	126.75	119.84
1	CB	236	TYR	N-CA-C	5.52	122.56	110.80
30	BH	101	ARG	N-CA-C	-5.52	106.05	112.89
26	DD	274	ARG	N-CA-C	5.52	117.64	109.69
30	BH	28	GLY	CA-C-N	5.52	126.73	119.84
30	BH	28	GLY	C-N-CA	5.52	126.73	119.84
3	AD	10	ARG	N-CA-C	-5.51	106.05	112.89
39	DT	10	VAL	N-CA-C	-5.50	105.16	110.72
27	BE	12	THR	N-CA-C	5.49	122.50	110.80
28	DF	175	THR	CA-C-N	-5.48	113.27	122.92
28	DF	175	THR	C-N-CA	-5.48	113.27	122.92
20	AY	394	ALA	CA-C-N	5.48	126.69	119.84
20	AY	394	ALA	C-N-CA	5.48	126.69	119.84
2	AC	143	GLU	N-CA-C	-5.47	105.97	113.30
25	BC	223	VAL	N-CA-C	5.47	120.72	109.34
29	BG	112	PRO	N-CA-C	5.47	123.74	112.47
56	B1	18	ILE	N-CA-CB	-5.47	102.20	111.23
42	BW	79	GLY	CA-C-N	-5.46	113.01	119.84
42	BW	79	GLY	C-N-CA	-5.46	113.01	119.84
39	DT	79	HIS	N-CA-C	5.46	121.79	112.99
43	DX	84	ALA	CA-C-N	5.46	126.67	119.84
43	DX	84	ALA	C-N-CA	5.46	126.67	119.84
20	AY	61	ARG	CA-C-N	-5.45	110.73	121.41
20	AY	61	ARG	C-N-CA	-5.45	110.73	121.41
29	DG	112	PRO	N-CA-C	5.45	123.70	112.47
59	BA	2779	U	O3'-P-O5'	5.45	112.17	104.00
52	B8	25	MET	N-CA-C	5.43	118.67	109.76
29	BG	76	SER	N-CA-C	5.43	117.56	109.25
20	AY	177	ILE	N-CA-C	5.42	115.70	108.27
1	CB	66	GLY	N-CA-C	5.42	126.03	113.18
50	D6	40	CYS	CA-C-N	5.42	125.40	120.03
50	D6	40	CYS	C-N-CA	5.42	125.40	120.03
25	BC	133	GLY	CA-C-N	5.42	125.50	119.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	BC	133	GLY	C-N-CA	5.42	125.50	119.32
20	CY	534	ILE	CA-C-N	5.41	126.61	119.84
20	CY	534	ILE	C-N-CA	5.41	126.61	119.84
43	DX	12	VAL	N-CA-C	5.41	120.60	109.34
20	AY	28	THR	N-CA-C	-5.40	104.43	111.02
20	CY	598	ASP	CA-C-N	5.40	125.32	119.76
20	CY	598	ASP	C-N-CA	5.40	125.32	119.76
28	BF	190	GLU	N-CA-C	5.40	122.14	114.16
26	BD	177	LEU	CA-C-N	-5.39	114.11	119.56
26	BD	177	LEU	C-N-CA	-5.39	114.11	119.56
38	BS	50	SER	N-CA-C	5.39	118.34	109.72
9	AJ	76	ASN	CA-C-N	5.39	126.14	120.11
9	AJ	76	ASN	C-N-CA	5.39	126.14	120.11
10	AK	109	VAL	N-CA-C	5.38	120.53	109.34
4	CE	118	ILE	N-CA-C	5.38	115.80	107.78
32	DK	71	THR	N-CA-C	5.38	113.06	108.22
32	BK	134	MET	N-CA-C	-5.38	106.64	114.12
27	DE	21	VAL	CA-C-O	5.37	122.73	119.94
35	BP	71	VAL	CA-C-N	-5.37	113.13	119.84
35	BP	71	VAL	C-N-CA	-5.37	113.13	119.84
26	DD	123	ALA	CA-C-N	-5.37	113.13	119.84
26	DD	123	ALA	C-N-CA	-5.37	113.13	119.84
28	DF	190	GLU	N-CA-C	5.36	122.23	110.80
25	DC	148	PHE	N-CA-C	-5.36	106.61	114.39
39	BT	30	VAL	N-CA-C	5.36	120.49	109.34
20	AY	10	LYS	N-CA-C	-5.36	107.40	114.31
45	BZ	23	LYS	N-CA-C	5.35	117.13	108.41
25	DC	223	VAL	N-CA-C	5.35	120.46	109.34
1	AB	124	SER	CA-C-N	-5.34	113.16	119.84
1	AB	124	SER	C-N-CA	-5.34	113.16	119.84
16	AQ	43	LEU	N-CA-C	5.34	118.14	107.62
25	BC	12	LEU	N-CA-C	-5.34	105.57	111.71
42	DW	13	SER	CA-C-N	5.34	126.52	119.84
42	DW	13	SER	C-N-CA	5.34	126.52	119.84
1	CB	188	ALA	N-CA-C	5.34	118.16	109.24
34	BO	32	TYR	N-CA-C	5.33	117.03	107.80
33	DN	103	VAL	CB-CA-C	-5.33	104.88	111.70
42	BW	13	SER	CA-C-N	5.33	126.50	119.84
42	BW	13	SER	C-N-CA	5.33	126.50	119.84
1	CB	191	ASP	N-CA-C	5.33	117.09	111.28
14	AO	18	PHE	CA-C-N	5.33	126.50	119.84
14	AO	18	PHE	C-N-CA	5.33	126.50	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	CH	100	ILE	N-CA-C	5.32	113.21	108.63
16	CQ	71	PHE	N-CA-C	5.32	119.16	111.56
20	CY	394	ALA	CA-C-N	5.31	126.48	119.84
20	CY	394	ALA	C-N-CA	5.31	126.48	119.84
1	CB	185	ILE	N-CA-C	-5.31	100.80	108.71
2	AC	99	VAL	N-CA-C	5.31	116.83	109.45
59	BA	271(C)	G	P-O3'-C3'	5.31	126.07	119.70
27	DE	6	GLY	N-CA-C	5.30	118.32	110.63
11	CL	49	ASN	N-CA-C	5.30	115.03	108.19
56	B1	27	GLU	N-CA-C	5.29	118.33	107.37
47	B2	69	ARG	N-CA-C	-5.29	106.80	113.20
11	AL	7	ILE	N-CA-C	5.29	120.33	109.34
48	B3	9	VAL	N-CA-C	5.28	116.10	111.56
39	BT	66	VAL	N-CA-C	5.27	116.57	108.71
5	AF	95	GLU	CA-C-N	5.27	125.19	119.76
5	AF	95	GLU	C-N-CA	5.27	125.19	119.76
56	B1	38	SER	N-CA-C	5.26	114.78	107.73
35	DP	121	LYS	CA-C-N	5.26	125.27	119.90
35	DP	121	LYS	C-N-CA	5.26	125.27	119.90
45	DZ	107	THR	CA-C-N	5.26	126.41	119.84
45	DZ	107	THR	C-N-CA	5.26	126.41	119.84
49	B5	50	GLY	N-CA-C	5.25	118.14	110.63
25	DC	111	PHE	N-CA-C	5.25	115.47	108.38
32	DK	67	PHE	N-CA-C	5.25	118.11	109.72
20	AY	61	ARG	O-C-N	5.23	129.37	122.30
35	DP	53	GLY	N-CA-C	-5.23	100.78	113.18
45	DZ	116	VAL	N-CA-C	5.23	115.43	108.11
20	AY	163	VAL	CB-CA-C	-5.23	102.72	111.29
25	BC	44	VAL	N-CA-C	-5.23	98.47	109.34
20	CY	33	LEU	CA-CB-CG	5.22	134.57	116.30
40	DU	21	ALA	N-CA-C	5.22	118.50	112.97
46	D0	17	GLN	N-CA-C	-5.22	104.08	110.65
3	CD	10	ARG	N-CA-C	-5.21	106.92	113.28
23	CV	16	A	OP1-P-O3'	5.21	123.64	108.00
25	BC	182	PRO	N-CA-C	5.21	117.05	110.70
38	BS	106	ARG	N-CA-C	5.21	121.89	110.80
1	AB	96	ARG	N-CA-C	5.19	121.86	110.80
33	BN	56	ASN	N-CA-C	5.19	121.86	110.80
44	BY	85	VAL	N-CA-C	5.19	115.71	110.05
53	D9	13	LYS	N-CA-C	-5.18	107.50	113.88
9	AJ	38	ILE	N-CA-C	5.18	120.07	108.88
45	BZ	14	LYS	CA-C-N	5.18	126.31	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
45	BZ	14	LYS	C-N-CA	5.18	126.31	119.84
50	B6	9	LEU	N-CA-C	5.18	121.83	110.80
25	DC	149	ASN	N-CA-C	-5.17	106.16	113.20
52	D8	62	LEU	CA-C-N	-5.17	115.55	120.83
52	D8	62	LEU	C-N-CA	-5.17	115.55	120.83
34	BO	71	ARG	CA-C-N	5.17	124.83	119.56
34	BO	71	ARG	C-N-CA	5.17	124.83	119.56
3	AD	104	VAL	N-CA-C	-5.17	105.46	110.42
5	AF	15	ASP	N-CA-C	-5.17	99.80	110.80
27	DE	165	VAL	N-CA-C	5.16	115.56	108.12
20	CY	614	GLU	N-CA-C	5.16	121.79	110.80
2	AC	39	ILE	CB-CA-C	-5.16	105.36	111.81
1	CB	68	ILE	CA-C-N	-5.16	113.75	122.67
1	CB	68	ILE	C-N-CA	-5.16	113.75	122.67
11	AL	57	LYS	N-CA-C	-5.15	106.68	113.17
2	CC	128	PHE	N-CA-C	5.15	117.35	110.35
11	AL	68	ALA	N-CA-C	5.15	117.81	110.24
20	AY	132	ARG	N-CA-C	5.15	117.55	108.75
33	DN	64	GLY	N-CA-C	5.15	121.84	112.37
25	DC	162	ILE	N-CA-C	5.14	120.03	109.34
26	BD	135	PHE	N-CA-C	-5.14	106.94	114.39
8	AI	65	VAL	N-CA-C	5.13	115.16	107.51
27	DE	12	THR	N-CA-C	5.13	121.73	110.80
25	DC	90	ALA	N-CA-C	5.13	113.67	108.75
42	DW	77	ASP	N-CA-C	5.12	121.72	110.80
11	AL	35	GLY	N-CA-C	5.12	125.32	113.18
34	BO	18	LYS	N-CA-C	5.12	116.87	108.52
8	CI	20	ARG	CA-C-N	-5.12	115.45	120.52
8	CI	20	ARG	C-N-CA	-5.12	115.45	120.52
5	CF	65	VAL	N-CA-C	5.12	115.11	108.35
36	BQ	129	THR	N-CA-C	5.11	116.75	109.14
29	BG	181	ARG	N-CA-C	-5.11	107.18	113.41
2	CC	108	ASN	CA-C-N	5.11	126.22	119.84
2	CC	108	ASN	C-N-CA	5.11	126.22	119.84
27	DE	160	TYR	N-CA-C	-5.11	101.43	109.50
40	DU	50	ARG	N-CA-C	-5.10	105.37	111.03
59	DA	2779	U	OP1-P-O3'	-5.10	92.70	108.00
9	AJ	6	ILE	N-CA-C	5.09	115.09	107.51
20	AY	676	TYR	N-CA-C	5.08	116.80	109.07
26	BD	264	LYS	CA-C-N	5.08	126.19	119.84
26	BD	264	LYS	C-N-CA	5.08	126.19	119.84
3	AD	28	SER	CA-C-N	-5.08	113.49	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	AD	28	SER	C-N-CA	-5.08	113.49	119.84
11	AL	53	ARG	N-CA-C	5.08	118.77	112.58
20	AY	569	ASP	N-CA-C	5.07	116.01	108.60
25	DC	182	PRO	N-CA-C	5.07	116.88	110.70
10	CK	40	ILE	N-CA-C	-5.06	102.64	108.82
6	AG	128	ALA	N-CA-C	-5.06	105.03	111.11
1	AB	163	PHE	O-C-N	5.06	129.29	123.17
18	CS	23	ASN	N-CA-C	-5.06	107.09	114.12
28	DF	170	LEU	CA-C-N	5.05	124.22	118.97
28	DF	170	LEU	C-N-CA	5.05	124.22	118.97
10	AK	30	VAL	N-CA-C	5.05	113.64	106.53
44	DY	6	HIS	CB-CA-C	-5.04	109.17	116.54
1	CB	185	ILE	O-C-N	5.04	128.27	122.93
48	B3	42	ALA	N-CA-C	-5.03	105.70	111.14
33	BN	40	PRO	N-CA-C	-5.03	109.45	114.68
43	BX	6	ASP	N-CA-C	-5.03	106.41	112.54
11	AL	104	VAL	N-CA-C	5.03	119.80	109.34
15	AP	5	ARG	N-CA-C	5.03	115.17	108.38
49	B5	4	HIS	CA-C-N	-5.02	114.62	119.90
49	B5	4	HIS	C-N-CA	-5.02	114.62	119.90
1	CB	171	ALA	CA-C-N	-5.02	114.23	120.56
1	CB	171	ALA	C-N-CA	-5.02	114.23	120.56
1	AB	15	VAL	N-CA-C	5.02	119.78	109.34
27	DE	3	GLY	N-CA-C	5.02	118.00	110.18
7	AH	117	GLY	N-CA-C	5.01	118.09	111.52
38	BS	72	ALA	N-CA-C	-5.01	105.51	110.97
25	BC	117	THR	CA-C-N	-5.01	113.58	119.84
25	BC	117	THR	C-N-CA	-5.01	113.58	119.84
25	BC	9	ARG	N-CA-C	-5.01	105.49	112.45
16	AQ	20	THR	CA-C-N	-5.00	116.44	123.10
16	AQ	20	THR	C-N-CA	-5.00	116.44	123.10
27	DE	21	VAL	N-CA-C	5.00	118.53	107.92

There are no chirality outliers.

All (44) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	AB	162	ILE	Peptide
1	AB	163	PHE	Peptide
10	AK	109	VAL	Peptide
11	AL	57	LYS	Peptide
20	AY	31	ARG	Peptide

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Mol	Chain	Res	Type	Group
20	AY	34	TYR	Peptide
20	AY	630	GLN	Peptide
56	B1	16	ASN	Peptide
56	B1	17	SER	Peptide
25	BC	171	ALA	Peptide
25	BC	60	ARG	Peptide
25	BC	88	GLU	Peptide
28	BF	154	VAL	Peptide
28	BF	173	VAL	Peptide
29	BG	113	ARG	Peptide
31	BJ	83	UNK	Peptide
38	BS	100	ALA	Peptide
38	BS	46	VAL	Peptide
39	BT	28	VAL	Peptide
39	BT	48	ILE	Peptide
1	CB	163	PHE	Peptide
11	CL	32	PHE	Peptide
20	CY	162	VAL	Peptide
20	CY	31	ARG	Peptide
20	CY	32	ILE	Peptide
20	CY	329	ARG	Peptide
20	CY	34	TYR	Peptide
20	CY	502	GLY	Peptide,Mainchain
20	CY	630	GLN	Peptide
56	D1	16	ASN	Peptide
56	D1	17	SER	Peptide
56	D1	18	ILE	Peptide
25	DC	171	ALA	Peptide
25	DC	211	ARG	Peptide
26	DD	78	LYS	Peptide
28	DF	154	VAL	Peptide
28	DF	173	VAL	Peptide
29	DG	113	ARG	Peptide
31	DJ	83	UNK	Peptide
38	DS	100	ALA	Peptide
38	DS	46	VAL	Peptide
39	DT	28	VAL	Peptide
42	DW	75	TYR	Peptide

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AB	1910	0	1957	136	0
1	CB	1910	0	1957	103	0
2	AC	1621	0	1688	93	0
2	CC	1621	0	1688	68	0
3	AD	1703	0	1763	121	0
3	CD	1703	0	1763	124	0
4	AE	1156	0	1213	74	0
4	CE	1156	0	1213	56	0
5	AF	843	0	857	41	0
5	CF	843	0	857	42	0
6	AG	1257	0	1296	62	0
6	CG	1257	0	1296	62	0
7	AH	1116	0	1177	83	0
7	CH	1116	0	1177	74	0
8	AI	1011	0	1043	78	5
8	CI	1011	0	1043	56	0
9	AJ	802	0	849	72	0
9	CJ	802	0	849	61	0
10	AK	885	0	904	64	0
10	CK	885	0	904	63	0
11	AL	976	0	1062	112	0
11	CL	976	0	1062	118	0
12	AM	997	0	1072	77	0
12	CM	997	0	1072	72	5
13	AN	492	0	529	39	0
13	CN	492	0	529	35	0
14	AO	734	0	771	44	0
14	CO	734	0	771	44	0
15	AP	706	0	725	38	0
15	CP	706	0	725	41	0
16	AQ	835	0	906	63	0
16	CQ	835	0	906	65	0
17	AR	574	0	644	46	0
17	CR	574	0	644	37	0
18	AS	634	0	655	40	0
18	CS	634	0	655	34	0
19	AT	762	0	859	52	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	CT	762	0	859	32	0
20	AY	5380	0	5434	380	0
20	CY	5380	0	5435	365	0
21	AA	32474	0	16393	916	0
21	CA	32474	0	16393	849	0
22	AW	1635	0	831	64	0
22	CW	1635	0	831	55	0
23	AV	503	0	252	24	0
23	CV	503	0	252	34	0
24	AU	48	0	39	9	0
24	CU	48	0	39	9	0
25	BC	1742	0	1798	168	0
25	DC	1742	0	1798	149	0
26	BD	2145	0	2234	180	0
26	DD	2145	0	2234	169	0
27	BE	1569	0	1634	146	0
27	DE	1569	0	1634	123	0
28	BF	1628	0	1680	148	0
28	DF	1628	0	1680	142	0
29	BG	1474	0	1535	105	0
29	DG	1474	0	1535	86	0
30	BH	1274	0	1342	77	0
30	DH	1274	0	1342	75	0
31	BJ	851	0	197	30	0
31	DJ	851	0	196	27	0
32	BK	1035	0	1082	62	0
32	DK	1035	0	1082	62	0
33	BN	1104	0	1180	120	0
33	DN	1104	0	1180	121	0
34	BO	933	0	996	61	0
34	DO	933	0	996	72	0
35	BP	1114	0	1187	98	0
35	DP	1114	0	1187	112	0
36	BQ	1122	0	1179	85	0
36	DQ	1122	0	1179	66	0
37	BR	960	0	1021	78	0
37	DR	960	0	1021	71	0
38	BS	775	0	835	78	0
38	DS	775	0	835	79	0
39	BT	1147	0	1207	92	0
39	DT	1147	0	1207	113	0
40	BU	964	0	1022	85	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
40	DU	964	0	1022	78	0
41	BV	779	0	852	49	0
41	DV	779	0	852	63	0
42	BW	900	0	964	64	0
42	DW	900	0	964	58	0
43	BX	734	0	789	42	0
43	DX	734	0	789	46	0
44	BY	818	0	908	66	0
44	DY	818	0	908	62	0
45	BZ	1473	0	1497	90	0
45	DZ	1473	0	1497	86	0
46	B0	662	0	688	43	0
46	D0	662	0	688	40	0
47	B2	598	0	653	38	0
47	D2	598	0	653	28	0
48	B3	477	0	529	25	0
48	D3	477	0	529	25	0
49	B5	459	0	477	37	0
49	D5	459	0	477	34	0
50	B6	433	0	461	35	0
50	D6	433	0	461	38	0
51	B7	430	0	480	45	0
51	D7	430	0	480	32	0
52	B8	517	0	582	51	0
52	D8	517	0	582	52	0
53	B9	307	0	336	23	0
53	D9	307	0	335	21	0
54	Bf	156	0	41	1	0
54	Bg	156	0	39	0	0
54	Df	156	0	41	3	0
54	Dg	156	0	39	0	0
55	Bh	151	0	39	0	0
55	Dh	151	0	37	2	0
56	B1	732	0	808	88	0
56	D1	732	0	808	77	0
57	B4	271	0	284	31	0
57	D4	271	0	284	20	0
58	Be	686	0	620	21	0
58	De	686	0	619	23	0
59	BA	61997	0	31250	1821	0
59	DA	61997	0	31250	1734	0
60	BB	2551	0	1295	76	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
60	DB	2551	0	1295	70	0
61	AY	32	0	13	18	0
61	CY	32	0	13	33	0
62	AY	1	0	0	0	0
62	CY	1	0	0	0	0
All	All	308422	0	213302	12013	5

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 23.

All (12013) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:CW:37:A:C2	23:CV:16:A:C2	1.85	1.57
20:AY:33:LEU:HD21	20:AY:34:TYR:CE2	1.42	1.54
29:DG:112:PRO:CA	29:DG:112:PRO:C	1.88	1.45
29:BG:112:PRO:CA	29:BG:112:PRO:C	1.87	1.45
20:AY:33:LEU:HD21	20:AY:34:TYR:CD2	1.54	1.43
20:AY:33:LEU:CD2	20:AY:34:TYR:CD2	2.00	1.42
20:AY:138:LYS:NZ	61:AY:701:GNP:N3	1.61	1.42
20:CY:138:LYS:HE2	61:CY:701:GNP:C4	1.55	1.33
20:CY:138:LYS:HG2	61:CY:701:GNP:C6	1.57	1.31
20:CY:30:GLU:O	20:CY:33:LEU:N	1.69	1.24
20:AY:138:LYS:NZ	61:AY:701:GNP:C2	2.03	1.21
59:DA:2133:G:H21	59:DA:2158:A:N6	1.39	1.19
59:BA:2133:G:H21	59:BA:2158:A:N6	1.40	1.18
59:DA:2133:G:N2	59:DA:2158:A:H62	1.42	1.17
33:BN:5:VAL:O	33:BN:7:LYS:NZ	1.80	1.15
22:AW:37:A:C2	23:AV:16:A:N3	2.15	1.15
59:BA:270(J):G:H1	59:BA:270(R):C:N4	1.43	1.15
20:CY:137:ASN:ND2	20:CY:263:ALA:H	1.45	1.15
59:DA:1170:G:H1	59:DA:1179:C:N4	1.46	1.12
21:CA:1028(B):C:N4	21:CA:1028(G):G:H1	1.49	1.11
59:DA:281:G:H21	59:DA:359:A:N6	1.48	1.11
29:BG:113:ARG:CG	57:B4:34:GLU:OE2	1.99	1.10
22:CW:37:A:C2	23:CV:16:A:N3	2.19	1.10
20:AY:33:LEU:CD2	20:AY:34:TYR:CE2	2.29	1.09
59:BA:2133:G:N2	59:BA:2158:A:H62	1.48	1.09
20:CY:138:LYS:HG2	61:CY:701:GNP:N1	1.66	1.09
33:BN:118:LYS:NZ	59:BA:2780:G:OP2	1.85	1.09
59:DA:281:G:N2	59:DA:359:A:H62	1.49	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1436:G:H1	59:DA:1556:C:N4	1.50	1.08
59:DA:2093:G:H1	59:DA:2196:C:N4	1.51	1.07
59:DA:814:C:N4	59:DA:1193:G:H1	1.53	1.07
20:CY:25:LYS:HG3	61:CY:701:GNP:O1B	1.56	1.06
26:BD:44:ASN:HB2	26:BD:49:ILE:HA	1.38	1.05
29:BG:113:ARG:HG2	57:B4:34:GLU:OE2	1.52	1.04
22:CW:37:A:H2	23:CV:16:A:N3	1.54	1.04
11:AL:33:ARG:HB3	11:AL:60:LEU:HD12	1.38	1.04
21:AA:815:A:N1	21:AA:1508:G:N2	2.05	1.04
20:AY:33:LEU:HD23	20:AY:34:TYR:CD2	1.92	1.04
21:AA:815:A:H2	21:AA:1527:C:O2	1.39	1.03
59:BA:281:G:H21	59:BA:359:A:H62	1.04	1.03
20:CY:138:LYS:HE2	61:CY:701:GNP:N9	1.74	1.03
33:DN:70:LYS:NZ	59:DA:1139:G:OP2	1.91	1.02
21:AA:1493:A:OP1	24:AU:2:DPP:HA	1.60	1.02
21:CA:1124:G:H1	21:CA:1149:C:N4	1.59	1.01
45:BZ:151:HIS:HB3	45:BZ:170:THR:HA	1.43	1.00
59:BA:2778:A:N3	59:BA:2780:G:N2	2.08	1.00
21:AA:112:G:H1	21:AA:315:A:H61	1.09	1.00
20:AY:32:ILE:O	20:AY:34:TYR:N	1.95	1.00
59:DA:122:G:H1	59:DA:129:C:H42	1.05	1.00
22:AW:37:A:C2	23:AV:16:A:C2	2.51	0.99
1:CB:87:ARG:HH22	1:CB:233:SER:H	1.11	0.99
59:DA:270(J):G:H1	59:DA:270(R):C:N4	1.61	0.99
59:DA:1346:G:H1	59:DA:1600:C:N4	1.58	0.99
21:CA:1127:G:N2	21:CA:1145:C:N3	2.09	0.99
59:DA:949:C:H42	59:DA:968:G:H1	1.08	0.98
59:DA:947:G:H1	59:DA:970:C:N4	1.62	0.98
59:DA:852:G:H1	59:DA:925:C:H42	1.05	0.98
21:CA:1127:G:H1	21:CA:1145:C:H42	1.00	0.98
59:DA:1663:C:H42	59:DA:1997:G:H1	1.06	0.98
21:AA:1127:G:N2	21:AA:1145:C:N3	2.11	0.98
59:DA:2121:G:H1	59:DA:2177:C:H42	0.99	0.98
59:DA:2138:C:N4	59:DA:2153:G:H1	1.62	0.98
59:BA:2457:U:H3	59:BA:2494:G:H1	1.08	0.97
59:BA:2794:C:H42	59:BA:2802:G:H1	1.09	0.97
59:DA:1347:G:H1	59:DA:1599:C:H42	1.08	0.97
59:DA:1417:C:H42	59:DA:1581:G:H1	1.04	0.97
21:AA:1003:G:N1	21:AA:1037:C:O2	1.99	0.96
59:BA:817:C:H42	59:BA:1190:G:H1	1.11	0.96
59:BA:2119:A:H61	59:BA:2168:G:H21	1.01	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2466:C:H42	59:DA:2484:G:H1	1.10	0.96
27:BE:61:ARG:HB3	27:BE:62:PRO:HD2	1.47	0.96
21:AA:815:A:C2	21:AA:1527:C:O2	2.18	0.95
59:BA:273(G):C:H42	59:BA:363(A):G:H1	1.14	0.95
21:CA:1536:C:H42	23:CV:9:G:H1	1.12	0.95
59:BA:1013:C:N4	59:BA:1149:G:H1	1.65	0.95
59:DA:273(G):C:H42	59:DA:363(A):G:H1	0.99	0.95
4:AE:126:ARG:HE	21:AA:9:G:H5"	1.31	0.94
20:AY:22:ASP:HB3	61:AY:701:GNP:H5'2	1.45	0.94
21:CA:1405:G:H1	21:CA:1496:C:H42	1.13	0.94
22:CW:37:A:N1	23:CV:16:A:C2	2.34	0.94
20:CY:64:THR:HG21	61:CY:701:GNP:O3G	1.65	0.94
59:DA:1013:C:H42	59:DA:1149:G:H1	1.10	0.94
21:AA:663:A:H61	21:AA:742:G:H1	1.11	0.94
25:DC:47:LYS:HB3	25:DC:212:SER:HB2	1.48	0.94
40:BU:59:ARG:HH22	59:BA:1154:G:H5"	1.29	0.94
59:BA:814:C:H42	59:BA:1193:G:H1	1.12	0.94
21:CA:68(A):G:H1	21:CA:68(Y):C:H42	1.14	0.94
59:DA:1002:G:H1	59:DA:1153:C:H42	1.05	0.94
21:CA:1003:G:N1	21:CA:1037:C:O2	2.00	0.94
21:CA:1124:G:H1	21:CA:1149:C:H42	0.97	0.94
33:DN:49:GLY:O	33:DN:119:ARG:NH1	2.01	0.94
59:DA:678:C:H42	59:DA:799:G:H1	0.94	0.94
26:DD:44:ASN:HB2	26:DD:49:ILE:HA	1.48	0.94
22:CW:37:A:N1	23:CV:16:A:N1	2.16	0.93
20:CY:137:ASN:HD21	20:CY:263:ALA:H	1.14	0.93
31:DJ:54:UNK:HA	31:DJ:79:UNK:HA	1.47	0.93
59:BA:1013:C:H42	59:BA:1149:G:H1	0.97	0.93
59:BA:2398:U:H3	59:BA:2418:A:H61	1.07	0.93
59:BA:306:U:H3	59:BA:310:A:H62	1.11	0.93
21:AA:1405:G:H1	21:AA:1496:C:H42	1.03	0.93
59:DA:286:C:H42	59:DA:355:G:H1	1.03	0.93
59:DA:1840:G:H1	59:DA:1902:C:H42	0.94	0.93
11:AL:56:ALA:HB3	11:AL:68:ALA:HB3	1.51	0.93
21:CA:376:G:H1	21:CA:387:U:H3	1.17	0.93
56:D1:25:LYS:HG2	56:D1:34:THR:HA	1.49	0.93
59:DA:20:C:H42	59:DA:520:G:H1	1.15	0.93
20:AY:633:GLY:HA3	20:AY:644:ARG:HB2	1.51	0.92
22:AW:53:G:H1	22:AW:61:C:N4	1.66	0.92
59:BA:1170:G:H1	59:BA:1179:C:H42	1.17	0.92
59:BA:1347:G:H1	59:BA:1599:C:H42	1.16	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:610:C:H42	59:DA:618(A):G:H1	1.14	0.92
59:DA:949:C:N3	59:DA:968:G:N2	2.17	0.92
11:CL:54:LYS:HD3	11:CL:70:ILE:HG12	1.50	0.92
59:DA:854:G:H1	59:DA:923:C:H42	0.92	0.92
21:CA:151:A:H62	21:CA:170:U:H3	0.99	0.91
22:AW:53:G:H1	22:AW:61:C:H42	0.92	0.91
21:CA:1127:G:H1	21:CA:1145:C:N4	1.68	0.91
29:DG:112:PRO:C	29:DG:112:PRO:HA	1.95	0.91
59:BA:565:C:H42	59:BA:576:U:H3	1.16	0.91
30:DH:41:MET:HE1	30:DH:43:VAL:HG13	1.50	0.91
3:CD:157:LEU:HA	3:CD:160:GLN:HB2	1.50	0.91
29:BG:112:PRO:C	29:BG:112:PRO:HA	1.95	0.91
59:BA:1311:G:H21	59:BA:1603:A:H62	1.18	0.91
21:CA:1028(C):G:N2	21:CA:1028(F):A:C8	2.38	0.91
59:DA:270(F):G:H1	59:DA:270(V):C:H42	0.95	0.91
59:DA:2642:G:H1	59:DA:2772:C:H42	1.17	0.91
59:DA:1324:G:H1	59:DA:1330:C:H42	1.16	0.91
21:CA:68(F):C:N3	21:CA:68(T):G:N2	2.18	0.91
59:DA:1906:G:H1	59:DA:1924:C:H42	1.18	0.91
51:B7:39:ARG:HH22	51:B7:42:LEU:HB2	1.36	0.91
59:BA:8:A:N1	59:BA:2895:U:O4	2.04	0.90
56:B1:45:ASN:HB2	59:BA:397:G:H5"	1.50	0.90
59:DA:852:G:N2	59:DA:925:C:N3	2.19	0.90
20:CY:32:ILE:O	20:CY:34:TYR:N	2.05	0.90
59:DA:882:G:N2	59:DA:894:C:N3	2.19	0.90
58:De:63:ILE:HG13	58:De:70:LYS:HB3	1.54	0.90
59:DA:884:C:H42	59:DA:892:G:H1	1.20	0.90
59:BA:979:G:H2'	59:BA:982:C:H41	1.37	0.90
59:BA:1025:G:H1	59:BA:1139:G:H1	1.20	0.90
59:BA:1076:C:H2'	59:BA:1077:A:H4'	1.53	0.90
21:CA:815:A:C2	21:CA:1527:C:O2	2.25	0.90
36:DQ:11:LYS:HZ3	36:DQ:88:GLY:H	1.21	0.89
28:BF:4:VAL:HA	28:BF:22:ALA:HB3	1.54	0.89
33:BN:48:MET:N	33:BN:48:MET:SD	2.43	0.89
59:DA:882:G:H1	59:DA:894:C:H42	1.19	0.89
9:AJ:49:VAL:HG21	13:AN:41:ARG:HB2	1.54	0.89
3:CD:175:SER:HB3	3:CD:184:LYS:HB2	1.53	0.89
59:DA:681:G:H1	59:DA:796:C:H42	0.99	0.89
38:BS:15:ARG:HB3	38:BS:18:ILE:HB	1.53	0.89
21:CA:68(F):C:H42	21:CA:68(T):G:H1	0.91	0.89
20:AY:33:LEU:CD2	20:AY:34:TYR:HD2	1.81	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:CG:88:PRO:HD2	6:CG:151:TYR:HB2	1.54	0.88
21:AA:891:U:H3	21:AA:907:A:H62	1.22	0.88
21:AA:1261:A:H62	21:AA:1274:G:H21	1.19	0.88
22:CW:15:G:N2	22:CW:48:C:H42	1.71	0.88
8:CI:107:ARG:HA	21:CA:1347:G:H5'	1.56	0.88
25:DC:169:THR:HB	59:DA:2178:C:H1'	1.56	0.88
51:D7:34:ARG:HD3	51:D7:42:LEU:HB3	1.54	0.88
45:BZ:103:ARG:HB3	45:BZ:138:GLU:HA	1.55	0.88
20:CY:137:ASN:ND2	20:CY:263:ALA:N	2.22	0.88
45:BZ:15:PRO:HB3	60:BB:76:G:H5"	1.55	0.88
59:DA:854:G:H1	59:DA:923:C:N4	1.70	0.88
59:DA:1411:C:H42	59:DA:1591:G:H1	0.88	0.88
33:BN:78:TYR:CD2	59:BA:2642:G:H5'	2.09	0.88
44:DY:46:LYS:H	44:DY:62:GLU:HB2	1.39	0.88
14:CO:8:LYS:HE3	14:CO:31:LEU:HD21	1.54	0.88
59:DA:678:C:N4	59:DA:799:G:H1	1.72	0.88
39:BT:49:VAL:HA	39:BT:63:VAL:HA	1.53	0.88
14:CO:82:ILE:HG13	14:CO:87:ILE:HG13	1.56	0.87
21:CA:1028(B):C:N4	21:CA:1028(G):G:N1	2.21	0.87
59:DA:1411:C:N4	59:DA:1591:G:H1	1.71	0.87
59:BA:1418:G:H21	59:BA:1580:A:H62	1.16	0.87
59:DA:2093:G:N2	59:DA:2196:C:N3	2.23	0.87
59:DA:1782:C:H42	59:DA:2586:C:H42	1.18	0.87
59:BA:1899:G:H22	59:BA:1902:C:H41	1.22	0.87
59:DA:783:A:H2'	59:DA:784:A:H4'	1.56	0.87
59:DA:1345:C:H42	59:DA:1601:G:H1	1.20	0.87
11:AL:58:VAL:HG12	11:AL:60:LEU:H	1.40	0.87
20:CY:138:LYS:CE	61:CY:701:GNP:C4	2.48	0.87
59:DA:884:C:N3	59:DA:892:G:N2	2.23	0.87
39:BT:29:ARG:HB2	39:BT:88:ILE:HG13	1.56	0.87
21:CA:68(F):C:N4	21:CA:68(T):G:H1	1.72	0.87
59:DA:852:G:H1	59:DA:925:C:N4	1.73	0.87
22:AW:6:C:H42	22:AW:67:G:H1	1.20	0.86
60:BB:30:C:H1'	60:BB:57:A:H61	1.40	0.86
59:DA:1207:C:H42	59:DA:1239:G:H1	1.19	0.86
20:AY:63:ILE:CG1	61:AY:701:GNP:O1G	2.22	0.86
45:DZ:151:HIS:HB3	45:DZ:170:THR:HA	1.57	0.86
59:DA:2794:C:H42	59:DA:2802:G:H1	1.23	0.86
21:AA:1246:C:H42	21:AA:1291:G:H1	1.23	0.86
59:BA:1935:G:H3'	59:BA:1962:C:H42	1.39	0.86
38:DS:86:ALA:O	38:DS:106:ARG:NH1	2.09	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1059:G:N1	59:DA:1079:C:N4	2.22	0.86
59:DA:273(G):C:N4	59:DA:363(A):G:H1	1.74	0.86
59:DA:882:G:H1	59:DA:894:C:N4	1.73	0.86
21:CA:443:C:H42	21:CA:491:G:H1	1.23	0.86
21:CA:590:C:H42	21:CA:649:G:H1	1.20	0.86
52:D8:4:MET:HE2	59:DA:592:G:H21	1.41	0.86
59:DA:817:C:H42	59:DA:1190:G:H1	1.24	0.86
59:DA:1436:G:N2	59:DA:1556:C:N3	2.22	0.86
59:DA:1840:G:H1	59:DA:1902:C:N4	1.71	0.86
20:AY:33:LEU:HD21	20:AY:34:TYR:HE2	1.37	0.86
21:AA:1503:A:H61	23:AV:14:A:H3'	1.40	0.86
22:AW:37:A:H2	23:AV:16:A:N3	1.71	0.86
33:DN:9:VAL:HG21	33:DN:39:ARG:HH12	1.39	0.86
59:DA:2121:G:H1	59:DA:2177:C:N4	1.73	0.86
59:BA:460:A:H62	59:BA:469:G:H21	1.24	0.86
16:CQ:27:PHE:HB3	16:CQ:36:ILE:HG13	1.56	0.86
21:AA:976:G:H22	21:AA:1362(A):C:H5"	1.41	0.86
30:BH:41:MET:HE1	30:BH:43:VAL:HG13	1.57	0.85
59:DA:1411:C:N3	59:DA:1591:G:N2	2.23	0.85
20:AY:34:TYR:CD1	20:AY:35:TYR:N	2.43	0.85
20:CY:138:LYS:CG	61:CY:701:GNP:C6	2.51	0.85
59:DA:671:C:N4	59:DA:809:G:H1	1.73	0.85
1:AB:35:GLU:HA	1:AB:40:HIS:HA	1.58	0.85
20:AY:33:LEU:HD23	20:AY:34:TYR:H	1.41	0.85
41:BV:24:LYS:HB3	59:BA:1162:G:H4'	1.58	0.85
45:BZ:102:LEU:HD11	45:BZ:124:ILE:HG23	1.57	0.85
11:AL:35:GLY:HA2	11:AL:58:VAL:HG13	1.59	0.85
21:AA:68(E):G:N1	21:AA:68(U):U:O2	2.09	0.85
31:DJ:25:UNK:HA	31:DJ:80:UNK:HA	1.57	0.85
38:BS:27:SER:HA	38:BS:88:ASP:HB3	1.56	0.85
53:D9:22:ARG:HH11	53:D9:35:ARG:HH12	1.20	0.85
20:AY:149:VAL:HG12	20:AY:153:MET:HE3	1.58	0.85
49:D5:3:LYS:HG2	49:D5:5:PRO:HD2	1.57	0.85
3:AD:26:CYS:HA	3:AD:31:CYS:HA	1.58	0.85
25:DC:40:GLU:O	25:DC:42:VAL:N	2.09	0.85
25:BC:46:ALA:HB3	25:BC:172:ILE:HG22	1.58	0.85
42:DW:18:ARG:HH11	42:DW:76:VAL:HG13	1.41	0.85
20:AY:33:LEU:CG	20:AY:34:TYR:HD2	1.90	0.84
26:DD:226:MET:HE2	26:DD:230:ASP:HB3	1.59	0.84
21:CA:152:A:N6	21:CA:169:C:O2	2.09	0.84
41:DV:24:LYS:HB3	59:DA:1162:G:H4'	1.58	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BG:122:PRO:HB3	29:BG:170:ARG:HH21	1.41	0.84
59:DA:2293:C:H42	59:DA:2339:G:H1	1.25	0.84
59:DA:2701:C:H42	59:DA:2706:G:H1	1.22	0.84
28:BF:155:LEU:HD22	28:BF:186:ILE:HB	1.59	0.84
59:DA:360:G:H2'	59:DA:361:G:H8	1.43	0.84
36:BQ:16:ARG:NH2	59:BA:953:A:OP2	2.10	0.84
28:DF:38:ARG:HH22	59:DA:661:C:H5'	1.41	0.84
59:DA:671:C:H42	59:DA:809:G:H1	0.88	0.84
39:BT:50:ILE:HA	39:BT:99:LEU:HD12	1.60	0.84
20:CY:56:GLU:HB2	20:CY:59:ARG:HE	1.41	0.84
21:AA:411:A:C2	21:AA:430:A:N6	2.45	0.84
38:BS:67:ARG:HH11	38:BS:98:VAL:HB	1.43	0.84
27:DE:61:ARG:HH21	59:DA:2810:A:H2'	1.43	0.84
39:DT:106:SER:HB2	39:DT:110:ILE:HG12	1.60	0.84
31:BJ:54:UNK:HA	31:BJ:79:UNK:HA	1.58	0.83
59:DA:1646:C:H5"	59:DA:1647:G:H5"	1.58	0.83
45:BZ:76:LEU:HD22	45:BZ:83:PRO:HA	1.57	0.83
21:AA:372:C:H42	21:AA:389:A:H62	1.23	0.83
11:CL:33:ARG:HB3	11:CL:60:LEU:HD12	1.60	0.83
11:CL:54:LYS:HG2	11:CL:70:ILE:HG23	1.61	0.83
9:CJ:40:LEU:HD22	9:CJ:41:PRO:HD2	1.60	0.83
59:DA:1018:C:H42	59:DA:1144:G:H1	1.25	0.83
59:DA:2020:A:N1	59:DA:2034:U:O4	2.10	0.83
38:DS:101:LEU:HD22	38:DS:104:GLY:HA3	1.60	0.83
59:DA:8:A:N1	59:DA:2895:U:O4	2.12	0.83
27:BE:13:ARG:HA	27:BE:21:VAL:O	1.78	0.83
39:BT:119:LYS:HG2	39:BT:123:GLN:HE22	1.43	0.83
59:BA:1791:A:N6	59:BA:1828:G:O2'	2.11	0.83
22:CW:37:A:C2	23:CV:16:A:N1	2.46	0.83
1:AB:178:ARG:HG3	7:AH:72:PRO:HA	1.61	0.83
20:AY:10:LYS:O	20:AY:13:ARG:NH1	2.10	0.83
28:BF:63:LYS:HG3	28:BF:76:GLY:HA2	1.60	0.83
59:BA:711:G:H1	59:BA:720:C:H42	1.27	0.83
59:BA:1056:G:H4'	59:BA:1086:A:H8	1.43	0.83
59:BA:2690:C:N4	59:BA:2713:A:O2'	2.12	0.82
21:CA:131:C:HO2'	21:CA:262:A:HO2'	1.22	0.82
1:AB:78:GLN:HG3	1:AB:94:ASN:HB2	1.59	0.82
35:BP:23:PRO:HD2	35:BP:33:ARG:HE	1.44	0.82
59:BA:1439:A:H62	59:BA:1552:G:N2	1.78	0.82
20:CY:137:ASN:HD21	20:CY:263:ALA:N	1.75	0.82
25:DC:43:GLU:HB2	25:DC:216:THR:HG23	1.61	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BS:39:ILE:HD11	38:BS:73:LEU:HD21	1.59	0.82
21:CA:1343:G:N2	21:CA:1349:A:O2'	2.11	0.82
22:CW:15:G:H22	22:CW:48:C:H42	1.22	0.82
20:CY:163:VAL:HG13	20:CY:258:VAL:HG23	1.59	0.82
26:DD:260:ARG:NH1	59:DA:1799:G:OP1	2.12	0.82
21:AA:1363:A:H4'	21:AA:1364:U:H5"	1.60	0.82
35:DP:45:LEU:HG	35:DP:46:LYS:HD2	1.61	0.82
40:BU:25:TRP:CD1	40:BU:26:GLY:H	1.96	0.82
47:D2:14:ARG:HG2	47:D2:63:VAL:HG11	1.59	0.82
21:AA:1127:G:H1	21:AA:1145:C:H42	1.24	0.82
20:CY:524:GLU:HB2	20:CY:564:LYS:HG3	1.61	0.82
60:DB:5:C:O2'	60:DB:27:C:O2	1.98	0.82
8:AI:17:VAL:HG21	8:AI:80:GLY:HA3	1.61	0.82
25:BC:41:THR:O	25:BC:176:VAL:N	2.12	0.82
25:DC:138:LEU:HD22	25:DC:139:PRO:HD2	1.61	0.82
59:BA:1418:G:N2	59:BA:1580:A:H62	1.75	0.82
28:DF:103:LYS:HE2	28:DF:107:LYS:HE3	1.62	0.82
59:DA:270(J):G:H1	59:DA:270(R):C:H42	1.24	0.82
59:DA:273(A):G:H1	59:DA:364:C:H42	1.23	0.82
59:DA:1436:G:H1	59:DA:1556:C:H42	0.87	0.82
32:BK:134:MET:HG2	59:BA:1063:G:H5'	1.60	0.82
27:DE:13:ARG:HA	27:DE:21:VAL:O	1.80	0.82
59:DA:1530:G:O6	59:DA:1541:U:O2	1.98	0.82
11:AL:92:ASP:HB2	11:AL:93:LEU:HG	1.61	0.81
33:DN:9:VAL:HG21	33:DN:39:ARG:NH1	1.95	0.81
42:DW:84:ARG:NH2	59:DA:1322:A:O2'	2.13	0.81
11:AL:85:ILE:HG23	11:AL:98:TYR:HB3	1.61	0.81
1:CB:236:TYR:HA	1:CB:239:VAL:HB	1.60	0.81
20:AY:30:GLU:HB2	20:AY:51:THR:HG22	1.60	0.81
32:BK:3:LYS:HE3	32:BK:29:GLN:HG3	1.62	0.81
59:BA:2398:U:H3	59:BA:2418:A:N6	1.77	0.81
21:CA:1422:G:H5"	34:DO:48:PRO:HB3	1.62	0.81
25:DC:46:ALA:HA	25:DC:212:SER:O	1.81	0.81
56:D1:46:LEU:O	56:D1:47:GLN:NE2	2.14	0.81
59:DA:270(F):G:H1	59:DA:270(V):C:N4	1.77	0.81
59:DA:293:U:H3	59:DA:347:A:H61	1.27	0.81
3:AD:147:ALA:HB2	3:AD:182:LYS:HG3	1.62	0.81
13:AN:34:TYR:HA	21:AA:1358:U:H5"	1.61	0.81
26:BD:260:ARG:NH1	59:BA:1799:G:OP1	2.14	0.81
36:BQ:87:LYS:NZ	59:BA:955:C:OP1	2.14	0.81
49:D5:15:ARG:NH1	59:DA:2046:G:OP1	2.13	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:B0:11:ARG:HH12	59:BA:2279:G:H5"	1.45	0.81
37:DR:90:ARG:NH1	59:DA:2880:C:O2'	2.12	0.81
59:DA:1830:C:H42	59:DA:1975:G:H1	1.26	0.81
59:DA:2265:U:H3'	59:DA:2266:A:H8	1.45	0.81
12:CM:91:ARG:NH2	21:CA:1226:C:OP2	2.14	0.81
27:BE:61:ARG:HD2	59:BA:2811:G:H5'	1.62	0.81
30:BH:35:VAL:HG11	30:BH:71:LEU:HB3	1.62	0.81
48:B3:17:LYS:NZ	59:BA:969:U:OP1	2.14	0.81
59:BA:2135:A:H4'	59:BA:2160:G:H4'	1.63	0.81
37:DR:31:HIS:HB2	37:DR:34:ILE:HD11	1.62	0.81
59:DA:2287:A:H62	59:DA:2344:U:H3	1.28	0.81
59:BA:15:G:H1	59:BA:525:U:H3	1.29	0.81
6:CG:113:GLU:HB2	6:CG:119:ARG:HG2	1.63	0.81
20:CY:25:LYS:HZ2	61:CY:701:GNP:PB	2.04	0.81
36:DQ:12:GLN:HA	59:DA:910:A:H62	1.46	0.81
59:DA:884:C:N4	59:DA:892:G:H1	1.77	0.81
21:AA:309:G:H2'	21:AA:310:G:H8	1.46	0.80
38:BS:86:ALA:O	38:BS:106:ARG:NH1	2.14	0.80
52:D8:14:VAL:HG23	52:D8:24:ALA:HB2	1.63	0.80
59:DA:681:G:H1	59:DA:796:C:N4	1.78	0.80
2:AC:56:ASP:HB2	2:AC:67:THR:HB	1.62	0.80
20:CY:137:ASN:HD22	20:CY:262:SER:HA	1.46	0.80
33:DN:101:HIS:ND1	33:DN:101:HIS:O	2.13	0.80
59:DA:1311:G:H21	59:DA:1603:A:H62	1.26	0.80
59:BA:273(G):C:N4	59:BA:363(A):G:H1	1.80	0.80
59:BA:1439:A:H62	59:BA:1552:G:H21	1.30	0.80
26:BD:244:ARG:HE	59:BA:1902:C:H1'	1.44	0.80
60:BB:81:G:H1	60:BB:95:U:H3	1.29	0.80
21:CA:936:C:H42	21:CA:1379:G:H1	1.27	0.80
59:DA:86:C:HO2'	59:DA:104:U:HO2'	1.22	0.80
21:AA:737:A:H2'	21:AA:738:C:H6	1.47	0.80
51:B7:9:ARG:NH2	59:BA:1311:G:N7	2.27	0.80
22:CW:37:A:N3	23:CV:16:A:C2	2.49	0.80
45:DZ:102:LEU:HD11	45:DZ:124:ILE:HG23	1.63	0.80
11:CL:70:ILE:HG13	11:CL:72:GLY:H	1.46	0.80
6:AG:79:ARG:HB3	21:AA:1381:U:H1'	1.63	0.80
39:BT:55:ASN:H	39:BT:59:THR:HB	1.47	0.80
44:BY:85:VAL:HA	44:BY:94:LYS:HA	1.64	0.80
42:DW:11:ARG:HH12	42:DW:12:ILE:HD13	1.47	0.80
21:AA:1076:C:H42	21:AA:1081:G:H1	1.30	0.80
10:CK:18:ARG:HB3	10:CK:81:ASP:HB2	1.63	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AC:191:THR:HG23	2:AC:196:LEU:HD21	1.64	0.80
20:CY:72:CYS:SG	20:CY:79:ILE:N	2.55	0.80
59:DA:15:G:H1	59:DA:525:U:H3	1.30	0.80
59:BA:853:G:H1	59:BA:924:C:H42	1.28	0.79
21:CA:666:G:OP2	21:CA:725:G:N2	2.16	0.79
22:CW:15:G:H22	22:CW:48:C:N4	1.79	0.79
30:BH:119:GLU:O	30:BH:140:LYS:NZ	2.15	0.79
36:BQ:70:PRO:HA	36:BQ:95:ALA:HB2	1.64	0.79
59:DA:1992:G:N2	59:DA:1996:C:O2'	2.15	0.79
27:BE:65:GLY:HA2	27:BE:70:ALA:HA	1.65	0.79
49:B5:22:HIS:NE2	59:BA:2045:C:O2	2.15	0.79
25:DC:118:PRO:HD3	25:DC:147:GLY:HA2	1.63	0.79
38:DS:106:ARG:HE	38:DS:108:GLY:HA2	1.48	0.79
59:DA:978:G:H1	59:DA:985:C:H42	1.29	0.79
59:BA:273(B):G:H1	59:BA:363(F):U:H3	1.28	0.79
59:BA:306:U:O4	59:BA:310:A:N7	2.15	0.79
41:DV:77:ALA:O	41:DV:79:VAL:N	2.16	0.79
21:AA:411:A:H2	21:AA:430:A:H62	1.26	0.79
59:BA:884:C:C2	59:BA:892:G:N2	2.50	0.79
1:CB:71:VAL:HB	1:CB:164:VAL:HG22	1.65	0.79
59:DA:610:C:N4	59:DA:618(A):G:H1	1.80	0.79
45:BZ:60:GLU:HA	45:BZ:66:SER:HA	1.65	0.79
26:DD:13:ARG:NH1	59:DA:729:G:OP2	2.16	0.79
39:DT:25:GLY:HA3	39:DT:92:GLY:HA2	1.65	0.79
41:BV:39:LEU:HA	41:BV:47:VAL:HG11	1.65	0.79
26:DD:248:SER:HG	26:DD:252:TRP:NE1	1.81	0.79
59:DA:136:G:H1	59:DA:143:C:H42	1.31	0.79
59:DA:2576:G:O2'	59:DA:2579:C:OP2	2.01	0.79
25:BC:79:ALA:HB1	25:BC:83:LYS:HB2	1.64	0.79
38:BS:40:ILE:HA	38:BS:47:THR:HA	1.63	0.79
20:CY:25:LYS:NZ	61:CY:701:GNP:PB	2.55	0.79
21:AA:563:A:H5"	21:AA:564:C:H5	1.48	0.79
44:DY:102:CYS:SG	44:DY:103:GLY:N	2.56	0.79
26:BD:87:ASN:N	26:BD:87:ASN:OD1	2.14	0.79
30:BH:22:GLY:HA2	30:BH:39:PRO:HG3	1.64	0.79
59:DA:1417:C:N4	59:DA:1581:G:H1	1.81	0.79
21:AA:68(G):G:H1	21:AA:68(S):C:N4	1.80	0.78
59:BA:1439:A:N6	59:BA:1552:G:H21	1.81	0.78
59:BA:2447:G:O2'	59:BA:2500:U:OP2	2.00	0.78
25:DC:51:ASP:O	25:DC:53:ARG:N	2.16	0.78
44:DY:51:VAL:HG12	44:DY:53:PRO:HD2	1.62	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1449:G:O6	59:DA:1462:C:N3	2.17	0.78
29:BG:113:ARG:HG3	57:B4:34:GLU:OE2	1.80	0.78
43:BX:34:ALA:O	43:BX:77:LYS:NZ	2.16	0.78
27:DE:168:MET:O	59:DA:2730:C:O2'	2.02	0.78
21:AA:673:G:H1	21:AA:717:C:H42	1.31	0.78
20:CY:413:ILE:HG13	20:CY:415:PRO:HD3	1.64	0.78
28:DF:4:VAL:HA	28:DF:22:ALA:HB3	1.65	0.78
59:DA:1248:G:H3'	59:DA:1249:U:H5"	1.65	0.78
1:AB:84:GLU:HB3	1:AB:219:VAL:HG21	1.65	0.78
21:AA:68(G):G:H1	21:AA:68(S):C:H42	1.27	0.78
25:BC:214:TYR:HB3	25:BC:222:SER:HB2	1.66	0.78
26:BD:79:VAL:HG12	26:BD:80:ALA:H	1.47	0.78
28:BF:167:ALA:HA	28:BF:170:LEU:HD23	1.64	0.78
33:BN:9:VAL:HG21	33:BN:39:ARG:HH12	1.46	0.78
51:B7:9:ARG:NH1	51:B7:47:ARG:O	2.16	0.78
25:DC:23:ILE:HD13	25:DC:191:ARG:HG2	1.65	0.78
31:BJ:25:UNK:HA	31:BJ:80:UNK:HA	1.66	0.78
21:CA:1028(B):C:C4	21:CA:1028(G):G:N1	2.49	0.78
2:AC:8:ILE:HD11	2:AC:184:TYR:HB3	1.65	0.78
4:AE:35:GLY:H	4:AE:112:LEU:HD12	1.49	0.78
59:BA:2119:A:N6	59:BA:2168:G:H21	1.80	0.78
59:BA:2794:C:N4	59:BA:2802:G:H1	1.81	0.78
59:DA:1002:G:H1	59:DA:1153:C:N4	1.81	0.78
59:DA:1347:G:H1	59:DA:1599:C:N4	1.82	0.78
21:AA:566:G:H4'	21:AA:567:G:H5'	1.64	0.78
21:AA:1345:U:O2	21:AA:1376:U:O2	2.02	0.78
41:BV:40:LEU:HD22	41:BV:45:THR:HB	1.64	0.78
52:B8:62:LEU:HD13	59:BA:242:G:H5"	1.65	0.78
35:DP:88:LEU:HD11	35:DP:123:LEU:HD21	1.66	0.78
38:DS:27:SER:HA	38:DS:88:ASP:HB3	1.64	0.78
21:AA:1127:G:H1	21:AA:1145:C:N4	1.79	0.78
26:BD:8:PRO:HA	26:BD:14:ARG:HA	1.64	0.78
49:B5:3:LYS:HG2	49:B5:5:PRO:HD2	1.65	0.78
59:DA:1387:C:H42	59:DA:1400:G:H1	1.30	0.78
12:AM:4:ILE:HG23	12:AM:57:ARG:HB2	1.66	0.77
36:BQ:124:LYS:NZ	59:BA:2467:C:O2	2.18	0.77
59:BA:881:G:O6	59:BA:895:U:N3	2.14	0.77
9:CJ:50:ILE:HG12	9:CJ:52:GLY:H	1.47	0.77
30:DH:149:ARG:HE	30:DH:163:TYR:HA	1.47	0.77
14:AO:82:ILE:HG13	14:AO:87:ILE:HG13	1.65	0.77
59:BA:769:G:H2'	59:BA:770:G:H8	1.50	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:DZ:52:SER:OG	45:DZ:53:ILE:N	2.15	0.77
20:AY:30:GLU:O	20:AY:33:LEU:N	2.18	0.77
21:AA:666:G:OP2	21:AA:725:G:N2	2.13	0.77
21:AA:1405:G:H1	21:AA:1496:C:N4	1.81	0.77
41:BV:47:VAL:HG12	41:BV:52:VAL:HB	1.66	0.77
21:CA:1261:A:H62	21:CA:1274:G:H21	1.31	0.77
6:AG:51:GLN:NE2	6:AG:56:GLN:O	2.17	0.77
16:AQ:12:SER:HB2	16:AQ:14:LYS:HG3	1.66	0.77
36:BQ:58:PHE:HZ	36:BQ:64:ILE:HD11	1.50	0.77
26:DD:21:PHE:O	26:DD:25:THR:OG1	2.02	0.77
8:AI:17:VAL:HG13	8:AI:63:ILE:HD12	1.66	0.77
8:AI:107:ARG:HA	21:AA:1347:G:H5'	1.65	0.77
20:AY:59:ARG:HD3	20:AY:65:ILE:H	1.48	0.77
59:BA:1646:C:H5"	59:BA:1647:G:H5"	1.66	0.77
59:DA:1536:A:OP2	59:DA:1537:C:N4	2.17	0.77
37:BR:18:LEU:HB3	37:BR:22:ARG:HE	1.48	0.77
44:BY:46:LYS:H	44:BY:62:GLU:HB2	1.50	0.77
3:CD:26:CYS:HA	3:CD:31:CYS:HA	1.66	0.77
14:CO:54:ARG:HH21	21:CA:579:G:H4'	1.47	0.77
21:CA:813:U:H2'	21:CA:814:A:H8	1.48	0.77
25:DC:150:ILE:HA	25:DC:153:ILE:HB	1.66	0.77
20:AY:98:MET:HG2	20:AY:125:ALA:HB1	1.67	0.77
28:BF:9:ILE:HG21	28:BF:124:LEU:HA	1.66	0.77
37:BR:104:ARG:HB2	37:BR:111:LEU:HD21	1.65	0.77
59:DA:949:C:N4	59:DA:968:G:H1	1.83	0.77
28:BF:45:ARG:HD2	59:BA:443:A:C5	2.20	0.77
9:CJ:13:HIS:HA	9:CJ:16:LEU:HD12	1.66	0.77
20:CY:72:CYS:CB	20:CY:79:ILE:H	1.98	0.77
51:B7:22:MET:O	51:B7:28:ARG:NH1	2.17	0.77
59:DA:883:G:N2	59:DA:893:C:N3	2.32	0.77
59:DA:1013:C:N4	59:DA:1149:G:H1	1.82	0.77
59:DA:2503:A:O2'	59:DA:2505:G:OP2	2.03	0.77
14:AO:48:LYS:HB2	21:AA:668:G:H4'	1.65	0.77
20:AY:627:ARG:NH2	20:AY:658:ASP:OD1	2.18	0.77
21:CA:933:G:H1	21:CA:1384:C:H42	1.33	0.77
21:CA:1006:C:H42	21:CA:1023:G:H1	1.32	0.77
25:DC:45:HIS:ND1	25:DC:171:ALA:O	2.17	0.77
33:DN:48:MET:N	33:DN:48:MET:SD	2.57	0.77
34:DO:66:LYS:HG2	59:DA:1665:A:H5"	1.67	0.77
39:DT:64:ARG:HH12	39:DT:103:ARG:HG2	1.48	0.77
4:AE:14:ARG:HG2	4:AE:16:THR:HG23	1.66	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BD:13:ARG:NH1	59:BA:729:G:OP2	2.18	0.76
29:BG:76:SER:HA	29:BG:83:ARG:HB3	1.65	0.76
30:BH:85:LYS:HD2	30:BH:133:VAL:HB	1.65	0.76
39:BT:27:THR:HG22	39:BT:49:VAL:HB	1.65	0.76
9:CJ:49:VAL:HG21	13:CN:41:ARG:HB2	1.67	0.76
20:CY:511:LYS:HB2	20:CY:569:ASP:HB3	1.67	0.76
43:DX:29:TRP:HA	43:DX:78:LYS:HA	1.65	0.76
59:DA:883:G:N2	59:DA:893:C:C2	2.53	0.76
59:BA:817:C:N4	59:BA:1190:G:H1	1.83	0.76
7:CH:96:GLY:HA2	7:CH:130:GLY:HA3	1.67	0.76
21:CA:992:U:H3	21:CA:1044:A:H62	1.31	0.76
35:DP:18:ARG:NH1	59:DA:662:G:OP1	2.18	0.76
37:DR:12:ARG:HB3	37:DR:16:HIS:HB3	1.67	0.76
26:BD:224:ALA:HB2	26:BD:233:HIS:HD1	1.50	0.76
59:BA:1434:A:H61	59:BA:1558:A:H62	1.31	0.76
60:BB:81:G:O6	60:BB:95:U:O2	2.04	0.76
56:D1:19:GLN:NE2	59:DA:2233:U:OP2	2.17	0.76
27:BE:143:ASN:ND2	27:BE:146:THR:O	2.19	0.76
59:BA:1296:G:H1	59:BA:1644:C:H42	1.33	0.76
20:CY:117:GLN:NE2	20:CY:665:GLY:O	2.19	0.76
36:DQ:43:THR:HA	36:DQ:94:VAL:HG12	1.67	0.76
43:DX:5:TYR:HA	43:DX:7:VAL:HG23	1.67	0.76
21:AA:151:A:H62	21:AA:170:U:H3	1.31	0.76
21:AA:595:G:H1'	21:AA:596:C:H5	1.51	0.76
59:BA:2111:C:O2	59:BA:2118:U:O2'	2.03	0.76
18:CS:36:ARG:NH1	18:CS:52:TYR:O	2.19	0.76
25:DC:48:LEU:HD13	25:DC:50:ILE:HG13	1.68	0.76
41:DV:4:ILE:HB	41:DV:40:LEU:HB2	1.67	0.76
11:AL:39:VAL:HG12	11:AL:40:VAL:H	1.50	0.76
21:AA:576:G:N7	21:AA:881:G:H1'	2.00	0.76
21:AA:1306:A:N6	21:AA:1331:G:O2'	2.18	0.76
32:BK:54:PRO:HB2	32:BK:70:LYS:HD3	1.66	0.76
49:B5:46:CYS:HB3	49:B5:49:CYS:HB2	1.67	0.76
59:BA:577:G:H5'	59:BA:2502:G:H21	1.50	0.76
1:CB:235:SER:O	1:CB:237:ALA:N	2.18	0.76
26:DD:78:LYS:HD3	26:DD:114:GLY:HA2	1.66	0.76
59:DA:704:G:HO2'	59:DA:726:G:H1	1.31	0.76
59:DA:784:A:N6	59:DA:2072:G:O2'	2.19	0.76
59:DA:2791:C:OP1	59:DA:2893:G:N2	2.18	0.76
20:AY:617:MET:HA	20:AY:620:VAL:HG22	1.68	0.76
59:BA:1024:G:H3'	59:BA:1025:G:H5"	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1972:A:H2'	59:BA:1973:G:H8	1.48	0.76
21:CA:1536:C:N4	23:CV:9:G:H1	1.81	0.76
28:DF:122:LYS:HD2	28:DF:191:ARG:HH21	1.50	0.76
59:DA:1541:U:H3'	59:DA:1542:G:H3'	1.68	0.76
3:CD:57:ARG:HB3	3:CD:206:PHE:HB2	1.67	0.76
21:CA:1503:A:N6	23:CV:14:A:H3'	2.00	0.76
20:CY:138:LYS:HG2	61:CY:701:GNP:C5	2.15	0.76
20:CY:608:VAL:HG12	20:CY:645:ALA:HB3	1.65	0.76
26:DD:222:ARG:NH2	59:DA:1828:G:OP2	2.18	0.76
28:DF:191:ARG:O	28:DF:193:VAL:N	2.19	0.76
29:DG:36:LYS:HB3	29:DG:95:ARG:HH12	1.50	0.76
38:DS:17:ARG:O	38:DS:21:THR:N	2.17	0.76
59:DA:1315:C:H42	59:DA:1337:G:H1	1.32	0.76
1:AB:27:LYS:HD2	1:AB:27:LYS:H	1.51	0.76
36:BQ:85:LYS:HD2	46:B0:7:LEU:HB3	1.66	0.76
41:BV:55:ALA:HB1	41:BV:101:GLY:HA2	1.66	0.76
3:AD:72:GLU:HA	3:AD:75:PHE:HB3	1.67	0.75
11:AL:113:ARG:HE	11:AL:115:LYS:HB3	1.50	0.75
27:DE:37:ARG:NH1	27:DE:42:ASP:OD1	2.18	0.75
11:AL:70:ILE:HG13	11:AL:72:GLY:H	1.49	0.75
21:AA:1403:C:O2	21:AA:1499:A:N6	2.20	0.75
41:BV:66:ARG:HA	41:BV:90:PRO:HA	1.68	0.75
21:CA:68(A):G:H1	21:CA:68(Y):C:N4	1.84	0.75
21:CA:962:C:H42	21:CA:973:G:H1	1.31	0.75
21:CA:1405:G:H1	21:CA:1496:C:N4	1.84	0.75
36:DQ:42:ILE:HD11	36:DQ:95:ALA:HB3	1.68	0.75
59:DA:1825:A:H2'	59:DA:1826:G:H8	1.52	0.75
6:AG:4:ARG:HG3	21:AA:932:C:H5"	1.67	0.75
20:AY:33:LEU:CG	20:AY:34:TYR:CD2	2.66	0.75
20:AY:138:LYS:NZ	61:AY:701:GNP:C4	2.48	0.75
26:BD:54:ARG:NH2	59:BA:1815:A:OP2	2.16	0.75
27:BE:143:ASN:ND2	59:BA:2572:A:OP2	2.16	0.75
35:BP:62:LEU:HB3	59:BA:2393:A:H5"	1.68	0.75
59:BA:1613:G:H2'	59:BA:1617:C:H42	1.49	0.75
35:DP:124:LYS:HD3	35:DP:143:GLY:HA3	1.68	0.75
49:D5:46:CYS:HB3	49:D5:49:CYS:HB2	1.68	0.75
2:AC:60:ALA:H	2:AC:63:ASN:HB3	1.50	0.75
59:BA:1286:A:O2'	59:BA:1288:U:OP2	2.04	0.75
25:DC:213:VAL:HG11	25:DC:225:ILE:HG12	1.68	0.75
27:DE:189:PRO:HA	59:DA:2680:C:H5'	1.69	0.75
33:DN:5:VAL:O	33:DN:7:LYS:NZ	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2282:G:H1	59:DA:2427:C:H42	1.32	0.75
26:BD:61:LEU:O	26:BD:63:ARG:NH1	2.19	0.75
26:BD:105:ILE:HD13	26:BD:106:ILE:H	1.51	0.75
59:BA:1536:A:OP2	59:BA:1537:C:N4	2.19	0.75
16:AQ:67:LYS:HD2	21:AA:266:G:C8	2.22	0.75
20:AY:22:ASP:HB3	61:AY:701:GNP:C5'	2.15	0.75
42:BW:92:ARG:NH1	59:BA:2014:A:O2'	2.19	0.75
48:B3:8:LEU:HD12	48:B3:28:LEU:HG	1.69	0.75
59:BA:221:A:H62	59:BA:427:U:H3	1.31	0.75
59:DA:1275:A:OP2	59:DA:1646:C:N4	2.20	0.75
21:AA:68(G):G:H3'	21:AA:68(H):G:H4'	1.69	0.75
25:BC:138:LEU:HD22	25:BC:139:PRO:HD2	1.69	0.75
59:BA:814:C:N4	59:BA:1193:G:H1	1.85	0.75
1:CB:88:ALA:HB1	1:CB:222:ILE:HD11	1.66	0.75
1:CB:171:ALA:HA	1:CB:174:VAL:HB	1.69	0.75
3:CD:24:GLU:HG2	3:CD:112:VAL:HG11	1.67	0.75
30:DH:83:TYR:HB2	30:DH:135:GLY:H	1.51	0.75
36:DQ:34:LEU:HD23	36:DQ:104:PHE:HE1	1.51	0.75
59:DA:1083:U:O2'	59:DA:1085:A:N7	2.18	0.75
2:AC:199:LYS:NZ	21:AA:1059:C:OP2	2.19	0.75
25:BC:48:LEU:HD13	25:BC:50:ILE:HG13	1.68	0.75
30:DH:113:VAL:HG11	30:DH:151:ILE:HD13	1.69	0.75
33:DN:25:ARG:HH22	59:DA:114(B):A:H4'	1.51	0.75
37:DR:45:ARG:HG2	37:DR:97:VAL:HG21	1.68	0.75
59:DA:1854:A:H62	59:DA:1888:G:H8	1.34	0.75
27:BE:117:MET:HG3	27:BE:136:ARG:HG3	1.68	0.75
59:BA:1530:G:O6	59:BA:1541:U:O2	2.05	0.75
20:CY:35:TYR:HD1	20:CY:36:THR:N	1.83	0.75
26:BD:264:LYS:HD3	26:BD:266:SER:H	1.51	0.74
11:CL:7:ILE:HA	11:CL:10:LEU:HD12	1.69	0.74
28:DF:63:LYS:HE3	28:DF:67:GLN:HB2	1.69	0.74
42:DW:81:ALA:HB1	42:DW:98:LYS:O	1.87	0.74
59:DA:1000:A:OP2	59:DA:1154:G:N1	2.20	0.74
9:AJ:39:PRO:HB3	9:AJ:70:ARG:HH21	1.53	0.74
21:AA:186(E):C:O2	21:AA:186(L):G:N2	2.20	0.74
21:AA:1026:G:O6	21:AA:1035:A:N1	2.20	0.74
38:BS:35:ILE:HB	38:BS:53:SER:HB3	1.69	0.74
59:BA:784:A:N6	59:BA:2072:G:O2'	2.20	0.74
33:DN:41:ASP:HA	40:DU:64:ARG:HH11	1.51	0.74
3:AD:171:GLY:O	3:AD:173:TRP:N	2.19	0.74
3:AD:173:TRP:HD1	3:AD:186:LEU:H	1.33	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AY:165:GLN:HE21	20:AY:260:LEU:HD22	1.52	0.74
22:AW:43:G:H2'	22:AW:44:G:H8	1.51	0.74
40:BU:47:TYR:OH	59:BA:992:C:OP1	2.05	0.74
49:B5:11:THR:HG21	59:BA:1264:G:H5'	1.69	0.74
57:B4:14:ILE:HG13	57:B4:22:ILE:HB	1.67	0.74
29:DG:173:LEU:HB3	29:DG:178:PHE:HB2	1.67	0.74
59:DA:1483:G:H1	59:DA:1506:C:H42	1.35	0.74
59:DA:2689:U:OP2	59:DA:2872:G:N2	2.21	0.74
1:AB:143:GLU:HA	1:AB:146:GLN:HB2	1.69	0.74
59:BA:670:A:H4'	59:BA:671:C:H5'	1.70	0.74
59:DA:1800:C:H42	59:DA:1817:G:N2	1.84	0.74
60:DB:24:G:C6	60:DB:56:G:N3	2.55	0.74
6:AG:51:GLN:HG3	6:AG:58:PRO:HD3	1.67	0.74
21:AA:1260:C:H5'	21:AA:1284:C:H4'	1.69	0.74
26:BD:244:ARG:NH2	59:BA:1902:C:O2	2.20	0.74
33:BN:34:LEU:HD21	33:BN:120:LEU:HD12	1.69	0.74
20:CY:138:LYS:HE2	61:CY:701:GNP:C5	2.18	0.74
30:DH:23:ARG:HD2	30:DH:25:LYS:HE2	1.69	0.74
43:DX:53:LYS:HB3	43:DX:82:GLN:HB3	1.68	0.74
53:D9:25:VAL:HB	53:D9:34:GLN:HB2	1.69	0.74
3:CD:57:ARG:NH1	3:CD:205:GLU:OE2	2.20	0.74
4:CE:76:ILE:HG13	4:CE:93:PRO:HG3	1.70	0.74
59:DA:884:C:C2	59:DA:892:G:N2	2.55	0.74
12:AM:91:ARG:HB3	12:AM:96:LEU:HB2	1.69	0.74
32:BK:51:ALA:HB1	32:BK:72:PRO:HB3	1.70	0.74
37:BR:41:ALA:HB1	37:BR:97:VAL:HG11	1.70	0.74
56:B1:76:ARG:HH22	56:B1:95:LEU:HD13	1.53	0.74
57:B4:11:PRO:HA	57:B4:25:TYR:HA	1.68	0.74
59:BA:1516:U:H2'	59:BA:1517:G:C8	2.22	0.74
11:CL:35:GLY:HA2	11:CL:58:VAL:HG13	1.70	0.74
41:DV:87:HIS:HE1	59:DA:1163:G:H21	1.33	0.74
59:DA:1059:G:C6	59:DA:1079:C:N4	2.55	0.74
25:BC:63:VAL:HG12	25:BC:162:ILE:HB	1.68	0.74
35:BP:61:ARG:HD3	52:B8:13:ARG:HD2	1.69	0.74
11:CL:47:LYS:NZ	21:CA:1492:A:OP2	2.12	0.74
19:CT:65:LYS:NZ	21:CA:195:A:OP1	2.21	0.74
25:DC:61:GLY:O	25:DC:163:GLU:HA	1.86	0.74
34:DO:14:THR:HG21	34:DO:86:ILE:HD12	1.69	0.74
59:DA:2514:U:H3	59:DA:2570:G:H1	1.36	0.74
21:AA:1505:G:O2'	23:AV:15:A:H2'	1.88	0.74
29:BG:138:GLN:HE22	29:BG:144:ILE:HD13	1.53	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:BK:130:SER:OG	59:BA:1059:G:N2	2.19	0.74
20:CY:30:GLU:HG3	20:CY:31:ARG:HH11	1.51	0.74
56:D1:19:GLN:HB3	56:D1:40:ARG:HD3	1.69	0.74
21:AA:1500:A:OP2	21:AA:1504:G:O2'	2.06	0.74
11:CL:85:ILE:HG23	11:CL:98:TYR:HB3	1.70	0.74
59:DA:273(A):G:H1	59:DA:364:C:N4	1.86	0.74
20:AY:133:ILE:HG22	20:AY:257:PRO:HG2	1.69	0.73
35:BP:67:MET:H	59:BA:2415:G:H4'	1.52	0.73
59:BA:270(J):G:H1	59:BA:270(R):C:H42	0.75	0.73
20:CY:633:GLY:HA3	20:CY:644:ARG:HB2	1.69	0.73
20:CY:659:LEU:O	20:CY:663:THR:OG1	2.06	0.73
44:DY:7:VAL:HG21	59:DA:336:C:H4'	1.68	0.73
48:D3:22:ALA:HB2	48:D3:49:LYS:HD3	1.70	0.73
10:AK:27:ASN:HD21	10:AK:45:GLY:H	1.33	0.73
15:AP:43:LYS:NZ	21:AA:452:A:OP1	2.20	0.73
20:AY:661:SER:OG	59:BA:2660:A:N7	2.21	0.73
40:BU:36:ARG:NH1	59:BA:1252:G:N7	2.35	0.73
59:BA:729:G:H2'	59:BA:1775:U:H1'	1.70	0.73
20:CY:614:GLU:HA	20:CY:617:MET:HB3	1.70	0.73
35:DP:23:PRO:HD2	35:DP:33:ARG:HE	1.53	0.73
20:AY:30:GLU:O	20:AY:33:LEU:HD22	1.89	0.73
11:CL:82:VAL:HB	11:CL:105:TYR:HB2	1.70	0.73
20:CY:54:PHE:HB2	20:CY:60:GLU:HA	1.71	0.73
36:DQ:124:LYS:NZ	59:DA:2467:C:O2	2.22	0.73
6:AG:30:ILE:HG22	6:AG:39:ALA:HB1	1.69	0.73
12:AM:52:GLU:HA	12:AM:55:ARG:HG2	1.71	0.73
20:AY:18:ALA:HA	20:AY:25:LYS:HD3	1.69	0.73
21:AA:112:G:H1	21:AA:315:A:N6	1.84	0.73
28:BF:101:LEU:HD12	28:BF:102:PRO:HD2	1.70	0.73
39:BT:107:ASP:O	39:BT:111:ARG:NH2	2.21	0.73
21:CA:107:G:H3'	21:CA:108:G:H21	1.54	0.73
21:CA:670:G:H1	21:CA:736:C:H42	1.36	0.73
28:DF:53:THR:OG1	28:DF:54:ARG:N	2.20	0.73
59:DA:270(J):G:N1	59:DA:270(R):C:N4	2.32	0.73
59:DA:1059:G:N2	59:DA:1079:C:N3	2.36	0.73
11:AL:45:PRO:O	11:AL:47:LYS:N	2.22	0.73
57:B4:33:VAL:HG12	57:B4:34:GLU:HG3	1.71	0.73
22:CW:37:A:C2	23:CV:16:A:H2	1.99	0.73
25:DC:214:TYR:HB3	25:DC:222:SER:HB2	1.70	0.73
33:DN:27:ALA:HA	33:DN:30:ILE:HB	1.69	0.73
43:DX:12:VAL:HA	43:DX:29:TRP:HE1	1.54	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AL:45:PRO:HG2	11:AL:49:ASN:HB2	1.70	0.73
21:AA:68(F):C:H2'	21:AA:68(G):G:H8	1.54	0.73
26:BD:92:ILE:HG22	26:BD:106:ILE:HA	1.69	0.73
30:BH:83:TYR:HB2	30:BH:135:GLY:H	1.52	0.73
34:BO:63:VAL:HG12	34:BO:106:LEU:HD11	1.69	0.73
21:CA:922:G:H2'	21:CA:923:A:C8	2.23	0.73
28:DF:9:ILE:HG21	28:DF:124:LEU:HA	1.68	0.73
59:DA:1324:G:H1	59:DA:1330:C:N4	1.87	0.73
59:DA:1487:G:H1	59:DA:1502:C:H42	1.35	0.73
20:AY:137:ASN:ND2	61:AY:701:GNP:O6	2.20	0.73
52:B8:13:ARG:NH2	59:BA:250:G:OP2	2.21	0.73
32:BK:130:SER:HG	59:BA:1059:G:H21	1.35	0.73
59:BA:198:C:H42	59:BA:248:G:H1	1.37	0.73
59:BA:1058:G:H2'	59:BA:1059:G:H8	1.51	0.73
6:CG:78:ARG:HB2	6:CG:156:TRP:HB3	1.69	0.73
10:CK:85:ARG:HG2	10:CK:111:ASP:HB3	1.69	0.73
11:CL:39:VAL:HG12	11:CL:40:VAL:H	1.54	0.73
44:DY:13:VAL:HG21	44:DY:74:PRO:HA	1.69	0.73
48:D3:8:LEU:HD12	48:D3:28:LEU:HD12	1.69	0.73
2:AC:20:SER:HB3	2:AC:57:ILE:HD12	1.71	0.73
59:BA:681:G:H1	59:BA:796:C:H42	1.33	0.73
59:BA:1358:G:N1	59:BA:1372:U:OP2	2.19	0.73
4:CE:50:GLU:HG3	4:CE:52:PRO:HD2	1.70	0.73
45:DZ:72:ARG:HH12	60:DB:103:U:H4'	1.53	0.73
59:DA:1782:C:N4	59:DA:2586:C:H42	1.86	0.73
59:DA:2089:U:H3	59:DA:2230:G:H1	1.37	0.73
21:CA:231:G:H2'	21:CA:232:G:H8	1.54	0.73
39:DT:49:VAL:HA	39:DT:63:VAL:HA	1.70	0.73
39:DT:95:ARG:NH1	59:DA:2849:U:OP2	2.20	0.73
59:DA:947:G:H1	59:DA:970:C:H42	0.82	0.73
1:AB:171:ALA:HA	1:AB:174:VAL:HB	1.71	0.72
50:B6:15:GLU:HG3	50:B6:47:THR:HG21	1.71	0.72
59:BA:1854:A:H62	59:BA:1888:G:H8	1.35	0.72
21:CA:151:A:N7	21:CA:170:U:O4	2.22	0.72
20:CY:256:THR:O	20:CY:258:VAL:N	2.22	0.72
59:DA:404:C:H4'	59:DA:405:U:H5'	1.70	0.72
11:AL:79:GLU:O	11:AL:80:HIS:ND1	2.20	0.72
20:AY:614:GLU:O	20:AY:617:MET:N	2.22	0.72
21:AA:231:G:H2'	21:AA:232:G:H8	1.54	0.72
28:BF:92:PRO:HA	28:BF:95:ARG:HH22	1.53	0.72
28:BF:154:VAL:HB	28:BF:156:LEU:HB2	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BF:156:LEU:H	28:BF:176:LEU:H	1.36	0.72
58:Be:78:LEU:HD11	58:Be:85:GLY:HA3	1.71	0.72
20:CY:30:GLU:O	20:CY:33:LEU:CA	2.37	0.72
59:DA:131:G:H2'	59:DA:132:G:H8	1.54	0.72
29:BG:58:GLN:HA	29:BG:68:PRO:HG3	1.69	0.72
39:BT:91:ARG:O	39:BT:120:ARG:NH2	2.21	0.72
56:B1:21:ARG:NH2	56:B1:38:SER:OG	2.22	0.72
2:CC:6:HIS:HB3	2:CC:9:GLY:H	1.54	0.72
33:DN:63:THR:OG1	59:DA:1141:U:OP2	2.06	0.72
41:DV:66:ARG:HA	41:DV:90:PRO:HA	1.71	0.72
59:DA:1024:G:H3'	59:DA:1025:G:H5"	1.71	0.72
21:AA:411:A:H2	21:AA:430:A:N6	1.82	0.72
22:AW:15:G:N2	22:AW:48:C:H42	1.87	0.72
26:BD:78:LYS:HD3	26:BD:114:GLY:HA2	1.71	0.72
34:BO:107:ARG:HH21	39:BT:35:LYS:HG2	1.54	0.72
59:BA:307:G:N2	59:BA:310:A:OP2	2.22	0.72
11:CL:31:PRO:HG3	21:CA:553:A:H1'	1.70	0.72
21:CA:68(H):G:H21	21:CA:68(S):C:N4	1.88	0.72
20:CY:515:GLU:HG2	20:CY:516:PRO:HD2	1.70	0.72
26:DD:136:ILE:O	26:DD:168:ARG:NH2	2.22	0.72
27:DE:111:ARG:HG2	37:DR:2:ARG:HE	1.54	0.72
28:DF:101:LEU:HD12	28:DF:102:PRO:HD2	1.71	0.72
31:DJ:142:UNK:HA	54:Df:22:UNK:HA	1.71	0.72
59:DA:1899:G:N2	59:DA:1902:C:H41	1.88	0.72
15:AP:23:ASP:O	15:AP:25:ARG:N	2.22	0.72
20:AY:232:LEU:HD11	58:Be:71:LYS:HZ3	1.54	0.72
38:BS:103:GLU:O	38:BS:105:ALA:N	2.22	0.72
20:CY:428:LEU:HD13	20:CY:440:VAL:HG21	1.71	0.72
20:AY:674:ASP:OD1	20:AY:675:HIS:ND1	2.22	0.72
25:BC:150:ILE:HA	25:BC:153:ILE:HB	1.69	0.72
44:BY:13:VAL:HG21	44:BY:74:PRO:HA	1.72	0.72
21:CA:1065:U:OP2	21:CA:1190:G:N2	2.22	0.72
29:DG:122:PRO:HB3	29:DG:170:ARG:HH21	1.53	0.72
50:D6:30:THR:O	50:D6:32:ASN:N	2.20	0.72
53:D9:22:ARG:HH12	59:DA:2741:A:H5"	1.54	0.72
59:DA:976:C:H2'	59:DA:977:G:H8	1.53	0.72
1:AB:167:PRO:HG2	1:AB:192:SER:HB3	1.70	0.72
21:AA:737:A:H2'	21:AA:738:C:C6	2.24	0.72
25:BC:139:PRO:HA	25:BC:145:THR:HG21	1.72	0.72
35:BP:38:GLN:HG3	35:BP:39:LYS:H	1.53	0.72
59:BA:2643:G:H1	59:BA:2771:C:H42	1.38	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CD:147:ALA:HB2	3:CD:182:LYS:HG3	1.72	0.72
10:CK:112:THR:O	17:CR:84:LYS:NZ	2.21	0.72
20:CY:133:ILE:HG22	20:CY:257:PRO:HG2	1.70	0.72
25:DC:121:MET:O	25:DC:125:GLY:N	2.22	0.72
26:DD:222:ARG:N	59:DA:1789:A:OP1	2.14	0.72
28:DF:197:ASP:OD2	28:DF:198:ALA:N	2.23	0.72
59:DA:1346:G:H1	59:DA:1600:C:H42	0.79	0.72
2:AC:186:PHE:HB2	2:AC:199:LYS:HG2	1.72	0.72
10:AK:50:TYR:HB3	10:AK:55:LYS:HA	1.72	0.72
21:AA:406:G:H2'	21:AA:407:G:H8	1.55	0.72
25:BC:43:GLU:HB2	25:BC:216:THR:HG23	1.72	0.72
59:BA:271:G:H2'	59:BA:272:G:H8	1.53	0.72
59:BA:1972:A:H2'	59:BA:1973:G:C8	2.25	0.72
14:CO:74:ASP:HB3	14:CO:77:ARG:HG2	1.72	0.72
36:DQ:135:ASP:O	36:DQ:137:TYR:N	2.22	0.72
53:B9:22:ARG:HB2	53:B9:24:TYR:HE1	1.53	0.72
59:BA:397:G:O2'	59:BA:2230:G:N2	2.21	0.72
59:BA:1664:A:H61	59:BA:1996:C:H42	1.38	0.72
59:BA:2237:G:O2'	59:BA:2239:G:N7	2.22	0.72
50:D6:15:GLU:HB2	50:D6:20:ASN:HB2	1.70	0.72
59:DA:144:C:H2'	59:DA:145:G:H8	1.54	0.72
59:DA:1317:A:H61	59:DA:1335:U:H3	1.38	0.72
16:AQ:60:ILE:O	16:AQ:62:SER:OG	2.07	0.72
59:BA:1336:A:H2'	59:BA:1337:G:C8	2.25	0.72
21:CA:1124:G:N2	21:CA:1149:C:N3	2.31	0.72
20:CY:93:GLU:O	20:CY:97:SER:OG	2.07	0.72
39:DT:50:ILE:HA	39:DT:99:LEU:HD12	1.72	0.72
59:DA:994:C:H42	59:DA:1160:G:H1	1.38	0.72
1:AB:223:ILE:HA	1:AB:226:ARG:HB2	1.71	0.71
37:BR:76:VAL:HA	37:BR:79:LEU:HB2	1.72	0.71
59:BA:281:G:N2	59:BA:359:A:H62	1.84	0.71
9:CJ:55:LYS:HG2	21:CA:963:G:H21	1.55	0.71
11:CL:90:VAL:HG22	11:CL:96:VAL:HG11	1.70	0.71
14:CO:39:LEU:HD12	14:CO:56:LEU:HB2	1.71	0.71
37:DR:26:LYS:HZ3	59:DA:1294:U:H4'	1.55	0.71
50:D6:15:GLU:HG3	50:D6:47:THR:HG21	1.71	0.71
59:DA:270(J):G:N2	59:DA:270(R):C:N3	2.36	0.71
59:DA:573:G:N1	59:DA:2031:A:OP2	2.21	0.71
27:BE:98:PRO:HG3	27:BE:174:ASP:HA	1.72	0.71
4:AE:50:GLU:HG3	4:AE:52:PRO:HD2	1.70	0.71
59:BA:1347:G:H1	59:BA:1599:C:N4	1.88	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CC:130:VAL:HG21	2:CC:157:ILE:HG23	1.72	0.71
3:CD:18:LYS:HB3	3:CD:33:MET:HG2	1.71	0.71
59:DA:382:G:H1	59:DA:392:C:H42	1.38	0.71
4:AE:75:THR:OG1	4:AE:76:ILE:N	2.22	0.71
29:BG:43:LEU:HB3	29:BG:45:GLU:HG2	1.70	0.71
38:BS:105:ALA:O	38:BS:107:GLU:N	2.23	0.71
45:BZ:14:LYS:HD2	45:BZ:17:ALA:H	1.54	0.71
11:CL:56:ALA:HB3	11:CL:68:ALA:HB3	1.72	0.71
38:DS:15:ARG:HB3	38:DS:18:ILE:HB	1.71	0.71
40:DU:6:THR:HG21	40:DU:10:ARG:HH21	1.54	0.71
20:AY:616:TYR:HB2	20:AY:663:THR:HG22	1.72	0.71
27:BE:156:MET:HE3	27:BE:157:ALA:H	1.55	0.71
40:BU:85:LYS:HZ2	40:BU:116:ALA:HB1	1.55	0.71
56:B1:91:LYS:HA	56:B1:94:LEU:HD22	1.73	0.71
21:CA:112:G:H1	21:CA:315:A:H61	1.38	0.71
20:CY:10:LYS:HG2	20:CY:284:LEU:HD22	1.70	0.71
21:AA:888:G:H3'	21:AA:889:A:H5"	1.72	0.71
26:BD:131:LEU:HD23	26:BD:132:PRO:HD2	1.72	0.71
37:BR:105:ARG:HH12	42:BW:40:ASN:HA	1.54	0.71
59:BA:33:U:O4	59:BA:446:G:O2'	2.09	0.71
25:DC:16:ASP:O	25:DC:18:ASN:N	2.23	0.71
21:AA:634:C:H2'	21:AA:635:G:H8	1.55	0.71
26:BD:157:ARG:NH2	59:BA:1817:G:H3'	2.05	0.71
27:BE:77:ILE:HG22	27:BE:78:LEU:H	1.55	0.71
10:CK:31:THR:HA	10:CK:42:TRP:HA	1.71	0.71
10:CK:33:THR:HA	10:CK:39:PRO:HA	1.73	0.71
20:CY:35:TYR:HE2	20:CY:72:CYS:HA	1.54	0.71
36:DQ:14:ARG:NH1	59:DA:958:U:OP2	2.24	0.71
37:DR:76:VAL:HA	37:DR:79:LEU:HB2	1.73	0.71
7:AH:38:ILE:HD13	7:AH:41:ARG:HH12	1.56	0.71
11:AL:117:ARG:HD3	11:AL:125:PRO:HD3	1.72	0.71
14:AO:54:ARG:NH1	21:AA:728:A:OP1	2.24	0.71
33:BN:25:ARG:NH1	59:BA:1143:A:OP1	2.21	0.71
38:BS:70:GLY:HA3	38:BS:99:LYS:HD2	1.73	0.71
42:BW:38:TYR:HE2	49:B5:41:PRO:HD3	1.54	0.71
44:BY:102:CYS:SG	44:BY:103:GLY:N	2.60	0.71
58:Be:63:ILE:HG23	58:Be:116:GLU:HG2	1.73	0.71
59:BA:1326:U:O2'	59:BA:2010:G:O2'	2.08	0.71
25:DC:52:PRO:HG3	25:DC:168:LYS:HA	1.71	0.71
11:AL:118:SER:OG	21:AA:35:G:N2	2.24	0.71
20:AY:516:PRO:HA	20:AY:563:ILE:HA	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BQ:42:ILE:HG23	36:BQ:97:VAL:HG21	1.72	0.71
50:B6:28:ARG:O	50:B6:28:ARG:NH1	2.23	0.71
11:CL:6:THR:O	11:CL:8:ASN:N	2.22	0.71
19:CT:74:LYS:HG2	19:CT:75:ASN:H	1.55	0.71
28:DF:125:LEU:HA	28:DF:194:MET:HB2	1.73	0.71
38:DS:35:ILE:H	38:DS:53:SER:HB3	1.55	0.71
37:BR:7:GLY:O	37:BR:8:ARG:NE	2.23	0.71
43:BX:49:VAL:HG12	43:BX:87:GLN:HB3	1.72	0.71
59:BA:281:G:H21	59:BA:359:A:N6	1.83	0.71
59:BA:532:A:OP1	59:BA:561:G:N2	2.24	0.71
14:CO:39:LEU:HB3	14:CO:56:LEU:HD13	1.72	0.71
21:CA:201:C:H42	21:CA:216:G:H1	1.39	0.71
33:DN:85:ILE:HG21	33:DN:90:MET:HE3	1.71	0.71
51:D7:21:ARG:HB3	51:D7:31:LEU:HD11	1.73	0.71
9:AJ:51:ARG:NH1	21:AA:1061:G:OP1	2.23	0.70
14:AO:38:ARG:HH11	14:AO:38:ARG:HA	1.56	0.70
26:BD:222:ARG:N	59:BA:1789:A:OP1	2.24	0.70
27:BE:176:ILE:HB	27:BE:181:LEU:HB2	1.73	0.70
42:BW:25:ARG:HH22	42:BW:75:TYR:H	1.38	0.70
59:BA:2133:G:H21	59:BA:2158:A:H62	0.76	0.70
25:DC:162:ILE:HG21	25:DC:193:PHE:HE1	1.55	0.70
50:D6:19:ARG:O	50:D6:20:ASN:ND2	2.23	0.70
11:AL:34:ARG:HD3	11:AL:82:VAL:HG13	1.71	0.70
12:AM:3:ARG:HH12	12:AM:7:VAL:HG22	1.55	0.70
15:AP:1:MET:N	21:AA:135:C:N3	2.38	0.70
21:AA:663:A:N6	21:AA:742:G:H1	1.87	0.70
22:AW:15:G:H22	22:AW:48:C:H42	1.39	0.70
22:AW:20:U:H1'	22:AW:20(A):U:H2'	1.73	0.70
32:BK:102:GLU:O	32:BK:104:VAL:N	2.24	0.70
36:BQ:34:LEU:HB2	36:BQ:118:LEU:HD22	1.73	0.70
46:B0:46:LYS:HG3	46:B0:47:PRO:HD2	1.73	0.70
59:BA:2892:A:H2'	59:BA:2893:G:H5'	1.72	0.70
17:CR:61:LYS:NZ	21:CA:836:G:OP1	2.23	0.70
20:CY:342:TYR:HB3	20:CY:390:VAL:HG23	1.73	0.70
20:CY:467:LYS:HA	20:CY:472:VAL:H	1.56	0.70
28:DF:2:LYS:O	28:DF:4:VAL:N	2.23	0.70
8:AI:117:HIS:O	8:AI:119:ALA:N	2.22	0.70
13:AN:33:VAL:HA	13:AN:40:CYS:HA	1.71	0.70
20:AY:550:MET:HG2	20:AY:560:VAL:H	1.56	0.70
42:BW:72:LYS:H	42:BW:107:LEU:HA	1.56	0.70
3:CD:33:MET:N	3:CD:33:MET:SD	2.63	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:CH:46:LYS:HB3	7:CH:62:TYR:HB2	1.71	0.70
28:DF:194:MET:HE3	28:DF:198:ALA:HB3	1.73	0.70
33:DN:56:ASN:HA	33:DN:125:GLY:H	1.56	0.70
33:DN:90:MET:HE2	33:DN:90:MET:HA	1.74	0.70
38:DS:70:GLY:HA3	38:DS:99:LYS:HG3	1.73	0.70
46:D0:25:ARG:HH12	59:DA:2355:C:H5'	1.56	0.70
3:AD:122:ARG:HD3	3:AD:136:PRO:HD3	1.73	0.70
20:AY:415:PRO:HG3	20:AY:424:LEU:HD21	1.72	0.70
26:BD:222:ARG:NH2	59:BA:1828:G:OP2	2.23	0.70
11:CL:93:LEU:O	11:CL:95:GLY:N	2.24	0.70
12:CM:3:ARG:HH12	12:CM:7:VAL:HG22	1.57	0.70
12:CM:78:ILE:HD11	21:CA:1309:G:H5'	1.72	0.70
21:CA:293:G:O6	21:CA:304:U:O2	2.09	0.70
20:CY:201:ILE:HG21	20:CY:206:LEU:HB2	1.72	0.70
34:DO:43:VAL:HB	34:DO:55:GLY:H	1.55	0.70
38:DS:38:GLN:HG2	38:DS:50:SER:HB2	1.72	0.70
59:DA:2454:G:H1	59:DA:2498:C:H42	1.39	0.70
7:AH:97:VAL:HG13	7:AH:98:LYS:HG2	1.73	0.70
20:AY:33:LEU:HG	20:AY:34:TYR:HD2	1.54	0.70
56:B1:16:ASN:HB3	59:BA:381:G:H5"	1.71	0.70
10:CK:50:TYR:HB3	10:CK:55:LYS:HA	1.71	0.70
33:DN:41:ASP:CA	40:DU:64:ARG:HH11	2.05	0.70
39:DT:46:GLU:HG3	39:DT:65:LYS:HZ1	1.56	0.70
59:DA:1014:U:O4	59:DA:1148:A:N1	2.24	0.70
59:DA:2119:A:H61	59:DA:2168:G:H21	1.39	0.70
9:AJ:56:HIS:ND1	21:AA:1060:C:O2'	2.21	0.70
25:BC:121:MET:O	25:BC:125:GLY:N	2.24	0.70
28:BF:154:VAL:CG2	28:BF:173:VAL:HG13	2.21	0.70
38:BS:85:VAL:HG22	38:BS:106:ARG:HG3	1.73	0.70
52:B8:56:GLU:HA	52:B8:59:LYS:HE2	1.73	0.70
1:CB:167:PRO:O	1:CB:171:ALA:HB2	1.91	0.70
15:CP:20:VAL:HG23	15:CP:35:LYS:HA	1.73	0.70
20:CY:493:VAL:HB	20:CY:512:ILE:HD11	1.73	0.70
40:DU:92:ARG:HD3	40:DU:95:LEU:HG	1.74	0.70
59:DA:1782:C:H42	59:DA:2586:C:N4	1.89	0.70
59:DA:2780:G:H4'	59:DA:2781:A:OP2	1.92	0.70
2:AC:101:LEU:HD12	2:AC:102:ASN:H	1.56	0.70
8:AI:118:LYS:NZ	21:AA:1370:G:O6	2.25	0.70
15:AP:81:ARG:HG2	15:AP:83:GLU:H	1.55	0.70
28:BF:107:LYS:HZ2	28:BF:110:LEU:HD22	1.57	0.70
13:CN:24:CYS:HA	13:CN:39:LEU:HA	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:CO:48:LYS:HB2	21:CA:668:G:H4'	1.74	0.70
26:DD:268:ARG:NH1	59:DA:2224:G:OP1	2.24	0.70
35:DP:56:SER:O	35:DP:58:THR:N	2.24	0.70
57:D4:10:VAL:HG22	57:D4:11:PRO:HD2	1.74	0.70
59:DA:1336:A:H2'	59:DA:1337:G:C8	2.26	0.70
59:DA:2133:G:N2	59:DA:2158:A:N6	2.15	0.70
59:DA:2304:G:H22	59:DA:2312:U:H3	1.38	0.70
59:DA:2641:G:O6	59:DA:2773:C:N3	2.24	0.70
3:AD:57:ARG:HB3	3:AD:206:PHE:HB2	1.71	0.70
21:AA:1040:U:H2'	21:AA:1041:A:H8	1.57	0.70
59:BA:1441:G:H2'	59:BA:1442:G:H8	1.56	0.70
59:BA:2653:U:H3	59:BA:2667:C:H42	1.39	0.70
21:CA:7:G:H5'	21:CA:298:A:H5'	1.73	0.70
25:DC:30:VAL:HG13	25:DC:33:LEU:HB2	1.74	0.70
45:DZ:28:MET:HE1	45:DZ:33:LEU:HG	1.73	0.70
59:DA:307:G:N2	59:DA:310:A:OP2	2.21	0.70
7:AH:30:ARG:HD3	21:AA:590:C:H5'	1.73	0.70
7:AH:68:ARG:HG3	7:AH:74:PRO:HB3	1.73	0.70
10:AK:33:THR:HG22	10:AK:39:PRO:HB3	1.74	0.70
11:AL:70:ILE:HA	11:AL:100:ILE:HB	1.73	0.70
20:AY:22:ASP:O	61:AY:701:GNP:O1B	2.10	0.70
20:AY:534:ILE:HD11	20:AY:570:GLY:HA3	1.74	0.70
28:BF:154:VAL:HG13	28:BF:191:ARG:CB	2.20	0.70
46:B0:82:ARG:HG2	46:B0:83:PRO:HD2	1.74	0.70
59:BA:29:U:H2'	59:BA:30:G:C8	2.26	0.70
59:BA:846:C:H4'	59:BA:847:U:H5'	1.73	0.70
59:BA:1541:U:H3'	59:BA:1542:G:H3'	1.73	0.70
59:BA:2246:G:O6	59:BA:2258:C:N4	2.19	0.70
3:CD:108:LEU:HD21	3:CD:183:GLY:HA3	1.73	0.70
21:CA:664:G:N2	21:CA:741:G:O6	2.24	0.70
26:DD:263:ARG:NH1	59:DA:2227:A:OP1	2.22	0.70
49:D5:22:HIS:NE2	59:DA:2045:C:O2	2.25	0.70
56:D1:52:ARG:HA	56:D1:57:GLU:HA	1.74	0.70
59:DA:273(B):G:H1	59:DA:363(F):U:H3	1.40	0.70
60:DB:81:G:H1	60:DB:95:U:H3	1.40	0.70
60:DB:85:G:O6	60:DB:91:C:N3	2.24	0.70
27:BE:25:VAL:HG13	27:BE:183:LEU:HG	1.72	0.70
38:BS:47:THR:HG1	60:BB:113:C:HO2'	1.32	0.70
32:DK:116:ASN:HB2	59:DA:1058:G:H1'	1.72	0.70
59:DA:1825:A:H2'	59:DA:1826:G:C8	2.27	0.70
59:DA:2886:G:H2'	59:DA:2887:U:C6	2.27	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AD:33:MET:O	3:AD:35:ARG:N	2.24	0.69
11:AL:43:VAL:HG11	11:AL:93:LEU:HA	1.73	0.69
25:BC:218:THR:HG22	25:BC:219:MET:HG2	1.74	0.69
34:BO:98:VAL:HG13	34:BO:117:LEU:HD13	1.72	0.69
20:CY:247:ARG:NH1	20:CY:278:ASP:O	2.24	0.69
26:DD:118:VAL:N	26:DD:129:ASN:OD1	2.22	0.69
21:AA:781:A:H4'	21:AA:1522:U:O2'	1.92	0.69
21:AA:1127:G:N2	21:AA:1145:C:C2	2.59	0.69
21:AA:1352:C:H2'	21:AA:1353:G:C8	2.27	0.69
2:CC:56:ASP:HB2	2:CC:67:THR:HB	1.74	0.69
6:CG:111:ARG:HB3	6:CG:113:GLU:HG2	1.74	0.69
21:CA:815:A:H2	21:CA:1527:C:O2	1.72	0.69
19:AT:75:ASN:O	19:AT:78:ALA:N	2.24	0.69
25:BC:47:LYS:HB3	25:BC:212:SER:HB2	1.74	0.69
41:BV:78:LYS:NZ	59:BA:568:U:O4	2.19	0.69
51:B7:5:TRP:HD1	59:BA:1612:C:H4'	1.56	0.69
59:BA:2066:C:H2'	59:BA:2067:G:C8	2.28	0.69
21:CA:680:C:H42	21:CA:710:G:H1	1.40	0.69
46:D0:20:ARG:H	46:D0:20:ARG:HD2	1.56	0.69
1:AB:95:GLN:O	1:AB:97:TRP:N	2.25	0.69
11:AL:25:PRO:HA	11:AL:27:LEU:HG	1.73	0.69
20:AY:256:THR:O	20:AY:258:VAL:N	2.26	0.69
51:B7:34:ARG:HE	51:B7:42:LEU:HD13	1.56	0.69
59:BA:1683:C:H2'	59:BA:1684:C:C6	2.27	0.69
11:CL:93:LEU:HB2	11:CL:96:VAL:HG22	1.74	0.69
21:CA:1127:G:H21	21:CA:1147:C:H42	1.40	0.69
28:DF:191:ARG:HB3	28:DF:193:VAL:HG23	1.73	0.69
59:DA:854:G:N2	59:DA:923:C:N3	2.35	0.69
21:AA:1270:C:H2'	21:AA:1271:G:C8	2.26	0.69
33:BN:78:TYR:CG	59:BA:2642:G:H5'	2.27	0.69
38:BS:67:ARG:HA	38:BS:99:LYS:HB3	1.73	0.69
59:BA:1516:U:H2'	59:BA:1517:G:H8	1.56	0.69
15:CP:38:TYR:CZ	15:CP:50:LYS:HG3	2.27	0.69
37:DR:23:ASN:HD21	59:DA:1277:G:H1'	1.56	0.69
46:D0:23:VAL:HG12	46:D0:38:VAL:HG22	1.74	0.69
59:DA:1051:G:H1	59:DA:1108:U:H3	1.39	0.69
3:AD:61:LYS:HD3	3:AD:75:PHE:HE2	1.57	0.69
7:AH:86:ILE:HG21	7:AH:133:LEU:HD13	1.72	0.69
21:AA:975:A:H4'	21:AA:976:G:H5"	1.75	0.69
22:AW:69:A:H2'	22:AW:70:G:H8	1.57	0.69
32:BK:77:LEU:HD12	32:BK:107:ILE:HD12	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BP:66:GLY:HA3	59:BA:631:A:H1'	1.75	0.69
59:BA:610:C:H42	59:BA:618(A):G:H1	1.40	0.69
8:CI:110:GLU:OE2	8:CI:113:LYS:NZ	2.24	0.69
20:CY:34:TYR:OH	20:CY:47:GLU:O	2.09	0.69
20:CY:138:LYS:CG	61:CY:701:GNP:N1	2.53	0.69
20:CY:227:ILE:HA	20:CY:230:LYS:HB3	1.73	0.69
1:AB:91:PRO:HG2	1:AB:155:LEU:HD23	1.73	0.69
5:AF:23:LYS:NZ	5:AF:63:TYR:OH	2.23	0.69
18:AS:71:LEU:O	18:AS:73:GLU:N	2.25	0.69
20:AY:428:LEU:HA	20:AY:431:LEU:HD22	1.74	0.69
21:AA:438:G:O2'	21:AA:494:U:O4	2.08	0.69
32:BK:6:ALA:HB3	32:BK:59:ILE:HG22	1.73	0.69
44:BY:7:VAL:HG21	59:BA:336:C:H4'	1.74	0.69
20:CY:87:HIS:NE2	20:CY:120:THR:OG1	2.25	0.69
39:DT:91:ARG:O	39:DT:120:ARG:NH2	2.21	0.69
59:DA:2466:C:N4	59:DA:2484:G:H1	1.89	0.69
59:DA:2642:G:H1	59:DA:2772:C:N4	1.89	0.69
3:AD:33:MET:HG3	3:AD:37:PRO:HB3	1.74	0.69
7:AH:111:ILE:HG22	7:AH:120:THR:HA	1.74	0.69
9:AJ:40:LEU:HD22	9:AJ:41:PRO:HD2	1.72	0.69
20:AY:604:PRO:HA	20:AY:676:TYR:HB3	1.74	0.69
28:BF:156:LEU:HB3	28:BF:175:THR:HA	1.75	0.69
33:BN:114:ARG:CB	33:BN:114:ARG:HH11	2.05	0.69
39:BT:95:ARG:NH1	59:BA:2849:U:OP2	2.26	0.69
59:BA:783:A:H2'	59:BA:784:A:H4'	1.75	0.69
59:BA:1086:A:O2'	59:BA:1087:G:N7	2.25	0.69
7:CH:30:ARG:HD3	21:CA:590:C:H5'	1.74	0.69
8:CI:127:LYS:O	21:CA:966:G:O2'	2.10	0.69
21:CA:47:C:H42	21:CA:361:G:H1	1.40	0.69
20:CY:35:TYR:CE2	20:CY:72:CYS:HA	2.27	0.69
20:CY:72:CYS:HB3	20:CY:79:ILE:O	1.92	0.69
20:CY:294:PRO:HD3	20:CY:397:VAL:HA	1.74	0.69
27:DE:9:VAL:HG12	39:DT:8:LYS:HE3	1.75	0.69
28:DF:63:LYS:HG3	28:DF:76:GLY:HA2	1.75	0.69
29:DG:150:ASP:OD2	29:DG:153:ARG:NH2	2.24	0.69
44:DY:85:VAL:HG21	59:DA:297:C:H5"	1.73	0.69
59:DA:1019:U:H2'	59:DA:1020:A:C8	2.28	0.69
59:DA:1806:C:H42	59:DA:1811:G:H1	1.38	0.69
59:DA:2068:U:H3	59:DA:2430:A:H2	1.41	0.69
14:AO:39:LEU:HD12	14:AO:56:LEU:HB2	1.74	0.69
19:AT:43:LEU:HD22	19:AT:51:GLU:HB3	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BC:213:VAL:HG11	25:BC:225:ILE:HG12	1.74	0.69
28:BF:60:SER:HB3	28:BF:62:ARG:HG2	1.75	0.69
29:BG:20:ILE:HG22	29:BG:25:TYR:HB2	1.75	0.69
44:BY:2:ARG:HA	44:BY:2:ARG:HH11	1.57	0.69
59:BA:2795:G:H3'	59:BA:2797:U:H5"	1.75	0.69
1:CB:88:ALA:HB2	1:CB:219:VAL:HG13	1.74	0.69
21:CA:41:G:H2'	21:CA:42:G:H8	1.58	0.69
21:CA:231:G:H2'	21:CA:232:G:C8	2.27	0.69
56:D1:86:SER:HB2	56:D1:89:GLU:HB2	1.74	0.69
59:DA:873:G:H1	59:DA:904:C:H42	1.39	0.69
59:DA:1358:G:N1	59:DA:1372:U:OP2	2.23	0.69
59:DA:2008:C:H2'	59:DA:2009:G:C8	2.28	0.69
17:AR:26:LEU:HD13	17:AR:39:VAL:HG22	1.75	0.69
20:AY:413:ILE:HB	20:AY:476:VAL:HG13	1.75	0.69
45:BZ:118:GLN:NE2	59:BA:873:G:O2'	2.24	0.69
59:BA:1411:C:N3	59:BA:1591:G:N2	2.39	0.69
4:CE:98:THR:OG1	21:CA:6:G:N2	2.24	0.69
11:CL:25:PRO:HA	11:CL:27:LEU:HG	1.74	0.69
21:CA:137:C:H42	21:CA:226:G:H1	1.41	0.69
26:DD:256:GLY:O	59:DA:1843:C:O2'	2.11	0.69
60:DB:18:G:H1	60:DB:65:C:H42	1.40	0.69
20:AY:63:ILE:HG12	61:AY:701:GNP:O1G	1.93	0.68
20:AY:161:PRO:O	20:AY:256:THR:N	2.25	0.68
20:AY:163:VAL:HG13	20:AY:258:VAL:HG23	1.75	0.68
23:AV:6:G:H2'	23:AV:7:G:C8	2.29	0.68
25:BC:102:GLN:OE1	25:BC:127:LYS:NZ	2.26	0.68
36:BQ:12:GLN:HA	59:BA:910:A:H62	1.57	0.68
59:BA:2521:C:O2'	59:BA:2564:A:N3	2.24	0.68
21:CA:936:C:N4	21:CA:1379:G:H1	1.90	0.68
26:DD:165:ILE:O	26:DD:166:GLN:HB2	1.93	0.68
28:DF:44:ARG:HB3	59:DA:615:G:H21	1.56	0.68
28:DF:182:ASN:HD21	28:DF:184:TYR:HB3	1.57	0.68
31:DJ:50:UNK:H	31:DJ:82:UNK:HA	1.58	0.68
33:DN:41:ASP:C	40:DU:64:ARG:HH11	2.02	0.68
59:DA:244:A:H62	59:DA:254:G:H21	1.40	0.68
18:AS:29:ARG:NH2	59:BA:887:A:OP1	2.26	0.68
21:AA:865:A:N3	21:AA:918:A:O2'	2.27	0.68
21:AA:1315:U:HO2'	21:AA:1360:A:HO2'	1.36	0.68
23:AV:18:G:O2'	23:AV:19:G:C8	2.46	0.68
20:CY:9:LEU:HD11	20:CY:303:PRO:HB2	1.76	0.68
59:DA:1516:U:H2'	59:DA:1517:G:C8	2.29	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2133:G:H21	59:DA:2158:A:H62	0.74	0.68
4:AE:37:ARG:NH2	4:AE:111:GLU:O	2.26	0.68
11:AL:71:PRO:HG2	11:AL:102:ARG:HB2	1.74	0.68
34:BO:66:LYS:HG2	59:BA:1665:A:H5"	1.75	0.68
37:BR:12:ARG:HB3	37:BR:16:HIS:HB3	1.76	0.68
42:BW:18:ARG:HH12	42:BW:77:ASP:HA	1.59	0.68
42:BW:78:GLU:O	59:BA:24:G:O2'	2.10	0.68
59:BA:639:U:H3	59:BA:649:G:H1	1.41	0.68
59:BA:976:C:H2'	59:BA:977:G:H8	1.58	0.68
22:CW:23:A:H2'	22:CW:24:G:C8	2.28	0.68
44:DY:85:VAL:HA	44:DY:94:LYS:HA	1.73	0.68
59:DA:578:A:OP1	59:DA:1255:U:O2'	2.10	0.68
59:DA:1049:C:H1'	59:DA:1113:U:H4'	1.75	0.68
16:AQ:14:LYS:HD3	21:AA:275:G:H5'	1.75	0.68
35:BP:6:LEU:HD23	35:BP:9:ASN:HB2	1.74	0.68
47:B2:14:ARG:HG2	47:B2:63:VAL:HG11	1.76	0.68
59:BA:661:C:H2'	59:BA:662:G:H8	1.58	0.68
59:BA:1767:C:H42	59:BA:1985:G:H1	1.40	0.68
59:BA:2047:U:O2'	59:BA:2823:A:N1	2.26	0.68
59:BA:2250:G:O2'	59:BA:2496:C:OP1	2.11	0.68
3:CD:115:ARG:HB3	21:CA:407:G:H5"	1.76	0.68
9:CJ:6:ILE:HG23	9:CJ:72:VAL:HB	1.76	0.68
11:CL:49:ASN:ND2	21:CA:529:G:O6	2.26	0.68
16:CQ:63:ARG:NH2	21:CA:130:A:H5'	2.09	0.68
20:CY:29:THR:O	20:CY:32:ILE:HB	1.94	0.68
26:DD:258:LYS:NZ	59:DA:1844:C:O3'	2.23	0.68
59:DA:286:C:N4	59:DA:355:G:H1	1.86	0.68
2:AC:18:TRP:NE1	13:AN:53:LEU:O	2.25	0.68
18:AS:31:ILE:HD11	18:AS:49:ILE:HG22	1.76	0.68
29:BG:173:LEU:HB3	29:BG:178:PHE:HB2	1.74	0.68
57:B4:10:VAL:HG22	57:B4:11:PRO:HD2	1.76	0.68
59:BA:404:C:H4'	59:BA:405:U:H5'	1.75	0.68
14:CO:70:LEU:HD11	14:CO:77:ARG:HD2	1.74	0.68
25:DC:101:ILE:HD12	25:DC:104:ILE:HD12	1.76	0.68
27:DE:134:ILE:HB	27:DE:137:HIS:HB2	1.75	0.68
50:D6:53:LYS:HG3	50:D6:54:ILE:HG12	1.75	0.68
59:DA:273(G):C:H3'	59:DA:274:G:H5"	1.74	0.68
20:AY:229:LEU:HD11	58:Be:67:ALA:HB1	1.76	0.68
56:B1:19:GLN:NE2	59:BA:2233:U:OP2	2.26	0.68
59:BA:694:U:O2	59:BA:768:G:O6	2.12	0.68
7:CH:21:LYS:O	7:CH:23:SER:N	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CL:71:PRO:HG2	11:CL:102:ARG:HG2	1.75	0.68
26:DD:134:ARG:HG3	26:DD:135:PHE:HD1	1.58	0.68
30:DH:85:LYS:HD2	30:DH:133:VAL:HB	1.75	0.68
35:DP:79:ARG:HH22	35:DP:109:GLY:HA2	1.58	0.68
59:DA:2080:G:H1	59:DA:2240:C:H42	1.40	0.68
21:AA:107:G:H3'	21:AA:108:G:H21	1.59	0.68
39:BT:29:ARG:HA	39:BT:46:GLU:HB3	1.76	0.68
59:BA:688:U:H2'	59:BA:689:A:H8	1.58	0.68
4:CE:144:THR:H	4:CE:147:ASP:HB2	1.58	0.68
44:DY:32:PRO:HD2	44:DY:34:LYS:H	1.58	0.68
45:DZ:69:THR:HA	45:DZ:91:LEU:HG	1.76	0.68
51:D7:10:ARG:NH1	59:DA:771:G:OP1	2.27	0.68
59:DA:2250:G:O2'	59:DA:2496:C:OP1	2.10	0.68
26:BD:262:ARG:HD3	59:BA:2085:C:H5"	1.76	0.68
29:BG:67:LYS:HE2	57:B4:5:ILE:HD11	1.75	0.68
43:BX:66:LEU:HD12	43:BX:69:TYR:HB2	1.75	0.68
32:DK:106:GLU:HA	32:DK:109:LYS:HD3	1.76	0.68
34:DO:14:THR:HG22	34:DO:52:VAL:HG21	1.74	0.68
6:AG:103:TRP:HZ3	6:AG:138:LYS:HA	1.59	0.68
9:AJ:40:LEU:HB3	9:AJ:69:ASN:HB3	1.76	0.68
20:AY:63:ILE:HD11	61:AY:701:GNP:O1G	1.94	0.68
21:AA:1284:C:H3'	21:AA:1285:A:H8	1.58	0.68
50:B6:30:THR:O	50:B6:32:ASN:N	2.27	0.68
51:B7:34:ARG:NH1	59:BA:467:G:OP1	2.25	0.68
21:CA:713:G:H21	21:CA:777:A:H1'	1.58	0.68
34:DO:68:GLU:HB3	34:DO:78:ARG:HB3	1.76	0.68
35:DP:67:MET:H	59:DA:2415:G:H4'	1.58	0.68
52:D8:53:PRO:HA	52:D8:56:GLU:HB2	1.74	0.68
59:DA:1270:C:H5"	59:DA:1271:G:H5"	1.76	0.68
1:AB:209:ARG:HA	1:AB:212:GLN:HB2	1.73	0.68
39:BT:106:SER:HB2	39:BT:110:ILE:HG12	1.76	0.68
45:BZ:52:SER:OG	45:BZ:53:ILE:N	2.27	0.68
1:CB:115:LEU:HA	1:CB:118:LEU:HD12	1.75	0.68
21:CA:946:A:H2'	21:CA:947:G:C8	2.28	0.68
26:DD:148:GLU:HB3	26:DD:151:LYS:HG3	1.76	0.68
21:AA:147:G:H1	21:AA:175:C:H42	1.39	0.67
45:BZ:126:VAL:HG12	45:BZ:163:LEU:HA	1.76	0.67
46:B0:40:GLN:OE1	46:B0:44:ARG:N	2.27	0.67
56:B1:25:LYS:HG3	56:B1:34:THR:HA	1.75	0.67
59:BA:270(J):G:N2	59:BA:270(R):C:N3	2.34	0.67
59:BA:884:C:N3	59:BA:892:G:N2	2.41	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1270:C:H42	59:BA:2010:G:H1	1.42	0.67
39:DT:49:VAL:HG23	39:DT:63:VAL:HG12	1.75	0.67
39:DT:55:ASN:H	39:DT:59:THR:HB	1.60	0.67
48:D3:9:VAL:HG23	48:D3:10:LYS:H	1.58	0.67
51:D7:30:VAL:O	51:D7:34:ARG:HG2	1.94	0.67
4:AE:76:ILE:HD11	4:AE:93:PRO:HD3	1.76	0.67
7:AH:48:TYR:HB2	7:AH:59:LEU:HD21	1.74	0.67
11:AL:92:ASP:OD1	11:AL:92:ASP:N	2.26	0.67
20:AY:91:THR:O	20:AY:93:GLU:N	2.28	0.67
26:BD:88:ARG:NH2	59:BA:1817:G:OP1	2.26	0.67
42:BW:68:ARG:HG2	42:BW:110:LYS:HD3	1.76	0.67
59:BA:2133:G:N2	59:BA:2158:A:N6	2.21	0.67
7:CH:14:ARG:NH1	21:CA:876:G:O5'	2.27	0.67
11:CL:89:ARG:HA	11:CL:96:VAL:HB	1.76	0.67
20:CY:357:ARG:NH1	20:CY:373:ASP:OD1	2.27	0.67
33:DN:40:PRO:HB3	40:DU:68:ALA:HB2	1.73	0.67
38:DS:105:ALA:O	38:DS:107:GLU:N	2.27	0.67
20:AY:623:ASP:HB3	20:AY:662:LYS:HE2	1.75	0.67
28:BF:45:ARG:HH22	59:BA:444:C:P	2.17	0.67
40:BU:95:LEU:HD21	41:BV:13:ARG:HB2	1.75	0.67
10:CK:41:THR:HB	10:CK:71:LYS:HB2	1.76	0.67
28:DF:7:TYR:HD2	28:DF:19:GLU:HG3	1.59	0.67
21:AA:129(A):G:H4'	21:AA:130:A:H5"	1.75	0.67
40:BU:47:TYR:HA	40:BU:50:ARG:HD2	1.76	0.67
40:BU:81:HIS:CE1	59:BA:1151:G:H5"	2.29	0.67
40:BU:82:GLY:O	40:BU:86:ALA:N	2.23	0.67
42:BW:14:PRO:HG3	42:BW:78:GLU:HB2	1.75	0.67
59:BA:979:G:H2'	59:BA:982:C:N4	2.09	0.67
3:CD:190:ASP:H	3:CD:193:ASP:HB2	1.59	0.67
11:CL:58:VAL:HG12	11:CL:60:LEU:H	1.58	0.67
21:CA:68(F):C:H2'	21:CA:68(G):G:H8	1.58	0.67
21:CA:401:C:O2'	21:CA:621:A:N3	2.27	0.67
50:D6:27:LYS:HZ1	50:D6:29:ASN:HB3	1.59	0.67
3:AD:13:ARG:NH1	3:AD:38:TYR:O	2.27	0.67
5:AF:95:GLU:O	17:AR:32:ARG:NH1	2.27	0.67
21:AA:1246:C:N4	21:AA:1291:G:H1	1.92	0.67
6:CG:137:LYS:HA	6:CG:140:ASP:HB2	1.76	0.67
7:CH:68:ARG:HG3	7:CH:74:PRO:HB3	1.75	0.67
21:CA:1057:G:H2'	21:CA:1058:G:O4'	1.95	0.67
43:DX:59:VAL:O	43:DX:76:ARG:NH1	2.26	0.67
52:D8:16:ILE:HG22	52:D8:22:VAL:HG22	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1207:C:N4	59:DA:1239:G:H1	1.91	0.67
59:DA:1497:U:H5'	59:DA:1498:C:C5	2.29	0.67
59:DA:1800:C:H42	59:DA:1817:G:H22	1.42	0.67
59:DA:2115:G:O2'	59:DA:2171:A:N6	2.28	0.67
60:DB:14:U:O3'	60:DB:107:U:O2'	2.12	0.67
20:AY:504:ARG:NH1	21:AA:1495:U:OP2	2.27	0.67
28:BF:46:ARG:O	28:BF:48:THR:N	2.28	0.67
45:BZ:133:ILE:O	45:BZ:135:GLU:N	2.28	0.67
53:B9:25:VAL:HB	53:B9:34:GLN:HB2	1.76	0.67
59:BA:2450:A:OP1	59:BA:2497:A:O2'	2.12	0.67
60:BB:5:C:O2'	60:BB:27:C:O2	2.11	0.67
13:CN:47:LEU:HB3	13:CN:53:LEU:HD12	1.77	0.67
20:CY:509:HIS:HB3	20:CY:571:SER:HB3	1.76	0.67
25:DC:61:GLY:HA3	25:DC:164:PHE:CD1	2.30	0.67
2:AC:161:GLU:HG2	21:AA:1055:A:H4'	1.76	0.67
8:AI:110:GLU:OE2	8:AI:113:LYS:NZ	2.27	0.67
16:AQ:71:PHE:CZ	21:AA:235:C:H4'	2.29	0.67
20:AY:74:TRP:O	20:AY:77:HIS:N	2.23	0.67
26:BD:244:ARG:NH1	59:BA:1841:U:O2'	2.28	0.67
27:BE:109:LYS:HE3	59:BA:2680:C:H5"	1.77	0.67
27:BE:118:LYS:NZ	59:BA:2724:C:OP1	2.20	0.67
50:B6:8:LYS:HE3	50:B6:25:LYS:HZ3	1.58	0.67
56:B1:76:ARG:NH2	56:B1:94:LEU:O	2.26	0.67
25:DC:47:LYS:HG3	25:DC:47:LYS:O	1.95	0.67
29:DG:47:LYS:HA	29:DG:82:LEU:HG	1.75	0.67
57:D4:28:LYS:HB3	57:D4:31:ILE:HD11	1.77	0.67
59:DA:2123:G:H1	59:DA:2175:C:H42	1.43	0.67
25:BC:30:VAL:HG13	25:BC:33:LEU:HB2	1.75	0.67
37:BR:18:LEU:HD13	37:BR:22:ARG:HH21	1.59	0.67
39:BT:124:ASP:HB3	39:BT:125:ARG:HH21	1.60	0.67
56:B1:19:GLN:HB3	56:B1:40:ARG:HD3	1.76	0.67
59:BA:1936:A:P	59:BA:1961:C:H41	2.18	0.67
21:CA:590:C:N3	21:CA:649:G:N2	2.36	0.67
21:CA:789:U:N3	21:CA:792:A:OP2	2.23	0.67
25:DC:30:VAL:HG22	25:DC:33:LEU:HD12	1.76	0.67
39:DT:33:LYS:HG2	39:DT:43:GLN:HB3	1.77	0.67
42:DW:38:TYR:HD2	49:D5:30:LEU:HD21	1.60	0.67
46:D0:44:ARG:NH1	59:DA:2330:G:O2'	2.28	0.67
59:DA:20:C:N4	59:DA:520:G:H1	1.89	0.67
20:AY:163:VAL:HG12	20:AY:164:MET:H	1.59	0.67
21:AA:1256:A:N6	21:AA:1278:U:OP2	2.26	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BP:56:SER:O	35:BP:58:THR:N	2.28	0.67
43:BX:40:LYS:HG3	43:BX:51:VAL:HB	1.77	0.67
59:BA:119:A:H4'	59:BA:120:U:H5'	1.77	0.67
59:BA:1411:C:H42	59:BA:1591:G:H1	1.43	0.67
59:BA:2328:A:H2'	59:BA:2329:G:C8	2.29	0.67
27:DE:61:ARG:HG3	59:DA:2811:G:OP1	1.95	0.67
29:DG:43:LEU:HB3	29:DG:45:GLU:HG2	1.77	0.67
59:DA:380:U:H2'	59:DA:381:G:H8	1.59	0.67
59:DA:872:A:H61	59:DA:905:U:H3	1.42	0.67
59:DA:1214:A:H2'	59:DA:1215:G:H8	1.60	0.67
1:AB:104:ASN:ND2	21:AA:1074:G:O4'	2.28	0.67
21:AA:1028(C):G:N2	21:AA:1028(F):A:C8	2.62	0.67
43:BX:12:VAL:HA	43:BX:29:TRP:CD1	2.30	0.67
47:B2:33:MET:O	47:B2:37:PHE:HB2	1.94	0.67
8:CI:10:ARG:NH2	8:CI:105:ASP:OD1	2.28	0.67
21:CA:153:C:H42	21:CA:168:G:H1	1.42	0.67
32:DK:13:PRO:HA	32:DK:52:ILE:HA	1.76	0.67
35:DP:32:THR:OG1	35:DP:35:HIS:O	2.13	0.67
35:DP:66:GLY:HA3	59:DA:631:A:H1'	1.77	0.67
43:DX:62:LYS:NZ	59:DA:1338:G:N7	2.42	0.67
59:DA:528:A:H2	59:DA:2043:C:H4'	1.60	0.67
59:DA:1030:G:H1	59:DA:1124:C:H42	1.43	0.67
20:AY:631:ILE:HG22	20:AY:632:LEU:N	2.10	0.66
21:AA:1328:C:H2'	21:AA:1329:A:H8	1.59	0.66
52:B8:46:ARG:NH1	59:BA:649:G:O2'	2.29	0.66
59:BA:568:U:N3	59:BA:571:A:OP2	2.28	0.66
2:CC:29:TYR:OH	13:CN:54:PRO:O	2.12	0.66
2:CC:59:ARG:HD3	2:CC:64:VAL:HG22	1.76	0.66
8:CI:61:ALA:HB1	8:CI:63:ILE:HD11	1.76	0.66
22:CW:18:G:O2'	22:CW:57:G:N2	2.28	0.66
20:CY:91:THR:O	20:CY:93:GLU:N	2.28	0.66
34:DO:23:ARG:HH22	34:DO:31:LYS:HG2	1.57	0.66
59:DA:740:U:H2'	59:DA:741:G:H8	1.58	0.66
28:BF:154:VAL:HG23	28:BF:173:VAL:HG13	1.77	0.66
56:B1:43:TYR:OH	59:BA:1365:A:OP1	2.12	0.66
59:BA:2287:A:H62	59:BA:2344:U:H3	1.43	0.66
1:CB:42:ILE:HD11	1:CB:202:PRO:HB2	1.77	0.66
37:DR:90:ARG:HH12	59:DA:2881:C:H5'	1.61	0.66
38:DS:22:GLY:O	38:DS:23:ARG:NE	2.28	0.66
56:D1:26:ARG:O	56:D1:32:LYS:N	2.25	0.66
58:De:112:LYS:HD3	58:De:119:GLY:HA2	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2526:G:H5'	59:DA:2743:C:H5'	1.76	0.66
12:AM:31:LYS:HA	12:AM:34:LEU:HD12	1.77	0.66
20:AY:138:LYS:NZ	61:AY:701:GNP:N2	2.43	0.66
21:AA:710:G:H2'	21:AA:711:G:H8	1.60	0.66
22:AW:37:A:N1	23:AV:16:A:C2	2.63	0.66
32:BK:12:LEU:HD12	32:BK:55:VAL:HG11	1.76	0.66
59:BA:1455:G:O2'	59:BA:2853:C:OP1	2.14	0.66
20:CY:216:LEU:HD21	20:CY:246:ILE:HD11	1.77	0.66
26:DD:134:ARG:HE	26:DD:135:PHE:HE1	1.41	0.66
27:DE:127:ASP:HA	27:DE:135:HIS:NE2	2.11	0.66
50:D6:5:VAL:HB	59:DA:2283:C:H5'	1.76	0.66
59:DA:700:G:H1	59:DA:732:C:H42	1.44	0.66
2:AC:59:ARG:HH11	2:AC:64:VAL:HG22	1.59	0.66
2:AC:180:ALA:HB1	2:AC:203:PHE:HE1	1.60	0.66
4:AE:148:VAL:HG13	4:AE:152:ARG:HD2	1.77	0.66
12:AM:24:GLY:HA3	12:AM:66:LEU:HG	1.76	0.66
12:AM:108:ARG:HH22	12:AM:111:LYS:HZ3	1.44	0.66
16:AQ:66:SER:O	16:AQ:70:ARG:NH1	2.27	0.66
20:AY:342:TYR:HB3	20:AY:390:VAL:HG23	1.76	0.66
21:AA:713:G:H21	21:AA:777:A:H1'	1.59	0.66
27:BE:136:ARG:HG2	59:BA:1656:C:H5"	1.77	0.66
28:BF:37:VAL:HA	28:BF:40:GLN:HE22	1.60	0.66
33:BN:137:LYS:HZ3	33:BN:137:LYS:HA	1.59	0.66
35:BP:59:LEU:HA	35:BP:61:ARG:CZ	2.26	0.66
38:BS:20:ARG:CZ	38:BS:88:ASP:HA	2.25	0.66
56:B1:25:LYS:NZ	56:B1:34:THR:OG1	2.26	0.66
5:CF:6:VAL:HG22	5:CF:90:VAL:HG13	1.76	0.66
11:CL:100:ILE:HG22	11:CL:101:VAL:H	1.60	0.66
43:DX:36:LYS:N	59:DA:1599:C:OP1	2.28	0.66
45:DZ:140:ASP:OD2	45:DZ:140:ASP:N	2.27	0.66
59:DA:2047:U:H2'	59:DA:2048:G:C8	2.30	0.66
7:AH:112:LEU:HB3	7:AH:133:LEU:HD23	1.77	0.66
29:BG:150:ASP:OD2	29:BG:153:ARG:NH2	2.28	0.66
30:BH:28:GLY:HA3	30:BH:79:VAL:HB	1.77	0.66
36:BQ:43:THR:HA	36:BQ:94:VAL:HG12	1.78	0.66
59:BA:2829:C:H2'	59:BA:2830:G:H8	1.60	0.66
11:CL:87:GLY:HA2	11:CL:98:TYR:H	1.60	0.66
21:CA:677:U:H3	21:CA:713:G:H22	1.43	0.66
59:DA:2138:C:H42	59:DA:2153:G:H1	0.79	0.66
59:DA:2633:G:H1	59:DA:2785:C:H42	1.41	0.66
4:AE:84:PHE:O	4:AE:87:SER:OG	2.13	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AE:152:ARG:NH2	7:AH:138:TRP:OXT	2.27	0.66
16:AQ:66:SER:OG	16:AQ:67:LYS:N	2.24	0.66
25:BC:19:LYS:HD3	25:BC:21:TYR:HE1	1.59	0.66
26:BD:136:ILE:HG12	26:BD:137:PRO:HD2	1.78	0.66
45:BZ:74:VAL:HG12	45:BZ:76:LEU:HD21	1.78	0.66
59:BA:787:U:H5"	59:BA:788:A:H5'	1.78	0.66
59:BA:1588:C:H2'	59:BA:1589:C:C6	2.30	0.66
59:BA:2123:G:H1	59:BA:2175:C:H42	1.43	0.66
59:BA:2642:G:H1	59:BA:2772:C:H42	1.42	0.66
22:CW:72:C:H2'	22:CW:73:A:O4'	1.96	0.66
26:DD:264:LYS:HD3	26:DD:266:SER:H	1.59	0.66
39:DT:107:ASP:N	39:DT:109:GLU:OE1	2.28	0.66
51:D7:33:ARG:HB2	51:D7:34:ARG:HH12	1.60	0.66
59:DA:884:C:N3	59:DA:892:G:C2	2.64	0.66
2:AC:180:ALA:HB1	2:AC:203:PHE:CE1	2.30	0.66
3:AD:53:ASP:OD1	3:AD:53:ASP:N	2.29	0.66
22:AW:12:U:H3	22:AW:23:A:H61	1.41	0.66
40:BU:76:TYR:CZ	40:BU:80:ILE:HG13	2.30	0.66
59:BA:1248:G:O2'	59:BA:1249:U:OP1	2.12	0.66
59:BA:1825:A:H2'	59:BA:1826:G:H8	1.60	0.66
12:CM:109:THR:OG1	21:CA:947:G:O3'	2.14	0.66
21:CA:634:C:H2'	21:CA:635:G:H8	1.59	0.66
29:DG:27:ASN:HB3	29:DG:30:GLU:HB3	1.78	0.66
39:DT:29:ARG:HA	39:DT:46:GLU:HB3	1.78	0.66
49:D5:11:THR:HG21	59:DA:1264:G:H5'	1.77	0.66
59:DA:392:C:H5"	59:DA:409:C:H5"	1.78	0.66
59:DA:681:G:H2'	59:DA:682:G:C8	2.31	0.66
59:DA:2047:U:H2'	59:DA:2048:G:H8	1.61	0.66
59:DA:2293:C:N4	59:DA:2339:G:H1	1.94	0.66
59:DA:2698:U:H2'	59:DA:2699:C:C6	2.30	0.66
4:AE:98:THR:HB	4:AE:117:ASP:HB3	1.77	0.66
11:AL:58:VAL:HG12	11:AL:60:LEU:N	2.11	0.66
25:BC:27:ALA:O	25:BC:31:LYS:HB2	1.96	0.66
28:BF:195:ASP:OD2	28:BF:196:LEU:N	2.29	0.66
34:BO:23:ARG:HH12	34:BO:31:LYS:HG2	1.60	0.66
59:BA:918:A:N3	60:BB:80:U:O2'	2.24	0.66
9:CJ:3:LYS:HG3	9:CJ:4:ILE:HD12	1.78	0.66
21:CA:429:U:H1'	21:CA:430:A:H5"	1.78	0.66
21:CA:590:C:N4	21:CA:649:G:H1	1.91	0.66
21:CA:1085:U:H3'	21:CA:1086:U:H5	1.60	0.66
25:DC:64:SER:HA	25:DC:160:GLY:HA3	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AF:94:GLN:OE1	17:AR:72:ARG:NH2	2.28	0.66
11:AL:90:VAL:HG22	11:AL:96:VAL:HG11	1.78	0.66
20:AY:30:GLU:HA	20:AY:33:LEU:H	1.60	0.66
20:AY:679:VAL:HB	20:AY:683:VAL:HB	1.78	0.66
21:AA:123:C:O2'	21:AA:290:C:O2	2.14	0.66
45:BZ:97:GLU:HB3	45:BZ:125:LEU:HD11	1.78	0.66
59:BA:1015:G:H2'	59:BA:1016:G:C8	2.31	0.66
3:CD:171:GLY:O	3:CD:173:TRP:N	2.23	0.66
20:CY:153:MET:HE2	20:CY:161:PRO:HB3	1.77	0.66
25:DC:60:ARG:HE	25:DC:142:LYS:HB3	1.61	0.66
35:DP:17:LYS:NZ	35:DP:19:VAL:O	2.29	0.66
47:D2:27:GLU:HA	47:D2:30:ARG:HD3	1.78	0.66
59:DA:864:G:H1'	59:DA:914:C:H42	1.60	0.66
59:DA:1434:A:H2'	59:DA:1435:G:C8	2.30	0.66
3:AD:205:GLU:OE2	4:AE:100:VAL:N	2.29	0.66
27:BE:129:HIS:HE1	59:BA:1993:U:H4'	1.61	0.66
35:BP:47:ASP:OD1	35:BP:50:ARG:NH2	2.26	0.66
40:BU:25:TRP:HD1	40:BU:26:GLY:H	1.42	0.66
41:BV:58:VAL:HB	41:BV:98:GLU:HG3	1.78	0.66
59:BA:1270:C:H5"	59:BA:1271:G:H5"	1.78	0.66
12:CM:94:ARG:HE	18:CS:81:ARG:HB3	1.61	0.66
21:CA:328:C:H4'	21:CA:329:A:H5'	1.78	0.66
20:CY:352:VAL:HG12	20:CY:380:LEU:HD11	1.77	0.66
38:DS:89:ARG:HG2	38:DS:92:TYR:HB3	1.78	0.66
41:DV:56:SER:H	41:DV:100:ARG:HG3	1.60	0.66
49:D5:33:CYS:HA	49:D5:40:LYS:HE3	1.77	0.66
59:DA:2892:A:H2'	59:DA:2893:G:H5'	1.78	0.66
21:AA:68(F):C:H2'	21:AA:68(G):G:C8	2.31	0.65
25:BC:46:ALA:N	25:BC:171:ALA:O	2.29	0.65
35:BP:96:THR:HA	35:BP:126:VAL:HB	1.78	0.65
36:BQ:46:GLN:HG2	36:BQ:126:PRO:HD3	1.78	0.65
59:BA:1019:U:H2'	59:BA:1020:A:C8	2.30	0.65
59:BA:1731:G:HO2'	59:BA:1732:A:H8	1.43	0.65
59:BA:2068:U:H3	59:BA:2430:A:H2	1.44	0.65
59:BA:2646:C:OP2	59:BA:2732:G:O2'	2.14	0.65
21:CA:38:G:N2	21:CA:397:A:OP1	2.28	0.65
21:CA:1503:A:H61	23:CV:14:A:H3'	1.60	0.65
45:DZ:145:GLU:HB3	45:DZ:148:ASP:HB2	1.76	0.65
59:DA:1286:A:O2'	59:DA:1288:U:OP2	2.14	0.65
21:AA:864:A:H2'	21:AA:865:A:C8	2.32	0.65
31:BJ:58:UNK:O	31:BJ:60:UNK:N	2.28	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BS:25:ARG:HA	38:BS:86:ALA:HB3	1.77	0.65
50:B6:35:GLU:HB3	50:B6:51:GLU:HB2	1.76	0.65
28:DF:185:ASP:OD2	28:DF:188:ARG:NH2	2.27	0.65
59:DA:1538:G:H2'	59:DA:1539:G:C8	2.31	0.65
59:DA:1906:G:H1	59:DA:1924:C:N4	1.90	0.65
59:DA:2089:U:O2	59:DA:2230:G:N2	2.29	0.65
6:AG:57:GLU:H	6:AG:57:GLU:CD	2.03	0.65
21:AA:68(I):G:O6	21:AA:68(Q):U:O4	2.15	0.65
25:BC:172:ILE:HD13	25:BC:173:HIS:N	2.11	0.65
1:CB:167:PRO:HG2	1:CB:192:SER:HB3	1.77	0.65
20:CY:14:ASN:HD21	20:CY:80:ASN:HD22	1.43	0.65
27:DE:159:HIS:HB3	59:DA:2621:A:H4'	1.76	0.65
34:DO:64:ARG:HH21	34:DO:101:PRO:HD2	1.60	0.65
40:DU:90:VAL:HG11	41:DV:39:LEU:HG	1.77	0.65
59:DA:83:G:N2	59:DA:103:A:OP2	2.24	0.65
20:AY:145:ASP:CG	20:AY:146:LEU:H	2.04	0.65
21:AA:603:U:H2'	21:AA:604:G:H8	1.61	0.65
22:AW:18:G:N2	22:AW:58:A:O4'	2.29	0.65
23:AV:18:G:O2'	23:AV:19:G:N7	2.29	0.65
25:BC:42:VAL:O	25:BC:216:THR:N	2.29	0.65
28:BF:167:ALA:HB1	28:BF:173:VAL:HG11	1.77	0.65
30:BH:113:VAL:HG11	30:BH:151:ILE:HD13	1.78	0.65
32:BK:13:PRO:HB3	32:BK:52:ILE:HG12	1.78	0.65
32:BK:30:HIS:CD2	32:BK:59:ILE:HB	2.32	0.65
59:BA:1058:G:H2'	59:BA:1059:G:C8	2.31	0.65
59:BA:2708:G:H2'	59:BA:2709:G:C8	2.31	0.65
7:CH:96:GLY:H	7:CH:99:GLU:HB2	1.62	0.65
10:CK:32:ILE:N	10:CK:41:THR:O	2.28	0.65
18:CS:6:LYS:H	18:CS:6:LYS:HD3	1.61	0.65
40:DU:87:GLY:O	40:DU:89:GLU:N	2.28	0.65
59:DA:151:C:H42	59:DA:175:G:H1	1.44	0.65
59:DA:813:U:H2'	59:DA:814:C:H6	1.61	0.65
6:AG:5:ARG:NH2	21:AA:1091:U:OP1	2.29	0.65
21:AA:1321:C:H3'	21:AA:1322:C:H5"	1.78	0.65
22:AW:69:A:H2'	22:AW:70:G:C8	2.32	0.65
27:BE:102:VAL:HG12	27:BE:200:GLU:HA	1.78	0.65
45:BZ:166:SER:H	45:BZ:167:PRO:HA	1.61	0.65
49:B5:20:ARG:NH2	59:BA:1266:G:OP2	2.24	0.65
59:BA:360:G:H2'	59:BA:361:G:H8	1.60	0.65
12:CM:99:ARG:HB3	12:CM:101:GLN:HG3	1.79	0.65
30:DH:98:LEU:HD13	30:DH:125:VAL:HG23	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DP:92:GLU:OE1	35:DP:121:LYS:NZ	2.27	0.65
38:DS:99:LYS:HG2	38:DS:101:LEU:H	1.60	0.65
59:DA:812:C:HO2'	59:DA:1226:A:HO2'	1.43	0.65
59:DA:947:G:N2	59:DA:970:C:N3	2.37	0.65
1:AB:50:GLU:O	1:AB:54:THR:OG1	2.08	0.65
3:AD:145:GLU:HG2	3:AD:182:LYS:HG2	1.76	0.65
19:AT:79:ARG:O	19:AT:82:SER:OG	2.14	0.65
20:AY:135:PHE:HA	20:AY:260:LEU:HA	1.79	0.65
20:AY:348:ARG:O	20:AY:350:GLU:N	2.29	0.65
25:BC:75:VAL:HG11	25:BC:154:ILE:HD11	1.78	0.65
37:BR:64:ARG:NH2	59:BA:2851:A:O2'	2.30	0.65
39:BT:26:ASP:OD2	39:BT:27:THR:N	2.25	0.65
39:BT:49:VAL:O	39:BT:50:ILE:HG13	1.97	0.65
40:BU:53:ARG:NH2	59:BA:994:C:OP1	2.29	0.65
59:BA:1583:A:O2'	59:BA:1586:A:N6	2.30	0.65
59:BA:1759:A:H1'	59:BA:2711:A:C2	2.31	0.65
59:BA:2853:C:H2'	59:BA:2854:G:H8	1.61	0.65
12:CM:108:ARG:HH12	12:CM:111:LYS:HZ1	1.45	0.65
21:CA:973:G:H3'	21:CA:974:A:H5"	1.77	0.65
20:CY:485:GLU:HB3	20:CY:601:ILE:HG23	1.78	0.65
38:DS:70:GLY:C	38:DS:101:LEU:HD21	2.21	0.65
51:D7:29:LYS:HD2	59:DA:210:C:OP1	1.97	0.65
59:DA:1345:C:N4	59:DA:1601:G:H1	1.94	0.65
59:DA:2690:C:N4	59:DA:2713:A:O2'	2.29	0.65
1:AB:115:LEU:HD22	1:AB:145:LEU:HB3	1.77	0.65
10:AK:34:ASP:O	10:AK:36:ASP:N	2.29	0.65
14:AO:64:ARG:NH2	21:AA:581:G:O3'	2.30	0.65
20:AY:107:VAL:HG13	20:AY:135:PHE:HB3	1.78	0.65
21:AA:673:G:H1	21:AA:717:C:N4	1.94	0.65
21:AA:1015:A:H2'	21:AA:1016:A:C8	2.31	0.65
25:BC:132:LEU:O	25:BC:137:LEU:N	2.29	0.65
36:BQ:13:GLN:HG2	59:BA:954:G:H5"	1.78	0.65
45:BZ:144:LEU:HD21	45:BZ:150:LEU:HD13	1.77	0.65
46:B0:68:GLU:HG3	46:B0:80:HIS:HB2	1.78	0.65
59:BA:1931:U:H2'	59:BA:1932:A:H8	1.60	0.65
10:CK:82:VAL:HB	10:CK:108:ILE:HA	1.79	0.65
14:CO:21:ASP:OD2	21:CA:750:G:O2'	2.14	0.65
28:DF:90:PHE:HB3	59:DA:588:U:H1'	1.78	0.65
59:DA:1095:A:H2'	59:DA:1096:A:C8	2.32	0.65
59:DA:1639:U:H2'	59:DA:1640:C:H5"	1.78	0.65
9:AJ:33:GLN:O	9:AJ:75:ILE:HG13	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AM:109:THR:OG1	21:AA:947:G:O3'	2.15	0.65
16:AQ:81:ARG:HA	16:AQ:81:ARG:HE	1.62	0.65
21:AA:458(A):G:H21	21:AA:458(E):A:H62	1.45	0.65
32:BK:10:LEU:HD22	32:BK:11:GLN:HG2	1.78	0.65
44:BY:51:VAL:HG12	44:BY:53:PRO:HD2	1.79	0.65
59:BA:392:C:H5"	59:BA:409:C:H5"	1.79	0.65
59:BA:1105:U:H2'	59:BA:1106:G:C8	2.31	0.65
23:CV:4:A:N6	23:CV:6:G:N7	2.44	0.65
20:CY:560:VAL:HG12	20:CY:563:ILE:HD11	1.79	0.65
27:DE:2:LYS:NZ	27:DE:95:ILE:O	2.29	0.65
40:DU:55:ARG:HD3	59:DA:1155:A:H5'	1.77	0.65
42:DW:72:LYS:H	42:DW:107:LEU:HA	1.62	0.65
52:D8:4:MET:HE1	59:DA:666:G:H1'	1.77	0.65
59:DA:1019:U:H2'	59:DA:1020:A:H8	1.60	0.65
59:DA:2816:C:H42	59:DA:2830:G:H1	1.45	0.65
20:AY:116:PRO:O	20:AY:119:GLU:HG3	1.96	0.65
21:AA:510:A:N3	21:AA:543:C:H1'	2.12	0.65
24:AU:4:SER:HB3	24:AU:6:5OH:NQ	2.11	0.65
27:BE:63:LEU:HB2	27:BE:65:GLY:H	1.62	0.65
21:CA:1500:A:H5"	21:CA:1508:G:H5"	1.79	0.65
20:CY:27:THR:O	20:CY:30:GLU:HG2	1.97	0.65
20:CY:313:ALA:HA	20:CY:328:ILE:HA	1.79	0.65
26:DD:54:ARG:NH1	59:DA:1815:A:OP2	2.24	0.65
52:D8:4:MET:HE3	52:D8:61:LEU:HD21	1.78	0.65
59:DA:122:G:H1	59:DA:129:C:N4	1.87	0.65
59:DA:717:G:H2'	59:DA:718:A:O4'	1.95	0.65
59:DA:1497:U:H5'	59:DA:1498:C:H5	1.59	0.65
59:DA:1608:A:O2'	59:DA:1610:A:OP2	2.15	0.65
59:DA:1776:G:H1	59:DA:1788:C:H42	1.45	0.65
2:AC:193:TYR:HA	21:AA:1206:G:H4'	1.78	0.65
6:AG:69:VAL:HG12	6:AG:71:PRO:HD3	1.79	0.65
24:AU:4:SER:CA	59:BA:1914:C:OP2	2.45	0.65
25:BC:23:ILE:HG21	25:BC:191:ARG:HG2	1.78	0.65
41:BV:22:VAL:HG11	41:BV:94:LEU:HD12	1.79	0.65
59:BA:949:C:H42	59:BA:968:G:H1	1.43	0.65
59:BA:1871:A:H2'	59:BA:1872:A:C8	2.32	0.65
1:CB:100:GLY:O	1:CB:104:ASN:N	2.24	0.65
46:D0:82:ARG:HG2	46:D0:83:PRO:HD2	1.79	0.65
59:DA:26:G:N2	59:DA:513:A:OP2	2.30	0.65
59:DA:1899:G:H21	59:DA:1902:C:H41	1.45	0.65
59:DA:2707:G:H2'	59:DA:2708:G:H8	1.62	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AC:128:PHE:HD1	2:AC:129:ALA:H	1.45	0.64
5:AF:6:VAL:HG22	5:AF:90:VAL:HG13	1.78	0.64
11:AL:87:GLY:HA2	11:AL:98:TYR:H	1.61	0.64
20:AY:611:THR:HA	20:AY:642:VAL:HG22	1.79	0.64
22:AW:35:A:H2	23:AV:18:G:H1	1.43	0.64
31:BJ:33:UNK:O	31:BJ:37:UNK:N	2.31	0.64
35:BP:27:HIS:HE1	59:BA:814:C:H41	1.43	0.64
59:BA:1490:A:O3'	59:BA:1494:A:N6	2.25	0.64
59:BA:1825:A:H2'	59:BA:1826:G:C8	2.33	0.64
60:BB:24:G:C6	60:BB:56:G:N3	2.65	0.64
10:CK:33:THR:HG22	10:CK:39:PRO:HB3	1.79	0.64
21:CA:384:G:H2'	21:CA:385:C:C6	2.31	0.64
21:CA:1040:U:H2'	21:CA:1041:A:C8	2.33	0.64
27:DE:98:PRO:HA	27:DE:172:VAL:HG13	1.77	0.64
33:DN:15:LEU:HD21	33:DN:55:VAL:HG13	1.79	0.64
43:DX:57:LEU:HB3	59:DA:1341:U:H4'	1.79	0.64
2:AC:199:LYS:HE3	21:AA:1058:G:H5"	1.80	0.64
7:AH:96:GLY:H	7:AH:99:GLU:HB2	1.63	0.64
21:AA:816:A:OP2	21:AA:1526:G:O2'	2.13	0.64
27:BE:116:VAL:HG11	27:BE:138:PRO:HB3	1.78	0.64
34:BO:87:ILE:HD13	34:BO:91:LEU:HD23	1.78	0.64
42:BW:37:ARG:HG3	42:BW:38:TYR:HD1	1.61	0.64
2:CC:58:GLU:HB2	2:CC:65:ALA:HB3	1.79	0.64
11:CL:84:LEU:HB2	11:CL:104:VAL:HG12	1.78	0.64
15:CP:75:ARG:HE	15:CP:80:PHE:HD1	1.43	0.64
19:CT:51:GLU:O	19:CT:55:ILE:HG12	1.97	0.64
21:CA:673:G:H2'	21:CA:674:G:C8	2.32	0.64
27:DE:65:GLY:HA2	27:DE:70:ALA:HA	1.79	0.64
33:DN:24:GLY:O	33:DN:26:LEU:N	2.30	0.64
38:DS:84:GLN:HA	38:DS:106:ARG:HG2	1.79	0.64
7:AH:89:PRO:HA	7:AH:92:ARG:HH12	1.62	0.64
20:AY:438:PHE:HB2	20:AY:452:SER:O	1.98	0.64
21:AA:810:C:H2'	21:AA:811:C:C6	2.32	0.64
37:BR:13:HIS:O	37:BR:16:HIS:N	2.29	0.64
38:BS:99:LYS:HG3	38:BS:101:LEU:H	1.63	0.64
59:BA:11:G:N2	59:BA:2628:C:OP1	2.23	0.64
1:CB:9:GLU:OE1	1:CB:9:GLU:N	2.30	0.64
16:CQ:73:VAL:O	16:CQ:74:LEU:HB2	1.96	0.64
19:CT:49:ALA:O	19:CT:52:ALA:N	2.29	0.64
21:CA:813:U:H2'	21:CA:814:A:C8	2.32	0.64
21:CA:1251:A:H2'	21:CA:1252:A:C8	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:CU:4:SER:HB3	24:CU:6:5OH:NQ	2.11	0.64
56:D1:3:LYS:HG3	56:D1:4:VAL:HG12	1.79	0.64
56:D1:63:ALA:HB3	56:D1:66:HIS:HB2	1.79	0.64
59:DA:702:G:H1	59:DA:730:C:H42	1.45	0.64
60:DB:40:U:H3'	60:DB:41:U:H5"	1.78	0.64
6:AG:74:GLU:OE1	6:AG:76:ARG:NH1	2.30	0.64
21:AA:674:G:H2'	21:AA:675:A:H8	1.63	0.64
28:BF:46:ARG:NH2	59:BA:441:U:O2	2.28	0.64
36:BQ:68:ILE:HD12	36:BQ:103:MET:HB2	1.78	0.64
45:BZ:10:ARG:NH2	45:BZ:26:GLY:O	2.30	0.64
59:BA:69:C:O2	59:BA:73:A:O2'	2.11	0.64
59:BA:141(A):A:H8	59:BA:1595:G:H21	1.45	0.64
59:BA:270(C):A:O2'	59:BA:364:C:O2	2.14	0.64
59:BA:1248:G:H3'	59:BA:1249:U:H5"	1.78	0.64
6:CG:126:ASP:HB3	6:CG:131:LYS:O	1.98	0.64
28:DF:111:ALA:HB2	28:DF:206:ILE:HG21	1.79	0.64
36:DQ:110:THR:HB	36:DQ:113:GLN:HB2	1.79	0.64
9:AJ:50:ILE:HG22	9:AJ:60:ARG:HD3	1.78	0.64
20:AY:438:PHE:HE1	20:AY:462:ILE:HG13	1.61	0.64
27:BE:136:ARG:HB3	59:BA:1657:C:P	2.38	0.64
27:BE:159:HIS:HB3	59:BA:2621:A:H4'	1.78	0.64
28:BF:3:GLU:HA	28:BF:24:LEU:HB2	1.78	0.64
36:BQ:27:VAL:O	36:BQ:29:PHE:N	2.28	0.64
36:BQ:82:ARG:NH1	59:BA:2251:G:N7	2.45	0.64
59:BA:460:A:H62	59:BA:469:G:N2	1.93	0.64
6:CG:91:VAL:O	6:CG:96:GLN:NE2	2.30	0.64
21:CA:354:G:H21	21:CA:388:G:H2'	1.63	0.64
37:DR:41:ALA:HB1	37:DR:97:VAL:HG11	1.79	0.64
41:DV:89:GLN:HE22	59:DA:1162:G:H1'	1.62	0.64
59:DA:1484:G:O6	59:DA:1505:C:N3	2.31	0.64
3:AD:33:MET:N	3:AD:33:MET:SD	2.71	0.64
21:AA:1381:U:H2'	21:AA:1382:C:C6	2.32	0.64
28:BF:46:ARG:NH1	59:BA:441:U:O2'	2.31	0.64
59:BA:752:A:H8	59:BA:752:A:OP2	1.81	0.64
21:CA:582:U:OP2	21:CA:758:G:N1	2.26	0.64
26:DD:35:LYS:HD3	26:DD:61:LEU:HG	1.80	0.64
59:DA:1526:G:H1	59:DA:154(B):C:H42	1.46	0.64
2:AC:18:TRP:O	2:AC:21:ARG:NH1	2.31	0.64
11:AL:102:ARG:HG3	11:AL:109:GLY:HA2	1.79	0.64
32:BK:13:PRO:HA	32:BK:52:ILE:HA	1.77	0.64
35:BP:53:GLY:HA2	59:BA:832:G:H21	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BX:59:VAL:O	43:BX:76:ARG:NH1	2.31	0.64
59:BA:1802:A:H2'	59:BA:1803:A:C8	2.33	0.64
59:BA:2329:G:H2'	59:BA:2330:G:C8	2.32	0.64
11:CL:102:ARG:HB3	11:CL:109:GLY:H	1.61	0.64
21:CA:105:G:H2'	21:CA:106:C:C6	2.32	0.64
20:CY:276:VAL:HA	20:CY:280:LEU:HD23	1.79	0.64
28:DF:157:VAL:O	28:DF:193:VAL:O	2.15	0.64
30:DH:98:LEU:HD22	30:DH:125:VAL:H	1.63	0.64
35:DP:59:LEU:O	52:D8:13:ARG:NH1	2.30	0.64
37:DR:45:ARG:HB2	37:DR:95:THR:HG21	1.78	0.64
59:DA:2263:C:H42	59:DA:2277:G:H1	1.45	0.64
25:BC:140:ASN:O	25:BC:142:LYS:N	2.31	0.64
26:BD:172:TYR:HD1	26:BD:184:LYS:HB3	1.63	0.64
33:BN:114:ARG:HH11	33:BN:114:ARG:HB2	1.62	0.64
37:BR:79:LEU:HB3	37:BR:80:PHE:HD2	1.63	0.64
38:BS:70:GLY:O	38:BS:74:ALA:N	2.30	0.64
38:BS:73:LEU:HA	38:BS:76:LYS:HE2	1.79	0.64
38:BS:97:ARG:O	38:BS:99:LYS:N	2.30	0.64
39:BT:20:PRO:HG2	39:BT:86:ILE:HG23	1.79	0.64
59:BA:184:C:O3'	59:BA:217:G:N2	2.25	0.64
10:CK:22:HIS:HB3	10:CK:29:ILE:HG23	1.80	0.64
21:CA:41:G:H2'	21:CA:42:G:C8	2.32	0.64
25:DC:26:ALA:HA	25:DC:30:VAL:HG23	1.80	0.64
25:DC:73:VAL:HG23	25:DC:112:ASP:HB3	1.79	0.64
25:DC:81:GLY:O	25:DC:84:ILE:HB	1.97	0.64
59:DA:2711:A:H5"	59:DA:2712:U:H5'	1.79	0.64
1:AB:71:VAL:HB	1:AB:164:VAL:HG22	1.80	0.64
8:AI:16:ARG:HB3	8:AI:64:THR:HB	1.79	0.64
9:AJ:51:ARG:HB3	21:AA:1060:C:H5'	1.80	0.64
11:AL:84:LEU:H	11:AL:104:VAL:HG11	1.62	0.64
14:AO:21:ASP:OD2	21:AA:750:G:O2'	2.16	0.64
21:AA:692:U:H1'	21:AA:695:A:N7	2.13	0.64
21:AA:1246:C:N3	21:AA:1291:G:N2	2.38	0.64
25:BC:216:THR:HB	25:BC:222:SER:HB3	1.80	0.64
26:BD:165:ILE:O	26:BD:166:GLN:HB2	1.96	0.64
26:BD:171:ASP:OD2	26:BD:171:ASP:N	2.29	0.64
12:CM:81:LEU:HD11	12:CM:88:ARG:HH21	1.62	0.64
21:CA:68(J):G:H2'	21:CA:68(K):U:O4'	1.98	0.64
21:CA:858:G:N2	21:CA:870:U:OP2	2.26	0.64
20:CY:72:CYS:HB2	20:CY:79:ILE:H	1.61	0.64
30:DH:157:TYR:CZ	59:DA:2531:A:H5"	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:D2:21:LEU:O	47:D2:25:VAL:HG23	1.96	0.64
59:DA:2265:U:H3'	59:DA:2266:A:C8	2.31	0.64
1:AB:211:ILE:O	1:AB:215:LEU:HB2	1.97	0.64
2:AC:23:TYR:OH	2:AC:26:LYS:NZ	2.31	0.64
3:AD:128:VAL:HG22	3:AD:146:ILE:HG23	1.79	0.64
19:AT:74:LYS:HG2	19:AT:75:ASN:H	1.60	0.64
21:AA:833:U:H3	21:AA:853:G:H1	1.45	0.64
21:AA:1315:U:O2'	21:AA:1360:A:O2'	2.06	0.64
38:BS:17:ARG:O	38:BS:21:THR:N	2.31	0.64
39:BT:98:LYS:HG2	59:BA:2718:G:H4'	1.78	0.64
59:BA:1899:G:N2	59:BA:1902:C:H41	1.92	0.64
59:BA:2401:U:O4	59:BA:2415:G:O6	2.16	0.64
59:BA:2853:C:H2'	59:BA:2854:G:C8	2.33	0.64
4:CE:119:LEU:HD11	21:CA:6:G:H2'	1.80	0.64
29:DG:76:SER:HA	29:DG:83:ARG:HB3	1.80	0.64
33:DN:41:ASP:HA	40:DU:64:ARG:NH1	2.12	0.64
48:D3:7:LYS:HE2	48:D3:32:GLN:HA	1.80	0.64
52:D8:22:VAL:HB	52:D8:53:PRO:HB3	1.79	0.64
59:DA:659:C:H2'	59:DA:660:G:H8	1.63	0.64
59:DA:882:G:N2	59:DA:894:C:C2	2.66	0.64
59:DA:2829:C:H2'	59:DA:2830:G:C8	2.33	0.64
21:AA:68(J):G:H2'	21:AA:68(K):U:O4'	1.98	0.63
21:AA:928:G:H2'	21:AA:929:G:H8	1.63	0.63
21:AA:1237:C:H3'	21:AA:1336:C:H41	1.61	0.63
25:BC:16:ASP:O	25:BC:18:ASN:N	2.31	0.63
26:BD:67:PHE:HE1	26:BD:157:ARG:HH11	1.45	0.63
35:BP:39:LYS:HE3	35:BP:40:SER:H	1.62	0.63
59:BA:637:A:N1	59:BA:651:G:O2'	2.29	0.63
59:BA:1129:A:N6	59:BA:2491:U:OP1	2.31	0.63
3:CD:173:TRP:HB2	3:CD:186:LEU:HB2	1.79	0.63
33:DN:137:LYS:HB3	33:DN:137:LYS:HZ2	1.63	0.63
43:DX:12:VAL:HA	43:DX:29:TRP:NE1	2.12	0.63
44:DY:42:VAL:HG21	44:DY:67:LEU:HD22	1.79	0.63
50:D6:16:CYS:HB3	50:D6:17:LYS:HD2	1.80	0.63
59:DA:2508:G:H1	59:DA:2580:U:H3	1.45	0.63
8:AI:50:LEU:HB3	8:AI:56:LEU:HA	1.78	0.63
30:BH:158:HIS:CG	30:BH:159:GLU:H	2.16	0.63
41:BV:24:LYS:HA	41:BV:92:THR:HG23	1.80	0.63
56:B1:18:ILE:HA	56:B1:41:ARG:H	1.63	0.63
60:BB:18:G:H2'	60:BB:19:G:C8	2.34	0.63
9:CJ:78:ASN:OD1	9:CJ:78:ASN:N	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:1006:C:N3	21:CA:1023:G:N2	2.39	0.63
22:CW:37:A:H2	23:CV:16:A:C4	2.16	0.63
20:CY:34:TYR:O	20:CY:35:TYR:CG	2.51	0.63
20:CY:311:ALA:HA	20:CY:330:VAL:O	1.97	0.63
20:CY:420:ASP:HA	20:CY:423:LYS:HE2	1.80	0.63
32:DK:44:ALA:O	32:DK:46:ALA:N	2.31	0.63
34:DO:68:GLU:OE2	34:DO:78:ARG:NH1	2.30	0.63
39:DT:119:LYS:NZ	59:DA:2867:G:OP2	2.20	0.63
44:DY:97:ARG:NE	59:DA:300:A:OP1	2.29	0.63
59:DA:1663:C:N4	59:DA:1997:G:H1	1.88	0.63
12:AM:114:ARG:HG2	21:AA:1228:C:H5"	1.81	0.63
20:AY:72:CYS:HB3	20:AY:79:ILE:O	1.99	0.63
28:BF:90:PHE:HB3	59:BA:588:U:H1'	1.80	0.63
42:BW:11:ARG:NH2	42:BW:99:ARG:O	2.31	0.63
44:BY:2:ARG:NH2	59:BA:106:C:O2	2.31	0.63
59:BA:137(B):G:H1	59:BA:141(B):C:H42	1.46	0.63
59:BA:860:U:H2'	59:BA:861:A:H8	1.63	0.63
21:CA:1040:U:H2'	21:CA:1041:A:H8	1.63	0.63
22:CW:35:A:H2	23:CV:18:G:H1	1.46	0.63
29:DG:105:LYS:HE3	57:D4:26:SER:HB3	1.80	0.63
29:DG:124:SER:OG	29:DG:132:ASN:O	2.16	0.63
35:DP:66:GLY:HA2	59:DA:2415:G:H4'	1.79	0.63
44:DY:76:CYS:SG	44:DY:99:CYS:HB3	2.39	0.63
59:DA:78:A:H2'	59:DA:79:G:H8	1.63	0.63
59:DA:1203:G:H21	59:DA:1242:A:H62	1.46	0.63
2:AC:29:TYR:OH	13:AN:54:PRO:O	2.17	0.63
2:AC:113:ALA:N	2:AC:183:ASP:OD2	2.32	0.63
4:AE:109:ILE:HG22	4:AE:110:LEU:HD23	1.79	0.63
21:AA:1422:G:H5"	34:BO:48:PRO:HB3	1.81	0.63
27:BE:119:ARG:NH1	27:BE:156:MET:O	2.30	0.63
37:BR:100:LEU:HD22	37:BR:101:ALA:H	1.63	0.63
45:BZ:19:ARG:NH2	60:BB:76:G:O3'	2.31	0.63
59:BA:1190:G:H2'	59:BA:1191:G:C8	2.34	0.63
59:BA:1230:C:H2'	59:BA:1231:G:H8	1.63	0.63
59:BA:1601:G:H5'	59:BA:1602:U:OP2	1.98	0.63
59:BA:2593:U:H2'	59:BA:2594:C:C6	2.34	0.63
7:CH:63:LEU:H	7:CH:63:LEU:HD22	1.63	0.63
15:CP:43:LYS:NZ	21:CA:452:A:OP1	2.31	0.63
20:CY:150:ILE:HG23	20:CY:161:PRO:HG3	1.81	0.63
26:DD:248:SER:HG	26:DD:252:TRP:CD1	2.16	0.63
28:DF:3:GLU:HA	28:DF:24:LEU:HB2	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1347:G:H2'	59:DA:1348:G:H8	1.64	0.63
2:AC:9:GLY:HA2	2:AC:12:LEU:HD11	1.81	0.63
3:AD:157:LEU:HA	3:AD:160:GLN:HB2	1.80	0.63
6:AG:24:THR:HA	6:AG:27:ILE:HD12	1.81	0.63
15:AP:38:TYR:CE2	15:AP:50:LYS:HG3	2.34	0.63
16:AQ:60:ILE:O	16:AQ:71:PHE:HA	1.97	0.63
20:AY:313:ALA:HA	20:AY:328:ILE:HA	1.79	0.63
21:AA:142:G:N1	21:AA:221:C:O2	2.30	0.63
25:BC:157:ILE:HA	25:BC:160:GLY:O	1.98	0.63
33:BN:25:ARG:HH22	59:BA:114(B):A:H4'	1.63	0.63
35:BP:77:ARG:NH2	59:BA:2405:G:OP1	2.31	0.63
49:B5:40:LYS:HB3	49:B5:46:CYS:HB2	1.79	0.63
56:B1:88:LYS:HA	56:B1:91:LYS:HD3	1.79	0.63
59:BA:2301:C:H2'	59:BA:2302:G:H8	1.63	0.63
1:CB:84:GLU:HB3	1:CB:219:VAL:HG21	1.80	0.63
1:CB:168:THR:HG23	1:CB:192:SER:HB2	1.80	0.63
3:CD:19:LEU:HD22	3:CD:67:ILE:HB	1.79	0.63
4:CE:11:ILE:HG22	4:CE:12:LEU:HD13	1.81	0.63
5:CF:48:LEU:H	5:CF:57:GLN:HA	1.63	0.63
10:CK:84:VAL:HG23	10:CK:110:ASP:HA	1.81	0.63
10:CK:98:LEU:O	10:CK:101:SER:OG	2.17	0.63
11:CL:80:HIS:NE2	20:CY:425:SER:HB3	2.13	0.63
21:CA:1264:C:H2'	21:CA:1265:G:C8	2.33	0.63
20:CY:87:HIS:HD2	20:CY:121:VAL:HG22	1.63	0.63
26:DD:143:HIS:CD2	26:DD:196:VAL:HG13	2.34	0.63
27:DE:93:VAL:HB	27:DE:175:VAL:HG23	1.79	0.63
41:DV:59:ALA:HA	41:DV:96:ILE:HA	1.81	0.63
56:D1:17:SER:HG	56:D1:42:GLN:H	1.46	0.63
59:DA:373:U:H2'	59:DA:374:A:C8	2.33	0.63
59:DA:1755:A:H61	59:DA:2694:G:H21	1.45	0.63
20:AY:486:THR:OG1	20:AY:487:ILE:N	2.28	0.63
21:AA:955:U:O2'	21:AA:1227:A:N6	2.31	0.63
26:BD:147:LEU:HD23	26:BD:148:GLU:HB2	1.81	0.63
30:BH:97:ARG:HG2	30:BH:99:VAL:H	1.64	0.63
33:BN:4:TYR:OH	33:BN:6:PRO:HA	1.97	0.63
35:BP:45:LEU:HD21	59:BA:832:G:H5'	1.81	0.63
20:CY:30:GLU:HB2	20:CY:51:THR:HG22	1.80	0.63
31:DJ:25:UNK:N	31:DJ:112:UNK:N	2.47	0.63
35:DP:59:LEU:HA	35:DP:61:ARG:CZ	2.28	0.63
37:DR:97:VAL:HG13	37:DR:114:VAL:HG22	1.79	0.63
44:DY:31:LEU:HD22	44:DY:32:PRO:HB3	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:D1:16:ASN:HB3	59:DA:381:G:H5'	1.81	0.63
59:DA:1771:C:H2'	59:DA:1772:G:C8	2.34	0.63
1:AB:53:ARG:HH21	1:AB:199:TYR:HD2	1.45	0.63
12:AM:101:GLN:NE2	21:AA:949:A:OP1	2.31	0.63
20:AY:428:LEU:HD22	20:AY:440:VAL:HG11	1.81	0.63
21:AA:123:C:OP1	21:AA:311:C:O2'	2.17	0.63
56:B1:44:PRO:HB3	59:BA:396:G:H4'	1.80	0.63
59:BA:141(A):A:N6	59:BA:1595:G:O2'	2.32	0.63
59:BA:2178:C:H2'	59:BA:2179:C:H6	1.63	0.63
6:CG:15:ASP:HB3	6:CG:20:ASP:H	1.64	0.63
13:CN:31:ARG:NH2	21:CA:977:A:OP1	2.31	0.63
21:CA:1281:U:H5'	21:CA:1282:C:H5	1.64	0.63
20:CY:357:ARG:HH12	20:CY:370:LYS:HD3	1.63	0.63
26:DD:85:ASP:HB2	26:DD:92:ILE:HG12	1.80	0.63
37:DR:105:ARG:HH12	42:DW:40:ASN:HA	1.63	0.63
49:D5:7:PRO:HA	59:DA:2615:U:C2	2.34	0.63
56:D1:12:PRO:HA	56:D1:44:PRO:HD3	1.81	0.63
59:DA:828:U:H4'	59:DA:831:G:C2	2.34	0.63
59:DA:1434:A:H2'	59:DA:1435:G:H8	1.63	0.63
59:DA:2793:G:H1	59:DA:2803:C:H42	1.47	0.63
2:AC:134:ILE:HD13	2:AC:137:ALA:HB3	1.79	0.63
11:AL:71:PRO:HD2	11:AL:102:ARG:HD3	1.79	0.63
20:AY:203:GLU:O	20:AY:205:TYR:N	2.32	0.63
21:AA:231:G:H2'	21:AA:232:G:C8	2.34	0.63
21:AA:1266:G:N2	21:AA:1269:A:OP2	2.31	0.63
38:BS:25:ARG:HH12	60:BB:9:G:H5'	1.63	0.63
38:BS:74:ALA:CB	38:BS:104:GLY:HA2	2.28	0.63
39:BT:50:ILE:N	39:BT:62:THR:O	2.31	0.63
56:B1:23:LYS:HE2	56:B1:33:LYS:HD3	1.80	0.63
59:BA:1056:G:H4'	59:BA:1086:A:C8	2.31	0.63
59:BA:1434:A:H2'	59:BA:1435:G:C8	2.33	0.63
59:BA:1496:A:H2'	59:BA:1498:C:C4	2.34	0.63
59:BA:1934:C:H2'	59:BA:1935:G:H8	1.63	0.63
3:CD:59:ARG:HH11	3:CD:59:ARG:HA	1.64	0.63
3:CD:141:ARG:HE	3:CD:142:PRO:HD2	1.64	0.63
11:CL:39:VAL:C	11:CL:55:VAL:HG21	2.24	0.63
11:CL:70:ILE:HG22	11:CL:100:ILE:HG13	1.80	0.63
12:CM:125:ARG:NH1	21:CA:969:A:N1	2.46	0.63
15:CP:67:THR:H	15:CP:70:ALA:HB3	1.64	0.63
20:CY:458:HIS:O	20:CY:461:ILE:HG13	1.99	0.63
26:DD:210:GLY:HA2	59:DA:764:A:H5'	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:DY:49:VAL:HA	59:DA:483:A:H4'	1.81	0.63
7:AH:21:LYS:O	7:AH:23:SER:N	2.32	0.63
46:B0:43:THR:H	59:BA:2331:G:H4'	1.64	0.63
32:DK:79:ARG:HA	32:DK:84:LEU:HB3	1.81	0.63
35:DP:41:ARG:HE	35:DP:45:LEU:HD22	1.64	0.63
59:DA:2691:C:H5'	59:DA:2872:G:H5"	1.80	0.63
14:AO:32:LEU:HD23	14:AO:35:ARG:HH11	1.64	0.62
19:AT:12:ALA:HA	19:AT:15:ARG:HB2	1.81	0.62
21:AA:108:G:N2	21:AA:108:G:OP2	2.32	0.62
21:AA:109:A:H8	21:AA:327:A:H5'	1.63	0.62
21:AA:299:G:H2'	21:AA:300:A:C8	2.34	0.62
21:AA:1270:C:H2'	21:AA:1271:G:H8	1.64	0.62
21:AA:1391:U:H2'	21:AA:1392:G:H8	1.62	0.62
30:BH:33:LEU:HD22	30:BH:79:VAL:HG13	1.81	0.62
34:BO:34:THR:OG1	34:BO:35:VAL:N	2.25	0.62
35:BP:27:HIS:CE1	59:BA:814:C:H41	2.16	0.62
52:B8:4:MET:HE2	59:BA:592:G:H21	1.63	0.62
59:BA:2210:G:H3'	59:BA:2210:G:N3	2.14	0.62
2:CC:59:ARG:HA	2:CC:63:ASN:O	1.99	0.62
6:CG:78:ARG:HG3	6:CG:79:ARG:N	2.14	0.62
21:CA:573:A:N3	21:CA:883:C:O2'	2.25	0.62
21:CA:1127:G:H21	21:CA:1147:C:N4	1.96	0.62
22:CW:51:A:H61	22:CW:63:C:H42	1.45	0.62
33:DN:125:GLY:HA3	33:DN:126:PRO:O	1.99	0.62
36:DQ:37:LEU:HD21	36:DQ:130:LYS:HB2	1.81	0.62
36:DQ:70:PRO:HA	36:DQ:95:ALA:HB2	1.80	0.62
51:D7:39:ARG:HH12	51:D7:42:LEU:HB2	1.64	0.62
59:DA:814:C:H42	59:DA:1193:G:H1	0.75	0.62
59:DA:1090:U:H2'	59:DA:1091:G:C8	2.34	0.62
9:AJ:20:ALA:HB1	9:AJ:37:PRO:HB3	1.81	0.62
15:AP:59:TRP:HA	15:AP:59:TRP:CE3	2.32	0.62
20:AY:63:ILE:CD1	61:AY:701:GNP:O1G	2.46	0.62
21:AA:5:U:O2'	21:AA:6:G:N3	2.28	0.62
29:BG:32:PRO:HA	29:BG:162:THR:HB	1.81	0.62
30:BH:41:MET:HA	30:BH:55:PRO:HD3	1.81	0.62
37:BR:88:ARG:NH2	37:BR:89:ASP:OD2	2.32	0.62
37:BR:96:ARG:HB2	37:BR:117:VAL:HG22	1.81	0.62
38:BS:28:VAL:HG12	38:BS:37:ALA:HA	1.81	0.62
39:BT:53:ARG:HH22	39:BT:60:THR:HG23	1.63	0.62
40:BU:59:ARG:HD2	59:BA:1009:A:O4'	1.99	0.62
11:CL:58:VAL:HG11	11:CL:60:LEU:HD13	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CL:66:VAL:HG12	11:CL:67:THR:N	2.14	0.62
25:DC:139:PRO:HA	25:DC:145:THR:HG21	1.80	0.62
30:DH:118:PRO:HG2	30:DH:121:ILE:HD11	1.80	0.62
35:DP:65:ARG:NH2	52:D8:15:LYS:HB2	2.14	0.62
40:DU:106:PHE:O	40:DU:109:LEU:N	2.32	0.62
52:D8:33:ASN:ND2	59:DA:2420:C:OP2	2.24	0.62
59:DA:863:A:H2'	59:DA:864:G:H8	1.63	0.62
59:DA:1340:U:H4'	59:DA:1394:U:H1'	1.81	0.62
12:AM:86:CYS:O	12:AM:90:LEU:N	2.24	0.62
21:AA:774:G:H1	21:AA:805:C:H42	1.47	0.62
26:BD:226:MET:HG2	59:BA:782:A:C2	2.34	0.62
42:BW:51:LEU:HD23	42:BW:105:VAL:HG11	1.81	0.62
52:B8:11:LYS:HE3	52:B8:65:GLU:HG3	1.81	0.62
59:BA:686:G:H21	59:BA:788:A:H61	1.48	0.62
59:BA:2323:G:H21	59:BA:2337:G:H1'	1.62	0.62
21:CA:32:A:O2'	21:CA:48:C:N4	2.32	0.62
42:DW:18:ARG:NH1	42:DW:76:VAL:HG13	2.13	0.62
59:DA:216:A:H2'	59:DA:217:G:O4'	1.99	0.62
59:DA:506:G:H5'	59:DA:509:C:H1'	1.81	0.62
59:DA:740:U:H2'	59:DA:741:G:C8	2.34	0.62
59:DA:2135:A:H4'	59:DA:2160:G:H4'	1.81	0.62
59:DA:2448:A:H3'	59:DA:2449:U:H2'	1.80	0.62
1:AB:15:VAL:HG11	1:AB:209:ARG:HH21	1.64	0.62
7:AH:96:GLY:HA2	7:AH:130:GLY:HA3	1.81	0.62
9:AJ:34:VAL:HG13	9:AJ:74:ILE:HG22	1.82	0.62
15:AP:5:ARG:HB2	21:AA:376:G:H5"	1.81	0.62
21:AA:591:U:H2'	21:AA:592:G:C8	2.35	0.62
21:AA:1281:U:H5'	21:AA:1282:C:H5	1.64	0.62
29:BG:4:ASP:HA	29:BG:8:LYS:HD3	1.82	0.62
33:BN:41:ASP:HA	40:BU:64:ARG:HH11	1.63	0.62
37:BR:42:LYS:O	37:BR:45:ARG:HG3	1.98	0.62
2:CC:35:GLU:HA	2:CC:38:ARG:HG3	1.80	0.62
9:CJ:35:SER:HB3	9:CJ:73:ASP:HB2	1.81	0.62
21:CA:1507:A:O5'	23:CV:15:A:N6	2.32	0.62
20:CY:292:THR:HG23	20:CY:398:ILE:HB	1.80	0.62
25:DC:46:ALA:HA	25:DC:212:SER:C	2.23	0.62
32:DK:72:PRO:HG2	32:DK:111:LYS:HZ1	1.63	0.62
35:DP:54:GLY:HA3	59:DA:826:U:O2'	2.00	0.62
35:DP:58:THR:O	35:DP:61:ARG:NE	2.31	0.62
51:D7:33:ARG:HB2	51:D7:34:ARG:NH1	2.15	0.62
59:DA:371:A:H61	59:DA:401:A:H3'	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2692:C:H2'	59:DA:2693:A:H8	1.65	0.62
6:AG:78:ARG:HB3	6:AG:85:TYR:HB2	1.80	0.62
7:AH:119:LEU:HD22	7:AH:124:ALA:HA	1.81	0.62
8:AI:19:LEU:HD22	8:AI:59:PHE:HB3	1.82	0.62
10:AK:53:SER:C	10:AK:55:LYS:H	2.07	0.62
11:AL:15:ARG:HH12	21:AA:563:A:H2'	1.65	0.62
11:AL:53:ARG:HG3	11:AL:69:TYR:CE1	2.33	0.62
25:BC:153:ILE:O	25:BC:157:ILE:HG13	2.00	0.62
29:BG:149:VAL:HG23	29:BG:153:ARG:HE	1.64	0.62
33:BN:6:PRO:C	33:BN:7:LYS:HZ2	2.07	0.62
35:BP:85:LEU:HD11	35:BP:137:LYS:HB2	1.80	0.62
59:BA:565:C:N4	59:BA:576:U:H3	1.93	0.62
59:BA:1061:U:H4'	59:BA:1070:A:H1'	1.81	0.62
59:BA:1790:C:H2'	59:BA:1791:A:C5	2.34	0.62
10:CK:81:ASP:HA	10:CK:106:LYS:O	1.99	0.62
21:CA:1358:U:O2'	21:CA:1359:C:O4'	2.17	0.62
23:CV:8:A:H2'	23:CV:9:G:H8	1.65	0.62
23:CV:8:A:O2'	23:CV:9:G:OP1	2.17	0.62
39:DT:35:LYS:HD2	39:DT:41:ARG:HD2	1.81	0.62
39:DT:129:ARG:HA	39:DT:129:ARG:HE	1.64	0.62
40:DU:15:LYS:NZ	59:DA:1217:C:OP2	2.23	0.62
46:D0:39:ARG:NH1	46:D0:56:ASP:OD1	2.33	0.62
16:AQ:67:LYS:HG2	21:AA:266:G:H3'	1.79	0.62
3:CD:28:SER:HB2	3:CD:29:PRO:HD2	1.81	0.62
14:CO:8:LYS:NZ	21:CA:658:G:OP1	2.24	0.62
14:CO:82:ILE:HD11	14:CO:88:ARG:HB2	1.81	0.62
27:DE:172:VAL:HA	27:DE:184:VAL:HG12	1.82	0.62
56:D1:30:VAL:HG12	59:DA:2396:G:H1'	1.79	0.62
56:D1:34:THR:HG23	56:D1:35:THR:H	1.63	0.62
59:DA:401:A:H2'	59:DA:402:A:H8	1.64	0.62
59:DA:1058:G:H2'	59:DA:1059:G:H8	1.64	0.62
59:DA:1214:A:H2'	59:DA:1215:G:C8	2.35	0.62
59:DA:1310:G:O2'	59:DA:1611:C:OP1	2.17	0.62
59:DA:1315:C:N4	59:DA:1337:G:H1	1.97	0.62
8:AI:99:LEU:HB3	8:AI:101:PHE:CE1	2.34	0.62
20:AY:413:ILE:HD13	20:AY:476:VAL:HG22	1.82	0.62
21:AA:1394:A:N7	21:AA:1501:C:H4'	2.15	0.62
21:AA:1440(H):U:H4'	21:AA:1440(I):A:C5	2.34	0.62
27:BE:151:TYR:HD2	33:BN:79:PRO:CG	2.12	0.62
31:BJ:25:UNK:N	31:BJ:112:UNK:N	2.48	0.62
31:BJ:142:UNK:HA	54:Bf:22:UNK:HA	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BO:77:ILE:HB	39:BT:74:ARG:HG2	1.82	0.62
58:Be:84:LEU:HD23	58:Be:87:LYS:HE3	1.82	0.62
59:BA:582:G:H2'	59:BA:583:G:C8	2.34	0.62
59:BA:1654:A:H2'	59:BA:1655:A:H8	1.65	0.62
59:BA:2047:U:H2'	59:BA:2048:G:C8	2.34	0.62
1:CB:78:GLN:HG3	1:CB:94:ASN:HB2	1.82	0.62
16:CQ:13:ASP:HA	16:CQ:19:VAL:HG12	1.82	0.62
21:CA:481:G:O2'	21:CA:483:C:N4	2.33	0.62
20:CY:164:MET:HE1	20:CY:181:LEU:HB2	1.82	0.62
33:DN:103:VAL:O	33:DN:106:MET:N	2.32	0.62
33:DN:106:MET:HE3	59:DA:1006:C:H1'	1.80	0.62
43:DX:11:PRO:HG3	47:D2:41:ILE:HG22	1.80	0.62
45:DZ:40:ASP:HB3	45:DZ:43:GLU:HG2	1.81	0.62
15:AP:59:TRP:HA	15:AP:59:TRP:HE3	1.64	0.62
16:AQ:9:VAL:HA	16:AQ:56:VAL:HG22	1.81	0.62
20:AY:27:THR:O	20:AY:30:GLU:HG2	1.99	0.62
21:AA:500:G:O6	21:AA:545:C:N3	2.33	0.62
21:AA:922:G:H2'	21:AA:923:A:C8	2.35	0.62
42:BW:9:TYR:H	42:BW:102:HIS:CE1	2.17	0.62
59:BA:612:G:N2	59:BA:616:A:O2'	2.32	0.62
59:BA:976:C:H2'	59:BA:977:G:C8	2.35	0.62
4:CE:40:ARG:HG2	4:CE:68:GLU:HB3	1.81	0.62
10:CK:53:SER:HB2	21:CA:694:A:H5"	1.82	0.62
21:CA:713:G:H2'	21:CA:714:G:C8	2.35	0.62
26:DD:186:HIS:O	26:DD:188:GLU:N	2.32	0.62
37:DR:20:LEU:HD11	59:DA:1277:G:H4'	1.82	0.62
56:D1:76:ARG:NH2	56:D1:94:LEU:O	2.33	0.62
59:DA:1487:G:H1	59:DA:1502:C:N4	1.98	0.62
59:DA:1802:A:OP1	59:DA:1814:G:N1	2.33	0.62
3:AD:86:LYS:HD3	3:AD:87:GLY:H	1.65	0.62
6:AG:94:ARG:O	6:AG:98:SER:OG	2.17	0.62
11:AL:58:VAL:HG11	11:AL:60:LEU:HD13	1.82	0.62
24:AU:4:SER:C	59:BA:1914:C:OP2	2.43	0.62
33:BN:11:PRO:HB2	33:BN:51:PHE:HE1	1.64	0.62
33:BN:34:LEU:HD11	33:BN:119:ARG:O	2.00	0.62
56:B1:26:ARG:HG3	56:B1:27:GLU:HG2	1.82	0.62
59:BA:90:U:O2'	59:BA:91:A:O4'	2.10	0.62
59:BA:181:A:H2'	59:BA:182:A:C8	2.35	0.62
59:BA:856:C:H2'	59:BA:857:C:C6	2.34	0.62
59:BA:1028:A:OP2	59:BA:1126:A:N6	2.26	0.62
1:CB:159:PRO:O	1:CB:161:ALA:N	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CC:133:ALA:HA	2:CC:136:GLN:HB2	1.81	0.62
12:CM:88:ARG:HA	12:CM:98:VAL:HG13	1.81	0.62
21:CA:448:A:OP2	21:CA:485:G:N1	2.22	0.62
36:DQ:10:ARG:HB3	36:DQ:90:VAL:HG11	1.79	0.62
38:DS:40:ILE:HA	38:DS:47:THR:HA	1.82	0.62
52:D8:42:ARG:NH2	59:DA:2348:U:OP2	2.32	0.62
1:AB:98:LEU:N	1:AB:101:MET:SD	2.73	0.62
3:AD:19:LEU:HD23	3:AD:67:ILE:HB	1.82	0.62
7:AH:46:LYS:HB3	7:AH:62:TYR:HB2	1.82	0.62
20:AY:659:LEU:O	20:AY:663:THR:OG1	2.18	0.62
27:BE:152:LYS:NZ	59:BA:2620:C:OP2	2.31	0.62
59:BA:278:A:N1	59:BA:362:U:O4	2.33	0.62
59:BA:1486:A:H2'	59:BA:1487:G:C8	2.35	0.62
6:CG:151:TYR:HA	6:CG:154:TYR:HB2	1.81	0.62
20:CY:117:GLN:O	20:CY:120:THR:OG1	2.18	0.62
27:DE:4:ILE:HD12	27:DE:28:ALA:HB1	1.82	0.62
29:DG:36:LYS:HB3	29:DG:95:ARG:NH1	2.14	0.62
35:DP:9:ASN:H	35:DP:10:PRO:HD3	1.65	0.62
46:D0:4:LYS:HE2	46:D0:7:LEU:HD12	1.81	0.62
46:D0:12:ASN:ND2	59:DA:2277:G:OP2	2.30	0.62
59:DA:88:G:H2'	59:DA:89:G:H8	1.65	0.62
59:DA:681:G:N2	59:DA:796:C:N3	2.34	0.62
3:AD:108:LEU:HD13	3:AD:174:LEU:HB3	1.79	0.61
19:AT:103:GLY:HA2	21:AA:192:U:H1'	1.82	0.61
20:AY:162:VAL:HG21	20:AY:219:VAL:HG11	1.81	0.61
21:AA:956:U:H2'	21:AA:957:U:C6	2.35	0.61
21:AA:1172:C:H2'	21:AA:1173:G:H8	1.65	0.61
21:AA:1355:G:H2'	21:AA:1356:G:C8	2.35	0.61
25:BC:139:PRO:O	25:BC:145:THR:OG1	2.17	0.61
26:BD:28:GLU:H	26:BD:29:PRO:HD2	1.65	0.61
36:BQ:9:TYR:OH	59:BA:912:C:OP1	2.17	0.61
41:BV:4:ILE:HG22	41:BV:39:LEU:HB2	1.82	0.61
59:BA:20:C:H2'	59:BA:21:A:C8	2.35	0.61
3:CD:128:VAL:HG13	3:CD:146:ILE:HG13	1.81	0.61
11:CL:70:ILE:HG13	11:CL:72:GLY:N	2.15	0.61
21:CA:157:G:H1	21:CA:164:U:H3	1.47	0.61
25:DC:182:PRO:O	25:DC:186:LEU:HD12	2.00	0.61
30:DH:139:GLN:NE2	59:DA:2745:C:O2	2.32	0.61
45:DZ:7:ALA:O	45:DZ:62:PRO:HD2	1.99	0.61
59:DA:141(A):A:H8	59:DA:1595:G:H21	1.47	0.61
59:DA:852:G:H2'	59:DA:853:G:C8	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:868:U:H3	59:DA:909:A:H61	1.48	0.61
59:DA:918:A:N3	60:DB:80:U:O2'	2.31	0.61
22:AW:15:G:H22	22:AW:48:C:N4	1.97	0.61
26:BD:108:PRO:HA	26:BD:196:VAL:HA	1.82	0.61
28:BF:154:VAL:HG13	28:BF:191:ARG:HB2	1.80	0.61
29:BG:84:LYS:HD2	29:BG:84:LYS:H	1.64	0.61
52:B8:4:MET:HG3	52:B8:61:LEU:HD23	1.82	0.61
2:CC:6:HIS:CG	13:CN:49:HIS:HB3	2.35	0.61
2:CC:134:ILE:HD11	2:CC:151:VAL:HG11	1.82	0.61
16:CQ:63:ARG:HH21	21:CA:130:A:H5'	1.66	0.61
27:DE:109:LYS:NZ	59:DA:2681:C:OP2	2.27	0.61
38:DS:67:ARG:HA	38:DS:99:LYS:HB3	1.80	0.61
8:AI:128:ARG:NH1	22:AW:32:C:OP1	2.29	0.61
27:BE:98:PRO:HA	27:BE:172:VAL:HG13	1.82	0.61
40:BU:59:ARG:NH2	59:BA:1154:G:H5"	2.09	0.61
44:BY:31:LEU:HD22	44:BY:32:PRO:HB3	1.81	0.61
51:B7:30:VAL:O	51:B7:34:ARG:HG2	2.00	0.61
59:BA:2593:U:H3	59:BA:2600:A:H61	1.46	0.61
1:CB:103:THR:OG1	1:CB:176:GLU:OE1	2.18	0.61
4:CE:101:ILE:HD11	4:CE:119:LEU:HD22	1.83	0.61
5:CF:100:ASN:ND2	17:CR:23:LYS:O	2.31	0.61
7:CH:21:LYS:NZ	21:CA:828:A:OP1	2.34	0.61
16:CQ:28:PRO:HA	16:CQ:35:VAL:HA	1.80	0.61
20:CY:505:GLY:HA3	20:CY:576:ASP:HA	1.80	0.61
26:DD:220:HIS:N	59:DA:1790:C:OP1	2.34	0.61
28:DF:168:ARG:HA	28:DF:175:THR:HG21	1.82	0.61
35:DP:94:GLU:HG2	35:DP:124:LYS:HB2	1.81	0.61
44:DY:2:ARG:CZ	59:DA:106:C:H1'	2.31	0.61
59:DA:689:A:H2'	59:DA:690:G:C8	2.35	0.61
59:DA:2084:C:H42	59:DA:2235:G:H1	1.46	0.61
59:DA:2328:A:H2'	59:DA:2329:G:C8	2.35	0.61
60:DB:24:G:N1	60:DB:56:G:N2	2.49	0.61
10:AK:12:ARG:HH22	10:AK:38:ASN:HB3	1.65	0.61
20:AY:276:VAL:HA	20:AY:280:LEU:HD23	1.83	0.61
21:AA:736:C:H2'	21:AA:737:A:C8	2.35	0.61
28:BF:188:ARG:HG3	28:BF:189:THR:HG23	1.83	0.61
44:BY:71:LYS:NZ	59:BA:329:G:N7	2.48	0.61
59:BA:374:A:H62	59:BA:400:G:H21	1.47	0.61
6:CG:26:PHE:O	6:CG:30:ILE:HG13	2.00	0.61
17:CR:73:ALA:HB3	17:CR:79:LEU:HD12	1.81	0.61
33:DN:43:THR:H	33:DN:48:MET:HE3	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:D1:27:GLU:HA	56:D1:31:GLY:HA2	1.81	0.61
59:DA:922:U:H2'	59:DA:923:C:C6	2.35	0.61
59:DA:2437:U:H2'	59:DA:2438:U:H6	1.65	0.61
8:AI:8:GLY:HA2	8:AI:79:LEU:HB3	1.83	0.61
9:AJ:50:ILE:HA	9:AJ:60:ARG:HG2	1.83	0.61
17:AR:74:ARG:NH2	21:AA:718:G:H1	1.98	0.61
19:AT:81:LYS:NZ	21:AA:185:A:N3	2.48	0.61
21:AA:1380:U:H4'	21:AA:1381:U:H5'	1.81	0.61
25:BC:114:VAL:O	25:BC:116:ALA:N	2.32	0.61
26:BD:157:ARG:HE	59:BA:1818:U:H2'	1.66	0.61
56:B1:34:THR:HG23	56:B1:35:THR:H	1.65	0.61
59:BA:2130:U:O2'	59:BA:2158:A:N1	2.31	0.61
10:CK:21:ILE:HG12	10:CK:30:VAL:HG12	1.83	0.61
21:CA:443:C:N4	21:CA:491:G:H1	1.95	0.61
21:CA:563:A:O2'	21:CA:567:G:OP2	2.18	0.61
20:CY:107:VAL:HG13	20:CY:135:PHE:HB3	1.81	0.61
25:DC:47:LYS:HE3	25:DC:211:ARG:HH21	1.65	0.61
26:DD:231:HIS:O	26:DD:233:HIS:N	2.34	0.61
28:DF:193:VAL:O	28:DF:194:MET:HG2	2.00	0.61
39:DT:56:GLY:H	39:DT:59:THR:HB	1.64	0.61
45:DZ:54:HIS:HB3	45:DZ:101:PRO:HG3	1.82	0.61
56:D1:18:ILE:HG21	59:DA:380:U:H4'	1.82	0.61
59:DA:1018:C:N4	59:DA:1144:G:H1	1.98	0.61
59:DA:1538:G:H2'	59:DA:1539:G:H8	1.64	0.61
59:DA:2643:G:H1	59:DA:2771:C:H42	1.47	0.61
3:AD:177:ASP:HB2	3:AD:182:LYS:H	1.66	0.61
12:AM:81:LEU:HD11	12:AM:88:ARG:HH21	1.66	0.61
17:AR:44:LEU:HG	17:AR:48:GLY:HA2	1.81	0.61
21:AA:1022:G:H2'	21:AA:1023:G:O4'	2.01	0.61
27:BE:168:MET:O	59:BA:2730:C:O2'	2.18	0.61
33:BN:24:GLY:HA3	59:BA:1140:C:H5'	1.83	0.61
33:BN:47:ALA:HB1	33:BN:116:LEU:HD21	1.81	0.61
33:BN:106:MET:HE1	59:BA:1138:G:H21	1.65	0.61
33:BN:137:LYS:HA	33:BN:137:LYS:NZ	2.15	0.61
34:BO:88:ASN:ND2	34:BO:92:GLU:O	2.34	0.61
36:BQ:58:PHE:CZ	36:BQ:64:ILE:HD11	2.32	0.61
59:BA:566:U:H3	59:BA:575:A:H61	1.49	0.61
59:BA:1230:C:H2'	59:BA:1231:G:C8	2.36	0.61
59:BA:1782:C:H1'	59:BA:2609:U:H5'	1.83	0.61
21:CA:816:A:OP2	21:CA:1526:G:O2'	2.17	0.61
20:CY:265:LYS:O	20:CY:267:LYS:N	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:DU:25:TRP:CD1	40:DU:26:GLY:H	2.18	0.61
43:DX:40:LYS:HG3	43:DX:51:VAL:HB	1.83	0.61
8:AI:127:LYS:O	21:AA:966:G:O2'	2.17	0.61
11:AL:29:GLY:O	11:AL:31:PRO:HD3	1.99	0.61
20:AY:497:PHE:HB3	20:AY:508:GLY:H	1.63	0.61
21:AA:139:G:H2'	21:AA:140:A:C8	2.36	0.61
21:AA:1072:G:H2'	21:AA:1073:U:C6	2.35	0.61
21:AA:1511:G:H2'	21:AA:1512:U:O4'	2.01	0.61
26:BD:68:LYS:NZ	59:BA:2209:C:OP1	2.34	0.61
27:BE:38:THR:HG23	27:BE:40:GLU:H	1.65	0.61
30:BH:98:LEU:HD22	30:BH:125:VAL:H	1.66	0.61
38:BS:34:HIS:CG	38:BS:54:LEU:HB3	2.36	0.61
59:BA:711:G:H1	59:BA:720:C:N4	1.96	0.61
59:BA:2795:G:H21	59:BA:2801:A:H62	1.48	0.61
2:CC:52:LEU:HD13	2:CC:68:VAL:HG13	1.81	0.61
5:CF:12:PRO:O	5:CF:13:ASN:ND2	2.32	0.61
21:CA:1026:G:O6	21:CA:1035:A:N1	2.32	0.61
26:DD:157:ARG:NH2	59:DA:1817:G:H3'	2.16	0.61
29:DG:19:LEU:HD11	29:DG:172:LEU:HB2	1.81	0.61
38:DS:97:ARG:O	38:DS:99:LYS:N	2.34	0.61
51:D7:40:TRP:CE3	59:DA:459:U:H5"	2.36	0.61
59:DA:1326:U:H2'	59:DA:1327:C:O4'	2.01	0.61
59:DA:2093:G:H1	59:DA:2196:C:H42	0.73	0.61
19:AT:61:SER:O	19:AT:65:LYS:HG2	2.00	0.61
20:AY:59:ARG:HB3	20:AY:64:THR:HA	1.83	0.61
25:BC:33:LEU:HB3	25:BC:221:PRO:HG2	1.82	0.61
35:BP:48:PRO:O	35:BP:51:PHE:N	2.23	0.61
51:B7:49:ARG:NH2	59:BA:1309:G:N7	2.49	0.61
59:BA:970:C:O2	59:BA:984:A:O2'	2.15	0.61
3:CD:50:ARG:NH1	3:CD:51:PRO:O	2.33	0.61
20:CY:64:THR:CG2	61:CY:701:GNP:O3G	2.41	0.61
40:DU:91:ASP:O	40:DU:95:LEU:HB2	2.00	0.61
50:D6:8:LYS:HZ2	50:D6:27:LYS:HB2	1.66	0.61
51:D7:40:TRP:CE3	59:DA:459:U:H3'	2.36	0.61
59:DA:1400:G:H2'	59:DA:1401:G:C8	2.36	0.61
59:DA:2789:C:H2'	59:DA:2790:A:H4'	1.82	0.61
7:AH:134:ILE:HG22	7:AH:135:CYS:HB3	1.83	0.61
11:AL:93:LEU:HB2	11:AL:96:VAL:HG22	1.82	0.61
21:AA:838(B):C:OP1	59:DA:1583:A:N6	2.33	0.61
21:AA:1532:U:O2'	23:AV:12:A:N6	2.33	0.61
22:AW:6:C:N4	22:AW:67:G:H1	1.97	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BD:41:GLY:HA3	59:BA:692:C:H4'	1.83	0.61
28:BF:45:ARG:NH2	59:BA:443:A:H3'	2.14	0.61
29:BG:11:TYR:O	29:BG:15:VAL:HB	2.00	0.61
33:BN:73:THR:HG22	33:BN:84:LYS:HB3	1.81	0.61
35:BP:88:LEU:HD11	35:BP:123:LEU:HD21	1.82	0.61
37:BR:90:ARG:NH2	59:BA:2880:C:O3'	2.30	0.61
45:BZ:7:ALA:HB2	45:BZ:59:LEU:HB2	1.83	0.61
53:B9:23:VAL:HB	53:B9:36:GLN:HG3	1.82	0.61
59:BA:2398:U:O2	59:BA:2418:A:N1	2.34	0.61
60:BB:14:U:O3'	60:BB:107:U:O2'	2.14	0.61
4:CE:149:GLU:O	4:CE:153:LYS:HB2	2.01	0.61
11:CL:71:PRO:HD2	11:CL:102:ARG:HD3	1.83	0.61
21:CA:34:C:H2'	21:CA:35:G:C8	2.36	0.61
21:CA:933:G:H1	21:CA:1384:C:N4	1.98	0.61
22:CW:17:U:H5'	22:CW:18:G:O5'	2.01	0.61
20:CY:32:ILE:O	20:CY:34:TYR:C	2.43	0.61
20:CY:98:MET:HE2	20:CY:130:VAL:HG21	1.83	0.61
36:DQ:26:TYR:O	36:DQ:67:ARG:NH1	2.34	0.61
49:D5:19:ARG:NH1	59:DA:1266:G:OP2	2.33	0.61
59:DA:1603:A:H5'	59:DA:1604:C:OP2	2.00	0.61
59:DA:1817:G:H2'	59:DA:1818:U:H5'	1.83	0.61
59:DA:1999:C:H5"	59:DA:2723:C:O2'	2.00	0.61
21:AA:105:G:H2'	21:AA:106:C:C6	2.36	0.61
21:AA:410:G:H21	21:AA:432:A:H62	1.49	0.61
21:AA:573:A:N3	21:AA:883:C:O2'	2.32	0.61
21:AA:1338:G:H21	22:AW:41:A:H1'	1.65	0.61
56:B1:18:ILE:HG21	59:BA:380:U:H4'	1.82	0.61
17:CR:66:LEU:O	17:CR:70:ILE:HG13	2.00	0.61
21:CA:259:G:H1	21:CA:267:C:H42	1.48	0.61
21:CA:509:A:N3	21:CA:543:C:O2'	2.34	0.61
21:CA:778:G:H2'	21:CA:779:C:O4'	2.00	0.61
20:CY:137:ASN:ND2	20:CY:138:LYS:H	1.99	0.61
20:CY:552:SER:O	20:CY:591:LYS:NZ	2.34	0.61
27:DE:61:ARG:O	27:DE:63:LEU:N	2.34	0.61
45:DZ:61:LEU:O	45:DZ:63:ASP:N	2.33	0.61
4:AE:105:VAL:HG11	4:AE:131:ILE:HG22	1.81	0.60
44:BY:8:LYS:HB3	44:BY:28:LYS:HZ3	1.66	0.60
59:BA:1766:U:H3	59:BA:1986:A:H61	1.47	0.60
59:BA:2671:A:H2'	59:BA:2672:G:H8	1.66	0.60
60:BB:29:A:O2'	60:BB:58:A:N1	2.33	0.60
6:CG:74:GLU:O	6:CG:88:PRO:HA	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CL:53:ARG:HG3	11:CL:69:TYR:CE1	2.36	0.60
15:CP:1:MET:O	15:CP:3:LYS:NZ	2.34	0.60
35:DP:62:LEU:HB3	59:DA:2393:A:H5"	1.83	0.60
52:D8:5:LYS:NZ	59:DA:254:G:N7	2.43	0.60
59:DA:603:A:N6	59:DA:655:A:H1'	2.16	0.60
59:DA:742:G:H2'	59:DA:743:G:H8	1.66	0.60
59:DA:862:G:H2'	59:DA:863:A:O4'	2.00	0.60
59:DA:1800:C:N4	59:DA:1817:G:H22	1.99	0.60
59:DA:2224:G:H4'	59:DA:2226:C:C2	2.35	0.60
2:AC:59:ARG:HA	2:AC:63:ASN:O	2.01	0.60
3:AD:18:LYS:HB3	3:AD:33:MET:HG2	1.83	0.60
12:AM:14:ARG:HA	12:AM:44:ARG:HA	1.84	0.60
21:AA:501:C:H1'	21:AA:549:C:H1'	1.83	0.60
21:AA:1040:U:H2'	21:AA:1041:A:C8	2.36	0.60
25:BC:60:ARG:HE	25:BC:142:LYS:HB3	1.66	0.60
26:BD:154:LYS:NZ	59:BA:1801:G:OP2	2.22	0.60
27:BE:132:HIS:ND1	59:BA:1658:C:OP1	2.33	0.60
30:BH:23:ARG:H	30:BH:23:ARG:NE	1.99	0.60
32:BK:30:HIS:CE1	32:BK:32:ALA:HB2	2.36	0.60
35:BP:95:VAL:HA	35:BP:99:LEU:HD23	1.82	0.60
47:B2:27:GLU:HA	47:B2:30:ARG:HD3	1.83	0.60
53:B9:6:SER:HB3	59:BA:2466:C:H5"	1.81	0.60
1:CB:211:ILE:O	1:CB:215:LEU:HB2	2.00	0.60
2:CC:39:ILE:O	2:CC:43:LEU:HB2	2.00	0.60
4:CE:29:GLY:HA2	4:CE:46:GLY:O	2.01	0.60
19:CT:79:ARG:O	19:CT:82:SER:OG	2.15	0.60
21:CA:156:G:H1	21:CA:165:C:H42	1.49	0.60
21:CA:390:C:H2'	21:CA:391:G:H8	1.65	0.60
21:CA:1347:G:N1	21:CA:1374:A:OP2	2.19	0.60
20:CY:679:VAL:HB	20:CY:683:VAL:HB	1.83	0.60
29:DG:30:GLU:HB2	60:DB:57:A:H1'	1.83	0.60
41:DV:4:ILE:HG22	41:DV:39:LEU:HB2	1.83	0.60
44:DY:8:LYS:HZ3	44:DY:70:SER:HA	1.66	0.60
46:D0:72:ARG:O	46:D0:76:GLY:N	2.28	0.60
50:D6:27:LYS:HZ1	50:D6:30:THR:H	1.48	0.60
59:DA:1796:U:H2'	59:DA:1797:C:C6	2.36	0.60
2:AC:35:GLU:O	2:AC:39:ILE:HG13	2.02	0.60
7:AH:63:LEU:H	7:AH:63:LEU:HD22	1.64	0.60
8:AI:71:SER:HA	8:AI:74:ILE:HD12	1.81	0.60
23:AV:8:A:H2'	23:AV:9:G:C8	2.36	0.60
25:BC:115:VAL:HG11	25:BC:154:ILE:HD11	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BE:172:VAL:HA	27:BE:184:VAL:HG12	1.83	0.60
33:BN:108:PRO:HB3	59:BA:1008:C:OP2	2.02	0.60
34:BO:68:GLU:HB3	34:BO:78:ARG:HB3	1.83	0.60
35:BP:25:SER:HA	59:BA:811:U:H2'	1.82	0.60
47:B2:32:LEU:HB2	47:B2:53:LEU:HD22	1.82	0.60
59:BA:1811:G:H2'	59:BA:1812:A:H8	1.65	0.60
21:CA:774:G:H1	21:CA:805:C:H42	1.49	0.60
21:CA:1229:A:O2'	22:CW:30:C:OP1	2.19	0.60
23:CV:17:U:H2'	23:CV:18:G:C8	2.36	0.60
27:DE:110:GLY:N	59:DA:2821:A:OP1	2.26	0.60
29:DG:25:TYR:OH	29:DG:168:GLU:OE1	2.18	0.60
32:DK:56:GLU:O	32:DK:67:PHE:HA	2.01	0.60
36:DQ:43:THR:HB	36:DQ:46:GLN:HB2	1.83	0.60
36:DQ:62:GLY:HA2	45:DZ:116:VAL:HG21	1.82	0.60
49:D5:40:LYS:HB3	49:D5:46:CYS:HB2	1.82	0.60
50:D6:27:LYS:NZ	50:D6:30:THR:H	1.99	0.60
59:DA:85:G:N1	59:DA:97:C:O2	2.27	0.60
59:DA:137(B):G:H1	59:DA:141(B):C:N4	1.99	0.60
59:DA:532:A:OP1	59:DA:561:G:N2	2.34	0.60
59:DA:978:G:H1	59:DA:985:C:N4	1.98	0.60
59:DA:1864:U:OP1	59:DA:2410:G:O2'	2.17	0.60
1:AB:28:PHE:CE1	1:AB:190:THR:HA	2.36	0.60
7:AH:87:SER:OG	7:AH:93:VAL:N	2.34	0.60
14:AO:63:ARG:HD2	14:AO:67:LEU:HD11	1.82	0.60
15:AP:26:ARG:NH2	21:AA:310:G:OP1	2.34	0.60
20:AY:13:ARG:HB2	20:AY:79:ILE:HG12	1.83	0.60
21:AA:120:A:H2'	21:AA:121:C:H4'	1.83	0.60
21:AA:314:C:H2'	21:AA:315:A:C8	2.36	0.60
21:AA:1076:C:N4	21:AA:1081:G:H1	1.96	0.60
22:AW:12:U:H1'	22:AW:24:G:H22	1.64	0.60
27:BE:61:ARG:CB	27:BE:62:PRO:HD2	2.28	0.60
31:BJ:97:UNK:O	31:BJ:101:UNK:N	2.34	0.60
56:B1:3:LYS:HG3	56:B1:4:VAL:HG12	1.83	0.60
59:BA:1510:A:H2'	59:BA:1511:A:O4'	2.00	0.60
60:BB:59:A:H2'	60:BB:60:C:O4'	2.00	0.60
4:CE:102:ALA:HB1	4:CE:106:PRO:HB2	1.83	0.60
6:CG:22:LEU:HG	6:CG:62:PHE:HE2	1.66	0.60
21:CA:660:G:H1	21:CA:745:C:H42	1.49	0.60
35:DP:53:GLY:C	35:DP:55:ARG:H	2.09	0.60
46:D0:82:ARG:HH21	46:D0:84:LEU:HA	1.66	0.60
59:DA:575:A:OP2	59:DA:2499:C:O2'	2.18	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:670:A:H4'	59:DA:671:C:H5'	1.83	0.60
59:DA:1417:C:O2'	59:DA:1587:A:N3	2.29	0.60
12:AM:14:ARG:NH2	12:AM:16:ASP:OD1	2.34	0.60
14:AO:82:ILE:HD11	14:AO:88:ARG:HB2	1.83	0.60
21:AA:501:C:H2'	21:AA:502:G:C8	2.37	0.60
21:AA:1003:G:C2	21:AA:1037:C:O2	2.54	0.60
26:BD:257:LEU:O	59:BA:1797:C:H4'	2.02	0.60
27:BE:62:PRO:HD3	59:BA:2787:C:O4'	2.02	0.60
28:BF:191:ARG:O	28:BF:193:VAL:N	2.35	0.60
34:BO:35:VAL:HG11	34:BO:103:ALA:HB3	1.84	0.60
34:BO:82:ASN:ND2	59:BA:1666:G:OP1	2.35	0.60
39:BT:64:ARG:HH12	39:BT:103:ARG:HA	1.66	0.60
51:B7:19:ARG:HB2	59:BA:125:G:H5"	1.83	0.60
59:BA:863:A:O2'	60:BB:100:G:O2'	2.18	0.60
59:BA:1199:U:H2'	59:BA:1200:C:C6	2.36	0.60
59:BA:2136:C:N3	59:BA:2155:G:N2	2.49	0.60
21:CA:1006:C:N4	21:CA:1023:G:H1	1.98	0.60
21:CA:1268:A:N3	21:CA:1326:C:O2'	2.34	0.60
59:DA:1948:G:H1	59:DA:1958:C:H42	1.50	0.60
59:DA:2629:A:O2'	59:DA:2895:U:O4	2.19	0.60
30:BH:30:LYS:HG2	30:BH:81:GLU:HG2	1.82	0.60
35:BP:49:ARG:O	35:BP:50:ARG:NH2	2.33	0.60
59:BA:962:G:O2'	59:BA:2496:C:O2'	2.19	0.60
59:BA:1796:U:H2'	59:BA:1797:C:C6	2.37	0.60
1:CB:161:ALA:HB1	1:CB:185:ILE:HG12	1.82	0.60
5:CF:2:ARG:HG2	5:CF:92:LYS:HE2	1.82	0.60
11:CL:34:ARG:HD3	11:CL:82:VAL:HG13	1.82	0.60
12:CM:50:GLU:O	12:CM:53:VAL:N	2.35	0.60
21:CA:748:C:O2'	21:CA:749:C:OP2	2.13	0.60
21:CA:946:A:H2'	21:CA:947:G:H8	1.66	0.60
21:CA:1408:A:H61	24:CU:1:KBE:HAA	1.67	0.60
20:CY:25:LYS:NZ	61:CY:701:GNP:O1B	2.33	0.60
20:CY:604:PRO:HB2	20:CY:649:LEU:HD12	1.84	0.60
26:DD:208:LYS:NZ	59:DA:729:G:O5'	2.33	0.60
33:DN:118:LYS:NZ	59:DA:2780:G:OP1	2.22	0.60
38:DS:63:THR:OG1	60:DB:50:G:OP1	2.16	0.60
44:DY:73:ARG:HD2	59:DA:335:C:H4'	1.82	0.60
46:D0:11:ARG:O	46:D0:14:ARG:NH2	2.34	0.60
59:DA:2830:G:O2'	59:DA:2883:A:N1	2.31	0.60
21:AA:137:C:H42	21:AA:226:G:H1	1.49	0.60
30:BH:41:MET:HB2	30:BH:54:ARG:HA	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:447:A:H4'	59:BA:448:U:H5'	1.84	0.60
59:BA:2494:G:H2'	59:BA:2495:G:H8	1.66	0.60
59:BA:2698:U:H2'	59:BA:2699:C:C6	2.37	0.60
1:CB:24:TRP:HZ3	1:CB:26:PRO:HA	1.65	0.60
8:CI:120:ARG:HG3	21:CA:1348:U:H4'	1.83	0.60
21:CA:114:U:H2'	21:CA:115:G:C8	2.37	0.60
20:CY:18:ALA:HB1	20:CY:121:VAL:HG11	1.83	0.60
29:DG:145:THR:OG1	29:DG:146:TYR:N	2.27	0.60
38:DS:51:ALA:HB1	38:DS:69:VAL:HG22	1.82	0.60
40:DU:34:LYS:NZ	59:DA:2018:G:N3	2.50	0.60
58:De:74:VAL:HG13	58:De:78:LEU:HD12	1.84	0.60
20:AY:338:GLY:O	20:AY:351:ARG:NH2	2.34	0.60
21:AA:34:C:H2'	21:AA:35:G:C8	2.37	0.60
21:AA:545:C:O2'	21:AA:549:C:OP1	2.19	0.60
35:BP:70:GLN:H	59:BA:245:G:H5'	1.66	0.60
42:BW:36:LEU:HD13	42:BW:48:ALA:HA	1.84	0.60
44:BY:7:VAL:HG11	59:BA:336:C:H5"	1.83	0.60
52:B8:33:ASN:HD22	59:BA:2419:U:P	2.25	0.60
59:BA:307:G:H21	59:BA:330:A:H62	1.48	0.60
60:BB:30:C:O2'	60:BB:57:A:N1	2.31	0.60
4:CE:11:ILE:O	4:CE:31:LEU:HB3	2.01	0.60
8:CI:71:SER:HB3	21:CA:1372:U:H5"	1.84	0.60
21:CA:1491:G:H5"	21:CA:1492:A:OP2	2.02	0.60
20:CY:118:SER:HA	20:CY:121:VAL:HG23	1.83	0.60
27:DE:131:ALA:HB1	27:DE:133:LYS:HG3	1.84	0.60
33:DN:61:ARG:HG2	33:DN:61:ARG:HH11	1.67	0.60
40:DU:16:LYS:NZ	59:DA:1226:A:OP1	2.35	0.60
59:DA:37:C:H2'	59:DA:38:A:C8	2.37	0.60
59:DA:119:A:H4'	59:DA:120:U:H5'	1.83	0.60
59:DA:1059:G:H1	59:DA:1079:C:N4	2.00	0.60
59:DA:2557:G:H2'	59:DA:2558:C:C6	2.36	0.60
1:AB:167:PRO:O	1:AB:171:ALA:HB2	2.00	0.60
9:AJ:50:ILE:HG13	9:AJ:52:GLY:H	1.67	0.60
27:BE:22:PRO:O	27:BE:186:GLY:N	2.31	0.60
35:BP:45:LEU:HG	35:BP:46:LYS:HD2	1.83	0.60
35:BP:122:PRO:HG3	35:BP:141:ALA:HB3	1.83	0.60
40:BU:95:LEU:O	40:BU:98:LEU:HB3	2.01	0.60
59:BA:850:C:H2'	59:BA:851:U:O4'	2.02	0.60
59:BA:1771:C:H2'	59:BA:1772:G:C8	2.35	0.60
59:BA:2466:C:H42	59:BA:2484:G:H1	1.49	0.60
3:CD:155:LEU:HB3	3:CD:158:ILE:HD13	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:CJ:79:ARG:HH22	9:CJ:82:ILE:HD12	1.66	0.60
21:CA:565:U:OP2	21:CA:566:G:O2'	2.19	0.60
21:CA:1513:A:H2'	21:CA:1514:C:C6	2.37	0.60
28:DF:105:VAL:HG22	59:DA:600:G:H1'	1.82	0.60
30:DH:175:LYS:HD3	30:DH:176:ALA:H	1.66	0.60
34:DO:25:LEU:HB3	34:DO:38:VAL:HG23	1.84	0.60
45:DZ:144:LEU:HD21	45:DZ:150:LEU:HD22	1.84	0.60
59:DA:299:A:N1	59:DA:322:A:O2'	2.30	0.60
59:DA:1844:C:H42	59:DA:1896:G:H1	1.48	0.60
59:DA:1972:A:H2'	59:DA:1973:G:H8	1.67	0.60
59:DA:2817:G:H21	59:DA:2836:U:H1'	1.67	0.60
19:AT:102:GLY:O	21:AA:191:G:O2'	2.16	0.60
20:AY:150:ILE:HA	20:AY:153:MET:SD	2.42	0.60
20:AY:543:GLN:O	20:AY:545:GLY:N	2.34	0.60
21:AA:892:A:O2'	21:AA:1415:G:H4'	2.02	0.60
21:AA:1262:C:H2'	21:AA:1263:C:C6	2.36	0.60
26:BD:59:LYS:HB3	59:BA:1568:G:H4'	1.82	0.60
26:BD:148:GLU:HB3	26:BD:151:LYS:HG3	1.83	0.60
27:BE:37:ARG:HD2	27:BE:42:ASP:CG	2.26	0.60
28:BF:77:ASP:OD1	28:BF:77:ASP:N	2.32	0.60
32:BK:19:PRO:HD3	32:BK:34:ILE:HD11	1.83	0.60
35:BP:104:GLY:H	35:BP:105:LEU:HD12	1.66	0.60
37:BR:53:HIS:CD2	59:BA:2840:C:H5"	2.36	0.60
42:BW:20:VAL:HA	49:B5:25:LEU:HD22	1.82	0.60
42:BW:38:TYR:CE2	49:B5:41:PRO:HD3	2.37	0.60
59:BA:1817:G:H2'	59:BA:1818:U:H5'	1.84	0.60
4:CE:98:THR:HB	4:CE:117:ASP:HB3	1.84	0.60
14:CO:43:LEU:HD22	14:CO:47:LYS:HA	1.83	0.60
21:CA:566:G:H4'	21:CA:567:G:H5'	1.84	0.60
21:CA:1316:G:N1	21:CA:1319:A:OP2	2.35	0.60
22:CW:37:A:N1	23:CV:16:A:C6	2.70	0.60
20:CY:255:ILE:HG23	20:CY:257:PRO:HD3	1.84	0.60
26:DD:244:ARG:NH1	59:DA:1841:U:O2'	2.34	0.60
34:DO:104:ARG:NE	34:DO:122:LEU:O	2.34	0.60
42:DW:11:ARG:NH2	42:DW:99:ARG:O	2.34	0.60
42:DW:19:LEU:HD12	49:D5:25:LEU:H	1.66	0.60
52:D8:56:GLU:HA	52:D8:59:LYS:HE2	1.84	0.60
59:DA:655:A:H2'	59:DA:656:G:O4'	2.02	0.60
59:DA:1102:C:H2'	59:DA:1103:A:H8	1.67	0.60
59:DA:1230:C:H2'	59:DA:1231:G:C8	2.37	0.60
6:AG:71:PRO:HB3	6:AG:138:LYS:HG2	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:BK:54:PRO:HD2	32:BK:70:LYS:HB2	1.83	0.59
59:BA:769:G:H2'	59:BA:770:G:C8	2.34	0.59
59:BA:1139:G:O2'	59:BA:1143:A:N1	2.33	0.59
21:CA:390:C:H2'	21:CA:391:G:C8	2.37	0.59
20:CY:9:LEU:H	20:CY:12:LEU:HD23	1.67	0.59
27:DE:91:VAL:HB	27:DE:95:ILE:HD12	1.84	0.59
33:DN:73:THR:HB	33:DN:82:LEU:HD11	1.82	0.59
44:DY:9:LYS:O	44:DY:28:LYS:NZ	2.23	0.59
47:D2:45:SER:O	47:D2:46:GLN:NE2	2.35	0.59
59:DA:1268:A:H2'	59:DA:1269:A:O4'	2.01	0.59
59:DA:1536:A:H3'	59:DA:1537:C:C6	2.37	0.59
4:AE:109:ILE:HD12	4:AE:135:THR:HB	1.84	0.59
21:AA:398:C:H2'	21:AA:399:G:C8	2.37	0.59
21:AA:605:U:H2'	21:AA:606:G:C8	2.38	0.59
21:AA:1440(J):C:H1'	21:AA:1440(K):G:N2	2.17	0.59
37:BR:44:LEU:O	37:BR:48:VAL:HG23	2.02	0.59
57:B4:15:ILE:HD12	57:B4:32:TYR:HD2	1.66	0.59
59:BA:863:A:HO2'	60:BB:100:G:HO2'	1.50	0.59
59:BA:1024:G:OP2	59:BA:1025:G:H3'	2.01	0.59
59:BA:1295:C:H2'	59:BA:1296:G:H8	1.67	0.59
59:BA:1748:G:H2'	59:BA:1749:A:C8	2.37	0.59
26:DD:157:ARG:NH2	59:DA:1818:U:H6	1.99	0.59
32:DK:30:HIS:CE1	32:DK:32:ALA:HB2	2.37	0.59
33:DN:39:ARG:C	33:DN:41:ASP:H	2.09	0.59
40:DU:34:LYS:HZ3	59:DA:2018:G:H21	1.48	0.59
56:D1:16:ASN:O	59:DA:380:U:O2'	2.19	0.59
59:DA:401:A:H2'	59:DA:402:A:C8	2.37	0.59
59:DA:814:C:N3	59:DA:1193:G:N2	2.39	0.59
59:DA:819:A:OP2	59:DA:1187:G:N2	2.31	0.59
59:DA:1346:G:N2	59:DA:1600:C:N3	2.42	0.59
59:DA:2136:C:N3	59:DA:2155:G:N2	2.44	0.59
4:AE:40:ARG:HG2	4:AE:68:GLU:HB3	1.85	0.59
4:AE:127:ASN:HD21	21:AA:18:C:H5"	1.67	0.59
5:AF:69:GLU:O	5:AF:71:ARG:N	2.35	0.59
21:AA:691:G:H2'	21:AA:692:U:C6	2.37	0.59
21:AA:1468:A:H2'	21:AA:1469:G:O4'	2.01	0.59
35:BP:21:ARG:HH21	35:BP:29:LYS:HE3	1.67	0.59
37:BR:97:VAL:HA	37:BR:113:LEU:O	2.02	0.59
39:BT:121:ILE:O	39:BT:125:ARG:HG2	2.02	0.59
40:BU:25:TRP:O	40:BU:28:ARG:HG2	2.02	0.59
59:BA:877:U:H3	59:BA:899:A:H2	1.49	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CD:8:VAL:HG22	21:CA:430:A:OP2	2.02	0.59
7:CH:95:VAL:HG21	7:CH:133:LEU:HD12	1.82	0.59
20:CY:34:TYR:HB3	20:CY:36:THR:HG23	1.83	0.59
39:DT:49:VAL:HG22	39:DT:50:ILE:H	1.67	0.59
59:DA:900:A:H2'	59:DA:901:A:O4'	2.01	0.59
59:DA:1707:G:H1	59:DA:1751:C:H42	1.48	0.59
4:AE:144:THR:H	4:AE:147:ASP:HB2	1.65	0.59
5:AF:50:TYR:OH	17:AR:74:ARG:O	2.19	0.59
9:AJ:62:HIS:CD2	13:AN:61:TRP:HZ3	2.20	0.59
11:AL:117:ARG:HD3	11:AL:125:PRO:CD	2.31	0.59
16:AQ:73:VAL:O	16:AQ:74:LEU:HB2	2.02	0.59
20:AY:329:ARG:HH21	20:AY:372:GLY:HA2	1.67	0.59
20:AY:380:LEU:HD23	20:AY:383:THR:HG21	1.85	0.59
21:AA:481:G:O2'	21:AA:483:C:N4	2.36	0.59
39:BT:27:THR:O	39:BT:87:ASP:HB2	2.02	0.59
45:BZ:5:LEU:HD11	45:BZ:44:PHE:HA	1.84	0.59
59:BA:830:G:N2	59:BA:2445:G:O2'	2.34	0.59
19:CT:14:LYS:NZ	21:CA:104:G:O6	2.23	0.59
21:CA:1022:G:H2'	21:CA:1023:G:O4'	2.03	0.59
27:DE:66:HIS:O	27:DE:68:ALA:N	2.35	0.59
34:DO:2:ILE:HB	34:DO:33:ALA:HB3	1.83	0.59
44:DY:94:LYS:HG3	44:DY:102:CYS:HB2	1.84	0.59
51:D7:8:ASN:HB3	51:D7:11:LYS:HB3	1.83	0.59
56:D1:88:LYS:NZ	59:DA:1361:G:OP1	2.34	0.59
11:AL:109:GLY:HA3	11:AL:121:GLY:HA3	1.84	0.59
15:AP:45:THR:O	15:AP:47:ASP:N	2.34	0.59
21:AA:618:C:H5"	21:AA:619:U:H5"	1.84	0.59
26:BD:83:GLU:OE1	26:BD:104:TYR:OH	2.18	0.59
28:BF:54:ARG:NH1	59:BA:673:C:OP1	2.35	0.59
32:BK:90:LYS:HG2	59:BA:1076:C:H1'	1.84	0.59
33:BN:1:MET:HE3	33:BN:2:LYS:H	1.67	0.59
35:BP:95:VAL:HG23	35:BP:125:VAL:HA	1.83	0.59
36:BQ:54:MET:HG2	36:BQ:117:ALA:HB1	1.84	0.59
37:BR:9:LYS:HZ1	37:BR:39:PRO:HB3	1.67	0.59
49:B5:40:LYS:HE2	49:B5:46:CYS:HB2	1.83	0.59
59:BA:1858:G:H1'	59:BA:1884:A:N6	2.17	0.59
3:CD:89:THR:OG1	4:CE:97:GLY:O	2.20	0.59
11:CL:77:LEU:HB3	11:CL:81:SER:OG	2.03	0.59
11:CL:124:LYS:O	11:CL:126:LYS:N	2.32	0.59
25:DC:132:LEU:O	25:DC:137:LEU:N	2.33	0.59
30:DH:97:ARG:HD3	30:DH:99:VAL:HB	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DN:103:VAL:HG11	33:DN:120:LEU:HD13	1.84	0.59
51:D7:13:ALA:O	51:D7:17:GLY:N	2.35	0.59
59:DA:137(B):G:H1	59:DA:141(B):C:H42	1.51	0.59
59:DA:2853:C:H2'	59:DA:2854:G:H8	1.68	0.59
3:AD:155:LEU:O	3:AD:159:ARG:NE	2.35	0.59
3:AD:190:ASP:H	3:AD:193:ASP:HB2	1.66	0.59
9:AJ:28:ARG:HG3	9:AJ:34:VAL:HB	1.83	0.59
11:AL:93:LEU:O	11:AL:95:GLY:N	2.35	0.59
20:AY:35:TYR:HE2	20:AY:72:CYS:HA	1.67	0.59
21:AA:186(L):G:H2'	21:AA:186(M):G:C8	2.38	0.59
21:AA:592:G:H2'	21:AA:593:G:H8	1.66	0.59
21:AA:714:G:H2'	21:AA:715:A:C8	2.38	0.59
21:AA:1234:C:H2'	21:AA:1235:U:O4'	2.03	0.59
28:BF:154:VAL:HG12	28:BF:156:LEU:HA	1.83	0.59
28:BF:156:LEU:HD23	28:BF:175:THR:HB	1.83	0.59
38:BS:26:LEU:HG	38:BS:39:ILE:HG13	1.84	0.59
12:CM:31:LYS:HA	12:CM:34:LEU:HB2	1.84	0.59
18:CS:71:LEU:O	18:CS:73:GLU:N	2.35	0.59
21:CA:421:U:O2'	21:CA:423:G:O6	2.16	0.59
21:CA:1327:C:H2'	21:CA:1328:C:C6	2.38	0.59
20:CY:8:ASP:HB3	20:CY:10:LYS:H	1.68	0.59
20:CY:675:HIS:NE2	20:CY:677:GLN:OE1	2.35	0.59
20:CY:682:GLN:HA	20:CY:685:GLU:HB2	1.83	0.59
25:DC:41:THR:O	25:DC:176:VAL:N	2.36	0.59
25:DC:44:VAL:HB	25:DC:174:ALA:HB3	1.85	0.59
28:DF:10:PRO:HG3	28:DF:19:GLU:HA	1.85	0.59
28:DF:117:ARG:HB2	28:DF:186:ILE:HD11	1.85	0.59
34:DO:77:ILE:HD13	39:DT:74:ARG:HG2	1.84	0.59
37:DR:64:ARG:NH2	59:DA:2851:A:O2'	2.35	0.59
39:DT:89:VAL:HG12	39:DT:91:ARG:HG3	1.85	0.59
44:DY:76:CYS:O	44:DY:78:ALA:N	2.36	0.59
59:DA:1094:U:N3	59:DA:1097:U:OP2	2.34	0.59
20:AY:31:ARG:HA	20:AY:33:LEU:HD22	1.85	0.59
20:AY:493:VAL:HB	20:AY:512:ILE:HD11	1.84	0.59
59:BA:322:A:O4'	59:BA:340:A:H1'	2.03	0.59
15:CP:59:TRP:HA	15:CP:59:TRP:CE3	2.38	0.59
21:CA:1427:U:H2'	21:CA:1428:A:H8	1.68	0.59
21:CA:1507:A:P	23:CV:15:A:H61	2.25	0.59
26:DD:226:MET:HG2	59:DA:782:A:C2	2.38	0.59
59:DA:307:G:H21	59:DA:330:A:H62	1.51	0.59
59:DA:1231:G:H2'	59:DA:1232:G:C8	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1324:G:H1'	59:DA:1616:A:N6	2.18	0.59
59:DA:1468:C:H2'	59:DA:1469:A:C8	2.38	0.59
59:DA:2818:G:O6	59:DA:2828:C:N3	2.35	0.59
1:AB:118:LEU:HD22	1:AB:142:LEU:HG	1.85	0.59
6:AG:98:SER:HA	6:AG:101:LEU:HD12	1.83	0.59
10:AK:82:VAL:HB	10:AK:108:ILE:HA	1.85	0.59
16:AQ:51:TYR:HE2	16:AQ:73:VAL:HG21	1.65	0.59
21:AA:293:G:O6	21:AA:304:U:O2	2.21	0.59
21:AA:892:A:H2'	21:AA:893:C:C6	2.37	0.59
32:BK:105:LEU:HD23	32:BK:106:GLU:H	1.66	0.59
40:BU:96:ALA:O	40:BU:99:ALA:N	2.31	0.59
44:BY:76:CYS:O	44:BY:78:ALA:N	2.36	0.59
52:B8:22:VAL:HG21	52:B8:53:PRO:O	2.02	0.59
59:BA:198:C:N4	59:BA:248:G:H1	2.00	0.59
59:BA:1748:G:H2'	59:BA:1749:A:H8	1.68	0.59
3:CD:22:LYS:H	3:CD:26:CYS:HB2	1.67	0.59
6:CG:22:LEU:HG	6:CG:62:PHE:CE2	2.38	0.59
12:CM:86:CYS:HB3	18:CS:74:PHE:HE1	1.68	0.59
18:CS:62:ILE:HA	18:CS:66:MET:HG3	1.85	0.59
25:DC:59:VAL:HG13	25:DC:202:PRO:HD3	1.84	0.59
26:DD:88:ARG:NH2	59:DA:1817:G:OP1	2.34	0.59
30:DH:16:SER:N	30:DH:27:LYS:O	2.34	0.59
59:DA:828:U:H4'	59:DA:831:G:N1	2.17	0.59
59:DA:848:G:C2	59:DA:933:A:H1'	2.37	0.59
59:DA:1861:G:H2'	59:DA:1862:G:H8	1.67	0.59
59:DA:2023:G:H5'	59:DA:2617:C:H4'	1.85	0.59
59:DA:2134:A:H2	59:DA:2159:G:HO2'	1.51	0.59
60:DB:66:A:N6	60:DB:108:C:OP2	2.35	0.59
3:AD:173:TRP:HB2	3:AD:186:LEU:HB2	1.85	0.59
7:AH:44:PHE:CE1	7:AH:80:ILE:HG13	2.38	0.59
8:AI:10:ARG:HG2	8:AI:105:ASP:HB2	1.84	0.59
11:AL:39:VAL:HB	11:AL:55:VAL:HG11	1.85	0.59
22:AW:20:U:OP1	59:BA:2112:G:O2'	2.19	0.59
31:BJ:58:UNK:C	31:BJ:60:UNK:N	2.64	0.59
33:BN:58:ASP:HB3	33:BN:124:ALA:HB1	1.84	0.59
36:BQ:74:TYR:N	36:BQ:90:VAL:O	2.36	0.59
37:BR:79:LEU:HB3	37:BR:80:PHE:CD2	2.38	0.59
59:BA:686:G:H21	59:BA:788:A:N6	2.01	0.59
59:BA:1317:A:H61	59:BA:1335:U:H3	1.51	0.59
59:BA:2649:U:H2'	59:BA:2650:U:C6	2.37	0.59
1:CB:215:LEU:O	1:CB:218:ALA:N	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CE:121:LYS:HG3	4:CE:122:GLU:H	1.67	0.59
9:CJ:89:ASP:OD1	9:CJ:90:LEU:N	2.35	0.59
13:CN:24:CYS:HB3	13:CN:28:GLY:H	1.68	0.59
20:CY:11:ARG:HD3	20:CY:40:HIS:CE1	2.37	0.59
25:DC:28:ARG:HE	25:DC:183:PRO:HB2	1.68	0.59
25:DC:63:VAL:HG12	25:DC:162:ILE:HB	1.84	0.59
25:DC:216:THR:HA	25:DC:221:PRO:O	2.03	0.59
28:DF:89:VAL:HG21	59:DA:586:A:H5'	1.85	0.59
33:DN:39:ARG:HH21	33:DN:41:ASP:HB3	1.68	0.59
34:DO:37:ASP:N	34:DO:37:ASP:OD1	2.36	0.59
40:DU:56:ASP:O	40:DU:59:ARG:HB3	2.03	0.59
59:DA:855:G:H1	59:DA:922:U:H3	1.51	0.59
59:DA:1674:G:H21	59:DA:1677:A:H61	1.50	0.59
59:DA:2669:G:H2'	59:DA:2670:A:H8	1.67	0.59
60:DB:18:G:H2'	60:DB:19:G:C8	2.37	0.59
21:AA:112:G:N2	21:AA:315:A:N1	2.47	0.59
21:AA:371:G:O2'	21:AA:373:A:N7	2.35	0.59
21:AA:960:U:H2'	21:AA:1225:A:H62	1.67	0.59
21:AA:1137:C:O2'	21:AA:1138:G:N2	2.36	0.59
33:BN:114:ARG:HB2	33:BN:114:ARG:NH1	2.17	0.59
38:BS:68:GLN:O	38:BS:72:ALA:N	2.31	0.59
42:BW:4:LYS:HA	42:BW:106:ILE:HG12	1.85	0.59
59:BA:198:C:H2'	59:BA:199:A:H5"	1.85	0.59
49:D5:16:ARG:NH1	59:DA:1263:U:OP1	2.32	0.59
56:D1:81:LYS:HE2	59:DA:270(J):G:H5"	1.85	0.59
59:DA:77:C:H42	59:DA:109:G:H1	1.51	0.59
59:DA:134:C:H42	59:DA:145:G:H1	1.50	0.59
1:AB:85:ALA:O	1:AB:89:GLY:N	2.36	0.58
3:AD:127:THR:HA	3:AD:132:ARG:HA	1.85	0.58
21:AA:710:G:H2'	21:AA:711:G:C8	2.36	0.58
46:B0:27:GLU:HA	46:B0:67:VAL:HB	1.84	0.58
53:B9:7:VAL:HG12	53:B9:34:GLN:HB3	1.84	0.58
56:B1:22:GLY:O	56:B1:37:ILE:N	2.35	0.58
59:BA:47:C:HO2'	59:BA:52:A:HO2'	1.39	0.58
59:BA:128:C:H2'	59:BA:129:C:H6	1.68	0.58
59:BA:719:C:H2'	59:BA:720:C:C6	2.37	0.58
2:CC:156:ARG:NE	2:CC:159:GLY:O	2.36	0.58
6:CG:80:VAL:HB	6:CG:83:ALA:HB3	1.85	0.58
21:CA:1309:G:H2'	21:CA:1310:G:C8	2.37	0.58
30:DH:103:LEU:HG	30:DH:105:LEU:HD22	1.84	0.58
34:DO:64:ARG:HG2	34:DO:79:PHE:CD2	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:DS:47:THR:O	38:DS:48:LEU:HB2	2.03	0.58
45:DZ:5:LEU:HD12	45:DZ:47:VAL:HG11	1.84	0.58
45:DZ:73:GLN:OE1	60:DB:102:G:N2	2.33	0.58
59:DA:137(B):G:O2'	59:DA:138:G:N2	2.36	0.58
3:AD:145:GLU:HA	3:AD:184:LYS:HA	1.85	0.58
5:AF:92:LYS:O	5:AF:94:GLN:N	2.34	0.58
17:AR:30:ASP:OD2	17:AR:33:ASP:HB2	2.03	0.58
20:AY:16:GLY:H	20:AY:104:ALA:HA	1.67	0.58
20:AY:215:LYS:O	20:AY:219:VAL:N	2.34	0.58
21:AA:777:A:H2'	21:AA:778:G:C8	2.38	0.58
21:AA:1113:C:H2'	21:AA:1114:C:C6	2.38	0.58
21:AA:1404:C:H2'	21:AA:1405:G:C8	2.37	0.58
26:BD:220:HIS:N	59:BA:1790:C:OP1	2.36	0.58
28:BF:158:THR:HB	28:BF:194:MET:HA	1.85	0.58
35:BP:17:LYS:HE3	59:BA:662:G:H4'	1.85	0.58
56:B1:21:ARG:NH1	56:B1:22:GLY:O	2.37	0.58
59:BA:270(C):A:H62	59:BA:270(Y):G:H21	1.50	0.58
59:BA:949:C:N3	59:BA:968:G:N2	2.47	0.58
59:BA:2529:G:OP2	59:BA:2530:A:H8	1.85	0.58
59:BA:2861:G:H2'	59:BA:2862:G:H8	1.68	0.58
1:CB:152:PHE:CE1	1:CB:155:LEU:HB3	2.38	0.58
12:CM:91:ARG:HH21	12:CM:96:LEU:HD13	1.68	0.58
13:CN:25:VAL:H	13:CN:39:LEU:HD23	1.68	0.58
15:CP:23:ASP:O	15:CP:25:ARG:N	2.35	0.58
21:CA:438:G:O2'	21:CA:494:U:O4	2.16	0.58
40:DU:61:TRP:CE2	40:DU:94:ASN:HB2	2.38	0.58
59:DA:136:G:H1	59:DA:143:C:N4	1.99	0.58
59:DA:528:A:C2	59:DA:2043:C:H4'	2.38	0.58
59:DA:1429:G:H2'	59:DA:1430:C:C6	2.37	0.58
59:DA:1937:A:N7	59:DA:1939:U:H2'	2.18	0.58
1:AB:171:ALA:HA	1:AB:174:VAL:H	1.68	0.58
6:AG:140:ASP:HA	6:AG:143:ARG:HD2	1.86	0.58
19:AT:102:GLY:C	19:AT:104:LEU:H	2.10	0.58
20:AY:443:HIS:HE2	20:AY:480:GLN:HB2	1.68	0.58
21:AA:571:U:H5"	21:AA:819:A:C4	2.38	0.58
30:BH:89:ILE:HG22	30:BH:162:ILE:HG12	1.85	0.58
34:BO:103:ALA:HB1	34:BO:105:GLU:OE1	2.02	0.58
35:BP:25:SER:OG	35:BP:27:HIS:O	2.21	0.58
40:BU:28:ARG:HD3	40:BU:38:THR:OG1	2.04	0.58
45:BZ:72:ARG:NH2	60:BB:104:A:OP1	2.36	0.58
51:B7:30:VAL:HG21	59:BA:466:A:H4'	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:112:U:H2'	59:BA:113:G:H8	1.68	0.58
59:BA:1019:U:C2	59:BA:1020:A:N7	2.71	0.58
59:BA:1796:U:H2'	59:BA:1797:C:H6	1.68	0.58
2:CC:68:VAL:HG12	2:CC:70:VAL:HG22	1.85	0.58
21:CA:197:A:C6	21:CA:221:C:H4'	2.39	0.58
21:CA:409:G:H1	21:CA:433:C:H42	1.49	0.58
20:CY:409:ILE:HD11	20:CY:657:THR:H	1.68	0.58
27:DE:25:VAL:HG22	27:DE:183:LEU:HG	1.84	0.58
35:DP:62:LEU:HD23	35:DP:62:LEU:H	1.67	0.58
41:DV:87:HIS:HE1	59:DA:1163:G:N2	2.01	0.58
46:D0:27:GLU:HB3	46:D0:68:GLU:HA	1.85	0.58
47:D2:9:GLN:HE22	47:D2:56:GLN:HG2	1.68	0.58
59:DA:11:G:N2	59:DA:2628:C:OP1	2.35	0.58
59:DA:1258:C:H2'	59:DA:1259:G:H8	1.68	0.58
59:DA:1347:G:H2'	59:DA:1348:G:C8	2.37	0.58
8:AI:20:ARG:O	8:AI:60:ASP:N	2.36	0.58
11:AL:6:THR:O	11:AL:8:ASN:N	2.35	0.58
12:AM:66:LEU:HB3	12:AM:67:GLU:HG2	1.84	0.58
18:AS:41:VAL:HG22	18:AS:44:MET:HE3	1.85	0.58
19:AT:49:ALA:HB1	19:AT:53:LEU:HD23	1.85	0.58
20:AY:41:LYS:HG2	20:AY:43:GLY:H	1.68	0.58
20:AY:56:GLU:HB2	20:AY:59:ARG:HE	1.67	0.58
21:AA:923:A:H2'	21:AA:924:C:O4'	2.04	0.58
21:AA:1158:C:O2'	21:AA:1160:G:OP1	2.14	0.58
29:BG:48:GLU:O	29:BG:50:ALA:N	2.35	0.58
30:BH:152:ARG:HB3	30:BH:162:ILE:HG13	1.84	0.58
33:BN:61:ARG:HG2	33:BN:61:ARG:HH11	1.67	0.58
35:BP:55:ARG:HH12	59:BA:2358:G:H1	1.51	0.58
49:B5:3:LYS:HE3	49:B5:5:PRO:HG2	1.85	0.58
59:BA:2557:G:H2'	59:BA:2558:C:C6	2.39	0.58
11:CL:16:GLU:O	21:CA:562:C:O2'	2.10	0.58
13:CN:60:SER:HB3	21:CA:1187:G:H21	1.68	0.58
19:CT:10:LEU:HG	19:CT:11:SER:H	1.68	0.58
21:CA:743:U:H2'	21:CA:744:C:C6	2.38	0.58
22:CW:35:A:H2	23:CV:18:G:N1	2.02	0.58
26:DD:147:LEU:HD13	26:DD:155:LEU:HD11	1.85	0.58
45:DZ:10:ARG:HG2	45:DZ:11:GLU:H	1.68	0.58
46:D0:23:VAL:HG21	59:DA:857:C:H4'	1.86	0.58
1:AB:48:MET:HA	1:AB:51:LEU:HB2	1.85	0.58
2:AC:73:PRO:HD3	2:AC:105:GLU:HB3	1.84	0.58
3:AD:144:ASP:O	3:AD:185:PHE:N	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AD:155:LEU:HB3	3:AD:158:ILE:HD13	1.84	0.58
20:AY:543:GLN:O	20:AY:546:ILE:N	2.22	0.58
20:AY:616:TYR:CB	20:AY:663:THR:HA	2.33	0.58
21:AA:287:U:H2'	21:AA:288:A:C8	2.39	0.58
21:AA:673:G:H2'	21:AA:674:G:C8	2.38	0.58
21:AA:973:G:H3'	21:AA:974:A:H5"	1.84	0.58
21:AA:1310:G:H2'	21:AA:1311:G:O4'	2.03	0.58
21:AA:1427:U:H2'	21:AA:1428:A:C8	2.38	0.58
25:BC:30:VAL:HG22	25:BC:33:LEU:HD12	1.85	0.58
27:BE:143:ASN:HD21	59:BA:2572:A:P	2.26	0.58
28:BF:7:TYR:HD2	28:BF:19:GLU:HG3	1.67	0.58
29:BG:173:LEU:O	29:BG:178:PHE:N	2.37	0.58
32:BK:14:ALA:HB3	32:BK:51:ALA:H	1.69	0.58
49:B5:7:PRO:HA	59:BA:2615:U:C2	2.38	0.58
59:BA:448:U:H3'	59:BA:449:A:H8	1.68	0.58
59:BA:2008:C:H2'	59:BA:2009:G:H8	1.67	0.58
3:CD:72:GLU:HG3	21:CA:546:G:OP2	2.04	0.58
8:CI:24:GLY:N	8:CI:60:ASP:OD2	2.33	0.58
9:CJ:50:ILE:HA	9:CJ:60:ARG:HA	1.84	0.58
11:CL:45:PRO:O	11:CL:47:LYS:N	2.37	0.58
21:CA:545:C:O2'	21:CA:549:C:OP1	2.21	0.58
21:CA:1144:G:H21	21:CA:1146:A:H62	1.52	0.58
21:CA:1404:C:H2'	21:CA:1405:G:C8	2.38	0.58
29:DG:112:PRO:CA	29:DG:113:ARG:N	2.62	0.58
37:DR:96:ARG:N	37:DR:117:VAL:HG21	2.19	0.58
42:DW:18:ARG:NH2	59:DA:517:C:O2'	2.35	0.58
59:DA:329:G:P	59:DA:329:G:H8	2.26	0.58
59:DA:836:G:H2'	59:DA:837:C:C6	2.38	0.58
59:DA:1148:A:H2'	59:DA:1149:G:C8	2.38	0.58
59:DA:1207:C:N3	59:DA:1239:G:N2	2.45	0.58
59:DA:1655:A:C2	59:DA:2049:G:H5"	2.38	0.58
59:DA:2125:G:H21	59:DA:2173:A:H62	1.51	0.58
11:AL:15:ARG:HB3	21:AA:562:C:H1'	1.84	0.58
11:AL:74:GLY:O	11:AL:102:ARG:NH2	2.37	0.58
20:AY:344:THR:HB	20:AY:388:THR:HB	1.86	0.58
20:AY:512:ILE:HA	20:AY:567:LEU:HD12	1.85	0.58
20:AY:573:HIS:HB3	20:AY:576:ASP:HB2	1.86	0.58
21:AA:5:U:O2'	21:AA:6:G:O5'	2.22	0.58
21:AA:151:A:N7	21:AA:170:U:O4	2.36	0.58
21:AA:1309:G:H2'	21:AA:1310:G:C8	2.39	0.58
25:BC:79:ALA:O	25:BC:81:GLY:N	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BG:65:GLY:HA2	57:B4:27:THR:HB	1.86	0.58
38:BS:63:THR:OG1	60:BB:50:G:OP1	2.16	0.58
44:BY:26:LYS:H	44:BY:40:GLU:HG2	1.69	0.58
46:B0:2:ALA:HA	59:BA:2494:G:H5'	1.86	0.58
50:B6:15:GLU:HB2	50:B6:20:ASN:HB2	1.86	0.58
59:BA:560:C:H2'	59:BA:561:G:H8	1.69	0.58
59:BA:1208:C:H2'	59:BA:1209:G:H8	1.69	0.58
59:BA:1591:G:H2'	59:BA:1592:C:C6	2.39	0.58
59:BA:2804:C:H2'	59:BA:2805:G:C8	2.38	0.58
3:CD:64:LEU:HB2	3:CD:198:VAL:HG11	1.86	0.58
4:CE:78:HIS:H	4:CE:78:HIS:CD2	2.22	0.58
6:CG:74:GLU:CD	6:CG:95:ARG:HH21	2.10	0.58
15:CP:5:ARG:NH2	15:CP:26:ARG:O	2.35	0.58
30:DH:55:PRO:HG2	30:DH:61:HIS:CE1	2.38	0.58
33:DN:41:ASP:HA	40:DU:64:ARG:HE	1.69	0.58
56:D1:35:THR:OG1	56:D1:36:GLY:N	2.36	0.58
59:DA:270(J):G:C6	59:DA:270(R):C:N4	2.72	0.58
59:DA:576:U:H2'	59:DA:577:G:C8	2.39	0.58
59:DA:1403:C:H5"	59:DA:1471:A:H1'	1.86	0.58
59:DA:1871:A:H2'	59:DA:1872:A:C8	2.39	0.58
2:AC:88:ARG:HH21	2:AC:100:ALA:HA	1.68	0.58
20:AY:133:ILE:HD12	20:AY:280:LEU:HD21	1.86	0.58
21:AA:55:A:H62	21:AA:357:G:H21	1.49	0.58
27:BE:2:LYS:NZ	27:BE:95:ILE:O	2.36	0.58
33:BN:30:ILE:HG23	33:BN:52:VAL:HG11	1.83	0.58
41:BV:10:LYS:NZ	41:BV:23:GLU:OE1	2.30	0.58
43:BX:11:PRO:O	43:BX:13:LEU:N	2.36	0.58
45:BZ:97:GLU:HG2	45:BZ:127:LYS:HB3	1.84	0.58
59:BA:270(C):A:H62	59:BA:270(Y):G:N2	2.01	0.58
59:BA:273(C):C:H2'	59:BA:273(D):C:C6	2.39	0.58
59:BA:307:G:N2	59:BA:309:G:H3'	2.18	0.58
59:BA:845:G:OP2	59:BA:845:G:N2	2.32	0.58
59:BA:2119:A:C2	59:BA:2171:A:H1'	2.38	0.58
60:BB:40:U:H3'	60:BB:41:U:H5"	1.84	0.58
1:CB:178:ARG:HG3	7:CH:72:PRO:HA	1.86	0.58
19:CT:61:SER:O	19:CT:65:LYS:HG2	2.04	0.58
21:CA:1228:C:H2'	21:CA:1229:A:H8	1.68	0.58
22:CW:69:A:H2'	22:CW:70:G:C8	2.39	0.58
20:CY:164:MET:HE2	20:CY:259:PHE:CZ	2.38	0.58
20:CY:229:LEU:HD11	58:De:67:ALA:HB1	1.86	0.58
28:DF:82:ILE:HD13	59:DA:673:C:H4'	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:DT:5:ALA:O	39:DT:9:LEU:HG	2.03	0.58
56:D1:37:ILE:HG12	59:DA:200:U:H4'	1.86	0.58
10:AK:81:ASP:HA	10:AK:106:LYS:O	2.02	0.58
10:AK:111:ASP:HA	17:AR:84:LYS:HG3	1.86	0.58
11:AL:84:LEU:HD22	11:AL:104:VAL:HG12	1.86	0.58
13:AN:35:ARG:HD3	13:AN:36:PHE:N	2.18	0.58
16:AQ:67:LYS:HD2	21:AA:266:G:H8	1.68	0.58
17:AR:74:ARG:HH22	21:AA:718:G:H1	1.50	0.58
21:AA:62:U:H2'	21:AA:63:C:C6	2.39	0.58
21:AA:192:U:H2'	21:AA:193:C:H6	1.67	0.58
21:AA:372:C:N4	21:AA:389:A:H62	1.99	0.58
21:AA:891:U:O4	21:AA:907:A:N7	2.37	0.58
33:BN:112:LEU:HD23	33:BN:113:GLY:H	1.68	0.58
41:BV:87:HIS:HE1	59:BA:1163:G:H21	1.51	0.58
42:BW:99:ARG:NH1	59:BA:1262:A:OP1	2.37	0.58
47:B2:38:GLN:HA	47:B2:41:ILE:HG23	1.84	0.58
59:BA:1295:C:H2'	59:BA:1296:G:C8	2.39	0.58
59:BA:2119:A:H2	59:BA:2171:A:H1'	1.67	0.58
60:BB:24:G:H1	60:BB:59:A:H61	1.49	0.58
1:CB:118:LEU:HD13	1:CB:142:LEU:HA	1.85	0.58
10:CK:17:GLY:O	10:CK:80:VAL:HA	2.04	0.58
21:CA:287:U:H2'	21:CA:288:A:C8	2.38	0.58
21:CA:1255:G:H2'	21:CA:1258:G:H21	1.69	0.58
21:CA:1401:G:H5"	23:CV:22:A:H62	1.68	0.58
26:DD:44:ASN:CB	26:DD:49:ILE:HA	2.30	0.58
27:DE:66:HIS:CD2	59:DA:2786:U:H4'	2.38	0.58
28:DF:154:VAL:HG23	28:DF:173:VAL:HG22	1.86	0.58
45:DZ:15:PRO:HG3	60:DB:76:G:H5"	1.86	0.58
47:D2:4:SER:HA	47:D2:7:ARG:HD2	1.85	0.58
59:DA:270(W):G:H2'	59:DA:270(X):G:H8	1.68	0.58
59:DA:2011:U:H2'	59:DA:2012:G:O4'	2.04	0.58
6:AG:111:ARG:HB3	6:AG:113:GLU:HG2	1.85	0.58
19:AT:65:LYS:NZ	21:AA:195:A:OP1	2.23	0.58
30:BH:87:LEU:HD21	30:BH:145:ALA:HB1	1.86	0.58
42:BW:25:ARG:CZ	42:BW:74:ALA:HB3	2.34	0.58
45:BZ:134:PRO:HG3	45:BZ:161:VAL:HG11	1.84	0.58
51:B7:10:ARG:NH1	59:BA:771:G:OP1	2.36	0.58
59:BA:83:G:H22	59:BA:102:G:H2'	1.68	0.58
59:BA:684:G:H21	59:BA:788:A:P	2.27	0.58
59:BA:910:A:H2'	59:BA:911:A:C8	2.38	0.58
59:BA:2795:G:H3'	59:BA:2797:U:C5'	2.34	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2861:G:H2'	59:BA:2862:G:C8	2.38	0.58
17:CR:38:GLU:O	17:CR:42:ARG:HG3	2.03	0.58
21:CA:811:C:O2'	21:CA:901:A:N1	2.37	0.58
21:CA:1148:U:H2'	21:CA:1149:C:O4'	2.04	0.58
20:CY:35:TYR:CD1	20:CY:36:THR:N	2.70	0.58
20:CY:457:LEU:HD13	59:DA:2662:A:H4'	1.86	0.58
26:DD:63:ARG:HB3	26:DD:104:TYR:CE1	2.39	0.58
33:DN:56:ASN:HA	33:DN:125:GLY:N	2.19	0.58
36:DQ:135:ASP:C	36:DQ:137:TYR:H	2.11	0.58
51:D7:40:TRP:CZ2	59:DA:458:G:H1'	2.39	0.58
59:DA:516:C:H2'	59:DA:517:C:C6	2.39	0.58
59:DA:1588:C:H2'	59:DA:1589:C:C6	2.38	0.58
59:DA:2136:C:H42	59:DA:2155:G:H1	1.52	0.58
6:AG:138:LYS:O	6:AG:142:GLU:HG2	2.04	0.58
15:AP:34:GLU:O	15:AP:36:ILE:HG12	2.03	0.58
20:AY:314:PHE:HZ	20:AY:374:LEU:HD23	1.69	0.58
21:AA:636:U:H2'	21:AA:637:G:H8	1.69	0.58
21:AA:828:A:H2'	21:AA:829:G:O4'	2.03	0.58
21:AA:1016:A:H8	21:AA:1016:A:O5'	1.87	0.58
32:BK:11:GLN:O	32:BK:13:PRO:HD3	2.04	0.58
33:BN:15:LEU:HB2	33:BN:134:ARG:HG2	1.84	0.58
40:BU:92:ARG:NH1	41:BV:11:GLN:O	2.37	0.58
44:BY:17:SER:OG	44:BY:18:GLY:N	2.37	0.58
59:BA:1090:U:H2'	59:BA:1091:G:C8	2.38	0.58
59:BA:1681:G:N3	59:BA:1762:A:H2'	2.18	0.58
1:CB:24:TRP:CZ3	1:CB:26:PRO:HA	2.38	0.58
6:CG:54:THR:OG1	6:CG:56:GLN:OE1	2.21	0.58
12:CM:91:ARG:HH22	12:CM:103:THR:HG21	1.68	0.58
18:CS:6:LYS:HG2	18:CS:7:LYS:H	1.69	0.58
21:CA:894:G:H2'	21:CA:895:G:H8	1.69	0.58
26:DD:14:ARG:NH2	59:DA:1693:U:O2'	2.37	0.58
29:DG:15:VAL:HG22	29:DG:175:LEU:HB2	1.85	0.58
56:D1:16:ASN:HB3	59:DA:381:G:C5'	2.34	0.58
59:DA:270(K):G:C2	59:DA:270(L):C:H1'	2.39	0.58
59:DA:2105:C:H2'	59:DA:2106:G:C8	2.39	0.58
8:AI:121:ARG:NH1	21:AA:1343:G:O2'	2.37	0.57
18:AS:37:ARG:HH21	21:AA:1318:A:H1'	1.69	0.57
21:AA:413:G:O2'	21:AA:428:G:N2	2.37	0.57
21:AA:1506:U:O2'	21:AA:1507:A:OP1	2.20	0.57
25:BC:118:PRO:HD3	25:BC:147:GLY:HA2	1.86	0.57
26:BD:132:PRO:HG3	26:BD:190:TYR:CE1	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:BJ:58:UNK:HA	59:BA:1107:G:OP1	2.02	0.57
47:B2:9:GLN:HE22	47:B2:56:GLN:HB3	1.68	0.57
56:B1:23:LYS:NZ	56:B1:33:LYS:HB3	2.19	0.57
59:BA:242:G:N2	59:BA:255:A:OP2	2.24	0.57
59:BA:1939:U:H3'	59:BA:1940:U:C5'	2.34	0.57
59:BA:2685:G:H2'	59:BA:2686:G:H8	1.69	0.57
21:CA:112:G:H1	21:CA:315:A:N6	2.02	0.57
21:CA:737:A:H2'	21:CA:738:C:C6	2.39	0.57
29:DG:171:ALA:O	29:DG:175:LEU:HG	2.03	0.57
33:DN:106:MET:CE	59:DA:1006:C:H1'	2.34	0.57
59:DA:688:U:H2'	59:DA:689:A:H8	1.68	0.57
59:DA:1793:C:H2'	59:DA:1794:U:C6	2.39	0.57
59:DA:712(B):A:H5"	59:DA:2713:A:OP2	2.04	0.57
1:AB:167:PRO:HD3	1:AB:188:ALA:HA	1.85	0.57
10:AK:69:ALA:O	10:AK:73:MET:HG2	2.04	0.57
21:AA:877:C:H2'	21:AA:878:G:H8	1.68	0.57
27:BE:66:HIS:CG	27:BE:67:PHE:N	2.72	0.57
29:BG:15:VAL:HG13	29:BG:19:LEU:HD12	1.85	0.57
50:B6:19:ARG:O	50:B6:20:ASN:ND2	2.34	0.57
59:BA:1441:G:H2'	59:BA:1442:G:C8	2.39	0.57
59:BA:2719:G:N2	59:BA:2872:G:H1	2.02	0.57
1:CB:96:ARG:H	1:CB:96:ARG:NE	2.01	0.57
10:CK:63:LEU:O	10:CK:66:LEU:HB3	2.04	0.57
21:CA:1118:C:H2'	21:CA:1119:C:C6	2.39	0.57
21:CA:1376:U:H2'	21:CA:1377:A:C8	2.39	0.57
20:CY:359:HIS:O	20:CY:361:ASN:N	2.37	0.57
29:DG:43:LEU:HD23	29:DG:88:ILE:HD13	1.86	0.57
30:DH:68:THR:HA	30:DH:71:LEU:HD12	1.85	0.57
33:DN:67:LEU:HD12	33:DN:87:LEU:HD13	1.86	0.57
36:DQ:119:ARG:O	36:DQ:123:HIS:HB2	2.04	0.57
46:D0:46:LYS:HG2	46:D0:47:PRO:HD2	1.86	0.57
59:DA:20:C:H2'	59:DA:21:A:C8	2.40	0.57
59:DA:28:A:H1'	59:DA:513:A:C2	2.39	0.57
59:DA:863:A:H2'	59:DA:864:G:C8	2.39	0.57
59:DA:911:A:H5"	59:DA:912:C:H5"	1.85	0.57
59:DA:1127:A:N7	59:DA:2488:A:O2'	2.37	0.57
59:DA:1791:A:N6	59:DA:1828:G:O2'	2.34	0.57
59:DA:2104:G:O6	59:DA:2185:C:N3	2.37	0.57
59:DA:2678:C:H2'	59:DA:2679:A:C8	2.39	0.57
60:DB:60:C:H2'	60:DB:61:G:C8	2.38	0.57
10:AK:46:GLY:C	21:AA:688:G:H5'	2.29	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AO:32:LEU:HA	14:AO:35:ARG:HD2	1.87	0.57
21:AA:249:U:H2'	21:AA:250:A:H8	1.69	0.57
21:AA:1513:A:H2'	21:AA:1514:C:C6	2.40	0.57
28:BF:45:ARG:HD2	59:BA:443:A:C6	2.40	0.57
29:BG:31:VAL:O	29:BG:33:ARG:HG3	2.04	0.57
36:BQ:12:GLN:HG3	36:BQ:72:LYS:HZ1	1.68	0.57
40:BU:75:ASN:O	40:BU:78:THR:OG1	2.21	0.57
40:BU:90:VAL:O	40:BU:91:ASP:HB2	2.03	0.57
41:BV:62:LEU:N	41:BV:93:GLU:O	2.28	0.57
45:BZ:67:LEU:HD12	45:BZ:68:PRO:HD2	1.84	0.57
53:B9:9:ARG:HH21	59:BA:1033:U:H5"	1.69	0.57
59:BA:263:C:H2'	59:BA:264:C:O4'	2.04	0.57
59:BA:920:G:H2'	59:BA:921:G:C8	2.38	0.57
59:BA:1178:C:H2'	59:BA:1179:C:C6	2.40	0.57
59:BA:1538:G:H2'	59:BA:1539:G:C8	2.39	0.57
59:BA:2306:C:H5"	59:BA:2307:G:C8	2.39	0.57
12:CM:45:VAL:HG23	12:CM:48:LEU:HD12	1.86	0.57
15:CP:53:VAL:HG12	15:CP:79:VAL:HG22	1.84	0.57
21:CA:199:G:O6	21:CA:218:C:N3	2.37	0.57
26:DD:105:ILE:HD13	26:DD:106:ILE:N	2.19	0.57
26:DD:125:ILE:HG21	26:DD:137:PRO:HG2	1.85	0.57
27:DE:46:ALA:HB2	27:DE:82:ARG:HA	1.86	0.57
33:DN:61:ARG:HG2	33:DN:61:ARG:NH1	2.20	0.57
37:DR:26:LYS:O	37:DR:30:THR:OG1	2.15	0.57
59:DA:1258:C:H2'	59:DA:1259:G:C8	2.40	0.57
59:DA:1357:U:H3	59:DA:1374:G:H1	1.52	0.57
59:DA:1623:G:H2'	59:DA:1624:G:H8	1.69	0.57
1:AB:15:VAL:HG23	1:AB:16:HIS:CE1	2.39	0.57
6:AG:116:ALA:O	6:AG:120:ILE:HG12	2.05	0.57
20:AY:33:LEU:CD2	20:AY:34:TYR:H	2.15	0.57
21:AA:384:G:H2'	21:AA:385:C:C6	2.39	0.57
21:AA:958:A:N3	21:AA:985:C:O2'	2.32	0.57
27:BE:5:LEU:HB2	27:BE:31:CYS:SG	2.44	0.57
28:BF:51:THR:H	28:BF:92:PRO:HG2	1.68	0.57
29:BG:112:PRO:CA	29:BG:113:ARG:N	2.62	0.57
37:BR:63:ARG:HE	37:BR:76:VAL:HG13	1.69	0.57
59:BA:270(J):G:H2'	59:BA:270(K):G:O4'	2.04	0.57
59:BA:382:G:H1	59:BA:392:C:H42	1.52	0.57
59:BA:1296:G:H1	59:BA:1644:C:N4	2.01	0.57
11:CL:104:VAL:HG23	11:CL:106:ASP:H	1.68	0.57
13:CN:27:CYS:SG	13:CN:28:GLY:N	2.78	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:859:A:OP2	21:CA:869:G:N1	2.36	0.57
21:CA:921:U:H2'	21:CA:922:G:O4'	2.04	0.57
34:DO:9:GLU:HB3	34:DO:18:LYS:HE3	1.85	0.57
36:DQ:14:ARG:NH2	59:DA:956:G:OP2	2.36	0.57
49:D5:30:LEU:HD13	49:D5:39:MET:HB3	1.84	0.57
51:D7:30:VAL:O	51:D7:34:ARG:NH1	2.38	0.57
51:D7:34:ARG:NH1	59:DA:467:G:OP1	2.37	0.57
59:DA:379:G:O2'	59:DA:2232:U:OP1	2.22	0.57
59:DA:1750:G:O2'	59:DA:2860:A:N1	2.33	0.57
59:DA:1775:U:H2'	59:DA:1776:G:O4'	2.05	0.57
59:DA:2425:A:H4'	59:DA:2426:A:H5'	1.85	0.57
2:AC:28:GLN:HB3	2:AC:32:LEU:HD21	1.86	0.57
3:AD:19:LEU:HD13	3:AD:21:LEU:HD11	1.85	0.57
5:AF:5:GLU:HG3	5:AF:93:SER:HA	1.85	0.57
7:AH:11:THR:HA	7:AH:14:ARG:HD2	1.87	0.57
11:AL:42:THR:HA	11:AL:52:LEU:HA	1.86	0.57
11:AL:83:VAL:HG11	11:AL:100:ILE:HD13	1.87	0.57
12:AM:48:LEU:HD13	12:AM:53:VAL:HG22	1.86	0.57
20:AY:649:LEU:HA	20:AY:652:MET:HB3	1.86	0.57
21:AA:1187:G:H2'	21:AA:1188:A:C8	2.40	0.57
25:BC:114:VAL:C	25:BC:116:ALA:H	2.12	0.57
36:BQ:34:LEU:HD12	36:BQ:131:ILE:HG23	1.87	0.57
38:BS:12:PHE:CE1	38:BS:91:PRO:HB3	2.40	0.57
40:BU:87:GLY:O	40:BU:89:GLU:N	2.37	0.57
59:BA:1377:G:H5"	59:BA:1378:A:OP2	2.04	0.57
59:BA:149(B):A:C2	59:BA:1530:G:H1'	2.40	0.57
4:CE:78:HIS:O	4:CE:79:GLU:HB3	2.03	0.57
7:CH:38:ILE:HD13	7:CH:41:ARG:HH12	1.69	0.57
16:CQ:60:ILE:O	16:CQ:71:PHE:HA	2.05	0.57
27:DE:4:ILE:HD13	27:DE:5:LEU:N	2.19	0.57
39:DT:83:ILE:HD12	39:DT:84:GLN:HG2	1.87	0.57
59:DA:541:C:H2'	59:DA:542:C:C6	2.39	0.57
59:DA:628:G:H2'	59:DA:629:G:C8	2.39	0.57
60:DB:24:G:O2'	60:DB:27:C:N4	2.38	0.57
10:AK:84:VAL:HG23	10:AK:110:ASP:HA	1.87	0.57
12:AM:86:CYS:HB3	18:AS:74:PHE:CE1	2.39	0.57
15:AP:39:TYR:OH	15:AP:72:ARG:NH2	2.37	0.57
21:AA:50:A:H1'	21:AA:52:G:C8	2.40	0.57
21:AA:1358:U:O2'	21:AA:1359:C:O4'	2.21	0.57
24:AU:6:5OH:HS	24:AU:6:5OH:N	2.19	0.57
25:BC:4:HIS:O	25:BC:8:TYR:HB3	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BO:11:ALA:HB1	34:BO:99:PHE:HB2	1.86	0.57
34:BO:36:GLY:HA2	34:BO:106:LEU:HD23	1.86	0.57
38:BS:30:ARG:HH21	38:BS:33:LYS:HA	1.68	0.57
38:BS:70:GLY:C	38:BS:101:LEU:HD21	2.29	0.57
39:BT:64:ARG:HH22	39:BT:103:ARG:HA	1.69	0.57
42:BW:37:ARG:HG3	42:BW:38:TYR:CD1	2.39	0.57
51:B7:39:ARG:HH12	51:B7:43:THR:H	1.52	0.57
59:BA:273(D):C:H42	59:BA:363(D):G:H1	1.53	0.57
59:BA:863:A:H2'	59:BA:864:G:H8	1.69	0.57
59:BA:1275:A:OP2	59:BA:1646:C:N4	2.33	0.57
59:BA:2829:C:H2'	59:BA:2830:G:C8	2.39	0.57
11:CL:118:SER:OG	21:CA:35:G:N2	2.38	0.57
21:CA:232:G:H21	21:CA:263:A:H2	1.52	0.57
20:CY:302:HIS:O	20:CY:332:SER:OG	2.21	0.57
24:CU:6:5OH:N	24:CU:6:5OH:HS	2.19	0.57
28:DF:48:THR:O	59:DA:442:G:N2	2.34	0.57
29:DG:57:ALA:HB1	29:DG:90:LEU:HD22	1.86	0.57
37:DR:45:ARG:O	37:DR:49:ASP:HB2	2.04	0.57
59:DA:882:G:C2	59:DA:894:C:N3	2.72	0.57
59:DA:1090:U:H2'	59:DA:1091:G:H8	1.68	0.57
59:DA:149(B):A:O2'	59:DA:1530:G:N2	2.38	0.57
1:AB:118:LEU:HD13	1:AB:142:LEU:HA	1.87	0.57
4:AE:16:THR:HG21	21:AA:1080:A:H5"	1.86	0.57
10:AK:24:SER:OG	10:AK:25:TYR:N	2.36	0.57
20:AY:9:LEU:HB3	20:AY:284:LEU:HD12	1.86	0.57
20:AY:533:VAL:HG12	20:AY:534:ILE:HG13	1.87	0.57
21:AA:354:G:H21	21:AA:388:G:H2'	1.70	0.57
21:AA:822:C:H2'	21:AA:823:G:C8	2.40	0.57
21:AA:1131:G:H1	21:AA:1143:G:H21	1.53	0.57
22:AW:63:C:H2'	22:AW:64:G:C8	2.40	0.57
39:BT:20:PRO:HD2	39:BT:85:LYS:NZ	2.19	0.57
39:BT:32:TYR:H	39:BT:32:TYR:HD2	1.52	0.57
47:B2:66:GLU:O	47:B2:69:ARG:HG2	2.05	0.57
59:BA:1170:G:H1	59:BA:1179:C:N4	1.96	0.57
59:BA:2789:C:H2'	59:BA:2790:A:H4'	1.86	0.57
4:CE:78:HIS:HB2	7:CH:104:ARG:HG3	1.86	0.57
8:CI:126:SER:O	8:CI:128:ARG:N	2.37	0.57
20:CY:543:GLN:O	20:CY:546:ILE:N	2.28	0.57
28:DF:167:ALA:HB1	28:DF:173:VAL:HG11	1.87	0.57
36:DQ:7:MET:HG2	59:DA:870:A:H4'	1.86	0.57
37:DR:49:ASP:HB3	59:DA:2839:G:H4'	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:DW:69:LEU:HD13	42:DW:107:LEU:HD21	1.85	0.57
44:DY:17:SER:HB3	44:DY:71:LYS:HB3	1.85	0.57
56:D1:76:ARG:HH22	56:D1:95:LEU:HD13	1.70	0.57
59:DA:1535:U:H2'	59:DA:1536:A:H5'	1.85	0.57
59:DA:1636:C:H2'	59:DA:1637:A:C8	2.40	0.57
60:DB:81:G:O6	60:DB:95:U:O2	2.22	0.57
4:AE:100:VAL:HA	4:AE:118:ILE:HG22	1.85	0.57
9:AJ:6:ILE:HG23	9:AJ:72:VAL:HB	1.87	0.57
11:AL:123:LYS:HD3	21:AA:37:U:OP1	2.05	0.57
20:AY:54:PHE:HB2	20:AY:60:GLU:HA	1.86	0.57
20:AY:660:ARG:HB3	59:BA:2660:A:C6	2.40	0.57
21:AA:438:G:H21	21:AA:497:A:H62	1.53	0.57
21:AA:939:G:H2'	21:AA:940:C:C6	2.39	0.57
26:BD:231:HIS:O	26:BD:233:HIS:N	2.38	0.57
27:BE:143:ASN:HB3	27:BE:147:PRO:HD2	1.86	0.57
38:BS:74:ALA:HB1	38:BS:104:GLY:HA2	1.86	0.57
38:BS:93:LYS:HB2	60:BB:47:C:O2'	2.05	0.57
40:BU:25:TRP:CD1	40:BU:26:GLY:N	2.71	0.57
50:B6:11:LEU:HD12	50:B6:26:ASN:HB2	1.86	0.57
51:B7:40:TRP:CE3	59:BA:459:U:H5"	2.39	0.57
59:BA:1224:C:H5	59:BA:1225:G:C5	2.23	0.57
59:BA:2389:G:H5"	59:BA:2390:U:O4'	2.04	0.57
59:BA:2641:G:O6	59:BA:2773:C:N3	2.37	0.57
4:CE:19:MET:O	21:CA:921:U:O2'	2.23	0.57
7:CH:33:GLU:OE1	7:CH:50:ARG:NE	2.36	0.57
8:CI:112:LYS:NZ	8:CI:116:LYS:O	2.37	0.57
20:CY:56:GLU:HB2	20:CY:59:ARG:NE	2.15	0.57
28:DF:172:TRP:CD1	28:DF:173:VAL:HG23	2.40	0.57
29:DG:166:ASP:OD2	29:DG:167:GLU:N	2.37	0.57
31:DJ:50:UNK:O	31:DJ:82:UNK:N	2.37	0.57
59:DA:1159:U:H2'	59:DA:1160:G:H8	1.69	0.57
59:DA:2391:G:O2'	59:DA:2424:C:N4	2.37	0.57
59:DA:2437:U:H2'	59:DA:2438:U:C6	2.40	0.57
3:AD:12:CYS:HB3	3:AD:33:MET:SD	2.44	0.57
20:AY:276:VAL:O	20:AY:280:LEU:HB2	2.05	0.57
29:BG:27:ASN:HB3	29:BG:30:GLU:HB3	1.86	0.57
37:BR:4:LEU:HD22	37:BR:7:GLY:HA2	1.86	0.57
38:BS:42:ASP:O	38:BS:44:LYS:N	2.38	0.57
38:BS:52:SER:C	38:BS:69:VAL:HG21	2.30	0.57
43:BX:11:PRO:HG3	47:B2:41:ILE:HG22	1.87	0.57
59:BA:1068:G:O6	59:BA:1069:A:N6	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2510:C:H2'	59:BA:2511:U:C6	2.40	0.57
59:BA:2671:A:H2'	59:BA:2672:G:C8	2.40	0.57
59:BA:2701:C:H2'	59:BA:2702:U:H2'	1.87	0.57
3:CD:127:THR:HA	3:CD:132:ARG:HA	1.86	0.57
9:CJ:6:ILE:HB	9:CJ:98:ILE:HG23	1.86	0.57
9:CJ:40:LEU:HB3	9:CJ:69:ASN:HB2	1.86	0.57
16:CQ:6:LEU:HD13	16:CQ:23:VAL:HG11	1.87	0.57
16:CQ:19:VAL:HG23	16:CQ:44:ALA:HB3	1.87	0.57
21:CA:1088:G:H2'	21:CA:1089:G:H8	1.70	0.57
25:DC:128:LEU:HB3	25:DC:132:LEU:HG	1.87	0.57
25:DC:128:LEU:HD13	25:DC:132:LEU:HD11	1.86	0.57
26:DD:37:LEU:HB3	26:DD:62:TYR:HB3	1.87	0.57
26:DD:207:GLY:H	26:DD:211:ARG:HD3	1.70	0.57
27:DE:4:ILE:HD13	27:DE:5:LEU:H	1.69	0.57
33:DN:127:ASP:N	33:DN:127:ASP:OD1	2.36	0.57
36:DQ:19:GLY:HA2	36:DQ:98:LYS:HB3	1.86	0.57
41:DV:85:LYS:NZ	59:DA:815:C:OP1	2.27	0.57
59:DA:33:U:O4	59:DA:446:G:O2'	2.23	0.57
59:DA:1320:C:H42	59:DA:1331:A:H62	1.52	0.57
59:DA:2283:C:N3	59:DA:2325:G:O6	2.38	0.57
59:DA:2446:G:N7	59:DA:2501:C:O2'	2.36	0.57
59:DA:2692:C:H2'	59:DA:2693:A:C8	2.39	0.57
59:DA:2794:C:N4	59:DA:2802:G:H1	1.99	0.57
60:DB:43:C:H2'	60:DB:44:G:H5"	1.87	0.57
5:AF:35:ALA:HB1	5:AF:65:VAL:HG21	1.85	0.57
20:AY:265:LYS:O	20:AY:267:LYS:N	2.38	0.57
21:AA:373:A:H4'	21:AA:480:U:O2'	2.05	0.57
26:BD:70:TRP:CE2	26:BD:150:LYS:HD3	2.39	0.57
27:BE:109:LYS:HE2	27:BE:191:PRO:HA	1.85	0.57
27:BE:152:LYS:O	33:BN:78:TYR:CD2	2.57	0.57
30:BH:107:VAL:HG21	30:BH:152:ARG:HB2	1.86	0.57
39:BT:119:LYS:HG2	39:BT:123:GLN:NE2	2.15	0.57
42:BW:76:VAL:HA	42:BW:102:HIS:O	2.05	0.57
44:BY:76:CYS:HB2	44:BY:96:ILE:HG21	1.85	0.57
45:BZ:69:THR:HG22	45:BZ:90:VAL:HA	1.87	0.57
59:BA:957:A:N1	59:BA:2458:G:H4'	2.20	0.57
59:BA:1086:A:H4'	59:BA:1103:A:H2	1.70	0.57
59:BA:2368:C:H2'	59:BA:2369:A:H8	1.70	0.57
1:CB:68:ILE:HG12	1:CB:161:ALA:HB3	1.87	0.57
5:CF:8:ILE:HD11	5:CF:79:LEU:HD13	1.86	0.57
15:CP:69:THR:HA	15:CP:72:ARG:HB2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:CT:63:ILE:HG21	19:CT:81:LYS:HG3	1.86	0.57
21:CA:217:C:O2'	21:CA:458(C):G:O6	2.16	0.57
20:CY:55:MET:SD	20:CY:59:ARG:NH1	2.78	0.57
27:DE:111:ARG:HG2	37:DR:2:ARG:NE	2.20	0.57
28:DF:157:VAL:HG12	28:DF:192:LEU:HA	1.86	0.57
38:DS:30:ARG:HH21	38:DS:33:LYS:HA	1.69	0.57
44:DY:46:LYS:HE3	44:DY:48:ALA:HB2	1.86	0.57
48:D3:12:PRO:C	48:D3:20:LYS:HZ1	2.10	0.57
59:DA:1076:C:H2'	59:DA:1077:A:H4'	1.86	0.57
59:DA:2210:G:H3'	59:DA:2210:G:N3	2.19	0.57
59:DA:2678:C:H2'	59:DA:2679:A:H8	1.70	0.57
3:AD:13:ARG:HH22	3:AD:36:ARG:HG3	1.69	0.56
6:AG:78:ARG:HG3	6:AG:156:TRP:HB3	1.86	0.56
10:AK:119:CYS:HB3	21:AA:778:G:H1'	1.86	0.56
16:AQ:61:GLU:HA	16:AQ:71:PHE:CD1	2.40	0.56
20:AY:24:GLY:HA2	61:AY:701:GNP:H8	1.86	0.56
21:AA:68(N):U:H3'	21:AA:68(O):A:C8	2.40	0.56
21:AA:603:U:H2'	21:AA:604:G:C8	2.39	0.56
21:AA:1085:U:H3'	21:AA:1086:U:H5	1.69	0.56
26:BD:16:MET:HB2	26:BD:207:GLY:HA3	1.87	0.56
26:BD:147:LEU:HD22	26:BD:154:LYS:HG3	1.86	0.56
26:BD:262:ARG:HH11	59:BA:2085:C:H4'	1.69	0.56
31:BJ:54:UNK:CA	31:BJ:79:UNK:HA	2.31	0.56
32:BK:10:LEU:HD22	32:BK:11:GLN:H	1.69	0.56
33:BN:31:ALA:HB1	33:BN:107:LEU:HD21	1.87	0.56
35:BP:7:ARG:HA	35:BP:10:PRO:HG3	1.87	0.56
44:BY:9:LYS:HE2	44:BY:103:GLY:HA3	1.87	0.56
44:BY:28:LYS:HD3	44:BY:37:VAL:HB	1.87	0.56
59:BA:31:C:O3'	59:BA:1238:G:H5'	2.05	0.56
59:BA:817:C:O2'	59:BA:932:G:N2	2.38	0.56
59:BA:1935:G:H3'	59:BA:1962:C:N4	2.16	0.56
9:CJ:79:ARG:O	9:CJ:83:GLU:HB2	2.04	0.56
21:CA:692:U:H2'	21:CA:694:A:OP2	2.05	0.56
20:CY:59:ARG:HD3	20:CY:65:ILE:H	1.70	0.56
37:DR:100:LEU:HD13	37:DR:101:ALA:H	1.70	0.56
39:DT:53:ARG:HH21	59:DA:2683:C:H5"	1.70	0.56
40:DU:62:ILE:HD12	40:DU:76:TYR:CE1	2.40	0.56
41:DV:31:ALA:O	41:DV:61:VAL:HG12	2.05	0.56
42:DW:21:VAL:C	42:DW:23:LEU:H	2.13	0.56
4:AE:102:ALA:HB2	4:AE:120:THR:HG23	1.86	0.56
9:AJ:55:LYS:HE2	21:AA:973:G:H1'	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AL:58:VAL:HG11	11:AL:85:ILE:HG12	1.86	0.56
11:AL:124:LYS:O	11:AL:126:LYS:N	2.37	0.56
17:AR:82:THR:HB	21:AA:718:G:H22	1.70	0.56
22:AW:68:U:H2'	22:AW:69:A:C8	2.39	0.56
40:BU:25:TRP:CZ2	59:BA:17:G:H4'	2.40	0.56
41:BV:69:LYS:NZ	41:BV:86:GLY:O	2.36	0.56
43:BX:12:VAL:HG21	43:BX:27:THR:HG23	1.87	0.56
49:B5:20:ARG:HA	49:B5:23:HIS:CD2	2.40	0.56
59:BA:569:U:H5'	59:BA:946:G:H1'	1.87	0.56
59:BA:741:G:H2'	59:BA:742:G:H8	1.69	0.56
59:BA:2075:U:O4	59:BA:2077:A:N7	2.38	0.56
3:CD:5:ILE:HG21	21:CA:406:G:H5"	1.87	0.56
11:CL:33:ARG:HG3	11:CL:34:ARG:H	1.70	0.56
28:DF:107:LYS:NZ	59:DA:618(A):G:H5"	2.20	0.56
31:DJ:23:UNK:O	31:DJ:85:UNK:N	2.38	0.56
35:DP:8:PRO:HG3	59:DA:1242:A:N1	2.20	0.56
56:D1:25:LYS:HB3	59:DA:388:G:OP2	2.04	0.56
59:DA:108:U:H2'	59:DA:109:G:H8	1.69	0.56
59:DA:1201:C:H42	59:DA:1244:G:H1	1.53	0.56
59:DA:1547:C:H2'	59:DA:1548:C:C6	2.39	0.56
59:DA:2144:U:H2'	59:DA:2147:G:H1	1.71	0.56
3:AD:115:ARG:HB3	21:AA:407:G:H5"	1.87	0.56
5:AF:15:ASP:OD2	5:AF:17:SER:OG	2.17	0.56
16:AQ:51:TYR:CE2	16:AQ:73:VAL:HG11	2.41	0.56
17:AR:30:ASP:O	17:AR:36:ASN:ND2	2.38	0.56
20:AY:55:MET:HB3	20:AY:59:ARG:HD2	1.88	0.56
20:AY:137:ASN:HD21	20:AY:263:ALA:H	1.52	0.56
20:AY:328:ILE:HG13	20:AY:375:GLY:O	2.06	0.56
21:AA:501:C:O2	21:AA:549:C:O2'	2.15	0.56
21:AA:1148:U:H2'	21:AA:1149:C:O4'	2.04	0.56
21:AA:1347:G:N1	21:AA:1374:A:OP2	2.32	0.56
25:BC:71:LYS:HG3	25:BC:72:GLN:H	1.70	0.56
26:BD:147:LEU:HD12	26:BD:183:ARG:HD3	1.87	0.56
27:BE:134:ILE:HG12	27:BE:135:HIS:H	1.70	0.56
28:BF:8:GLN:HB2	28:BF:22:ALA:HB2	1.87	0.56
28:BF:153:SER:HB2	28:BF:189:THR:HB	1.87	0.56
28:BF:154:VAL:HG13	28:BF:191:ARG:HB3	1.87	0.56
36:BQ:65:PHE:HZ	45:BZ:118:GLN:HG3	1.69	0.56
37:BR:45:ARG:O	37:BR:49:ASP:HB2	2.05	0.56
37:BR:103:ARG:HG2	37:BR:110:PRO:HA	1.85	0.56
38:BS:65:VAL:O	38:BS:69:VAL:N	2.33	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BV:64:HIS:HA	41:BV:92:THR:HA	1.86	0.56
44:BY:44:ILE:HG22	44:BY:45:VAL:H	1.70	0.56
45:BZ:141:VAL:HG13	45:BZ:144:LEU:HD23	1.87	0.56
48:B3:8:LEU:HD22	48:B3:31:LEU:HA	1.86	0.56
59:BA:659:C:H2'	59:BA:660:G:H8	1.71	0.56
59:BA:689:A:H2'	59:BA:690:G:C8	2.40	0.56
59:BA:819:A:OP2	59:BA:1187:G:N2	2.31	0.56
59:BA:1028:A:H2'	59:BA:1029:A:C8	2.40	0.56
59:BA:1057:A:N7	59:BA:1086:A:H2'	2.21	0.56
59:BA:1135:C:N4	59:BA:1138:G:OP2	2.28	0.56
59:BA:1231:G:H2'	59:BA:1232:G:C8	2.40	0.56
59:BA:1793:C:H2'	59:BA:1794:U:C6	2.40	0.56
1:CB:15:VAL:HG21	1:CB:209:ARG:HE	1.70	0.56
3:CD:135:LEU:HG	21:CA:620:C:C2	2.40	0.56
3:CD:164:ALA:O	3:CD:168:ARG:NH1	2.39	0.56
6:CG:102:ARG:HD2	21:CA:940:C:OP1	2.06	0.56
8:CI:118:LYS:HB3	21:CA:1349:A:OP1	2.05	0.56
14:CO:64:ARG:HH21	21:CA:581:G:H4'	1.70	0.56
21:CA:68(N):U:H3'	21:CA:68(O):A:C8	2.39	0.56
21:CA:299:G:H2'	21:CA:300:A:C8	2.40	0.56
28:DF:171:PRO:C	28:DF:173:VAL:H	2.14	0.56
34:DO:34:THR:OG1	34:DO:35:VAL:N	2.30	0.56
35:DP:119:GLU:O	35:DP:121:LYS:N	2.39	0.56
37:DR:23:ASN:ND2	59:DA:1277:G:H1'	2.20	0.56
40:DU:25:TRP:HD1	40:DU:26:GLY:N	2.04	0.56
41:DV:24:LYS:HA	41:DV:92:THR:HG23	1.86	0.56
41:DV:35:LEU:HB2	41:DV:57:VAL:O	2.05	0.56
43:DX:11:PRO:O	43:DX:13:LEU:N	2.35	0.56
45:DZ:36:LYS:H	45:DZ:36:LYS:HD3	1.69	0.56
47:D2:32:LEU:HD13	47:D2:53:LEU:HB3	1.86	0.56
50:D6:28:ARG:O	50:D6:30:THR:N	2.38	0.56
53:D9:1:MET:SD	53:D9:1:MET:N	2.74	0.56
56:D1:45:ASN:HB3	59:DA:397:G:H5"	1.88	0.56
57:D4:11:PRO:O	57:D4:29:PRO:HA	2.05	0.56
59:DA:360:G:H2'	59:DA:361:G:C8	2.32	0.56
59:DA:829:A:C8	59:DA:2248:C:H5'	2.41	0.56
59:DA:1213:A:H62	59:DA:1236:G:H1'	1.70	0.56
59:DA:1278:A:H2'	59:DA:1279:G:C8	2.40	0.56
59:DA:1513:C:H2'	59:DA:1514:U:O4'	2.05	0.56
59:DA:2889:C:H2'	59:DA:2891:G:O4'	2.05	0.56
14:AO:70:LEU:HD12	14:AO:73:GLU:HB2	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:1028(H):G:H2'	21:AA:1033:G:C8	2.40	0.56
59:BA:1604:C:H2'	59:BA:1605:C:C6	2.41	0.56
9:CJ:5:ARG:HB3	9:CJ:99:LYS:O	2.05	0.56
9:CJ:62:HIS:NE2	21:CA:1368:G:OP1	2.32	0.56
35:DP:8:PRO:O	35:DP:9:ASN:ND2	2.38	0.56
35:DP:86:LYS:HD3	35:DP:118:GLY:HA2	1.88	0.56
39:DT:93:ARG:HD2	39:DT:115:ARG:HG3	1.87	0.56
39:DT:121:ILE:O	39:DT:125:ARG:HG2	2.05	0.56
40:DU:6:THR:HG21	40:DU:10:ARG:NH2	2.21	0.56
42:DW:36:LEU:HD13	42:DW:48:ALA:HA	1.86	0.56
56:D1:39:LYS:NZ	56:D1:40:ARG:O	2.38	0.56
59:DA:286:C:N3	59:DA:355:G:N2	2.45	0.56
59:DA:2601:C:N4	59:DA:2603:G:O6	2.38	0.56
60:DB:24:G:N1	60:DB:56:G:C2	2.74	0.56
1:AB:57:PHE:CE2	1:AB:185:ILE:HD11	2.41	0.56
10:AK:91:ARG:NH1	10:AK:92:GLU:OE1	2.38	0.56
11:AL:56:ALA:C	11:AL:58:VAL:HG23	2.31	0.56
18:AS:80:TYR:CZ	21:AA:956:U:H4'	2.40	0.56
20:AY:137:ASN:ND2	20:AY:138:LYS:H	2.03	0.56
20:AY:154:GLN:HA	20:AY:158:GLY:HA2	1.88	0.56
20:AY:554:PRO:HB3	20:AY:595:GLN:HE21	1.69	0.56
26:BD:106:ILE:HG13	26:BD:107:ALA:H	1.70	0.56
26:BD:227:ASN:HB2	26:BD:228:PRO:HD2	1.88	0.56
33:BN:67:LEU:HA	33:BN:87:LEU:HD12	1.87	0.56
34:BO:20:MET:HE3	34:BO:44:LYS:HE3	1.87	0.56
40:BU:42:ALA:HB1	59:BA:534:U:H5'	1.86	0.56
59:BA:950:G:H2'	59:BA:951:C:C6	2.40	0.56
59:BA:2178:C:H2'	59:BA:2179:C:C6	2.41	0.56
6:CG:79:ARG:NH2	6:CG:156:TRP:HB2	2.21	0.56
16:CQ:51:TYR:CE2	16:CQ:73:VAL:HG11	2.41	0.56
21:CA:510:A:N3	21:CA:543:C:H1'	2.20	0.56
21:CA:714:G:H2'	21:CA:715:A:C8	2.41	0.56
20:CY:229:LEU:HA	20:CY:232:LEU:HB2	1.88	0.56
20:CY:662:LYS:HE3	30:DH:175:LYS:HG2	1.87	0.56
25:DC:153:ILE:O	25:DC:157:ILE:HG13	2.05	0.56
59:DA:131:G:H2'	59:DA:132:G:C8	2.37	0.56
3:AD:31:CYS:HB3	3:AD:33:MET:SD	2.45	0.56
12:AM:77:ASN:HA	12:AM:80:ARG:HG3	1.88	0.56
12:AM:91:ARG:NH1	12:AM:97:PRO:O	2.38	0.56
21:AA:1472:U:H2'	21:AA:1473:A:C8	2.41	0.56
25:BC:151:GLY:HA2	25:BC:154:ILE:HB	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:BH:19:VAL:HG21	30:BH:44:VAL:HA	1.86	0.56
32:BK:14:ALA:HA	32:BK:41:PHE:HE2	1.69	0.56
36:BQ:2:LEU:HB3	36:BQ:69:PHE:CE1	2.41	0.56
37:BR:36:THR:OG1	37:BR:37:THR:N	2.36	0.56
59:BA:184:C:H2'	59:BA:185:U:C6	2.40	0.56
59:BA:531:C:OP1	59:BA:561:G:N1	2.36	0.56
59:BA:1025:G:O6	59:BA:1139:G:N2	2.27	0.56
12:CM:4:ILE:HG23	12:CM:57:ARG:HB2	1.88	0.56
20:CY:486:THR:OG1	20:CY:487:ILE:N	2.34	0.56
32:DK:30:HIS:CD2	32:DK:59:ILE:HB	2.41	0.56
32:DK:130:SER:O	32:DK:133:SER:OG	2.22	0.56
33:DN:42:TRP:N	40:DU:64:ARG:HE	2.04	0.56
37:DR:100:LEU:HB3	37:DR:111:LEU:HB2	1.88	0.56
42:DW:80:PRO:O	42:DW:100:THR:HG22	2.06	0.56
50:D6:15:GLU:OE2	50:D6:20:ASN:ND2	2.39	0.56
59:DA:55:G:O2'	59:DA:127:A:N1	2.36	0.56
59:DA:1565:C:O2'	59:DA:1567:A:N7	2.29	0.56
60:DB:9:G:H1	60:DB:111:U:H3	1.53	0.56
6:AG:57:GLU:HB3	6:AG:58:PRO:HD2	1.88	0.56
19:AT:14:LYS:HA	19:AT:17:ARG:HH21	1.71	0.56
20:AY:509:HIS:HB3	20:AY:571:SER:HB3	1.88	0.56
21:AA:1150:U:O4	21:AA:1151:A:N6	2.38	0.56
21:AA:1536:C:H42	23:AV:9:G:H1	1.53	0.56
33:BN:111:PRO:O	33:BN:114:ARG:HB2	2.06	0.56
41:BV:81:TYR:CE2	59:BA:1187:G:H5"	2.41	0.56
59:BA:879:G:H2'	59:BA:880:G:C8	2.41	0.56
59:BA:1346:G:H1	59:BA:1600:C:H42	1.52	0.56
8:CI:4:TYR:CE1	8:CI:21:PRO:HD3	2.41	0.56
8:CI:9:ARG:HG2	8:CI:13:ALA:O	2.05	0.56
21:CA:143:A:H5'	21:CA:196:A:N1	2.21	0.56
21:CA:339:C:H2'	21:CA:340:U:C6	2.40	0.56
27:DE:11:MET:HA	27:DE:24:THR:HA	1.88	0.56
34:DO:103:ALA:HB1	34:DO:105:GLU:OE1	2.06	0.56
40:DU:92:ARG:NH1	41:DV:11:GLN:O	2.35	0.56
59:DA:558:G:H2'	59:DA:559:G:H8	1.70	0.56
59:DA:1405:U:H2'	59:DA:1406:U:C6	2.40	0.56
59:DA:1861:G:H2'	59:DA:1862:G:C8	2.41	0.56
3:AD:35:ARG:HB3	21:AA:412:A:H2	1.71	0.56
3:AD:162:LEU:HD22	3:AD:178:VAL:HG13	1.86	0.56
21:AA:1288:A:N1	21:AA:1371:G:H1'	2.21	0.56
26:BD:31:LYS:HG3	26:BD:33:LEU:H	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BF:156:LEU:HA	28:BF:191:ARG:O	2.06	0.56
29:BG:31:VAL:O	29:BG:33:ARG:N	2.39	0.56
45:BZ:117:LEU:HD11	45:BZ:172:ALA:HB1	1.88	0.56
59:BA:863:A:H2'	59:BA:864:G:C8	2.41	0.56
59:BA:2476:A:H2'	59:BA:2477:C:H5'	1.87	0.56
19:CT:84:LEU:O	19:CT:88:VAL:HG23	2.06	0.56
21:CA:701:C:O2	21:CA:703:G:N2	2.37	0.56
21:CA:741:G:H3'	21:CA:742:G:H8	1.71	0.56
22:CW:15:G:P	22:CW:16:U:H3	2.29	0.56
34:DO:98:VAL:HG22	34:DO:117:LEU:HB3	1.88	0.56
38:DS:68:GLN:O	38:DS:72:ALA:N	2.35	0.56
41:DV:18:LEU:H	41:DV:96:ILE:HD11	1.70	0.56
43:DX:36:LYS:HA	43:DX:39:ILE:HD12	1.88	0.56
57:D4:14:ILE:O	57:D4:16:CYS:N	2.39	0.56
59:DA:248:G:C2	59:DA:2431:U:H4'	2.40	0.56
59:DA:2440:C:H5"	59:DA:2587:A:H4'	1.88	0.56
2:AC:61:ALA:O	2:AC:62:ASP:HB2	2.04	0.56
9:AJ:16:LEU:HD11	9:AJ:70:ARG:HD3	1.86	0.56
16:AQ:67:LYS:HD3	21:AA:254:G:OP2	2.05	0.56
19:AT:34:LYS:O	19:AT:37:SER:OG	2.22	0.56
27:BE:4:ILE:HD13	27:BE:5:LEU:N	2.20	0.56
27:BE:151:TYR:HD2	33:BN:79:PRO:HG3	1.71	0.56
48:B3:40:THR:O	48:B3:43:ILE:N	2.38	0.56
59:BA:8:A:N1	59:BA:2895:U:C4	2.74	0.56
59:BA:270(J):G:N1	59:BA:270(R):C:N4	2.20	0.56
59:BA:1429:G:H2'	59:BA:1430:C:C6	2.41	0.56
59:BA:2085:C:H42	59:BA:2234:G:H1	1.53	0.56
4:CE:45:PHE:HZ	21:CA:1079:G:H5"	1.71	0.56
7:CH:94:TYR:OH	21:CA:597:G:N2	2.39	0.56
9:CJ:5:ARG:NH2	9:CJ:73:ASP:OD2	2.39	0.56
12:CM:23:TYR:OH	12:CM:71:ARG:HG3	2.06	0.56
21:CA:292:G:C5	21:CA:293:G:H1'	2.40	0.56
21:CA:1412:C:H2'	21:CA:1413:A:C8	2.41	0.56
21:CA:1486:G:H2'	21:CA:1487:G:O4'	2.06	0.56
22:CW:7:G:O6	22:CW:49:A:N6	2.39	0.56
20:CY:555:LEU:HD21	20:CY:599:PRO:HB3	1.88	0.56
26:DD:125:ILE:HG12	26:DD:137:PRO:HG2	1.87	0.56
34:DO:105:GLU:OE1	34:DO:105:GLU:N	2.35	0.56
38:DS:25:ARG:HA	38:DS:86:ALA:HB3	1.87	0.56
59:DA:594:U:H2'	59:DA:595:C:C6	2.41	0.56
8:AI:21:PRO:HA	8:AI:60:ASP:H	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AJ:55:LYS:HG3	21:AA:973:G:O4'	2.06	0.56
12:AM:52:GLU:OE2	12:AM:55:ARG:NH2	2.37	0.56
19:AT:63:ILE:HG23	19:AT:77:ALA:HB1	1.86	0.56
21:AA:102:G:H2'	21:AA:103:C:C6	2.41	0.56
21:AA:263:A:H2'	21:AA:264:U:C6	2.41	0.56
21:AA:429:U:H1'	21:AA:430:A:H5"	1.88	0.56
28:BF:7:TYR:CZ	28:BF:10:PRO:HD3	2.41	0.56
35:BP:68:GLN:HE22	52:B8:12:LYS:HG2	1.71	0.56
44:BY:42:VAL:HG21	44:BY:67:LEU:HD13	1.88	0.56
44:BY:97:ARG:NH2	59:BA:300:A:OP1	2.38	0.56
45:BZ:69:THR:HA	45:BZ:91:LEU:HG	1.86	0.56
59:BA:17:G:H2'	59:BA:18:C:C6	2.40	0.56
59:BA:676:A:C8	59:BA:2443:C:H1'	2.41	0.56
59:BA:853:G:H1	59:BA:924:C:N4	2.02	0.56
59:BA:1405:U:H2'	59:BA:1406:U:C6	2.41	0.56
7:CH:12:ARG:NH2	21:CA:825:G:O2'	2.31	0.56
8:CI:10:ARG:HD3	8:CI:75:ASP:HB3	1.86	0.56
9:CJ:54:PHE:CG	9:CJ:55:LYS:N	2.74	0.56
11:CL:60:LEU:HD23	11:CL:63:GLY:O	2.05	0.56
19:CT:103:GLY:HA2	21:CA:192:U:H1'	1.88	0.56
21:CA:765:G:N1	21:CA:812:C:O2'	2.36	0.56
25:DC:20:VAL:HG13	25:DC:226:ASN:HB2	1.87	0.56
26:DD:157:ARG:NH2	59:DA:1818:U:O5'	2.39	0.56
32:DK:124:ALA:HB3	32:DK:125:ARG:CZ	2.36	0.56
34:DO:68:GLU:OE1	59:DA:2684:U:O2'	2.24	0.56
59:DA:679:C:H2'	59:DA:680:G:H8	1.71	0.56
59:DA:1138:G:H2'	59:DA:1139:G:O4'	2.06	0.56
59:DA:1327:C:H3'	59:DA:1328:G:C8	2.41	0.56
59:DA:1335:U:H2'	59:DA:1336:A:C8	2.41	0.56
59:DA:1412:A:H61	59:DA:1590:U:H3	1.53	0.56
59:DA:1811:G:H2'	59:DA:1812:A:H8	1.71	0.56
59:DA:2604:U:H2'	59:DA:2605:U:H6	1.70	0.56
1:AB:60:ASP:HA	1:AB:63:MET:HG2	1.87	0.55
1:AB:194:PRO:HB2	1:AB:200:ILE:HD13	1.88	0.55
5:AF:97:PHE:HB3	17:AR:32:ARG:HD3	1.87	0.55
8:AI:16:ARG:HH12	21:AA:1128:C:H4'	1.71	0.55
10:AK:21:ILE:HD11	10:AK:98:LEU:HD11	1.87	0.55
11:AL:35:GLY:CA	11:AL:58:VAL:HG13	2.35	0.55
17:AR:74:ARG:NH2	17:AR:81:PHE:O	2.39	0.55
21:AA:394:G:H2'	21:AA:395:C:H6	1.71	0.55
21:AA:928:G:H2'	21:AA:929:G:C8	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BE:30:PRO:HA	27:BE:92:THR:HG22	1.88	0.55
29:BG:68:PRO:HB2	29:BG:90:LEU:HD11	1.86	0.55
30:BH:62:LYS:HB3	59:BA:2749:A:H4'	1.88	0.55
33:BN:25:ARG:O	33:BN:28:THR:HB	2.06	0.55
56:B1:77:ALA:HB1	56:B1:82:LEU:HD21	1.89	0.55
59:BA:270(W):G:H2'	59:BA:270(X):G:C8	2.41	0.55
59:BA:822:U:H5	59:BA:944:G:H1'	1.71	0.55
59:BA:1165:U:H3	59:BA:1184:G:H1	1.54	0.55
59:BA:1731:G:O2'	59:BA:1732:A:H8	1.88	0.55
12:CM:40:ASN:O	12:CM:43:THR:HB	2.07	0.55
16:CQ:9:VAL:HA	16:CQ:56:VAL:HG22	1.87	0.55
21:CA:891:U:H3	21:CA:907:A:H62	1.55	0.55
21:CA:892:A:H2'	21:CA:893:C:C6	2.40	0.55
21:CA:1028(B):C:N3	21:CA:1028(G):G:N2	2.50	0.55
46:D0:49:LYS:HB2	46:D0:80:HIS:HB3	1.87	0.55
59:DA:1638:C:H2'	59:DA:1639:U:O4'	2.05	0.55
2:AC:6:HIS:HB3	2:AC:9:GLY:H	1.71	0.55
2:AC:84:ILE:HG12	2:AC:101:LEU:HD22	1.88	0.55
13:AN:21:TYR:OH	13:AN:23:ARG:NH2	2.40	0.55
14:AO:54:ARG:HG2	14:AO:58:MET:HE2	1.88	0.55
15:AP:67:THR:O	15:AP:71:ARG:HG3	2.06	0.55
20:AY:381:LYS:NZ	21:AA:358:U:OP1	2.36	0.55
21:AA:642:A:H2'	21:AA:643:C:C6	2.41	0.55
21:AA:865:A:H2'	21:AA:866:C:C6	2.41	0.55
25:BC:48:LEU:O	25:BC:211:ARG:NH2	2.37	0.55
25:BC:169:THR:O	25:BC:171:ALA:N	2.37	0.55
28:BF:198:ALA:HA	28:BF:201:VAL:HB	1.88	0.55
57:B4:28:LYS:HB3	57:B4:31:ILE:HD11	1.88	0.55
59:BA:214:G:H1'	59:BA:216:A:O2'	2.06	0.55
59:BA:661:C:H2'	59:BA:662:G:C8	2.39	0.55
59:BA:740:U:N3	59:BA:758:C:H1'	2.21	0.55
59:BA:2817:G:O2'	59:BA:2836:U:O2	2.14	0.55
12:CM:15:VAL:HG23	12:CM:34:LEU:HD13	1.88	0.55
21:CA:1109:C:H2'	21:CA:1110:A:O4'	2.06	0.55
25:DC:133:GLY:N	25:DC:138:LEU:HB2	2.22	0.55
26:DD:88:ARG:HE	59:DA:1817:G:H5"	1.71	0.55
29:DG:31:VAL:O	29:DG:33:ARG:HG3	2.07	0.55
33:DN:39:ARG:NH2	33:DN:41:ASP:HB3	2.21	0.55
34:DO:15:GLY:O	34:DO:47:ILE:N	2.34	0.55
36:DQ:76:LYS:NZ	59:DA:957:A:OP1	2.39	0.55
39:DT:53:ARG:NH1	39:DT:60:THR:OG1	2.38	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:DY:62:GLU:CD	44:DY:63:LYS:H	2.14	0.55
56:D1:18:ILE:H	56:D1:42:GLN:HB2	1.71	0.55
59:DA:1278:A:H2'	59:DA:1279:G:H8	1.71	0.55
59:DA:2133:G:O2'	59:DA:2157:G:N1	2.40	0.55
1:AB:15:VAL:HG11	1:AB:209:ARG:NH2	2.21	0.55
3:AD:134:ASP:OD2	3:AD:134:ASP:N	2.38	0.55
10:AK:88:GLY:O	10:AK:90:GLY:N	2.39	0.55
20:AY:232:LEU:HD11	58:Be:71:LYS:NZ	2.20	0.55
21:AA:394:G:H2'	21:AA:395:C:C6	2.41	0.55
21:AA:406:G:H2'	21:AA:407:G:C8	2.40	0.55
22:AW:19:G:H1	22:AW:56:C:H42	1.54	0.55
26:BD:35:LYS:HD3	26:BD:61:LEU:HG	1.87	0.55
28:BF:169:ASN:ND2	59:BA:322:A:H3'	2.21	0.55
34:BO:91:LEU:HD11	34:BO:111:PHE:CE1	2.41	0.55
37:BR:12:ARG:HH21	59:BA:1276:A:HO2'	1.52	0.55
59:BA:360:G:H2'	59:BA:361:G:C8	2.42	0.55
59:BA:788:A:OP1	59:BA:791:C:N4	2.39	0.55
59:BA:2443:C:H2'	59:BA:2444:G:C8	2.42	0.55
60:BB:110:G:H2'	60:BB:111:U:O4'	2.07	0.55
7:CH:30:ARG:NH1	21:CA:590:C:OP2	2.40	0.55
12:CM:98:VAL:HB	12:CM:99:ARG:CZ	2.36	0.55
21:CA:255:G:H2'	21:CA:256:U:C6	2.42	0.55
21:CA:993:G:H1	21:CA:1045:C:H42	1.52	0.55
23:CV:6:G:H2'	23:CV:7:G:C8	2.41	0.55
27:DE:34:VAL:HG22	27:DE:35:GLN:H	1.70	0.55
29:DG:138:GLN:HB2	29:DG:153:ARG:O	2.07	0.55
59:DA:1028:A:N3	59:DA:2486:G:O2'	2.30	0.55
59:DA:2178:C:H2'	59:DA:2179:C:H6	1.71	0.55
4:AE:33:VAL:HG11	4:AE:109:ILE:HA	1.88	0.55
4:AE:78:HIS:O	4:AE:79:GLU:HB3	2.06	0.55
15:AP:26:ARG:HH22	21:AA:310:G:H5"	1.71	0.55
15:AP:58:TYR:O	15:AP:62:VAL:HG13	2.06	0.55
17:AR:66:LEU:O	17:AR:70:ILE:HG13	2.06	0.55
20:AY:460:GLU:HA	20:AY:463:VAL:HB	1.88	0.55
21:AA:279:A:OP1	21:AA:280:C:O2'	2.19	0.55
25:BC:40:GLU:O	25:BC:42:VAL:N	2.39	0.55
26:BD:81:ALA:HA	26:BD:113:VAL:HG12	1.88	0.55
27:BE:62:PRO:HG3	59:BA:2786:U:O2	2.06	0.55
27:BE:132:HIS:HA	27:BE:135:HIS:HD1	1.69	0.55
33:BN:61:ARG:HG2	33:BN:61:ARG:NH1	2.20	0.55
33:BN:78:TYR:HB2	59:BA:2642:G:OP1	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BZ:29:TYR:HA	45:BZ:33:LEU:O	2.06	0.55
48:B3:7:LYS:HZ2	48:B3:9:VAL:HG12	1.71	0.55
50:B6:37:ARG:NH2	59:BA:2344:U:O2'	2.39	0.55
59:BA:681:G:H2'	59:BA:682:G:C8	2.41	0.55
59:BA:1595:G:H2'	59:BA:1596:A:H8	1.71	0.55
59:BA:2674:G:H2'	59:BA:2675:A:C8	2.41	0.55
19:CT:85:MET:SD	21:CA:186:C:O2'	2.63	0.55
21:CA:372:C:H42	21:CA:389:A:H62	1.54	0.55
21:CA:1422:G:H2'	21:CA:1423:G:H8	1.72	0.55
21:CA:1437:C:H2'	21:CA:1438:G:C8	2.41	0.55
20:CY:417:THR:O	20:CY:419:ALA:N	2.35	0.55
25:DC:63:VAL:HB	25:DC:164:PHE:HZ	1.71	0.55
52:D8:18:ALA:HB3	59:DA:651:G:H5"	1.88	0.55
59:DA:27:G:N2	59:DA:512:G:O2'	2.30	0.55
59:DA:817:C:O2'	59:DA:839:U:OP1	2.20	0.55
1:AB:111:ARG:HB3	1:AB:145:LEU:HD11	1.89	0.55
3:AD:25:ARG:O	3:AD:27:TYR:N	2.31	0.55
20:AY:35:TYR:HD1	20:AY:36:THR:N	2.04	0.55
20:AY:95:GLU:HB3	20:AY:99:ARG:HH21	1.70	0.55
20:AY:311:ALA:HA	20:AY:330:VAL:O	2.06	0.55
21:AA:436:C:H2'	21:AA:437:U:O4'	2.07	0.55
21:AA:949:A:H2'	21:AA:950:U:C6	2.42	0.55
29:BG:11:TYR:HB2	29:BG:176:LEU:HD21	1.88	0.55
31:BJ:111:UNK:H	31:BJ:116:UNK:HA	1.72	0.55
36:BQ:30:GLY:HA2	36:BQ:107:ALA:HB2	1.89	0.55
48:B3:42:ALA:O	59:BA:851:U:O2'	2.24	0.55
59:BA:17:G:H2'	59:BA:18:C:H6	1.71	0.55
59:BA:403:U:H4'	59:BA:404:C:H5'	1.89	0.55
59:BA:1669:A:O3'	59:BA:2549:G:H5'	2.05	0.55
59:BA:2270:G:H2'	59:BA:2271:G:O4'	2.06	0.55
1:CB:164:VAL:HG12	1:CB:186:ALA:HB1	1.89	0.55
2:CC:66:VAL:HG12	2:CC:68:VAL:HG23	1.88	0.55
20:CY:15:ILE:HD12	20:CY:105:ILE:HD11	1.88	0.55
20:CY:660:ARG:O	20:CY:665:GLY:N	2.40	0.55
35:DP:47:ASP:HB3	35:DP:51:PHE:HB2	1.89	0.55
40:DU:25:TRP:HD1	40:DU:26:GLY:H	1.54	0.55
43:DX:49:VAL:HG12	43:DX:87:GLN:HB3	1.88	0.55
45:DZ:30:ASN:HB2	45:DZ:90:VAL:HB	1.87	0.55
50:D6:28:ARG:HD3	50:D6:29:ASN:N	2.21	0.55
59:DA:380:U:H2'	59:DA:381:G:C8	2.40	0.55
1:AB:235:SER:O	1:AB:237:ALA:N	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AY:34:TYR:O	20:AY:35:TYR:CG	2.59	0.55
21:AA:352:C:H4'	21:AA:354:G:OP1	2.06	0.55
21:AA:947:G:H2'	21:AA:948:C:H6	1.72	0.55
28:BF:111:ALA:HB2	28:BF:206:ILE:HG21	1.87	0.55
33:BN:55:VAL:HB	33:BN:126:PRO:HA	1.88	0.55
35:BP:115:LEU:HA	35:BP:134:ALA:HB2	1.88	0.55
59:BA:812:C:H1'	59:BA:1250:G:C2	2.42	0.55
59:BA:1200:C:H2'	59:BA:1201:C:C6	2.42	0.55
59:BA:1324:G:H1'	59:BA:1616:A:N6	2.21	0.55
59:BA:1937:A:N7	59:BA:1939:U:H2'	2.20	0.55
59:BA:2066:C:H2'	59:BA:2067:G:H8	1.70	0.55
1:CB:118:LEU:O	1:CB:122:PHE:HB2	2.06	0.55
1:CB:223:ILE:HA	1:CB:226:ARG:HB2	1.88	0.55
16:CQ:66:SER:O	16:CQ:70:ARG:NH1	2.39	0.55
18:CS:71:LEU:C	18:CS:73:GLU:H	2.14	0.55
21:CA:1440(J):C:H1'	21:CA:1440(K):G:N2	2.22	0.55
23:CV:8:A:H2'	23:CV:9:G:C8	2.42	0.55
20:CY:20:HIS:CD2	20:CY:21:ILE:HG23	2.42	0.55
20:CY:163:VAL:HG13	20:CY:258:VAL:CG2	2.32	0.55
20:CY:438:PHE:HE1	20:CY:462:ILE:HG13	1.72	0.55
25:DC:42:VAL:O	25:DC:43:GLU:C	2.50	0.55
26:DD:88:ARG:HB3	59:DA:1817:G:H5"	1.88	0.55
29:DG:51:ARG:HH12	29:DG:88:ILE:HD12	1.71	0.55
44:DY:85:VAL:HG12	44:DY:94:LYS:HB3	1.88	0.55
45:DZ:30:ASN:O	45:DZ:32:HIS:N	2.34	0.55
53:D9:22:ARG:NH2	59:DA:2741:A:OP1	2.39	0.55
59:DA:465:G:H2'	59:DA:466:A:C8	2.42	0.55
59:DA:1486:A:H2'	59:DA:1487:G:C8	2.42	0.55
59:DA:1800:C:N3	59:DA:1817:G:N1	2.53	0.55
4:AE:146:ALA:O	4:AE:150:ARG:NE	2.37	0.55
7:AH:14:ARG:HE	7:AH:83:ILE:HD13	1.71	0.55
8:AI:117:HIS:HB2	8:AI:121:ARG:HB3	1.88	0.55
20:AY:246:ILE:HA	20:AY:255:ILE:HD13	1.87	0.55
21:AA:838(A):U:H5'	59:DA:1583:A:H61	1.72	0.55
28:BF:52:LYS:HB3	28:BF:56:GLU:HB2	1.89	0.55
32:BK:103:GLN:O	32:BK:107:ILE:HG12	2.06	0.55
32:BK:114:ASP:N	32:BK:114:ASP:OD1	2.39	0.55
49:B5:18:ALA:HB1	59:BA:2045:C:H4'	1.88	0.55
56:B1:20:ARG:H	56:B1:40:ARG:HB2	1.71	0.55
59:BA:265:A:N6	59:BA:427:U:O2'	2.35	0.55
60:BB:113:C:N4	60:BB:114:G:O6	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CD:8:VAL:HG23	3:CD:9:CYS:H	1.71	0.55
3:CD:70:ILE:HG12	3:CD:71:SER:N	2.21	0.55
5:CF:50:TYR:OH	17:CR:77:GLY:N	2.38	0.55
7:CH:7:ALA:HA	7:CH:10:LEU:HD12	1.88	0.55
12:CM:104:ARG:NH2	21:CA:954:G:O6	2.37	0.55
13:CN:15:LYS:HD3	13:CN:16:PHE:CZ	2.42	0.55
16:CQ:67:LYS:HD2	21:CA:266:G:C8	2.40	0.55
21:CA:1237:C:H4'	21:CA:1334:G:H21	1.71	0.55
21:CA:1256:A:N6	21:CA:1278:U:O4'	2.39	0.55
21:CA:1321:C:H3'	21:CA:1322:C:H5"	1.89	0.55
21:CA:1328:C:H2'	21:CA:1329:A:H8	1.70	0.55
26:DD:187:GLY:C	26:DD:189:CYS:H	2.14	0.55
47:D2:42:GLY:O	47:D2:45:SER:OG	2.22	0.55
48:D3:35:ARG:HB3	48:D3:37:LEU:HD13	1.89	0.55
50:D6:23:THR:HG21	59:DA:2419:U:OP1	2.07	0.55
59:DA:1086:A:H4'	59:DA:1103:A:H2	1.72	0.55
59:DA:2593:U:H2'	59:DA:2594:C:C6	2.42	0.55
20:AY:191:ASP:O	20:AY:266:ASN:N	2.40	0.55
20:AY:515:GLU:O	20:AY:564:LYS:N	2.33	0.55
21:AA:404:U:H2'	21:AA:405:U:H6	1.70	0.55
21:AA:1118:C:H2'	21:AA:1119:C:H6	1.70	0.55
25:BC:76:LEU:HD11	25:BC:100:ILE:HG21	1.89	0.55
27:BE:105:THR:HB	27:BE:197:ILE:HG12	1.88	0.55
27:BE:140:SER:HB2	59:BA:2578:G:C5	2.42	0.55
27:BE:150:VAL:HG21	59:BA:2618:G:H21	1.71	0.55
34:BO:98:VAL:HG22	34:BO:117:LEU:HD22	1.87	0.55
37:BR:24:GLN:O	37:BR:28:LEU:HB2	2.06	0.55
37:BR:28:LEU:HG	37:BR:34:ILE:HD13	1.89	0.55
38:BS:13:ARG:O	38:BS:15:ARG:N	2.39	0.55
39:BT:70:VAL:HG12	39:BT:71:GLY:H	1.72	0.55
53:B9:2:LYS:HD2	59:BA:2526:G:O2'	2.07	0.55
56:B1:16:ASN:HB3	59:BA:381:G:C5'	2.37	0.55
59:BA:270(N):U:H4'	59:BA:270(O):G:H5'	1.87	0.55
59:BA:2828:C:H2'	59:BA:2829:C:C6	2.41	0.55
1:CB:111:ARG:HE	1:CB:145:LEU:HD21	1.71	0.55
1:CB:145:LEU:HD12	1:CB:149:LEU:HD12	1.87	0.55
3:CD:103:ASN:HA	3:CD:106:TYR:HB3	1.88	0.55
21:CA:112:G:N2	21:CA:315:A:N1	2.54	0.55
26:DD:130:ALA:HB1	26:DD:190:TYR:HD2	1.71	0.55
35:DP:122:PRO:HG3	35:DP:141:ALA:HB3	1.87	0.55
37:DR:13:HIS:O	37:DR:16:HIS:N	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:676:A:H8	59:DA:2069:G:H21	1.54	0.55
59:DA:860:U:H2'	59:DA:861:A:C8	2.42	0.55
59:DA:1336:A:H2'	59:DA:1337:G:H8	1.72	0.55
6:AG:78:ARG:HD3	6:AG:85:TYR:HD1	1.71	0.55
19:AT:10:LEU:HG	19:AT:11:SER:H	1.72	0.55
21:AA:1356:G:H2'	21:AA:1357:A:C8	2.42	0.55
21:AA:1421:G:H2'	21:AA:1422:G:O4'	2.07	0.55
28:BF:6:VAL:HG21	28:BF:9:ILE:HG12	1.88	0.55
28:BF:45:ARG:HD3	28:BF:97:TYR:HD2	1.71	0.55
29:BG:171:ALA:O	29:BG:175:LEU:HG	2.07	0.55
35:BP:86:LYS:HD3	35:BP:119:GLU:H	1.72	0.55
37:BR:22:ARG:HH11	37:BR:69:ASP:HA	1.72	0.55
59:BA:746:A:HO2'	59:BA:2611:U:HO2'	1.51	0.55
59:BA:1494:A:H4'	59:BA:1496:A:N1	2.22	0.55
3:CD:61:LYS:HD3	3:CD:75:PHE:HE2	1.72	0.55
13:CN:19:ARG:HG2	21:CA:980:C:H1'	1.87	0.55
21:CA:56:U:O4	21:CA:356:A:N1	2.40	0.55
21:CA:1350:A:H2'	21:CA:1351:U:C6	2.42	0.55
21:CA:1483:A:HO2'	59:DA:1947:C:HO2'	1.53	0.55
20:CY:616:TYR:HB3	20:CY:663:THR:HA	1.89	0.55
26:DD:160:GLY:HA3	26:DD:199:ALA:HB2	1.88	0.55
26:DD:172:TYR:CD1	26:DD:184:LYS:HB3	2.42	0.55
26:DD:244:ARG:HB2	59:DA:1902:C:O2'	2.06	0.55
32:DK:133:SER:HB3	59:DA:1088:A:H62	1.71	0.55
35:DP:95:VAL:HA	35:DP:99:LEU:HD23	1.88	0.55
36:DQ:19:GLY:O	45:DZ:79:ARG:HD3	2.07	0.55
42:DW:80:PRO:O	42:DW:81:ALA:HB2	2.07	0.55
45:DZ:30:ASN:ND2	45:DZ:90:VAL:O	2.40	0.55
51:D7:5:TRP:HD1	59:DA:1612:C:H5"	1.71	0.55
56:D1:6:GLU:HG3	56:D1:61:ARG:HB2	1.89	0.55
59:DA:198:C:H4'	59:DA:2243:U:H4'	1.87	0.55
59:DA:1542:G:OP2	59:DA:1543:A:H5'	2.07	0.55
59:DA:2788:C:H2'	59:DA:2789:C:C6	2.42	0.55
4:AE:35:GLY:N	4:AE:112:LEU:HD12	2.22	0.55
9:AJ:39:PRO:HB3	9:AJ:70:ARG:NH2	2.20	0.55
11:AL:113:ARG:NE	11:AL:115:LYS:HB3	2.22	0.55
12:AM:28:ALA:CB	21:AA:1328:C:H5"	2.37	0.55
12:AM:108:ARG:HE	12:AM:114:ARG:HG3	1.72	0.55
20:AY:77:HIS:CE1	20:AY:277:VAL:HG21	2.42	0.55
20:AY:249:GLY:HA3	20:AY:255:ILE:HD12	1.88	0.55
26:BD:8:PRO:HB2	59:BA:1695:G:C8	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BD:165:ILE:O	26:BD:175:LEU:HA	2.06	0.55
26:BD:244:ARG:NH2	59:BA:1841:U:H1'	2.21	0.55
28:BF:154:VAL:O	28:BF:156:LEU:N	2.39	0.55
29:BG:34:LEU:HD13	29:BG:99:MET:HE1	1.90	0.55
37:BR:40:LYS:O	37:BR:44:LEU:HB2	2.07	0.55
59:BA:307:G:H21	59:BA:330:A:N6	2.05	0.55
59:BA:473:G:H5"	59:BA:508:G:N2	2.20	0.55
59:BA:1335:U:H2'	59:BA:1336:A:C8	2.42	0.55
60:BB:18:G:H2'	60:BB:19:G:H8	1.71	0.55
3:CD:33:MET:O	3:CD:35:ARG:N	2.37	0.55
12:CM:105:THR:O	12:CM:114:ARG:NH1	2.40	0.55
18:CS:36:ARG:HH22	18:CS:75:ALA:HB3	1.72	0.55
21:CA:1422:G:H1	21:CA:1478:C:H42	1.55	0.55
25:DC:11:LEU:HD13	25:DC:221:PRO:HD3	1.89	0.55
28:DF:155:LEU:HD12	28:DF:176:LEU:HB3	1.89	0.55
29:DG:60:LEU:O	29:DG:63:ILE:HG12	2.07	0.55
30:DH:127:GLU:O	30:DH:129:THR:N	2.31	0.55
37:DR:88:ARG:NH2	37:DR:89:ASP:OD2	2.40	0.55
38:DS:109:GLY:OXT	59:DA:2376:A:O2'	2.20	0.55
40:DU:25:TRP:CD1	40:DU:26:GLY:N	2.74	0.55
52:D8:61:LEU:HD11	59:DA:593:G:O2'	2.07	0.55
59:DA:1434:A:H61	59:DA:1558:A:H62	1.55	0.55
59:DA:2241:A:H2'	59:DA:2242:G:C8	2.42	0.55
20:AY:136:ALA:O	20:AY:139:MET:HG2	2.07	0.54
21:AA:1235:U:H2'	21:AA:1236:A:O4'	2.06	0.54
26:BD:263:ARG:HG2	59:BA:2227:A:H5'	1.88	0.54
27:BE:146:THR:HA	27:BE:147:PRO:C	2.32	0.54
29:BG:124:SER:HG	59:BA:2303:G:HO2'	1.53	0.54
31:BJ:25:UNK:CA	31:BJ:80:UNK:HA	2.35	0.54
39:BT:19:LEU:HD13	39:BT:85:LYS:HD2	1.88	0.54
59:BA:273(G):C:N3	59:BA:363(A):G:N2	2.52	0.54
59:BA:2683:C:N4	59:BA:2727:G:O2'	2.39	0.54
6:CG:72:ARG:O	6:CG:91:VAL:N	2.40	0.54
10:CK:117:ASN:OD1	21:CA:716:A:O2'	2.25	0.54
21:CA:781:A:N6	21:CA:802:A:H1'	2.22	0.54
21:CA:835:U:H2'	21:CA:836:G:H8	1.72	0.54
22:CW:43:G:H2'	22:CW:44:G:H8	1.72	0.54
20:CY:438:PHE:HB2	20:CY:452:SER:O	2.06	0.54
25:DC:88:GLU:HG3	25:DC:95:VAL:HG21	1.88	0.54
27:DE:72:VAL:HG12	27:DE:73:GLU:H	1.71	0.54
28:DF:188:ARG:HG3	28:DF:189:THR:HG23	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DO:64:ARG:O	34:DO:82:ASN:HA	2.07	0.54
40:DU:62:ILE:HD12	40:DU:76:TYR:HE1	1.70	0.54
50:D6:37:ARG:NH2	59:DA:2286:A:N7	2.55	0.54
59:DA:2853:C:H2'	59:DA:2854:G:C8	2.42	0.54
1:AB:19:HIS:CG	1:AB:20:GLU:H	2.25	0.54
5:AF:28:ARG:NH1	5:CF:28:ARG:HD2	2.22	0.54
9:AJ:57:LYS:HE3	21:AA:972:C:OP2	2.06	0.54
20:AY:38:ARG:O	20:AY:39:ILE:HB	2.07	0.54
20:AY:41:LYS:HE2	20:AY:43:GLY:HA3	1.88	0.54
20:AY:511:LYS:HD2	20:AY:569:ASP:HB3	1.89	0.54
21:AA:338:A:O5'	34:BO:97:ARG:NH2	2.41	0.54
21:AA:634:C:H2'	21:AA:635:G:C8	2.41	0.54
21:AA:1062:U:H2'	21:AA:1063:C:C6	2.43	0.54
29:BG:142:PRO:HB2	57:B4:31:ILE:HG12	1.89	0.54
33:BN:87:LEU:O	33:BN:91:LEU:HG	2.07	0.54
58:Be:60:PHE:C	58:Be:62:VAL:H	2.13	0.54
59:BA:460:A:N6	59:BA:469:G:H21	1.99	0.54
59:BA:614:U:H4'	59:BA:615:G:OP1	2.07	0.54
59:BA:746:A:O2'	59:BA:2611:U:O2'	2.22	0.54
59:BA:1259:G:H2'	59:BA:1260:G:C8	2.42	0.54
59:BA:2089:U:H2'	59:BA:2090:G:C8	2.41	0.54
3:CD:42:GLN:H	21:CA:541:G:HO2'	1.52	0.54
10:CK:108:ILE:HD13	17:CR:87:ARG:HG2	1.89	0.54
17:CR:74:ARG:NH2	17:CR:81:PHE:O	2.40	0.54
20:CY:134:ALA:HB2	20:CY:258:VAL:HG12	1.90	0.54
20:CY:538:TYR:OH	20:CY:577:SER:O	2.19	0.54
20:CY:617:MET:HA	20:CY:620:VAL:HG22	1.89	0.54
26:DD:109:ASP:HB2	26:DD:197:GLY:HA2	1.90	0.54
26:DD:140:THR:HG22	26:DD:141:VAL:H	1.71	0.54
27:DE:63:LEU:C	27:DE:65:GLY:H	2.14	0.54
30:DH:142:GLY:C	59:DA:2745:C:H4'	2.33	0.54
33:DN:41:ASP:OD2	40:DU:64:ARG:NH1	2.40	0.54
37:DR:42:LYS:O	37:DR:45:ARG:HG3	2.08	0.54
39:DT:27:THR:O	39:DT:87:ASP:HB2	2.06	0.54
40:DU:95:LEU:O	40:DU:98:LEU:HB3	2.07	0.54
52:D8:26:LYS:HG2	52:D8:47:LYS:HG3	1.89	0.54
59:DA:938:G:H2'	59:DA:939:G:C8	2.42	0.54
59:DA:2230:G:H2'	59:DA:2231:C:C6	2.42	0.54
1:AB:96:ARG:HG2	21:AA:1100:C:H5	1.72	0.54
1:AB:170:GLU:O	1:AB:174:VAL:HG23	2.08	0.54
8:AI:28:VAL:HG13	8:AI:63:ILE:HB	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AY:106:VAL:HG23	20:AY:132:ARG:HG3	1.90	0.54
20:AY:150:ILE:HG23	20:AY:161:PRO:HG3	1.88	0.54
20:AY:420:ASP:HB3	20:AY:472:VAL:HG12	1.90	0.54
21:AA:315:A:H4'	21:AA:317:G:OP2	2.08	0.54
21:AA:1237:C:H3'	21:AA:1336:C:N4	2.23	0.54
25:BC:51:ASP:O	25:BC:166:ASN:ND2	2.41	0.54
28:BF:68:LYS:HE2	59:BA:2444:G:OP2	2.08	0.54
31:BJ:23:UNK:O	31:BJ:85:UNK:N	2.41	0.54
32:BK:131:ALA:HB1	32:BK:136:VAL:HG13	1.87	0.54
33:BN:57:ALA:HB1	33:BN:60:ILE:HD11	1.89	0.54
34:BO:105:GLU:OE1	34:BO:105:GLU:N	2.38	0.54
37:BR:86:ARG:C	37:BR:88:ARG:H	2.16	0.54
59:BA:380:U:H2'	59:BA:381:G:C8	2.42	0.54
59:BA:2689:U:OP2	59:BA:2872:G:N2	2.40	0.54
10:CK:117:ASN:O	21:CA:716:A:O2'	2.25	0.54
13:CN:32:SER:OG	21:CA:975:A:O2'	2.25	0.54
21:CA:27:G:H2'	21:CA:28:G:H8	1.71	0.54
21:CA:523:A:H1'	21:CA:527:G:H22	1.71	0.54
21:CA:890:G:O2'	21:CA:906:G:O6	2.25	0.54
21:CA:953:G:H2'	21:CA:954:G:O4'	2.08	0.54
20:CY:165:GLN:HE21	20:CY:260:LEU:H	1.55	0.54
27:DE:13:ARG:HA	27:DE:21:VAL:C	2.31	0.54
33:DN:24:GLY:C	33:DN:26:LEU:H	2.14	0.54
59:DA:1677:A:H2'	59:DA:1678:G:C8	2.43	0.54
59:DA:2461:C:H2'	59:DA:2462:U:C6	2.43	0.54
60:DB:81:G:H3'	60:DB:82:G:H8	1.71	0.54
3:AD:154:ASN:C	3:AD:159:ARG:HH21	2.15	0.54
10:AK:43:SER:HB2	10:AK:67:ASP:HB3	1.88	0.54
10:AK:67:ASP:O	10:AK:71:LYS:HD3	2.06	0.54
12:AM:108:ARG:HA	12:AM:108:ARG:HH11	1.72	0.54
13:AN:29:ARG:HH11	13:AN:31:ARG:HB2	1.71	0.54
21:AA:272:C:H2'	21:AA:273:A:H8	1.72	0.54
21:AA:1009:G:H1	21:AA:1020:U:H3	1.54	0.54
25:BC:144:GLY:HA3	25:BC:161:ARG:NH2	2.22	0.54
30:BH:19:VAL:HG23	30:BH:45:VAL:HG23	1.89	0.54
40:BU:25:TRP:HD1	40:BU:26:GLY:N	2.05	0.54
45:BZ:30:ASN:O	45:BZ:32:HIS:N	2.36	0.54
59:BA:454:A:H8	59:BA:454:A:OP1	1.91	0.54
59:BA:519:U:H2'	59:BA:520:G:C8	2.42	0.54
59:BA:610:C:N4	59:BA:618(A):G:H1	2.06	0.54
59:BA:734:A:O2'	59:BA:1635:G:H5'	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1111:A:N3	59:BA:1112:G:H1'	2.23	0.54
59:BA:1113:U:H2'	59:BA:1114:G:C8	2.43	0.54
59:BA:1688:U:N3	59:BA:1698:A:N7	2.55	0.54
3:CD:135:LEU:HG	21:CA:620:C:N3	2.22	0.54
6:CG:156:TRP:HH2	21:CA:1378:C:N3	2.05	0.54
9:CJ:5:ARG:HH21	9:CJ:71:LEU:HD21	1.73	0.54
21:CA:1493:A:OP1	24:CU:2:DPP:HA	2.07	0.54
28:DF:183:VAL:O	28:DF:187:VAL:HG23	2.07	0.54
33:DN:90:MET:HE1	33:DN:94:HIS:NE2	2.22	0.54
39:DT:2:ASN:O	39:DT:4:GLY:N	2.40	0.54
42:DW:14:PRO:O	42:DW:16:LYS:N	2.40	0.54
44:DY:17:SER:OG	44:DY:18:GLY:N	2.38	0.54
56:D1:45:ASN:OD1	56:D1:64:ALA:HB2	2.08	0.54
59:DA:1690:A:H2'	59:DA:1691:C:O4'	2.07	0.54
1:AB:21:ARG:O	1:AB:23:ARG:N	2.41	0.54
1:AB:164:VAL:HG13	1:AB:170:GLU:HB2	1.88	0.54
5:AF:24:GLU:OE1	5:CF:28:ARG:NH1	2.41	0.54
5:AF:99:ALA:N	17:AR:29:PHE:O	2.39	0.54
7:AH:101:PRO:HG3	7:AH:133:LEU:HD11	1.90	0.54
20:AY:671:MET:HE3	20:AY:671:MET:H	1.73	0.54
21:AA:27:G:H2'	21:AA:28:G:C8	2.43	0.54
21:AA:627:G:H2'	21:AA:628:G:H8	1.72	0.54
26:BD:210:GLY:HA2	59:BA:764:A:H5'	1.89	0.54
28:BF:197:ASP:OD2	28:BF:198:ALA:N	2.34	0.54
34:BO:12:ASP:CG	34:BO:14:THR:HB	2.33	0.54
39:BT:48:ILE:O	39:BT:49:VAL:O	2.25	0.54
40:BU:98:LEU:O	40:BU:101:ARG:N	2.36	0.54
41:BV:63:GLY:O	41:BV:93:GLU:N	2.35	0.54
44:BY:49:VAL:HA	59:BA:483:A:H4'	1.88	0.54
45:BZ:19:ARG:HH22	60:BB:76:G:H4'	1.73	0.54
45:BZ:72:ARG:HH22	60:BB:104:A:P	2.30	0.54
45:BZ:85:HIS:HE2	60:BB:75:G:HO2'	1.56	0.54
57:B4:13:ARG:O	57:B4:14:ILE:HG12	2.08	0.54
59:BA:428:A:H2'	59:BA:429:A:O4'	2.07	0.54
59:BA:2020:A:N1	59:BA:2034:U:O4	2.40	0.54
59:BA:2292:C:H2'	59:BA:2293:C:C6	2.43	0.54
59:BA:712(B):A:H5"	59:BA:2713:A:OP2	2.07	0.54
1:CB:84:GLU:HG3	1:CB:215:LEU:HB3	1.90	0.54
1:CB:196:LEU:HD12	1:CB:197:VAL:HG23	1.89	0.54
5:CF:1:MET:HB2	5:CF:67:MET:O	2.07	0.54
29:DG:94:LEU:HB3	29:DG:99:MET:HB2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DP:84:ASN:HA	35:DP:116:GLY:HA3	1.90	0.54
38:DS:95:HIS:O	38:DS:97:ARG:N	2.33	0.54
42:DW:20:VAL:HA	49:D5:25:LEU:HD22	1.88	0.54
56:D1:21:ARG:HG3	59:DA:2080:G:H5"	1.89	0.54
59:DA:270(W):G:H2'	59:DA:270(X):G:C8	2.42	0.54
59:DA:1659:U:H3	59:DA:2001:A:H61	1.55	0.54
59:DA:2283:C:H2'	59:DA:2284:C:O4'	2.08	0.54
12:AM:91:ARG:NH2	21:AA:1226:C:OP2	2.40	0.54
12:AM:99:ARG:HB3	12:AM:101:GLN:HG3	1.90	0.54
13:AN:29:ARG:NH1	21:AA:974:A:OP2	2.40	0.54
17:AR:59:SER:OG	17:AR:62:GLU:OE2	2.25	0.54
18:AS:78:ARG:CZ	21:AA:1225:A:H5'	2.38	0.54
21:AA:1055:A:H8	21:AA:1055:A:O5'	1.90	0.54
21:AA:1127:G:H21	21:AA:1147:C:N4	2.06	0.54
25:BC:63:VAL:HB	25:BC:164:PHE:CZ	2.42	0.54
26:BD:70:TRP:CZ2	26:BD:150:LYS:HA	2.42	0.54
27:BE:15:PHE:CD1	39:BT:80:SER:HB3	2.42	0.54
27:BE:131:ALA:HB1	27:BE:133:LYS:HG3	1.89	0.54
28:BF:123:LEU:HD23	28:BF:123:LEU:H	1.72	0.54
28:BF:154:VAL:CB	28:BF:156:LEU:HB2	2.37	0.54
29:BG:39:ILE:HG23	29:BG:157:ILE:HG23	1.90	0.54
32:BK:100:THR:OG1	32:BK:101:TRP:N	2.35	0.54
43:BX:10:ALA:HB3	43:BX:29:TRP:HB2	1.89	0.54
59:BA:182:A:N3	59:BA:433:C:O2'	2.31	0.54
59:BA:528:A:H2'	59:BA:2042:A:N1	2.22	0.54
59:BA:618(B):C:H2'	59:BA:619:G:O4'	2.08	0.54
59:BA:2008:C:H2'	59:BA:2009:G:C8	2.41	0.54
59:BA:2719:G:H21	59:BA:2872:G:H1	1.55	0.54
1:CB:32:ILE:HG21	1:CB:40:HIS:HD1	1.73	0.54
3:CD:98:GLU:O	3:CD:103:ASN:ND2	2.30	0.54
21:CA:636:U:H2'	21:CA:637:G:H8	1.72	0.54
21:CA:1245:A:H61	21:CA:1292:U:H3	1.55	0.54
20:CY:163:VAL:HG12	20:CY:164:MET:H	1.73	0.54
25:DC:40:GLU:N	25:DC:218:THR:OG1	2.41	0.54
25:DC:76:LEU:HA	25:DC:93:ASP:O	2.07	0.54
25:DC:114:VAL:C	25:DC:116:ALA:H	2.15	0.54
26:DD:146:GLU:HA	26:DD:153:ALA:HA	1.88	0.54
26:DD:248:SER:OG	26:DD:252:TRP:NE1	2.39	0.54
32:DK:99:ILE:HG13	32:DK:136:VAL:HG21	1.88	0.54
32:DK:115:LEU:HD21	32:DK:126:MET:SD	2.48	0.54
36:DQ:68:ILE:HD13	36:DQ:68:ILE:H	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:DY:28:LYS:HD3	44:DY:37:VAL:HB	1.90	0.54
59:DA:1139:G:O2'	59:DA:1143:A:N1	2.36	0.54
59:DA:1407:C:H42	59:DA:1595:G:H1	1.54	0.54
59:DA:2350:C:H2'	59:DA:2351:G:O4'	2.08	0.54
60:DB:24:G:C2	60:DB:56:G:N2	2.76	0.54
8:AI:113:LYS:HB2	8:AI:119:ALA:HA	1.90	0.54
9:AJ:44:VAL:HG22	9:AJ:66:ARG:HA	1.90	0.54
21:AA:729:A:H2'	21:AA:730:G:H8	1.73	0.54
35:BP:54:GLY:HA3	59:BA:826:U:H1'	1.90	0.54
39:BT:36:GLU:HB3	39:BT:39:ARG:O	2.08	0.54
45:BZ:144:LEU:HD11	45:BZ:150:LEU:HD22	1.89	0.54
59:BA:1113:U:H2'	59:BA:1114:G:H8	1.72	0.54
59:BA:1641:A:H2'	59:BA:1642:G:O4'	2.07	0.54
59:BA:2886:G:H2'	59:BA:2887:U:C6	2.43	0.54
5:CF:90:VAL:O	21:CA:736:C:O2'	2.21	0.54
9:CJ:4:ILE:HD13	9:CJ:74:ILE:HG12	1.89	0.54
9:CJ:69:ASN:O	9:CJ:70:ARG:HD2	2.08	0.54
18:CS:13:ASP:OD2	18:CS:13:ASP:N	2.34	0.54
21:CA:382:A:H2'	21:CA:383:A:C8	2.42	0.54
21:CA:501:C:H1'	21:CA:549:C:H1'	1.89	0.54
20:CY:8:ASP:HB3	20:CY:11:ARG:H	1.73	0.54
20:CY:475:ASN:O	20:CY:477:GLY:N	2.40	0.54
27:DE:12:THR:O	59:DA:2682:U:H1'	2.08	0.54
27:DE:36:ARG:HH22	27:DE:86:PRO:HG2	1.73	0.54
27:DE:61:ARG:CG	27:DE:62:PRO:HD2	2.37	0.54
28:DF:8:GLN:HB2	28:DF:22:ALA:HB2	1.90	0.54
28:DF:43:LYS:HA	28:DF:98:SER:HB3	1.90	0.54
35:DP:101:VAL:HG12	35:DP:106:LEU:HD22	1.89	0.54
40:DU:74:LEU:HD13	40:DU:74:LEU:H	1.71	0.54
45:DZ:34:ASN:O	45:DZ:34:ASN:ND2	2.32	0.54
59:DA:15:G:H2'	59:DA:16:G:H8	1.73	0.54
59:DA:468:G:H2'	59:DA:469:G:O4'	2.08	0.54
59:DA:720:C:H2'	59:DA:721:C:H6	1.72	0.54
59:DA:1006:C:H2'	59:DA:1007:C:C6	2.43	0.54
59:DA:2522:U:H3	59:DA:2543:G:H1	1.56	0.54
4:AE:41:VAL:HG21	4:AE:139:LEU:HD13	1.90	0.54
6:AG:91:VAL:HB	6:AG:96:GLN:HG2	1.90	0.54
9:AJ:34:VAL:HG22	9:AJ:74:ILE:HB	1.90	0.54
20:AY:497:PHE:O	20:AY:507:TYR:HB2	2.07	0.54
21:AA:272:C:H2'	21:AA:273:A:C8	2.43	0.54
21:AA:1065:U:H4'	21:AA:1066:C:H5'	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:1328:C:H2'	21:AA:1329:A:C8	2.41	0.54
27:BE:47:VAL:HG21	27:BE:86:PRO:HD3	1.89	0.54
27:BE:128:SER:O	27:BE:130:GLY:N	2.41	0.54
35:BP:21:ARG:NH1	59:BA:1192:G:OP2	2.41	0.54
41:BV:4:ILE:HA	41:BV:12:TYR:O	2.08	0.54
45:BZ:108:PRO:HB3	45:BZ:144:LEU:H	1.73	0.54
45:BZ:139:VAL:HG11	45:BZ:155:LEU:HB2	1.90	0.54
56:B1:18:ILE:HA	56:B1:41:ARG:N	2.22	0.54
59:BA:271:G:H2'	59:BA:272:G:C8	2.38	0.54
59:BA:503:A:H4'	59:BA:504:U:H5"	1.89	0.54
59:BA:2306:C:H3'	59:BA:2307:G:H8	1.72	0.54
59:BA:2345:G:H1'	59:BA:2382:G:H5'	1.90	0.54
59:BA:2352:A:H2'	59:BA:2353:G:O4'	2.08	0.54
1:CB:167:PRO:HD3	1:CB:188:ALA:HA	1.90	0.54
10:CK:84:VAL:HG11	10:CK:95:ILE:HD11	1.90	0.54
11:CL:45:PRO:HA	11:CL:92:ASP:HB3	1.89	0.54
21:CA:68(P):C:H2'	21:CA:68(Q):U:C6	2.43	0.54
21:CA:263:A:H2'	21:CA:264:U:H6	1.71	0.54
20:CY:604:PRO:HA	20:CY:676:TYR:HB3	1.89	0.54
26:DD:147:LEU:HB2	26:DD:155:LEU:HD21	1.90	0.54
28:DF:25:PRO:HG2	28:DF:119:ARG:HE	1.73	0.54
28:DF:113:ALA:HB1	28:DF:186:ILE:HG21	1.90	0.54
28:DF:176:LEU:HG	28:DF:177:ALA:H	1.72	0.54
29:DG:11:TYR:OH	29:DG:16:ARG:NH2	2.37	0.54
32:DK:9:LYS:HD3	32:DK:9:LYS:H	1.72	0.54
32:DK:71:THR:HG21	32:DK:114:ASP:HB3	1.89	0.54
33:DN:137:LYS:HB3	33:DN:137:LYS:NZ	2.23	0.54
35:DP:27:HIS:CG	35:DP:28:GLY:N	2.76	0.54
35:DP:47:ASP:O	59:DA:666:G:H5'	2.07	0.54
59:DA:263:C:O2'	59:DA:429:A:N3	2.41	0.54
59:DA:681:G:H2'	59:DA:682:G:H8	1.69	0.54
59:DA:1123:C:H2'	59:DA:1124:C:H6	1.71	0.54
59:DA:2025:C:H2'	59:DA:2026:C:C6	2.42	0.54
59:DA:2111:C:H41	59:DA:2147:G:N2	2.06	0.54
59:DA:2176:A:H2'	59:DA:2177:C:C6	2.43	0.54
1:AB:24:TRP:HZ3	1:AB:26:PRO:HA	1.73	0.54
11:AL:32:PHE:HB3	11:AL:84:LEU:HG	1.90	0.54
17:AR:40:LEU:HD12	17:AR:70:ILE:HG12	1.90	0.54
20:AY:145:ASP:OD2	20:AY:148:LEU:N	2.40	0.54
25:BC:78:ILE:HG13	25:BC:101:ILE:HD13	1.89	0.54
26:BD:88:ARG:HB3	59:BA:1817:G:H5"	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BE:54:GLN:HB2	27:BE:75:VAL:HB	1.88	0.54
28:BF:42:ALA:HA	28:BF:45:ARG:HG3	1.90	0.54
28:BF:137:LYS:NZ	59:BA:319:C:OP2	2.40	0.54
33:BN:129:PRO:O	33:BN:131:GLN:N	2.41	0.54
45:BZ:99:TYR:HB3	45:BZ:123:ASP:HB2	1.89	0.54
49:B5:15:ARG:HH11	49:B5:15:ARG:HA	1.72	0.54
56:B1:53:VAL:HG22	56:B1:74:VAL:HG13	1.90	0.54
59:BA:198:C:H4'	59:BA:2243:U:H4'	1.89	0.54
59:BA:822:U:C5	59:BA:944:G:H1'	2.43	0.54
59:BA:1148:A:H2'	59:BA:1149:G:C8	2.43	0.54
59:BA:1856:G:H2'	59:BA:1857:G:O4'	2.07	0.54
59:BA:1999:C:H5"	59:BA:2723:C:O2'	2.07	0.54
8:CI:13:ALA:HB2	8:CI:68:GLY:HA3	1.90	0.54
12:CM:8:GLU:OE1	12:CM:22:ILE:HG23	2.07	0.54
16:CQ:57:VAL:HG12	16:CQ:76:LEU:HA	1.89	0.54
21:CA:977:A:O2'	21:CA:981:U:N3	2.37	0.54
25:DC:45:HIS:CG	25:DC:173:HIS:CD2	2.96	0.54
25:DC:144:GLY:HA3	25:DC:161:ARG:NH2	2.22	0.54
27:DE:143:ASN:HB3	27:DE:147:PRO:HD2	1.88	0.54
30:DH:40:GLU:O	30:DH:41:MET:HB3	2.08	0.54
30:DH:119:GLU:O	30:DH:140:LYS:NZ	2.29	0.54
30:DH:158:HIS:CG	30:DH:159:GLU:H	2.26	0.54
34:DO:64:ARG:NH2	34:DO:100:GLY:HA3	2.23	0.54
46:D0:27:GLU:HA	46:D0:67:VAL:HB	1.90	0.54
49:D5:5:PRO:HB2	59:DA:2614:A:H5'	1.90	0.54
59:DA:198:C:H2'	59:DA:199:A:H5"	1.89	0.54
59:DA:872:A:N1	59:DA:905:U:O2	2.41	0.54
59:DA:949:C:C2	59:DA:968:G:N2	2.69	0.54
59:DA:964:C:O2'	59:DA:2273:A:N3	2.41	0.54
59:DA:1165:U:H2'	59:DA:1166:C:C6	2.43	0.54
59:DA:1782:C:O2	59:DA:2609:U:H5'	2.08	0.54
59:DA:2121:G:N2	59:DA:2177:C:N3	2.47	0.54
1:AB:34:ALA:HA	1:AB:36:ARG:NH1	2.23	0.54
1:AB:162:ILE:HG23	1:AB:185:ILE:O	2.08	0.54
11:AL:113:ARG:NH2	11:AL:116:SER:OG	2.40	0.54
18:AS:82:GLY:HA3	21:AA:1226:C:H4'	1.90	0.54
19:AT:78:ALA:HA	19:AT:81:LYS:HD3	1.90	0.54
20:AY:457:LEU:HD13	59:BA:2662:A:H4'	1.89	0.54
21:AA:232:G:H2'	21:AA:233:C:H5'	1.89	0.54
21:AA:255:G:H2'	21:AA:256:U:C6	2.43	0.54
21:AA:287:U:H2'	21:AA:288:A:H8	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:1476:G:H2'	21:AA:1477:C:C6	2.43	0.54
22:AW:63:C:H2'	22:AW:64:G:H8	1.73	0.54
31:BJ:25:UNK:C	31:BJ:111:UNK:HA	2.38	0.54
46:B0:71:ASP:N	46:B0:71:ASP:OD1	2.41	0.54
52:B8:33:ASN:ND2	59:BA:2419:U:O5'	2.40	0.54
56:B1:76:ARG:HH12	56:B1:95:LEU:HD22	1.73	0.54
58:Be:118:VAL:O	58:Be:120:ALA:N	2.41	0.54
59:BA:745:G:O2'	59:BA:750:A:N6	2.40	0.54
59:BA:1428:C:N4	59:BA:1570:A:OP2	2.37	0.54
59:BA:1654:A:N1	59:BA:2048:G:O2'	2.37	0.54
59:BA:1698:A:H5'	59:BA:1700:A:O2'	2.07	0.54
59:BA:1769:G:O2'	59:BA:1958:C:OP1	2.26	0.54
59:BA:2375:G:C2	59:BA:2377:A:H5"	2.43	0.54
4:CE:98:THR:HG1	21:CA:6:G:N2	2.06	0.54
9:CJ:24:VAL:HG21	9:CJ:37:PRO:HG3	1.89	0.54
21:CA:533:A:O2'	21:CA:536:C:N4	2.40	0.54
21:CA:672:U:H2'	21:CA:673:G:H8	1.73	0.54
21:CA:979:C:OP1	21:CA:1223:C:N4	2.41	0.54
21:CA:1218:C:H2'	21:CA:1219:U:C6	2.43	0.54
21:CA:1496:C:H2'	21:CA:1497:G:O4'	2.08	0.54
26:DD:134:ARG:HG3	26:DD:135:PHE:CD1	2.42	0.54
28:DF:72:ARG:HD2	28:DF:73:ALA:H	1.73	0.54
32:DK:100:THR:HG22	32:DK:139:VAL:HB	1.89	0.54
36:DQ:36:ALA:HA	36:DQ:129:THR:HG22	1.90	0.54
36:DQ:69:PHE:CE2	36:DQ:71:ASP:HB3	2.42	0.54
59:DA:883:G:H2'	59:DA:884:C:C6	2.43	0.54
59:DA:2212:A:H1'	59:DA:2215:G:C4	2.43	0.54
59:DA:2712:U:H1'	59:DA:712(B):A:C8	2.43	0.54
60:DB:60:C:H2'	60:DB:61:G:H8	1.73	0.54
15:AP:8:ARG:HH12	21:AA:391:G:H5"	1.73	0.53
18:AS:41:VAL:HG22	18:AS:44:MET:HG3	1.89	0.53
21:AA:143:A:H5'	21:AA:196:A:N1	2.23	0.53
27:BE:2:LYS:H	27:BE:200:GLU:HB3	1.72	0.53
33:BN:66:LYS:HE3	59:BA:1022:G:O6	2.08	0.53
37:BR:90:ARG:NH1	59:BA:2880:C:O2'	2.39	0.53
38:BS:11:LYS:HD2	38:BS:13:ARG:HD3	1.89	0.53
40:BU:92:ARG:HG2	40:BU:95:LEU:H	1.73	0.53
46:B0:11:ARG:O	46:B0:14:ARG:NH2	2.41	0.53
48:B3:30:ARG:HH12	59:BA:1159:U:P	2.30	0.53
56:B1:16:ASN:ND2	59:BA:381:G:OP1	2.41	0.53
59:BA:858:U:O2	59:BA:2268:A:H2'	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1065:U:H3'	59:BA:1066:U:H6	1.74	0.53
59:BA:2336:A:H3'	59:BA:2337:G:H8	1.72	0.53
60:BB:60:C:H2'	60:BB:61:G:C8	2.43	0.53
7:CH:1:MET:HB2	21:CA:824:C:H4'	1.90	0.53
7:CH:121:ASP:OD2	7:CH:122:ARG:N	2.35	0.53
10:CK:108:ILE:HG21	17:CR:88:LYS:H	1.71	0.53
21:CA:68(H):G:H21	21:CA:68(S):C:H41	1.52	0.53
21:CA:166:G:H2'	21:CA:167:G:C8	2.44	0.53
20:CY:139:MET:SD	20:CY:144:ALA:HB1	2.48	0.53
25:DC:162:ILE:HG21	25:DC:193:PHE:CE1	2.39	0.53
26:DD:79:VAL:HG12	26:DD:80:ALA:N	2.23	0.53
26:DD:227:ASN:OD1	26:DD:230:ASP:HB2	2.08	0.53
27:DE:5:LEU:HB2	27:DE:31:CYS:SG	2.47	0.53
33:DN:42:TRP:N	40:DU:64:ARG:NE	2.56	0.53
33:DN:67:LEU:HA	33:DN:87:LEU:HD12	1.89	0.53
59:DA:26:G:H1'	59:DA:515:A:H61	1.74	0.53
59:DA:176:G:H3'	59:DA:177:G:N2	2.23	0.53
3:AD:86:LYS:NZ	3:AD:89:THR:HG23	2.23	0.53
6:AG:80:VAL:O	6:AG:82:GLY:N	2.40	0.53
9:AJ:54:PHE:O	9:AJ:56:HIS:N	2.40	0.53
10:AK:124:LYS:HE2	21:AA:692:U:OP1	2.08	0.53
11:AL:89:ARG:O	11:AL:90:VAL:HG13	2.08	0.53
20:AY:302:HIS:O	20:AY:332:SER:OG	2.23	0.53
21:AA:297:G:N2	21:AA:300:A:OP2	2.34	0.53
21:AA:1216:G:H2'	21:AA:1217:C:H6	1.74	0.53
21:AA:1427:U:H2'	21:AA:1428:A:H8	1.73	0.53
29:BG:25:TYR:OH	29:BG:168:GLU:OE1	2.26	0.53
33:BN:7:LYS:NZ	33:BN:7:LYS:N	2.56	0.53
34:BO:15:GLY:HA2	34:BO:47:ILE:HD12	1.90	0.53
36:BQ:20:ALA:C	36:BQ:22:LYS:H	2.16	0.53
40:BU:83:LEU:HD13	40:BU:113:ALA:HB2	1.90	0.53
59:BA:216:A:H2'	59:BA:217:G:O4'	2.08	0.53
59:BA:1985:G:C2	59:BA:1986:A:C8	2.97	0.53
7:CH:91:ARG:NH2	21:CA:564:C:O2'	2.41	0.53
12:CM:80:ARG:HA	12:CM:83:ASP:OD1	2.08	0.53
14:CO:12:ILE:HG21	14:CO:22:THR:HG22	1.90	0.53
21:CA:329:A:C5	21:CA:332:G:C6	2.96	0.53
21:CA:729:A:H2'	21:CA:730:G:H8	1.71	0.53
21:CA:762:C:H2'	21:CA:763:G:C8	2.43	0.53
21:CA:1016:A:O5'	21:CA:1016:A:H8	1.91	0.53
21:CA:1440(E):G:H1	21:CA:1440(N):C:H42	1.55	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:CW:37:A:C2	23:CV:16:A:C4	2.94	0.53
20:CY:24:GLY:CA	61:CY:701:GNP:H8	2.39	0.53
20:CY:138:LYS:HE2	61:CY:701:GNP:N3	2.19	0.53
25:DC:131:ILE:HG12	25:DC:132:LEU:HD23	1.90	0.53
35:DP:65:ARG:HH22	52:D8:15:LYS:HB2	1.73	0.53
35:DP:66:GLY:C	35:DP:68:GLN:H	2.15	0.53
35:DP:111:ARG:HB3	35:DP:128:HIS:CG	2.43	0.53
39:DT:23:ARG:HH11	39:DT:120:ARG:HH11	1.57	0.53
41:DV:58:VAL:HB	41:DV:98:GLU:HG3	1.89	0.53
46:D0:47:PRO:HG3	46:D0:53:MET:HB2	1.90	0.53
59:DA:20:C:H2'	59:DA:21:A:H8	1.71	0.53
59:DA:88:G:H2'	59:DA:89:G:C8	2.43	0.53
59:DA:1337:G:H2'	59:DA:1338:G:O4'	2.08	0.53
59:DA:1784:A:H4'	59:DA:1785:A:H5"	1.88	0.53
2:AC:8:ILE:HD12	2:AC:16:ARG:CZ	2.38	0.53
2:AC:17:ASP:HB3	2:AC:21:ARG:NH1	2.24	0.53
3:AD:173:TRP:HA	3:AD:186:LEU:HD12	1.89	0.53
6:AG:63:LYS:O	6:AG:67:GLU:HB3	2.09	0.53
7:AH:107:LEU:HD23	7:AH:107:LEU:H	1.74	0.53
9:AJ:55:LYS:H	9:AJ:55:LYS:HE3	1.73	0.53
10:AK:120:ARG:HH22	21:AA:1525:G:P	2.31	0.53
20:AY:684:GLN:O	20:AY:688:ILE:HG12	2.08	0.53
21:AA:192:U:H2'	21:AA:193:C:C6	2.43	0.53
21:AA:266:G:O2'	21:AA:268:C:OP2	2.17	0.53
22:AW:23:A:H2'	22:AW:24:G:C8	2.43	0.53
22:AW:57:G:H2'	22:AW:57:G:N3	2.22	0.53
29:BG:170:ARG:HH12	29:BG:182:LYS:HG2	1.74	0.53
30:BH:118:PRO:HG2	30:BH:121:ILE:HD11	1.89	0.53
38:BS:51:ALA:HB1	38:BS:69:VAL:HG22	1.90	0.53
39:BT:84:GLN:O	39:BT:86:ILE:N	2.42	0.53
43:BX:55:ASN:ND2	59:BA:1398:C:OP1	2.36	0.53
43:BX:55:ASN:HB2	43:BX:80:ILE:HG12	1.90	0.53
45:BZ:89:PHE:CE2	60:BB:104:A:H4'	2.43	0.53
52:B8:16:ILE:HG22	52:B8:22:VAL:HG22	1.90	0.53
59:BA:388:G:H5'	59:BA:389:G:OP2	2.08	0.53
59:BA:482:A:H1'	59:BA:498:G:N2	2.23	0.53
59:BA:655:A:H2'	59:BA:656:G:O4'	2.07	0.53
59:BA:922:U:H2'	59:BA:923:C:C6	2.43	0.53
59:BA:1462:C:H4'	59:BA:2703:C:H5'	1.90	0.53
59:BA:1757:U:H5'	59:BA:1758:G:H5"	1.90	0.53
59:BA:2556:C:H2'	59:BA:2557:G:O4'	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2851:A:H2'	59:BA:2852:G:O4'	2.08	0.53
19:CT:105:SER:HB3	21:CA:186(P):U:O2	2.09	0.53
21:CA:828:A:H2'	21:CA:829:G:O4'	2.08	0.53
21:CA:1008:C:H42	21:CA:1021:G:H1	1.55	0.53
28:DF:7:TYR:CZ	28:DF:10:PRO:HD3	2.44	0.53
36:DQ:32:TYR:HB2	36:DQ:106:VAL:HG23	1.91	0.53
52:D8:32:LEU:HD12	52:D8:36:LYS:HG2	1.90	0.53
59:DA:322:A:O4'	59:DA:340:A:H1'	2.07	0.53
59:DA:1487:G:H2'	59:DA:1488:G:H8	1.73	0.53
59:DA:2208:U:H3	59:DA:2216:G:H1	1.56	0.53
59:DA:2471:C:N4	59:DA:2476:A:O2'	2.40	0.53
59:DA:2604:U:H2'	59:DA:2605:U:C6	2.43	0.53
59:DA:2708:G:H2'	59:DA:2709:G:C8	2.43	0.53
59:DA:2784:C:H2'	59:DA:2785:C:C6	2.44	0.53
4:AE:79:GLU:HB2	4:AE:92:LYS:HA	1.90	0.53
4:AE:137:GLU:HA	4:AE:140:ARG:HB3	1.91	0.53
5:AF:38:GLU:HB2	5:AF:64:GLN:HB3	1.90	0.53
10:AK:42:TRP:HE1	21:AA:686:U:H4'	1.74	0.53
16:AQ:67:LYS:C	16:AQ:69:LYS:H	2.16	0.53
20:AY:20:HIS:CD2	20:AY:21:ILE:HG23	2.44	0.53
21:AA:950:U:H2'	21:AA:951:G:H8	1.72	0.53
25:BC:41:THR:O	25:BC:42:VAL:HB	2.08	0.53
26:BD:79:VAL:HG12	26:BD:80:ALA:N	2.20	0.53
28:BF:89:VAL:HG21	59:BA:586:A:H5'	1.89	0.53
39:BT:84:GLN:C	39:BT:86:ILE:H	2.15	0.53
39:BT:89:VAL:HG12	39:BT:91:ARG:HG3	1.91	0.53
50:B6:23:THR:O	50:B6:23:THR:OG1	2.22	0.53
59:BA:49:A:H5"	59:BA:51:G:O4'	2.08	0.53
59:BA:735:A:N6	59:BA:761:A:O2'	2.41	0.53
59:BA:984:A:H5"	59:BA:985:C:H5	1.73	0.53
59:BA:1175:U:H5	59:BA:1177:A:C6	2.26	0.53
59:BA:2047:U:H2'	59:BA:2048:G:H8	1.71	0.53
59:BA:2182:G:H2'	59:BA:2183:C:H6	1.72	0.53
12:CM:39:ILE:HG13	12:CM:52:GLU:HB3	1.91	0.53
19:CT:86:ARG:HG3	21:CA:186(A):C:H5"	1.89	0.53
21:CA:406:G:H2'	21:CA:407:G:H8	1.74	0.53
21:CA:1306:A:H1'	21:CA:1332:A:N1	2.24	0.53
21:CA:1309:G:H2'	21:CA:1310:G:H8	1.73	0.53
20:CY:31:ARG:HA	20:CY:33:LEU:HB2	1.90	0.53
26:DD:63:ARG:NH2	59:DA:1568:G:OP2	2.40	0.53
33:DN:31:ALA:C	33:DN:33:LEU:H	2.16	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:D0:11:ARG:HH22	59:DA:2278:A:H3'	1.73	0.53
46:D0:36:ILE:HA	46:D0:60:PHE:HA	1.89	0.53
49:D5:40:LYS:HE2	49:D5:46:CYS:HB2	1.91	0.53
59:DA:2529:G:OP2	59:DA:2530:A:H8	1.91	0.53
4:AE:36:ASP:O	4:AE:38:GLN:N	2.40	0.53
4:AE:77:PRO:HB3	4:AE:144:THR:HG22	1.90	0.53
11:AL:86:ARG:HH21	11:AL:99:HIS:CG	2.27	0.53
20:AY:35:TYR:CD1	20:AY:36:THR:N	2.77	0.53
20:AY:314:PHE:HE2	20:AY:329:ARG:HB3	1.72	0.53
20:AY:560:VAL:HG12	20:AY:563:ILE:HD11	1.89	0.53
25:BC:47:LYS:HD3	25:BC:169:THR:O	2.08	0.53
26:BD:161:THR:HG21	59:BA:1819:A:OP1	2.09	0.53
30:BH:41:MET:HE2	30:BH:68:THR:HG21	1.91	0.53
32:BK:56:GLU:O	32:BK:67:PHE:HA	2.07	0.53
35:BP:71:VAL:HG12	59:BA:389:G:H1	1.73	0.53
36:BQ:77:LYS:HG2	36:BQ:88:GLY:HA2	1.91	0.53
39:BT:16:ARG:HB2	39:BT:79:HIS:ND1	2.23	0.53
39:BT:49:VAL:CA	39:BT:63:VAL:HA	2.31	0.53
43:BX:12:VAL:HA	43:BX:29:TRP:NE1	2.23	0.53
48:B3:40:THR:O	48:B3:42:ALA:N	2.42	0.53
59:BA:16:G:H2'	59:BA:17:G:H8	1.72	0.53
59:BA:134:C:H42	59:BA:145:G:H1	1.57	0.53
59:BA:1839:G:H2'	59:BA:1840:G:C8	2.44	0.53
59:BA:2428:G:H5"	59:BA:2429:G:O5'	2.09	0.53
8:CI:112:LYS:HG3	8:CI:117:HIS:O	2.08	0.53
11:CL:39:VAL:HB	11:CL:55:VAL:HG11	1.88	0.53
11:CL:90:VAL:HG23	11:CL:92:ASP:OD1	2.08	0.53
15:CP:6:LEU:HD23	15:CP:17:TYR:CG	2.43	0.53
21:CA:17:U:H2'	21:CA:18:C:C6	2.44	0.53
21:CA:263:A:H2'	21:CA:264:U:C6	2.44	0.53
21:CA:612:C:H42	21:CA:628:G:H1	1.57	0.53
21:CA:1127:G:N2	21:CA:1145:C:C2	2.74	0.53
21:CA:1328:C:H2'	21:CA:1329:A:C8	2.44	0.53
32:DK:130:SER:OG	59:DA:1059:G:N2	2.24	0.53
38:DS:59:LYS:HB3	38:DS:65:VAL:HG22	1.89	0.53
39:DT:38:ASN:N	39:DT:38:ASN:OD1	2.41	0.53
50:D6:12:GLU:OE1	59:DA:2419:U:O2'	2.17	0.53
59:DA:628:G:H2'	59:DA:629:G:H8	1.73	0.53
59:DA:813:U:H2'	59:DA:814:C:C6	2.42	0.53
59:DA:817:C:N4	59:DA:1190:G:H1	2.01	0.53
59:DA:1058:G:H2'	59:DA:1059:G:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1494:A:O2'	59:DA:1496:A:OP2	2.25	0.53
60:DB:8:U:H2'	60:DB:9:G:H8	1.73	0.53
20:AY:546:ILE:HA	20:AY:590:ILE:HG13	1.91	0.53
21:AA:68(N):U:H5"	21:AA:68(O):A:OP2	2.08	0.53
21:AA:810:C:H2'	21:AA:811:C:H6	1.72	0.53
21:AA:866:C:C4	21:AA:867:G:H1'	2.44	0.53
21:AA:1391:U:H2'	21:AA:1392:G:C8	2.42	0.53
27:BE:104:VAL:HG23	27:BE:170:LEU:HD13	1.91	0.53
34:BO:77:ILE:HD13	39:BT:74:ARG:HG2	1.89	0.53
35:BP:23:PRO:HB2	35:BP:33:ARG:HG3	1.91	0.53
36:BQ:76:LYS:NZ	36:BQ:77:LYS:O	2.35	0.53
40:BU:20:LEU:HB3	40:BU:39:LEU:HD11	1.90	0.53
41:BV:38:LEU:O	41:BV:39:LEU:HD13	2.09	0.53
42:BW:78:GLU:HG2	42:BW:79:GLY:O	2.09	0.53
45:BZ:25:PRO:HA	45:BZ:38:TYR:CB	2.39	0.53
59:BA:740:U:H2'	59:BA:741:G:C8	2.43	0.53
59:BA:149(B):A:H2	59:BA:1530:G:H1'	1.73	0.53
1:CB:57:PHE:CE2	1:CB:185:ILE:HD11	2.44	0.53
2:CC:150:LYS:HD2	2:CC:167:TRP:HE1	1.74	0.53
2:CC:199:LYS:NZ	21:CA:1059:C:OP2	2.41	0.53
8:CI:105:ASP:CG	8:CI:106:ALA:H	2.15	0.53
17:CR:74:ARG:HE	17:CR:81:PHE:HA	1.73	0.53
20:CY:24:GLY:HA3	61:CY:701:GNP:C8	2.38	0.53
20:CY:394:ALA:O	20:CY:396:ARG:N	2.41	0.53
20:CY:438:PHE:CE1	20:CY:462:ILE:HG13	2.44	0.53
25:DC:186:LEU:O	25:DC:190:ILE:HG12	2.08	0.53
26:DD:155:LEU:H	26:DD:155:LEU:HD22	1.74	0.53
29:DG:130:ASN:ND2	29:DG:160:VAL:HG13	2.23	0.53
43:DX:49:VAL:HB	43:DX:83:VAL:HG11	1.91	0.53
45:DZ:75:ASN:OD1	60:DB:75:G:N2	2.41	0.53
56:D1:49:VAL:O	56:D1:60:PHE:HB2	2.08	0.53
59:DA:2505:G:O6	59:DA:2610:C:O2	2.26	0.53
59:DA:2773:C:H2'	59:DA:2774:C:H6	1.72	0.53
59:DA:2886:G:H2'	59:DA:2887:U:H6	1.73	0.53
4:AE:101:ILE:O	4:AE:101:ILE:HG13	2.09	0.53
9:AJ:13:HIS:HA	9:AJ:16:LEU:HD12	1.89	0.53
11:AL:17:LYS:HE2	11:AL:18:VAL:HG22	1.91	0.53
12:AM:16:ASP:HA	12:AM:34:LEU:HD11	1.91	0.53
17:AR:61:LYS:NZ	21:AA:836:G:OP2	2.33	0.53
21:AA:669:U:H2'	21:AA:670:G:C8	2.43	0.53
21:AA:1070:U:H2'	21:AA:1071:C:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:1360:A:H2'	21:AA:1361:G:O4'	2.08	0.53
28:BF:38:ARG:NH1	59:BA:660:G:O3'	2.37	0.53
30:BH:137:ASP:O	30:BH:141:VAL:HG23	2.08	0.53
32:BK:130:SER:CB	59:BA:1059:G:H21	2.21	0.53
36:BQ:27:VAL:HG21	36:BQ:133:ARG:O	2.09	0.53
38:BS:35:ILE:HD13	38:BS:66:ALA:HB2	1.90	0.53
38:BS:39:ILE:HB	38:BS:49:VAL:H	1.73	0.53
52:B8:60:LEU:HD12	52:B8:61:LEU:N	2.23	0.53
59:BA:27:G:N1	59:BA:512:G:O2'	2.41	0.53
59:BA:817:C:O2'	59:BA:839:U:OP1	2.23	0.53
59:BA:1065:U:H3'	59:BA:1066:U:C6	2.44	0.53
59:BA:1569:A:H2'	59:BA:1570:A:C8	2.43	0.53
59:BA:2734:A:H62	59:BA:2770:G:H21	1.57	0.53
60:BB:81:G:O6	60:BB:95:U:C2	2.61	0.53
9:CJ:45:ARG:NH1	21:CA:1255:G:OP1	2.41	0.53
10:CK:18:ARG:HA	10:CK:81:ASP:H	1.73	0.53
10:CK:108:ILE:HB	17:CR:87:ARG:H	1.71	0.53
12:CM:125:ARG:O	21:CA:966:G:H5'	2.09	0.53
16:CQ:27:PHE:HD2	16:CQ:36:ILE:HD11	1.74	0.53
21:CA:1493:A:H8	21:CA:1493:A:OP2	1.92	0.53
20:CY:206:LEU:O	20:CY:210:ARG:NH1	2.42	0.53
20:CY:276:VAL:O	20:CY:280:LEU:HB2	2.09	0.53
26:DD:42:GLY:O	26:DD:43:ARG:HG3	2.08	0.53
32:DK:117:THR:OG1	32:DK:119:ASP:OD1	2.20	0.53
59:DA:1669:A:C2	59:DA:1994:C:H1'	2.42	0.53
4:AE:27:ARG:NH1	21:AA:1071:C:OP1	2.42	0.53
12:AM:116:THR:HA	21:AA:1228:C:H4'	1.90	0.53
20:AY:59:ARG:HD3	20:AY:65:ILE:N	2.23	0.53
20:AY:63:ILE:HG13	61:AY:701:GNP:O1G	2.07	0.53
20:AY:164:MET:HE2	20:AY:279:TYR:CE2	2.44	0.53
21:AA:1118:C:H2'	21:AA:1119:C:C6	2.44	0.53
27:BE:59:VAL:HG21	27:BE:73:GLU:HB2	1.90	0.53
29:BG:78:SER:HA	29:BG:83:ARG:HE	1.74	0.53
30:BH:173:PRO:O	30:BH:175:LYS:N	2.42	0.53
34:BO:110:GLY:HA2	34:BO:112:MET:HE3	1.89	0.53
36:BQ:42:ILE:HD11	36:BQ:95:ALA:HB3	1.90	0.53
40:BU:49:HIS:HA	40:BU:52:ARG:HB3	1.91	0.53
41:BV:70:ILE:O	41:BV:86:GLY:HA2	2.08	0.53
43:BX:8:ILE:HA	43:BX:30:VAL:HG12	1.91	0.53
46:B0:47:PRO:HG3	46:B0:53:MET:HB2	1.90	0.53
56:B1:29:GLY:O	59:BA:2396:G:O2'	2.26	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:273(E):C:H2'	59:BA:273(F):U:C6	2.44	0.53
59:BA:862:G:H2'	59:BA:863:A:O4'	2.09	0.53
59:BA:1006:C:O2'	59:BA:1007:C:O4'	2.21	0.53
59:BA:1851:U:H2'	59:BA:1852:C:C6	2.44	0.53
59:BA:2033:A:O2'	59:BA:2034:U:H5"	2.09	0.53
1:CB:78:GLN:O	1:CB:81:VAL:HG22	2.09	0.53
4:CE:80:ILE:HG13	4:CE:82:VAL:HG23	1.91	0.53
19:CT:72:LEU:HD11	19:CT:80:ARG:HH11	1.74	0.53
21:CA:728:A:H2'	21:CA:729:A:C8	2.44	0.53
21:CA:1427:U:H2'	21:CA:1428:A:C8	2.44	0.53
25:DC:11:LEU:HD23	25:DC:14:LYS:HG3	1.91	0.53
26:DD:257:LEU:O	59:DA:1797:C:H4'	2.08	0.53
27:DE:47:VAL:HG21	27:DE:86:PRO:HD3	1.90	0.53
28:DF:108:LYS:NZ	59:DA:601:C:OP1	2.41	0.53
37:DR:4:LEU:HD22	37:DR:7:GLY:HA2	1.90	0.53
37:DR:95:THR:C	37:DR:117:VAL:HG21	2.33	0.53
59:DA:443:A:H2	59:DA:1245:G:N3	2.06	0.53
59:DA:1806:C:N4	59:DA:1811:G:H1	2.05	0.53
2:AC:88:ARG:NH2	2:AC:100:ALA:HA	2.23	0.53
11:AL:104:VAL:HG23	11:AL:106:ASP:H	1.74	0.53
12:AM:37:THR:HB	12:AM:55:ARG:HG3	1.91	0.53
13:AN:17:LYS:HD2	21:AA:1316:G:H5"	1.90	0.53
17:AR:71:LYS:O	17:AR:75:ILE:HG12	2.08	0.53
20:AY:126:GLU:HB3	20:AY:130:VAL:HG12	1.89	0.53
21:AA:313:A:H2'	21:AA:314:C:C6	2.44	0.53
21:AA:609:A:H2'	21:AA:610:G:H8	1.74	0.53
21:AA:1260:C:H4'	21:AA:1283:G:O2'	2.07	0.53
25:BC:172:ILE:HD12	25:BC:193:PHE:HZ	1.73	0.53
26:BD:10:THR:HG23	26:BD:13:ARG:HB3	1.90	0.53
26:BD:72:LYS:HB3	26:BD:75:ILE:HB	1.90	0.53
27:BE:4:ILE:HD12	27:BE:28:ALA:HB1	1.89	0.53
27:BE:153:GLY:N	59:BA:2620:C:OP1	2.41	0.53
40:BU:52:ARG:HH12	59:BA:560:C:H4'	1.73	0.53
45:BZ:123:ASP:N	45:BZ:123:ASP:OD1	2.40	0.53
47:B2:48:HIS:CD2	47:B2:49:LYS:H	2.27	0.53
48:B3:11:SER:OG	59:BA:989:G:OP2	2.20	0.53
52:B8:60:LEU:HD12	52:B8:61:LEU:H	1.74	0.53
59:BA:223:A:O2'	59:BA:420:C:O2	2.25	0.53
59:BA:1148:A:H2'	59:BA:1149:G:H8	1.73	0.53
59:BA:1470:G:O2'	59:BA:1522:G:O6	2.26	0.53
59:BA:1887:C:H3'	59:BA:1888:G:H5"	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2243:U:H2'	59:BA:2244:U:C6	2.44	0.53
2:CC:40:ARG:NH1	13:CN:52:GLN:HB3	2.23	0.53
3:CD:115:ARG:NH1	21:CA:407:G:OP1	2.42	0.53
21:CA:186(E):C:H42	21:CA:186(L):G:H1	1.57	0.53
21:CA:605:U:H2'	21:CA:606:G:C8	2.44	0.53
21:CA:1062:U:H2'	21:CA:1063:C:C6	2.44	0.53
25:DC:144:GLY:HA2	25:DC:153:ILE:HG21	1.90	0.53
28:DF:182:ASN:OD1	28:DF:183:VAL:N	2.42	0.53
35:DP:32:THR:OG1	35:DP:32:THR:O	2.26	0.53
41:DV:47:VAL:HG23	41:DV:48:GLY:O	2.09	0.53
51:D7:11:LYS:NZ	59:DA:685:A:OP1	2.42	0.53
53:D9:16:VAL:HG22	53:D9:25:VAL:HG22	1.89	0.53
56:D1:20:ARG:O	56:D1:22:GLY:N	2.37	0.53
59:DA:589:C:H2'	59:DA:590:A:C8	2.44	0.53
59:DA:704:G:O2'	59:DA:726:G:N1	2.27	0.53
59:DA:849:A:N6	59:DA:929:G:H1'	2.24	0.53
59:DA:1728:G:H1'	59:DA:1732:A:N6	2.23	0.53
59:DA:2649:U:H2'	59:DA:2650:U:H6	1.74	0.53
2:AC:109:PRO:O	2:AC:111:LEU:N	2.37	0.53
4:AE:19:MET:CG	21:AA:15:G:H1'	2.39	0.53
20:AY:634:MET:SD	20:AY:634:MET:N	2.82	0.53
21:AA:142:G:O6	21:AA:221:C:N3	2.42	0.53
21:AA:838(A):U:H4'	21:AA:838(B):C:C5	2.43	0.53
25:BC:172:ILE:HD13	25:BC:173:HIS:H	1.74	0.53
30:BH:37:VAL:HG11	30:BH:68:THR:HG23	1.91	0.53
34:BO:8:LEU:HB2	34:BO:82:ASN:O	2.08	0.53
39:BT:50:ILE:HG12	39:BT:99:LEU:HB2	1.91	0.53
43:BX:21:PHE:HE2	43:BX:26:TYR:HA	1.72	0.53
44:BY:16:ALA:HA	44:BY:21:LYS:NZ	2.24	0.53
47:B2:65:ASN:O	47:B2:69:ARG:N	2.42	0.53
59:BA:77:C:H2'	59:BA:78:A:H8	1.74	0.53
59:BA:248:G:O5'	59:BA:249:C:H5"	2.09	0.53
59:BA:510:C:C4	59:BA:511:U:C4	2.97	0.53
59:BA:605:C:H1'	59:BA:657:U:O2'	2.09	0.53
59:BA:1477:A:H2'	59:BA:1478:G:O4'	2.08	0.53
59:BA:2583:G:H2'	59:BA:2584:U:O4'	2.08	0.53
1:CB:155:LEU:HD11	1:CB:159:PRO:HG3	1.90	0.53
10:CK:18:ARG:HD2	10:CK:20:TYR:HE1	1.74	0.53
11:CL:46:LYS:O	11:CL:47:LYS:HE2	2.09	0.53
14:CO:60:VAL:O	14:CO:63:ARG:HG3	2.08	0.53
21:CA:24:U:H2'	21:CA:25:C:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:266:G:O2'	21:CA:268:C:OP2	2.24	0.53
21:CA:1068:G:H1	21:CA:1107:C:H42	1.56	0.53
20:CY:25:LYS:NZ	61:CY:701:GNP:PG	2.81	0.53
28:DF:158:THR:O	28:DF:178:PRO:HD3	2.09	0.53
56:D1:41:ARG:HH22	56:D1:43:TYR:HB2	1.73	0.53
59:DA:139:G:N2	59:DA:1596:A:H4'	2.24	0.53
59:DA:1123:C:H2'	59:DA:1124:C:C6	2.44	0.53
59:DA:1405:U:H2'	59:DA:1406:U:H6	1.74	0.53
59:DA:1788:C:H2'	59:DA:1789:A:O4'	2.09	0.53
59:DA:2004:G:H2'	59:DA:2005:A:O4'	2.09	0.53
59:DA:2100:G:H2'	59:DA:2101:G:H8	1.73	0.53
59:DA:2622:C:H2'	59:DA:2623:G:O4'	2.08	0.53
7:AH:95:VAL:O	7:AH:131:GLY:N	2.42	0.52
12:AM:105:THR:OG1	12:AM:106:ASN:N	2.41	0.52
16:AQ:71:PHE:HZ	21:AA:235:C:H4'	1.73	0.52
18:AS:78:ARG:HH12	21:AA:1223:C:P	2.32	0.52
21:AA:1114:C:H2'	21:AA:1115:C:H6	1.74	0.52
21:AA:1252:A:H2'	21:AA:1253:G:C8	2.45	0.52
22:AW:62:C:O2'	25:BC:54:ARG:NH2	2.41	0.52
30:BH:149:ARG:NE	30:BH:163:TYR:HA	2.24	0.52
39:BT:102:ILE:O	39:BT:106:SER:OG	2.22	0.52
42:BW:13:SER:HB3	42:BW:16:LYS:HE2	1.90	0.52
44:BY:42:VAL:HG12	44:BY:65:ALA:HB3	1.90	0.52
45:BZ:166:SER:OG	45:BZ:168:GLU:N	2.42	0.52
51:B7:8:ASN:CG	51:B7:11:LYS:HB3	2.35	0.52
59:BA:144:C:H2'	59:BA:145:G:H8	1.74	0.52
59:BA:2522:U:O2'	59:BA:2647:U:OP1	2.24	0.52
3:CD:63:LYS:O	3:CD:67:ILE:HG22	2.09	0.52
3:CD:117:ALA:O	3:CD:121:VAL:HG23	2.09	0.52
10:CK:53:SER:N	21:CA:695:A:OP2	2.38	0.52
12:CM:59:TYR:HA	12:CM:62:ASN:HB2	1.90	0.52
12:CM:86:CYS:HB3	18:CS:74:PHE:CE1	2.43	0.52
16:CQ:17:LYS:NZ	21:CA:256:U:H5'	2.25	0.52
21:CA:695:A:H2'	21:CA:696:A:C8	2.44	0.52
21:CA:1211:U:H1'	21:CA:1213:A:C2	2.44	0.52
21:CA:1492:A:H5'	24:CU:6:5OH:HNP	1.75	0.52
25:DC:21:TYR:O	25:DC:25:GLU:HB2	2.09	0.52
28:DF:107:LYS:HZ1	59:DA:618(A):G:H5"	1.73	0.52
31:DJ:122:UNK:O	31:DJ:124:UNK:N	2.42	0.52
51:D7:7:PRO:HA	59:DA:686:G:C8	2.44	0.52
59:DA:373:U:H2'	59:DA:374:A:H8	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1641:A:H2'	59:DA:1642:G:O4'	2.09	0.52
59:DA:2163:C:H2'	59:DA:2164:C:C6	2.44	0.52
59:DA:2246:G:H1'	59:DA:2426:A:C2	2.44	0.52
59:DA:2531:A:N3	59:DA:2658:C:O2'	2.35	0.52
3:AD:25:ARG:HB2	21:AA:409:G:H5"	1.91	0.52
3:AD:68:TYR:CE2	3:AD:97:LEU:HB3	2.44	0.52
20:AY:539:ILE:H	20:AY:540:PRO:CD	2.22	0.52
20:AY:616:TYR:HB3	20:AY:662:LYS:O	2.09	0.52
22:AW:53:G:N2	22:AW:61:C:N3	2.48	0.52
31:BJ:122:UNK:O	31:BJ:124:UNK:N	2.41	0.52
33:BN:42:TRP:CD1	40:BU:63:VAL:HG11	2.44	0.52
33:BN:46:VAL:HG13	33:BN:48:MET:HG3	1.91	0.52
39:BT:129:ARG:HA	39:BT:129:ARG:HE	1.73	0.52
40:BU:51:LYS:HA	40:BU:54:LYS:HD2	1.91	0.52
42:BW:1:MET:HB3	42:BW:64:MET:SD	2.49	0.52
59:BA:848:G:C2	59:BA:933:A:H1'	2.45	0.52
59:BA:1603:A:H3'	59:BA:1604:C:H6	1.75	0.52
8:CI:47:LEU:HG	8:CI:50:LEU:HD12	1.92	0.52
11:CL:69:TYR:OH	21:CA:522:C:OP2	2.27	0.52
21:CA:815:A:N3	21:CA:1527:C:H1'	2.25	0.52
21:CA:1234:C:H4'	21:CA:1364:U:H1'	1.91	0.52
20:CY:533:VAL:O	20:CY:535:PRO:HD3	2.09	0.52
25:DC:47:LYS:HB3	25:DC:212:SER:CB	2.30	0.52
29:DG:67:LYS:HE2	57:D4:5:ILE:HD11	1.91	0.52
41:DV:51:VAL:O	41:DV:53:GLU:N	2.42	0.52
48:D3:41:PRO:HA	48:D3:44:ARG:HG3	1.92	0.52
59:DA:2649:U:H2'	59:DA:2650:U:C6	2.44	0.52
60:DB:29:A:H1'	60:DB:59:A:C2	2.45	0.52
1:AB:106:LYS:H	1:AB:106:LYS:HD2	1.73	0.52
4:AE:14:ARG:O	4:AE:28:PHE:HA	2.09	0.52
12:AM:23:TYR:OH	12:AM:71:ARG:HG3	2.09	0.52
21:AA:1026:G:H1	21:AA:1035:A:H2	1.57	0.52
22:AW:10:G:H1	22:AW:25:C:H42	1.56	0.52
39:BT:53:ARG:HB3	39:BT:53:ARG:NH1	2.24	0.52
42:BW:25:ARG:NH2	42:BW:74:ALA:HB3	2.24	0.52
43:BX:71:GLY:HA3	59:BA:64:A:H4'	1.90	0.52
59:BA:906:G:C2	59:BA:907:U:H1'	2.45	0.52
59:BA:1200:C:H2'	59:BA:1201:C:H6	1.73	0.52
59:BA:1661:G:H2'	59:BA:1662:C:H6	1.74	0.52
59:BA:1871:A:H2'	59:BA:1872:A:H8	1.74	0.52
59:BA:2212:A:H1'	59:BA:2215:G:C4	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2674:G:H2'	59:BA:2675:A:H8	1.75	0.52
3:CD:42:GLN:N	21:CA:541:G:O2'	2.31	0.52
4:CE:6:PHE:CD2	4:CE:36:ASP:HB3	2.44	0.52
9:CJ:38:ILE:HG23	9:CJ:71:LEU:HB3	1.90	0.52
14:CO:51:HIS:CE1	21:CA:667:G:H4'	2.44	0.52
16:CQ:67:LYS:C	16:CQ:69:LYS:H	2.17	0.52
18:CS:46:GLY:HA2	18:CS:62:ILE:HG23	1.90	0.52
21:CA:63:C:H5"	21:CA:383:A:H61	1.74	0.52
21:CA:1157:A:H4'	21:CA:1158:C:O5'	2.09	0.52
21:CA:1239:A:H2'	21:CA:1298:C:H42	1.73	0.52
21:CA:1392:G:O2'	21:CA:1502:A:OP1	2.27	0.52
26:DD:68:LYS:HG2	26:DD:152:GLY:HA2	1.91	0.52
26:DD:101:GLU:OE2	59:DA:1491:G:O2'	2.25	0.52
30:DH:158:HIS:CD2	30:DH:159:GLU:H	2.28	0.52
35:DP:62:LEU:H	35:DP:62:LEU:CD2	2.22	0.52
37:DR:2:ARG:HD3	59:DA:2723:C:H5"	1.92	0.52
39:DT:132:LYS:O	39:DT:132:LYS:HD3	2.09	0.52
50:D6:24:GLU:OE1	59:DA:2346:A:O2'	2.27	0.52
56:D1:52:ARG:HH12	59:DA:2213:U:H4'	1.74	0.52
59:DA:780:G:H2'	59:DA:782:A:C5	2.44	0.52
59:DA:948:G:C6	59:DA:949:C:C4	2.98	0.52
11:AL:69:TYR:HB3	11:AL:99:HIS:CD2	2.44	0.52
14:AO:38:ARG:HA	14:AO:38:ARG:NH1	2.24	0.52
16:AQ:21:VAL:O	16:AQ:41:LYS:HA	2.10	0.52
21:AA:786:G:H2'	21:AA:787:A:C8	2.44	0.52
21:AA:1216:G:H2'	21:AA:1217:C:C6	2.44	0.52
22:AW:72:C:H2'	22:AW:73:A:O4'	2.08	0.52
25:BC:75:VAL:HA	25:BC:112:ASP:O	2.08	0.52
26:BD:4:LYS:NZ	26:BD:19:ALA:O	2.43	0.52
26:BD:159:ALA:HB1	26:BD:198:ASN:O	2.10	0.52
26:BD:244:ARG:HB2	59:BA:1902:C:O2'	2.08	0.52
28:BF:169:ASN:HD22	59:BA:322:A:H5"	1.74	0.52
34:BO:77:ILE:HD11	39:BT:72:VAL:HB	1.90	0.52
35:BP:108:LYS:HE3	59:BA:622:G:OP2	2.10	0.52
36:BQ:21:THR:C	36:BQ:23:GLY:H	2.18	0.52
41:BV:35:LEU:HB2	41:BV:57:VAL:O	2.09	0.52
42:BW:17:VAL:HB	42:BW:76:VAL:HG21	1.91	0.52
56:B1:58:ILE:HD11	56:B1:60:PHE:CD2	2.44	0.52
59:BA:1336:A:H2'	59:BA:1337:G:H8	1.71	0.52
59:BA:2291:U:H2'	59:BA:2292:C:C6	2.45	0.52
59:BA:2461:C:H2'	59:BA:2462:U:C6	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2604:U:H2'	59:BA:2605:U:C6	2.45	0.52
1:CB:238:LEU:HA	1:CB:241:GLU:HG2	1.89	0.52
2:CC:40:ARG:CZ	13:CN:52:GLN:HB3	2.38	0.52
2:CC:137:ALA:O	2:CC:141:VAL:HG23	2.09	0.52
2:CC:180:ALA:HB1	2:CC:203:PHE:CE1	2.45	0.52
4:CE:16:THR:HG21	21:CA:1080:A:H5"	1.91	0.52
13:CN:6:LEU:HB3	13:CN:23:ARG:NH2	2.24	0.52
15:CP:5:ARG:NH1	21:CA:376:G:O3'	2.40	0.52
20:CY:272:LEU:O	20:CY:276:VAL:HG23	2.09	0.52
25:DC:4:HIS:HB3	25:DC:8:TYR:HD2	1.75	0.52
26:DD:108:PRO:HB3	26:DD:143:HIS:NE2	2.25	0.52
28:DF:161:GLU:O	28:DF:165:ARG:HG2	2.09	0.52
29:DG:33:ARG:NH2	29:DG:162:THR:OG1	2.43	0.52
31:DJ:24:UNK:HA	31:DJ:84:UNK:C	2.40	0.52
39:DT:25:GLY:O	39:DT:114:LEU:HD11	2.10	0.52
41:DV:55:ALA:HB1	41:DV:100:ARG:O	2.09	0.52
57:D4:3:GLU:HG2	60:DB:43:C:OP1	2.08	0.52
59:DA:284:U:H2'	59:DA:285:C:C6	2.45	0.52
59:DA:950:G:H2'	59:DA:951:C:C6	2.44	0.52
59:DA:2306:C:H5"	59:DA:2307:G:N7	2.24	0.52
3:AD:166:LYS:HE3	3:AD:178:VAL:HG11	1.92	0.52
8:AI:40:LEU:HD22	8:AI:42:ARG:HG3	1.92	0.52
18:AS:60:VAL:HG21	18:AS:74:PHE:HB2	1.92	0.52
20:AY:30:GLU:O	20:AY:33:LEU:CD2	2.56	0.52
21:AA:147:G:H1	21:AA:175:C:N4	2.08	0.52
21:AA:219:C:H2'	21:AA:220:G:H8	1.74	0.52
21:AA:692:U:H2'	21:AA:694:A:OP2	2.10	0.52
25:BC:28:ARG:HG3	25:BC:183:PRO:HB3	1.90	0.52
25:BC:52:PRO:HA	25:BC:167:ASP:O	2.10	0.52
26:BD:92:ILE:HD13	26:BD:104:TYR:CE2	2.44	0.52
28:BF:153:SER:HA	28:BF:172:TRP:O	2.10	0.52
34:BO:22:ILE:HD12	59:BA:1952:A:C2	2.44	0.52
38:BS:59:LYS:HB3	38:BS:65:VAL:HG22	1.91	0.52
39:BT:49:VAL:HA	39:BT:63:VAL:CA	2.35	0.52
42:BW:75:TYR:O	42:BW:76:VAL:HB	2.09	0.52
59:BA:300:A:N3	59:BA:319:C:H1'	2.25	0.52
59:BA:577:G:H5'	59:BA:2502:G:N2	2.21	0.52
59:BA:602:G:O3'	59:BA:603:A:H4'	2.08	0.52
59:BA:871:U:H2'	59:BA:872:A:C8	2.45	0.52
59:BA:884:C:N3	59:BA:892:G:C2	2.78	0.52
59:BA:2426:A:H3'	59:BA:2427:C:C5'	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CB:71:VAL:O	1:CB:165:VAL:N	2.41	0.52
1:CB:79:ASP:O	1:CB:82:ARG:HG2	2.10	0.52
8:CI:107:ARG:HD3	21:CA:1347:G:C8	2.44	0.52
12:CM:66:LEU:HB3	12:CM:67:GLU:HG2	1.91	0.52
12:CM:96:LEU:O	12:CM:110:ARG:HD2	2.09	0.52
21:CA:145:G:H1	21:CA:177:C:H42	1.58	0.52
21:CA:271:C:H2'	21:CA:272:C:C6	2.44	0.52
21:CA:314:C:H2'	21:CA:315:A:H8	1.74	0.52
25:DC:44:VAL:O	25:DC:172:ILE:O	2.28	0.52
25:DC:60:ARG:HE	25:DC:142:LYS:CB	2.22	0.52
26:DD:165:ILE:O	26:DD:175:LEU:HA	2.09	0.52
37:DR:67:LEU:HD21	37:DR:76:VAL:HG11	1.90	0.52
41:DV:69:LYS:HE3	41:DV:86:GLY:HA3	1.90	0.52
45:DZ:72:ARG:HH22	60:DB:104:A:P	2.32	0.52
53:D9:22:ARG:HB2	53:D9:24:TYR:HE1	1.74	0.52
59:DA:2280:G:O2'	59:DA:2388:A:N1	2.34	0.52
59:DA:2667:C:H2'	59:DA:2668:G:O4'	2.10	0.52
60:DB:14:U:OP2	60:DB:70:C:O2'	2.26	0.52
60:DB:24:G:C6	60:DB:56:G:C2	2.97	0.52
1:AB:71:VAL:HG22	1:AB:93:VAL:HB	1.90	0.52
14:AO:55:GLY:HA2	14:AO:58:MET:HG2	1.92	0.52
20:AY:7:TYR:OH	20:AY:371:ALA:O	2.26	0.52
20:AY:110:SER:OG	20:AY:136:ALA:O	2.28	0.52
21:AA:1537:U:O2'	21:AA:1538:C:OP1	2.27	0.52
25:BC:58:ASN:O	25:BC:165:ARG:HG3	2.10	0.52
27:BE:12:THR:O	59:BA:2682:U:H1'	2.08	0.52
31:BJ:49:UNK:C	31:BJ:82:UNK:HA	2.40	0.52
32:BK:8:VAL:HG21	32:BK:26:ALA:HB1	1.91	0.52
32:BK:27:LEU:HB3	32:BK:32:ALA:HB3	1.90	0.52
33:BN:64:GLY:HA3	33:BN:66:LYS:HG2	1.92	0.52
35:BP:96:THR:HG23	35:BP:99:LEU:HB2	1.90	0.52
59:BA:128:C:H2'	59:BA:129:C:C6	2.44	0.52
59:BA:775:G:N3	59:BA:777:A:N6	2.58	0.52
59:BA:1006:C:H2'	59:BA:1007:C:C6	2.43	0.52
59:BA:1077:A:C2	59:BA:1088:A:H2'	2.45	0.52
59:BA:1266:G:O2'	59:BA:2012:G:O6	2.20	0.52
59:BA:1595:G:H2'	59:BA:1596:A:C8	2.45	0.52
59:BA:2327:A:H2'	59:BA:2328:A:C8	2.44	0.52
3:CD:25:ARG:HB2	21:CA:409:G:H5"	1.92	0.52
3:CD:30:LYS:HD3	3:CD:35:ARG:HH11	1.74	0.52
13:CN:18:VAL:HG11	21:CA:1316:G:H4'	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:881:G:H2'	21:CA:882:C:O4'	2.10	0.52
27:DE:129:HIS:NE2	59:DA:1675:C:N3	2.58	0.52
27:DE:147:PRO:HG3	27:DE:151:TYR:OH	2.10	0.52
27:DE:199:ARG:HH11	27:DE:199:ARG:HB2	1.75	0.52
36:DQ:21:THR:C	36:DQ:23:GLY:H	2.17	0.52
41:DV:56:SER:HB2	41:DV:100:ARG:HE	1.75	0.52
48:D3:40:THR:O	48:D3:42:ALA:N	2.42	0.52
51:D7:48:LYS:HG2	59:DA:125:G:N2	2.23	0.52
56:D1:17:SER:HG	56:D1:42:GLN:N	2.08	0.52
59:DA:532:A:N1	59:DA:2020:A:H1'	2.25	0.52
59:DA:853:G:H1	59:DA:924:C:H42	1.57	0.52
59:DA:968:G:H2'	59:DA:969:U:C6	2.45	0.52
59:DA:1170:G:H2'	59:DA:1171:G:H8	1.74	0.52
59:DA:1728:G:H1'	59:DA:1732:A:H61	1.74	0.52
59:DA:2304:G:N2	59:DA:2312:U:H3	2.06	0.52
60:DB:15:A:H3'	60:DB:16:G:H8	1.74	0.52
6:AG:156:TRP:CD1	6:AG:156:TRP:H	2.26	0.52
21:AA:911:U:H2'	21:AA:912:C:C6	2.44	0.52
21:AA:943:U:O4	21:AA:1340:A:N1	2.43	0.52
25:BC:131:ILE:HG12	25:BC:132:LEU:N	2.25	0.52
28:BF:82:ILE:HD13	59:BA:673:C:H4'	1.90	0.52
28:BF:93:LYS:H	28:BF:95:ARG:CZ	2.22	0.52
33:BN:125:GLY:HA3	33:BN:126:PRO:O	2.09	0.52
48:B3:4:LEU:HD23	48:B3:58:VAL:HG13	1.91	0.52
59:BA:1728:G:H1'	59:BA:1732:A:H62	1.73	0.52
59:BA:1811:G:H2'	59:BA:1812:A:C8	2.43	0.52
59:BA:1853:A:H2'	59:BA:1854:A:C8	2.45	0.52
60:BB:40:U:H3'	60:BB:41:U:C5'	2.39	0.52
3:CD:15:GLU:OE2	3:CD:63:LYS:HG3	2.10	0.52
7:CH:69:ARG:HG2	7:CH:70:GLN:H	1.75	0.52
10:CK:27:ASN:HD21	10:CK:44:SER:HB2	1.74	0.52
12:CM:14:ARG:HG3	12:CM:44:ARG:HH11	1.75	0.52
19:CT:73:HIS:C	19:CT:74:LYS:HZ2	2.18	0.52
21:CA:68(A):G:H2'	21:CA:68(B):G:C8	2.44	0.52
21:CA:116:A:H8	21:CA:116:A:O5'	1.93	0.52
20:CY:499:ARG:NH2	59:DA:1911:U:O3'	2.43	0.52
28:DF:12:LEU:HD22	28:DF:17:ARG:HB3	1.91	0.52
29:DG:110:ALA:O	29:DG:140:ILE:HD12	2.10	0.52
39:DT:129:ARG:HA	39:DT:129:ARG:NE	2.25	0.52
40:DU:95:LEU:HD22	41:DV:13:ARG:HB2	1.90	0.52
41:DV:35:LEU:HB2	41:DV:57:VAL:HG13	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:DV:64:HIS:ND1	41:DV:92:THR:HG22	2.24	0.52
46:D0:31:VAL:HG11	46:D0:37:LEU:HD21	1.91	0.52
50:D6:47:THR:OG1	50:D6:48:VAL:N	2.39	0.52
56:D1:15:ALA:H	56:D1:41:ARG:HG2	1.74	0.52
59:DA:45:G:H2'	59:DA:215:G:C8	2.45	0.52
59:DA:464:U:C4	59:DA:465:G:C6	2.97	0.52
59:DA:817:C:H2'	59:DA:818:G:O4'	2.10	0.52
59:DA:1049:C:O2	59:DA:2751:G:N1	2.38	0.52
59:DA:1159:U:H2'	59:DA:1160:G:C8	2.44	0.52
59:DA:1476:C:H2'	59:DA:1477:A:C8	2.44	0.52
2:AC:59:ARG:NH1	2:AC:97:LYS:HD2	2.25	0.52
3:AD:35:ARG:HD3	21:AA:412:A:C2	2.44	0.52
3:AD:76:ARG:NH1	3:AD:207:TYR:OH	2.43	0.52
5:AF:61:LEU:HB2	5:AF:63:TYR:HE2	1.74	0.52
16:AQ:63:ARG:HG3	21:AA:130:A:C8	2.45	0.52
20:AY:11:ARG:HD3	20:AY:40:HIS:CE1	2.45	0.52
21:AA:1208:C:H2'	21:AA:1209:C:O4'	2.09	0.52
21:AA:1401:G:H2'	21:AA:1402:C:O4'	2.10	0.52
22:AW:2:G:H2'	22:AW:3:C:O4'	2.10	0.52
25:BC:46:ALA:HA	25:BC:212:SER:O	2.10	0.52
28:BF:135:LYS:HB3	28:BF:138:GLU:HG2	1.92	0.52
28:BF:158:THR:CB	28:BF:194:MET:HA	2.40	0.52
33:BN:6:PRO:C	33:BN:7:LYS:NZ	2.68	0.52
36:BQ:65:PHE:HB2	36:BQ:105:GLU:HG2	1.92	0.52
38:BS:71:ARG:O	38:BS:74:ALA:HB3	2.10	0.52
40:BU:92:ARG:HB3	40:BU:95:LEU:HB2	1.92	0.52
56:B1:12:PRO:HA	56:B1:44:PRO:HD3	1.91	0.52
59:BA:741:G:H2'	59:BA:742:G:C8	2.44	0.52
59:BA:1059:G:C6	59:BA:1079:C:N4	2.77	0.52
59:BA:1916:A:H2'	59:BA:1917:U:O4'	2.09	0.52
17:CR:74:ARG:HG3	17:CR:79:LEU:HB3	1.91	0.52
17:CR:79:LEU:HD23	17:CR:80:PRO:HD2	1.91	0.52
21:CA:993:G:H2'	21:CA:995:C:H41	1.74	0.52
21:CA:1004:A:O2'	21:CA:1037:C:O2	2.26	0.52
20:CY:98:MET:C	20:CY:100:VAL:H	2.18	0.52
25:DC:11:LEU:HA	25:DC:14:LYS:HG3	1.91	0.52
27:DE:63:LEU:C	27:DE:65:GLY:N	2.66	0.52
35:DP:8:PRO:HG3	59:DA:1242:A:C2	2.45	0.52
37:DR:18:LEU:HB3	37:DR:22:ARG:HE	1.74	0.52
59:DA:476:G:N1	59:DA:479:A:OP2	2.35	0.52
59:DA:1496:A:H1'	59:DA:1577:C:O2'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1536:A:H5"	59:DA:1537:C:OP2	2.10	0.52
60:DB:18:G:H1	60:DB:65:C:N4	2.07	0.52
1:AB:71:VAL:HB	1:AB:164:VAL:CG2	2.40	0.52
10:AK:21:ILE:HG12	10:AK:30:VAL:HG12	1.91	0.52
11:AL:119:LYS:O	11:AL:121:GLY:N	2.36	0.52
18:AS:36:ARG:HB2	18:AS:72:GLY:HA3	1.90	0.52
21:AA:627:G:H2'	21:AA:628:G:C8	2.45	0.52
26:BD:54:ARG:HH22	59:BA:1815:A:P	2.32	0.52
26:BD:63:ARG:NH2	59:BA:1568:G:OP1	2.42	0.52
27:BE:113:PHE:CE1	59:BA:1655:A:H1'	2.45	0.52
35:BP:15:ARG:HB2	59:BA:598:G:H5'	1.91	0.52
36:BQ:21:THR:O	36:BQ:23:GLY:N	2.37	0.52
52:B8:47:LYS:HE2	59:BA:2361:A:P	2.49	0.52
59:BA:137(B):G:H1	59:BA:141(B):C:N4	2.08	0.52
59:BA:273(G):C:H3'	59:BA:274:G:H5"	1.91	0.52
59:BA:813:U:H2'	59:BA:814:C:H6	1.74	0.52
59:BA:1324:G:H1'	59:BA:1616:A:C6	2.44	0.52
59:BA:1326:U:H2'	59:BA:1327:C:O4'	2.10	0.52
59:BA:1366:A:H2'	59:BA:1367:A:C8	2.45	0.52
59:BA:1471:A:H2'	59:BA:1472:A:O4'	2.10	0.52
59:BA:2009:G:H2'	59:BA:2010:G:H8	1.73	0.52
59:BA:2376:A:H2'	59:BA:2377:A:O4'	2.10	0.52
15:CP:59:TRP:HA	15:CP:59:TRP:HE3	1.73	0.52
21:CA:45:U:H2'	21:CA:46:G:H8	1.74	0.52
21:CA:861:G:O2'	21:CA:874:G:O2'	2.26	0.52
20:CY:139:MET:H	20:CY:262:SER:HB2	1.75	0.52
26:DD:161:THR:HG21	59:DA:1819:A:OP1	2.10	0.52
28:DF:158:THR:OG1	28:DF:159:GLY:N	2.43	0.52
34:DO:75:SER:HB2	39:DT:75:ILE:O	2.10	0.52
45:DZ:60:GLU:HA	45:DZ:66:SER:HA	1.92	0.52
50:D6:13:CYS:SG	50:D6:22:ALA:HB3	2.49	0.52
58:De:102:GLY:H	58:De:105:LYS:HD3	1.74	0.52
59:DA:271:G:H2'	59:DA:272:G:C8	2.44	0.52
59:DA:861:A:H2'	59:DA:862:G:O4'	2.10	0.52
8:AI:16:ARG:HD3	21:AA:1147:C:H1'	1.92	0.52
9:AJ:29:ARG:NH2	9:AJ:80:LYS:HD3	2.25	0.52
11:AL:38:THR:HG23	11:AL:57:LYS:HD3	1.91	0.52
12:AM:26:GLY:H	21:AA:1329:A:H5"	1.75	0.52
20:AY:631:ILE:O	20:AY:645:ALA:HA	2.09	0.52
21:AA:960:U:H4'	21:AA:961:U:H5"	1.91	0.52
21:AA:1206:G:H2'	21:AA:1207:G:O4'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AW:29:U:H2'	22:AW:30:C:O4'	2.08	0.52
25:BC:191:ARG:O	25:BC:195:ARG:HG3	2.09	0.52
25:BC:213:VAL:CG2	25:BC:227:PRO:HB3	2.39	0.52
26:BD:158:ALA:N	26:BD:161:THR:OG1	2.43	0.52
33:BN:35:ARG:C	33:BN:37:LYS:H	2.18	0.52
33:BN:90:MET:HE2	33:BN:90:MET:HA	1.91	0.52
34:BO:34:THR:H	34:BO:37:ASP:CG	2.18	0.52
44:BY:84:ARG:HE	44:BY:97:ARG:HD2	1.75	0.52
46:B0:25:ARG:HB2	46:B0:37:LEU:HD22	1.91	0.52
57:B4:16:CYS:HB3	57:B4:34:GLU:O	2.10	0.52
59:BA:914:C:H2'	59:BA:915:C:H5'	1.92	0.52
59:BA:918:A:OP2	59:BA:2268:A:N6	2.40	0.52
2:CC:12:LEU:HB2	13:CN:57:ARG:NH2	2.25	0.52
4:CE:31:LEU:HA	4:CE:45:PHE:HB2	1.91	0.52
6:CG:98:SER:HA	6:CG:101:LEU:HD12	1.92	0.52
11:CL:113:ARG:CZ	11:CL:115:LYS:HB3	2.40	0.52
17:CR:72:ARG:O	17:CR:76:LEU:HG	2.10	0.52
18:CS:29:ARG:O	18:CS:48:THR:OG1	2.28	0.52
21:CA:923:A:H2'	21:CA:924:C:O4'	2.10	0.52
25:DC:7:ARG:O	25:DC:11:LEU:HG	2.10	0.52
27:DE:136:ARG:NH2	59:DA:1998:G:OP2	2.43	0.52
33:DN:34:LEU:HD21	33:DN:120:LEU:HD12	1.92	0.52
40:DU:61:TRP:CD2	40:DU:94:ASN:HB2	2.45	0.52
59:DA:55:G:N2	59:DA:115:C:N3	2.48	0.52
59:DA:450:G:OP1	59:DA:1248:G:N2	2.42	0.52
59:DA:883:G:H1	59:DA:893:C:H42	1.58	0.52
59:DA:938:G:H2'	59:DA:939:G:H8	1.75	0.52
59:DA:1224:C:H5	59:DA:1225:G:C4	2.28	0.52
59:DA:1604:C:H2'	59:DA:1605:C:C6	2.45	0.52
1:AB:15:VAL:HG21	1:AB:209:ARG:HE	1.75	0.51
1:AB:196:LEU:HD13	1:AB:197:VAL:HG23	1.93	0.51
10:AK:30:VAL:O	10:AK:42:TRP:HA	2.10	0.51
10:AK:99:GLN:HG2	10:AK:105:VAL:HG21	1.91	0.51
11:AL:101:VAL:HB	11:AL:104:VAL:HG13	1.92	0.51
16:AQ:67:LYS:HE3	21:AA:267:C:OP2	2.09	0.51
18:AS:63:THR:N	18:AS:66:MET:SD	2.79	0.51
20:AY:682:GLN:HA	20:AY:685:GLU:HB2	1.91	0.51
21:AA:249:U:H2'	21:AA:250:A:C8	2.45	0.51
21:AA:551:U:H2'	21:AA:552:U:C6	2.45	0.51
21:AA:1532:U:O2'	21:AA:1533:C:OP1	2.27	0.51
26:BD:186:HIS:CD2	59:BA:2218:G:H5"	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BE:92:THR:OG1	27:BE:93:VAL:N	2.43	0.51
28:BF:171:PRO:HA	59:BA:1205:U:C4	2.45	0.51
36:BQ:14:ARG:H	36:BQ:14:ARG:HD2	1.75	0.51
45:BZ:10:ARG:HG2	45:BZ:11:GLU:H	1.76	0.51
59:BA:1583:A:H61	21:CA:838(A):U:H5'	1.74	0.51
59:BA:1602:U:H3'	59:BA:1603:A:H5"	1.91	0.51
1:CB:54:THR:O	1:CB:58:ILE:HG12	2.10	0.51
4:CE:78:HIS:CD2	4:CE:79:GLU:H	2.28	0.51
12:CM:96:LEU:HD11	18:CS:82:GLY:O	2.10	0.51
14:CO:25:THR:O	14:CO:29:VAL:HG23	2.09	0.51
21:CA:68(F):C:H2'	21:CA:68(G):G:C8	2.44	0.51
21:CA:116:A:H2'	21:CA:117:G:O4'	2.10	0.51
21:CA:860:A:H2'	21:CA:861:G:O4'	2.10	0.51
21:CA:892:A:H2'	21:CA:893:C:H6	1.74	0.51
20:CY:133:ILE:HD12	20:CY:280:LEU:HD21	1.93	0.51
26:DD:142:VAL:HG13	26:DD:163:ALA:HB3	1.92	0.51
40:DU:49:HIS:ND1	59:DA:534:U:O2'	2.35	0.51
41:DV:66:ARG:HG2	41:DV:88:ARG:HB2	1.92	0.51
47:D2:38:GLN:HA	47:D2:41:ILE:HG23	1.91	0.51
56:D1:17:SER:OG	56:D1:42:GLN:N	2.43	0.51
59:DA:857:C:N4	59:DA:858:U:O4	2.43	0.51
59:DA:1056:G:H4'	59:DA:1086:A:H8	1.75	0.51
59:DA:2789:C:H1'	59:DA:2892:A:N1	2.25	0.51
1:AB:16:HIS:CD2	1:AB:210:SER:HA	2.45	0.51
4:AE:19:MET:SD	4:AE:24:ARG:HB3	2.50	0.51
8:AI:107:ARG:CA	21:AA:1347:G:H5'	2.37	0.51
11:AL:65:GLU:O	11:AL:66:VAL:HG22	2.09	0.51
14:AO:35:ARG:HG3	14:AO:59:MET:SD	2.50	0.51
18:AS:77:THR:HG21	21:AA:1221:G:O3'	2.10	0.51
21:AA:320:C:H2'	21:AA:321:A:C8	2.45	0.51
21:AA:776:G:O2'	21:AA:777:A:H8	1.93	0.51
21:AA:979:C:OP1	21:AA:1223:C:N4	2.42	0.51
21:AA:1127:G:C2	21:AA:1145:C:N3	2.78	0.51
33:BN:27:ALA:HA	33:BN:30:ILE:HD12	1.92	0.51
36:BQ:36:ALA:HB1	36:BQ:127:ILE:HD11	1.90	0.51
42:BW:12:ILE:HG21	42:BW:17:VAL:HG13	1.92	0.51
45:BZ:102:LEU:HD21	45:BZ:124:ILE:HD12	1.93	0.51
59:BA:516:C:H2'	59:BA:517:C:C6	2.46	0.51
59:BA:589:C:H2'	59:BA:590:A:C8	2.45	0.51
59:BA:1513:C:H2'	59:BA:1514:U:O4'	2.09	0.51
59:BA:2585:U:O2	59:BA:2585:U:H2'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CB:69:LEU:HB3	1:CB:71:VAL:HG23	1.92	0.51
3:CD:155:LEU:O	3:CD:159:ARG:NE	2.43	0.51
7:CH:64:LYS:HG2	7:CH:79:VAL:HG21	1.91	0.51
12:CM:15:VAL:HG13	12:CM:43:THR:O	2.10	0.51
12:CM:91:ARG:HA	12:CM:94:ARG:HB2	1.93	0.51
21:CA:123:C:OP1	21:CA:311:C:O2'	2.25	0.51
22:CW:23:A:H2'	22:CW:24:G:H8	1.74	0.51
22:CW:35:A:C2	23:CV:18:G:N1	2.78	0.51
20:CY:137:ASN:ND2	20:CY:262:SER:HA	2.22	0.51
20:CY:443:HIS:HB2	20:CY:448:GLN:HG2	1.92	0.51
28:DF:46:ARG:NH1	59:DA:441:U:O2'	2.44	0.51
32:DK:103:GLN:O	32:DK:107:ILE:HG12	2.10	0.51
44:DY:11:ASP:O	44:DY:27:VAL:HA	2.10	0.51
59:DA:747:U:C4	59:DA:2613:U:C4	2.98	0.51
59:DA:1441:G:H2'	59:DA:1442:G:H8	1.75	0.51
59:DA:2135:A:N6	59:DA:2156:G:O2'	2.41	0.51
59:DA:2261:C:H2'	59:DA:2262:U:H6	1.74	0.51
9:AJ:78:ASN:O	9:AJ:81:THR:OG1	2.28	0.51
10:AK:43:SER:HB2	10:AK:71:LYS:HZ1	1.76	0.51
11:AL:32:PHE:HZ	21:AA:33:A:N3	2.08	0.51
20:AY:98:MET:HG3	20:AY:130:VAL:HG21	1.92	0.51
20:AY:648:PRO:O	20:AY:650:ALA:N	2.44	0.51
22:AW:12:U:H3	22:AW:23:A:N6	2.08	0.51
26:BD:11:PRO:O	26:BD:13:ARG:N	2.41	0.51
27:BE:24:THR:HG22	27:BE:186:GLY:HA2	1.91	0.51
30:BH:98:LEU:HD13	30:BH:125:VAL:HG23	1.91	0.51
35:BP:12:ALA:O	35:BP:13:ASN:HB3	2.10	0.51
40:BU:106:PHE:O	40:BU:109:LEU:N	2.42	0.51
52:B8:33:ASN:O	52:B8:35:GLN:N	2.42	0.51
59:BA:557:U:H2'	59:BA:558:G:C8	2.46	0.51
59:BA:594:U:H2'	59:BA:595:C:C6	2.45	0.51
59:BA:1657:C:H2'	59:BA:1658:C:C6	2.45	0.51
60:BB:88:C:H2'	60:BB:89(A):G:O4'	2.09	0.51
10:CK:85:ARG:NH1	21:CA:707:C:OP1	2.43	0.51
12:CM:116:THR:HA	21:CA:1228:C:H4'	1.92	0.51
16:CQ:21:VAL:HG23	16:CQ:44:ALA:HB2	1.92	0.51
16:CQ:92:ARG:O	16:CQ:95:TYR:HB2	2.10	0.51
21:CA:745:C:H1'	21:CA:836:G:O2'	2.09	0.51
23:CV:14:A:H5'	23:CV:15:A:OP2	2.10	0.51
26:DD:24:ILE:HG23	26:DD:25:THR:H	1.75	0.51
27:DE:53:PRO:HA	27:DE:74:PRO:HA	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:DE:118:LYS:NZ	59:DA:2724:C:OP1	2.29	0.51
28:DF:102:PRO:HB3	59:DA:606:U:H5"	1.93	0.51
28:DF:156:LEU:HG	28:DF:156:LEU:O	2.11	0.51
28:DF:169:ASN:ND2	59:DA:322:A:H3'	2.25	0.51
29:DG:27:ASN:HD21	60:DB:57:A:H8	1.59	0.51
33:DN:4:TYR:CZ	33:DN:6:PRO:HA	2.45	0.51
34:DO:14:THR:CG2	34:DO:52:VAL:HG21	2.41	0.51
36:DQ:9:TYR:OH	59:DA:911:A:H2'	2.10	0.51
36:DQ:14:ARG:HA	36:DQ:72:LYS:HE3	1.91	0.51
39:DT:6:LEU:O	39:DT:10:VAL:HG23	2.10	0.51
39:DT:50:ILE:HG22	39:DT:51:ARG:HB3	1.92	0.51
39:DT:84:GLN:C	39:DT:86:ILE:H	2.17	0.51
59:DA:72:U:C4	59:DA:112:U:H4'	2.45	0.51
59:DA:1111:A:N3	59:DA:1112:G:H1'	2.25	0.51
3:AD:85:LYS:NZ	21:AA:614:A:OP1	2.44	0.51
6:AG:137:LYS:HA	6:AG:140:ASP:HB2	1.92	0.51
6:AG:151:TYR:HA	6:AG:154:TYR:CD1	2.45	0.51
21:AA:1228:C:H2'	21:AA:1229:A:H8	1.76	0.51
28:BF:45:ARG:HD3	28:BF:97:TYR:CD2	2.46	0.51
28:BF:176:LEU:HG	28:BF:177:ALA:N	2.24	0.51
29:BG:144:ILE:HG13	29:BG:148:MET:HG3	1.92	0.51
33:BN:40:PRO:HD3	40:BU:71:GLN:NE2	2.26	0.51
37:BR:28:LEU:HD22	37:BR:29:LEU:HD13	1.92	0.51
37:BR:51:LEU:HD11	37:BR:66:VAL:HA	1.92	0.51
59:BA:2781:A:H5'	59:BA:2782:G:O4'	2.11	0.51
1:CB:18:GLY:HA3	1:CB:41:ILE:HA	1.93	0.51
1:CB:162:ILE:HG22	1:CB:184:VAL:HA	1.93	0.51
3:CD:21:LEU:O	3:CD:113:SER:OG	2.22	0.51
3:CD:145:GLU:HG2	3:CD:182:LYS:HG2	1.92	0.51
5:CF:61:LEU:HB2	5:CF:63:TYR:HE2	1.76	0.51
12:CM:78:ILE:HD12	12:CM:92:HIS:CE1	2.46	0.51
16:CQ:67:LYS:HG2	21:CA:267:C:OP2	2.10	0.51
21:CA:373:A:H4'	21:CA:480:U:O2'	2.11	0.51
21:CA:591:U:H2'	21:CA:592:G:C8	2.45	0.51
25:DC:157:ILE:HA	25:DC:160:GLY:O	2.11	0.51
28:DF:154:VAL:HG12	28:DF:156:LEU:HA	1.92	0.51
35:DP:106:LEU:HD12	35:DP:112:LEU:HD23	1.91	0.51
42:DW:3:ALA:O	42:DW:106:ILE:HA	2.10	0.51
45:DZ:19:ARG:HD3	45:DZ:84:GLU:HG3	1.90	0.51
50:D6:19:ARG:HG2	59:DA:2400:G:H4'	1.91	0.51
56:D1:44:PRO:HA	59:DA:396:G:O2'	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:70:G:H1'	59:DA:73:A:N3	2.25	0.51
59:DA:1480:G:H1	59:DA:1513:C:H42	1.57	0.51
59:DA:1830:C:N4	59:DA:1975:G:H1	2.04	0.51
59:DA:2115:G:H4'	59:DA:2167:U:H1'	1.93	0.51
59:DA:2454:G:H1	59:DA:2498:C:N4	2.07	0.51
1:AB:33:TYR:HD2	1:AB:34:ALA:H	1.58	0.51
6:AG:20:ASP:HB2	6:AG:23:VAL:HG23	1.92	0.51
14:AO:8:LYS:HE3	14:AO:31:LEU:HD21	1.93	0.51
15:AP:21:VAL:HG11	15:AP:59:TRP:HE1	1.76	0.51
16:AQ:45:HIS:H	16:AQ:72:ARG:HA	1.75	0.51
16:AQ:51:TYR:CZ	16:AQ:73:VAL:HG11	2.45	0.51
18:AS:44:MET:O	18:AS:46:GLY:N	2.44	0.51
20:AY:201:ILE:HG21	20:AY:206:LEU:HB2	1.93	0.51
20:AY:485:GLU:HB3	20:AY:601:ILE:HG23	1.92	0.51
21:AA:501:C:H2'	21:AA:502:G:H8	1.73	0.51
21:AA:800:G:H8	21:AA:800:G:O5'	1.94	0.51
21:AA:857:C:H2'	21:AA:858:G:O4'	2.09	0.51
25:BC:45:HIS:ND1	25:BC:171:ALA:O	2.36	0.51
29:BG:8:LYS:O	29:BG:11:TYR:HB3	2.10	0.51
30:BH:14:GLY:O	30:BH:29:PRO:HD3	2.10	0.51
31:BJ:23:UNK:O	31:BJ:84:UNK:C	2.58	0.51
35:BP:66:GLY:O	35:BP:68:GLN:N	2.42	0.51
35:BP:112:LEU:H	35:BP:128:HIS:HB2	1.74	0.51
38:BS:102:ALA:HA	38:BS:109:GLY:H	1.75	0.51
39:BT:74:ARG:HD2	39:BT:76:PHE:CZ	2.46	0.51
44:BY:44:ILE:O	44:BY:62:GLU:HB3	2.10	0.51
44:BY:47:LYS:HD2	59:BA:481:G:OP2	2.10	0.51
50:B6:22:ALA:HB2	50:B6:39:TYR:CE2	2.46	0.51
59:BA:817:C:N3	59:BA:1190:G:N2	2.48	0.51
59:BA:2391:G:H1'	59:BA:2424:C:H41	1.75	0.51
3:CD:30:LYS:C	3:CD:32:ALA:H	2.17	0.51
3:CD:74:GLN:O	3:CD:78:LEU:HG	2.11	0.51
7:CH:7:ALA:HB2	7:CH:85:ARG:HE	1.75	0.51
21:CA:992:U:O2'	21:CA:993:G:OP2	2.17	0.51
21:CA:1145:C:O2'	21:CA:1146:A:OP2	2.29	0.51
21:CA:1534:A:H8	21:CA:1534:A:O5'	1.93	0.51
20:CY:14:ASN:ND2	20:CY:80:ASN:HD22	2.08	0.51
25:DC:132:LEU:HB3	25:DC:138:LEU:N	2.25	0.51
28:DF:33:LEU:O	28:DF:37:VAL:HG23	2.10	0.51
30:DH:37:VAL:HG12	30:DH:38:SER:O	2.10	0.51
38:DS:52:SER:C	38:DS:69:VAL:HG21	2.36	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:DT:36:GLU:HB3	39:DT:39:ARG:O	2.11	0.51
41:DV:17:GLY:HA2	41:DV:96:ILE:HG13	1.92	0.51
52:D8:14:VAL:HG21	52:D8:22:VAL:HG12	1.92	0.51
56:D1:25:LYS:HB3	59:DA:388:G:P	2.50	0.51
59:DA:577:G:O2'	59:DA:1254:A:OP1	2.28	0.51
59:DA:1019:U:C2	59:DA:1020:A:N7	2.79	0.51
59:DA:1440:G:H2'	59:DA:1441:G:H8	1.76	0.51
59:DA:1727:U:H2'	59:DA:1728:G:O4'	2.10	0.51
59:DA:1819:A:H4'	59:DA:1820:U:H5"	1.91	0.51
59:DA:2100:G:H2'	59:DA:2101:G:C8	2.45	0.51
59:DA:2701:C:N4	59:DA:2706:G:H1	2.02	0.51
4:AE:86:ALA:O	4:AE:125:SER:N	2.40	0.51
5:AF:77:ARG:O	5:AF:81:ILE:HG13	2.10	0.51
5:AF:96:PRO:HB3	17:AR:30:ASP:OD2	2.11	0.51
20:AY:415:PRO:HG2	20:AY:420:ASP:HB2	1.92	0.51
21:AA:382:A:H2'	21:AA:383:A:C8	2.45	0.51
21:AA:411:A:O2'	21:AA:413:G:H5'	2.10	0.51
21:AA:764:C:H2'	21:AA:765:G:C8	2.45	0.51
25:BC:30:VAL:HA	25:BC:33:LEU:H	1.76	0.51
27:BE:109:LYS:NZ	59:BA:2681:C:OP2	2.37	0.51
28:BF:12:LEU:HD22	28:BF:17:ARG:HB3	1.92	0.51
28:BF:103:LYS:HG2	28:BF:107:LYS:HG2	1.93	0.51
29:BG:98:ARG:HH11	57:B4:9:LEU:HG	1.75	0.51
34:BO:21:CYS:HB2	34:BO:39:ILE:HD12	1.92	0.51
34:BO:41:ALA:O	34:BO:57:VAL:HA	2.11	0.51
59:BA:688:U:H2'	59:BA:689:A:C8	2.42	0.51
59:BA:843:G:H2'	59:BA:844:C:H5'	1.92	0.51
59:BA:1496:A:H1'	59:BA:1577:C:O2'	2.11	0.51
59:BA:2173:A:H8	59:BA:2173:A:OP1	1.93	0.51
59:BA:2267:A:H5"	59:BA:2268:A:H5"	1.93	0.51
9:CJ:8:LEU:HB3	9:CJ:16:LEU:HD23	1.93	0.51
11:CL:42:THR:HA	11:CL:52:LEU:HA	1.93	0.51
21:CA:743:U:H2'	21:CA:744:C:H6	1.74	0.51
21:CA:966:G:C2	21:CA:967:C:C2	2.99	0.51
21:CA:1137:C:O2	21:CA:1137:C:H2'	2.09	0.51
21:CA:1507:A:H2'	21:CA:1508:G:H8	1.76	0.51
20:CY:246:ILE:O	20:CY:250:THR:OG1	2.19	0.51
25:DC:41:THR:HB	25:DC:43:GLU:HG3	1.92	0.51
25:DC:53:ARG:N	25:DC:53:ARG:HD3	2.24	0.51
27:DE:4:ILE:HG22	27:DE:198:VAL:HB	1.93	0.51
42:DW:75:TYR:O	42:DW:104:THR:N	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:De:27:UNK:C	58:De:29:UNK:H	2.23	0.51
59:DA:914:C:H2'	59:DA:915:C:H5'	1.92	0.51
59:DA:1059:G:N1	59:DA:1079:C:C4	2.77	0.51
59:DA:1176:G:H3'	59:DA:1177:A:H8	1.74	0.51
59:DA:1440:G:H2'	59:DA:1441:G:C8	2.46	0.51
59:DA:2629:A:H8	59:DA:2895:U:O4	1.92	0.51
2:AC:48:TYR:OH	2:AC:122:GLU:OE2	2.28	0.51
2:AC:117:ALA:HA	2:AC:120:VAL:HB	1.92	0.51
3:AD:49:ARG:NE	3:AD:49:ARG:HA	2.25	0.51
3:AD:146:ILE:N	3:AD:183:GLY:O	2.43	0.51
4:AE:149:GLU:HB3	4:AE:153:LYS:HE3	1.91	0.51
13:AN:57:ARG:O	13:AN:59:ALA:N	2.43	0.51
20:AY:135:PHE:CD1	20:AY:272:LEU:HD22	2.46	0.51
20:AY:462:ILE:O	20:AY:466:LEU:N	2.44	0.51
20:AY:466:LEU:HA	20:AY:470:PHE:HD2	1.74	0.51
21:AA:1140:C:H2'	21:AA:1141:C:C6	2.45	0.51
21:AA:1386:G:H2'	21:AA:1387:G:H8	1.74	0.51
22:AW:20(A):U:H1'	22:AW:21:A:OP1	2.11	0.51
27:BE:34:VAL:HG22	27:BE:35:GLN:H	1.76	0.51
28:BF:165:ARG:HD3	28:BF:168:ARG:NH1	2.25	0.51
28:BF:180:GLY:HA3	59:BA:616:A:C4	2.45	0.51
33:BN:31:ALA:HB2	33:BN:103:VAL:HG13	1.91	0.51
33:BN:35:ARG:HB3	33:BN:42:TRP:HZ3	1.75	0.51
42:BW:19:LEU:HD12	49:B5:25:LEU:H	1.74	0.51
43:BX:26:TYR:OH	43:BX:88:LYS:HB2	2.11	0.51
45:BZ:25:PRO:HA	45:BZ:38:TYR:HB3	1.92	0.51
56:B1:25:LYS:HB3	59:BA:388:G:OP2	2.11	0.51
57:B4:15:ILE:HB	57:B4:32:TYR:HB3	1.92	0.51
59:BA:111:A:H2'	59:BA:112:U:O4'	2.11	0.51
59:BA:536:A:H2'	59:BA:537:C:C6	2.46	0.51
59:BA:1639:U:O2'	59:BA:2699:C:H4'	2.11	0.51
60:BB:24:G:O2'	60:BB:27:C:N4	2.44	0.51
2:CC:195:VAL:HG11	21:CA:1205:U:H4'	1.91	0.51
16:CQ:13:ASP:O	16:CQ:15:MET:N	2.37	0.51
16:CQ:95:TYR:C	16:CQ:97:SER:H	2.18	0.51
21:CA:672:U:H2'	21:CA:673:G:C8	2.45	0.51
21:CA:1429:C:H2'	21:CA:1430:C:C6	2.46	0.51
25:DC:131:ILE:HG12	25:DC:132:LEU:N	2.25	0.51
39:DT:33:LYS:NZ	39:DT:74:ARG:HH22	2.08	0.51
45:DZ:3:TYR:N	45:DZ:56:VAL:O	2.44	0.51
45:DZ:102:LEU:H	45:DZ:102:LEU:HD12	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:DZ:166:SER:H	45:DZ:167:PRO:HA	1.75	0.51
49:D5:4:HIS:HB3	59:DA:2577:A:H1'	1.93	0.51
53:D9:10:ILE:HD11	53:D9:32:HIS:NE2	2.26	0.51
59:DA:1119:C:H2'	59:DA:1120:G:H8	1.75	0.51
59:DA:2047:U:O2'	59:DA:2823:A:N1	2.44	0.51
59:DA:2243:U:H2'	59:DA:2244:U:C6	2.45	0.51
59:DA:2884:U:H2'	59:DA:2885:C:O4'	2.11	0.51
60:DB:18:G:H2'	60:DB:19:G:H8	1.75	0.51
1:AB:234:PRO:O	1:AB:235:SER:OG	2.25	0.51
2:AC:48:TYR:O	2:AC:50:ALA:N	2.44	0.51
5:AF:16:GLN:O	5:AF:19:LEU:HB3	2.10	0.51
20:AY:85:PRO:HB3	20:AY:94:VAL:HA	1.93	0.51
21:AA:68(P):C:H2'	21:AA:68(Q):U:C6	2.45	0.51
21:AA:125:U:H2'	21:AA:126:G:C8	2.46	0.51
21:AA:483:C:H3'	21:AA:484:G:H8	1.76	0.51
21:AA:644:G:H2'	21:AA:645:C:O4'	2.11	0.51
21:AA:778:G:H2'	21:AA:779:C:O4'	2.11	0.51
21:AA:1000:A:H2'	21:AA:1001:G:O4'	2.10	0.51
21:AA:1035:A:H2'	21:AA:1036:G:H8	1.75	0.51
21:AA:1261:A:N6	21:AA:1274:G:H21	2.00	0.51
24:AU:3:SER:HB2	59:BA:1913:A:O2'	2.11	0.51
25:BC:22:THR:HA	25:BC:225:ILE:O	2.11	0.51
25:BC:76:LEU:HD12	25:BC:93:ASP:O	2.10	0.51
25:BC:133:GLY:N	25:BC:138:LEU:HB2	2.25	0.51
25:BC:201:LYS:HB2	25:BC:209:PHE:HE2	1.76	0.51
27:BE:201:THR:OG1	27:BE:202:LYS:N	2.44	0.51
31:BJ:24:UNK:HA	31:BJ:84:UNK:C	2.41	0.51
49:B5:3:LYS:H	49:B5:3:LYS:HE2	1.76	0.51
59:BA:1378:A:H2'	59:BA:1380:G:N7	2.25	0.51
59:BA:1750:G:O2'	59:BA:2860:A:N1	2.43	0.51
60:BB:89(A):G:H2'	60:BB:89(B):A:C8	2.46	0.51
6:CG:26:PHE:HB2	6:CG:62:PHE:HZ	1.76	0.51
6:CG:111:ARG:HE	6:CG:123:GLU:HB2	1.75	0.51
7:CH:100:ILE:HG22	7:CH:101:PRO:O	2.11	0.51
21:CA:129(A):G:N2	21:CA:186(J):G:OP2	2.32	0.51
21:CA:490:G:H2'	21:CA:491:G:C8	2.46	0.51
21:CA:1018:C:H2'	21:CA:1019:C:C6	2.45	0.51
20:CY:136:ALA:HB3	20:CY:260:LEU:HB2	1.93	0.51
20:CY:215:LYS:O	20:CY:219:VAL:N	2.37	0.51
25:DC:150:ILE:O	25:DC:154:ILE:HG13	2.10	0.51
26:DD:117:VAL:HG12	26:DD:129:ASN:HD21	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:DE:61:ARG:NH1	59:DA:2632:A:O2'	2.42	0.51
27:DE:123:ALA:HB3	59:DA:2511:U:H5"	1.92	0.51
35:DP:36:LYS:HG2	35:DP:41:ARG:HB3	1.93	0.51
37:DR:90:ARG:NH1	59:DA:2881:C:H5'	2.24	0.51
39:DT:49:VAL:O	39:DT:50:ILE:HG13	2.10	0.51
41:DV:39:LEU:HD12	41:DV:47:VAL:HG21	1.92	0.51
44:DY:68:HIS:HB3	44:DY:71:LYS:HE2	1.92	0.51
50:D6:41:PRO:HD3	50:D6:47:THR:HG22	1.91	0.51
59:DA:573:G:H1	59:DA:2031:A:P	2.34	0.51
59:DA:1670:C:H2'	59:DA:1671:U:O4'	2.09	0.51
59:DA:2329:G:H2'	59:DA:2330:G:H8	1.75	0.51
59:DA:2632:A:HO2'	59:DA:2811:G:HO2'	1.59	0.51
3:AD:15:GLU:HB3	3:AD:63:LYS:HE2	1.92	0.51
3:AD:172:PRO:O	3:AD:187:ARG:NH1	2.44	0.51
11:AL:113:ARG:HE	11:AL:116:SER:H	1.58	0.51
12:AM:84:ILE:HD13	18:AS:74:PHE:CZ	2.45	0.51
16:AQ:60:ILE:HG12	16:AQ:61:GLU:N	2.24	0.51
20:AY:424:LEU:HA	20:AY:427:ALA:HB3	1.93	0.51
21:AA:834:C:H2'	21:AA:835:U:O4'	2.11	0.51
25:BC:72:GLN:OE1	25:BC:73:VAL:N	2.43	0.51
26:BD:62:TYR:HE2	26:BD:88:ARG:HH22	1.58	0.51
26:BD:244:ARG:HH22	59:BA:1841:U:H1'	1.76	0.51
27:BE:60:ASN:OD1	27:BE:61:ARG:N	2.44	0.51
28:BF:127:GLU:HA	28:BF:195:ASP:OD2	2.11	0.51
28:BF:155:LEU:O	28:BF:191:ARG:C	2.54	0.51
30:BH:104:GLU:HA	30:BH:113:VAL:O	2.11	0.51
33:BN:127:ASP:N	33:BN:127:ASP:OD1	2.40	0.51
45:BZ:58:VAL:HA	45:BZ:68:PRO:HA	1.91	0.51
52:B8:8:LYS:HE3	59:BA:245:G:O6	2.10	0.51
59:BA:270(B):A:N6	59:BA:270(Z):G:H1'	2.26	0.51
59:BA:271(B):C:H1'	59:BA:272:G:H1'	1.93	0.51
59:BA:629:G:O2'	59:BA:639:U:O2	2.28	0.51
59:BA:1102:C:H2'	59:BA:1103:A:H8	1.76	0.51
59:BA:1426:G:H5"	59:BA:1559:G:O6	2.11	0.51
59:BA:2593:U:H3	59:BA:2600:A:N6	2.08	0.51
2:CC:28:GLN:HB2	2:CC:32:LEU:HD11	1.92	0.51
3:CD:3:ARG:O	3:CD:5:ILE:N	2.44	0.51
3:CD:14:ARG:HG3	3:CD:66:ARG:HH12	1.76	0.51
6:CG:16:LEU:HD22	8:CI:42:ARG:HA	1.93	0.51
10:CK:53:SER:C	10:CK:55:LYS:H	2.18	0.51
21:CA:16:A:N1	21:CA:919:A:H2	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:68(P):C:H2'	21:CA:68(Q):U:H6	1.75	0.51
20:CY:8:ASP:HB2	20:CY:11:ARG:NE	2.25	0.51
27:DE:34:VAL:HG11	27:DE:78:LEU:HD22	1.92	0.51
28:DF:46:ARG:O	28:DF:48:THR:N	2.44	0.51
28:DF:187:VAL:HG12	35:DP:7:ARG:HH22	1.76	0.51
33:DN:27:ALA:O	33:DN:31:ALA:N	2.38	0.51
42:DW:37:ARG:HG3	42:DW:38:TYR:CD1	2.46	0.51
44:DY:8:LYS:HB3	44:DY:28:LYS:HZ1	1.75	0.51
45:DZ:10:ARG:NH2	45:DZ:26:GLY:O	2.43	0.51
53:D9:33:LYS:NZ	59:DA:2526:G:O3'	2.44	0.51
59:DA:826:U:H5"	59:DA:2429:G:P	2.51	0.51
59:DA:2389:G:H5"	59:DA:2390:U:O4'	2.10	0.51
59:DA:2834:G:H1'	59:DA:2883:A:N6	2.26	0.51
1:AB:82:ARG:NH2	1:AB:92:TYR:OH	2.40	0.51
15:AP:18:ARG:HA	15:AP:38:TYR:HA	1.93	0.51
16:AQ:17:LYS:HA	16:AQ:46:ASP:O	2.11	0.51
28:BF:25:PRO:HD3	28:BF:115:ALA:HB1	1.93	0.51
34:BO:19:ILE:HG22	34:BO:43:VAL:HG22	1.93	0.51
36:BQ:35:VAL:HG23	36:BQ:101:ARG:C	2.36	0.51
40:BU:11:ARG:HH22	59:BA:29:U:H4'	1.76	0.51
40:BU:61:TRP:CD2	40:BU:94:ASN:HB2	2.45	0.51
45:BZ:4:ARG:HA	45:BZ:58:VAL:O	2.11	0.51
45:BZ:7:ALA:O	45:BZ:62:PRO:HD2	2.11	0.51
45:BZ:120:ILE:HG22	45:BZ:121:HIS:ND1	2.26	0.51
49:B5:18:ALA:O	49:B5:21:SER:N	2.44	0.51
51:B7:40:TRP:CE3	59:BA:459:U:H3'	2.46	0.51
56:B1:10:LYS:NZ	59:BA:397:G:OP2	2.43	0.51
56:B1:90:ILE:O	56:B1:94:LEU:HD13	2.10	0.51
59:BA:270(F):G:H2'	59:BA:270(G):U:C6	2.45	0.51
59:BA:920:G:H2'	59:BA:921:G:H8	1.74	0.51
59:BA:1120:G:H2'	59:BA:1121:C:C6	2.46	0.51
59:BA:1931:U:H2'	59:BA:1932:A:C8	2.42	0.51
59:BA:2065:C:H2'	59:BA:2066:C:H6	1.76	0.51
60:BB:66:A:N6	60:BB:108:C:OP2	2.44	0.51
4:CE:131:ILE:O	4:CE:135:THR:OG1	2.24	0.51
5:CF:5:GLU:HG2	5:CF:62:TRP:HZ2	1.76	0.51
9:CJ:61:GLU:OE2	13:CN:49:HIS:NE2	2.45	0.51
11:CL:127:GLU:O	11:CL:129:ALA:N	2.42	0.51
13:CN:29:ARG:NH1	21:CA:974:A:OP2	2.44	0.51
14:CO:85:LEU:HD22	14:CO:87:ILE:HG12	1.91	0.51
21:CA:11:G:H1	21:CA:23:C:H42	1.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:1255:G:N2	21:CA:1259:C:O2	2.44	0.51
20:CY:163:VAL:HA	20:CY:258:VAL:HG22	1.92	0.51
27:DE:82:ARG:NE	59:DA:2637:U:OP1	2.43	0.51
27:DE:93:VAL:HG12	27:DE:182:LEU:HD13	1.92	0.51
28:DF:63:LYS:NZ	28:DF:65:TRP:O	2.38	0.51
30:DH:54:ARG:HB3	30:DH:65:HIS:HB2	1.93	0.51
31:DJ:24:UNK:HA	31:DJ:84:UNK:O	2.11	0.51
32:DK:41:PHE:HB2	32:DK:69:THR:HG21	1.92	0.51
33:DN:42:TRP:H	40:DU:64:ARG:HE	1.59	0.51
34:DO:9:GLU:HA	34:DO:18:LYS:HA	1.92	0.51
34:DO:71:ARG:HB3	34:DO:71:ARG:HH11	1.76	0.51
44:DY:27:VAL:O	44:DY:28:LYS:HB3	2.11	0.51
47:D2:29:LYS:HG2	47:D2:57:ILE:HD12	1.93	0.51
56:D1:15:ALA:HA	56:D1:40:ARG:O	2.10	0.51
56:D1:67:ILE:N	56:D1:68:PRO:HD2	2.26	0.51
59:DA:198:C:H42	59:DA:248:G:H1	1.59	0.51
59:DA:307:G:H21	59:DA:330:A:N6	2.08	0.51
59:DA:697:C:H2'	59:DA:698:C:C6	2.46	0.51
59:DA:2784:C:H2'	59:DA:2785:C:H6	1.76	0.51
1:AB:67:THR:HB	1:AB:90:MET:SD	2.50	0.50
1:AB:103:THR:HB	21:AA:1074:G:H4'	1.93	0.50
3:AD:138:TYR:CE1	21:AA:620:C:H4'	2.46	0.50
4:AE:20:GLN:HA	21:AA:922:G:H4'	1.93	0.50
12:AM:86:CYS:HB3	18:AS:74:PHE:HE1	1.74	0.50
20:AY:19:ALA:H	20:AY:25:LYS:HE2	1.77	0.50
20:AY:136:ALA:H	20:AY:260:LEU:CB	2.24	0.50
20:AY:309:LEU:HG	20:AY:391:GLY:HA3	1.93	0.50
20:AY:656:ALA:O	20:AY:660:ARG:HG2	2.11	0.50
20:AY:679:VAL:HG23	20:AY:684:GLN:HB2	1.91	0.50
21:AA:17:U:H2'	21:AA:18:C:C6	2.46	0.50
21:AA:1440(A):G:H4'	21:AA:1440(B):G:C8	2.46	0.50
25:BC:47:LYS:HB2	25:BC:169:THR:O	2.12	0.50
25:BC:148:PHE:C	25:BC:150:ILE:H	2.17	0.50
27:BE:191:PRO:C	27:BE:193:GLY:H	2.20	0.50
28:BF:62:ARG:HB3	59:BA:797:C:OP2	2.11	0.50
32:BK:82:ALA:HB1	32:BK:97:GLY:HA3	1.93	0.50
33:BN:41:ASP:CA	40:BU:64:ARG:HE	2.24	0.50
59:BA:16:G:H2'	59:BA:17:G:C8	2.45	0.50
59:BA:19:C:H2'	59:BA:20:C:C6	2.47	0.50
59:BA:39:C:H2'	59:BA:40:C:C6	2.46	0.50
59:BA:221:A:H4'	59:BA:222:A:O5'	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:319:C:H2'	59:BA:320:A:C8	2.45	0.50
59:BA:887:A:H1'	59:BA:889:C:C5	2.46	0.50
59:BA:1750:G:H2'	59:BA:1751:C:C6	2.47	0.50
3:CD:122:ARG:HA	3:CD:134:ASP:O	2.11	0.50
3:CD:203:VAL:O	3:CD:207:TYR:HB2	2.11	0.50
9:CJ:8:LEU:HB3	9:CJ:16:LEU:CD2	2.42	0.50
10:CK:108:ILE:HG21	17:CR:88:LYS:N	2.26	0.50
21:CA:551:U:H2'	21:CA:552:U:C6	2.46	0.50
21:CA:737:A:H2'	21:CA:738:C:H6	1.76	0.50
21:CA:911:U:H2'	21:CA:912:C:C6	2.47	0.50
21:CA:1028(B):C:N4	21:CA:1028(G):G:C6	2.79	0.50
21:CA:1134:G:H1	21:CA:1140:C:H42	1.59	0.50
27:DE:183:LEU:HD21	39:DT:11:GLU:HG2	1.93	0.50
29:DG:144:ILE:HG13	29:DG:148:MET:HG3	1.92	0.50
33:DN:56:ASN:H	33:DN:126:PRO:HA	1.76	0.50
34:DO:77:ILE:HB	39:DT:74:ARG:HG2	1.92	0.50
35:DP:6:LEU:HG	35:DP:8:PRO:HD2	1.93	0.50
38:DS:54:LEU:HD13	38:DS:60:GLY:HA2	1.93	0.50
56:D1:22:GLY:O	56:D1:37:ILE:N	2.43	0.50
59:DA:55:G:H1	59:DA:115:C:H42	1.58	0.50
59:DA:852:G:N2	59:DA:925:C:C2	2.75	0.50
59:DA:919:G:H4'	60:DB:81:G:O2'	2.11	0.50
59:DA:1234:U:H2'	59:DA:1235:G:O4'	2.10	0.50
59:DA:1448:G:H2'	59:DA:149(B):A:C8	2.46	0.50
59:DA:1844:C:H2'	59:DA:1845:G:O4'	2.11	0.50
59:DA:2208:U:H2'	59:DA:2209:C:C6	2.46	0.50
59:DA:2237:G:O2'	59:DA:2239:G:N7	2.39	0.50
59:DA:2471:C:H2'	59:DA:2472:G:O4'	2.12	0.50
59:DA:2781:A:H5'	59:DA:2782:G:H5'	1.93	0.50
1:AB:115:LEU:O	1:AB:118:LEU:HB2	2.12	0.50
3:AD:59:ARG:HH11	3:AD:59:ARG:HA	1.75	0.50
15:AP:5:ARG:NH1	21:AA:376:G:O3'	2.44	0.50
21:AA:316:G:O3'	21:AA:353:A:N6	2.44	0.50
21:AA:757:U:H2'	21:AA:758:G:O4'	2.11	0.50
21:AA:894:G:H2'	21:AA:895:G:C8	2.46	0.50
22:AW:19:G:H22	22:AW:56:C:H42	1.58	0.50
25:BC:165:ARG:HG2	25:BC:166:ASN:H	1.75	0.50
26:BD:172:TYR:CD1	26:BD:184:LYS:HB3	2.43	0.50
27:BE:16:ARG:HD2	27:BE:17:ASP:HB2	1.92	0.50
47:B2:14:ARG:HG2	47:B2:63:VAL:HG21	1.92	0.50
47:B2:17:SER:O	47:B2:21:LEU:HB2	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:792:G:N3	59:BA:2072:G:O2'	2.28	0.50
59:BA:1201:C:H2'	59:BA:1202:C:H6	1.76	0.50
59:BA:122(A):C:H42	59:BA:1228:G:H1	1.59	0.50
59:BA:1672:C:H4'	59:BA:2553:G:H4'	1.93	0.50
59:BA:2306:C:H3'	59:BA:2307:G:C8	2.45	0.50
2:CC:86:VAL:O	2:CC:89:GLU:HB2	2.11	0.50
4:CE:94:ALA:HB2	4:CE:119:LEU:HD23	1.93	0.50
8:CI:107:ARG:NE	21:CA:1347:G:H5"	2.27	0.50
11:CL:123:LYS:HD3	21:CA:37:U:OP1	2.12	0.50
19:CT:30:LYS:O	19:CT:34:LYS:HG3	2.11	0.50
21:CA:770:C:O2'	21:CA:899:C:N3	2.42	0.50
20:CY:210:ARG:O	20:CY:214:GLU:HG2	2.10	0.50
26:DD:86:PRO:HB3	59:DA:1567:A:P	2.50	0.50
26:DD:207:GLY:O	59:DA:1791:A:O2'	2.23	0.50
28:DF:182:ASN:ND2	28:DF:185:ASP:OD1	2.30	0.50
29:DG:130:ASN:HD21	29:DG:160:VAL:HG13	1.76	0.50
33:DN:100:GLU:HB3	33:DN:117:PHE:HZ	1.77	0.50
34:DO:104:ARG:HH21	39:DT:33:LYS:HE3	1.75	0.50
39:DT:97:ALA:C	39:DT:98:LYS:HD2	2.36	0.50
59:DA:784:A:O2'	59:DA:785:G:H5"	2.12	0.50
59:DA:1165:U:H2'	59:DA:1166:C:H6	1.76	0.50
1:AB:96:ARG:HD3	21:AA:1099:G:OP1	2.11	0.50
3:AD:28:SER:O	3:AD:30:LYS:N	2.44	0.50
4:AE:6:PHE:CD2	4:AE:36:ASP:HB3	2.45	0.50
7:AH:85:ARG:NH1	7:AH:134:ILE:HG23	2.26	0.50
8:AI:17:VAL:HA	8:AI:63:ILE:HG23	1.93	0.50
8:AI:107:ARG:HB3	21:AA:1347:G:H8	1.77	0.50
10:AK:17:GLY:O	10:AK:80:VAL:HA	2.10	0.50
12:AM:54:VAL:HA	12:AM:57:ARG:HE	1.76	0.50
16:AQ:5:VAL:HG12	16:AQ:60:ILE:HG13	1.94	0.50
20:AY:16:GLY:O	20:AY:105:ILE:HG12	2.12	0.50
20:AY:649:LEU:CA	20:AY:652:MET:HB3	2.40	0.50
21:AA:359:U:H2'	21:AA:360:A:C8	2.47	0.50
21:AA:1172:C:H2'	21:AA:1173:G:C8	2.45	0.50
30:BH:142:GLY:C	59:BA:2745:C:H4'	2.36	0.50
35:BP:59:LEU:O	52:B8:13:ARG:NH1	2.44	0.50
36:BQ:110:THR:HB	36:BQ:113:GLN:H	1.75	0.50
39:BT:62:THR:OG1	39:BT:75:ILE:HG12	2.12	0.50
46:B0:24:LYS:HG3	46:B0:36:ILE:CD1	2.42	0.50
59:BA:596:G:H2'	59:BA:597:U:O4'	2.11	0.50
59:BA:1991:U:O2'	59:BA:1992:G:H5'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2088:G:N2	59:BA:2231:C:N3	2.56	0.50
59:BA:2850:A:H2'	59:BA:2851:A:C8	2.46	0.50
59:BA:2876:G:H2'	59:BA:2877:G:H8	1.76	0.50
1:CB:167:PRO:HD3	1:CB:187:LEU:O	2.11	0.50
2:CC:152:ILE:HG12	2:CC:199:LYS:HB2	1.94	0.50
3:CD:35:ARG:HD3	21:CA:412:A:H2	1.75	0.50
6:CG:119:ARG:HH22	21:CA:1240:U:H5	1.58	0.50
8:CI:17:VAL:HG22	8:CI:63:ILE:HD12	1.93	0.50
11:CL:43:VAL:HG12	11:CL:44:THR:H	1.75	0.50
12:CM:102:ARG:HG2	12:CM:106:ASN:H	1.76	0.50
21:CA:1261:A:H62	21:CA:1274:G:N2	2.03	0.50
21:CA:1472:U:H2'	21:CA:1473:A:C8	2.47	0.50
25:DC:148:PHE:C	25:DC:150:ILE:H	2.20	0.50
26:DD:248:SER:C	26:DD:250:TRP:H	2.20	0.50
29:DG:67:LYS:NZ	29:DG:68:PRO:HD2	2.26	0.50
33:DN:38:HIS:CG	33:DN:39:ARG:N	2.79	0.50
52:D8:10:ALA:O	52:D8:14:VAL:HG12	2.11	0.50
56:D1:91:LYS:HA	56:D1:94:LEU:HD22	1.93	0.50
59:DA:460:A:H2'	59:DA:461:C:O4'	2.11	0.50
59:DA:1935:G:H3'	59:DA:1962:C:H42	1.76	0.50
60:DB:49:C:H2'	60:DB:50:G:C8	2.45	0.50
1:AB:7:VAL:N	1:AB:9:GLU:OE1	2.45	0.50
1:AB:55:PHE:HA	1:AB:58:ILE:HB	1.93	0.50
1:AB:174:VAL:O	1:AB:178:ARG:HB2	2.11	0.50
6:AG:4:ARG:HG2	21:AA:932:C:OP1	2.11	0.50
7:AH:119:LEU:H	7:AH:119:LEU:HD12	1.77	0.50
10:AK:117:ASN:ND2	21:AA:716:A:O2'	2.44	0.50
15:AP:1:MET:SD	15:AP:3:LYS:NZ	2.78	0.50
20:AY:550:MET:O	20:AY:560:VAL:HG23	2.10	0.50
22:AW:12:U:H1'	22:AW:24:G:N2	2.26	0.50
22:AW:74:C:O2	22:AW:74:C:H2'	2.11	0.50
27:BE:14:ILE:HG23	39:BT:14:TYR:OH	2.12	0.50
27:BE:60:ASN:O	27:BE:61:ARG:HB2	2.11	0.50
27:BE:61:ARG:HB3	27:BE:62:PRO:CD	2.32	0.50
30:BH:80:SER:O	30:BH:80:SER:OG	2.26	0.50
31:BJ:50:UNK:O	31:BJ:82:UNK:N	2.45	0.50
35:BP:55:ARG:NH1	59:BA:2358:G:H1	2.08	0.50
35:BP:86:LYS:HB2	35:BP:118:GLY:HA3	1.94	0.50
37:BR:11:ASN:O	37:BR:17:ARG:NE	2.30	0.50
37:BR:72:ASP:HB3	37:BR:75:LEU:H	1.76	0.50
39:BT:3:ARG:HD3	39:BT:6:LEU:HD13	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BW:17:VAL:O	42:BW:21:VAL:HG23	2.11	0.50
51:B7:10:ARG:HG3	59:BA:125:G:C5	2.47	0.50
56:B1:67:ILE:N	56:B1:68:PRO:HD2	2.26	0.50
59:BA:568:U:O2	59:BA:570:G:H8	1.94	0.50
59:BA:676:A:H8	59:BA:2443:C:H1'	1.76	0.50
59:BA:1094:U:H1'	59:BA:1097:U:C5	2.47	0.50
59:BA:1356:G:H2'	59:BA:1357:U:O4'	2.12	0.50
59:BA:1532:C:H2'	59:BA:1533:C:C6	2.46	0.50
59:BA:2393:A:H62	59:BA:2422:A:H61	1.60	0.50
59:BA:2848:G:O2'	59:BA:2867:G:N2	2.31	0.50
6:CG:30:ILE:HG22	6:CG:39:ALA:HB1	1.93	0.50
7:CH:100:ILE:HB	7:CH:125:ARG:HH21	1.76	0.50
15:CP:45:THR:C	15:CP:47:ASP:H	2.18	0.50
21:CA:773:G:H1	21:CA:806:C:H42	1.59	0.50
21:CA:1251:A:H2'	21:CA:1252:A:H8	1.77	0.50
20:CY:608:VAL:HG13	20:CY:609:GLU:O	2.12	0.50
26:DD:90:ALA:HB2	26:DD:159:ALA:HA	1.93	0.50
29:DG:67:LYS:HZ2	29:DG:68:PRO:HD2	1.77	0.50
30:DH:56:SER:OG	30:DH:57:ASP:N	2.40	0.50
33:DN:41:ASP:HA	40:DU:64:ARG:NE	2.27	0.50
33:DN:133:GLN:HG2	33:DN:135:PRO:HD3	1.93	0.50
37:DR:51:LEU:HD11	37:DR:66:VAL:HG13	1.92	0.50
39:DT:27:THR:HG22	39:DT:49:VAL:HB	1.92	0.50
46:D0:36:ILE:HD13	46:D0:39:ARG:HG2	1.94	0.50
48:D3:11:SER:OG	48:D3:13:ILE:HG12	2.12	0.50
59:DA:860:U:H2'	59:DA:861:A:H8	1.75	0.50
59:DA:998:C:H2'	59:DA:999:U:O4'	2.10	0.50
59:DA:1483:G:H1	59:DA:1506:C:N4	2.08	0.50
59:DA:1533:C:H42	59:DA:1538:G:H1	1.57	0.50
59:DA:1916:A:H2'	59:DA:1917:U:O4'	2.11	0.50
59:DA:2861:G:H2'	59:DA:2862:G:H8	1.76	0.50
1:AB:33:TYR:HD2	1:AB:34:ALA:N	2.09	0.50
2:AC:11:ARG:O	2:AC:16:ARG:N	2.44	0.50
3:AD:135:LEU:HG	21:AA:620:C:C2	2.47	0.50
4:AE:19:MET:HG3	21:AA:15:G:H1'	1.92	0.50
7:AH:121:ASP:OD2	7:AH:122:ARG:N	2.35	0.50
12:AM:111:LYS:HE3	21:AA:1227:A:OP1	2.11	0.50
13:AN:45:ARG:O	13:AN:49:HIS:HB2	2.12	0.50
20:AY:33:LEU:HD23	20:AY:34:TYR:CG	2.45	0.50
20:AY:312:LEU:HD12	20:AY:388:THR:HA	1.93	0.50
21:AA:235:C:H2'	21:AA:236:G:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:1388:C:H2'	21:AA:1389:C:C6	2.46	0.50
25:BC:45:HIS:O	25:BC:212:SER:O	2.30	0.50
26:BD:106:ILE:HG23	26:BD:108:PRO:HD3	1.92	0.50
28:BF:44:ARG:HB3	59:BA:615:G:H21	1.76	0.50
32:BK:68:VAL:O	32:BK:70:LYS:NZ	2.38	0.50
33:BN:4:TYR:CG	33:BN:5:VAL:N	2.80	0.50
35:BP:41:ARG:HH11	59:BA:832:G:H5"	1.76	0.50
37:BR:13:HIS:O	37:BR:15:SER:N	2.44	0.50
38:BS:64:GLU:HA	38:BS:67:ARG:HG3	1.92	0.50
39:BT:132:LYS:O	39:BT:132:LYS:HD3	2.11	0.50
45:BZ:82:ARG:HB3	45:BZ:82:ARG:CZ	2.41	0.50
52:B8:15:LYS:HG2	52:B8:65:GLU:OXT	2.11	0.50
52:B8:17:THR:O	52:B8:19:SER:N	2.42	0.50
56:B1:70:VAL:HA	56:B1:73:LEU:HB2	1.94	0.50
59:BA:82:G:H5"	59:BA:296:C:H5'	1.93	0.50
59:BA:270(S):G:H2'	59:BA:270(T):G:H8	1.76	0.50
59:BA:302:C:H2'	59:BA:303:U:C6	2.47	0.50
59:BA:2250:G:H8	59:BA:2496:C:H5"	1.77	0.50
3:CD:162:LEU:HD11	3:CD:181:MET:CG	2.41	0.50
13:CN:3:ARG:NH1	21:CA:1204:A:OP2	2.45	0.50
15:CP:45:THR:O	15:CP:47:ASP:N	2.45	0.50
19:CT:37:SER:O	19:CT:40:ALA:HB3	2.11	0.50
21:CA:836:G:C6	21:CA:851:G:C6	2.99	0.50
21:CA:1440(A):G:H5"	21:CA:1440(B):G:O4'	2.11	0.50
20:CY:138:LYS:CE	61:CY:701:GNP:N9	2.62	0.50
27:DE:61:ARG:CB	27:DE:62:PRO:HD2	2.42	0.50
27:DE:143:ASN:ND2	27:DE:146:THR:O	2.45	0.50
27:DE:146:THR:O	59:DA:2571:C:O2'	2.28	0.50
38:DS:13:ARG:O	38:DS:15:ARG:N	2.43	0.50
38:DS:32:LEU:HD11	60:DB:30:C:H5	1.76	0.50
38:DS:34:HIS:ND1	38:DS:54:LEU:O	2.44	0.50
40:DU:54:LYS:HB3	40:DU:58:ARG:HH21	1.76	0.50
59:DA:485:C:H42	59:DA:495:G:H1	1.59	0.50
59:DA:592:G:H1	59:DA:665:C:H42	1.59	0.50
59:DA:778:G:C5	59:DA:779:U:C4	2.99	0.50
59:DA:994:C:N4	59:DA:1160:G:H1	2.07	0.50
59:DA:1139:G:H8	59:DA:1139:G:O5'	1.95	0.50
59:DA:1409:C:H2'	59:DA:1410:G:C8	2.47	0.50
59:DA:1462:C:H4'	59:DA:2703:C:H5'	1.94	0.50
59:DA:1533:C:H2'	59:DA:1534:G:O4'	2.11	0.50
59:DA:2524:G:H1	59:DA:2539:C:H42	1.58	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2642:G:N2	59:DA:2772:C:N3	2.46	0.50
2:AC:30:ARG:NH1	13:AN:35:ARG:O	2.44	0.50
3:AD:122:ARG:HH21	21:AA:403:C:H4'	1.77	0.50
8:AI:13:ALA:HB2	8:AI:68:GLY:HA3	1.94	0.50
10:AK:84:VAL:HG11	10:AK:95:ILE:HD11	1.94	0.50
21:AA:601:C:H2'	21:AA:602:A:C8	2.47	0.50
21:AA:1252:A:H2'	21:AA:1253:G:H8	1.77	0.50
25:BC:23:ILE:HD13	25:BC:191:ARG:HG2	1.93	0.50
25:BC:47:LYS:HD2	25:BC:48:LEU:N	2.27	0.50
28:BF:157:VAL:HG12	28:BF:192:LEU:HG	1.93	0.50
30:BH:41:MET:CB	30:BH:54:ARG:HA	2.41	0.50
34:BO:25:LEU:HB3	34:BO:38:VAL:HG23	1.94	0.50
35:BP:138:LEU:HD23	35:BP:144:GLU:HB3	1.94	0.50
37:BR:77:ARG:O	37:BR:81:ASP:HB2	2.12	0.50
38:BS:97:ARG:O	38:BS:100:ALA:N	2.33	0.50
56:B1:79:GLY:HA3	59:BA:270(S):G:H1'	1.94	0.50
59:BA:384:U:O5'	59:BA:384:U:H6	1.94	0.50
59:BA:852:G:H1	59:BA:925:C:H42	1.57	0.50
59:BA:1165:U:H2'	59:BA:1166:C:C6	2.46	0.50
59:BA:1264:G:O3'	59:BA:2615:U:H5'	2.11	0.50
59:BA:2136:C:C2	59:BA:2155:G:N2	2.66	0.50
59:BA:2140:C:H2'	59:BA:2141:G:H8	1.76	0.50
59:BA:2443:C:H2'	59:BA:2444:G:H8	1.75	0.50
60:BB:21:G:H2'	60:BB:22:U:O4'	2.11	0.50
3:CD:30:LYS:HB3	3:CD:35:ARG:HG2	1.93	0.50
3:CD:33:MET:HG3	3:CD:37:PRO:HB3	1.92	0.50
3:CD:96:LEU:HD11	3:CD:188:LEU:HD23	1.94	0.50
6:CG:118:VAL:O	6:CG:122:HIS:HB2	2.12	0.50
11:CL:84:LEU:H	11:CL:104:VAL:HG11	1.77	0.50
14:CO:67:LEU:HD11	14:CO:87:ILE:HD12	1.92	0.50
15:CP:5:ARG:HB2	21:CA:376:G:H5"	1.94	0.50
21:CA:328:C:H4'	21:CA:329:A:C5'	2.41	0.50
21:CA:1196:U:H5'	21:CA:1197:G:H5"	1.93	0.50
20:CY:25:LYS:NZ	61:CY:701:GNP:O3G	2.39	0.50
25:DC:213:VAL:HG11	25:DC:225:ILE:CG1	2.41	0.50
28:DF:33:LEU:HD11	28:DF:112:MET:HG2	1.94	0.50
31:DJ:58:UNK:O	31:DJ:60:UNK:N	2.44	0.50
35:DP:31:ALA:C	35:DP:33:ARG:H	2.20	0.50
50:D6:39:TYR:HB3	50:D6:49:HIS:CD2	2.46	0.50
59:DA:676:A:C8	59:DA:2443:C:H1'	2.46	0.50
59:DA:1985:G:C2	59:DA:1986:A:C8	3.00	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2658:C:H2'	59:DA:2659:G:O4'	2.11	0.50
1:AB:235:SER:HB2	1:AB:239:VAL:HG23	1.94	0.50
11:AL:45:PRO:HA	11:AL:92:ASP:HA	1.92	0.50
13:AN:7:ILE:HG22	13:AN:23:ARG:NE	2.27	0.50
17:AR:44:LEU:O	17:AR:45:SER:OG	2.26	0.50
19:AT:74:LYS:HG2	19:AT:75:ASN:OD1	2.11	0.50
20:AY:140:ASP:OD1	20:AY:262:SER:OG	2.29	0.50
21:AA:520:A:N6	21:AA:529:G:H1'	2.27	0.50
21:AA:1028(H):G:H2'	21:AA:1033:G:H8	1.77	0.50
24:AU:4:SER:HA	59:BA:1914:C:OP2	2.12	0.50
28:BF:103:LYS:HA	28:BF:106:ARG:CZ	2.42	0.50
28:BF:170:LEU:HD12	28:BF:172:TRP:HE1	1.76	0.50
32:BK:30:HIS:CD2	32:BK:30:HIS:C	2.89	0.50
59:BA:30:G:H2'	59:BA:31:C:C6	2.46	0.50
59:BA:787:U:OP1	59:BA:1780:A:N6	2.44	0.50
59:BA:861:A:H2'	59:BA:862:G:O4'	2.11	0.50
59:BA:926:A:H2'	59:BA:928:G:C8	2.46	0.50
59:BA:2212:A:H1'	59:BA:2215:G:C5	2.46	0.50
3:CD:173:TRP:HA	3:CD:186:LEU:HD12	1.92	0.50
7:CH:36:LEU:HD13	7:CH:61:VAL:HG11	1.93	0.50
8:CI:26:VAL:HG13	8:CI:61:ALA:HB3	1.94	0.50
9:CJ:33:GLN:N	9:CJ:75:ILE:HD11	2.25	0.50
21:CA:999:U:H2'	21:CA:1000:A:H8	1.77	0.50
22:CW:20(A):U:H1'	22:CW:21:A:OP1	2.12	0.50
20:CY:86:GLY:C	20:CY:88:VAL:H	2.19	0.50
20:CY:336:THR:HB	20:CY:339:SER:HB2	1.93	0.50
20:CY:541:ALA:HB1	20:CY:583:LYS:HD3	1.94	0.50
20:CY:649:LEU:HA	20:CY:652:MET:HB3	1.93	0.50
30:DH:18:GLU:HB3	30:DH:25:LYS:O	2.12	0.50
31:DJ:33:UNK:O	31:DJ:37:UNK:N	2.45	0.50
39:DT:53:ARG:NH1	59:DA:2684:U:OP1	2.45	0.50
59:DA:873:G:H1	59:DA:904:C:N4	2.09	0.50
59:DA:906:G:C2	59:DA:907:U:H1'	2.47	0.50
59:DA:1288:U:C2	59:DA:1327:C:C2	3.00	0.50
59:DA:2018:G:H2'	59:DA:2019:A:O4'	2.11	0.50
59:DA:2133:G:C2	59:DA:2158:A:N6	2.80	0.50
59:DA:2306:C:H3'	59:DA:2307:G:H8	1.76	0.50
60:DB:22:U:O2	60:DB:61:G:N2	2.40	0.50
6:AG:22:LEU:HG	6:AG:62:PHE:CE2	2.47	0.50
8:AI:106:ALA:C	8:AI:107:ARG:HG2	2.36	0.50
20:AY:680:PRO:HB2	20:AY:682:GLN:NE2	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:917:G:H2'	21:AA:918:A:O4'	2.12	0.50
21:AA:1376:U:H2'	21:AA:1377:A:C8	2.47	0.50
22:AW:17:U:H5'	22:AW:18:G:O5'	2.12	0.50
25:BC:32:GLU:HG3	25:BC:33:LEU:HD23	1.92	0.50
25:BC:132:LEU:HB2	25:BC:138:LEU:HD23	1.94	0.50
27:BE:82:ARG:HH22	59:BA:2638:G:P	2.34	0.50
28:BF:32:LEU:O	28:BF:36:VAL:HG23	2.11	0.50
29:BG:106:LEU:O	29:BG:111:LEU:HG	2.12	0.50
35:BP:101:VAL:HG12	35:BP:106:LEU:HD22	1.94	0.50
36:BQ:46:GLN:NE2	59:BA:2484:G:O3'	2.45	0.50
36:BQ:87:LYS:HB2	59:BA:2277:G:H5"	1.94	0.50
48:B3:49:LYS:HD2	59:BA:851:U:H5'	1.93	0.50
59:BA:536:A:H2'	59:BA:537:C:H6	1.76	0.50
59:BA:716:A:C2	59:BA:717:G:H1'	2.46	0.50
59:BA:1094:U:H1'	59:BA:1097:U:H5	1.76	0.50
59:BA:1248:G:C3'	59:BA:1249:U:H5"	2.42	0.50
9:CJ:17:ASP:HB2	9:CJ:70:ARG:NH1	2.27	0.50
12:CM:83:ASP:OD2	12:CM:84:ILE:HG13	2.12	0.50
21:CA:123:C:H5"	21:CA:311:C:O2'	2.12	0.50
21:CA:301:G:H2'	21:CA:302:G:H8	1.76	0.50
21:CA:925:G:H1	21:CA:1391:U:H3	1.59	0.50
21:CA:1126:U:H1'	21:CA:1280:A:C6	2.47	0.50
21:CA:1492:A:H5'	24:CU:6:5OH:NP	2.27	0.50
25:DC:84:ILE:O	25:DC:88:GLU:N	2.42	0.50
25:DC:211:ARG:CZ	25:DC:211:ARG:HB3	2.41	0.50
28:DF:67:GLN:NE2	59:DA:674:G:O2'	2.40	0.50
28:DF:157:VAL:HG13	28:DF:194:MET:HG2	1.93	0.50
34:DO:8:LEU:HB2	34:DO:82:ASN:O	2.11	0.50
39:DT:15:VAL:O	39:DT:17:THR:N	2.45	0.50
40:DU:40:PHE:HZ	41:DV:82:ARG:HH21	1.59	0.50
53:D9:10:ILE:HG13	53:D9:11:CYS:N	2.26	0.50
59:DA:516:C:H2'	59:DA:517:C:H6	1.74	0.50
59:DA:795:C:H2'	59:DA:796:C:C6	2.46	0.50
59:DA:846:C:H4'	59:DA:847:U:H5'	1.93	0.50
59:DA:971:C:O2'	59:DA:983:A:N3	2.40	0.50
59:DA:1410:G:H2'	59:DA:1411:C:C6	2.47	0.50
59:DA:1582:C:O2'	59:DA:1586:A:N3	2.45	0.50
59:DA:1651:G:H2'	59:DA:1652:A:C8	2.46	0.50
59:DA:2747:G:H21	59:DA:2757:A:H62	1.59	0.50
59:DA:2829:C:H2'	59:DA:2830:G:H8	1.74	0.50
60:DB:40:U:H3'	60:DB:41:U:C5'	2.40	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AC:65:ALA:HA	2:AC:100:ALA:HB3	1.93	0.50
9:AJ:5:ARG:HB2	9:AJ:5:ARG:HH11	1.77	0.50
9:AJ:40:LEU:HD11	21:AA:1280:A:H5'	1.94	0.50
15:AP:21:VAL:HG12	15:AP:34:GLU:H	1.75	0.50
15:AP:52:ASP:OD1	15:AP:55:ARG:HB2	2.12	0.50
17:AR:60:ALA:HB2	21:AA:834:C:H5"	1.93	0.50
21:AA:801:U:H2'	21:AA:802:A:H8	1.76	0.50
21:AA:1276:G:N3	21:AA:1282:C:O2'	2.44	0.50
22:AW:32:C:N3	22:AW:38:A:N6	2.58	0.50
25:BC:44:VAL:HB	25:BC:174:ALA:HB3	1.94	0.50
28:BF:157:VAL:O	28:BF:193:VAL:C	2.54	0.50
29:BG:128:ARG:NH1	59:BA:2316:C:H1'	2.27	0.50
33:BN:9:VAL:CG2	33:BN:39:ARG:HH12	2.19	0.50
47:B2:21:LEU:O	47:B2:24:LEU:HB3	2.12	0.50
48:B3:12:PRO:HG2	48:B3:13:ILE:HD13	1.94	0.50
56:B1:21:ARG:HD2	56:B1:22:GLY:C	2.36	0.50
59:BA:745:G:O6	59:BA:746:A:N6	2.44	0.50
59:BA:1478:G:H2'	59:BA:1479:G:H8	1.77	0.50
59:BA:1764:G:H2'	59:BA:1765:C:H6	1.77	0.50
59:BA:1923:U:H2'	59:BA:1924:C:C6	2.47	0.50
59:BA:1934:C:H2'	59:BA:1935:G:C8	2.45	0.50
59:BA:2171:A:H2'	59:BA:2172:U:C6	2.47	0.50
3:CD:93:PHE:O	3:CD:97:LEU:HB2	2.12	0.50
4:CE:20:GLN:HA	21:CA:922:G:H4'	1.94	0.50
4:CE:126:ARG:HE	21:CA:9:G:H5"	1.76	0.50
9:CJ:20:ALA:HB1	9:CJ:37:PRO:HB3	1.94	0.50
21:CA:636:U:H2'	21:CA:637:G:C8	2.47	0.50
21:CA:757:U:H2'	21:CA:758:G:O4'	2.12	0.50
21:CA:954:G:H2'	21:CA:955:U:O4'	2.12	0.50
21:CA:1028(C):G:N2	21:CA:1028(F):A:H8	2.02	0.50
21:CA:1206:G:H2'	21:CA:1207:G:O4'	2.12	0.50
26:DD:106:ILE:O	26:DD:108:PRO:HD3	2.12	0.50
26:DD:208:LYS:HG3	26:DD:210:GLY:H	1.77	0.50
27:DE:55:ASN:HB2	27:DE:74:PRO:O	2.12	0.50
33:DN:16:ILE:HG22	33:DN:17:ASP:H	1.77	0.50
33:DN:31:ALA:O	33:DN:33:LEU:N	2.45	0.50
34:DO:96:THR:HG23	34:DO:97:ARG:HG3	1.92	0.50
45:DZ:100:VAL:O	45:DZ:123:ASP:HA	2.12	0.50
46:D0:43:THR:H	59:DA:2331:G:H4'	1.77	0.50
59:DA:46:C:H42	59:DA:179:G:H1	1.58	0.50
59:DA:1230:C:H2'	59:DA:1231:G:H8	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1386:C:H2'	59:DA:1387:C:C6	2.47	0.50
59:DA:2085:C:H2'	59:DA:2086:U:O4'	2.12	0.50
59:DA:2314:C:H2'	59:DA:2315:G:H8	1.76	0.50
59:DA:2792:G:H1	59:DA:2804:C:H42	1.59	0.50
3:AD:200:GLU:HG3	3:AD:201:GLN:N	2.27	0.49
4:AE:17:ALA:HA	4:AE:26:PHE:HA	1.94	0.49
11:AL:90:VAL:C	11:AL:92:ASP:H	2.19	0.49
20:AY:34:TYR:HD1	20:AY:35:TYR:N	2.08	0.49
20:AY:98:MET:HE2	20:AY:104:ALA:HB2	1.93	0.49
21:AA:232:G:C2'	21:AA:233:C:H5'	2.42	0.49
21:AA:776:G:HO2'	21:AA:777:A:H8	1.59	0.49
26:BD:129:ASN:H	26:BD:193:VAL:CG1	2.25	0.49
26:BD:155:LEU:HD22	26:BD:155:LEU:H	1.77	0.49
27:BE:32:PRO:HA	27:BE:90:THR:HG23	1.94	0.49
32:BK:133:SER:HB3	59:BA:1088:A:N6	2.27	0.49
42:BW:25:ARG:NH2	59:BA:519:U:H4'	2.27	0.49
51:B7:42:LEU:C	51:B7:44:PRO:HD3	2.37	0.49
53:B9:31:LYS:HE2	59:BA:2478:A:OP1	2.11	0.49
59:BA:121:G:H4'	59:BA:149:A:H5'	1.93	0.49
59:BA:947:G:H1	59:BA:970:C:H42	1.60	0.49
59:BA:949:C:N4	59:BA:968:G:H1	2.09	0.49
59:BA:1095:A:H2'	59:BA:1096:A:C8	2.46	0.49
59:BA:1173:G:H5"	59:BA:1174:A:OP2	2.12	0.49
59:BA:1935:G:N2	59:BA:1964:G:O4'	2.45	0.49
59:BA:2273:A:H2'	59:BA:2274:A:C8	2.46	0.49
59:BA:2626:C:H2'	59:BA:2627:G:O4'	2.12	0.49
59:BA:2732:G:H3'	59:BA:2733:A:O4'	2.12	0.49
11:CL:95:GLY:C	11:CL:97:ARG:H	2.19	0.49
21:CA:340:U:H2'	21:CA:341:C:O4'	2.11	0.49
21:CA:810:C:H2'	21:CA:811:C:H6	1.77	0.49
21:CA:1070:U:H3	21:CA:1105:A:H61	1.60	0.49
21:CA:1172:C:H2'	21:CA:1173:G:H8	1.77	0.49
22:CW:63:C:H4'	25:DC:54:ARG:HH12	1.77	0.49
20:CY:72:CYS:HB2	20:CY:79:ILE:HD12	1.94	0.49
20:CY:542:VAL:HG23	20:CY:582:PHE:HB3	1.94	0.49
25:DC:140:ASN:O	25:DC:142:LYS:N	2.45	0.49
27:DE:78:LEU:O	27:DE:79:ARG:HD2	2.12	0.49
29:DG:101:ILE:HG12	57:D4:25:TYR:O	2.13	0.49
31:DJ:18:UNK:O	31:DJ:20:UNK:N	2.45	0.49
32:DK:117:THR:HB	59:DA:1081:U:O2'	2.11	0.49
34:DO:13:ASN:O	34:DO:15:GLY:N	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DP:68:GLN:NE2	52:D8:12:LYS:HG2	2.26	0.49
35:DP:77:ARG:CZ	35:DP:77:ARG:HB3	2.42	0.49
36:DQ:58:PHE:CZ	36:DQ:64:ILE:HD11	2.47	0.49
47:D2:56:GLN:O	47:D2:60:LEU:HG	2.12	0.49
59:DA:296:C:H2'	59:DA:297:C:C6	2.47	0.49
59:DA:705:A:H2'	59:DA:706:A:O4'	2.12	0.49
59:DA:1292:U:H2'	59:DA:1293:C:C6	2.47	0.49
59:DA:2243:U:H2'	59:DA:2244:U:H6	1.77	0.49
59:DA:2660:A:H2'	59:DA:2661:G:O4'	2.12	0.49
59:DA:2669:G:H2'	59:DA:2670:A:C8	2.46	0.49
1:AB:78:GLN:O	1:AB:81:VAL:HG22	2.12	0.49
2:AC:39:ILE:O	2:AC:43:LEU:HB2	2.12	0.49
11:AL:82:VAL:HB	11:AL:105:TYR:HB2	1.94	0.49
13:AN:32:SER:N	21:AA:976:G:OP1	2.45	0.49
20:AY:34:TYR:CG	20:AY:35:TYR:N	2.79	0.49
20:AY:87:HIS:O	20:AY:89:ASP:N	2.45	0.49
20:AY:148:LEU:O	20:AY:152:THR:OG1	2.28	0.49
20:AY:160:ARG:HG2	20:AY:162:VAL:HG23	1.93	0.49
21:AA:218:C:H4'	21:AA:458(C):G:N1	2.26	0.49
21:AA:963:G:N2	21:AA:972:C:O2	2.45	0.49
25:BC:76:LEU:HB2	25:BC:111:PHE:HB3	1.94	0.49
32:BK:115:LEU:HD21	32:BK:126:MET:SD	2.53	0.49
35:BP:25:SER:O	35:BP:30:THR:HG23	2.13	0.49
39:BT:67:SER:O	39:BT:69:GLY:N	2.45	0.49
40:BU:52:ARG:HH12	59:BA:560:C:C4'	2.24	0.49
45:BZ:34:ASN:O	45:BZ:34:ASN:ND2	2.41	0.49
51:B7:10:ARG:NH2	59:BA:1378:A:OP1	2.45	0.49
51:B7:42:LEU:O	51:B7:44:PRO:HD3	2.11	0.49
56:B1:13:ILE:HG13	56:B1:17:SER:CB	2.42	0.49
59:BA:250:G:H2'	59:BA:251:A:C8	2.47	0.49
59:BA:601:C:O2'	59:BA:605:C:H5"	2.13	0.49
59:BA:1427:A:H4'	59:BA:1428:C:O4'	2.12	0.49
6:CG:99:LEU:HD13	6:CG:103:TRP:CZ2	2.47	0.49
11:CL:32:PHE:O	11:CL:84:LEU:HG	2.11	0.49
21:CA:634:C:H2'	21:CA:635:G:C8	2.45	0.49
21:CA:1085:U:H3'	21:CA:1086:U:C5	2.42	0.49
20:CY:610:VAL:O	20:CY:642:VAL:HA	2.12	0.49
25:DC:45:HIS:N	25:DC:213:VAL:O	2.43	0.49
25:DC:78:ILE:HG13	25:DC:101:ILE:HD13	1.93	0.49
27:DE:33:VAL:HG21	27:DE:36:ARG:NH2	2.27	0.49
28:DF:136:THR:HA	28:DF:166:ALA:HB1	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:DH:28:GLY:HA3	30:DH:79:VAL:HB	1.93	0.49
30:DH:86:GLU:H	30:DH:86:GLU:CD	2.21	0.49
35:DP:88:LEU:O	35:DP:91:PHE:N	2.45	0.49
35:DP:96:THR:HA	35:DP:126:VAL:HB	1.93	0.49
37:DR:36:THR:OG1	37:DR:37:THR:N	2.44	0.49
39:DT:20:PRO:HD2	39:DT:85:LYS:HZ3	1.78	0.49
39:DT:88:ILE:HG22	39:DT:89:VAL:N	2.27	0.49
45:DZ:48:PHE:CZ	45:DZ:71:VAL:HG11	2.46	0.49
59:DA:174:C:H2'	59:DA:175:G:O4'	2.12	0.49
59:DA:1056:G:H4'	59:DA:1086:A:C8	2.48	0.49
59:DA:1839:G:H2'	59:DA:1840:G:H8	1.76	0.49
59:DA:1955:U:O2'	59:DA:1956:U:H5'	2.13	0.49
59:DA:2591:C:H2'	59:DA:2592:G:C8	2.46	0.49
2:AC:9:GLY:O	13:AN:58:LYS:HG3	2.12	0.49
7:AH:1:MET:HB3	21:AA:824:C:H4'	1.94	0.49
16:AQ:6:LEU:HD13	16:AQ:23:VAL:HG11	1.94	0.49
20:AY:456:GLU:HG3	20:AY:657:THR:HB	1.93	0.49
21:AA:712:A:H2'	21:AA:713:G:C8	2.47	0.49
21:AA:1085:U:H3'	21:AA:1086:U:C5	2.47	0.49
21:AA:1347:G:O2'	21:AA:1348:U:OP2	2.30	0.49
25:BC:177:GLY:O	25:BC:181:PHE:HB2	2.13	0.49
28:BF:51:THR:N	28:BF:92:PRO:HG2	2.27	0.49
28:BF:182:ASN:HD21	28:BF:184:TYR:HB3	1.78	0.49
56:B1:13:ILE:HG13	56:B1:17:SER:HB2	1.94	0.49
59:BA:118:A:C8	59:BA:119:A:C8	3.00	0.49
59:BA:960:A:H8	59:BA:960:A:O5'	1.95	0.49
59:BA:980:A:N6	59:BA:981:A:N1	2.59	0.49
59:BA:1289:C:O2'	59:BA:1330:C:H4'	2.12	0.49
59:BA:1844:C:H42	59:BA:1896:G:H1	1.60	0.49
59:BA:2231:C:H2'	59:BA:2232:U:O4'	2.12	0.49
59:BA:2526:G:H2'	59:BA:2527:C:C6	2.46	0.49
5:CF:35:ALA:HB1	5:CF:65:VAL:HG21	1.93	0.49
6:CG:35:LYS:NZ	21:CA:1289:A:O2'	2.42	0.49
8:CI:108:VAL:O	8:CI:110:GLU:N	2.45	0.49
11:CL:118:SER:CB	21:CA:35:G:H21	2.25	0.49
21:CA:302:G:N3	21:CA:556:C:H4'	2.27	0.49
21:CA:694:A:H2'	21:CA:695:A:O4'	2.12	0.49
20:CY:28:THR:O	20:CY:32:ILE:HG12	2.13	0.49
20:CY:103:GLY:HA2	20:CY:131:PRO:HD2	1.93	0.49
20:CY:428:LEU:HD22	20:CY:440:VAL:HG11	1.94	0.49
20:CY:536:LYS:H	20:CY:536:LYS:HD2	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:DC:22:THR:HA	25:DC:225:ILE:O	2.12	0.49
26:DD:172:TYR:HD1	26:DD:184:LYS:HB3	1.77	0.49
26:DD:202:LYS:HB3	59:DA:1820:U:C2	2.48	0.49
26:DD:246:PRO:HD3	59:DA:1902:C:H5'	1.94	0.49
26:DD:261:LYS:HD2	26:DD:264:LYS:HG2	1.94	0.49
27:DE:113:PHE:CE1	59:DA:1655:A:H1'	2.47	0.49
36:DQ:21:THR:OG1	36:DQ:99:PRO:O	2.29	0.49
41:DV:4:ILE:HD11	41:DV:13:ARG:HG3	1.93	0.49
49:D5:15:ARG:HG2	59:DA:2021:C:OP1	2.13	0.49
51:D7:41:ARG:HB3	59:DA:463:G:O6	2.12	0.49
53:D9:19:ARG:HD3	59:DA:2756:U:OP2	2.11	0.49
59:DA:303:U:O4	59:DA:314:A:N1	2.45	0.49
59:DA:1799:G:N2	59:DA:1818:U:O2'	2.46	0.49
59:DA:2270:G:H2'	59:DA:2271:G:O4'	2.12	0.49
59:DA:2282:G:H1	59:DA:2427:C:N4	2.05	0.49
1:AB:118:LEU:HD13	1:AB:142:LEU:HD23	1.94	0.49
16:AQ:82:MET:O	16:AQ:84:LEU:N	2.46	0.49
17:AR:74:ARG:HH21	17:AR:81:PHE:HD2	1.61	0.49
19:AT:80:ARG:NH2	21:AA:260:G:OP1	2.45	0.49
20:AY:679:VAL:O	20:AY:681:LYS:N	2.45	0.49
21:AA:695:A:H2'	21:AA:696:A:C8	2.47	0.49
21:AA:1516:G:N2	21:AA:1519:A:OP2	2.43	0.49
25:BC:196:ALA:HA	25:BC:199:ALA:HB3	1.94	0.49
28:BF:89:VAL:HG23	28:BF:90:PHE:N	2.27	0.49
29:BG:41:GLN:HB2	29:BG:90:LEU:HB3	1.95	0.49
33:BN:115:ARG:O	33:BN:118:LYS:HB2	2.12	0.49
35:BP:16:ARG:NH1	35:BP:16:ARG:O	2.45	0.49
39:BT:66:VAL:HA	39:BT:71:GLY:HA2	1.92	0.49
40:BU:92:ARG:HB2	41:BV:11:GLN:HB2	1.93	0.49
44:BY:8:LYS:H	44:BY:8:LYS:HD2	1.78	0.49
44:BY:8:LYS:NZ	44:BY:70:SER:HA	2.28	0.49
44:BY:16:ALA:HA	44:BY:21:LYS:HZ1	1.77	0.49
46:B0:23:VAL:HG12	46:B0:38:VAL:HG22	1.94	0.49
59:BA:448:U:O4	59:BA:582:G:N2	2.37	0.49
59:BA:1938:A:H2	59:BA:2590:A:N3	2.10	0.49
59:BA:1992:G:N2	59:BA:1996:C:O2	2.32	0.49
59:BA:2773:C:H2'	59:BA:2774:C:H6	1.77	0.49
60:BB:68:C:H3'	60:BB:69:G:H8	1.78	0.49
60:BB:113:C:H2'	60:BB:114:G:C8	2.47	0.49
1:CB:85:ALA:O	1:CB:89:GLY:N	2.45	0.49
9:CJ:54:PHE:CD1	9:CJ:55:LYS:HD2	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:CQ:10:VAL:HG12	16:CQ:54:GLY:H	1.78	0.49
21:CA:287:U:H2'	21:CA:288:A:H8	1.78	0.49
21:CA:803:G:C6	21:CA:804:U:C4	3.01	0.49
21:CA:894:G:H2'	21:CA:895:G:C8	2.47	0.49
22:CW:43:G:H2'	22:CW:44:G:C8	2.47	0.49
20:CY:85:PRO:HB3	20:CY:94:VAL:HG22	1.94	0.49
20:CY:512:ILE:HG22	20:CY:567:LEU:HD12	1.93	0.49
20:CY:573:HIS:HB3	20:CY:576:ASP:HB2	1.93	0.49
26:DD:92:ILE:HG22	26:DD:106:ILE:HA	1.93	0.49
28:DF:75:HIS:HD2	28:DF:82:ILE:HD12	1.77	0.49
42:DW:14:PRO:O	42:DW:17:VAL:N	2.46	0.49
48:D3:24:LYS:NZ	59:DA:931:G:O2'	2.45	0.49
57:D4:1:MET:HA	60:DB:43:C:H5"	1.95	0.49
59:DA:211:A:H2'	59:DA:212:G:O4'	2.11	0.49
59:DA:699:A:N3	59:DA:1633:G:O2'	2.37	0.49
59:DA:1029:A:N6	59:DA:1125:G:O2'	2.41	0.49
59:DA:1165:U:H3	59:DA:1184:G:H1	1.61	0.49
59:DA:1531:C:H2'	59:DA:1532:C:C6	2.48	0.49
14:AO:25:THR:OG1	14:AO:26:GLU:N	2.42	0.49
16:AQ:15:MET:HB2	16:AQ:18:THR:HB	1.95	0.49
20:AY:39:ILE:HG22	20:AY:40:HIS:ND1	2.28	0.49
21:AA:50:A:H4'	21:AA:51:A:H5'	1.95	0.49
21:AA:68(G):G:O6	21:AA:68(H):G:N2	2.44	0.49
22:AW:28:A:O2'	22:AW:29:U:H5'	2.12	0.49
25:BC:61:GLY:HA3	25:BC:164:PHE:CD1	2.47	0.49
26:BD:182:LEU:HD12	26:BD:271:ILE:HG23	1.95	0.49
26:BD:224:ALA:N	59:BA:1826:G:OP1	2.37	0.49
28:BF:74:ARG:CZ	59:BA:674:G:H1'	2.42	0.49
28:BF:102:PRO:HA	59:BA:607:U:P	2.52	0.49
33:BN:12:ARG:O	33:BN:50:ASP:HB3	2.13	0.49
37:BR:96:ARG:N	37:BR:117:VAL:HG21	2.28	0.49
43:BX:8:ILE:HG23	43:BX:28:PHE:HB3	1.93	0.49
46:B0:16:SER:O	46:B0:18:ALA:N	2.46	0.49
49:B5:6:VAL:HG13	59:BA:2016:U:H1'	1.95	0.49
52:B8:61:LEU:HD21	59:BA:593:G:O2'	2.12	0.49
53:B9:3:VAL:HG13	53:B9:37:GLY:HA3	1.95	0.49
56:B1:66:HIS:NE2	59:BA:372:G:H5"	2.28	0.49
57:B4:2:LYS:NZ	60:BB:44:G:O6	2.45	0.49
59:BA:397:G:HO2'	59:BA:2230:G:H21	1.60	0.49
59:BA:774:A:O2'	59:BA:777:A:N3	2.39	0.49
59:BA:869:G:O2'	59:BA:870:A:H5'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:895:U:O4	59:BA:897:C:N4	2.45	0.49
59:BA:1628:G:H1	59:BA:1638:C:H42	1.60	0.49
59:BA:2290:G:H2'	59:BA:2291:U:O4'	2.13	0.49
59:BA:2356:C:H2'	59:BA:2357:U:O4'	2.13	0.49
59:BA:2616:C:H2'	59:BA:2617:C:H6	1.77	0.49
60:BB:21:G:C2	60:BB:22:U:H1'	2.47	0.49
15:CP:20:VAL:HG11	15:CP:32:TYR:HD1	1.78	0.49
16:CQ:51:TYR:HE1	16:CQ:76:LEU:HB2	1.77	0.49
21:CA:763:G:H2'	21:CA:764:C:H6	1.78	0.49
21:CA:1357:A:N6	21:CA:1358:U:O4	2.45	0.49
21:CA:1381:U:H2'	21:CA:1382:C:C6	2.46	0.49
21:CA:1409:C:H2'	21:CA:1410:G:C8	2.47	0.49
22:CW:65:U:H2'	22:CW:66:C:H6	1.77	0.49
20:CY:45:VAL:HB	20:CY:362:HIS:ND1	2.28	0.49
25:DC:46:ALA:CA	25:DC:212:SER:O	2.57	0.49
28:DF:112:MET:HA	28:DF:115:ALA:HB3	1.95	0.49
28:DF:154:VAL:HB	28:DF:173:VAL:HG13	1.94	0.49
28:DF:187:VAL:HG13	35:DP:5:ASP:N	2.28	0.49
28:DF:202:PHE:CE1	28:DF:206:ILE:HG13	2.48	0.49
29:DG:43:LEU:HB2	29:DG:88:ILE:HG21	1.95	0.49
31:DJ:51:UNK:O	59:DA:1084:A:H5'	2.12	0.49
33:DN:39:ARG:C	33:DN:41:ASP:N	2.71	0.49
43:DX:8:ILE:HG23	43:DX:28:PHE:HB3	1.94	0.49
58:De:52:ALA:H	58:De:53:PRO:HD2	1.76	0.49
59:DA:957:A:N1	59:DA:2458:G:H4'	2.27	0.49
59:DA:2049:G:N2	59:DA:2619:C:O2	2.41	0.49
1:AB:118:LEU:O	1:AB:122:PHE:HB2	2.13	0.49
10:AK:44:SER:HB3	10:AK:47:VAL:HG23	1.94	0.49
12:AM:81:LEU:HG	12:AM:88:ARG:HB2	1.94	0.49
12:AM:98:VAL:H	12:AM:99:ARG:NH2	2.10	0.49
16:AQ:45:HIS:HB3	16:AQ:72:ARG:HA	1.93	0.49
18:AS:62:ILE:HA	18:AS:66:MET:HE2	1.95	0.49
20:AY:96:ARG:O	20:AY:100:VAL:HG12	2.13	0.49
20:AY:304:ASP:C	20:AY:306:ASN:H	2.20	0.49
20:AY:309:LEU:HD13	20:AY:333:GLY:HA3	1.95	0.49
25:BC:60:ARG:N	25:BC:164:PHE:O	2.46	0.49
27:BE:93:VAL:O	27:BE:95:ILE:N	2.46	0.49
29:BG:46:ALA:HA	29:BG:49:ASP:HB2	1.94	0.49
35:BP:47:ASP:OD1	35:BP:49:ARG:HB2	2.13	0.49
37:BR:89:ASP:HA	37:BR:91:GLN:NE2	2.28	0.49
37:BR:105:ARG:NH1	42:BW:40:ASN:HA	2.23	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BS:85:VAL:H	38:BS:106:ARG:HG2	1.77	0.49
41:BV:22:VAL:HG23	41:BV:23:GLU:O	2.13	0.49
43:BX:53:LYS:HB3	43:BX:82:GLN:HB3	1.94	0.49
45:BZ:137:ILE:HG22	45:BZ:139:VAL:HG13	1.93	0.49
52:B8:36:LYS:HZ2	52:B8:37:SER:H	1.59	0.49
59:BA:857:C:N4	59:BA:858:U:O4	2.45	0.49
59:BA:919:G:C6	59:BA:920:G:C4	3.01	0.49
59:BA:1016:G:H2'	59:BA:1017:G:H8	1.77	0.49
59:BA:1437:C:H2'	59:BA:1438:U:C6	2.48	0.49
59:BA:1615:C:O2'	59:BA:1616:A:H5'	2.13	0.49
59:BA:2601:C:N4	59:BA:2603:G:O6	2.46	0.49
7:CH:11:THR:HG21	21:CA:876:G:H1'	1.93	0.49
11:CL:66:VAL:HG12	11:CL:67:THR:H	1.77	0.49
21:CA:1352:C:H2'	21:CA:1353:G:C8	2.46	0.49
21:CA:1402:C:H2'	21:CA:1403:C:O4'	2.13	0.49
20:CY:138:LYS:HG2	61:CY:701:GNP:C2	2.37	0.49
20:CY:203:GLU:O	20:CY:205:TYR:N	2.46	0.49
25:DC:64:SER:O	25:DC:64:SER:OG	2.29	0.49
26:DD:105:ILE:HD13	26:DD:106:ILE:HG22	1.93	0.49
26:DD:149:PRO:HG2	59:DA:2218:G:C4'	2.43	0.49
26:DD:168:ARG:HA	26:DD:173:VAL:HA	1.94	0.49
28:DF:41:LEU:HB3	59:DA:443:A:N6	2.28	0.49
28:DF:63:LYS:HA	28:DF:76:GLY:O	2.13	0.49
35:DP:55:ARG:HG3	35:DP:56:SER:O	2.12	0.49
36:DQ:37:LEU:HG	36:DQ:129:THR:HA	1.95	0.49
42:DW:38:TYR:CD2	49:D5:30:LEU:HD21	2.46	0.49
45:DZ:77:ASP:O	45:DZ:79:ARG:N	2.44	0.49
56:D1:88:LYS:HA	56:D1:91:LYS:HB3	1.93	0.49
59:DA:207:A:H2'	59:DA:208:C:O4'	2.12	0.49
59:DA:1210:A:H4'	59:DA:1211:U:O5'	2.12	0.49
59:DA:1667:G:O2'	59:DA:1991:U:O4	2.29	0.49
59:DA:1918:A:O2'	59:DA:1920:C:N4	2.45	0.49
59:DA:2079:U:H2'	59:DA:2080:G:O4'	2.13	0.49
5:AF:75:LEU:O	5:AF:79:LEU:HG	2.12	0.49
7:AH:17:THR:HG21	7:AH:80:ILE:HB	1.93	0.49
7:AH:94:TYR:CD2	21:AA:598:U:H4'	2.48	0.49
13:AN:45:ARG:HH22	21:AA:1059:C:H4'	1.77	0.49
20:AY:226:ASN:O	20:AY:230:LYS:HB2	2.13	0.49
20:AY:329:ARG:HD2	20:AY:374:LEU:HD11	1.94	0.49
21:AA:836:G:C6	21:AA:851:G:C6	3.01	0.49
21:AA:971:G:N2	21:AA:1363:A:OP2	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:1060:C:H2'	21:AA:1061:G:O4'	2.13	0.49
21:AA:1426:C:H2'	21:AA:1427:U:C6	2.48	0.49
26:BD:157:ARG:NH2	59:BA:1818:U:H6	2.11	0.49
26:BD:229:VAL:HG21	59:BA:793:A:H61	1.75	0.49
27:BE:136:ARG:HB3	59:BA:1657:C:OP1	2.12	0.49
40:BU:13:LYS:O	40:BU:16:LYS:HB3	2.13	0.49
42:BW:28:SER:HB3	42:BW:31:GLU:HG3	1.94	0.49
46:B0:4:LYS:HE2	46:B0:7:LEU:HD12	1.95	0.49
59:BA:37:C:H2'	59:BA:38:A:C8	2.47	0.49
59:BA:56:A:H2'	59:BA:57:C:O4'	2.12	0.49
59:BA:58:G:H1	59:BA:69:C:H42	1.59	0.49
59:BA:59:U:H4'	59:BA:73:A:N7	2.27	0.49
59:BA:531:C:H3'	59:BA:561:G:H21	1.77	0.49
59:BA:1047:G:O3'	59:BA:1048:A:H8	1.95	0.49
59:BA:1418:G:H21	59:BA:1580:A:N6	1.98	0.49
59:BA:1491:G:H5"	59:BA:1494:A:N7	2.27	0.49
59:BA:1889:A:H2'	59:BA:1890:A:C8	2.47	0.49
59:BA:2182:G:H2'	59:BA:2183:C:C6	2.48	0.49
59:BA:2437:U:H2'	59:BA:2438:U:C6	2.48	0.49
59:BA:2622:C:H2'	59:BA:2623:G:O4'	2.13	0.49
59:BA:2774:C:H2'	59:BA:2775:A:O4'	2.13	0.49
60:BB:95:U:H2'	60:BB:96:G:C8	2.47	0.49
8:CI:118:LYS:C	8:CI:120:ARG:H	2.21	0.49
11:CL:83:VAL:HB	11:CL:100:ILE:HG23	1.93	0.49
18:CS:50:ALA:HA	18:CS:59:PRO:HA	1.93	0.49
21:CA:272:C:H2'	21:CA:273:A:H8	1.78	0.49
21:CA:338:A:H3'	34:DO:97:ARG:NH1	2.28	0.49
21:CA:763:G:H2'	21:CA:764:C:C6	2.47	0.49
21:CA:813:U:H3'	21:CA:816:A:H62	1.78	0.49
21:CA:1343:G:N2	21:CA:1349:A:HO2'	2.09	0.49
21:CA:1493:A:H5'	21:CA:1494:G:O5'	2.13	0.49
32:DK:21:PRO:HG3	32:DK:25:PRO:HD3	1.93	0.49
33:DN:9:VAL:CG2	33:DN:39:ARG:HH12	2.17	0.49
35:DP:64:LYS:HZ1	59:DA:2417:C:P	2.36	0.49
39:DT:124:ASP:HB3	39:DT:125:ARG:HH21	1.78	0.49
43:DX:66:LEU:HD11	59:DA:64:A:N3	2.28	0.49
59:DA:270(C):A:O2'	59:DA:364:C:O2	2.24	0.49
59:DA:793:A:OP2	59:DA:2071:A:O2'	2.28	0.49
59:DA:842:G:H2'	59:DA:843:G:H8	1.77	0.49
59:DA:1416:G:H2'	59:DA:1417:C:C6	2.48	0.49
59:DA:1494:A:H4'	59:DA:1496:A:N1	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2592:G:H2'	59:DA:2593:U:O4'	2.12	0.49
59:DA:2671:A:H2'	59:DA:2672:G:C8	2.48	0.49
59:DA:2740:A:OP2	59:DA:2763:G:N2	2.37	0.49
2:AC:77:ILE:HD11	2:AC:103:VAL:HG21	1.94	0.49
10:AK:114:VAL:O	21:AA:675:A:O2'	2.31	0.49
11:AL:90:VAL:O	11:AL:92:ASP:N	2.41	0.49
15:AP:32:TYR:HH	21:AA:608:A:HO2'	1.58	0.49
18:AS:13:ASP:HA	18:AS:16:LEU:HB2	1.94	0.49
21:AA:712:A:H2'	21:AA:713:G:H8	1.77	0.49
21:AA:1003:G:N1	21:AA:1037:C:C2	2.60	0.49
21:AA:1028(B):C:N4	21:AA:1028(G):G:H1	2.11	0.49
21:AA:1345:U:C2	21:AA:1376:U:O2	2.65	0.49
21:AA:1434:A:H2'	21:AA:1435:G:O4'	2.12	0.49
25:BC:53:ARG:HE	25:BC:54:ARG:H	1.61	0.49
28:BF:37:VAL:HA	28:BF:40:GLN:NE2	2.25	0.49
32:BK:60:TYR:O	32:BK:62:ASP:N	2.43	0.49
42:BW:15:ARG:HD2	59:BA:1266:G:N7	2.28	0.49
42:BW:86:LEU:HD12	42:BW:87:PRO:HD2	1.95	0.49
43:BX:35:THR:OG1	43:BX:37:THR:N	2.45	0.49
59:BA:892:G:H2'	59:BA:893:C:C6	2.48	0.49
59:BA:1885:A:H2'	59:BA:1886:C:O4'	2.13	0.49
59:BA:2401:U:C4	59:BA:2415:G:O6	2.65	0.49
59:BA:2875:C:H2'	59:BA:2876:G:O4'	2.13	0.49
2:CC:108:ASN:HB3	2:CC:111:LEU:HD23	1.94	0.49
5:CF:15:ASP:HB3	5:CF:18:GLN:HG3	1.93	0.49
9:CJ:54:PHE:HB2	21:CA:1198:G:H21	1.78	0.49
10:CK:69:ALA:O	10:CK:73:MET:HG2	2.13	0.49
16:CQ:21:VAL:HG21	16:CQ:59:ILE:HG12	1.95	0.49
19:CT:57:ARG:NH1	19:CT:102:GLY:HA3	2.28	0.49
21:CA:27:G:H2'	21:CA:28:G:C8	2.48	0.49
21:CA:201(B):U:H5"	21:CA:201(C):U:OP1	2.12	0.49
21:CA:691:G:H2'	21:CA:692:U:C6	2.48	0.49
21:CA:1508:G:H2'	21:CA:1509:C:C6	2.48	0.49
20:CY:161:PRO:O	20:CY:256:THR:N	2.45	0.49
25:DC:214:TYR:O	25:DC:216:THR:HG22	2.13	0.49
28:DF:68:LYS:HG2	59:DA:2443:C:OP1	2.13	0.49
28:DF:124:LEU:O	28:DF:194:MET:HB2	2.13	0.49
28:DF:154:VAL:O	28:DF:156:LEU:N	2.46	0.49
28:DF:201:VAL:HG13	28:DF:205:ARG:CZ	2.43	0.49
31:DJ:58:UNK:HA	59:DA:1107:G:OP1	2.12	0.49
41:DV:95:LEU:O	41:DV:96:ILE:O	2.30	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:DW:17:VAL:O	42:DW:21:VAL:HG23	2.13	0.49
47:D2:55:ARG:HB3	47:D2:59:ARG:NH2	2.27	0.49
59:DA:137(B):G:H2'	59:DA:139:G:N7	2.27	0.49
59:DA:1417:C:N3	59:DA:1581:G:N2	2.48	0.49
59:DA:2306:C:H3'	59:DA:2307:G:C8	2.47	0.49
59:DA:2828:C:H2'	59:DA:2829:C:C6	2.47	0.49
60:DB:89(A):G:H2'	60:DB:89(B):A:C8	2.48	0.49
1:AB:24:TRP:CZ3	1:AB:26:PRO:HA	2.48	0.49
6:AG:118:VAL:O	6:AG:122:HIS:HB2	2.12	0.49
11:AL:69:TYR:O	11:AL:70:ILE:HG23	2.12	0.49
15:AP:81:ARG:HG3	21:AA:474:G:H5'	1.94	0.49
16:AQ:46:ASP:OD2	16:AQ:50:LYS:HG2	2.13	0.49
23:AV:8:A:H2'	23:AV:9:G:H8	1.76	0.49
25:BC:178:LYS:O	25:BC:180:SER:N	2.37	0.49
28:BF:168:ARG:NH2	59:BA:321:G:O3'	2.44	0.49
29:BG:47:LYS:HA	29:BG:82:LEU:HG	1.95	0.49
31:BJ:52:UNK:CB	31:BJ:56:UNK:HA	2.43	0.49
34:BO:104:ARG:HH12	39:BT:35:LYS:HG3	1.76	0.49
37:BR:9:LYS:NZ	37:BR:39:PRO:HB3	2.26	0.49
42:BW:20:VAL:O	42:BW:23:LEU:HB3	2.12	0.49
42:BW:110:LYS:HE2	42:BW:111:HIS:NE2	2.27	0.49
43:BX:32:PRO:C	43:BX:34:ALA:H	2.20	0.49
51:B7:40:TRP:CZ2	59:BA:458:G:H1'	2.47	0.49
52:B8:60:LEU:HD13	52:B8:64:TYR:HA	1.94	0.49
59:BA:551:G:H2'	59:BA:552:G:C8	2.47	0.49
59:BA:573:G:O2'	59:BA:574:C:H3'	2.13	0.49
59:BA:1114:G:H2'	59:BA:1115:G:O4'	2.13	0.49
59:BA:1536:A:H5"	59:BA:1537:C:OP2	2.13	0.49
59:BA:1967:C:H2'	59:BA:1968:G:O4'	2.13	0.49
59:BA:2676:C:H2'	59:BA:2677:G:H8	1.78	0.49
1:CB:27:LYS:H	1:CB:27:LYS:HD2	1.77	0.49
1:CB:95:GLN:HG3	1:CB:147:LYS:O	2.13	0.49
7:CH:14:ARG:O	7:CH:17:THR:OG1	2.26	0.49
7:CH:64:LYS:HD2	7:CH:79:VAL:HG11	1.94	0.49
9:CJ:13:HIS:HB2	9:CJ:70:ARG:HH12	1.78	0.49
13:CN:57:ARG:O	13:CN:59:ALA:N	2.46	0.49
21:CA:137:C:N4	21:CA:226:G:H1	2.08	0.49
21:CA:1010:G:H1	21:CA:1019:C:H42	1.61	0.49
21:CA:1338:G:H2'	21:CA:1339:A:C8	2.48	0.49
20:CY:133:ILE:H	20:CY:133:ILE:HD13	1.78	0.49
20:CY:237:PRO:HB2	20:CY:242:LEU:HD21	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CY:257:PRO:O	20:CY:259:PHE:N	2.43	0.49
20:CY:512:ILE:H	20:CY:512:ILE:HD13	1.77	0.49
25:DC:169:THR:O	25:DC:171:ALA:N	2.46	0.49
26:DD:53:PHE:HZ	26:DD:221:VAL:HG12	1.78	0.49
28:DF:34:TRP:CE2	35:DP:12:ALA:HB2	2.47	0.49
28:DF:41:LEU:HB3	59:DA:443:A:H61	1.76	0.49
43:DX:28:PHE:HE1	43:DX:92:LEU:HD21	1.78	0.49
44:DY:8:LYS:NZ	44:DY:70:SER:HA	2.27	0.49
56:D1:42:GLN:OE1	59:DA:396:G:H1'	2.13	0.49
59:DA:68:G:H2'	59:DA:69:C:C6	2.47	0.49
59:DA:1213:A:N6	59:DA:1236:G:H1'	2.27	0.49
59:DA:1224:C:H5	59:DA:1225:G:C5	2.30	0.49
1:AB:139:LYS:HA	1:AB:142:LEU:HD12	1.94	0.49
2:AC:121:ALA:HB1	2:AC:189:ALA:HB2	1.95	0.49
2:AC:188:LEU:HD22	2:AC:188:LEU:H	1.77	0.49
7:AH:20:TYR:HA	7:AH:65:TYR:CZ	2.47	0.49
11:AL:37:CYS:HA	11:AL:58:VAL:H	1.77	0.49
13:AN:14:PRO:O	13:AN:16:PHE:N	2.46	0.49
20:AY:252:ASP:O	20:AY:253:LEU:HB2	2.12	0.49
20:AY:409:ILE:HD11	20:AY:657:THR:H	1.77	0.49
21:AA:687:A:H62	21:AA:703:G:H21	1.60	0.49
21:AA:947:G:H2'	21:AA:948:C:C6	2.47	0.49
27:BE:109:LYS:HB2	37:BR:2:ARG:NH2	2.28	0.49
32:BK:106:GLU:HA	32:BK:109:LYS:HB2	1.95	0.49
41:BV:28:GLU:HB2	41:BV:31:ALA:HB3	1.95	0.49
47:B2:69:ARG:HH22	59:BA:111:A:H4'	1.77	0.49
51:B7:39:ARG:NH1	51:B7:43:THR:H	2.09	0.49
53:B9:19:ARG:HG2	53:B9:20:HIS:CE1	2.48	0.49
56:B1:22:GLY:O	56:B1:23:LYS:HB2	2.12	0.49
59:BA:901:A:H2'	59:BA:902:C:C6	2.48	0.49
59:BA:1759:A:H1'	59:BA:2711:A:H2	1.76	0.49
59:BA:1841:U:H2'	59:BA:1842:G:C8	2.48	0.49
59:BA:1956:U:H1'	59:BA:2552:U:OP1	2.13	0.49
59:BA:2208:U:H2'	59:BA:2209:C:C6	2.48	0.49
59:BA:2494:G:H2'	59:BA:2495:G:C8	2.46	0.49
2:CC:130:VAL:O	2:CC:134:ILE:HB	2.13	0.49
3:CD:11:LEU:HA	3:CD:14:ARG:HB3	1.95	0.49
3:CD:86:LYS:NZ	3:CD:89:THR:HG23	2.28	0.49
4:CE:31:LEU:HA	4:CE:45:PHE:CB	2.43	0.49
6:CG:24:THR:HA	6:CG:27:ILE:HD12	1.94	0.49
7:CH:10:LEU:HB3	7:CH:83:ILE:HD12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:CJ:54:PHE:CE1	9:CJ:55:LYS:HD2	2.48	0.49
10:CK:111:ASP:HA	17:CR:84:LYS:HE3	1.95	0.49
11:CL:91:LYS:NZ	21:CA:526:C:OP2	2.45	0.49
21:CA:1003:G:N1	21:CA:1037:C:C2	2.64	0.49
21:CA:1304:G:C6	21:CA:1305:G:N1	2.81	0.49
21:CA:1520:G:H2'	21:CA:1521:G:H8	1.77	0.49
22:CW:5:A:H2'	22:CW:6:C:C6	2.47	0.49
20:CY:428:LEU:HA	20:CY:431:LEU:HB2	1.95	0.49
20:CY:489:LYS:HD3	20:CY:597:GLY:HA2	1.94	0.49
25:DC:28:ARG:HE	25:DC:183:PRO:CB	2.25	0.49
25:DC:114:VAL:O	25:DC:116:ALA:N	2.45	0.49
28:DF:155:LEU:HD13	28:DF:185:ASP:HB3	1.95	0.49
29:DG:99:MET:O	29:DG:102:PHE:HB3	2.13	0.49
32:DK:131:ALA:HB1	32:DK:136:VAL:HG13	1.94	0.49
32:DK:133:SER:HB3	59:DA:1088:A:N6	2.27	0.49
45:DZ:133:ILE:O	45:DZ:135:GLU:N	2.45	0.49
59:DA:52:A:OP2	59:DA:117:G:N1	2.38	0.49
59:DA:248:G:N3	59:DA:2431:U:H4'	2.27	0.49
59:DA:799:G:H2'	59:DA:800:A:C8	2.48	0.49
59:DA:1310:G:O6	59:DA:1311:G:N2	2.46	0.49
59:DA:1707:G:H1	59:DA:1751:C:N4	2.11	0.49
60:DB:78:A:H2'	60:DB:79:C:O4'	2.13	0.49
3:AD:21:LEU:O	3:AD:113:SER:OG	2.26	0.48
3:AD:59:ARG:NH1	3:AD:62:GLN:HB2	2.27	0.48
4:AE:110:LEU:HB3	4:AE:115:VAL:HB	1.95	0.48
4:AE:138:ALA:O	4:AE:142:LEU:HG	2.13	0.48
19:AT:51:GLU:O	19:AT:55:ILE:HG12	2.12	0.48
21:AA:68(I):G:O6	21:AA:68(Q):U:C4	2.65	0.48
21:AA:1503:A:N6	23:AV:14:A:H3'	2.20	0.48
26:BD:208:LYS:NZ	59:BA:729:G:O5'	2.45	0.48
28:BF:98:SER:OG	28:BF:99:TYR:N	2.45	0.48
51:B7:6:GLN:OE1	51:B7:7:PRO:HD2	2.12	0.48
59:BA:236:C:H2'	59:BA:237:C:H6	1.77	0.48
59:BA:383:U:H2'	59:BA:385:C:H5	1.77	0.48
59:BA:528:A:H2	59:BA:2043:C:H4'	1.78	0.48
59:BA:1000:A:OP2	59:BA:1154:G:N1	2.38	0.48
59:BA:1576:U:H2'	59:BA:1577:C:C6	2.48	0.48
59:BA:1728:G:H1'	59:BA:1732:A:N6	2.28	0.48
59:BA:2025:C:H2'	59:BA:2026:C:C6	2.47	0.48
59:BA:2259:G:H2'	59:BA:2260:C:C6	2.48	0.48
59:BA:2306:C:H5"	59:BA:2307:G:N7	2.27	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2650:U:H2'	59:BA:2651:C:H6	1.78	0.48
60:BB:15:A:H3'	60:BB:16:G:H8	1.78	0.48
5:CF:40:VAL:HA	5:CF:62:TRP:O	2.13	0.48
5:CF:72:VAL:HG13	5:CF:73:ASN:H	1.78	0.48
11:CL:39:VAL:HG12	11:CL:40:VAL:N	2.24	0.48
12:CM:116:THR:HG23	21:CA:1229:A:H5'	1.94	0.48
19:CT:88:VAL:HG12	19:CT:92:LEU:HG	1.95	0.48
21:CA:402:G:H5'	21:CA:621:A:H1'	1.95	0.48
21:CA:762:C:H2'	21:CA:763:G:H8	1.76	0.48
21:CA:1221:G:OP1	21:CA:1320:C:N4	2.46	0.48
20:CY:614:GLU:C	20:CY:617:MET:H	2.21	0.48
25:DC:40:GLU:HA	25:DC:218:THR:H	1.78	0.48
35:DP:21:ARG:HG3	59:DA:663:G:H5"	1.93	0.48
35:DP:122:PRO:HA	35:DP:141:ALA:O	2.13	0.48
38:DS:78:LEU:HG	38:DS:105:ALA:CB	2.43	0.48
39:DT:26:ASP:CG	39:DT:27:THR:H	2.20	0.48
40:DU:98:LEU:HD13	40:DU:99:ALA:N	2.27	0.48
41:DV:10:LYS:NZ	41:DV:23:GLU:OE1	2.45	0.48
56:D1:45:ASN:HB3	59:DA:397:G:OP1	2.12	0.48
57:D4:14:ILE:HG13	57:D4:22:ILE:HB	1.95	0.48
58:De:66:GLU:HB2	58:De:69:ALA:HB3	1.94	0.48
59:DA:108:U:H2'	59:DA:109:G:C8	2.46	0.48
59:DA:389:G:H1'	59:DA:2412:A:N3	2.28	0.48
59:DA:1403:C:H5"	59:DA:1471:A:C1'	2.43	0.48
59:DA:1479:G:H2'	59:DA:1480:G:H8	1.77	0.48
59:DA:2305:A:N1	59:DA:2306:C:H1'	2.28	0.48
59:DA:2376:A:H2'	59:DA:2377:A:O4'	2.13	0.48
7:AH:94:TYR:CG	21:AA:598:U:H4'	2.48	0.48
10:AK:30:VAL:HG21	10:AK:68:ALA:HB2	1.93	0.48
15:AP:63:GLY:HA3	21:AA:227:G:H21	1.78	0.48
16:AQ:86:GLU:O	16:AQ:90:ILE:HG13	2.12	0.48
20:AY:134:ALA:HB2	20:AY:258:VAL:HG12	1.95	0.48
21:AA:232:G:H21	21:AA:263:A:H2	1.61	0.48
21:AA:628:G:H2'	21:AA:629:G:O4'	2.13	0.48
21:AA:762:C:H2'	21:AA:763:G:C8	2.48	0.48
21:AA:1005:A:O3'	21:AA:1037:C:H4'	2.12	0.48
21:AA:1316:G:H2'	21:AA:1317:C:H5"	1.95	0.48
22:AW:66:C:H2'	22:AW:67:G:H8	1.78	0.48
25:BC:211:ARG:O	25:BC:213:VAL:N	2.46	0.48
26:BD:78:LYS:NZ	26:BD:79:VAL:O	2.42	0.48
26:BD:83:GLU:HG3	26:BD:92:ILE:HD11	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BP:27:HIS:CG	35:BP:28:GLY:N	2.80	0.48
35:BP:101:VAL:HB	35:BP:107:LYS:HA	1.94	0.48
36:BQ:111:GLU:O	36:BQ:115:MET:HG2	2.13	0.48
42:BW:16:LYS:O	42:BW:20:VAL:HG23	2.13	0.48
45:BZ:23:LYS:HG2	45:BZ:40:ASP:HA	1.95	0.48
47:B2:35:LEU:HD13	47:B2:50:ILE:HA	1.93	0.48
58:Be:99:VAL:HG23	58:Be:108:ALA:HA	1.94	0.48
59:BA:616:A:H4'	59:BA:617:G:OP1	2.12	0.48
59:BA:814:C:H2'	59:BA:815:C:C6	2.48	0.48
59:BA:1025:G:H8	59:BA:1025:G:OP1	1.95	0.48
59:BA:1049:C:H2'	59:BA:1050:A:H8	1.78	0.48
59:BA:1133:U:O4	59:BA:2026:C:H1'	2.13	0.48
59:BA:2147:G:H3'	59:BA:2147:G:H8	1.79	0.48
59:BA:2497:A:H8	59:BA:2497:A:OP2	1.96	0.48
5:CF:96:PRO:HA	17:CR:32:ARG:HB2	1.95	0.48
6:CG:92:SER:O	6:CG:96:GLN:HG3	2.12	0.48
10:CK:24:SER:OG	10:CK:25:TYR:N	2.46	0.48
14:CO:58:MET:HE1	21:CA:580:U:H5'	1.95	0.48
16:CQ:2:PRO:O	21:CA:127:G:O2'	2.30	0.48
18:CS:6:LYS:HD2	21:CA:1314:C:C6	2.47	0.48
18:CS:36:ARG:HB2	18:CS:72:GLY:HA3	1.95	0.48
21:CA:867:G:H2'	21:CA:868:C:H6	1.78	0.48
21:CA:1295:G:H21	21:CA:1302:U:H3	1.60	0.48
21:CA:1306:A:N6	21:CA:1331:G:O2'	2.46	0.48
20:CY:39:ILE:HG21	20:CY:76:ASP:OD2	2.12	0.48
20:CY:72:CYS:CB	20:CY:79:ILE:O	2.59	0.48
20:CY:139:MET:HB3	20:CY:174:PHE:HE1	1.78	0.48
20:CY:497:PHE:HB3	20:CY:507:TYR:HB2	1.95	0.48
20:CY:684:GLN:O	20:CY:688:ILE:N	2.47	0.48
29:DG:51:ARG:NE	29:DG:51:ARG:HA	2.28	0.48
32:DK:54:PRO:HB2	32:DK:70:LYS:HD3	1.94	0.48
37:DR:86:ARG:HD2	37:DR:118:GLU:HG2	1.94	0.48
43:DX:35:THR:O	43:DX:39:ILE:HG13	2.14	0.48
45:DZ:120:ILE:H	45:DZ:172:ALA:HA	1.78	0.48
52:D8:46:ARG:NH2	59:DA:630:G:OP1	2.46	0.48
58:De:71:LYS:HA	58:De:74:VAL:HB	1.95	0.48
59:DA:141(A):A:N6	59:DA:1595:G:O2'	2.47	0.48
59:DA:247:G:H4'	59:DA:386:G:C4	2.49	0.48
59:DA:766:C:H2'	59:DA:767:U:O4'	2.13	0.48
59:DA:1316:U:H2'	59:DA:1317:A:C8	2.48	0.48
1:AB:144:ARG:HH22	21:AA:1098:C:P	2.36	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AE:142:LEU:C	4:AE:143:ARG:HE	2.21	0.48
7:AH:34:GLU:HB3	7:AH:118:VAL:HG21	1.93	0.48
11:AL:70:ILE:HG22	11:AL:100:ILE:HD12	1.94	0.48
11:AL:124:LYS:HD2	11:AL:125:PRO:HD2	1.94	0.48
20:AY:133:ILE:H	20:AY:133:ILE:HD13	1.78	0.48
21:AA:518:C:H4'	21:AA:519:C:H6	1.78	0.48
21:AA:895:G:H2'	21:AA:896:C:C6	2.48	0.48
21:AA:999:U:O4	21:AA:1000:A:N6	2.46	0.48
21:AA:1057:G:H2'	21:AA:1058:G:O4'	2.12	0.48
21:AA:1087:G:H2'	21:AA:1088:G:H8	1.78	0.48
25:BC:45:HIS:HA	25:BC:172:ILE:O	2.13	0.48
25:BC:48:LEU:HD13	25:BC:50:ILE:CG1	2.39	0.48
25:BC:216:THR:HG21	59:BA:2176:A:H1'	1.95	0.48
26:BD:108:PRO:HB3	26:BD:143:HIS:CE1	2.48	0.48
27:BE:117:MET:CG	27:BE:136:ARG:HG3	2.42	0.48
28:BF:154:VAL:O	28:BF:174:VAL:O	2.31	0.48
30:BH:96:ALA:HB3	30:BH:128:PRO:HA	1.94	0.48
36:BQ:56:ARG:HD3	59:BA:2469:A:H4'	1.95	0.48
44:BY:17:SER:HB2	44:BY:71:LYS:HD2	1.94	0.48
45:BZ:19:ARG:HD3	45:BZ:84:GLU:HG3	1.95	0.48
46:B0:36:ILE:HG22	46:B0:60:PHE:HB3	1.95	0.48
53:B9:26:ILE:HG22	53:B9:27:CYS:H	1.79	0.48
59:BA:104:U:H3'	59:BA:105:C:H6	1.77	0.48
59:BA:1338:G:O2'	59:BA:1393:A:N1	2.34	0.48
59:BA:1608:A:O2'	59:BA:1610:A:OP2	2.30	0.48
59:BA:2040:C:H2'	59:BA:2041:U:H6	1.78	0.48
59:BA:2478:A:OP1	59:BA:2478:A:H8	1.97	0.48
11:CL:54:LYS:HD3	11:CL:70:ILE:CG1	2.32	0.48
11:CL:79:GLU:O	11:CL:80:HIS:ND1	2.47	0.48
11:CL:92:ASP:OD1	11:CL:92:ASP:N	2.45	0.48
12:CM:96:LEU:HB3	12:CM:97:PRO:HD2	1.93	0.48
21:CA:316:G:OP2	21:CA:351:G:O2'	2.30	0.48
21:CA:642:A:H2'	21:CA:643:C:C6	2.48	0.48
21:CA:1016:A:H2'	21:CA:1017:G:O4'	2.14	0.48
21:CA:1421:G:H2'	21:CA:1422:G:O4'	2.13	0.48
20:CY:83:ASP:N	20:CY:83:ASP:OD1	2.46	0.48
28:DF:57:VAL:C	28:DF:59:TYR:H	2.21	0.48
28:DF:110:LEU:HD23	28:DF:206:ILE:HD11	1.95	0.48
33:DN:57:ALA:O	33:DN:60:ILE:HG13	2.13	0.48
33:DN:111:PRO:O	33:DN:114:ARG:HG3	2.13	0.48
35:DP:53:GLY:C	35:DP:55:ARG:N	2.71	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:DS:106:ARG:NE	38:DS:108:GLY:HA2	2.23	0.48
39:DT:16:ARG:NH2	39:DT:83:ILE:O	2.44	0.48
40:DU:10:ARG:NH1	59:DA:583:G:OP2	2.47	0.48
42:DW:12:ILE:HD13	42:DW:12:ILE:HA	1.63	0.48
59:DA:1657:C:H2'	59:DA:1658:C:C6	2.48	0.48
59:DA:2399:G:H2'	59:DA:2400:G:O4'	2.12	0.48
1:AB:64:ARG:HE	1:AB:64:ARG:HB2	1.37	0.48
3:AD:6:GLY:O	3:AD:8:VAL:N	2.47	0.48
3:AD:28:SER:C	3:AD:30:LYS:H	2.22	0.48
3:AD:123:HIS:CE1	21:AA:438:G:H4'	2.49	0.48
11:AL:117:ARG:NH2	21:AA:501:C:OP2	2.37	0.48
18:AS:29:ARG:CZ	59:BA:889:C:H42	2.27	0.48
20:AY:467:LYS:NZ	20:AY:474:ALA:HB3	2.29	0.48
20:AY:519:ARG:NH2	20:AY:677:GLN:HB3	2.28	0.48
20:AY:603:GLU:OE2	20:AY:648:PRO:HB3	2.13	0.48
20:AY:652:MET:HE1	20:AY:669:PHE:HE2	1.78	0.48
21:AA:219:C:H2'	21:AA:220:G:C8	2.49	0.48
21:AA:1480:G:H2'	21:AA:1481:U:O4'	2.12	0.48
25:BC:47:LYS:HG3	25:BC:211:ARG:HH21	1.78	0.48
26:BD:132:PRO:HB2	26:BD:135:PHE:CD1	2.48	0.48
27:BE:61:ARG:O	27:BE:63:LEU:N	2.45	0.48
44:BY:8:LYS:HZ3	44:BY:70:SER:HA	1.77	0.48
47:B2:38:GLN:HG2	47:B2:41:ILE:HD13	1.94	0.48
49:B5:3:LYS:HE3	49:B5:5:PRO:HD2	1.94	0.48
59:BA:91:A:H2'	59:BA:92:G:O4'	2.12	0.48
59:BA:329:G:P	59:BA:329:G:H8	2.36	0.48
59:BA:1337:G:H2'	59:BA:1338:G:O4'	2.12	0.48
59:BA:1578:U:H2'	59:BA:1579:A:H8	1.77	0.48
4:CE:91:LEU:HD13	4:CE:120:THR:HB	1.94	0.48
5:CF:48:LEU:N	5:CF:56:PRO:O	2.46	0.48
5:CF:99:ALA:C	5:CF:101:ALA:H	2.21	0.48
14:CO:46:HIS:O	14:CO:48:LYS:N	2.46	0.48
19:CT:36:LEU:HB3	19:CT:59:ALA:HB2	1.95	0.48
21:CA:1003:G:O6	21:CA:1037:C:N3	2.46	0.48
20:CY:231:TYR:OH	58:De:90:LYS:NZ	2.47	0.48
34:DO:27:GLY:H	34:DO:30:ALA:HB2	1.79	0.48
37:DR:98:LEU:HD23	37:DR:99:LYS:HE3	1.96	0.48
39:DT:34:VAL:HG13	39:DT:39:ARG:HA	1.96	0.48
41:DV:81:TYR:CE2	59:DA:1187:G:H5"	2.49	0.48
42:DW:8:ARG:NH2	59:DA:24:G:O3'	2.46	0.48
59:DA:27:G:H1'	59:DA:513:A:H62	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:49:A:H5"	59:DA:51:G:O4'	2.12	0.48
59:DA:1510:A:H2'	59:DA:1511:A:O4'	2.13	0.48
59:DA:1800:C:O2'	59:DA:1818:U:O4	2.31	0.48
59:DA:2583:G:H2'	59:DA:2584:U:O4'	2.13	0.48
5:AF:98:LEU:HB2	17:AR:28:GLU:OE1	2.14	0.48
7:AH:38:ILE:HG21	7:AH:111:ILE:HG21	1.95	0.48
11:AL:15:ARG:NH1	21:AA:563:A:N3	2.61	0.48
14:AO:26:GLU:OE1	14:AO:77:ARG:HD3	2.14	0.48
20:AY:30:GLU:O	20:AY:33:LEU:CB	2.62	0.48
20:AY:193:GLY:C	20:AY:195:ASP:H	2.20	0.48
20:AY:519:ARG:NH1	20:AY:678:GLU:H	2.11	0.48
21:AA:145:G:H2'	21:AA:146:G:C8	2.49	0.48
21:AA:864:A:O2'	21:AA:1078:U:O4	2.32	0.48
21:AA:892:A:H2'	21:AA:893:C:H6	1.78	0.48
21:AA:1137:C:H4'	21:AA:1138:G:C4	2.48	0.48
21:AA:1432:G:O2'	21:AA:1433:A:H8	1.96	0.48
26:BD:51:VAL:HG21	26:BD:54:ARG:HG3	1.95	0.48
27:BE:173:VAL:H	27:BE:184:VAL:HA	1.79	0.48
28:BF:101:LEU:O	28:BF:106:ARG:NH2	2.41	0.48
28:BF:170:LEU:HB3	28:BF:173:VAL:HB	1.95	0.48
28:BF:180:GLY:HA3	59:BA:616:A:N3	2.29	0.48
36:BQ:76:LYS:NZ	59:BA:957:A:OP1	2.41	0.48
38:BS:15:ARG:O	38:BS:18:ILE:N	2.46	0.48
38:BS:16:ASN:HB3	38:BS:20:ARG:NH2	2.27	0.48
39:BT:23:ARG:O	39:BT:25:GLY:N	2.46	0.48
46:B0:9:SER:OG	46:B0:10:THR:N	2.45	0.48
51:B7:39:ARG:HA	51:B7:39:ARG:CZ	2.43	0.48
58:Be:111:ILE:HG22	58:Be:118:VAL:HG21	1.95	0.48
59:BA:373:U:H2'	59:BA:374:A:C8	2.47	0.48
59:BA:1029:A:N6	59:BA:1125:G:O2'	2.46	0.48
59:BA:1497:U:H5"	59:BA:1498:C:C5	2.49	0.48
59:BA:1638:C:H2'	59:BA:1639:U:O4'	2.14	0.48
3:CD:135:LEU:HD13	3:CD:135:LEU:HA	1.66	0.48
11:CL:117:ARG:NH2	21:CA:501:C:OP2	2.38	0.48
21:CA:670:G:H1	21:CA:736:C:N4	2.09	0.48
21:CA:1161:C:H2'	21:CA:1162:C:C6	2.48	0.48
21:CA:1440(J):C:O2'	21:CA:1440(K):G:N2	2.47	0.48
20:CY:138:LYS:HE2	61:CY:701:GNP:C8	2.41	0.48
20:CY:681:LYS:O	20:CY:685:GLU:N	2.44	0.48
25:DC:91:GLY:H	25:DC:154:ILE:HG21	1.78	0.48
26:DD:35:LYS:HZ2	26:DD:37:LEU:H	1.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:DG:84:LYS:H	29:DG:84:LYS:HD2	1.78	0.48
31:DJ:112:UNK:O	31:DJ:114:UNK:N	2.46	0.48
35:DP:61:ARG:O	52:D8:13:ARG:HD3	2.13	0.48
36:DQ:13:GLN:HG2	59:DA:954:G:O3'	2.13	0.48
40:DU:31:SER:OG	59:DA:581:C:OP1	2.23	0.48
45:DZ:69:THR:HG22	45:DZ:90:VAL:HA	1.95	0.48
59:DA:548:A:C2	59:DA:549:G:H1'	2.48	0.48
59:DA:1015:G:H2'	59:DA:1016:G:C8	2.49	0.48
59:DA:1036:G:H2'	59:DA:1037:G:H8	1.79	0.48
59:DA:1811:G:H2'	59:DA:1812:A:C8	2.48	0.48
59:DA:2115:G:N1	59:DA:2118:U:OP1	2.46	0.48
7:AH:81:HIS:HB2	7:AH:138:TRP:C	2.38	0.48
8:AI:20:ARG:N	8:AI:60:ASP:O	2.46	0.48
9:AJ:27:ALA:CB	9:AJ:34:VAL:HG21	2.43	0.48
9:AJ:36:GLY:HA3	21:AA:1123:A:H4'	1.95	0.48
10:AK:92:GLU:O	10:AK:95:ILE:HB	2.14	0.48
11:AL:43:VAL:HG12	11:AL:44:THR:H	1.77	0.48
13:AN:24:CYS:O	13:AN:28:GLY:N	2.43	0.48
16:AQ:45:HIS:HB3	16:AQ:72:ARG:HG2	1.95	0.48
18:AS:52:TYR:OH	21:AA:986:A:N3	2.37	0.48
20:AY:11:ARG:HG3	20:AY:12:LEU:HD22	1.96	0.48
20:AY:608:VAL:HG22	20:AY:669:PHE:HB2	1.95	0.48
21:AA:146:G:H2'	21:AA:147:G:O4'	2.14	0.48
25:BC:22:THR:C	25:BC:225:ILE:HB	2.39	0.48
26:BD:274:ARG:NH2	59:BA:1798:U:H3'	2.29	0.48
32:BK:97:GLY:O	32:BK:137:GLU:HG3	2.13	0.48
35:BP:46:LYS:HB3	35:BP:48:PRO:HA	1.95	0.48
35:BP:71:VAL:H	35:BP:72:PRO:CD	2.26	0.48
40:BU:10:ARG:O	40:BU:14:HIS:HB2	2.12	0.48
42:BW:79:GLY:C	59:BA:25:U:H4'	2.38	0.48
45:BZ:30:ASN:C	45:BZ:32:HIS:H	2.21	0.48
46:B0:47:PRO:HD3	46:B0:59:LEU:HD21	1.95	0.48
59:BA:27:G:N2	59:BA:513:A:OP2	2.46	0.48
59:BA:848:G:H2'	59:BA:849:A:C8	2.48	0.48
59:BA:1558:A:O3'	59:BA:1559:G:N2	2.34	0.48
59:BA:2162:G:H5"	59:BA:2173:A:OP2	2.13	0.48
2:CC:11:ARG:HE	2:CC:182:ILE:H	1.61	0.48
3:CD:177:ASP:HB2	3:CD:182:LYS:H	1.79	0.48
4:CE:88:LYS:HB3	4:CE:123:LEU:HB2	1.94	0.48
15:CP:9:PHE:HE2	15:CP:18:ARG:HB2	1.78	0.48
21:CA:59:A:N6	21:CA:331:G:O2'	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:258:G:H2'	21:CA:259:G:H8	1.78	0.48
21:CA:501:C:O2'	21:CA:549:C:O2	2.27	0.48
21:CA:701:C:OP1	21:CA:703:G:H5'	2.14	0.48
21:CA:1290:G:H2'	21:CA:1291:G:H8	1.79	0.48
21:CA:1440(C):G:H3'	21:CA:1440(D):A:H5'	1.96	0.48
21:CA:1537:U:O2'	21:CA:1538:C:OP1	2.30	0.48
22:CW:69:A:H2'	22:CW:70:G:H8	1.77	0.48
20:CY:17:ILE:H	20:CY:83:ASP:CB	2.27	0.48
20:CY:176:GLY:HA3	20:CY:187:THR:HA	1.95	0.48
26:DD:43:ARG:HG2	59:DA:691:C:O2'	2.14	0.48
26:DD:52:ARG:HE	26:DD:53:PHE:HE1	1.62	0.48
26:DD:227:ASN:HB2	26:DD:228:PRO:HD2	1.95	0.48
27:DE:134:ILE:HG12	27:DE:135:HIS:H	1.77	0.48
28:DF:125:LEU:CA	28:DF:194:MET:HB2	2.41	0.48
35:DP:64:LYS:HZ2	35:DP:64:LYS:HG3	1.47	0.48
37:DR:29:LEU:HB3	37:DR:75:LEU:HD12	1.95	0.48
41:DV:86:GLY:H	59:DA:1224:C:HO2'	1.58	0.48
59:DA:289:A:H2'	59:DA:290:G:O4'	2.13	0.48
59:DA:637:A:N1	59:DA:651:G:O2'	2.45	0.48
59:DA:702:G:H1	59:DA:730:C:N4	2.12	0.48
59:DA:848:G:N2	59:DA:933:A:H1'	2.28	0.48
59:DA:1464:C:H2'	59:DA:1465:G:C8	2.49	0.48
59:DA:2567:G:H2'	59:DA:2568:C:C6	2.49	0.48
2:AC:59:ARG:HH12	2:AC:97:LYS:HD2	1.78	0.48
3:AD:15:GLU:CD	3:AD:63:LYS:HG3	2.38	0.48
4:AE:51:VAL:HB	4:AE:52:PRO:HD3	1.95	0.48
9:AJ:44:VAL:HA	9:AJ:65:LEU:O	2.13	0.48
9:AJ:79:ARG:HH12	9:AJ:82:ILE:HD12	1.78	0.48
11:AL:10:LEU:HD21	11:AL:15:ARG:HE	1.79	0.48
12:AM:77:ASN:O	12:AM:81:LEU:HD22	2.14	0.48
19:AT:43:LEU:O	19:AT:46:GLU:HB3	2.14	0.48
20:AY:111:SER:C	20:AY:113:GLY:H	2.21	0.48
20:AY:164:MET:HE2	20:AY:279:TYR:HE2	1.79	0.48
21:AA:285:G:H2'	21:AA:286:G:H8	1.79	0.48
21:AA:658:G:H2'	21:AA:659:U:H6	1.77	0.48
21:AA:848:C:H2'	21:AA:849:C:C6	2.48	0.48
21:AA:1385:G:H2'	21:AA:1386:G:H8	1.78	0.48
22:AW:65:U:H2'	22:AW:66:C:C6	2.48	0.48
30:BH:85:LYS:HZ3	30:BH:140:LYS:C	2.21	0.48
33:BN:120:LEU:C	33:BN:121:LYS:HD2	2.39	0.48
36:BQ:2:LEU:HB3	36:BQ:69:PHE:CZ	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BT:60:THR:HG22	39:BT:77:PRO:HA	1.95	0.48
42:BW:78:GLU:HG3	42:BW:100:THR:O	2.13	0.48
48:B3:41:PRO:HA	48:B3:44:ARG:HB2	1.94	0.48
50:B6:53:LYS:HG3	50:B6:54:ILE:H	1.78	0.48
59:BA:565:C:H2'	59:BA:566:U:O4'	2.14	0.48
59:BA:144(B):A:H3'	59:BA:1445:C:H6	1.78	0.48
59:BA:1999:C:H4'	59:BA:2723:C:O2	2.13	0.48
59:BA:2258:C:O2'	59:BA:2426:A:H4'	2.14	0.48
1:CB:76:GLN:CD	1:CB:76:GLN:H	2.21	0.48
3:CD:55:ALA:HB2	21:CA:509:A:H5"	1.96	0.48
6:CG:140:ASP:HA	6:CG:143:ARG:HD2	1.96	0.48
7:CH:86:ILE:HD11	7:CH:136:GLU:HG3	1.96	0.48
21:CA:105:G:H2'	21:CA:106:C:H6	1.75	0.48
21:CA:186(L):G:H2'	21:CA:186(M):G:C8	2.49	0.48
21:CA:1103:C:H2'	21:CA:1104:G:O4'	2.14	0.48
20:CY:17:ILE:H	20:CY:83:ASP:HB3	1.79	0.48
28:DF:153:SER:HA	28:DF:172:TRP:O	2.14	0.48
30:DH:142:GLY:HA3	59:DA:2745:C:H4'	1.95	0.48
33:DN:54:VAL:N	33:DN:121:LYS:O	2.40	0.48
33:DN:61:ARG:HA	33:DN:61:ARG:NE	2.29	0.48
33:DN:91:LEU:HD23	33:DN:98:VAL:HG11	1.96	0.48
35:DP:59:LEU:HG	52:D8:13:ARG:NH1	2.28	0.48
35:DP:109:GLY:O	35:DP:111:ARG:N	2.46	0.48
40:DU:34:LYS:HZ3	59:DA:2018:G:N2	2.12	0.48
42:DW:41:LYS:HB3	42:DW:42:ARG:H	1.55	0.48
59:DA:56:A:H2'	59:DA:57:C:O4'	2.13	0.48
59:DA:184:C:H2'	59:DA:185:U:C6	2.49	0.48
59:DA:719:C:H2'	59:DA:720:C:C6	2.49	0.48
59:DA:775:G:C4	59:DA:794:G:C8	3.01	0.48
59:DA:1139:G:H2'	59:DA:1140:C:H6	1.79	0.48
59:DA:2074:U:H2'	59:DA:2075:U:C6	2.48	0.48
1:AB:107:THR:O	1:AB:110:GLN:HB2	2.14	0.48
1:AB:167:PRO:HD3	1:AB:187:LEU:O	2.14	0.48
4:AE:78:HIS:ND1	7:AH:104:ARG:HG3	2.27	0.48
8:AI:10:ARG:HD3	8:AI:75:ASP:HB3	1.96	0.48
12:AM:77:ASN:O	12:AM:80:ARG:HB2	2.14	0.48
14:AO:25:THR:O	14:AO:29:VAL:HG23	2.13	0.48
14:AO:32:LEU:O	14:AO:36:ILE:HG13	2.14	0.48
17:AR:59:SER:OG	17:AR:60:ALA:N	2.45	0.48
20:AY:32:ILE:O	20:AY:33:LEU:C	2.57	0.48
20:AY:552:SER:O	20:AY:591:LYS:NZ	2.33	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:186(E):C:N3	21:AA:186(L):G:N2	2.48	0.48
21:AA:947:G:O2'	21:AA:1306:A:H4'	2.14	0.48
21:AA:953:G:H2'	21:AA:954:G:O4'	2.12	0.48
23:AV:8:A:O2'	23:AV:9:G:OP1	2.26	0.48
25:BC:23:ILE:HG12	25:BC:225:ILE:HD12	1.96	0.48
26:BD:133:LEU:HG	26:BD:189:CYS:O	2.13	0.48
26:BD:133:LEU:C	26:BD:135:PHE:H	2.22	0.48
29:BG:107:LEU:HD11	29:BG:178:PHE:CE1	2.49	0.48
30:BH:158:HIS:CG	30:BH:159:GLU:N	2.79	0.48
32:BK:68:VAL:HG12	32:BK:70:LYS:HE3	1.96	0.48
40:BU:11:ARG:HG2	40:BU:15:LYS:HE2	1.95	0.48
40:BU:93:LYS:O	40:BU:96:ALA:HB3	2.14	0.48
41:BV:24:LYS:HD2	41:BV:90:PRO:HB2	1.96	0.48
41:BV:77:ALA:O	41:BV:79:VAL:N	2.41	0.48
44:BY:2:ARG:CZ	59:BA:106:C:H1'	2.44	0.48
52:B8:17:THR:HG21	59:BA:650:C:H4'	1.96	0.48
59:BA:144:C:H2'	59:BA:145:G:C8	2.49	0.48
59:BA:276:A:H2'	59:BA:277:C:C6	2.48	0.48
59:BA:807:U:H2'	59:BA:808:G:O4'	2.13	0.48
59:BA:1049:C:H1'	59:BA:1113:U:H4'	1.95	0.48
59:BA:1423:G:C2	59:BA:1424:G:C8	3.02	0.48
59:BA:1820:U:H5"	59:BA:1821:A:C8	2.48	0.48
59:BA:2065:C:H2'	59:BA:2066:C:C6	2.49	0.48
59:BA:2229:C:H2'	59:BA:2230:G:H8	1.78	0.48
59:BA:2365:G:O2'	59:BA:2366:A:O4'	2.30	0.48
59:BA:2889:C:H2'	59:BA:2891:G:O4'	2.13	0.48
1:CB:197:VAL:HG12	1:CB:200:ILE:HG13	1.96	0.48
5:CF:62:TRP:CG	17:CR:35:ARG:HH12	2.31	0.48
6:CG:51:GLN:NE2	6:CG:56:GLN:O	2.33	0.48
12:CM:51:ALA:O	12:CM:55:ARG:HG2	2.14	0.48
16:CQ:64:PRO:O	21:CA:265:G:H5'	2.14	0.48
21:CA:201(A):U:O2'	21:CA:201(B):U:H5'	2.14	0.48
21:CA:1313:U:H2'	21:CA:1314:C:O4'	2.14	0.48
25:DC:27:ALA:O	25:DC:31:LYS:HB2	2.14	0.48
28:DF:50:SER:HA	28:DF:92:PRO:HB2	1.95	0.48
34:DO:36:GLY:HA3	34:DO:109:LYS:HG3	1.95	0.48
38:DS:71:ARG:O	38:DS:74:ALA:HB3	2.13	0.48
41:DV:49:THR:OG1	41:DV:50:PRO:HD3	2.13	0.48
44:DY:19:LYS:HB2	59:DA:329:G:O6	2.13	0.48
49:D5:48:GLU:CD	49:D5:48:GLU:H	2.21	0.48
59:DA:98:G:H5'	59:DA:99:U:OP2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:138:G:N1	59:DA:139:G:O6	2.47	0.48
59:DA:271:G:H2'	59:DA:272:G:H8	1.78	0.48
59:DA:378:C:H2'	59:DA:379:G:C8	2.49	0.48
59:DA:649:G:H2'	59:DA:650:C:C6	2.49	0.48
59:DA:974(B):C:OP2	59:DA:975:G:H5"	2.13	0.48
59:DA:1005:C:H42	59:DA:1138:G:H1	1.62	0.48
59:DA:1259:G:H2'	59:DA:1260:G:H8	1.78	0.48
59:DA:1710:C:H4'	59:DA:2858:C:N3	2.29	0.48
59:DA:2306:C:H5"	59:DA:2307:G:C8	2.49	0.48
59:DA:2627:G:O2'	59:DA:2781:A:N1	2.42	0.48
3:AD:54:TYR:CE2	21:AA:508:C:H4'	2.49	0.48
6:AG:89:MET:HE3	6:AG:89:MET:HB2	1.76	0.48
7:AH:40:ALA:HA	7:AH:45:ILE:HG12	1.96	0.48
7:AH:44:PHE:HE1	7:AH:80:ILE:HA	1.78	0.48
8:AI:21:PRO:HA	8:AI:59:PHE:HA	1.96	0.48
8:AI:65:VAL:HG21	8:AI:73:GLN:HA	1.95	0.48
14:AO:33:THR:HA	14:AO:36:ILE:HD12	1.96	0.48
14:AO:74:ASP:O	14:AO:77:ARG:HG2	2.13	0.48
16:AQ:51:TYR:CE2	16:AQ:73:VAL:HG21	2.48	0.48
20:AY:616:TYR:O	20:AY:620:VAL:HG13	2.14	0.48
21:AA:54:C:H42	21:AA:357:G:H1	1.60	0.48
21:AA:309:G:H2'	21:AA:310:G:C8	2.37	0.48
21:AA:555:C:H2'	21:AA:556:C:C6	2.49	0.48
21:AA:609:A:H2'	21:AA:610:G:C8	2.49	0.48
21:AA:614:A:H2'	21:AA:615:C:C6	2.48	0.48
21:AA:945:G:H1	21:AA:1236:A:H61	1.62	0.48
25:BC:29:LEU:O	25:BC:33:LEU:HG	2.14	0.48
26:BD:108:PRO:HB3	26:BD:143:HIS:NE2	2.29	0.48
26:BD:224:ALA:HB2	26:BD:233:HIS:ND1	2.24	0.48
28:BF:3:GLU:CA	28:BF:24:LEU:HB2	2.44	0.48
33:BN:16:ILE:HD13	33:BN:137:LYS:HB2	1.94	0.48
33:BN:36:GLY:O	33:BN:42:TRP:HB2	2.14	0.48
36:BQ:104:PHE:CZ	36:BQ:125:LEU:HD11	2.49	0.48
44:BY:106:LEU:O	44:BY:107:ASP:HB2	2.13	0.48
45:BZ:19:ARG:NH1	45:BZ:84:GLU:HG3	2.29	0.48
59:BA:140:A:N6	59:BA:141(A):A:N1	2.62	0.48
59:BA:192:C:H3'	59:BA:193:U:H6	1.79	0.48
59:BA:242:G:O2'	59:BA:254:G:O6	2.25	0.48
59:BA:551:G:H2'	59:BA:552:G:H8	1.79	0.48
59:BA:901:A:H2'	59:BA:902:C:H6	1.79	0.48
59:BA:1588:C:H2'	59:BA:1589:C:H6	1.75	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1819:A:H4'	59:BA:1820:U:H5"	1.96	0.48
3:CD:25:ARG:C	3:CD:27:TYR:H	2.22	0.48
3:CD:67:ILE:O	3:CD:67:ILE:HG12	2.14	0.48
4:CE:145:LYS:O	4:CE:149:GLU:HG2	2.13	0.48
6:CG:66:VAL:O	6:CG:70:LYS:HG3	2.14	0.48
11:CL:69:TYR:C	11:CL:100:ILE:HG12	2.38	0.48
14:CO:29:VAL:HG22	14:CO:66:LEU:HB3	1.94	0.48
21:CA:128:G:H1	21:CA:233:C:H42	1.62	0.48
21:CA:458(A):G:O6	21:CA:458(C):G:H5"	2.13	0.48
21:CA:671:G:H1	21:CA:735:C:H42	1.60	0.48
21:CA:1102:A:H2'	21:CA:1103:C:C6	2.49	0.48
20:CY:630:GLN:O	20:CY:646:PHE:HB2	2.13	0.48
25:DC:8:TYR:CD1	25:DC:11:LEU:HB2	2.48	0.48
27:DE:12:THR:HG22	39:DT:58:ASN:HD21	1.78	0.48
29:DG:51:ARG:NH1	29:DG:54:GLU:HB2	2.29	0.48
29:DG:66:GLN:HB3	57:D4:6:HIS:NE2	2.29	0.48
30:DH:38:SER:C	30:DH:40:GLU:H	2.22	0.48
30:DH:98:LEU:HB2	30:DH:125:VAL:HB	1.96	0.48
35:DP:60:MET:HB3	59:DA:2392:A:H8	1.79	0.48
35:DP:132:LYS:N	35:DP:132:LYS:HD2	2.29	0.48
38:DS:13:ARG:HE	38:DS:13:ARG:H	1.61	0.48
39:DT:64:ARG:HH22	39:DT:103:ARG:HA	1.78	0.48
42:DW:82:LEU:HD13	42:DW:84:ARG:NE	2.29	0.48
45:DZ:9:TYR:CE1	45:DZ:35:ARG:HD3	2.48	0.48
59:DA:605:C:H1'	59:DA:657:U:O2'	2.14	0.48
59:DA:882:G:N1	59:DA:894:C:N4	2.45	0.48
59:DA:1669:A:H4'	59:DA:2549:G:H4'	1.95	0.48
1:AB:26:PRO:HB2	1:AB:27:LYS:NZ	2.28	0.48
4:AE:151:LEU:HB3	7:AH:79:VAL:HG22	1.96	0.48
8:AI:24:GLY:HA3	8:AI:57:GLY:HA2	1.95	0.48
9:AJ:91:PRO:HB3	9:AJ:94:VAL:HG12	1.96	0.48
11:AL:49:ASN:OD1	11:AL:49:ASN:N	2.47	0.48
11:AL:51:ALA:HB3	11:AL:53:ARG:NE	2.29	0.48
13:AN:7:ILE:O	13:AN:11:LYS:HB2	2.13	0.48
14:AO:23:GLY:HA3	21:AA:750:G:N3	2.29	0.48
15:AP:20:VAL:HG21	15:AP:32:TYR:CG	2.49	0.48
20:AY:448:GLN:NE2	20:AY:480:GLN:HG2	2.29	0.48
20:AY:511:LYS:HB2	20:AY:569:ASP:HB3	1.96	0.48
20:AY:601:ILE:HG22	20:AY:602:LEU:H	1.79	0.48
21:AA:1418:A:H1'	59:BA:1959:G:H1'	1.96	0.48
32:BK:102:GLU:C	32:BK:105:LEU:HD22	2.39	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BY:76:CYS:HB2	44:BY:96:ILE:HG13	1.95	0.48
49:B5:20:ARG:HA	49:B5:23:HIS:HD2	1.76	0.48
51:B7:41:ARG:HB3	59:BA:463:G:O6	2.14	0.48
59:BA:245:G:H2'	59:BA:246:C:C6	2.49	0.48
59:BA:1013:C:N3	59:BA:1149:G:N2	2.48	0.48
59:BA:1019:U:H2'	59:BA:1020:A:H8	1.73	0.48
59:BA:1384:A:N3	59:BA:1405:U:H1'	2.29	0.48
59:BA:2133:G:O2'	59:BA:2157:G:N2	2.46	0.48
59:BA:2838:G:C6	59:BA:2839:G:C5	3.02	0.48
60:BB:79:C:H2'	60:BB:80:U:O4'	2.13	0.48
60:BB:90:C:H2'	60:BB:91:C:H6	1.79	0.48
1:CB:111:ARG:NH1	21:CA:1104:G:H4'	2.28	0.48
3:CD:156:GLU:HB2	3:CD:157:LEU:HD12	1.96	0.48
12:CM:75:ALA:O	12:CM:79:LYS:HG3	2.14	0.48
14:CO:23:GLY:O	14:CO:28:GLN:NE2	2.38	0.48
21:CA:942:G:H2'	21:CA:943:U:C6	2.49	0.48
21:CA:975:A:H4'	21:CA:976:G:H5"	1.96	0.48
21:CA:1197:G:H8	21:CA:1197:G:H5'	1.79	0.48
22:CW:19:G:H4'	22:CW:20:U:C5	2.49	0.48
26:DD:12:SER:C	26:DD:14:ARG:H	2.22	0.48
26:DD:158:ALA:N	26:DD:161:THR:OG1	2.47	0.48
29:DG:66:GLN:HG2	57:D4:1:MET:HG3	1.95	0.48
30:DH:85:LYS:HG2	30:DH:141:VAL:HG13	1.95	0.48
32:DK:115:LEU:HB3	32:DK:116:ASN:H	1.54	0.48
34:DO:13:ASN:OD1	34:DO:96:THR:HG22	2.14	0.48
34:DO:23:ARG:NH2	34:DO:31:LYS:HG2	2.27	0.48
36:DQ:36:ALA:HB2	36:DQ:103:MET:SD	2.54	0.48
37:DR:39:PRO:HA	37:DR:42:LYS:HD2	1.95	0.48
38:DS:21:THR:O	38:DS:23:ARG:N	2.47	0.48
39:DT:16:ARG:HA	39:DT:16:ARG:HD2	1.54	0.48
43:DX:11:PRO:HB3	47:D2:37:PHE:HE2	1.79	0.48
45:DZ:25:PRO:HG2	45:DZ:85:HIS:HB2	1.95	0.48
48:D3:18:ASP:HB2	48:D3:49:LYS:HE3	1.96	0.48
50:D6:27:LYS:NZ	50:D6:29:ASN:HB3	2.26	0.48
59:DA:120:U:H4'	59:DA:122:G:OP2	2.13	0.48
59:DA:165:U:H2'	59:DA:171:G:O4'	2.13	0.48
59:DA:679:C:H2'	59:DA:680:G:C8	2.47	0.48
59:DA:839:U:H2'	59:DA:840:C:C6	2.48	0.48
59:DA:1007:C:H5"	59:DA:1008:C:P	2.54	0.48
59:DA:1591:G:H2'	59:DA:1592:C:C6	2.49	0.48
59:DA:1935:G:H3'	59:DA:1962:C:N4	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2706:G:H5”	59:DA:2851:A:H5”	1.96	0.48
59:DA:2851:A:H8	59:DA:2851:A:O5’	1.97	0.48
1:AB:19:HIS:CG	1:AB:20:GLU:N	2.80	0.47
2:AC:148:GLY:HA2	2:AC:171:GLY:HA3	1.96	0.47
6:AG:5:ARG:HG3	6:AG:6:ARG:H	1.79	0.47
7:AH:83:ILE:HG22	7:AH:137:VAL:HG13	1.96	0.47
14:AO:46:HIS:O	14:AO:47:LYS:HG2	2.13	0.47
20:AY:130:VAL:O	20:AY:132:ARG:HD3	2.14	0.47
20:AY:494:GLU:HG3	20:AY:496:LYS:HB2	1.96	0.47
21:AA:520:A:C2	21:AA:536:C:H1’	2.49	0.47
21:AA:621:A:H2’	21:AA:622:A:C8	2.49	0.47
21:AA:1003:G:N2	21:AA:1037:C:O2	2.47	0.47
30:BH:85:LYS:HD3	30:BH:141:VAL:HA	1.95	0.47
36:BQ:14:ARG:HH12	59:BA:958:U:H5’	1.79	0.47
37:BR:116:LEU:C	37:BR:117:VAL:HG23	2.39	0.47
40:BU:82:GLY:HA3	40:BU:113:ALA:HB1	1.96	0.47
41:BV:76:LYS:HB2	41:BV:81:TYR:HB3	1.94	0.47
42:BW:15:ARG:HD2	59:BA:1266:G:C8	2.48	0.47
44:BY:95:LYS:HG2	44:BY:101:LYS:H	1.79	0.47
50:B6:16:CYS:O	50:B6:18:ARG:N	2.47	0.47
59:BA:406:G:C4	59:BA:407:G:H1’	2.48	0.47
59:BA:772:C:H2’	59:BA:773:U:C6	2.49	0.47
59:BA:1022:G:H4’	59:BA:1023:U:H5’	1.96	0.47
59:BA:1936:A:OP1	59:BA:1961:C:N4	2.45	0.47
59:BA:2292:C:H5”	59:BA:2378:A:H61	1.79	0.47
59:BA:2412:A:H2’	59:BA:2413:G:O4’	2.14	0.47
59:BA:2588:G:C6	59:BA:2607:G:C2	3.02	0.47
59:BA:2688:U:H6	59:BA:2721:A:H62	1.61	0.47
1:CB:68:ILE:HG23	1:CB:161:ALA:C	2.38	0.47
4:CE:73:ASN:O	4:CE:73:ASN:ND2	2.40	0.47
6:CG:78:ARG:HG2	6:CG:85:TYR:HB2	1.96	0.47
7:CH:10:LEU:O	7:CH:13:ILE:HB	2.14	0.47
10:CK:79:SER:HA	10:CK:104:GLN:HB3	1.96	0.47
12:CM:20:THR:C	12:CM:22:ILE:H	2.21	0.47
12:CM:31:LYS:HA	12:CM:34:LEU:HD12	1.96	0.47
12:CM:74:VAL:O	12:CM:78:ILE:HG12	2.14	0.47
15:CP:2:VAL:HA	15:CP:23:ASP:HA	1.96	0.47
15:CP:53:VAL:O	15:CP:57:ARG:HB2	2.14	0.47
21:CA:122:G:H2’	21:CA:123:C:H6	1.78	0.47
20:CY:615:GLU:CD	20:CY:615:GLU:H	2.22	0.47
27:DE:27:LEU:HA	27:DE:181:LEU:HD13	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:DF:12:LEU:HD13	28:DF:17:ARG:HG2	1.95	0.47
28:DF:83:PHE:CD2	59:DA:1257:C:H4'	2.49	0.47
28:DF:117:ARG:O	28:DF:121:GLY:N	2.46	0.47
28:DF:193:VAL:O	28:DF:194:MET:CG	2.62	0.47
37:DR:48:VAL:O	37:DR:52:ILE:HG12	2.14	0.47
41:DV:15:GLU:HB3	41:DV:16:PRO:HD2	1.96	0.47
41:DV:87:HIS:CE1	59:DA:1163:G:H21	2.23	0.47
48:D3:5:LYS:HA	48:D3:35:ARG:O	2.14	0.47
50:D6:8:LYS:HD2	50:D6:27:LYS:HA	1.96	0.47
50:D6:20:ASN:OD1	50:D6:42:TRP:N	2.42	0.47
53:D9:13:LYS:O	53:D9:15:LYS:HD2	2.14	0.47
56:D1:45:ASN:HB2	59:DA:2230:G:O2'	2.14	0.47
59:DA:140:A:H2'	59:DA:141(A):A:H5"	1.96	0.47
59:DA:941:A:H3'	59:DA:942:G:H8	1.79	0.47
59:DA:1681:G:N3	59:DA:1762:A:H2'	2.29	0.47
59:DA:1786:A:H4'	59:DA:1787:A:OP2	2.12	0.47
59:DA:2525:G:H2'	59:DA:2526:G:H8	1.79	0.47
59:DA:2561:A:H2'	59:DA:2562:U:O4'	2.14	0.47
59:DA:2605:U:H2'	59:DA:2606:C:C6	2.49	0.47
59:DA:2742:C:H2'	59:DA:2743:C:H6	1.79	0.47
59:DA:2795:G:H3'	59:DA:2797:U:C5'	2.44	0.47
3:AD:54:TYR:CE2	3:AD:55:ALA:HB2	2.48	0.47
3:AD:103:ASN:HA	3:AD:106:TYR:HB3	1.95	0.47
5:AF:98:LEU:HD13	5:AF:101:ALA:HB3	1.95	0.47
9:AJ:35:SER:HB3	9:AJ:73:ASP:HB2	1.94	0.47
9:AJ:63:PHE:HB3	13:AN:56:VAL:HG12	1.96	0.47
10:AK:85:ARG:NH1	21:AA:707:C:H5"	2.29	0.47
20:AY:201:ILE:C	20:AY:203:GLU:H	2.22	0.47
20:AY:550:MET:O	20:AY:559:PRO:HA	2.14	0.47
21:AA:197:A:C6	21:AA:221:C:H4'	2.49	0.47
21:AA:866:C:O2'	21:AA:919:A:OP1	2.28	0.47
25:BC:15:VAL:HG23	25:BC:17:PRO:HD3	1.96	0.47
26:BD:231:HIS:CD2	26:BD:233:HIS:HB2	2.50	0.47
28:BF:17:ARG:H	28:BF:17:ARG:HG3	1.36	0.47
34:BO:70:LYS:HD3	59:BA:2728:U:OP1	2.14	0.47
42:BW:19:LEU:HB3	49:B5:25:LEU:HB2	1.95	0.47
42:BW:76:VAL:HA	42:BW:102:HIS:C	2.39	0.47
48:B3:31:LEU:HD23	48:B3:32:GLN:H	1.79	0.47
56:B1:18:ILE:H	56:B1:42:GLN:HB2	1.77	0.47
59:BA:220:G:H2'	59:BA:427:U:O4	2.14	0.47
59:BA:271(C):G:H1'	59:BA:271(D):U:OP2	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:324:A:N6	59:BA:338:G:O2'	2.46	0.47
59:BA:588:U:H2'	59:BA:589:C:O4'	2.14	0.47
59:BA:1290:C:H2'	59:BA:1291:C:C6	2.49	0.47
59:BA:2489:G:C6	59:BA:2490:G:N1	2.82	0.47
59:BA:2740:A:OP2	59:BA:2763:G:N2	2.44	0.47
1:CB:61:LEU:HD12	1:CB:64:ARG:HH21	1.79	0.47
1:CB:107:THR:O	1:CB:110:GLN:HB2	2.14	0.47
3:CD:15:GLU:HB3	3:CD:63:LYS:HE2	1.95	0.47
5:CF:82:ARG:HA	5:CF:82:ARG:CZ	2.44	0.47
7:CH:63:LEU:HD23	7:CH:65:TYR:CZ	2.49	0.47
7:CH:98:LYS:H	7:CH:98:LYS:HG2	1.44	0.47
11:CL:35:GLY:HA3	11:CL:83:VAL:O	2.14	0.47
11:CL:45:PRO:CA	11:CL:92:ASP:HB3	2.44	0.47
18:CS:78:ARG:HH12	21:CA:1223:C:P	2.37	0.47
21:CA:1015:A:H2'	21:CA:1016:A:C8	2.49	0.47
20:CY:25:LYS:CG	61:CY:701:GNP:O1B	2.45	0.47
20:CY:598:ASP:HA	20:CY:599:PRO:HD2	1.76	0.47
20:CY:621:ILE:HD13	59:DA:1095:A:O4'	2.13	0.47
29:DG:61:ALA:HA	29:DG:64:THR:HG22	1.96	0.47
33:DN:116:LEU:HD23	33:DN:119:ARG:HG3	1.96	0.47
40:DU:17:ILE:O	40:DU:20:LEU:HB2	2.13	0.47
44:DY:39:VAL:HB	44:DY:40:GLU:H	1.44	0.47
44:DY:68:HIS:CE1	44:DY:70:SER:H	2.32	0.47
45:DZ:72:ARG:NH2	60:DB:104:A:OP1	2.47	0.47
49:D5:22:HIS:NE2	59:DA:2045:C:H1'	2.29	0.47
51:D7:19:ARG:HD2	59:DA:125:G:OP2	2.14	0.47
59:DA:151:C:N4	59:DA:175:G:H1	2.11	0.47
59:DA:1407:C:N3	59:DA:1595:G:N2	2.49	0.47
59:DA:1709:U:H2'	59:DA:1710:C:C6	2.49	0.47
59:DA:1999:C:H4'	59:DA:2723:C:O2	2.14	0.47
2:AC:137:ALA:O	2:AC:141:VAL:HG23	2.14	0.47
6:AG:46:ALA:O	6:AG:50:ILE:HG13	2.13	0.47
7:AH:6:ILE:O	7:AH:9:MET:HB3	2.14	0.47
7:AH:7:ALA:HA	7:AH:10:LEU:HD12	1.96	0.47
8:AI:112:LYS:NZ	8:AI:113:LYS:O	2.44	0.47
8:AI:113:LYS:H	8:AI:119:ALA:HA	1.79	0.47
9:AJ:74:ILE:HD12	9:AJ:75:ILE:HD12	1.97	0.47
12:AM:3:ARG:NH2	12:AM:7:VAL:HG13	2.29	0.47
13:AN:18:VAL:HG11	21:AA:1316:G:H4'	1.96	0.47
14:AO:39:LEU:HB3	14:AO:56:LEU:HD13	1.95	0.47
20:AY:72:CYS:CB	20:AY:79:ILE:HB	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:584:G:H1	21:AA:757:U:H3	1.61	0.47
21:AA:1306:A:H2'	21:AA:1307:U:O4'	2.13	0.47
21:AA:1398:A:OP2	23:AV:22:A:N6	2.46	0.47
27:BE:151:TYR:HB2	27:BE:154:LYS:HD3	1.95	0.47
29:BG:105:LYS:HE3	57:B4:26:SER:HB3	1.96	0.47
44:BY:85:VAL:HG21	59:BA:297:C:H5"	1.97	0.47
46:B0:43:THR:HG22	59:BA:2331:G:O2'	2.14	0.47
52:B8:36:LYS:HZ3	52:B8:36:LYS:HA	1.78	0.47
52:B8:40:GLU:O	52:B8:44:LYS:N	2.47	0.47
56:B1:41:ARG:HE	56:B1:41:ARG:HB3	1.30	0.47
59:BA:408:G:C6	59:BA:409:C:C4	3.02	0.47
59:BA:471:A:N6	59:BA:472:A:N1	2.63	0.47
59:BA:566:U:H3	59:BA:575:A:N6	2.10	0.47
59:BA:797:C:H2'	59:BA:798:G:C8	2.50	0.47
59:BA:841:A:H2'	59:BA:842:G:H8	1.78	0.47
59:BA:1882:C:H2'	59:BA:1883:G:O4'	2.14	0.47
59:BA:2061:G:H5"	59:BA:2503:A:C2	2.49	0.47
59:BA:2147:G:H3'	59:BA:2147:G:C8	2.49	0.47
59:BA:2707:G:H2'	59:BA:2708:G:H8	1.79	0.47
4:CE:98:THR:HG1	21:CA:6:G:H22	1.56	0.47
9:CJ:24:VAL:HG13	9:CJ:34:VAL:HB	1.94	0.47
13:CN:35:ARG:HD3	13:CN:36:PHE:H	1.80	0.47
16:CQ:13:ASP:CG	16:CQ:14:LYS:H	2.22	0.47
17:CR:44:LEU:HD22	17:CR:79:LEU:HD22	1.97	0.47
21:CA:184:G:H1	21:CA:193:C:H42	1.62	0.47
21:CA:339:C:H2'	21:CA:340:U:H6	1.79	0.47
21:CA:939:G:H2'	21:CA:940:C:C6	2.49	0.47
21:CA:1178:G:N2	21:CA:1181:G:OP2	2.47	0.47
22:CW:66:C:H2'	22:CW:67:G:H8	1.78	0.47
20:CY:14:ASN:HB3	20:CY:102:ASP:H	1.78	0.47
20:CY:138:LYS:CE	61:CY:701:GNP:C5	2.85	0.47
26:DD:63:ARG:HD2	26:DD:85:ASP:CG	2.39	0.47
27:DE:144:ARG:HD3	59:DA:2572:A:C8	2.49	0.47
29:DG:34:LEU:HD22	29:DG:100:TRP:CZ2	2.49	0.47
32:DK:134:MET:HG2	59:DA:1063:G:H5'	1.96	0.47
33:DN:129:PRO:O	33:DN:131:GLN:N	2.44	0.47
48:D3:32:GLN:HB2	59:DA:1158:C:H4'	1.96	0.47
52:D8:47:LYS:HE2	59:DA:2361:A:P	2.54	0.47
59:DA:2037:G:H2'	59:DA:2038:G:H8	1.80	0.47
59:DA:2165:G:H2'	59:DA:2165:G:N3	2.29	0.47
60:DB:61:G:H2'	60:DB:62:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AB:221:LEU:HA	1:AB:224:GLN:HB3	1.96	0.47
2:AC:11:ARG:HD2	2:AC:15:THR:HB	1.95	0.47
2:AC:115:LEU:HA	2:AC:118:GLN:HB2	1.95	0.47
5:AF:42:GLU:HG2	5:AF:61:LEU:HB3	1.96	0.47
6:AG:31:MET:HG2	6:AG:32:ARG:N	2.28	0.47
6:AG:101:LEU:O	6:AG:105:VAL:HG23	2.15	0.47
6:AG:126:ASP:O	6:AG:131:LYS:N	2.46	0.47
8:AI:120:ARG:HB2	21:AA:1349:A:OP1	2.15	0.47
9:AJ:46:ARG:HE	21:AA:1253:G:H5'	1.79	0.47
12:AM:108:ARG:HD2	12:AM:108:ARG:N	2.30	0.47
16:AQ:12:SER:C	16:AQ:14:LYS:H	2.22	0.47
16:AQ:27:PHE:CE2	16:AQ:30:PRO:HD3	2.50	0.47
20:AY:72:CYS:O	20:AY:78:ARG:HA	2.14	0.47
21:AA:259:G:H2'	21:AA:260:G:C8	2.50	0.47
21:AA:691:G:H2'	21:AA:692:U:H6	1.79	0.47
21:AA:1440(J):C:O2'	21:AA:1440(K):G:H5"	2.13	0.47
23:AV:14:A:H5'	23:AV:15:A:OP2	2.15	0.47
25:BC:22:THR:HA	25:BC:225:ILE:HB	1.96	0.47
25:BC:77:ALA:HA	25:BC:114:VAL:O	2.14	0.47
29:BG:43:LEU:HB2	29:BG:88:ILE:CG2	2.45	0.47
33:BN:133:GLN:OE1	33:BN:135:PRO:HG3	2.13	0.47
34:BO:14:THR:HG23	34:BO:52:VAL:HG11	1.95	0.47
35:BP:53:GLY:C	35:BP:55:ARG:H	2.23	0.47
38:BS:51:ALA:CB	38:BS:73:LEU:HB2	2.45	0.47
38:BS:83:LYS:O	38:BS:106:ARG:HA	2.14	0.47
39:BT:47:GLY:HA3	39:BT:65:LYS:HB2	1.96	0.47
39:BT:82:LEU:C	39:BT:83:ILE:HG13	2.39	0.47
39:BT:84:GLN:O	39:BT:86:ILE:HG13	2.14	0.47
39:BT:100:TYR:HB2	59:BA:2718:G:OP1	2.14	0.47
47:B2:20:GLU:HA	47:B2:23:LYS:HD2	1.97	0.47
47:B2:59:ARG:H	47:B2:59:ARG:HG2	1.43	0.47
48:B3:29:ARG:NH2	59:BA:932:G:OP1	2.47	0.47
56:B1:76:ARG:NH1	56:B1:95:LEU:HD22	2.29	0.47
59:BA:59:U:H3	59:BA:68:G:H1	1.62	0.47
59:BA:127:A:H5"	59:BA:128:C:O4'	2.14	0.47
59:BA:648:G:H4'	59:BA:2351:G:H5"	1.95	0.47
59:BA:693:C:H42	59:BA:769:G:H1	1.63	0.47
59:BA:1050:A:H2'	59:BA:1051:G:O4'	2.13	0.47
59:BA:2570:G:C2	59:BA:2571:C:C2	3.02	0.47
1:CB:102:LEU:HD11	1:CB:159:PRO:HG2	1.96	0.47
8:CI:112:LYS:NZ	8:CI:113:LYS:O	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:CN:6:LEU:HB3	13:CN:23:ARG:HH22	1.79	0.47
21:CA:745:C:H5"	21:CA:851:G:O2'	2.14	0.47
21:CA:1247:U:H3	21:CA:1290:G:H1	1.62	0.47
20:CY:256:THR:O	20:CY:258:VAL:HG13	2.15	0.47
20:CY:344:THR:HB	20:CY:388:THR:HB	1.96	0.47
26:DD:168:ARG:HG2	26:DD:173:VAL:HG12	1.97	0.47
28:DF:88:VAL:HG13	28:DF:89:VAL:O	2.14	0.47
33:DN:35:ARG:NH1	59:DA:1007:C:H5'	2.29	0.47
42:DW:79:GLY:HA2	59:DA:25:U:H5'	1.96	0.47
45:DZ:7:ALA:HA	45:DZ:39:VAL:HG13	1.97	0.47
59:DA:27:G:H1'	59:DA:513:A:N6	2.30	0.47
59:DA:234:C:H2'	59:DA:235:U:C6	2.49	0.47
59:DA:856:C:H2'	59:DA:857:C:C6	2.49	0.47
59:DA:915:C:H2'	59:DA:916:G:O4'	2.15	0.47
59:DA:2080:G:H2'	59:DA:2081:C:C6	2.50	0.47
8:AI:18:PHE:HB2	8:AI:62:TYR:O	2.15	0.47
11:AL:57:LYS:O	11:AL:59:ARG:N	2.47	0.47
11:AL:81:SER:HA	11:AL:106:ASP:HB2	1.95	0.47
16:AQ:91:ARG:HG2	21:AA:583:A:H4'	1.97	0.47
17:AR:71:LYS:HD3	21:AA:719:C:H42	1.79	0.47
18:AS:77:THR:O	18:AS:79:THR:N	2.47	0.47
21:AA:68(P):C:H2'	21:AA:68(Q):U:H6	1.79	0.47
21:AA:782:A:O3'	21:AA:1515:C:H4'	2.14	0.47
21:AA:1151:A:HO2'	21:AA:1152:A:H8	1.62	0.47
21:AA:1218:C:H2'	21:AA:1219:U:C6	2.50	0.47
22:AW:7:G:O6	22:AW:49:A:N6	2.47	0.47
26:BD:244:ARG:HA	26:BD:245:PRO:HA	1.75	0.47
28:BF:84:VAL:HB	28:BF:85:GLY:H	1.43	0.47
33:BN:31:ALA:HA	33:BN:34:LEU:HD23	1.97	0.47
35:BP:48:PRO:O	35:BP:49:ARG:C	2.57	0.47
35:BP:81:GLN:HG2	35:BP:106:LEU:HG	1.97	0.47
37:BR:23:ASN:ND2	59:BA:1277:G:H1'	2.30	0.47
39:BT:19:LEU:HA	39:BT:20:PRO:HD3	1.79	0.47
41:BV:85:LYS:NZ	59:BA:815:C:OP1	2.35	0.47
44:BY:12:THR:HG23	44:BY:25:GLY:O	2.15	0.47
45:BZ:82:ARG:HB3	45:BZ:82:ARG:NH1	2.30	0.47
46:B0:70:GLN:HB3	46:B0:78:TYR:HB2	1.95	0.47
56:B1:45:ASN:ND2	59:BA:2230:G:H1'	2.30	0.47
59:BA:30:G:H2'	59:BA:31:C:O4'	2.15	0.47
59:BA:270(J):G:C6	59:BA:270(R):C:N4	2.76	0.47
59:BA:841:A:H2'	59:BA:842:G:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2134:A:N6	59:BA:2157:G:H1'	2.30	0.47
59:BA:2737:G:H2'	59:BA:2738:A:C8	2.50	0.47
59:BA:2803:C:H2'	59:BA:2804:C:O4'	2.15	0.47
3:CD:122:ARG:HE	21:CA:403:C:H4'	1.78	0.47
7:CH:129:VAL:HB	7:CH:130:GLY:H	1.60	0.47
9:CJ:16:LEU:HD11	9:CJ:70:ARG:HD3	1.97	0.47
16:CQ:58:GLU:CD	16:CQ:75:ARG:HE	2.23	0.47
21:CA:60:A:H62	21:CA:110:C:N4	2.12	0.47
21:CA:950:U:H2'	21:CA:951:G:H8	1.79	0.47
21:CA:1194:U:H2'	21:CA:1195:C:O4'	2.15	0.47
22:CW:36:U:C5	22:CW:37:A:N7	2.82	0.47
20:CY:183:MET:HE3	20:CY:210:ARG:HH21	1.79	0.47
20:CY:239:GLU:HA	20:CY:242:LEU:HD12	1.97	0.47
20:CY:406:GLU:HG3	20:CY:407:PRO:HD2	1.96	0.47
26:DD:45:ASN:O	26:DD:47:GLY:N	2.47	0.47
27:DE:100:GLU:O	27:DE:172:VAL:HG12	2.14	0.47
31:DJ:54:UNK:CA	31:DJ:79:UNK:HA	2.34	0.47
32:DK:21:PRO:HA	32:DK:23:VAL:H	1.79	0.47
33:DN:42:TRP:O	40:DU:64:ARG:CZ	2.63	0.47
34:DO:10:VAL:HG22	34:DO:17:ARG:O	2.15	0.47
36:DQ:12:GLN:HE21	36:DQ:72:LYS:HG3	1.79	0.47
38:DS:95:HIS:CE1	60:DB:48:A:H4'	2.50	0.47
41:DV:1:MET:HE2	41:DV:99:ILE:HG13	1.96	0.47
45:DZ:123:ASP:OD1	45:DZ:123:ASP:N	2.48	0.47
59:DA:210:C:H2'	59:DA:211:A:C8	2.49	0.47
59:DA:223:A:C8	59:DA:422:A:H1'	2.50	0.47
59:DA:454:A:H3'	59:DA:455:C:H6	1.79	0.47
59:DA:601:C:O2'	59:DA:605:C:H5"	2.15	0.47
59:DA:627:A:O4'	59:DA:637:A:N6	2.48	0.47
59:DA:959:A:O2'	59:DA:2457:U:O3'	2.30	0.47
59:DA:1259:G:H2'	59:DA:1260:G:C8	2.50	0.47
59:DA:1793:C:H2'	59:DA:1794:U:H6	1.76	0.47
59:DA:1975:G:H2'	59:DA:1976:U:O4'	2.15	0.47
1:AB:72:GLY:O	1:AB:94:ASN:HA	2.14	0.47
2:AC:155:GLY:HA3	2:AC:196:LEU:HB3	1.96	0.47
3:AD:62:GLN:O	3:AD:65:ARG:HG3	2.15	0.47
4:AE:28:PHE:CG	4:AE:51:VAL:HG22	2.50	0.47
5:AF:53:ALA:HB3	5:AF:86:ARG:NH1	2.29	0.47
7:AH:103:VAL:HB	7:AH:108:GLY:HA3	1.97	0.47
15:AP:32:TYR:OH	21:AA:608:A:O2'	2.30	0.47
16:AQ:38:ARG:HG2	21:AA:280:C:C2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:552:U:H2'	21:AA:553:A:O4'	2.14	0.47
21:AA:1492:A:H5"	24:AU:6:5OH:HP	1.96	0.47
25:BC:169:THR:C	25:BC:171:ALA:N	2.73	0.47
25:BC:214:TYR:CE1	59:BA:2177:C:H4'	2.49	0.47
28:BF:99:TYR:HE2	28:BF:101:LEU:HB2	1.80	0.47
29:BG:35:GLU:OE2	29:BG:160:VAL:HG12	2.15	0.47
29:BG:86:MET:N	29:BG:86:MET:SD	2.88	0.47
30:BH:153:LYS:HG3	30:BH:154:PRO:HD2	1.97	0.47
30:BH:175:LYS:HG2	30:BH:176:ALA:H	1.80	0.47
38:BS:39:ILE:CD1	38:BS:73:LEU:HD21	2.37	0.47
45:BZ:93:ASP:N	45:BZ:93:ASP:OD1	2.48	0.47
51:B7:40:TRP:NE1	59:BA:458:G:O2'	2.48	0.47
59:BA:414:C:H2'	59:BA:415:A:C8	2.49	0.47
59:BA:1528:A:N7	59:BA:1543:A:H2	2.13	0.47
59:BA:2267:A:H5"	59:BA:2268:A:C5'	2.44	0.47
59:BA:2534:A:H2'	59:BA:2535:G:O4'	2.13	0.47
59:BA:2702:U:H1'	59:BA:2703:C:H5	1.80	0.47
59:BA:2778:A:O2'	59:BA:2780:G:O2'	2.31	0.47
60:BB:76:G:H2'	60:BB:77:U:C6	2.49	0.47
2:CC:206:GLU:C	2:CC:208:ILE:H	2.22	0.47
3:CD:73:ARG:HB2	21:CA:546:G:OP1	2.14	0.47
6:CG:56:GLN:H	6:CG:56:GLN:CD	2.22	0.47
8:CI:92:TYR:O	8:CI:96:LEU:HB2	2.15	0.47
15:CP:28:ARG:NE	15:CP:29:ASP:OD1	2.36	0.47
17:CR:52:PRO:HG2	17:CR:55:ARG:HG2	1.95	0.47
21:CA:316:G:O3'	21:CA:353:A:N6	2.48	0.47
25:DC:59:VAL:HG12	25:DC:60:ARG:H	1.79	0.47
27:DE:36:ARG:NH2	27:DE:86:PRO:HG2	2.30	0.47
28:DF:195:ASP:OD2	28:DF:196:LEU:N	2.48	0.47
35:DP:16:ARG:HH12	59:DA:661:C:H4'	1.80	0.47
35:DP:49:ARG:O	35:DP:50:ARG:HB3	2.15	0.47
36:DQ:54:MET:HG3	36:DQ:121:ALA:HB2	1.96	0.47
37:DR:24:GLN:OE1	59:DA:1278:A:H5'	2.14	0.47
40:DU:102:GLU:HG2	41:DV:2:PHE:HE1	1.79	0.47
45:DZ:3:TYR:O	45:DZ:58:VAL:N	2.47	0.47
45:DZ:10:ARG:HH21	45:DZ:26:GLY:N	2.13	0.47
46:D0:27:GLU:HG3	46:D0:69:PHE:HD1	1.79	0.47
51:D7:3:ARG:HB3	51:D7:4:THR:H	1.55	0.47
59:DA:1201:C:H2'	59:DA:1202:C:H6	1.80	0.47
59:DA:1524:G:H2'	59:DA:1525:G:O4'	2.14	0.47
59:DA:2531:A:H3'	59:DA:2532:G:H8	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AB:71:VAL:HG11	1:AB:97:TRP:HD1	1.78	0.47
1:AB:217:ARG:O	1:AB:221:LEU:HB2	2.14	0.47
2:AC:3:ASN:N	2:AC:3:ASN:OD1	2.48	0.47
3:AD:10:ARG:HG2	3:AD:10:ARG:O	2.15	0.47
3:AD:25:ARG:O	3:AD:28:SER:N	2.45	0.47
3:AD:207:TYR:C	3:AD:209:ARG:H	2.22	0.47
5:AF:21:LEU:O	5:AF:25:ILE:HG12	2.14	0.47
5:AF:89:MET:SD	17:AR:76:LEU:HD21	2.55	0.47
7:AH:89:PRO:HA	7:AH:92:ARG:HH22	1.79	0.47
8:AI:102:LEU:O	21:AA:1179:A:H4'	2.14	0.47
20:AY:191:ASP:HB3	20:AY:265:LYS:HG2	1.95	0.47
20:AY:631:ILE:HG23	20:AY:643:ILE:HG23	1.95	0.47
20:AY:680:PRO:O	20:AY:682:GLN:N	2.47	0.47
21:AA:129(A):G:C6	21:AA:186(H):U:H4'	2.50	0.47
21:AA:589:C:O2'	21:AA:653:A:N6	2.40	0.47
21:AA:677:U:O2	21:AA:777:A:O2'	2.33	0.47
21:AA:1321:C:C3'	21:AA:1322:C:H5"	2.41	0.47
21:AA:1345:U:O2	21:AA:1376:U:C2	2.68	0.47
21:AA:1472:U:H2'	21:AA:1473:A:H8	1.80	0.47
25:BC:83:LYS:HD2	25:BC:148:PHE:CE1	2.50	0.47
25:BC:115:VAL:HB	25:BC:150:ILE:HG23	1.97	0.47
26:BD:142:VAL:HG23	26:BD:192:THR:O	2.14	0.47
26:BD:172:TYR:CD2	26:BD:186:HIS:HA	2.49	0.47
27:BE:110:GLY:HA2	27:BE:161:GLY:HA3	1.96	0.47
28:BF:92:PRO:HA	28:BF:95:ARG:NH2	2.26	0.47
29:BG:25:TYR:CZ	29:BG:32:PRO:HD3	2.49	0.47
29:BG:113:ARG:HB2	57:B4:34:GLU:OE1	2.13	0.47
29:BG:142:PRO:HG2	29:BG:143:GLU:OE1	2.15	0.47
33:BN:41:ASP:HA	40:BU:64:ARG:HE	1.79	0.47
33:BN:42:TRP:N	40:BU:64:ARG:NE	2.63	0.47
34:BO:68:GLU:N	34:BO:68:GLU:OE2	2.45	0.47
36:BQ:38:GLU:OE2	36:BQ:127:ILE:HB	2.15	0.47
39:BT:20:PRO:HD2	39:BT:85:LYS:HZ3	1.79	0.47
42:BW:21:VAL:O	42:BW:24:ILE:HG12	2.14	0.47
42:BW:22:ASP:HA	42:BW:25:ARG:HB2	1.96	0.47
42:BW:36:LEU:HB3	42:BW:48:ALA:HB2	1.96	0.47
43:BX:65:ARG:HB2	43:BX:70:LEU:HD23	1.96	0.47
44:BY:76:CYS:SG	44:BY:77:PRO:HD2	2.55	0.47
45:BZ:117:LEU:HD12	45:BZ:173:ALA:O	2.13	0.47
51:B7:19:ARG:CB	59:BA:125:G:H5"	2.44	0.47
56:B1:45:ASN:CG	56:B1:64:ALA:HB2	2.40	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:B1:58:ILE:HG12	56:B1:59:THR:N	2.28	0.47
58:Be:64:LEU:HD12	58:Be:115:LEU:HB3	1.96	0.47
59:BA:528:A:H2'	59:BA:2042:A:C2	2.50	0.47
59:BA:560:C:H2'	59:BA:561:G:C8	2.47	0.47
59:BA:746:A:H3'	59:BA:2612:C:C5	2.50	0.47
59:BA:807:U:C2	59:BA:808:G:C8	3.02	0.47
59:BA:860:U:H2'	59:BA:861:A:C8	2.46	0.47
59:BA:1257:C:H2'	59:BA:1258:C:C6	2.49	0.47
59:BA:1346:G:H1	59:BA:1600:C:N4	2.12	0.47
59:BA:1361:G:O6	59:BA:1370:C:N3	2.48	0.47
59:BA:1534:G:N2	59:BA:1536:A:OP1	2.48	0.47
59:BA:1708:C:H2'	59:BA:1709:U:C6	2.49	0.47
59:BA:2350:C:H2'	59:BA:2351:G:O4'	2.15	0.47
59:BA:2543:G:H2'	59:BA:2544:G:C8	2.50	0.47
59:BA:2756:U:H3	59:BA:2758:A:H62	1.62	0.47
59:BA:2768:C:H2'	59:BA:2769:C:O4'	2.14	0.47
59:BA:2850:A:H2'	59:BA:2851:A:H8	1.80	0.47
2:CC:174:PRO:HA	21:CA:1107:C:H5"	1.96	0.47
3:CD:100:ARG:HD2	3:CD:137:SER:HA	1.96	0.47
3:CD:193:ASP:C	3:CD:194:LEU:HD22	2.39	0.47
6:CG:74:GLU:OE2	6:CG:95:ARG:NH2	2.35	0.47
7:CH:83:ILE:HG12	7:CH:84:ARG:N	2.29	0.47
8:CI:24:GLY:HA2	8:CI:59:PHE:C	2.40	0.47
8:CI:111:ARG:CZ	21:CA:1187:G:H4'	2.44	0.47
9:CJ:16:LEU:HD21	9:CJ:70:ARG:HB2	1.97	0.47
9:CJ:79:ARG:CZ	9:CJ:79:ARG:HA	2.45	0.47
14:CO:26:GLU:OE1	14:CO:77:ARG:HD3	2.15	0.47
14:CO:39:LEU:HD22	14:CO:42:HIS:HB3	1.97	0.47
18:CS:14:HIS:NE2	21:CA:1014:A:H4'	2.29	0.47
18:CS:51:VAL:HG21	18:CS:71:LEU:HD22	1.97	0.47
21:CA:146:G:H1	21:CA:176:C:H42	1.62	0.47
21:CA:375:U:H2'	21:CA:376:G:C8	2.50	0.47
21:CA:768:A:H5'	21:CA:1524:C:O2'	2.15	0.47
21:CA:1003:G:C2	21:CA:1037:C:O2	2.65	0.47
21:CA:1011:G:H2'	21:CA:1012:U:O4'	2.14	0.47
21:CA:1506:U:H3'	23:CV:15:A:N6	2.30	0.47
20:CY:32:ILE:C	20:CY:34:TYR:H	2.10	0.47
20:CY:415:PRO:HD2	20:CY:421:GLN:OE1	2.14	0.47
26:DD:125:ILE:HG12	26:DD:137:PRO:CG	2.44	0.47
33:DN:17:ASP:OD2	33:DN:18:ALA:N	2.48	0.47
33:DN:78:TYR:CE1	59:DA:2642:G:H5'	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DP:23:PRO:HB3	35:DP:29:LYS:HB2	1.96	0.47
38:DS:56:LEU:O	38:DS:57:LYS:HB2	2.14	0.47
39:DT:36:GLU:HG3	39:DT:37:GLY:N	2.29	0.47
41:DV:74:LYS:HE3	41:DV:81:TYR:OH	2.14	0.47
48:D3:18:ASP:OD1	48:D3:19:GLN:HG2	2.15	0.47
51:D7:39:ARG:NH1	51:D7:39:ARG:HA	2.30	0.47
53:D9:3:VAL:HG21	59:DA:2539:C:H4'	1.97	0.47
59:DA:105:C:H2'	59:DA:106:C:C6	2.49	0.47
59:DA:761:A:O5'	59:DA:761:A:H8	1.97	0.47
59:DA:808:G:C6	59:DA:809:G:C6	3.02	0.47
59:DA:1394:U:H2'	59:DA:1395:A:O4'	2.15	0.47
59:DA:1479:G:H2'	59:DA:1480:G:C8	2.49	0.47
59:DA:1558:A:H4'	59:DA:1559:G:H21	1.79	0.47
59:DA:1674:G:H21	59:DA:1677:A:N6	2.11	0.47
59:DA:2379:G:H2'	59:DA:2380:C:C6	2.50	0.47
59:DA:2630:G:H2'	59:DA:2631:G:C8	2.49	0.47
59:DA:2707:G:H2'	59:DA:2708:G:C8	2.46	0.47
59:DA:2712:U:O2'	59:DA:712(B):A:O5'	2.31	0.47
2:AC:156:ARG:N	2:AC:196:LEU:HD12	2.29	0.47
6:AG:116:ALA:HA	6:AG:119:ARG:HG3	1.96	0.47
8:AI:71:SER:O	8:AI:74:ILE:HB	2.15	0.47
9:AJ:3:LYS:HG3	9:AJ:4:ILE:HD12	1.97	0.47
14:AO:46:HIS:O	14:AO:48:LYS:HG3	2.14	0.47
17:AR:69:THR:O	17:AR:72:ARG:HB2	2.14	0.47
19:AT:28:ALA:O	19:AT:31:SER:OG	2.27	0.47
20:AY:32:ILE:O	20:AY:34:TYR:C	2.57	0.47
20:AY:72:CYS:HB3	20:AY:79:ILE:CA	2.45	0.47
21:AA:346:G:H4'	39:BT:41:ARG:NH2	2.30	0.47
21:AA:1512:U:H2'	21:AA:1513:A:C8	2.49	0.47
26:BD:146:GLU:O	26:BD:148:GLU:N	2.42	0.47
29:BG:102:PHE:HZ	29:BG:157:ILE:HD13	1.80	0.47
29:BG:143:GLU:H	29:BG:143:GLU:CD	2.23	0.47
31:BJ:15:UNK:C	31:BJ:17:UNK:H	2.28	0.47
36:BQ:16:ARG:HG2	60:BB:90:C:OP1	2.15	0.47
37:BR:73:VAL:O	37:BR:77:ARG:HG3	2.14	0.47
37:BR:97:VAL:HG22	37:BR:114:VAL:HG13	1.97	0.47
40:BU:54:LYS:NZ	59:BA:994:C:H3'	2.29	0.47
44:BY:75:ILE:HA	44:BY:80:GLY:HA2	1.97	0.47
46:B0:24:LYS:HE3	46:B0:39:ARG:HG3	1.97	0.47
49:B5:2:ALA:HA	59:BA:2015:A:H1'	1.96	0.47
50:B6:9:LEU:HD13	50:B6:26:ASN:HB3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:B6:27:LYS:HZ3	50:B6:30:THR:H	1.62	0.47
52:B8:22:VAL:HB	52:B8:53:PRO:HB3	1.95	0.47
59:BA:29:U:H2'	59:BA:30:G:H8	1.76	0.47
59:BA:65:C:H2'	59:BA:66:C:H6	1.79	0.47
59:BA:623:G:H2'	59:BA:624:C:C6	2.50	0.47
59:BA:817:C:H2'	59:BA:818:G:O4'	2.15	0.47
59:BA:1118:C:H2'	59:BA:1119:C:O4'	2.15	0.47
59:BA:1268:A:H2'	59:BA:1269:A:O4'	2.15	0.47
59:BA:2663:G:H3'	59:BA:2664:G:H8	1.80	0.47
5:CF:76:ALA:O	5:CF:80:ARG:HG3	2.14	0.47
21:CA:978:A:O2'	21:CA:1322:C:N3	2.41	0.47
21:CA:1063:C:H42	21:CA:1193:G:H1	1.62	0.47
21:CA:1208:C:H2'	21:CA:1209:C:O4'	2.14	0.47
21:CA:1228:C:H2'	21:CA:1229:A:C8	2.48	0.47
20:CY:611:THR:HA	20:CY:642:VAL:HG22	1.96	0.47
29:DG:37:VAL:HB	29:DG:94:LEU:HB2	1.97	0.47
29:DG:81:LYS:HB3	29:DG:82:LEU:H	1.52	0.47
29:DG:109:VAL:C	29:DG:112:PRO:HD2	2.40	0.47
33:DN:99:LEU:O	33:DN:103:VAL:HG23	2.15	0.47
35:DP:63:PRO:HB3	52:D8:13:ARG:HG2	1.96	0.47
38:DS:85:VAL:HG23	38:DS:106:ARG:HH11	1.80	0.47
40:DU:53:ARG:NH1	59:DA:536:A:OP1	2.48	0.47
42:DW:69:LEU:HD22	42:DW:107:LEU:HD22	1.97	0.47
47:D2:21:LEU:HB3	47:D2:64:LEU:HD23	1.96	0.47
56:D1:41:ARG:HE	56:D1:41:ARG:HB3	1.41	0.47
59:DA:208:C:H2'	59:DA:209:C:H6	1.80	0.47
59:DA:273(D):C:H42	59:DA:363(D):G:H1	1.63	0.47
59:DA:2061:G:H1'	59:DA:2503:A:N7	2.30	0.47
1:AB:125:PRO:C	1:AB:127:ILE:H	2.22	0.47
3:AD:176:LEU:HA	3:AD:183:GLY:HA2	1.97	0.47
6:AG:42:ILE:HD13	6:AG:42:ILE:HA	1.84	0.47
6:AG:87:VAL:HG13	6:AG:155:ARG:HG2	1.97	0.47
7:AH:63:LEU:HD23	7:AH:65:TYR:CZ	2.48	0.47
8:AI:17:VAL:CG2	8:AI:80:GLY:HA3	2.40	0.47
16:AQ:62:SER:HB3	21:AA:186(I):U:O4	2.15	0.47
18:AS:73:GLU:HG2	21:AA:1320:C:H1'	1.97	0.47
21:AA:601:C:O2	21:AA:637:G:N1	2.37	0.47
21:AA:700:G:H2'	21:AA:700:G:N3	2.30	0.47
21:AA:713:G:H2'	21:AA:714:G:C8	2.50	0.47
21:AA:848:C:H2'	21:AA:849:C:H6	1.80	0.47
21:AA:894:G:H2'	21:AA:895:G:H8	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:947:G:O2'	21:AA:1306:A:O2'	2.31	0.47
21:AA:1260:C:OP1	21:AA:1284:C:O2'	2.30	0.47
21:AA:1263:C:H2'	21:AA:1264:C:O4'	2.14	0.47
25:BC:76:LEU:HA	25:BC:93:ASP:O	2.15	0.47
27:BE:66:HIS:O	27:BE:68:ALA:N	2.47	0.47
28:BF:90:PHE:CB	59:BA:588:U:H1'	2.43	0.47
30:BH:22:GLY:H	30:BH:23:ARG:HH21	1.61	0.47
32:BK:131:ALA:HB3	32:BK:132:ARG:HH12	1.80	0.47
35:BP:65:ARG:HH22	52:B8:15:LYS:HB2	1.79	0.47
36:BQ:14:ARG:H	36:BQ:14:ARG:CD	2.28	0.47
40:BU:31:SER:OG	59:BA:581:C:OP1	2.29	0.47
45:BZ:128:VAL:HG23	45:BZ:161:VAL:HA	1.97	0.47
48:B3:10:LYS:HB3	48:B3:53:LEU:HA	1.96	0.47
51:B7:41:ARG:HD3	59:BA:462:C:H41	1.80	0.47
59:BA:113:G:HO2'	59:BA:114:U:H5	1.63	0.47
59:BA:273(D):C:H2'	59:BA:273(E):C:O4'	2.15	0.47
59:BA:370:G:H4'	59:BA:371:A:OP2	2.15	0.47
59:BA:601:C:H2'	59:BA:602:G:O4'	2.15	0.47
59:BA:813:U:H2'	59:BA:814:C:C6	2.49	0.47
59:BA:1030:G:H2'	59:BA:1031:G:H8	1.80	0.47
59:BA:1356:G:C2	59:BA:1376:C:C2	3.03	0.47
59:BA:1497:U:H5"	59:BA:1498:C:H5	1.80	0.47
59:BA:1533:C:H2'	59:BA:1534:G:O4'	2.14	0.47
59:BA:2282:G:H5"	59:BA:2283:C:O4'	2.15	0.47
59:BA:2343:C:H2'	59:BA:2344:U:C6	2.50	0.47
1:CB:69:LEU:HD22	1:CB:69:LEU:HA	1.76	0.47
2:CC:105:GLU:HG2	2:CC:106:VAL:N	2.29	0.47
5:CF:74:ASP:OD1	5:CF:74:ASP:N	2.47	0.47
6:CG:116:ALA:O	6:CG:120:ILE:HG12	2.15	0.47
8:CI:14:VAL:HG11	21:CA:1148:U:O2'	2.15	0.47
8:CI:113:LYS:HD2	21:CA:1187:G:H5"	1.97	0.47
11:CL:33:ARG:HG2	11:CL:60:LEU:HB3	1.96	0.47
14:CO:65:ARG:NH2	21:CA:581:G:OP1	2.48	0.47
19:CT:49:ALA:HB1	19:CT:53:LEU:HD23	1.96	0.47
21:CA:34:C:H42	21:CA:550:G:H1	1.61	0.47
21:CA:295:C:H2'	21:CA:296:U:O4'	2.15	0.47
20:CY:289:ILE:H	20:CY:289:ILE:HD12	1.78	0.47
24:CU:3:SER:HB2	59:DA:1913:A:O2'	2.15	0.47
25:DC:6:LYS:HA	25:DC:9:ARG:HD3	1.97	0.47
25:DC:101:ILE:HD11	25:DC:124:VAL:HG13	1.97	0.47
27:DE:14:ILE:HG23	39:DT:14:TYR:CE1	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:DE:164:ARG:HG2	59:DA:2773:C:H5"	1.96	0.47
27:DE:182:LEU:HD23	27:DE:198:VAL:HG21	1.97	0.47
32:DK:75:SER:HA	32:DK:134:MET:SD	2.55	0.47
34:DO:1:MET:HB2	59:DA:1665:A:O2'	2.14	0.47
34:DO:26:LYS:HB3	34:DO:27:GLY:H	1.50	0.47
35:DP:30:THR:HG22	35:DP:31:ALA:N	2.30	0.47
43:DX:92:LEU:HD22	43:DX:92:LEU:HA	1.69	0.47
45:DZ:70:LEU:HB2	45:DZ:91:LEU:HD21	1.97	0.47
45:DZ:143:GLY:O	45:DZ:144:LEU:HD22	2.15	0.47
52:D8:63:PRO:O	52:D8:65:GLU:HG2	2.14	0.47
59:DA:2029:G:H2'	59:DA:2031:A:OP2	2.15	0.47
59:DA:2095:C:H2'	59:DA:2096:U:H6	1.80	0.47
59:DA:2564:A:H8	59:DA:2564:A:OP1	1.97	0.47
59:DA:2695:C:H2'	59:DA:2696:U:C6	2.49	0.47
12:AM:98:VAL:O	12:AM:98:VAL:HG12	2.15	0.47
18:AS:11:VAL:HG22	18:AS:12:ASP:H	1.80	0.47
20:AY:422:GLU:O	20:AY:425:SER:HB2	2.15	0.47
20:AY:614:GLU:O	20:AY:615:GLU:C	2.58	0.47
21:AA:397:A:H3'	21:AA:397:A:N3	2.29	0.47
21:AA:485:G:O2'	21:AA:486:U:OP2	2.31	0.47
21:AA:669:U:H2'	21:AA:670:G:H8	1.80	0.47
21:AA:1223:C:OP2	21:AA:1224:G:H2'	2.14	0.47
25:BC:92:ALA:HB1	25:BC:95:VAL:HG22	1.97	0.47
25:BC:162:ILE:HD11	25:BC:175:PRO:HD2	1.97	0.47
27:BE:94:GLU:H	27:BE:94:GLU:CD	2.23	0.47
27:BE:134:ILE:CG1	27:BE:135:HIS:H	2.28	0.47
28:BF:42:ALA:O	28:BF:45:ARG:HB2	2.14	0.47
28:BF:45:ARG:NH2	59:BA:444:C:OP1	2.46	0.47
29:BG:58:GLN:HB2	29:BG:62:LEU:HD13	1.97	0.47
30:BH:22:GLY:H	30:BH:23:ARG:NH2	2.13	0.47
39:BT:92:GLY:H	39:BT:116:ALA:HA	1.80	0.47
42:BW:18:ARG:HG2	42:BW:76:VAL:HG11	1.97	0.47
43:BX:21:PHE:CE2	43:BX:26:TYR:HA	2.50	0.47
52:B8:5:LYS:NZ	59:BA:254:G:N7	2.53	0.47
57:B4:16:CYS:HB3	57:B4:17:GLY:H	1.54	0.47
59:BA:190:A:C6	59:BA:191:A:C6	3.03	0.47
59:BA:210:C:H2'	59:BA:211:A:H8	1.80	0.47
59:BA:285:C:H2'	59:BA:286:C:C6	2.50	0.47
59:BA:373:U:O2'	59:BA:423:A:N3	2.46	0.47
59:BA:883:G:H2'	59:BA:884:C:C6	2.50	0.47
59:BA:1434:A:N6	59:BA:1558:A:H62	2.06	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1758:G:N7	59:BA:2695:C:H4'	2.30	0.47
59:BA:1841:U:H2'	59:BA:1842:G:H8	1.80	0.47
60:BB:90:C:H2'	60:BB:91:C:C6	2.50	0.47
3:CD:54:TYR:CE2	21:CA:508:C:H4'	2.50	0.47
8:CI:127:LYS:NZ	22:CW:34:C:OP2	2.26	0.47
11:CL:7:ILE:O	11:CL:10:LEU:HB2	2.14	0.47
11:CL:114:LYS:N	21:CA:538:G:OP1	2.48	0.47
16:CQ:86:GLU:O	16:CQ:90:ILE:HG13	2.15	0.47
21:CA:285:G:H2'	21:CA:286:G:H8	1.80	0.47
21:CA:688:G:H2'	21:CA:689:C:C6	2.49	0.47
21:CA:1281:U:H4'	21:CA:1282:C:OP2	2.14	0.47
20:CY:180:VAL:HG23	20:CY:216:LEU:HD12	1.97	0.47
20:CY:309:LEU:O	20:CY:391:GLY:N	2.44	0.47
29:DG:27:ASN:ND2	60:DB:57:A:O4'	2.47	0.47
30:DH:33:LEU:HD11	30:DH:75:ALA:HA	1.97	0.47
39:DT:20:PRO:HD2	39:DT:85:LYS:NZ	2.30	0.47
39:DT:82:LEU:O	39:DT:83:ILE:HG13	2.14	0.47
40:DU:13:LYS:O	40:DU:16:LYS:HB3	2.15	0.47
40:DU:92:ARG:HB2	41:DV:11:GLN:CD	2.40	0.47
42:DW:70:TYR:OH	42:DW:72:LYS:HG3	2.15	0.47
53:D9:9:ARG:NH2	53:D9:16:VAL:HB	2.30	0.47
59:DA:162:U:H2'	59:DA:164:U:C4	2.50	0.47
59:DA:2037:G:H2'	59:DA:2038:G:C8	2.50	0.47
59:DA:2144:U:C2'	59:DA:2147:G:H1	2.28	0.47
59:DA:2471:C:N3	59:DA:2479:G:O6	2.48	0.47
59:DA:2731:G:H2'	59:DA:2732:G:C8	2.50	0.47
3:AD:19:LEU:HB2	3:AD:21:LEU:HG	1.98	0.46
3:AD:63:LYS:HE3	3:AD:63:LYS:HB2	1.69	0.46
6:AG:74:GLU:O	6:AG:88:PRO:HA	2.15	0.46
9:AJ:64:GLU:HG2	13:AN:59:ALA:HB2	1.97	0.46
11:AL:80:HIS:HB3	11:AL:81:SER:H	1.52	0.46
20:AY:131:PRO:HB3	20:AY:250:THR:HG22	1.97	0.46
20:AY:411:VAL:HG23	20:AY:459:LEU:HD22	1.97	0.46
21:AA:102:G:N3	21:AA:151:A:H2	2.14	0.46
21:AA:559:A:H4'	21:AA:560:U:H3'	1.97	0.46
21:AA:674:G:H2'	21:AA:675:A:C8	2.47	0.46
21:AA:794:A:H2'	21:AA:795:C:C6	2.51	0.46
26:BD:61:LEU:HB2	59:BA:1568:G:H5"	1.97	0.46
26:BD:67:PHE:HB3	26:BD:153:ALA:HB3	1.97	0.46
36:BQ:6:ARG:HE	36:BQ:6:ARG:HB3	1.55	0.46
38:BS:51:ALA:HB3	38:BS:73:LEU:HB2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BT:96:ARG:HG3	59:BA:2848:G:OP2	2.15	0.46
46:B0:31:VAL:O	46:B0:64:ASP:HA	2.15	0.46
47:B2:48:HIS:O	47:B2:51:ARG:HG2	2.15	0.46
51:B7:33:ARG:HB2	51:B7:34:ARG:NH1	2.30	0.46
52:B8:16:ILE:HA	52:B8:22:VAL:HA	1.97	0.46
59:BA:853:G:H2'	59:BA:854:G:C8	2.50	0.46
59:BA:1293:C:O5'	59:BA:1293:C:H6	1.98	0.46
59:BA:1435:G:H2'	59:BA:1436:G:O4'	2.15	0.46
59:BA:1558:A:O2'	59:BA:1559:G:OP2	2.26	0.46
59:BA:1603:A:H3'	59:BA:1604:C:C6	2.50	0.46
59:BA:1661:G:H2'	59:BA:1662:C:C6	2.50	0.46
59:BA:1674:G:H1'	59:BA:1676:A:H62	1.80	0.46
59:BA:2543:G:H2'	59:BA:2544:G:H8	1.79	0.46
59:BA:2646:C:H2'	59:BA:2647:U:O4'	2.14	0.46
59:BA:2798:C:H5"	59:BA:2799:A:OP2	2.15	0.46
1:CB:231:GLU:HA	1:CB:232:PRO:HD3	1.84	0.46
7:CH:94:TYR:CD2	21:CA:598:U:H4'	2.50	0.46
16:CQ:68:ARG:NH2	21:CA:277:C:OP1	2.34	0.46
16:CQ:87:LYS:HE2	16:CQ:87:LYS:HB3	1.65	0.46
27:DE:128:SER:O	27:DE:130:GLY:N	2.48	0.46
36:DQ:43:THR:HG22	36:DQ:45:GLN:HG2	1.96	0.46
38:DS:101:LEU:HD23	38:DS:101:LEU:HA	1.51	0.46
40:DU:76:TYR:HE2	59:DA:1152:C:O2'	1.98	0.46
45:DZ:76:LEU:HD22	45:DZ:83:PRO:HA	1.97	0.46
45:DZ:117:LEU:HA	45:DZ:174:VAL:HG22	1.97	0.46
56:D1:50:ARG:NH1	59:DA:2205:C:OP2	2.48	0.46
59:DA:868:U:H3	59:DA:909:A:N6	2.13	0.46
59:DA:2157:G:H8	59:DA:2157:G:O5'	1.99	0.46
59:DA:2270:G:H3'	59:DA:2271:G:C8	2.50	0.46
59:DA:2398:U:H2'	59:DA:2399:G:C8	2.49	0.46
8:AI:39:GLY:HA2	21:AA:1291:G:H4'	1.97	0.46
8:AI:61:ALA:HB1	8:AI:63:ILE:HD11	1.98	0.46
9:AJ:37:PRO:HA	9:AJ:72:VAL:HG22	1.97	0.46
10:AK:60:ALA:HA	10:AK:63:LEU:HD12	1.96	0.46
11:AL:95:GLY:C	11:AL:97:ARG:H	2.24	0.46
15:AP:63:GLY:HA3	21:AA:227:G:N2	2.29	0.46
17:AR:40:LEU:HB3	17:AR:79:LEU:HD11	1.96	0.46
19:AT:75:ASN:CG	21:AA:262:A:H4'	2.41	0.46
20:AY:683:VAL:O	20:AY:687:LEU:HG	2.16	0.46
21:AA:20:U:H2'	21:AA:21:G:O4'	2.14	0.46
21:AA:221:C:H2'	21:AA:222:U:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:557:G:C6	21:AA:558:G:C2	3.03	0.46
21:AA:990:C:H2'	21:AA:991:U:O4'	2.16	0.46
21:AA:1241:G:H2'	21:AA:1242:C:C6	2.50	0.46
27:BE:37:ARG:NH2	59:BA:2784:C:O2	2.48	0.46
30:BH:127:GLU:O	30:BH:129:THR:N	2.43	0.46
31:BJ:44:UNK:O	31:BJ:48:UNK:N	2.47	0.46
43:BX:26:TYR:CE2	43:BX:89:ILE:HD12	2.50	0.46
47:B2:2:LYS:HD2	47:B2:5:GLU:HB2	1.97	0.46
49:B5:12:SER:HB2	49:B5:15:ARG:HG2	1.97	0.46
56:B1:15:ALA:H	56:B1:41:ARG:HG2	1.81	0.46
59:BA:64:A:H2'	59:BA:65:C:C6	2.50	0.46
59:BA:481:G:H4'	59:BA:481:G:OP1	2.14	0.46
59:BA:784:A:O2'	59:BA:785:G:H5"	2.15	0.46
59:BA:987:G:O2'	59:BA:1000:A:N3	2.32	0.46
59:BA:1015:G:H2'	59:BA:1016:G:H8	1.79	0.46
59:BA:1132:A:H2'	59:BA:1133:U:O4'	2.16	0.46
59:BA:1283:G:N2	59:BA:1285:G:H3'	2.29	0.46
59:BA:1663:C:N4	59:BA:1998:G:O6	2.48	0.46
59:BA:2138:C:H42	59:BA:2153:G:H1	1.61	0.46
21:CA:292:G:N7	21:CA:293:G:H1'	2.30	0.46
21:CA:323:U:H2'	21:CA:324:G:O4'	2.14	0.46
21:CA:1187:G:H2'	21:CA:1188:A:C8	2.50	0.46
21:CA:1468:A:H2'	21:CA:1469:G:O4'	2.15	0.46
21:CA:1504:G:OP1	21:CA:1507:A:H4'	2.15	0.46
20:CY:5:VAL:HG13	20:CY:11:ARG:HH12	1.79	0.46
20:CY:24:GLY:HA2	61:CY:701:GNP:H8	1.97	0.46
26:DD:117:VAL:HG12	26:DD:129:ASN:ND2	2.31	0.46
27:DE:60:ASN:OD1	27:DE:61:ARG:N	2.48	0.46
28:DF:12:LEU:HB3	28:DF:126:VAL:HG12	1.98	0.46
28:DF:178:PRO:HB2	28:DF:201:VAL:HG11	1.97	0.46
33:DN:45:ASN:N	33:DN:45:ASN:OD1	2.48	0.46
33:DN:67:LEU:O	33:DN:88:GLU:HB2	2.15	0.46
33:DN:114:ARG:O	33:DN:117:PHE:N	2.48	0.46
35:DP:47:ASP:HB3	35:DP:48:PRO:O	2.15	0.46
39:DT:110:ILE:O	39:DT:114:LEU:N	2.49	0.46
40:DU:3:ARG:HB2	59:DA:445:C:H5"	1.98	0.46
40:DU:54:LYS:HE2	59:DA:995:C:OP2	2.15	0.46
44:DY:8:LYS:HG2	44:DY:72:VAL:HG23	1.97	0.46
59:DA:32:C:N4	59:DA:33:U:O4	2.48	0.46
59:DA:83:G:N2	59:DA:102:G:H2'	2.30	0.46
59:DA:140:A:H62	59:DA:141(A):A:N6	2.13	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:450:G:P	59:DA:1248:G:H22	2.37	0.46
59:DA:482:A:H1'	59:DA:498:G:N2	2.30	0.46
59:DA:608:A:H2'	59:DA:609(A):A:C8	2.49	0.46
59:DA:1291:C:H2'	59:DA:1292:U:C6	2.50	0.46
59:DA:1352:U:O2'	59:DA:1570:A:N3	2.47	0.46
59:DA:1810:A:O5'	59:DA:1810:A:H8	1.98	0.46
59:DA:2084:C:N4	59:DA:2235:G:H1	2.12	0.46
1:AB:164:VAL:HG22	1:AB:170:GLU:HB3	1.97	0.46
2:AC:8:ILE:O	2:AC:10:PHE:N	2.42	0.46
4:AE:127:ASN:ND2	21:AA:18:C:H5"	2.30	0.46
5:AF:43:LEU:HD23	5:AF:60:PHE:HB2	1.96	0.46
8:AI:99:LEU:HB3	8:AI:101:PHE:HE1	1.79	0.46
12:AM:81:LEU:HD12	12:AM:86:CYS:SG	2.56	0.46
14:AO:78:TYR:O	14:AO:82:ILE:HG22	2.16	0.46
20:AY:126:GLU:C	20:AY:129:LYS:H	2.23	0.46
20:AY:544:LYS:HA	20:AY:547:GLU:HB2	1.97	0.46
21:AA:1081:G:H2'	21:AA:1082:G:H8	1.80	0.46
21:AA:1402:C:H2'	21:AA:1403:C:O4'	2.15	0.46
27:BE:111:ARG:HG2	37:BR:2:ARG:HG3	1.97	0.46
28:BF:160:ASN:OD1	28:BF:162:LEU:HB2	2.15	0.46
30:BH:55:PRO:HG2	30:BH:61:HIS:CE1	2.50	0.46
30:BH:90:LYS:HB2	30:BH:163:TYR:CE1	2.50	0.46
31:BJ:24:UNK:HA	31:BJ:84:UNK:O	2.14	0.46
32:BK:37:PHE:CE2	32:BK:38:VAL:HG13	2.50	0.46
33:BN:40:PRO:C	40:BU:64:ARG:HE	2.23	0.46
36:BQ:119:ARG:O	36:BQ:123:HIS:HB2	2.16	0.46
45:BZ:151:HIS:HB2	45:BZ:152:ALA:H	1.28	0.46
46:B0:27:GLU:OE2	59:BA:855:G:N2	2.38	0.46
59:BA:83:G:N2	59:BA:102:G:H2'	2.30	0.46
59:BA:444:C:O2'	59:BA:445:C:H5'	2.16	0.46
59:BA:566:U:H2'	59:BA:567:A:O4'	2.15	0.46
59:BA:1844:C:H2'	59:BA:1845:G:O4'	2.15	0.46
59:BA:2123:G:H1	59:BA:2175:C:N4	2.09	0.46
59:BA:2572:A:OP1	59:BA:2574:G:H4'	2.15	0.46
59:BA:2706:G:H5"	59:BA:2851:A:H5"	1.98	0.46
7:CH:97:VAL:HG12	21:CA:600:C:OP1	2.16	0.46
11:CL:92:ASP:HB2	11:CL:93:LEU:H	1.30	0.46
21:CA:68(K):U:H3'	21:CA:68(M):U:OP2	2.16	0.46
21:CA:277:C:H2'	21:CA:278:G:H8	1.80	0.46
21:CA:1270:C:H2'	21:CA:1271:G:C8	2.50	0.46
20:CY:111:SER:C	20:CY:113:GLY:H	2.23	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CY:126:GLU:C	20:CY:129:LYS:H	2.23	0.46
20:CY:415:PRO:HB2	20:CY:472:VAL:HG12	1.96	0.46
25:DC:47:LYS:O	25:DC:211:ARG:O	2.33	0.46
25:DC:115:VAL:HG11	25:DC:154:ILE:HD11	1.98	0.46
28:DF:155:LEU:O	28:DF:191:ARG:C	2.58	0.46
32:DK:107:ILE:HA	32:DK:110:GLN:NE2	2.31	0.46
33:DN:39:ARG:HB3	33:DN:41:ASP:H	1.79	0.46
35:DP:11:GLY:HA2	59:DA:1244:G:H4'	1.98	0.46
35:DP:71:VAL:C	35:DP:73:GLY:H	2.22	0.46
38:DS:42:ASP:O	38:DS:44:LYS:N	2.47	0.46
40:DU:98:LEU:O	40:DU:101:ARG:N	2.38	0.46
44:DY:84:ARG:HE	44:DY:97:ARG:HD2	1.80	0.46
47:D2:48:HIS:ND1	59:DA:95:G:O2'	2.47	0.46
52:D8:46:ARG:HG2	52:D8:47:LYS:H	1.80	0.46
52:D8:60:LEU:HD12	52:D8:61:LEU:N	2.29	0.46
56:D1:79:GLY:O	59:DA:270(J):G:H1'	2.15	0.46
59:DA:2150:U:H2'	59:DA:2151:G:C8	2.51	0.46
59:DA:2294:C:H2'	59:DA:2295:C:H6	1.80	0.46
1:AB:79:ASP:O	1:AB:82:ARG:HG2	2.14	0.46
2:AC:68:VAL:HG12	2:AC:70:VAL:HG22	1.98	0.46
3:AD:49:ARG:O	3:AD:51:PRO:HD3	2.15	0.46
6:AG:95:ARG:O	6:AG:99:LEU:HG	2.15	0.46
7:AH:81:HIS:HB3	7:AH:138:TRP:HE3	1.79	0.46
8:AI:4:TYR:N	8:AI:4:TYR:CD1	2.83	0.46
19:AT:77:ALA:O	19:AT:81:LYS:HG3	2.15	0.46
20:AY:215:LYS:O	20:AY:219:VAL:HG23	2.14	0.46
20:AY:456:GLU:C	20:AY:458:HIS:N	2.74	0.46
20:AY:463:VAL:HA	20:AY:466:LEU:HB2	1.97	0.46
21:AA:105:G:C6	21:AA:106:C:N4	2.84	0.46
21:AA:559:A:H4'	21:AA:560:U:H5"	1.97	0.46
21:AA:867:G:O2'	21:AA:873:A:N1	2.46	0.46
21:AA:1109:C:H2'	21:AA:1110:A:O4'	2.16	0.46
21:AA:1341:U:H5'	22:AW:32:C:H5"	1.98	0.46
25:BC:28:ARG:N	25:BC:28:ARG:HD2	2.31	0.46
26:BD:45:ASN:O	26:BD:47:GLY:N	2.48	0.46
26:BD:143:HIS:CD2	26:BD:196:VAL:HG22	2.51	0.46
27:BE:45:THR:O	27:BE:83:ASP:N	2.46	0.46
27:BE:134:ILE:HG12	27:BE:135:HIS:N	2.30	0.46
28:BF:78:ILE:O	28:BF:80:ALA:N	2.48	0.46
28:BF:154:VAL:CG1	28:BF:156:LEU:HB2	2.45	0.46
29:BG:98:ARG:O	29:BG:101:ILE:HB	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BN:7:LYS:HZ2	33:BN:7:LYS:N	2.12	0.46
35:BP:25:SER:HB2	59:BA:812:C:H5'	1.97	0.46
36:BQ:14:ARG:NH1	59:BA:958:U:OP2	2.49	0.46
40:BU:3:ARG:HB2	59:BA:445:C:H5"	1.98	0.46
42:BW:21:VAL:CG1	42:BW:74:ALA:HB1	2.46	0.46
44:BY:47:LYS:HG3	44:BY:60:PHE:HE2	1.80	0.46
48:B3:12:PRO:HB2	48:B3:20:LYS:HZ1	1.80	0.46
50:B6:8:LYS:HZ1	59:BA:2285:C:H5	1.62	0.46
50:B6:23:THR:HG21	59:BA:2419:U:OP1	2.15	0.46
52:B8:47:LYS:HE3	59:BA:2360:A:H5"	1.96	0.46
56:B1:21:ARG:HH11	56:B1:23:LYS:HB2	1.80	0.46
56:B1:64:ALA:HB1	59:BA:398:G:OP1	2.16	0.46
59:BA:480:A:N3	59:BA:499:U:O2'	2.44	0.46
59:BA:541:C:H2'	59:BA:542:C:C6	2.50	0.46
59:BA:1754:C:H2'	59:BA:1755:A:O4'	2.15	0.46
59:BA:1896:G:H2'	59:BA:1897:G:H8	1.80	0.46
59:BA:2822:G:O2'	59:BA:2824:C:OP2	2.25	0.46
1:CB:52:GLU:O	1:CB:56:ARG:HB2	2.15	0.46
8:CI:97:LYS:C	8:CI:99:LEU:H	2.23	0.46
8:CI:127:LYS:HE3	22:CW:34:C:H5"	1.97	0.46
18:CS:10:PHE:CE1	21:CA:1318:A:H4'	2.50	0.46
21:CA:38:G:H1'	21:CA:397:A:N6	2.30	0.46
21:CA:108:G:N2	21:CA:108:G:OP2	2.49	0.46
21:CA:864:A:C6	21:CA:865:A:C6	3.03	0.46
21:CA:979:C:N4	21:CA:1318:A:H61	2.12	0.46
25:DC:41:THR:HG21	59:DA:2124:G:H4'	1.96	0.46
25:DC:79:ALA:O	25:DC:81:GLY:N	2.49	0.46
26:DD:250:TRP:HB2	26:DD:252:TRP:CD1	2.50	0.46
27:DE:63:LEU:HB2	27:DE:65:GLY:H	1.80	0.46
27:DE:82:ARG:HG3	27:DE:83:ASP:N	2.31	0.46
27:DE:143:ASN:CG	27:DE:144:ARG:N	2.74	0.46
27:DE:144:ARG:O	59:DA:2052:G:O2'	2.33	0.46
28:DF:25:PRO:HD3	28:DF:115:ALA:HB1	1.97	0.46
33:DN:70:LYS:HB3	33:DN:87:LEU:HB2	1.96	0.46
33:DN:131:GLN:HE21	33:DN:131:GLN:HB3	1.60	0.46
37:DR:102:GLU:O	37:DR:103:ARG:HB2	2.15	0.46
37:DR:116:LEU:C	37:DR:117:VAL:HG23	2.40	0.46
40:DU:52:ARG:HA	40:DU:52:ARG:HD2	1.72	0.46
59:DA:886:C:O2	59:DA:889:C:H5	1.99	0.46
59:DA:1448:G:O2'	59:DA:1528:A:N6	2.48	0.46
59:DA:1711:C:H2'	59:DA:1712:C:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1930:G:HO2'	59:DA:1931:U:P	2.39	0.46
1:AB:235:SER:OG	1:AB:236:TYR:N	2.48	0.46
20:AY:438:PHE:CE1	20:AY:462:ILE:HG13	2.47	0.46
21:AA:175:C:H2'	21:AA:176:C:O4'	2.16	0.46
21:AA:290:C:H2'	21:AA:291:C:O4'	2.16	0.46
21:AA:679:C:H2'	21:AA:680:C:C6	2.50	0.46
22:AW:19:G:H1'	22:AW:57:G:N2	2.31	0.46
25:BC:194:ILE:HD13	25:BC:197:LEU:HD12	1.98	0.46
41:BV:4:ILE:O	41:BV:39:LEU:N	2.41	0.46
56:B1:61:ARG:HB3	56:B1:61:ARG:HH11	1.80	0.46
59:BA:134:C:N4	59:BA:145:G:H1	2.13	0.46
59:BA:306:U:H2'	59:BA:307:G:O4'	2.15	0.46
59:BA:617:G:H2'	59:BA:618(A):G:O4'	2.16	0.46
59:BA:822:U:H2'	59:BA:823:G:H8	1.81	0.46
59:BA:877:U:C4	59:BA:899:A:N1	2.84	0.46
59:BA:918:A:H5"	60:BB:97:G:O2'	2.16	0.46
59:BA:1419:A:C5	59:BA:1579:A:C6	3.04	0.46
59:BA:1858:G:O2'	59:BA:1859:A:H8	1.99	0.46
59:BA:2131:G:H5'	59:BA:2133:G:C8	2.50	0.46
59:BA:2306:C:C4	59:BA:2307:G:H1'	2.50	0.46
59:BA:2781:A:H5'	59:BA:2782:G:O5'	2.15	0.46
10:CK:109:VAL:HG13	17:CR:84:LYS:HB2	1.97	0.46
21:CA:1440(A):G:H4'	21:CA:1440(B):G:C5	2.51	0.46
25:DC:164:PHE:CD2	25:DC:164:PHE:N	2.83	0.46
27:DE:2:LYS:HA	27:DE:84:PHE:CD2	2.51	0.46
27:DE:12:THR:O	27:DE:22:PRO:HA	2.15	0.46
27:DE:89:ASP:HB3	27:DE:90:THR:H	1.59	0.46
28:DF:10:PRO:HB2	28:DF:11:VAL:H	1.61	0.46
35:DP:79:ARG:HG3	35:DP:110:TYR:CD1	2.50	0.46
36:DQ:42:ILE:HG21	36:DQ:103:MET:HE1	1.97	0.46
36:DQ:85:LYS:HD2	46:D0:7:LEU:HD22	1.98	0.46
39:DT:35:LYS:HG3	39:DT:41:ARG:HH11	1.80	0.46
41:DV:38:LEU:C	41:DV:39:LEU:HD22	2.40	0.46
42:DW:21:VAL:HG12	42:DW:25:ARG:HH12	1.81	0.46
42:DW:65:LEU:HG	42:DW:67:ASP:H	1.81	0.46
43:DX:55:ASN:ND2	59:DA:1342:A:H5'	2.31	0.46
44:DY:79:CYS:SG	44:DY:80:GLY:N	2.89	0.46
47:D2:66:GLU:O	47:D2:69:ARG:HG2	2.15	0.46
50:D6:11:LEU:HD12	50:D6:26:ASN:HB2	1.97	0.46
59:DA:14:A:H2	59:DA:2624:G:N2	2.14	0.46
59:DA:74:A:H5"	59:DA:75:G:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:299:A:N7	59:DA:300:A:N6	2.64	0.46
59:DA:519:U:H2'	59:DA:520:G:C8	2.50	0.46
59:DA:612:G:N2	59:DA:616:A:O2'	2.48	0.46
59:DA:1152:C:H2'	59:DA:1153:C:H6	1.79	0.46
59:DA:1558:A:O2'	59:DA:1559:G:OP2	2.27	0.46
59:DA:2023:G:H4'	59:DA:2617:C:O3'	2.16	0.46
2:AC:196:LEU:H	2:AC:196:LEU:HD22	1.80	0.46
3:AD:126:ILE:HD13	3:AD:148:VAL:HG12	1.97	0.46
4:AE:69:VAL:HG21	4:AE:139:LEU:HD22	1.97	0.46
11:AL:35:GLY:HA3	11:AL:83:VAL:O	2.16	0.46
11:AL:85:ILE:HD12	11:AL:85:ILE:HA	1.66	0.46
20:AY:319:ASP:OD2	20:AY:321:TYR:HB2	2.15	0.46
20:AY:417:THR:C	20:AY:419:ALA:H	2.23	0.46
21:AA:1275:A:H2'	21:AA:1276:G:O4'	2.16	0.46
25:BC:73:VAL:HG11	25:BC:157:ILE:HG22	1.98	0.46
26:BD:7:LYS:HB3	26:BD:8:PRO:HD2	1.98	0.46
26:BD:8:PRO:HB2	59:BA:1695:G:H8	1.80	0.46
27:BE:197:ILE:HD11	27:BE:199:ARG:HD3	1.98	0.46
28:BF:64:ILE:HG22	28:BF:76:GLY:O	2.15	0.46
33:BN:4:TYR:CZ	33:BN:6:PRO:HA	2.50	0.46
34:BO:4:PRO:HG2	34:BO:31:LYS:HD2	1.98	0.46
36:BQ:11:LYS:NZ	36:BQ:88:GLY:H	2.13	0.46
36:BQ:26:TYR:O	36:BQ:102:VAL:HG21	2.16	0.46
59:BA:27:G:H1'	59:BA:513:A:N6	2.30	0.46
59:BA:528:A:C2	59:BA:2043:C:H4'	2.51	0.46
59:BA:725:G:C6	59:BA:726:G:N1	2.83	0.46
59:BA:814:C:H2'	59:BA:815:C:H6	1.80	0.46
59:BA:830:G:H4'	59:BA:831:G:OP2	2.15	0.46
59:BA:946:G:O6	59:BA:972:G:N2	2.49	0.46
59:BA:1570:A:H8	59:BA:1570:A:O5'	1.99	0.46
59:BA:1799:G:H4'	59:BA:1800:C:O5'	2.14	0.46
59:BA:2081:C:H2'	59:BA:2082:A:H8	1.81	0.46
59:BA:2466:C:N4	59:BA:2484:G:H1	2.13	0.46
59:BA:2576:G:O2'	59:BA:2579:C:OP2	2.27	0.46
2:CC:20:SER:HB2	2:CC:22:TRP:HE1	1.81	0.46
2:CC:115:LEU:HA	2:CC:118:GLN:HB2	1.98	0.46
3:CD:74:GLN:NE2	21:CA:403:C:OP2	2.49	0.46
5:CF:62:TRP:HB2	17:CR:35:ARG:HH12	1.79	0.46
7:CH:1:MET:HE3	7:CH:1:MET:HB3	1.63	0.46
9:CJ:24:VAL:O	9:CJ:28:ARG:HG2	2.16	0.46
11:CL:7:ILE:O	11:CL:11:VAL:HG23	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CL:36:VAL:O	11:CL:80:HIS:HA	2.15	0.46
11:CL:80:HIS:HB3	11:CL:81:SER:H	1.46	0.46
19:CT:12:ALA:HA	19:CT:15:ARG:HB2	1.97	0.46
21:CA:47:C:N4	21:CA:361:G:H1	2.08	0.46
21:CA:59:A:H1'	21:CA:354:G:C2	2.50	0.46
21:CA:309:G:H2'	21:CA:310:G:C8	2.51	0.46
21:CA:309:G:H2'	21:CA:310:G:H8	1.81	0.46
21:CA:554:C:H2'	21:CA:555:C:C6	2.49	0.46
21:CA:767:A:H2'	21:CA:768:A:O4'	2.16	0.46
21:CA:1234:C:H2'	21:CA:1235:U:O4'	2.15	0.46
20:CY:38:ARG:HD2	20:CY:41:LYS:O	2.16	0.46
20:CY:72:CYS:SG	20:CY:79:ILE:O	2.74	0.46
26:DD:63:ARG:H	26:DD:87:ASN:HD21	1.62	0.46
26:DD:78:LYS:O	26:DD:79:VAL:O	2.34	0.46
36:DQ:91:GLU:CD	36:DQ:92:GLY:H	2.23	0.46
40:DU:40:PHE:HB3	41:DV:75:PHE:CE1	2.51	0.46
40:DU:99:ALA:HB1	40:DU:106:PHE:CG	2.51	0.46
41:DV:19:LYS:NZ	41:DV:21:ARG:O	2.48	0.46
46:D0:24:LYS:O	46:D0:25:ARG:HD3	2.16	0.46
46:D0:39:ARG:HD3	46:D0:58:THR:OG1	2.15	0.46
49:D5:4:HIS:HA	59:DA:2056:G:H22	1.80	0.46
50:D6:25:LYS:HE3	50:D6:25:LYS:HB2	1.66	0.46
57:D4:8:LYS:HB3	57:D4:9:LEU:H	1.58	0.46
59:DA:690:G:H8	59:DA:690:G:O5'	1.99	0.46
59:DA:698:C:O2'	59:DA:734:A:N6	2.49	0.46
59:DA:734:A:O2'	59:DA:1635:G:H5'	2.16	0.46
59:DA:783:A:C4	59:DA:785:G:H1'	2.51	0.46
59:DA:842:G:H2'	59:DA:843:G:C8	2.51	0.46
59:DA:1378:A:H2'	59:DA:1380:G:N7	2.31	0.46
59:DA:2211:G:C2'	59:DA:2212:A:H5"	2.45	0.46
59:DA:2291:U:H2'	59:DA:2292:C:C6	2.51	0.46
59:DA:2345:G:N3	59:DA:2381:C:H2'	2.30	0.46
59:DA:2652:C:C4	59:DA:2653:U:C4	3.04	0.46
59:DA:2837:G:H2'	59:DA:2838:G:H8	1.81	0.46
59:DA:2861:G:H2'	59:DA:2862:G:C8	2.50	0.46
2:AC:50:ALA:O	2:AC:70:VAL:HG12	2.16	0.46
3:AD:87:GLY:O	3:AD:89:THR:N	2.49	0.46
6:AG:151:TYR:HD2	6:AG:154:TYR:HD1	1.63	0.46
13:AN:39:LEU:HD11	13:AN:47:LEU:HD12	1.98	0.46
17:AR:60:ALA:HB1	17:AR:64:ARG:NH1	2.31	0.46
18:AS:64:GLU:OE2	29:BG:113:ARG:NH2	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AY:9:LEU:O	20:AY:282:SER:OG	2.19	0.46
20:AY:138:LYS:HD3	20:AY:141:LYS:HD3	1.96	0.46
21:AA:370:C:H2'	21:AA:371:G:H8	1.81	0.46
21:AA:769:G:H4'	21:AA:1513:A:H4'	1.98	0.46
21:AA:1355:G:H2'	21:AA:1356:G:H8	1.79	0.46
25:BC:20:VAL:HG11	25:BC:226:ASN:HB2	1.98	0.46
26:BD:226:MET:HE3	59:BA:782:A:N1	2.31	0.46
29:BG:98:ARG:NH1	57:B4:9:LEU:HG	2.30	0.46
30:BH:40:GLU:O	30:BH:41:MET:HB3	2.15	0.46
33:BN:34:LEU:HD13	33:BN:34:LEU:HA	1.74	0.46
36:BQ:12:GLN:HE21	36:BQ:72:LYS:HG3	1.79	0.46
39:BT:31:SER:O	39:BT:83:ILE:HD11	2.16	0.46
41:BV:39:LEU:HD13	41:BV:51:VAL:HA	1.97	0.46
45:BZ:154:ASP:OD2	45:BZ:154:ASP:N	2.49	0.46
49:B5:20:ARG:HG3	49:B5:23:HIS:HD2	1.80	0.46
50:B6:48:VAL:HG23	50:B6:49:HIS:H	1.81	0.46
51:B7:40:TRP:HE3	59:BA:460:A:OP2	1.98	0.46
59:BA:341:G:H2'	59:BA:342:G:O4'	2.16	0.46
59:BA:540:G:H2'	59:BA:541:C:C6	2.51	0.46
59:BA:584:C:H2'	59:BA:585:G:O4'	2.16	0.46
59:BA:659:C:H2'	59:BA:660:G:C8	2.49	0.46
59:BA:699:A:N3	59:BA:1633:G:O2'	2.45	0.46
59:BA:1770:G:H2'	59:BA:1771:C:C6	2.51	0.46
59:BA:2557:G:H2'	59:BA:2558:C:H6	1.81	0.46
59:BA:2564:A:H2'	59:BA:2565:A:C8	2.51	0.46
59:BA:2888:C:H2'	59:BA:2889:C:H6	1.81	0.46
1:CB:74:LYS:O	1:CB:76:GLN:N	2.48	0.46
3:CD:41:GLY:HA3	21:CA:542:G:H5'	1.98	0.46
5:CF:23:LYS:HE3	5:CF:23:LYS:HB3	1.81	0.46
10:CK:119:CYS:HB3	21:CA:778:G:H1'	1.97	0.46
13:CN:29:ARG:HH11	13:CN:31:ARG:HB2	1.80	0.46
14:CO:49:ASP:OD2	14:CO:52:SER:OG	2.27	0.46
18:CS:82:GLY:HA3	21:CA:1226:C:H4'	1.98	0.46
21:CA:1288:A:N1	21:CA:1371:G:H1'	2.31	0.46
20:CY:206:LEU:HD12	20:CY:210:ARG:HH12	1.79	0.46
20:CY:617:MET:O	20:CY:621:ILE:HD12	2.15	0.46
26:DD:211:ARG:HA	26:DD:214:TRP:CD2	2.50	0.46
29:DG:170:ARG:O	29:DG:174:GLU:HG2	2.16	0.46
34:DO:13:ASN:CG	34:DO:96:THR:HG22	2.41	0.46
34:DO:101:PRO:HB3	34:DO:120:GLU:HG2	1.97	0.46
36:DQ:27:VAL:O	36:DQ:29:PHE:N	2.36	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:DR:52:ILE:HD12	37:DR:79:LEU:HD11	1.96	0.46
38:DS:25:ARG:HB2	38:DS:40:ILE:HG23	1.97	0.46
39:DT:49:VAL:HA	39:DT:63:VAL:CA	2.43	0.46
45:DZ:43:GLU:HG3	45:DZ:44:PHE:N	2.30	0.46
46:D0:2:ALA:N	59:DA:2494:G:OP1	2.49	0.46
46:D0:12:ASN:O	46:D0:14:ARG:N	2.48	0.46
59:DA:141(A):A:C8	59:DA:1408:C:H1'	2.50	0.46
59:DA:208:C:H2'	59:DA:209:C:C6	2.50	0.46
59:DA:685:A:C5	59:DA:774:A:C2	3.04	0.46
59:DA:688:U:H2'	59:DA:689:A:C8	2.50	0.46
59:DA:741:G:H2'	59:DA:742:G:C8	2.51	0.46
59:DA:1324:G:H3'	59:DA:1325:G:C5'	2.45	0.46
59:DA:1438:U:H2'	59:DA:1439:A:C8	2.50	0.46
59:DA:1776:G:H1	59:DA:1788:C:N4	2.10	0.46
59:DA:2114:A:H2'	59:DA:2115:G:O4'	2.15	0.46
59:DA:2643:G:H2'	59:DA:2644:G:O4'	2.16	0.46
59:DA:2745:C:H2'	59:DA:2746:U:C6	2.51	0.46
1:AB:20:GLU:HB2	1:AB:190:THR:HB	1.98	0.46
2:AC:69:HIS:HA	2:AC:104:GLN:O	2.14	0.46
2:AC:177:THR:HG22	2:AC:178:LEU:H	1.80	0.46
3:AD:138:TYR:HE1	21:AA:620:C:H4'	1.80	0.46
4:AE:78:HIS:HD1	7:AH:104:ARG:HG3	1.81	0.46
7:AH:36:LEU:HD13	7:AH:61:VAL:HG11	1.97	0.46
9:AJ:35:SER:OG	21:AA:1124:G:H5"	2.15	0.46
10:AK:85:ARG:HA	10:AK:110:ASP:O	2.16	0.46
14:AO:49:ASP:OD1	21:AA:667:G:H1'	2.16	0.46
14:AO:55:GLY:O	14:AO:58:MET:HB2	2.16	0.46
19:AT:75:ASN:O	19:AT:77:ALA:N	2.48	0.46
20:AY:8:ASP:CG	20:AY:10:LYS:HD2	2.41	0.46
20:AY:137:ASN:ND2	20:AY:263:ALA:H	2.13	0.46
20:AY:246:ILE:HB	20:AY:279:TYR:CE1	2.50	0.46
20:AY:337:SER:N	20:AY:367:GLU:O	2.29	0.46
20:AY:524:GLU:O	20:AY:565:VAL:HG23	2.16	0.46
21:AA:152:A:H3'	21:AA:153:C:H6	1.81	0.46
21:AA:396:G:O2'	21:AA:398:C:OP1	2.26	0.46
21:AA:482:A:H2'	21:AA:483:C:O4'	2.16	0.46
21:AA:980:C:C5	21:AA:981:U:C2	3.04	0.46
21:AA:1315:U:H2'	21:AA:1316:G:O4'	2.16	0.46
21:AA:1496:C:O2'	21:AA:1497:G:OP1	2.30	0.46
21:AA:1533:C:H3'	21:AA:1534:A:O4'	2.16	0.46
26:BD:231:HIS:CG	26:BD:233:HIS:HB2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BF:168:ARG:NE	59:BA:322:A:OP1	2.30	0.46
30:BH:157:TYR:HD1	30:BH:171:LEU:HB3	1.80	0.46
38:BS:42:ASP:O	38:BS:45:GLY:N	2.45	0.46
42:BW:47:VAL:HG22	42:BW:103:ILE:HG21	1.97	0.46
43:BX:26:TYR:HE2	43:BX:89:ILE:HD12	1.80	0.46
43:BX:35:THR:HG21	59:BA:143:C:H5'	1.97	0.46
45:BZ:10:ARG:HH21	45:BZ:26:GLY:N	2.14	0.46
49:B5:55:ARG:HD3	49:B5:56:LYS:N	2.31	0.46
58:Be:63:ILE:HG13	58:Be:70:LYS:HA	1.97	0.46
58:Be:78:LEU:HD22	58:Be:80:ALA:H	1.81	0.46
59:BA:27:G:N2	59:BA:512:G:O2'	2.49	0.46
59:BA:965:C:H4'	59:BA:2273:A:H1'	1.97	0.46
59:BA:1176:G:H3'	59:BA:1177:A:H8	1.81	0.46
59:BA:1234:U:H2'	59:BA:1235:G:O4'	2.15	0.46
59:BA:1478:G:C2	59:BA:1479:G:N7	2.84	0.46
59:BA:1536:A:H3'	59:BA:1537:C:C6	2.51	0.46
59:BA:1687:G:N1	59:BA:1700:A:OP1	2.36	0.46
59:BA:2365:G:O5'	59:BA:2365:G:H8	1.98	0.46
59:BA:2516:G:H2'	59:BA:2517:C:C6	2.51	0.46
60:BB:87:G:N2	60:BB:89(B):A:OP2	2.39	0.46
3:CD:9:CYS:CA	3:CD:12:CYS:HB2	2.45	0.46
3:CD:148:VAL:HG23	3:CD:181:MET:HB3	1.97	0.46
10:CK:113:PRO:O	10:CK:115:PRO:HD3	2.16	0.46
12:CM:13:LYS:HE3	12:CM:21:TYR:HE1	1.80	0.46
16:CQ:91:ARG:HG2	21:CA:583:A:H4'	1.98	0.46
17:CR:26:LEU:HD13	17:CR:39:VAL:HG22	1.98	0.46
21:CA:129(A):G:H4'	21:CA:130:A:H5"	1.98	0.46
21:CA:490:G:H2'	21:CA:491:G:H8	1.81	0.46
21:CA:689:C:H2'	21:CA:690:G:O4'	2.16	0.46
21:CA:939:G:C2	21:CA:940:C:C4	3.04	0.46
21:CA:1401:G:H2'	21:CA:1402:C:O4'	2.16	0.46
22:CW:67:G:H2'	22:CW:68:U:C6	2.51	0.46
20:CY:25:LYS:HZ1	61:CY:701:GNP:PG	2.36	0.46
20:CY:96:ARG:O	20:CY:100:VAL:HG12	2.16	0.46
20:CY:686:LYS:HD3	20:CY:687:LEU:HD23	1.98	0.46
26:DD:248:SER:O	26:DD:250:TRP:N	2.49	0.46
33:DN:17:ASP:O	33:DN:18:ALA:HB2	2.14	0.46
35:DP:85:LEU:C	35:DP:118:GLY:HA3	2.41	0.46
39:DT:16:ARG:HB2	39:DT:79:HIS:ND1	2.31	0.46
44:DY:49:VAL:C	44:DY:51:VAL:H	2.24	0.46
46:D0:48:GLY:HA3	46:D0:80:HIS:CD2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:144:C:H2'	59:DA:145:G:C8	2.43	0.46
59:DA:618(B):C:H2'	59:DA:619:G:O4'	2.16	0.46
59:DA:1105:U:H2'	59:DA:1106:G:C8	2.51	0.46
59:DA:1139:G:H2'	59:DA:1140:C:C6	2.51	0.46
59:DA:1324:G:H3'	59:DA:1325:G:H4'	1.97	0.46
59:DA:2231:C:H2'	59:DA:2232:U:O4'	2.16	0.46
59:DA:2329:G:H2'	59:DA:2330:G:C8	2.50	0.46
59:DA:2390:U:O2'	59:DA:2391:G:H5'	2.16	0.46
59:DA:2702:U:H1'	59:DA:2703:C:H5	1.80	0.46
2:AC:91:LEU:HD22	2:AC:99:VAL:HG12	1.96	0.46
3:AD:62:GLN:O	3:AD:66:ARG:HG3	2.16	0.46
4:AE:93:PRO:HA	4:AE:118:ILE:HD12	1.98	0.46
7:AH:51:VAL:HG12	7:AH:52:ASP:H	1.80	0.46
11:AL:77:LEU:H	11:AL:77:LEU:HG	1.24	0.46
18:AS:29:ARG:HH22	59:BA:887:A:H4'	1.81	0.46
20:AY:156:ARG:HH12	20:AY:666:ARG:HD2	1.80	0.46
20:AY:328:ILE:HG13	20:AY:328:ILE:H	1.61	0.46
21:AA:24:U:H2'	21:AA:25:C:C6	2.50	0.46
21:AA:37:U:H3	21:AA:397:A:H61	1.64	0.46
21:AA:65:U:H5"	21:AA:200:G:H4'	1.97	0.46
21:AA:922:G:C6	21:AA:923:A:C6	3.03	0.46
21:AA:933:G:N2	21:AA:935:A:O4'	2.49	0.46
21:AA:1016:A:H2'	21:AA:1017:G:O4'	2.16	0.46
25:BC:44:VAL:O	25:BC:173:HIS:HA	2.16	0.46
25:BC:186:LEU:O	25:BC:190:ILE:HG12	2.16	0.46
26:BD:209:ALA:HB2	59:BA:1790:C:H4'	1.96	0.46
27:BE:111:ARG:H	27:BE:161:GLY:HA3	1.81	0.46
28:BF:40:GLN:HA	28:BF:43:LYS:HG2	1.98	0.46
29:BG:4:ASP:OD1	29:BG:9:ARG:HB2	2.16	0.46
30:BH:33:LEU:HD22	30:BH:79:VAL:CG1	2.45	0.46
43:BX:12:VAL:HA	43:BX:29:TRP:HE1	1.81	0.46
50:B6:17:LYS:O	50:B6:18:ARG:HB2	2.15	0.46
50:B6:46:HIS:NE2	59:BA:2372:G:O2'	2.46	0.46
51:B7:2:LYS:HG3	59:BA:1620:G:O2'	2.16	0.46
56:B1:34:THR:HG23	56:B1:35:THR:N	2.31	0.46
59:BA:570:G:OP1	59:BA:972:G:O2'	2.25	0.46
59:BA:709:U:H2'	59:BA:710:G:C8	2.51	0.46
59:BA:1079:C:C5	59:BA:1080:C:C4	3.03	0.46
59:BA:1174:A:H3'	59:BA:1175:U:C5'	2.46	0.46
59:BA:1508:A:H2'	59:BA:1509:A:H4'	1.98	0.46
59:BA:1675:C:H3'	59:BA:1676:A:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CC:117:ALA:HA	2:CC:120:VAL:HB	1.97	0.46
4:CE:40:ARG:HA	4:CE:68:GLU:HA	1.98	0.46
6:CG:11:GLN:HG2	6:CG:12:LEU:N	2.31	0.46
6:CG:79:ARG:H	6:CG:79:ARG:HD2	1.81	0.46
12:CM:48:LEU:HD13	12:CM:53:VAL:HG22	1.98	0.46
21:CA:784:C:H2'	21:CA:785:G:C8	2.51	0.46
21:CA:834:C:H2'	21:CA:835:U:O4'	2.16	0.46
21:CA:869:G:H4'	21:CA:872:A:C8	2.50	0.46
21:CA:1306:A:H61	21:CA:1331:G:H1'	1.81	0.46
22:CW:12:U:H1'	22:CW:24:G:H22	1.81	0.46
20:CY:150:ILE:HD12	20:CY:161:PRO:HB2	1.98	0.46
20:CY:335:LEU:HA	20:CY:335:LEU:HD12	1.74	0.46
20:CY:408:VAL:HG22	20:CY:454:MET:HA	1.98	0.46
25:DC:115:VAL:HA	25:DC:144:GLY:O	2.16	0.46
29:DG:47:LYS:HE2	29:DG:81:LYS:HB2	1.98	0.46
32:DK:40:ALA:O	32:DK:44:ALA:HB2	2.15	0.46
32:DK:106:GLU:O	32:DK:110:GLN:HG3	2.16	0.46
33:DN:41:ASP:CA	40:DU:64:ARG:HE	2.29	0.46
35:DP:16:ARG:O	59:DA:661:C:O2'	2.33	0.46
37:DR:53:HIS:CD2	59:DA:2840:C:H5"	2.50	0.46
37:DR:103:ARG:HG2	37:DR:110:PRO:HA	1.98	0.46
39:DT:106:SER:HB2	39:DT:110:ILE:CG1	2.41	0.46
41:DV:10:LYS:HE3	41:DV:10:LYS:HB2	1.82	0.46
43:DX:55:ASN:HD22	59:DA:1342:A:H5'	1.81	0.46
45:DZ:30:ASN:CB	45:DZ:90:VAL:HB	2.46	0.46
45:DZ:103:ARG:HB3	45:DZ:138:GLU:HG2	1.98	0.46
52:D8:15:LYS:NZ	52:D8:16:ILE:O	2.38	0.46
52:D8:32:LEU:HB3	52:D8:33:ASN:H	1.46	0.46
59:DA:548:A:H8	59:DA:548:A:OP2	1.99	0.46
59:DA:1014:U:H3	59:DA:1148:A:H2	1.64	0.46
59:DA:1199:U:H2'	59:DA:1200:C:C6	2.51	0.46
59:DA:1516:U:H2'	59:DA:1517:G:H8	1.75	0.46
2:AC:197:GLY:HA3	21:AA:1057:G:O3'	2.16	0.46
3:AD:42:GLN:O	3:AD:46:LYS:NZ	2.34	0.46
8:AI:120:ARG:HG3	21:AA:1348:U:H4'	1.98	0.46
20:AY:137:ASN:ND2	20:AY:262:SER:HA	2.30	0.46
20:AY:167:PRO:HB3	20:AY:174:PHE:CZ	2.50	0.46
21:AA:985:C:H2'	21:AA:986:A:C8	2.51	0.46
21:AA:1127:G:H21	21:AA:1147:C:H42	1.63	0.46
21:AA:1478:C:H2'	21:AA:1479:C:C6	2.51	0.46
25:BC:51:ASP:HB3	25:BC:53:ARG:NH2	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BC:54:ARG:NH2	25:BC:54:ARG:HA	2.31	0.46
25:BC:60:ARG:HG2	25:BC:142:LYS:HD3	1.98	0.46
26:BD:213:ARG:NH1	59:BA:764:A:N3	2.63	0.46
27:BE:134:ILE:HB	27:BE:137:HIS:HB2	1.97	0.46
33:BN:35:ARG:HB3	33:BN:42:TRP:CZ3	2.51	0.46
34:BO:36:GLY:HA3	34:BO:109:LYS:HG3	1.98	0.46
40:BU:74:LEU:HD11	40:BU:114:LYS:HD2	1.98	0.46
41:BV:66:ARG:HG2	41:BV:88:ARG:HD3	1.98	0.46
49:B5:8:LYS:HZ3	59:BA:2056:G:H4'	1.80	0.46
59:BA:464:U:C4	59:BA:465:G:C6	3.04	0.46
59:BA:2026:C:H2'	59:BA:2027:G:O4'	2.16	0.46
59:BA:2271:G:H2'	59:BA:2272:U:H6	1.79	0.46
1:CB:95:GLN:HG3	1:CB:148:TYR:HA	1.98	0.46
2:CC:87:LEU:O	2:CC:91:LEU:HB2	2.16	0.46
8:CI:28:VAL:HG13	8:CI:63:ILE:HB	1.98	0.46
9:CJ:45:ARG:HA	21:CA:1254:C:OP1	2.17	0.46
9:CJ:58:ASP:OD2	9:CJ:58:ASP:N	2.48	0.46
11:CL:15:ARG:HB3	21:CA:562:C:O2	2.16	0.46
11:CL:45:PRO:CB	11:CL:92:ASP:HB3	2.45	0.46
11:CL:57:LYS:O	11:CL:59:ARG:N	2.49	0.46
12:CM:50:GLU:O	12:CM:51:ALA:C	2.59	0.46
15:CP:6:LEU:HD22	21:CA:375:U:H5"	1.98	0.46
21:CA:115:G:H1'	21:CA:116:A:N7	2.30	0.46
21:CA:889:A:H8	21:CA:889:A:OP1	1.99	0.46
21:CA:1343:G:H21	21:CA:1349:A:HO2'	1.56	0.46
21:CA:1523:G:H2'	21:CA:1524:C:C6	2.51	0.46
20:CY:485:GLU:OE2	20:CY:555:LEU:HB2	2.16	0.46
20:CY:631:ILE:O	20:CY:645:ALA:HA	2.15	0.46
25:DC:90:ALA:HB1	25:DC:155:ARG:HD3	1.98	0.46
25:DC:203:GLU:OE1	25:DC:203:GLU:N	2.48	0.46
27:DE:2:LYS:HA	27:DE:84:PHE:HD2	1.78	0.46
29:DG:135:LEU:HD11	29:DG:137:GLU:O	2.16	0.46
36:DQ:68:ILE:HG23	36:DQ:103:MET:HA	1.97	0.46
42:DW:3:ALA:HB3	42:DW:107:LEU:HD13	1.97	0.46
48:D3:9:VAL:O	48:D3:31:LEU:HD21	2.16	0.46
49:D5:44:THR:HG22	49:D5:45:VAL:H	1.79	0.46
56:D1:13:ILE:HG13	56:D1:17:SER:HB3	1.98	0.46
59:DA:588:U:H2'	59:DA:589:C:C6	2.51	0.46
59:DA:605:C:H2'	59:DA:606:U:C6	2.51	0.46
59:DA:1059:G:C2	59:DA:1079:C:N3	2.84	0.46
59:DA:2310:A:O2'	59:DA:2311:A:H5'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2837:G:H2'	59:DA:2838:G:C8	2.51	0.46
60:DB:13:A:N1	60:DB:70:C:H5'	2.30	0.46
1:AB:149:LEU:HD22	1:AB:152:PHE:HB3	1.99	0.45
13:AN:61:TRP:HZ2	21:AA:1368:G:O3'	1.99	0.45
16:AQ:27:PHE:CD1	16:AQ:28:PRO:HD2	2.51	0.45
19:AT:39:LYS:HG3	19:AT:55:ILE:HG13	1.98	0.45
20:AY:13:ARG:HD3	20:AY:79:ILE:HG12	1.98	0.45
20:AY:26:THR:HB	61:AY:701:GNP:O2A	2.16	0.45
20:AY:29:THR:O	20:AY:32:ILE:HB	2.16	0.45
21:AA:475:G:H2'	21:AA:476:G:C8	2.51	0.45
21:AA:492:G:H2'	21:AA:493:G:O4'	2.16	0.45
21:AA:864:A:C6	21:AA:865:A:C6	3.04	0.45
27:BE:77:ILE:HG21	59:BA:2634:G:O3'	2.17	0.45
27:BE:132:HIS:HA	27:BE:135:HIS:ND1	2.31	0.45
28:BF:39:TRP:CE2	28:BF:43:LYS:HE2	2.51	0.45
33:BN:36:GLY:HA3	33:BN:48:MET:HE1	1.97	0.45
33:BN:133:GLN:HB3	33:BN:134:ARG:H	1.58	0.45
35:BP:30:THR:HG22	35:BP:31:ALA:H	1.82	0.45
38:BS:30:ARG:HH22	38:BS:62:LYS:HD2	1.81	0.45
38:BS:31:SER:HB2	60:BB:29:A:OP2	2.16	0.45
38:BS:95:HIS:H	38:BS:97:ARG:HH21	1.63	0.45
39:BT:50:ILE:HG22	39:BT:51:ARG:N	2.31	0.45
41:BV:34:GLU:O	41:BV:36:PRO:HD3	2.16	0.45
59:BA:30:G:C5	59:BA:31:C:C4	3.04	0.45
59:BA:210:C:H2'	59:BA:211:A:C8	2.51	0.45
59:BA:217:G:H3'	59:BA:218:A:C8	2.51	0.45
59:BA:545:G:H2'	59:BA:547:A:OP2	2.15	0.45
59:BA:1023:U:H2'	59:BA:1024:G:H5'	1.98	0.45
59:BA:1120:G:H2'	59:BA:1121:C:H6	1.81	0.45
59:BA:1312:U:H5'	59:BA:1313:U:C5	2.51	0.45
59:BA:1320:C:H42	59:BA:1331:A:H62	1.63	0.45
59:BA:1354:A:H62	59:BA:1377:G:H21	1.63	0.45
59:BA:2327:A:N7	59:BA:2388:A:N6	2.64	0.45
59:BA:2342:C:H2'	59:BA:2343:C:O4'	2.16	0.45
59:BA:2632:A:O2'	59:BA:2811:G:O2'	2.20	0.45
2:CC:7:PRO:O	2:CC:11:ARG:HG2	2.16	0.45
2:CC:36:ASP:HA	2:CC:39:ILE:HD12	1.97	0.45
8:CI:82:ALA:O	8:CI:86:VAL:HG23	2.16	0.45
18:CS:59:PRO:HG3	59:DA:887:A:H5"	1.98	0.45
21:CA:229:U:H2'	21:CA:230:G:C8	2.51	0.45
21:CA:1321:C:C3'	21:CA:1322:C:H5"	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CY:113:GLY:C	20:CY:115:GLU:HG2	2.40	0.45
20:CY:344:THR:HG22	20:CY:397:VAL:O	2.16	0.45
25:DC:155:ARG:HD2	25:DC:155:ARG:HA	1.63	0.45
26:DD:105:ILE:HG23	26:DD:106:ILE:O	2.16	0.45
26:DD:244:ARG:NH2	59:DA:1902:C:O2	2.49	0.45
30:DH:37:VAL:HG21	30:DH:68:THR:HG23	1.96	0.45
35:DP:111:ARG:HD3	35:DP:128:HIS:CD2	2.50	0.45
42:DW:66:GLU:HA	42:DW:69:LEU:HG	1.97	0.45
43:DX:65:ARG:HG2	43:DX:66:LEU:N	2.31	0.45
46:D0:27:GLU:HG3	46:D0:69:PHE:CD1	2.51	0.45
52:D8:52:LYS:HE2	59:DA:2358:G:H21	1.82	0.45
56:D1:3:LYS:HB2	59:DA:1364:G:P	2.57	0.45
59:DA:15:G:H2'	59:DA:16:G:C8	2.50	0.45
59:DA:39:C:H2'	59:DA:40:C:C6	2.51	0.45
59:DA:131:G:H1	59:DA:148:C:H42	1.64	0.45
59:DA:273(E):C:H2'	59:DA:273(F):U:C6	2.51	0.45
59:DA:503:A:H4'	59:DA:504:U:H5"	1.97	0.45
59:DA:510:C:H2'	59:DA:511:U:O4'	2.17	0.45
59:DA:579:G:O6	59:DA:1261:C:N3	2.49	0.45
59:DA:2043:C:C4	59:DA:2777:G:C2	3.04	0.45
59:DA:2078:C:H2'	59:DA:2079:U:C6	2.51	0.45
59:DA:2197:U:H1'	59:DA:2198:A:C8	2.52	0.45
59:DA:2240:C:H2'	59:DA:2241:A:H8	1.81	0.45
59:DA:2393:A:H62	59:DA:2422:A:H61	1.64	0.45
59:DA:2415:G:H2'	59:DA:2416:C:C6	2.51	0.45
59:DA:2662:A:H2'	59:DA:2663:G:O4'	2.16	0.45
59:DA:2790:A:H2'	59:DA:2790:A:N3	2.31	0.45
3:AD:76:ARG:HH11	3:AD:76:ARG:HB2	1.82	0.45
10:AK:91:ARG:NH1	17:AR:88:LYS:HD2	2.31	0.45
13:AN:40:CYS:O	13:AN:44:LEU:HB2	2.15	0.45
20:AY:487:ILE:HB	20:AY:597:GLY:O	2.16	0.45
21:AA:302:G:O2'	21:AA:556:C:H5"	2.16	0.45
21:AA:877:C:H2'	21:AA:878:G:C8	2.49	0.45
21:AA:1070:U:H2'	21:AA:1071:C:H6	1.81	0.45
25:BC:51:ASP:HB2	25:BC:54:ARG:HB2	1.98	0.45
26:BD:6:PHE:HE1	26:BD:18:VAL:HB	1.81	0.45
26:BD:138:VAL:HG23	26:BD:167:GLY:HA2	1.98	0.45
29:BG:51:ARG:HD3	29:BG:54:GLU:HB2	1.98	0.45
29:BG:99:MET:HE2	29:BG:99:MET:HB3	1.86	0.45
29:BG:173:LEU:HD22	29:BG:178:PHE:CD1	2.50	0.45
30:BH:67:LEU:O	30:BH:71:LEU:HG	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BO:43:VAL:HB	34:BO:55:GLY:H	1.81	0.45
37:BR:33:ARG:HD3	49:B5:55:ARG:NH1	2.31	0.45
37:BR:83:ILE:H	37:BR:83:ILE:HD12	1.81	0.45
39:BT:23:ARG:C	39:BT:25:GLY:H	2.23	0.45
39:BT:76:PHE:HA	39:BT:77:PRO:HD3	1.68	0.45
44:BY:47:LYS:HG3	44:BY:60:PHE:CE2	2.51	0.45
46:B0:20:ARG:HD2	46:B0:20:ARG:N	2.31	0.45
47:B2:65:ASN:HA	47:B2:68:ARG:HB3	1.98	0.45
49:B5:13:LYS:O	49:B5:16:ARG:HB3	2.16	0.45
51:B7:16:HIS:HE1	59:BA:684:G:H5'	1.80	0.45
59:BA:46:C:H2'	59:BA:47:C:C6	2.51	0.45
59:BA:358:U:H6	59:BA:358:U:O5'	1.98	0.45
59:BA:645:C:O2	59:BA:645:C:H2'	2.16	0.45
59:BA:695:G:C4	59:BA:696:G:C8	3.04	0.45
59:BA:740:U:H3	59:BA:758:C:H1'	1.81	0.45
59:BA:918:A:C2	60:BB:80:U:H4'	2.51	0.45
59:BA:1217:C:H2'	59:BA:1218:C:O4'	2.15	0.45
59:BA:1439:A:N6	59:BA:1552:G:N2	2.48	0.45
59:BA:1790:C:H2'	59:BA:1791:A:C4	2.50	0.45
59:BA:2392:A:H2'	59:BA:2393:A:O4'	2.17	0.45
59:BA:2399:G:H2'	59:BA:2400:G:O4'	2.15	0.45
59:BA:2643:G:H1	59:BA:2771:C:N4	2.08	0.45
59:BA:2676:C:H2'	59:BA:2677:G:C8	2.51	0.45
59:BA:2747:G:H2'	59:BA:2748:A:C8	2.51	0.45
59:BA:2863:C:H2'	59:BA:2864:G:O4'	2.16	0.45
60:BB:81:G:H3'	60:BB:82:G:H8	1.80	0.45
3:CD:86:LYS:HZ3	3:CD:89:THR:HG23	1.81	0.45
11:CL:15:ARG:NH1	21:CA:563:A:N3	2.64	0.45
21:CA:647:C:H2'	21:CA:648:A:H8	1.81	0.45
25:DC:219:MET:SD	59:DA:2174:C:O2'	2.73	0.45
29:DG:47:LYS:HD3	29:DG:81:LYS:HD2	1.98	0.45
29:DG:129:GLY:HA3	29:DG:163:ALA:O	2.16	0.45
30:DH:156:ALA:O	30:DH:158:HIS:ND1	2.49	0.45
31:DJ:50:UNK:N	31:DJ:82:UNK:HA	2.26	0.45
32:DK:55:VAL:HG22	32:DK:56:GLU:H	1.81	0.45
35:DP:48:PRO:O	35:DP:49:ARG:C	2.59	0.45
35:DP:57:THR:C	35:DP:59:LEU:N	2.73	0.45
37:DR:38:VAL:O	37:DR:41:ALA:HB3	2.16	0.45
37:DR:86:ARG:HB3	37:DR:118:GLU:CD	2.42	0.45
38:DS:97:ARG:O	38:DS:100:ALA:N	2.44	0.45
39:DT:98:LYS:HE2	59:DA:2719:G:OP1	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:DX:21:PHE:CE2	43:DX:26:TYR:HA	2.52	0.45
44:DY:12:THR:HG23	44:DY:25:GLY:O	2.15	0.45
45:DZ:9:TYR:HE1	45:DZ:35:ARG:HD3	1.81	0.45
51:D7:7:PRO:HG2	59:DA:1309:G:H4'	1.98	0.45
58:De:121:VAL:HG12	58:De:122:VAL:HG23	1.98	0.45
59:DA:363(D):G:H2'	59:DA:363(E):G:C8	2.52	0.45
59:DA:836:G:H2'	59:DA:837:C:H6	1.81	0.45
59:DA:952:G:C6	59:DA:966:G:C6	3.04	0.45
59:DA:1306:C:N3	59:DA:1622:G:O6	2.49	0.45
59:DA:1423:G:C2	59:DA:1424:G:C8	3.04	0.45
59:DA:1477:A:H2'	59:DA:1478:G:O4'	2.16	0.45
59:DA:1581:G:H2'	59:DA:1582:C:C6	2.51	0.45
59:DA:1607:C:H4'	59:DA:1608:A:O5'	2.16	0.45
59:DA:2095:C:H2'	59:DA:2096:U:C6	2.51	0.45
59:DA:2515:C:H42	59:DA:2569:G:H1	1.64	0.45
59:DA:2526:G:H1	59:DA:2537:U:H3	1.62	0.45
59:DA:2789:C:C2'	59:DA:2790:A:H4'	2.44	0.45
2:AC:58:GLU:O	2:AC:59:ARG:HG2	2.16	0.45
2:AC:73:PRO:C	2:AC:76:VAL:HG13	2.41	0.45
2:AC:107:GLN:H	2:AC:107:GLN:CD	2.24	0.45
4:AE:83:GLU:HB2	4:AE:88:LYS:HD3	1.98	0.45
4:AE:126:ARG:NE	21:AA:9:G:H5"	2.14	0.45
5:AF:6:VAL:HG13	5:AF:90:VAL:HG22	1.98	0.45
9:AJ:29:ARG:HH22	9:AJ:80:LYS:HD3	1.80	0.45
10:AK:119:CYS:HB2	10:AK:120:ARG:H	1.51	0.45
17:AR:19:LYS:HB3	17:AR:20:ALA:H	1.56	0.45
20:AY:357:ARG:NH2	20:AY:366:VAL:HG11	2.31	0.45
20:AY:499:ARG:NH2	59:BA:1911:U:O3'	2.49	0.45
20:AY:676:TYR:CD2	20:AY:676:TYR:N	2.84	0.45
21:AA:658:G:H2'	21:AA:659:U:C6	2.51	0.45
21:AA:908:A:H2'	21:AA:909:A:C8	2.51	0.45
21:AA:1386:G:H2'	21:AA:1387:G:C8	2.51	0.45
26:BD:83:GLU:HG3	26:BD:92:ILE:CD1	2.46	0.45
27:BE:10:GLY:H	39:BT:8:LYS:HE2	1.81	0.45
27:BE:143:ASN:CG	27:BE:144:ARG:N	2.74	0.45
34:BO:26:LYS:HB3	34:BO:27:GLY:H	1.52	0.45
35:BP:17:LYS:HD2	35:BP:19:VAL:O	2.16	0.45
41:BV:52:VAL:HG13	41:BV:55:ALA:HB3	1.97	0.45
42:BW:79:GLY:HA2	59:BA:25:U:H5'	1.98	0.45
49:B5:42:PRO:HB2	59:BA:2815:C:O2'	2.16	0.45
56:B1:18:ILE:CG2	59:BA:380:U:H4'	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:465:G:H2'	59:BA:466:A:C8	2.51	0.45
59:BA:695:G:H2'	59:BA:696:G:O4'	2.17	0.45
59:BA:952:G:C6	59:BA:966:G:C6	3.04	0.45
59:BA:1973:G:C6	59:BA:1974:C:C4	3.05	0.45
59:BA:2211:G:C2'	59:BA:2212:A:H5"	2.46	0.45
59:BA:2865:U:H5"	59:BA:2866:U:OP2	2.15	0.45
59:BA:2866:U:O2	59:BA:2866:U:H2'	2.16	0.45
2:CC:139:GLN:O	2:CC:143:GLU:HB2	2.16	0.45
3:CD:8:VAL:HG23	3:CD:9:CYS:N	2.31	0.45
3:CD:9:CYS:HA	3:CD:12:CYS:HB2	1.98	0.45
3:CD:12:CYS:HB3	3:CD:33:MET:CE	2.47	0.45
3:CD:107:ARG:HD3	3:CD:107:ARG:HA	1.82	0.45
4:CE:25:ARG:HD3	4:CE:27:ARG:NH1	2.31	0.45
6:CG:37:ASN:O	6:CG:41:ARG:HG3	2.16	0.45
6:CG:69:VAL:O	6:CG:138:LYS:HG3	2.17	0.45
9:CJ:24:VAL:HG22	9:CJ:34:VAL:HG11	1.98	0.45
10:CK:18:ARG:HD2	10:CK:20:TYR:CE1	2.50	0.45
14:CO:25:THR:OG1	14:CO:26:GLU:N	2.46	0.45
17:CR:37:VAL:HG23	17:CR:38:GLU:H	1.81	0.45
18:CS:40:ILE:HD11	18:CS:71:LEU:HA	1.98	0.45
21:CA:163:C:H2'	21:CA:164:U:C6	2.52	0.45
21:CA:1356:G:H2'	21:CA:1357:A:C8	2.52	0.45
21:CA:1400:C:H5'	23:CV:20:U:C4	2.52	0.45
20:CY:45:VAL:HB	20:CY:362:HIS:CE1	2.52	0.45
20:CY:69:VAL:HB	20:CY:82:ILE:HG12	1.98	0.45
25:DC:9:ARG:CZ	25:DC:9:ARG:HB2	2.46	0.45
32:DK:30:HIS:CD2	32:DK:30:HIS:C	2.94	0.45
33:DN:18:ALA:HB3	33:DN:56:ASN:OD1	2.16	0.45
34:DO:22:ILE:HD11	34:DO:42:SER:HB2	1.98	0.45
35:DP:85:LEU:HD23	35:DP:85:LEU:H	1.82	0.45
35:DP:122:PRO:O	35:DP:123:LEU:HB3	2.17	0.45
35:DP:126:VAL:HA	35:DP:145:PRO:CD	2.46	0.45
36:DQ:25:ASP:HB3	36:DQ:100:GLY:O	2.17	0.45
38:DS:64:GLU:HA	38:DS:67:ARG:HG3	1.99	0.45
40:DU:13:LYS:HD3	59:DA:1227:G:OP1	2.16	0.45
47:D2:2:LYS:HD2	47:D2:5:GLU:OE1	2.16	0.45
50:D6:22:ALA:HB2	50:D6:39:TYR:CZ	2.51	0.45
51:D7:34:ARG:CD	51:D7:42:LEU:HB3	2.37	0.45
56:D1:90:ILE:O	56:D1:94:LEU:HD13	2.16	0.45
59:DA:270(N):U:H4'	59:DA:270(O):G:H5'	1.98	0.45
59:DA:447:A:H4'	59:DA:448:U:H5'	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:812:C:OP1	59:DA:1251:C:H5'	2.16	0.45
59:DA:1113:U:H2'	59:DA:1114:G:H8	1.81	0.45
1:AB:69:LEU:O	1:AB:163:PHE:HB3	2.17	0.45
2:AC:152:ILE:H	2:AC:152:ILE:HG12	1.53	0.45
7:AH:74:PRO:HB2	7:AH:76:PRO:HD3	1.99	0.45
9:AJ:24:VAL:HG21	9:AJ:37:PRO:HD3	1.98	0.45
12:AM:11:ARG:O	12:AM:45:VAL:HG11	2.15	0.45
14:AO:58:MET:HE1	21:AA:580:U:H5'	1.98	0.45
16:AQ:62:SER:OG	16:AQ:72:ARG:HB2	2.16	0.45
20:AY:327:PHE:CE1	20:AY:376:ALA:HB2	2.52	0.45
21:AA:966:G:C2	21:AA:967:C:C2	3.05	0.45
21:AA:988:G:H2'	21:AA:989:C:O4'	2.17	0.45
21:AA:1255:G:H2'	21:AA:1258:G:H21	1.82	0.45
21:AA:1287:A:H2	21:AA:1353:G:N3	2.15	0.45
21:AA:1385:G:H2'	21:AA:1386:G:C8	2.52	0.45
21:AA:1440(A):G:H5"	21:AA:1440(B):G:O4'	2.16	0.45
25:BC:66:PRO:HD2	25:BC:189:ASN:HD22	1.81	0.45
25:BC:117:THR:OG1	25:BC:120:VAL:HG22	2.15	0.45
26:BD:213:ARG:HD2	26:BD:217:ARG:O	2.17	0.45
27:BE:109:LYS:HB2	37:BR:2:ARG:CZ	2.47	0.45
27:BE:152:LYS:HD3	59:BA:2620:C:OP1	2.15	0.45
28:BF:7:TYR:HE1	28:BF:9:ILE:HD13	1.81	0.45
29:BG:19:LEU:HG	29:BG:175:LEU:HD12	1.98	0.45
29:BG:120:LEU:O	29:BG:181:ARG:HB3	2.16	0.45
29:BG:138:GLN:NE2	29:BG:144:ILE:HD13	2.28	0.45
32:BK:56:GLU:HB2	32:BK:70:LYS:HZ1	1.81	0.45
33:BN:118:LYS:C	33:BN:120:LEU:H	2.24	0.45
34:BO:64:ARG:HG2	34:BO:79:PHE:CD2	2.50	0.45
37:BR:96:ARG:HB2	37:BR:117:VAL:CG2	2.45	0.45
38:BS:30:ARG:HD3	38:BS:35:ILE:HD12	1.97	0.45
41:BV:5:VAL:HG22	41:BV:37:VAL:HG23	1.98	0.45
42:BW:65:LEU:O	42:BW:69:LEU:HG	2.17	0.45
44:BY:46:LYS:N	44:BY:62:GLU:HB2	2.27	0.45
45:BZ:79:ARG:HD2	45:BZ:79:ARG:HA	1.74	0.45
59:BA:218:A:H2'	59:BA:219:G:O4'	2.16	0.45
59:BA:247:G:H4'	59:BA:386:G:C5	2.51	0.45
59:BA:634:C:H2'	59:BA:635:C:C6	2.52	0.45
59:BA:1407:C:H2'	59:BA:1408:C:C6	2.52	0.45
59:BA:1466:G:H2'	59:BA:1547:C:H41	1.80	0.45
59:BA:2322:A:H2'	59:BA:2323:G:O4'	2.17	0.45
59:BA:2612:C:H2'	59:BA:2613:U:H5'	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:BB:49:C:H2'	60:BB:50:G:C8	2.51	0.45
3:CD:101:LEU:HB2	3:CD:138:TYR:HB3	1.99	0.45
5:CF:24:GLU:O	5:CF:28:ARG:HG3	2.17	0.45
16:CQ:79:SER:OG	16:CQ:80:GLY:N	2.49	0.45
18:CS:44:MET:O	18:CS:46:GLY:N	2.50	0.45
21:CA:186(A):C:H2'	21:CA:186(B):C:C6	2.52	0.45
21:CA:522:C:H2'	21:CA:523:A:O4'	2.17	0.45
21:CA:910:C:H2'	21:CA:911:U:C6	2.51	0.45
21:CA:923:A:N6	21:CA:1392:G:O6	2.49	0.45
21:CA:947:G:O2'	21:CA:1306:A:H4'	2.17	0.45
21:CA:1006:C:H2'	21:CA:1007:C:C6	2.52	0.45
22:CW:70:G:H4'	59:DA:1893:C:O2'	2.16	0.45
20:CY:101:LEU:O	20:CY:128:TYR:OH	2.09	0.45
20:CY:387:ASP:OD2	20:CY:387:ASP:N	2.41	0.45
26:DD:183:ARG:HB2	26:DD:270:ILE:HG22	1.98	0.45
29:DG:122:PRO:O	29:DG:125:PHE:HD1	1.99	0.45
30:DH:41:MET:HE2	30:DH:68:THR:HG21	1.98	0.45
33:DN:19:GLU:HB3	33:DN:59:LYS:HB3	1.98	0.45
33:DN:66:LYS:O	33:DN:69:GLN:N	2.49	0.45
38:DS:13:ARG:C	38:DS:15:ARG:N	2.74	0.45
39:DT:56:GLY:O	39:DT:59:THR:HG22	2.17	0.45
40:DU:79:PHE:CE2	40:DU:83:LEU:HD21	2.52	0.45
53:D9:36:GLN:HA	53:D9:36:GLN:HE21	1.81	0.45
56:D1:5:CYS:SG	56:D1:8:SER:N	2.72	0.45
59:DA:410:G:OP1	59:DA:411:G:H5'	2.17	0.45
59:DA:1385:G:H1'	59:DA:1386:C:C6	2.51	0.45
59:DA:1889:A:N3	59:DA:2086:U:O2'	2.44	0.45
59:DA:2781:A:H5'	59:DA:2782:G:C5'	2.47	0.45
3:AD:14:ARG:HA	3:AD:14:ARG:HD3	1.81	0.45
5:AF:29:ALA:O	5:AF:32:ASN:HB2	2.16	0.45
5:AF:100:ASN:ND2	17:AR:23:LYS:O	2.44	0.45
8:AI:65:VAL:HG22	8:AI:73:GLN:HG2	1.99	0.45
9:AJ:16:LEU:CD1	9:AJ:70:ARG:HD3	2.47	0.45
9:AJ:55:LYS:HE3	9:AJ:55:LYS:N	2.30	0.45
11:AL:47:LYS:HE2	11:AL:47:LYS:HB2	1.88	0.45
12:AM:108:ARG:NH2	12:AM:111:LYS:HZ3	2.12	0.45
16:AQ:29:HIS:CD2	16:AQ:32:TYR:HB2	2.52	0.45
17:AR:75:ILE:HG13	21:AA:735:C:O2'	2.16	0.45
20:AY:484:ARG:HG3	20:AY:676:TYR:HE1	1.82	0.45
21:AA:390:C:H2'	21:AA:391:G:C8	2.51	0.45
21:AA:577:G:O2'	21:AA:816:A:H2'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:993:G:N7	21:AA:1213:A:N6	2.65	0.45
21:AA:1256:A:O3'	21:AA:1257:U:H4'	2.17	0.45
21:AA:1436:U:H2'	21:AA:1437:C:O4'	2.16	0.45
26:BD:82:ILE:H	26:BD:82:ILE:HG13	1.68	0.45
27:BE:56:PRO:O	27:BE:59:VAL:HG12	2.17	0.45
27:BE:113:PHE:HD1	59:BA:1654:A:C2	2.35	0.45
27:BE:144:ARG:HB3	27:BE:145:LYS:H	1.49	0.45
28:BF:25:PRO:HB3	28:BF:115:ALA:HB1	1.98	0.45
29:BG:15:VAL:O	29:BG:19:LEU:HB2	2.17	0.45
29:BG:48:GLU:C	29:BG:50:ALA:H	2.21	0.45
30:BH:58:GLU:OE1	30:BH:61:HIS:ND1	2.49	0.45
31:BJ:123:UNK:C	31:BJ:125:UNK:H	2.28	0.45
34:BO:73:ASP:OD1	34:BO:75:SER:OG	2.23	0.45
35:BP:68:GLN:NE2	52:B8:12:LYS:HG2	2.32	0.45
44:BY:8:LYS:C	44:BY:28:LYS:HZ3	2.25	0.45
45:BZ:136:PHE:N	45:BZ:136:PHE:HD1	2.15	0.45
51:B7:34:ARG:NH2	51:B7:42:LEU:HD22	2.32	0.45
51:B7:34:ARG:HB3	51:B7:39:ARG:HH21	1.82	0.45
59:BA:257:A:H2'	59:BA:258:G:O4'	2.17	0.45
59:BA:393:C:H2'	59:BA:394:A:C8	2.51	0.45
59:BA:608:A:H2'	59:BA:609(A):A:C8	2.51	0.45
59:BA:681:G:H1	59:BA:796:C:N4	2.07	0.45
59:BA:816:C:H2'	59:BA:817:C:C6	2.51	0.45
59:BA:1049:C:H2'	59:BA:1050:A:C8	2.52	0.45
59:BA:1900:A:O2'	59:BA:1901:A:OP1	2.30	0.45
59:BA:1963:U:O2	59:BA:1963:U:H2'	2.17	0.45
59:BA:2366:A:H2'	59:BA:2367:G:O4'	2.17	0.45
59:BA:2712:U:O2'	59:BA:712(B):A:H3'	2.17	0.45
5:CF:80:ARG:NH2	5:CF:88:VAL:O	2.49	0.45
10:CK:84:VAL:N	10:CK:109:VAL:O	2.49	0.45
10:CK:86:GLY:HA2	10:CK:112:THR:HG23	1.98	0.45
10:CK:94:ALA:O	10:CK:98:LEU:HG	2.16	0.45
12:CM:36:LYS:HA	12:CM:36:LYS:NZ	2.31	0.45
12:CM:98:VAL:HG12	12:CM:98:VAL:O	2.15	0.45
14:CO:46:HIS:C	14:CO:48:LYS:H	2.23	0.45
18:CS:73:GLU:HG2	21:CA:1320:C:H1'	1.98	0.45
21:CA:313:A:H2'	21:CA:314:C:C6	2.51	0.45
20:CY:25:LYS:HZ3	61:CY:701:GNP:PB	2.38	0.45
20:CY:76:ASP:O	20:CY:77:HIS:ND1	2.46	0.45
20:CY:569:ASP:OD2	20:CY:570:GLY:N	2.48	0.45
25:DC:167:ASP:OD1	25:DC:169:THR:HG23	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:DD:76:PRO:HA	26:DD:118:VAL:HB	1.99	0.45
27:DE:61:ARG:NH2	59:DA:2810:A:H2'	2.23	0.45
27:DE:111:ARG:H	27:DE:161:GLY:HA3	1.81	0.45
28:DF:37:VAL:O	28:DF:40:GLN:NE2	2.48	0.45
32:DK:27:LEU:O	32:DK:30:HIS:HB3	2.16	0.45
33:DN:6:PRO:C	33:DN:7:LYS:HZ3	2.24	0.45
37:DR:3:HIS:C	37:DR:5:LYS:H	2.24	0.45
38:DS:93:LYS:HB2	60:DB:47:C:O2'	2.17	0.45
59:DA:71:A:N7	59:DA:114:U:H1'	2.32	0.45
59:DA:77:C:H2'	59:DA:78:A:C8	2.51	0.45
59:DA:382:G:H1	59:DA:392:C:N4	2.12	0.45
59:DA:465:G:C6	59:DA:466:A:C6	3.04	0.45
59:DA:1173:G:H5"	59:DA:1174:A:OP2	2.16	0.45
59:DA:1557:C:H5"	59:DA:1558:A:OP2	2.17	0.45
59:DA:2116:G:N7	59:DA:2166:G:N2	2.64	0.45
59:DA:2142:C:H2'	59:DA:2143:C:C6	2.51	0.45
59:DA:2175:C:H2'	59:DA:2176:A:C8	2.52	0.45
1:AB:75:LYS:O	1:AB:78:GLN:HB3	2.17	0.45
1:AB:94:ASN:OD1	1:AB:95:GLN:NE2	2.49	0.45
2:AC:193:TYR:N	2:AC:193:TYR:CD2	2.85	0.45
5:AF:43:LEU:HB3	5:AF:60:PHE:HB2	1.98	0.45
8:AI:29:ASN:HB2	8:AI:36:TYR:HE1	1.82	0.45
10:AK:92:GLU:CD	10:AK:95:ILE:HD12	2.41	0.45
12:AM:37:THR:HG21	12:AM:55:ARG:O	2.16	0.45
19:AT:73:HIS:C	19:AT:74:LYS:HZ2	2.25	0.45
20:AY:164:MET:HE1	20:AY:181:LEU:HD13	1.98	0.45
21:AA:35:G:C6	21:AA:36:C:N4	2.85	0.45
21:AA:769:G:H22	21:AA:811:C:H1'	1.80	0.45
21:AA:1002:G:H2'	21:AA:1003:G:O4'	2.17	0.45
21:AA:1237:C:O2	21:AA:1334:G:O2'	2.31	0.45
21:AA:1305:G:O2'	21:AA:1331:G:N2	2.49	0.45
21:AA:1504:G:HO2'	21:AA:1505:G:P	2.39	0.45
26:BD:24:ILE:HG23	26:BD:25:THR:H	1.82	0.45
26:BD:35:LYS:HZ3	26:BD:61:LEU:HD11	1.81	0.45
26:BD:71:ASP:OD2	26:BD:72:LYS:N	2.50	0.45
26:BD:151:LYS:HD2	59:BA:2208:U:H4'	1.99	0.45
35:BP:71:VAL:C	35:BP:73:GLY:H	2.24	0.45
44:BY:101:LYS:HE3	44:BY:105:ALA:HB2	1.99	0.45
50:B6:18:ARG:C	50:B6:19:ARG:HD2	2.42	0.45
51:B7:33:ARG:HB2	51:B7:34:ARG:HH12	1.80	0.45
53:B9:22:ARG:HB2	53:B9:24:TYR:CE1	2.43	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:150:C:H42	59:BA:176:G:H1	1.65	0.45
59:BA:211:A:H2'	59:BA:212:G:O4'	2.17	0.45
59:BA:464:U:O2	59:BA:788:A:N6	2.50	0.45
59:BA:628:G:H2'	59:BA:629:G:C8	2.52	0.45
59:BA:686:G:N2	59:BA:788:A:H61	2.12	0.45
59:BA:969:U:H2'	59:BA:970:C:C6	2.51	0.45
59:BA:1102:C:H2'	59:BA:1103:A:C8	2.51	0.45
59:BA:1878:G:H2'	59:BA:1879:C:C6	2.51	0.45
59:BA:2084:C:H2'	59:BA:2085:C:H6	1.81	0.45
59:BA:2447:G:H4'	59:BA:2448:A:O5'	2.16	0.45
60:BB:54:G:H2'	60:BB:55:U:O4'	2.16	0.45
1:CB:162:ILE:C	1:CB:185:ILE:O	2.60	0.45
3:CD:8:VAL:HG11	3:CD:115:ARG:CZ	2.46	0.45
7:CH:110:ALA:HB3	7:CH:121:ASP:HB3	1.99	0.45
8:CI:9:ARG:HG3	8:CI:14:VAL:HG23	1.98	0.45
14:CO:46:HIS:O	14:CO:47:LYS:HG2	2.17	0.45
15:CP:1:MET:HB2	15:CP:1:MET:HE3	1.64	0.45
16:CQ:4:LYS:HD2	16:CQ:4:LYS:HA	1.66	0.45
16:CQ:37:LYS:N	16:CQ:37:LYS:HD2	2.32	0.45
16:CQ:46:ASP:OD1	16:CQ:49:GLU:HA	2.16	0.45
17:CR:40:LEU:HB3	17:CR:79:LEU:HD11	1.98	0.45
21:CA:53:A:H61	21:CA:358:U:H3	1.64	0.45
21:CA:408:A:H2'	21:CA:409:G:C8	2.52	0.45
21:CA:872:A:C4	21:CA:874:G:N7	2.85	0.45
20:CY:193:GLY:C	20:CY:195:ASP:H	2.25	0.45
20:CY:499:ARG:HB2	20:CY:506:GLN:O	2.16	0.45
25:DC:71:LYS:HG3	25:DC:72:GLN:H	1.82	0.45
26:DD:41:GLY:HA3	59:DA:692:C:H4'	1.99	0.45
27:DE:44:TYR:HE2	27:DE:80:GLU:OE1	2.00	0.45
27:DE:134:ILE:HG12	27:DE:135:HIS:N	2.30	0.45
29:DG:71:THR:HA	60:DB:41:U:O4	2.16	0.45
30:DH:41:MET:CB	30:DH:54:ARG:HA	2.46	0.45
33:DN:43:THR:HB	33:DN:46:VAL:HG11	1.97	0.45
34:DO:114:ILE:H	34:DO:114:ILE:HG12	1.51	0.45
35:DP:59:LEU:HG	52:D8:13:ARG:HH12	1.82	0.45
36:DQ:12:GLN:HG3	36:DQ:72:LYS:HZ2	1.82	0.45
37:DR:89:ASP:HA	37:DR:91:GLN:HE22	1.81	0.45
41:DV:72:VAL:HG11	59:DA:992:C:O3'	2.16	0.45
43:DX:3:THR:O	43:DX:5:TYR:N	2.49	0.45
52:D8:52:LYS:CE	59:DA:2358:G:H21	2.29	0.45
52:D8:53:PRO:HA	52:D8:56:GLU:CB	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:D1:76:ARG:NH1	56:D1:95:LEU:HD22	2.31	0.45
59:DA:225:A:H2'	59:DA:226:G:H5'	1.98	0.45
59:DA:986:C:H2'	59:DA:987:G:O4'	2.16	0.45
59:DA:1431:U:H2'	59:DA:1432:C:C6	2.52	0.45
59:DA:1569:A:H2'	59:DA:1570:A:C8	2.52	0.45
59:DA:1914:C:H2'	59:DA:1915:U:O4'	2.16	0.45
59:DA:2115:G:H4'	59:DA:2167:U:C1'	2.46	0.45
59:DA:2133:G:O2'	59:DA:2157:G:N2	2.49	0.45
59:DA:2661:G:C6	59:DA:2662:A:C2	3.04	0.45
59:DA:2818:G:H2'	59:DA:2819:G:H8	1.82	0.45
7:AH:56:LYS:HA	7:AH:57:PRO:HD2	1.82	0.45
11:AL:54:LYS:HD3	11:AL:70:ILE:HD13	1.99	0.45
12:AM:50:GLU:O	12:AM:53:VAL:N	2.50	0.45
12:AM:76:ALA:O	12:AM:79:LYS:HB2	2.17	0.45
16:AQ:43:LEU:HB3	16:AQ:69:LYS:HG2	1.99	0.45
19:AT:30:LYS:O	19:AT:34:LYS:HG3	2.17	0.45
20:AY:101:LEU:H	20:AY:101:LEU:HG	1.54	0.45
20:AY:289:ILE:HD12	20:AY:289:ILE:H	1.82	0.45
21:AA:448:A:P	21:AA:485:G:H22	2.39	0.45
21:AA:458(A):G:N2	21:AA:458(E):A:H62	2.13	0.45
21:AA:1133:G:H2'	21:AA:1134:G:O4'	2.17	0.45
25:BC:41:THR:HG21	59:BA:2124:G:H4'	1.97	0.45
25:BC:50:ILE:HG22	25:BC:57:GLN:HB3	1.99	0.45
25:BC:73:VAL:HG11	25:BC:157:ILE:CG2	2.47	0.45
25:BC:172:ILE:HD12	25:BC:193:PHE:CZ	2.51	0.45
26:BD:134:ARG:HG3	26:BD:135:PHE:CD1	2.52	0.45
27:BE:19:ARG:HE	34:BO:72:PRO:HB3	1.81	0.45
27:BE:151:TYR:CD2	33:BN:79:PRO:HG2	2.52	0.45
27:BE:164:ARG:HD3	59:BA:2774:C:OP1	2.17	0.45
28:BF:43:LYS:HA	28:BF:98:SER:HB2	1.99	0.45
29:BG:102:PHE:CZ	29:BG:157:ILE:HG21	2.51	0.45
29:BG:122:PRO:O	29:BG:124:SER:N	2.50	0.45
33:BN:102:ALA:HA	59:BA:1139:G:OP1	2.17	0.45
36:BQ:11:LYS:HZ3	36:BQ:87:LYS:HB3	1.81	0.45
36:BQ:26:TYR:HA	45:BZ:81:ARG:HH21	1.82	0.45
37:BR:62:ALA:O	37:BR:66:VAL:HG23	2.16	0.45
37:BR:67:LEU:HD11	37:BR:76:VAL:HB	1.99	0.45
45:BZ:16:SER:O	45:BZ:20:ARG:HG2	2.16	0.45
47:B2:38:GLN:O	47:B2:41:ILE:HG12	2.16	0.45
48:B3:5:LYS:HA	48:B3:35:ARG:O	2.16	0.45
52:B8:4:MET:HE1	59:BA:666:G:H1'	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B4:12:ALA:HA	57:B4:29:PRO:O	2.17	0.45
59:BA:64:A:H2'	59:BA:65:C:H6	1.82	0.45
59:BA:270(F):G:H1	59:BA:270(V):C:H42	1.64	0.45
59:BA:780:G:H2'	59:BA:782:A:N7	2.32	0.45
59:BA:1186:G:H3'	59:BA:1187:G:C8	2.51	0.45
59:BA:1430:C:H42	59:BA:1563:G:H1	1.65	0.45
59:BA:149(B):A:O2'	59:BA:1530:G:N2	2.50	0.45
59:BA:1668:A:H4'	59:BA:1669:A:O5'	2.17	0.45
59:BA:2224:G:H4'	59:BA:2226:C:N3	2.31	0.45
59:BA:2300:G:H2'	59:BA:2301:C:C6	2.52	0.45
59:BA:2870:C:H2'	59:BA:2871:C:O4'	2.16	0.45
3:CD:162:LEU:HD11	3:CD:181:MET:HG2	1.99	0.45
9:CJ:49:VAL:HG22	9:CJ:50:ILE:H	1.81	0.45
9:CJ:78:ASN:O	9:CJ:81:THR:OG1	2.33	0.45
16:CQ:52:LYS:HG2	16:CQ:55:ASP:OD1	2.16	0.45
21:CA:301:G:H2'	21:CA:302:G:C8	2.51	0.45
21:CA:687:A:N6	21:CA:701:C:O2	2.50	0.45
20:CY:33:LEU:HG	20:CY:34:TYR:CD2	2.52	0.45
26:DD:132:PRO:HB2	26:DD:135:PHE:HB2	1.98	0.45
28:DF:195:ASP:HB3	28:DF:197:ASP:CG	2.42	0.45
29:DG:11:TYR:OH	29:DG:33:ARG:HG2	2.17	0.45
33:DN:6:PRO:C	33:DN:7:LYS:NZ	2.75	0.45
34:DO:87:ILE:HD12	34:DO:91:LEU:HA	1.98	0.45
59:DA:83:G:H22	59:DA:102:G:H2'	1.81	0.45
59:DA:848:G:N7	59:DA:929:G:N2	2.65	0.45
59:DA:920:G:H2'	59:DA:921:G:O4'	2.17	0.45
59:DA:1540:G:C2	59:DA:1541:U:H1'	2.52	0.45
59:DA:1932:A:H2'	59:DA:1933:G:O4'	2.16	0.45
59:DA:2395:C:H2'	59:DA:2396:G:O4'	2.17	0.45
12:AM:13:LYS:HE2	12:AM:13:LYS:HB2	1.84	0.45
13:AN:56:VAL:HG12	13:AN:57:ARG:H	1.81	0.45
17:AR:60:ALA:O	17:AR:64:ARG:HG3	2.16	0.45
19:AT:71:THR:O	19:AT:73:HIS:N	2.50	0.45
19:AT:76:ALA:HA	19:AT:79:ARG:HE	1.82	0.45
20:AY:34:TYR:HD1	20:AY:35:TYR:O	1.99	0.45
20:AY:41:LYS:HG2	20:AY:43:GLY:N	2.31	0.45
20:AY:210:ARG:O	20:AY:214:GLU:HG2	2.17	0.45
20:AY:467:LYS:HZ1	20:AY:474:ALA:HB3	1.82	0.45
21:AA:696:A:O5'	21:AA:696:A:H8	1.99	0.45
21:AA:1392:G:O2'	21:AA:1502:A:OP1	2.34	0.45
21:AA:1424:C:H2'	21:AA:1425:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BD:202:LYS:HB3	59:BA:1820:U:H1'	1.98	0.45
27:BE:161:GLY:C	27:BE:163:GLU:HG2	2.41	0.45
28:BF:31:HIS:ND1	35:BP:13:ASN:OD1	2.49	0.45
29:BG:166:ASP:OD2	29:BG:166:ASP:N	2.48	0.45
40:BU:2:PRO:HD3	59:BA:444:C:OP2	2.16	0.45
41:BV:19:LYS:NZ	41:BV:21:ARG:O	2.34	0.45
43:BX:69:TYR:CD1	43:BX:69:TYR:N	2.85	0.45
45:BZ:85:HIS:NE2	60:BB:75:G:O2'	2.48	0.45
59:BA:51:G:H4'	59:BA:52:A:H5'	1.98	0.45
59:BA:182:A:H2'	59:BA:183:C:C6	2.52	0.45
59:BA:811:U:O2'	59:BA:812:C:H5"	2.16	0.45
59:BA:1557:C:H5"	59:BA:1558:A:OP2	2.17	0.45
59:BA:2348:U:H2'	59:BA:2349:G:H8	1.82	0.45
59:BA:2368:C:H2'	59:BA:2369:A:C8	2.51	0.45
7:CH:20:TYR:HA	7:CH:65:TYR:CZ	2.52	0.45
11:CL:10:LEU:HB3	16:CQ:32:TYR:CD1	2.52	0.45
11:CL:35:GLY:HA2	11:CL:58:VAL:CG1	2.44	0.45
16:CQ:45:HIS:HB3	16:CQ:72:ARG:HG2	1.99	0.45
21:CA:123:C:O3'	21:CA:310:G:N2	2.49	0.45
21:CA:272:C:H2'	21:CA:273:A:C8	2.52	0.45
21:CA:346:G:H5'	21:CA:347:G:OP2	2.17	0.45
21:CA:647:C:H2'	21:CA:648:A:C8	2.52	0.45
21:CA:1227:A:N3	21:CA:1227:A:H2'	2.32	0.45
21:CA:1260:C:OP1	21:CA:1284:C:H4'	2.17	0.45
21:CA:1465:C:H2'	21:CA:1466:C:O4'	2.16	0.45
20:CY:31:ARG:O	20:CY:32:ILE:C	2.59	0.45
28:DF:103:LYS:HA	28:DF:106:ARG:CZ	2.47	0.45
30:DH:144:VAL:O	30:DH:148:ILE:HG12	2.17	0.45
33:DN:25:ARG:HA	33:DN:28:THR:OG1	2.16	0.45
35:DP:67:MET:H	59:DA:2415:G:C4'	2.27	0.45
36:DQ:7:MET:O	36:DQ:9:TYR:N	2.49	0.45
40:DU:2:PRO:HD3	59:DA:444:C:OP2	2.17	0.45
41:DV:19:LYS:HG3	41:DV:20:LEU:N	2.31	0.45
45:DZ:67:LEU:HD12	45:DZ:68:PRO:HD2	1.97	0.45
57:D4:14:ILE:HA	57:D4:32:TYR:HA	1.98	0.45
58:De:107:GLU:HB3	58:De:111:ILE:HD11	1.97	0.45
59:DA:476:G:H1'	59:DA:480:A:N6	2.32	0.45
59:DA:871:U:H2'	59:DA:872:A:C8	2.51	0.45
59:DA:1199:U:H3	59:DA:1246:A:H61	1.64	0.45
59:DA:1270:C:O2'	59:DA:1325:G:H2'	2.16	0.45
59:DA:1732:A:H2'	59:DA:1733:G:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2033:A:O2'	59:DA:2034:U:H5"	2.17	0.45
59:DA:2104:G:N1	59:DA:2185:C:O2	2.36	0.45
59:DA:2643:G:H1	59:DA:2771:C:N4	2.13	0.45
59:DA:2811:G:N2	59:DA:2891:G:H1'	2.32	0.45
7:AH:1:MET:HE1	21:AA:823:G:H21	1.82	0.45
8:AI:107:ARG:HH21	21:AA:1347:G:H5"	1.81	0.45
11:AL:127:GLU:O	11:AL:129:ALA:N	2.49	0.45
12:AM:117:VAL:HG12	12:AM:118:ALA:N	2.31	0.45
19:AT:73:HIS:O	19:AT:74:LYS:NZ	2.47	0.45
19:AT:88:VAL:O	19:AT:92:LEU:HG	2.17	0.45
20:AY:30:GLU:O	20:AY:32:ILE:C	2.60	0.45
20:AY:99:ARG:CZ	20:AY:403:GLU:HG2	2.47	0.45
20:AY:312:LEU:HG	20:AY:313:ALA:H	1.81	0.45
20:AY:478:LYS:HA	20:AY:479:PRO:HD3	1.88	0.45
21:AA:414:A:H2'	21:AA:415:A:C8	2.52	0.45
21:AA:741:G:H5'	21:AA:742:G:OP2	2.17	0.45
26:BD:65:ILE:HD13	26:BD:65:ILE:H	1.82	0.45
26:BD:146:GLU:C	26:BD:148:GLU:H	2.25	0.45
26:BD:266:SER:OG	59:BA:1800:C:OP1	2.33	0.45
33:BN:118:LYS:O	33:BN:121:LYS:NZ	2.36	0.45
36:BQ:132:VAL:HG11	45:BZ:81:ARG:HH12	1.82	0.45
42:BW:25:ARG:HH22	42:BW:75:TYR:N	2.11	0.45
43:BX:35:THR:O	43:BX:39:ILE:HG13	2.17	0.45
59:BA:577:G:O2'	59:BA:1254:A:OP1	2.31	0.45
59:BA:681:G:H2'	59:BA:682:G:O4'	2.17	0.45
59:BA:785:G:H2'	59:BA:785:G:N3	2.32	0.45
59:BA:1138:G:H2'	59:BA:1139:G:O4'	2.17	0.45
59:BA:1186:G:H3'	59:BA:1187:G:H8	1.82	0.45
59:BA:1219:G:H1	59:BA:1230:C:H42	1.63	0.45
59:BA:1368:G:N1	59:BA:1369:G:C5	2.85	0.45
59:BA:1474:C:H2'	59:BA:1475:G:H8	1.81	0.45
59:BA:1766:U:H3	59:BA:1986:A:N6	2.12	0.45
59:BA:1935:G:N3	59:BA:1935:G:H2'	2.31	0.45
59:BA:2271:G:H2'	59:BA:2272:U:C6	2.52	0.45
59:BA:2459:A:C6	59:BA:2460:U:C2	3.05	0.45
59:BA:2791:C:H5	59:BA:2794:C:H41	1.65	0.45
1:CB:201:ILE:HD13	1:CB:201:ILE:HA	1.73	0.45
2:CC:2:GLY:HA2	21:CA:1062:U:O4	2.17	0.45
2:CC:8:ILE:HD12	2:CC:16:ARG:CZ	2.47	0.45
2:CC:161:GLU:HA	21:CA:1055:A:O2'	2.16	0.45
3:CD:55:ALA:O	3:CD:59:ARG:HG2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CD:177:ASP:HB2	3:CD:182:LYS:N	2.32	0.45
5:CF:18:GLN:O	5:CF:21:LEU:HB3	2.17	0.45
6:CG:64:GLN:HG3	6:CG:128:ALA:HA	1.99	0.45
7:CH:52:ASP:HA	7:CH:58:TYR:H	1.81	0.45
11:CL:74:GLY:O	11:CL:102:ARG:NH2	2.48	0.45
11:CL:93:LEU:HD12	11:CL:96:VAL:HG13	1.98	0.45
13:CN:4:LYS:O	13:CN:7:ILE:HG12	2.16	0.45
14:CO:5:LYS:O	14:CO:9:GLN:HG2	2.16	0.45
21:CA:45:U:H2'	21:CA:46:G:C8	2.52	0.45
21:CA:68(I):G:O6	21:CA:68(Q):U:O4	2.35	0.45
21:CA:663:A:H61	21:CA:742:G:H1	1.65	0.45
20:CY:119:GLU:O	20:CY:123:ARG:HB2	2.17	0.45
20:CY:147:TRP:CD1	20:CY:147:TRP:H	2.33	0.45
20:CY:150:ILE:HD11	20:CY:258:VAL:HG21	1.98	0.45
25:DC:210:LEU:HD13	25:DC:227:PRO:O	2.17	0.45
27:DE:64:LYS:O	27:DE:67:PHE:HB3	2.17	0.45
28:DF:162:LEU:H	28:DF:162:LEU:HD12	1.81	0.45
29:DG:50:ALA:O	29:DG:51:ARG:NH2	2.49	0.45
32:DK:71:THR:HG21	32:DK:114:ASP:CB	2.46	0.45
33:DN:66:LYS:O	33:DN:67:LEU:C	2.60	0.45
34:DO:56:ASP:OD2	34:DO:56:ASP:N	2.50	0.45
35:DP:77:ARG:NH1	59:DA:633:A:OP1	2.50	0.45
36:DQ:87:LYS:NZ	59:DA:955:C:OP1	2.43	0.45
42:DW:1:MET:HG3	42:DW:2:GLU:H	1.81	0.45
42:DW:80:PRO:HB3	59:DA:26:G:OP1	2.17	0.45
43:DX:65:ARG:HD3	43:DX:70:LEU:HG	1.98	0.45
50:D6:15:GLU:OE2	50:D6:44:ARG:NH2	2.50	0.45
50:D6:26:ASN:HD22	50:D6:27:LYS:H	1.64	0.45
59:DA:137(A):C:H2'	59:DA:137(B):G:C8	2.52	0.45
59:DA:248:G:O5'	59:DA:249:C:H5"	2.17	0.45
59:DA:270(O):G:H1'	59:DA:270(Q):C:O5'	2.17	0.45
59:DA:557:U:H2'	59:DA:558:G:C8	2.52	0.45
59:DA:607:U:O4	59:DA:620:G:H5"	2.17	0.45
59:DA:906:G:N2	59:DA:907:U:H1'	2.31	0.45
59:DA:2718:G:O2'	59:DA:2847:U:H5"	2.16	0.45
59:DA:2798:C:H5"	59:DA:2799:A:OP2	2.17	0.45
1:AB:88:ALA:HB2	1:AB:219:VAL:HG13	1.99	0.45
1:AB:111:ARG:HE	1:AB:145:LEU:HD21	1.81	0.45
1:AB:211:ILE:H	1:AB:211:ILE:HD13	1.82	0.45
3:AD:70:ILE:HG12	3:AD:71:SER:N	2.32	0.45
3:AD:86:LYS:HZ3	3:AD:89:THR:HG23	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AD:152:SER:HA	3:AD:155:LEU:HB2	1.99	0.45
4:AE:89:ILE:HG12	4:AE:91:LEU:HD23	1.98	0.45
5:AF:27:GLN:HE21	5:AF:27:GLN:HB3	1.57	0.45
8:AI:107:ARG:HB3	21:AA:1347:G:H2'	1.99	0.45
15:AP:67:THR:H	15:AP:70:ALA:HB3	1.81	0.45
16:AQ:40:LYS:HD3	16:AQ:42:TYR:OH	2.15	0.45
20:AY:203:GLU:HB3	20:AY:204:GLU:H	1.51	0.45
20:AY:607:ARG:HA	20:AY:645:ALA:O	2.17	0.45
21:AA:65:U:O2'	21:AA:381:C:OP1	2.35	0.45
21:AA:295:C:H2'	21:AA:296:U:O4'	2.17	0.45
21:AA:448:A:H2'	21:AA:449:C:C6	2.51	0.45
21:AA:760:G:C5	21:AA:761:G:C8	3.05	0.45
21:AA:1325:C:O2'	21:AA:1326:C:H5'	2.17	0.45
21:AA:1409:C:H2'	21:AA:1410:G:C8	2.51	0.45
25:BC:11:LEU:HA	25:BC:14:LYS:HB2	1.99	0.45
25:BC:76:LEU:HD23	25:BC:104:ILE:HD11	1.98	0.45
26:BD:53:PHE:HB3	26:BD:218:ARG:HB2	1.98	0.45
29:BG:19:LEU:HD13	29:BG:32:PRO:HG2	1.99	0.45
29:BG:109:VAL:C	29:BG:112:PRO:HD2	2.42	0.45
32:BK:30:HIS:CG	32:BK:59:ILE:HB	2.51	0.45
33:BN:89:LYS:HA	33:BN:89:LYS:HD2	1.71	0.45
41:BV:39:LEU:CD1	41:BV:51:VAL:HA	2.47	0.45
45:BZ:124:ILE:HD13	45:BZ:124:ILE:H	1.82	0.45
51:B7:40:TRP:CH2	59:BA:469:G:N1	2.85	0.45
56:B1:82:LEU:HB3	56:B1:90:ILE:HD13	1.97	0.45
59:BA:35:G:O5'	59:BA:35:G:H8	1.99	0.45
59:BA:245:G:H2'	59:BA:246:C:H6	1.82	0.45
59:BA:697:C:H2'	59:BA:698:C:C6	2.52	0.45
59:BA:1332:G:H5'	59:BA:1333:C:OP2	2.17	0.45
59:BA:1425:G:H2'	59:BA:1426:G:C4	2.52	0.45
59:BA:1431:U:H2'	59:BA:1432:C:O4'	2.16	0.45
59:BA:1839:G:H2'	59:BA:1840:G:H8	1.81	0.45
59:BA:1938:A:N1	59:BA:2590:A:H1'	2.32	0.45
59:BA:2002:G:H2'	59:BA:2003:G:C8	2.52	0.45
59:BA:2426:A:H3'	59:BA:2427:C:H5"	1.98	0.45
1:CB:142:LEU:O	1:CB:146:GLN:HB2	2.17	0.45
1:CB:172:ILE:O	1:CB:175:ARG:HB3	2.17	0.45
2:CC:57:ILE:HA	2:CC:65:ALA:O	2.17	0.45
3:CD:24:GLU:HA	3:CD:27:TYR:HD1	1.82	0.45
6:CG:156:TRP:CD1	6:CG:156:TRP:H	2.35	0.45
7:CH:38:ILE:HD13	7:CH:41:ARG:NH1	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:CJ:55:LYS:HG3	21:CA:973:G:O4'	2.16	0.45
11:CL:58:VAL:HB	11:CL:60:LEU:HD22	1.99	0.45
11:CL:81:SER:HB2	11:CL:83:VAL:HG13	1.98	0.45
11:CL:85:ILE:HA	11:CL:85:ILE:HD12	1.72	0.45
11:CL:90:VAL:CG2	11:CL:96:VAL:HG11	2.43	0.45
14:CO:43:LEU:O	14:CO:47:LYS:N	2.50	0.45
18:CS:18:LYS:NZ	21:CA:1014:A:OP1	2.49	0.45
21:CA:1262:C:H2'	21:CA:1263:C:C6	2.53	0.45
21:CA:1286:A:H2'	21:CA:1287:A:H4'	1.99	0.45
22:CW:68:U:H2'	22:CW:69:A:C8	2.52	0.45
20:CY:24:GLY:HA3	61:CY:701:GNP:H8	1.98	0.45
25:DC:25:GLU:O	25:DC:29:LEU:HB2	2.16	0.45
25:DC:53:ARG:HG2	25:DC:54:ARG:N	2.32	0.45
26:DD:89:SER:OG	26:DD:90:ALA:N	2.50	0.45
26:DD:248:SER:OG	26:DD:250:TRP:HE3	2.00	0.45
27:DE:129:HIS:CE1	59:DA:1675:C:N3	2.85	0.45
28:DF:66:PRO:O	28:DF:67:GLN:HB3	2.17	0.45
30:DH:41:MET:HA	30:DH:55:PRO:HD3	1.99	0.45
30:DH:43:VAL:HG11	30:DH:72:ILE:HD12	1.99	0.45
33:DN:42:TRP:H	40:DU:64:ARG:NE	2.15	0.45
42:DW:8:ARG:HA	42:DW:102:HIS:ND1	2.32	0.45
43:DX:93:GLU:O	43:DX:95:LEU:HD12	2.16	0.45
51:D7:2:LYS:HG3	59:DA:1620:G:O2'	2.17	0.45
59:DA:227:A:C2	59:DA:2407:G:H1'	2.51	0.45
59:DA:414:C:H2'	59:DA:415:A:C8	2.52	0.45
59:DA:473:G:H5"	59:DA:508:G:N2	2.32	0.45
59:DA:558:G:H2'	59:DA:559:G:C8	2.51	0.45
59:DA:977:G:C6	59:DA:987:G:C6	3.05	0.45
59:DA:1084:A:H2'	59:DA:1085:A:C8	2.52	0.45
59:DA:1120:G:C6	59:DA:1121:C:N4	2.85	0.45
59:DA:1827:C:H2'	59:DA:1828:G:O4'	2.16	0.45
59:DA:2193:G:H2'	59:DA:2194:G:C8	2.52	0.45
59:DA:2601:C:H5"	59:DA:2602:A:OP1	2.17	0.45
1:AB:141:GLU:O	1:AB:144:ARG:HB3	2.16	0.44
4:AE:94:ALA:HB3	4:AE:117:ASP:C	2.42	0.44
7:AH:21:LYS:NZ	21:AA:828:A:OP1	2.47	0.44
7:AH:51:VAL:HG21	7:AH:60:ARG:HG3	1.99	0.44
8:AI:28:VAL:HG22	8:AI:63:ILE:HG12	1.98	0.44
8:AI:110:GLU:CD	21:AA:1186:G:H4'	2.42	0.44
9:AJ:54:PHE:CE1	9:AJ:55:LYS:HB2	2.51	0.44
11:AL:7:ILE:O	11:AL:11:VAL:HG23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AL:104:VAL:HB	11:AL:105:TYR:H	1.39	0.44
12:AM:105:THR:HA	12:AM:114:ARG:NH2	2.32	0.44
15:AP:72:ARG:HD2	21:AA:452:A:H1'	2.00	0.44
20:AY:454:MET:H	20:AY:454:MET:HG3	1.44	0.44
21:AA:505:G:C4	21:AA:535:A:C2	3.06	0.44
21:AA:642:A:H2'	21:AA:643:C:H6	1.82	0.44
21:AA:1102:A:H2'	21:AA:1103:C:C6	2.51	0.44
25:BC:45:HIS:ND1	25:BC:173:HIS:HD2	2.16	0.44
26:BD:268:ARG:HH11	26:BD:269:PHE:HE1	1.65	0.44
30:BH:143:GLN:HG3	59:BA:2745:C:H1'	1.99	0.44
32:BK:93:ARG:HG2	45:BZ:112:ARG:NH2	2.31	0.44
32:BK:117:THR:HB	59:BA:1082:U:H5'	1.99	0.44
32:BK:117:THR:O	32:BK:117:THR:OG1	2.32	0.44
35:BP:146:VAL:O	35:BP:148:LEU:N	2.38	0.44
36:BQ:52:VAL:O	36:BQ:55:VAL:N	2.50	0.44
36:BQ:98:LYS:HA	36:BQ:99:PRO:HD3	1.83	0.44
38:BS:15:ARG:C	38:BS:17:ARG:N	2.74	0.44
40:BU:92:ARG:HD3	40:BU:95:LEU:HG	1.99	0.44
41:BV:35:LEU:HB2	41:BV:57:VAL:HG13	1.99	0.44
44:BY:42:VAL:HB	44:BY:65:ALA:O	2.17	0.44
50:B6:27:LYS:HG2	59:BA:2286:A:OP2	2.17	0.44
59:BA:9:U:C2	59:BA:2629:A:N7	2.84	0.44
59:BA:130:C:O3'	59:BA:1349:A:H1'	2.16	0.44
59:BA:939:G:H2'	59:BA:940:G:H8	1.83	0.44
59:BA:1436:G:H1	59:BA:1556:C:H42	1.65	0.44
59:BA:1474:C:H2'	59:BA:1475:G:C8	2.52	0.44
59:BA:1495:A:H2'	59:BA:1495:A:N3	2.33	0.44
59:BA:1711:C:H2'	59:BA:1712:C:C6	2.51	0.44
59:BA:1900:A:N1	59:BA:1970:A:C6	2.85	0.44
59:BA:2476:A:C2'	59:BA:2477:C:H5'	2.47	0.44
59:BA:2592:G:C2'	59:BA:2593:U:H5'	2.47	0.44
2:CC:106:VAL:HG12	2:CC:108:ASN:H	1.82	0.44
5:CF:50:TYR:HA	5:CF:51:PRO:HD2	1.85	0.44
6:CG:64:GLN:NE2	6:CG:128:ALA:O	2.50	0.44
8:CI:110:GLU:CD	21:CA:1186:G:H4'	2.43	0.44
11:CL:90:VAL:HB	21:CA:523:A:C2	2.52	0.44
21:CA:216:G:H2'	21:CA:217:C:C6	2.52	0.44
21:CA:251:G:C6	21:CA:266:G:N1	2.86	0.44
20:CY:11:ARG:HG2	20:CY:12:LEU:HD22	1.99	0.44
20:CY:602:LEU:HB3	20:CY:676:TYR:HB2	1.98	0.44
20:CY:614:GLU:O	20:CY:617:MET:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CY:661:SER:OG	59:DA:2660:A:N7	2.40	0.44
25:DC:20:VAL:O	25:DC:225:ILE:HA	2.17	0.44
25:DC:182:PRO:HB3	25:DC:183:PRO:HD2	1.98	0.44
26:DD:210:GLY:HA2	59:DA:764:A:C5'	2.44	0.44
26:DD:241:PRO:HB3	59:DA:1971:A:C4	2.51	0.44
27:DE:21:VAL:HA	27:DE:22:PRO:HD2	1.74	0.44
31:DJ:111:UNK:H	31:DJ:116:UNK:HA	1.82	0.44
32:DK:72:PRO:HG2	32:DK:111:LYS:NZ	2.31	0.44
33:DN:78:TYR:CD1	59:DA:2642:G:H5'	2.52	0.44
34:DO:11:ALA:HB1	34:DO:99:PHE:H	1.82	0.44
36:DQ:86:GLY:HA2	46:D0:10:THR:HG23	1.99	0.44
37:DR:29:LEU:HD23	37:DR:70:LEU:HD11	1.98	0.44
37:DR:40:LYS:O	37:DR:44:LEU:HB2	2.17	0.44
39:DT:64:ARG:NH2	39:DT:103:ARG:HA	2.32	0.44
42:DW:4:LYS:HA	42:DW:106:ILE:HG12	2.00	0.44
45:DZ:152:ALA:HA	45:DZ:167:PRO:O	2.16	0.44
52:D8:17:THR:OG1	59:DA:651:G:OP1	2.35	0.44
52:D8:42:ARG:HH11	59:DA:2350:C:H5	1.65	0.44
56:D1:14:VAL:HA	56:D1:41:ARG:HD2	1.98	0.44
56:D1:21:ARG:HD2	56:D1:22:GLY:N	2.32	0.44
59:DA:854:G:H2'	59:DA:855:G:C8	2.52	0.44
59:DA:1316:U:H2'	59:DA:1317:A:H8	1.82	0.44
59:DA:1663:C:H1'	59:DA:2686:G:H4'	2.00	0.44
59:DA:1669:A:O3'	59:DA:2549:G:H5'	2.16	0.44
59:DA:2008:C:H2'	59:DA:2009:G:H8	1.79	0.44
59:DA:2287:A:N1	59:DA:2346:A:H2	2.16	0.44
1:AB:105:PHE:O	1:AB:109:SER:OG	2.28	0.44
1:AB:215:LEU:O	1:AB:219:VAL:HG23	2.17	0.44
2:AC:4:LYS:NZ	21:AA:1192:C:OP1	2.47	0.44
3:AD:58:LEU:HG	3:AD:206:PHE:CZ	2.52	0.44
6:AG:76:ARG:HD2	6:AG:89:MET:SD	2.57	0.44
8:AI:24:GLY:HA3	8:AI:58:ARG:N	2.33	0.44
11:AL:18:VAL:HG23	11:AL:19:ARG:H	1.82	0.44
12:AM:105:THR:HG22	21:AA:1229:A:N6	2.33	0.44
18:AS:34:TRP:HA	18:AS:57:HIS:HE1	1.82	0.44
19:AT:60:GLU:HG3	19:AT:81:LYS:HE3	1.99	0.44
20:AY:74:TRP:O	20:AY:75:LYS:C	2.60	0.44
20:AY:655:TYR:HD2	20:AY:669:PHE:HE2	1.64	0.44
21:AA:35:G:C6	21:AA:36:C:C4	3.05	0.44
21:AA:216:G:H2'	21:AA:217:C:C6	2.51	0.44
21:AA:763:G:H2'	21:AA:764:C:H6	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:769:G:N2	21:AA:811:C:H1'	2.32	0.44
21:AA:963:G:N2	21:AA:972:C:C2	2.85	0.44
21:AA:1098:C:H2'	21:AA:1099:G:O4'	2.17	0.44
21:AA:1356:G:H2'	21:AA:1357:A:H8	1.81	0.44
21:AA:1358:U:O2'	21:AA:1359:C:O5'	2.35	0.44
25:BC:176:VAL:HB	25:BC:177:GLY:H	1.56	0.44
26:BD:163:ALA:HA	26:BD:177:LEU:HA	1.99	0.44
29:BG:15:VAL:HA	29:BG:175:LEU:HD13	1.98	0.44
30:BH:26:VAL:HB	30:BH:33:LEU:HD23	2.00	0.44
37:BR:18:LEU:HB3	37:BR:22:ARG:NE	2.23	0.44
38:BS:24:LEU:O	38:BS:86:ALA:N	2.47	0.44
38:BS:31:SER:OG	38:BS:32:LEU:N	2.49	0.44
40:BU:62:ILE:HG13	40:BU:76:TYR:CZ	2.53	0.44
40:BU:110:VAL:O	40:BU:114:LYS:HG3	2.17	0.44
44:BY:76:CYS:SG	44:BY:99:CYS:HB3	2.58	0.44
45:BZ:75:ASN:C	45:BZ:76:LEU:HD23	2.42	0.44
46:B0:40:GLN:HE22	46:B0:45:PHE:H	1.64	0.44
59:BA:137(B):G:H2'	59:BA:139:G:N7	2.32	0.44
59:BA:223:A:C6	59:BA:422:A:C5	3.05	0.44
59:BA:1027:A:C6	59:BA:1126:A:C5	3.04	0.44
59:BA:1587:A:H2'	59:BA:1588:C:C6	2.52	0.44
59:BA:1937:A:C8	59:BA:1939:U:H5"	2.52	0.44
59:BA:2398:U:H2'	59:BA:2399:G:C8	2.52	0.44
21:CA:126:G:OP1	21:CA:605:U:O2'	2.33	0.44
21:CA:428:G:H4'	21:CA:429:U:OP1	2.17	0.44
21:CA:993:G:H2'	21:CA:995:C:N4	2.33	0.44
26:DD:92:ILE:H	26:DD:92:ILE:HG13	1.65	0.44
26:DD:165:ILE:HA	26:DD:175:LEU:HD22	1.99	0.44
26:DD:165:ILE:HG22	26:DD:166:GLN:N	2.31	0.44
26:DD:242:ARG:NE	59:DA:1902:C:OP1	2.50	0.44
27:DE:134:ILE:O	27:DE:136:ARG:N	2.43	0.44
28:DF:125:LEU:HD22	28:DF:194:MET:SD	2.57	0.44
28:DF:160:ASN:OD1	28:DF:163:VAL:HG23	2.17	0.44
34:DO:4:PRO:HA	34:DO:21:CYS:SG	2.57	0.44
34:DO:22:ILE:HD12	59:DA:1952:A:C4	2.52	0.44
34:DO:68:GLU:OE2	34:DO:68:GLU:N	2.51	0.44
35:DP:39:LYS:HB3	59:DA:806:C:OP2	2.16	0.44
35:DP:57:THR:O	35:DP:57:THR:OG1	2.29	0.44
37:DR:79:LEU:HB3	37:DR:80:PHE:CD2	2.53	0.44
40:DU:108:GLU:O	40:DU:112:ARG:HG2	2.17	0.44
42:DW:25:ARG:HH21	59:DA:519:U:H4'	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:DW:106:ILE:O	42:DW:107:LEU:HB3	2.16	0.44
43:DX:8:ILE:O	47:D2:33:MET:HE1	2.17	0.44
43:DX:69:TYR:CD1	43:DX:69:TYR:N	2.85	0.44
44:DY:2:ARG:NH2	59:DA:106:C:O2	2.50	0.44
48:D3:50:VAL:O	48:D3:54:VAL:HG22	2.17	0.44
56:D1:43:TYR:CD2	56:D1:44:PRO:HD2	2.52	0.44
59:DA:439:G:H2'	59:DA:440:G:C8	2.52	0.44
59:DA:473:G:H5"	59:DA:508:G:H22	1.82	0.44
59:DA:1785:A:H4'	59:DA:1982:C:H1'	1.98	0.44
59:DA:2737:G:H2'	59:DA:2738:A:C8	2.52	0.44
59:DA:2870:C:H2'	59:DA:2871:C:O4'	2.17	0.44
1:AB:95:GLN:HG3	1:AB:147:LYS:O	2.18	0.44
3:AD:42:GLN:C	3:AD:44:GLY:H	2.26	0.44
3:AD:165:MET:HE3	3:AD:165:MET:HB3	1.84	0.44
7:AH:12:ARG:HG2	21:AA:826:C:H4'	1.98	0.44
20:AY:165:GLN:HB2	20:AY:178:ILE:O	2.17	0.44
20:AY:603:GLU:HG2	20:AY:679:VAL:HG13	1.99	0.44
20:AY:655:TYR:HD2	20:AY:669:PHE:CE2	2.35	0.44
21:AA:339:C:H2'	21:AA:340:U:C6	2.52	0.44
21:AA:971:G:P	21:AA:1231:G:H21	2.40	0.44
21:AA:1504:G:OP1	21:AA:1507:A:O2'	2.20	0.44
25:BC:3:LYS:C	25:BC:5:GLY:H	2.26	0.44
28:BF:157:VAL:CG1	28:BF:192:LEU:HG	2.47	0.44
28:BF:165:ARG:HB3	59:BA:321:G:O4'	2.18	0.44
28:BF:176:LEU:HD22	28:BF:185:ASP:OD2	2.17	0.44
29:BG:81:LYS:HB3	29:BG:82:LEU:H	1.59	0.44
30:BH:106:THR:HG22	30:BH:112:PRO:HB3	1.98	0.44
33:BN:14:VAL:HG12	33:BN:15:LEU:N	2.32	0.44
33:BN:133:GLN:HG2	33:BN:135:PRO:HD3	2.00	0.44
43:BX:36:LYS:HD2	59:BA:1598:C:H5'	1.99	0.44
45:BZ:19:ARG:HH12	45:BZ:85:HIS:HB2	1.82	0.44
45:BZ:48:PHE:CE2	45:BZ:71:VAL:HG11	2.53	0.44
49:B5:34:PRO:HD2	49:B5:40:LYS:NZ	2.33	0.44
56:B1:18:ILE:HG12	56:B1:20:ARG:HB3	1.98	0.44
56:B1:25:LYS:HB3	59:BA:388:G:P	2.58	0.44
57:B4:10:VAL:O	57:B4:26:SER:N	2.50	0.44
59:BA:288:C:H2'	59:BA:289:A:H8	1.82	0.44
59:BA:380:U:H2'	59:BA:381:G:H8	1.83	0.44
59:BA:614:U:H4'	59:BA:615:G:H5'	2.00	0.44
59:BA:1136:G:C2	59:BA:1137:G:C5	3.06	0.44
59:BA:1259:G:H2'	59:BA:1260:G:H8	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1394:U:H5"	59:BA:1604:C:OP1	2.16	0.44
59:BA:1423:G:O2'	59:BA:1499:C:H1'	2.17	0.44
59:BA:1922:G:H2'	59:BA:1923:U:O4'	2.17	0.44
59:BA:1955:U:O2'	59:BA:1956:U:H5'	2.17	0.44
59:BA:2602:A:O2'	59:BA:2603:G:OP1	2.33	0.44
1:CB:15:VAL:HB	1:CB:16:HIS:ND1	2.32	0.44
2:CC:22:TRP:CB	2:CC:59:ARG:HB2	2.48	0.44
6:CG:116:ALA:O	6:CG:119:ARG:N	2.51	0.44
10:CK:32:ILE:HB	10:CK:41:THR:HG23	2.00	0.44
10:CK:45:GLY:O	10:CK:48:ILE:HG12	2.18	0.44
12:CM:13:LYS:HE3	12:CM:21:TYR:CE1	2.52	0.44
12:CM:94:ARG:HA	12:CM:94:ARG:HD3	1.70	0.44
19:CT:15:ARG:HD3	19:CT:15:ARG:HA	1.68	0.44
20:CY:106:VAL:HG23	20:CY:132:ARG:HG3	1.99	0.44
20:CY:616:TYR:O	20:CY:620:VAL:HG13	2.17	0.44
25:DC:178:LYS:O	25:DC:180:SER:N	2.46	0.44
26:DD:253:GLN:OE1	59:DA:1843:C:H5'	2.18	0.44
27:DE:141:ILE:HB	27:DE:142:GLY:H	1.45	0.44
28:DF:160:ASN:OD1	28:DF:162:LEU:HB2	2.17	0.44
30:DH:85:LYS:HE2	30:DH:141:VAL:HG22	1.99	0.44
32:DK:63:ARG:HD2	58:De:79:ARG:HE	1.83	0.44
32:DK:69:THR:C	32:DK:70:LYS:HD2	2.43	0.44
37:DR:74:LYS:H	37:DR:74:LYS:HG2	1.50	0.44
38:DS:12:PHE:CD1	38:DS:91:PRO:HB3	2.52	0.44
38:DS:67:ARG:NH1	38:DS:98:VAL:HB	2.33	0.44
40:DU:45:TYR:O	40:DU:49:HIS:ND1	2.51	0.44
47:D2:48:HIS:CG	47:D2:49:LYS:H	2.35	0.44
51:D7:3:ARG:HD3	51:D7:3:ARG:HA	1.70	0.44
59:DA:571:A:H1'	59:DA:573:G:C8	2.52	0.44
59:DA:757:U:H2'	59:DA:758:C:O4'	2.17	0.44
59:DA:1682:G:C5	59:DA:1683:C:C4	3.05	0.44
60:DB:25:A:N3	60:DB:25:A:H2'	2.32	0.44
1:AB:108:ILE:O	1:AB:112:VAL:HG23	2.16	0.44
2:AC:40:ARG:NH1	13:AN:52:GLN:HB3	2.33	0.44
11:AL:90:VAL:CG2	11:AL:96:VAL:HG11	2.47	0.44
11:AL:118:SER:CB	21:AA:35:G:H21	2.28	0.44
12:AM:81:LEU:HD11	12:AM:88:ARG:NH2	2.30	0.44
12:AM:89:GLY:HA2	12:AM:92:HIS:HB2	2.00	0.44
14:AO:63:ARG:HG3	14:AO:64:ARG:N	2.31	0.44
14:AO:85:LEU:HD22	14:AO:87:ILE:HG12	1.99	0.44
16:AQ:25:ARG:CZ	21:AA:237:C:H5"	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AR:42:ARG:C	17:AR:44:LEU:H	2.26	0.44
20:AY:66:THR:HB	20:AY:67:ALA:H	1.53	0.44
20:AY:72:CYS:HB3	20:AY:79:ILE:HB	1.98	0.44
20:AY:494:GLU:CD	20:AY:509:HIS:HE2	2.24	0.44
21:AA:38:G:H22	21:AA:397:A:C5'	2.30	0.44
21:AA:1157:A:H4'	21:AA:1158:C:O5'	2.18	0.44
25:BC:8:TYR:HA	25:BC:11:LEU:HB2	2.00	0.44
25:BC:45:HIS:CG	25:BC:173:HIS:CD2	3.04	0.44
25:BC:118:PRO:O	25:BC:121:MET:HB2	2.17	0.44
26:BD:35:LYS:HE3	26:BD:35:LYS:HB3	1.72	0.44
28:BF:202:PHE:CZ	28:BF:206:ILE:HG13	2.52	0.44
35:BP:16:ARG:HH11	35:BP:16:ARG:C	2.25	0.44
39:BT:54:ARG:O	59:BA:2845:G:H5"	2.18	0.44
40:BU:10:ARG:NH1	59:BA:583:G:OP2	2.50	0.44
42:BW:12:ILE:O	42:BW:101:SER:OG	2.23	0.44
44:BY:15:VAL:HG12	44:BY:21:LYS:HA	2.00	0.44
45:BZ:30:ASN:ND2	45:BZ:90:VAL:O	2.51	0.44
45:BZ:136:PHE:N	45:BZ:136:PHE:CD1	2.85	0.44
47:B2:32:LEU:O	47:B2:36:ARG:HG2	2.17	0.44
59:BA:481:G:H2'	59:BA:507:A:N1	2.32	0.44
59:BA:877:U:N3	59:BA:899:A:C2	2.74	0.44
59:BA:1464:C:O2	59:BA:1528:A:H2	2.00	0.44
59:BA:1658:C:N4	59:BA:1659:U:O4	2.50	0.44
59:BA:1936:A:H5'	59:BA:1936:A:N3	2.32	0.44
59:BA:2109:U:H3'	59:BA:2110:G:H8	1.82	0.44
59:BA:2266:A:H5'	59:BA:2267:A:C4	2.53	0.44
59:BA:2401:U:H3	59:BA:2415:G:H1	1.64	0.44
59:BA:2468:G:C8	59:BA:2476:A:N7	2.86	0.44
4:CE:103:GLY:HA2	21:CA:8:A:H1'	1.98	0.44
8:CI:103:THR:HA	21:CA:1179:A:O3'	2.18	0.44
9:CJ:7:LYS:NZ	21:CA:1279:A:OP1	2.50	0.44
21:CA:143:A:H2	21:CA:220:G:H22	1.66	0.44
21:CA:645:C:H2'	21:CA:646:U:O4'	2.18	0.44
21:CA:994:A:N3	21:CA:994:A:H2'	2.32	0.44
21:CA:1144:G:N2	21:CA:1146:A:H62	2.14	0.44
21:CA:1261:A:N6	21:CA:1274:G:H21	2.08	0.44
21:CA:1327:C:H2'	21:CA:1328:C:H6	1.79	0.44
20:CY:30:GLU:O	20:CY:31:ARG:C	2.60	0.44
20:CY:71:THR:OG1	20:CY:359:HIS:ND1	2.43	0.44
20:CY:150:ILE:HG23	20:CY:161:PRO:CG	2.46	0.44
20:CY:165:GLN:NE2	20:CY:260:LEU:H	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:DC:20:VAL:CG1	25:DC:226:ASN:HB2	2.47	0.44
26:DD:30:GLU:CD	26:DD:63:ARG:HE	2.25	0.44
26:DD:105:ILE:HD13	26:DD:106:ILE:H	1.83	0.44
27:DE:19:ARG:NH1	27:DE:19:ARG:HB3	2.32	0.44
27:DE:188:VAL:HA	27:DE:189:PRO:HD2	1.84	0.44
28:DF:5:ALA:HB2	28:DF:24:LEU:HD21	1.98	0.44
28:DF:36:VAL:HG22	28:DF:101:LEU:HD21	1.99	0.44
28:DF:175:THR:O	28:DF:175:THR:OG1	2.26	0.44
30:DH:24:VAL:O	30:DH:26:VAL:HG23	2.17	0.44
30:DH:44:VAL:C	30:DH:50:VAL:HG13	2.42	0.44
31:DJ:58:UNK:C	31:DJ:60:UNK:N	2.80	0.44
32:DK:57:ILE:HG23	32:DK:67:PHE:HB3	1.98	0.44
33:DN:47:ALA:HB1	33:DN:116:LEU:HD21	1.98	0.44
37:DR:78:LYS:HG2	37:DR:83:ILE:HD13	2.00	0.44
38:DS:59:LYS:HE2	38:DS:61:ASN:HB3	2.00	0.44
38:DS:102:ALA:HA	38:DS:109:GLY:H	1.83	0.44
39:DT:28:VAL:HB	39:DT:88:ILE:HB	1.99	0.44
39:DT:50:ILE:HG22	39:DT:51:ARG:N	2.32	0.44
44:DY:9:LYS:NZ	44:DY:103:GLY:HA3	2.32	0.44
45:DZ:58:VAL:HA	45:DZ:68:PRO:HA	1.98	0.44
45:DZ:103:ARG:HB3	45:DZ:138:GLU:HA	2.00	0.44
52:D8:33:ASN:O	52:D8:35:GLN:N	2.50	0.44
56:D1:53:VAL:HG13	56:D1:74:VAL:HG13	1.99	0.44
59:DA:197:A:H61	59:DA:2431:U:H5'	1.83	0.44
59:DA:539:G:H2'	59:DA:540:G:H8	1.82	0.44
59:DA:584:C:H2'	59:DA:585:G:O4'	2.17	0.44
59:DA:616:A:H4'	59:DA:617:G:OP1	2.18	0.44
59:DA:873:G:N2	59:DA:904:C:N3	2.55	0.44
59:DA:1166:C:H2'	59:DA:1167:U:C6	2.52	0.44
59:DA:2056:G:H2'	59:DA:2056:G:N3	2.32	0.44
1:AB:211:ILE:HB	1:AB:215:LEU:HD12	1.98	0.44
3:AD:30:LYS:HB3	3:AD:35:ARG:HG2	1.98	0.44
3:AD:173:TRP:CD1	3:AD:186:LEU:H	2.24	0.44
4:AE:28:PHE:HD1	4:AE:49:PRO:O	2.01	0.44
9:AJ:62:HIS:HD2	13:AN:61:TRP:HZ3	1.65	0.44
10:AK:108:ILE:H	10:AK:109:VAL:HG23	1.81	0.44
11:AL:55:VAL:O	11:AL:56:ALA:C	2.60	0.44
20:AY:72:CYS:HB3	20:AY:79:ILE:H	1.82	0.44
20:AY:584:ILE:HD12	20:AY:584:ILE:HA	1.89	0.44
20:AY:608:VAL:HG12	20:AY:645:ALA:HB3	2.00	0.44
21:AA:137:C:N4	21:AA:226:G:H1	2.14	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:234:C:H2'	21:AA:235:C:C6	2.53	0.44
21:AA:574:A:N3	21:AA:883:C:H1'	2.32	0.44
21:AA:946:A:N3	21:AA:1333:A:H2	2.16	0.44
21:AA:1373:G:O5'	21:AA:1373:G:H8	2.00	0.44
22:AW:8:U:H4'	22:AW:48:C:H4'	1.99	0.44
26:BD:42:GLY:O	26:BD:43:ARG:HG3	2.18	0.44
28:BF:68:LYS:C	28:BF:70:THR:H	2.26	0.44
29:BG:57:ALA:HB2	29:BG:88:ILE:HD11	2.00	0.44
32:BK:105:LEU:O	32:BK:109:LYS:HG3	2.17	0.44
35:BP:59:LEU:HA	35:BP:61:ARG:NH1	2.32	0.44
37:BR:73:VAL:O	37:BR:76:VAL:HG12	2.17	0.44
40:BU:3:ARG:N	59:BA:445:C:OP1	2.49	0.44
41:BV:22:VAL:HG21	41:BV:94:LEU:HG	1.99	0.44
45:BZ:112:ARG:NH2	59:BA:1077:A:OP1	2.51	0.44
53:B9:1:MET:SD	53:B9:1:MET:N	2.82	0.44
56:B1:49:VAL:HG21	56:B1:67:ILE:HG23	1.99	0.44
57:B4:3:GLU:HG2	60:BB:43:C:OP1	2.17	0.44
58:Be:74:VAL:O	58:Be:78:LEU:HB3	2.17	0.44
59:BA:1047:G:O2'	59:BA:1110:G:N1	2.34	0.44
59:BA:1195:G:H2'	59:BA:1196:C:C6	2.53	0.44
59:BA:1589:C:H2'	59:BA:1590:U:O4'	2.17	0.44
59:BA:2068:U:N3	59:BA:2430:A:H2	2.11	0.44
59:BA:2084:C:H2'	59:BA:2085:C:C6	2.52	0.44
59:BA:2734:A:H3'	59:BA:2735:G:H8	1.82	0.44
1:CB:103:THR:C	1:CB:105:PHE:H	2.25	0.44
2:CC:164:ARG:NH1	2:CC:166:GLU:OE1	2.51	0.44
4:CE:45:PHE:CZ	21:CA:1079:G:H5"	2.51	0.44
9:CJ:63:PHE:HZ	13:CN:49:HIS:HE2	1.66	0.44
11:CL:117:ARG:HB3	11:CL:122:THR:O	2.17	0.44
16:CQ:29:HIS:HB2	16:CQ:34:LYS:O	2.18	0.44
16:CQ:43:LEU:HD12	16:CQ:68:ARG:C	2.43	0.44
17:CR:52:PRO:O	17:CR:56:THR:HG23	2.18	0.44
21:CA:68(H):G:H2'	21:CA:68(I):G:N7	2.32	0.44
21:CA:346:G:H4'	39:DT:41:ARG:NH2	2.33	0.44
21:CA:615:C:H2'	21:CA:616:G:O4'	2.18	0.44
21:CA:1240:U:H4'	21:CA:1241:G:OP2	2.18	0.44
20:CY:634:MET:N	20:CY:634:MET:SD	2.90	0.44
20:CY:679:VAL:O	20:CY:681:LYS:N	2.51	0.44
26:DD:5:LYS:HD3	26:DD:6:PHE:O	2.18	0.44
26:DD:65:ILE:HD13	26:DD:65:ILE:H	1.82	0.44
26:DD:122:ASP:OD2	26:DD:123:ALA:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:DE:74:PRO:HG3	27:DE:77:ILE:O	2.18	0.44
27:DE:134:ILE:CG1	27:DE:135:HIS:H	2.30	0.44
28:DF:54:ARG:HA	28:DF:57:VAL:HG23	1.99	0.44
28:DF:126:VAL:O	28:DF:195:ASP:HA	2.18	0.44
33:DN:37:LYS:HE2	33:DN:37:LYS:HB3	1.78	0.44
39:DT:26:ASP:OD2	39:DT:48:ILE:HA	2.18	0.44
39:DT:74:ARG:HD2	39:DT:76:PHE:CZ	2.53	0.44
41:DV:96:ILE:O	41:DV:97:LYS:HB2	2.17	0.44
43:DX:59:VAL:HG21	43:DX:78:LYS:HG2	1.99	0.44
44:DY:5:MET:HA	44:DY:5:MET:HE3	1.99	0.44
44:DY:32:PRO:HD2	44:DY:34:LYS:N	2.30	0.44
44:DY:65:ALA:HA	44:DY:66:PRO:HD3	1.87	0.44
44:DY:96:ILE:HB	44:DY:99:CYS:HB2	2.00	0.44
59:DA:151:C:H2'	59:DA:152:G:O4'	2.17	0.44
59:DA:713:G:H2'	59:DA:714:U:C6	2.53	0.44
59:DA:1890:A:H8	59:DA:1890:A:O5'	2.01	0.44
59:DA:2020:A:O2'	59:DA:2021:C:H5'	2.17	0.44
59:DA:2101:G:H2'	59:DA:2102:U:C6	2.51	0.44
59:DA:2541:A:O5'	59:DA:2541:A:H8	1.99	0.44
59:DA:2574:G:H2'	59:DA:2575:C:O4'	2.17	0.44
59:DA:2851:A:H2'	59:DA:2852:G:C8	2.52	0.44
3:AD:176:LEU:HB2	3:AD:177:ASP:H	1.53	0.44
7:AH:3:THR:HG1	21:AA:877:C:HO2'	1.64	0.44
11:AL:102:ARG:HG3	11:AL:109:GLY:CA	2.45	0.44
13:AN:21:TYR:HE2	13:AN:23:ARG:CZ	2.30	0.44
17:AR:61:LYS:HB2	17:AR:61:LYS:HE3	1.83	0.44
20:AY:93:GLU:O	20:AY:97:SER:OG	2.33	0.44
20:AY:402:ILE:O	20:AY:404:VAL:HG23	2.18	0.44
20:AY:546:ILE:HG12	20:AY:590:ILE:HG12	1.99	0.44
21:AA:54:C:H41	21:AA:352:C:H2'	1.82	0.44
21:AA:664:G:O2'	21:AA:666:G:OP2	2.34	0.44
21:AA:770:C:O2'	21:AA:899:C:N3	2.44	0.44
21:AA:926:G:O2'	23:AV:15:A:H1'	2.18	0.44
21:AA:945:G:H2'	21:AA:945:G:N3	2.33	0.44
21:AA:1288:A:H2'	21:AA:1289:A:C8	2.53	0.44
21:AA:1303:C:C4	21:AA:1304:G:C6	3.06	0.44
22:AW:38:A:H2'	22:AW:39:U:O4'	2.18	0.44
26:BD:140:THR:N	26:BD:165:ILE:HD12	2.33	0.44
26:BD:262:ARG:HD2	26:BD:262:ARG:H	1.83	0.44
27:BE:56:PRO:HB2	27:BE:57:LYS:H	1.59	0.44
27:BE:110:GLY:O	37:BR:2:ARG:HG2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:BK:6:ALA:C	32:BK:8:VAL:H	2.26	0.44
33:BN:35:ARG:NH1	59:BA:1007:C:OP1	2.47	0.44
33:BN:100:GLU:HB3	33:BN:117:PHE:HZ	1.81	0.44
34:BO:101:PRO:HB3	34:BO:120:GLU:HB3	1.99	0.44
36:BQ:79:LEU:C	36:BQ:81:VAL:H	2.26	0.44
40:BU:70:ARG:HA	40:BU:74:LEU:O	2.17	0.44
42:BW:46:PHE:O	42:BW:49:LYS:HB3	2.17	0.44
44:BY:32:PRO:HD2	44:BY:34:LYS:H	1.83	0.44
46:B0:50:ASN:O	46:B0:62:LEU:HB2	2.18	0.44
47:B2:26:ARG:O	47:B2:29:LYS:HB2	2.18	0.44
51:B7:5:TRP:CD1	59:BA:1612:C:H4'	2.44	0.44
59:BA:572:A:H2'	59:BA:573:G:O4'	2.16	0.44
59:BA:795:C:H2'	59:BA:796:C:C6	2.52	0.44
59:BA:903:C:H2'	59:BA:904:C:C6	2.52	0.44
59:BA:1268:A:N6	59:BA:2012:G:O2'	2.50	0.44
59:BA:1283:G:H22	59:BA:1285:G:H3'	1.83	0.44
59:BA:1285:G:C5	59:BA:1329:U:C4	3.05	0.44
59:BA:1602:U:H3'	59:BA:1603:A:C5'	2.47	0.44
59:BA:1625:C:H2'	59:BA:1626:G:H5'	2.00	0.44
59:BA:1767:C:N4	59:BA:1985:G:H1	2.11	0.44
59:BA:2090:G:C2	59:BA:2230:G:C6	3.05	0.44
59:BA:2136:C:H2'	59:BA:2137:C:C6	2.52	0.44
59:BA:2211:G:H2'	59:BA:2211:G:N3	2.33	0.44
59:BA:2245:U:O2'	59:BA:2435:A:H3'	2.17	0.44
59:BA:2526:G:H2'	59:BA:2527:C:H6	1.83	0.44
59:BA:2811:G:N2	59:BA:2891:G:H1'	2.33	0.44
59:BA:2879:C:H4'	59:BA:2880:C:OP1	2.18	0.44
60:BB:29:A:H2'	60:BB:30:C:C6	2.53	0.44
2:CC:8:ILE:HA	2:CC:11:ARG:HB2	1.99	0.44
2:CC:86:VAL:HG23	2:CC:87:LEU:HD22	2.00	0.44
6:CG:79:ARG:H	6:CG:79:ARG:CD	2.31	0.44
7:CH:119:LEU:HD22	7:CH:124:ALA:HA	1.99	0.44
10:CK:110:ASP:HB3	17:CR:88:LYS:HG3	1.99	0.44
12:CM:24:GLY:N	21:CA:1330:U:OP1	2.51	0.44
12:CM:77:ASN:O	12:CM:81:LEU:HD22	2.18	0.44
16:CQ:67:LYS:HD3	21:CA:254:G:OP2	2.17	0.44
21:CA:1236:A:H2'	21:CA:1237:C:C6	2.53	0.44
21:CA:1505:G:O2'	23:CV:15:A:H2'	2.17	0.44
20:CY:256:THR:HA	20:CY:257:PRO:HD2	1.80	0.44
20:CY:301:ILE:HG22	20:CY:332:SER:OG	2.17	0.44
20:CY:485:GLU:HA	20:CY:601:ILE:HA	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:DC:216:THR:HB	25:DC:222:SER:HB3	1.99	0.44
26:DD:249:PRO:HG2	26:DD:250:TRP:CZ3	2.53	0.44
33:DN:58:ASP:OD1	33:DN:58:ASP:N	2.43	0.44
35:DP:45:LEU:C	35:DP:46:LYS:HZ3	2.26	0.44
36:DQ:21:THR:HG23	36:DQ:101:ARG:HB2	1.99	0.44
38:DS:34:HIS:CG	38:DS:54:LEU:HB3	2.51	0.44
41:DV:59:ALA:CA	41:DV:96:ILE:HA	2.47	0.44
43:DX:12:VAL:HA	43:DX:29:TRP:CD1	2.51	0.44
50:D6:18:ARG:C	50:D6:19:ARG:HD2	2.43	0.44
51:D7:28:ARG:HA	51:D7:31:LEU:HD12	1.99	0.44
58:De:68:GLY:C	58:De:70:LYS:H	2.25	0.44
59:DA:2742:C:H2'	59:DA:2743:C:C6	2.52	0.44
1:AB:96:ARG:O	1:AB:97:TRP:C	2.61	0.44
4:AE:16:THR:OG1	4:AE:27:ARG:HB3	2.18	0.44
10:AK:29:ILE:HG13	10:AK:42:TRP:O	2.17	0.44
12:AM:36:LYS:HD3	12:AM:36:LYS:HA	1.66	0.44
19:AT:53:LEU:HD12	19:AT:102:GLY:HA3	1.98	0.44
20:AY:311:ALA:HA	20:AY:330:VAL:C	2.43	0.44
20:AY:605:ILE:HD13	20:AY:677:GLN:HG2	1.98	0.44
21:AA:57:G:H2'	21:AA:58:C:C6	2.53	0.44
21:AA:786:G:H2'	21:AA:787:A:H8	1.83	0.44
21:AA:1164:G:C6	21:AA:1173:G:C6	3.06	0.44
25:BC:76:LEU:O	25:BC:95:VAL:HA	2.18	0.44
25:BC:165:ARG:CG	25:BC:166:ASN:H	2.30	0.44
25:BC:201:LYS:HB2	25:BC:209:PHE:CE2	2.53	0.44
26:BD:32:SER:HA	26:BD:35:LYS:HB3	1.99	0.44
26:BD:155:LEU:HG	26:BD:177:LEU:HD21	2.00	0.44
26:BD:211:ARG:O	26:BD:215:LEU:HG	2.18	0.44
32:BK:72:PRO:HA	32:BK:73:PRO:HD3	1.86	0.44
33:BN:78:TYR:HA	33:BN:79:PRO:HD3	1.76	0.44
35:BP:60:MET:HB3	59:BA:2392:A:H8	1.81	0.44
35:BP:100:LEU:HB3	35:BP:106:LEU:HB2	1.99	0.44
43:BX:4:ALA:HB3	47:B2:29:LYS:HD2	1.99	0.44
44:BY:8:LYS:HG2	44:BY:72:VAL:HG23	1.99	0.44
46:B0:29:GLN:NE2	59:BA:923:C:O4'	2.51	0.44
47:B2:27:GLU:HA	47:B2:30:ARG:HH11	1.82	0.44
51:B7:34:ARG:HD3	51:B7:39:ARG:NH2	2.33	0.44
52:B8:15:LYS:NZ	59:BA:629:G:OP1	2.50	0.44
53:B9:17:ILE:HD11	53:B9:19:ARG:CZ	2.48	0.44
56:B1:25:LYS:CG	56:B1:34:THR:HA	2.43	0.44
59:BA:20:C:H2'	59:BA:21:A:H8	1.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:473:G:H5”	59:BA:508:G:H22	1.83	0.44
59:BA:1087:G:O2’	59:BA:1088:A:H4’	2.17	0.44
59:BA:1128:A:H2	59:BA:2516:G:N3	2.15	0.44
59:BA:1733:G:H2’	59:BA:1734:C:C6	2.53	0.44
59:BA:2126:A:N6	59:BA:2163:C:O4’	2.51	0.44
59:BA:2537:U:H2’	59:BA:2538:C:C6	2.52	0.44
5:CF:52:ILE:HD13	5:CF:52:ILE:HA	1.77	0.44
7:CH:14:ARG:CZ	7:CH:82:HIS:HE1	2.30	0.44
7:CH:110:ALA:N	7:CH:121:ASP:OD1	2.36	0.44
11:CL:102:ARG:HB3	11:CL:109:GLY:N	2.28	0.44
11:CL:102:ARG:HD2	11:CL:107:ALA:HB1	2.00	0.44
12:CM:87:TYR:CZ	12:CM:91:ARG:HD2	2.53	0.44
21:CA:5:U:O2’	21:CA:6:G:O5’	2.35	0.44
21:CA:68(H):G:N2	21:CA:68(S):C:H41	2.14	0.44
21:CA:736:C:O2’	21:CA:737:A:H5’	2.18	0.44
21:CA:1127:G:H1’	21:CA:1148:U:C4	2.53	0.44
21:CA:1342:C:H2’	21:CA:1343:G:H8	1.83	0.44
22:CW:15:G:N1	22:CW:48:C:N3	2.60	0.44
23:CV:8:A:HO2’	23:CV:9:G:P	2.37	0.44
20:CY:388:THR:HG21	20:CY:398:ILE:HA	2.00	0.44
20:CY:424:LEU:HD22	20:CY:472:VAL:HG11	1.99	0.44
26:DD:70:TRP:HH2	26:DD:152:GLY:H	1.65	0.44
26:DD:94:LEU:HB2	26:DD:104:TYR:HE2	1.82	0.44
29:DG:83:ARG:HB2	29:DG:84:LYS:NZ	2.32	0.44
34:DO:41:ALA:O	34:DO:57:VAL:HA	2.18	0.44
35:DP:27:HIS:HB3	59:DA:813:U:OP2	2.17	0.44
39:DT:49:VAL:C	39:DT:64:ARG:H	2.25	0.44
44:DY:7:VAL:HG23	44:DY:8:LYS:HD2	1.99	0.44
47:D2:35:LEU:HD22	47:D2:50:ILE:HG12	2.00	0.44
47:D2:67:LYS:HD3	47:D2:67:LYS:HA	1.84	0.44
51:D7:21:ARG:HD3	51:D7:21:ARG:HA	1.71	0.44
52:D8:33:ASN:HA	52:D8:36:LYS:HB2	1.98	0.44
56:D1:21:ARG:NH1	56:D1:37:ILE:H	2.16	0.44
59:DA:69:C:O2	59:DA:73:A:O2’	2.30	0.44
59:DA:181:A:H1’	59:DA:435:C:H5’	1.99	0.44
59:DA:571:A:H5’	59:DA:2030:A:N7	2.33	0.44
59:DA:1030:G:H1	59:DA:1124:C:N4	2.13	0.44
59:DA:1407:C:H2’	59:DA:1408:C:H6	1.83	0.44
59:DA:2768:C:H2’	59:DA:2769:C:O4’	2.18	0.44
1:AB:185:ILE:CD1	1:AB:199:TYR:HD1	2.31	0.44
2:AC:11:ARG:C	2:AC:13:GLY:H	2.26	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AC:191:THR:C	2:AC:193:TYR:N	2.74	0.44
3:AD:35:ARG:HD3	21:AA:412:A:H2	1.83	0.44
8:AI:112:LYS:HB3	21:AA:1368:G:H5"	2.00	0.44
8:AI:126:SER:O	8:AI:127:LYS:HB3	2.17	0.44
9:AJ:30:SER:O	9:AJ:81:THR:HG23	2.17	0.44
12:AM:19:LEU:HD13	12:AM:19:LEU:HA	1.82	0.44
12:AM:66:LEU:HA	12:AM:70:LEU:HD12	1.99	0.44
16:AQ:67:LYS:H	16:AQ:67:LYS:HG3	1.42	0.44
17:AR:82:THR:HB	21:AA:718:G:N2	2.31	0.44
21:AA:235:C:H2'	21:AA:236:G:H8	1.83	0.44
21:AA:319:G:H2'	21:AA:320:C:O4'	2.18	0.44
21:AA:977:A:H2'	21:AA:978:A:H5'	1.99	0.44
21:AA:992:U:O2'	21:AA:993:G:OP2	2.28	0.44
21:AA:1113:C:H2'	21:AA:1114:C:H6	1.80	0.44
26:BD:24:ILE:HD13	26:BD:25:THR:H	1.82	0.44
26:BD:132:PRO:O	26:BD:136:ILE:N	2.50	0.44
28:BF:8:GLN:HB3	28:BF:20:LEU:O	2.18	0.44
28:BF:197:ASP:CG	28:BF:198:ALA:N	2.76	0.44
32:BK:106:GLU:O	32:BK:109:LYS:HB2	2.17	0.44
33:BN:114:ARG:O	33:BN:117:PHE:N	2.51	0.44
36:BQ:42:ILE:HD13	36:BQ:47:ILE:HD11	2.00	0.44
36:BQ:58:PHE:CE1	36:BQ:109:VAL:HG11	2.53	0.44
42:BW:74:ALA:O	42:BW:75:TYR:O	2.36	0.44
44:BY:73:ARG:HD2	59:BA:335:C:H4'	2.00	0.44
47:B2:3:LEU:HB3	47:B2:7:ARG:NH1	2.32	0.44
47:B2:42:GLY:O	47:B2:45:SER:OG	2.19	0.44
50:B6:19:ARG:N	50:B6:19:ARG:HH11	2.16	0.44
51:B7:1:MET:SD	59:BA:752:A:H3'	2.58	0.44
56:B1:25:LYS:HE3	56:B1:31:GLY:CA	2.48	0.44
59:BA:153:C:H42	59:BA:173:G:H1	1.65	0.44
59:BA:542:C:O5'	59:BA:542:C:H6	2.01	0.44
59:BA:738:G:H3'	59:BA:739:G:C8	2.52	0.44
59:BA:876:C:N3	59:BA:901:A:N6	2.61	0.44
59:BA:878:A:C5	59:BA:879:G:H1'	2.52	0.44
59:BA:949:C:C2	59:BA:968:G:N2	2.80	0.44
59:BA:1213:A:H62	59:BA:1236:G:H1'	1.83	0.44
59:BA:1382:G:H8	59:BA:1382:G:O5'	2.01	0.44
59:BA:2329:G:H2'	59:BA:2330:G:H8	1.81	0.44
60:BB:108:C:H5'	60:BB:109:G:OP1	2.17	0.44
2:CC:30:ARG:HB2	13:CN:36:PHE:O	2.17	0.44
7:CH:27:PRO:HA	7:CH:58:TYR:CE2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:CH:36:LEU:HA	7:CH:39:LEU:HB2	1.99	0.44
7:CH:94:TYR:CE2	21:CA:598:U:H4'	2.53	0.44
7:CH:114:THR:HG23	7:CH:119:LEU:HD13	2.00	0.44
10:CK:85:ARG:HA	10:CK:110:ASP:O	2.18	0.44
16:CQ:17:LYS:HA	16:CQ:46:ASP:O	2.17	0.44
16:CQ:66:SER:OG	16:CQ:67:LYS:N	2.49	0.44
21:CA:258:G:H2'	21:CA:259:G:C8	2.53	0.44
21:CA:266:G:H5'	21:CA:268:C:H41	1.82	0.44
21:CA:314:C:H2'	21:CA:315:A:C8	2.53	0.44
21:CA:411:A:H2	21:CA:430:A:H62	1.60	0.44
21:CA:745:C:OP1	21:CA:851:G:O2'	2.35	0.44
21:CA:781:A:H4'	21:CA:1522:U:O2'	2.18	0.44
21:CA:861:G:HO2'	21:CA:874:G:HO2'	1.60	0.44
20:CY:13:ARG:O	20:CY:79:ILE:HA	2.18	0.44
20:CY:484:ARG:HD3	20:CY:559:PRO:HB2	1.98	0.44
20:CY:616:TYR:CB	20:CY:663:THR:HA	2.47	0.44
20:CY:627:ARG:HA	20:CY:651:GLU:HG2	1.99	0.44
29:DG:19:LEU:HD13	29:DG:32:PRO:HG2	2.00	0.44
32:DK:53:VAL:HG22	32:DK:71:THR:C	2.43	0.44
32:DK:95:LYS:HG2	32:DK:137:GLU:N	2.33	0.44
35:DP:23:PRO:HB2	35:DP:33:ARG:HG3	2.00	0.44
37:DR:10:LEU:HD22	37:DR:17:ARG:NH2	2.33	0.44
39:DT:12:SER:HA	39:DT:57:PHE:CZ	2.53	0.44
42:DW:19:LEU:HB3	49:D5:25:LEU:HB2	2.00	0.44
59:DA:244:A:H62	59:DA:254:G:N2	2.13	0.44
59:DA:1057:A:N7	59:DA:1086:A:H2'	2.33	0.44
59:DA:1186:G:H2'	59:DA:1187:G:O4'	2.17	0.44
59:DA:1376:C:H2'	59:DA:1377:G:O4'	2.18	0.44
59:DA:1948:G:N2	59:DA:1958:C:N3	2.51	0.44
59:DA:2546:U:H5"	59:DA:2547:U:H5'	2.00	0.44
59:DA:2789:C:H1'	59:DA:2892:A:C2	2.53	0.44
1:AB:77:ALA:O	1:AB:81:VAL:HG13	2.18	0.44
1:AB:201:ILE:HD13	1:AB:201:ILE:HA	1.81	0.44
4:AE:76:ILE:HG13	4:AE:93:PRO:HB3	1.99	0.44
4:AE:107:ARG:O	4:AE:111:GLU:HB2	2.17	0.44
7:AH:20:TYR:HA	7:AH:65:TYR:OH	2.18	0.44
8:AI:77:ILE:O	8:AI:81:ILE:HG13	2.18	0.44
8:AI:118:LYS:C	8:AI:120:ARG:H	2.24	0.44
9:AJ:51:ARG:HB3	21:AA:1060:C:C5'	2.47	0.44
11:AL:54:LYS:HB3	11:AL:55:VAL:H	1.60	0.44
12:AM:22:ILE:HG22	12:AM:23:TYR:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AT:16:HIS:O	19:AT:20:LEU:HG	2.18	0.44
19:AT:30:LYS:HG2	19:AT:34:LYS:HE3	1.99	0.44
20:AY:9:LEU:HD21	20:AY:283:PRO:HB2	2.00	0.44
20:AY:663:THR:C	20:AY:665:GLY:H	2.25	0.44
21:AA:300:A:H1'	21:AA:565:U:H3	1.83	0.44
21:AA:1528:U:O2'	21:AA:1530:G:H5'	2.17	0.44
25:BC:132:LEU:HD23	25:BC:135:ARG:HH21	1.83	0.44
27:BE:108:SER:OG	27:BE:163:GLU:O	2.28	0.44
27:BE:183:LEU:H	27:BE:183:LEU:HD12	1.83	0.44
28:BF:122:LYS:HB3	28:BF:191:ARG:HE	1.83	0.44
28:BF:129:PHE:CE2	28:BF:158:THR:HG21	2.53	0.44
29:BG:42:GLY:O	59:BA:2305:A:N6	2.51	0.44
29:BG:105:LYS:NZ	57:B4:24:THR:HB	2.32	0.44
37:BR:6:SER:HB2	59:BA:2873:A:N3	2.33	0.44
39:BT:53:ARG:HH21	59:BA:2683:C:H5"	1.82	0.44
39:BT:93:ARG:O	39:BT:95:ARG:N	2.51	0.44
39:BT:97:ALA:O	39:BT:98:LYS:HD2	2.18	0.44
40:BU:62:ILE:HD12	40:BU:62:ILE:HA	1.71	0.44
47:B2:25:VAL:HG11	47:B2:61:LEU:HD21	1.99	0.44
52:B8:32:LEU:HD12	52:B8:36:LYS:HG2	1.99	0.44
53:B9:9:ARG:NH2	59:BA:1033:U:H5"	2.32	0.44
59:BA:77:C:H2'	59:BA:78:A:C8	2.53	0.44
59:BA:113:G:H2'	59:BA:113:G:N3	2.33	0.44
59:BA:581:C:H2'	59:BA:582:G:H8	1.83	0.44
59:BA:792:G:H4'	59:BA:793:A:H8	1.83	0.44
59:BA:1010:A:N3	59:BA:1153:C:H1'	2.33	0.44
59:BA:1535:U:H2'	59:BA:1536:A:H5'	2.00	0.44
59:BA:2215:G:OP2	59:BA:2215:G:H8	2.00	0.44
59:BA:2893:G:H5"	59:BA:2894:G:H5'	2.00	0.44
60:BB:56:G:H4'	60:BB:57:A:C8	2.53	0.44
2:CC:83:ARG:HA	2:CC:86:VAL:HG22	2.00	0.44
2:CC:101:LEU:HD12	2:CC:102:ASN:H	1.83	0.44
9:CJ:55:LYS:HG3	21:CA:973:G:C1'	2.48	0.44
11:CL:52:LEU:HG	11:CL:53:ARG:H	1.82	0.44
15:CP:6:LEU:HD11	15:CP:69:THR:HG23	2.00	0.44
15:CP:38:TYR:O	15:CP:50:LYS:HB2	2.17	0.44
21:CA:338:A:H3'	34:DO:97:ARG:HH12	1.83	0.44
21:CA:774:G:H2'	21:CA:775:G:H8	1.83	0.44
21:CA:833:U:H2'	21:CA:834:C:H6	1.83	0.44
21:CA:1061:G:H2'	21:CA:1062:U:O4'	2.18	0.44
21:CA:1235:U:H2'	21:CA:1236:A:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CY:183:MET:CE	20:CY:210:ARG:HH21	2.30	0.44
20:CY:266:ASN:OD1	20:CY:266:ASN:N	2.46	0.44
20:CY:418:LYS:C	20:CY:420:ASP:H	2.25	0.44
20:CY:463:VAL:HA	20:CY:466:LEU:HB2	1.99	0.44
28:DF:155:LEU:O	28:DF:191:ARG:O	2.35	0.44
28:DF:171:PRO:HA	59:DA:1205:U:N3	2.32	0.44
29:DG:82:LEU:HD22	29:DG:82:LEU:HA	1.76	0.44
30:DH:88:LEU:HB3	30:DH:130:ARG:HG2	2.00	0.44
31:DJ:23:UNK:O	31:DJ:84:UNK:C	2.66	0.44
34:DO:24:VAL:HA	34:DO:39:ILE:HG22	2.00	0.44
37:DR:3:HIS:CE1	59:DA:1654:A:H4'	2.53	0.44
38:DS:34:HIS:N	38:DS:34:HIS:CD2	2.85	0.44
38:DS:92:TYR:C	38:DS:94:TYR:N	2.74	0.44
41:DV:4:ILE:O	41:DV:39:LEU:N	2.37	0.44
41:DV:56:SER:O	41:DV:100:ARG:HG2	2.17	0.44
45:DZ:155:LEU:HD23	45:DZ:155:LEU:H	1.82	0.44
52:D8:16:ILE:CG2	52:D8:22:VAL:HG22	2.47	0.44
56:D1:35:THR:HG21	59:DA:2432:A:C8	2.53	0.44
59:DA:68:G:H21	59:DA:74:A:H5'	1.83	0.44
59:DA:103:A:H8	59:DA:103:A:O5'	2.01	0.44
59:DA:413:C:H2'	59:DA:414:C:C6	2.52	0.44
59:DA:608:A:H2'	59:DA:609(A):A:H8	1.82	0.44
59:DA:646:A:H2'	59:DA:647:G:O4'	2.18	0.44
59:DA:700:G:H2'	59:DA:701:G:O4'	2.18	0.44
59:DA:1466:G:H2'	59:DA:1547:C:N4	2.33	0.44
59:DA:1790:C:H2'	59:DA:1791:A:C8	2.52	0.44
59:DA:1917:U:O4	59:DA:1918:A:C6	2.71	0.44
59:DA:2094:G:H1	59:DA:2195:C:H42	1.66	0.44
59:DA:2626:C:H2'	59:DA:2627:G:O4'	2.17	0.44
60:DB:54:G:H2'	60:DB:55:U:O4'	2.18	0.44
1:AB:71:VAL:HG11	1:AB:97:TRP:CD1	2.53	0.43
1:AB:152:PHE:CE1	1:AB:155:LEU:HB3	2.53	0.43
6:AG:26:PHE:O	6:AG:30:ILE:HG13	2.19	0.43
6:AG:97:GLN:HG2	6:AG:98:SER:N	2.33	0.43
6:AG:106:GLN:HA	6:AG:109:ASN:HB2	1.99	0.43
7:AH:36:LEU:HA	7:AH:39:LEU:HB2	2.00	0.43
7:AH:69:ARG:O	7:AH:74:PRO:HA	2.18	0.43
8:AI:48:GLU:N	8:AI:49:PRO:HD2	2.33	0.43
9:AJ:61:GLU:HB3	9:AJ:63:PHE:CE2	2.53	0.43
11:AL:56:ALA:O	11:AL:58:VAL:HG23	2.17	0.43
12:AM:105:THR:HG22	21:AA:1229:A:H61	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AP:8:ARG:NH1	21:AA:391:G:H5"	2.32	0.43
19:AT:50:GLU:HG3	19:AT:51:GLU:H	1.81	0.43
20:AY:465:ARG:HA	20:AY:468:ARG:HB2	2.00	0.43
21:AA:186(L):G:H2'	21:AA:186(M):G:H8	1.82	0.43
21:AA:509:A:N3	21:AA:543:C:O2'	2.47	0.43
21:AA:1008:C:H1'	21:AA:1022:G:N2	2.33	0.43
21:AA:1486:G:H2'	21:AA:1487:G:O4'	2.19	0.43
25:BC:40:GLU:HA	25:BC:217:THR:HB	2.00	0.43
25:BC:162:ILE:HG21	25:BC:193:PHE:HE1	1.82	0.43
26:BD:259:THR:HB	26:BD:260:ARG:H	1.50	0.43
27:BE:51:PHE:CD1	27:BE:52:LEU:HB2	2.53	0.43
29:BG:38:VAL:HG22	29:BG:93:THR:HA	2.00	0.43
29:BG:135:LEU:HD22	29:BG:140:ILE:HD11	2.00	0.43
29:BG:176:LEU:HD23	29:BG:176:LEU:HA	1.84	0.43
32:BK:106:GLU:O	32:BK:110:GLN:HG3	2.18	0.43
34:BO:18:LYS:N	34:BO:45:GLU:OE2	2.40	0.43
34:BO:64:ARG:O	34:BO:82:ASN:HA	2.17	0.43
37:BR:24:GLN:HB2	37:BR:44:LEU:HD21	1.99	0.43
39:BT:29:ARG:HD3	39:BT:88:ILE:HD11	1.99	0.43
48:B3:7:LYS:HD3	48:B3:9:VAL:HG12	2.00	0.43
53:B9:30:PRO:HB2	59:BA:2527:C:H5"	1.99	0.43
56:B1:88:LYS:O	56:B1:92:LYS:HB2	2.18	0.43
56:B1:92:LYS:HA	56:B1:92:LYS:HD2	1.67	0.43
58:Be:114:LYS:O	58:Be:116:GLU:HG3	2.18	0.43
59:BA:705:A:H2'	59:BA:706:A:O4'	2.18	0.43
59:BA:1018:C:H42	59:BA:1144:G:H1	1.64	0.43
59:BA:1022:G:C6	59:BA:1140:C:N4	2.86	0.43
59:BA:1308:A:C2	59:BA:1309:G:H1'	2.52	0.43
59:BA:1433:U:H1'	59:BA:1561:G:N2	2.33	0.43
59:BA:1575:C:C4	59:BA:1576:U:C4	3.06	0.43
59:BA:2888:C:H2'	59:BA:2889:C:C6	2.53	0.43
60:BB:24:G:C6	60:BB:56:G:C2	3.06	0.43
1:CB:169:LYS:O	1:CB:172:ILE:N	2.49	0.43
4:CE:19:MET:CG	21:CA:15:G:H1'	2.47	0.43
6:CG:78:ARG:HD2	6:CG:156:TRP:HA	2.00	0.43
7:CH:9:MET:HG3	7:CH:26:VAL:HG21	2.00	0.43
11:CL:20:LYS:C	11:CL:22:SER:H	2.25	0.43
15:CP:25:ARG:NH1	21:CA:134:A:H61	2.16	0.43
18:CS:47:HIS:HA	18:CS:61:TYR:HE2	1.83	0.43
21:CA:68(N):U:H5"	21:CA:68(O):A:OP2	2.19	0.43
21:CA:784:C:H2'	21:CA:785:G:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:962:C:N4	21:CA:973:G:H1	2.08	0.43
20:CY:89:ASP:OD1	20:CY:457:LEU:HB3	2.18	0.43
20:CY:322:VAL:HB	20:CY:378:VAL:HG13	1.99	0.43
25:DC:94:TYR:HB3	25:DC:100:ILE:HD12	2.00	0.43
26:DD:31:LYS:HE2	26:DD:33:LEU:HD12	1.99	0.43
26:DD:130:ALA:HA	26:DD:191:ALA:O	2.18	0.43
30:DH:123:PHE:O	30:DH:124:GLU:HB2	2.16	0.43
32:DK:7:VAL:HA	32:DK:57:ILE:O	2.18	0.43
36:DQ:20:ALA:C	36:DQ:22:LYS:H	2.26	0.43
37:DR:40:LYS:HE3	59:DA:1651:G:OP1	2.17	0.43
38:DS:48:LEU:HB3	38:DS:49:VAL:HG23	2.00	0.43
38:DS:99:LYS:HD3	38:DS:100:ALA:H	1.81	0.43
39:DT:33:LYS:CD	39:DT:34:VAL:H	2.31	0.43
39:DT:84:GLN:O	39:DT:86:ILE:N	2.37	0.43
43:DX:23:GLU:HB3	43:DX:25:LYS:HG3	2.00	0.43
43:DX:44:GLU:HG3	43:DX:49:VAL:O	2.18	0.43
52:D8:22:VAL:HG21	52:D8:56:GLU:HB3	2.00	0.43
52:D8:58:ILE:O	52:D8:61:LEU:HD22	2.18	0.43
59:DA:55:G:H2'	59:DA:56:A:C8	2.53	0.43
59:DA:1429:G:H2'	59:DA:1430:C:H6	1.80	0.43
59:DA:2585:U:O2	59:DA:2585:U:H2'	2.18	0.43
1:AB:27:LYS:HD3	1:AB:193:ASP:OD1	2.18	0.43
1:AB:96:ARG:HG2	21:AA:1100:C:C5	2.51	0.43
2:AC:147:LYS:HB3	2:AC:203:PHE:CD2	2.53	0.43
3:AD:133:VAL:HG11	3:AD:138:TYR:CD2	2.53	0.43
7:AH:9:MET:HG3	7:AH:26:VAL:HG21	1.99	0.43
8:AI:46:ALA:HB2	8:AI:74:ILE:HG23	2.00	0.43
8:AI:97:LYS:HE2	21:AA:1178:G:N7	2.33	0.43
9:AJ:49:VAL:HG22	9:AJ:50:ILE:H	1.83	0.43
10:AK:52:GLY:HA2	21:AA:691:G:C6	2.53	0.43
15:AP:38:TYR:CE2	21:AA:626:U:H5"	2.53	0.43
19:AT:97:ALA:O	19:AT:99:LEU:HG	2.18	0.43
19:AT:102:GLY:C	19:AT:104:LEU:N	2.76	0.43
20:AY:119:GLU:HG2	20:AY:156:ARG:HD2	2.00	0.43
21:AA:398:C:H2'	21:AA:399:G:H8	1.82	0.43
21:AA:445:G:H2'	21:AA:446:G:C8	2.53	0.43
21:AA:514:C:N3	21:AA:537:G:O6	2.51	0.43
22:AW:64:G:C6	22:AW:65:U:C4	3.05	0.43
25:BC:11:LEU:O	25:BC:15:VAL:HG22	2.19	0.43
25:BC:21:TYR:O	25:BC:25:GLU:HB2	2.17	0.43
25:BC:66:PRO:HG3	25:BC:195:ARG:HH12	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BD:9:TYR:CE2	26:BD:13:ARG:HD3	2.52	0.43
26:BD:165:ILE:HG22	26:BD:166:GLN:N	2.31	0.43
27:BE:127:ASP:HB3	59:BA:1993:U:H5"	2.00	0.43
28:BF:7:TYR:CE1	28:BF:9:ILE:HD13	2.53	0.43
28:BF:45:ARG:HH22	59:BA:443:A:H3'	1.80	0.43
28:BF:115:ALA:O	28:BF:119:ARG:N	2.42	0.43
29:BG:32:PRO:O	29:BG:172:LEU:HD12	2.17	0.43
36:BQ:24:GLY:HA2	36:BQ:67:ARG:NH2	2.33	0.43
38:BS:13:ARG:C	38:BS:15:ARG:N	2.76	0.43
38:BS:35:ILE:HB	38:BS:53:SER:CB	2.45	0.43
40:BU:27:LEU:HG	59:BA:2020:A:P	2.58	0.43
40:BU:92:ARG:O	40:BU:95:LEU:N	2.51	0.43
42:BW:27:LYS:HG2	42:BW:31:GLU:OE1	2.18	0.43
53:B9:18:ARG:CZ	53:B9:23:VAL:HG22	2.48	0.43
59:BA:68:G:H2'	59:BA:69:C:C6	2.54	0.43
59:BA:273(D):C:N4	59:BA:363(D):G:H1	2.15	0.43
59:BA:723:G:H2'	59:BA:724:U:O4'	2.19	0.43
59:BA:1440:G:H2'	59:BA:1441:G:H8	1.83	0.43
59:BA:2004:G:H2'	59:BA:2005:A:O4'	2.18	0.43
59:BA:2127:G:N2	59:BA:2173:A:H1'	2.33	0.43
59:BA:2129:C:H42	59:BA:2159:G:H1	1.66	0.43
1:CB:155:LEU:C	1:CB:156:LYS:HD2	2.43	0.43
3:CD:148:VAL:CG2	3:CD:181:MET:HB3	2.49	0.43
4:CE:21:ALA:HB2	21:CA:923:A:H4'	2.01	0.43
4:CE:102:ALA:O	4:CE:107:ARG:NH2	2.51	0.43
7:CH:83:ILE:HB	7:CH:137:VAL:HG22	1.99	0.43
11:CL:33:ARG:HB3	11:CL:60:LEU:CD1	2.41	0.43
12:CM:13:LYS:H	12:CM:45:VAL:HG12	1.82	0.43
17:CR:60:ALA:O	17:CR:64:ARG:HG3	2.17	0.43
21:CA:122:G:H2'	21:CA:123:C:C6	2.52	0.43
21:CA:125:U:H3	21:CA:236:G:H1	1.66	0.43
21:CA:411:A:C2	21:CA:430:A:N6	2.80	0.43
21:CA:945:G:H2'	21:CA:945:G:N3	2.33	0.43
21:CA:1178:G:N2	21:CA:1180:A:H3'	2.33	0.43
25:DC:60:ARG:HG2	25:DC:142:LYS:HD3	2.00	0.43
26:DD:26:LYS:O	26:DD:81:ALA:HB1	2.18	0.43
27:DE:30:PRO:O	27:DE:32:PRO:HD3	2.18	0.43
28:DF:155:LEU:HD22	28:DF:186:ILE:HA	1.99	0.43
30:DH:43:VAL:HG12	30:DH:50:VAL:HG12	2.00	0.43
30:DH:83:TYR:CD2	30:DH:83:TYR:C	2.96	0.43
30:DH:153:LYS:HG2	30:DH:154:PRO:HD2	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:DK:62:ASP:HB2	32:DK:63:ARG:H	1.55	0.43
32:DK:96:VAL:HB	32:DK:97:GLY:H	1.55	0.43
35:DP:60:MET:HB3	59:DA:2392:A:C8	2.53	0.43
35:DP:71:VAL:H	35:DP:72:PRO:CD	2.30	0.43
38:DS:23:ARG:HD3	38:DS:23:ARG:HA	1.54	0.43
38:DS:64:GLU:CD	38:DS:64:GLU:H	2.25	0.43
39:DT:63:VAL:O	39:DT:73:GLU:HA	2.17	0.43
39:DT:74:ARG:HB3	39:DT:76:PHE:CE1	2.53	0.43
41:DV:4:ILE:HA	41:DV:12:TYR:O	2.18	0.43
43:DX:40:LYS:O	43:DX:44:GLU:HB2	2.17	0.43
44:DY:11:ASP:CG	44:DY:12:THR:H	2.24	0.43
45:DZ:5:LEU:HD23	45:DZ:6:LYS:N	2.34	0.43
45:DZ:28:MET:SD	45:DZ:35:ARG:N	2.81	0.43
50:D6:8:LYS:HZ2	50:D6:27:LYS:HD3	1.83	0.43
52:D8:33:ASN:CA	52:D8:36:LYS:HB2	2.48	0.43
59:DA:78:A:H2'	59:DA:79:G:C8	2.49	0.43
59:DA:195:A:H4'	59:DA:251:A:H4'	2.00	0.43
59:DA:363(B):A:H2'	59:DA:363(C):G:H8	1.83	0.43
59:DA:720:C:H2'	59:DA:721:C:C6	2.51	0.43
59:DA:941:A:H2'	59:DA:942:G:O4'	2.17	0.43
59:DA:2282:G:H4'	59:DA:2389:G:O2'	2.18	0.43
59:DA:2356:C:H2'	59:DA:2357:U:O4'	2.18	0.43
59:DA:2476:A:H2'	59:DA:2477:C:H5'	2.00	0.43
59:DA:2502:G:H8	59:DA:2502:G:OP1	2.02	0.43
60:DB:15:A:C8	60:DB:109:G:C6	3.06	0.43
60:DB:61:G:H2'	60:DB:62:C:H6	1.84	0.43
1:AB:196:LEU:CD1	1:AB:197:VAL:HG23	2.49	0.43
1:AB:218:ALA:O	1:AB:222:ILE:HG23	2.18	0.43
8:AI:17:VAL:HG11	8:AI:80:GLY:C	2.43	0.43
11:AL:10:LEU:HB3	16:AQ:32:TYR:CE1	2.53	0.43
11:AL:70:ILE:CG2	11:AL:100:ILE:HD12	2.47	0.43
12:AM:46:LYS:HB2	12:AM:46:LYS:HE3	1.73	0.43
12:AM:101:GLN:HB2	12:AM:102:ARG:H	1.51	0.43
13:AN:33:VAL:HG13	13:AN:39:LEU:C	2.43	0.43
14:AO:6:GLU:OE2	59:DA:1486:A:O2'	2.31	0.43
18:AS:47:HIS:HB3	18:AS:48:THR:H	1.55	0.43
19:AT:60:GLU:CD	21:AA:193:C:H1'	2.43	0.43
19:AT:81:LYS:HE2	21:AA:186:C:H1'	2.00	0.43
21:AA:885:G:C2	21:AA:886:G:C5	3.06	0.43
21:AA:978:A:O2'	21:AA:1322:C:N3	2.45	0.43
21:AA:1493:A:H4'	21:AA:1494:G:OP2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BC:168:LYS:NZ	59:BA:2121:G:O2'	2.34	0.43
27:BE:37:ARG:HD2	27:BE:42:ASP:OD1	2.17	0.43
28:BF:78:ILE:H	28:BF:78:ILE:HG12	1.46	0.43
29:BG:27:ASN:HD21	60:BB:57:A:H8	1.65	0.43
30:BH:28:GLY:CA	30:BH:79:VAL:HB	2.46	0.43
33:BN:71:ILE:HA	33:BN:86:PRO:HA	1.99	0.43
38:BS:20:ARG:C	38:BS:22:GLY:H	2.25	0.43
44:BY:97:ARG:NH1	44:BY:98:VAL:H	2.17	0.43
46:B0:24:LYS:HG3	46:B0:36:ILE:HD12	2.00	0.43
56:B1:16:ASN:O	56:B1:18:ILE:HD12	2.19	0.43
59:BA:24:G:H2'	59:BA:25:U:C6	2.53	0.43
59:BA:910:A:C5	59:BA:911:A:C6	3.06	0.43
59:BA:1538:G:H2'	59:BA:1539:G:H8	1.84	0.43
59:BA:1668:A:O2'	59:BA:1674:G:N7	2.42	0.43
59:BA:1786:A:N7	59:BA:1938:A:N7	2.66	0.43
59:BA:2281:C:H5'	59:BA:2388:A:C6	2.52	0.43
59:BA:2406:U:H5'	59:BA:2408:U:OP2	2.18	0.43
59:BA:2629:A:O2'	59:BA:2895:U:O4	2.29	0.43
3:CD:49:ARG:HB3	3:CD:50:ARG:H	1.56	0.43
3:CD:100:ARG:O	3:CD:104:VAL:HG23	2.17	0.43
5:CF:75:LEU:O	5:CF:79:LEU:HG	2.17	0.43
6:CG:37:ASN:HB2	8:CI:40:LEU:HG	2.00	0.43
7:CH:12:ARG:CZ	21:CA:826:C:H5'	2.48	0.43
12:CM:40:ASN:HA	12:CM:41:PRO:HD3	1.89	0.43
19:CT:14:LYS:HA	19:CT:17:ARG:HH21	1.83	0.43
19:CT:53:LEU:HD13	19:CT:56:MET:HG3	2.00	0.43
21:CA:232:G:H1'	21:CA:262:A:N1	2.33	0.43
21:CA:262:A:H2'	21:CA:263:A:C8	2.53	0.43
21:CA:445:G:H2'	21:CA:446:G:C8	2.53	0.43
21:CA:664:G:H2'	21:CA:666:G:OP1	2.17	0.43
21:CA:902:G:H2'	21:CA:903:G:H8	1.83	0.43
21:CA:937:A:H2'	21:CA:938:A:H8	1.82	0.43
21:CA:1028(G):G:H2'	21:CA:1028(H):G:C8	2.54	0.43
22:CW:37:A:N3	23:CV:16:A:H2	2.10	0.43
20:CY:137:ASN:CG	61:CY:701:GNP:O6	2.62	0.43
20:CY:146:LEU:HB3	20:CY:147:TRP:H	1.61	0.43
20:CY:203:GLU:HB3	20:CY:204:GLU:H	1.52	0.43
20:CY:435:ASP:HA	20:CY:436:PRO:HD2	1.88	0.43
20:CY:491:VAL:HG12	20:CY:493:VAL:HG22	2.00	0.43
20:CY:616:TYR:CG	20:CY:663:THR:HA	2.53	0.43
25:DC:29:LEU:O	25:DC:33:LEU:HG	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:DC:83:LYS:HD2	25:DC:148:PHE:CE1	2.54	0.43
26:DD:17:THR:HG1	26:DD:205:VAL:H	1.60	0.43
26:DD:42:GLY:C	26:DD:44:ASN:H	2.26	0.43
26:DD:120:GLY:HA2	26:DD:121:PRO:HD3	1.85	0.43
26:DD:159:ALA:HB1	26:DD:198:ASN:O	2.17	0.43
28:DF:18:ARG:O	28:DF:18:ARG:HD3	2.17	0.43
28:DF:180:GLY:HA3	59:DA:616:A:N3	2.33	0.43
29:DG:16:ARG:O	29:DG:20:ILE:HG12	2.17	0.43
29:DG:120:LEU:HG	29:DG:179:PRO:O	2.19	0.43
30:DH:83:TYR:O	30:DH:85:LYS:HG3	2.18	0.43
30:DH:90:LYS:HB2	30:DH:163:TYR:CE1	2.53	0.43
32:DK:78:ILE:HD11	32:DK:136:VAL:HB	1.99	0.43
36:DQ:81:VAL:HB	46:D0:7:LEU:HD21	1.99	0.43
42:DW:19:LEU:HB3	49:D5:25:LEU:HD13	2.00	0.43
42:DW:70:TYR:CZ	42:DW:72:LYS:HG3	2.54	0.43
44:DY:20:TYR:HB3	44:DY:23:ARG:HG3	2.00	0.43
56:D1:3:LYS:HB2	59:DA:1364:G:OP2	2.17	0.43
57:D4:2:LYS:NZ	60:DB:39:A:H61	2.15	0.43
59:DA:181:A:H2'	59:DA:182:A:C8	2.53	0.43
59:DA:305:U:H2'	59:DA:306:U:C6	2.53	0.43
59:DA:740:U:N3	59:DA:758:C:H1'	2.33	0.43
59:DA:848:G:C4	59:DA:933:A:H8	2.36	0.43
59:DA:948:G:H1	59:DA:969:U:H3	1.65	0.43
59:DA:1081:U:H2'	59:DA:1082:U:C6	2.54	0.43
59:DA:1247:A:O2'	59:DA:1248:G:H5"	2.18	0.43
59:DA:2238:G:H5'	59:DA:2238:G:N3	2.33	0.43
59:DA:2570:G:H2'	59:DA:2571:C:O4'	2.17	0.43
59:DA:2679:A:H2'	59:DA:2680:C:C6	2.53	0.43
2:AC:130:VAL:O	2:AC:134:ILE:HB	2.18	0.43
9:AJ:56:HIS:HE1	21:AA:1060:C:O2	2.02	0.43
10:AK:33:THR:HA	10:AK:39:PRO:HA	2.00	0.43
10:AK:41:THR:HA	10:AK:71:LYS:HE2	2.01	0.43
12:AM:81:LEU:O	12:AM:89:GLY:HA3	2.18	0.43
17:AR:45:SER:HB3	17:AR:51:LEU:HD11	2.00	0.43
20:AY:97:SER:O	20:AY:101:LEU:HG	2.19	0.43
20:AY:130:VAL:O	20:AY:130:VAL:HG13	2.18	0.43
21:AA:766:A:C5	21:AA:814:A:C6	3.06	0.43
21:AA:1046:A:H3'	21:AA:1047:G:H8	1.83	0.43
21:AA:1138:G:H3'	21:AA:1138:G:N3	2.33	0.43
27:BE:167:VAL:HG13	27:BE:170:LEU:HD11	2.00	0.43
27:BE:179:GLU:HB3	27:BE:180:ASN:H	1.62	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:BH:157:TYR:CE1	59:BA:2531:A:H5"	2.54	0.43
35:BP:53:GLY:HA2	59:BA:832:G:N2	2.32	0.43
41:BV:28:GLU:HB2	41:BV:31:ALA:CB	2.48	0.43
46:B0:69:PHE:CE2	59:BA:857:C:H5'	2.53	0.43
49:B5:18:ALA:C	49:B5:21:SER:H	2.26	0.43
51:B7:5:TRP:CD1	51:B7:7:PRO:HD3	2.53	0.43
52:B8:26:LYS:N	52:B8:47:LYS:HB2	2.34	0.43
53:B9:18:ARG:O	59:BA:2756:U:H5"	2.19	0.43
59:BA:283:A:H3'	59:BA:284:U:H6	1.82	0.43
59:BA:307:G:N1	59:BA:310:A:OP2	2.51	0.43
59:BA:749:C:H2'	59:BA:750:A:H8	1.83	0.43
59:BA:2013:A:H2'	59:BA:2014:A:C8	2.53	0.43
59:BA:2595:G:O2'	59:BA:2597:G:N7	2.29	0.43
59:BA:2607:G:H8	59:BA:2607:G:O5'	2.00	0.43
3:CD:28:SER:C	3:CD:30:LYS:H	2.25	0.43
3:CD:31:CYS:HB3	3:CD:33:MET:SD	2.59	0.43
3:CD:90:GLY:O	3:CD:93:PHE:HB3	2.18	0.43
4:CE:82:VAL:HG11	4:CE:134:ALA:O	2.18	0.43
8:CI:14:VAL:HG21	21:CA:1148:U:H4'	2.01	0.43
10:CK:46:GLY:HA2	10:CK:50:TYR:O	2.19	0.43
13:CN:35:ARG:HD3	13:CN:36:PHE:N	2.33	0.43
16:CQ:46:ASP:OD2	16:CQ:50:LYS:HG2	2.18	0.43
21:CA:35:G:C6	21:CA:36:C:C4	3.07	0.43
21:CA:919:A:H2'	21:CA:920:U:C6	2.53	0.43
21:CA:1237:C:H4'	21:CA:1334:G:N2	2.34	0.43
21:CA:1324:A:O4'	21:CA:1362:C:H4'	2.18	0.43
21:CA:1440(E):G:H1	21:CA:1440(N):C:N4	2.16	0.43
21:CA:1440(K):G:N2	21:CA:1440(L):G:C8	2.86	0.43
25:DC:118:PRO:O	25:DC:121:MET:HB2	2.19	0.43
25:DC:166:ASN:HA	25:DC:170:GLY:HA2	2.00	0.43
26:DD:63:ARG:CZ	26:DD:86:PRO:HD2	2.47	0.43
26:DD:69:ARG:NH2	26:DD:192:THR:HG21	2.33	0.43
27:DE:92:THR:OG1	27:DE:94:GLU:OE1	2.26	0.43
27:DE:140:SER:HB2	59:DA:2578:G:C5	2.54	0.43
28:DF:154:VAL:O	28:DF:174:VAL:O	2.36	0.43
32:DK:9:LYS:HB2	32:DK:55:VAL:O	2.17	0.43
32:DK:106:GLU:O	32:DK:109:LYS:HB2	2.19	0.43
33:DN:31:ALA:C	33:DN:33:LEU:N	2.75	0.43
36:DQ:76:LYS:HA	36:DQ:76:LYS:HD2	1.85	0.43
38:DS:103:GLU:O	38:DS:105:ALA:N	2.51	0.43
41:DV:34:GLU:HG3	41:DV:36:PRO:HD3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:DV:41:GLY:HA3	41:DV:45:THR:OG1	2.17	0.43
44:DY:47:LYS:HG3	44:DY:60:PHE:CE2	2.53	0.43
45:DZ:118:GLN:HE22	59:DA:874:G:H5'	1.83	0.43
47:D2:47:ASN:HB2	47:D2:48:HIS:H	1.52	0.43
49:D5:3:LYS:HD3	59:DA:747:U:C5	2.52	0.43
49:D5:17:ASP:HB2	59:DA:16:G:H5"	1.99	0.43
56:D1:20:ARG:HH12	56:D1:24:ALA:HB2	1.84	0.43
59:DA:218:A:H2'	59:DA:219:G:O4'	2.17	0.43
59:DA:710:G:C4	59:DA:711:G:C8	3.06	0.43
59:DA:1114:G:H2'	59:DA:1115:G:C8	2.53	0.43
59:DA:1436:G:N1	59:DA:1556:C:N4	2.29	0.43
4:AE:11:ILE:O	4:AE:12:LEU:HD13	2.19	0.43
14:AO:43:LEU:HD22	14:AO:47:LYS:HA	2.00	0.43
16:AQ:21:VAL:HG11	16:AQ:59:ILE:HD11	1.99	0.43
20:AY:12:LEU:O	20:AY:282:SER:HB2	2.19	0.43
20:AY:166:LEU:HA	20:AY:167:PRO:HD2	1.65	0.43
20:AY:417:THR:O	20:AY:419:ALA:N	2.52	0.43
21:AA:114:U:H3	21:AA:313:A:H2	1.62	0.43
21:AA:678:U:O2'	21:AA:778:G:OP1	2.22	0.43
25:BC:67:HIS:HB2	25:BC:68:GLY:H	1.57	0.43
26:BD:30:GLU:H	26:BD:30:GLU:HG2	1.48	0.43
27:BE:95:ILE:HD13	27:BE:95:ILE:H	1.83	0.43
33:BN:11:PRO:HB2	33:BN:51:PHE:CE1	2.48	0.43
33:BN:42:TRP:H	40:BU:64:ARG:NE	2.16	0.43
37:BR:21:TYR:HB3	37:BR:47:PHE:CD2	2.54	0.43
37:BR:22:ARG:NH1	37:BR:69:ASP:HA	2.33	0.43
42:BW:41:LYS:HB3	42:BW:42:ARG:H	1.60	0.43
43:BX:57:LEU:HD21	43:BX:78:LYS:HE2	1.99	0.43
44:BY:71:LYS:HD3	59:BA:329:G:OP1	2.18	0.43
45:BZ:3:TYR:O	45:BZ:58:VAL:N	2.42	0.43
48:B3:29:ARG:HD3	59:BA:1183:G:O3'	2.19	0.43
59:BA:28:A:H1'	59:BA:513:A:C2	2.52	0.43
59:BA:86:C:H2'	59:BA:87:C:H6	1.84	0.43
59:BA:139:G:H4'	59:BA:140:A:C2	2.54	0.43
59:BA:227:A:H4'	59:BA:228:A:C4	2.53	0.43
59:BA:278:A:C6	59:BA:362:U:O4	2.72	0.43
59:BA:654:U:H5'	59:BA:655:A:OP2	2.19	0.43
59:BA:1416:G:H2'	59:BA:1417:C:C5	2.53	0.43
59:BA:1433:U:O2	59:BA:1560:G:O6	2.36	0.43
59:BA:2468:G:H8	59:BA:2476:A:H62	1.66	0.43
59:BA:2642:G:H1	59:BA:2772:C:N4	2.14	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2773:C:H2'	59:BA:2774:C:C6	2.53	0.43
59:BA:2818:G:H1'	59:BA:2836:U:O2'	2.19	0.43
3:CD:135:LEU:HA	3:CD:136:PRO:HD3	1.92	0.43
4:CE:7:GLU:HB3	4:CE:112:LEU:HD13	2.01	0.43
8:CI:33:PHE:CE2	8:CI:43:ALA:HB1	2.53	0.43
16:CQ:67:LYS:O	16:CQ:68:ARG:HB3	2.18	0.43
21:CA:789:U:O2'	21:CA:791:G:N7	2.50	0.43
21:CA:1423:G:H2'	21:CA:1424:C:C6	2.53	0.43
22:CW:20:U:H1'	22:CW:20(A):U:H2'	1.99	0.43
20:CY:98:MET:O	20:CY:100:VAL:N	2.52	0.43
20:CY:111:SER:O	20:CY:113:GLY:N	2.43	0.43
20:CY:137:ASN:ND2	61:CY:701:GNP:O6	2.51	0.43
20:CY:201:ILE:C	20:CY:203:GLU:H	2.26	0.43
20:CY:462:ILE:HD13	20:CY:462:ILE:HA	1.85	0.43
20:CY:467:LYS:NZ	20:CY:474:ALA:HB3	2.33	0.43
25:DC:165:ARG:CG	25:DC:166:ASN:H	2.31	0.43
26:DD:33:LEU:C	26:DD:36:PRO:HD2	2.44	0.43
26:DD:79:VAL:CG1	26:DD:80:ALA:N	2.81	0.43
26:DD:231:HIS:CD2	26:DD:233:HIS:HB2	2.53	0.43
27:DE:52:LEU:HA	27:DE:53:PRO:HD3	1.57	0.43
28:DF:155:LEU:HD22	28:DF:186:ILE:HB	2.00	0.43
34:DO:34:THR:O	34:DO:62:VAL:HB	2.18	0.43
37:DR:107:ASP:HB2	59:DA:2009:G:H21	1.83	0.43
39:DT:53:ARG:NH1	39:DT:53:ARG:HB3	2.33	0.43
49:D5:18:ALA:O	49:D5:21:SER:N	2.52	0.43
52:D8:22:VAL:HG11	52:D8:56:GLU:HG2	2.01	0.43
58:De:86:LEU:HG	58:De:94:GLU:CD	2.43	0.43
59:DA:940:G:H2'	59:DA:941:A:O4'	2.18	0.43
59:DA:947:G:O2'	59:DA:984:A:N1	2.43	0.43
59:DA:1094:U:H1'	59:DA:1097:U:H5	1.84	0.43
59:DA:1101:U:H2'	59:DA:1102:C:C6	2.53	0.43
59:DA:1344:G:H4'	59:DA:1384:A:C5	2.54	0.43
59:DA:1510:A:C2	59:DA:1511:A:H1'	2.54	0.43
59:DA:2469:A:N3	59:DA:2469:A:H5'	2.33	0.43
2:AC:74:GLY:C	2:AC:76:VAL:H	2.27	0.43
5:AF:52:ILE:HD13	5:AF:53:ALA:H	1.84	0.43
9:AJ:69:ASN:C	9:AJ:70:ARG:HD2	2.44	0.43
11:AL:84:LEU:N	11:AL:104:VAL:HG11	2.29	0.43
12:AM:74:VAL:O	12:AM:78:ILE:HG12	2.18	0.43
14:AO:10:LYS:HE2	14:AO:11:VAL:HG23	2.01	0.43
19:AT:61:SER:HA	21:AA:193:C:O2'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:115:G:H4'	21:AA:116:A:O5'	2.18	0.43
21:AA:177:C:H2'	21:AA:178:C:C6	2.52	0.43
21:AA:303:A:H2'	21:AA:304:U:O4'	2.19	0.43
21:AA:780:A:H8	21:AA:780:A:O5'	2.02	0.43
21:AA:1217:C:O2'	21:AA:1218:C:H5'	2.18	0.43
22:AW:21:A:H2'	22:AW:21:A:N3	2.34	0.43
22:AW:43:G:H2'	22:AW:44:G:C8	2.42	0.43
25:BC:101:ILE:HD11	25:BC:124:VAL:HG13	2.00	0.43
30:BH:31:GLY:O	30:BH:79:VAL:HG12	2.19	0.43
33:BN:1:MET:HB2	33:BN:2:LYS:H	1.48	0.43
33:BN:66:LYS:O	33:BN:67:LEU:C	2.62	0.43
35:BP:22:GLY:HA2	35:BP:23:PRO:HD3	1.72	0.43
39:BT:27:THR:HG23	39:BT:47:GLY:O	2.18	0.43
39:BT:129:ARG:HA	39:BT:129:ARG:NE	2.32	0.43
44:BY:18:GLY:HA2	44:BY:21:LYS:HB2	2.00	0.43
45:BZ:82:ARG:HG2	45:BZ:83:PRO:HD2	2.00	0.43
49:B5:3:LYS:HE2	49:B5:3:LYS:N	2.34	0.43
52:B8:26:LYS:HD3	59:BA:2361:A:OP1	2.18	0.43
56:B1:45:ASN:O	56:B1:46:LEU:HB3	2.18	0.43
59:BA:242:G:N2	59:BA:254:G:H2'	2.33	0.43
59:BA:356:G:H2'	59:BA:357:A:O4'	2.18	0.43
59:BA:804:A:H5"	59:BA:805:G:OP1	2.17	0.43
59:BA:1526:G:H1	59:BA:154(B):C:H42	1.65	0.43
59:BA:1529:A:H62	59:BA:1542:G:N2	2.17	0.43
59:BA:1906:G:H2'	59:BA:1907:G:O4'	2.18	0.43
59:BA:1914:C:H2'	59:BA:1915:U:O4'	2.19	0.43
59:BA:2165:G:N3	59:BA:2165:G:H2'	2.34	0.43
59:BA:2415:G:H2'	59:BA:2416:C:C6	2.54	0.43
60:BB:28:C:H2'	60:BB:29:A:H8	1.83	0.43
1:CB:32:ILE:HG21	1:CB:40:HIS:ND1	2.32	0.43
1:CB:71:VAL:HG22	1:CB:93:VAL:HB	2.00	0.43
1:CB:85:ALA:HB1	1:CB:90:MET:O	2.18	0.43
2:CC:28:GLN:H	2:CC:28:GLN:HG2	1.41	0.43
2:CC:81:GLY:O	2:CC:85:ARG:HB2	2.18	0.43
3:CD:101:LEU:HB2	3:CD:138:TYR:O	2.18	0.43
4:CE:37:ARG:O	4:CE:114:GLY:HA2	2.18	0.43
5:CF:62:TRP:CB	17:CR:35:ARG:HH12	2.32	0.43
8:CI:48:GLU:O	8:CI:52:ALA:N	2.51	0.43
12:CM:19:LEU:HD13	12:CM:19:LEU:HA	1.89	0.43
12:CM:46:LYS:HE3	12:CM:46:LYS:HB2	1.82	0.43
14:CO:8:LYS:NZ	21:CA:659:U:OP1	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:34:C:H2'	21:CA:35:G:H8	1.82	0.43
21:CA:609:A:H2'	21:CA:610:G:O4'	2.19	0.43
21:CA:696:A:H2'	21:CA:697:U:C6	2.54	0.43
21:CA:862:C:O4'	21:CA:874:G:H4'	2.18	0.43
21:CA:1000:A:H2'	21:CA:1001:G:O4'	2.19	0.43
21:CA:1479:C:H2'	21:CA:1480:G:H8	1.83	0.43
20:CY:247:ARG:NH2	20:CY:280:LEU:O	2.52	0.43
28:DF:84:VAL:HB	28:DF:85:GLY:H	1.56	0.43
28:DF:99:TYR:CE2	59:DA:660:G:H5'	2.54	0.43
28:DF:171:PRO:HB3	59:DA:1205:U:C2	2.53	0.43
30:DH:105:LEU:HD23	30:DH:105:LEU:H	1.84	0.43
33:DN:39:ARG:HE	33:DN:41:ASP:HB3	1.83	0.43
33:DN:43:THR:HG23	33:DN:44:PRO:HD2	2.00	0.43
36:DQ:34:LEU:HB2	36:DQ:118:LEU:HD22	2.01	0.43
37:DR:6:SER:HB2	59:DA:2873:A:H1'	1.98	0.43
38:DS:26:LEU:HA	38:DS:39:ILE:HA	2.01	0.43
40:DU:87:GLY:O	41:DV:49:THR:HA	2.18	0.43
42:DW:60:ASN:O	42:DW:61:ASN:HB2	2.18	0.43
44:DY:97:ARG:C	44:DY:99:CYS:H	2.26	0.43
45:DZ:41:LEU:O	45:DZ:45:ASP:N	2.28	0.43
45:DZ:128:VAL:HG21	45:DZ:161:VAL:HG22	1.99	0.43
56:D1:3:LYS:HA	56:D1:3:LYS:HD2	1.82	0.43
59:DA:594:U:H2'	59:DA:595:C:H6	1.83	0.43
59:DA:974(A):G:O5'	59:DA:1186:G:N2	2.48	0.43
59:DA:1077:A:H2'	59:DA:1077:A:N3	2.34	0.43
59:DA:1332:G:H5'	59:DA:1333:C:OP2	2.19	0.43
59:DA:1413:G:H2'	59:DA:1414:G:C8	2.53	0.43
59:DA:1633:G:C6	59:DA:1635:G:C2	3.07	0.43
59:DA:1710:C:H2'	59:DA:1711:C:C6	2.53	0.43
59:DA:2294:C:H2'	59:DA:2295:C:C6	2.53	0.43
59:DA:2704:C:H2'	59:DA:2705:A:C8	2.54	0.43
59:DA:2792:G:C2	59:DA:2805:G:N1	2.87	0.43
2:AC:58:GLU:HB2	2:AC:65:ALA:HB3	2.01	0.43
2:AC:134:ILE:O	2:AC:138:VAL:HG23	2.18	0.43
6:AG:32:ARG:HG3	21:AA:1240:U:C2	2.53	0.43
10:AK:52:GLY:HA2	21:AA:691:G:O6	2.18	0.43
11:AL:56:ALA:HB3	11:AL:68:ALA:CB	2.37	0.43
14:AO:43:LEU:O	14:AO:47:LYS:N	2.52	0.43
19:AT:82:SER:OG	19:AT:83:ARG:N	2.51	0.43
20:AY:33:LEU:HG	20:AY:34:TYR:CD2	2.39	0.43
20:AY:137:ASN:CG	61:AY:701:GNP:O6	2.61	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:68(O):A:N6	21:AA:68(P):C:O2	2.52	0.43
21:AA:736:C:H2'	21:AA:737:A:H8	1.80	0.43
21:AA:977:A:H1'	21:AA:982:U:O4	2.18	0.43
21:AA:1023:G:C2	21:AA:1024:G:H1'	2.54	0.43
21:AA:1050:G:N2	21:AA:1209:C:H1'	2.33	0.43
21:AA:1084:G:H5"	21:AA:1085:U:O5'	2.18	0.43
21:AA:1248:A:H2'	21:AA:1249:C:C6	2.54	0.43
25:BC:169:THR:HB	59:BA:2178:C:H1'	2.01	0.43
26:BD:128:GLY:N	26:BD:193:VAL:O	2.36	0.43
27:BE:74:PRO:HG3	27:BE:77:ILE:O	2.19	0.43
28:BF:178:PRO:HB2	28:BF:201:VAL:HG11	2.01	0.43
33:BN:133:GLN:O	33:BN:134:ARG:HD3	2.17	0.43
35:BP:85:LEU:HD21	35:BP:137:LYS:HG3	2.01	0.43
36:BQ:11:LYS:HD3	36:BQ:87:LYS:HD2	2.00	0.43
38:BS:87:PHE:HB3	59:BA:2377:A:H2	1.84	0.43
39:BT:5:ALA:O	39:BT:9:LEU:HG	2.19	0.43
40:BU:74:LEU:HB2	40:BU:75:ASN:H	1.53	0.43
50:B6:13:CYS:SG	50:B6:22:ALA:HB3	2.58	0.43
50:B6:27:LYS:HE2	50:B6:29:ASN:HB3	2.00	0.43
56:B1:23:LYS:HZ1	56:B1:33:LYS:HB3	1.84	0.43
59:BA:184:C:H2'	59:BA:185:U:C5	2.53	0.43
59:BA:465:G:C6	59:BA:466:A:C6	3.07	0.43
59:BA:775:G:N1	59:BA:787:U:C4	2.87	0.43
59:BA:1033:U:H4'	59:BA:1034:G:OP1	2.17	0.43
59:BA:1195:G:H2'	59:BA:1196:C:H6	1.83	0.43
59:BA:1291:C:H2'	59:BA:1292:U:C6	2.54	0.43
59:BA:1363:C:C2	59:BA:1369:G:C2	3.07	0.43
59:BA:2094:G:H1	59:BA:2195:C:H42	1.67	0.43
1:CB:117:GLU:HA	1:CB:120:ALA:HB3	1.99	0.43
3:CD:54:TYR:HE2	21:CA:508:C:H4'	1.83	0.43
3:CD:64:LEU:O	3:CD:67:ILE:HG23	2.18	0.43
3:CD:199:ASN:O	3:CD:203:VAL:HG23	2.18	0.43
5:CF:53:ALA:HB3	5:CF:86:ARG:NH1	2.34	0.43
6:CG:140:ASP:O	6:CG:143:ARG:HB2	2.19	0.43
8:CI:79:LEU:HD21	8:CI:104:ARG:HA	2.01	0.43
8:CI:114:TYR:HD1	9:CJ:60:ARG:HB2	1.83	0.43
12:CM:108:ARG:HD3	12:CM:114:ARG:HD2	2.00	0.43
14:CO:81:LEU:O	14:CO:85:LEU:N	2.35	0.43
16:CQ:40:LYS:HD3	16:CQ:42:TYR:OH	2.18	0.43
21:CA:408:A:H2'	21:CA:409:G:H8	1.83	0.43
21:CA:971:G:OP1	21:CA:971:G:H3'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:1380:U:H4'	21:CA:1381:U:H5'	2.00	0.43
20:CY:422:GLU:O	20:CY:425:SER:HB2	2.19	0.43
20:CY:579:GLU:H	20:CY:579:GLU:HG3	1.57	0.43
26:DD:264:LYS:HD2	26:DD:266:SER:OG	2.19	0.43
27:DE:95:ILE:H	27:DE:95:ILE:HD13	1.84	0.43
33:DN:137:LYS:NZ	33:DN:137:LYS:CB	2.81	0.43
34:DO:2:ILE:HD11	34:DO:65:THR:HG22	1.99	0.43
37:DR:28:LEU:HA	37:DR:34:ILE:CD1	2.49	0.43
38:DS:52:SER:O	38:DS:69:VAL:HG21	2.18	0.43
39:DT:16:ARG:HH12	39:DT:19:LEU:HG	1.83	0.43
40:DU:98:LEU:O	40:DU:101:ARG:HG3	2.19	0.43
44:DY:38:ILE:HD13	44:DY:65:ALA:C	2.44	0.43
44:DY:67:LEU:HG	44:DY:68:HIS:H	1.84	0.43
48:D3:7:LYS:NZ	48:D3:8:LEU:O	2.50	0.43
52:D8:26:LYS:HB3	52:D8:44:LYS:HE2	1.99	0.43
59:DA:414:C:H1'	59:DA:1864:U:H1'	1.99	0.43
59:DA:600:G:H2'	59:DA:601:C:C6	2.54	0.43
59:DA:785:G:O2'	59:DA:1779:U:H4'	2.19	0.43
59:DA:872:A:N6	59:DA:905:U:H3	2.10	0.43
59:DA:901:A:H2'	59:DA:902:C:H6	1.84	0.43
59:DA:1770:G:C5	59:DA:1771:C:C4	3.06	0.43
59:DA:2066:C:H2'	59:DA:2067:G:C8	2.53	0.43
59:DA:2544:G:H1'	59:DA:2646:C:H4'	2.00	0.43
1:AB:71:VAL:HG13	1:AB:93:VAL:HB	2.00	0.43
6:AG:99:LEU:O	6:AG:103:TRP:CD1	2.72	0.43
6:AG:139:GLU:OE1	6:AG:142:GLU:HB2	2.18	0.43
8:AI:108:VAL:O	8:AI:110:GLU:N	2.52	0.43
9:AJ:7:LYS:NZ	9:AJ:9:ARG:HD3	2.34	0.43
10:AK:42:TRP:HE1	21:AA:686:U:C4'	2.31	0.43
11:AL:93:LEU:HD12	11:AL:96:VAL:HG13	2.00	0.43
20:AY:161:PRO:HA	20:AY:256:THR:HB	2.01	0.43
20:AY:197:ARG:NE	20:AY:197:ARG:HA	2.33	0.43
20:AY:256:THR:HA	20:AY:257:PRO:HD2	1.76	0.43
20:AY:283:PRO:HA	20:AY:286:ILE:HB	2.00	0.43
20:AY:456:GLU:HB3	20:AY:457:LEU:H	1.62	0.43
21:AA:431:A:H2'	21:AA:432:A:C8	2.53	0.43
21:AA:448:A:O5'	21:AA:485:G:N2	2.45	0.43
21:AA:1304:G:C6	21:AA:1305:G:N1	2.87	0.43
21:AA:1314:C:H2'	21:AA:1315:U:C6	2.54	0.43
25:BC:26:ALA:O	25:BC:30:VAL:HB	2.17	0.43
27:BE:31:CYS:HA	27:BE:32:PRO:HD3	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:BH:85:LYS:HG2	30:BH:141:VAL:HG13	2.01	0.43
33:BN:100:GLU:O	33:BN:117:PHE:HE1	2.02	0.43
34:BO:91:LEU:O	34:BO:91:LEU:HD13	2.18	0.43
36:BQ:36:ALA:HA	36:BQ:129:THR:HG22	2.01	0.43
39:BT:116:ALA:HB3	39:BT:118:ARG:NH2	2.34	0.43
43:BX:47:PHE:CD2	43:BX:89:ILE:HG21	2.54	0.43
43:BX:53:LYS:HE2	43:BX:53:LYS:HB2	1.70	0.43
46:B0:72:ARG:HB2	46:B0:78:TYR:HE1	1.83	0.43
50:B6:30:THR:HB	50:B6:32:ASN:HD21	1.83	0.43
59:BA:30:G:C6	59:BA:31:C:C4	3.07	0.43
59:BA:81:G:H2'	59:BA:82:G:O4'	2.19	0.43
59:BA:282:A:H2'	59:BA:282:A:N3	2.33	0.43
59:BA:834:C:H2'	59:BA:835:A:C8	2.54	0.43
59:BA:889:C:O2'	59:BA:890:A:P	2.77	0.43
59:BA:1683:C:H2'	59:BA:1684:C:H6	1.80	0.43
59:BA:2040:C:H2'	59:BA:2041:U:C6	2.54	0.43
59:BA:2265:U:C4	59:BA:2266:A:C6	3.07	0.43
60:BB:34:U:H3	60:BB:48:A:H61	1.67	0.43
1:CB:77:ALA:O	1:CB:81:VAL:HG13	2.19	0.43
11:CL:83:VAL:HB	11:CL:100:ILE:HD12	2.00	0.43
17:CR:58:LEU:HB3	17:CR:62:GLU:HB2	1.99	0.43
21:CA:159:G:H1'	21:CA:162:A:N6	2.33	0.43
21:CA:528:C:H4'	21:CA:535:A:C6	2.54	0.43
21:CA:548:G:C6	21:CA:549:C:C4	3.07	0.43
21:CA:716:A:C6	21:CA:717:C:C4	3.06	0.43
21:CA:872:A:C8	21:CA:874:G:C8	3.07	0.43
21:CA:1160:G:H2'	21:CA:1161:C:H5'	2.00	0.43
21:CA:1338:G:H21	22:CW:41:A:H1'	1.84	0.43
21:CA:1413:A:H8	21:CA:1413:A:OP2	2.02	0.43
20:CY:583:LYS:HB2	20:CY:583:LYS:HE2	1.71	0.43
25:DC:154:ILE:O	25:DC:157:ILE:HB	2.19	0.43
26:DD:17:THR:OG1	26:DD:205:VAL:N	2.30	0.43
26:DD:149:PRO:HG2	59:DA:2218:G:H4'	2.01	0.43
27:DE:101:ARG:HG2	27:DE:171:GLU:HA	2.01	0.43
27:DE:145:LYS:NZ	59:DA:2054:A:OP1	2.51	0.43
28:DF:45:ARG:HD2	59:DA:443:A:C5	2.54	0.43
30:DH:158:HIS:CG	30:DH:159:GLU:N	2.85	0.43
34:DO:26:LYS:HA	34:DO:26:LYS:HD2	1.86	0.43
35:DP:95:VAL:HG23	35:DP:125:VAL:HA	1.99	0.43
35:DP:148:LEU:O	35:DP:150:ALA:N	2.51	0.43
36:DQ:21:THR:O	36:DQ:23:GLY:N	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:DR:53:HIS:CG	59:DA:2840:C:H5”	2.54	0.43
45:DZ:98:MET:SD	45:DZ:100:VAL:HG23	2.59	0.43
46:D0:59:LEU:HD13	46:D0:79:VAL:HB	2.01	0.43
48:D3:40:THR:O	48:D3:43:ILE:HG12	2.18	0.43
57:D4:12:ALA:HB2	57:D4:28:LYS:O	2.19	0.43
58:De:81:ILE:HB	58:De:82:THR:H	1.59	0.43
59:DA:121:G:H4’	59:DA:148:C:H2’	2.01	0.43
59:DA:329:G:H4’	59:DA:330:A:OP2	2.17	0.43
59:DA:587:C:C2	59:DA:671:C:H1’	2.54	0.43
59:DA:864:G:H2’	59:DA:865:C:C6	2.52	0.43
59:DA:1148:A:H2’	59:DA:1149:G:H8	1.83	0.43
59:DA:1210:A:N6	59:DA:1237:A:C5	2.87	0.43
59:DA:2061:G:O2’	59:DA:2062:A:H5”	2.18	0.43
59:DA:2261:C:H5’	59:DA:2388:A:H4’	2.00	0.43
3:AD:38:TYR:CE1	3:AD:45:GLN:HB3	2.54	0.43
7:AH:87:SER:HB2	7:AH:133:LEU:O	2.18	0.43
8:AI:107:ARG:HB3	21:AA:1347:G:C8	2.53	0.43
9:AJ:90:LEU:HG	9:AJ:92:THR:HG23	2.00	0.43
9:AJ:91:PRO:CB	9:AJ:94:VAL:HG12	2.49	0.43
10:AK:124:LYS:HE3	21:AA:797:C:OP1	2.19	0.43
11:AL:58:VAL:C	11:AL:60:LEU:H	2.27	0.43
15:AP:8:ARG:HH22	21:AA:391:G:H5”	1.84	0.43
20:AY:390:VAL:HB	20:AY:394:ALA:HB3	2.00	0.43
20:AY:489:LYS:HG3	20:AY:491:VAL:HG23	2.00	0.43
21:AA:68(K):U:H5”	21:AA:68(L):U:OP2	2.19	0.43
21:AA:130:A:C5	21:AA:264:U:H1’	2.54	0.43
21:AA:408:A:H2’	21:AA:409:G:C8	2.53	0.43
21:AA:1284:C:H3’	21:AA:1285:A:C8	2.46	0.43
21:AA:1507:A:H2’	21:AA:1508:G:H8	1.83	0.43
25:BC:15:VAL:O	25:BC:19:LYS:HG3	2.19	0.43
25:BC:57:GLN:C	25:BC:59:VAL:H	2.27	0.43
26:BD:179:SER:HB3	59:BA:1799:G:O6	2.19	0.43
47:B2:3:LEU:HB3	47:B2:7:ARG:HH12	1.84	0.43
56:B1:88:LYS:HA	56:B1:91:LYS:HB3	2.00	0.43
59:BA:192:C:O2’	59:BA:802:A:N3	2.50	0.43
59:BA:558:G:H2’	59:BA:559:G:H8	1.82	0.43
59:BA:1385:G:H1’	59:BA:1386:C:C6	2.53	0.43
59:BA:1479:G:H2’	59:BA:1480:G:H8	1.83	0.43
59:BA:2067:G:C2	59:BA:2444:G:C2	3.06	0.43
59:BA:2386:C:H2’	59:BA:2387:U:C6	2.54	0.43
59:BA:2706:G:H4’	59:BA:2851:A:H4’	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2789:C:O5'	59:BA:2789:C:H6	2.02	0.43
3:CD:49:ARG:NE	3:CD:49:ARG:HA	2.34	0.43
3:CD:59:ARG:HA	3:CD:59:ARG:HD2	1.80	0.43
3:CD:110:PHE:CZ	3:CD:148:VAL:HG22	2.54	0.43
4:CE:76:ILE:HD13	4:CE:142:LEU:HD22	2.00	0.43
8:CI:45:ALA:O	8:CI:48:GLU:HB2	2.19	0.43
11:CL:114:LYS:HB2	21:CA:538:G:H5"	2.00	0.43
11:CL:120:TYR:O	11:CL:122:THR:N	2.51	0.43
11:CL:124:LYS:C	11:CL:126:LYS:H	2.23	0.43
14:CO:10:LYS:O	14:CO:14:GLU:HB2	2.18	0.43
14:CO:28:GLN:O	14:CO:32:LEU:HG	2.19	0.43
16:CQ:72:ARG:HB3	16:CQ:73:VAL:H	1.72	0.43
21:CA:37:U:O2'	21:CA:547:A:N1	2.51	0.43
21:CA:546:G:H4'	21:CA:548:G:H4'	2.00	0.43
21:CA:680:C:N4	21:CA:710:G:H1	2.10	0.43
21:CA:890:G:H22	21:CA:906:G:H2'	1.83	0.43
22:CW:57:G:H2'	22:CW:57:G:N3	2.34	0.43
20:CY:11:ARG:HE	20:CY:11:ARG:HB3	1.54	0.43
20:CY:109:ASP:H	20:CY:115:GLU:CD	2.26	0.43
20:CY:169:GLY:HA3	20:CY:173:THR:HB	2.00	0.43
20:CY:457:LEU:O	20:CY:461:ILE:HG23	2.18	0.43
20:CY:546:ILE:HA	20:CY:590:ILE:HG13	2.01	0.43
25:DC:79:ALA:HB1	25:DC:83:LYS:HB2	2.00	0.43
25:DC:151:GLY:O	25:DC:154:ILE:HB	2.18	0.43
26:DD:109:ASP:N	26:DD:195:ALA:O	2.51	0.43
27:DE:61:ARG:NH2	59:DA:2632:A:O2'	2.50	0.43
28:DF:112:MET:HB2	28:DF:112:MET:HE3	1.81	0.43
29:DG:127:GLY:C	29:DG:129:GLY:H	2.26	0.43
35:DP:27:HIS:NE2	59:DA:814:C:H5	2.16	0.43
37:DR:2:ARG:HB3	59:DA:2723:C:H4'	2.01	0.43
42:DW:78:GLU:HG2	42:DW:79:GLY:O	2.19	0.43
44:DY:35:TYR:HD1	44:DY:35:TYR:HA	1.73	0.43
44:DY:38:ILE:HG12	44:DY:64:GLU:HB3	2.01	0.43
45:DZ:67:LEU:HD11	45:DZ:90:VAL:HG13	2.01	0.43
49:D5:17:ASP:CB	59:DA:16:G:H5"	2.49	0.43
49:D5:42:PRO:HB2	59:DA:2815:C:O2'	2.18	0.43
52:D8:34:TRP:CG	52:D8:35:GLN:N	2.87	0.43
56:D1:20:ARG:C	56:D1:22:GLY:N	2.77	0.43
59:DA:675:A:C8	59:DA:804:A:C6	3.07	0.43
59:DA:971:C:H2'	59:DA:972:G:O4'	2.18	0.43
59:DA:1120:G:C6	59:DA:1121:C:C4	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1153:C:H2'	59:DA:1154:G:O4'	2.19	0.43
59:DA:2212:A:H4'	59:DA:2213:U:C4	2.53	0.43
59:DA:2525:G:C2	59:DA:2526:G:C5	3.07	0.43
2:AC:39:ILE:HG22	2:AC:43:LEU:HD12	1.99	0.43
2:AC:73:PRO:HB3	2:AC:103:VAL:HB	2.00	0.43
3:AD:96:LEU:HG	3:AD:139:ARG:CZ	2.49	0.43
3:AD:209:ARG:HA	21:AA:8:A:H62	1.84	0.43
4:AE:73:ASN:O	4:AE:73:ASN:ND2	2.43	0.43
7:AH:68:ARG:CG	7:AH:74:PRO:HB3	2.47	0.43
8:AI:19:LEU:HA	8:AI:61:ALA:HA	2.01	0.43
16:AQ:50:LYS:HE3	16:AQ:51:TYR:CE2	2.54	0.43
16:AQ:65:ILE:HB	16:AQ:69:LYS:O	2.18	0.43
21:AA:186(A):C:H2'	21:AA:186(B):C:C6	2.54	0.43
21:AA:1158:C:H2'	21:AA:1159:U:H4'	2.01	0.43
25:BC:154:ILE:HA	25:BC:157:ILE:HD12	2.00	0.43
26:BD:63:ARG:NH2	59:BA:1568:G:P	2.92	0.43
27:BE:15:PHE:HD1	39:BT:80:SER:HB3	1.83	0.43
36:BQ:134:ARG:HD2	45:BZ:122:ARG:CZ	2.49	0.43
38:BS:104:GLY:O	38:BS:106:ARG:N	2.52	0.43
43:BX:27:THR:HB	43:BX:80:ILE:HA	2.01	0.43
48:B3:11:SER:OG	48:B3:13:ILE:HG12	2.19	0.43
49:B5:15:ARG:NH2	59:BA:2046:G:OP1	2.46	0.43
51:B7:10:ARG:HG3	59:BA:125:G:C6	2.53	0.43
58:Be:52:ALA:H	58:Be:53:PRO:HD2	1.84	0.43
58:Be:74:VAL:HG13	58:Be:78:LEU:HD12	2.00	0.43
59:BA:69:C:H4'	59:BA:75:G:C5	2.54	0.43
59:BA:223:A:C8	59:BA:422:A:H1'	2.53	0.43
59:BA:285:C:H2'	59:BA:286:C:H6	1.84	0.43
59:BA:419:C:H2'	59:BA:420:C:C6	2.53	0.43
59:BA:537:C:H2'	59:BA:539:G:O4'	2.19	0.43
59:BA:607:U:O4	59:BA:620:G:H5"	2.18	0.43
59:BA:609(A):A:H2'	59:BA:609(B):G:O4'	2.19	0.43
59:BA:803:U:H2'	59:BA:804:A:H5'	2.01	0.43
59:BA:1238:G:N2	59:BA:1239:G:C4	2.87	0.43
59:BA:1310:G:H2'	59:BA:1311:G:O4'	2.19	0.43
59:BA:1430:C:H2'	59:BA:1431:U:O4'	2.19	0.43
59:BA:1904:G:H2'	59:BA:1905:C:O4'	2.19	0.43
2:CC:134:ILE:HA	2:CC:134:ILE:HD13	1.67	0.43
2:CC:195:VAL:CG1	21:CA:1205:U:H4'	2.48	0.43
3:CD:152:SER:HA	3:CD:155:LEU:HB2	2.00	0.43
10:CK:27:ASN:ND2	10:CK:44:SER:HB2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CL:75:HIS:CG	11:CL:76:ASN:N	2.86	0.43
12:CM:116:THR:HG21	22:CW:29:U:H4'	2.01	0.43
21:CA:68(G):G:H1	21:CA:68(S):C:H42	1.66	0.43
21:CA:409:G:H1	21:CA:433:C:N4	2.13	0.43
21:CA:584:G:H2'	21:CA:585:G:C8	2.54	0.43
21:CA:773:G:H2'	21:CA:774:G:H8	1.84	0.43
21:CA:837:G:H1	21:CA:849:C:H42	1.67	0.43
21:CA:1151:A:O2'	21:CA:1152:A:H8	2.01	0.43
20:CY:105:ILE:HG23	20:CY:133:ILE:HD11	2.00	0.43
25:DC:4:HIS:O	25:DC:8:TYR:HB3	2.19	0.43
25:DC:9:ARG:H	25:DC:9:ARG:HG3	1.60	0.43
27:DE:62:PRO:HD3	59:DA:2787:C:O4'	2.19	0.43
27:DE:110:GLY:H	59:DA:2821:A:P	2.37	0.43
30:DH:85:LYS:HB2	30:DH:133:VAL:HB	2.01	0.43
32:DK:3:LYS:HZ2	58:De:79:ARG:HD3	1.84	0.43
34:DO:101:PRO:HA	34:DO:120:GLU:O	2.19	0.43
36:DQ:43:THR:CB	36:DQ:46:GLN:HB2	2.46	0.43
38:DS:15:ARG:NE	59:DA:2334:G:N3	2.67	0.43
42:DW:31:GLU:O	42:DW:35:ILE:HG13	2.19	0.43
47:D2:32:LEU:HB2	47:D2:53:LEU:HD22	2.01	0.43
49:D5:56:LYS:HB3	49:D5:57:VAL:H	1.66	0.43
53:D9:33:LYS:HE3	53:D9:33:LYS:HB2	1.70	0.43
59:DA:695:G:C4	59:DA:696:G:C8	3.07	0.43
59:DA:1062:G:H2'	59:DA:1063:G:H8	1.84	0.43
59:DA:1174:A:H3'	59:DA:1175:U:C5'	2.48	0.43
59:DA:1400:G:H2'	59:DA:1401:G:H8	1.81	0.43
59:DA:2178:C:H2'	59:DA:2179:C:C6	2.52	0.43
59:DA:2508:G:H2'	59:DA:2509:G:H8	1.83	0.43
1:AB:155:LEU:HD21	1:AB:159:PRO:HG3	2.01	0.42
1:AB:169:LYS:O	1:AB:172:ILE:N	2.49	0.42
3:AD:101:LEU:HD11	3:AD:146:ILE:HG21	2.00	0.42
3:AD:201:GLN:O	3:AD:205:GLU:HG3	2.18	0.42
5:AF:78:GLU:HA	5:AF:81:ILE:HD12	2.01	0.42
6:AG:40:ALA:HB1	6:AG:44:TYR:CZ	2.54	0.42
6:AG:74:GLU:HA	6:AG:141:VAL:HG12	2.01	0.42
9:AJ:89:ASP:OD1	9:AJ:90:LEU:N	2.52	0.42
12:AM:123:ALA:O	12:AM:125:ARG:N	2.52	0.42
17:AR:73:ALA:HB3	17:AR:79:LEU:HD12	2.00	0.42
20:AY:374:LEU:HD12	20:AY:374:LEU:N	2.34	0.42
20:AY:487:ILE:HD11	20:AY:516:PRO:HB3	2.00	0.42
20:AY:614:GLU:O	20:AY:617:MET:HE2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:261:U:O5'	21:AA:261:U:H6	2.02	0.42
21:AA:1083:U:H5"	21:AA:1084:G:OP2	2.19	0.42
21:AA:1237:C:H2'	21:AA:1336:C:C5	2.54	0.42
21:AA:1248:A:C2	21:AA:1289:A:N6	2.87	0.42
21:AA:1358:U:HO2'	21:AA:1359:C:H6	1.65	0.42
21:AA:1510:U:H2'	21:AA:1511:G:C8	2.53	0.42
25:BC:59:VAL:HB	25:BC:164:PHE:O	2.18	0.42
26:BD:16:MET:HE2	26:BD:211:ARG:HD2	2.00	0.42
27:BE:101:ARG:HG2	27:BE:171:GLU:HA	2.00	0.42
27:BE:141:ILE:HB	27:BE:142:GLY:H	1.48	0.42
29:BG:60:LEU:O	29:BG:63:ILE:HG12	2.19	0.42
29:BG:63:ILE:HB	29:BG:143:GLU:HG2	2.00	0.42
29:BG:110:ALA:O	29:BG:140:ILE:HD12	2.19	0.42
32:BK:14:ALA:HA	32:BK:41:PHE:CE2	2.53	0.42
33:BN:33:LEU:HG	33:BN:38:HIS:CE1	2.54	0.42
37:BR:18:LEU:HD22	37:BR:22:ARG:NH2	2.33	0.42
37:BR:56:LYS:NZ	37:BR:91:GLN:HG2	2.34	0.42
39:BT:49:VAL:HA	39:BT:63:VAL:HG12	2.01	0.42
39:BT:54:ARG:HA	39:BT:59:THR:HB	2.00	0.42
40:BU:55:ARG:NH2	59:BA:1156:A:N7	2.66	0.42
40:BU:95:LEU:HA	40:BU:95:LEU:HD23	1.87	0.42
46:B0:32:ARG:HH21	59:BA:2353:G:H4'	1.83	0.42
48:B3:4:LEU:HD21	48:B3:39:ASP:HB2	2.00	0.42
50:B6:41:PRO:HD3	50:B6:47:THR:HG22	2.01	0.42
52:B8:48:PHE:HE1	52:B8:50:LEU:HD13	1.84	0.42
57:B4:2:LYS:HB2	57:B4:3:GLU:H	1.64	0.42
59:BA:31:C:H5"	59:BA:1239:G:OP1	2.19	0.42
59:BA:107:C:O3'	59:BA:293:U:O2'	2.28	0.42
59:BA:463:G:N1	59:BA:467:G:C6	2.87	0.42
59:BA:484:C:N3	59:BA:496:G:O6	2.51	0.42
59:BA:574:C:N4	59:BA:2033:A:H4'	2.34	0.42
59:BA:956:G:N2	59:BA:959:A:H3'	2.34	0.42
59:BA:1440:G:H2'	59:BA:1441:G:C8	2.54	0.42
59:BA:1491:G:P	59:BA:1494:A:H62	2.40	0.42
59:BA:2048:G:H2'	59:BA:2049:G:O4'	2.19	0.42
59:BA:2249:U:H4'	59:BA:2275:C:C5	2.54	0.42
59:BA:2854:G:C6	59:BA:2855:C:C4	3.07	0.42
60:BB:28:C:H2'	60:BB:29:A:C8	2.54	0.42
60:BB:55:U:C2'	60:BB:56:G:H5'	2.48	0.42
3:CD:42:GLN:O	3:CD:46:LYS:NZ	2.41	0.42
3:CD:95:GLY:C	3:CD:97:LEU:H	2.27	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CE:91:LEU:HD13	4:CE:91:LEU:HA	1.82	0.42
5:CF:48:LEU:HG	5:CF:57:GLN:C	2.44	0.42
9:CJ:33:GLN:OE1	9:CJ:34:VAL:N	2.52	0.42
10:CK:44:SER:OG	10:CK:47:VAL:HG23	2.19	0.42
11:CL:84:LEU:HB2	11:CL:104:VAL:CG1	2.46	0.42
16:CQ:83:ASP:O	16:CQ:86:GLU:HB3	2.19	0.42
21:CA:658:G:H2'	21:CA:659:U:C6	2.54	0.42
21:CA:1356:G:H2'	21:CA:1357:A:H8	1.84	0.42
21:CA:1480:G:H2'	21:CA:1481:U:O4'	2.19	0.42
20:CY:487:ILE:HB	20:CY:597:GLY:O	2.19	0.42
25:DC:174:ALA:HA	25:DC:175:PRO:HD3	1.63	0.42
26:DD:52:ARG:HB3	26:DD:53:PHE:CD1	2.54	0.42
29:DG:21:ARG:HG3	29:DG:22:ARG:HG3	2.00	0.42
31:DJ:151:UNK:HA	55:Dh:22:UNK:HA	2.01	0.42
34:DO:107:ARG:HA	34:DO:112:MET:HE1	2.01	0.42
35:DP:17:LYS:NZ	35:DP:19:VAL:HG23	2.35	0.42
39:DT:104:ASN:HB3	39:DT:105:LEU:H	1.55	0.42
43:DX:29:TRP:CD1	43:DX:29:TRP:H	2.37	0.42
44:DY:8:LYS:HB3	44:DY:28:LYS:NZ	2.34	0.42
44:DY:73:ARG:CD	59:DA:335:C:H4'	2.49	0.42
45:DZ:74:VAL:HG13	45:DZ:86:VAL:HG13	2.01	0.42
48:D3:7:LYS:HA	48:D3:33:GLN:O	2.19	0.42
50:D6:47:THR:HG23	50:D6:49:HIS:CD2	2.54	0.42
51:D7:9:ARG:H	51:D7:9:ARG:HG2	1.69	0.42
58:De:60:PHE:C	58:De:62:VAL:H	2.26	0.42
59:DA:9:U:N3	59:DA:2629:A:N7	2.67	0.42
59:DA:82:G:H5"	59:DA:296:C:C5'	2.49	0.42
59:DA:1803:A:H2'	59:DA:1804:C:O4'	2.19	0.42
59:DA:2030:A:H4'	59:DA:2031:A:C8	2.54	0.42
59:DA:2123:G:H1	59:DA:2175:C:N4	2.13	0.42
59:DA:2193:G:H2'	59:DA:2194:G:H8	1.83	0.42
59:DA:2703:C:H2'	59:DA:2704:C:C6	2.54	0.42
3:AD:42:GLN:NE2	21:AA:512:U:H1'	2.34	0.42
3:AD:119:GLN:HE21	3:AD:119:GLN:HB2	1.66	0.42
7:AH:11:THR:O	7:AH:14:ARG:HB2	2.20	0.42
8:AI:72:GLY:HA2	8:AI:75:ASP:OD1	2.19	0.42
9:AJ:56:HIS:CE1	21:AA:1060:C:HO2'	2.33	0.42
10:AK:53:SER:C	10:AK:55:LYS:N	2.75	0.42
11:AL:59:ARG:HA	11:AL:64:TYR:O	2.18	0.42
12:AM:84:ILE:HG21	18:AS:74:PHE:CG	2.54	0.42
12:AM:94:ARG:HG3	18:AS:81:ARG:HH21	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:AS:65:ASN:ND2	29:BG:115:ARG:HB3	2.34	0.42
20:AY:18:ALA:HB2	20:AY:85:PRO:HG2	2.02	0.42
20:AY:21:ILE:HG22	59:BA:2661:G:H5'	2.00	0.42
21:AA:780:A:C8	21:AA:780:A:H3'	2.54	0.42
21:AA:1243:C:H2'	21:AA:1244:C:C6	2.54	0.42
22:AW:19:G:H1'	22:AW:57:G:C2	2.54	0.42
22:AW:35:A:C2	23:AV:18:G:N1	2.62	0.42
26:BD:122:ASP:CG	26:BD:123:ALA:N	2.78	0.42
27:BE:21:VAL:HA	27:BE:22:PRO:HD2	1.71	0.42
28:BF:93:LYS:H	28:BF:95:ARG:NH1	2.17	0.42
29:BG:121:ASN:O	29:BG:131:TYR:OH	2.22	0.42
30:BH:97:ARG:HD3	30:BH:99:VAL:HB	2.00	0.42
38:BS:17:ARG:HA	38:BS:20:ARG:NH1	2.34	0.42
40:BU:56:ASP:O	40:BU:59:ARG:HB3	2.19	0.42
40:BU:79:PHE:CE2	40:BU:83:LEU:HD21	2.54	0.42
44:BY:69:ALA:O	44:BY:71:LYS:N	2.52	0.42
45:BZ:70:LEU:HD23	45:BZ:71:VAL:H	1.84	0.42
45:BZ:77:ASP:O	45:BZ:79:ARG:N	2.50	0.42
50:B6:8:LYS:HD2	50:B6:27:LYS:HA	2.00	0.42
50:B6:27:LYS:NZ	50:B6:30:THR:H	2.17	0.42
52:B8:15:LYS:HD3	52:B8:16:ILE:C	2.44	0.42
56:B1:31:GLY:O	56:B1:32:LYS:C	2.63	0.42
56:B1:58:ILE:HG13	56:B1:91:LYS:HD2	2.01	0.42
59:BA:829:A:C8	59:BA:2248:C:H5'	2.54	0.42
59:BA:1767:C:N3	59:BA:1985:G:N2	2.49	0.42
59:BA:2056:G:H2'	59:BA:2056:G:N3	2.34	0.42
59:BA:2502:G:H5'	59:BA:2503:A:H5"	2.00	0.42
1:CB:16:HIS:CE1	1:CB:210:SER:HA	2.54	0.42
1:CB:98:LEU:N	1:CB:101:MET:SD	2.93	0.42
1:CB:180:LEU:HB3	1:CB:182:ILE:HG12	2.01	0.42
2:CC:174:PRO:CA	21:CA:1107:C:H5"	2.49	0.42
3:CD:207:TYR:HD2	3:CD:207:TYR:HA	1.70	0.42
8:CI:29:ASN:ND2	8:CI:65:VAL:O	2.51	0.42
9:CJ:51:ARG:O	21:CA:1060:C:H5'	2.19	0.42
19:CT:39:LYS:HE3	19:CT:43:LEU:HD12	2.01	0.42
21:CA:54:C:H42	21:CA:357:G:H1	1.67	0.42
21:CA:509:A:C6	21:CA:510:A:N1	2.87	0.42
21:CA:568:G:N2	21:CA:569:C:C2	2.86	0.42
21:CA:966:G:H2'	21:CA:967:C:O4'	2.19	0.42
21:CA:1424:C:H2'	21:CA:1425:U:C6	2.55	0.42
20:CY:25:LYS:HE2	20:CY:84:THR:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:DC:42:VAL:HG22	25:DC:215:VAL:HG13	2.00	0.42
25:DC:176:VAL:HB	25:DC:177:GLY:H	1.47	0.42
26:DD:134:ARG:HG2	26:DD:187:GLY:O	2.18	0.42
28:DF:176:LEU:HD22	28:DF:185:ASP:CG	2.43	0.42
29:DG:15:VAL:HA	29:DG:175:LEU:HD13	2.00	0.42
29:DG:76:SER:CA	29:DG:83:ARG:HB3	2.46	0.42
30:DH:45:VAL:HA	30:DH:50:VAL:HG22	2.01	0.42
33:DN:68:GLU:HG2	33:DN:88:GLU:OE1	2.19	0.42
34:DO:35:VAL:HG11	34:DO:105:GLU:HB2	2.02	0.42
36:DQ:38:GLU:OE2	36:DQ:128:LYS:HG2	2.19	0.42
37:DR:86:ARG:C	37:DR:88:ARG:H	2.27	0.42
38:DS:85:VAL:H	38:DS:106:ARG:CG	2.32	0.42
40:DU:30:LYS:HD2	59:DA:516:C:OP2	2.19	0.42
40:DU:96:ALA:O	40:DU:99:ALA:HB3	2.19	0.42
45:DZ:14:LYS:HD2	45:DZ:16:SER:HB3	2.01	0.42
49:D5:3:LYS:HG2	49:D5:4:HIS:N	2.34	0.42
50:D6:23:THR:O	50:D6:23:THR:OG1	2.36	0.42
59:DA:30:G:H2'	59:DA:31:C:C6	2.54	0.42
59:DA:273(E):C:H2'	59:DA:273(F):U:H6	1.82	0.42
59:DA:829:A:H8	59:DA:2248:C:H5'	1.81	0.42
59:DA:1025:G:H1	59:DA:1139:G:H1	1.65	0.42
59:DA:1270:C:H5"	59:DA:1271:G:C5'	2.48	0.42
59:DA:1491:G:H5"	59:DA:1494:A:N7	2.34	0.42
59:DA:1498:C:H2'	59:DA:1499:C:C6	2.54	0.42
59:DA:1833:U:H2'	59:DA:1834:U:C6	2.55	0.42
59:DA:1882:C:H2'	59:DA:1883:G:O4'	2.19	0.42
59:DA:2090:G:H1	59:DA:2229:C:H42	1.66	0.42
59:DA:2208:U:H2'	59:DA:2209:C:H6	1.84	0.42
59:DA:2540:C:H2'	59:DA:2541:A:O4'	2.19	0.42
1:AB:76:GLN:CD	1:AB:76:GLN:H	2.27	0.42
17:AR:19:LYS:HD3	17:AR:19:LYS:HA	1.91	0.42
18:AS:80:TYR:HB2	21:AA:957:U:H5'	2.01	0.42
20:AY:30:GLU:CB	20:AY:51:THR:HG22	2.42	0.42
20:AY:209:ALA:O	20:AY:210:ARG:C	2.62	0.42
20:AY:319:ASP:HA	20:AY:320:PRO:HD3	1.91	0.42
20:AY:515:GLU:HG2	20:AY:516:PRO:HD2	2.00	0.42
20:AY:535:PRO:HG2	20:AY:572:TYR:CE2	2.54	0.42
20:AY:605:ILE:HD12	20:AY:648:PRO:HA	2.01	0.42
21:AA:232:G:C5	21:AA:233:C:C5	3.06	0.42
21:AA:663:A:O2'	21:AA:664:G:H5'	2.20	0.42
21:AA:995:C:N3	21:AA:1046:A:O2'	2.36	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:1120:G:C2	21:AA:1154:G:C2	3.07	0.42
21:AA:1156:G:O2'	21:AA:1180:A:N1	2.38	0.42
21:AA:1504:G:H4'	21:AA:1505:G:H5'	2.00	0.42
25:BC:48:LEU:H	25:BC:48:LEU:HD12	1.84	0.42
25:BC:161:ARG:O	25:BC:161:ARG:HD3	2.18	0.42
32:BK:52:ILE:O	32:BK:72:PRO:HA	2.18	0.42
33:BN:10:GLU:OE2	33:BN:11:PRO:HD2	2.20	0.42
36:BQ:68:ILE:HG23	36:BQ:103:MET:HA	2.00	0.42
37:BR:38:VAL:O	37:BR:41:ALA:HB3	2.20	0.42
38:BS:56:LEU:HD23	38:BS:58:LEU:HD22	2.01	0.42
41:BV:25:LEU:H	41:BV:92:THR:HG21	1.84	0.42
45:BZ:105:VAL:HG12	45:BZ:139:VAL:O	2.20	0.42
47:B2:61:LEU:O	47:B2:64:LEU:HB3	2.18	0.42
53:B9:33:LYS:HB2	53:B9:33:LYS:HE3	1.75	0.42
56:B1:77:ALA:O	56:B1:82:LEU:HD11	2.18	0.42
58:Be:79:ARG:C	58:Be:81:ILE:H	2.26	0.42
59:BA:49:A:H4'	59:BA:50:U:O5'	2.19	0.42
59:BA:1286:A:N6	59:BA:1329:U:O2'	2.49	0.42
59:BA:1464:C:H2'	59:BA:1465:G:C8	2.55	0.42
59:BA:2126:A:H1'	59:BA:2127:G:C8	2.54	0.42
60:BB:100:G:H2'	60:BB:101:A:C8	2.53	0.42
1:CB:105:PHE:HZ	1:CB:156:LYS:HA	1.84	0.42
3:CD:76:ARG:HD3	3:CD:207:TYR:CE1	2.54	0.42
7:CH:56:LYS:HA	7:CH:57:PRO:HD2	1.91	0.42
9:CJ:49:VAL:CG2	13:CN:41:ARG:HB2	2.43	0.42
11:CL:75:HIS:HB2	11:CL:77:LEU:HD12	2.01	0.42
15:CP:48:TRP:CD1	15:CP:48:TRP:H	2.35	0.42
16:CQ:59:ILE:HA	16:CQ:73:VAL:HA	2.02	0.42
21:CA:729:A:C5	21:CA:730:G:N7	2.86	0.42
21:CA:741:G:H5'	21:CA:742:G:OP2	2.19	0.42
21:CA:773:G:H2'	21:CA:774:G:C8	2.54	0.42
21:CA:867:G:H2'	21:CA:868:C:C6	2.55	0.42
21:CA:1358:U:O2'	21:CA:1359:C:O5'	2.38	0.42
21:CA:1440(J):C:O2'	21:CA:1440(K):G:H5"	2.18	0.42
21:CA:1492:A:C5'	24:CU:6:5OH:HP	2.49	0.42
20:CY:149:VAL:HG12	20:CY:153:MET:SD	2.58	0.42
20:CY:436:PRO:O	20:CY:438:PHE:N	2.52	0.42
20:CY:495:GLY:HA3	20:CY:510:VAL:HG23	2.00	0.42
25:DC:77:ALA:HA	25:DC:114:VAL:O	2.19	0.42
25:DC:151:GLY:HA2	25:DC:154:ILE:HD12	2.01	0.42
27:DE:134:ILE:H	27:DE:134:ILE:HD13	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:DE:158:GLY:HA3	59:DA:2620:C:O2'	2.18	0.42
33:DN:25:ARG:NH2	59:DA:114(B):A:H4'	2.27	0.42
33:DN:72:TYR:HB2	33:DN:85:ILE:O	2.19	0.42
34:DO:75:SER:HB3	39:DT:77:PRO:HD3	2.01	0.42
36:DQ:46:GLN:NE2	59:DA:2485:G:OP1	2.51	0.42
37:DR:39:PRO:HG2	59:DA:1651:G:H5'	2.00	0.42
44:DY:38:ILE:CG1	44:DY:64:GLU:HB3	2.49	0.42
56:D1:30:VAL:HA	59:DA:2396:G:H4'	2.01	0.42
59:DA:29:U:H2'	59:DA:30:G:C8	2.53	0.42
59:DA:767:U:H2'	59:DA:768:G:H8	1.84	0.42
59:DA:1050:A:H2'	59:DA:1051:G:O4'	2.20	0.42
59:DA:1196:C:H2'	59:DA:1197:G:H8	1.84	0.42
59:DA:1479:G:H1'	59:DA:1558:A:OP1	2.19	0.42
59:DA:1583:A:O2'	59:DA:1586:A:N6	2.51	0.42
59:DA:2126:A:N6	59:DA:2163:C:H4'	2.35	0.42
59:DA:2134:A:N6	59:DA:2157:G:H1'	2.34	0.42
59:DA:2773:C:H2'	59:DA:2774:C:C6	2.52	0.42
1:AB:9:GLU:HA	1:AB:44:LEU:HD23	2.01	0.42
1:AB:52:GLU:O	1:AB:56:ARG:HB2	2.18	0.42
3:AD:9:CYS:CA	3:AD:12:CYS:HB2	2.49	0.42
4:AE:96:PRO:HA	4:AE:117:ASP:CG	2.44	0.42
6:AG:32:ARG:HG3	21:AA:1240:U:N3	2.34	0.42
7:AH:64:LYS:HB3	7:AH:79:VAL:HG21	2.02	0.42
11:AL:117:ARG:HG2	11:AL:122:THR:HB	2.01	0.42
14:AO:39:LEU:HD12	14:AO:56:LEU:HD13	2.02	0.42
17:AR:74:ARG:HG2	17:AR:79:LEU:HB3	2.01	0.42
20:AY:75:LYS:HE3	20:AY:75:LYS:HB3	1.49	0.42
20:AY:138:LYS:HG2	61:AY:701:GNP:N1	2.34	0.42
20:AY:325:LEU:HD22	20:AY:376:ALA:HB1	2.00	0.42
20:AY:329:ARG:HD2	20:AY:374:LEU:CD1	2.50	0.42
20:AY:394:ALA:O	20:AY:396:ARG:N	2.53	0.42
20:AY:615:GLU:H	20:AY:615:GLU:HG3	1.58	0.42
21:AA:18:C:H2'	21:AA:19:C:C6	2.55	0.42
21:AA:178:C:H2'	21:AA:179:A:O4'	2.20	0.42
21:AA:737:A:C4	21:AA:738:C:C5	3.08	0.42
21:AA:1306:A:H1'	21:AA:1332:A:N1	2.35	0.42
25:BC:120:VAL:O	25:BC:121:MET:C	2.63	0.42
26:BD:71:ASP:CG	26:BD:103:ARG:HH22	2.28	0.42
26:BD:274:ARG:NH2	59:BA:1798:U:O5'	2.52	0.42
27:BE:61:ARG:HG3	59:BA:2811:G:OP1	2.20	0.42
28:BF:107:LYS:HD3	28:BF:107:LYS:HA	1.64	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BG:97:ASP:O	29:BG:100:TRP:HB2	2.19	0.42
30:BH:157:TYR:CZ	59:BA:2531:A:H5"	2.54	0.42
31:BJ:83:UNK:C	31:BJ:85:UNK:N	2.82	0.42
33:BN:80:GLY:N	59:BA:1131:G:OP1	2.37	0.42
35:BP:60:MET:HB3	59:BA:2392:A:C8	2.54	0.42
37:BR:39:PRO:HG2	59:BA:1651:G:H5'	2.00	0.42
38:BS:13:ARG:H	38:BS:13:ARG:HG3	1.51	0.42
39:BT:23:ARG:NH1	39:BT:120:ARG:HH11	2.18	0.42
41:BV:1:MET:HG2	41:BV:42:GLY:HA3	2.01	0.42
45:BZ:97:GLU:HA	45:BZ:127:LYS:HA	2.02	0.42
50:B6:8:LYS:NZ	50:B6:27:LYS:HB2	2.34	0.42
59:BA:315:G:H2'	59:BA:316:C:C6	2.53	0.42
59:BA:363(D):G:H2'	59:BA:363(E):G:C8	2.54	0.42
59:BA:478:A:N6	59:BA:500:G:O2'	2.51	0.42
59:BA:627:A:H8	59:BA:627:A:OP1	2.03	0.42
59:BA:957:A:C2	59:BA:2459:A:H5'	2.54	0.42
59:BA:2009:G:H2'	59:BA:2010:G:C8	2.53	0.42
2:CC:179:ARG:H	2:CC:179:ARG:HG3	1.68	0.42
3:CD:72:GLU:HA	3:CD:75:PHE:HB3	2.01	0.42
4:CE:101:ILE:HG13	4:CE:118:ILE:O	2.18	0.42
5:CF:11:ASN:ND2	5:CF:13:ASN:O	2.52	0.42
6:CG:15:ASP:HB2	6:CG:20:ASP:O	2.19	0.42
7:CH:35:ILE:O	7:CH:39:LEU:HD23	2.19	0.42
7:CH:122:ARG:O	7:CH:126:LYS:HB2	2.20	0.42
8:CI:40:LEU:HD22	8:CI:42:ARG:HG3	2.02	0.42
10:CK:53:SER:CB	21:CA:694:A:H5"	2.47	0.42
10:CK:66:LEU:O	10:CK:69:ALA:HB3	2.18	0.42
11:CL:93:LEU:H	11:CL:93:LEU:HD23	1.84	0.42
21:CA:436:C:H2'	21:CA:437:U:O4'	2.19	0.42
21:CA:893:C:H2'	21:CA:894:G:C8	2.54	0.42
21:CA:936:C:N3	21:CA:1379:G:N2	2.61	0.42
21:CA:1345:U:H4'	21:CA:1346:A:H5'	2.01	0.42
21:CA:1366:C:H2'	21:CA:1367:C:C6	2.54	0.42
20:CY:304:ASP:C	20:CY:306:ASN:H	2.26	0.42
20:CY:586:GLY:O	20:CY:589:ALA:HB3	2.20	0.42
20:CY:617:MET:HG2	20:CY:618:GLY:N	2.29	0.42
26:DD:208:LYS:HG3	26:DD:210:GLY:N	2.34	0.42
27:DE:6:GLY:HA2	27:DE:27:LEU:O	2.19	0.42
27:DE:117:MET:C	27:DE:119:ARG:H	2.28	0.42
30:DH:70:THR:HA	30:DH:73:ALA:HB3	2.01	0.42
30:DH:85:LYS:HZ1	30:DH:135:GLY:HA3	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:DK:99:ILE:CG2	32:DK:104:VAL:HB	2.49	0.42
33:DN:39:ARG:NH2	33:DN:41:ASP:O	2.47	0.42
33:DN:41:ASP:C	40:DU:64:ARG:NH1	2.74	0.42
33:DN:95:PRO:HA	33:DN:98:VAL:HG13	2.01	0.42
34:DO:19:ILE:HG22	34:DO:43:VAL:HA	2.01	0.42
35:DP:14:LYS:HA	35:DP:14:LYS:HD3	1.90	0.42
38:DS:51:ALA:HB3	38:DS:73:LEU:HD12	2.02	0.42
38:DS:83:LYS:O	38:DS:106:ARG:HA	2.19	0.42
41:DV:89:GLN:NE2	59:DA:1162:G:N3	2.66	0.42
45:DZ:154:ASP:OD2	45:DZ:154:ASP:N	2.51	0.42
47:D2:61:LEU:O	47:D2:64:LEU:HB3	2.20	0.42
49:D5:16:ARG:O	49:D5:20:ARG:HB2	2.19	0.42
50:D6:53:LYS:HA	50:D6:53:LYS:HD2	1.55	0.42
53:D9:19:ARG:HG2	53:D9:20:HIS:ND1	2.34	0.42
59:DA:141(B):C:H2'	59:DA:142:G:O4'	2.19	0.42
59:DA:836:G:H1	59:DA:943:U:H3	1.66	0.42
59:DA:849:A:H61	59:DA:929:G:H1'	1.82	0.42
59:DA:879:G:H2'	59:DA:880:G:H8	1.84	0.42
59:DA:1461:G:H2'	59:DA:1462:C:H6	1.85	0.42
59:DA:1541:U:H3'	59:DA:1542:G:C3'	2.44	0.42
59:DA:2175:C:H2'	59:DA:2176:A:H8	1.85	0.42
59:DA:2404:C:H2'	59:DA:2405:G:O4'	2.18	0.42
1:AB:71:VAL:HG12	1:AB:170:GLU:OE2	2.19	0.42
1:AB:102:LEU:HD13	1:AB:102:LEU:HA	1.84	0.42
1:AB:139:LYS:HA	1:AB:142:LEU:HB2	2.02	0.42
1:AB:145:LEU:HD12	1:AB:149:LEU:HD12	2.01	0.42
3:AD:76:ARG:O	3:AD:80:GLU:HG2	2.19	0.42
4:AE:80:ILE:HD11	4:AE:138:ALA:HB1	2.01	0.42
5:AF:1:MET:SD	5:AF:66:GLU:HG2	2.59	0.42
9:AJ:76:ASN:HA	9:AJ:77:PRO:HD2	1.89	0.42
10:AK:47:VAL:HG22	21:AA:687:A:H4'	2.00	0.42
12:AM:14:ARG:HG3	12:AM:44:ARG:HD2	2.01	0.42
12:AM:108:ARG:NE	12:AM:114:ARG:HG3	2.34	0.42
17:AR:74:ARG:HG3	17:AR:79:LEU:HD13	2.01	0.42
20:AY:13:ARG:NE	20:AY:77:HIS:HB3	2.34	0.42
20:AY:216:LEU:HD21	20:AY:246:ILE:HD11	2.02	0.42
21:AA:68(A):G:H2'	21:AA:68(B):G:C8	2.54	0.42
21:AA:774:G:H2'	21:AA:775:G:O4'	2.19	0.42
21:AA:976:G:N2	21:AA:1362:C:H2'	2.34	0.42
21:AA:1134:G:H2'	21:AA:1135:U:O4'	2.19	0.42
21:AA:1157:A:C2	21:AA:1181:G:C5	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:1290:G:H2'	21:AA:1291:G:O4'	2.19	0.42
21:AA:1378:C:H2'	21:AA:1378:C:O2	2.19	0.42
26:BD:126:GLN:O	26:BD:127:VAL:HB	2.19	0.42
26:BD:151:LYS:HE3	59:BA:2207:C:O2	2.20	0.42
26:BD:275:LYS:HB3	26:BD:275:LYS:HE2	1.86	0.42
27:BE:63:LEU:HD13	27:BE:65:GLY:HA3	2.02	0.42
29:BG:34:LEU:HD22	29:BG:100:TRP:CZ2	2.54	0.42
34:BO:12:ASP:HB2	34:BO:14:THR:HB	2.01	0.42
34:BO:19:ILE:HG22	34:BO:43:VAL:HA	2.02	0.42
34:BO:38:VAL:HA	34:BO:60:ALA:O	2.20	0.42
35:BP:113:LYS:NZ	59:BA:636:G:N7	2.62	0.42
36:BQ:56:ARG:HD3	59:BA:2469:A:O2'	2.19	0.42
37:BR:83:ILE:HG23	37:BR:87:TYR:CE2	2.54	0.42
46:B0:31:VAL:HG11	46:B0:37:LEU:HD21	2.01	0.42
46:B0:65:GLY:HA3	46:B0:82:ARG:O	2.19	0.42
52:B8:32:LEU:HB3	52:B8:33:ASN:H	1.48	0.42
59:BA:74:A:H5"	59:BA:75:G:O4'	2.19	0.42
59:BA:123:G:H2'	59:BA:124:G:O4'	2.19	0.42
59:BA:803:U:C2'	59:BA:804:A:H5'	2.49	0.42
59:BA:884:C:H42	59:BA:892:G:H1	1.67	0.42
59:BA:998:C:H2'	59:BA:999:U:O4'	2.19	0.42
59:BA:1007:C:H5"	59:BA:1008:C:P	2.60	0.42
59:BA:1221:C:H2'	59:BA:122(A):C:H6	1.84	0.42
59:BA:1776:G:N2	59:BA:1789:A:H1'	2.34	0.42
59:BA:1791:A:N6	59:BA:1828:G:HO2'	2.14	0.42
59:BA:1942:C:C4	59:BA:1943:U:C4	3.07	0.42
59:BA:2524:G:H1	59:BA:2539:C:H42	1.67	0.42
59:BA:2679:A:H2'	59:BA:2680:C:C6	2.55	0.42
60:BB:2:C:H2'	60:BB:3:C:C6	2.54	0.42
2:CC:8:ILE:C	2:CC:10:PHE:H	2.27	0.42
2:CC:161:GLU:O	2:CC:163:ALA:N	2.52	0.42
7:CH:21:LYS:HE3	7:CH:21:LYS:HB2	1.85	0.42
7:CH:27:PRO:HA	7:CH:58:TYR:CD2	2.54	0.42
12:CM:50:GLU:O	12:CM:52:GLU:N	2.52	0.42
12:CM:108:ARG:HH12	12:CM:111:LYS:NZ	2.14	0.42
13:CN:36:PHE:C	13:CN:36:PHE:CD1	2.97	0.42
15:CP:14:ASN:HA	15:CP:42:ARG:HH21	1.84	0.42
15:CP:21:VAL:HG13	15:CP:34:GLU:H	1.84	0.42
19:CT:33:ILE:HG13	19:CT:62:LEU:HB3	2.00	0.42
21:CA:218:C:H4'	21:CA:458(C):G:N1	2.35	0.42
21:CA:427:U:O2'	21:CA:541:G:OP1	2.29	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:549:C:H2'	21:CA:550:G:O4'	2.19	0.42
20:CY:135:PHE:CD2	20:CY:137:ASN:HB2	2.53	0.42
20:CY:333:GLY:O	20:CY:371:ALA:HB2	2.18	0.42
26:DD:6:PHE:HD2	26:DD:9:TYR:OH	2.03	0.42
26:DD:78:LYS:O	26:DD:78:LYS:NZ	2.31	0.42
27:DE:51:PHE:C	27:DE:74:PRO:HB3	2.45	0.42
34:DO:66:LYS:HB3	59:DA:1665:A:H4'	2.00	0.42
34:DO:97:ARG:HA	34:DO:117:LEU:HD22	2.01	0.42
37:DR:28:LEU:HA	37:DR:34:ILE:HD13	2.01	0.42
43:DX:68:ARG:HH21	43:DX:69:TYR:HA	1.83	0.42
45:DZ:30:ASN:C	45:DZ:32:HIS:H	2.22	0.42
45:DZ:112:ARG:C	45:DZ:114:GLY:H	2.27	0.42
46:D0:70:GLN:HG2	46:D0:71:ASP:N	2.33	0.42
52:D8:16:ILE:HG21	52:D8:57:ARG:HG2	2.01	0.42
52:D8:60:LEU:HD13	52:D8:64:TYR:O	2.20	0.42
59:DA:351:G:O2'	59:DA:353:G:N7	2.47	0.42
59:DA:536:A:H2'	59:DA:537:C:C6	2.53	0.42
59:DA:579:G:H2'	59:DA:580:C:C6	2.54	0.42
59:DA:638:G:H2'	59:DA:639:U:C6	2.55	0.42
59:DA:702:G:C2	59:DA:703:U:C2	3.08	0.42
59:DA:976:C:H2'	59:DA:977:G:C8	2.43	0.42
59:DA:1529:A:H62	59:DA:1542:G:N2	2.17	0.42
59:DA:1631:A:C6	59:DA:1632:A:C6	3.08	0.42
59:DA:2109:U:H2'	59:DA:2110:G:C8	2.55	0.42
59:DA:2111:C:H1'	59:DA:2118:U:H4'	2.00	0.42
59:DA:2391:G:C6	59:DA:2427:C:H1'	2.54	0.42
59:DA:2703:C:H2'	59:DA:2704:C:H6	1.83	0.42
60:DB:42:C:H2'	60:DB:43:C:H6	1.85	0.42
60:DB:47:C:H2'	60:DB:48:A:H5'	2.01	0.42
1:AB:181:PHE:CD1	7:AH:71:GLY:HA2	2.55	0.42
2:AC:34:LEU:O	2:AC:38:ARG:HG3	2.19	0.42
2:AC:156:ARG:HE	2:AC:159:GLY:HA2	1.85	0.42
3:AD:61:LYS:HD2	3:AD:61:LYS:C	2.44	0.42
5:AF:50:TYR:HE2	5:AF:87:ARG:HH21	1.67	0.42
8:AI:53:VAL:HG23	8:AI:55:ALA:H	1.85	0.42
9:AJ:63:PHE:HE1	13:AN:58:LYS:HG2	1.84	0.42
10:AK:21:ILE:HA	10:AK:29:ILE:O	2.19	0.42
10:AK:31:THR:HA	10:AK:41:THR:O	2.19	0.42
16:AQ:45:HIS:CB	16:AQ:72:ARG:HA	2.50	0.42
20:AY:269:VAL:HB	20:AY:270:GLN:H	1.64	0.42
20:AY:352:VAL:HB	20:AY:377:VAL:HG21	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AY:680:PRO:HB2	20:AY:682:GLN:HE21	1.85	0.42
21:AA:68(G):G:N2	21:AA:68(S):C:N3	2.58	0.42
21:AA:110:C:H2'	21:AA:111:G:O4'	2.20	0.42
21:AA:124:G:C6	21:AA:125:U:C2	3.08	0.42
21:AA:236:G:C6	21:AA:237:C:C4	3.08	0.42
21:AA:882:C:O2'	21:AA:883:C:H5'	2.18	0.42
21:AA:1237:C:C4	21:AA:1336:C:C2	3.07	0.42
21:AA:1522:U:H2'	21:AA:1523:G:C8	2.55	0.42
22:AW:19:G:N2	22:AW:56:C:H42	2.17	0.42
25:BC:45:HIS:NE2	59:BA:2177:C:H1'	2.33	0.42
25:BC:102:GLN:NE2	25:BC:105:LEU:HD23	2.35	0.42
26:BD:5:LYS:HD2	26:BD:7:LYS:HD2	2.01	0.42
26:BD:260:ARG:HH21	26:BD:267:SER:HA	1.85	0.42
27:BE:15:PHE:HE2	27:BE:20:ALA:HB2	1.83	0.42
29:BG:95:ARG:HA	29:BG:95:ARG:HD3	1.83	0.42
29:BG:130:ASN:OD1	29:BG:161:THR:N	2.53	0.42
36:BQ:14:ARG:NH1	59:BA:958:U:H5'	2.35	0.42
39:BT:16:ARG:HA	39:BT:16:ARG:HD2	1.81	0.42
41:BV:15:GLU:HG3	41:BV:18:LEU:HD11	2.02	0.42
42:BW:103:ILE:H	42:BW:103:ILE:HD12	1.85	0.42
56:B1:5:CYS:SG	56:B1:7:ILE:HB	2.59	0.42
56:B1:65:SER:O	56:B1:66:HIS:ND1	2.53	0.42
58:Be:73:GLU:CD	58:Be:73:GLU:H	2.27	0.42
59:BA:196:A:C4	59:BA:805:G:O6	2.73	0.42
59:BA:271(B):C:H1'	59:BA:272:G:C1'	2.50	0.42
59:BA:451:C:H5'	59:BA:452:G:OP2	2.19	0.42
59:BA:582:G:C2	59:BA:583:G:C4	3.07	0.42
59:BA:609(A):A:H62	59:BA:619:G:H21	1.66	0.42
59:BA:1411:C:N4	59:BA:1591:G:H1	2.15	0.42
59:BA:1416:G:H22	59:BA:1583:A:H1'	1.84	0.42
59:BA:1454:U:H5	59:BA:2702:U:H3	1.66	0.42
59:BA:1586:A:N3	59:BA:1586:A:H2'	2.34	0.42
59:BA:2031:A:O2'	59:BA:2454:G:N2	2.52	0.42
59:BA:2582:G:C2	59:BA:2583:G:C8	3.07	0.42
1:CB:69:LEU:HD12	1:CB:71:VAL:HG22	2.02	0.42
4:CE:100:VAL:O	4:CE:102:ALA:N	2.52	0.42
7:CH:115:SER:OG	21:CA:640:A:N3	2.50	0.42
8:CI:125:TYR:CZ	8:CI:127:LYS:HB2	2.54	0.42
9:CJ:34:VAL:HG13	9:CJ:74:ILE:HG22	2.01	0.42
11:CL:81:SER:HB3	11:CL:106:ASP:HB3	2.00	0.42
14:CO:64:ARG:NH2	21:CA:581:G:H4'	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:22:G:H2'	21:CA:23:C:C6	2.55	0.42
21:CA:201:C:N4	21:CA:216:G:H1	2.13	0.42
21:CA:360:A:H2'	21:CA:361:G:C8	2.54	0.42
21:CA:1096:C:H2'	21:CA:1097:C:C6	2.55	0.42
21:CA:1217:C:H2'	21:CA:1218:C:C6	2.55	0.42
20:CY:30:GLU:O	20:CY:32:ILE:C	2.54	0.42
20:CY:257:PRO:HB2	20:CY:259:PHE:CE1	2.55	0.42
26:DD:106:ILE:HA	26:DD:106:ILE:HD12	1.90	0.42
26:DD:201:HIS:NE2	59:DA:1821:A:OP1	2.46	0.42
27:DE:15:PHE:CD1	39:DT:80:SER:HB2	2.54	0.42
28:DF:102:PRO:HA	59:DA:607:U:OP1	2.19	0.42
34:DO:79:PHE:HA	39:DT:72:VAL:HG12	2.01	0.42
35:DP:56:SER:OG	35:DP:60:MET:SD	2.76	0.42
36:DQ:34:LEU:HD13	36:DQ:131:ILE:HG23	2.00	0.42
37:DR:60:LEU:HD21	37:DR:64:ARG:CZ	2.50	0.42
39:DT:64:ARG:HD3	39:DT:64:ARG:HA	1.78	0.42
40:DU:84:LYS:NZ	59:DA:1152:C:OP1	2.42	0.42
42:DW:16:LYS:O	42:DW:20:VAL:HG23	2.19	0.42
42:DW:81:ALA:CB	42:DW:99:ARG:HA	2.48	0.42
46:D0:41:ARG:NH2	59:DA:2387:U:O2'	2.53	0.42
48:D3:4:LEU:HD23	48:D3:58:VAL:HG13	2.01	0.42
59:DA:9:U:C2	59:DA:2629:A:N7	2.87	0.42
59:DA:46:C:OP2	59:DA:215:G:H8	2.01	0.42
59:DA:485:C:N4	59:DA:496:G:O6	2.53	0.42
59:DA:1794:U:H2'	59:DA:1795:C:O4'	2.19	0.42
59:DA:2625:G:H2'	59:DA:2626:C:C6	2.54	0.42
59:DA:2820:A:H5'	59:DA:2821:A:N7	2.34	0.42
1:AB:152:PHE:CD1	1:AB:152:PHE:C	2.97	0.42
3:AD:30:LYS:C	3:AD:32:ALA:N	2.78	0.42
3:AD:173:TRP:HD1	3:AD:186:LEU:N	2.10	0.42
7:AH:6:ILE:HD12	7:AH:6:ILE:H	1.84	0.42
7:AH:30:ARG:O	7:AH:33:GLU:HB3	2.19	0.42
7:AH:130:GLY:N	21:AA:599:C:O2'	2.53	0.42
10:AK:40:ILE:O	10:AK:41:THR:O	2.37	0.42
11:AL:21:LYS:NZ	21:AA:910:C:OP2	2.32	0.42
16:AQ:3:LYS:HE2	21:AA:128:G:O3'	2.20	0.42
16:AQ:27:PHE:HE2	16:AQ:30:PRO:HD3	1.84	0.42
16:AQ:83:ASP:O	16:AQ:86:GLU:HB3	2.19	0.42
18:AS:49:ILE:O	18:AS:49:ILE:HG13	2.19	0.42
21:AA:41:G:H2'	21:AA:42:G:H8	1.85	0.42
21:AA:229:U:H2'	21:AA:230:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:270:A:H2'	21:AA:271:C:O4'	2.19	0.42
21:AA:894:G:C6	21:AA:895:G:C6	3.07	0.42
21:AA:1319:A:O2'	21:AA:1323:G:N7	2.43	0.42
21:AA:1532:U:O2	23:AV:13:A:N6	2.52	0.42
26:BD:130:ALA:HA	26:BD:191:ALA:O	2.20	0.42
26:BD:148:GLU:HB3	26:BD:151:LYS:CG	2.49	0.42
27:BE:150:VAL:HB	59:BA:2619:C:O4'	2.20	0.42
34:BO:120:GLU:HG3	34:BO:122:LEU:HD21	2.02	0.42
35:BP:46:LYS:HD2	35:BP:46:LYS:N	2.35	0.42
37:BR:103:ARG:HD2	42:BW:40:ASN:OD1	2.20	0.42
40:BU:50:ARG:HD3	59:BA:993:G:OP1	2.19	0.42
40:BU:72:HIS:NE2	40:BU:107:ALA:HB2	2.34	0.42
45:BZ:74:VAL:HG13	45:BZ:86:VAL:HG13	2.01	0.42
46:B0:20:ARG:HD3	59:BA:2356:C:O3'	2.19	0.42
50:B6:15:GLU:CG	50:B6:16:CYS:H	2.33	0.42
50:B6:27:LYS:HE3	59:BA:2285:C:OP1	2.19	0.42
51:B7:16:HIS:CD2	59:BA:686:G:H1	2.38	0.42
52:B8:58:ILE:O	52:B8:61:LEU:HD13	2.20	0.42
56:B1:45:ASN:OD1	56:B1:46:LEU:N	2.43	0.42
59:BA:19:C:H2'	59:BA:20:C:H6	1.83	0.42
59:BA:82:G:H5"	59:BA:296:C:C5'	2.50	0.42
59:BA:247:G:H4'	59:BA:386:G:C4	2.55	0.42
59:BA:1108:U:H2'	59:BA:1109:C:O4'	2.19	0.42
59:BA:1417:C:O5'	59:BA:1417:C:H6	2.03	0.42
59:BA:1516:U:O2'	59:BA:1557:C:H4'	2.20	0.42
59:BA:2502:G:H8	59:BA:2502:G:OP1	2.03	0.42
59:BA:2849:U:H1'	59:BA:2866:U:C6	2.55	0.42
1:CB:69:LEU:HD12	1:CB:71:VAL:CG2	2.50	0.42
5:CF:44:GLY:HA2	5:CF:59:TYR:CG	2.55	0.42
5:CF:61:LEU:HB2	5:CF:63:TYR:CE2	2.54	0.42
11:CL:54:LYS:CD	11:CL:70:ILE:HG12	2.36	0.42
11:CL:61:THR:HG21	21:CA:362:G:H5"	2.02	0.42
18:CS:14:HIS:CD2	21:CA:1014:A:H4'	2.55	0.42
18:CS:43:GLU:C	18:CS:45:VAL:H	2.27	0.42
18:CS:60:VAL:HG21	18:CS:74:PHE:HB3	2.02	0.42
21:CA:45:U:H4'	21:CA:306:G:N2	2.35	0.42
21:CA:918:A:H2'	21:CA:919:A:O4'	2.20	0.42
21:CA:1256:A:O3'	21:CA:1257:U:H4'	2.20	0.42
21:CA:1440(J):C:HO2'	21:CA:1440(K):G:N2	2.17	0.42
21:CA:1495:U:O2'	21:CA:1496:C:H5'	2.20	0.42
22:CW:12:U:H1'	22:CW:24:G:N2	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:CW:65:U:H2'	22:CW:66:C:C6	2.55	0.42
20:CY:314:PHE:HE2	20:CY:329:ARG:HB3	1.84	0.42
20:CY:614:GLU:O	20:CY:615:GLU:C	2.63	0.42
25:DC:47:LYS:HE3	25:DC:211:ARG:NH2	2.32	0.42
25:DC:76:LEU:HD12	25:DC:93:ASP:O	2.20	0.42
26:DD:16:MET:HG3	26:DD:207:GLY:HA3	2.02	0.42
28:DF:46:ARG:HH21	28:DF:48:THR:HG21	1.84	0.42
31:DJ:86:UNK:O	31:DJ:87:UNK:C	2.67	0.42
37:DR:10:LEU:HD22	37:DR:17:ARG:CZ	2.50	0.42
38:DS:47:THR:O	38:DS:48:LEU:CB	2.66	0.42
39:DT:27:THR:CG2	39:DT:49:VAL:HB	2.50	0.42
40:DU:28:ARG:HH11	40:DU:38:THR:HG23	1.85	0.42
40:DU:47:TYR:OH	59:DA:992:C:OP1	2.31	0.42
42:DW:77:ASP:O	42:DW:102:HIS:N	2.52	0.42
58:De:84:LEU:HA	58:De:87:LYS:HE3	2.02	0.42
59:DA:287:C:H2'	59:DA:288:C:O4'	2.20	0.42
59:DA:372:G:O2'	59:DA:400:G:O6	2.30	0.42
59:DA:1938:A:N1	59:DA:2590:A:H1'	2.34	0.42
59:DA:2027:G:C2	59:DA:2028:U:H1'	2.55	0.42
59:DA:2127:G:N2	59:DA:2173:A:H1'	2.35	0.42
59:DA:2235:G:H2'	59:DA:2236:C:C6	2.54	0.42
59:DA:2592:G:N1	59:DA:2603:G:C6	2.87	0.42
60:DB:8:U:H2'	60:DB:9:G:C8	2.54	0.42
1:AB:210:SER:O	1:AB:214:ILE:HG12	2.19	0.42
3:AD:28:SER:HB2	3:AD:29:PRO:HD2	2.02	0.42
3:AD:30:LYS:C	3:AD:32:ALA:H	2.27	0.42
3:AD:33:MET:CG	3:AD:37:PRO:HB3	2.46	0.42
5:AF:82:ARG:NE	5:AF:82:ARG:HA	2.35	0.42
8:AI:7:THR:O	8:AI:83:ARG:HD2	2.20	0.42
9:AJ:55:LYS:HG2	21:AA:963:G:H21	1.85	0.42
10:AK:25:TYR:HD2	10:AK:25:TYR:HA	1.72	0.42
10:AK:41:THR:HB	10:AK:71:LYS:HB2	2.02	0.42
11:AL:83:VAL:CG1	11:AL:100:ILE:HG23	2.49	0.42
11:AL:113:ARG:NH1	21:AA:537:G:H5"	2.34	0.42
12:AM:26:GLY:N	21:AA:1329:A:H5"	2.35	0.42
14:AO:64:ARG:HD3	14:AO:68:ARG:NH2	2.34	0.42
16:AQ:78:GLU:HG2	16:AQ:81:ARG:HD2	2.02	0.42
19:AT:13:LEU:HG	19:AT:14:LYS:N	2.35	0.42
20:AY:99:ARG:HH22	20:AY:403:GLU:HA	1.84	0.42
21:AA:665:A:H2'	21:AA:725:G:N2	2.34	0.42
21:AA:983:A:H2	21:AA:984:C:C5	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AW:51:A:H2'	22:AW:52:G:H8	1.84	0.42
26:BD:274:ARG:HH21	59:BA:1798:U:H3'	1.84	0.42
27:BE:12:THR:O	27:BE:22:PRO:HA	2.20	0.42
27:BE:25:VAL:HG22	27:BE:183:LEU:HD23	2.01	0.42
27:BE:134:ILE:O	27:BE:136:ARG:N	2.46	0.42
27:BE:151:TYR:CD2	33:BN:79:PRO:CG	2.99	0.42
27:BE:161:GLY:O	27:BE:163:GLU:HG2	2.19	0.42
29:BG:51:ARG:NH1	29:BG:54:GLU:HB2	2.35	0.42
29:BG:172:LEU:O	29:BG:176:LEU:HB2	2.19	0.42
30:BH:144:VAL:O	30:BH:148:ILE:HG12	2.19	0.42
33:BN:126:PRO:HB2	33:BN:127:ASP:H	1.54	0.42
35:BP:84:ASN:HA	35:BP:116:GLY:HA3	2.00	0.42
36:BQ:18:LYS:HB3	36:BQ:19:GLY:H	1.53	0.42
36:BQ:31:ASP:C	36:BQ:32:TYR:HD1	2.28	0.42
38:BS:30:ARG:NH2	38:BS:62:LYS:HD2	2.35	0.42
40:BU:40:PHE:HZ	41:BV:82:ARG:CZ	2.32	0.42
42:BW:69:LEU:HB3	42:BW:107:LEU:HD23	2.01	0.42
43:BX:25:LYS:HG2	43:BX:82:GLN:HB2	2.02	0.42
47:B2:2:LYS:O	47:B2:6:VAL:HG23	2.20	0.42
56:B1:18:ILE:HG12	56:B1:20:ARG:N	2.35	0.42
56:B1:21:ARG:HE	59:BA:2080:G:H5"	1.84	0.42
56:B1:25:LYS:HE3	56:B1:31:GLY:HA3	2.01	0.42
59:BA:48:G:H2'	59:BA:49:A:H2	1.84	0.42
59:BA:236:C:H2'	59:BA:237:C:C6	2.54	0.42
59:BA:460:A:H2'	59:BA:461:C:O4'	2.20	0.42
59:BA:761:A:H8	59:BA:761:A:O5'	2.03	0.42
59:BA:951:C:C4	59:BA:952:G:N7	2.87	0.42
59:BA:1332:G:N7	59:BA:1609:A:C6	2.87	0.42
59:BA:1462:C:H2'	59:BA:1463:C:C6	2.54	0.42
59:BA:1696:G:H2'	59:BA:1697:G:O4'	2.20	0.42
59:BA:2014:A:H2'	59:BA:2015:A:C8	2.55	0.42
59:BA:2103:C:H2'	59:BA:2104:G:H8	1.84	0.42
59:BA:2379:G:H2'	59:BA:2380:C:C6	2.55	0.42
59:BA:2825:U:H2'	59:BA:2826:A:O4'	2.19	0.42
3:CD:13:ARG:HH22	3:CD:36:ARG:NE	2.17	0.42
6:CG:23:VAL:HG13	6:CG:43:PHE:HE2	1.85	0.42
7:CH:44:PHE:HE2	7:CH:109:ILE:HG21	1.84	0.42
7:CH:56:LYS:NZ	21:CA:653:A:OP1	2.51	0.42
9:CJ:16:LEU:CD1	9:CJ:70:ARG:HH11	2.33	0.42
16:CQ:41:LYS:HE3	21:CA:277:C:OP1	2.20	0.42
16:CQ:91:ARG:NH1	21:CA:584:G:OP1	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:11:G:C5	21:CA:12:U:C4	3.07	0.42
21:CA:243:A:C2	21:CA:245:C:H2'	2.54	0.42
21:CA:642:A:H2'	21:CA:643:C:H6	1.83	0.42
21:CA:1230:C:H5'	22:CW:30:C:H5"	2.02	0.42
20:CY:87:HIS:CD2	20:CY:121:VAL:HG22	2.48	0.42
20:CY:252:ASP:O	20:CY:253:LEU:HB2	2.20	0.42
25:DC:9:ARG:O	25:DC:12:LEU:HB3	2.19	0.42
25:DC:11:LEU:HA	25:DC:14:LYS:HB2	2.00	0.42
25:DC:79:ALA:O	25:DC:84:ILE:HG13	2.20	0.42
26:DD:14:ARG:NH1	59:DA:1693:U:O3'	2.52	0.42
27:DE:146:THR:HA	27:DE:147:PRO:C	2.45	0.42
28:DF:107:LYS:HD3	28:DF:107:LYS:HA	1.90	0.42
28:DF:136:THR:O	28:DF:140:LEU:HD13	2.19	0.42
29:DG:34:LEU:H	29:DG:34:LEU:HG	1.56	0.42
29:DG:172:LEU:HD23	29:DG:173:LEU:HG	2.02	0.42
30:DH:173:PRO:HB2	30:DH:174:GLY:H	1.58	0.42
32:DK:32:ALA:HB1	32:DK:57:ILE:HD12	2.02	0.42
33:DN:46:VAL:HG13	33:DN:48:MET:HG3	2.01	0.42
36:DQ:65:PHE:HB2	36:DQ:105:GLU:HG2	2.02	0.42
39:DT:94:ALA:C	39:DT:96:ARG:H	2.27	0.42
40:DU:61:TRP:HE3	40:DU:93:LYS:HB2	1.84	0.42
41:DV:51:VAL:HG23	41:DV:53:GLU:HA	2.01	0.42
44:DY:97:ARG:HD2	44:DY:97:ARG:HA	1.84	0.42
45:DZ:102:LEU:HD21	45:DZ:124:ILE:HD12	2.00	0.42
48:D3:12:PRO:O	48:D3:20:LYS:NZ	2.24	0.42
48:D3:30:ARG:NH1	59:DA:1159:U:OP1	2.32	0.42
54:Df:30:UNK:HA	58:De:11:UNK:O	2.19	0.42
56:D1:18:ILE:HA	56:D1:41:ARG:H	1.84	0.42
59:DA:807:U:H2'	59:DA:808:G:H8	1.85	0.42
59:DA:1135:C:H42	59:DA:1138:G:H8	1.67	0.42
59:DA:1313:U:C2	59:DA:1610:A:H2	2.37	0.42
59:DA:1326:U:C2	59:DA:1327:C:C6	3.08	0.42
59:DA:1348:G:H2'	59:DA:1349:A:H5"	2.00	0.42
59:DA:1378:A:O2'	59:DA:1379:A:H2'	2.20	0.42
59:DA:1394:U:C4	59:DA:1395:A:C5	3.07	0.42
59:DA:1605:C:H2'	59:DA:1606:G:O4'	2.20	0.42
59:DA:1638:C:H4'	59:DA:2710:C:O2	2.20	0.42
59:DA:1770:G:H2'	59:DA:1771:C:C6	2.55	0.42
59:DA:1906:G:H2'	59:DA:1907:G:H8	1.85	0.42
59:DA:2369:A:H2'	59:DA:2370:G:C8	2.55	0.42
1:AB:9:GLU:HG2	1:AB:10:LEU:HG	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AF:99:ALA:O	5:AF:100:ASN:HB2	2.20	0.42
7:AH:95:VAL:HA	7:AH:99:GLU:HB2	2.01	0.42
10:AK:30:VAL:CG2	10:AK:43:SER:HB3	2.50	0.42
15:AP:5:ARG:NH2	15:AP:26:ARG:O	2.50	0.42
18:AS:71:LEU:HB3	18:AS:72:GLY:H	1.69	0.42
20:AY:24:GLY:O	20:AY:27:THR:N	2.48	0.42
21:AA:11:G:H2'	21:AA:12:U:O4'	2.20	0.42
21:AA:162:A:H3'	21:AA:163:C:H4'	2.02	0.42
21:AA:1272:G:H2'	21:AA:1273:G:H8	1.85	0.42
25:BC:51:ASP:C	25:BC:166:ASN:HD21	2.28	0.42
26:BD:120:GLY:HA2	26:BD:121:PRO:HD3	1.92	0.42
27:BE:62:PRO:HB3	59:BA:2786:U:O2'	2.20	0.42
28:BF:43:LYS:NZ	59:BA:617:G:OP2	2.52	0.42
31:BJ:18:UNK:O	31:BJ:20:UNK:N	2.53	0.42
35:BP:30:THR:HG22	35:BP:31:ALA:N	2.35	0.42
36:BQ:52:VAL:O	36:BQ:53:ALA:C	2.63	0.42
39:BT:84:GLN:C	39:BT:86:ILE:N	2.78	0.42
40:BU:98:LEU:O	40:BU:100:VAL:N	2.53	0.42
46:B0:55:ARG:O	46:B0:55:ARG:HG2	2.20	0.42
52:B8:34:TRP:CG	52:B8:35:GLN:N	2.88	0.42
59:BA:251:A:C5	59:BA:252:G:H1'	2.54	0.42
59:BA:849:A:N6	59:BA:929:G:H1'	2.35	0.42
59:BA:1366:A:H2'	59:BA:1367:A:H8	1.84	0.42
59:BA:1553:A:N3	59:BA:1553:A:H2'	2.35	0.42
59:BA:2265:U:OP2	59:BA:2266:A:O2'	2.21	0.42
59:BA:2464:C:C2	59:BA:2487:G:C2	3.08	0.42
59:BA:2475:C:H42	59:BA:2529:G:H22	1.68	0.42
59:BA:2480:C:OP2	59:BA:2537:U:H4'	2.20	0.42
59:BA:2824:C:H2'	59:BA:2825:U:O4'	2.18	0.42
60:BB:104:A:H2'	60:BB:105:G:O4'	2.19	0.42
1:CB:164:VAL:HG13	1:CB:170:GLU:HB2	2.02	0.42
2:CC:177:THR:HG23	21:CA:1111:A:N1	2.34	0.42
2:CC:177:THR:HG22	2:CC:178:LEU:H	1.84	0.42
3:CD:119:GLN:HG3	3:CD:123:HIS:ND1	2.35	0.42
6:CG:89:MET:HB2	6:CG:155:ARG:NH1	2.35	0.42
7:CH:18:ARG:HH12	7:CH:82:HIS:HD2	1.67	0.42
11:CL:34:ARG:O	11:CL:82:VAL:HG13	2.19	0.42
11:CL:51:ALA:HB1	11:CL:52:LEU:HD23	2.01	0.42
11:CL:58:VAL:C	11:CL:60:LEU:H	2.26	0.42
11:CL:104:VAL:HG23	11:CL:105:TYR:N	2.35	0.42
13:CN:36:PHE:C	13:CN:36:PHE:HD1	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:CR:74:ARG:CG	17:CR:79:LEU:HB3	2.49	0.42
21:CA:20:U:H2'	21:CA:21:G:O4'	2.19	0.42
21:CA:159:G:H1'	21:CA:162:A:H62	1.85	0.42
25:DC:30:VAL:HA	25:DC:33:LEU:H	1.84	0.42
26:DD:269:PHE:CZ	59:DA:2219:G:H5"	2.54	0.42
27:DE:132:HIS:ND1	59:DA:1658:C:OP1	2.53	0.42
30:DH:157:TYR:HD1	30:DH:171:LEU:HD22	1.84	0.42
33:DN:21:LYS:HG3	33:DN:26:LEU:HD13	2.00	0.42
33:DN:106:MET:HE2	33:DN:106:MET:HB3	1.71	0.42
35:DP:88:LEU:O	35:DP:90:ARG:N	2.53	0.42
37:DR:26:LYS:NZ	59:DA:1294:U:H4'	2.32	0.42
38:DS:17:ARG:HH11	38:DS:25:ARG:NH2	2.18	0.42
39:DT:50:ILE:HG13	39:DT:64:ARG:HB2	2.01	0.42
41:DV:3:ALA:O	41:DV:14:VAL:HG22	2.20	0.42
46:D0:25:ARG:HB2	46:D0:37:LEU:HD22	2.02	0.42
56:D1:18:ILE:HG12	56:D1:20:ARG:HB3	2.01	0.42
59:DA:104:U:H3'	59:DA:105:C:H6	1.85	0.42
59:DA:118:A:C8	59:DA:119:A:C8	3.08	0.42
59:DA:195:A:H5"	59:DA:196:A:OP2	2.20	0.42
59:DA:197:A:H2'	59:DA:198:C:H6	1.85	0.42
59:DA:448:U:H3	59:DA:583:G:H1'	1.85	0.42
59:DA:1067:A:H8	59:DA:1067:A:OP1	2.02	0.42
59:DA:1344:G:H4'	59:DA:1384:A:C8	2.54	0.42
59:DA:1427:A:H4'	59:DA:1428:C:O4'	2.18	0.42
59:DA:1657:C:H2'	59:DA:1658:C:H6	1.85	0.42
59:DA:2003:G:C6	59:DA:2004:G:N7	2.87	0.42
59:DA:2287:A:HO2'	59:DA:2288:A:P	2.43	0.42
59:DA:2461:C:H2'	59:DA:2462:U:H6	1.82	0.42
59:DA:2461:C:C2	59:DA:2462:U:C5	3.08	0.42
59:DA:2828:C:H2'	59:DA:2829:C:H6	1.83	0.42
60:DB:36:C:N3	60:DB:49:C:O2'	2.49	0.42
1:AB:193:ASP:OD2	1:AB:196:LEU:HG	2.20	0.42
2:AC:7:PRO:O	2:AC:11:ARG:HG2	2.20	0.42
3:AD:8:VAL:C	3:AD:10:ARG:H	2.28	0.42
3:AD:12:CYS:HB3	3:AD:33:MET:CE	2.50	0.42
9:AJ:53:PRO:HD3	21:AA:1059:C:O2'	2.19	0.42
10:AK:59:TYR:O	10:AK:63:LEU:HG	2.20	0.42
10:AK:122:LYS:HG2	21:AA:780:A:OP2	2.20	0.42
12:AM:113:PRO:O	12:AM:115:LYS:HG3	2.20	0.42
13:AN:43:CYS:O	13:AN:46:GLU:HG2	2.20	0.42
18:AS:41:VAL:CG2	18:AS:44:MET:HG3	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AT:53:LEU:HD13	19:AT:53:LEU:HA	1.91	0.42
20:AY:118:SER:O	20:AY:121:VAL:HG23	2.19	0.42
20:AY:249:GLY:O	20:AY:253:LEU:N	2.53	0.42
21:AA:68(H):G:H21	21:AA:68(S):C:N4	2.18	0.42
21:AA:662:G:H2'	21:AA:663:A:C8	2.55	0.42
21:AA:729:A:H2'	21:AA:730:G:C8	2.55	0.42
21:AA:895:G:H2'	21:AA:896:C:H6	1.84	0.42
21:AA:950:U:H4'	21:AA:971:G:N2	2.35	0.42
21:AA:1241:G:H2'	21:AA:1242:C:H6	1.84	0.42
21:AA:1533:C:C5	23:AV:12:A:N1	2.87	0.42
24:AU:6:5OH:N	24:AU:6:5OH:CS	2.83	0.42
26:BD:140:THR:O	26:BD:165:ILE:HG13	2.19	0.42
27:BE:5:LEU:HD11	27:BE:49:LEU:O	2.20	0.42
27:BE:127:ASP:HB2	59:BA:1994:C:P	2.60	0.42
28:BF:10:PRO:HB3	28:BF:20:LEU:N	2.34	0.42
29:BG:111:LEU:HB2	29:BG:112:PRO:HD3	2.02	0.42
30:BH:56:SER:OG	30:BH:57:ASP:N	2.52	0.42
33:BN:68:GLU:HG2	33:BN:88:GLU:OE1	2.20	0.42
37:BR:86:ARG:HH21	37:BR:87:TYR:HE2	1.67	0.42
40:BU:74:LEU:H	40:BU:74:LEU:HD22	1.85	0.42
40:BU:85:LYS:HD3	40:BU:86:ALA:N	2.34	0.42
43:BX:8:ILE:HB	47:B2:33:MET:HE1	2.02	0.42
44:BY:33:LYS:C	44:BY:35:TYR:H	2.28	0.42
46:B0:39:ARG:HH21	59:BA:2354:G:N2	2.17	0.42
52:B8:38:GLY:O	52:B8:42:ARG:HB2	2.19	0.42
53:B9:17:ILE:HD13	53:B9:26:ILE:HD11	2.02	0.42
59:BA:201:C:H4'	59:BA:386:G:C2	2.55	0.42
59:BA:298:G:C2	59:BA:339:U:H5	2.38	0.42
59:BA:322:A:C5	59:BA:340:A:C2	3.07	0.42
59:BA:579:G:H2'	59:BA:580:C:C6	2.55	0.42
59:BA:639:U:H2'	59:BA:640:C:C6	2.55	0.42
59:BA:706:A:C2	59:BA:707:G:H1'	2.55	0.42
59:BA:1135:C:N4	59:BA:1137:G:H3'	2.35	0.42
59:BA:1311:G:H21	59:BA:1603:A:N6	2.01	0.42
59:BA:1468:C:H2'	59:BA:1469:A:C8	2.54	0.42
59:BA:2259:G:O4'	59:BA:2427:C:H2'	2.20	0.42
59:BA:2290:G:N2	59:BA:2343:C:H1'	2.34	0.42
59:BA:2396:G:H2'	59:BA:2397:G:H8	1.85	0.42
59:BA:2700:C:H2'	59:BA:2701:C:C6	2.55	0.42
1:CB:185:ILE:HD12	1:CB:199:TYR:HB2	2.02	0.42
3:CD:62:GLN:O	3:CD:63:LYS:C	2.63	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CD:123:HIS:CD2	21:CA:438:G:H4'	2.54	0.42
4:CE:11:ILE:O	4:CE:12:LEU:HD13	2.20	0.42
4:CE:46:GLY:N	4:CE:58:ALA:HB2	2.35	0.42
5:CF:44:GLY:C	5:CF:59:TYR:HA	2.45	0.42
6:CG:24:THR:O	6:CG:28:ASN:HB2	2.19	0.42
8:CI:8:GLY:HA3	8:CI:76:ALA:O	2.20	0.42
10:CK:53:SER:H	21:CA:695:A:P	2.42	0.42
10:CK:84:VAL:O	10:CK:110:ASP:C	2.63	0.42
12:CM:91:ARG:HH12	12:CM:103:THR:HG21	1.84	0.42
15:CP:45:THR:OG1	21:CA:617:G:H5'	2.20	0.42
16:CQ:44:ALA:HA	16:CQ:71:PHE:O	2.20	0.42
19:CT:73:HIS:CG	19:CT:74:LYS:HD3	2.55	0.42
21:CA:119:A:C5	21:CA:240:C:C4	3.08	0.42
21:CA:290:C:H2'	21:CA:291:C:O4'	2.20	0.42
21:CA:433:C:H2'	21:CA:434:U:H6	1.85	0.42
21:CA:1488:G:C2	21:CA:1489:G:C4	3.08	0.42
20:CY:20:HIS:ND1	20:CY:118:SER:HB3	2.35	0.42
26:DD:62:TYR:HA	26:DD:87:ASN:HD21	1.84	0.42
29:DG:154:GLY:HA3	59:DA:2305:A:N3	2.34	0.42
30:DH:41:MET:HB2	30:DH:54:ARG:HA	2.00	0.42
30:DH:125:VAL:HA	30:DH:126:PRO:HD2	1.88	0.42
34:DO:89:ASN:OD1	34:DO:89:ASN:N	2.52	0.42
38:DS:34:HIS:CD2	38:DS:54:LEU:HB3	2.55	0.42
38:DS:97:ARG:O	38:DS:99:LYS:HD3	2.20	0.42
38:DS:99:LYS:C	38:DS:101:LEU:N	2.77	0.42
40:DU:3:ARG:HD2	59:DA:1248:G:C6	2.55	0.42
45:DZ:7:ALA:HB2	45:DZ:59:LEU:HB2	2.02	0.42
45:DZ:111:VAL:O	45:DZ:112:ARG:HB3	2.20	0.42
46:D0:11:ARG:NE	46:D0:12:ASN:OD1	2.52	0.42
56:D1:21:ARG:O	56:D1:23:LYS:N	2.50	0.42
59:DA:573:G:O2'	59:DA:574:C:H3'	2.20	0.42
59:DA:587:C:C6	59:DA:671:C:H1'	2.55	0.42
59:DA:2720:U:H2'	59:DA:2721:A:C8	2.55	0.42
59:DA:2720:U:H2'	59:DA:2721:A:H8	1.84	0.42
59:DA:2725:A:H1'	59:DA:2726:U:H2'	2.02	0.42
59:DA:2795:G:H3'	59:DA:2797:U:H5"	2.02	0.42
59:DA:2825:U:H2'	59:DA:2826:A:O4'	2.19	0.42
60:DB:24:G:C2	60:DB:56:G:C2	3.08	0.42
60:DB:46:A:C5	60:DB:47:C:C4	3.08	0.42
1:AB:159:PRO:O	1:AB:161:ALA:N	2.53	0.41
6:AG:15:ASP:HB2	6:AG:20:ASP:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AG:67:GLU:HA	6:AG:70:LYS:HD2	2.02	0.41
8:AI:104:ARG:NH1	21:AA:1117:G:H4'	2.35	0.41
12:AM:91:ARG:HH21	12:AM:96:LEU:HD13	1.85	0.41
20:AY:137:ASN:HD22	20:AY:262:SER:HA	1.84	0.41
20:AY:446:THR:OG1	20:AY:447:GLY:N	2.53	0.41
21:AA:26:A:N6	21:AA:558:G:O2'	2.48	0.41
21:AA:166:G:H2'	21:AA:167:G:C8	2.55	0.41
21:AA:971:G:OP1	21:AA:971:G:H3'	2.19	0.41
21:AA:1087:G:H2'	21:AA:1088:G:C8	2.55	0.41
21:AA:1435:G:H2'	21:AA:1436:U:C6	2.55	0.41
25:BC:210:LEU:O	25:BC:211:ARG:HB2	2.20	0.41
26:BD:249:PRO:HG2	26:BD:250:TRP:CZ3	2.54	0.41
28:BF:194:MET:HG3	28:BF:195:ASP:O	2.20	0.41
30:BH:58:GLU:O	30:BH:62:LYS:HG3	2.19	0.41
30:BH:87:LEU:HB2	30:BH:131:VAL:O	2.20	0.41
31:BJ:159:UNK:C	31:BJ:161:UNK:N	2.81	0.41
36:BQ:29:PHE:N	36:BQ:29:PHE:CD1	2.87	0.41
39:BT:46:GLU:HG3	39:BT:65:LYS:HE2	2.02	0.41
40:BU:17:ILE:HD13	40:BU:17:ILE:HA	1.90	0.41
43:BX:68:ARG:CZ	43:BX:69:TYR:CD2	3.03	0.41
45:BZ:117:LEU:HA	45:BZ:174:VAL:HA	2.02	0.41
56:B1:26:ARG:HD2	56:B1:26:ARG:HA	1.48	0.41
57:B4:11:PRO:HB3	57:B4:25:TYR:CZ	2.55	0.41
58:Be:92:LEU:HG	58:Be:94:GLU:OE2	2.20	0.41
59:BA:172:C:H2'	59:BA:173:G:O4'	2.20	0.41
59:BA:479:A:H1'	59:BA:481:G:H5"	2.02	0.41
59:BA:762:U:H5'	59:BA:763:G:N2	2.35	0.41
59:BA:1028:A:N3	59:BA:2486:G:O2'	2.51	0.41
59:BA:1136:G:H2'	59:BA:1136:G:N3	2.34	0.41
59:BA:1288:U:C2	59:BA:1327:C:C2	3.08	0.41
59:BA:1849:G:H2'	59:BA:1850:G:C8	2.55	0.41
59:BA:2137:C:H2'	59:BA:2138:C:H6	1.85	0.41
59:BA:2140:C:H2'	59:BA:2141:G:C8	2.55	0.41
59:BA:2213:U:H5	59:BA:2215:G:H1'	1.85	0.41
59:BA:2391:G:H1'	59:BA:2424:C:N4	2.34	0.41
59:BA:2722:G:H5"	59:BA:2820:A:C2	2.55	0.41
1:CB:19:HIS:O	1:CB:190:THR:OG1	2.35	0.41
3:CD:176:LEU:HD11	3:CD:178:VAL:HG22	2.01	0.41
7:CH:29:SER:HB3	7:CH:32:LYS:HE2	2.02	0.41
7:CH:51:VAL:HG12	7:CH:52:ASP:H	1.84	0.41
9:CJ:46:ARG:HG3	21:CA:1253:G:H5"	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:CK:30:VAL:HG23	10:CK:43:SER:HB3	2.01	0.41
12:CM:75:ALA:O	12:CM:78:ILE:HB	2.19	0.41
14:CO:54:ARG:HD3	14:CO:58:MET:HE3	2.02	0.41
21:CA:778:G:C6	21:CA:779:C:N3	2.89	0.41
20:CY:247:ARG:HH21	20:CY:281:PRO:HA	1.85	0.41
20:CY:614:GLU:HB2	20:CY:617:MET:SD	2.60	0.41
26:DD:65:ILE:HD12	26:DD:88:ARG:CZ	2.50	0.41
27:DE:38:THR:HG23	27:DE:41:LYS:H	1.85	0.41
31:DJ:32:UNK:O	59:DA:1055:G:H4'	2.19	0.41
33:DN:43:THR:HB	33:DN:46:VAL:CG1	2.50	0.41
34:DO:47:ILE:HA	34:DO:48:PRO:HD3	1.78	0.41
35:DP:125:VAL:O	35:DP:145:PRO:HD3	2.20	0.41
39:DT:33:LYS:CG	39:DT:43:GLN:HB3	2.47	0.41
39:DT:62:THR:OG1	39:DT:75:ILE:HG12	2.19	0.41
40:DU:49:HIS:HA	40:DU:52:ARG:HB3	2.02	0.41
42:DW:96:ILE:HD11	59:DA:2012:G:H5"	2.01	0.41
44:DY:47:LYS:HD2	59:DA:481:G:OP2	2.20	0.41
44:DY:102:CYS:SG	44:DY:104:GLY:N	2.93	0.41
45:DZ:55:HIS:HB3	45:DZ:56:VAL:H	1.63	0.41
59:DA:216:A:C2	59:DA:217:G:H1'	2.55	0.41
59:DA:657:U:C4	59:DA:658:C:N4	2.88	0.41
59:DA:820:A:N3	59:DA:943:U:O2'	2.52	0.41
59:DA:872:A:N1	59:DA:905:U:C2	2.88	0.41
59:DA:1295:C:H2'	59:DA:1296:G:C8	2.55	0.41
59:DA:2001:A:H2'	59:DA:2002:G:O4'	2.19	0.41
3:AD:100:ARG:NH2	3:AD:102:ASP:OD2	2.50	0.41
6:AG:78:ARG:HG2	6:AG:79:ARG:H	1.84	0.41
7:AH:35:ILE:O	7:AH:39:LEU:HD23	2.20	0.41
7:AH:73:ASP:HA	7:AH:74:PRO:HD2	1.89	0.41
9:AJ:5:ARG:HH21	9:AJ:71:LEU:HD21	1.85	0.41
9:AJ:60:ARG:NH2	21:AA:1367:C:H5'	2.35	0.41
12:AM:14:ARG:HD3	21:AA:1296:C:H5'	2.02	0.41
12:AM:52:GLU:CD	12:AM:55:ARG:HH21	2.28	0.41
15:AP:12:LYS:HB2	21:AA:44:G:P	2.61	0.41
15:AP:65:GLN:HE21	21:AA:136:C:H4'	1.85	0.41
17:AR:39:VAL:O	17:AR:43:PHE:HD1	2.02	0.41
19:AT:56:MET:HE1	19:AT:60:GLU:HB2	2.01	0.41
19:AT:73:HIS:HB3	19:AT:74:LYS:HZ2	1.86	0.41
20:AY:314:PHE:HE2	20:AY:329:ARG:CB	2.33	0.41
21:AA:17:U:H2'	21:AA:18:C:H6	1.85	0.41
21:AA:31:G:C6	21:AA:306:G:H1'	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:337:C:H2'	21:AA:338:A:O4'	2.21	0.41
21:AA:680:C:H42	21:AA:710:G:H1	1.67	0.41
22:AW:3:C:O2'	59:BA:1851:U:H5"	2.20	0.41
25:BC:45:HIS:CE1	25:BC:171:ALA:HA	2.54	0.41
26:BD:128:GLY:N	26:BD:193:VAL:HG13	2.35	0.41
26:BD:215:LEU:HB2	26:BD:217:ARG:HG3	2.02	0.41
33:BN:39:ARG:C	33:BN:41:ASP:H	2.27	0.41
33:BN:94:HIS:HB2	33:BN:96:GLU:OE2	2.21	0.41
33:BN:95:PRO:O	33:BN:98:VAL:HG22	2.19	0.41
35:BP:53:GLY:C	35:BP:55:ARG:N	2.76	0.41
36:BQ:87:LYS:N	59:BA:2277:G:OP1	2.53	0.41
37:BR:8:ARG:HD3	37:BR:8:ARG:HA	1.84	0.41
50:B6:16:CYS:C	50:B6:18:ARG:H	2.29	0.41
53:B9:33:LYS:HD2	59:BA:2526:G:O2'	2.20	0.41
56:B1:3:LYS:HB2	59:BA:1364:G:OP2	2.19	0.41
59:BA:9:U:N3	59:BA:2629:A:N7	2.68	0.41
59:BA:747:U:C4	59:BA:2613:U:C4	3.08	0.41
59:BA:864:G:H2'	59:BA:865:C:C6	2.55	0.41
59:BA:1101:U:H2'	59:BA:1102:C:O4'	2.21	0.41
59:BA:1411:C:C2	59:BA:1591:G:N2	2.81	0.41
59:BA:1422:G:H2'	59:BA:1423:G:C8	2.55	0.41
59:BA:1464:C:H2'	59:BA:1465:G:H8	1.85	0.41
59:BA:2080:G:H2'	59:BA:2081:C:C6	2.54	0.41
59:BA:2462:U:H1'	59:BA:2491:U:O4	2.20	0.41
60:BB:24:G:N1	60:BB:56:G:N2	2.68	0.41
1:CB:87:ARG:NH2	1:CB:233:SER:H	1.95	0.41
1:CB:220:ASP:HA	1:CB:223:ILE:HB	2.02	0.41
5:CF:95:GLU:HA	5:CF:96:PRO:HD3	1.92	0.41
9:CJ:38:ILE:HA	9:CJ:39:PRO:HD2	1.94	0.41
15:CP:31:LYS:HD3	21:CA:607:A:C2	2.55	0.41
17:CR:22:VAL:HG23	17:CR:56:THR:HA	2.01	0.41
21:CA:105:G:C6	21:CA:106:C:N4	2.88	0.41
21:CA:413:G:O2'	21:CA:428:G:N2	2.53	0.41
21:CA:613:C:H2'	21:CA:614:A:C8	2.55	0.41
21:CA:696:A:H8	21:CA:696:A:O5'	2.03	0.41
21:CA:724:G:C2	21:CA:725:G:C8	3.08	0.41
21:CA:1440(H):U:H4'	21:CA:1440(I):A:C5	2.55	0.41
20:CY:75:LYS:HB3	20:CY:75:LYS:HE3	1.65	0.41
20:CY:489:LYS:HD2	20:CY:598:ASP:CG	2.45	0.41
24:CU:6:5OH:N	24:CU:6:5OH:CS	2.83	0.41
25:DC:3:LYS:HB3	25:DC:4:HIS:H	1.64	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:DE:48:GLN:C	27:DE:49:LEU:HD22	2.45	0.41
28:DF:40:GLN:O	28:DF:44:ARG:HD3	2.20	0.41
29:DG:43:LEU:HB2	29:DG:88:ILE:CG2	2.50	0.41
29:DG:176:LEU:HD23	29:DG:176:LEU:HA	1.80	0.41
31:DJ:82:UNK:O	31:DJ:84:UNK:N	2.54	0.41
33:DN:39:ARG:NE	33:DN:41:ASP:HB3	2.35	0.41
35:DP:115:LEU:HB2	35:DP:116:GLY:H	1.67	0.41
36:DQ:35:VAL:HG23	36:DQ:101:ARG:N	2.35	0.41
36:DQ:122:GLY:HA2	36:DQ:125:LEU:HG	2.01	0.41
37:DR:103:ARG:HA	37:DR:111:LEU:HG	2.01	0.41
38:DS:33:LYS:C	38:DS:34:HIS:HD2	2.29	0.41
38:DS:85:VAL:HG23	38:DS:106:ARG:NH1	2.35	0.41
39:DT:25:GLY:HA2	39:DT:114:LEU:HD21	2.02	0.41
40:DU:59:ARG:NH1	40:DU:59:ARG:HA	2.34	0.41
42:DW:14:PRO:HB3	42:DW:18:ARG:CZ	2.49	0.41
43:DX:55:ASN:HB2	43:DX:80:ILE:HG13	2.03	0.41
45:DZ:124:ILE:HG12	45:DZ:126:VAL:HG22	2.02	0.41
48:D3:20:LYS:H	48:D3:20:LYS:HG2	1.58	0.41
54:Df:19:UNK:C	54:Df:21:UNK:H	2.32	0.41
58:De:84:LEU:HD23	58:De:87:LYS:HE3	2.02	0.41
58:De:117:ALA:C	58:De:119:GLY:H	2.28	0.41
59:DA:223:A:N6	59:DA:374:A:H4'	2.36	0.41
59:DA:686:G:N2	59:DA:788:A:H61	2.18	0.41
59:DA:775:G:O5'	59:DA:777:A:H1'	2.21	0.41
59:DA:793:A:OP2	59:DA:2072:G:H5'	2.20	0.41
59:DA:1132:A:N1	59:DA:2039:C:O2'	2.47	0.41
59:DA:1312:U:H5'	59:DA:1313:U:C5	2.55	0.41
59:DA:1954:G:H1'	59:DA:1956:U:O4	2.19	0.41
1:AB:69:LEU:HD22	1:AB:69:LEU:HA	1.58	0.41
2:AC:52:LEU:HD11	2:AC:55:VAL:HG13	2.02	0.41
2:AC:134:ILE:HD11	2:AC:151:VAL:HG11	2.03	0.41
4:AE:112:LEU:HD13	4:AE:112:LEU:HA	1.91	0.41
7:AH:97:VAL:HG12	21:AA:600:C:OP1	2.20	0.41
9:AJ:50:ILE:HA	9:AJ:60:ARG:HA	2.02	0.41
10:AK:69:ALA:C	10:AK:73:MET:HG2	2.44	0.41
20:AY:111:SER:HB2	20:AY:141:LYS:HG2	2.02	0.41
20:AY:188:TYR:HA	20:AY:196:ILE:HA	2.01	0.41
20:AY:513:LYS:H	20:AY:567:LEU:HA	1.86	0.41
20:AY:586:GLY:O	20:AY:589:ALA:HB3	2.20	0.41
20:AY:627:ARG:O	20:AY:629:GLY:N	2.53	0.41
21:AA:68(B):G:H1	21:AA:68(X):U:H3	1.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:254:G:H2'	21:AA:255:G:H8	1.85	0.41
21:AA:657:G:H2'	21:AA:658:G:H8	1.86	0.41
21:AA:767:A:H3'	21:AA:768:A:C8	2.56	0.41
21:AA:917:G:C6	21:AA:918:A:C6	3.09	0.41
21:AA:1074:G:H2'	21:AA:1075:C:C6	2.55	0.41
22:AW:15:G:P	22:AW:16:U:H3	2.43	0.41
26:BD:21:PHE:HA	26:BD:24:ILE:HG22	2.03	0.41
26:BD:34:VAL:C	26:BD:36:PRO:HD2	2.45	0.41
26:BD:263:ARG:HG2	59:BA:2227:A:C5'	2.50	0.41
29:BG:72:ARG:HB3	29:BG:85:GLY:O	2.19	0.41
33:BN:35:ARG:O	33:BN:37:LYS:N	2.50	0.41
33:BN:112:LEU:HD22	59:BA:558:G:H5'	2.03	0.41
34:BO:70:LYS:HB3	34:BO:70:LYS:HE3	1.75	0.41
35:BP:7:ARG:O	35:BP:10:PRO:HD3	2.20	0.41
43:BX:53:LYS:CB	43:BX:82:GLN:HB3	2.50	0.41
44:BY:32:PRO:HD2	44:BY:34:LYS:HB2	2.03	0.41
46:B0:80:HIS:CD2	46:B0:80:HIS:N	2.87	0.41
48:B3:44:ARG:O	48:B3:48:GLU:HG2	2.20	0.41
51:B7:16:HIS:HE1	59:BA:684:G:C5'	2.33	0.41
59:BA:613:U:H2'	59:BA:614:U:C6	2.55	0.41
59:BA:668:G:H2'	59:BA:670:A:N7	2.34	0.41
59:BA:783:A:C4	59:BA:785:G:H1'	2.55	0.41
59:BA:825:C:H2'	59:BA:826:U:C6	2.55	0.41
59:BA:967:C:H2'	59:BA:968:G:O4'	2.20	0.41
59:BA:1034:G:C6	59:BA:1035:U:C4	3.09	0.41
59:BA:1153:C:H3'	59:BA:1154:G:C8	2.55	0.41
59:BA:1155:A:C6	59:BA:1157:G:C4	3.08	0.41
59:BA:1324:G:C2	59:BA:1328:G:N1	2.88	0.41
59:BA:2144:U:H2'	59:BA:2147:G:H1	1.86	0.41
59:BA:2241:A:H2'	59:BA:2242:G:C8	2.55	0.41
59:BA:2345:G:N3	59:BA:2381:C:H2'	2.35	0.41
60:BB:42:C:H2'	60:BB:43:C:H6	1.83	0.41
2:CC:117:ALA:HB1	2:CC:198:VAL:HG12	2.02	0.41
2:CC:199:LYS:HE3	21:CA:1058:G:H5"	2.01	0.41
4:CE:30:ALA:HB3	4:CE:46:GLY:HA3	2.02	0.41
7:CH:9:MET:SD	7:CH:32:LYS:HD2	2.61	0.41
8:CI:113:LYS:HZ2	21:CA:1187:G:P	2.43	0.41
12:CM:64:TRP:HB2	12:CM:65:LYS:H	1.47	0.41
16:CQ:50:LYS:HE3	16:CQ:51:TYR:CZ	2.55	0.41
16:CQ:81:ARG:HA	16:CQ:81:ARG:HE	1.84	0.41
21:CA:304:U:H2'	21:CA:305:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:442:C:H42	21:CA:492:G:H1	1.68	0.41
21:CA:687:A:N3	21:CA:688:G:H1'	2.35	0.41
21:CA:928:G:H2'	21:CA:929:G:C8	2.56	0.41
20:CY:25:LYS:HG3	20:CY:25:LYS:H	1.51	0.41
20:CY:137:ASN:HA	20:CY:261:GLY:O	2.20	0.41
20:CY:281:PRO:HB2	20:CY:285:ASP:HB2	2.02	0.41
20:CY:409:ILE:HG13	20:CY:456:GLU:HB2	2.02	0.41
20:CY:616:TYR:HB2	20:CY:663:THR:HG22	2.02	0.41
26:DD:9:TYR:CE1	59:DA:705:A:H1'	2.55	0.41
27:DE:9:VAL:HG23	27:DE:26:ILE:HA	2.02	0.41
27:DE:151:TYR:HB3	33:DN:79:PRO:HG3	2.02	0.41
28:DF:38:ARG:NH2	59:DA:660:G:O2'	2.52	0.41
29:DG:70:VAL:CG1	29:DG:88:ILE:HG13	2.50	0.41
29:DG:94:LEU:HB3	29:DG:99:MET:CB	2.50	0.41
32:DK:71:THR:HG21	32:DK:114:ASP:CG	2.45	0.41
33:DN:19:GLU:HA	33:DN:59:LYS:O	2.20	0.41
33:DN:41:ASP:HA	40:DU:64:ARG:CZ	2.49	0.41
35:DP:70:GLN:H	59:DA:245:G:H5'	1.85	0.41
36:DQ:27:VAL:C	36:DQ:29:PHE:H	2.26	0.41
38:DS:95:HIS:H	38:DS:97:ARG:NH2	2.18	0.41
39:DT:98:LYS:HD3	59:DA:2718:G:O2'	2.20	0.41
39:DT:98:LYS:NZ	59:DA:2847:U:OP1	2.33	0.41
40:DU:51:LYS:H	40:DU:51:LYS:HD2	1.86	0.41
41:DV:18:LEU:O	41:DV:95:LEU:HA	2.20	0.41
42:DW:41:LYS:HD3	59:DA:2010:G:OP1	2.20	0.41
42:DW:80:PRO:HB2	42:DW:81:ALA:H	1.64	0.41
43:DX:7:VAL:HB	43:DX:8:ILE:H	1.59	0.41
45:DZ:72:ARG:HB3	45:DZ:72:ARG:HH11	1.85	0.41
45:DZ:150:LEU:O	45:DZ:171:ILE:HG13	2.19	0.41
46:D0:50:ASN:HB3	46:D0:63:VAL:HG22	2.03	0.41
47:D2:49:LYS:O	47:D2:52:ASP:HB2	2.20	0.41
48:D3:14:GLY:HA2	59:DA:970:C:OP1	2.19	0.41
52:D8:27:THR:C	52:D8:44:LYS:HZ1	2.27	0.41
56:D1:18:ILE:HG12	56:D1:20:ARG:N	2.35	0.41
56:D1:37:ILE:CG1	59:DA:200:U:H4'	2.51	0.41
57:D4:13:ARG:O	57:D4:14:ILE:HG12	2.20	0.41
59:DA:519:U:H2'	59:DA:520:G:H8	1.85	0.41
59:DA:695:G:H2'	59:DA:696:G:O4'	2.19	0.41
59:DA:864:G:H2'	59:DA:865:C:H6	1.84	0.41
59:DA:1102:C:H2'	59:DA:1103:A:C8	2.50	0.41
59:DA:1213:A:N3	59:DA:1238:G:O2'	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1275:A:N6	59:DA:1296:G:H4'	2.36	0.41
59:DA:1407:C:H2'	59:DA:1408:C:C6	2.55	0.41
59:DA:1494:A:O2'	59:DA:1495:A:H5"	2.20	0.41
59:DA:1528:A:H62	59:DA:1543:A:H2	1.68	0.41
59:DA:1654:A:H2'	59:DA:1655:A:H8	1.85	0.41
59:DA:1859:A:H3'	59:DA:1860:G:H8	1.85	0.41
59:DA:2031:A:H8	59:DA:2031:A:OP1	2.03	0.41
59:DA:2040:C:H2'	59:DA:2041:U:H6	1.86	0.41
59:DA:2287:A:N1	59:DA:2346:A:C2	2.89	0.41
59:DA:2330:G:H1	59:DA:2385:C:H42	1.68	0.41
59:DA:2513:G:H5'	59:DA:2514:U:OP2	2.20	0.41
59:DA:2556:C:H2'	59:DA:2557:G:O4'	2.20	0.41
59:DA:2648:C:H2'	59:DA:2649:U:H6	1.85	0.41
59:DA:2737:G:H2'	59:DA:2738:A:H8	1.85	0.41
1:AB:43:ASP:OD2	1:AB:45:GLN:HB3	2.20	0.41
1:AB:209:ARG:HH11	1:AB:239:VAL:HG13	1.85	0.41
2:AC:77:ILE:HG23	2:AC:84:ILE:HD12	2.01	0.41
3:AD:95:GLY:C	3:AD:97:LEU:H	2.28	0.41
7:AH:100:ILE:HD12	7:AH:125:ARG:HG3	2.02	0.41
7:AH:107:LEU:HG	7:AH:108:GLY:H	1.85	0.41
8:AI:26:VAL:HG13	8:AI:61:ALA:HB3	2.01	0.41
10:AK:80:VAL:HG21	10:AK:103:LEU:HB3	2.01	0.41
13:AN:42:ILE:HG21	21:AA:1202:G:C6	2.55	0.41
18:AS:43:GLU:C	18:AS:45:VAL:H	2.28	0.41
20:AY:118:SER:C	20:AY:120:THR:H	2.29	0.41
21:AA:41:G:H2'	21:AA:42:G:C8	2.55	0.41
21:AA:328:C:H4'	21:AA:329:A:H5'	2.02	0.41
21:AA:966:G:H2'	21:AA:967:C:C6	2.55	0.41
21:AA:985:C:H2'	21:AA:986:A:H8	1.84	0.41
21:AA:1194:U:H2'	21:AA:1195:C:O4'	2.20	0.41
21:AA:1357:A:C5	21:AA:1358:U:C4	3.08	0.41
21:AA:1496:C:H2'	21:AA:1497:G:O4'	2.21	0.41
22:AW:40:G:H2'	22:AW:41:A:H8	1.85	0.41
26:BD:43:ARG:HD3	59:BA:691:C:H4'	2.01	0.41
26:BD:99:ASP:O	59:BA:1501:C:H1'	2.19	0.41
27:BE:151:TYR:HD2	33:BN:79:PRO:HG2	1.80	0.41
28:BF:17:ARG:O	28:BF:19:GLU:N	2.53	0.41
28:BF:102:PRO:HA	59:BA:607:U:OP1	2.20	0.41
30:BH:125:VAL:HA	30:BH:126:PRO:HD2	1.89	0.41
31:BJ:54:UNK:C	59:BA:1107:G:H5'	2.50	0.41
34:BO:48:PRO:O	34:BO:50:GLY:N	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BP:61:ARG:HH11	52:B8:13:ARG:HD2	1.85	0.41
35:BP:80:TYR:HD1	35:BP:111:ARG:HB2	1.85	0.41
36:BQ:72:LYS:HA	36:BQ:73:PRO:HD3	1.79	0.41
38:BS:99:LYS:C	38:BS:101:LEU:N	2.77	0.41
39:BT:85:LYS:NZ	39:BT:86:ILE:HA	2.35	0.41
41:BV:95:LEU:O	41:BV:96:ILE:O	2.39	0.41
42:BW:34:ASN:O	42:BW:38:TYR:HB2	2.19	0.41
43:BX:47:PHE:CD2	43:BX:89:ILE:HG12	2.55	0.41
45:BZ:166:SER:N	45:BZ:167:PRO:HA	2.31	0.41
52:B8:61:LEU:HB3	52:B8:62:LEU:H	1.51	0.41
56:B1:30:VAL:HG23	56:B1:34:THR:HB	2.03	0.41
59:BA:6:A:H2'	59:BA:7:G:H8	1.85	0.41
59:BA:568:U:OP1	59:BA:945:A:N6	2.46	0.41
59:BA:993:G:C6	59:BA:994:C:C4	3.08	0.41
59:BA:1201:C:H2'	59:BA:1202:C:C6	2.53	0.41
59:BA:1344:G:N3	59:BA:1385:G:H5"	2.34	0.41
59:BA:1448:G:H2'	59:BA:149(B):A:C8	2.55	0.41
59:BA:1510:A:C2	59:BA:1511:A:H1'	2.55	0.41
59:BA:1661:G:C6	59:BA:2000:G:C6	3.08	0.41
59:BA:2078:C:C4	59:BA:2079:U:C4	3.08	0.41
59:BA:2543:G:C4	59:BA:2544:G:C8	3.08	0.41
59:BA:2660:A:H2'	59:BA:2661:G:O4'	2.21	0.41
7:CH:130:GLY:N	21:CA:599:C:O2'	2.54	0.41
9:CJ:5:ARG:HB2	9:CJ:5:ARG:HH11	1.85	0.41
10:CK:27:ASN:CG	10:CK:55:LYS:HD3	2.45	0.41
13:CN:21:TYR:HE2	13:CN:23:ARG:NH2	2.18	0.41
15:CP:74:LEU:HD22	15:CP:79:VAL:HG21	2.02	0.41
16:CQ:43:LEU:HD12	16:CQ:69:LYS:HA	2.02	0.41
21:CA:177:C:H2'	21:CA:178:C:C6	2.54	0.41
21:CA:1068:G:H1	21:CA:1107:C:N4	2.16	0.41
21:CA:1422:G:H2'	21:CA:1423:G:C8	2.52	0.41
28:DF:38:ARG:HH21	35:DP:16:ARG:NH2	2.18	0.41
31:DJ:151:UNK:C	31:DJ:153:UNK:H	2.33	0.41
32:DK:60:TYR:C	32:DK:62:ASP:H	2.28	0.41
33:DN:25:ARG:HH22	59:DA:114(B):A:C4'	2.26	0.41
39:DT:33:LYS:HZ3	39:DT:74:ARG:HH22	1.66	0.41
39:DT:51:ARG:HG2	39:DT:62:THR:HG22	2.03	0.41
43:DX:47:PHE:HB3	43:DX:89:ILE:HG12	2.03	0.41
56:D1:73:LEU:HD11	56:D1:95:LEU:HB3	2.02	0.41
57:D4:9:LEU:HB3	57:D4:10:VAL:H	1.60	0.41
59:DA:24:G:C6	59:DA:25:U:C4	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:197:A:H2'	59:DA:198:C:C6	2.56	0.41
59:DA:373:U:OP2	59:DA:400:G:N1	2.41	0.41
59:DA:1115:G:H2'	59:DA:1116:C:H6	1.86	0.41
59:DA:1486:A:H2'	59:DA:1487:G:H8	1.83	0.41
59:DA:2322:A:H2'	59:DA:2323:G:O4'	2.19	0.41
59:DA:2462:U:H1'	59:DA:2491:U:O4	2.20	0.41
59:DA:2516:G:H2'	59:DA:2517:C:C6	2.56	0.41
59:DA:2688:U:H6	59:DA:2721:A:H62	1.66	0.41
60:DB:15:A:H3'	60:DB:16:G:C8	2.54	0.41
1:AB:42:ILE:HD11	1:AB:202:PRO:HB2	2.02	0.41
1:AB:95:GLN:OE1	1:AB:96:ARG:NH2	2.54	0.41
1:AB:152:PHE:C	1:AB:152:PHE:HD1	2.28	0.41
2:AC:86:VAL:O	2:AC:89:GLU:HB2	2.20	0.41
4:AE:102:ALA:HB1	4:AE:106:PRO:HB2	2.02	0.41
7:AH:69:ARG:HG2	7:AH:70:GLN:H	1.85	0.41
10:AK:32:ILE:O	10:AK:40:ILE:O	2.38	0.41
11:AL:53:ARG:HG2	11:AL:93:LEU:HD11	2.03	0.41
15:AP:11:SER:H	15:AP:14:ASN:HB3	1.84	0.41
20:AY:15:ILE:HD12	20:AY:105:ILE:HD11	2.03	0.41
20:AY:229:LEU:HD21	58:Be:67:ALA:HA	2.03	0.41
21:AA:522:C:H2'	21:AA:523:A:C8	2.55	0.41
21:AA:931:C:N3	21:AA:1386:G:O6	2.53	0.41
21:AA:1219:U:H2'	21:AA:1220:G:O4'	2.19	0.41
21:AA:1281:U:H3'	21:AA:1282:C:C6	2.54	0.41
21:AA:1418:A:H1'	59:BA:1959:G:C1'	2.50	0.41
25:BC:20:VAL:HG12	25:BC:21:TYR:N	2.35	0.41
26:BD:86:PRO:HB3	59:BA:1567:A:P	2.60	0.41
26:BD:127:VAL:HA	26:BD:193:VAL:HG22	2.02	0.41
30:BH:90:LYS:HB2	30:BH:163:TYR:HE1	1.85	0.41
30:BH:105:LEU:HG	30:BH:113:VAL:HB	2.02	0.41
31:BJ:44:UNK:C	31:BJ:47:UNK:H	2.34	0.41
32:BK:126:MET:HE2	32:BK:130:SER:OG	2.20	0.41
35:BP:146:VAL:C	35:BP:148:LEU:H	2.27	0.41
40:BU:53:ARG:NH1	59:BA:536:A:OP1	2.54	0.41
42:BW:18:ARG:HH11	42:BW:76:VAL:CG1	2.34	0.41
51:B7:8:ASN:HB3	51:B7:11:LYS:HB3	2.02	0.41
56:B1:22:GLY:HA2	56:B1:37:ILE:HA	2.01	0.41
59:BA:415:A:H2'	59:BA:416:C:O4'	2.19	0.41
59:BA:445:C:H2'	59:BA:446:G:C8	2.55	0.41
59:BA:657:U:H2'	59:BA:658:C:C6	2.55	0.41
59:BA:717:G:C6	59:BA:718:A:C4	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1728:G:O2'	59:BA:1732:A:N6	2.54	0.41
59:BA:1772:G:H2'	59:BA:1773:A:H4'	2.03	0.41
59:BA:1789:A:C6	59:BA:1790:C:N3	2.89	0.41
59:BA:1793:C:H2'	59:BA:1794:U:H6	1.83	0.41
59:BA:1798:U:H2'	59:BA:1819:A:H61	1.86	0.41
59:BA:2032:G:OP2	59:BA:2454:G:O2'	2.38	0.41
59:BA:2133:G:O2'	59:BA:2157:G:N1	2.50	0.41
59:BA:2250:G:C8	59:BA:2496:C:H5"	2.54	0.41
59:BA:2273:A:H2'	59:BA:2274:A:H8	1.84	0.41
59:BA:2542:A:H1'	59:BA:2543:G:N7	2.35	0.41
3:CD:32:ALA:HB2	21:CA:429:U:H5'	2.02	0.41
3:CD:85:LYS:HD3	3:CD:85:LYS:HA	1.90	0.41
4:CE:101:ILE:HD11	4:CE:119:LEU:HA	2.01	0.41
5:CF:96:PRO:HB3	17:CR:30:ASP:OD2	2.20	0.41
6:CG:138:LYS:O	6:CG:142:GLU:HG2	2.21	0.41
15:CP:31:LYS:HG3	15:CP:32:TYR:N	2.35	0.41
16:CQ:5:VAL:HG12	16:CQ:60:ILE:HG13	2.02	0.41
16:CQ:71:PHE:O	16:CQ:72:ARG:O	2.38	0.41
21:CA:38:G:H22	21:CA:397:A:P	2.41	0.41
21:CA:985:C:H2'	21:CA:986:A:C8	2.55	0.41
21:CA:1306:A:N6	21:CA:1331:G:H1'	2.35	0.41
20:CY:315:LYS:HB3	20:CY:327:PHE:CD2	2.55	0.41
20:CY:462:ILE:O	20:CY:466:LEU:HB2	2.20	0.41
20:CY:517:LEU:HG	20:CY:518:PRO:HD2	2.01	0.41
25:DC:57:GLN:C	25:DC:59:VAL:H	2.28	0.41
26:DD:28:GLU:H	26:DD:29:PRO:HD2	1.86	0.41
27:DE:189:PRO:HB3	59:DA:2679:A:H4'	2.03	0.41
30:DH:94:TYR:CD2	30:DH:107:VAL:HG12	2.55	0.41
33:DN:10:GLU:CG	33:DN:11:PRO:HD2	2.50	0.41
34:DO:27:GLY:HA3	59:DA:2674:G:O2'	2.21	0.41
34:DO:40:VAL:HG21	59:DA:2561:A:O2'	2.20	0.41
36:DQ:45:GLN:HG2	36:DQ:45:GLN:H	1.58	0.41
39:DT:54:ARG:O	59:DA:2845:G:H5"	2.20	0.41
39:DT:67:SER:H	39:DT:71:GLY:HA2	1.85	0.41
45:DZ:10:ARG:HD2	45:DZ:36:LYS:HB2	2.03	0.41
45:DZ:77:ASP:N	45:DZ:77:ASP:OD2	2.51	0.41
47:D2:61:LEU:HD12	59:DA:72:U:O4'	2.20	0.41
53:D9:17:ILE:HD12	53:D9:19:ARG:HB2	2.01	0.41
56:D1:20:ARG:H	56:D1:40:ARG:HB2	1.84	0.41
59:DA:30:G:H2'	59:DA:31:C:O4'	2.20	0.41
59:DA:329:G:H8	59:DA:329:G:OP2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:872:A:H2'	59:DA:873:G:H8	1.85	0.41
59:DA:1021:A:H62	59:DA:1141:U:H3	1.69	0.41
59:DA:1024:G:OP2	59:DA:1025:G:H3'	2.20	0.41
59:DA:1062:G:H2'	59:DA:1063:G:C8	2.55	0.41
59:DA:1115:G:H2'	59:DA:1116:C:C6	2.56	0.41
59:DA:1384:A:N3	59:DA:1405:U:H1'	2.35	0.41
59:DA:144(B):A:H5"	59:DA:1445:C:H5	1.86	0.41
59:DA:1709:U:H2'	59:DA:1710:C:H6	1.85	0.41
59:DA:2024:G:C6	59:DA:2025:C:C4	3.09	0.41
59:DA:2525:G:H2'	59:DA:2526:G:C8	2.54	0.41
59:DA:2712:U:O2'	59:DA:712(B):A:H3'	2.20	0.41
59:DA:2849:U:O2'	59:DA:2866:U:O2	2.38	0.41
59:DA:2857:G:N1	59:DA:2861:G:C6	2.89	0.41
60:DB:44:G:H21	60:DB:47:C:H42	1.68	0.41
1:AB:17:PHE:N	1:AB:17:PHE:CD2	2.88	0.41
1:AB:208:ILE:HD12	1:AB:208:ILE:H	1.86	0.41
6:AG:108:ALA:HB1	6:AG:119:ARG:HB2	2.02	0.41
10:AK:66:LEU:O	10:AK:69:ALA:HB3	2.21	0.41
11:AL:102:ARG:HG3	11:AL:109:GLY:H	1.85	0.41
16:AQ:55:ASP:OD1	16:AQ:55:ASP:N	2.54	0.41
16:AQ:71:PHE:O	16:AQ:72:ARG:O	2.39	0.41
16:AQ:92:ARG:O	16:AQ:95:TYR:HB2	2.19	0.41
18:AS:78:ARG:HH21	21:AA:1322:C:P	2.44	0.41
20:AY:660:ARG:O	20:AY:665:GLY:N	2.54	0.41
21:AA:960:U:H2'	21:AA:1225:A:N6	2.33	0.41
21:AA:1005:A:O2'	21:AA:1036:G:N2	2.53	0.41
21:AA:1015:A:H1'	21:AA:1218:C:O2'	2.20	0.41
25:BC:109:MET:HE3	25:BC:111:PHE:CE2	2.55	0.41
26:BD:35:LYS:NZ	26:BD:61:LEU:HD11	2.35	0.41
26:BD:48:ARG:O	26:BD:49:ILE:HG13	2.21	0.41
27:BE:53:PRO:O	27:BE:55:ASN:N	2.54	0.41
27:BE:183:LEU:HD21	39:BT:11:GLU:HG2	2.01	0.41
28:BF:105:VAL:O	28:BF:108:LYS:HB2	2.19	0.41
28:BF:117:ARG:HD3	28:BF:117:ARG:HA	1.96	0.41
29:BG:101:ILE:HG13	57:B4:25:TYR:O	2.21	0.41
30:BH:74:ASN:CG	30:BH:138:LYS:HD2	2.45	0.41
30:BH:85:LYS:HE2	30:BH:141:VAL:HG22	2.02	0.41
34:BO:14:THR:HG21	34:BO:86:ILE:HD12	2.01	0.41
36:BQ:41:TRP:HA	36:BQ:95:ALA:O	2.20	0.41
36:BQ:87:LYS:HD2	59:BA:2277:G:H5"	2.03	0.41
53:B9:10:ILE:HD11	53:B9:32:HIS:CD2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:B1:86:SER:HB2	56:B1:89:GLU:HB2	2.02	0.41
57:B4:12:ALA:HB2	57:B4:28:LYS:O	2.21	0.41
57:B4:14:ILE:HB	57:B4:22:ILE:HD12	2.03	0.41
59:BA:181:A:H2'	59:BA:182:A:H8	1.81	0.41
59:BA:379:G:C2	59:BA:396:G:C5	3.09	0.41
59:BA:915:C:H2'	59:BA:916:G:O4'	2.20	0.41
59:BA:1064:C:H2'	59:BA:1065:U:O4'	2.21	0.41
59:BA:1356:G:C2	59:BA:1357:U:H1'	2.55	0.41
59:BA:1655:A:H2'	59:BA:1656:C:C6	2.56	0.41
59:BA:2865:U:H3'	59:BA:2866:U:O2	2.21	0.41
1:CB:69:LEU:HD13	1:CB:70:PHE:H	1.85	0.41
1:CB:187:LEU:HD23	1:CB:201:ILE:O	2.19	0.41
11:CL:54:LYS:HD3	11:CL:70:ILE:H	1.85	0.41
14:CO:17:ARG:HA	14:CO:17:ARG:HE	1.85	0.41
15:CP:8:ARG:HB3	15:CP:28:ARG:NH2	2.36	0.41
15:CP:22:THR:OG1	15:CP:32:TYR:HA	2.21	0.41
16:CQ:52:LYS:HE3	16:CQ:52:LYS:HB3	1.79	0.41
16:CQ:78:GLU:OE1	16:CQ:81:ARG:NH1	2.54	0.41
21:CA:50:A:H4'	21:CA:51:A:H5'	2.02	0.41
21:CA:161:A:N1	21:CA:347:G:O2'	2.45	0.41
21:CA:232:G:C6	21:CA:233:C:C4	3.08	0.41
21:CA:396:G:O2'	21:CA:398:C:OP1	2.15	0.41
21:CA:1472:U:H2'	21:CA:1473:A:H8	1.86	0.41
22:CW:66:C:H2'	22:CW:67:G:C8	2.54	0.41
22:CW:75:C:OP2	56:D1:33:LYS:HG3	2.20	0.41
20:CY:27:THR:HG23	61:CY:701:GNP:O2A	2.20	0.41
20:CY:30:GLU:OE2	20:CY:31:ARG:NH1	2.54	0.41
20:CY:34:TYR:HB3	20:CY:36:THR:CG2	2.51	0.41
20:CY:236:GLU:HA	20:CY:237:PRO:HD3	1.88	0.41
20:CY:355:LEU:HD12	20:CY:369:LEU:HD22	2.03	0.41
20:CY:544:LYS:O	20:CY:548:GLU:N	2.53	0.41
26:DD:35:LYS:HB3	26:DD:35:LYS:HE3	1.83	0.41
28:DF:188:ARG:HA	35:DP:7:ARG:HH21	1.85	0.41
30:DH:97:ARG:HG2	30:DH:99:VAL:H	1.86	0.41
36:DQ:42:ILE:CD1	36:DQ:95:ALA:HB3	2.44	0.41
42:DW:21:VAL:CG1	42:DW:74:ALA:HB1	2.51	0.41
43:DX:21:PHE:HE2	43:DX:26:TYR:HA	1.85	0.41
55:Dh:10:UNK:C	55:Dh:12:UNK:H	2.33	0.41
59:DA:111:A:H2'	59:DA:112:U:O4'	2.21	0.41
59:DA:415:A:O2'	59:DA:1869:G:H4'	2.21	0.41
59:DA:539:G:H2'	59:DA:540:G:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:638:G:H2'	59:DA:639:U:O4'	2.21	0.41
59:DA:700:G:N2	59:DA:732:C:N3	2.56	0.41
59:DA:114(B):A:C5	59:DA:1144:G:C5	3.08	0.41
59:DA:1301:A:C8	59:DA:1303:G:C8	3.09	0.41
59:DA:1413:G:H1	59:DA:1589:C:H42	1.69	0.41
59:DA:1470:G:O2'	59:DA:1522:G:O6	2.38	0.41
59:DA:1668:A:H4'	59:DA:1669:A:O5'	2.21	0.41
59:DA:1689:A:H62	59:DA:1698:A:H2	1.69	0.41
59:DA:2330:G:H2'	59:DA:2331:G:O4'	2.21	0.41
59:DA:2817:G:O2'	59:DA:2836:U:O2	2.30	0.41
59:DA:2847:U:H2'	59:DA:2848:G:H5'	2.02	0.41
60:DB:48:A:H2'	60:DB:49:C:C6	2.55	0.41
3:AD:13:ARG:NH2	3:AD:36:ARG:HG3	2.35	0.41
3:AD:193:ASP:C	3:AD:194:LEU:HD22	2.45	0.41
4:AE:78:HIS:CD2	4:AE:79:GLU:H	2.38	0.41
7:AH:22:GLU:HG2	7:AH:23:SER:N	2.35	0.41
8:AI:48:GLU:HG3	8:AI:101:PHE:CZ	2.56	0.41
9:AJ:7:LYS:HA	9:AJ:70:ARG:O	2.20	0.41
9:AJ:34:VAL:HA	9:AJ:74:ILE:HA	2.03	0.41
13:AN:43:CYS:HA	13:AN:46:GLU:HG2	2.03	0.41
14:AO:39:LEU:HD22	14:AO:42:HIS:HB3	2.03	0.41
18:AS:41:VAL:HA	18:AS:42:PRO:HD3	1.90	0.41
19:AT:33:ILE:HD11	19:AT:62:LEU:HB3	2.02	0.41
19:AT:75:ASN:HB2	19:AT:76:ALA:H	1.72	0.41
20:AY:145:ASP:OD2	20:AY:146:LEU:N	2.40	0.41
20:AY:419:ALA:O	20:AY:423:LYS:HE2	2.21	0.41
20:AY:420:ASP:OD2	20:AY:420:ASP:N	2.54	0.41
20:AY:489:LYS:HD2	20:AY:598:ASP:OD1	2.21	0.41
20:AY:581:ALA:O	20:AY:584:ILE:HG22	2.21	0.41
21:AA:328:C:H4'	21:AA:329:A:C5'	2.50	0.41
21:AA:960:U:H4'	21:AA:961:U:C5'	2.50	0.41
21:AA:1076:C:N3	21:AA:1081:G:N2	2.59	0.41
21:AA:1347:G:H22	21:AA:1374:A:C5'	2.32	0.41
26:BD:59:LYS:HZ2	26:BD:60:ARG:N	2.18	0.41
28:BF:52:LYS:HA	28:BF:93:LYS:NZ	2.36	0.41
28:BF:60:SER:HB3	28:BF:61:GLY:H	1.64	0.41
28:BF:103:LYS:HA	28:BF:106:ARG:HD2	2.03	0.41
30:BH:23:ARG:H	30:BH:23:ARG:HE	1.67	0.41
30:BH:35:VAL:HG12	30:BH:37:VAL:HG22	2.02	0.41
30:BH:148:ILE:O	30:BH:151:ILE:HB	2.21	0.41
36:BQ:24:GLY:O	36:BQ:101:ARG:HD2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BR:33:ARG:HA	37:BR:114:VAL:O	2.21	0.41
40:BU:98:LEU:HD22	40:BU:101:ARG:O	2.21	0.41
43:BX:62:LYS:NZ	59:BA:1338:G:N7	2.64	0.41
44:BY:95:LYS:HD3	44:BY:99:CYS:O	2.21	0.41
49:B5:16:ARG:O	49:B5:20:ARG:HB2	2.20	0.41
52:B8:23:VAL:HG13	52:B8:48:PHE:HA	2.01	0.41
56:B1:25:LYS:HD2	59:BA:388:G:P	2.60	0.41
59:BA:105:C:H2'	59:BA:106:C:C6	2.55	0.41
59:BA:179:G:H2'	59:BA:180:G:O4'	2.20	0.41
59:BA:194:G:C2	59:BA:202:U:H1'	2.56	0.41
59:BA:719:C:H2'	59:BA:720:C:H6	1.82	0.41
59:BA:838:C:H2'	59:BA:839:U:O4'	2.20	0.41
59:BA:1181:C:H2'	59:BA:1182:A:C8	2.56	0.41
59:BA:1435:G:N2	59:BA:1477:A:O2'	2.53	0.41
59:BA:1466:G:H2'	59:BA:1547:C:N4	2.35	0.41
59:BA:1521:G:O5'	59:BA:1521:G:H8	2.04	0.41
59:BA:2002:G:H2'	59:BA:2003:G:H8	1.85	0.41
59:BA:2342:C:O2'	59:BA:2374:C:H5"	2.21	0.41
59:BA:2565:A:H5"	59:BA:2566:A:OP2	2.21	0.41
1:CB:74:LYS:HG3	1:CB:77:ALA:HB3	2.01	0.41
1:CB:75:LYS:HB3	1:CB:76:GLN:NE2	2.36	0.41
1:CB:184:VAL:O	1:CB:197:VAL:HG13	2.21	0.41
2:CC:121:ALA:O	2:CC:125:GLU:HB2	2.20	0.41
3:CD:15:GLU:OE1	3:CD:63:LYS:HA	2.21	0.41
3:CD:25:ARG:HA	3:CD:28:SER:HB3	2.03	0.41
3:CD:31:CYS:C	3:CD:33:MET:H	2.28	0.41
3:CD:156:GLU:H	3:CD:156:GLU:HG2	1.36	0.41
6:CG:135:VAL:O	6:CG:138:LYS:HB3	2.20	0.41
7:CH:68:ARG:HG3	7:CH:74:PRO:CB	2.48	0.41
11:CL:26:ALA:HB2	11:CL:98:TYR:CD2	2.56	0.41
11:CL:53:ARG:C	11:CL:54:LYS:HD2	2.46	0.41
12:CM:13:LYS:HB2	12:CM:13:LYS:HE2	1.88	0.41
12:CM:78:ILE:HD13	12:CM:78:ILE:HA	1.84	0.41
21:CA:431:A:H2'	21:CA:432:A:C8	2.56	0.41
21:CA:1141:C:H2'	21:CA:1142:G:H8	1.85	0.41
21:CA:1287:A:H2	21:CA:1353:G:N3	2.19	0.41
21:CA:1493:A:H4'	21:CA:1494:G:OP2	2.20	0.41
21:CA:1506:U:O2'	21:CA:1507:A:H5"	2.20	0.41
20:CY:620:VAL:O	20:CY:624:LEU:HB2	2.21	0.41
20:CY:671:MET:HE3	20:CY:671:MET:H	1.85	0.41
27:DE:61:ARG:CZ	59:DA:2811:G:H4'	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:DK:110:GLN:OE1	32:DK:111:LYS:HG2	2.20	0.41
33:DN:42:TRP:CZ2	33:DN:44:PRO:HA	2.56	0.41
33:DN:101:HIS:ND1	33:DN:101:HIS:C	2.78	0.41
34:DO:24:VAL:HG13	34:DO:33:ALA:HB2	2.02	0.41
35:DP:27:HIS:CE1	59:DA:813:U:C4	3.08	0.41
39:DT:88:ILE:HG22	39:DT:89:VAL:HG23	2.02	0.41
43:DX:59:VAL:C	43:DX:76:ARG:HH12	2.28	0.41
44:DY:2:ARG:HD2	59:DA:295:G:OP1	2.20	0.41
45:DZ:26:GLY:C	45:DZ:37:VAL:HG23	2.45	0.41
51:D7:40:TRP:CZ3	59:DA:459:U:H3'	2.54	0.41
56:D1:18:ILE:CG2	59:DA:380:U:H4'	2.50	0.41
59:DA:91:A:H3'	59:DA:92:G:H8	1.86	0.41
59:DA:481:G:H2'	59:DA:507:A:N1	2.36	0.41
59:DA:1514:U:H2'	59:DA:1515:C:C6	2.55	0.41
60:DB:79:C:H2'	60:DB:80:U:O4'	2.21	0.41
1:AB:69:LEU:HB2	1:AB:162:ILE:HD12	2.03	0.41
3:AD:3:ARG:O	3:AD:5:ILE:N	2.52	0.41
3:AD:57:ARG:HG2	3:AD:202:LEU:O	2.21	0.41
3:AD:94:LEU:HA	3:AD:97:LEU:HD12	2.02	0.41
6:AG:28:ASN:OD1	21:AA:1374:A:H4'	2.19	0.41
8:AI:103:THR:HA	21:AA:1179:A:O3'	2.20	0.41
10:AK:112:THR:HA	10:AK:113:PRO:HD2	1.86	0.41
11:AL:7:ILE:O	11:AL:10:LEU:HB2	2.21	0.41
12:AM:110:ARG:O	12:AM:110:ARG:NH1	2.41	0.41
16:AQ:21:VAL:HG11	16:AQ:59:ILE:CD1	2.50	0.41
16:AQ:91:ARG:NH2	21:AA:280:C:H5	2.19	0.41
20:AY:41:LYS:HB3	20:AY:73:PHE:HZ	1.86	0.41
20:AY:56:GLU:CB	20:AY:59:ARG:HE	2.31	0.41
21:AA:68(H):G:H2'	21:AA:68(I):G:N7	2.36	0.41
21:AA:109:A:C8	21:AA:327:A:H5'	2.48	0.41
21:AA:156:G:H2'	21:AA:157:G:O4'	2.20	0.41
21:AA:321:A:H2'	21:AA:322:C:C6	2.56	0.41
21:AA:613:C:H2'	21:AA:614:A:C8	2.56	0.41
21:AA:838(C):U:H3'	21:AA:848:C:C5'	2.50	0.41
21:AA:859:A:H2'	21:AA:860:A:O4'	2.20	0.41
21:AA:1140:C:H2'	21:AA:1141:C:H6	1.85	0.41
25:BC:166:ASN:O	25:BC:170:GLY:N	2.51	0.41
26:BD:69:ARG:NH1	26:BD:128:GLY:O	2.51	0.41
26:BD:149:PRO:HG2	59:BA:2218:G:H5'	2.03	0.41
26:BD:262:ARG:NH1	59:BA:2085:C:H4'	2.35	0.41
29:BG:129:GLY:HA3	29:BG:163:ALA:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BG:170:ARG:HH22	29:BG:180:PHE:HB3	1.86	0.41
33:BN:66:LYS:O	33:BN:70:LYS:N	2.34	0.41
33:BN:85:ILE:HG21	33:BN:90:MET:HE3	2.03	0.41
34:BO:106:LEU:O	34:BO:110:GLY:N	2.53	0.41
35:BP:33:ARG:NH1	59:BA:811:U:O4	2.52	0.41
35:BP:106:LEU:O	35:BP:107:LYS:HG2	2.21	0.41
37:BR:97:VAL:HG22	37:BR:114:VAL:HG22	2.01	0.41
37:BR:100:LEU:HD23	37:BR:100:LEU:HA	1.94	0.41
38:BS:13:ARG:C	38:BS:15:ARG:H	2.28	0.41
40:BU:95:LEU:CD2	41:BV:13:ARG:HB2	2.49	0.41
43:BX:9:LEU:HD23	47:B2:36:ARG:NH1	2.35	0.41
48:B3:47:VAL:O	48:B3:51:ALA:N	2.54	0.41
59:BA:34:C:N4	59:BA:454:A:O2'	2.54	0.41
59:BA:548:A:H8	59:BA:548:A:OP2	2.04	0.41
59:BA:811:U:HO2'	59:BA:1250:G:HO2'	1.67	0.41
59:BA:933:A:H2'	59:BA:934:G:O4'	2.20	0.41
59:BA:1069:A:H5"	59:BA:1070:A:H8	1.85	0.41
59:BA:1357:U:H2'	59:BA:1358:G:O4'	2.21	0.41
59:BA:1655:A:C2	59:BA:2049:G:H5"	2.56	0.41
59:BA:1764:G:H2'	59:BA:1765:C:C6	2.55	0.41
59:BA:1878:G:H2'	59:BA:1879:C:H6	1.85	0.41
59:BA:2085:C:H2'	59:BA:2086:U:O4'	2.20	0.41
2:CC:28:GLN:O	2:CC:32:LEU:HG	2.21	0.41
4:CE:105:VAL:HG11	4:CE:132:ALA:HB2	2.03	0.41
10:CK:84:VAL:O	10:CK:109:VAL:O	2.39	0.41
19:CT:13:LEU:HD12	19:CT:14:LYS:H	1.85	0.41
19:CT:33:ILE:CD1	19:CT:62:LEU:HB3	2.51	0.41
19:CT:53:LEU:O	19:CT:56:MET:HB2	2.21	0.41
20:CY:328:ILE:H	20:CY:328:ILE:HG13	1.50	0.41
20:CY:384:ILE:HB	20:CY:385:THR:H	1.73	0.41
20:CY:648:PRO:O	20:CY:649:LEU:HB2	2.21	0.41
25:DC:101:ILE:HD12	25:DC:101:ILE:HA	1.94	0.41
28:DF:25:PRO:HB3	28:DF:115:ALA:HB1	2.02	0.41
28:DF:155:LEU:HB2	28:DF:189:THR:OG1	2.21	0.41
29:DG:16:ARG:HB2	29:DG:17:PRO:HD3	2.03	0.41
33:DN:24:GLY:C	33:DN:26:LEU:N	2.78	0.41
33:DN:133:GLN:CG	33:DN:135:PRO:HD3	2.50	0.41
35:DP:7:ARG:C	35:DP:9:ASN:H	2.29	0.41
36:DQ:61:GLY:O	45:DZ:177:PRO:HB3	2.20	0.41
39:DT:30:VAL:HG23	39:DT:44:ASP:CG	2.45	0.41
39:DT:53:ARG:NH2	59:DA:2683:C:H5"	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:DT:100:TYR:HD1	39:DT:103:ARG:HD3	1.86	0.41
45:DZ:24:LEU:HB2	45:DZ:41:LEU:HD21	2.03	0.41
46:D0:20:ARG:HG3	59:DA:2271:G:H5'	2.02	0.41
56:D1:49:VAL:HG21	56:D1:67:ILE:HG23	2.02	0.41
59:DA:48:G:H2'	59:DA:49:A:H2	1.86	0.41
59:DA:449:A:C5	59:DA:450:G:C5	3.09	0.41
59:DA:659:C:H2'	59:DA:660:G:C8	2.49	0.41
59:DA:702:G:H2'	59:DA:703:U:C6	2.56	0.41
59:DA:1016:G:C2	59:DA:1017:G:N7	2.88	0.41
59:DA:1313:U:H4'	59:DA:1332:G:H4'	2.03	0.41
59:DA:1669:A:C6	59:DA:1994:C:O2	2.74	0.41
59:DA:1885:A:H2'	59:DA:1886:C:O4'	2.20	0.41
59:DA:2018:G:H2'	59:DA:2019:A:C8	2.56	0.41
59:DA:2150:U:H2'	59:DA:2151:G:H8	1.85	0.41
59:DA:2531:A:H3'	59:DA:2532:G:C8	2.56	0.41
59:DA:2792:G:N3	59:DA:2792:G:H2'	2.35	0.41
60:DB:113:C:H2'	60:DB:114:G:C8	2.56	0.41
2:AC:41:GLY:O	2:AC:44:GLU:HB3	2.21	0.41
2:AC:160:ALA:HB1	23:AV:25:A:H4'	2.03	0.41
4:AE:88:LYS:HE2	4:AE:88:LYS:HB2	1.85	0.41
7:AH:26:VAL:HG13	7:AH:32:LYS:NZ	2.36	0.41
7:AH:75:ARG:CZ	7:AH:75:ARG:HB2	2.48	0.41
7:AH:96:GLY:O	7:AH:99:GLU:N	2.48	0.41
8:AI:102:LEU:HA	8:AI:102:LEU:HD23	1.71	0.41
10:AK:43:SER:HB2	10:AK:71:LYS:NZ	2.36	0.41
12:AM:126:LYS:HG3	22:AW:35:A:H4'	2.03	0.41
16:AQ:43:LEU:HD23	16:AQ:43:LEU:HA	1.81	0.41
20:AY:52:MET:O	20:AY:53:ASP:HB2	2.21	0.41
20:AY:86:GLY:O	20:AY:88:VAL:N	2.45	0.41
20:AY:103:GLY:HA3	20:AY:131:PRO:O	2.21	0.41
20:AY:164:MET:C	20:AY:180:VAL:HG22	2.46	0.41
20:AY:601:ILE:HG13	20:AY:684:GLN:CD	2.45	0.41
20:AY:631:ILE:HA	20:AY:645:ALA:HA	2.03	0.41
21:AA:109:A:C8	21:AA:326:G:H2'	2.56	0.41
21:AA:109:A:H2'	21:AA:326:G:N2	2.35	0.41
21:AA:123:C:H2'	21:AA:124:G:C8	2.55	0.41
21:AA:300:A:H8	21:AA:300:A:O5'	2.03	0.41
21:AA:621:A:H2'	21:AA:622:A:H8	1.85	0.41
21:AA:872:A:C8	21:AA:874:G:C8	3.09	0.41
21:AA:903:G:C6	21:AA:904:C:C4	3.09	0.41
21:AA:993:G:H2'	21:AA:995:C:H41	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AA:1125:U:H5"	21:AA:1126:U:H5	1.86	0.41
21:AA:1231:G:C6	21:AA:1232:U:C4	3.09	0.41
21:AA:1251:A:N3	21:AA:1369:C:O2'	2.52	0.41
21:AA:1309:G:H2'	21:AA:1310:G:H8	1.84	0.41
22:AW:51:A:H2'	22:AW:52:G:C8	2.56	0.41
25:BC:42:VAL:O	25:BC:43:GLU:C	2.64	0.41
25:BC:73:VAL:HG23	25:BC:112:ASP:HB3	2.03	0.41
26:BD:31:LYS:HD3	26:BD:33:LEU:HD12	2.03	0.41
26:BD:94:LEU:HB2	26:BD:104:TYR:CE2	2.56	0.41
27:BE:14:ILE:O	27:BE:21:VAL:HG22	2.20	0.41
27:BE:26:ILE:HG13	27:BE:182:LEU:O	2.21	0.41
27:BE:63:LEU:HB2	27:BE:65:GLY:N	2.33	0.41
27:BE:101:ARG:O	27:BE:201:THR:HG22	2.21	0.41
28:BF:69:HIS:HA	59:BA:2060:A:OP1	2.21	0.41
28:BF:160:ASN:OD1	28:BF:163:VAL:HG23	2.21	0.41
29:BG:57:ALA:HB1	29:BG:90:LEU:HD13	2.01	0.41
29:BG:69:ALA:HB2	60:BB:42:C:O4'	2.21	0.41
30:BH:47:GLU:HB2	30:BH:48:GLY:H	1.58	0.41
33:BN:17:ASP:O	33:BN:18:ALA:HB2	2.21	0.41
33:BN:19:GLU:O	33:BN:21:LYS:HG2	2.21	0.41
33:BN:56:ASN:HA	33:BN:125:GLY:N	2.36	0.41
33:BN:89:LYS:NZ	33:BN:93:THR:OG1	2.54	0.41
33:BN:110:GLY:HA2	33:BN:111:PRO:HD2	1.87	0.41
34:BO:13:ASN:ND2	34:BO:96:THR:HG22	2.36	0.41
34:BO:13:ASN:HB3	34:BO:97:ARG:HB3	2.01	0.41
34:BO:72:PRO:C	34:BO:74:GLY:H	2.28	0.41
35:BP:61:ARG:CD	52:B8:13:ARG:HD2	2.45	0.41
36:BQ:29:PHE:N	36:BQ:29:PHE:HD1	2.18	0.41
36:BQ:37:LEU:HA	36:BQ:99:PRO:HB3	2.02	0.41
36:BQ:61:GLY:O	45:BZ:177:PRO:HB3	2.20	0.41
37:BR:95:THR:OG1	37:BR:97:VAL:HG23	2.21	0.41
38:BS:30:ARG:HD2	38:BS:31:SER:H	1.85	0.41
38:BS:95:HIS:H	38:BS:97:ARG:NH2	2.19	0.41
39:BT:13:ARG:O	39:BT:15:VAL:HG13	2.21	0.41
39:BT:33:LYS:HD3	39:BT:33:LYS:HA	1.71	0.41
39:BT:125:ARG:HE	39:BT:125:ARG:N	2.18	0.41
40:BU:3:ARG:HD2	59:BA:1248:G:C6	2.56	0.41
45:BZ:5:LEU:O	45:BZ:59:LEU:HA	2.20	0.41
45:BZ:44:PHE:HE1	45:BZ:88:PHE:HZ	1.68	0.41
49:B5:33:CYS:HA	49:B5:40:LYS:HE3	2.02	0.41
50:B6:33:LYS:HG3	50:B6:34:LEU:H	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:B8:10:ALA:O	52:B8:14:VAL:HG12	2.21	0.41
52:B8:52:LYS:NZ	59:BA:2358:G:H21	2.19	0.41
52:B8:61:LEU:HD12	52:B8:61:LEU:HA	1.84	0.41
56:B1:19:GLN:HG2	56:B1:40:ARG:HH11	1.85	0.41
56:B1:61:ARG:HB3	56:B1:61:ARG:NH1	2.36	0.41
59:BA:76:C:O2'	59:BA:77:C:H5'	2.21	0.41
59:BA:228:A:C6	59:BA:230:U:C2	3.08	0.41
59:BA:288:C:H2'	59:BA:289:A:C8	2.56	0.41
59:BA:394:A:C6	59:BA:395:U:C4	3.09	0.41
59:BA:540:G:H2'	59:BA:541:C:H6	1.86	0.41
59:BA:575:A:H2'	59:BA:576:U:O4'	2.21	0.41
59:BA:685:A:N3	59:BA:689:A:N6	2.69	0.41
59:BA:700:G:H2'	59:BA:701:G:O4'	2.21	0.41
59:BA:1153:C:H3'	59:BA:1154:G:H8	1.86	0.41
59:BA:1153:C:C2'	59:BA:1154:G:H5'	2.51	0.41
59:BA:1229:G:H2'	59:BA:1230:C:C6	2.56	0.41
59:BA:1497:U:H3'	59:BA:1498:C:C6	2.56	0.41
59:BA:1761:C:H2'	59:BA:1762:A:H5'	2.03	0.41
59:BA:1889:A:H1'	59:BA:2087:G:O4'	2.20	0.41
59:BA:2096:U:H2'	59:BA:2097:C:H6	1.86	0.41
59:BA:2136:C:H42	59:BA:2155:G:H1	1.68	0.41
59:BA:2306:C:O2	59:BA:2311:A:N6	2.54	0.41
59:BA:2320:A:H8	59:BA:2321:G:C6	2.39	0.41
59:BA:2402:C:O2	59:BA:2402:C:H2'	2.20	0.41
59:BA:2574:G:H2'	59:BA:2575:C:O4'	2.21	0.41
59:BA:2703:C:H2'	59:BA:2704:C:C6	2.55	0.41
59:BA:2789:C:C2'	59:BA:2790:A:H4'	2.49	0.41
60:BB:88:C:H3'	60:BB:89(A):G:H8	1.85	0.41
1:CB:12:GLU:C	1:CB:14:GLY:N	2.79	0.41
1:CB:22:LYS:HG2	1:CB:40:HIS:NE2	2.35	0.41
1:CB:28:PHE:HE2	1:CB:188:ALA:HB1	1.86	0.41
1:CB:44:LEU:O	1:CB:47:THR:HB	2.21	0.41
7:CH:112:LEU:HB3	7:CH:133:LEU:HD23	2.03	0.41
8:CI:11:LYS:HB3	8:CI:11:LYS:HE2	1.89	0.41
8:CI:116:LYS:HE2	8:CI:122:ALA:HB2	2.02	0.41
11:CL:106:ASP:CG	11:CL:107:ALA:H	2.28	0.41
14:CO:28:GLN:HG2	21:CA:657:G:O2'	2.21	0.41
14:CO:32:LEU:O	14:CO:36:ILE:HG13	2.19	0.41
14:CO:39:LEU:HD22	14:CO:39:LEU:HA	1.82	0.41
15:CP:31:LYS:HD3	21:CA:607:A:N3	2.36	0.41
16:CQ:21:VAL:O	16:CQ:41:LYS:HA	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:CR:76:LEU:O	17:CR:78:LEU:N	2.51	0.41
21:CA:66:G:H4'	21:CA:173:U:C5	2.55	0.41
21:CA:186(M):G:H2'	21:CA:186(N):U:O4'	2.21	0.41
21:CA:321:A:C2	21:CA:333:G:C2	3.09	0.41
21:CA:362:G:N2	21:CA:365:U:OP2	2.53	0.41
21:CA:492:G:H2'	21:CA:493:G:H8	1.86	0.41
21:CA:513:C:H2'	21:CA:514:C:C6	2.56	0.41
21:CA:756:C:H2'	21:CA:757:U:O4'	2.21	0.41
21:CA:859:A:H2'	21:CA:860:A:O4'	2.21	0.41
21:CA:962:C:C2	21:CA:963:G:C8	3.08	0.41
21:CA:993:G:H1	21:CA:1045:C:N4	2.18	0.41
21:CA:1134:G:H2'	21:CA:1135:U:O4'	2.21	0.41
21:CA:1248:A:H2'	21:CA:1249:C:C6	2.56	0.41
21:CA:1253:G:H1	21:CA:1284:C:H42	1.67	0.41
21:CA:1260:C:H4'	21:CA:1283:G:O2'	2.20	0.41
21:CA:1418:A:N3	59:DA:1959:G:H1'	2.36	0.41
21:CA:1440(A):G:H4'	21:CA:1440(B):G:C4	2.55	0.41
21:CA:1440(C):G:H2'	39:DT:118:ARG:HD2	2.01	0.41
21:CA:1530:G:C2	21:CA:1531:A:C4	3.09	0.41
20:CY:14:ASN:HB2	20:CY:102:ASP:CG	2.45	0.41
20:CY:38:ARG:O	20:CY:39:ILE:HB	2.20	0.41
20:CY:98:MET:HG2	20:CY:125:ALA:O	2.21	0.41
20:CY:162:VAL:HG21	20:CY:219:VAL:HG21	2.03	0.41
20:CY:341:VAL:HB	20:CY:342:TYR:H	1.68	0.41
20:CY:369:LEU:HD12	20:CY:369:LEU:HA	1.79	0.41
20:CY:466:LEU:C	20:CY:468:ARG:H	2.28	0.41
20:CY:524:GLU:O	20:CY:565:VAL:HG23	2.21	0.41
20:CY:610:VAL:O	20:CY:612:THR:HG22	2.21	0.41
25:DC:76:LEU:HB2	25:DC:111:PHE:HB3	2.03	0.41
25:DC:100:ILE:H	25:DC:100:ILE:HG12	1.73	0.41
25:DC:120:VAL:O	25:DC:121:MET:C	2.63	0.41
25:DC:132:LEU:HD22	25:DC:137:LEU:HD12	2.03	0.41
25:DC:141:PRO:O	25:DC:142:LYS:HB2	2.21	0.41
26:DD:27:THR:HG23	26:DD:83:GLU:HB3	2.02	0.41
26:DD:182:LEU:HB2	26:DD:271:ILE:O	2.21	0.41
26:DD:199:ALA:C	26:DD:201:HIS:N	2.79	0.41
27:DE:1:MET:H3	27:DE:200:GLU:HB3	1.85	0.41
27:DE:55:ASN:HA	27:DE:56:PRO:HD3	1.79	0.41
27:DE:161:GLY:O	27:DE:163:GLU:N	2.52	0.41
28:DF:44:ARG:HB3	59:DA:615:G:N2	2.29	0.41
28:DF:72:ARG:NH2	59:DA:1258:C:OP2	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:DF:129:PHE:CE2	28:DF:163:VAL:HG21	2.56	0.41
29:DG:51:ARG:CZ	29:DG:54:GLU:HB2	2.50	0.41
29:DG:66:GLN:HB3	57:D4:6:HIS:CD2	2.56	0.41
30:DH:52:VAL:HG21	30:DH:69:ARG:HA	2.02	0.41
30:DH:127:GLU:OE2	30:DH:129:THR:HB	2.21	0.41
32:DK:105:LEU:HD23	32:DK:106:GLU:N	2.36	0.41
33:DN:45:ASN:ND2	59:DA:557:U:O2	2.48	0.41
35:DP:133:SER:OG	59:DA:637:A:OP1	2.35	0.41
35:DP:140:ALA:O	35:DP:141:ALA:HB2	2.21	0.41
38:DS:17:ARG:HA	38:DS:20:ARG:HG2	2.03	0.41
41:DV:68:LYS:HE2	41:DV:69:LYS:O	2.20	0.41
43:DX:12:VAL:HG21	43:DX:27:THR:HG23	2.02	0.41
43:DX:27:THR:C	43:DX:28:PHE:CG	2.99	0.41
43:DX:87:GLN:NE2	43:DX:88:LYS:O	2.53	0.41
44:DY:11:ASP:OD2	44:DY:12:THR:N	2.53	0.41
45:DZ:73:GLN:NE2	45:DZ:75:ASN:HD21	2.19	0.41
46:D0:37:LEU:HD13	46:D0:67:VAL:HG13	2.03	0.41
48:D3:29:ARG:HD3	59:DA:1184:G:OP1	2.21	0.41
59:DA:10:G:N2	59:DA:2802:G:OP1	2.52	0.41
59:DA:136:G:N2	59:DA:143:C:N3	2.62	0.41
59:DA:171:G:H2'	59:DA:172:C:C6	2.56	0.41
59:DA:324:A:N6	59:DA:325:G:C2	2.89	0.41
59:DA:531:C:OP1	59:DA:561:G:N2	2.49	0.41
59:DA:587:C:C4	59:DA:671:C:C2	3.09	0.41
59:DA:634:C:H2'	59:DA:635:C:O4'	2.21	0.41
59:DA:700:G:H1	59:DA:732:C:N4	2.12	0.41
59:DA:900:A:C6	59:DA:901:A:C4	3.08	0.41
59:DA:1107:G:H8	59:DA:1107:G:O5'	2.03	0.41
59:DA:1108:U:H2'	59:DA:1109:C:O4'	2.21	0.41
59:DA:1203:G:C6	59:DA:1204:A:N6	2.88	0.41
59:DA:1353:A:H2'	59:DA:1354:A:C8	2.56	0.41
59:DA:1510:A:C6	59:DA:1511:A:C4	3.09	0.41
59:DA:1524:G:C2	59:DA:1525:G:H1'	2.55	0.41
59:DA:1779:U:OP2	59:DA:1784:A:N6	2.43	0.41
59:DA:1858:G:H1'	59:DA:1884:A:N6	2.36	0.41
59:DA:2301:C:H2'	59:DA:2302:G:H8	1.85	0.41
59:DA:2339:G:H2'	59:DA:2340:G:C8	2.55	0.41
59:DA:2595:G:N2	59:DA:2598:A:OP2	2.50	0.41
59:DA:2641:G:C2	59:DA:2774:C:C2	3.08	0.41
59:DA:2646:C:H2'	59:DA:2647:U:O4'	2.20	0.41
59:DA:2695:C:H2'	59:DA:2696:U:C5	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2818:G:H1’	59:DA:2836:U:O2’	2.21	0.41
59:DA:2849:U:O2’	59:DA:2866:U:C2	2.73	0.41
59:DA:2879:C:H4’	59:DA:2880:C:OP1	2.20	0.41
60:DB:95:U:H2’	60:DB:96:G:C8	2.56	0.41
4:AE:127:ASN:HA	4:AE:128:PRO:HD3	1.96	0.41
6:AG:99:LEU:HA	6:AG:102:ARG:HE	1.86	0.41
8:AI:99:LEU:HB3	8:AI:101:PHE:CD1	2.56	0.41
9:AJ:36:GLY:O	9:AJ:38:ILE:N	2.54	0.41
11:AL:27:LEU:HA	11:AL:27:LEU:HD23	1.85	0.41
11:AL:53:ARG:H	11:AL:54:LYS:HZ2	1.69	0.41
12:AM:21:TYR:HD2	12:AM:21:TYR:HA	1.77	0.41
12:AM:67:GLU:HB2	12:AM:68:GLY:H	1.64	0.41
13:AN:41:ARG:NH2	21:AA:973:G:H4’	2.36	0.41
19:AT:8:ARG:HA	19:AT:8:ARG:HD3	1.88	0.41
19:AT:16:HIS:CD2	21:AA:333:G:H4’	2.56	0.41
20:AY:152:THR:HA	20:AY:155:GLU:HB2	2.01	0.41
20:AY:567:LEU:HG	20:AY:568:TYR:N	2.36	0.41
21:AA:177:C:H2’	21:AA:178:C:H6	1.86	0.41
21:AA:259:G:H2’	21:AA:260:G:H8	1.86	0.41
21:AA:338:A:H3’	34:BO:97:ARG:NH1	2.35	0.41
21:AA:401:C:O2’	21:AA:621:A:N3	2.53	0.41
21:AA:750:G:H2’	21:AA:751:U:C6	2.56	0.41
21:AA:1035:A:H2’	21:AA:1036:G:C8	2.56	0.41
21:AA:1306:A:H1’	21:AA:1332:A:C2	2.56	0.41
21:AA:1502:A:C8	21:AA:1505:G:N2	2.89	0.41
25:BC:104:ILE:C	25:BC:106:ASP:H	2.29	0.41
28:BF:7:TYR:CE2	28:BF:10:PRO:HG3	2.56	0.41
28:BF:170:LEU:CB	28:BF:173:VAL:HB	2.51	0.41
32:BK:115:LEU:HD11	32:BK:126:MET:SD	2.61	0.41
36:BQ:34:LEU:HD21	36:BQ:129:THR:HG21	2.02	0.41
40:BU:58:ARG:O	40:BU:61:TRP:HB2	2.21	0.41
46:B0:20:ARG:HG3	59:BA:2270:G:O3’	2.21	0.41
47:B2:14:ARG:NH2	59:BA:77:C:O2’	2.54	0.41
47:B2:46:GLN:HB3	47:B2:48:HIS:CE1	2.56	0.41
48:B3:19:GLN:O	48:B3:23:LEU:HG	2.21	0.41
59:BA:65:C:H2’	59:BA:66:C:C6	2.56	0.41
59:BA:519:U:H2’	59:BA:520:G:H8	1.84	0.41
59:BA:586:A:H4’	59:BA:587:C:OP1	2.21	0.41
59:BA:1030:G:H2’	59:BA:1031:G:C8	2.56	0.41
59:BA:1419:A:H4’	59:BA:1420:U:C5	2.56	0.41
59:BA:1420:U:O2	59:BA:1420:U:H2’	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1422:G:H2'	59:BA:1423:G:H8	1.86	0.41
59:BA:1430:C:H2'	59:BA:1431:U:H6	1.86	0.41
59:BA:1822:G:H2'	59:BA:1823:G:H8	1.86	0.41
59:BA:2114:A:H2'	59:BA:2115:G:O4'	2.21	0.41
59:BA:2564:A:C6	59:BA:2565:A:C6	3.09	0.41
1:CB:114:ARG:O	1:CB:118:LEU:HG	2.21	0.41
3:CD:31:CYS:O	3:CD:33:MET:SD	2.80	0.41
7:CH:114:THR:C	7:CH:116:LYS:H	2.28	0.41
10:CK:52:GLY:HA2	21:CA:691:G:O6	2.21	0.41
10:CK:52:GLY:HA2	21:CA:691:G:C6	2.56	0.41
14:CO:32:LEU:O	14:CO:35:ARG:HG2	2.21	0.41
14:CO:78:TYR:O	14:CO:82:ILE:HG22	2.20	0.41
15:CP:49:LEU:HD23	15:CP:76:GLN:OE1	2.21	0.41
21:CA:658:G:H2'	21:CA:659:U:H6	1.86	0.41
21:CA:833:U:H2'	21:CA:834:C:C6	2.56	0.41
21:CA:1386:G:H2'	21:CA:1387:G:C8	2.56	0.41
21:CA:1476:G:H2'	21:CA:1477:C:C6	2.56	0.41
21:CA:1528:U:N3	21:CA:1530:G:C8	2.89	0.41
20:CY:64:THR:HG21	20:CY:84:THR:HG22	2.02	0.41
20:CY:223:PHE:HZ	20:CY:254:LYS:HG3	1.86	0.41
20:CY:340:TYR:CZ	20:CY:351:ARG:HD3	2.56	0.41
20:CY:382:GLU:HB3	20:CY:383:THR:H	1.63	0.41
25:DC:194:ILE:O	25:DC:197:LEU:HB2	2.20	0.41
26:DD:31:LYS:HA	26:DD:31:LYS:HD2	1.97	0.41
26:DD:173:VAL:HG23	26:DD:185:VAL:HB	2.02	0.41
28:DF:9:ILE:HA	28:DF:10:PRO:HD3	1.82	0.41
29:DG:48:GLU:C	29:DG:50:ALA:H	2.29	0.41
29:DG:111:LEU:HB2	29:DG:112:PRO:HD3	2.02	0.41
29:DG:126:ASP:CG	29:DG:130:ASN:HB2	2.46	0.41
30:DH:15:VAL:HG11	30:DH:76:VAL:HG13	2.02	0.41
30:DH:121:ILE:HG22	30:DH:135:GLY:HA3	2.02	0.41
30:DH:125:VAL:HG13	30:DH:130:ARG:O	2.21	0.41
32:DK:133:SER:HB2	59:DA:1062:G:O2'	2.21	0.41
35:DP:114:ILE:HG13	35:DP:130:PHE:HA	2.03	0.41
38:DS:11:LYS:HB2	38:DS:11:LYS:HE3	1.90	0.41
38:DS:33:LYS:HB2	38:DS:34:HIS:HD2	1.84	0.41
42:DW:19:LEU:HA	42:DW:19:LEU:HD13	1.83	0.41
52:D8:40:GLU:O	52:D8:44:LYS:HB2	2.21	0.41
53:D9:30:PRO:C	53:D9:32:HIS:H	2.29	0.41
57:D4:28:LYS:HD2	57:D4:28:LYS:HA	1.72	0.41
59:DA:32:C:C4	59:DA:33:U:C4	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:384:U:H2'	59:DA:385:C:H6	1.85	0.41
59:DA:481:G:H1'	59:DA:506:G:N2	2.36	0.41
59:DA:604:G:C6	59:DA:605:C:C4	3.09	0.41
59:DA:1036:G:H2'	59:DA:1037:G:C8	2.56	0.41
59:DA:1605:C:H1'	59:DA:1610:A:C5	2.56	0.41
59:DA:1838:C:H4'	59:DA:1839:G:C8	2.56	0.41
59:DA:2529:G:OP2	59:DA:2530:A:H5"	2.21	0.41
59:DA:2643:G:C2	59:DA:2644:G:H1'	2.56	0.41
59:DA:2858:C:H2'	59:DA:2859:G:O4'	2.21	0.41
59:DA:2888:C:H2'	59:DA:2889:C:C6	2.56	0.41
1:AB:87:ARG:O	1:AB:223:ILE:HD11	2.21	0.40
2:AC:55:VAL:O	2:AC:57:ILE:HG13	2.21	0.40
2:AC:127:ARG:HD3	21:AA:532:A:N1	2.36	0.40
3:AD:175:SER:O	3:AD:183:GLY:HA2	2.20	0.40
4:AE:11:ILE:O	4:AE:31:LEU:HB3	2.20	0.40
4:AE:20:GLN:O	4:AE:22:GLY:N	2.54	0.40
4:AE:125:SER:O	4:AE:131:ILE:HD11	2.21	0.40
8:AI:16:ARG:HG3	21:AA:1147:C:O2'	2.20	0.40
13:AN:6:LEU:HD11	21:AA:982:U:H5"	2.03	0.40
20:AY:138:LYS:HZ2	61:AY:701:GNP:C4	2.13	0.40
20:AY:272:LEU:HD12	20:AY:275:ALA:HB3	2.03	0.40
20:AY:322:VAL:HG12	20:AY:354:ARG:HH22	1.87	0.40
20:AY:359:HIS:HB2	20:AY:364:GLU:HG2	2.02	0.40
20:AY:409:ILE:HG12	20:AY:656:ALA:HB3	2.03	0.40
21:AA:345:C:H5'	39:BT:35:LYS:HZ1	1.85	0.40
21:AA:606:G:O5'	21:AA:607:A:H5'	2.20	0.40
21:AA:750:G:H2'	21:AA:751:U:H6	1.85	0.40
21:AA:872:A:C4	21:AA:874:G:N7	2.90	0.40
22:AW:37:A:C2	23:AV:16:A:C4	3.01	0.40
25:BC:26:ALA:HA	25:BC:30:VAL:HG23	2.04	0.40
25:BC:162:ILE:HG21	25:BC:193:PHE:CE1	2.55	0.40
26:BD:172:TYR:HE2	26:BD:186:HIS:CD2	2.38	0.40
27:BE:21:VAL:O	27:BE:23:VAL:HG13	2.20	0.40
28:BF:2:LYS:O	28:BF:4:VAL:N	2.49	0.40
29:BG:82:LEU:HD23	29:BG:82:LEU:HA	1.87	0.40
29:BG:124:SER:OG	59:BA:2303:G:O2'	2.25	0.40
33:BN:1:MET:HE3	33:BN:1:MET:HB2	1.74	0.40
35:BP:23:PRO:HB3	35:BP:29:LYS:HB2	2.02	0.40
35:BP:90:ARG:HH22	35:BP:105:LEU:HD21	1.86	0.40
36:BQ:11:LYS:HD3	36:BQ:87:LYS:CD	2.52	0.40
36:BQ:54:MET:HG3	36:BQ:121:ALA:HB2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BS:64:GLU:O	38:BS:67:ARG:HB2	2.20	0.40
41:BV:40:LEU:C	41:BV:45:THR:HG21	2.47	0.40
44:BY:46:LYS:HB2	44:BY:62:GLU:HG3	2.03	0.40
44:BY:97:ARG:HH11	44:BY:97:ARG:HA	1.86	0.40
44:BY:97:ARG:HH11	44:BY:98:VAL:H	1.67	0.40
47:B2:14:ARG:CG	47:B2:63:VAL:HG11	2.48	0.40
50:B6:25:LYS:HE3	50:B6:25:LYS:HB2	1.70	0.40
51:B7:40:TRP:NE1	59:BA:458:G:HO2'	2.20	0.40
56:B1:21:ARG:O	56:B1:23:LYS:N	2.43	0.40
57:B4:28:LYS:HA	57:B4:28:LYS:HD2	1.71	0.40
59:BA:35:G:C2	59:BA:36:G:H1'	2.56	0.40
59:BA:393:C:H2'	59:BA:394:A:H8	1.86	0.40
59:BA:397:G:H2'	59:BA:398:G:C8	2.56	0.40
59:BA:464:U:O2'	59:BA:686:G:N1	2.53	0.40
59:BA:997:G:H2'	59:BA:998:C:H6	1.85	0.40
59:BA:1604:C:H2'	59:BA:1605:C:C5	2.57	0.40
59:BA:1628:G:H2'	59:BA:1629:U:H6	1.86	0.40
59:BA:1895:C:H2'	59:BA:1896:G:C8	2.55	0.40
59:BA:2028:U:H3'	59:BA:2029:G:C8	2.55	0.40
59:BA:2059:A:N6	59:BA:2503:A:H2'	2.36	0.40
59:BA:2385:C:H2'	59:BA:2386:C:C6	2.56	0.40
59:BA:2395:C:H2'	59:BA:2396:G:O4'	2.20	0.40
59:BA:2715:C:H2'	59:BA:2716:U:O4'	2.21	0.40
7:CH:6:ILE:H	7:CH:6:ILE:HD12	1.85	0.40
10:CK:29:ILE:HG12	21:CA:706:A:O2'	2.21	0.40
21:CA:109:A:C8	21:CA:326:G:H2'	2.56	0.40
21:CA:293:G:O6	21:CA:304:U:C2	2.74	0.40
21:CA:511:C:C2	21:CA:512:U:C6	3.09	0.40
21:CA:923:A:H1'	21:CA:1398:A:C2	2.57	0.40
21:CA:928:G:H2'	21:CA:929:G:H8	1.86	0.40
21:CA:1114:C:H2'	21:CA:1115:C:C6	2.56	0.40
21:CA:1523:G:H2'	21:CA:1524:C:H6	1.86	0.40
20:CY:63:ILE:HG21	61:CY:701:GNP:O1A	2.21	0.40
20:CY:428:LEU:HA	20:CY:431:LEU:HD22	2.02	0.40
20:CY:497:PHE:CD2	20:CY:507:TYR:HA	2.56	0.40
20:CY:609:GLU:O	20:CY:669:PHE:HB2	2.21	0.40
26:DD:53:PHE:CZ	26:DD:221:VAL:HG12	2.56	0.40
26:DD:100:GLY:O	59:DA:1500:G:O2'	2.27	0.40
26:DD:211:ARG:HA	26:DD:214:TRP:CE3	2.57	0.40
26:DD:244:ARG:HA	26:DD:245:PRO:HA	1.62	0.40
27:DE:161:GLY:O	27:DE:163:GLU:HG2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:DF:13:SER:HB3	28:DF:14:PRO:HD2	2.03	0.40
28:DF:154:VAL:O	28:DF:175:THR:HA	2.20	0.40
28:DF:177:ALA:HB1	28:DF:178:PRO:CD	2.51	0.40
29:DG:35:GLU:OE2	29:DG:160:VAL:HG12	2.21	0.40
30:DH:83:TYR:HD2	30:DH:84:SER:N	2.18	0.40
31:DJ:159:UNK:C	31:DJ:161:UNK:N	2.82	0.40
32:DK:77:LEU:HD13	32:DK:77:LEU:HA	1.97	0.40
35:DP:17:LYS:HG3	35:DP:17:LYS:O	2.21	0.40
38:DS:85:VAL:H	38:DS:106:ARG:HG2	1.85	0.40
39:DT:115:ARG:H	39:DT:115:ARG:HG2	1.61	0.40
41:DV:5:VAL:HG23	41:DV:37:VAL:O	2.21	0.40
42:DW:42:ARG:C	42:DW:44:ALA:N	2.78	0.40
45:DZ:71:VAL:HB	45:DZ:72:ARG:H	1.63	0.40
50:D6:8:LYS:NZ	50:D6:27:LYS:HD3	2.34	0.40
50:D6:27:LYS:NZ	50:D6:28:ARG:O	2.45	0.40
52:D8:40:GLU:O	52:D8:44:LYS:N	2.54	0.40
53:D9:3:VAL:HG13	53:D9:37:GLY:HA3	2.02	0.40
59:DA:13:A:H2'	59:DA:13:A:OP2	2.21	0.40
59:DA:25:U:H3	59:DA:515:A:N6	2.19	0.40
59:DA:270(J):G:C2	59:DA:270(R):C:N3	2.89	0.40
59:DA:674:G:H2'	59:DA:804:A:H61	1.86	0.40
59:DA:826:U:H5"	59:DA:2429:G:OP1	2.22	0.40
59:DA:1446:C:H2'	59:DA:1447:G:C8	2.56	0.40
59:DA:1635:G:H8	59:DA:1635:G:O5'	2.03	0.40
59:DA:2098:U:H3	59:DA:2191:G:H1	1.67	0.40
59:DA:2126:A:H4'	59:DA:2127:G:O5'	2.20	0.40
1:AB:162:ILE:HG22	1:AB:184:VAL:HA	2.03	0.40
2:AC:178:LEU:HG	21:AA:1112:C:N3	2.37	0.40
3:AD:159:ARG:H	3:AD:159:ARG:HG2	1.53	0.40
10:AK:63:LEU:HA	10:AK:66:LEU:HB2	2.02	0.40
14:AO:10:LYS:O	14:AO:14:GLU:HB2	2.20	0.40
14:AO:87:ILE:HB	14:AO:88:ARG:H	1.46	0.40
17:AR:37:VAL:HG23	17:AR:38:GLU:H	1.85	0.40
20:AY:29:THR:C	20:AY:32:ILE:HB	2.46	0.40
20:AY:145:ASP:CG	20:AY:146:LEU:N	2.75	0.40
20:AY:315:LYS:HD3	20:AY:315:LYS:HA	1.89	0.40
20:AY:329:ARG:HD2	20:AY:374:LEU:HG	2.03	0.40
21:AA:557:G:O6	21:AA:558:G:N1	2.54	0.40
21:AA:838(A):U:H4'	21:AA:838(B):C:C6	2.57	0.40
21:AA:935:A:H2'	21:AA:936:C:O4'	2.20	0.40
21:AA:1077:G:N2	21:AA:1079:G:H3'	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BC:54:ARG:O	25:BC:55:SER:OG	2.35	0.40
25:BC:77:ALA:HB3	25:BC:95:VAL:HG13	2.03	0.40
27:BE:8:LYS:HD3	27:BE:191:PRO:O	2.21	0.40
28:BF:33:LEU:O	28:BF:37:VAL:HG23	2.22	0.40
28:BF:88:VAL:HG13	28:BF:89:VAL:O	2.21	0.40
28:BF:93:LYS:HD3	28:BF:93:LYS:HA	1.95	0.40
29:BG:44:GLY:HA3	59:BA:2311:A:C6	2.56	0.40
29:BG:149:VAL:HG23	29:BG:153:ARG:NE	2.34	0.40
30:BH:158:HIS:HD1	30:BH:158:HIS:H	1.69	0.40
31:BJ:52:UNK:C	31:BJ:54:UNK:H	2.33	0.40
32:BK:80:LYS:HB3	32:BK:80:LYS:HE2	1.85	0.40
33:BN:25:ARG:NH2	59:BA:114(B):A:H4'	2.32	0.40
33:BN:107:LEU:HB3	33:BN:108:PRO:HD2	2.02	0.40
33:BN:133:GLN:CG	33:BN:135:PRO:HD3	2.51	0.40
34:BO:15:GLY:O	34:BO:46:ALA:HB1	2.21	0.40
35:BP:70:GLN:HB3	35:BP:71:VAL:H	1.61	0.40
35:BP:121:LYS:HA	35:BP:122:PRO:HD3	1.86	0.40
38:BS:63:THR:HB	38:BS:64:GLU:H	1.62	0.40
44:BY:68:HIS:HB3	44:BY:71:LYS:HE2	2.03	0.40
45:BZ:5:LEU:HD23	45:BZ:6:LYS:N	2.36	0.40
49:B5:3:LYS:HE3	49:B5:5:PRO:CG	2.51	0.40
59:BA:221:A:N6	59:BA:427:U:H3	2.09	0.40
59:BA:255:A:H1'	59:BA:384:U:C5	2.56	0.40
59:BA:710:G:H2'	59:BA:711:G:O4'	2.21	0.40
59:BA:768:G:C6	59:BA:769:G:C5	3.10	0.40
59:BA:828:U:H5	59:BA:2247:A:O2'	2.04	0.40
59:BA:990:A:C6	59:BA:1186:G:H1'	2.56	0.40
59:BA:1068:G:H8	59:BA:1068:G:O5'	2.05	0.40
59:BA:1213:A:N6	59:BA:1236:G:H1'	2.35	0.40
59:BA:1299:G:H5'	59:BA:1301:A:H5"	2.03	0.40
59:BA:1388:G:C2	59:BA:1389:G:C8	3.10	0.40
59:BA:1538:G:C6	59:BA:1539:G:C6	3.09	0.40
59:BA:1924:C:H2'	59:BA:1925:C:O4'	2.21	0.40
59:BA:2011:U:H2'	59:BA:2012:G:O4'	2.21	0.40
59:BA:2076:U:H5	59:BA:2596:U:C2	2.39	0.40
59:BA:2086:U:H2'	59:BA:2087:G:C8	2.56	0.40
59:BA:2505:G:C6	59:BA:2576:G:C8	3.10	0.40
59:BA:2583:G:O5'	59:BA:2583:G:H8	2.04	0.40
1:CB:106:LYS:H	1:CB:106:LYS:HD2	1.87	0.40
3:CD:63:LYS:HG2	3:CD:198:VAL:HG22	2.03	0.40
6:CG:17:VAL:HB	6:CG:18:TYR:H	1.62	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:CH:96:GLY:O	7:CH:100:ILE:HG13	2.21	0.40
9:CJ:45:ARG:HB3	9:CJ:65:LEU:HB2	2.04	0.40
10:CK:18:ARG:HH21	10:CK:36:ASP:HA	1.86	0.40
10:CK:114:VAL:O	21:CA:675:A:O2'	2.38	0.40
11:CL:57:LYS:HE3	11:CL:65:GLU:HB3	2.03	0.40
11:CL:115:LYS:HG3	11:CL:116:SER:N	2.36	0.40
12:CM:13:LYS:HB3	12:CM:18:ALA:HB2	2.02	0.40
13:CN:61:TRP:HH2	21:CA:1368:G:H4'	1.86	0.40
18:CS:75:ALA:HA	18:CS:76:PRO:HD2	1.74	0.40
21:CA:232:G:C5	21:CA:233:C:C5	3.10	0.40
21:CA:375:U:H2'	21:CA:376:G:H8	1.85	0.40
21:CA:586:C:O2'	21:CA:878:G:H4'	2.22	0.40
21:CA:909:A:C8	21:CA:910:C:C5	3.09	0.40
21:CA:943:U:O4	21:CA:1340:A:N1	2.54	0.40
21:CA:1397:C:N4	23:CV:24:A:H2'	2.36	0.40
20:CY:9:LEU:O	20:CY:284:LEU:HB2	2.21	0.40
20:CY:543:GLN:HG2	20:CY:547:GLU:HG3	2.02	0.40
20:CY:668:SER:OG	20:CY:669:PHE:N	2.53	0.40
25:DC:48:LEU:H	25:DC:48:LEU:HD12	1.86	0.40
26:DD:69:ARG:HH22	26:DD:192:THR:HG21	1.86	0.40
29:DG:7:LEU:HA	29:DG:10:LYS:HB2	2.04	0.40
32:DK:13:PRO:HB3	32:DK:52:ILE:HG12	2.03	0.40
35:DP:62:LEU:HD23	35:DP:62:LEU:N	2.34	0.40
36:DQ:27:VAL:HB	36:DQ:137:TYR:HE2	1.86	0.40
38:DS:52:SER:HB3	38:DS:55:ALA:HB3	2.03	0.40
39:DT:54:ARG:HB2	59:DA:2846:G:P	2.61	0.40
43:DX:30:VAL:HG22	43:DX:77:LYS:O	2.22	0.40
45:DZ:52:SER:C	45:DZ:54:HIS:H	2.30	0.40
45:DZ:152:ALA:C	45:DZ:167:PRO:HB2	2.46	0.40
52:D8:42:ARG:HG3	59:DA:2349:G:OP2	2.21	0.40
53:D9:4:ARG:O	53:D9:6:SER:N	2.53	0.40
59:DA:414:C:O2	59:DA:1864:U:O2'	2.30	0.40
59:DA:656:G:H2'	59:DA:657:U:O4'	2.21	0.40
59:DA:1431:U:H2'	59:DA:1432:C:H6	1.85	0.40
59:DA:1439:A:H2'	59:DA:1440:G:H5'	2.02	0.40
59:DA:1537:C:N4	59:DA:1538:G:N3	2.69	0.40
59:DA:1586:A:N3	59:DA:1586:A:H2'	2.36	0.40
59:DA:1664:A:H1'	59:DA:2685:G:O2'	2.22	0.40
59:DA:2114:A:C2	59:DA:2168:G:H1'	2.56	0.40
59:DA:2224:G:O2'	59:DA:2225:A:O4'	2.35	0.40
59:DA:2254:C:H2'	59:DA:2255:G:O4'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2327:A:H2'	59:DA:2328:A:C8	2.56	0.40
59:DA:2373:G:H2'	59:DA:2374:C:O4'	2.21	0.40
59:DA:2457:U:H3	59:DA:2494:G:H1	1.69	0.40
59:DA:2686:G:H2'	59:DA:2687:U:C6	2.56	0.40
59:DA:2695:C:N3	59:DA:2714:G:O6	2.55	0.40
59:DA:2851:A:H2'	59:DA:2852:G:H8	1.85	0.40
60:DB:42:C:H2'	60:DB:43:C:C6	2.56	0.40
1:AB:236:TYR:HA	1:AB:239:VAL:HB	2.04	0.40
6:AG:4:ARG:NH2	21:AA:931:C:O3'	2.54	0.40
6:AG:63:LYS:HD2	6:AG:63:LYS:HA	1.84	0.40
7:AH:46:LYS:HB3	7:AH:62:TYR:CB	2.51	0.40
7:AH:129:VAL:HB	7:AH:130:GLY:H	1.59	0.40
8:AI:74:ILE:HA	8:AI:77:ILE:HD12	2.03	0.40
9:AJ:99:LYS:HD3	9:AJ:100:THR:H	1.86	0.40
11:AL:52:LEU:HG	11:AL:53:ARG:H	1.86	0.40
11:AL:82:VAL:HB	11:AL:105:TYR:CG	2.56	0.40
14:AO:29:VAL:HG22	14:AO:66:LEU:HB3	2.02	0.40
15:AP:70:ALA:O	15:AP:74:LEU:HG	2.20	0.40
19:AT:14:LYS:HA	19:AT:17:ARG:HE	1.87	0.40
21:AA:68(K):U:H3'	21:AA:68(M):U:OP2	2.21	0.40
21:AA:134:A:C6	21:AA:135:C:C2	3.10	0.40
21:AA:946:A:H2'	21:AA:947:G:H8	1.85	0.40
22:AW:8:U:H5'	22:AW:49:A:OP2	2.21	0.40
25:BC:3:LYS:HB3	25:BC:4:HIS:H	1.57	0.40
25:BC:60:ARG:HG2	25:BC:142:LYS:CD	2.51	0.40
25:BC:121:MET:O	25:BC:122:GLY:C	2.64	0.40
26:BD:37:LEU:HD22	26:BD:62:TYR:HD1	1.87	0.40
28:BF:136:THR:O	28:BF:140:LEU:HD13	2.21	0.40
28:BF:157:VAL:HG13	28:BF:194:MET:HB3	2.03	0.40
30:BH:85:LYS:HB2	30:BH:133:VAL:HB	2.03	0.40
32:BK:34:ILE:C	32:BK:37:PHE:H	2.29	0.40
37:BR:92:GLY:HA2	59:BA:2839:G:O2'	2.22	0.40
38:BS:17:ARG:O	38:BS:21:THR:OG1	2.36	0.40
38:BS:30:ARG:HD3	38:BS:35:ILE:CD1	2.51	0.40
39:BT:25:GLY:HA3	39:BT:92:GLY:HA2	2.02	0.40
40:BU:52:ARG:O	40:BU:55:ARG:N	2.54	0.40
42:BW:18:ARG:HG2	42:BW:76:VAL:CG1	2.51	0.40
42:BW:82:LEU:HD23	42:BW:82:LEU:HA	1.97	0.40
44:BY:28:LYS:HB3	44:BY:28:LYS:HE3	1.84	0.40
44:BY:63:LYS:HG3	44:BY:64:GLU:H	1.86	0.40
44:BY:94:LYS:O	44:BY:102:CYS:HB3	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:B0:24:LYS:NZ	59:BA:2355:C:O3'	2.52	0.40
53:B9:25:VAL:CB	53:B9:34:GLN:HB2	2.50	0.40
56:B1:67:ILE:H	56:B1:67:ILE:HG12	1.55	0.40
59:BA:185:U:H2'	59:BA:186:G:O4'	2.22	0.40
59:BA:729:G:O2'	59:BA:763:G:H4'	2.20	0.40
59:BA:844:C:H2'	59:BA:845:G:O4'	2.21	0.40
59:BA:847:U:O2'	59:BA:848:G:H8	2.03	0.40
59:BA:1045:A:OP1	59:BA:1046:A:O2'	2.32	0.40
59:BA:1244:G:C2	59:BA:1245:G:C8	3.09	0.40
59:BA:1494:A:O2'	59:BA:1495:A:H5"	2.21	0.40
59:BA:1678:G:N2	59:BA:1989:G:H22	2.19	0.40
59:BA:1911:U:H6	59:BA:1911:U:O5'	2.04	0.40
59:BA:2064:C:H2'	59:BA:2065:C:C6	2.57	0.40
59:BA:2218:G:H2'	59:BA:2219:G:C8	2.57	0.40
59:BA:2811:G:C6	59:BA:2891:G:C2	3.09	0.40
2:CC:197:GLY:N	21:CA:1057:G:H4'	2.37	0.40
6:CG:102:ARG:O	6:CG:105:VAL:HB	2.21	0.40
8:CI:50:LEU:HD23	8:CI:50:LEU:HA	1.90	0.40
8:CI:124:GLN:HB3	21:CA:1232:U:H5"	2.02	0.40
11:CL:26:ALA:HB2	11:CL:98:TYR:CE2	2.56	0.40
11:CL:27:LEU:HA	11:CL:27:LEU:HD23	1.87	0.40
11:CL:120:TYR:N	11:CL:120:TYR:CD2	2.89	0.40
12:CM:17:VAL:HG11	21:CA:1302:U:H6	1.86	0.40
15:CP:20:VAL:HG11	15:CP:32:TYR:CD1	2.57	0.40
15:CP:20:VAL:HG21	15:CP:32:TYR:CD1	2.56	0.40
16:CQ:60:ILE:HG12	16:CQ:61:GLU:N	2.36	0.40
17:CR:26:LEU:HD13	17:CR:39:VAL:HG13	2.04	0.40
18:CS:60:VAL:HG21	18:CS:74:PHE:CB	2.51	0.40
21:CA:68(M):U:H2'	21:CA:68(N):U:O4'	2.21	0.40
21:CA:1522:U:H2'	21:CA:1523:G:H8	1.86	0.40
21:CA:1533:C:H3'	21:CA:1534:A:O4'	2.21	0.40
20:CY:438:PHE:HB3	20:CY:453:GLY:HA3	2.04	0.40
26:DD:178:PRO:C	26:DD:180:GLY:H	2.29	0.40
27:DE:62:PRO:HG3	59:DA:2786:U:O2	2.21	0.40
28:DF:57:VAL:HG12	28:DF:59:TYR:H	1.86	0.40
30:DH:125:VAL:HG22	30:DH:131:VAL:HG13	2.03	0.40
32:DK:30:HIS:O	58:De:79:ARG:NH2	2.54	0.40
33:DN:89:LYS:HB3	33:DN:89:LYS:NZ	2.36	0.40
33:DN:133:GLN:HB3	33:DN:134:ARG:H	1.68	0.40
34:DO:87:ILE:HD13	34:DO:91:LEU:HD23	2.03	0.40
35:DP:144:GLU:HA	35:DP:145:PRO:HD3	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:DT:48:ILE:HB	39:DT:49:VAL:H	1.58	0.40
40:DU:3:ARG:NH2	59:DA:449:A:H4'	2.37	0.40
44:DY:26:LYS:H	44:DY:40:GLU:CG	2.34	0.40
47:D2:48:HIS:CD2	47:D2:49:LYS:H	2.38	0.40
59:DA:197:A:N6	59:DA:2430:A:H2'	2.36	0.40
59:DA:296:C:H2'	59:DA:297:C:H6	1.85	0.40
59:DA:547:A:H3'	59:DA:548:A:C8	2.56	0.40
59:DA:723:G:H2'	59:DA:724:U:O4'	2.21	0.40
59:DA:826:U:H3	59:DA:831:G:H1	1.68	0.40
59:DA:827:U:O2'	59:DA:2068:U:N3	2.54	0.40
59:DA:1086:A:H3'	59:DA:1086:A:N3	2.37	0.40
59:DA:1186:G:H3'	59:DA:1187:G:H8	1.87	0.40
59:DA:1277:G:H2'	59:DA:1278:A:C8	2.55	0.40
59:DA:1356:G:H2'	59:DA:1357:U:O4'	2.21	0.40
59:DA:1428:C:C5	59:DA:1569:A:H5"	2.56	0.40
59:DA:1468:C:H2'	59:DA:1469:A:H8	1.84	0.40
59:DA:1550:C:H2'	59:DA:1551:C:C6	2.56	0.40
59:DA:1755:A:N6	59:DA:2694:G:H21	2.15	0.40
59:DA:2265:U:O5'	59:DA:2266:A:H2'	2.22	0.40
59:DA:2307:G:H5"	59:DA:2308:G:OP2	2.21	0.40
1:AB:76:GLN:O	1:AB:77:ALA:C	2.64	0.40
1:AB:158:LEU:HA	1:AB:159:PRO:HD3	1.80	0.40
2:AC:30:ARG:HD3	13:AN:38:GLY:HA3	2.04	0.40
2:AC:110:ASN:C	2:AC:111:LEU:HD22	2.47	0.40
5:AF:2:ARG:HD3	5:AF:92:LYS:HE2	2.02	0.40
5:AF:70:ASP:C	5:AF:72:VAL:N	2.76	0.40
7:AH:85:ARG:HD2	7:AH:85:ARG:HA	1.85	0.40
8:AI:16:ARG:HE	8:AI:16:ARG:HB2	1.67	0.40
11:AL:9:GLN:NE2	21:AA:881:G:OP2	2.47	0.40
14:AO:28:GLN:O	14:AO:32:LEU:HG	2.22	0.40
20:AY:329:ARG:HA	20:AY:374:LEU:HG	2.03	0.40
20:AY:382:GLU:HB3	20:AY:383:THR:H	1.66	0.40
20:AY:407:PRO:HA	20:AY:454:MET:N	2.37	0.40
21:AA:201(B):U:H5"	21:AA:201(C):U:OP1	2.20	0.40
21:AA:328:C:H4'	21:AA:329:A:O5'	2.21	0.40
21:AA:522:C:C4	21:AA:523:A:C6	3.10	0.40
21:AA:858:G:OP2	21:AA:858:G:H8	2.05	0.40
21:AA:958:A:H2'	21:AA:959:A:C8	2.55	0.40
21:AA:1304:G:C6	21:AA:1305:G:C6	3.09	0.40
21:AA:1493:A:H5'	21:AA:1494:G:O5'	2.21	0.40
25:BC:182:PRO:HB3	25:BC:183:PRO:HD2	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BD:86:PRO:HB3	59:BA:1567:A:OP2	2.22	0.40
26:BD:122:ASP:OD2	26:BD:123:ALA:N	2.54	0.40
26:BD:161:THR:HG22	26:BD:178:PRO:HG2	2.03	0.40
27:BE:56:PRO:HD2	27:BE:58:ARG:HG2	2.03	0.40
28:BF:137:LYS:HE2	59:BA:320:A:OP2	2.22	0.40
30:BH:93:GLY:O	30:BH:95:ARG:N	2.54	0.40
32:BK:6:ALA:O	32:BK:58:THR:HA	2.21	0.40
35:BP:18:ARG:HA	35:BP:18:ARG:HD2	1.90	0.40
36:BQ:56:ARG:O	36:BQ:56:ARG:NE	2.49	0.40
37:BR:18:LEU:O	37:BR:22:ARG:HG3	2.21	0.40
37:BR:115:GLU:OE1	37:BR:117:VAL:HG22	2.21	0.40
39:BT:95:ARG:HG3	59:BA:1753:G:OP1	2.21	0.40
44:BY:49:VAL:C	44:BY:51:VAL:H	2.29	0.40
46:B0:20:ARG:HE	59:BA:2271:G:H5'	1.87	0.40
56:B1:18:ILE:CD1	56:B1:20:ARG:HB3	2.51	0.40
56:B1:95:LEU:HD12	56:B1:95:LEU:HA	1.87	0.40
59:BA:174:C:H2'	59:BA:175:G:O4'	2.22	0.40
59:BA:363(A):G:H2'	59:BA:363(B):A:H8	1.87	0.40
59:BA:397:G:HO2'	59:BA:2230:G:N2	2.15	0.40
59:BA:747:U:H5"	59:BA:2612:C:H41	1.87	0.40
59:BA:860:U:H5	59:BA:917:A:H62	1.68	0.40
59:BA:1054:A:H2'	59:BA:1055:G:C8	2.57	0.40
59:BA:1100:C:H2'	59:BA:1101:U:O4'	2.21	0.40
59:BA:1204:A:N6	59:BA:1240:U:H2'	2.35	0.40
59:BA:1872:A:H8	59:BA:1872:A:O5'	2.05	0.40
59:BA:2075:U:H3	59:BA:2077:A:H8	1.65	0.40
59:BA:2299:G:H2'	59:BA:2300:G:C8	2.56	0.40
59:BA:2539:C:O2	59:BA:2741:A:O2'	2.33	0.40
59:BA:2711:A:C4	59:BA:2714:G:H1'	2.56	0.40
60:BB:24:G:C2	60:BB:56:G:N2	2.90	0.40
60:BB:40:U:N3	60:BB:44:G:OP2	2.47	0.40
2:CC:95:THR:O	2:CC:97:LYS:N	2.46	0.40
3:CD:78:LEU:O	3:CD:81:GLU:HB3	2.21	0.40
4:CE:101:ILE:HD11	4:CE:119:LEU:HD13	2.02	0.40
6:CG:8:GLU:HG3	6:CG:10:ARG:HG3	2.03	0.40
6:CG:37:ASN:ND2	6:CG:41:ARG:HD2	2.36	0.40
7:CH:86:ILE:HG12	7:CH:135:CYS:HA	2.02	0.40
8:CI:98:PRO:C	8:CI:99:LEU:HD22	2.47	0.40
9:CJ:5:ARG:HB2	9:CJ:5:ARG:NH1	2.36	0.40
11:CL:113:ARG:HD2	21:CA:538:G:OP1	2.21	0.40
16:CQ:29:HIS:C	16:CQ:31:LEU:H	2.29	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:CQ:84:LEU:H	16:CQ:84:LEU:HG	1.63	0.40
18:CS:27:GLU:H	18:CS:27:GLU:HG3	1.34	0.40
21:CA:306:G:H2'	21:CA:307:C:C6	2.57	0.40
21:CA:604:G:H2'	21:CA:605:U:O4'	2.21	0.40
21:CA:878:G:C6	21:CA:879:C:C4	3.09	0.40
21:CA:1493:A:N6	20:CY:580:MET:HB2	2.36	0.40
22:CW:2:G:O6	22:CW:72:C:N4	2.55	0.40
20:CY:471:LYS:HE2	20:CY:471:LYS:HB2	1.93	0.40
26:DD:48:ARG:O	26:DD:49:ILE:HG13	2.22	0.40
27:DE:78:LEU:C	27:DE:79:ARG:HD2	2.47	0.40
29:DG:129:GLY:O	29:DG:130:ASN:CG	2.65	0.40
30:DH:152:ARG:HB3	30:DH:162:ILE:HG13	2.04	0.40
32:DK:41:PHE:C	32:DK:43:ALA:H	2.29	0.40
33:DN:34:LEU:HD11	33:DN:120:LEU:HB2	2.04	0.40
35:DP:76:LYS:NZ	59:DA:228:A:OP1	2.55	0.40
36:DQ:47:ILE:HD13	36:DQ:47:ILE:HA	1.69	0.40
37:DR:64:ARG:O	37:DR:68:ARG:HB2	2.22	0.40
37:DR:77:ARG:O	37:DR:81:ASP:HB2	2.22	0.40
39:DT:7:ILE:O	39:DT:10:VAL:N	2.52	0.40
39:DT:48:ILE:H	39:DT:48:ILE:HD12	1.87	0.40
39:DT:51:ARG:NH1	59:DA:2685:G:OP1	2.54	0.40
49:D5:3:LYS:N	49:D5:3:LYS:HE2	2.36	0.40
59:DA:613:U:H4'	59:DA:616:A:C5	2.57	0.40
59:DA:733:G:C8	59:DA:761:A:N6	2.90	0.40
59:DA:763:G:H2'	59:DA:765:G:OP2	2.22	0.40
59:DA:1029:A:H2'	59:DA:1030:G:O4'	2.22	0.40
59:DA:1086:A:O2'	59:DA:1087:G:N7	2.55	0.40
59:DA:1895:C:H2'	59:DA:1896:G:C8	2.57	0.40
59:DA:1917:U:C4	59:DA:1918:A:C6	3.09	0.40
59:DA:1990:C:H2'	59:DA:1991:U:C6	2.56	0.40
59:DA:2758:A:C2	59:DA:2759:G:H1'	2.57	0.40
60:DB:81:G:C2	60:DB:82:G:C5	3.09	0.40
1:AB:94:ASN:H	1:AB:94:ASN:HD22	1.70	0.40
1:AB:135:GLN:O	1:AB:139:LYS:HG3	2.22	0.40
2:AC:109:PRO:C	2:AC:111:LEU:H	2.26	0.40
3:AD:84:LYS:HE2	3:AD:84:LYS:HB3	1.92	0.40
3:AD:205:GLU:OE2	4:AE:100:VAL:HG23	2.22	0.40
3:AD:207:TYR:HD2	3:AD:207:TYR:HA	1.59	0.40
4:AE:20:GLN:HG2	4:AE:21:ALA:C	2.46	0.40
5:AF:99:ALA:HA	17:AR:31:LEU:HG	2.03	0.40
8:AI:17:VAL:HG22	8:AI:63:ILE:HG23	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AI:86:VAL:O	8:AI:86:VAL:HG12	2.20	0.40
9:AJ:57:LYS:HB2	21:AA:972:C:H4'	2.04	0.40
16:AQ:17:LYS:HD2	21:AA:255:G:H4'	2.03	0.40
18:AS:14:HIS:O	18:AS:18:LYS:HG3	2.22	0.40
20:AY:101:LEU:O	20:AY:128:TYR:OH	2.38	0.40
20:AY:201:ILE:HD13	20:AY:206:LEU:HD13	2.03	0.40
20:AY:487:ILE:HD13	20:AY:487:ILE:H	1.87	0.40
21:AA:186(N):U:H2'	21:AA:186(O):G:C8	2.56	0.40
21:AA:728:A:H2'	21:AA:729:A:C8	2.57	0.40
21:AA:830:G:H2'	21:AA:831:U:O4'	2.21	0.40
21:AA:1107:C:C4	21:AA:1108:G:C8	3.10	0.40
21:AA:1151:A:O2'	21:AA:1152:A:H8	2.05	0.40
22:AW:20:U:H1'	22:AW:20(A):U:C2'	2.48	0.40
25:BC:42:VAL:H	25:BC:217:THR:HA	1.87	0.40
26:BD:106:ILE:C	26:BD:108:PRO:HD3	2.47	0.40
26:BD:171:ASP:HB2	26:BD:186:HIS:CE1	2.56	0.40
27:BE:137:HIS:C	27:BE:139:GLY:H	2.29	0.40
27:BE:179:GLU:HB3	27:BE:181:LEU:HD22	2.04	0.40
30:BH:87:LEU:HD11	30:BH:145:ALA:HA	2.04	0.40
32:BK:97:GLY:C	32:BK:136:VAL:HG23	2.47	0.40
32:BK:133:SER:OG	32:BK:134:MET:HG3	2.22	0.40
33:BN:42:TRP:O	40:BU:64:ARG:NH2	2.55	0.40
33:BN:103:VAL:O	33:BN:106:MET:N	2.51	0.40
33:BN:114:ARG:HH11	33:BN:114:ARG:HB3	1.85	0.40
35:BP:21:ARG:HH21	35:BP:29:LYS:CE	2.32	0.40
35:BP:94:GLU:CD	35:BP:124:LYS:HB2	2.46	0.40
35:BP:126:VAL:HA	35:BP:145:PRO:CG	2.51	0.40
36:BQ:91:GLU:CD	36:BQ:92:GLY:H	2.29	0.40
37:BR:16:HIS:HA	37:BR:19:ALA:HB3	2.02	0.40
38:BS:99:LYS:CG	38:BS:100:ALA:N	2.85	0.40
46:B0:20:ARG:HB2	59:BA:2356:C:H5"	2.04	0.40
47:B2:61:LEU:HA	47:B2:61:LEU:HD23	1.81	0.40
59:BA:172:C:C2	59:BA:173:G:C8	3.09	0.40
59:BA:226:G:O2'	59:BA:227:A:C8	2.72	0.40
59:BA:288:C:N3	59:BA:353:G:O6	2.54	0.40
59:BA:531:C:H3'	59:BA:561:G:N2	2.35	0.40
59:BA:775:G:H4'	59:BA:776:G:O5'	2.22	0.40
59:BA:783:A:N6	59:BA:785:G:C5	2.90	0.40
59:BA:1186:G:H2'	59:BA:1187:G:O4'	2.22	0.40
59:BA:1727:U:H2'	59:BA:1728:G:O4'	2.21	0.40
59:BA:1728:G:N2	59:BA:1731:G:H2'	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2032:G:N2	59:BA:2572:A:C8	2.90	0.40
59:BA:2064:C:H1'	59:BA:2450:A:C6	2.56	0.40
59:BA:2115:G:H4'	59:BA:2167:U:H4'	2.02	0.40
59:BA:2540:C:H2'	59:BA:2541:A:O4'	2.22	0.40
59:BA:2641:G:C6	59:BA:2642:G:C5	3.10	0.40
59:BA:2648:C:H2'	59:BA:2649:U:C6	2.56	0.40
60:BB:14:U:H1'	60:BB:107:U:H1'	2.03	0.40
1:CB:73:THR:HG22	1:CB:94:ASN:C	2.47	0.40
1:CB:111:ARG:HE	1:CB:145:LEU:HD11	1.86	0.40
1:CB:181:PHE:CD1	7:CH:71:GLY:HA2	2.57	0.40
1:CB:238:LEU:HG	1:CB:241:GLU:OE1	2.21	0.40
5:CF:50:TYR:HE2	5:CF:87:ARG:NH2	2.20	0.40
6:CG:42:ILE:HD13	6:CG:42:ILE:HA	1.83	0.40
9:CJ:57:LYS:HE2	21:CA:973:G:OP1	2.21	0.40
10:CK:34:ASP:O	10:CK:36:ASP:N	2.47	0.40
10:CK:111:ASP:HA	17:CR:84:LYS:HG3	2.04	0.40
12:CM:12:ASN:HB2	12:CM:46:LYS:HE2	2.04	0.40
13:CN:4:LYS:O	13:CN:8:GLU:HG2	2.22	0.40
15:CP:48:TRP:CE3	15:CP:49:LEU:HG	2.56	0.40
21:CA:270:A:H2'	21:CA:271:C:O4'	2.22	0.40
21:CA:786:G:H2'	21:CA:787:A:O4'	2.21	0.40
21:CA:864:A:C2	21:CA:865:A:C4	3.09	0.40
21:CA:1053:G:H4'	21:CA:1055:A:OP1	2.21	0.40
21:CA:1232:U:C4	21:CA:1233:G:C8	3.10	0.40
21:CA:1507:A:H2'	21:CA:1508:G:C8	2.54	0.40
21:CA:1517:G:C5	21:CA:1518:A:C5	3.10	0.40
20:CY:12:LEU:O	20:CY:282:SER:HA	2.22	0.40
20:CY:99:ARG:CZ	20:CY:403:GLU:HG2	2.51	0.40
20:CY:408:VAL:HG12	20:CY:669:PHE:HE1	1.87	0.40
20:CY:490:PRO:HA	20:CY:514:VAL:O	2.22	0.40
25:DC:161:ARG:HH11	25:DC:161:ARG:HA	1.87	0.40
30:DH:107:VAL:HG21	30:DH:152:ARG:HB2	2.03	0.40
30:DH:123:PHE:O	30:DH:124:GLU:CB	2.70	0.40
30:DH:139:GLN:HB3	30:DH:143:GLN:OE1	2.22	0.40
32:DK:38:VAL:HA	32:DK:42:ASN:HB3	2.03	0.40
33:DN:10:GLU:HG3	33:DN:11:PRO:HD2	2.04	0.40
34:DO:107:ARG:NH2	39:DT:35:LYS:HE2	2.36	0.40
35:DP:27:HIS:NE2	59:DA:814:C:C5	2.89	0.40
38:DS:85:VAL:H	38:DS:106:ARG:HD3	1.87	0.40
39:DT:30:VAL:HG22	39:DT:31:SER:H	1.86	0.40
39:DT:102:ILE:HG13	39:DT:103:ARG:N	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:DV:66:ARG:HG3	41:DV:90:PRO:HG3	2.03	0.40
42:DW:26:GLY:HA2	42:DW:71:VAL:O	2.20	0.40
51:D7:26:GLY:HA2	51:D7:29:LYS:HG3	2.03	0.40
59:DA:226:G:O2'	59:DA:227:A:C8	2.74	0.40
59:DA:270(K):G:H2'	59:DA:270(L):C:O4'	2.22	0.40
59:DA:528:A:H3'	59:DA:528:A:C8	2.57	0.40
59:DA:528:A:H3'	59:DA:528:A:H8	1.87	0.40
59:DA:531:C:H5"	59:DA:532:A:C5	2.56	0.40
59:DA:1065:U:H3'	59:DA:1066:U:H6	1.87	0.40
59:DA:1362:C:H42	59:DA:1369:G:H1	1.70	0.40
59:DA:1407:C:N4	59:DA:1595:G:H1	2.19	0.40
59:DA:2319:G:N2	59:DA:2334:G:OP1	2.49	0.40
59:DA:2532:G:C6	59:DA:2533:A:C6	3.10	0.40

All (5) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AI:58:ARG:CZ	12:CM:46:LYS:CG[2_555]	1.66	0.54
8:AI:58:ARG:CD	12:CM:47:ASP:OD1[2_555]	1.74	0.46
8:AI:58:ARG:NH2	12:CM:46:LYS:CG[2_555]	1.88	0.32
8:AI:58:ARG:NE	12:CM:46:LYS:CG[2_555]	2.01	0.19
8:AI:58:ARG:NH2	12:CM:46:LYS:CD[2_555]	2.04	0.16

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	AB	233/235 (99%)	173 (74%)	40 (17%)	20 (9%)	0 7
1	CB	233/235 (99%)	174 (75%)	36 (16%)	23 (10%)	0 6
2	AC	205/207 (99%)	137 (67%)	44 (22%)	24 (12%)	0 4

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	CC	205/207 (99%)	152 (74%)	34 (17%)	19 (9%)	0 6
3	AD	206/208 (99%)	146 (71%)	42 (20%)	18 (9%)	0 7
3	CD	206/208 (99%)	149 (72%)	46 (22%)	11 (5%)	1 14
4	AE	149/151 (99%)	107 (72%)	31 (21%)	11 (7%)	1 9
4	CE	149/151 (99%)	116 (78%)	24 (16%)	9 (6%)	1 12
5	AF	99/101 (98%)	75 (76%)	17 (17%)	7 (7%)	1 10
5	CF	99/101 (98%)	81 (82%)	7 (7%)	11 (11%)	0 5
6	AG	153/155 (99%)	120 (78%)	27 (18%)	6 (4%)	2 20
6	CG	153/155 (99%)	119 (78%)	27 (18%)	7 (5%)	2 17
7	AH	136/138 (99%)	98 (72%)	22 (16%)	16 (12%)	0 4
7	CH	136/138 (99%)	102 (75%)	21 (15%)	13 (10%)	0 6
8	AI	125/127 (98%)	88 (70%)	26 (21%)	11 (9%)	0 7
8	CI	125/127 (98%)	92 (74%)	25 (20%)	8 (6%)	1 11
9	AJ	97/99 (98%)	71 (73%)	17 (18%)	9 (9%)	0 6
9	CJ	97/99 (98%)	71 (73%)	16 (16%)	10 (10%)	0 5
10	AK	117/119 (98%)	74 (63%)	25 (21%)	18 (15%)	0 2
10	CK	117/119 (98%)	78 (67%)	26 (22%)	13 (11%)	0 5
11	AL	123/125 (98%)	42 (34%)	46 (37%)	35 (28%)	0 0
11	CL	123/125 (98%)	39 (32%)	44 (36%)	40 (32%)	0 0
12	AM	123/125 (98%)	86 (70%)	24 (20%)	13 (11%)	0 5
12	CM	123/125 (98%)	91 (74%)	18 (15%)	14 (11%)	0 5
13	AN	58/60 (97%)	40 (69%)	11 (19%)	7 (12%)	0 4
13	CN	58/60 (97%)	40 (69%)	14 (24%)	4 (7%)	1 10
14	AO	86/88 (98%)	65 (76%)	14 (16%)	7 (8%)	1 8
14	CO	86/88 (98%)	66 (77%)	15 (17%)	5 (6%)	1 13
15	AP	82/84 (98%)	55 (67%)	18 (22%)	9 (11%)	0 5
15	CP	82/84 (98%)	59 (72%)	18 (22%)	5 (6%)	1 12
16	AQ	98/100 (98%)	68 (69%)	18 (18%)	12 (12%)	0 4
16	CQ	98/100 (98%)	68 (69%)	20 (20%)	10 (10%)	0 6
17	AR	68/70 (97%)	50 (74%)	12 (18%)	6 (9%)	0 7
17	CR	68/70 (97%)	52 (76%)	10 (15%)	6 (9%)	0 7

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
18	AS	77/79 (98%)	51 (66%)	18 (23%)	8 (10%)	0 5
18	CS	77/79 (98%)	56 (73%)	12 (16%)	9 (12%)	0 4
19	AT	97/99 (98%)	72 (74%)	17 (18%)	8 (8%)	0 8
19	CT	97/99 (98%)	75 (77%)	14 (14%)	8 (8%)	0 8
20	AY	685/687 (100%)	431 (63%)	168 (24%)	86 (13%)	0 4
20	CY	685/687 (100%)	457 (67%)	156 (23%)	72 (10%)	0 5
24	AU	2/6 (33%)	1 (50%)	1 (50%)	0	100 100
24	CU	2/6 (33%)	1 (50%)	1 (50%)	0	100 100
25	BC	226/228 (99%)	108 (48%)	70 (31%)	48 (21%)	0 1
25	DC	226/228 (99%)	105 (46%)	75 (33%)	46 (20%)	0 1
26	BD	273/275 (99%)	180 (66%)	54 (20%)	39 (14%)	0 3
26	DD	273/275 (99%)	188 (69%)	47 (17%)	38 (14%)	0 3
27	BE	203/205 (99%)	130 (64%)	43 (21%)	30 (15%)	0 2
27	DE	203/205 (99%)	133 (66%)	36 (18%)	34 (17%)	0 2
28	BF	206/208 (99%)	126 (61%)	54 (26%)	26 (13%)	0 4
28	DF	206/208 (99%)	137 (66%)	47 (23%)	22 (11%)	0 5
29	BG	179/181 (99%)	120 (67%)	46 (26%)	13 (7%)	1 9
29	DG	179/181 (99%)	127 (71%)	44 (25%)	8 (4%)	2 17
30	BH	165/167 (99%)	118 (72%)	29 (18%)	18 (11%)	0 5
30	DH	165/167 (99%)	118 (72%)	32 (19%)	15 (9%)	0 7
32	BK	138/140 (99%)	88 (64%)	33 (24%)	17 (12%)	0 4
32	DK	138/140 (99%)	86 (62%)	33 (24%)	19 (14%)	0 3
33	BN	136/138 (99%)	93 (68%)	24 (18%)	19 (14%)	0 3
33	DN	136/138 (99%)	91 (67%)	27 (20%)	18 (13%)	0 3
34	BO	120/122 (98%)	92 (77%)	20 (17%)	8 (7%)	1 11
34	DO	120/122 (98%)	95 (79%)	20 (17%)	5 (4%)	2 19
35	BP	144/146 (99%)	81 (56%)	36 (25%)	27 (19%)	0 1
35	DP	144/146 (99%)	76 (53%)	35 (24%)	33 (23%)	0 1
36	BQ	139/141 (99%)	87 (63%)	32 (23%)	20 (14%)	0 3
36	DQ	139/141 (99%)	91 (66%)	31 (22%)	17 (12%)	0 4
37	BR	115/117 (98%)	83 (72%)	21 (18%)	11 (10%)	0 6

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
37	DR	115/117 (98%)	91 (79%)	17 (15%)	7 (6%)	1 12
38	BS	97/99 (98%)	56 (58%)	25 (26%)	16 (16%)	0 2
38	DS	97/99 (98%)	57 (59%)	25 (26%)	15 (16%)	0 2
39	BT	136/138 (99%)	76 (56%)	41 (30%)	19 (14%)	0 3
39	DT	136/138 (99%)	82 (60%)	28 (21%)	26 (19%)	0 1
40	BU	115/117 (98%)	79 (69%)	25 (22%)	11 (10%)	0 6
40	DU	115/117 (98%)	80 (70%)	23 (20%)	12 (10%)	0 5
41	BV	99/101 (98%)	57 (58%)	28 (28%)	14 (14%)	0 3
41	DV	99/101 (98%)	64 (65%)	22 (22%)	13 (13%)	0 3
42	BW	111/113 (98%)	82 (74%)	14 (13%)	15 (14%)	0 3
42	DW	111/113 (98%)	81 (73%)	16 (14%)	14 (13%)	0 4
43	BX	91/93 (98%)	73 (80%)	12 (13%)	6 (7%)	1 11
43	DX	91/93 (98%)	70 (77%)	16 (18%)	5 (6%)	1 13
44	BY	105/107 (98%)	50 (48%)	30 (29%)	25 (24%)	0 0
44	DY	105/107 (98%)	50 (48%)	34 (32%)	21 (20%)	0 1
45	BZ	183/185 (99%)	116 (63%)	46 (25%)	21 (12%)	0 5
45	DZ	183/185 (99%)	121 (66%)	44 (24%)	18 (10%)	0 6
46	B0	82/84 (98%)	59 (72%)	16 (20%)	7 (8%)	0 7
46	D0	82/84 (98%)	65 (79%)	13 (16%)	4 (5%)	1 16
47	B2	69/71 (97%)	49 (71%)	14 (20%)	6 (9%)	0 7
47	D2	69/71 (97%)	50 (72%)	17 (25%)	2 (3%)	3 26
48	B3	58/60 (97%)	46 (79%)	7 (12%)	5 (9%)	0 7
48	D3	58/60 (97%)	44 (76%)	9 (16%)	5 (9%)	0 7
49	B5	57/59 (97%)	44 (77%)	4 (7%)	9 (16%)	0 2
49	D5	57/59 (97%)	42 (74%)	11 (19%)	4 (7%)	1 10
50	B6	48/50 (96%)	28 (58%)	9 (19%)	11 (23%)	0 1
50	D6	48/50 (96%)	27 (56%)	8 (17%)	13 (27%)	0 0
51	B7	47/49 (96%)	30 (64%)	13 (28%)	4 (8%)	0 7
51	D7	47/49 (96%)	34 (72%)	11 (23%)	2 (4%)	2 18
52	B8	62/64 (97%)	42 (68%)	7 (11%)	13 (21%)	0 1
52	D8	62/64 (97%)	40 (64%)	11 (18%)	11 (18%)	0 1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
53	B9	35/37 (95%)	28 (80%)	5 (14%)	2 (6%)	1 13
53	D9	35/37 (95%)	29 (83%)	4 (11%)	2 (6%)	1 13
56	B1	91/93 (98%)	56 (62%)	17 (19%)	18 (20%)	0 1
56	D1	91/93 (98%)	59 (65%)	18 (20%)	14 (15%)	0 2
57	B4	33/35 (94%)	15 (46%)	11 (33%)	7 (21%)	0 1
57	D4	33/35 (94%)	15 (46%)	9 (27%)	9 (27%)	0 0
58	Be	70/102 (69%)	36 (51%)	29 (41%)	5 (7%)	1 10
58	De	70/102 (69%)	40 (57%)	22 (31%)	8 (11%)	0 5
All	All	13304/13576 (98%)	8904 (67%)	2822 (21%)	1578 (12%)	0 4

All (1578) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	AB	17	PHE
1	AB	22	LYS
1	AB	35	GLU
1	AB	75	LYS
1	AB	76	GLN
1	AB	96	ARG
1	AB	160	ASP
2	AC	5	ILE
2	AC	10	PHE
2	AC	29	TYR
2	AC	49	SER
2	AC	161	GLU
3	AD	34	GLU
3	AD	89	THR
3	AD	134	ASP
3	AD	172	PRO
3	AD	176	LEU
4	AE	6	PHE
4	AE	12	LEU
4	AE	77	PRO
4	AE	79	GLU
5	AF	69	GLU
5	AF	70	ASP
5	AF	93	SER
6	AG	15	ASP
6	AG	81	GLY

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Mol	Chain	Res	Type
7	AH	22	GLU
8	AI	89	ASN
8	AI	107	ARG
8	AI	118	LYS
9	AJ	38	ILE
9	AJ	55	LYS
9	AJ	75	ILE
10	AK	36	ASP
10	AK	41	THR
10	AK	43	SER
10	AK	109	VAL
11	AL	7	ILE
11	AL	34	ARG
11	AL	39	VAL
11	AL	43	VAL
11	AL	46	LYS
11	AL	66	VAL
11	AL	80	HIS
11	AL	94	PRO
11	AL	122	THR
12	AM	50	GLU
12	AM	106	ASN
12	AM	118	ALA
13	AN	15	LYS
15	AP	35	LYS
16	AQ	12	SER
16	AQ	14	LYS
16	AQ	72	ARG
16	AQ	74	LEU
16	AQ	83	ASP
18	AS	67	VAL
18	AS	72	GLY
19	AT	50	GLU
19	AT	74	LYS
19	AT	75	ASN
19	AT	76	ALA
19	AT	100	ILE
20	AY	33	LEU
20	AY	35	TYR
20	AY	36	THR
20	AY	39	ILE
20	AY	75	LYS

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Mol	Chain	Res	Type
20	AY	88	VAL
20	AY	92	ILE
20	AY	203	GLU
20	AY	204	GLU
20	AY	266	ASN
20	AY	330	VAL
20	AY	331	TYR
20	AY	349	LYS
20	AY	393	ASP
20	AY	395	PRO
20	AY	400	GLU
20	AY	418	LYS
20	AY	456	GLU
20	AY	544	LYS
20	AY	555	LEU
20	AY	566	THR
20	AY	567	LEU
20	AY	615	GLU
20	AY	628	ARG
20	AY	631	ILE
20	AY	680	PRO
25	BC	3	LYS
25	BC	17	PRO
25	BC	35	THR
25	BC	41	THR
25	BC	60	ARG
25	BC	80	LYS
25	BC	114	VAL
25	BC	115	VAL
25	BC	119	ASP
25	BC	141	PRO
25	BC	172	ILE
25	BC	182	PRO
25	BC	184	GLU
25	BC	211	ARG
25	BC	212	SER
25	BC	223	VAL
25	BC	227	PRO
25	BC	228	HIS
26	BD	49	ILE
26	BD	79	VAL
26	BD	87	ASN

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Mol	Chain	Res	Type
26	BD	89	SER
26	BD	99	ASP
26	BD	127	VAL
26	BD	166	GLN
26	BD	231	HIS
26	BD	273	ARG
27	BE	11	MET
27	BE	12	THR
27	BE	14	ILE
27	BE	34	VAL
27	BE	54	GLN
27	BE	56	PRO
27	BE	60	ASN
27	BE	62	PRO
27	BE	63	LEU
27	BE	67	PHE
27	BE	68	ALA
27	BE	74	PRO
27	BE	77	ILE
27	BE	94	GLU
27	BE	128	SER
27	BE	144	ARG
27	BE	147	PRO
27	BE	188	VAL
27	BE	204	ALA
28	BF	7	TYR
28	BF	10	PRO
28	BF	22	ALA
28	BF	47	GLY
28	BF	59	TYR
28	BF	67	GLN
28	BF	84	VAL
28	BF	89	VAL
28	BF	149	ASP
28	BF	192	LEU
29	BG	87	PRO
29	BG	96	ARG
30	BH	30	LYS
30	BH	41	MET
30	BH	94	TYR
30	BH	124	GLU
30	BH	155	SER

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Mol	Chain	Res	Type
30	BH	158	HIS
30	BH	173	PRO
32	BK	5	VAL
32	BK	62	ASP
32	BK	102	GLU
32	BK	103	GLN
32	BK	114	ASP
32	BK	118	THR
33	BN	17	ASP
33	BN	18	ALA
33	BN	50	ASP
33	BN	56	ASN
33	BN	66	LYS
33	BN	111	PRO
33	BN	126	PRO
33	BN	128	HIS
33	BN	130	HIS
33	BN	133	GLN
34	BO	23	ARG
35	BP	14	LYS
35	BP	17	LYS
35	BP	39	LYS
35	BP	45	LEU
35	BP	57	THR
35	BP	71	VAL
35	BP	141	ALA
36	BQ	18	LYS
36	BQ	83	MET
36	BQ	85	LYS
36	BQ	91	GLU
37	BR	14	SER
38	BS	47	THR
38	BS	48	LEU
38	BS	62	LYS
38	BS	63	THR
38	BS	98	VAL
38	BS	101	LEU
38	BS	104	GLY
38	BS	106	ARG
39	BT	30	VAL
39	BT	49	VAL
39	BT	50	ILE

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Mol	Chain	Res	Type
39	BT	68	TYR
39	BT	94	ALA
39	BT	104	ASN
39	BT	128	GLU
40	BU	86	ALA
40	BU	88	ILE
40	BU	91	ASP
41	BV	46	VAL
41	BV	96	ILE
42	BW	12	ILE
42	BW	75	TYR
42	BW	76	VAL
43	BX	7	VAL
43	BX	12	VAL
44	BY	32	PRO
44	BY	53	PRO
44	BY	95	LYS
44	BY	107	ASP
45	BZ	71	VAL
45	BZ	72	ARG
45	BZ	73	GLN
45	BZ	134	PRO
45	BZ	140	ASP
45	BZ	152	ALA
48	B3	52	HIS
50	B6	9	LEU
50	B6	15	GLU
50	B6	20	ASN
52	B8	6	THR
52	B8	32	LEU
52	B8	34	TRP
52	B8	49	VAL
56	B1	12	PRO
56	B1	26	ARG
56	B1	35	THR
56	B1	87	PRO
57	B4	16	CYS
58	Be	62	VAL
58	Be	121	VAL
1	CB	17	PHE
1	CB	66	GLY
1	CB	75	LYS

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Mol	Chain	Res	Type
1	CB	76	GLN
1	CB	96	ARG
1	CB	160	ASP
1	CB	235	SER
1	CB	236	TYR
2	CC	3	ASN
2	CC	4	LYS
2	CC	5	ILE
2	CC	14	ILE
2	CC	62	ASP
2	CC	63	ASN
2	CC	207	VAL
3	CD	4	TYR
3	CD	7	PRO
4	CE	6	PHE
4	CE	79	GLU
5	CF	44	GLY
5	CF	69	GLU
5	CF	70	ASP
6	CG	15	ASP
6	CG	17	VAL
6	CG	35	LYS
7	CH	22	GLU
9	CJ	75	ILE
10	CK	41	THR
10	CK	43	SER
10	CK	109	VAL
10	CK	111	ASP
11	CL	6	THR
11	CL	7	ILE
11	CL	34	ARG
11	CL	39	VAL
11	CL	43	VAL
11	CL	46	LYS
11	CL	51	ALA
11	CL	66	VAL
11	CL	67	THR
11	CL	80	HIS
11	CL	94	PRO
11	CL	100	ILE
11	CL	108	ALA
12	CM	7	VAL

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Mol	Chain	Res	Type
12	CM	12	ASN
12	CM	50	GLU
12	CM	51	ALA
14	CO	47	LYS
15	CP	46	PRO
16	CQ	12	SER
16	CQ	72	ARG
16	CQ	74	LEU
17	CR	28	GLU
17	CR	37	VAL
18	CS	28	LYS
18	CS	67	VAL
19	CT	50	GLU
19	CT	95	ALA
19	CT	100	ILE
20	CY	39	ILE
20	CY	88	VAL
20	CY	92	ILE
20	CY	111	SER
20	CY	146	LEU
20	CY	161	PRO
20	CY	204	GLU
20	CY	257	PRO
20	CY	266	ASN
20	CY	330	VAL
20	CY	331	TYR
20	CY	400	GLU
20	CY	418	LYS
20	CY	476	VAL
20	CY	544	LYS
20	CY	566	THR
20	CY	567	LEU
20	CY	631	ILE
20	CY	680	PRO
25	DC	17	PRO
25	DC	41	THR
25	DC	42	VAL
25	DC	43	GLU
25	DC	52	PRO
25	DC	80	LYS
25	DC	96	GLY
25	DC	115	VAL

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Mol	Chain	Res	Type
25	DC	141	PRO
25	DC	142	LYS
25	DC	162	ILE
25	DC	176	VAL
25	DC	182	PRO
25	DC	184	GLU
25	DC	212	SER
25	DC	223	VAL
25	DC	227	PRO
25	DC	228	HIS
26	DD	3	VAL
26	DD	27	THR
26	DD	36	PRO
26	DD	46	GLN
26	DD	49	ILE
26	DD	79	VAL
26	DD	89	SER
26	DD	165	ILE
26	DD	166	GLN
26	DD	187	GLY
26	DD	200	ASP
26	DD	273	ARG
27	DE	11	MET
27	DE	12	THR
27	DE	13	ARG
27	DE	56	PRO
27	DE	62	PRO
27	DE	63	LEU
27	DE	67	PHE
27	DE	68	ALA
27	DE	72	VAL
27	DE	77	ILE
27	DE	128	SER
27	DE	129	HIS
27	DE	144	ARG
27	DE	187	ALA
28	DF	3	GLU
28	DF	7	TYR
28	DF	10	PRO
28	DF	21	ALA
28	DF	84	VAL
28	DF	89	VAL

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Mol	Chain	Res	Type
28	DF	192	LEU
29	DG	87	PRO
29	DG	130	ASN
29	DG	137	GLU
30	DH	124	GLU
30	DH	141	VAL
30	DH	155	SER
30	DH	165	ALA
30	DH	172	LYS
30	DH	173	PRO
32	DK	45	THR
32	DK	96	VAL
32	DK	137	GLU
33	DN	17	ASP
33	DN	18	ALA
33	DN	25	ARG
33	DN	126	PRO
33	DN	128	HIS
33	DN	130	HIS
33	DN	133	GLN
34	DO	14	THR
34	DO	23	ARG
35	DP	9	ASN
35	DP	22	GLY
35	DP	45	LEU
35	DP	57	THR
35	DP	71	VAL
35	DP	110	TYR
35	DP	120	ALA
35	DP	141	ALA
35	DP	149	GLU
36	DQ	29	PHE
36	DQ	83	MET
36	DQ	85	LYS
36	DQ	92	GLY
36	DQ	133	ARG
36	DQ	136	ALA
37	DR	103	ARG
38	DS	22	GLY
38	DS	47	THR
38	DS	48	LEU
38	DS	62	LYS

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Mol	Chain	Res	Type
38	DS	98	VAL
38	DS	101	LEU
38	DS	104	GLY
38	DS	106	ARG
39	DT	3	ARG
39	DT	30	VAL
39	DT	49	VAL
39	DT	80	SER
39	DT	86	ILE
39	DT	104	ASN
39	DT	137	LYS
40	DU	24	TYR
40	DU	88	ILE
40	DU	90	VAL
41	DV	29	PRO
41	DV	46	VAL
41	DV	50	PRO
41	DV	78	LYS
41	DV	96	ILE
41	DV	97	LYS
42	DW	12	ILE
42	DW	14	PRO
42	DW	15	ARG
42	DW	61	ASN
42	DW	74	ALA
42	DW	75	TYR
42	DW	77	ASP
42	DW	81	ALA
43	DX	7	VAL
43	DX	12	VAL
44	DY	32	PRO
44	DY	39	VAL
44	DY	53	PRO
44	DY	56	PRO
44	DY	77	PRO
45	DZ	71	VAL
45	DZ	72	ARG
45	DZ	92	SER
45	DZ	140	ASP
45	DZ	152	ALA
46	D0	15	ASP
47	D2	47	ASN

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Mol	Chain	Res	Type
47	D2	48	HIS
48	D3	41	PRO
50	D6	8	LYS
50	D6	9	LEU
50	D6	15	GLU
50	D6	20	ASN
50	D6	27	LYS
50	D6	29	ASN
52	D8	32	LEU
52	D8	49	VAL
56	D1	12	PRO
56	D1	35	THR
56	D1	87	PRO
56	D1	94	LEU
57	D4	16	CYS
58	De	52	ALA
1	AB	97	TRP
1	AB	164	VAL
1	AB	165	VAL
1	AB	236	TYR
2	AC	4	LYS
2	AC	51	GLY
2	AC	61	ALA
2	AC	74	GLY
2	AC	102	ASN
2	AC	110	ASN
2	AC	160	ALA
2	AC	181	ASN
3	AD	7	PRO
3	AD	27	TYR
3	AD	44	GLY
3	AD	88	VAL
4	AE	67	VAL
5	AF	15	ASP
5	AF	38	GLU
7	AH	93	VAL
8	AI	35	GLU
8	AI	117	HIS
9	AJ	53	PRO
10	AK	69	ALA
10	AK	88	GLY
10	AK	89	ALA

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Mol	Chain	Res	Type
10	AK	91	ARG
10	AK	111	ASP
10	AK	119	CYS
10	AK	120	ARG
11	AL	6	THR
11	AL	19	ARG
11	AL	35	GLY
11	AL	51	ALA
11	AL	56	ALA
11	AL	69	TYR
11	AL	76	ASN
11	AL	90	VAL
11	AL	96	VAL
11	AL	97	ARG
11	AL	104	VAL
12	AM	46	LYS
12	AM	51	ALA
12	AM	121	LYS
13	AN	13	THR
13	AN	56	VAL
14	AO	47	LYS
14	AO	73	GLU
14	AO	88	ARG
15	AP	24	ALA
15	AP	28	ARG
16	AQ	28	PRO
16	AQ	71	PHE
16	AQ	73	VAL
16	AQ	82	MET
17	AR	37	VAL
17	AR	59	SER
19	AT	72	LEU
20	AY	21	ILE
20	AY	25	LYS
20	AY	32	ILE
20	AY	146	LEU
20	AY	161	PRO
20	AY	162	VAL
20	AY	224	ASP
20	AY	233	GLU
20	AY	257	PRO
20	AY	281	PRO

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Mol	Chain	Res	Type
20	AY	347	GLY
20	AY	383	THR
20	AY	473	ASP
20	AY	498	ILE
20	AY	568	TYR
20	AY	600	VAL
25	BC	22	THR
25	BC	36	ALA
25	BC	43	GLU
25	BC	59	VAL
25	BC	75	VAL
25	BC	76	LEU
25	BC	96	GLY
25	BC	130	ARG
25	BC	162	ILE
25	BC	210	LEU
26	BD	36	PRO
26	BD	42	GLY
26	BD	43	ARG
26	BD	46	GLN
26	BD	78	LYS
26	BD	165	ILE
26	BD	200	ASP
26	BD	236	GLY
26	BD	239	ARG
27	BE	13	ARG
27	BE	86	PRO
27	BE	129	HIS
27	BE	187	ALA
28	BF	21	ALA
28	BF	53	THR
28	BF	79	GLY
28	BF	158	THR
28	BF	194	MET
29	BG	123	ASN
29	BG	177	GLY
30	BH	45	VAL
30	BH	165	ALA
30	BH	174	GLY
32	BK	30	HIS
32	BK	63	ARG
33	BN	2	LYS

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Mol	Chain	Res	Type
33	BN	67	LEU
33	BN	129	PRO
34	BO	5	GLN
34	BO	29	ASN
34	BO	31	LYS
34	BO	96	THR
35	BP	10	PRO
35	BP	13	ASN
35	BP	49	ARG
35	BP	50	ARG
35	BP	66	GLY
35	BP	106	LEU
35	BP	110	TYR
35	BP	149	GLU
36	BQ	4	PRO
36	BQ	6	ARG
36	BQ	30	GLY
36	BQ	92	GLY
36	BQ	134	ARG
36	BQ	139	GLU
37	BR	8	ARG
37	BR	103	ARG
38	BS	13	ARG
38	BS	14	VAL
38	BS	43	GLU
38	BS	105	ALA
39	BT	28	VAL
39	BT	59	THR
39	BT	80	SER
39	BT	83	ILE
40	BU	99	ALA
40	BU	116	ALA
41	BV	50	PRO
41	BV	53	GLU
41	BV	68	LYS
41	BV	97	LYS
42	BW	25	ARG
42	BW	61	ASN
42	BW	74	ALA
42	BW	77	ASP
42	BW	80	PRO
42	BW	93	ALA

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Mol	Chain	Res	Type
44	BY	29	GLU
44	BY	39	VAL
44	BY	41	GLY
44	BY	77	PRO
44	BY	78	ALA
45	BZ	92	SER
46	B0	13	GLY
47	B2	37	PHE
47	B2	48	HIS
49	B5	23	HIS
49	B5	25	LEU
49	B5	53	ALA
50	B6	8	LYS
50	B6	17	LYS
50	B6	27	LYS
50	B6	31	PRO
50	B6	49	HIS
51	B7	23	ARG
52	B8	18	ALA
52	B8	24	ALA
52	B8	30	ARG
52	B8	51	ALA
56	B1	22	GLY
56	B1	23	LYS
56	B1	32	LYS
56	B1	34	THR
56	B1	53	VAL
56	B1	94	LEU
57	B4	2	LYS
57	B4	4	GLY
57	B4	33	VAL
58	Be	119	GLY
1	CB	34	ALA
1	CB	97	TRP
1	CB	103	THR
1	CB	164	VAL
1	CB	165	VAL
2	CC	10	PHE
2	CC	162	GLN
3	CD	5	ILE
3	CD	172	PRO
4	CE	11	ILE

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Mol	Chain	Res	Type
4	CE	67	VAL
4	CE	77	PRO
5	CF	38	GLU
6	CG	10	ARG
6	CG	19	GLY
7	CH	43	GLY
7	CH	74	PRO
7	CH	93	VAL
7	CH	103	VAL
8	CI	109	VAL
9	CJ	81	THR
10	CK	69	ALA
10	CK	90	GLY
11	CL	58	VAL
11	CL	92	ASP
11	CL	96	VAL
11	CL	101	VAL
11	CL	104	VAL
11	CL	112	ASP
11	CL	121	GLY
11	CL	122	THR
11	CL	123	LYS
11	CL	126	LYS
12	CM	46	LYS
13	CN	15	LYS
13	CN	58	LYS
16	CQ	28	PRO
16	CQ	49	GLU
16	CQ	82	MET
18	CS	45	VAL
18	CS	46	GLY
18	CS	72	GLY
19	CT	74	LYS
19	CT	79	ARG
20	CY	21	ILE
20	CY	64	THR
20	CY	102	ASP
20	CY	162	VAL
20	CY	281	PRO
20	CY	360	ALA
20	CY	384	ILE
20	CY	437	THR

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Mol	Chain	Res	Type
20	CY	501	THR
20	CY	528	ALA
20	CY	565	VAL
20	CY	681	LYS
25	DC	3	LYS
25	DC	38	PHE
25	DC	59	VAL
25	DC	60	ARG
25	DC	61	GLY
25	DC	106	ASP
25	DC	114	VAL
25	DC	161	ARG
26	DD	43	ARG
26	DD	99	ASP
26	DD	236	GLY
26	DD	239	ARG
26	DD	249	PRO
27	DE	14	ILE
27	DE	74	PRO
27	DE	86	PRO
27	DE	130	GLY
27	DE	180	ASN
28	DF	47	GLY
28	DF	67	GLN
28	DF	158	THR
29	DG	82	LEU
29	DG	163	ALA
30	DH	41	MET
32	DK	5	VAL
32	DK	13	PRO
32	DK	30	HIS
32	DK	102	GLU
32	DK	103	GLN
33	DN	24	GLY
33	DN	111	PRO
34	DO	26	LYS
34	DO	29	ASN
34	DO	96	THR
35	DP	13	ASN
35	DP	14	LYS
35	DP	17	LYS
35	DP	48	PRO

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Mol	Chain	Res	Type
35	DP	50	ARG
35	DP	58	THR
35	DP	66	GLY
35	DP	89	ALA
35	DP	106	LEU
35	DP	107	LYS
35	DP	145	PRO
36	DQ	4	PRO
36	DQ	8	LYS
36	DQ	30	GLY
36	DQ	75	THR
38	DS	96	GLY
39	DT	2	ASN
39	DT	16	ARG
39	DT	28	VAL
39	DT	48	ILE
39	DT	50	ILE
39	DT	90	GLN
39	DT	128	GLU
40	DU	9	VAL
42	DW	25	ARG
42	DW	65	LEU
42	DW	80	PRO
43	DX	4	ALA
43	DX	62	LYS
44	DY	26	LYS
44	DY	78	ALA
44	DY	80	GLY
44	DY	97	ARG
44	DY	101	LYS
44	DY	107	ASP
45	DZ	62	PRO
45	DZ	73	GLN
45	DZ	166	SER
46	D0	13	GLY
48	D3	52	HIS
49	D5	24	ALA
49	D5	53	ALA
50	D6	16	CYS
50	D6	28	ARG
50	D6	31	PRO
50	D6	49	HIS

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Mol	Chain	Res	Type
52	D8	30	ARG
52	D8	45	GLY
52	D8	51	ALA
56	D1	32	LYS
56	D1	36	GLY
56	D1	53	VAL
57	D4	15	ILE
57	D4	33	VAL
58	De	81	ILE
1	AB	34	ALA
2	AC	75	VAL
2	AC	109	PRO
3	AD	26	CYS
3	AD	28	SER
3	AD	40	PRO
3	AD	47	ARG
3	AD	48	ALA
3	AD	142	PRO
4	AE	21	ALA
4	AE	49	PRO
6	AG	10	ARG
6	AG	129	GLU
6	AG	147	ALA
7	AH	2	LEU
7	AH	44	PHE
7	AH	54	ASP
7	AH	74	PRO
7	AH	103	VAL
7	AH	105	ARG
7	AH	107	LEU
8	AI	31	GLN
8	AI	43	ALA
8	AI	104	ARG
8	AI	109	VAL
9	AJ	37	PRO
9	AJ	41	PRO
9	AJ	58	ASP
9	AJ	83	GLU
10	AK	37	GLY
10	AK	124	LYS
11	AL	22	SER
11	AL	47	LYS

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Mol	Chain	Res	Type
11	AL	74	GLY
11	AL	89	ARG
11	AL	91	LYS
11	AL	115	LYS
11	AL	120	TYR
11	AL	125	PRO
12	AM	39	ILE
12	AM	124	PRO
13	AN	57	ARG
14	AO	23	GLY
15	AP	44	THR
15	AP	46	PRO
16	AQ	31	LEU
17	AR	28	GLU
17	AR	87	ARG
18	AS	45	VAL
18	AS	78	ARG
20	AY	53	ASP
20	AY	71	THR
20	AY	109	ASP
20	AY	170	ARG
20	AY	185	ALA
20	AY	188	TYR
20	AY	189	GLY
20	AY	191	ASP
20	AY	234	GLY
20	AY	403	GLU
20	AY	436	PRO
20	AY	535	PRO
20	AY	539	ILE
20	AY	614	GLU
20	AY	638	GLY
25	BC	18	ASN
25	BC	34	ALA
25	BC	106	ASP
25	BC	112	ASP
25	BC	142	LYS
25	BC	214	TYR
25	BC	221	PRO
25	BC	224	ARG
26	BD	3	VAL
26	BD	24	ILE

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Mol	Chain	Res	Type
26	BD	28	GLU
26	BD	86	PRO
26	BD	114	GLY
26	BD	241	PRO
26	BD	260	ARG
27	BE	53	PRO
27	BE	192	ASN
28	BF	18	ARG
28	BF	83	PHE
28	BF	171	PRO
29	BG	49	ASP
29	BG	81	LYS
29	BG	82	LEU
29	BG	142	PRO
30	BH	42	ARG
30	BH	141	VAL
30	BH	157	TYR
32	BK	7	VAL
32	BK	89	HIS
33	BN	24	GLY
33	BN	100	GLU
35	BP	31	ALA
35	BP	70	GLN
35	BP	107	LYS
36	BQ	28	ALA
36	BQ	31	ASP
36	BQ	133	ARG
36	BQ	135	ASP
37	BR	107	ASP
38	BS	94	TYR
39	BT	2	ASN
39	BT	24	PRO
39	BT	35	LYS
39	BT	137	LYS
40	BU	78	THR
40	BU	90	VAL
40	BU	92	ARG
41	BV	80	GLN
41	BV	93	GLU
42	BW	14	PRO
42	BW	15	ARG
42	BW	26	GLY

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Mol	Chain	Res	Type
44	BY	18	GLY
44	BY	28	LYS
44	BY	47	LYS
44	BY	48	ALA
44	BY	50	ARG
44	BY	56	PRO
44	BY	58	GLY
44	BY	60	PHE
44	BY	90	LEU
45	BZ	51	ALA
45	BZ	62	PRO
46	B0	33	ALA
46	B0	75	LEU
48	B3	41	PRO
49	B5	24	ALA
49	B5	49	CYS
50	B6	18	ARG
50	B6	44	ARG
50	B6	48	VAL
52	B8	3	LYS
52	B8	19	SER
52	B8	64	TYR
56	B1	15	ALA
56	B1	40	ARG
58	Be	52	ALA
1	CB	8	LYS
1	CB	105	PHE
1	CB	190	THR
2	CC	49	SER
2	CC	160	ALA
2	CC	181	ASN
3	CD	28	SER
3	CD	34	GLU
3	CD	156	GLU
4	CE	129	ILE
5	CF	49	ALA
5	CF	93	SER
7	CH	105	ARG
7	CH	129	VAL
8	CI	35	GLU
8	CI	102	LEU
8	CI	104	ARG

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Mol	Chain	Res	Type
8	CI	106	ALA
9	CJ	33	GLN
10	CK	36	ASP
10	CK	91	ARG
11	CL	17	LYS
11	CL	19	ARG
11	CL	47	LYS
11	CL	56	ALA
11	CL	102	ARG
11	CL	128	ALA
12	CM	21	TYR
12	CM	39	ILE
12	CM	62	ASN
12	CM	101	GLN
13	CN	52	GLN
14	CO	16	ALA
15	CP	28	ARG
15	CP	54	GLU
16	CQ	48	GLU
17	CR	43	PHE
17	CR	87	ARG
19	CT	78	ALA
19	CT	99	LEU
20	CY	22	ASP
20	CY	33	LEU
20	CY	66	THR
20	CY	72	CYS
20	CY	89	ASP
20	CY	99	ARG
20	CY	112	GLN
20	CY	129	LYS
20	CY	175	SER
20	CY	188	TYR
20	CY	200	PRO
20	CY	253	LEU
20	CY	324	ARG
20	CY	347	GLY
20	CY	383	THR
20	CY	395	PRO
20	CY	521	SER
20	CY	539	ILE
20	CY	622	GLY

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Mol	Chain	Res	Type
20	CY	652	MET
25	DC	18	ASN
25	DC	33	LEU
25	DC	167	ASP
25	DC	214	TYR
26	DD	147	LEU
26	DD	186	HIS
26	DD	188	GLU
26	DD	225	ALA
26	DD	232	PRO
26	DD	233	HIS
26	DD	241	PRO
26	DD	260	ARG
26	DD	272	ALA
27	DE	155	LYS
27	DE	169	ASN
27	DE	188	VAL
27	DE	204	ALA
28	DF	22	ALA
28	DF	58	ALA
28	DF	73	ALA
30	DH	123	PHE
30	DH	128	PRO
32	DK	51	ALA
32	DK	63	ARG
33	DN	56	ASN
33	DN	62	VAL
33	DN	91	LEU
33	DN	131	GLN
35	DP	35	HIS
35	DP	53	GLY
35	DP	119	GLU
35	DP	123	LEU
36	DQ	6	ARG
36	DQ	62	GLY
38	DS	14	VAL
38	DS	57	LYS
39	DT	68	TYR
39	DT	78	LEU
39	DT	85	LYS
39	DT	107	ASP
40	DU	92	ARG

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Mol	Chain	Res	Type
40	DU	99	ALA
40	DU	106	PHE
41	DV	68	LYS
41	DV	77	ALA
42	DW	22	ASP
44	DY	7	VAL
44	DY	12	THR
44	DY	48	ALA
44	DY	50	ARG
44	DY	63	LYS
44	DY	91	GLU
45	DZ	32	HIS
45	DZ	78	LYS
45	DZ	159	PRO
46	D0	11	ARG
46	D0	33	ALA
49	D5	47	PRO
50	D6	44	ARG
52	D8	3	LYS
52	D8	6	THR
52	D8	34	TRP
53	D9	5	ALA
56	D1	37	ILE
56	D1	40	ARG
56	D1	52	ARG
56	D1	92	LYS
57	D4	2	LYS
57	D4	9	LEU
1	AB	155	LEU
2	AC	53	ALA
2	AC	112	SER
2	AC	162	GLN
3	AD	5	ILE
6	AG	152	ALA
9	AJ	42	THR
10	AK	35	PRO
10	AK	54	ARG
11	AL	128	ALA
12	AM	13	LYS
12	AM	101	GLN
13	AN	58	LYS
14	AO	25	THR

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Mol	Chain	Res	Type
14	AO	87	ILE
17	AR	45	SER
18	AS	27	GLU
19	AT	46	GLU
19	AT	49	ALA
20	AY	253	LEU
20	AY	269	VAL
20	AY	296	GLY
20	AY	382	GLU
20	AY	396	ARG
20	AY	437	THR
20	AY	541	ALA
20	AY	565	VAL
20	AY	649	LEU
20	AY	652	MET
25	BC	86	GLU
25	BC	167	ASP
26	BD	30	GLU
26	BD	226	MET
26	BD	232	PRO
26	BD	259	THR
26	BD	272	ALA
27	BE	35	GLN
27	BE	72	VAL
28	BF	3	GLU
28	BF	19	GLU
28	BF	66	PRO
28	BF	105	VAL
29	BG	143	GLU
30	BH	21	PRO
30	BH	81	GLU
30	BH	92	ILE
30	BH	156	ALA
32	BK	6	ALA
32	BK	73	PRO
32	BK	81	ALA
32	BK	122	ALA
33	BN	30	ILE
33	BN	119	ARG
34	BO	26	LYS
34	BO	91	LEU
35	BP	68	GLN

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Mol	Chain	Res	Type
35	BP	103	ALA
36	BQ	29	PHE
36	BQ	78	PRO
37	BR	93	GLY
37	BR	102	GLU
38	BS	42	ASP
38	BS	100	ALA
39	BT	85	LYS
40	BU	87	GLY
41	BV	18	LEU
42	BW	73	ALA
44	BY	12	THR
44	BY	70	SER
44	BY	80	GLY
45	BZ	22	GLY
45	BZ	31	ARG
45	BZ	135	GLU
45	BZ	177	PRO
47	B2	13	ALA
48	B3	51	ALA
49	B5	47	PRO
49	B5	57	VAL
51	B7	3	ARG
52	B8	48	PHE
53	B9	27	CYS
56	B1	10	LYS
58	Be	81	ILE
1	CB	20	GLU
1	CB	157	ARG
1	CB	194	PRO
1	CB	215	LEU
2	CC	51	GLY
2	CC	102	ASN
2	CC	132	ARG
2	CC	156	ARG
3	CD	89	THR
3	CD	173	TRP
4	CE	128	PRO
5	CF	51	PRO
7	CH	45	ILE
7	CH	51	VAL
7	CH	107	LEU

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Mol	Chain	Res	Type
8	CI	39	GLY
8	CI	127	LYS
9	CJ	55	LYS
9	CJ	83	GLU
10	CK	54	ARG
10	CK	107	SER
11	CL	55	VAL
11	CL	74	GLY
11	CL	79	GLU
11	CL	93	LEU
12	CM	11	ARG
12	CM	30	ALA
12	CM	114	ARG
14	CO	23	GLY
14	CO	73	GLU
15	CP	68	ASP
16	CQ	31	LEU
17	CR	60	ALA
18	CS	63	THR
18	CS	80	TYR
20	CY	38	ARG
20	CY	50	ALA
20	CY	63	ILE
20	CY	203	GLU
20	CY	234	GLY
20	CY	397	VAL
20	CY	456	GLU
20	CY	614	GLU
20	CY	628	ARG
25	DC	51	ASP
25	DC	117	THR
25	DC	130	ARG
26	DD	28	GLU
26	DD	40	THR
26	DD	164	GLN
26	DD	238	GLY
27	DE	17	ASP
27	DE	53	PRO
27	DE	70	ALA
27	DE	89	ASP
27	DE	147	PRO
28	DF	61	GLY

Continued on next page...

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Mol	Chain	Res	Type
28	DF	68	LYS
28	DF	83	PHE
29	DG	74	LYS
30	DH	175	LYS
32	DK	89	HIS
33	DN	47	ALA
33	DN	129	PRO
35	DP	31	ALA
35	DP	68	GLN
35	DP	104	GLY
36	DQ	28	ALA
36	DQ	135	ASP
37	DR	5	LYS
37	DR	8	ARG
37	DR	11	ASN
37	DR	102	GLU
37	DR	104	ARG
38	DS	23	ARG
38	DS	94	TYR
39	DT	31	SER
39	DT	35	LYS
39	DT	39	ARG
39	DT	82	LEU
39	DT	83	ILE
39	DT	115	ARG
40	DU	30	LYS
40	DU	74	LEU
41	DV	18	LEU
41	DV	80	GLN
43	DX	85	PRO
44	DY	47	LYS
45	DZ	93	ASP
51	D7	3	ARG
52	D8	48	PHE
56	D1	10	LYS
56	D1	44	PRO
57	D4	4	GLY
57	D4	10	VAL
58	De	62	VAL
58	De	108	ALA
1	AB	125	PRO
1	AB	150	SER

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Mol	Chain	Res	Type
1	AB	194	PRO
2	AC	8	ILE
2	AC	30	ARG
2	AC	63	ASN
3	AD	132	ARG
3	AD	135	LEU
4	AE	11	ILE
5	AF	51	PRO
7	AH	43	GLY
7	AH	73	ASP
7	AH	129	VAL
8	AI	21	PRO
11	AL	40	VAL
11	AL	73	GLU
11	AL	79	GLU
12	AM	67	GLU
13	AN	27	CYS
14	AO	16	ALA
15	AP	16	HIS
15	AP	83	GLU
16	AQ	64	PRO
16	AQ	77	VAL
17	AR	43	PHE
18	AS	71	LEU
20	AY	337	SER
20	AY	345	THR
20	AY	384	ILE
20	AY	397	VAL
20	AY	598	ASP
20	AY	681	LYS
25	BC	58	ASN
25	BC	97	GLY
25	BC	175	PRO
25	BC	176	VAL
25	BC	179	ALA
26	BD	40	THR
26	BD	52	ARG
26	BD	80	ALA
26	BD	140	THR
26	BD	244	ARG
27	BE	66	HIS
27	BE	141	ILE

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Mol	Chain	Res	Type
28	BF	5	ALA
28	BF	68	LYS
29	BG	17	PRO
29	BG	74	LYS
32	BK	21	PRO
32	BK	90	LYS
32	BK	137	GLU
34	BO	49	ARG
35	BP	35	HIS
35	BP	56	SER
36	BQ	75	THR
37	BR	99	LYS
41	BV	19	LYS
42	BW	64	MET
43	BX	33	LYS
43	BX	62	LYS
44	BY	91	GLU
45	BZ	53	ILE
45	BZ	84	GLU
45	BZ	151	HIS
46	B0	3	HIS
46	B0	17	GLN
47	B2	10	LEU
49	B5	56	LYS
51	B7	13	ALA
56	B1	24	ALA
56	B1	36	GLY
56	B1	44	PRO
57	B4	7	PRO
57	B4	8	LYS
1	CB	26	PRO
1	CB	153	ARG
2	CC	83	ARG
2	CC	101	LEU
4	CE	100	VAL
5	CF	40	VAL
5	CF	85	VAL
5	CF	100	ASN
8	CI	107	ARG
9	CJ	37	PRO
9	CJ	91	PRO
11	CL	115	LYS

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Mol	Chain	Res	Type
12	CM	124	PRO
13	CN	13	THR
15	CP	24	ALA
16	CQ	73	VAL
18	CS	29	ARG
20	CY	75	LYS
20	CY	145	ASP
20	CY	296	GLY
20	CY	304	ASP
20	CY	393	ASP
20	CY	394	ALA
20	CY	535	PRO
25	DC	36	ALA
25	DC	49	GLY
25	DC	65	LEU
25	DC	107	GLY
25	DC	118	PRO
25	DC	221	PRO
25	DC	224	ARG
26	DD	24	ILE
26	DD	123	ALA
26	DD	226	MET
26	DD	244	ARG
26	DD	246	PRO
27	DE	34	VAL
27	DE	118	LYS
28	DF	5	ALA
28	DF	11	VAL
28	DF	172	TRP
28	DF	178	PRO
29	DG	96	ARG
30	DH	45	VAL
30	DH	59	ARG
32	DK	14	ALA
32	DK	21	PRO
32	DK	73	PRO
32	DK	112	MET
32	DK	122	ALA
33	DN	32	THR
33	DN	104	LYS
35	DP	49	ARG
35	DP	52	GLU

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Mol	Chain	Res	Type
35	DP	77	ARG
36	DQ	90	VAL
38	DS	24	LEU
38	DS	63	THR
40	DU	10	ARG
40	DU	86	ALA
41	DV	16	PRO
41	DV	52	VAL
42	DW	63	ASP
45	DZ	134	PRO
45	DZ	162	GLU
48	D3	13	ILE
48	D3	32	GLN
49	D5	57	VAL
50	D6	18	ARG
50	D6	33	LYS
52	D8	10	ALA
56	D1	22	GLY
57	D4	7	PRO
2	AC	12	LEU
4	AE	100	VAL
7	AH	89	PRO
7	AH	97	VAL
8	AI	119	ALA
18	AS	80	TYR
20	AY	5	VAL
20	AY	87	HIS
20	AY	129	LYS
20	AY	248	LYS
20	AY	341	VAL
20	AY	554	PRO
25	BC	127	LYS
25	BC	137	LEU
26	BD	123	ALA
33	BN	127	ASP
35	BP	145	PRO
37	BR	117	VAL
39	BT	91	ARG
40	BU	79	PHE
41	BV	3	ALA
42	BW	63	ASP
43	BX	11	PRO

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Mol	Chain	Res	Type
43	BX	52	VAL
45	BZ	136	PHE
45	BZ	166	SER
47	B2	35	LEU
51	B7	14	LYS
3	CD	39	PRO
6	CG	81	GLY
6	CG	138	LYS
7	CH	2	LEU
10	CK	121	PRO
11	CL	31	PRO
11	CL	52	LEU
11	CL	65	GLU
11	CL	99	HIS
14	CO	87	ILE
16	CQ	47	PRO
18	CS	77	THR
20	CY	258	VAL
20	CY	436	PRO
25	DC	20	VAL
25	DC	76	LEU
25	DC	139	PRO
25	DC	175	PRO
26	DD	25	THR
26	DD	242	ARG
27	DE	66	HIS
28	DF	9	ILE
28	DF	53	THR
39	DT	88	ILE
42	DW	31	GLU
44	DY	70	SER
45	DZ	85	HIS
45	DZ	108	PRO
45	DZ	120	ILE
51	D7	48	LYS
52	D8	64	TYR
58	De	99	VAL
58	De	117	ALA
1	AB	233	SER
10	AK	118	GLY
11	AL	45	PRO
15	AP	53	VAL

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Mol	Chain	Res	Type
15	AP	66	PRO
20	AY	121	VAL
20	AY	394	ALA
20	AY	532	GLY
29	BG	144	ILE
30	BH	128	PRO
35	BP	23	PRO
36	BQ	127	ILE
37	BR	92	GLY
39	BT	20	PRO
45	BZ	165	VAL
46	B0	47	PRO
56	B1	18	ILE
57	B4	10	VAL
1	CB	130	ARG
2	CC	130	VAL
7	CH	73	ASP
9	CJ	94	VAL
10	CK	113	PRO
11	CL	35	GLY
11	CL	125	PRO
12	CM	117	VAL
26	DD	100	GLY
27	DE	141	ILE
29	DG	129	GLY
30	DH	21	PRO
36	DQ	127	ILE
39	DT	20	PRO
40	DU	7	GLY
44	DY	18	GLY
44	DY	98	VAL
1	AB	15	VAL
7	AH	86	ILE
12	AM	7	VAL
20	AY	258	VAL
26	BD	249	PRO
35	BP	77	ARG
36	BQ	52	VAL
38	BS	90	GLY
39	BT	88	ILE
41	BV	52	VAL
44	BY	7	VAL

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Mol	Chain	Res	Type
45	BZ	141	VAL
47	B2	17	SER
52	B8	53	PRO
53	B9	3	VAL
9	CJ	36	GLY
20	CY	341	VAL
20	CY	402	ILE
25	DC	181	PHE
27	DE	193	GLY
30	DH	39	PRO
32	DK	7	VAL
32	DK	49	GLY
35	DP	34	GLY
35	DP	54	GLY
36	DQ	78	PRO
1	AB	127	ILE
1	AB	130	ARG
2	AC	70	VAL
2	AC	130	VAL
4	AE	22	GLY
5	AF	40	VAL
10	AK	102	GLY
11	AL	55	VAL
13	AN	14	PRO
18	AS	46	GLY
20	AY	167	PRO
20	AY	288	PRO
25	BC	20	VAL
25	BC	42	VAL
26	BD	51	VAL
26	BD	100	GLY
27	BE	134	ILE
28	BF	150	GLY
35	BP	34	GLY
37	BR	83	ILE
37	BR	108	GLY
44	BY	27	VAL
44	BY	82	PRO
46	B0	63	VAL
49	B5	4	HIS
3	CD	142	PRO
4	CE	101	ILE

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Mol	Chain	Res	Type
9	CJ	53	PRO
10	CK	39	PRO
20	CY	598	ASP
27	DE	43	GLY
35	DP	8	PRO
48	D3	2	PRO
53	D9	3	VAL
4	AE	103	GLY
7	AH	51	VAL
10	AK	108	ILE
11	AL	58	VAL
25	BC	146	VAL
28	BF	178	PRO
40	BU	82	GLY
45	BZ	161	VAL
48	B3	16	PRO
56	B1	37	ILE
5	CF	72	VAL
19	CT	101	GLY
25	DC	75	VAL
30	DH	136	ILE
33	DN	46	VAL
37	DR	93	GLY
41	DV	72	VAL
45	DZ	141	VAL
57	D4	17	GLY
58	De	83	GLY
12	AM	117	VAL
20	AY	116	PRO
29	BG	5	VAL
33	BN	11	PRO
36	BQ	109	VAL
41	BV	22	VAL
41	BV	29	PRO
48	B3	13	ILE
7	CH	101	PRO
17	CR	77	GLY
58	De	118	VAL
32	DK	22	PRO
35	BP	48	PRO

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	AB	203/203 (100%)	161 (79%)	42 (21%)	1 6
1	CB	203/203 (100%)	170 (84%)	33 (16%)	2 14
2	AC	161/161 (100%)	119 (74%)	42 (26%)	0 3
2	CC	161/161 (100%)	123 (76%)	38 (24%)	1 4
3	AD	180/180 (100%)	147 (82%)	33 (18%)	2 10
3	CD	180/180 (100%)	147 (82%)	33 (18%)	2 10
4	AE	116/116 (100%)	100 (86%)	16 (14%)	3 19
4	CE	116/116 (100%)	92 (79%)	24 (21%)	1 6
5	AF	90/90 (100%)	74 (82%)	16 (18%)	2 10
5	CF	90/90 (100%)	76 (84%)	14 (16%)	2 15
6	AG	126/126 (100%)	107 (85%)	19 (15%)	3 16
6	CG	126/126 (100%)	109 (86%)	17 (14%)	4 20
7	AH	119/119 (100%)	96 (81%)	23 (19%)	1 8
7	CH	119/119 (100%)	92 (77%)	27 (23%)	1 5
8	AI	98/98 (100%)	84 (86%)	14 (14%)	3 18
8	CI	98/98 (100%)	80 (82%)	18 (18%)	1 9
9	AJ	89/89 (100%)	68 (76%)	21 (24%)	1 4
9	CJ	89/89 (100%)	67 (75%)	22 (25%)	1 4
10	AK	90/90 (100%)	72 (80%)	18 (20%)	1 7
10	CK	90/90 (100%)	74 (82%)	16 (18%)	2 10
11	AL	104/104 (100%)	71 (68%)	33 (32%)	0 2
11	CL	104/104 (100%)	76 (73%)	28 (27%)	0 3
12	AM	100/100 (100%)	85 (85%)	15 (15%)	3 17
12	CM	100/100 (100%)	83 (83%)	17 (17%)	2 12
13	AN	49/49 (100%)	39 (80%)	10 (20%)	1 7
13	CN	49/49 (100%)	37 (76%)	12 (24%)	1 4

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
14	AO	79/79 (100%)	68 (86%)	11 (14%)	3 19
14	CO	79/79 (100%)	64 (81%)	15 (19%)	1 8
15	AP	72/72 (100%)	61 (85%)	11 (15%)	3 16
15	CP	72/72 (100%)	62 (86%)	10 (14%)	3 19
16	AQ	95/95 (100%)	80 (84%)	15 (16%)	2 15
16	CQ	95/95 (100%)	79 (83%)	16 (17%)	2 13
17	AR	61/61 (100%)	54 (88%)	7 (12%)	5 24
17	CR	61/61 (100%)	50 (82%)	11 (18%)	2 10
18	AS	69/69 (100%)	55 (80%)	14 (20%)	1 7
18	CS	69/69 (100%)	50 (72%)	19 (28%)	0 3
19	AT	76/76 (100%)	65 (86%)	11 (14%)	3 17
19	CT	76/76 (100%)	65 (86%)	11 (14%)	3 17
20	AY	579/579 (100%)	447 (77%)	132 (23%)	1 5
20	CY	579/579 (100%)	468 (81%)	111 (19%)	1 8
24	AU	2/2 (100%)	2 (100%)	0	100 100
24	CU	2/2 (100%)	2 (100%)	0	100 100
25	BC	180/180 (100%)	127 (71%)	53 (29%)	0 2
25	DC	180/180 (100%)	126 (70%)	54 (30%)	0 2
26	BD	217/217 (100%)	162 (75%)	55 (25%)	0 3
26	DD	217/217 (100%)	172 (79%)	45 (21%)	1 6
27	BE	165/165 (100%)	133 (81%)	32 (19%)	1 8
27	DE	165/165 (100%)	135 (82%)	30 (18%)	2 10
28	BF	165/165 (100%)	131 (79%)	34 (21%)	1 7
28	DF	165/165 (100%)	132 (80%)	33 (20%)	1 7
29	BG	155/155 (100%)	130 (84%)	25 (16%)	2 14
29	DG	155/155 (100%)	129 (83%)	26 (17%)	2 13
30	BH	136/136 (100%)	111 (82%)	25 (18%)	1 9
30	DH	136/136 (100%)	113 (83%)	23 (17%)	2 13
32	BK	105/105 (100%)	70 (67%)	35 (33%)	0 2
32	DK	105/105 (100%)	73 (70%)	32 (30%)	0 2
33	BN	117/117 (100%)	92 (79%)	25 (21%)	1 6

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
33	DN	117/117 (100%)	87 (74%)	30 (26%)	0 3
34	BO	100/100 (100%)	83 (83%)	17 (17%)	2 12
34	DO	100/100 (100%)	85 (85%)	15 (15%)	3 17
35	BP	112/112 (100%)	84 (75%)	28 (25%)	0 4
35	DP	112/112 (100%)	86 (77%)	26 (23%)	1 5
36	BQ	111/111 (100%)	81 (73%)	30 (27%)	0 3
36	DQ	111/111 (100%)	84 (76%)	27 (24%)	1 4
37	BR	100/100 (100%)	77 (77%)	23 (23%)	1 5
37	DR	100/100 (100%)	76 (76%)	24 (24%)	1 4
38	BS	77/77 (100%)	60 (78%)	17 (22%)	1 5
38	DS	77/77 (100%)	60 (78%)	17 (22%)	1 5
39	BT	120/120 (100%)	94 (78%)	26 (22%)	1 6
39	DT	120/120 (100%)	92 (77%)	28 (23%)	1 5
40	BU	93/93 (100%)	74 (80%)	19 (20%)	1 7
40	DU	93/93 (100%)	71 (76%)	22 (24%)	1 4
41	BV	82/82 (100%)	59 (72%)	23 (28%)	0 3
41	DV	82/82 (100%)	63 (77%)	19 (23%)	1 5
42	BW	92/92 (100%)	69 (75%)	23 (25%)	0 4
42	DW	92/92 (100%)	73 (79%)	19 (21%)	1 6
43	BX	75/75 (100%)	53 (71%)	22 (29%)	0 2
43	DX	75/75 (100%)	57 (76%)	18 (24%)	1 4
44	BY	88/88 (100%)	68 (77%)	20 (23%)	1 5
44	DY	88/88 (100%)	71 (81%)	17 (19%)	1 8
45	BZ	162/162 (100%)	129 (80%)	33 (20%)	1 7
45	DZ	162/162 (100%)	122 (75%)	40 (25%)	1 4
46	B0	66/66 (100%)	54 (82%)	12 (18%)	2 10
46	D0	66/66 (100%)	58 (88%)	8 (12%)	5 22
47	B2	66/66 (100%)	57 (86%)	9 (14%)	3 19
47	D2	66/66 (100%)	55 (83%)	11 (17%)	2 13
48	B3	52/52 (100%)	42 (81%)	10 (19%)	1 8
48	D3	52/52 (100%)	43 (83%)	9 (17%)	2 11

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
49	B5	51/51 (100%)	39 (76%)	12 (24%)	1 4
49	D5	51/51 (100%)	42 (82%)	9 (18%)	2 11
50	B6	49/49 (100%)	37 (76%)	12 (24%)	1 4
50	D6	49/49 (100%)	34 (69%)	15 (31%)	0 2
51	B7	42/42 (100%)	34 (81%)	8 (19%)	1 8
51	D7	42/42 (100%)	37 (88%)	5 (12%)	5 23
52	B8	54/54 (100%)	43 (80%)	11 (20%)	1 7
52	D8	54/54 (100%)	43 (80%)	11 (20%)	1 7
53	B9	34/34 (100%)	30 (88%)	4 (12%)	5 23
53	D9	34/34 (100%)	30 (88%)	4 (12%)	5 23
56	B1	78/78 (100%)	58 (74%)	20 (26%)	0 3
56	D1	78/78 (100%)	58 (74%)	20 (26%)	0 3
57	B4	31/31 (100%)	24 (77%)	7 (23%)	1 5
57	D4	31/31 (100%)	21 (68%)	10 (32%)	0 2
58	Be	54/54 (100%)	45 (83%)	9 (17%)	2 13
58	De	54/54 (100%)	44 (82%)	10 (18%)	1 9
All	All	11174/11174 (100%)	8843 (79%)	2331 (21%)	1 6

All (2331) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	AB	9	GLU
1	AB	15	VAL
1	AB	16	HIS
1	AB	17	PHE
1	AB	21	ARG
1	AB	23	ARG
1	AB	27	LYS
1	AB	36	ARG
1	AB	37	ASN
1	AB	42	ILE
1	AB	56	ARG
1	AB	59	GLU
1	AB	64	ARG
1	AB	67	THR
1	AB	69	LEU

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Mol	Chain	Res	Type
1	AB	94	ASN
1	AB	96	ARG
1	AB	103	THR
1	AB	104	ASN
1	AB	121	LEU
1	AB	130	ARG
1	AB	141	GLU
1	AB	144	ARG
1	AB	146	GLN
1	AB	155	LEU
1	AB	158	LEU
1	AB	164	VAL
1	AB	168	THR
1	AB	170	GLU
1	AB	172	ILE
1	AB	184	VAL
1	AB	185	ILE
1	AB	187	LEU
1	AB	189	ASP
1	AB	190	THR
1	AB	196	LEU
1	AB	211	ILE
1	AB	212	GLN
1	AB	221	LEU
1	AB	224	GLN
1	AB	229	VAL
1	AB	239	VAL
2	AC	3	ASN
2	AC	8	ILE
2	AC	12	LEU
2	AC	14	ILE
2	AC	17	ASP
2	AC	18	TRP
2	AC	26	LYS
2	AC	29	TYR
2	AC	32	LEU
2	AC	44	GLU
2	AC	46	GLU
2	AC	55	VAL
2	AC	62	ASP
2	AC	70	VAL
2	AC	72	LYS

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Mol	Chain	Res	Type
2	AC	75	VAL
2	AC	76	VAL
2	AC	84	ILE
2	AC	85	ARG
2	AC	91	LEU
2	AC	101	LEU
2	AC	103	VAL
2	AC	104	GLN
2	AC	105	GLU
2	AC	115	LEU
2	AC	124	ILE
2	AC	125	GLU
2	AC	128	PHE
2	AC	134	ILE
2	AC	136	GLN
2	AC	152	ILE
2	AC	162	GLN
2	AC	167	TRP
2	AC	173	VAL
2	AC	177	THR
2	AC	186	PHE
2	AC	188	LEU
2	AC	191	THR
2	AC	193	TYR
2	AC	195	VAL
2	AC	196	LEU
2	AC	208	ILE
3	AD	8	VAL
3	AD	9	CYS
3	AD	10	ARG
3	AD	12	CYS
3	AD	19	LEU
3	AD	26	CYS
3	AD	27	TYR
3	AD	30	LYS
3	AD	35	ARG
3	AD	43	HIS
3	AD	49	ARG
3	AD	52	SER
3	AD	53	ASP
3	AD	54	TYR
3	AD	57	ARG

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Mol	Chain	Res	Type
3	AD	58	LEU
3	AD	60	GLU
3	AD	67	ILE
3	AD	70	ILE
3	AD	76	ARG
3	AD	86	LYS
3	AD	89	THR
3	AD	113	SER
3	AD	116	GLN
3	AD	134	ASP
3	AD	135	LEU
3	AD	140	VAL
3	AD	156	GLU
3	AD	159	ARG
3	AD	182	LYS
3	AD	187	ARG
3	AD	196	LEU
3	AD	207	TYR
4	AE	12	LEU
4	AE	16	THR
4	AE	41	VAL
4	AE	47	LYS
4	AE	60	TYR
4	AE	64	ARG
4	AE	68	GLU
4	AE	73	ASN
4	AE	80	ILE
4	AE	100	VAL
4	AE	111	GLU
4	AE	120	THR
4	AE	137	GLU
4	AE	141	GLN
4	AE	147	ASP
4	AE	150	ARG
5	AF	11	ASN
5	AF	16	GLN
5	AF	19	LEU
5	AF	23	LYS
5	AF	24	GLU
5	AF	27	GLN
5	AF	31	GLU
5	AF	45	LEU

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Mol	Chain	Res	Type
5	AF	46	ARG
5	AF	47	ARG
5	AF	52	ILE
5	AF	61	LEU
5	AF	63	TYR
5	AF	71	ARG
5	AF	75	LEU
5	AF	87	ARG
6	AG	5	ARG
6	AG	13	GLN
6	AG	16	LEU
6	AG	28	ASN
6	AG	41	ARG
6	AG	42	ILE
6	AG	52	GLU
6	AG	54	THR
6	AG	67	GLU
6	AG	79	ARG
6	AG	85	TYR
6	AG	97	GLN
6	AG	104	LEU
6	AG	120	ILE
6	AG	122	HIS
6	AG	136	LYS
6	AG	139	GLU
6	AG	140	ASP
6	AG	142	GLU
7	AH	26	VAL
7	AH	37	ARG
7	AH	44	PHE
7	AH	51	VAL
7	AH	61	VAL
7	AH	63	LEU
7	AH	70	GLN
7	AH	75	ARG
7	AH	77	GLU
7	AH	82	HIS
7	AH	83	ILE
7	AH	98	LYS
7	AH	99	GLU
7	AH	111	ILE
7	AH	118	VAL

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Mol	Chain	Res	Type
7	AH	119	LEU
7	AH	120	THR
7	AH	127	LEU
7	AH	129	VAL
7	AH	133	LEU
7	AH	135	CYS
7	AH	137	VAL
7	AH	138	TRP
8	AI	3	GLN
8	AI	4	TYR
8	AI	7	THR
8	AI	19	LEU
8	AI	40	LEU
8	AI	44	VAL
8	AI	79	LEU
8	AI	93	ARG
8	AI	95	LYS
8	AI	96	LEU
8	AI	99	LEU
8	AI	107	ARG
8	AI	108	VAL
8	AI	112	LYS
9	AJ	5	ARG
9	AJ	8	LEU
9	AJ	16	LEU
9	AJ	22	LYS
9	AJ	25	GLU
9	AJ	29	ARG
9	AJ	30	SER
9	AJ	47	PHE
9	AJ	50	ILE
9	AJ	55	LYS
9	AJ	70	ARG
9	AJ	74	ILE
9	AJ	75	ILE
9	AJ	78	ASN
9	AJ	79	ARG
9	AJ	84	GLN
9	AJ	94	VAL
9	AJ	95	GLU
9	AJ	96	ILE
9	AJ	99	LYS

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Mol	Chain	Res	Type
9	AJ	101	VAL
10	AK	18	ARG
10	AK	22	HIS
10	AK	25	TYR
10	AK	29	ILE
10	AK	38	ASN
10	AK	40	ILE
10	AK	41	THR
10	AK	54	ARG
10	AK	57	THR
10	AK	66	LEU
10	AK	67	ASP
10	AK	71	LYS
10	AK	79	SER
10	AK	84	VAL
10	AK	103	LEU
10	AK	109	VAL
10	AK	124	LYS
10	AK	127	LYS
11	AL	17	LYS
11	AL	18	VAL
11	AL	20	LYS
11	AL	24	VAL
11	AL	33	ARG
11	AL	37	CYS
11	AL	38	THR
11	AL	39	VAL
11	AL	40	VAL
11	AL	43	VAL
11	AL	44	THR
11	AL	47	LYS
11	AL	49	ASN
11	AL	54	LYS
11	AL	55	VAL
11	AL	60	LEU
11	AL	66	VAL
11	AL	75	HIS
11	AL	76	ASN
11	AL	77	LEU
11	AL	79	GLU
11	AL	80	HIS
11	AL	84	LEU

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Mol	Chain	Res	Type
11	AL	85	ILE
11	AL	90	VAL
11	AL	92	ASP
11	AL	93	LEU
11	AL	96	VAL
11	AL	100	ILE
11	AL	101	VAL
11	AL	112	ASP
11	AL	118	SER
11	AL	127	GLU
12	AM	9	ILE
12	AM	16	ASP
12	AM	17	VAL
12	AM	19	LEU
12	AM	25	ILE
12	AM	50	GLU
12	AM	57	ARG
12	AM	69	GLU
12	AM	81	LEU
12	AM	90	LEU
12	AM	92	HIS
12	AM	108	ARG
12	AM	110	ARG
12	AM	111	LYS
12	AM	121	LYS
13	AN	22	THR
13	AN	29	ARG
13	AN	35	ARG
13	AN	44	LEU
13	AN	49	HIS
13	AN	53	LEU
13	AN	56	VAL
13	AN	57	ARG
13	AN	58	LYS
13	AN	61	TRP
14	AO	5	LYS
14	AO	10	LYS
14	AO	11	VAL
14	AO	25	THR
14	AO	26	GLU
14	AO	39	LEU
14	AO	63	ARG

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Mol	Chain	Res	Type
14	AO	82	ILE
14	AO	84	LYS
14	AO	87	ILE
14	AO	88	ARG
15	AP	8	ARG
15	AP	13	HIS
15	AP	22	THR
15	AP	23	ASP
15	AP	39	TYR
15	AP	45	THR
15	AP	53	VAL
15	AP	58	TYR
15	AP	59	TRP
15	AP	67	THR
15	AP	73	LEU
16	AQ	19	VAL
16	AQ	20	THR
16	AQ	37	LYS
16	AQ	48	GLU
16	AQ	52	LYS
16	AQ	53	LEU
16	AQ	55	ASP
16	AQ	60	ILE
16	AQ	66	SER
16	AQ	67	LYS
16	AQ	73	VAL
16	AQ	77	VAL
16	AQ	81	ARG
16	AQ	84	LEU
16	AQ	89	LEU
17	AR	38	GLU
17	AR	47	THR
17	AR	58	LEU
17	AR	62	GLU
17	AR	71	LYS
17	AR	79	LEU
17	AR	81	PHE
18	AS	6	LYS
18	AS	16	LEU
18	AS	25	LYS
18	AS	29	ARG
18	AS	38	SER

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Mol	Chain	Res	Type
18	AS	39	THR
18	AS	43	GLU
18	AS	51	VAL
18	AS	58	VAL
18	AS	60	VAL
18	AS	61	TYR
18	AS	62	ILE
18	AS	67	VAL
18	AS	71	LEU
19	AT	13	LEU
19	AT	22	ARG
19	AT	33	ILE
19	AT	43	LEU
19	AT	56	MET
19	AT	70	SER
19	AT	71	THR
19	AT	73	HIS
19	AT	74	LYS
19	AT	75	ASN
19	AT	93	GLU
20	AY	5	VAL
20	AY	9	LEU
20	AY	12	LEU
20	AY	20	HIS
20	AY	29	THR
20	AY	33	LEU
20	AY	35	TYR
20	AY	38	ARG
20	AY	39	ILE
20	AY	40	HIS
20	AY	59	ARG
20	AY	60	GLU
20	AY	63	ILE
20	AY	65	ILE
20	AY	66	THR
20	AY	69	VAL
20	AY	73	PHE
20	AY	75	LYS
20	AY	80	ASN
20	AY	88	VAL
20	AY	92	ILE
20	AY	93	GLU

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Mol	Chain	Res	Type
20	AY	95	GLU
20	AY	100	VAL
20	AY	101	LEU
20	AY	105	ILE
20	AY	107	VAL
20	AY	114	VAL
20	AY	121	VAL
20	AY	126	GLU
20	AY	132	ARG
20	AY	133	ILE
20	AY	142	THR
20	AY	152	THR
20	AY	163	VAL
20	AY	170	ARG
20	AY	172	ASP
20	AY	173	THR
20	AY	174	PHE
20	AY	175	SER
20	AY	177	ILE
20	AY	178	ILE
20	AY	180	VAL
20	AY	190	ASN
20	AY	191	ASP
20	AY	199	ILE
20	AY	203	GLU
20	AY	232	LEU
20	AY	240	GLU
20	AY	248	LYS
20	AY	255	ILE
20	AY	260	LEU
20	AY	269	VAL
20	AY	271	LEU
20	AY	277	VAL
20	AY	278	ASP
20	AY	282	SER
20	AY	290	LYS
20	AY	292	THR
20	AY	298	VAL
20	AY	304	ASP
20	AY	312	LEU
20	AY	317	MET
20	AY	325	LEU

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Mol	Chain	Res	Type
20	AY	328	ILE
20	AY	330	VAL
20	AY	334	THR
20	AY	341	VAL
20	AY	344	THR
20	AY	352	VAL
20	AY	356	LEU
20	AY	385	THR
20	AY	398	ILE
20	AY	408	VAL
20	AY	410	ASP
20	AY	411	VAL
20	AY	428	LEU
20	AY	431	LEU
20	AY	435	ASP
20	AY	439	ARG
20	AY	440	VAL
20	AY	448	GLN
20	AY	449	THR
20	AY	451	ILE
20	AY	454	MET
20	AY	456	GLU
20	AY	457	LEU
20	AY	464	ASP
20	AY	469	GLU
20	AY	471	LYS
20	AY	472	VAL
20	AY	473	ASP
20	AY	476	VAL
20	AY	481	VAL
20	AY	487	ILE
20	AY	488	THR
20	AY	493	VAL
20	AY	507	TYR
20	AY	512	ILE
20	AY	515	GLU
20	AY	536	LYS
20	AY	556	ILE
20	AY	563	ILE
20	AY	565	VAL
20	AY	568	TYR
20	AY	582	PHE

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Mol	Chain	Res	Type
20	AY	583	LYS
20	AY	584	ILE
20	AY	601	ILE
20	AY	605	ILE
20	AY	606	MET
20	AY	610	VAL
20	AY	612	THR
20	AY	615	GLU
20	AY	616	TYR
20	AY	617	MET
20	AY	619	ASP
20	AY	624	LEU
20	AY	630	GLN
20	AY	635	GLU
20	AY	641	GLN
20	AY	647	VAL
20	AY	651	GLU
20	AY	657	THR
20	AY	663	THR
20	AY	669	PHE
20	AY	671	MET
20	AY	672	PHE
20	AY	676	TYR
20	AY	677	GLN
20	AY	679	VAL
20	AY	685	GLU
25	BC	3	LYS
25	BC	4	HIS
25	BC	13	GLU
25	BC	19	LYS
25	BC	20	VAL
25	BC	24	ASP
25	BC	31	LYS
25	BC	38	PHE
25	BC	48	LEU
25	BC	53	ARG
25	BC	54	ARG
25	BC	57	GLN
25	BC	59	VAL
25	BC	64	SER
25	BC	67	HIS
25	BC	73	VAL

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Mol	Chain	Res	Type
25	BC	75	VAL
25	BC	80	LYS
25	BC	86	GLU
25	BC	95	VAL
25	BC	98	GLU
25	BC	100	ILE
25	BC	110	ASP
25	BC	115	VAL
25	BC	117	THR
25	BC	119	ASP
25	BC	120	VAL
25	BC	131	ILE
25	BC	137	LEU
25	BC	138	LEU
25	BC	145	THR
25	BC	146	VAL
25	BC	148	PHE
25	BC	152	GLU
25	BC	154	ILE
25	BC	161	ARG
25	BC	166	ASN
25	BC	167	ASP
25	BC	169	THR
25	BC	172	ILE
25	BC	173	HIS
25	BC	176	VAL
25	BC	178	LYS
25	BC	184	GLU
25	BC	186	LEU
25	BC	188	ASP
25	BC	201	LYS
25	BC	203	GLU
25	BC	209	PHE
25	BC	211	ARG
25	BC	213	VAL
25	BC	216	THR
25	BC	222	SER
26	BD	4	LYS
26	BD	5	LYS
26	BD	10	THR
26	BD	13	ARG
26	BD	14	ARG

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Mol	Chain	Res	Type
26	BD	15	PHE
26	BD	23	GLU
26	BD	24	ILE
26	BD	25	THR
26	BD	26	LYS
26	BD	27	THR
26	BD	28	GLU
26	BD	31	LYS
26	BD	35	LYS
26	BD	37	LEU
26	BD	44	ASN
26	BD	59	LYS
26	BD	60	ARG
26	BD	63	ARG
26	BD	64	ILE
26	BD	65	ILE
26	BD	78	LYS
26	BD	82	ILE
26	BD	83	GLU
26	BD	87	ASN
26	BD	95	LEU
26	BD	104	TYR
26	BD	105	ILE
26	BD	109	ASP
26	BD	112	GLN
26	BD	115	GLN
26	BD	117	VAL
26	BD	122	ASP
26	BD	126	GLN
26	BD	127	VAL
26	BD	131	LEU
26	BD	136	ILE
26	BD	140	THR
26	BD	143	HIS
26	BD	147	LEU
26	BD	150	LYS
26	BD	155	LEU
26	BD	161	THR
26	BD	162	SER
26	BD	171	ASP
26	BD	175	LEU
26	BD	193	VAL

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Mol	Chain	Res	Type
26	BD	196	VAL
26	BD	198	ASN
26	BD	202	LYS
26	BD	227	ASN
26	BD	230	ASP
26	BD	257	LEU
26	BD	259	THR
26	BD	273	ARG
27	BE	4	ILE
27	BE	12	THR
27	BE	14	ILE
27	BE	18	ASP
27	BE	26	ILE
27	BE	45	THR
27	BE	52	LEU
27	BE	63	LEU
27	BE	66	HIS
27	BE	72	VAL
27	BE	77	ILE
27	BE	78	LEU
27	BE	87	GLU
27	BE	91	VAL
27	BE	92	THR
27	BE	93	VAL
27	BE	95	ILE
27	BE	104	VAL
27	BE	127	ASP
27	BE	134	ILE
27	BE	135	HIS
27	BE	141	ILE
27	BE	144	ARG
27	BE	146	THR
27	BE	163	GLU
27	BE	175	VAL
27	BE	178	GLU
27	BE	183	LEU
27	BE	184	VAL
27	BE	195	LEU
27	BE	196	VAL
27	BE	197	ILE
28	BF	3	GLU
28	BF	7	TYR

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Mol	Chain	Res	Type
28	BF	11	VAL
28	BF	12	LEU
28	BF	17	ARG
28	BF	20	LEU
28	BF	24	LEU
28	BF	40	GLN
28	BF	45	ARG
28	BF	59	TYR
28	BF	67	GLN
28	BF	74	ARG
28	BF	78	ILE
28	BF	84	VAL
28	BF	90	PHE
28	BF	106	ARG
28	BF	110	LEU
28	BF	125	LEU
28	BF	126	VAL
28	BF	132	VAL
28	BF	136	THR
28	BF	140	LEU
28	BF	149	ASP
28	BF	154	VAL
28	BF	156	LEU
28	BF	158	THR
28	BF	175	THR
28	BF	182	ASN
28	BF	186	ILE
28	BF	190	GLU
28	BF	192	LEU
28	BF	194	MET
28	BF	199	TRP
28	BF	206	ILE
29	BG	5	VAL
29	BG	21	ARG
29	BG	31	VAL
29	BG	34	LEU
29	BG	39	ILE
29	BG	40	ASN
29	BG	43	LEU
29	BG	45	GLU
29	BG	54	GLU
29	BG	59	GLU

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Mol	Chain	Res	Type
29	BG	60	LEU
29	BG	82	LEU
29	BG	86	MET
29	BG	95	ARG
29	BG	106	LEU
29	BG	113	ARG
29	BG	115	ARG
29	BG	121	ASN
29	BG	133	LEU
29	BG	143	GLU
29	BG	146	TYR
29	BG	150	ASP
29	BG	157	ILE
29	BG	164	GLU
29	BG	172	LEU
30	BH	16	SER
30	BH	17	VAL
30	BH	23	ARG
30	BH	33	LEU
30	BH	42	ARG
30	BH	43	VAL
30	BH	47	GLU
30	BH	50	VAL
30	BH	57	ASP
30	BH	65	HIS
30	BH	67	LEU
30	BH	72	ILE
30	BH	80	SER
30	BH	83	TYR
30	BH	86	GLU
30	BH	99	VAL
30	BH	104	GLU
30	BH	105	LEU
30	BH	115	VAL
30	BH	122	THR
30	BH	133	VAL
30	BH	136	ILE
30	BH	147	ASN
30	BH	159	GLU
30	BH	163	TYR
32	BK	9	LYS
32	BK	10	LEU

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Mol	Chain	Res	Type
32	BK	18	THR
32	BK	23	VAL
32	BK	30	HIS
32	BK	34	ILE
32	BK	37	PHE
32	BK	38	VAL
32	BK	42	ASN
32	BK	56	GLU
32	BK	57	ILE
32	BK	59	ILE
32	BK	60	TYR
32	BK	65	PHE
32	BK	66	THR
32	BK	69	THR
32	BK	71	THR
32	BK	78	ILE
32	BK	80	LYS
32	BK	84	LEU
32	BK	94	GLU
32	BK	95	LYS
32	BK	100	THR
32	BK	103	GLN
32	BK	105	LEU
32	BK	110	GLN
32	BK	114	ASP
32	BK	115	LEU
32	BK	117	THR
32	BK	118	THR
32	BK	125	ARG
32	BK	126	MET
32	BK	132	ARG
32	BK	136	VAL
32	BK	137	GLU
33	BN	1	MET
33	BN	5	VAL
33	BN	7	LYS
33	BN	9	VAL
33	BN	15	LEU
33	BN	16	ILE
33	BN	29	LYS
33	BN	32	THR
33	BN	33	LEU

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Mol	Chain	Res	Type
33	BN	34	LEU
33	BN	39	ARG
33	BN	48	MET
33	BN	61	ARG
33	BN	62	VAL
33	BN	69	GLN
33	BN	71	ILE
33	BN	76	SER
33	BN	89	LYS
33	BN	99	LEU
33	BN	109	LYS
33	BN	119	ARG
33	BN	127	ASP
33	BN	134	ARG
33	BN	137	LYS
33	BN	138	LEU
34	BO	2	ILE
34	BO	3	GLN
34	BO	8	LEU
34	BO	14	THR
34	BO	21	CYS
34	BO	23	ARG
34	BO	29	ASN
34	BO	31	LYS
34	BO	45	GLU
34	BO	77	ILE
34	BO	82	ASN
34	BO	89	ASN
34	BO	90	GLN
34	BO	91	LEU
34	BO	92	GLU
34	BO	107	ARG
34	BO	117	LEU
35	BP	7	ARG
35	BP	15	ARG
35	BP	16	ARG
35	BP	17	LYS
35	BP	19	VAL
35	BP	29	LYS
35	BP	32	THR
35	BP	35	HIS
35	BP	39	LYS

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Mol	Chain	Res	Type
35	BP	46	LYS
35	BP	50	ARG
35	BP	55	ARG
35	BP	60	MET
35	BP	61	ARG
35	BP	62	LEU
35	BP	79	ARG
35	BP	84	ASN
35	BP	85	LEU
35	BP	94	GLU
35	BP	95	VAL
35	BP	96	THR
35	BP	100	LEU
35	BP	101	VAL
35	BP	110	TYR
35	BP	115	LEU
35	BP	130	PHE
35	BP	132	LYS
35	BP	144	GLU
36	BQ	1	MET
36	BQ	2	LEU
36	BQ	3	MET
36	BQ	6	ARG
36	BQ	7	MET
36	BQ	9	TYR
36	BQ	13	GLN
36	BQ	14	ARG
36	BQ	17	LEU
36	BQ	25	ASP
36	BQ	37	LEU
36	BQ	42	ILE
36	BQ	43	THR
36	BQ	45	GLN
36	BQ	46	GLN
36	BQ	58	PHE
36	BQ	68	ILE
36	BQ	74	TYR
36	BQ	89	ASN
36	BQ	90	VAL
36	BQ	91	GLU
36	BQ	96	VAL
36	BQ	97	VAL

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Mol	Chain	Res	Type
36	BQ	104	PHE
36	BQ	105	GLU
36	BQ	106	VAL
36	BQ	109	VAL
36	BQ	131	ILE
36	BQ	132	VAL
36	BQ	137	TYR
37	BR	3	HIS
37	BR	4	LEU
37	BR	8	ARG
37	BR	16	HIS
37	BR	29	LEU
37	BR	35	THR
37	BR	37	THR
37	BR	44	LEU
37	BR	48	VAL
37	BR	59	ASP
37	BR	65	LEU
37	BR	67	LEU
37	BR	71	GLN
37	BR	75	LEU
37	BR	76	VAL
37	BR	79	LEU
37	BR	81	ASP
37	BR	95	THR
37	BR	98	LEU
37	BR	99	LYS
37	BR	100	LEU
37	BR	113	LEU
37	BR	117	VAL
38	BS	13	ARG
38	BS	18	ILE
38	BS	19	LYS
38	BS	24	LEU
38	BS	35	ILE
38	BS	42	ASP
38	BS	47	THR
38	BS	61	ASN
38	BS	62	LYS
38	BS	63	THR
38	BS	65	VAL
38	BS	69	VAL

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Mol	Chain	Res	Type
38	BS	84	GLN
38	BS	92	TYR
38	BS	97	ARG
38	BS	98	VAL
38	BS	101	LEU
39	BT	13	ARG
39	BT	16	ARG
39	BT	21	GLU
39	BT	27	THR
39	BT	32	TYR
39	BT	33	LYS
39	BT	38	ASN
39	BT	42	ILE
39	BT	48	ILE
39	BT	49	VAL
39	BT	50	ILE
39	BT	62	THR
39	BT	65	LYS
39	BT	70	VAL
39	BT	74	ARG
39	BT	82	LEU
39	BT	83	ILE
39	BT	84	GLN
39	BT	85	LYS
39	BT	105	LEU
39	BT	107	ASP
39	BT	109	GLU
39	BT	114	LEU
39	BT	115	ARG
39	BT	118	ARG
39	BT	128	GLU
40	BU	6	THR
40	BU	8	VAL
40	BU	13	LYS
40	BU	14	HIS
40	BU	36	ARG
40	BU	39	LEU
40	BU	44	ASN
40	BU	51	LYS
40	BU	62	ILE
40	BU	64	ARG
40	BU	74	LEU

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Mol	Chain	Res	Type
40	BU	83	LEU
40	BU	85	LYS
40	BU	88	ILE
40	BU	90	VAL
40	BU	98	LEU
40	BU	101	ARG
40	BU	104	GLN
40	BU	117	GLN
41	BV	5	VAL
41	BV	14	VAL
41	BV	18	LEU
41	BV	19	LYS
41	BV	21	ARG
41	BV	35	LEU
41	BV	38	LEU
41	BV	40	LEU
41	BV	45	THR
41	BV	49	THR
41	BV	53	GLU
41	BV	57	VAL
41	BV	61	VAL
41	BV	71	LEU
41	BV	72	VAL
41	BV	75	PHE
41	BV	79	VAL
41	BV	80	GLN
41	BV	87	HIS
41	BV	95	LEU
41	BV	96	ILE
41	BV	98	GLU
41	BV	99	ILE
42	BW	10	VAL
42	BW	11	ARG
42	BW	17	VAL
42	BW	19	LEU
42	BW	23	LEU
42	BW	25	ARG
42	BW	27	LYS
42	BW	37	ARG
42	BW	39	THR
42	BW	50	VAL
42	BW	51	LEU

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Mol	Chain	Res	Type
42	BW	64	MET
42	BW	66	GLU
42	BW	70	TYR
42	BW	88	ARG
42	BW	94	ASP
42	BW	95	ILE
42	BW	96	ILE
42	BW	97	LYS
42	BW	98	LYS
42	BW	100	THR
42	BW	103	ILE
42	BW	107	LEU
43	BX	3	THR
43	BX	7	VAL
43	BX	8	ILE
43	BX	27	THR
43	BX	31	HIS
43	BX	35	THR
43	BX	53	LYS
43	BX	54	VAL
43	BX	57	LEU
43	BX	58	HIS
43	BX	59	VAL
43	BX	62	LYS
43	BX	63	LYS
43	BX	65	ARG
43	BX	66	LEU
43	BX	68	ARG
43	BX	69	TYR
43	BX	72	LYS
43	BX	76	ARG
43	BX	80	ILE
43	BX	87	GLN
43	BX	92	LEU
44	BY	2	ARG
44	BY	3	VAL
44	BY	5	MET
44	BY	6	HIS
44	BY	7	VAL
44	BY	9	LYS
44	BY	13	VAL
44	BY	19	LYS

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Mol	Chain	Res	Type
44	BY	30	VAL
44	BY	35	TYR
44	BY	39	VAL
44	BY	44	ILE
44	BY	45	VAL
44	BY	47	LYS
44	BY	50	ARG
44	BY	75	ILE
44	BY	88	LYS
44	BY	90	LEU
44	BY	97	ARG
44	BY	107	ASP
45	BZ	3	TYR
45	BZ	9	TYR
45	BZ	14	LYS
45	BZ	28	MET
45	BZ	32	HIS
45	BZ	34	ASN
45	BZ	36	LYS
45	BZ	39	VAL
45	BZ	42	VAL
45	BZ	57	ILE
45	BZ	59	LEU
45	BZ	70	LEU
45	BZ	72	ARG
45	BZ	81	ARG
45	BZ	82	ARG
45	BZ	86	VAL
45	BZ	90	VAL
45	BZ	93	ASP
45	BZ	120	ILE
45	BZ	124	ILE
45	BZ	127	LYS
45	BZ	133	ILE
45	BZ	136	PHE
45	BZ	139	VAL
45	BZ	151	HIS
45	BZ	154	ASP
45	BZ	156	LYS
45	BZ	162	GLU
45	BZ	165	VAL
45	BZ	179	ASP

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Mol	Chain	Res	Type
45	BZ	181	GLU
45	BZ	185	GLU
45	BZ	186	GLU
46	B0	5	LYS
46	B0	7	LEU
46	B0	11	ARG
46	B0	27	GLU
46	B0	30	VAL
46	B0	35	ASN
46	B0	41	ARG
46	B0	55	ARG
46	B0	63	VAL
46	B0	71	ASP
46	B0	75	LEU
46	B0	80	HIS
47	B2	8	LYS
47	B2	25	VAL
47	B2	44	LEU
47	B2	47	ASN
47	B2	50	ILE
47	B2	53	LEU
47	B2	55	ARG
47	B2	59	ARG
47	B2	71	ASN
48	B3	4	LEU
48	B3	17	LYS
48	B3	20	LYS
48	B3	29	ARG
48	B3	31	LEU
48	B3	36	VAL
48	B3	46	ASN
48	B3	53	LEU
48	B3	55	ARG
48	B3	59	VAL
49	B5	3	LYS
49	B5	13	LYS
49	B5	25	LEU
49	B5	31	VAL
49	B5	33	CYS
49	B5	36	CYS
49	B5	44	THR
49	B5	45	VAL

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Mol	Chain	Res	Type
49	B5	48	GLU
49	B5	51	TYR
49	B5	55	ARG
49	B5	58	LEU
50	B6	6	ARG
50	B6	9	LEU
50	B6	10	LEU
50	B6	11	LEU
50	B6	18	ARG
50	B6	19	ARG
50	B6	23	THR
50	B6	25	LYS
50	B6	37	ARG
50	B6	43	CYS
50	B6	48	VAL
50	B6	52	VAL
51	B7	3	ARG
51	B7	6	GLN
51	B7	19	ARG
51	B7	24	THR
51	B7	30	VAL
51	B7	39	ARG
51	B7	40	TRP
51	B7	42	LEU
52	B8	6	THR
52	B8	22	VAL
52	B8	30	ARG
52	B8	32	LEU
52	B8	36	LYS
52	B8	40	GLU
52	B8	49	VAL
52	B8	52	LYS
52	B8	53	PRO
52	B8	60	LEU
52	B8	64	TYR
53	B9	4	ARG
53	B9	7	VAL
53	B9	16	VAL
53	B9	26	ILE
56	B1	13	ILE
56	B1	18	ILE
56	B1	23	LYS

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Mol	Chain	Res	Type
56	B1	26	ARG
56	B1	32	LYS
56	B1	34	THR
56	B1	37	ILE
56	B1	41	ARG
56	B1	43	TYR
56	B1	46	LEU
56	B1	50	ARG
56	B1	57	GLU
56	B1	58	ILE
56	B1	59	THR
56	B1	60	PHE
56	B1	67	ILE
56	B1	73	LEU
56	B1	82	LEU
56	B1	88	LYS
56	B1	90	ILE
57	B4	6	HIS
57	B4	8	LYS
57	B4	9	LEU
57	B4	10	VAL
57	B4	14	ILE
57	B4	27	THR
57	B4	32	TYR
58	Be	61	ASP
58	Be	73	GLU
58	Be	78	LEU
58	Be	94	GLU
58	Be	100	LYS
58	Be	101	GLU
58	Be	106	GLN
58	Be	111	ILE
58	Be	121	VAL
1	CB	15	VAL
1	CB	16	HIS
1	CB	17	PHE
1	CB	36	ARG
1	CB	39	ILE
1	CB	42	ILE
1	CB	56	ARG
1	CB	59	GLU
1	CB	63	MET

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Mol	Chain	Res	Type
1	CB	69	LEU
1	CB	81	VAL
1	CB	86	GLU
1	CB	94	ASN
1	CB	96	ARG
1	CB	103	THR
1	CB	110	GLN
1	CB	142	LEU
1	CB	144	ARG
1	CB	164	VAL
1	CB	168	THR
1	CB	170	GLU
1	CB	184	VAL
1	CB	185	ILE
1	CB	195	ASP
1	CB	197	VAL
1	CB	200	ILE
1	CB	201	ILE
1	CB	211	ILE
1	CB	213	LEU
1	CB	221	LEU
1	CB	229	VAL
1	CB	238	LEU
1	CB	239	VAL
2	CC	15	THR
2	CC	16	ARG
2	CC	17	ASP
2	CC	21	ARG
2	CC	26	LYS
2	CC	28	GLN
2	CC	34	LEU
2	CC	38	ARG
2	CC	43	LEU
2	CC	52	LEU
2	CC	55	VAL
2	CC	59	ARG
2	CC	62	ASP
2	CC	70	VAL
2	CC	72	LYS
2	CC	76	VAL
2	CC	91	LEU
2	CC	101	LEU

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Mol	Chain	Res	Type
2	CC	104	GLN
2	CC	105	GLU
2	CC	115	LEU
2	CC	124	ILE
2	CC	125	GLU
2	CC	132	ARG
2	CC	134	ILE
2	CC	136	GLN
2	CC	143	GLU
2	CC	152	ILE
2	CC	153	VAL
2	CC	162	GLN
2	CC	166	GLU
2	CC	173	VAL
2	CC	175	LEU
2	CC	186	PHE
2	CC	188	LEU
2	CC	196	LEU
2	CC	204	LEU
2	CC	206	GLU
3	CD	9	CYS
3	CD	12	CYS
3	CD	13	ARG
3	CD	26	CYS
3	CD	27	TYR
3	CD	42	GLN
3	CD	49	ARG
3	CD	50	ARG
3	CD	54	TYR
3	CD	57	ARG
3	CD	60	GLU
3	CD	67	ILE
3	CD	70	ILE
3	CD	76	ARG
3	CD	77	ASN
3	CD	84	LYS
3	CD	86	LYS
3	CD	89	THR
3	CD	97	LEU
3	CD	98	GLU
3	CD	103	ASN
3	CD	107	ARG

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Mol	Chain	Res	Type
3	CD	113	SER
3	CD	135	LEU
3	CD	140	VAL
3	CD	148	VAL
3	CD	156	GLU
3	CD	159	ARG
3	CD	176	LEU
3	CD	178	VAL
3	CD	187	ARG
3	CD	193	ASP
3	CD	207	TYR
4	CE	5	ASP
4	CE	12	LEU
4	CE	16	THR
4	CE	37	ARG
4	CE	41	VAL
4	CE	45	PHE
4	CE	60	TYR
4	CE	64	ARG
4	CE	68	GLU
4	CE	73	ASN
4	CE	76	ILE
4	CE	78	HIS
4	CE	80	ILE
4	CE	82	VAL
4	CE	87	SER
4	CE	91	LEU
4	CE	112	LEU
4	CE	119	LEU
4	CE	120	THR
4	CE	126	ARG
4	CE	129	ILE
4	CE	137	GLU
4	CE	143	ARG
4	CE	148	VAL
5	CF	11	ASN
5	CF	13	ASN
5	CF	16	GLN
5	CF	23	LYS
5	CF	36	ARG
5	CF	45	LEU
5	CF	46	ARG

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Mol	Chain	Res	Type
5	CF	57	GLN
5	CF	61	LEU
5	CF	67	MET
5	CF	69	GLU
5	CF	70	ASP
5	CF	74	ASP
5	CF	89	MET
6	CG	5	ARG
6	CG	9	VAL
6	CG	13	GLN
6	CG	17	VAL
6	CG	18	TYR
6	CG	42	ILE
6	CG	56	GLN
6	CG	78	ARG
6	CG	79	ARG
6	CG	80	VAL
6	CG	106	GLN
6	CG	113	GLU
6	CG	114	ARG
6	CG	122	HIS
6	CG	126	ASP
6	CG	135	VAL
6	CG	140	ASP
7	CH	3	THR
7	CH	8	ASP
7	CH	26	VAL
7	CH	29	SER
7	CH	49	GLU
7	CH	51	VAL
7	CH	56	LYS
7	CH	58	TYR
7	CH	59	LEU
7	CH	61	VAL
7	CH	63	LEU
7	CH	70	GLN
7	CH	73	ASP
7	CH	77	GLU
7	CH	83	ILE
7	CH	99	GLU
7	CH	104	ARG
7	CH	107	LEU

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Mol	Chain	Res	Type
7	CH	109	ILE
7	CH	111	ILE
7	CH	119	LEU
7	CH	120	THR
7	CH	127	LEU
7	CH	129	VAL
7	CH	133	LEU
7	CH	136	GLU
7	CH	138	TRP
8	CI	12	GLU
8	CI	19	LEU
8	CI	25	LYS
8	CI	27	THR
8	CI	53	VAL
8	CI	71	SER
8	CI	79	LEU
8	CI	91	ASP
8	CI	93	ARG
8	CI	95	LYS
8	CI	96	LEU
8	CI	102	LEU
8	CI	107	ARG
8	CI	108	VAL
8	CI	114	TYR
8	CI	117	HIS
8	CI	118	LYS
8	CI	124	GLN
9	CJ	5	ARG
9	CJ	6	ILE
9	CJ	8	LEU
9	CJ	11	PHE
9	CJ	16	LEU
9	CJ	22	LYS
9	CJ	25	GLU
9	CJ	30	SER
9	CJ	47	PHE
9	CJ	48	THR
9	CJ	50	ILE
9	CJ	67	THR
9	CJ	70	ARG
9	CJ	74	ILE
9	CJ	75	ILE

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Mol	Chain	Res	Type
9	CJ	78	ASN
9	CJ	79	ARG
9	CJ	81	THR
9	CJ	84	GLN
9	CJ	95	GLU
9	CJ	96	ILE
9	CJ	99	LYS
10	CK	18	ARG
10	CK	25	TYR
10	CK	29	ILE
10	CK	33	THR
10	CK	34	ASP
10	CK	36	ASP
10	CK	40	ILE
10	CK	41	THR
10	CK	48	ILE
10	CK	57	THR
10	CK	84	VAL
10	CK	101	SER
10	CK	103	LEU
10	CK	107	SER
10	CK	124	LYS
10	CK	127	LYS
11	CL	6	THR
11	CL	12	ARG
11	CL	16	GLU
11	CL	18	VAL
11	CL	20	LYS
11	CL	24	VAL
11	CL	33	ARG
11	CL	37	CYS
11	CL	38	THR
11	CL	43	VAL
11	CL	47	LYS
11	CL	54	LYS
11	CL	55	VAL
11	CL	58	VAL
11	CL	60	LEU
11	CL	67	THR
11	CL	75	HIS
11	CL	76	ASN
11	CL	77	LEU

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Mol	Chain	Res	Type
11	CL	80	HIS
11	CL	85	ILE
11	CL	91	LYS
11	CL	92	ASP
11	CL	93	LEU
11	CL	96	VAL
11	CL	101	VAL
11	CL	123	LYS
11	CL	127	GLU
12	CM	7	VAL
12	CM	17	VAL
12	CM	19	LEU
12	CM	31	LYS
12	CM	35	GLU
12	CM	36	LYS
12	CM	43	THR
12	CM	50	GLU
12	CM	57	ARG
12	CM	64	TRP
12	CM	70	LEU
12	CM	81	LEU
12	CM	92	HIS
12	CM	108	ARG
12	CM	110	ARG
12	CM	111	LYS
12	CM	121	LYS
13	CN	9	LYS
13	CN	22	THR
13	CN	29	ARG
13	CN	35	ARG
13	CN	40	CYS
13	CN	44	LEU
13	CN	47	LEU
13	CN	53	LEU
13	CN	56	VAL
13	CN	57	ARG
13	CN	58	LYS
13	CN	61	TRP
14	CO	10	LYS
14	CO	17	ARG
14	CO	21	ASP
14	CO	25	THR

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Mol	Chain	Res	Type
14	CO	26	GLU
14	CO	34	LEU
14	CO	38	ARG
14	CO	39	LEU
14	CO	43	LEU
14	CO	47	LYS
14	CO	63	ARG
14	CO	66	LEU
14	CO	79	ARG
14	CO	87	ILE
14	CO	88	ARG
15	CP	1	MET
15	CP	3	LYS
15	CP	13	HIS
15	CP	22	THR
15	CP	32	TYR
15	CP	49	LEU
15	CP	58	TYR
15	CP	59	TRP
15	CP	69	THR
15	CP	73	LEU
16	CQ	10	VAL
16	CQ	19	VAL
16	CQ	36	ILE
16	CQ	37	LYS
16	CQ	48	GLU
16	CQ	52	LYS
16	CQ	53	LEU
16	CQ	55	ASP
16	CQ	60	ILE
16	CQ	63	ARG
16	CQ	66	SER
16	CQ	81	ARG
16	CQ	83	ASP
16	CQ	85	VAL
16	CQ	87	LYS
16	CQ	92	ARG
17	CR	22	VAL
17	CR	34	TYR
17	CR	38	GLU
17	CR	44	LEU
17	CR	47	THR

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Mol	Chain	Res	Type
17	CR	53	ARG
17	CR	62	GLU
17	CR	81	PHE
17	CR	85	LEU
17	CR	86	VAL
17	CR	87	ARG
18	CS	5	LEU
18	CS	6	LYS
18	CS	9	VAL
18	CS	13	ASP
18	CS	22	LEU
18	CS	25	LYS
18	CS	27	GLU
18	CS	29	ARG
18	CS	33	THR
18	CS	34	TRP
18	CS	37	ARG
18	CS	43	GLU
18	CS	47	HIS
18	CS	61	TYR
18	CS	62	ILE
18	CS	63	THR
18	CS	66	MET
18	CS	67	VAL
18	CS	71	LEU
19	CT	11	SER
19	CT	13	LEU
19	CT	15	ARG
19	CT	22	ARG
19	CT	33	ILE
19	CT	43	LEU
19	CT	56	MET
19	CT	71	THR
19	CT	74	LYS
19	CT	92	LEU
19	CT	93	GLU
20	CY	8	ASP
20	CY	9	LEU
20	CY	14	ASN
20	CY	20	HIS
20	CY	26	THR
20	CY	33	LEU

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Mol	Chain	Res	Type
20	CY	35	TYR
20	CY	39	ILE
20	CY	66	THR
20	CY	79	ILE
20	CY	82	ILE
20	CY	84	THR
20	CY	92	ILE
20	CY	94	VAL
20	CY	98	MET
20	CY	99	ARG
20	CY	105	ILE
20	CY	110	SER
20	CY	114	VAL
20	CY	121	VAL
20	CY	126	GLU
20	CY	128	TYR
20	CY	132	ARG
20	CY	133	ILE
20	CY	152	THR
20	CY	153	MET
20	CY	157	LEU
20	CY	163	VAL
20	CY	170	ARG
20	CY	171	GLU
20	CY	173	THR
20	CY	174	PHE
20	CY	178	ILE
20	CY	179	ASP
20	CY	180	VAL
20	CY	190	ASN
20	CY	199	ILE
20	CY	203	GLU
20	CY	204	GLU
20	CY	225	GLU
20	CY	232	LEU
20	CY	260	LEU
20	CY	266	ASN
20	CY	271	LEU
20	CY	277	VAL
20	CY	290	LYS
20	CY	292	THR
20	CY	298	VAL

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Mol	Chain	Res	Type
20	CY	300	GLU
20	CY	304	ASP
20	CY	312	LEU
20	CY	328	ILE
20	CY	330	VAL
20	CY	344	THR
20	CY	352	VAL
20	CY	384	ILE
20	CY	398	ILE
20	CY	406	GLU
20	CY	408	VAL
20	CY	410	ASP
20	CY	416	LYS
20	CY	424	LEU
20	CY	428	LEU
20	CY	437	THR
20	CY	438	PHE
20	CY	440	VAL
20	CY	448	GLN
20	CY	451	ILE
20	CY	454	MET
20	CY	456	GLU
20	CY	457	LEU
20	CY	468	ARG
20	CY	472	VAL
20	CY	476	VAL
20	CY	487	ILE
20	CY	488	THR
20	CY	493	VAL
20	CY	498	ILE
20	CY	507	TYR
20	CY	510	VAL
20	CY	512	ILE
20	CY	515	GLU
20	CY	526	VAL
20	CY	542	VAL
20	CY	556	ILE
20	CY	563	ILE
20	CY	565	VAL
20	CY	566	THR
20	CY	568	TYR
20	CY	574	GLU

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Mol	Chain	Res	Type
20	CY	579	GLU
20	CY	595	GLN
20	CY	600	VAL
20	CY	601	ILE
20	CY	605	ILE
20	CY	606	MET
20	CY	608	VAL
20	CY	614	GLU
20	CY	617	MET
20	CY	624	LEU
20	CY	630	GLN
20	CY	635	GLU
20	CY	651	GLU
20	CY	663	THR
20	CY	669	PHE
20	CY	671	MET
20	CY	676	TYR
20	CY	677	GLN
20	CY	679	VAL
20	CY	685	GLU
20	CY	686	LYS
25	DC	7	ARG
25	DC	9	ARG
25	DC	12	LEU
25	DC	19	LYS
25	DC	20	VAL
25	DC	28	ARG
25	DC	30	VAL
25	DC	31	LYS
25	DC	41	THR
25	DC	42	VAL
25	DC	48	LEU
25	DC	50	ILE
25	DC	51	ASP
25	DC	53	ARG
25	DC	54	ARG
25	DC	57	GLN
25	DC	59	VAL
25	DC	73	VAL
25	DC	75	VAL
25	DC	83	LYS
25	DC	85	LYS

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Mol	Chain	Res	Type
25	DC	86	GLU
25	DC	93	ASP
25	DC	95	VAL
25	DC	98	GLU
25	DC	100	ILE
25	DC	105	LEU
25	DC	109	MET
25	DC	115	VAL
25	DC	117	THR
25	DC	119	ASP
25	DC	120	VAL
25	DC	130	ARG
25	DC	131	ILE
25	DC	132	LEU
25	DC	138	LEU
25	DC	146	VAL
25	DC	149	ASN
25	DC	153	ILE
25	DC	155	ARG
25	DC	161	ARG
25	DC	164	PHE
25	DC	169	THR
25	DC	172	ILE
25	DC	173	HIS
25	DC	176	VAL
25	DC	186	LEU
25	DC	188	ASP
25	DC	201	LYS
25	DC	203	GLU
25	DC	206	LYS
25	DC	211	ARG
25	DC	213	VAL
25	DC	216	THR
26	DD	4	LYS
26	DD	5	LYS
26	DD	9	TYR
26	DD	10	THR
26	DD	15	PHE
26	DD	23	GLU
26	DD	24	ILE
26	DD	25	THR
26	DD	26	LYS

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Mol	Chain	Res	Type
26	DD	28	GLU
26	DD	30	GLU
26	DD	31	LYS
26	DD	37	LEU
26	DD	51	VAL
26	DD	64	ILE
26	DD	65	ILE
26	DD	69	ARG
26	DD	78	LYS
26	DD	82	ILE
26	DD	83	GLU
26	DD	92	ILE
26	DD	103	ARG
26	DD	104	TYR
26	DD	105	ILE
26	DD	115	GLN
26	DD	117	VAL
26	DD	127	VAL
26	DD	134	ARG
26	DD	136	ILE
26	DD	140	THR
26	DD	143	HIS
26	DD	150	LYS
26	DD	155	LEU
26	DD	161	THR
26	DD	175	LEU
26	DD	193	VAL
26	DD	196	VAL
26	DD	229	VAL
26	DD	230	ASP
26	DD	233	HIS
26	DD	237	GLU
26	DD	242	ARG
26	DD	264	LYS
26	DD	267	SER
26	DD	271	ILE
27	DE	4	ILE
27	DE	9	VAL
27	DE	11	MET
27	DE	18	ASP
27	DE	26	ILE
27	DE	45	THR

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Mol	Chain	Res	Type
27	DE	52	LEU
27	DE	54	GLN
27	DE	57	LYS
27	DE	61	ARG
27	DE	72	VAL
27	DE	77	ILE
27	DE	78	LEU
27	DE	87	GLU
27	DE	89	ASP
27	DE	93	VAL
27	DE	94	GLU
27	DE	95	ILE
27	DE	134	ILE
27	DE	135	HIS
27	DE	141	ILE
27	DE	146	THR
27	DE	159	HIS
27	DE	163	GLU
27	DE	172	VAL
27	DE	175	VAL
27	DE	179	GLU
27	DE	180	ASN
27	DE	192	ASN
27	DE	199	ARG
28	DF	3	GLU
28	DF	6	VAL
28	DF	7	TYR
28	DF	9	ILE
28	DF	12	LEU
28	DF	17	ARG
28	DF	24	LEU
28	DF	40	GLN
28	DF	48	THR
28	DF	53	THR
28	DF	56	GLU
28	DF	64	ILE
28	DF	72	ARG
28	DF	74	ARG
28	DF	78	ILE
28	DF	82	ILE
28	DF	98	SER
28	DF	106	ARG

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Mol	Chain	Res	Type
28	DF	112	MET
28	DF	125	LEU
28	DF	126	VAL
28	DF	132	VAL
28	DF	136	THR
28	DF	149	ASP
28	DF	154	VAL
28	DF	175	THR
28	DF	192	LEU
28	DF	193	VAL
28	DF	196	LEU
28	DF	199	TRP
28	DF	200	GLU
28	DF	201	VAL
28	DF	206	ILE
29	DG	5	VAL
29	DG	9	ARG
29	DG	21	ARG
29	DG	31	VAL
29	DG	34	LEU
29	DG	39	ILE
29	DG	40	ASN
29	DG	43	LEU
29	DG	45	GLU
29	DG	58	GLN
29	DG	59	GLU
29	DG	60	LEU
29	DG	66	GLN
29	DG	70	VAL
29	DG	82	LEU
29	DG	84	LYS
29	DG	99	MET
29	DG	113	ARG
29	DG	115	ARG
29	DG	133	LEU
29	DG	135	LEU
29	DG	143	GLU
29	DG	146	TYR
29	DG	147	ASP
29	DG	159	VAL
29	DG	172	LEU
30	DH	15	VAL

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Mol	Chain	Res	Type
30	DH	17	VAL
30	DH	23	ARG
30	DH	33	LEU
30	DH	42	ARG
30	DH	43	VAL
30	DH	65	HIS
30	DH	67	LEU
30	DH	70	THR
30	DH	72	ILE
30	DH	79	VAL
30	DH	83	TYR
30	DH	86	GLU
30	DH	88	LEU
30	DH	99	VAL
30	DH	104	GLU
30	DH	107	VAL
30	DH	114	VAL
30	DH	116	GLU
30	DH	122	THR
30	DH	133	VAL
30	DH	136	ILE
30	DH	159	GLU
32	DK	5	VAL
32	DK	9	LYS
32	DK	10	LEU
32	DK	34	ILE
32	DK	37	PHE
32	DK	45	THR
32	DK	57	ILE
32	DK	58	THR
32	DK	60	TYR
32	DK	63	ARG
32	DK	64	SER
32	DK	65	PHE
32	DK	69	THR
32	DK	71	THR
32	DK	78	ILE
32	DK	84	LEU
32	DK	95	LYS
32	DK	96	VAL
32	DK	98	ARG
32	DK	102	GLU

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Mol	Chain	Res	Type
32	DK	105	LEU
32	DK	106	GLU
32	DK	110	GLN
32	DK	111	LYS
32	DK	114	ASP
32	DK	115	LEU
32	DK	118	THR
32	DK	125	ARG
32	DK	126	MET
32	DK	132	ARG
32	DK	133	SER
32	DK	136	VAL
33	DN	7	LYS
33	DN	22	THR
33	DN	25	ARG
33	DN	28	THR
33	DN	29	LYS
33	DN	32	THR
33	DN	33	LEU
33	DN	34	LEU
33	DN	41	ASP
33	DN	48	MET
33	DN	65	LYS
33	DN	71	ILE
33	DN	76	SER
33	DN	84	LYS
33	DN	87	LEU
33	DN	89	LYS
33	DN	93	THR
33	DN	98	VAL
33	DN	99	LEU
33	DN	106	MET
33	DN	112	LEU
33	DN	114	ARG
33	DN	119	ARG
33	DN	120	LEU
33	DN	127	ASP
33	DN	131	GLN
33	DN	134	ARG
33	DN	136	GLU
33	DN	137	LYS
33	DN	138	LEU

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Mol	Chain	Res	Type
34	DO	2	ILE
34	DO	8	LEU
34	DO	31	LYS
34	DO	37	ASP
34	DO	42	SER
34	DO	45	GLU
34	DO	56	ASP
34	DO	71	ARG
34	DO	78	ARG
34	DO	80	ASP
34	DO	82	ASN
34	DO	91	LEU
34	DO	92	GLU
34	DO	114	ILE
34	DO	117	LEU
35	DP	7	ARG
35	DP	16	ARG
35	DP	19	VAL
35	DP	27	HIS
35	DP	29	LYS
35	DP	32	THR
35	DP	35	HIS
35	DP	39	LYS
35	DP	46	LYS
35	DP	50	ARG
35	DP	55	ARG
35	DP	60	MET
35	DP	61	ARG
35	DP	62	LEU
35	DP	71	VAL
35	DP	77	ARG
35	DP	79	ARG
35	DP	84	ASN
35	DP	94	GLU
35	DP	100	LEU
35	DP	101	VAL
35	DP	110	TYR
35	DP	115	LEU
35	DP	123	LEU
35	DP	125	VAL
35	DP	130	PHE
36	DQ	3	MET

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Mol	Chain	Res	Type
36	DQ	7	MET
36	DQ	14	ARG
36	DQ	16	ARG
36	DQ	17	LEU
36	DQ	25	ASP
36	DQ	35	VAL
36	DQ	37	LEU
36	DQ	42	ILE
36	DQ	43	THR
36	DQ	45	GLN
36	DQ	46	GLN
36	DQ	47	ILE
36	DQ	56	ARG
36	DQ	58	PHE
36	DQ	59	ARG
36	DQ	68	ILE
36	DQ	89	ASN
36	DQ	91	GLU
36	DQ	104	PHE
36	DQ	105	GLU
36	DQ	106	VAL
36	DQ	112	GLU
36	DQ	127	ILE
36	DQ	131	ILE
36	DQ	132	VAL
36	DQ	137	TYR
37	DR	3	HIS
37	DR	4	LEU
37	DR	13	HIS
37	DR	16	HIS
37	DR	29	LEU
37	DR	35	THR
37	DR	37	THR
37	DR	43	GLU
37	DR	44	LEU
37	DR	49	ASP
37	DR	59	ASP
37	DR	65	LEU
37	DR	67	LEU
37	DR	70	LEU
37	DR	71	GLN
37	DR	76	VAL

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Mol	Chain	Res	Type
37	DR	79	LEU
37	DR	82	GLU
37	DR	97	VAL
37	DR	99	LYS
37	DR	100	LEU
37	DR	107	ASP
37	DR	115	GLU
37	DR	117	VAL
38	DS	13	ARG
38	DS	16	ASN
38	DS	18	ILE
38	DS	23	ARG
38	DS	24	LEU
38	DS	34	HIS
38	DS	35	ILE
38	DS	47	THR
38	DS	62	LYS
38	DS	67	ARG
38	DS	69	VAL
38	DS	82	ILE
38	DS	84	GLN
38	DS	92	TYR
38	DS	95	HIS
38	DS	98	VAL
38	DS	99	LYS
39	DT	1	MET
39	DT	13	ARG
39	DT	16	ARG
39	DT	27	THR
39	DT	30	VAL
39	DT	33	LYS
39	DT	38	ASN
39	DT	42	ILE
39	DT	46	GLU
39	DT	48	ILE
39	DT	62	THR
39	DT	64	ARG
39	DT	70	VAL
39	DT	74	ARG
39	DT	80	SER
39	DT	82	LEU
39	DT	83	ILE

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Mol	Chain	Res	Type
39	DT	85	LYS
39	DT	96	ARG
39	DT	105	LEU
39	DT	107	ASP
39	DT	108	ARG
39	DT	109	GLU
39	DT	111	ARG
39	DT	114	LEU
39	DT	115	ARG
39	DT	118	ARG
39	DT	124	ASP
40	DU	6	THR
40	DU	14	HIS
40	DU	18	LEU
40	DU	38	THR
40	DU	39	LEU
40	DU	50	ARG
40	DU	54	LYS
40	DU	58	ARG
40	DU	59	ARG
40	DU	62	ILE
40	DU	64	ARG
40	DU	74	LEU
40	DU	83	LEU
40	DU	90	VAL
40	DU	97	ASP
40	DU	98	LEU
40	DU	101	ARG
40	DU	104	GLN
40	DU	105	VAL
40	DU	108	GLU
40	DU	114	LYS
40	DU	117	GLN
41	DV	14	VAL
41	DV	18	LEU
41	DV	19	LYS
41	DV	37	VAL
41	DV	38	LEU
41	DV	40	LEU
41	DV	47	VAL
41	DV	57	VAL
41	DV	60	GLU

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Mol	Chain	Res	Type
41	DV	69	LYS
41	DV	71	LEU
41	DV	73	SER
41	DV	80	GLN
41	DV	82	ARG
41	DV	85	LYS
41	DV	87	HIS
41	DV	96	ILE
41	DV	98	GLU
41	DV	99	ILE
42	DW	11	ARG
42	DW	12	ILE
42	DW	17	VAL
42	DW	19	LEU
42	DW	27	LYS
42	DW	37	ARG
42	DW	39	THR
42	DW	40	ASN
42	DW	50	VAL
42	DW	51	LEU
42	DW	61	ASN
42	DW	64	MET
42	DW	66	GLU
42	DW	70	TYR
42	DW	88	ARG
42	DW	95	ILE
42	DW	96	ILE
42	DW	99	ARG
42	DW	107	LEU
43	DX	3	THR
43	DX	6	ASP
43	DX	15	GLU
43	DX	27	THR
43	DX	30	VAL
43	DX	53	LYS
43	DX	54	VAL
43	DX	56	THR
43	DX	57	LEU
43	DX	58	HIS
43	DX	59	VAL
43	DX	66	LEU
43	DX	68	ARG

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Mol	Chain	Res	Type
43	DX	69	TYR
43	DX	72	LYS
43	DX	76	ARG
43	DX	87	GLN
43	DX	92	LEU
44	DY	2	ARG
44	DY	5	MET
44	DY	6	HIS
44	DY	7	VAL
44	DY	9	LYS
44	DY	13	VAL
44	DY	19	LYS
44	DY	35	TYR
44	DY	39	VAL
44	DY	44	ILE
44	DY	46	LYS
44	DY	47	LYS
44	DY	50	ARG
44	DY	62	GLU
44	DY	76	CYS
44	DY	77	PRO
44	DY	87	LYS
45	DZ	3	TYR
45	DZ	6	LYS
45	DZ	14	LYS
45	DZ	24	LEU
45	DZ	31	ARG
45	DZ	34	ASN
45	DZ	37	VAL
45	DZ	39	VAL
45	DZ	42	VAL
45	DZ	46	LYS
45	DZ	47	VAL
45	DZ	52	SER
45	DZ	57	ILE
45	DZ	59	LEU
45	DZ	70	LEU
45	DZ	71	VAL
45	DZ	72	ARG
45	DZ	81	ARG
45	DZ	82	ARG
45	DZ	86	VAL

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Mol	Chain	Res	Type
45	DZ	100	VAL
45	DZ	102	LEU
45	DZ	120	ILE
45	DZ	124	ILE
45	DZ	126	VAL
45	DZ	127	LYS
45	DZ	133	ILE
45	DZ	136	PHE
45	DZ	140	ASP
45	DZ	144	LEU
45	DZ	145	GLU
45	DZ	151	HIS
45	DZ	153	SER
45	DZ	154	ASP
45	DZ	155	LEU
45	DZ	156	LYS
45	DZ	165	VAL
45	DZ	179	ASP
45	DZ	185	GLU
45	DZ	186	GLU
46	D0	5	LYS
46	D0	11	ARG
46	D0	21	LEU
46	D0	27	GLU
46	D0	30	VAL
46	D0	36	ILE
46	D0	41	ARG
46	D0	43	THR
47	D2	9	GLN
47	D2	17	SER
47	D2	21	LEU
47	D2	35	LEU
47	D2	40	SER
47	D2	41	ILE
47	D2	47	ASN
47	D2	53	LEU
47	D2	55	ARG
47	D2	57	ILE
47	D2	71	ASN
48	D3	4	LEU
48	D3	8	LEU
48	D3	17	LYS

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Mol	Chain	Res	Type
48	D3	19	GLN
48	D3	20	LYS
48	D3	36	VAL
48	D3	43	ILE
48	D3	48	GLU
48	D3	60	GLU
49	D5	3	LYS
49	D5	20	ARG
49	D5	25	LEU
49	D5	26	THR
49	D5	31	VAL
49	D5	44	THR
49	D5	48	GLU
49	D5	51	TYR
49	D5	58	LEU
50	D6	6	ARG
50	D6	9	LEU
50	D6	10	LEU
50	D6	11	LEU
50	D6	18	ARG
50	D6	19	ARG
50	D6	23	THR
50	D6	25	LYS
50	D6	28	ARG
50	D6	34	LEU
50	D6	43	CYS
50	D6	45	LYS
50	D6	47	THR
50	D6	53	LYS
50	D6	54	ILE
51	D7	6	GLN
51	D7	24	THR
51	D7	30	VAL
51	D7	39	ARG
51	D7	40	TRP
52	D8	32	LEU
52	D8	34	TRP
52	D8	36	LYS
52	D8	40	GLU
52	D8	44	LYS
52	D8	49	VAL
52	D8	52	LYS

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Mol	Chain	Res	Type
52	D8	53	PRO
52	D8	60	LEU
52	D8	61	LEU
52	D8	64	TYR
53	D9	11	CYS
53	D9	17	ILE
53	D9	27	CYS
53	D9	35	ARG
56	D1	5	CYS
56	D1	14	VAL
56	D1	18	ILE
56	D1	20	ARG
56	D1	25	LYS
56	D1	27	GLU
56	D1	32	LYS
56	D1	39	LYS
56	D1	41	ARG
56	D1	45	ASN
56	D1	46	LEU
56	D1	47	GLN
56	D1	50	ARG
56	D1	51	VAL
56	D1	57	GLU
56	D1	58	ILE
56	D1	67	ILE
56	D1	70	VAL
56	D1	90	ILE
56	D1	94	LEU
57	D4	6	HIS
57	D4	8	LYS
57	D4	9	LEU
57	D4	10	VAL
57	D4	15	ILE
57	D4	21	VAL
57	D4	23	GLU
57	D4	26	SER
57	D4	32	TYR
57	D4	34	GLU
58	De	61	ASP
58	De	70	LYS
58	De	73	GLU
58	De	78	LEU

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Mol	Chain	Res	Type
58	De	81	ILE
58	De	90	LYS
58	De	94	GLU
58	De	100	LYS
58	De	101	GLU
58	De	118	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (143) such sidechains are listed below:

Mol	Chain	Res	Type
1	AB	16	HIS
1	AB	104	ASN
1	AB	113	HIS
1	AB	146	GLN
2	AC	107	GLN
3	AD	103	ASN
4	AE	78	HIS
4	AE	141	GLN
6	AG	86	GLN
6	AG	96	GLN
8	AI	23	ASN
10	AK	38	ASN
10	AK	78	GLN
10	AK	93	GLN
10	AK	117	ASN
11	AL	99	HIS
13	AN	52	GLN
14	AO	37	ASN
14	AO	71	GLN
15	AP	14	ASN
15	AP	65	GLN
18	AS	56	GLN
20	AY	46	HIS
20	AY	77	HIS
20	AY	117	GLN
20	AY	137	ASN
20	AY	165	GLN
20	AY	595	GLN
20	AY	639	ASN
20	AY	682	GLN
25	BC	4	HIS
25	BC	67	HIS

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Mol	Chain	Res	Type
25	BC	166	ASN
25	BC	189	ASN
25	BC	228	HIS
26	BD	186	HIS
27	BE	35	GLN
27	BE	85	ASN
27	BE	121	ASN
27	BE	159	HIS
28	BF	40	GLN
28	BF	169	ASN
29	BG	27	ASN
29	BG	132	ASN
30	BH	111	HIS
30	BH	143	GLN
32	BK	11	GLN
32	BK	30	HIS
34	BO	90	GLN
35	BP	68	GLN
35	BP	84	ASN
36	BQ	12	GLN
38	BS	38	GLN
39	BT	43	GLN
39	BT	79	HIS
39	BT	123	GLN
40	BU	104	GLN
45	BZ	30	ASN
45	BZ	75	ASN
45	BZ	132	ASN
49	B5	23	HIS
50	B6	32	ASN
56	B1	16	ASN
1	CB	25	ASN
1	CB	76	GLN
1	CB	135	GLN
1	CB	140	HIS
2	CC	63	ASN
2	CC	110	ASN
2	CC	181	ASN
3	CD	45	GLN
3	CD	77	ASN
3	CD	160	GLN
3	CD	161	ASN

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Mol	Chain	Res	Type
4	CE	65	ASN
4	CE	78	HIS
5	CF	11	ASN
5	CF	57	GLN
6	CG	13	GLN
7	CH	15	ASN
7	CH	78	GLN
9	CJ	13	HIS
9	CJ	76	ASN
10	CK	13	GLN
10	CK	22	HIS
10	CK	27	ASN
10	CK	116	HIS
11	CL	9	GLN
12	CM	92	HIS
14	CO	46	HIS
15	CP	16	HIS
16	CQ	96	GLN
18	CS	56	GLN
19	CT	18	GLN
19	CT	73	HIS
20	CY	40	HIS
20	CY	80	ASN
20	CY	137	ASN
20	CY	306	ASN
20	CY	458	HIS
20	CY	506	GLN
20	CY	551	GLN
25	DC	140	ASN
25	DC	166	ASN
26	DD	46	GLN
26	DD	87	ASN
26	DD	126	GLN
26	DD	166	GLN
26	DD	186	HIS
26	DD	198	ASN
26	DD	231	HIS
27	DE	121	ASN
28	DF	31	HIS
28	DF	40	GLN
28	DF	133	ASN
29	DG	27	ASN

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Mol	Chain	Res	Type
32	DK	30	HIS
33	DN	131	GLN
34	DO	29	ASN
35	DP	9	ASN
35	DP	68	GLN
35	DP	70	GLN
36	DQ	12	GLN
36	DQ	45	GLN
36	DQ	89	ASN
37	DR	23	ASN
37	DR	53	HIS
37	DR	61	HIS
38	DS	34	HIS
39	DT	84	GLN
40	DU	66	ASN
41	DV	87	HIS
41	DV	89	GLN
43	DX	58	HIS
43	DX	87	GLN
45	DZ	118	GLN
46	D0	80	HIS
48	D3	19	GLN
50	D6	26	ASN
50	D6	49	HIS
51	D7	36	GLN
52	D8	35	GLN
56	D1	66	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
21	AA	1511/1511 (100%)	327 (21%)	19 (1%)
21	CA	1511/1511 (100%)	310 (20%)	16 (1%)
22	AW	76/77 (98%)	22 (28%)	1 (1%)
22	CW	76/77 (98%)	19 (25%)	1 (1%)
23	AV	22/23 (95%)	11 (50%)	2 (9%)
23	CV	22/23 (95%)	9 (40%)	3 (13%)
59	BA	2878/2879 (99%)	666 (23%)	21 (0%)
59	DA	2878/2879 (99%)	629 (21%)	17 (0%)
60	BB	118/119 (99%)	20 (16%)	4 (3%)
60	DB	118/119 (99%)	19 (16%)	3 (2%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
All	All	9210/9218 (99%)	2032 (22%)	87 (0%)

All (2032) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
21	AA	6	G
21	AA	7	G
21	AA	8	A
21	AA	9	G
21	AA	13	U
21	AA	22	G
21	AA	31	G
21	AA	32	A
21	AA	39	G
21	AA	47	C
21	AA	48	C
21	AA	50	A
21	AA	51	A
21	AA	54	C
21	AA	65	U
21	AA	66	G
21	AA	68	G
21	AA	68(H)	G
21	AA	68(L)	U
21	AA	68(P)	C
21	AA	68(R)	C
21	AA	68(S)	C
21	AA	109	A
21	AA	115	G
21	AA	116	A
21	AA	121	C
21	AA	129(A)	G
21	AA	131	C
21	AA	134	A
21	AA	135	C
21	AA	136	C
21	AA	144	G
21	AA	148	G
21	AA	163	C
21	AA	170	U
21	AA	174	C
21	AA	186(H)	U

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Mol	Chain	Res	Type
21	AA	191	G
21	AA	195	A
21	AA	197	A
21	AA	201	C
21	AA	201(A)	U
21	AA	201(C)	U
21	AA	216	G
21	AA	222	U
21	AA	233	C
21	AA	247	G
21	AA	251	G
21	AA	264	U
21	AA	267	C
21	AA	281	G
21	AA	283	C
21	AA	289	G
21	AA	290	C
21	AA	294	U
21	AA	306	G
21	AA	313	A
21	AA	315	A
21	AA	316	G
21	AA	321	A
21	AA	328	C
21	AA	329	A
21	AA	332	G
21	AA	340	U
21	AA	345	C
21	AA	346	G
21	AA	347	G
21	AA	348	G
21	AA	352	C
21	AA	353	A
21	AA	354	G
21	AA	367	U
21	AA	372	C
21	AA	388	G
21	AA	389	A
21	AA	390	C
21	AA	392	G
21	AA	397	A
21	AA	398	C

Continued on next page...

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Mol	Chain	Res	Type
21	AA	406	G
21	AA	410	G
21	AA	412	A
21	AA	413	G
21	AA	414	A
21	AA	422	C
21	AA	424	G
21	AA	429	U
21	AA	430	A
21	AA	432	A
21	AA	440	A
21	AA	444	C
21	AA	452	A
21	AA	453	A
21	AA	457	C
21	AA	458(B)	A
21	AA	475	G
21	AA	481	G
21	AA	482	A
21	AA	484	G
21	AA	485	G
21	AA	486	U
21	AA	497	A
21	AA	498	U
21	AA	505	G
21	AA	509	A
21	AA	511	C
21	AA	518	C
21	AA	520	A
21	AA	521	G
21	AA	524	G
21	AA	527	G
21	AA	531	U
21	AA	532	A
21	AA	533	A
21	AA	535	A
21	AA	536	C
21	AA	547	A
21	AA	559	A
21	AA	561	U
21	AA	562	C
21	AA	564	C

Continued on next page...

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Mol	Chain	Res	Type
21	AA	565	U
21	AA	568	G
21	AA	572	A
21	AA	573	A
21	AA	574	A
21	AA	576	G
21	AA	577	G
21	AA	596	C
21	AA	618	C
21	AA	653	A
21	AA	659	U
21	AA	665	A
21	AA	666	G
21	AA	678	U
21	AA	688	G
21	AA	693	G
21	AA	702	A
21	AA	703	G
21	AA	706	A
21	AA	717	C
21	AA	720	C
21	AA	721	G
21	AA	724	G
21	AA	733	A
21	AA	734	G
21	AA	737	A
21	AA	749	C
21	AA	755	G
21	AA	777	A
21	AA	793	U
21	AA	794	A
21	AA	796	C
21	AA	816	A
21	AA	817	C
21	AA	818	G
21	AA	819	A
21	AA	828	A
21	AA	838(A)	U
21	AA	838(B)	C
21	AA	838(C)	U
21	AA	848	C
21	AA	852	G

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Mol	Chain	Res	Type
21	AA	853	G
21	AA	855	G
21	AA	859	A
21	AA	889	A
21	AA	907	A
21	AA	916	G
21	AA	918	A
21	AA	923	A
21	AA	926	G
21	AA	927	G
21	AA	934	C
21	AA	935	A
21	AA	939	G
21	AA	960	U
21	AA	961	U
21	AA	968	A
21	AA	969	A
21	AA	971	G
21	AA	974	A
21	AA	976	G
21	AA	977	A
21	AA	978	A
21	AA	980	C
21	AA	983	A
21	AA	992	U
21	AA	993	G
21	AA	1004	A
21	AA	1005	A
21	AA	1006	C
21	AA	1008	C
21	AA	1020	U
21	AA	1025	U
21	AA	1028(B)	C
21	AA	1028(C)	G
21	AA	1036	G
21	AA	1037	C
21	AA	1045	C
21	AA	1054	C
21	AA	1055	A
21	AA	1060	C
21	AA	1065	U
21	AA	1066	C

Continued on next page...

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Mol	Chain	Res	Type
21	AA	1068	G
21	AA	1081	G
21	AA	1084	G
21	AA	1089	G
21	AA	1094	G
21	AA	1095	U
21	AA	1101	A
21	AA	1102	A
21	AA	1108	G
21	AA	1115	C
21	AA	1117	G
21	AA	1118	C
21	AA	1120	G
21	AA	1125	U
21	AA	1126	U
21	AA	1127	G
21	AA	1128	C
21	AA	1129	C
21	AA	1130	A
21	AA	1131	G
21	AA	1136	U
21	AA	1137	C
21	AA	1138	G
21	AA	1139	G
21	AA	1146	A
21	AA	1150	U
21	AA	1152	A
21	AA	1158	C
21	AA	1159	U
21	AA	1160	G
21	AA	1171	G
21	AA	1181	G
21	AA	1182	G
21	AA	1190	G
21	AA	1191	A
21	AA	1193	G
21	AA	1196	U
21	AA	1197	G
21	AA	1210	C
21	AA	1211	U
21	AA	1212	U
21	AA	1213	A

Continued on next page...

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Mol	Chain	Res	Type
21	AA	1220	G
21	AA	1222	G
21	AA	1225	A
21	AA	1226	C
21	AA	1228	C
21	AA	1236	A
21	AA	1238	A
21	AA	1239	A
21	AA	1240	U
21	AA	1249	C
21	AA	1256	A
21	AA	1257	U
21	AA	1260	C
21	AA	1270	C
21	AA	1280	A
21	AA	1281	U
21	AA	1287	A
21	AA	1300	G
21	AA	1301	U
21	AA	1302	U
21	AA	1303	C
21	AA	1305	G
21	AA	1311	G
21	AA	1317	C
21	AA	1320	C
21	AA	1322	C
21	AA	1331	G
21	AA	1335	C
21	AA	1338	G
21	AA	1345	U
21	AA	1347	G
21	AA	1357	A
21	AA	1358	U
21	AA	1359	C
21	AA	1362(A)	C
21	AA	1363	A
21	AA	1364	U
21	AA	1365	G
21	AA	1370	G
21	AA	1377	A
21	AA	1378	C
21	AA	1379	G

Continued on next page...

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Mol	Chain	Res	Type
21	AA	1381	U
21	AA	1394	A
21	AA	1397	C
21	AA	1413	A
21	AA	1419	G
21	AA	1440(B)	G
21	AA	1440(C)	G
21	AA	1440(D)	A
21	AA	1440(I)	A
21	AA	1440(J)	C
21	AA	1440(K)	G
21	AA	1440(L)	G
21	AA	1475	G
21	AA	1484	C
21	AA	1487	G
21	AA	1489	G
21	AA	1491	G
21	AA	1492	A
21	AA	1493	A
21	AA	1494	G
21	AA	1497	G
21	AA	1502	A
21	AA	1503	A
21	AA	1504	G
21	AA	1505	G
21	AA	1506	U
21	AA	1507	A
21	AA	1517	G
21	AA	1520	G
21	AA	1525	G
21	AA	1529	G
21	AA	1530	G
21	AA	1532	U
21	AA	1533	C
21	AA	1534	A
21	AA	1535	C
21	AA	1536	C
21	AA	1538	C
22	AW	6	C
22	AW	8	U
22	AW	9	A
22	AW	16	U

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Mol	Chain	Res	Type
22	AW	17	U
22	AW	18	G
22	AW	19	G
22	AW	20	U
22	AW	20(A)	U
22	AW	21	A
22	AW	22	G
22	AW	25	C
22	AW	29	U
22	AW	46	G
22	AW	47	U
22	AW	48	C
22	AW	50	C
22	AW	58	A
22	AW	60	U
22	AW	61	C
22	AW	66	C
22	AW	76	A
23	AV	5	A
23	AV	9	G
23	AV	10	G
23	AV	11	U
23	AV	12	A
23	AV	15	A
23	AV	16	A
23	AV	18	G
23	AV	19	G
23	AV	22	A
23	AV	23	A
59	BA	9	U
59	BA	12	U
59	BA	13	A
59	BA	27	G
59	BA	34	C
59	BA	46	C
59	BA	47	C
59	BA	49	A
59	BA	50	U
59	BA	51	G
59	BA	61	G
59	BA	68	G
59	BA	70	G

Continued on next page...

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Mol	Chain	Res	Type
59	BA	72	U
59	BA	73	A
59	BA	74	A
59	BA	75	G
59	BA	84	A
59	BA	90	U
59	BA	93	C
59	BA	94	G
59	BA	98	G
59	BA	101	G
59	BA	102	G
59	BA	104	U
59	BA	113	G
59	BA	116	C
59	BA	118	A
59	BA	119	A
59	BA	120	U
59	BA	121	G
59	BA	134	C
59	BA	138	G
59	BA	149	A
59	BA	163	U
59	BA	164	U
59	BA	181	A
59	BA	196	A
59	BA	197	A
59	BA	199	A
59	BA	204	A
59	BA	205	G
59	BA	215	G
59	BA	216	A
59	BA	221	A
59	BA	222	A
59	BA	227	A
59	BA	228	A
59	BA	229	A
59	BA	230	U
59	BA	232	G
59	BA	233	A
59	BA	248	G
59	BA	252	G
59	BA	264	C

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Mol	Chain	Res	Type
59	BA	265	A
59	BA	266	G
59	BA	270(L)	C
59	BA	270(M)	U
59	BA	270(N)	U
59	BA	270(O)	G
59	BA	270(Q)	C
59	BA	270(R)	C
59	BA	271(D)	U
59	BA	271	G
59	BA	274	G
59	BA	278	A
59	BA	279	C
59	BA	294	A
59	BA	295	G
59	BA	300	A
59	BA	302	C
59	BA	310	A
59	BA	322	A
59	BA	323	G
59	BA	325	G
59	BA	329	G
59	BA	330	A
59	BA	331	A
59	BA	352	G
59	BA	354	G
59	BA	363(A)	G
59	BA	363(B)	A
59	BA	363(G)	A
59	BA	364	C
59	BA	372	G
59	BA	386	G
59	BA	387	U
59	BA	388	G
59	BA	389	G
59	BA	396	G
59	BA	405	U
59	BA	408	G
59	BA	411	G
59	BA	412	A
59	BA	425	G
59	BA	444	C

Continued on next page...

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Mol	Chain	Res	Type
59	BA	447	A
59	BA	448	U
59	BA	449	A
59	BA	451	C
59	BA	454	A
59	BA	455	C
59	BA	456	C
59	BA	457	A
59	BA	458	G
59	BA	459	U
59	BA	464	U
59	BA	470	A
59	BA	473	G
59	BA	474	G
59	BA	475	U
59	BA	480	A
59	BA	481	G
59	BA	489	G
59	BA	492	A
59	BA	505	A
59	BA	508	G
59	BA	509	C
59	BA	513	A
59	BA	527	C
59	BA	528	A
59	BA	530	G
59	BA	531	C
59	BA	532	A
59	BA	544	C
59	BA	546	C
59	BA	548	A
59	BA	556	G
59	BA	560	C
59	BA	563	G
59	BA	568	U
59	BA	569	U
59	BA	572	A
59	BA	573	G
59	BA	575	A
59	BA	586	A
59	BA	587	C
59	BA	599	G

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Mol	Chain	Res	Type
59	BA	603	A
59	BA	604	G
59	BA	615	G
59	BA	616	A
59	BA	617	G
59	BA	620	G
59	BA	621	A
59	BA	627	A
59	BA	634	C
59	BA	637	A
59	BA	645	C
59	BA	646	A
59	BA	653	C
59	BA	654	U
59	BA	655	A
59	BA	671	C
59	BA	675	A
59	BA	682	G
59	BA	683	C
59	BA	685	A
59	BA	686	G
59	BA	717	G
59	BA	723	G
59	BA	730	C
59	BA	738	G
59	BA	747	U
59	BA	748	G
59	BA	752	A
59	BA	753	C
59	BA	764	A
59	BA	776	G
59	BA	778	G
59	BA	779	U
59	BA	782	A
59	BA	784	A
59	BA	785	G
59	BA	788	A
59	BA	789	A
59	BA	792	G
59	BA	793	A
59	BA	800	A
59	BA	805	G

Continued on next page...

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Mol	Chain	Res	Type
59	BA	812	C
59	BA	819	A
59	BA	821	A
59	BA	822	U
59	BA	824	A
59	BA	827	U
59	BA	831	G
59	BA	832	G
59	BA	846	C
59	BA	847	U
59	BA	852	G
59	BA	859	G
59	BA	860	U
59	BA	861	A
59	BA	866	A
59	BA	869	G
59	BA	870	A
59	BA	877	U
59	BA	879	G
59	BA	881	G
59	BA	882	G
59	BA	887	A
59	BA	890	A
59	BA	895	U
59	BA	896	A
59	BA	897	C
59	BA	910	A
59	BA	914	C
59	BA	917	A
59	BA	929	G
59	BA	932	G
59	BA	933	A
59	BA	941	A
59	BA	943	U
59	BA	946	G
59	BA	951	C
59	BA	953	A
59	BA	959	A
59	BA	961	C
59	BA	970	C
59	BA	974(A)	G
59	BA	974(B)	C

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Mol	Chain	Res	Type
59	BA	980	A
59	BA	983	A
59	BA	991	C
59	BA	996	A
59	BA	997	G
59	BA	999	U
59	BA	1008	C
59	BA	1009	A
59	BA	1011	G
59	BA	1012	U
59	BA	1013	C
59	BA	1017	G
59	BA	1021	A
59	BA	1022	G
59	BA	1023	U
59	BA	1024	G
59	BA	1025	G
59	BA	1026	U
59	BA	1027	A
59	BA	1030	G
59	BA	1033	U
59	BA	1034	G
59	BA	1047	G
59	BA	1048	A
59	BA	1060	U
59	BA	1061	U
59	BA	1062	G
59	BA	1063	G
59	BA	1070	A
59	BA	1072	C
59	BA	1077	A
59	BA	1078	U
59	BA	1079	C
59	BA	1086	A
59	BA	1088	A
59	BA	1090	U
59	BA	1096	A
59	BA	1097	U
59	BA	1105	U
59	BA	1106	G
59	BA	1110	G
59	BA	1112	G

Continued on next page...

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Mol	Chain	Res	Type
59	BA	1123	C
59	BA	1128	A
59	BA	1130	U
59	BA	1136	G
59	BA	1139	G
59	BA	1141	U
59	BA	114(B)	A
59	BA	1144	G
59	BA	1154	G
59	BA	1155	A
59	BA	1175	U
59	BA	1176	G
59	BA	1179	C
59	BA	1186	G
59	BA	1199	U
59	BA	1204	A
59	BA	1205	U
59	BA	1210	A
59	BA	1211	U
59	BA	1212	G
59	BA	1220	A
59	BA	1221	C
59	BA	1241	A
59	BA	1247	A
59	BA	1248	G
59	BA	1249	U
59	BA	1253	A
59	BA	1256	G
59	BA	1265	A
59	BA	1271	G
59	BA	1272	A
59	BA	1286	A
59	BA	1294	U
59	BA	1300	U
59	BA	1301	A
59	BA	1302	A
59	BA	1309	G
59	BA	1311	G
59	BA	1312	U
59	BA	1313	U
59	BA	1314	C
59	BA	1321	A

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Mol	Chain	Res	Type
59	BA	1322	A
59	BA	1325	G
59	BA	1329	U
59	BA	1330	C
59	BA	1331	A
59	BA	1332	G
59	BA	1333	C
59	BA	1341	U
59	BA	1343	G
59	BA	1348	G
59	BA	1349	A
59	BA	1352	U
59	BA	1359	A
59	BA	1360	A
59	BA	1365	A
59	BA	1378	A
59	BA	1379	A
59	BA	1384	A
59	BA	1385	G
59	BA	1395	A
59	BA	1396	U
59	BA	1398	C
59	BA	1416	G
59	BA	1417	C
59	BA	1418	G
59	BA	1420	U
59	BA	1421	G
59	BA	1428	C
59	BA	1430	C
59	BA	144(B)	A
59	BA	149(B)	A
59	BA	1449	G
59	BA	1453	A
59	BA	1454	U
59	BA	1455	G
59	BA	1458	C
59	BA	1460	A
59	BA	1467	C
59	BA	1478	G
59	BA	1483	G
59	BA	1490	A
59	BA	1491	G

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Mol	Chain	Res	Type
59	BA	1493	C
59	BA	1494	A
59	BA	1495	A
59	BA	1497	U
59	BA	1498	C
59	BA	1509	A
59	BA	1510	A
59	BA	1523	U
59	BA	1528	A
59	BA	1535	U
59	BA	1536	A
59	BA	1538	G
59	BA	1539	G
59	BA	1540	G
59	BA	1541	U
59	BA	1542	G
59	BA	1543	A
59	BA	1544	C
59	BA	1545	A
59	BA	154(B)	C
59	BA	1547	C
59	BA	1558	A
59	BA	1559	G
59	BA	1566	A
59	BA	1569	A
59	BA	1580	A
59	BA	1581	G
59	BA	1583	A
59	BA	1585	C
59	BA	1602	U
59	BA	1603	A
59	BA	1608	A
59	BA	1609	A
59	BA	1616	A
59	BA	1617	C
59	BA	1618	A
59	BA	1635	G
59	BA	1639	U
59	BA	1640	C
59	BA	1644	C
59	BA	1646	C
59	BA	1648	C

Continued on next page...

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Mol	Chain	Res	Type
59	BA	1654	A
59	BA	1656	C
59	BA	1672	C
59	BA	1674	G
59	BA	1691	C
59	BA	1694	C
59	BA	1729	A
59	BA	1732	A
59	BA	1735	U
59	BA	1755	A
59	BA	1757	U
59	BA	1762	A
59	BA	1763	G
59	BA	1764	G
59	BA	1769	G
59	BA	1773	A
59	BA	1781	C
59	BA	1783	A
59	BA	1784	A
59	BA	1787	A
59	BA	1791	A
59	BA	1800	C
59	BA	1801	G
59	BA	1809	A
59	BA	1816	G
59	BA	1820	U
59	BA	1821	A
59	BA	1829	A
59	BA	1836	C
59	BA	1837	C
59	BA	1847	A
59	BA	1859	A
59	BA	1888	G
59	BA	1889	A
59	BA	1900	A
59	BA	1903	G
59	BA	1906	G
59	BA	1908	C
59	BA	1909	C
59	BA	1911	U
59	BA	1912	A
59	BA	1913	A

Continued on next page...

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Mol	Chain	Res	Type
59	BA	1914	C
59	BA	1929	G
59	BA	1930	G
59	BA	1931	U
59	BA	1935	G
59	BA	1936	A
59	BA	1937	A
59	BA	1938	A
59	BA	1939	U
59	BA	1940	U
59	BA	1944	U
59	BA	1955	U
59	BA	1963	U
59	BA	1964	G
59	BA	1967	C
59	BA	1970	A
59	BA	1971	A
59	BA	1972	A
59	BA	1980	G
59	BA	1981	A
59	BA	1982	C
59	BA	1992	G
59	BA	1993	U
59	BA	1996	C
59	BA	2013	A
59	BA	2020	A
59	BA	2023	G
59	BA	2024	G
59	BA	2027	G
59	BA	2028	U
59	BA	2030	A
59	BA	2031	A
59	BA	2032	G
59	BA	2033	A
59	BA	2034	U
59	BA	2036	C
59	BA	2043	C
59	BA	2044	C
59	BA	2051	A
59	BA	2052	G
59	BA	2055	C
59	BA	2056	G

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Mol	Chain	Res	Type
59	BA	2060	A
59	BA	2061	G
59	BA	2062	A
59	BA	2069	G
59	BA	2093	G
59	BA	2111	C
59	BA	2113	U
59	BA	2117	A
59	BA	2118	U
59	BA	2120	G
59	BA	2126	A
59	BA	2131	G
59	BA	2133	G
59	BA	2134	A
59	BA	2144	U
59	BA	2154	G
59	BA	2159	G
59	BA	2161	C
59	BA	2166	G
59	BA	2168	G
59	BA	2171	A
59	BA	2173	A
59	BA	2174	C
59	BA	2184	G
59	BA	2198	A
59	BA	2199	A
59	BA	2210	G
59	BA	2211	G
59	BA	2212	A
59	BA	2213	U
59	BA	2225	A
59	BA	2238	G
59	BA	2239	G
59	BA	2246	G
59	BA	2249	U
59	BA	2252	G
59	BA	2269	A
59	BA	2274	A
59	BA	2275	C
59	BA	2279	G
59	BA	2281	C
59	BA	2283	C

Continued on next page...

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Mol	Chain	Res	Type
59	BA	2287	A
59	BA	2288	A
59	BA	2289	G
59	BA	2305	A
59	BA	2308	G
59	BA	2311	A
59	BA	2320	A
59	BA	2321	G
59	BA	2322	A
59	BA	2325	G
59	BA	2326	C
59	BA	2327	A
59	BA	2334	G
59	BA	2336	A
59	BA	2345	G
59	BA	2346	A
59	BA	2347	C
59	BA	2348	U
59	BA	2362	G
59	BA	2365	G
59	BA	2377	A
59	BA	2379	G
59	BA	2383	G
59	BA	2385	C
59	BA	2391	G
59	BA	2392	A
59	BA	2402	C
59	BA	2406	U
59	BA	2423	U
59	BA	2425	A
59	BA	2426	A
59	BA	2427	C
59	BA	2429	G
59	BA	2430	A
59	BA	2431	U
59	BA	2435	A
59	BA	2437	U
59	BA	2439	A
59	BA	2441	C
59	BA	2448	A
59	BA	2469	A
59	BA	2470	G

Continued on next page...

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Mol	Chain	Res	Type
59	BA	2476	A
59	BA	2477	C
59	BA	2480	C
59	BA	2481	G
59	BA	2482	G
59	BA	2491	U
59	BA	2497	A
59	BA	2500	U
59	BA	2502	G
59	BA	2503	A
59	BA	2504	U
59	BA	2505	G
59	BA	2514	U
59	BA	2518	A
59	BA	2520	C
59	BA	2525	G
59	BA	2529	G
59	BA	2530	A
59	BA	2532	G
59	BA	2535	G
59	BA	2539	C
59	BA	2542	A
59	BA	2543	G
59	BA	2552	U
59	BA	2554	U
59	BA	2562	U
59	BA	2563	U
59	BA	2564	A
59	BA	2566	A
59	BA	2567	G
59	BA	2572	A
59	BA	2573	C
59	BA	2585	U
59	BA	2586	C
59	BA	2593	U
59	BA	2602	A
59	BA	2603	G
59	BA	2609	U
59	BA	2612	C
59	BA	2613	U
59	BA	2614	A
59	BA	2615	U

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Mol	Chain	Res	Type
59	BA	2623	G
59	BA	2624	G
59	BA	2630	G
59	BA	2642	G
59	BA	2645	G
59	BA	2646	C
59	BA	2657	A
59	BA	2663	G
59	BA	2665	A
59	BA	2667	C
59	BA	2682	U
59	BA	2689	U
59	BA	2691	C
59	BA	2702	U
59	BA	2703	C
59	BA	2706	G
59	BA	2707	G
59	BA	2712	U
59	BA	712(B)	A
59	BA	2713	A
59	BA	2714	G
59	BA	2718	G
59	BA	2720	U
59	BA	2726	U
59	BA	2732	G
59	BA	2733	A
59	BA	2748	A
59	BA	2758	A
59	BA	2760	C
59	BA	2764	A
59	BA	2765	A
59	BA	2766	G
59	BA	2770	G
59	BA	2778	A
59	BA	2779	U
59	BA	2780	G
59	BA	2781	A
59	BA	2782	G
59	BA	2786	U
59	BA	2790	A
59	BA	2791	C
59	BA	2792	G

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Mol	Chain	Res	Type
59	BA	2797	U
59	BA	2798	C
59	BA	2811	G
59	BA	2818	G
59	BA	2820	A
59	BA	2821	A
59	BA	2823	A
59	BA	2833	G
59	BA	2834	G
59	BA	2835	A
59	BA	2849	U
59	BA	2851	A
59	BA	2853	C
59	BA	2866	U
59	BA	2871	C
59	BA	2872	G
59	BA	2876	G
59	BA	2879	C
59	BA	2880	C
59	BA	2886	G
59	BA	2892	A
59	BA	2894	G
59	BA	2895	U
60	BB	12	C
60	BB	13	A
60	BB	15	A
60	BB	16	G
60	BB	25	A
60	BB	26	A
60	BB	35	U
60	BB	41	U
60	BB	42	C
60	BB	45	A
60	BB	50	G
60	BB	53	A
60	BB	58	A
60	BB	67	G
60	BB	73	A
60	BB	74	U
60	BB	85	G
60	BB	102	G
60	BB	109	G

Continued on next page...

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Mol	Chain	Res	Type
60	BB	118	G
21	CA	6	G
21	CA	8	A
21	CA	9	G
21	CA	10	A
21	CA	13	U
21	CA	22	G
21	CA	31	G
21	CA	32	A
21	CA	39	G
21	CA	47	C
21	CA	48	C
21	CA	51	A
21	CA	54	C
21	CA	65	U
21	CA	66	G
21	CA	68(H)	G
21	CA	68(L)	U
21	CA	68(N)	U
21	CA	68(P)	C
21	CA	68(R)	C
21	CA	68(S)	C
21	CA	109	A
21	CA	116	A
21	CA	121	C
21	CA	122	G
21	CA	129(A)	G
21	CA	131	C
21	CA	134	A
21	CA	135	C
21	CA	136	C
21	CA	153	C
21	CA	163	C
21	CA	169	C
21	CA	172	A
21	CA	174	C
21	CA	186(I)	U
21	CA	186(K)	G
21	CA	192	U
21	CA	195	A
21	CA	197	A
21	CA	201	C

Continued on next page...

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Mol	Chain	Res	Type
21	CA	201(C)	U
21	CA	216	G
21	CA	221	C
21	CA	243	A
21	CA	247	G
21	CA	251	G
21	CA	267	C
21	CA	279	A
21	CA	281	G
21	CA	285	G
21	CA	289	G
21	CA	296	U
21	CA	301	G
21	CA	315	A
21	CA	316	G
21	CA	321	A
21	CA	328	C
21	CA	329	A
21	CA	332	G
21	CA	345	C
21	CA	346	G
21	CA	347	G
21	CA	348	G
21	CA	352	C
21	CA	353	A
21	CA	354	G
21	CA	366	C
21	CA	367	U
21	CA	368	U
21	CA	372	C
21	CA	373	A
21	CA	388	G
21	CA	389	A
21	CA	390	C
21	CA	392	G
21	CA	397	A
21	CA	398	C
21	CA	406	G
21	CA	410	G
21	CA	412	A
21	CA	414	A
21	CA	421	U

Continued on next page...

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Mol	Chain	Res	Type
21	CA	422	C
21	CA	423	G
21	CA	424	G
21	CA	429	U
21	CA	430	A
21	CA	440	A
21	CA	452	A
21	CA	453	A
21	CA	457	C
21	CA	458(B)	A
21	CA	475	G
21	CA	481	G
21	CA	484	G
21	CA	485	G
21	CA	497	A
21	CA	498	U
21	CA	501	C
21	CA	505	G
21	CA	509	A
21	CA	511	C
21	CA	512	U
21	CA	518	C
21	CA	521	G
21	CA	524	G
21	CA	525	C
21	CA	527	G
21	CA	531	U
21	CA	532	A
21	CA	533	A
21	CA	535	A
21	CA	547	A
21	CA	552	U
21	CA	559	A
21	CA	562	C
21	CA	567	G
21	CA	568	G
21	CA	572	A
21	CA	573	A
21	CA	574	A
21	CA	575	G
21	CA	576	G
21	CA	577	G

Continued on next page...

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Mol	Chain	Res	Type
21	CA	603	U
21	CA	653	A
21	CA	659	U
21	CA	665	A
21	CA	666	G
21	CA	688	G
21	CA	693	G
21	CA	695	A
21	CA	702	A
21	CA	703	G
21	CA	706	A
21	CA	711	G
21	CA	717	C
21	CA	721	G
21	CA	737	A
21	CA	741	G
21	CA	749	C
21	CA	753	A
21	CA	755	G
21	CA	777	A
21	CA	781	A
21	CA	793	U
21	CA	794	A
21	CA	809	G
21	CA	815	A
21	CA	816	A
21	CA	817	C
21	CA	818	G
21	CA	819	A
21	CA	821	G
21	CA	828	A
21	CA	838(A)	U
21	CA	838(B)	C
21	CA	838(C)	U
21	CA	848	C
21	CA	849	C
21	CA	859	A
21	CA	867	G
21	CA	872	A
21	CA	885	G
21	CA	889	A
21	CA	890	G

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Mol	Chain	Res	Type
21	CA	916	G
21	CA	926	G
21	CA	927	G
21	CA	934	C
21	CA	935	A
21	CA	946	A
21	CA	960	U
21	CA	961	U
21	CA	966	G
21	CA	969	A
21	CA	971	G
21	CA	972	C
21	CA	974	A
21	CA	976	G
21	CA	977	A
21	CA	978	A
21	CA	979	C
21	CA	980	C
21	CA	992	U
21	CA	993	G
21	CA	1004	A
21	CA	1005	A
21	CA	1025	U
21	CA	1028	C
21	CA	1028(B)	C
21	CA	1028(C)	G
21	CA	1037	C
21	CA	1045	C
21	CA	1054	C
21	CA	1055	A
21	CA	1060	C
21	CA	1065	U
21	CA	1094	G
21	CA	1095	U
21	CA	1101	A
21	CA	1102	A
21	CA	1104	G
21	CA	1108	G
21	CA	1125	U
21	CA	1126	U
21	CA	1128	C
21	CA	1129	C

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Mol	Chain	Res	Type
21	CA	1130	A
21	CA	1131	G
21	CA	1137	C
21	CA	1138	G
21	CA	1139	G
21	CA	1149	C
21	CA	1152	A
21	CA	1159	U
21	CA	1171	G
21	CA	1178	G
21	CA	1181	G
21	CA	1190	G
21	CA	1191	A
21	CA	1196	U
21	CA	1197	G
21	CA	1198	G
21	CA	1204	A
21	CA	1212	U
21	CA	1213	A
21	CA	1215	G
21	CA	1220	G
21	CA	1225	A
21	CA	1227	A
21	CA	1228	C
21	CA	1236	A
21	CA	1238	A
21	CA	1239	A
21	CA	1256	A
21	CA	1257	U
21	CA	1260	C
21	CA	1270	C
21	CA	1272	G
21	CA	1280	A
21	CA	1281	U
21	CA	1282	C
21	CA	1287	A
21	CA	1290	G
21	CA	1293	G
21	CA	1300	G
21	CA	1301	U
21	CA	1302	U
21	CA	1305	G

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Mol	Chain	Res	Type
21	CA	1309	G
21	CA	1314	C
21	CA	1317	C
21	CA	1320	C
21	CA	1322	C
21	CA	1323	G
21	CA	1325	C
21	CA	1331	G
21	CA	1335	C
21	CA	1345	U
21	CA	1346	A
21	CA	1347	G
21	CA	1359	C
21	CA	1362(A)	C
21	CA	1364	U
21	CA	1370	G
21	CA	1373	G
21	CA	1377	A
21	CA	1378	C
21	CA	1379	G
21	CA	1381	U
21	CA	1382	C
21	CA	1394	A
21	CA	1397	C
21	CA	1399	C
21	CA	1413	A
21	CA	1419	G
21	CA	1435	G
21	CA	1440(B)	G
21	CA	1440(C)	G
21	CA	1440(D)	A
21	CA	1440(J)	C
21	CA	1440(K)	G
21	CA	1440(L)	G
21	CA	1491	G
21	CA	1492	A
21	CA	1493	A
21	CA	1494	G
21	CA	1497	G
21	CA	1499	A
21	CA	1502	A
21	CA	1503	A

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Mol	Chain	Res	Type
21	CA	1504	G
21	CA	1505	G
21	CA	1506	U
21	CA	1507	A
21	CA	1517	G
21	CA	1518	A
21	CA	1519	A
21	CA	1520	G
21	CA	1529	G
21	CA	1530	G
21	CA	1532	U
21	CA	1533	C
21	CA	1534	A
21	CA	1535	C
21	CA	1536	C
21	CA	1537	U
21	CA	1538	C
22	CW	8	U
22	CW	16	U
22	CW	17	U
22	CW	18	G
22	CW	20	U
22	CW	20(A)	U
22	CW	21	A
22	CW	22	G
22	CW	23	A
22	CW	29	U
22	CW	42	U
22	CW	46	G
22	CW	47	U
22	CW	48	C
22	CW	58	A
22	CW	60	U
22	CW	61	C
22	CW	74	C
22	CW	76	A
23	CV	5	A
23	CV	9	G
23	CV	11	U
23	CV	12	A
23	CV	15	A
23	CV	16	A

Continued on next page...

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Mol	Chain	Res	Type
23	CV	18	G
23	CV	19	G
23	CV	23	A
59	DA	10	G
59	DA	12	U
59	DA	13	A
59	DA	15	G
59	DA	23	G
59	DA	25	U
59	DA	27	G
59	DA	28	A
59	DA	34	C
59	DA	35	G
59	DA	46	C
59	DA	50	U
59	DA	51	G
59	DA	52	A
59	DA	64	A
59	DA	70	G
59	DA	73	A
59	DA	74	A
59	DA	75	G
59	DA	84	A
59	DA	90	U
59	DA	98	G
59	DA	101	G
59	DA	102	G
59	DA	113	G
59	DA	118	A
59	DA	119	A
59	DA	120	U
59	DA	121	G
59	DA	138	G
59	DA	140	A
59	DA	141(A)	A
59	DA	163	U
59	DA	178	G
59	DA	181	A
59	DA	196	A
59	DA	197	A
59	DA	199	A
59	DA	204	A

Continued on next page...

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Mol	Chain	Res	Type
59	DA	205	G
59	DA	216	A
59	DA	221	A
59	DA	222	A
59	DA	225	A
59	DA	227	A
59	DA	228	A
59	DA	229	A
59	DA	230	U
59	DA	232	G
59	DA	233	A
59	DA	241	A
59	DA	248	G
59	DA	250	G
59	DA	251	A
59	DA	252	G
59	DA	265	A
59	DA	270(C)	A
59	DA	270(L)	C
59	DA	270(M)	U
59	DA	270(N)	U
59	DA	270(O)	G
59	DA	270(P)	U
59	DA	270(Q)	C
59	DA	270(R)	C
59	DA	271(D)	U
59	DA	271	G
59	DA	274	G
59	DA	275	G
59	DA	277	C
59	DA	279	C
59	DA	294	A
59	DA	301	G
59	DA	302	C
59	DA	310	A
59	DA	322	A
59	DA	324	A
59	DA	329	G
59	DA	330	A
59	DA	352	G
59	DA	360	G
59	DA	363(A)	G

Continued on next page...

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Mol	Chain	Res	Type
59	DA	363(B)	A
59	DA	363(D)	G
59	DA	363(G)	A
59	DA	384	U
59	DA	386	G
59	DA	387	U
59	DA	389	G
59	DA	396	G
59	DA	405	U
59	DA	407	G
59	DA	411	G
59	DA	422	A
59	DA	438	G
59	DA	444	C
59	DA	446	G
59	DA	447	A
59	DA	448	U
59	DA	449	A
59	DA	451	C
59	DA	455	C
59	DA	456	C
59	DA	457	A
59	DA	458	G
59	DA	459	U
59	DA	464	U
59	DA	470	A
59	DA	473	G
59	DA	474	G
59	DA	475	U
59	DA	480	A
59	DA	481	G
59	DA	489	G
59	DA	491	G
59	DA	505	A
59	DA	506	G
59	DA	507	A
59	DA	508	G
59	DA	509	C
59	DA	513	A
59	DA	527	C
59	DA	528	A
59	DA	530	G

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Mol	Chain	Res	Type
59	DA	531	C
59	DA	532	A
59	DA	542	C
59	DA	546	C
59	DA	548	A
59	DA	556	G
59	DA	563	G
59	DA	572	A
59	DA	573	G
59	DA	575	A
59	DA	586	A
59	DA	587	C
59	DA	603	A
59	DA	614	U
59	DA	615	G
59	DA	616	A
59	DA	617	G
59	DA	620	G
59	DA	621	A
59	DA	627	A
59	DA	637	A
59	DA	643	A
59	DA	645	C
59	DA	646	A
59	DA	653	C
59	DA	654	U
59	DA	671	C
59	DA	686	G
59	DA	695	G
59	DA	701	G
59	DA	707	G
59	DA	730	C
59	DA	738	G
59	DA	747	U
59	DA	749	C
59	DA	764	A
59	DA	771	G
59	DA	776	G
59	DA	778	G
59	DA	779	U
59	DA	781	A
59	DA	782	A

Continued on next page...

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Mol	Chain	Res	Type
59	DA	783	A
59	DA	784	A
59	DA	785	G
59	DA	786	C
59	DA	788	A
59	DA	789	A
59	DA	790	C
59	DA	792	G
59	DA	794	G
59	DA	799	G
59	DA	800	A
59	DA	805	G
59	DA	812	C
59	DA	819	A
59	DA	822	U
59	DA	827	U
59	DA	829	A
59	DA	838	C
59	DA	846	C
59	DA	847	U
59	DA	852	G
59	DA	859	G
59	DA	866	A
59	DA	869	G
59	DA	877	U
59	DA	878	A
59	DA	879	G
59	DA	881	G
59	DA	882	G
59	DA	886	C
59	DA	887	A
59	DA	890	A
59	DA	896	A
59	DA	897	C
59	DA	906	G
59	DA	907	U
59	DA	910	A
59	DA	917	A
59	DA	932	G
59	DA	933	A
59	DA	941	A
59	DA	943	U

Continued on next page...

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Mol	Chain	Res	Type
59	DA	945	A
59	DA	946	G
59	DA	959	A
59	DA	961	C
59	DA	970	C
59	DA	972	G
59	DA	974(A)	G
59	DA	974(B)	C
59	DA	980	A
59	DA	983	A
59	DA	990	A
59	DA	991	C
59	DA	996	A
59	DA	1007	C
59	DA	1008	C
59	DA	1009	A
59	DA	1010	A
59	DA	1011	G
59	DA	1012	U
59	DA	1013	C
59	DA	1017	G
59	DA	1022	G
59	DA	1023	U
59	DA	1024	G
59	DA	1025	G
59	DA	1026	U
59	DA	1033	U
59	DA	1045	A
59	DA	1046	A
59	DA	1047	G
59	DA	1048	A
59	DA	1056	G
59	DA	1057	A
59	DA	1060	U
59	DA	1065	U
59	DA	1070	A
59	DA	1072	C
59	DA	1078	U
59	DA	1079	C
59	DA	1086	A
59	DA	1087	G
59	DA	1088	A

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Mol	Chain	Res	Type
59	DA	1090	U
59	DA	1105	U
59	DA	1106	G
59	DA	1107	G
59	DA	1110	G
59	DA	1112	G
59	DA	1123	C
59	DA	1126	A
59	DA	1132	A
59	DA	1136	G
59	DA	1139	G
59	DA	1141	U
59	DA	114(B)	A
59	DA	1144	G
59	DA	1155	A
59	DA	1156	A
59	DA	1157	G
59	DA	1173	G
59	DA	1175	U
59	DA	1176	G
59	DA	1179	C
59	DA	1186	G
59	DA	1204	A
59	DA	1205	U
59	DA	1206	G
59	DA	1210	A
59	DA	1211	U
59	DA	1212	G
59	DA	1221	C
59	DA	1241	A
59	DA	1248	G
59	DA	1249	U
59	DA	1253	A
59	DA	1256	G
59	DA	1265	A
59	DA	1271	G
59	DA	1272	A
59	DA	1286	A
59	DA	1300	U
59	DA	1301	A
59	DA	1302	A
59	DA	1312	U

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Mol	Chain	Res	Type
59	DA	1314	C
59	DA	1321	A
59	DA	1322	A
59	DA	1325	G
59	DA	1329	U
59	DA	1330	C
59	DA	1332	G
59	DA	1333	C
59	DA	1349	A
59	DA	1359	A
59	DA	1365	A
59	DA	1368	G
59	DA	1378	A
59	DA	1379	A
59	DA	1380	G
59	DA	1384	A
59	DA	1385	G
59	DA	1395	A
59	DA	1396	U
59	DA	1398	C
59	DA	1416	G
59	DA	1417	C
59	DA	1418	G
59	DA	1420	U
59	DA	1421	G
59	DA	1428	C
59	DA	144(B)	A
59	DA	149(B)	A
59	DA	1449	G
59	DA	1453	A
59	DA	1454	U
59	DA	1455	G
59	DA	1458	C
59	DA	1460	A
59	DA	1467	C
59	DA	1478	G
59	DA	1483	G
59	DA	1491	G
59	DA	1493	C
59	DA	1495	A
59	DA	1497	U
59	DA	1498	C

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Mol	Chain	Res	Type
59	DA	1510	A
59	DA	1523	U
59	DA	1531	C
59	DA	1535	U
59	DA	1536	A
59	DA	1538	G
59	DA	1539	G
59	DA	1540	G
59	DA	1541	U
59	DA	1542	G
59	DA	1543	A
59	DA	1545	A
59	DA	1547	C
59	DA	1558	A
59	DA	1559	G
59	DA	1566	A
59	DA	1569	A
59	DA	1578	U
59	DA	1583	A
59	DA	1585	C
59	DA	1593	G
59	DA	1602	U
59	DA	1603	A
59	DA	1608	A
59	DA	1609	A
59	DA	1615	C
59	DA	1616	A
59	DA	1617	C
59	DA	1618	A
59	DA	1619	G
59	DA	1631	A
59	DA	1640	C
59	DA	1641	A
59	DA	1644	C
59	DA	1646	C
59	DA	1648	C
59	DA	1665	A
59	DA	1674	G
59	DA	1677	A
59	DA	1678	G
59	DA	1694	C
59	DA	1695	G

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Mol	Chain	Res	Type
59	DA	1696	G
59	DA	1729	A
59	DA	1732	A
59	DA	1755	A
59	DA	1757	U
59	DA	1762	A
59	DA	1763	G
59	DA	1764	G
59	DA	1773	A
59	DA	1781	C
59	DA	1782	C
59	DA	1784	A
59	DA	1785	A
59	DA	1786	A
59	DA	1787	A
59	DA	1800	C
59	DA	1802	A
59	DA	1815	A
59	DA	1816	G
59	DA	1820	U
59	DA	1821	A
59	DA	1829	A
59	DA	1833	U
59	DA	1837	C
59	DA	1847	A
59	DA	1858	G
59	DA	1870	C
59	DA	1872	A
59	DA	1888	G
59	DA	1889	A
59	DA	1900	A
59	DA	1902	C
59	DA	1903	G
59	DA	1906	G
59	DA	1909	C
59	DA	1912	A
59	DA	1913	A
59	DA	1914	C
59	DA	1929	G
59	DA	1936	A
59	DA	1937	A
59	DA	1939	U

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Mol	Chain	Res	Type
59	DA	1940	U
59	DA	1944	U
59	DA	1955	U
59	DA	1963	U
59	DA	1964	G
59	DA	1967	C
59	DA	1970	A
59	DA	1971	A
59	DA	1972	A
59	DA	1981	A
59	DA	1982	C
59	DA	1991	U
59	DA	1992	G
59	DA	1993	U
59	DA	2005	A
59	DA	2013	A
59	DA	2023	G
59	DA	2030	A
59	DA	2031	A
59	DA	2032	G
59	DA	2033	A
59	DA	2034	U
59	DA	2036	C
59	DA	2043	C
59	DA	2051	A
59	DA	2052	G
59	DA	2055	C
59	DA	2056	G
59	DA	2060	A
59	DA	2061	G
59	DA	2062	A
59	DA	2065	C
59	DA	2069	G
59	DA	2078	C
59	DA	2093	G
59	DA	2108	C
59	DA	2110	G
59	DA	2112	G
59	DA	2113	U
59	DA	2116	G
59	DA	2117	A
59	DA	2118	U

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Mol	Chain	Res	Type
59	DA	2126	A
59	DA	2131	G
59	DA	2133	G
59	DA	2134	A
59	DA	2144	U
59	DA	2159	G
59	DA	2165	G
59	DA	2167	U
59	DA	2168	G
59	DA	2171	A
59	DA	2173	A
59	DA	2184	G
59	DA	2190	G
59	DA	2199	A
59	DA	2210	G
59	DA	2211	G
59	DA	2212	A
59	DA	2213	U
59	DA	2225	A
59	DA	2239	G
59	DA	2246	G
59	DA	2266	A
59	DA	2267	A
59	DA	2268	A
59	DA	2274	A
59	DA	2275	C
59	DA	2280	G
59	DA	2283	C
59	DA	2287	A
59	DA	2289	G
59	DA	2305	A
59	DA	2308	G
59	DA	2310	A
59	DA	2311	A
59	DA	2320	A
59	DA	2322	A
59	DA	2325	G
59	DA	2327	A
59	DA	2334	G
59	DA	2336	A
59	DA	2345	G
59	DA	2346	A

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Mol	Chain	Res	Type
59	DA	2347	C
59	DA	2350	C
59	DA	2366	A
59	DA	2377	A
59	DA	2383	G
59	DA	2385	C
59	DA	2389	G
59	DA	2401	U
59	DA	2402	C
59	DA	2405	G
59	DA	2406	U
59	DA	2422	A
59	DA	2423	U
59	DA	2425	A
59	DA	2426	A
59	DA	2427	C
59	DA	2428	G
59	DA	2429	G
59	DA	2430	A
59	DA	2435	A
59	DA	2439	A
59	DA	2441	C
59	DA	2448	A
59	DA	2450	A
59	DA	2469	A
59	DA	2470	G
59	DA	2474	C
59	DA	2476	A
59	DA	2477	C
59	DA	2478	A
59	DA	2480	C
59	DA	2482	G
59	DA	2497	A
59	DA	2502	G
59	DA	2503	A
59	DA	2505	G
59	DA	2513	G
59	DA	2514	U
59	DA	2518	A
59	DA	2520	C
59	DA	2526	G
59	DA	2529	G

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Mol	Chain	Res	Type
59	DA	2530	A
59	DA	2532	G
59	DA	2533	A
59	DA	2542	A
59	DA	2543	G
59	DA	2546	U
59	DA	2554	U
59	DA	2563	U
59	DA	2564	A
59	DA	2566	A
59	DA	2567	G
59	DA	2572	A
59	DA	2573	C
59	DA	2578	G
59	DA	2586	C
59	DA	2593	U
59	DA	2602	A
59	DA	2603	G
59	DA	2609	U
59	DA	2610	C
59	DA	2612	C
59	DA	2615	U
59	DA	2623	G
59	DA	2630	G
59	DA	2633	G
59	DA	2638	G
59	DA	2641	G
59	DA	2645	G
59	DA	2646	C
59	DA	2657	A
59	DA	2663	G
59	DA	2665	A
59	DA	2667	C
59	DA	2681	C
59	DA	2682	U
59	DA	2689	U
59	DA	2691	C
59	DA	2702	U
59	DA	2703	C
59	DA	2706	G
59	DA	2711	A
59	DA	2712	U

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Mol	Chain	Res	Type
59	DA	712(B)	A
59	DA	2713	A
59	DA	2714	G
59	DA	2718	G
59	DA	2720	U
59	DA	2721	A
59	DA	2726	U
59	DA	2733	A
59	DA	2748	A
59	DA	2760	C
59	DA	2764	A
59	DA	2765	A
59	DA	2766	G
59	DA	2770	G
59	DA	2778	A
59	DA	2779	U
59	DA	2780	G
59	DA	2781	A
59	DA	2782	G
59	DA	2786	U
59	DA	2790	A
59	DA	2791	C
59	DA	2797	U
59	DA	2798	C
59	DA	2811	G
59	DA	2820	A
59	DA	2821	A
59	DA	2823	A
59	DA	2825	U
59	DA	2832	U
59	DA	2833	G
59	DA	2834	G
59	DA	2835	A
59	DA	2849	U
59	DA	2866	U
59	DA	2871	C
59	DA	2872	G
59	DA	2876	G
59	DA	2879	C
59	DA	2880	C
59	DA	2892	A
59	DA	2893	G

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Mol	Chain	Res	Type
59	DA	2894	G
59	DA	2895	U
60	DB	7	G
60	DB	13	A
60	DB	15	A
60	DB	16	G
60	DB	25	A
60	DB	35	U
60	DB	41	U
60	DB	42	C
60	DB	45	A
60	DB	47	C
60	DB	50	G
60	DB	53	A
60	DB	55	U
60	DB	65	C
60	DB	67	G
60	DB	73	A
60	DB	87	G
60	DB	109	G
60	DB	115	G

All (87) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
21	AA	5	U
21	AA	115	G
21	AA	266	G
21	AA	282	A
21	AA	328	C
21	AA	409	G
21	AA	429	U
21	AA	687	A
21	AA	748	C
21	AA	992	U
21	AA	1064	G
21	AA	1067	A
21	AA	1101	A
21	AA	1136	U
21	AA	1145	C
21	AA	1493	A
21	AA	1496	C

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Mol	Chain	Res	Type
21	AA	1504	G
21	AA	1537	U
22	AW	20(A)	U
23	AV	8	A
23	AV	18	G
59	BA	214	G
59	BA	221	A
59	BA	271(C)	G
59	BA	363(G)	A
59	BA	474	G
59	BA	479	A
59	BA	586	A
59	BA	614	U
59	BA	615	G
59	BA	1022	G
59	BA	1210	A
59	BA	1240	U
59	BA	1248	G
59	BA	1377	G
59	BA	1558	A
59	BA	1786	A
59	BA	1858	G
59	BA	2092	U
59	BA	2422	A
59	BA	2447	G
59	BA	2780	G
60	BB	41	U
60	BB	56	G
60	BB	66	A
60	BB	108	C
21	CA	5	U
21	CA	115	G
21	CA	266	G
21	CA	328	C
21	CA	409	G
21	CA	429	U
21	CA	687	A
21	CA	705	U
21	CA	748	C
21	CA	992	U
21	CA	1064	G
21	CA	1101	A

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Mol	Chain	Res	Type
21	CA	1324	A
21	CA	1493	A
21	CA	1504	G
21	CA	1537	U
22	CW	20(A)	U
23	CV	8	A
23	CV	16	A
23	CV	18	G
59	DA	221	A
59	DA	271(C)	G
59	DA	474	G
59	DA	479	A
59	DA	586	A
59	DA	1012	U
59	DA	1022	G
59	DA	1210	A
59	DA	1240	U
59	DA	1377	G
59	DA	1558	A
59	DA	1786	A
59	DA	1899	G
59	DA	2092	U
59	DA	2422	A
59	DA	2447	G
59	DA	2780	G
60	DB	41	U
60	DB	66	A
60	DB	108	C

5.4 Non-standard residues in protein, DNA, RNA chains (i)

8 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
24	5OH	CU	6	24	7,12,13	0.76	0	4,16,18	0.95	0
24	DPP	AU	2	24	4,5,6	0.54	0	1,5,7	1.04	0
24	UAL	AU	5	24	6,8,9	2.49	3 (50%)	4,9,11	1.32	1 (25%)
24	DPP	CU	2	24	4,5,6	0.54	0	1,5,7	1.03	0
24	5OH	AU	6	24	7,12,13	0.75	0	4,16,18	0.95	0
24	KBE	AU	1	24	8,8,9	0.63	0	6,8,10	1.45	1 (16%)
24	UAL	CU	5	24	6,8,9	2.49	3 (50%)	4,9,11	1.32	1 (25%)
24	KBE	CU	1	24	8,8,9	0.63	0	6,8,10	1.46	1 (16%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	5OH	CU	6	24	-	0/2/18/20	0/1/1/1
24	DPP	AU	2	24	-	0/2/4/6	-
24	UAL	AU	5	24	-	0/3/7/9	-
24	DPP	CU	2	24	-	0/2/4/6	-
24	5OH	AU	6	24	-	0/2/18/20	0/1/1/1
24	KBE	AU	1	24	-	1/7/7/8	-
24	UAL	CU	5	24	-	0/3/7/9	-
24	KBE	CU	1	24	-	1/7/7/8	-

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	CU	5	UAL	C-CA	4.52	1.52	1.45
24	AU	5	UAL	C-CA	4.51	1.52	1.45
24	AU	5	UAL	C1-N1	-3.39	1.35	1.40
24	CU	5	UAL	C1-N1	-3.37	1.35	1.40
24	AU	5	UAL	CB-N1	-2.20	1.30	1.35
24	CU	5	UAL	CB-N1	-2.19	1.30	1.35

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	CU	1	KBE	CB-CA-C	3.08	117.15	112.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	AU	1	KBE	CB-CA-C	3.06	117.11	112.17
24	AU	5	UAL	O-C-CA	-2.51	122.25	125.39
24	CU	5	UAL	O-C-CA	-2.51	122.25	125.39

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
24	AU	1	KBE	CG-CD-CE-NZ
24	CU	1	KBE	CG-CD-CE-NZ

There are no ring outliers.

5 monomers are involved in 13 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
24	CU	6	5OH	6	0
24	AU	2	DPP	1	0
24	CU	2	DPP	1	0
24	AU	6	5OH	4	0
24	CU	1	KBE	1	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 4 ligands modelled in this entry, 2 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
61	GNP	AY	701	62	34,34,34	1.48	5 (14%)	47,54,54	1.36	8 (17%)
61	GNP	CY	701	62	34,34,34	1.48	5 (14%)	47,54,54	1.36	8 (17%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
61	GNP	AY	701	62	-	7/18/38/38	0/3/3/3
61	GNP	CY	701	62	-	7/18/38/38	0/3/3/3

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
61	AY	701	GNP	PG-O1G	4.99	1.53	1.46
61	CY	701	GNP	PG-O1G	4.96	1.53	1.46
61	CY	701	GNP	PA-O3A	-4.30	1.54	1.59
61	AY	701	GNP	PA-O3A	-4.29	1.54	1.59
61	AY	701	GNP	PB-O3A	-2.43	1.56	1.59
61	CY	701	GNP	PB-O3A	-2.41	1.56	1.59
61	AY	701	GNP	PA-O2A	-2.18	1.45	1.55
61	CY	701	GNP	PA-O2A	-2.17	1.45	1.55
61	CY	701	GNP	PB-O2B	-2.03	1.51	1.56
61	AY	701	GNP	PB-O2B	-2.02	1.51	1.56

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
61	CY	701	GNP	O2B-PB-O1B	3.43	117.23	109.87
61	AY	701	GNP	O2B-PB-O1B	3.43	117.22	109.87
61	AY	701	GNP	O2G-PG-O3G	3.30	116.46	107.59
61	CY	701	GNP	O2G-PG-O3G	3.29	116.43	107.59
61	AY	701	GNP	O3G-PG-O1G	-2.98	105.99	113.45
61	CY	701	GNP	O3G-PG-O1G	-2.97	106.00	113.45
61	CY	701	GNP	O1B-PB-N3B	2.81	115.91	111.77
61	AY	701	GNP	O1B-PB-N3B	2.81	115.91	111.77
61	AY	701	GNP	C5'-C4'-C3'	-2.33	106.81	115.21
61	CY	701	GNP	C5'-C4'-C3'	-2.32	106.84	115.21
61	AY	701	GNP	O2A-PA-O3A	2.28	113.43	107.27
61	CY	701	GNP	O2A-PA-O3A	2.28	113.43	107.27
61	AY	701	GNP	O3A-PA-O1A	-2.23	103.99	110.70
61	CY	701	GNP	O3A-PA-O1A	-2.23	104.00	110.70
61	AY	701	GNP	O1G-PG-N3B	-2.21	108.51	111.77
61	CY	701	GNP	O1G-PG-N3B	-2.20	108.54	111.77

There are no chirality outliers.

All (14) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
61	AY	701	GNP	PG-N3B-PB-O1B
61	AY	701	GNP	PG-N3B-PB-O3A
61	AY	701	GNP	PA-O3A-PB-O2B
61	AY	701	GNP	C5'-O5'-PA-O3A
61	AY	701	GNP	C5'-O5'-PA-O1A
61	CY	701	GNP	PG-N3B-PB-O1B
61	CY	701	GNP	PG-N3B-PB-O3A
61	CY	701	GNP	PA-O3A-PB-O2B
61	CY	701	GNP	C5'-O5'-PA-O3A
61	CY	701	GNP	C5'-O5'-PA-O1A
61	AY	701	GNP	C3'-C4'-C5'-O5'
61	CY	701	GNP	C3'-C4'-C5'-O5'
61	AY	701	GNP	PA-O3A-PB-O1B
61	CY	701	GNP	PA-O3A-PB-O1B

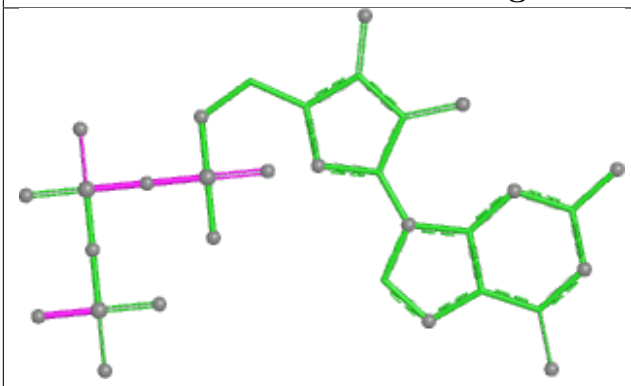
There are no ring outliers.

2 monomers are involved in 51 short contacts:

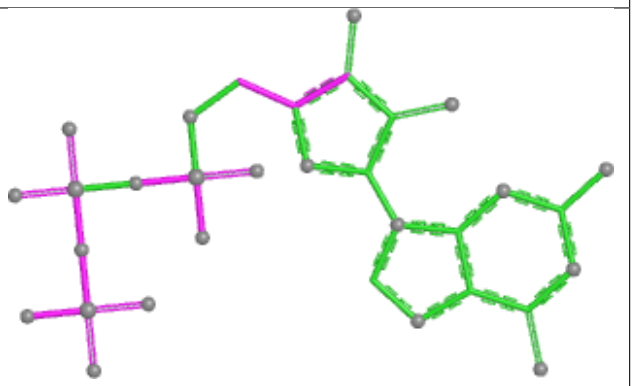
Mol	Chain	Res	Type	Clashes	Symm-Clashes
61	AY	701	GNP	18	0
61	CY	701	GNP	33	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

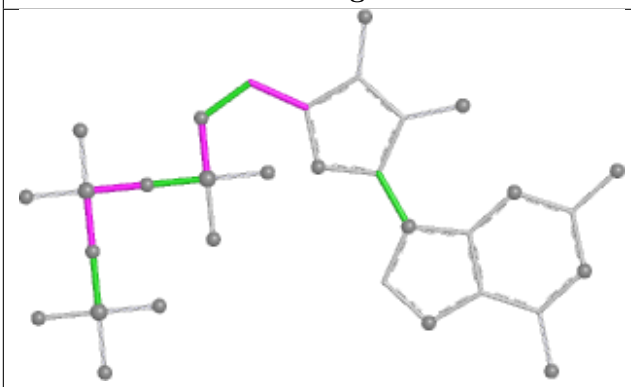
Ligand GNP AY 701



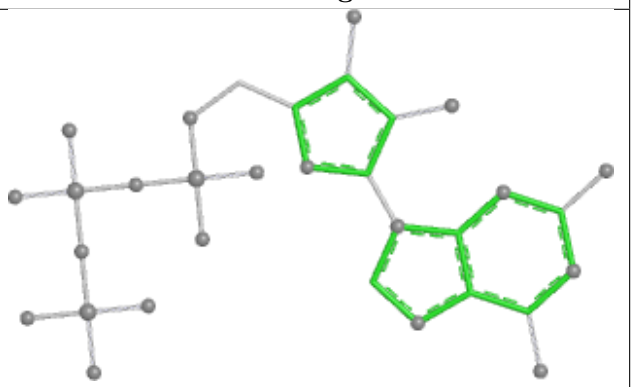
Bond lengths



Bond angles

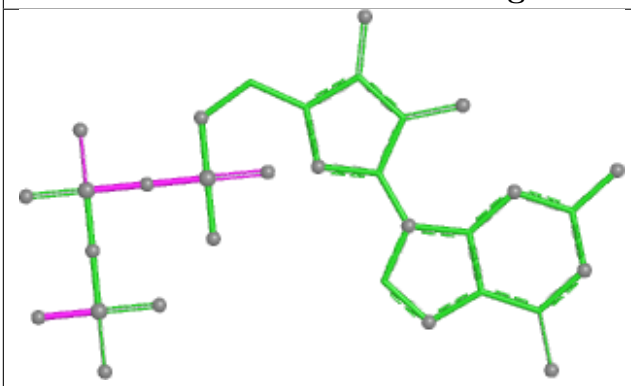


Torsions

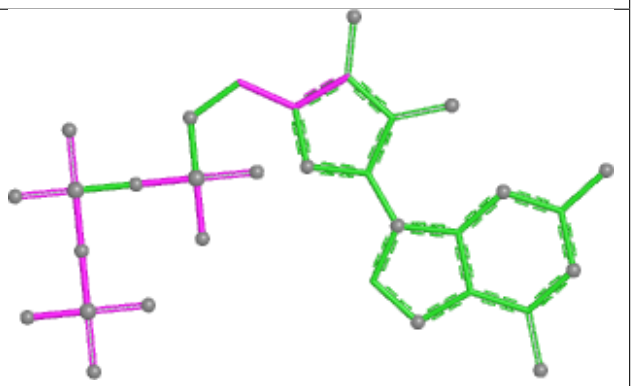


Rings

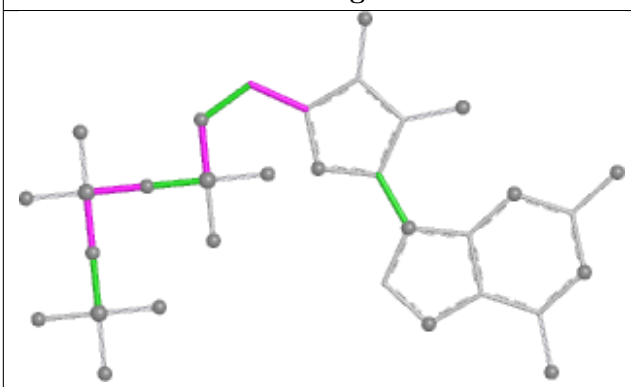
Ligand GNP CY 701



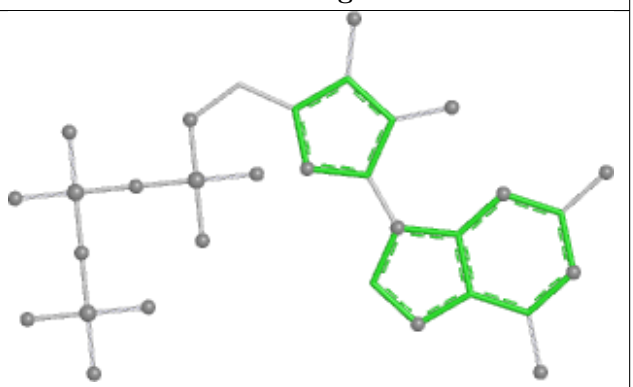
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
58	De	1
58	Be	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	De	30:UNK	C	51:ALA	N	36.11
1	Be	30:UNK	C	51:ALA	N	35.10

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	AB	235/235 (100%)	-1.34	0	100	100	30, 75, 127, 171	0
1	CB	235/235 (100%)	-1.26	0	100	100	34, 86, 153, 201	0
2	AC	207/207 (100%)	-1.24	0	100	100	27, 59, 115, 156	0
2	CC	207/207 (100%)	-1.30	0	100	100	23, 74, 130, 190	0
3	AD	208/208 (100%)	-1.24	1 (0%)	87	68	24, 72, 124, 159	0
3	CD	208/208 (100%)	-1.16	0	100	100	23, 85, 142, 184	0
4	AE	151/151 (100%)	-1.25	0	100	100	17, 48, 101, 156	0
4	CE	151/151 (100%)	-1.11	0	100	100	14, 58, 106, 151	0
5	AF	101/101 (100%)	-1.36	0	100	100	15, 50, 100, 133	0
5	CF	101/101 (100%)	-1.25	1 (0%)	79	56	29, 61, 123, 148	0
6	AG	155/155 (100%)	-1.22	0	100	100	30, 80, 139, 199	0
6	CG	155/155 (100%)	-1.08	0	100	100	38, 82, 137, 180	0
7	AH	138/138 (100%)	-1.25	0	100	100	28, 59, 103, 142	0
7	CH	138/138 (100%)	-1.20	0	100	100	25, 75, 121, 155	0
8	AI	127/127 (100%)	-1.22	0	100	100	0, 71, 117, 134	0
8	CI	127/127 (100%)	-1.03	0	100	100	0, 84, 149, 220	0
9	AJ	99/99 (100%)	-1.23	0	100	100	25, 62, 116, 159	0
9	CJ	99/99 (100%)	-1.18	0	100	100	31, 75, 127, 166	0
10	AK	119/119 (100%)	-1.15	0	100	100	31, 69, 116, 157	0
10	CK	119/119 (100%)	-1.05	2 (1%)	69	43	38, 72, 133, 151	0
11	AL	125/125 (100%)	-1.15	1 (0%)	82	60	10, 66, 120, 181	0
11	CL	125/125 (100%)	-0.96	1 (0%)	82	60	29, 69, 136, 170	0
12	AM	125/125 (100%)	-1.00	0	100	100	49, 86, 144, 212	0
12	CM	125/125 (100%)	-0.85	0	100	100	53, 100, 158, 223	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
13	AN	60/60 (100%)	-1.17	0 100 100	28, 52, 87, 120	0
13	CN	60/60 (100%)	-1.25	0 100 100	39, 69, 117, 135	0
14	AO	88/88 (100%)	-1.37	0 100 100	22, 60, 114, 139	0
14	CO	88/88 (100%)	-1.32	0 100 100	25, 68, 119, 170	0
15	AP	84/84 (100%)	-1.23	0 100 100	26, 66, 109, 117	0
15	CP	84/84 (100%)	-1.12	0 100 100	52, 81, 127, 153	0
16	AQ	100/100 (100%)	-1.15	1 (1%) 79 56	0, 67, 117, 139	0
16	CQ	100/100 (100%)	-1.17	0 100 100	0, 68, 126, 150	0
17	AR	70/70 (100%)	-1.44	0 100 100	14, 54, 120, 154	0
17	CR	70/70 (100%)	-1.20	0 100 100	38, 63, 113, 155	0
18	AS	79/79 (100%)	-1.11	1 (1%) 75 50	47, 92, 136, 169	0
18	CS	79/79 (100%)	-1.15	0 100 100	44, 99, 145, 189	0
19	AT	99/99 (100%)	-1.25	0 100 100	0, 77, 128, 159	0
19	CT	99/99 (100%)	-1.07	0 100 100	0, 79, 131, 166	0
20	AY	687/687 (100%)	-1.16	1 (0%) 92 86	23, 84, 139, 174	0
20	CY	687/687 (100%)	-1.15	0 100 100	40, 92, 149, 204	0
21	AA	1511/1511 (100%)	-1.65	1 (0%) 92 86	15, 67, 145, 258	0
21	CA	1511/1511 (100%)	-1.61	0 100 100	18, 70, 157, 272	0
22	AW	77/77 (100%)	-1.69	0 100 100	32, 90, 174, 205	0
22	CW	77/77 (100%)	-1.68	0 100 100	39, 101, 193, 240	0
23	AV	23/23 (100%)	-1.20	0 100 100	41, 100, 156, 172	0
23	CV	23/23 (100%)	-0.87	0 100 100	41, 118, 186, 216	0
24	AU	2/6 (33%)	-1.17	0 100 100	114, 114, 114, 114	0
24	CU	2/6 (33%)	-1.10	0 100 100	119, 119, 119, 119	0
25	BC	228/228 (100%)	-1.20	1 (0%) 88 72	81, 124, 178, 222	0
25	DC	228/228 (100%)	-1.09	2 (0%) 81 58	102, 162, 214, 247	0
26	BD	275/275 (100%)	-1.15	0 100 100	11, 47, 102, 126	0
26	DD	275/275 (100%)	-1.12	0 100 100	23, 54, 107, 147	0
27	BE	205/205 (100%)	-1.18	0 100 100	19, 55, 101, 193	0
27	DE	205/205 (100%)	-1.11	0 100 100	12, 60, 120, 175	0
28	BF	208/208 (100%)	-1.13	0 100 100	16, 69, 131, 178	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
28	DF	208/208 (100%)	-1.02	0	100	100	34, 83, 176, 205	0
29	BG	181/181 (100%)	-1.18	0	100	100	41, 90, 132, 195	0
29	DG	181/181 (100%)	-1.22	0	100	100	44, 104, 159, 196	0
30	BH	167/167 (100%)	-1.31	0	100	100	21, 68, 123, 159	0
30	DH	167/167 (100%)	-1.29	0	100	100	36, 72, 140, 192	0
31	BJ	0/170	-	-			-	-
31	DJ	0/170	-	-			-	-
32	BK	140/140 (100%)	-1.12	1 (0%)	84	63	60, 114, 165, 206	0
32	DK	140/140 (100%)	-0.90	3 (2%)	63	38	72, 142, 197, 229	0
33	BN	138/138 (100%)	-1.02	0	100	100	59, 83, 108, 111	0
33	DN	138/138 (100%)	-0.99	0	100	100	61, 89, 110, 118	0
34	BO	122/122 (100%)	-1.32	0	100	100	23, 44, 90, 158	0
34	DO	122/122 (100%)	-1.29	0	100	100	26, 47, 96, 121	0
35	BP	146/146 (100%)	-1.07	0	100	100	23, 71, 132, 167	0
35	DP	146/146 (100%)	-0.89	1 (0%)	84	63	19, 88, 140, 212	0
36	BQ	141/141 (100%)	-1.15	0	100	100	32, 53, 103, 155	0
36	DQ	141/141 (100%)	-1.11	0	100	100	34, 58, 126, 178	0
37	BR	117/117 (100%)	-1.20	0	100	100	22, 57, 106, 123	0
37	DR	117/117 (100%)	-1.15	0	100	100	34, 67, 108, 138	0
38	BS	99/99 (100%)	-1.07	0	100	100	41, 104, 177, 190	0
38	DS	99/99 (100%)	-1.07	0	100	100	44, 114, 168, 203	0
39	BT	138/138 (100%)	-1.17	0	100	100	23, 68, 126, 162	0
39	DT	138/138 (100%)	-1.10	0	100	100	25, 71, 133, 177	0
40	BU	117/117 (100%)	-1.29	0	100	100	20, 45, 102, 140	0
40	DU	117/117 (100%)	-1.18	0	100	100	29, 54, 89, 222	0
41	BV	101/101 (100%)	-1.12	0	100	100	22, 58, 105, 172	0
41	DV	101/101 (100%)	-1.06	0	100	100	28, 60, 114, 177	0
42	BW	113/113 (100%)	-1.26	0	100	100	14, 43, 101, 135	0
42	DW	113/113 (100%)	-1.23	0	100	100	11, 60, 133, 215	0
43	BX	93/93 (100%)	-1.16	0	100	100	16, 55, 107, 137	0
43	DX	93/93 (100%)	-1.21	0	100	100	16, 66, 134, 180	0
44	BY	107/107 (100%)	-1.05	0	100	100	38, 88, 141, 193	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
44	DY	107/107 (100%)	-0.96	0 100 100	45, 96, 167, 200	0
45	BZ	185/185 (100%)	-1.32	0 100 100	36, 70, 124, 167	0
45	DZ	185/185 (100%)	-1.11	1 (0%) 87 68	48, 82, 136, 193	0
46	B0	84/84 (100%)	-1.00	0 100 100	24, 65, 112, 142	0
46	D0	84/84 (100%)	-1.06	0 100 100	47, 77, 140, 162	0
47	B2	71/71 (100%)	-1.40	0 100 100	34, 64, 118, 140	0
47	D2	71/71 (100%)	-1.21	0 100 100	33, 85, 127, 141	0
48	B3	60/60 (100%)	-1.25	0 100 100	28, 61, 116, 135	0
48	D3	60/60 (100%)	-1.10	0 100 100	32, 73, 137, 160	0
49	B5	59/59 (100%)	-1.31	0 100 100	22, 55, 125, 138	0
49	D5	59/59 (100%)	-1.15	0 100 100	29, 75, 130, 161	0
50	B6	50/50 (100%)	-1.15	0 100 100	36, 74, 120, 139	0
50	D6	50/50 (100%)	-1.04	0 100 100	49, 81, 143, 164	0
51	B7	49/49 (100%)	-0.99	0 100 100	43, 53, 102, 126	0
51	D7	49/49 (100%)	-1.13	0 100 100	34, 61, 112, 165	0
52	B8	64/64 (100%)	-1.01	0 100 100	22, 66, 108, 137	0
52	D8	64/64 (100%)	-1.08	0 100 100	33, 70, 118, 139	0
53	B9	37/37 (100%)	-1.01	0 100 100	39, 60, 122, 134	0
53	D9	37/37 (100%)	-1.10	0 100 100	46, 60, 134, 159	0
54	Bf	0/31	-	-	-	-
54	Bg	0/31	-	-	-	-
54	Df	0/31	-	-	-	-
54	Dg	0/31	-	-	-	-
55	Bh	0/30	-	-	-	-
55	Dh	0/30	-	-	-	-
56	B1	93/93 (100%)	-1.05	0 100 100	22, 78, 160, 236	0
56	D1	93/93 (100%)	-0.90	0 100 100	41, 89, 159, 194	0
57	B4	35/35 (100%)	-1.32	0 100 100	67, 116, 167, 189	0
57	D4	35/35 (100%)	-1.19	0 100 100	73, 136, 168, 196	0
58	Be	72/102 (70%)	-1.22	0 100 100	77, 113, 160, 174	0
58	De	72/102 (70%)	-1.03	0 100 100	87, 141, 192, 236	0
59	BA	2879/2879 (100%)	-1.68	1 (0%) 100 100	9, 59, 146, 260	0
59	DA	2879/2879 (100%)	-1.61	0 100 100	5, 63, 160, 308	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
60	BB	119/119 (100%)	-1.58	0 100 100	36, 102, 157, 192	0
60	DB	119/119 (100%)	-1.71	0 100 100	33, 108, 159, 193	0
All	All	22726/23318 (97%)	-1.35	20 (0%) 92 86	0, 72, 150, 308	0

All (20) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
45	DZ	21	ALA	3.6
32	DK	61	ALA	3.4
32	DK	62	ASP	3.2
3	AD	84	LYS	3.0
25	DC	2	PRO	3.0
21	AA	308	C	2.9
5	CF	101	ALA	2.8
10	CK	127	LYS	2.7
32	BK	61	ALA	2.5
11	AL	16	GLU	2.4
18	AS	8	GLY	2.4
10	CK	128	ALA	2.4
11	CL	21	LYS	2.4
25	DC	34	ALA	2.3
25	BC	33	LEU	2.3
20	AY	46	HIS	2.3
16	AQ	24	GLU	2.2
32	DK	2	LYS	2.1
59	BA	1008	C	2.1
35	DP	20	GLY	2.0

6.2 Non-standard residues in protein, DNA, RNA chains (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
24	KBE	AU	1	9/10	0.98	0.11	114,114,114,114	0
24	UAL	AU	5	9/10	0.98	0.05	114,114,114,114	0
24	DPP	AU	2	6/7	0.99	0.06	114,114,114,114	0
24	DPP	CU	2	6/7	0.99	0.07	118,118,118,118	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
24	KBE	CU	1	9/10	0.99	0.09	118,118,118,118	0
24	UAL	CU	5	9/10	0.99	0.05	118,118,118,118	0
24	5OH	AU	6	12/13	0.99	0.07	99,101,102,102	0
24	5OH	CU	6	12/13	0.99	0.05	99,101,102,102	0

6.3 Carbohydrates (i)

There are no oligosaccharides in this entry.

6.4 Ligands (i)

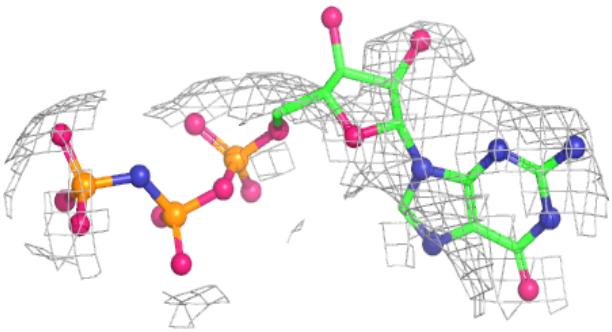
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

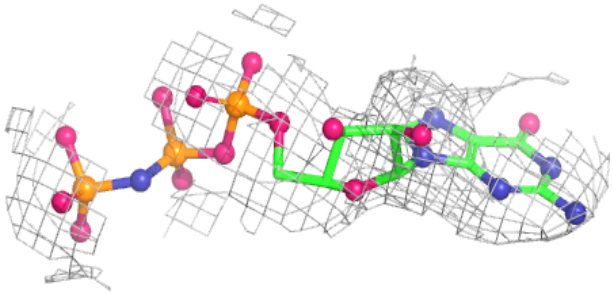
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
61	GNP	AY	701	32/32	0.99	0.04	58,71,81,83	0
61	GNP	CY	701	32/32	0.99	0.05	58,71,81,83	0
62	MG	CY	702	1/1	0.99	0.03	135,135,135,135	0
62	MG	AY	702	1/1	1.00	0.05	88,88,88,88	0

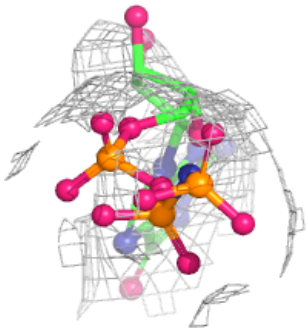
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around GNP AY 701:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

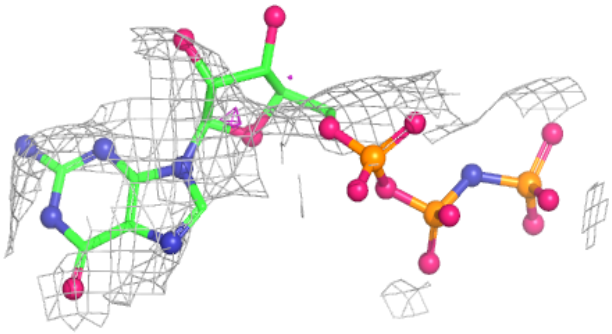


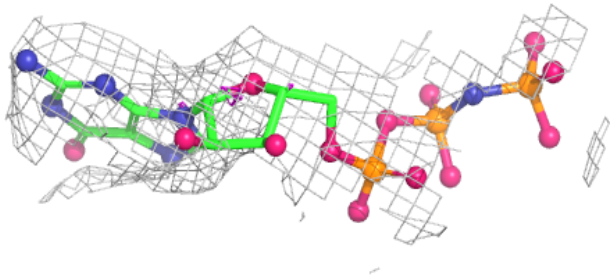


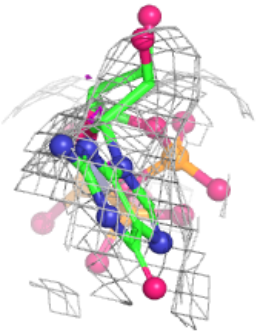


Electron density around GNP CY 701:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)







6.5 Other polymers (i)

There are no such residues in this entry.