Full wwPDB X-ray Structure Validation Report ⓘ

Mar 4, 2026 – 11:12 PM UTC

PDB ID	:	4V85 / pdb_00004v85
Title	:	Crystal Structure of Release Factor RF3 Trapped in the GTP State on a Rotated Conformation of the Ribosome.
Authors	:	Zhou, J.; Lancaster, L.; Trakhanov, S.; Noller, H.F.
Deposited on	:	2011-06-13
Resolution	:	3.20 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:

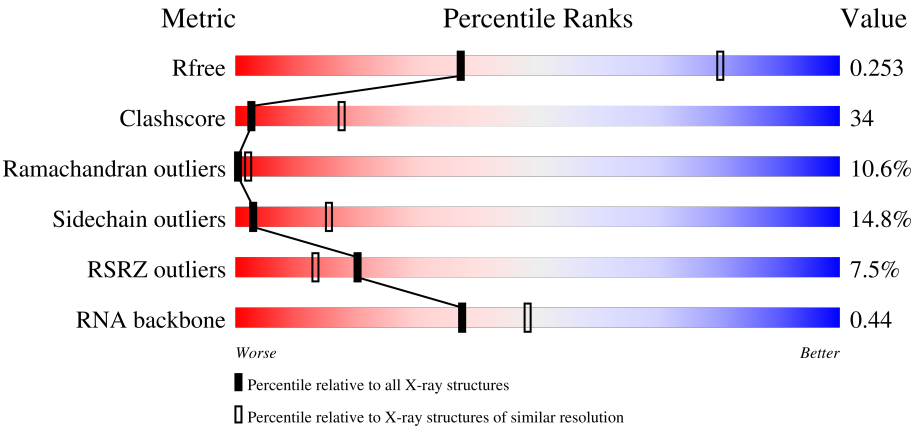
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal 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 3.20 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	1466 (3.20-3.20)
Clashscore	190562	1573 (3.20-3.20)
Ramachandran outliers	187476	1548 (3.20-3.20)
Sidechain outliers	187428	1547 (3.20-3.20)
RSRZ outliers	180081	1466 (3.20-3.20)
RNA backbone	3983	1222 (3.50-2.90)

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	AA	1533	4% 28% 56% 16%
2	AB	241	10% 24% 47% 17% • 10%
3	AC	233	6% 29% 44% 14% • 12%
4	AD	206	17% 25% 58% 16% •

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Mol	Chain	Length	Quality of chain
5	AE	167	7% 29% 43% 17% 10%
6	AF	131	5% 17% 44% 15% 24%
7	AG	156	19% 46% 45% 6%
8	AH	130	8% 32% 56% 10%
9	AI	130	8% 22% 58% 17%
10	AJ	103	17% 21% 53% 19% 5%
11	AK	129	7% 28% 49% 12% 9%
12	AL	124	6% 33% 49% 15%
13	AM	118	36% 43% 47% 5%
14	AN	101	36% 26% 55% 10% 5%
15	AO	89	3% 43% 47% 9%
16	AP	82	7% 35% 46% 17%
17	AQ	84	10% 23% 51% 19% 5%
18	AR	75	11% 21% 45% 7% 27%
19	AS	92	24% 29% 47% 10% 14%
20	AT	87	16% 38% 52% 8%
21	AU	71	24% 24% 37% 10% 28%
22	AV	27	11% 15% 7% 78%
23	AW	529	15% 47% 35% 15%
24	AY	6	50% 17% 33%
25	B0	85	25% 13% 39% 34% 7% 7%
26	B1	78	3% 29% 60% 8%
27	B2	63	10% 33% 44% 22%
28	B3	59	31% 46% 19%
29	B4	57	9% 33% 47% 16%

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Mol	Chain	Length	Quality of chain
30	B5	55	11% 27% 51% 11% 9%
31	B6	46	7% 61% 33% 7%
32	B7	65	2% 49% 43% 5%
33	B8	38	3% 29% 50% 18%
34	BA	2903	2% 34% 49% 15%
35	BB	118	36% 49% 14%
36	BC	273	4% 29% 52% 15%
37	BD	209	3% 30% 47% 21%
38	BE	201	4% 35% 46% 17%
39	BF	179	7% 32% 53% 13%
40	BG	177	5% 37% 41% 18%
41	BH	165	36% 17% 62% 18%
42	BI	142	38% 35% 56% 8%
43	BJ	121	5% 6% 14% 75%
43	BK	121	5% 12% 12% 75%
43	BL	121	12% 7% 16% 75%
43	BM	121	4% 7% 15% 75%
44	BN	142	7% 27% 54% 15%
45	BO	123	3% 24% 46% 27%
46	BP	144	4% 33% 51% 13%
47	BQ	136	% 39% 49% 12%
48	BR	127	% 35% 46% 12% 6%
49	BS	117	6% 32% 54% 14%
50	BT	115	3% 26% 47% 23%
51	BU	118	3% 31% 53% 15%

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Mol	Chain	Length	Quality of chain
52	BV	103	3% 26% 54% 18%
53	BW	116	% 41% 34% 17% 5%
54	BX	100	7% 19% 48% 23% 7%
55	BY	104	7% 34% 50% 14%
56	BZ	94	3% 49% 38% 13%

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	KBE	AY	1	-	-	X	-
24	UAL	AY	5	-	-	X	-
24	5OH	AY	6	-	-	X	-
57	MG	BA	3349	-	-	-	X

2 Entry composition

There are 59 unique types of molecules in this entry. The entry contains 147221 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 RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	AA	1532	32873	14661	6031	10649	1532	0	0	0

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	AB	218	1704	1081	305	311	7	0	0	0

- Molecule 3 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	AC	206	1624	1028	305	288	3	0	0	0

- Molecule 4 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	AD	205	1643	1026	315	298	4	0	0	0

- Molecule 5 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	AE	150	1105	687	211	201	6	0	0	0

- Molecule 6 is a protein called 30S ribosomal protein S6 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	AF	100	817	515	148	148	6	0	0	0

- Molecule 7 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	AG	151	Total	C	N	O	S	0	0	0
			1181	735	227	215	4			

- Molecule 8 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	AH	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	AI	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			

- Molecule 10 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	AJ	98	Total	C	N	O	S	0	0	0
			786	493	150	142	1			

- Molecule 11 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	AK	117	Total	C	N	O	S	0	0	0
			877	540	174	160	3			

- Molecule 12 is a protein called 30S ribosomal protein S12 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	AL	123	Total	C	N	O	S	0	0	0
			955	590	196	165	4			

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	AM	114	Total	C	N	O	S	0	0	0
			883	546	178	156	3			

- Molecule 14 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	AN	96	Total	C	N	O	S	0	0	0
			774	483	160	128	3			

- Molecule 15 is a protein called 30S ribosomal protein S15 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	AO	88	Total	C	N	O	S	0	0	0
			714	439	144	130	1			

- Molecule 16 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	AP	82	Total	C	N	O	S	0	0	0
			649	406	128	114	1			

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	AQ	80	Total	C	N	O	S	0	0	0
			648	411	121	113	3			

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	AR	55	Total	C	N	O	0	0	0
			455	288	86	81			

- Molecule 19 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	AS	79	Total	C	N	O	S	0	0	0
			637	408	120	107	2			

- Molecule 20 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	AT	85	Total	C	N	O	S	0	0	0
			665	411	137	114	3			

- Molecule 21 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	AU	51	Total	C	N	O	S	0	0	0
			425	265	86	73	1			

- Molecule 22 is a RNA chain called messenger RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	AV	6	Total	C	N	O	P	0	0	0
			129	58	24	41	6			

- Molecule 23 is a protein called Peptide chain release factor 3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	AW	525	Total	C	N	O	S	0	0	0
			4144	2617	722	783	22			

- Molecule 24 is a protein called Viomycin.

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

- Molecule 25 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	B0	79	Total	C	N	O	S	0	0	0
			596	367	120	108	1			

- Molecule 26 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	B1	77	Total	C	N	O	S	0	0	0
			625	388	129	106	2			

- Molecule 27 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	B2	63	Total	C	N	O	S	0	0	0
			509	313	99	95	2			

- Molecule 28 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	B3	58	Total	C	N	O	S	0	0	0
			449	281	87	79	2			

- Molecule 29 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	B4	56	Total	C	N	O	S	0	0	0
			444	269	94	80	1			

- Molecule 30 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
30	B5	50	Total	C	N	O	0	0	0
			409	263	75	71			

- Molecule 31 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	B6	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			

- Molecule 32 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	B7	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			

- Molecule 33 is a protein called 50S ribosomal protein L36 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	B8	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			

- Molecule 34 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	BA	2853	Total	C	N	O	P	0	0	0
			61252	27324	11274	19801	2853			

- Molecule 35 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	BB	118	Total	C	N	O	P	0	0	0
			2529	1126	464	821	118			

- Molecule 36 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	BC	271	Total	C	N	O	S	0	0	0
			2082	1288	423	364	7			

- Molecule 37 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	BD	209	Total	C	N	O	S	0	0	0
			1565	979	288	294	4			

- Molecule 38 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	BE	201	Total	C	N	O	S	0	0	0
			1552	974	283	290	5			

- Molecule 39 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	BF	177	Total	C	N	O	S	0	0	0
			1410	899	249	256	6			

- Molecule 40 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	BG	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			

- Molecule 41 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	BH	163	Total	C	N	O	S	0	0	0
			1230	775	219	229	7			

- Molecule 42 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	BI	141	Total	C	N	O	S	0	0	0
			1032	651	179	196	6			

- Molecule 43 is a protein called 50S ribosomal protein L7/L12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	BJ	30	Total	C	N	O	S	0	0	0
			227	144	33	47	3			
43	BK	30	Total	C	N	O	S	0	0	0
			227	144	33	47	3			
43	BL	30	Total	C	N	O	S	0	0	0
			227	144	33	47	3			
43	BM	30	Total	C	N	O	S	0	0	0
			227	144	33	47	3			

- Molecule 44 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	BN	142	Total	C	N	O	S	0	0	0
			1129	714	212	199	4			

- Molecule 45 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	BO	122	Total	C	N	O	S	0	0	0
			938	587	180	165	6			

- Molecule 46 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	BP	143	Total	C	N	O	S	0	0	0
			1045	649	206	189	1			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BP	77	ILE	VAL	SEE REMARK 999	UNP C3SR37

- Molecule 47 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	BQ	136	Total	C	N	O	S	0	0	0
			1074	686	205	177	6			

- Molecule 48 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	BR	120	Total	C	N	O	S	0	0	0
			960	593	196	166	5			

- Molecule 49 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
49	BS	116	Total	C	N	O	0	0	0
			892	552	178	162			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	BT	114	Total	C	N	O	S	0	0	0
			917	574	179	163	1			

- Molecule 51 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
51	BU	117	Total	C	N	O	0	0	0
			947	604	192	151			

- Molecule 52 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	BV	103	Total	C	N	O	S	0	0	0
			816	516	153	145	2			

- Molecule 53 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	BW	110	Total	C	N	O	S	0	0	0
			856	532	166	155	3			

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BW	111	HIS	-	expression tag	UNP C3SQW7
BW	112	HIS	-	expression tag	UNP C3SQW7
BW	113	HIS	-	expression tag	UNP C3SQW7
BW	114	HIS	-	expression tag	UNP C3SQW7
BW	115	HIS	-	expression tag	UNP C3SQW7
BW	116	HIS	-	expression tag	UNP C3SQW7

- Molecule 54 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	BX	93	Total	C	N	O	S	0	0	0
			738	466	139	131	2			

- Molecule 55 is a protein called 50S ribosomal protein L24 1.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
55	BY	102	Total	C	N	O	0	0	0
			779	492	146	141			

- Molecule 56 is a protein called 50S ribosomal protein L25 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	BZ	94	Total	C	N	O	S	0	0	0
			753	479	137	134	3			

- Molecule 57 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	AA	102	Total	Mg	0	0
			102	102		
57	AF	1	Total	Mg	0	0
			1	1		
57	AH	1	Total	Mg	0	0
			1	1		
57	AL	2	Total	Mg	0	0
			2	2		
57	AM	1	Total	Mg	0	0
			1	1		
57	AW	1	Total	Mg	0	0
			1	1		
57	B0	3	Total	Mg	0	0
			3	3		

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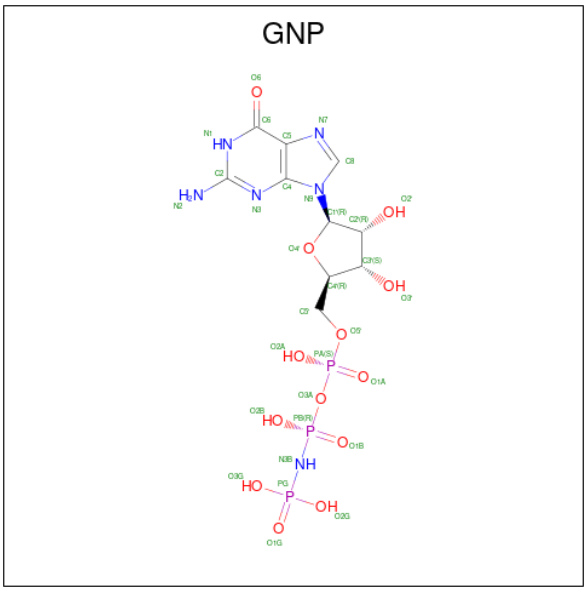
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	B2	1	Total Mg 1 1	0	0
57	B4	1	Total Mg 1 1	0	0
57	BA	357	Total Mg 357 357	0	0
57	BB	9	Total Mg 9 9	0	0
57	BC	1	Total Mg 1 1	0	0
57	BD	5	Total Mg 5 5	0	0
57	BE	1	Total Mg 1 1	0	0
57	BN	1	Total Mg 1 1	0	0
57	BO	1	Total Mg 1 1	0	0
57	BQ	1	Total Mg 1 1	0	0
57	BR	2	Total Mg 2 2	0	0
57	BT	1	Total Mg 1 1	0	0
57	BX	1	Total Mg 1 1	0	0

- Molecule 58 is PHOSPHOAMINOPHOSPHONIC ACID-GUANYLATE ESTER (CCD ID: GNP) (formula: $C_{10}H_{17}N_6O_{13}P_3$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
58	AW	1	Total	C	N	O	P	0	0
			32	10	6	13	3		

- Molecule 59 is water.

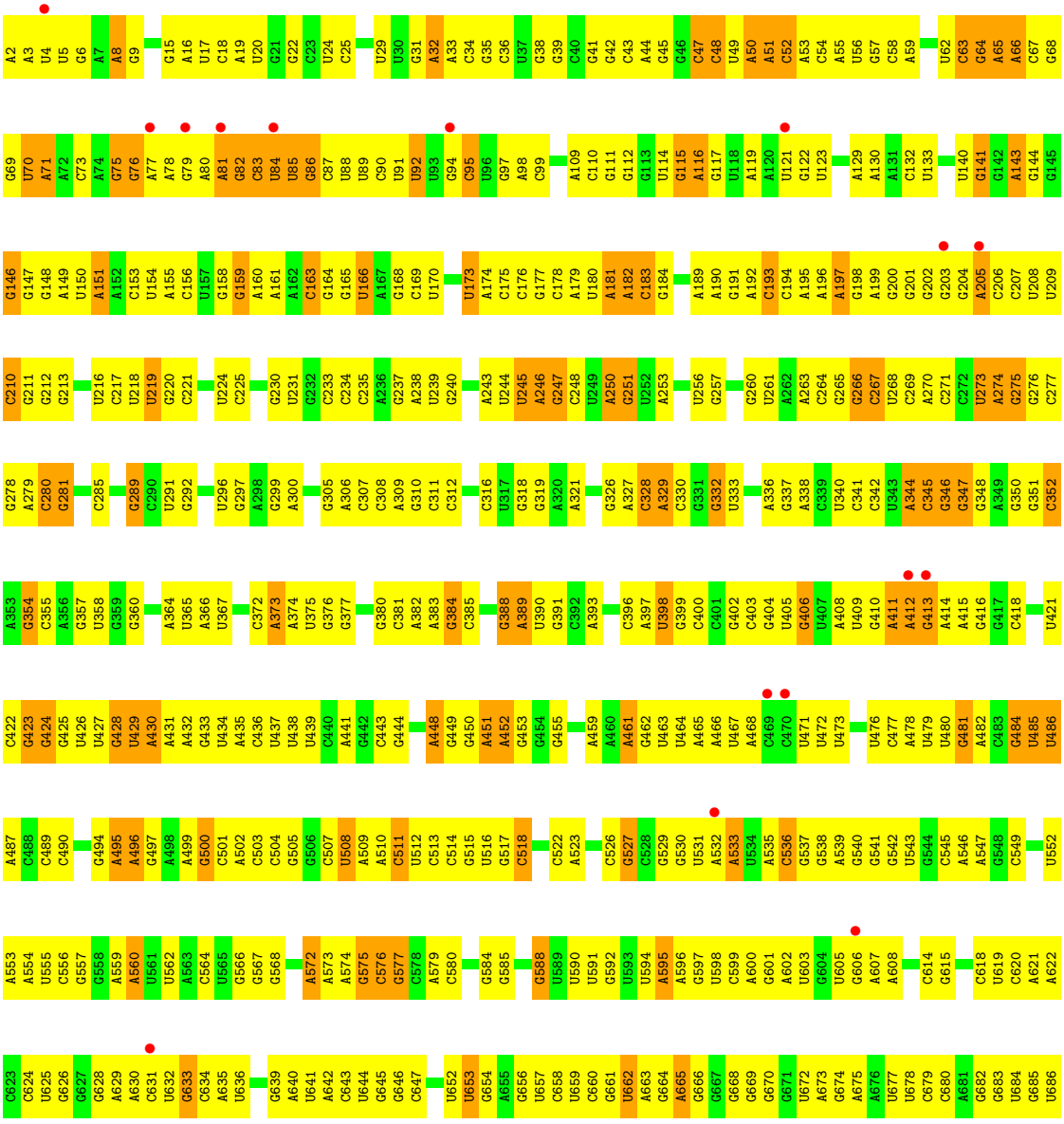
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
59	AW	2	Total	O	0	0
			2	2		
59	B8	1	Total	O	0	0
			1	1		
59	BA	8	Total	O	0	0
			8	8		
59	BC	2	Total	O	0	0
			2	2		
59	BD	1	Total	O	0	0
			1	1		
59	BF	1	Total	O	0	0
			1	1		
59	BG	1	Total	O	0	0
			1	1		
59	BW	1	Total	O	0	0
			1	1		

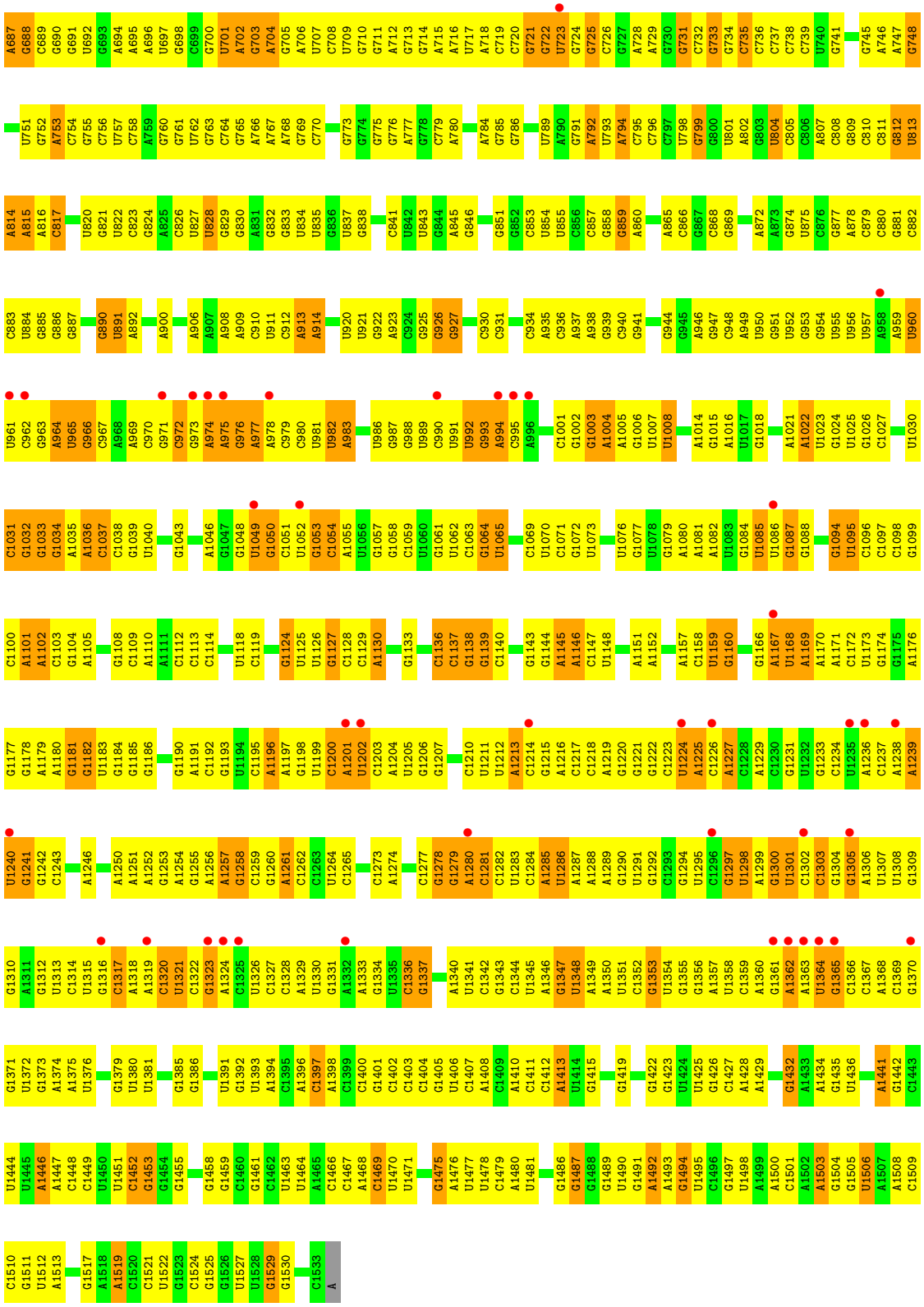
3 Residue-property plots (i)

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.

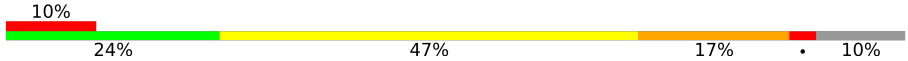
- Molecule 1: 16S rRNA

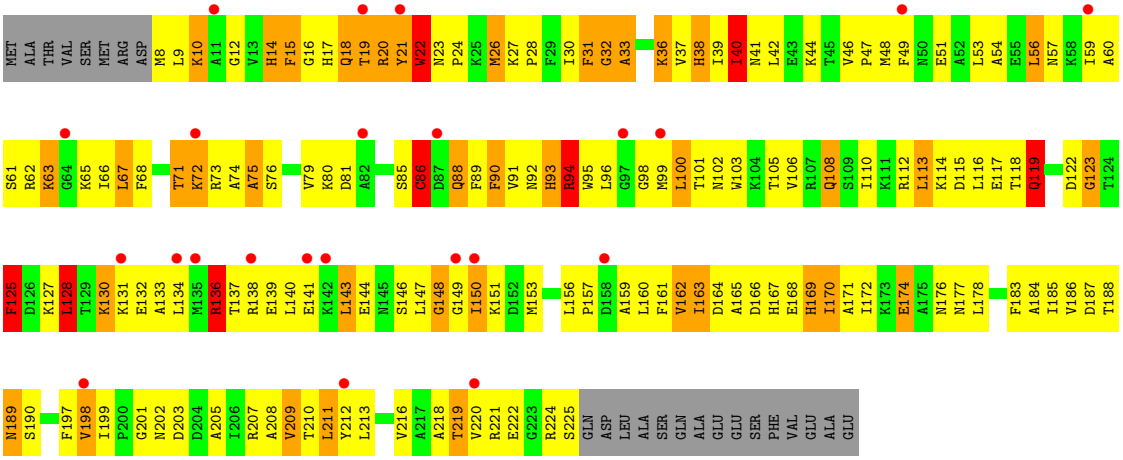
Chain AA:





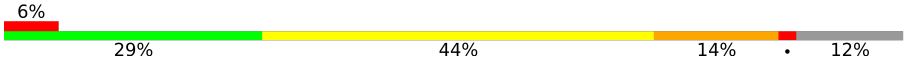
• Molecule 2: 30S ribosomal protein S2

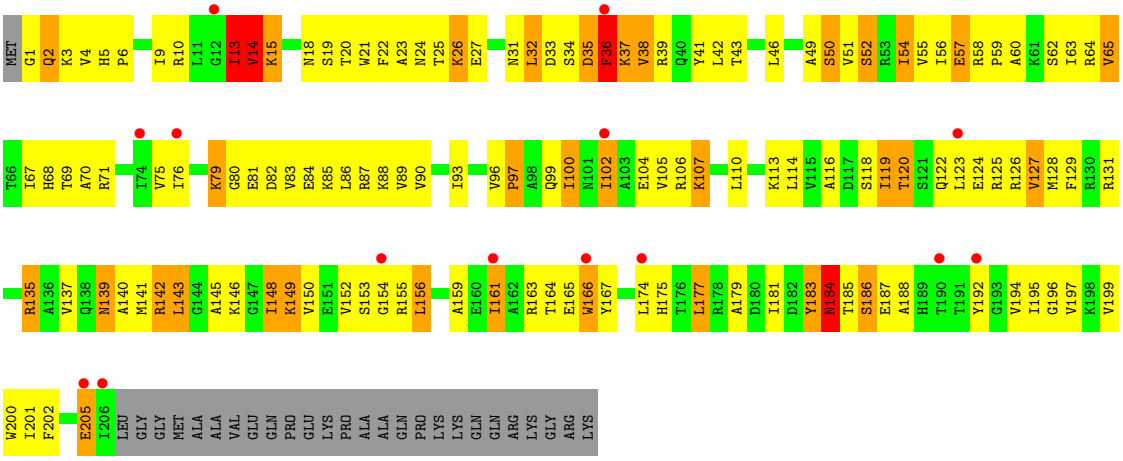




• Molecule 3: 30S ribosomal protein S3

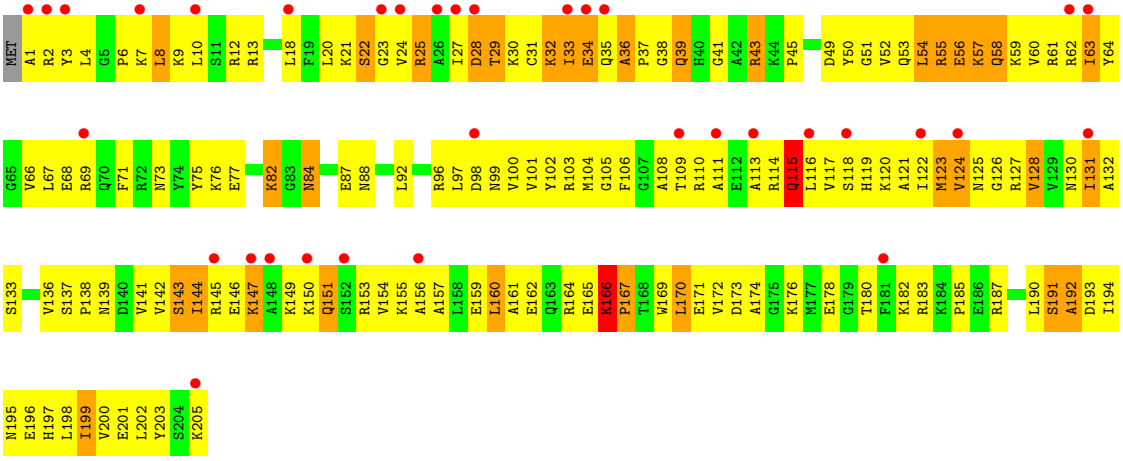
Chain AC:





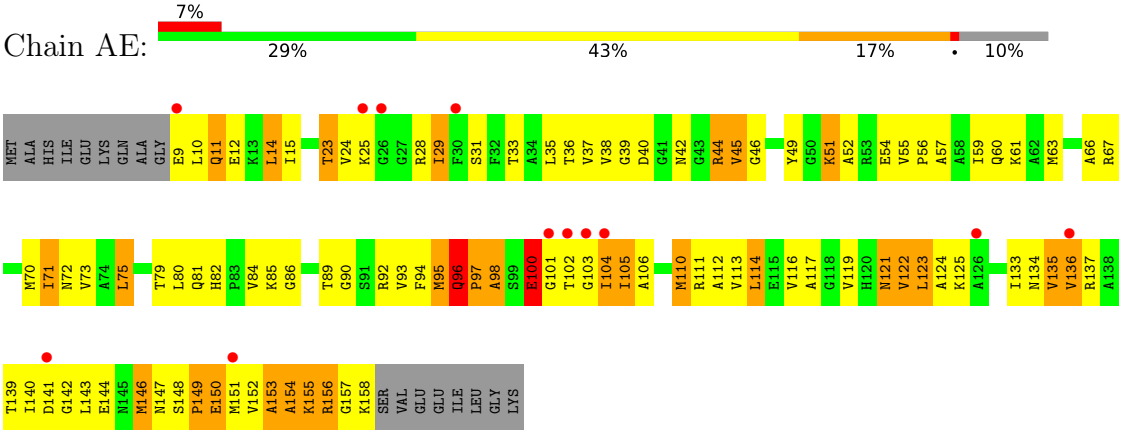
• Molecule 4: 30S ribosomal protein S4

Chain AD:



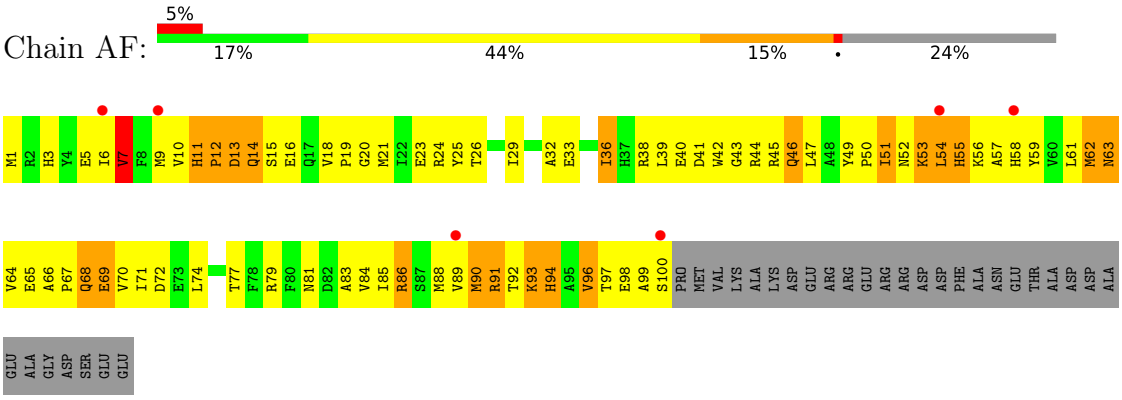
• Molecule 5: 30S ribosomal protein S5

Chain AE:



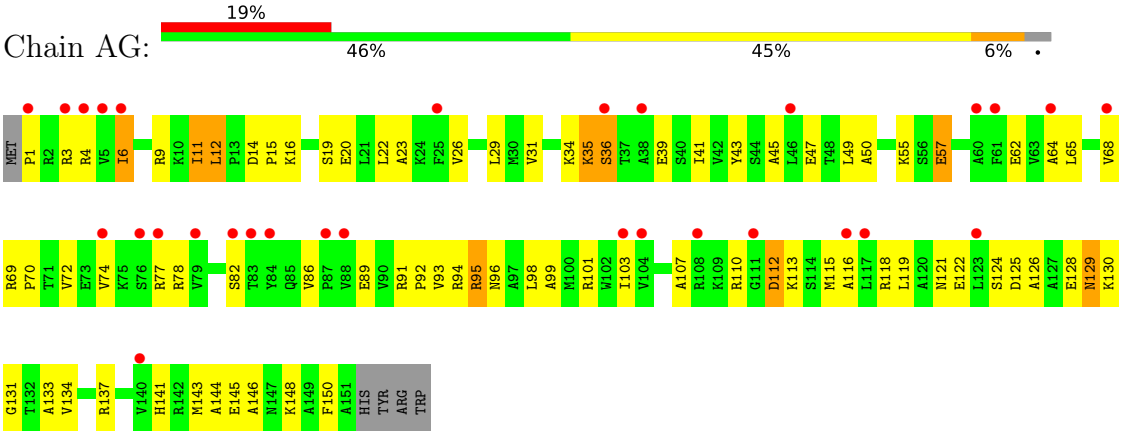
• Molecule 6: 30S ribosomal protein S6 1

Chain AF:



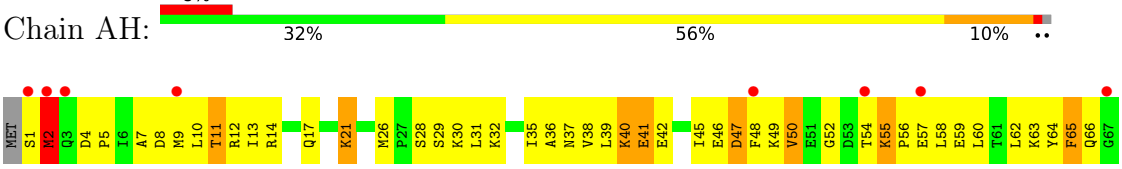
• Molecule 7: 30S ribosomal protein S7

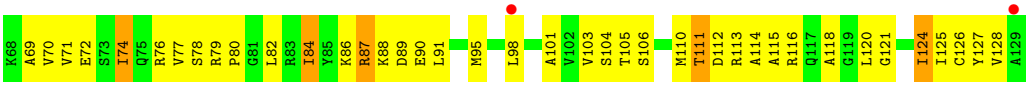
Chain AG:



• Molecule 8: 30S ribosomal protein S8

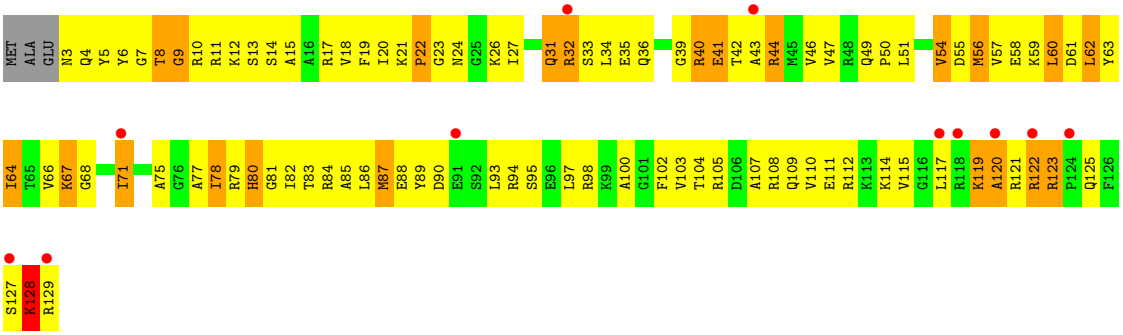
Chain AH:





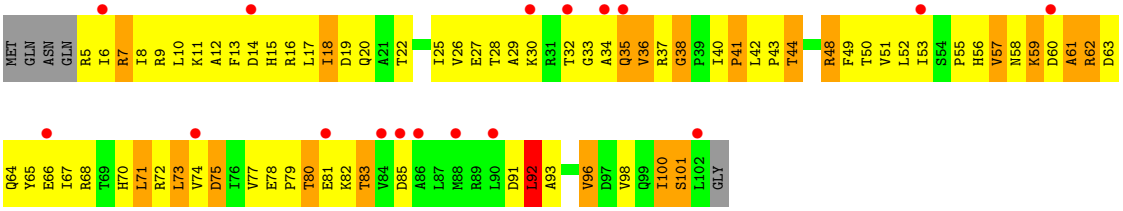
• Molecule 9: 30S ribosomal protein S9

Chain AI:



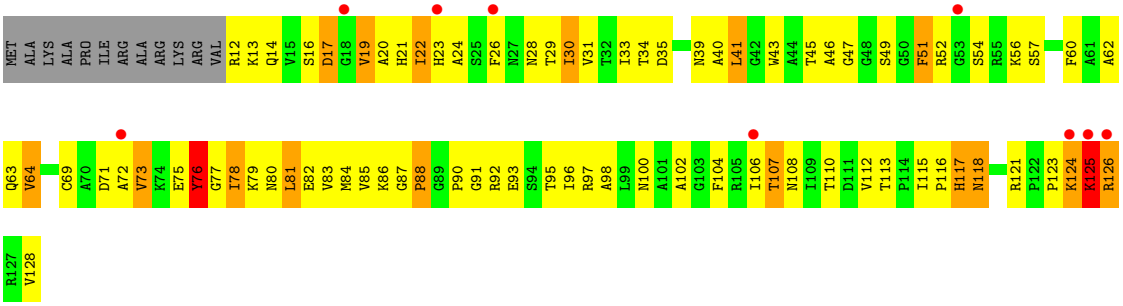
• Molecule 10: 30S ribosomal protein S10

Chain AJ:



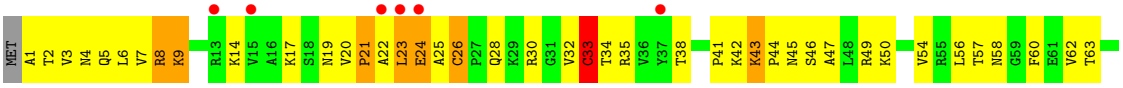
• Molecule 11: 30S ribosomal protein S11

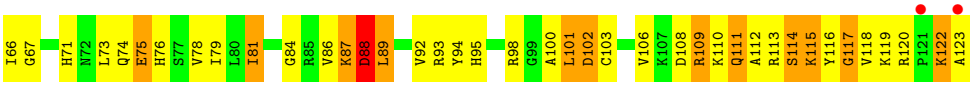
Chain AK:



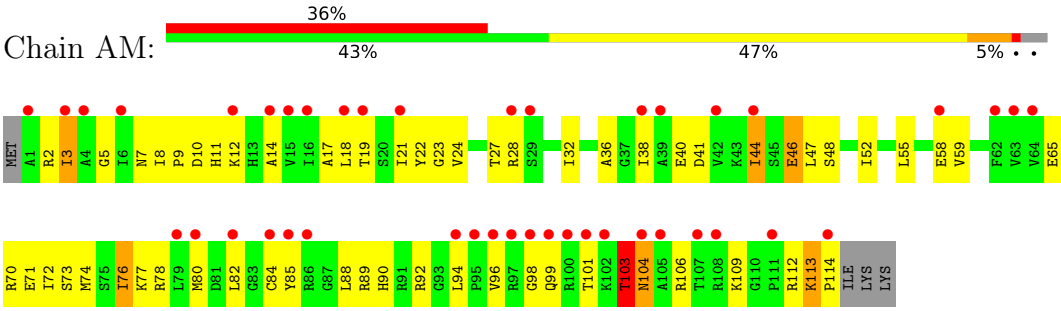
• Molecule 12: 30S ribosomal protein S12 1

Chain AL:

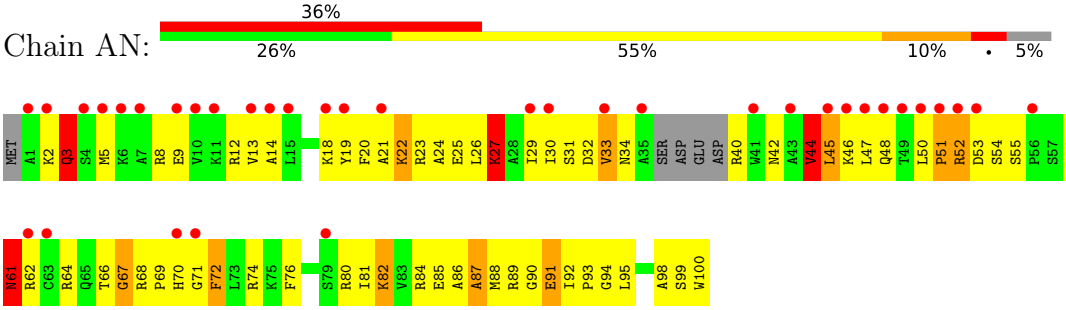




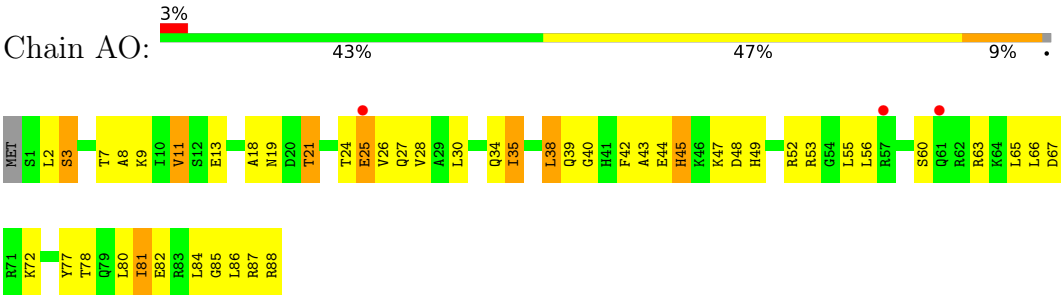
• Molecule 13: 30S ribosomal protein S13



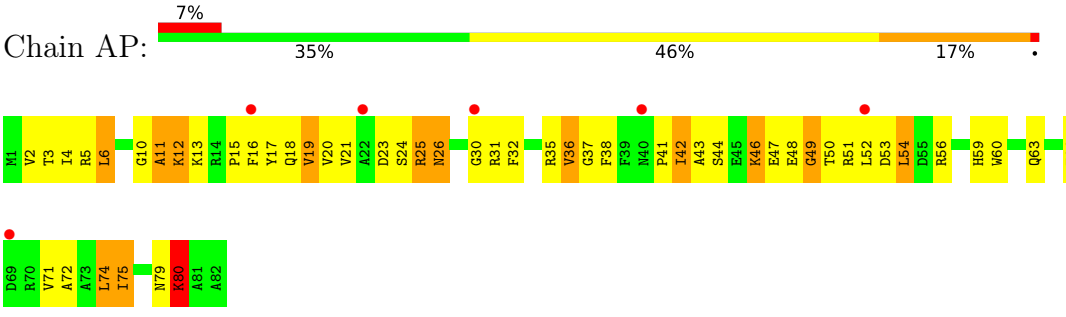
• Molecule 14: 30S ribosomal protein S14



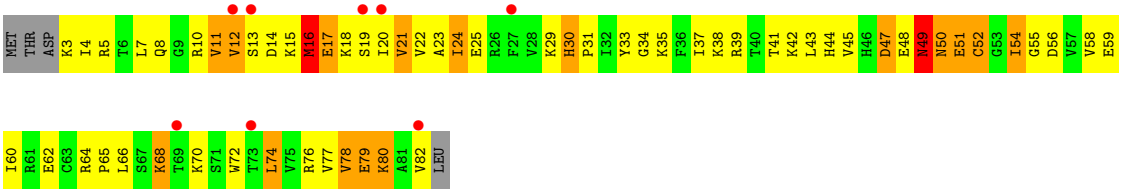
• Molecule 15: 30S ribosomal protein S15 1



• Molecule 16: 30S ribosomal protein S16

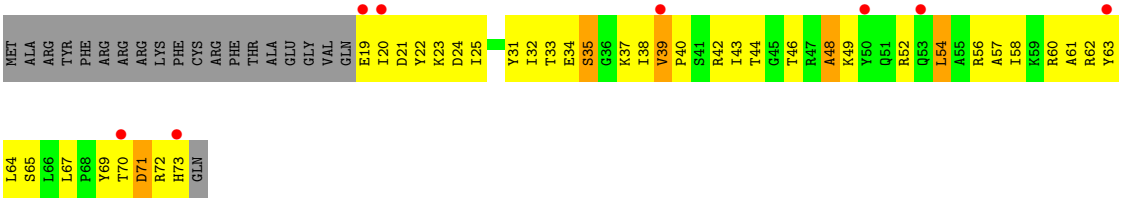


• Molecule 17: 30S ribosomal protein S17



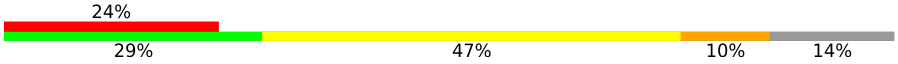
• Molecule 18: 30S ribosomal protein S18

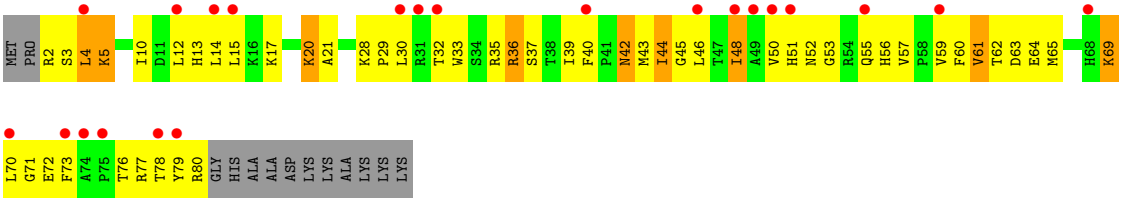
Chain AR:



• Molecule 19: 30S ribosomal protein S19

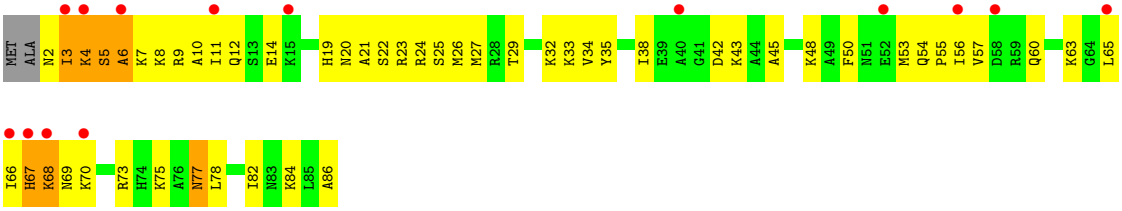
Chain AS:





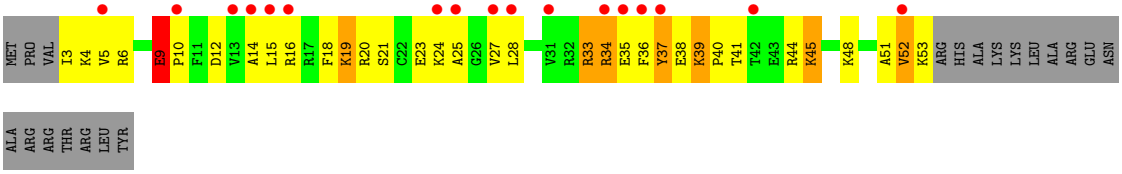
• Molecule 20: 30S ribosomal protein S20

Chain AT:

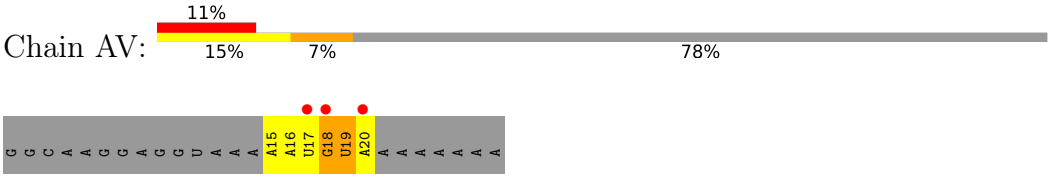


• Molecule 21: 30S ribosomal protein S21

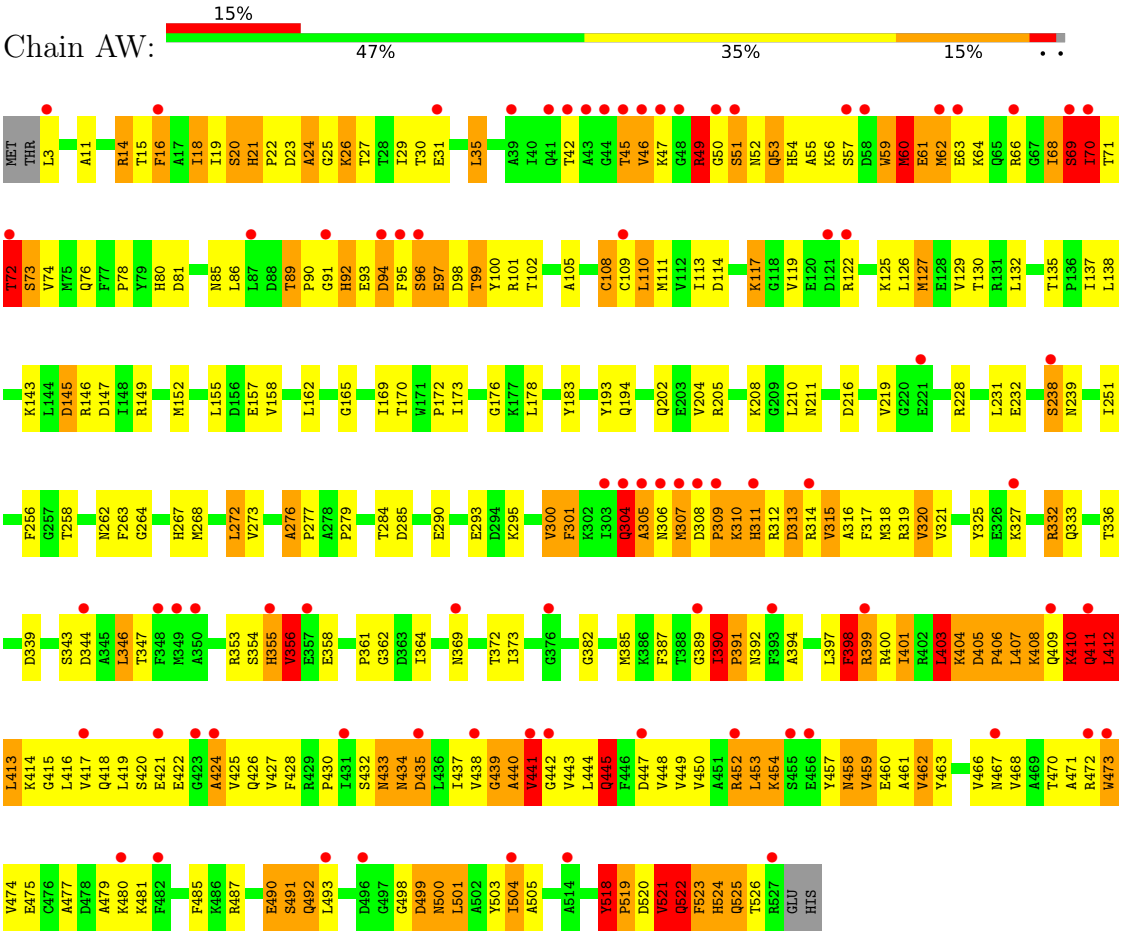
Chain AU:



• Molecule 22: messenger RNA

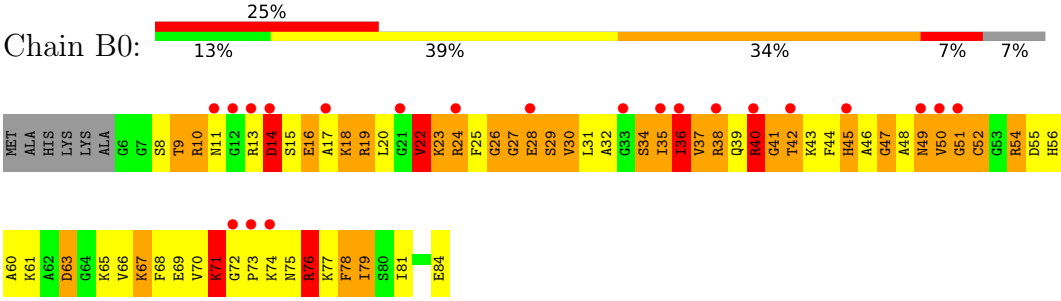


• Molecule 23: Peptide chain release factor 3



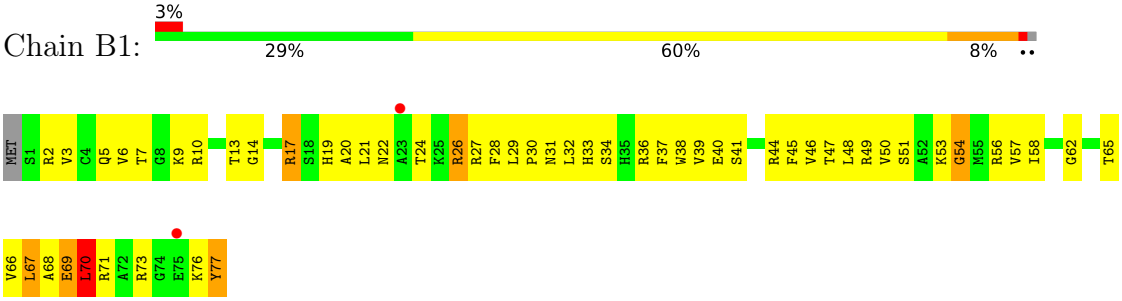
• Molecule 24: Viomycin

• Molecule 25: 50S ribosomal protein L27



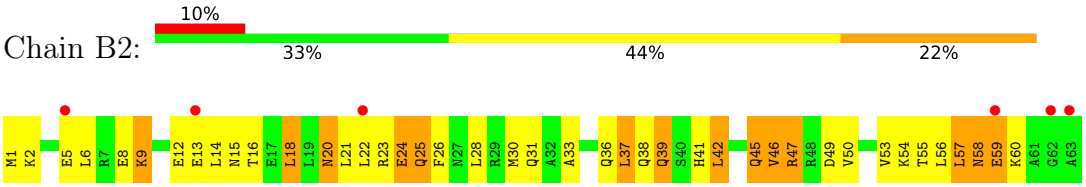
• Molecule 26: 50S ribosomal protein L28

Chain B1:



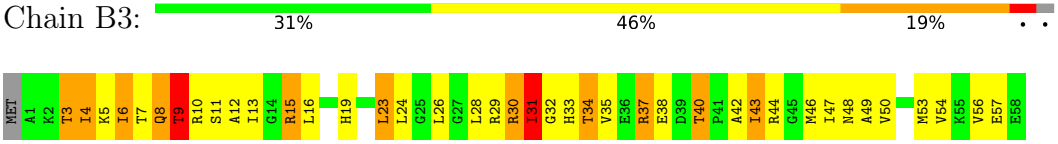
• Molecule 27: 50S ribosomal protein L29

Chain B2:



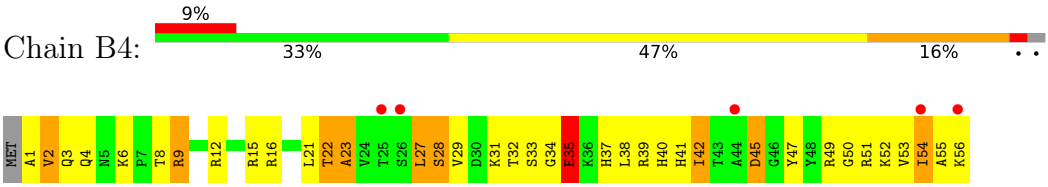
• Molecule 28: 50S ribosomal protein L30

Chain B3:



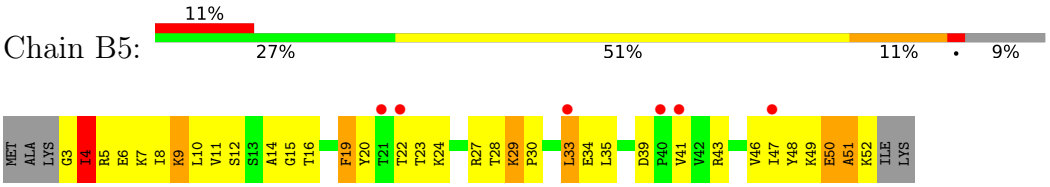
• Molecule 29: 50S ribosomal protein L32

Chain B4:



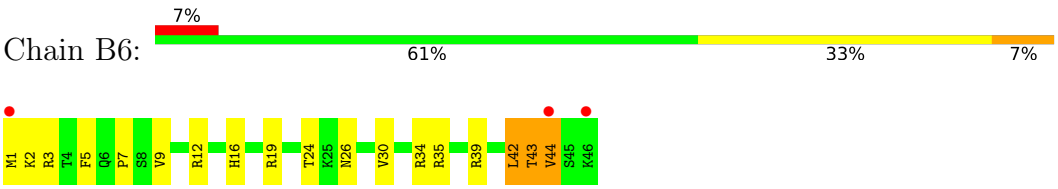
• Molecule 30: 50S ribosomal protein L33

Chain B5:



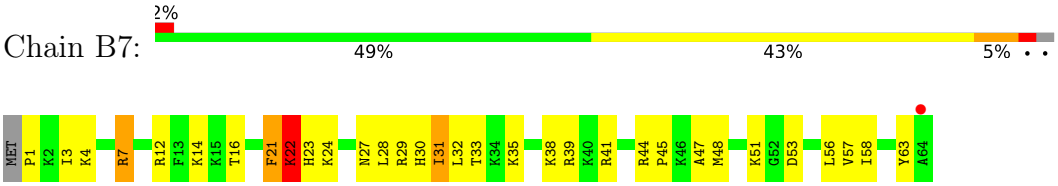
• Molecule 31: 50S ribosomal protein L34

Chain B6:



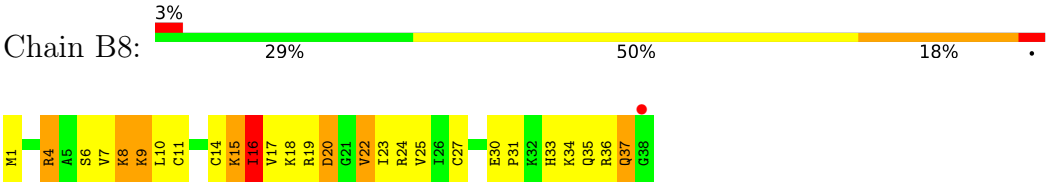
• Molecule 32: 50S ribosomal protein L35

Chain B7:



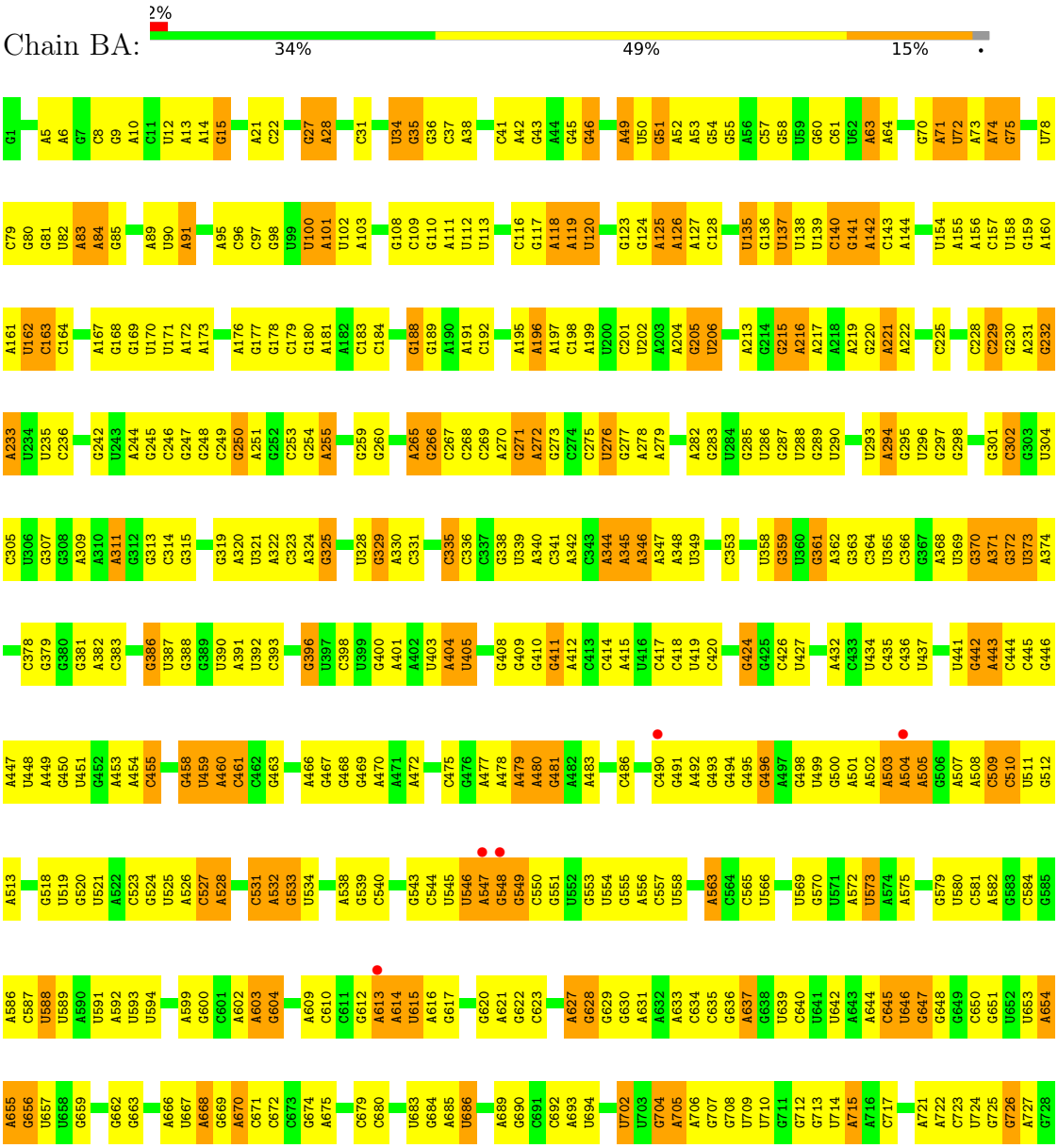
• Molecule 33: 50S ribosomal protein L36 1

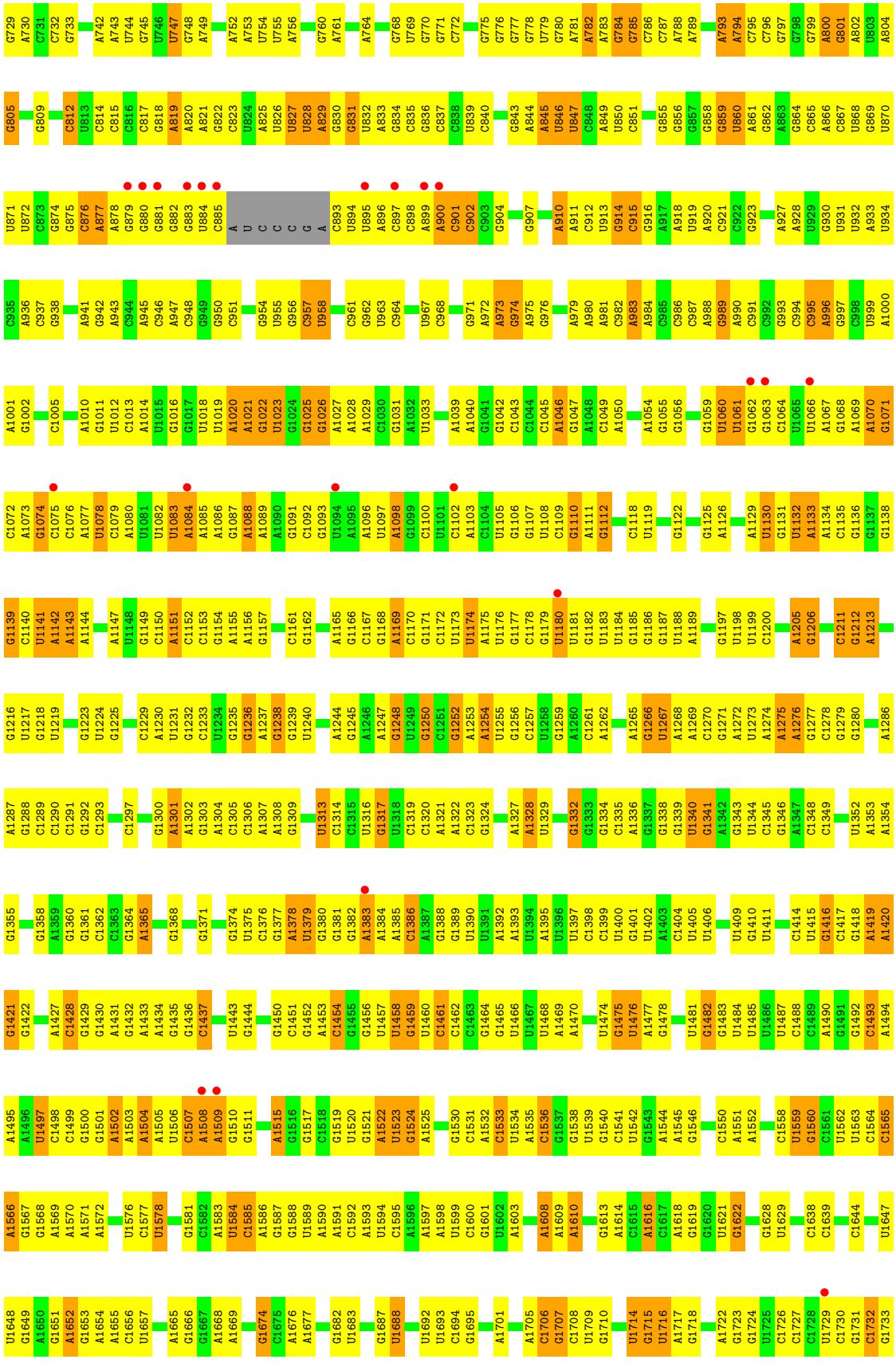
Chain B8:

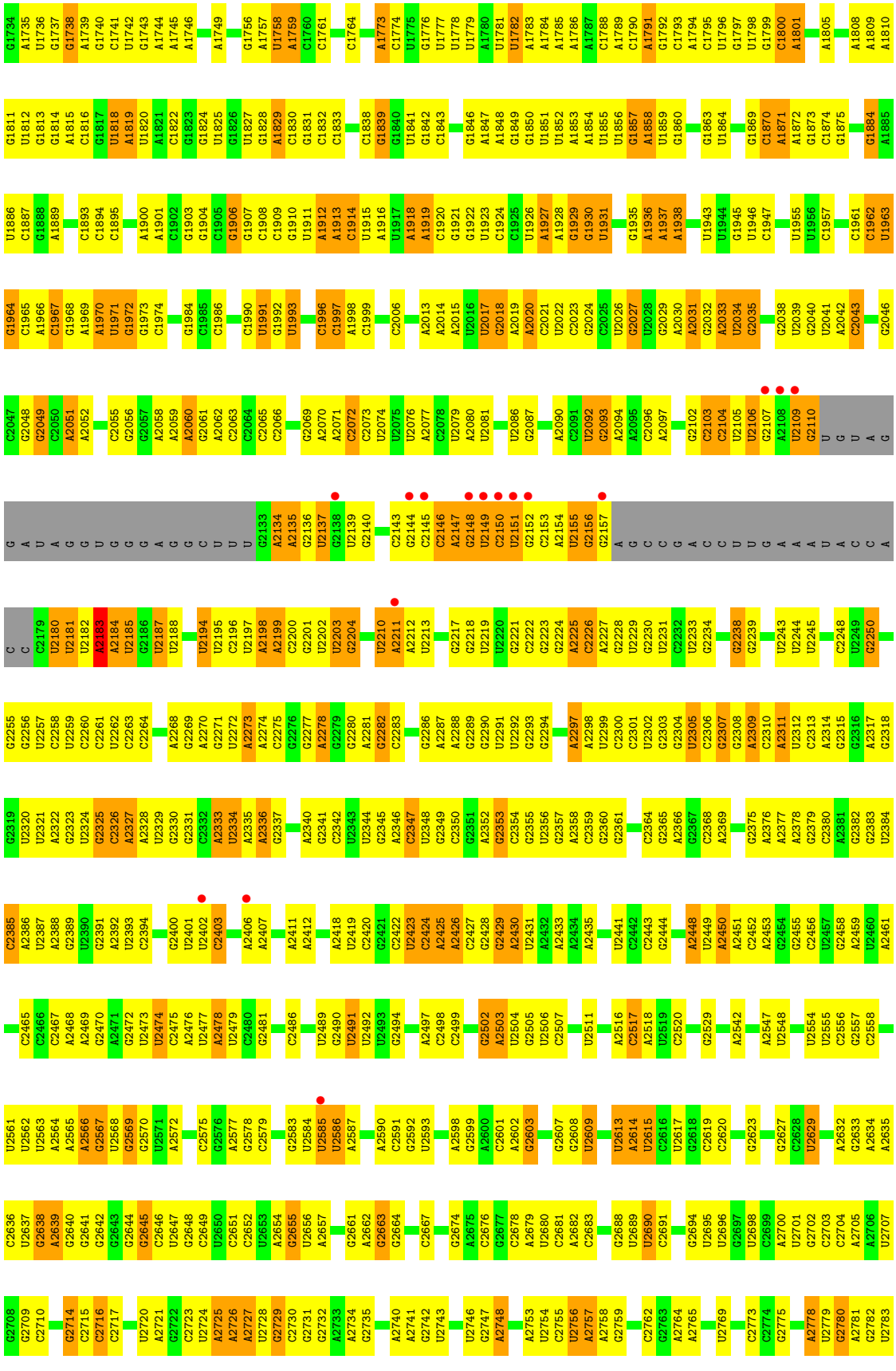


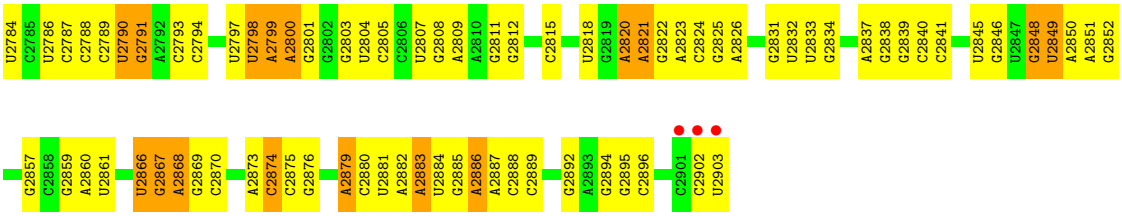
• Molecule 34: 23S rRNA

Chain BA:



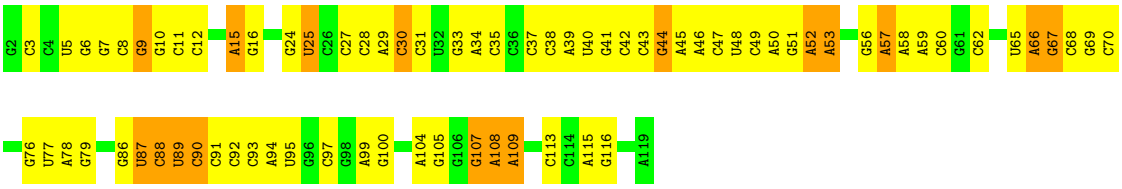






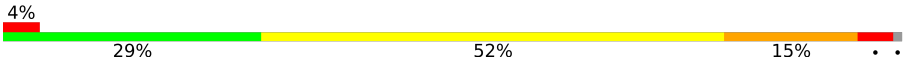
• Molecule 35: 5S ribosomal RNA

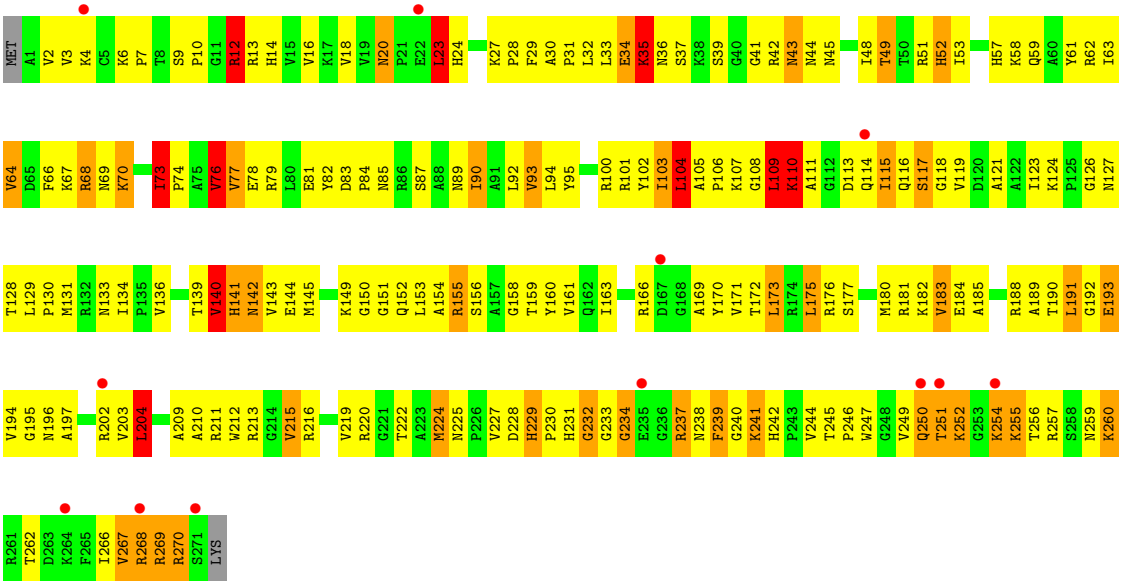
Chain BB:



• Molecule 36: 50S ribosomal protein L2

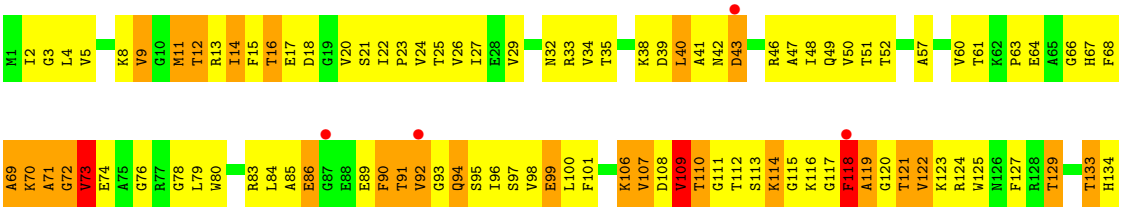
Chain BC:

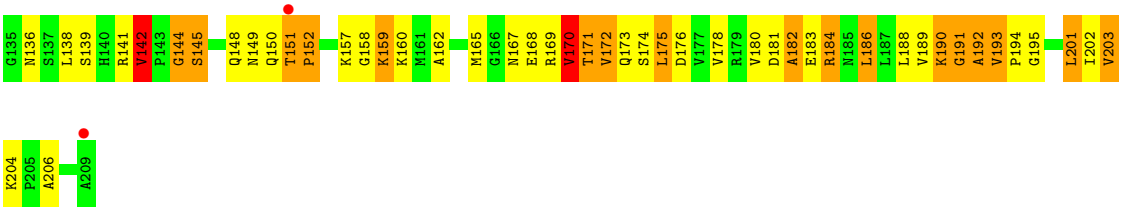




• Molecule 37: 50S ribosomal protein L3

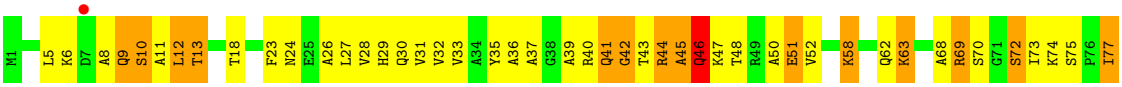
Chain BD:

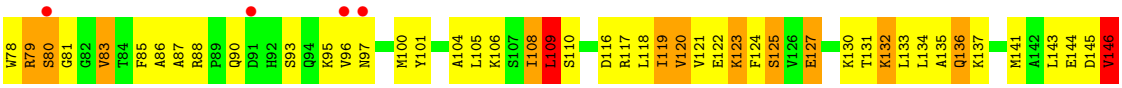




• Molecule 38: 50S ribosomal protein L4

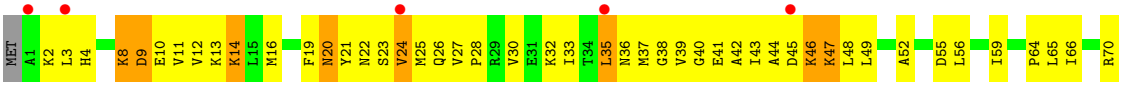
Chain BE:

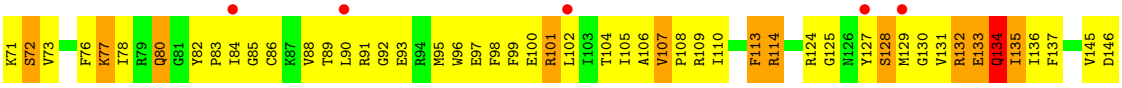


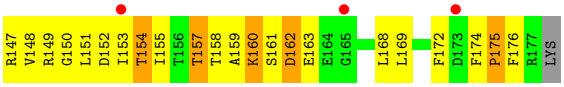


• Molecule 39: 50S ribosomal protein L5

Chain BF:

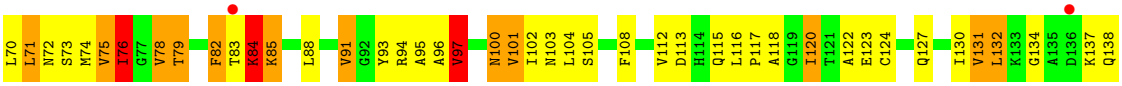


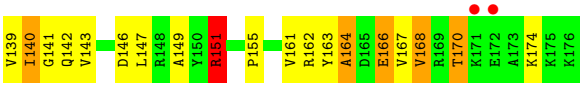




• Molecule 40: 50S ribosomal protein L6

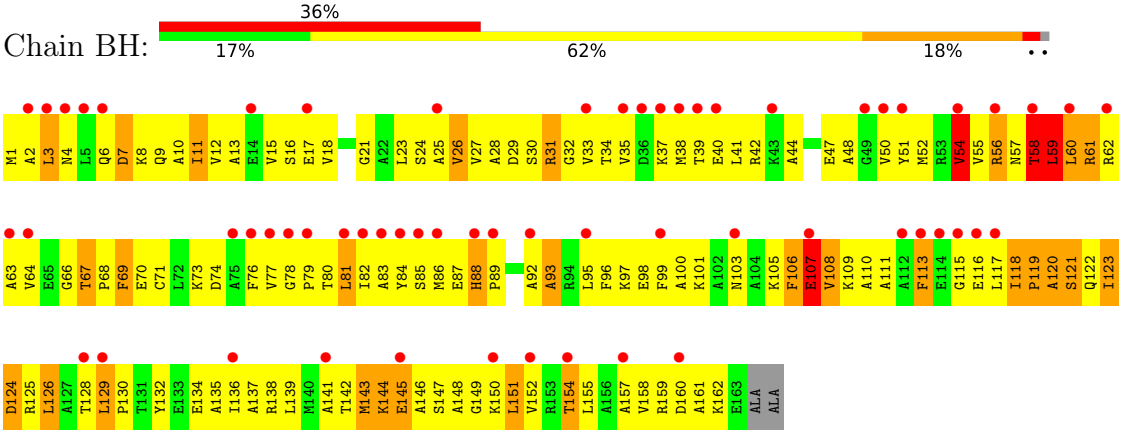
Chain BG:





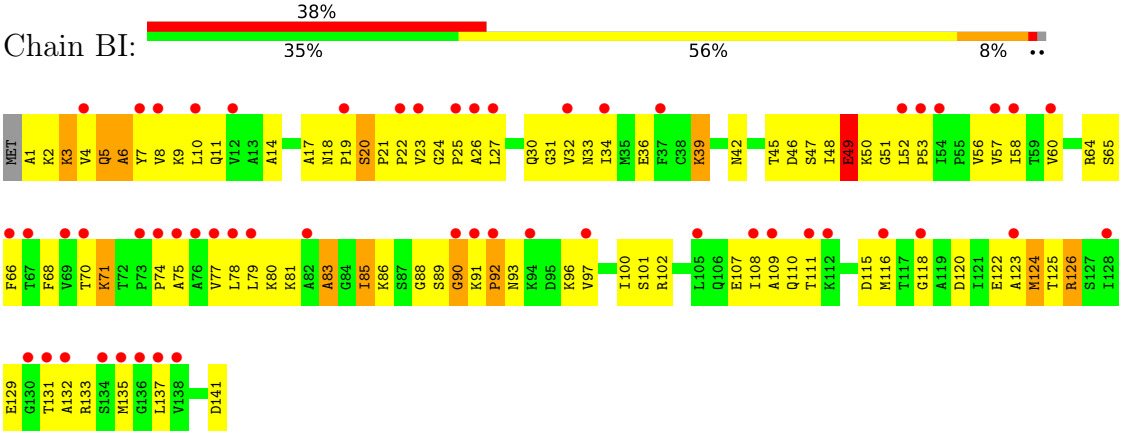
• Molecule 41: 50S ribosomal protein L10

Chain BH:



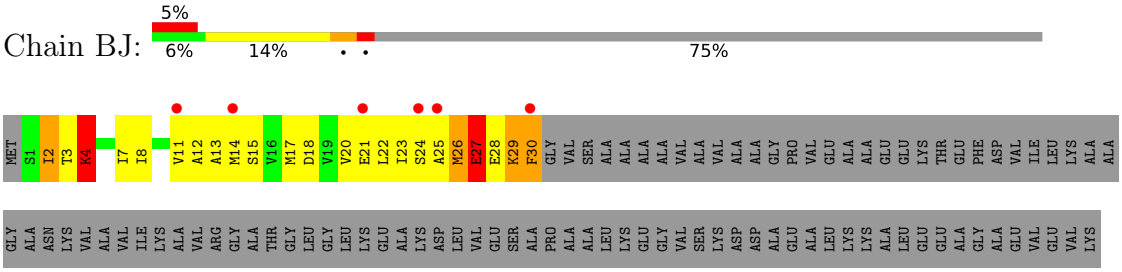
• Molecule 42: 50S ribosomal protein L11

Chain BI:



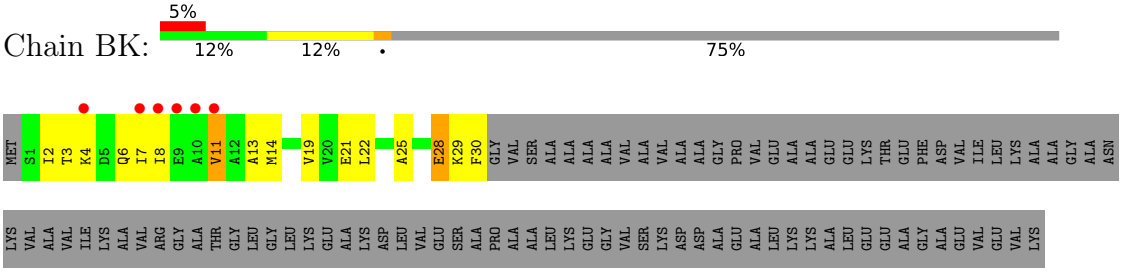
• Molecule 43: 50S ribosomal protein L7/L12

Chain BJ:



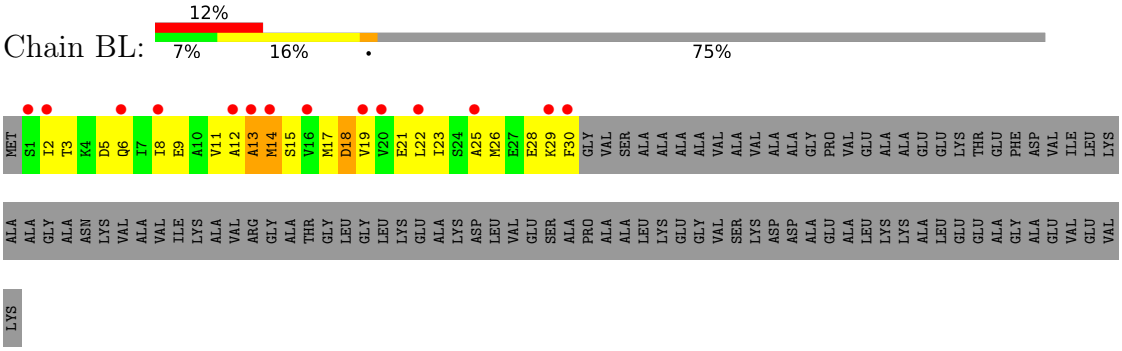
• Molecule 43: 50S ribosomal protein L7/L12

Chain BK:



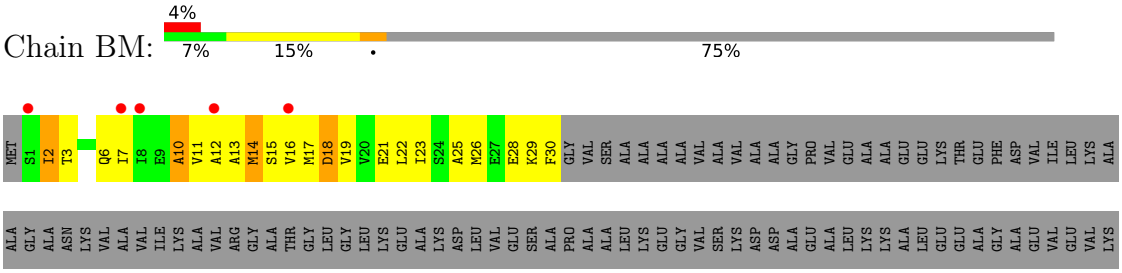
• Molecule 43: 50S ribosomal protein L7/L12

Chain BL:



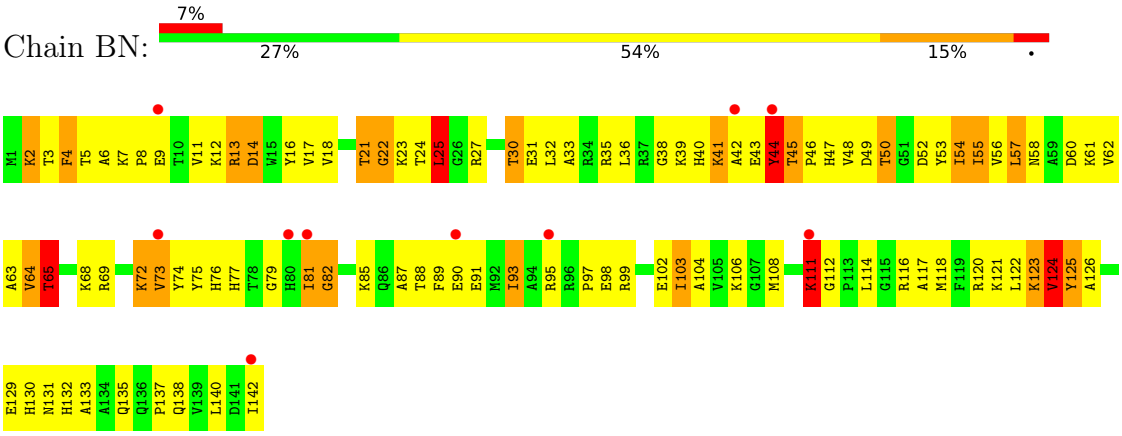
• Molecule 43: 50S ribosomal protein L7/L12

Chain BM:



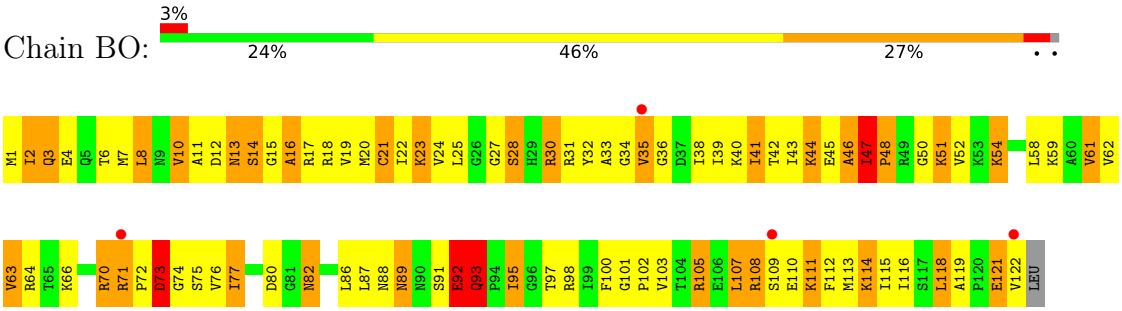
• Molecule 44: 50S ribosomal protein L13

Chain BN:



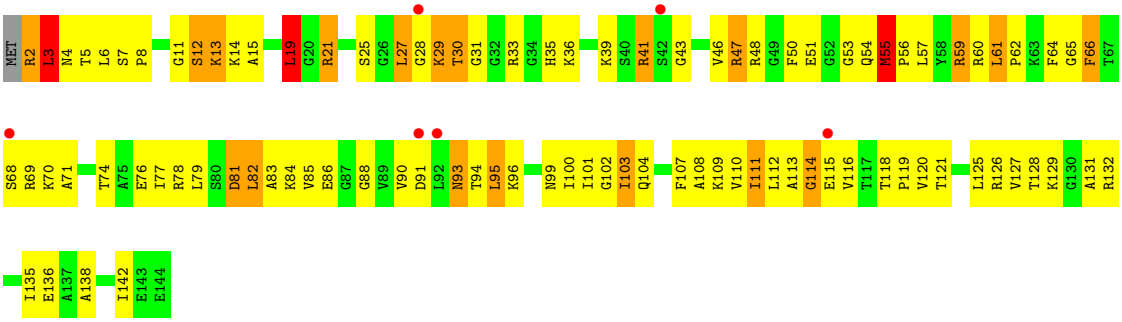
• Molecule 45: 50S ribosomal protein L14

Chain BO:

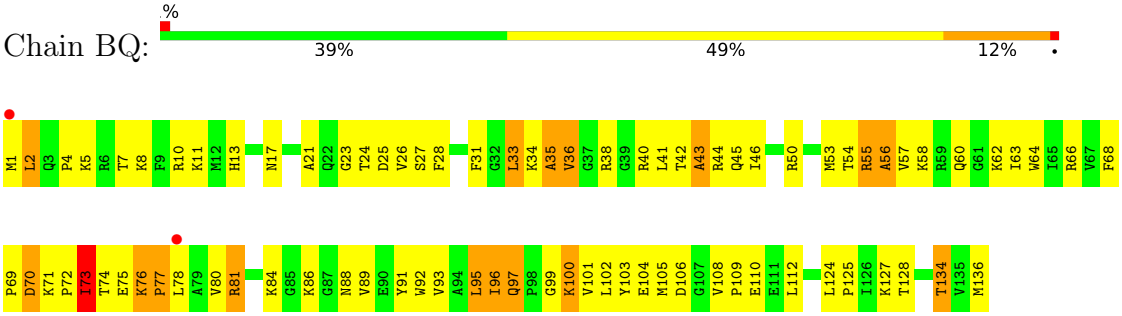


• Molecule 46: 50S ribosomal protein L15

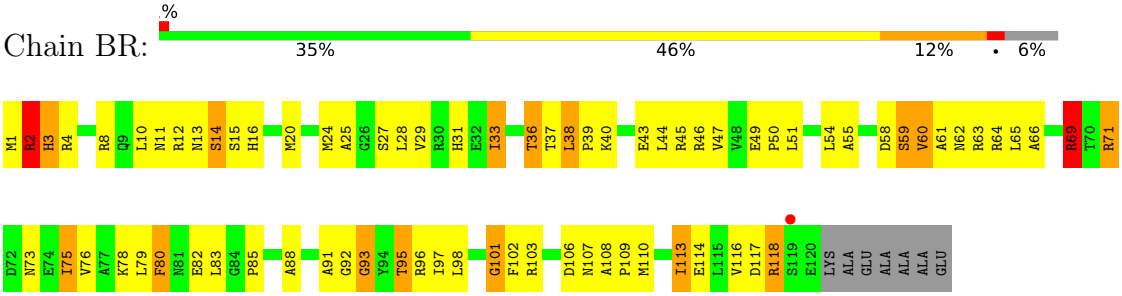
Chain BP:



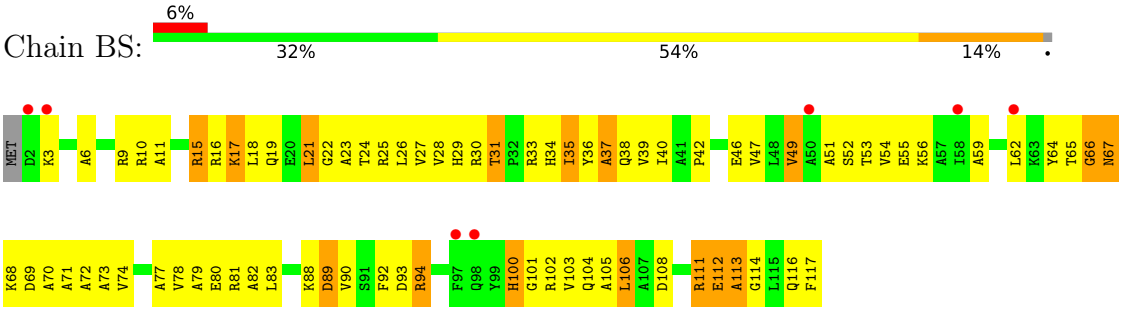
• Molecule 47: 50S ribosomal protein L16



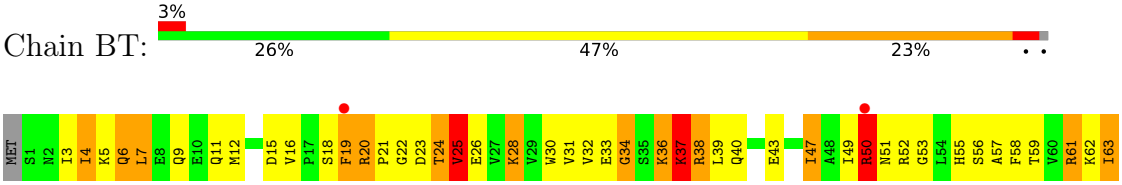
• Molecule 48: 50S ribosomal protein L17

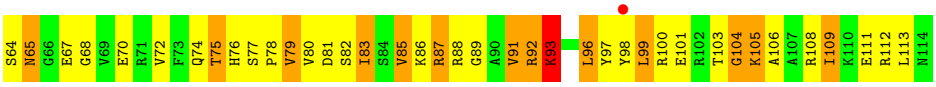


• Molecule 49: 50S ribosomal protein L18



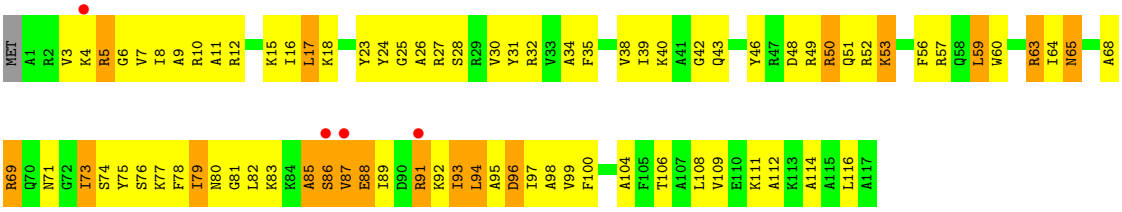
• Molecule 50: 50S ribosomal protein L19





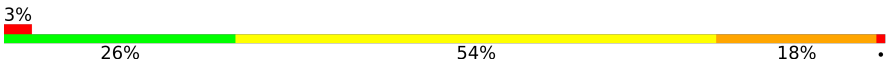
• Molecule 51: 50S ribosomal protein L20

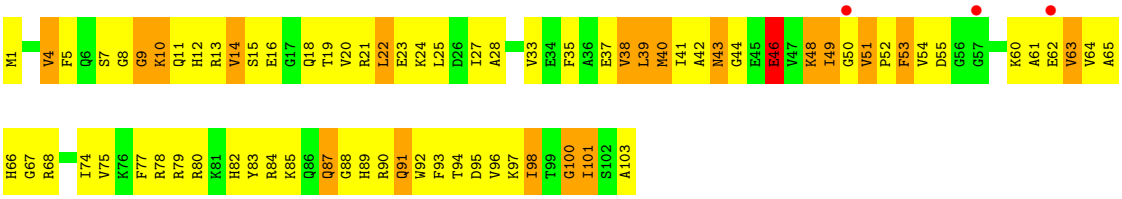
Chain BU:



• Molecule 52: 50S ribosomal protein L21

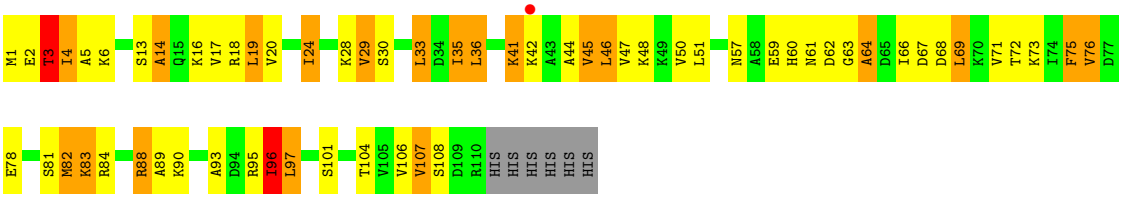
Chain BV:





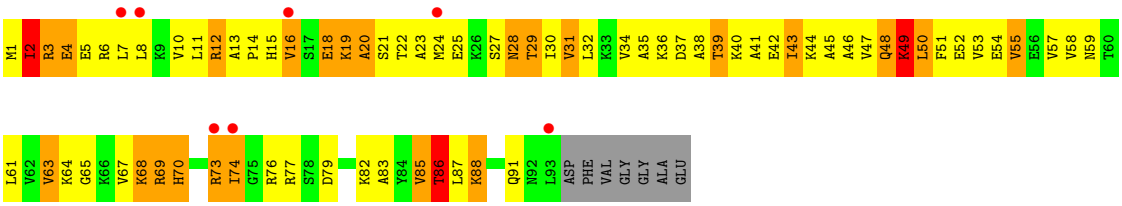
• Molecule 53: 50S ribosomal protein L22

Chain BW:



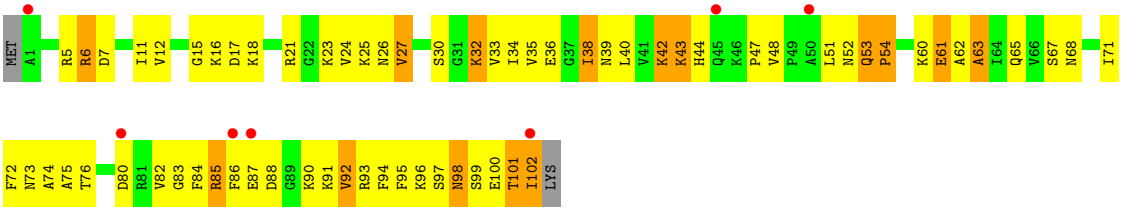
• Molecule 54: 50S ribosomal protein L23

Chain BX:

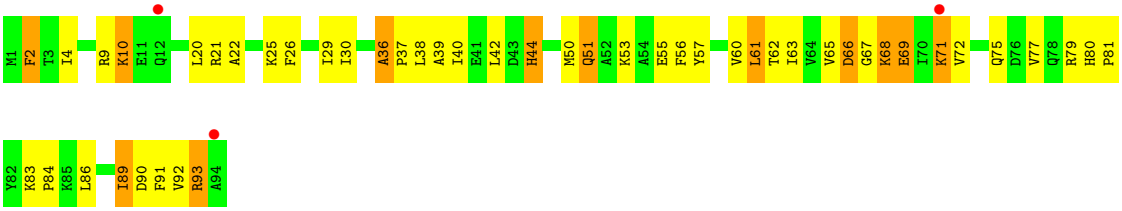


• Molecule 55: 50S ribosomal protein L24 1

Chain BY:



• Molecule 56: 50S ribosomal protein L25 1



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	257.60Å 312.90Å 328.60Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.00 – 3.20 40.00 – 3.20	Depositor EDS
% Data completeness (in resolution range)	(Not available) (40.00-3.20) 99.9 (40.00-3.20)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.34 (at 3.01Å)	Xtriage
Refinement program	PHENIX, CNS 1.2	Depositor
R, R_{free}	0.210 , 0.250 0.227 , 0.253	Depositor DCC
R_{free} test set	26311 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å^2)	64.1	Xtriage
Anisotropy	0.241	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 90.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.45$, $< L^2 > = 0.27$	Xtriage
Estimated twinning fraction	0.020 for -h,l,k	Xtriage
F_o,F_c correlation	0.91	EDS
Total number of atoms	147221	wwPDB-VP
Average B, all atoms (Å^2)	95.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.42% 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 (i)

5.1 Standard geometry (i)

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

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	AA	0.27	0/36809	0.40	0/57423
2	AB	0.37	0/1735	0.77	0/2338
3	AC	0.38	0/1651	0.82	2/2225 (0.1%)
4	AD	0.36	0/1665	0.81	4/2227 (0.2%)
5	AE	0.45	0/1118	0.93	2/1504 (0.1%)
6	AF	0.36	0/835	0.81	2/1128 (0.2%)
7	AG	0.31	0/1195	0.76	0/1602
8	AH	0.39	0/989	0.86	2/1326 (0.2%)
9	AI	0.31	0/1034	0.77	2/1375 (0.1%)
10	AJ	0.41	0/796	0.86	1/1077 (0.1%)
11	AK	0.38	0/893	0.83	0/1205
12	AL	0.52	0/969	0.98	2/1300 (0.2%)
13	AM	0.31	0/892	0.76	0/1193
14	AN	0.35	0/785	0.76	0/1043
15	AO	0.36	0/722	0.77	0/964
16	AP	0.40	0/659	0.74	0/884
17	AQ	0.36	0/657	0.89	2/881 (0.2%)
18	AR	0.40	0/462	0.93	2/621 (0.3%)
19	AS	0.30	0/652	0.74	0/877
20	AT	0.41	0/671	0.83	0/888
21	AU	0.37	0/430	0.84	0/570
22	AV	0.32	0/144	0.46	0/222
23	AW	0.62	7/4221 (0.2%)	1.10	29/5702 (0.5%)
24	AY	0.86	0/11	0.67	0/13
25	B0	0.56	0/603	0.95	1/797 (0.1%)
26	B1	0.45	0/635	0.94	1/848 (0.1%)
27	B2	0.40	0/510	0.86	2/677 (0.3%)
28	B3	0.52	0/453	0.95	0/605
29	B4	0.56	0/450	0.98	4/599 (0.7%)
30	B5	0.36	0/416	0.77	0/554
31	B6	0.52	0/380	0.89	0/498
32	B7	0.46	0/513	0.85	1/676 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	B8	0.53	0/303	1.00	2/397 (0.5%)
34	BA	0.36	4/68601 (0.0%)	0.44	10/107017 (0.0%)
35	BB	0.25	0/2828	0.39	0/4410
36	BC	0.53	0/2121	1.07	11/2852 (0.4%)
37	BD	0.59	0/1586	1.13	10/2134 (0.5%)
38	BE	0.47	0/1571	0.87	4/2113 (0.2%)
39	BF	0.32	0/1434	0.77	1/1926 (0.1%)
40	BG	0.47	0/1343	0.88	1/1816 (0.1%)
41	BH	0.38	0/1244	0.84	1/1675 (0.1%)
42	BI	0.32	0/1046	0.79	0/1410
43	BJ	0.39	0/227	0.86	0/304
43	BK	0.32	0/227	0.75	0/304
43	BL	0.37	0/227	0.77	0/304
43	BM	0.33	0/227	0.70	0/304
44	BN	0.55	0/1152	0.97	1/1551 (0.1%)
45	BO	0.61	0/947	1.05	7/1268 (0.6%)
46	BP	0.47	0/1054	0.97	3/1403 (0.2%)
47	BQ	0.50	0/1093	1.01	2/1460 (0.1%)
48	BR	0.58	0/973	0.95	1/1301 (0.1%)
49	BS	0.43	0/902	0.82	0/1209
50	BT	0.56	0/929	0.95	3/1242 (0.2%)
51	BU	0.53	0/960	0.88	0/1278
52	BV	0.45	0/829	0.95	6/1107 (0.5%)
53	BW	0.66	0/863	0.91	1/1156 (0.1%)
54	BX	0.52	0/744	0.96	1/994 (0.1%)
55	BY	0.48	0/787	0.88	1/1051 (0.1%)
56	BZ	0.39	0/766	0.83	3/1025 (0.3%)
All	All	0.38	11/158939 (0.0%)	0.60	128/236853 (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
12	AL	0	1
23	AW	0	2
24	AY	0	2
All	All	0	5

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	BA	2106	U	O3'-P	16.62	1.86	1.61
34	BA	2183	A	O3'-P	12.55	1.79	1.61
34	BA	974	G	O3'-P	-12.31	1.42	1.61
34	BA	973	A	O3'-P	-10.96	1.44	1.61
23	AW	25	GLY	C-N	9.66	1.45	1.33
23	AW	72	THR	C-O	8.58	1.34	1.24
23	AW	26	LYS	C-N	-6.56	1.25	1.34
23	AW	72	THR	CA-CB	6.09	1.63	1.53
23	AW	70	ILE	CA-CB	5.82	1.62	1.54
23	AW	73	SER	N-CA	-5.33	1.38	1.45
23	AW	24	ALA	C-N	5.31	1.41	1.33

All (128) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	BA	2183	A	O3'-P-O5'	-15.64	80.55	104.00
37	BD	151	THR	CA-C-N	-10.86	107.00	119.05
37	BD	151	THR	C-N-CA	-10.86	107.00	119.05
37	BD	172	VAL	N-CA-C	10.33	121.19	111.48
36	BC	73	ILE	CA-C-N	9.04	129.72	120.14
36	BC	73	ILE	C-N-CA	9.04	129.72	120.14
47	BQ	68	PHE	CA-C-N	8.60	130.59	119.84
47	BQ	68	PHE	C-N-CA	8.60	130.59	119.84
23	AW	522	GLN	CA-C-N	8.15	136.37	121.70
23	AW	522	GLN	C-N-CA	8.15	136.37	121.70
34	BA	2183	A	OP2-P-O3'	8.01	132.01	108.00
23	AW	26	LYS	O-C-N	7.96	131.84	122.20
23	AW	491	SER	N-CA-C	7.93	119.56	111.07
36	BC	12	ARG	N-CA-C	-7.85	103.92	113.97
54	BX	85	VAL	N-CA-C	7.75	118.33	110.82
36	BC	76	VAL	N-CA-C	7.71	119.79	111.77
17	AQ	30	HIS	CA-C-N	7.13	126.81	119.82
17	AQ	30	HIS	C-N-CA	7.13	126.81	119.82
34	BA	974	G	N9-C1'-C2'	7.07	124.61	114.00
36	BC	93	VAL	N-CA-C	7.07	118.13	111.48
29	B4	6	LYS	CA-C-N	7.02	126.99	119.76
29	B4	6	LYS	C-N-CA	7.02	126.99	119.76
34	BA	2183	A	P-O3'-C3'	-6.94	109.80	120.20
23	AW	276	ALA	CA-C-N	6.92	126.96	119.90
23	AW	276	ALA	C-N-CA	6.92	126.96	119.90
23	AW	25	GLY	O-C-N	-6.83	113.82	122.70
38	BE	58	LYS	CA-C-N	6.80	127.36	119.47
38	BE	58	LYS	C-N-CA	6.80	127.36	119.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	AW	208	LYS	N-CA-C	6.79	118.37	110.97
23	AW	69	SER	N-CA-C	6.76	125.21	110.80
23	AW	491	SER	CA-C-N	6.74	133.84	121.70
23	AW	491	SER	C-N-CA	6.74	133.84	121.70
12	AL	26	CYS	CA-C-N	6.63	128.13	119.84
12	AL	26	CYS	C-N-CA	6.63	128.13	119.84
46	BP	55	MET	CA-C-N	6.53	126.51	119.78
46	BP	55	MET	C-N-CA	6.53	126.51	119.78
45	BO	2	ILE	N-CA-C	6.51	117.60	111.48
37	BD	178	VAL	N-CA-C	-6.37	105.97	113.42
55	BY	84	PHE	N-CA-C	6.35	119.06	109.41
48	BR	69	ARG	N-CA-C	-6.31	101.12	110.46
27	B2	58	ASN	N-CA-C	-6.29	104.31	112.68
18	AR	39	VAL	CA-C-N	6.25	126.60	119.92
18	AR	39	VAL	C-N-CA	6.25	126.60	119.92
23	AW	89	THR	CA-C-N	6.20	127.59	119.84
23	AW	89	THR	C-N-CA	6.20	127.59	119.84
23	AW	21	HIS	N-CA-C	-6.17	101.78	110.29
23	AW	26	LYS	CA-C-N	-6.14	110.98	120.31
23	AW	26	LYS	C-N-CA	-6.14	110.98	120.31
23	AW	346	LEU	N-CA-C	6.10	118.64	110.35
36	BC	76	VAL	CB-CA-C	-6.07	104.38	112.46
6	AF	11	HIS	CA-C-N	6.07	127.43	119.84
6	AF	11	HIS	C-N-CA	6.07	127.43	119.84
34	BA	974	G	P-O3'-C3'	6.02	129.23	120.20
45	BO	47	ILE	CA-C-N	5.99	127.33	119.84
45	BO	47	ILE	C-N-CA	5.99	127.33	119.84
34	BA	974	G	O4'-C1'-C2'	-5.97	99.83	105.80
34	BA	974	G	C3'-C2'-O2'	-5.93	105.70	114.60
8	AH	2	MET	N-CA-C	-5.92	105.91	113.01
52	BV	44	GLY	N-CA-C	-5.92	106.43	115.66
37	BD	152	PRO	N-CA-C	-5.91	105.32	113.53
23	AW	73	SER	CA-CB-OG	5.91	122.91	111.10
36	BC	163	ILE	CB-CA-C	-5.88	104.19	111.08
23	AW	408	LYS	CA-C-N	5.87	132.26	121.70
23	AW	408	LYS	C-N-CA	5.87	132.26	121.70
50	BT	85	VAL	N-CA-C	5.80	116.80	111.81
56	BZ	36	ALA	CA-C-N	5.80	127.09	119.84
56	BZ	36	ALA	C-N-CA	5.80	127.09	119.84
23	AW	498	GLY	N-CA-C	-5.79	106.79	114.95
23	AW	475	GLU	N-CA-C	5.73	119.03	110.14
23	AW	439	GLY	CA-C-N	5.70	131.96	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	AW	439	GLY	C-N-CA	5.70	131.96	121.70
32	B7	21	PHE	N-CA-C	5.67	122.88	110.80
50	BT	6	GLN	N-CA-C	-5.67	105.10	111.28
29	B4	4	GLN	N-CA-C	-5.66	106.92	113.88
4	AD	49	ASP	N-CA-C	-5.63	105.15	111.28
52	BV	51	VAL	CA-C-N	-5.61	114.19	119.85
52	BV	51	VAL	C-N-CA	-5.61	114.19	119.85
52	BV	46	GLU	N-CA-C	5.58	118.17	109.52
36	BC	44	ASN	N-CA-C	-5.56	106.34	113.01
27	B2	45	GLN	N-CA-C	-5.53	103.18	110.43
34	BA	974	G	OP2-P-O3'	-5.52	91.45	108.00
33	B8	15	LYS	N-CA-C	5.50	119.98	111.56
8	AH	47	ASP	N-CA-C	5.48	116.47	108.14
45	BO	121	GLU	N-CA-C	5.47	117.11	108.96
33	B8	22	VAL	N-CA-C	5.47	115.76	108.11
4	AD	39	GLN	N-CA-C	-5.45	107.18	113.88
38	BE	146	VAL	N-CA-C	5.44	117.73	108.86
5	AE	96	GLN	CA-C-N	5.42	126.62	119.84
5	AE	96	GLN	C-N-CA	5.42	126.62	119.84
23	AW	21	HIS	CA-C-N	5.42	126.61	119.84
23	AW	21	HIS	C-N-CA	5.42	126.61	119.84
10	AJ	28	THR	N-CA-C	-5.40	107.06	113.97
23	AW	16	PHE	N-CA-C	5.40	117.18	109.14
40	BG	82	PHE	N-CA-C	5.39	118.23	109.06
9	AI	123	ARG	CA-C-N	5.39	126.23	119.98
9	AI	123	ARG	C-N-CA	5.39	126.23	119.98
52	BV	14	VAL	N-CA-C	5.39	115.40	107.75
53	BW	35	ILE	CB-CA-C	-5.37	104.82	111.70
45	BO	93	GLN	CA-C-N	5.36	125.66	119.93
45	BO	93	GLN	C-N-CA	5.36	125.66	119.93
23	AW	73	SER	CA-C-O	-5.33	115.34	121.47
23	AW	445	GLN	N-CA-C	-5.32	106.97	112.93
3	AC	184	ASN	N-CA-C	5.31	118.03	108.48
39	BF	107	VAL	CB-CA-C	-5.29	108.75	114.35
45	BO	44	LYS	N-CA-C	-5.29	108.59	114.62
4	AD	166	LYS	CA-C-N	5.27	126.43	119.84
4	AD	166	LYS	C-N-CA	5.27	126.43	119.84
50	BT	25	VAL	N-CA-C	5.24	120.24	109.34
34	BA	2106	U	OP2-P-O3'	5.21	123.64	108.00
38	BE	125	SER	N-CA-C	5.18	114.67	107.73
34	BA	2106	U	O3'-P-O5'	-5.18	96.24	104.00
37	BD	193	VAL	CA-C-N	5.17	125.08	119.76

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
37	BD	193	VAL	C-N-CA	5.17	125.08	119.76
29	B4	35	GLU	N-CA-C	5.15	121.78	110.80
26	B1	54	GLY	N-CA-C	-5.13	106.52	113.24
37	BD	142	VAL	CA-C-N	5.12	124.43	118.85
37	BD	142	VAL	C-N-CA	5.12	124.43	118.85
46	BP	35	HIS	N-CA-C	5.11	117.23	108.90
41	BH	69	PHE	N-CA-C	-5.11	107.07	113.15
36	BC	140	VAL	N-CA-C	5.10	119.95	109.34
44	BN	82	GLY	N-CA-C	-5.10	101.10	113.18
3	AC	37	LYS	N-CA-C	-5.09	108.10	114.56
52	BV	9	GLY	N-CA-C	-5.07	108.12	115.27
37	BD	109	VAL	CB-CA-C	-5.07	102.98	111.29
56	BZ	89	ILE	N-CA-C	5.06	115.41	108.12
36	BC	229	HIS	CA-C-N	-5.04	114.60	120.04
36	BC	229	HIS	C-N-CA	-5.04	114.60	120.04
25	B0	71	LYS	N-CA-C	5.03	117.49	109.65

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
12	AL	22	ALA	Peptide
23	AW	410	LYS	Peptide
23	AW	411	GLN	Peptide
24	AY	1	KBE	Mainchain
24	AY	2	DPP	Mainchain

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	AA	32873	0	16542	1457	0
2	AB	1704	0	1732	197	0
3	AC	1624	0	1699	170	7
4	AD	1643	0	1710	209	0
5	AE	1105	0	1148	139	0
6	AF	817	0	808	113	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	AG	1181	0	1240	76	0
8	AH	979	0	1034	101	0
9	AI	1022	0	1070	131	0
10	AJ	786	0	828	99	0
11	AK	877	0	887	109	0
12	AL	955	0	1019	125	0
13	AM	883	0	944	97	0
14	AN	774	0	827	99	0
15	AO	714	0	737	47	0
16	AP	649	0	666	65	0
17	AQ	648	0	691	68	0
18	AR	455	0	478	44	0
19	AS	637	0	665	72	0
20	AT	665	0	714	64	0
21	AU	425	0	449	71	0
22	AV	129	0	65	9	0
23	AW	4144	0	4127	291	0
24	AY	48	0	40	31	0
25	B0	596	0	610	170	0
26	B1	625	0	655	57	0
27	B2	509	0	543	41	0
28	B3	449	0	491	54	0
29	B4	444	0	461	36	0
30	B5	409	0	440	39	0
31	B6	377	0	418	21	0
32	B7	504	0	574	52	0
33	B8	302	0	340	41	0
34	BA	61252	0	30808	2059	7
35	BB	2529	0	1281	94	0
36	BC	2082	0	2157	234	0
37	BD	1565	0	1616	210	0
38	BE	1552	0	1619	160	0
39	BF	1410	0	1447	151	0
40	BG	1323	0	1374	143	0
41	BH	1230	0	1282	265	0
42	BI	1032	0	1088	89	0
43	BJ	227	0	237	51	0
43	BK	227	0	237	25	0
43	BL	227	0	237	37	0
43	BM	227	0	237	46	0
44	BN	1129	0	1162	152	0
45	BO	938	0	1012	122	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
46	BP	1045	0	1117	114	0
47	BQ	1074	0	1157	84	0
48	BR	960	0	1000	94	0
49	BS	892	0	923	77	0
50	BT	917	0	965	127	0
51	BU	947	0	1022	113	0
52	BV	816	0	839	102	0
53	BW	856	0	922	61	0
54	BX	738	0	807	117	0
55	BY	779	0	834	78	0
56	BZ	753	0	780	57	0
57	AA	102	0	0	0	0
57	AF	1	0	0	0	0
57	AH	1	0	0	0	0
57	AL	2	0	0	0	0
57	AM	1	0	0	0	0
57	AW	1	0	0	0	0
57	B0	3	0	0	0	0
57	B2	1	0	0	0	0
57	B4	1	0	0	0	0
57	BA	357	0	0	0	0
57	BB	9	0	0	0	0
57	BC	1	0	0	0	0
57	BD	5	0	0	0	0
57	BE	1	0	0	0	0
57	BN	1	0	0	0	0
57	BO	1	0	0	0	0
57	BQ	1	0	0	0	0
57	BR	2	0	0	0	0
57	BT	1	0	0	0	0
57	BX	1	0	0	0	0
58	AW	32	0	13	6	0
59	AW	2	0	0	2	0
59	B8	1	0	0	0	0
59	BA	8	0	0	0	0
59	BC	2	0	0	0	0
59	BD	1	0	0	0	0
59	BF	1	0	0	0	0
59	BG	1	0	0	0	0
59	BW	1	0	0	1	0
All	All	147221	0	100825	8378	7

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 34.

All (8378) 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)
1:AA:1495:U:O4	24:AY:1:KBE:CE	1.84	1.26
1:AA:1494:G:N7	24:AY:1:KBE:HGA	1.52	1.24
1:AA:1494:G:O6	24:AY:1:KBE:HG	1.35	1.22
1:AA:1495:U:C4	24:AY:1:KBE:HE	1.75	1.20
51:BU:63:ARG:NH1	51:BU:96:ASP:HA	1.58	1.18
34:BA:2149:U:O3’	34:BA:2150:C:H4’	1.36	1.15
34:BA:2150:C:H2’	34:BA:2151:U:C5	1.82	1.14
34:BA:2149:U:H5”	34:BA:2150:C:OP2	1.48	1.14
1:AA:877:G:H21	8:AH:1:SER:HB2	1.13	1.14
25:B0:28:GLU:HB3	25:B0:31:LEU:HD21	1.23	1.13
34:BA:265:A:H4’	34:BA:266:G:OP1	1.38	1.13
50:BT:50:ARG:CB	50:BT:57:ALA:H	1.60	1.11
50:BT:63:ILE:HA	50:BT:68:GLY:HA2	1.30	1.11
34:BA:100:U:H4’	34:BA:101:A:O5’	1.50	1.11
34:BA:1073:A:H3’	34:BA:1074:G:H5”	1.18	1.10
51:BU:91:ARG:HH21	51:BU:93:ILE:HG12	1.10	1.09
1:AA:1452:C:H4’	1:AA:1453:G:C2	1.86	1.09
1:AA:1494:G:C6	24:AY:1:KBE:HG	1.86	1.09
34:BA:1559:U:H4’	34:BA:1560:G:OP2	1.49	1.08
38:BE:44:ARG:HH21	38:BE:44:ARG:HG3	1.16	1.08
1:AA:1495:U:O4	24:AY:1:KBE:HE	0.91	1.08
12:AL:33:CYS:HA	12:AL:54:VAL:HA	1.31	1.08
34:BA:1059:G:C8	34:BA:1060:U:H2’	1.88	1.08
1:AA:484:G:H4’	1:AA:485:U:O5’	1.53	1.07
50:BT:50:ARG:HD3	50:BT:56:SER:HB3	1.35	1.07
8:AH:74:ILE:HD13	8:AH:128:VAL:HG22	1.33	1.06
21:AU:33:ARG:HE	21:AU:34:ARG:HG3	1.15	1.06
34:BA:1059:G:H5”	34:BA:1060:U:H3’	1.35	1.06
10:AJ:80:THR:HG22	10:AJ:83:THR:H	1.21	1.06
1:AA:429:U:H3’	4:AD:8:LEU:HD23	1.36	1.06
34:BA:71:A:O2’	34:BA:72:U:OP2	1.74	1.05
54:BX:50:LEU:H	54:BX:50:LEU:HD12	1.21	1.05
51:BU:63:ARG:HH12	51:BU:96:ASP:HA	0.92	1.05
9:AI:98:ARG:HG3	9:AI:103:VAL:HG21	1.39	1.05
34:BA:271:G:H4’	34:BA:272:A:OP1	1.52	1.05
50:BT:50:ARG:HB3	50:BT:57:ALA:H	0.89	1.05
41:BH:88:HIS:HB2	41:BH:89:PRO:HD3	1.32	1.04
46:BP:29:LYS:HG2	46:BP:30:THR:HG23	1.39	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:666:A:H4'	46:BP:48:ARG:HD2	1.34	1.04
35:BB:66:A:H4'	35:BB:67:G:OP1	1.57	1.04
41:BH:25:ALA:HB3	41:BH:85:SER:OG	1.55	1.04
41:BH:59:LEU:HD23	41:BH:62:ARG:HD2	1.40	1.04
39:BF:82:TYR:HD2	39:BF:83:PRO:HD2	1.24	1.03
50:BT:50:ARG:HB3	50:BT:57:ALA:N	1.72	1.03
37:BD:15:PHE:H	50:BT:11:GLN:HE22	1.05	1.02
37:BD:40:LEU:H	37:BD:40:LEU:HD12	1.24	1.02
23:AW:26:LYS:HD2	59:AW:702:HOH:O	1.59	1.02
25:B0:23:LYS:HG2	34:BA:855:G:H21	1.21	1.02
1:AA:1328:C:H5"	13:AM:27:THR:HG21	1.38	1.02
11:AK:87:GLY:N	11:AK:113:THR:HG22	1.74	1.02
34:BA:2197:U:O2'	34:BA:2198:A:H2'	1.59	1.02
11:AK:87:GLY:H	11:AK:113:THR:HG22	0.89	1.02
14:AN:8:ARG:HB3	14:AN:12:ARG:HH12	1.23	1.02
34:BA:1340:U:H4'	34:BA:1341:G:OP2	1.57	1.02
44:BN:111:LYS:HD3	44:BN:112:GLY:H	1.23	1.02
25:B0:9:THR:HG23	25:B0:10:ARG:HD3	1.38	1.02
13:AM:106:ARG:HH21	13:AM:112:ARG:HB3	1.23	1.01
45:BO:111:LYS:H	45:BO:111:LYS:HE2	1.23	1.00
54:BX:48:GLN:HE21	54:BX:48:GLN:HA	1.18	1.00
1:AA:158:G:H2'	1:AA:159:G:H5"	1.44	1.00
34:BA:2150:C:O2'	34:BA:2151:U:O5'	1.78	1.00
44:BN:81:ILE:HG23	44:BN:82:GLY:H	1.25	1.00
46:BP:109:LYS:HG2	46:BP:126:ARG:HB3	1.43	1.00
34:BA:45:G:H5"	34:BA:46:G:H5'	1.43	1.00
34:BA:1205:A:H4'	34:BA:1206:G:OP2	1.59	1.00
34:BA:1565:C:O2'	34:BA:1566:A:H2'	1.61	1.00
25:B0:37:VAL:HG12	25:B0:38:ARG:H	1.27	0.99
30:B5:33:LEU:H	30:B5:51:ALA:HB3	1.26	0.99
1:AA:965:U:H5"	1:AA:966:G:OP1	1.60	0.99
13:AM:52:ILE:HD12	13:AM:55:LEU:HD12	1.42	0.99
12:AL:30:ARG:NH1	23:AW:408:LYS:HG3	1.78	0.99
1:AA:73:C:H42	1:AA:97:G:H1	1.10	0.98
38:BE:46:GLN:HG3	38:BE:87:ALA:H	1.26	0.98
54:BX:29:THR:HA	54:BX:86:THR:HA	1.43	0.98
5:AE:96:GLN:HE21	5:AE:97:PRO:HD2	1.26	0.98
34:BA:2150:C:H2'	34:BA:2151:U:C6	1.99	0.97
25:B0:20:LEU:HD13	34:BA:2355:G:H4'	1.45	0.97
34:BA:161:A:H3'	34:BA:162:U:H5"	1.46	0.97
2:AB:114:LYS:HA	2:AB:117:GLU:HG2	1.45	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AW:411:GLN:H	23:AW:414:LYS:HB3	1.29	0.97
23:AW:59:TRP:NE1	23:AW:69:SER:OG	1.98	0.97
34:BA:947:A:HO2'	34:BA:984:A:H2	0.97	0.97
34:BA:1779:U:H5	34:BA:1784:A:N7	1.62	0.97
54:BX:11:LEU:HA	54:BX:34:VAL:HG12	1.44	0.96
54:BX:12:ARG:HH11	54:BX:12:ARG:HG3	1.30	0.96
34:BA:1460:U:H5"	34:BA:1461:C:OP2	1.65	0.96
1:AA:1129:C:H5"	1:AA:1130:A:OP1	1.65	0.96
38:BE:161:ALA:HA	38:BE:164:LEU:HB2	1.45	0.96
11:AK:87:GLY:H	11:AK:113:THR:CG2	1.77	0.96
37:BD:184:ARG:NH1	50:BT:6:GLN:HE22	1.63	0.96
23:AW:61:GLU:HG3	23:AW:64:LYS:HE3	1.45	0.96
1:AA:246:A:H4'	1:AA:247:G:OP1	1.65	0.96
17:AQ:12:VAL:HG11	17:AQ:21:VAL:HG13	1.48	0.96
23:AW:19:ILE:HA	23:AW:26:LYS:CE	1.96	0.95
37:BD:118:PHE:HD2	37:BD:119:ALA:H	0.96	0.95
34:BA:215:G:H4'	34:BA:216:A:OP1	1.63	0.95
41:BH:2:ALA:HB3	41:BH:6:GLN:HB2	1.48	0.95
34:BA:979:A:H2'	34:BA:982:C:H42	1.31	0.95
1:AA:518:C:H2'	1:AA:530:G:C8	2.02	0.95
39:BF:33:ILE:HD12	39:BF:155:ILE:HG13	1.45	0.94
34:BA:636:G:N1	46:BP:111:ILE:HD11	1.82	0.94
1:AA:181:A:H5"	1:AA:182:A:OP1	1.68	0.94
38:BE:79:ARG:HG2	38:BE:80:SER:H	1.31	0.94
23:AW:26:LYS:HE2	23:AW:89:THR:OG1	1.68	0.94
44:BN:3:THR:HB	44:BN:44:TYR:OH	1.68	0.94
41:BH:11:ILE:HG21	41:BH:66:GLY:HA3	1.49	0.94
23:AW:70:ILE:HG23	23:AW:95:PHE:HZ	1.31	0.94
37:BD:5:VAL:H	37:BD:32:ASN:HD21	1.15	0.94
23:AW:20:SER:H	23:AW:26:LYS:NZ	1.65	0.93
35:BB:87:U:H5'	35:BB:88:C:OP2	1.68	0.93
3:AC:139:ASN:HA	3:AC:142:ARG:HB2	1.47	0.93
55:BY:82:VAL:HG12	55:BY:83:GLY:H	1.32	0.93
23:AW:145:ASP:OD2	58:AW:602:GNP:N2	2.01	0.93
5:AE:35:LEU:HD21	5:AE:136:VAL:HG11	1.51	0.93
40:BG:83:THR:HA	40:BG:84:LYS:NZ	1.83	0.93
40:BG:84:LYS:HG3	40:BG:132:LEU:N	1.83	0.93
1:AA:804:U:H5"	1:AA:805:C:OP2	1.67	0.92
34:BA:1085:A:H61	41:BH:34:THR:HG22	1.31	0.92
51:BU:63:ARG:HH12	51:BU:96:ASP:CA	1.81	0.92
34:BA:2149:U:C3'	34:BA:2150:C:H4'	1.99	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1053:G:O6	1:AA:1199:U:H2'	1.70	0.92
33:B8:9:LYS:H	33:B8:9:LYS:HD3	1.32	0.92
1:AA:1101:A:H4'	1:AA:1102:A:O5'	1.67	0.92
4:AD:117:VAL:HG13	4:AD:122:ILE:HD11	1.50	0.92
41:BH:51:TYR:HB2	41:BH:89:PRO:HD2	1.51	0.92
56:BZ:44:HIS:HE1	56:BZ:86:LEU:H	1.05	0.92
41:BH:44:ALA:HA	41:BH:48:ALA:HB3	1.48	0.92
13:AM:106:ARG:HH12	13:AM:109:LYS:HD3	1.34	0.92
23:AW:412:LEU:HB2	23:AW:459:VAL:HG11	1.52	0.92
34:BA:995:C:H5'	34:BA:995:C:H6	1.34	0.92
44:BN:64:VAL:O	44:BN:65:THR:HB	1.69	0.92
25:B0:43:LYS:HD2	25:B0:79:ILE:HD11	1.51	0.92
34:BA:634:C:H2'	34:BA:635:C:H6	1.34	0.92
25:B0:23:LYS:HE2	34:BA:923:G:N3	1.83	0.91
34:BA:2149:U:C5'	34:BA:2150:C:OP2	2.17	0.91
34:BA:2304:G:H22	34:BA:2312:U:H3	1.09	0.91
7:AG:98:LEU:HA	7:AG:101:ARG:HH12	1.35	0.91
28:B3:24:LEU:HD21	34:BA:930:G:H1'	1.52	0.91
48:BR:73:ASN:HD22	48:BR:76:VAL:HG11	1.32	0.91
4:AD:200:VAL:HG12	5:AE:102:THR:HG23	1.52	0.91
12:AL:62:VAL:HG21	12:AL:94:TYR:HE2	1.34	0.91
2:AB:99:MET:HA	2:AB:106:VAL:HG21	1.51	0.91
26:B1:5:GLN:HE21	26:B1:49:ARG:H	0.92	0.91
1:AA:1126:U:H1'	1:AA:1281:C:H1'	1.53	0.91
43:BK:28:GLU:HG3	43:BK:29:LYS:H	1.36	0.91
51:BU:60:TRP:CE2	51:BU:93:ILE:HB	2.05	0.91
1:AA:507:C:H3'	1:AA:508:U:H5"	1.52	0.91
9:AI:112:ARG:HH22	10:AJ:64:GLN:HE22	1.19	0.91
21:AU:36:PHE:HB3	21:AU:40:PRO:HD3	1.51	0.91
56:BZ:72:VAL:HG12	56:BZ:93:ARG:HA	1.53	0.91
4:AD:146:GLU:HA	4:AD:149:LYS:HE2	1.50	0.90
21:AU:3:ILE:HD13	21:AU:19:LYS:HZ2	1.35	0.90
41:BH:159:ARG:O	41:BH:160:ASP:OD1	1.89	0.90
1:AA:1168:U:H5"	1:AA:1169:A:OP2	1.71	0.90
1:AA:94:G:H5"	1:AA:95:C:OP1	1.72	0.90
5:AE:105:ILE:HG13	5:AE:123:LEU:HA	1.51	0.90
35:BB:15:A:H1'	35:BB:109:A:C8	2.06	0.90
35:BB:52:A:H4'	35:BB:53:A:OP1	1.71	0.90
6:AF:36:ILE:HD13	6:AF:36:ILE:H	1.35	0.90
56:BZ:75:GLN:HB2	56:BZ:92:VAL:HG23	1.54	0.90
34:BA:995:C:O2'	34:BA:996:A:OP2	1.89	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BH:52:MET:HG3	41:BH:95:LEU:HD11	1.53	0.90
8:AH:103:VAL:HG12	8:AH:124:ILE:HG22	1.53	0.90
9:AI:59:LYS:HD2	9:AI:60:LEU:HD22	1.54	0.90
16:AP:46:LYS:HE2	16:AP:47:GLU:H	1.35	0.90
20:AT:27:MET:HE1	20:AT:57:VAL:HG22	1.53	0.89
2:AB:153:MET:SD	2:AB:157:PRO:HG3	2.12	0.89
1:AA:374:A:H5"	1:AA:452:A:C2	2.07	0.89
34:BA:74:A:H4'	34:BA:75:G:O5'	1.72	0.89
34:BA:161:A:H3'	34:BA:162:U:C5'	2.02	0.89
1:AA:877:G:N2	8:AH:1:SER:HB2	1.86	0.89
45:BO:10:VAL:HG21	45:BO:16:ALA:HB1	1.52	0.89
54:BX:14:PRO:HB2	54:BX:16:VAL:HG23	1.54	0.89
34:BA:27:G:HO2'	34:BA:28:A:H8	1.18	0.89
5:AE:44:ARG:HG2	5:AE:72:ASN:ND2	1.88	0.89
45:BO:21:CYS:HA	45:BO:41:ILE:HD12	1.54	0.89
12:AL:62:VAL:HG21	12:AL:94:TYR:CE2	2.08	0.89
25:B0:51:GLY:HA3	25:B0:59:PHE:CZ	2.05	0.89
1:AA:1441:A:H62	1:AA:1461:G:H21	1.21	0.89
1:AA:205:A:OP1	1:AA:205:A:H4'	1.71	0.89
25:B0:45:HIS:HB2	25:B0:50:VAL:HG13	1.55	0.89
40:BG:104:LEU:HB2	40:BG:112:VAL:HG22	1.55	0.89
3:AC:159:ALA:HB1	3:AC:161:ILE:HD13	1.54	0.88
53:BW:18:ARG:HG3	53:BW:76:VAL:HG13	1.55	0.88
1:AA:73:C:H41	1:AA:94:G:H22	1.19	0.88
1:AA:1494:G:N7	24:AY:1:KBE:CG	2.36	0.88
25:B0:18:LYS:N	25:B0:36:ILE:HG13	1.87	0.88
26:B1:13:THR:HG21	34:BA:188:G:H5"	1.54	0.88
37:BD:48:ILE:HD13	37:BD:50:VAL:HG13	1.54	0.88
34:BA:1568:G:H4'	36:BC:58:LYS:HB3	1.54	0.88
52:BV:61:ALA:HB2	52:BV:98:ILE:HA	1.54	0.88
36:BC:141:HIS:HB2	36:BC:190:THR:HB	1.56	0.88
2:AB:32:GLY:HA3	2:AB:39:ILE:H	1.38	0.88
29:B4:9:ARG:HH21	29:B4:9:ARG:HG3	1.38	0.88
30:B5:7:LYS:HE3	32:B7:33:THR:HG21	1.54	0.88
11:AK:126:ARG:C	21:AU:33:ARG:HH12	1.81	0.88
40:BG:130:ILE:HG22	40:BG:132:LEU:HD22	1.55	0.88
47:BQ:50:ARG:HA	47:BQ:53:MET:HE3	1.56	0.88
54:BX:44:LYS:O	54:BX:48:GLN:HG2	1.73	0.88
23:AW:146:ARG:NH1	34:BA:2657:A:OP2	2.07	0.88
21:AU:52:VAL:HG13	21:AU:53:LYS:H	1.39	0.87
41:BH:144:LYS:HB3	41:BH:147:SER:OG	1.73	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:8:A:H61	4:AD:53:GLN:HE22	1.23	0.87
1:AA:738:C:H2'	1:AA:739:C:H6	1.39	0.87
43:BJ:29:LYS:HD2	43:BJ:30:PHE:N	1.88	0.87
1:AA:820:U:H4'	1:AA:821:G:OP2	1.73	0.87
1:AA:8:A:H61	4:AD:53:GLN:NE2	1.73	0.87
34:BA:634:C:H2'	34:BA:635:C:C6	2.08	0.87
34:BA:1277:G:H5'	48:BR:20:MET:HE2	1.55	0.87
1:AA:982:U:H4'	1:AA:983:A:O5'	1.75	0.87
13:AM:73:SER:HA	13:AM:76:ILE:HD12	1.56	0.87
34:BA:1458:U:H4'	34:BA:1459:G:O5'	1.75	0.87
44:BN:111:LYS:CD	44:BN:112:GLY:H	1.87	0.87
9:AI:50:PRO:HD3	9:AI:79:ARG:HG2	1.57	0.87
12:AL:43:LYS:HD3	12:AL:43:LYS:H	1.38	0.87
54:BX:39:THR:HB	54:BX:42:GLU:HB2	1.57	0.87
14:AN:60:ARG:O	14:AN:61:ASN:HB2	1.72	0.87
34:BA:2680:U:OP2	37:BD:114:LYS:HE2	1.75	0.87
1:AA:451:A:H4'	1:AA:452:A:O5'	1.75	0.86
1:AA:1257:A:H4'	1:AA:1258:G:OP2	1.75	0.86
34:BA:704:G:H2'	34:BA:726:G:H22	1.40	0.86
34:BA:1169:A:H61	34:BA:1180:U:H3	1.20	0.86
34:BA:2328:A:H2'	34:BA:2329:U:C6	2.10	0.86
37:BD:91:THR:C	37:BD:93:GLY:H	1.82	0.86
2:AB:209:VAL:HG23	2:AB:210:THR:H	1.39	0.86
43:BJ:13:ALA:O	43:BJ:17:MET:HG3	1.75	0.86
12:AL:102:ASP:OD1	23:AW:407:LEU:HD11	1.75	0.86
23:AW:416:LEU:HB3	23:AW:427:VAL:HG11	1.55	0.86
55:BY:73:ASN:HD22	55:BY:76:THR:H	1.21	0.86
2:AB:71:THR:O	2:AB:72:LYS:HG2	1.76	0.86
24:AY:4:SER:O	24:AY:5:UAL:N1	2.08	0.86
31:B6:43:THR:O	31:B6:44:VAL:HG23	1.75	0.86
1:AA:388:G:O2'	1:AA:389:A:OP2	1.94	0.86
41:BH:23:LEU:HD22	41:BH:92:ALA:O	1.76	0.86
1:AA:1088:G:H21	1:AA:1167:A:N6	1.74	0.86
51:BU:91:ARG:NH2	51:BU:93:ILE:HG12	1.91	0.86
39:BF:134:GLN:NE2	39:BF:134:GLN:H	1.72	0.86
40:BG:104:LEU:HB2	40:BG:112:VAL:CG2	2.05	0.86
14:AN:82:LYS:HE2	14:AN:82:LYS:HA	1.56	0.86
33:B8:9:LYS:H	33:B8:9:LYS:CD	1.88	0.86
47:BQ:63:ILE:HD11	47:BQ:105:MET:HE2	1.57	0.86
50:BT:63:ILE:HA	50:BT:68:GLY:CA	2.06	0.86
1:AA:499:A:H4'	1:AA:500:G:OP1	1.76	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BL:15:SER:HA	43:BL:18:ASP:HB2	1.54	0.86
26:B1:30:PRO:HB2	26:B1:32:LEU:CD1	2.05	0.85
34:BA:27:G:O2'	34:BA:28:A:H8	1.58	0.85
23:AW:59:TRP:O	23:AW:64:LYS:HD2	1.77	0.85
4:AD:25:ARG:NH1	4:AD:30:LYS:HE3	1.91	0.85
34:BA:704:G:H1'	34:BA:727:A:N6	1.90	0.85
34:BA:1020:A:H4'	34:BA:1021:A:O5'	1.75	0.85
43:BJ:12:ALA:HA	43:BM:14:MET:HB3	1.56	0.85
4:AD:36:ALA:HA	4:AD:41:GLY:HA3	1.57	0.85
34:BA:2638:G:H1'	34:BA:2778:A:H61	1.40	0.85
50:BT:61:ARG:HG2	50:BT:70:GLU:HG2	1.56	0.85
29:B4:21:LEU:HD11	53:BW:19:LEU:HB3	1.58	0.85
38:BE:46:GLN:HG3	38:BE:87:ALA:N	1.90	0.85
40:BG:76:ILE:HD12	40:BG:82:PHE:CZ	2.11	0.85
1:AA:327:A:O3'	1:AA:328:C:H4'	1.75	0.85
1:AA:974:A:P	14:AN:68:ARG:HH22	1.98	0.85
1:AA:75:G:H3'	1:AA:76:G:H8	1.40	0.85
23:AW:439:GLY:HA2	23:AW:440:ALA:HB2	1.56	0.85
34:BA:2294:G:H5"	49:BS:10:ARG:HD3	1.58	0.85
37:BD:91:THR:O	37:BD:93:GLY:N	2.09	0.85
43:BJ:11:VAL:HG21	43:BM:15:SER:HB2	1.56	0.85
38:BE:5:LEU:HD12	38:BE:10:SER:HB3	1.57	0.85
34:BA:1970:A:H5'	34:BA:1972:G:H1'	1.58	0.85
1:AA:978:A:HO2'	1:AA:1322:C:H5	0.85	0.85
34:BA:38:A:O2'	38:BE:43:THR:HA	1.76	0.85
38:BE:106:LYS:HG3	38:BE:200:LEU:HD12	1.55	0.85
46:BP:96:LYS:HD3	46:BP:103:ILE:HA	1.59	0.85
1:AA:1048:G:O3'	1:AA:1049:U:H3'	1.77	0.84
2:AB:103:TRP:HE1	2:AB:150:ILE:HD11	1.42	0.84
31:B6:34:ARG:NH1	31:B6:39:ARG:HG2	1.91	0.84
37:BD:21:SER:HB2	45:BO:73:ASP:HA	1.57	0.84
39:BF:98:PHE:O	39:BF:102:LEU:HB2	1.77	0.84
1:AA:204:G:H3'	1:AA:205:A:H5"	1.56	0.84
8:AH:9:MET:HE2	8:AH:32:LYS:HG2	1.59	0.84
36:BC:172:THR:HG22	36:BC:182:LYS:HG2	1.57	0.84
23:AW:19:ILE:CA	23:AW:26:LYS:HE3	2.08	0.84
34:BA:483:A:C8	55:BY:44:HIS:HD2	1.95	0.84
34:BA:995:C:H5'	34:BA:995:C:C6	2.12	0.84
50:BT:83:ILE:HD13	50:BT:83:ILE:C	2.02	0.84
43:BJ:11:VAL:HG13	43:BM:14:MET:HB2	1.60	0.84
1:AA:158:G:C2'	1:AA:159:G:H5"	2.08	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:686:U:H1'	11:AK:43:TRP:HE1	1.42	0.84
1:AA:1468:A:H2'	1:AA:1469:C:H5"	1.60	0.84
26:B1:5:GLN:HE21	26:B1:49:ARG:N	1.74	0.84
34:BA:2577:A:H5"	34:BA:2578:G:H5'	1.58	0.84
41:BH:23:LEU:HD13	41:BH:92:ALA:HB1	1.60	0.84
54:BX:15:HIS:HB3	54:BX:31:VAL:HG22	1.60	0.84
54:BX:29:THR:CA	54:BX:86:THR:HA	2.06	0.84
1:AA:412:A:H5'	1:AA:413:G:OP1	1.78	0.83
5:AE:148:SER:HB2	5:AE:151:MET:HB2	1.60	0.83
8:AH:110:MET:HE2	8:AH:114:ALA:HB1	1.58	0.83
7:AG:23:ALA:O	7:AG:26:VAL:HG22	1.78	0.83
32:B7:22:LYS:HA	32:B7:47:ALA:O	1.77	0.83
35:BB:28:C:OP1	49:BS:31:THR:HG21	1.77	0.83
36:BC:43:ASN:HB3	36:BC:45:ASN:H	1.42	0.83
37:BD:106:LYS:HB3	37:BD:206:ALA:HB3	1.59	0.83
1:AA:962:C:H1'	1:AA:1201:A:N6	1.93	0.83
2:AB:89:PHE:HB3	2:AB:149:GLY:HA2	1.58	0.83
6:AF:86:ARG:NH2	18:AR:63:TYR:HB3	1.93	0.83
14:AN:40:ARG:HH12	14:AN:44:VAL:HG21	1.40	0.83
17:AQ:16:MET:HB2	17:AQ:19:SER:HB3	1.60	0.83
38:BE:45:ALA:O	38:BE:46:GLN:HG2	1.76	0.83
16:AP:72:ALA:HA	16:AP:75:ILE:HD12	1.59	0.83
34:BA:41:C:H2'	34:BA:42:A:O4'	1.79	0.83
41:BH:158:VAL:HG13	43:BL:19:VAL:HG22	1.59	0.83
1:AA:977:A:H2	1:AA:1362:A:H61	1.27	0.83
1:AA:1218:C:H2'	1:AA:1219:A:C8	2.13	0.83
44:BN:6:ALA:HB3	44:BN:45:THR:HG21	1.61	0.83
51:BU:91:ARG:HH21	51:BU:93:ILE:CG1	1.92	0.83
12:AL:49:ARG:HG2	12:AL:89:LEU:HD21	1.60	0.83
34:BA:1654:A:O2'	37:BD:118:PHE:CG	2.31	0.83
37:BD:24:VAL:HA	37:BD:191:GLY:H	1.44	0.83
33:B8:6:SER:HB2	34:BA:1031:G:H4'	1.59	0.83
48:BR:103:ARG:HD3	48:BR:110:MET:HE3	1.60	0.83
15:AO:42:PHE:CE1	15:AO:55:LEU:HD22	2.14	0.83
23:AW:70:ILE:O	23:AW:95:PHE:HE2	1.61	0.82
6:AF:38:ARG:HG3	6:AF:39:LEU:N	1.93	0.82
41:BH:151:LEU:HD23	41:BH:155:LEU:HD12	1.61	0.82
1:AA:1281:C:H5"	1:AA:1282:C:H5	1.44	0.82
1:AA:1491:G:H2'	24:AY:6:5OH:HP	1.59	0.82
1:AA:545:C:H5'	4:AD:68:GLU:HG3	1.61	0.82
1:AA:1152:A:H5'	10:AJ:15:HIS:HD2	1.45	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:152:VAL:O	5:AE:156:ARG:HB2	1.79	0.82
1:AA:1343:G:O3'	9:AI:123:ARG:HB3	1.80	0.82
3:AC:34:SER:O	3:AC:38:VAL:HG13	1.79	0.82
29:B4:15:ARG:NE	34:BA:1266:G:OP1	2.13	0.82
34:BA:1198:U:O3'	51:BU:4:LYS:HE3	1.78	0.82
34:BA:2092:U:H4'	34:BA:2093:G:O5'	1.79	0.82
34:BA:2225:A:H4'	34:BA:2226:C:O5'	1.79	0.82
38:BE:127:GLU:H	38:BE:127:GLU:CD	1.88	0.82
11:AK:23:HIS:HB3	11:AK:30:ILE:HG23	1.60	0.82
39:BF:82:TYR:CD2	39:BF:83:PRO:HD2	2.14	0.82
41:BH:144:LYS:HB2	41:BH:148:ALA:H	1.42	0.82
3:AC:13:ILE:O	3:AC:15:LYS:N	2.12	0.82
4:AD:53:GLN:HA	4:AD:198:LEU:HD22	1.60	0.82
25:B0:76:ARG:HH21	25:B0:76:ARG:CG	1.91	0.82
28:B3:11:SER:HB3	34:BA:988:A:P	2.19	0.82
21:AU:33:ARG:NE	21:AU:34:ARG:HG3	1.93	0.82
34:BA:1056:G:H5'	41:BH:34:THR:HG21	1.61	0.82
2:AB:72:LYS:HG3	2:AB:74:ALA:HB3	1.61	0.82
23:AW:101:ARG:HG2	23:AW:391:PRO:HD2	1.62	0.82
34:BA:205:G:O2'	34:BA:206:U:OP2	1.97	0.82
34:BA:997:G:OP1	51:BU:92:LYS:HG3	1.80	0.82
3:AC:118:SER:O	3:AC:122:GLN:HG2	1.80	0.81
34:BA:1313:U:H4'	34:BA:1332:G:H4'	1.61	0.81
36:BC:124:LYS:HB3	36:BC:127:ASN:ND2	1.94	0.81
1:AA:815:A:H4'	1:AA:817:C:C4	2.15	0.81
1:AA:815:A:H62	1:AA:1509:C:H1'	1.45	0.81
34:BA:1998:A:OP2	37:BD:141:ARG:NH2	2.13	0.81
41:BH:57:ASN:C	41:BH:59:LEU:H	1.87	0.81
51:BU:68:ALA:HB1	51:BU:73:ILE:HG23	1.59	0.81
25:B0:37:VAL:C	25:B0:38:ARG:HG2	2.05	0.81
32:B7:3:ILE:HD12	34:BA:666:A:H1'	1.63	0.81
37:BD:13:ARG:HH12	50:BT:74:GLN:HE21	1.27	0.81
38:BE:145:ASP:HB3	38:BE:184:ASP:HB2	1.59	0.81
46:BP:74:THR:HG22	46:BP:107:PHE:HB2	1.62	0.81
54:BX:28:ASN:HA	54:BX:91:GLN:HE22	1.43	0.81
1:AA:263:A:OP1	20:AT:73:ARG:HD3	1.80	0.81
8:AH:10:LEU:HB3	8:AH:74:ILE:HG13	1.62	0.81
9:AI:31:GLN:O	9:AI:32:ARG:HB2	1.80	0.81
37:BD:49:GLN:HE22	37:BD:67:HIS:CE1	1.97	0.81
1:AA:991:U:H5"	1:AA:992:U:OP1	1.81	0.81
1:AA:1057:G:O3'	3:AC:196:GLY:HA3	1.80	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1302:C:H5”	1:AA:1303:C:OP2	1.81	0.81
34:BA:783:A:C8	34:BA:784:G:H4’	2.15	0.81
1:AA:95:C:O2	1:AA:95:C:H2’	1.81	0.81
25:B0:30:VAL:HG11	34:BA:2352:A:C6	2.15	0.81
1:AA:721:G:H4’	1:AA:722:G:O5’	1.80	0.81
34:BA:900:A:C2	34:BA:901:C:H5	1.99	0.81
34:BA:1061:U:O2’	34:BA:1070:A:H4’	1.80	0.81
40:BG:84:LYS:HG3	40:BG:132:LEU:H	1.41	0.81
1:AA:702:A:H61	34:BA:1846:G:H5”	1.46	0.81
1:AA:1494:G:O6	24:AY:1:KBE:CG	2.26	0.81
11:AK:20:ALA:HB3	11:AK:83:VAL:HG22	1.61	0.81
25:B0:40:ARG:H	25:B0:56:HIS:HB3	1.44	0.81
34:BA:454:A:H4’	34:BA:455:C:OP2	1.81	0.81
34:BA:899:A:H2’	34:BA:900:A:H8	1.46	0.81
34:BA:1073:A:H3’	34:BA:1074:G:C5’	2.08	0.81
34:BA:2502:G:H5’	34:BA:2503:A:H5”	1.62	0.81
41:BH:138:ARG:HG2	43:BK:22:LEU:HD21	1.63	0.81
1:AA:1152:A:H5’	10:AJ:15:HIS:CD2	2.16	0.81
23:AW:19:ILE:C	23:AW:26:LYS:HE3	2.05	0.81
45:BO:47:ILE:HD13	45:BO:48:PRO:HD2	1.63	0.81
41:BH:105:LYS:O	41:BH:106:PHE:HB3	1.80	0.80
54:BX:50:LEU:H	54:BX:50:LEU:CD1	1.94	0.80
56:BZ:80:HIS:CD2	56:BZ:83:LYS:HB2	2.16	0.80
23:AW:70:ILE:HG22	23:AW:71:THR:N	1.95	0.80
34:BA:2798:U:H5”	34:BA:2799:A:OP1	1.81	0.80
36:BC:139:THR:O	36:BC:161:VAL:O	1.99	0.80
44:BN:54:ILE:HD11	44:BN:122:LEU:HD13	1.62	0.80
44:BN:123:LYS:N	44:BN:123:LYS:HD2	1.96	0.80
50:BT:50:ARG:HD2	50:BT:51:ASN:H	1.45	0.80
34:BA:1454:C:H41	48:BR:73:ASN:HD21	1.24	0.80
34:BA:2654:A:H4’	34:BA:2655:G:OP1	1.79	0.80
50:BT:77:SER:OG	50:BT:79:VAL:HG13	1.81	0.80
34:BA:1062:G:H2’	34:BA:1063:G:C8	2.16	0.80
34:BA:1205:A:H2’	38:BE:165:HIS:HE1	1.45	0.80
6:AF:91:ARG:HG3	6:AF:92:THR:H	1.47	0.80
10:AJ:65:TYR:OH	14:AN:84:ARG:HG3	1.80	0.80
25:B0:18:LYS:H	25:B0:36:ILE:HG13	1.47	0.80
34:BA:1069:A:O2’	34:BA:1070:A:H5”	1.82	0.80
36:BC:173:LEU:HD22	36:BC:183:VAL:HG21	1.64	0.80
37:BD:27:ILE:HD12	37:BD:201:LEU:HD23	1.60	0.80
37:BD:174:SER:O	37:BD:175:LEU:HB2	1.80	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AW:49:ARG:NH2	34:BA:2664:G:O6	2.15	0.80
34:BA:783:A:H8	34:BA:784:G:H4'	1.47	0.80
41:BH:58:THR:O	41:BH:60:LEU:HG	1.81	0.80
45:BO:111:LYS:HE2	45:BO:111:LYS:N	1.97	0.80
5:AE:96:GLN:NE2	5:AE:97:PRO:HD2	1.96	0.80
12:AL:30:ARG:HH12	23:AW:408:LYS:HG3	1.45	0.80
36:BC:156:SER:O	36:BC:194:VAL:HG11	1.81	0.80
47:BQ:23:GLY:O	47:BQ:101:VAL:HG12	1.82	0.80
34:BA:404:A:H4'	34:BA:405:U:O5'	1.82	0.80
34:BA:1071:G:H1'	34:BA:1089:A:N7	1.96	0.80
39:BF:36:ASN:O	39:BF:151:LEU:HB2	1.81	0.80
41:BH:93:ALA:HA	41:BH:129:LEU:HB3	1.64	0.80
51:BU:50:ARG:H	51:BU:50:ARG:HD2	1.46	0.80
34:BA:645:C:O2	34:BA:645:C:H2'	1.82	0.79
34:BA:2425:A:H5'	34:BA:2427:C:O4'	1.82	0.79
44:BN:117:ALA:HA	44:BN:120:ARG:NH2	1.97	0.79
54:BX:39:THR:HB	54:BX:42:GLU:CB	2.12	0.79
1:AA:826:C:H5'	8:AH:12:ARG:HH21	1.47	0.79
2:AB:163:ILE:HG23	2:AB:164:ASP:H	1.45	0.79
9:AI:23:GLY:H	9:AI:61:ASP:H	1.24	0.79
14:AN:20:PHE:HA	14:AN:24:ALA:HB2	1.62	0.79
1:AA:1021:A:H2'	1:AA:1022:A:H5"	1.65	0.79
42:BI:53:PRO:HG2	42:BI:77:VAL:HG11	1.63	0.79
1:AA:718:A:N6	18:AR:62:ARG:HH12	1.81	0.79
34:BA:503:A:H5"	34:BA:504:A:H3'	1.63	0.79
16:AP:54:LEU:HD12	16:AP:54:LEU:H	1.47	0.79
25:B0:37:VAL:HG13	25:B0:55:ASP:O	1.83	0.79
34:BA:1993:U:H4'	37:BD:133:THR:HG21	1.63	0.79
38:BE:44:ARG:HG3	38:BE:44:ARG:NH2	1.95	0.79
1:AA:49:U:O4	1:AA:365:U:H5	1.65	0.79
1:AA:560:A:H5'	1:AA:566:G:N2	1.98	0.79
25:B0:23:LYS:HG2	34:BA:855:G:N2	1.98	0.79
37:BD:114:LYS:N	37:BD:114:LYS:HE3	1.96	0.79
38:BE:36:ALA:O	38:BE:39:ALA:HB3	1.83	0.79
43:BL:14:MET:HA	43:BL:14:MET:HE2	1.64	0.79
1:AA:411:A:C5	1:AA:413:G:H1'	2.18	0.79
1:AA:677:U:H3	1:AA:713:G:H22	1.30	0.79
40:BG:122:ALA:HB2	40:BG:132:LEU:HB3	1.65	0.79
43:BM:3:THR:O	43:BM:7:ILE:HG12	1.83	0.79
44:BN:21:THR:HG22	44:BN:22:GLY:N	1.97	0.79
53:BW:13:SER:HG	53:BW:16:LYS:H	1.29	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:412:A:H4'	1:AA:413:G:O5'	1.80	0.79
13:AM:76:ILE:HG22	13:AM:80:MET:HE2	1.65	0.79
3:AC:35:ASP:OD1	3:AC:56:ILE:HG21	1.84	0.78
40:BG:8:VAL:HG12	40:BG:49:LEU:H	1.48	0.78
41:BH:88:HIS:CB	41:BH:89:PRO:HD3	2.12	0.78
3:AC:153:SER:CB	3:AC:164:THR:HG22	2.12	0.78
25:B0:23:LYS:HB3	34:BA:856:G:H1'	1.64	0.78
34:BA:1654:A:O2'	37:BD:118:PHE:CD2	2.36	0.78
41:BH:48:ALA:HA	41:BH:51:TYR:HE2	1.47	0.78
54:BX:49:LYS:HB2	54:BX:50:LEU:HD12	1.65	0.78
1:AA:978:A:O2'	1:AA:1322:C:H5	1.66	0.78
32:B7:30:HIS:CD2	32:B7:31:ILE:H	2.02	0.78
34:BA:780:G:H21	34:BA:783:A:H62	1.27	0.78
34:BA:2197:U:C2'	34:BA:2198:A:H2'	2.14	0.78
34:BA:2729:G:H5'	37:BD:190:LYS:HE2	1.65	0.78
39:BF:127:TYR:HE2	39:BF:129:MET:HB3	1.46	0.78
40:BG:8:VAL:HG11	40:BG:49:LEU:HB2	1.66	0.78
1:AA:495:A:H4'	1:AA:496:A:OP1	1.81	0.78
1:AA:1201:A:O2'	1:AA:1202:U:OP2	1.99	0.78
3:AC:69:THR:HG21	3:AC:75:VAL:HG21	1.64	0.78
5:AE:121:ASN:CG	5:AE:122:VAL:H	1.91	0.78
23:AW:20:SER:H	23:AW:26:LYS:HZ1	1.26	0.78
32:B7:7:ARG:HH11	32:B7:7:ARG:HG3	1.48	0.78
45:BO:19:VAL:CG2	45:BO:41:ILE:HG13	2.14	0.78
6:AF:12:PRO:HD3	6:AF:57:ALA:HA	1.66	0.78
9:AI:50:PRO:HB3	9:AI:83:THR:HG23	1.65	0.78
34:BA:265:A:C4'	34:BA:266:G:OP1	2.27	0.78
1:AA:1347:G:O2'	1:AA:1348:U:OP2	2.00	0.78
23:AW:238:SER:OG	23:AW:239:ASN:N	2.12	0.78
34:BA:1073:A:C3'	34:BA:1074:G:H5"	2.06	0.78
37:BD:186:LEU:HD11	50:BT:3:ILE:HG12	1.64	0.78
40:BG:83:THR:C	40:BG:84:LYS:HD3	2.09	0.78
1:AA:1053:G:O5'	1:AA:1054:C:H5'	1.82	0.78
2:AB:66:ILE:HB	2:AB:88:GLN:HB3	1.65	0.78
2:AB:103:TRP:NE1	2:AB:150:ILE:HD11	1.99	0.78
9:AI:128:LYS:HD3	9:AI:129:ARG:H	1.49	0.78
25:B0:46:ALA:HB2	25:B0:78:PHE:HB3	1.65	0.78
34:BA:1142:A:O2'	34:BA:1143:A:H3'	1.84	0.78
41:BH:15:VAL:HG11	41:BH:67:THR:HA	1.66	0.78
48:BR:65:LEU:HD11	48:BR:69:ARG:NH2	1.99	0.78
2:AB:127:LYS:HG3	2:AB:128:LEU:H	1.48	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:100:GLU:HB3	5:AE:121:ASN:CB	2.13	0.78
14:AN:82:LYS:HE2	14:AN:85:GLU:HG3	1.64	0.78
39:BF:64:PRO:HA	39:BF:88:VAL:HG22	1.64	0.78
1:AA:75:G:H3'	1:AA:76:G:C8	2.19	0.77
20:AT:29:THR:HA	20:AT:32:LYS:HG3	1.65	0.77
34:BA:2308:G:H2'	34:BA:2310:C:H41	1.50	0.77
34:BA:2474:U:H5"	34:BA:2475:C:OP2	1.84	0.77
49:BS:51:ALA:HB3	49:BS:78:VAL:HG13	1.66	0.77
21:AU:38:GLU:OE2	21:AU:41:THR:HG21	1.84	0.77
34:BA:2358:A:H61	46:BP:54:GLN:HE22	1.31	0.77
34:BA:140:C:O2	34:BA:140:C:H2'	1.84	0.77
37:BD:48:ILE:HG23	37:BD:84:LEU:HD21	1.65	0.77
41:BH:54:VAL:O	41:BH:54:VAL:HG13	1.84	0.77
1:AA:1225:A:H1'	19:AS:77:ARG:HD2	1.65	0.77
1:AA:1410:A:H2'	1:AA:1411:C:C6	2.18	0.77
9:AI:111:GLU:HG2	9:AI:114:LYS:HZ2	1.50	0.77
10:AJ:40:ILE:HB	10:AJ:73:LEU:HB2	1.64	0.77
12:AL:30:ARG:NH1	23:AW:408:LYS:CG	2.48	0.77
28:B3:12:ALA:HA	28:B3:15:ARG:HD3	1.64	0.77
38:BE:149:ILE:HD11	38:BE:172:ALA:HA	1.67	0.77
43:BK:29:LYS:HB3	43:BM:19:VAL:HG21	1.65	0.77
34:BA:631:A:O2'	46:BP:66:PHE:HB3	1.83	0.77
51:BU:57:ARG:HA	51:BU:60:TRP:CE3	2.20	0.77
26:B1:5:GLN:NE2	26:B1:49:ARG:H	1.77	0.77
42:BI:89:SER:HA	42:BI:135:MET:HB2	1.66	0.77
56:BZ:44:HIS:CE1	56:BZ:86:LEU:H	1.97	0.77
4:AD:33:ILE:O	4:AD:34:GLU:HB3	1.83	0.77
13:AM:5:GLY:HA3	13:AM:65:GLU:HG3	1.65	0.77
18:AR:33:THR:HG22	18:AR:37:LYS:N	1.99	0.77
2:AB:22:TRP:CZ3	2:AB:24:PRO:HA	2.20	0.77
34:BA:900:A:C2	34:BA:901:C:C5	2.73	0.77
42:BI:53:PRO:HD2	42:BI:77:VAL:HG21	1.66	0.77
47:BQ:26:VAL:HA	47:BQ:104:GLU:OE1	1.84	0.77
4:AD:172:VAL:HG22	4:AD:173:ASP:H	1.50	0.76
11:AK:14:GLN:HE22	11:AK:77:GLY:HA3	1.50	0.76
34:BA:204:A:H4'	34:BA:205:G:OP1	1.84	0.76
41:BH:97:LYS:HD2	41:BH:130:PRO:CB	2.14	0.76
5:AE:152:VAL:C	5:AE:156:ARG:HB2	2.10	0.76
15:AO:11:VAL:HG13	15:AO:26:VAL:HG11	1.66	0.76
34:BA:947:A:O2'	34:BA:984:A:H2	1.69	0.76
55:BY:65:GLN:HB2	55:BY:68:ASN:ND2	2.00	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:98:LEU:HA	7:AG:101:ARG:NH1	2.00	0.76
12:AL:81:ILE:HD11	12:AL:94:TYR:HB3	1.66	0.76
23:AW:62:MET:HG2	23:AW:454:LYS:HG2	1.65	0.76
34:BA:819:A:OP2	34:BA:1187:G:N2	2.15	0.76
34:BA:1654:A:H2'	34:BA:1655:A:H8	1.49	0.76
37:BD:15:PHE:N	50:BT:11:GLN:HE22	1.81	0.76
41:BH:29:ASP:HA	41:BH:108:VAL:HG11	1.68	0.76
1:AA:890:G:O2'	1:AA:891:U:OP2	2.03	0.76
23:AW:20:SER:N	23:AW:26:LYS:NZ	2.32	0.76
34:BA:479:A:H4'	34:BA:480:A:OP1	1.85	0.76
1:AA:73:C:H41	1:AA:94:G:N2	1.83	0.76
1:AA:220:G:H2'	1:AA:221:C:H6	1.48	0.76
6:AF:47:LEU:HD13	6:AF:51:ILE:HG22	1.68	0.76
14:AN:8:ARG:HB3	14:AN:12:ARG:NH1	1.99	0.76
23:AW:355:HIS:HA	23:AW:356:VAL:HG23	1.68	0.76
34:BA:1936:A:C2	34:BA:1943:U:H5	2.03	0.76
34:BA:1997:C:OP2	37:BD:129:THR:HB	1.84	0.76
34:BA:2641:G:OP1	44:BN:76:HIS:HE1	1.67	0.76
1:AA:1222:G:H5"	19:AS:77:ARG:HH11	1.51	0.76
6:AF:6:ILE:HD12	6:AF:62:MET:HG2	1.67	0.76
9:AI:24:ASN:HB2	9:AI:26:LYS:HG2	1.65	0.76
15:AO:63:ARG:HG2	15:AO:87:ARG:HH12	1.50	0.76
23:AW:19:ILE:CA	23:AW:26:LYS:CE	2.62	0.76
32:B7:56:LEU:HD21	34:BA:834:G:H5'	1.68	0.76
34:BA:2311:A:H5'	34:BA:2312:U:OP2	1.86	0.76
44:BN:77:HIS:HD2	44:BN:79:GLY:H	1.30	0.76
2:AB:163:ILE:HG23	2:AB:164:ASP:N	2.01	0.76
6:AF:88:MET:HG2	6:AF:90:MET:HE2	1.68	0.76
8:AH:8:ASP:O	8:AH:12:ARG:HG3	1.86	0.76
18:AR:61:ALA:HB3	18:AR:67:LEU:HD12	1.67	0.76
34:BA:1652:A:H62	48:BR:11:ASN:HD21	1.32	0.76
37:BD:13:ARG:HH12	50:BT:74:GLN:NE2	1.84	0.76
38:BE:29:HIS:O	38:BE:33:VAL:HG23	1.85	0.76
39:BF:134:GLN:H	39:BF:134:GLN:HE21	1.31	0.76
54:BX:51:PHE:O	54:BX:53:VAL:HG13	1.86	0.76
3:AC:166:TRP:HE3	3:AC:166:TRP:H	1.34	0.76
21:AU:9:GLU:HG3	21:AU:10:PRO:HD3	1.66	0.76
2:AB:20:ARG:NH1	2:AB:20:ARG:HA	2.00	0.76
9:AI:9:GLY:HA2	9:AI:80:HIS:HD2	1.52	0.76
3:AC:86:LEU:O	3:AC:90:VAL:HG23	1.85	0.75
27:B2:5:GLU:O	27:B2:8:GLU:HB2	1.87	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:B3:8:GLN:HB3	28:B3:31:ILE:HA	1.68	0.75
34:BA:627:A:H4'	34:BA:628:G:OP1	1.86	0.75
1:AA:625:U:H4'	16:AP:16:PHE:CE2	2.21	0.75
1:AA:1094:G:O2'	1:AA:1095:U:OP2	2.03	0.75
1:AA:1256:A:H1'	1:AA:1258:G:C5	2.22	0.75
6:AF:38:ARG:HG3	6:AF:39:LEU:H	1.51	0.75
9:AI:71:ILE:HD12	9:AI:71:ILE:H	1.51	0.75
25:B0:48:ALA:O	25:B0:61:LYS:HB2	1.87	0.75
34:BA:1266:G:O2'	34:BA:1267:U:OP2	2.04	0.75
34:BA:2204:G:H4'	36:BC:149:LYS:HG3	1.69	0.75
40:BG:83:THR:HA	40:BG:84:LYS:HZ3	1.51	0.75
1:AA:913:A:H4'	1:AA:914:A:O5'	1.86	0.75
34:BA:1936:A:C2	34:BA:1943:U:C5	2.74	0.75
5:AE:156:ARG:HH22	8:AH:113:ARG:HH12	1.31	0.75
23:AW:399:ARG:HH12	23:AW:448:VAL:HG11	1.52	0.75
34:BA:899:A:H2'	34:BA:900:A:C8	2.21	0.75
41:BH:23:LEU:HG	41:BH:24:SER:H	1.51	0.75
1:AA:1168:U:O2	1:AA:1168:U:H2'	1.85	0.75
7:AG:112:ASP:HB2	7:AG:118:ARG:CG	2.16	0.75
10:AJ:56:HIS:O	10:AJ:57:VAL:HG12	1.87	0.75
14:AN:58:ARG:HG2	14:AN:58:ARG:HH11	1.51	0.75
34:BA:1563:U:H2'	34:BA:1564:C:C6	2.20	0.75
45:BO:39:ILE:HG23	45:BO:41:ILE:HD13	1.67	0.75
50:BT:5:LYS:O	50:BT:9:GLN:HG2	1.86	0.75
1:AA:376:G:H2'	1:AA:377:G:H8	1.51	0.75
23:AW:70:ILE:O	23:AW:95:PHE:CE2	2.40	0.75
41:BH:128:THR:O	41:BH:129:LEU:HB2	1.85	0.75
1:AA:1355:G:H2'	1:AA:1356:G:H8	1.52	0.75
34:BA:135:U:H3	34:BA:144:A:H61	1.34	0.75
44:BN:65:THR:HG22	44:BN:68:LYS:HE3	1.67	0.75
1:AA:51:A:H4'	1:AA:52:C:O5'	1.86	0.75
5:AE:80:LEU:HD23	5:AE:122:VAL:CG1	2.16	0.75
34:BA:1061:U:H1'	34:BA:1070:A:H1'	1.68	0.75
36:BC:68:ARG:HD3	36:BC:103:ILE:HD11	1.67	0.75
37:BD:107:VAL:HG13	37:BD:203:VAL:HG23	1.68	0.75
45:BO:40:LYS:NZ	45:BO:89:ASN:HD21	1.85	0.75
52:BV:20:VAL:HG23	52:BV:22:LEU:HD21	1.69	0.75
21:AU:24:LYS:HG2	21:AU:25:ALA:H	1.52	0.75
23:AW:522:GLN:HB2	23:AW:523:PHE:HB2	1.68	0.75
27:B2:41:HIS:CE1	34:BA:96:C:H4'	2.22	0.75
44:BN:45:THR:OG1	44:BN:48:VAL:HB	1.86	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BG:33:THR:C	40:BG:34:ARG:HD3	2.12	0.74
41:BH:137:ALA:O	41:BH:141:ALA:HB2	1.85	0.74
44:BN:73:VAL:HG23	44:BN:74:TYR:H	1.52	0.74
34:BA:1901:A:OP2	36:BC:252:LYS:HE2	1.87	0.74
34:BA:2052:A:OP1	37:BD:145:SER:HA	1.86	0.74
36:BC:106:PRO:HA	36:BC:141:HIS:NE2	2.01	0.74
54:BX:69:ARG:NE	54:BX:70:HIS:H	1.84	0.74
1:AA:408:A:OP1	4:AD:109:THR:HG21	1.87	0.74
1:AA:484:G:C4'	1:AA:485:U:O5'	2.33	0.74
1:AA:600:A:H2'	1:AA:601:G:H8	1.51	0.74
4:AD:137:SER:HB3	4:AD:138:PRO:HD2	1.66	0.74
34:BA:996:A:H4'	51:BU:91:ARG:HD2	1.69	0.74
1:AA:664:G:H22	1:AA:741:G:H1	1.36	0.74
34:BA:448:U:H4'	34:BA:449:A:OP2	1.87	0.74
37:BD:49:GLN:NE2	37:BD:67:HIS:HE1	1.84	0.74
40:BG:72:ASN:O	40:BG:76:ILE:HG22	1.88	0.74
49:BS:100:HIS:H	49:BS:103:VAL:HG23	1.52	0.74
1:AA:975:A:O2'	14:AN:71:GLY:HA2	1.87	0.74
1:AA:1301:U:HO2'	1:AA:1302:C:H5	1.34	0.74
3:AC:156:LEU:HB2	3:AC:163:ARG:HH12	1.51	0.74
10:AJ:52:LEU:HD22	10:AJ:59:LYS:HA	1.69	0.74
19:AS:62:THR:HG22	19:AS:63:ASP:H	1.53	0.74
25:B0:28:GLU:H	25:B0:31:LEU:HD11	1.52	0.74
25:B0:70:VAL:C	25:B0:71:LYS:HD2	2.12	0.74
34:BA:893:C:H2'	34:BA:894:U:O4'	1.86	0.74
34:BA:2757:A:N1	40:BG:66:THR:HG21	2.02	0.74
36:BC:136:VAL:HG23	36:BC:166:ARG:NH2	2.02	0.74
44:BN:43:GLU:O	44:BN:45:THR:N	2.20	0.74
10:AJ:41:PRO:HA	10:AJ:72:ARG:HH11	1.51	0.74
34:BA:2714:G:C2'	34:BA:2715:C:H5'	2.17	0.74
3:AC:96:VAL:HB	3:AC:97:PRO:HD2	1.69	0.74
42:BI:3:LYS:HD3	42:BI:4:VAL:HG23	1.69	0.74
23:AW:70:ILE:HG23	23:AW:95:PHE:CZ	2.18	0.74
40:BG:93:TYR:O	40:BG:94:ARG:HB3	1.88	0.74
44:BN:103:ILE:HD13	44:BN:104:ALA:N	2.02	0.74
45:BO:19:VAL:HG22	45:BO:41:ILE:HG13	1.68	0.74
1:AA:428:G:H4'	1:AA:429:U:OP1	1.88	0.74
1:AA:501:C:H2'	1:AA:502:A:H8	1.50	0.74
2:AB:20:ARG:HA	2:AB:20:ARG:CZ	2.16	0.74
17:AQ:11:VAL:HG12	17:AQ:12:VAL:N	2.03	0.74
18:AR:57:ALA:HA	18:AR:60:ARG:HD3	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AW:19:ILE:HA	23:AW:26:LYS:HE2	1.69	0.74
36:BC:23:LEU:HD11	36:BC:82:TYR:N	2.02	0.74
40:BG:88:LEU:HD22	40:BG:161:VAL:HG22	1.70	0.74
45:BO:71:ARG:HB3	45:BO:72:PRO:HD3	1.68	0.74
9:AI:51:LEU:HB3	9:AI:56:MET:HG2	1.70	0.74
37:BD:47:ALA:HA	37:BD:84:LEU:HG	1.70	0.74
48:BR:73:ASN:HA	48:BR:76:VAL:HG12	1.69	0.74
51:BU:24:TYR:O	51:BU:27:ARG:HB2	1.88	0.74
1:AA:376:G:H5"	16:AP:5:ARG:HB2	1.68	0.73
4:AD:200:VAL:HG11	5:AE:102:THR:HA	1.69	0.73
34:BA:100:U:C4'	34:BA:101:A:O5'	2.35	0.73
34:BA:2638:G:O2'	34:BA:2639:A:C8	2.40	0.73
1:AA:77:A:H62	1:AA:90:C:N4	1.86	0.73
1:AA:1033:G:H2'	1:AA:1034:G:H5"	1.69	0.73
1:AA:1494:G:C6	24:AY:1:KBE:CG	2.70	0.73
13:AM:78:ARG:O	13:AM:82:LEU:HG	1.88	0.73
25:B0:38:ARG:NH2	34:BA:2262:U:H5"	2.03	0.73
34:BA:1757:A:H3'	34:BA:1758:U:H5'	1.68	0.73
34:BA:2638:G:H1'	34:BA:2778:A:N6	2.02	0.73
37:BD:27:ILE:CD1	37:BD:201:LEU:HD23	2.18	0.73
50:BT:28:LYS:HE3	50:BT:28:LYS:H	1.51	0.73
50:BT:28:LYS:HE3	50:BT:28:LYS:N	2.03	0.73
5:AE:80:LEU:HD23	5:AE:122:VAL:HG11	1.68	0.73
21:AU:37:TYR:O	21:AU:37:TYR:HD2	1.70	0.73
23:AW:493:LEU:HD23	23:AW:503:TYR:HA	1.70	0.73
25:B0:68:PHE:CE1	25:B0:79:ILE:HD12	2.23	0.73
34:BA:2786:U:OP1	37:BD:70:LYS:HE2	1.88	0.73
37:BD:184:ARG:HH11	50:BT:6:GLN:HE22	1.36	0.73
1:AA:1408:A:N1	24:AY:2:DPP:N	2.37	0.73
5:AE:135:VAL:C	5:AE:137:ARG:H	1.94	0.73
6:AF:38:ARG:NH1	6:AF:61:LEU:HD21	2.03	0.73
25:B0:39:GLN:HG2	25:B0:41:GLY:H	1.54	0.73
41:BH:11:ILE:CG2	41:BH:66:GLY:HA3	2.17	0.73
13:AM:19:THR:HA	13:AM:24:VAL:HG23	1.68	0.73
34:BA:246:C:H2'	34:BA:247:G:H5'	1.69	0.73
34:BA:459:U:O2'	34:BA:460:A:H5'	1.89	0.73
43:BJ:18:ASP:O	43:BJ:22:LEU:HG	1.87	0.73
1:AA:1239:A:H4'	1:AA:1240:U:C5'	2.18	0.73
3:AC:149:LYS:HD2	3:AC:200:TRP:CE3	2.24	0.73
22:AV:15:A:N3	22:AV:15:A:H2'	2.03	0.73
23:AW:50:GLY:HA3	34:BA:2655:G:C8	2.24	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:441:U:O2'	34:BA:442:G:H5'	1.88	0.73
39:BF:39:VAL:HG11	39:BF:42:ALA:HB2	1.70	0.73
54:BX:44:LYS:HE3	54:BX:55:VAL:HG12	1.71	0.73
1:AA:672:U:H2'	1:AA:673:A:H8	1.53	0.73
1:AA:1324:A:O4'	1:AA:1362:A:H4'	1.88	0.73
29:B4:21:LEU:CD1	53:BW:19:LEU:HB3	2.17	0.73
34:BA:372:G:O2'	34:BA:373:U:P	2.46	0.73
1:AA:182:A:N7	1:AA:184:G:C5	2.57	0.73
4:AD:106:PHE:HB3	4:AD:144:ILE:HD11	1.70	0.73
20:AT:68:LYS:HB2	20:AT:68:LYS:NZ	2.04	0.73
34:BA:163:C:O2	34:BA:163:C:H2'	1.87	0.73
1:AA:204:G:H3'	1:AA:205:A:C5'	2.19	0.73
33:B8:36:ARG:HG2	33:B8:37:GLN:H	1.54	0.73
34:BA:2298:A:OP1	39:BF:70:ARG:HD2	1.89	0.73
39:BF:72:SER:HB2	39:BF:80:GLN:N	2.03	0.73
41:BH:32:GLY:HA3	41:BH:56:ARG:HH22	1.53	0.73
48:BR:79:LEU:O	48:BR:80:PHE:HB2	1.87	0.73
1:AA:501:C:H2'	1:AA:502:A:C8	2.23	0.73
1:AA:950:U:H2'	1:AA:951:G:C8	2.24	0.73
1:AA:978:A:OP2	1:AA:1362:A:N6	2.20	0.73
34:BA:2359:C:H2'	34:BA:2360:G:C8	2.24	0.73
45:BO:10:VAL:HG21	45:BO:16:ALA:CB	2.18	0.73
52:BV:42:ALA:HA	52:BV:46:GLU:HB2	1.69	0.73
1:AA:1202:U:O4'	14:AN:68:ARG:HD2	1.89	0.72
23:AW:147:ASP:HB3	40:BG:91:VAL:HG11	1.71	0.72
25:B0:38:ARG:HH22	34:BA:2262:U:H5"	1.53	0.72
34:BA:2073:C:H5"	36:BC:227:VAL:HG12	1.71	0.72
39:BF:38:GLY:HA2	39:BF:85:GLY:HA2	1.71	0.72
45:BO:21:CYS:SG	45:BO:39:ILE:HD11	2.29	0.72
28:B3:40:THR:HG23	28:B3:43:ILE:HG23	1.71	0.72
46:BP:132:ARG:HG3	46:BP:142:ILE:HG13	1.70	0.72
1:AA:1494:G:C5	24:AY:1:KBE:CG	2.73	0.72
3:AC:32:LEU:HD21	14:AN:92:ILE:HG12	1.70	0.72
11:AK:22:ILE:HD13	11:AK:22:ILE:H	1.54	0.72
34:BA:859:G:H1'	34:BA:860:U:H5	1.54	0.72
51:BU:78:PHE:CZ	51:BU:82:LEU:HD11	2.24	0.72
28:B3:43:ILE:O	28:B3:47:ILE:HG12	1.90	0.72
34:BA:878:A:C6	34:BA:900:A:H1'	2.25	0.72
34:BA:979:A:H2'	34:BA:982:C:N4	2.05	0.72
34:BA:1060:U:H4'	34:BA:1061:U:O5'	1.87	0.72
34:BA:2742:G:C2'	34:BA:2743:U:H5'	2.18	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BY:42:LYS:HD3	55:BY:42:LYS:N	2.02	0.72
1:AA:373:A:H1'	1:AA:481:G:H1'	1.71	0.72
1:AA:1251:A:O2'	1:AA:1370:G:H5'	1.90	0.72
1:AA:1505:G:H4'	1:AA:1506:U:H5"	1.72	0.72
2:AB:165:ALA:HB3	2:AB:190:SER:HB3	1.71	0.72
34:BA:2150:C:C2	34:BA:2151:U:C4	2.78	0.72
34:BA:2328:A:H2'	34:BA:2329:U:H6	1.52	0.72
37:BD:15:PHE:H	50:BT:11:GLN:NE2	1.83	0.72
43:BJ:11:VAL:HG21	43:BM:15:SER:CB	2.19	0.72
44:BN:88:THR:HG22	44:BN:91:GLU:CD	2.14	0.72
1:AA:1347:G:N2	1:AA:1373:G:H2'	2.05	0.72
23:AW:59:TRP:CE3	23:AW:59:TRP:HA	2.24	0.72
34:BA:653:U:C5	34:BA:654:A:H2	2.08	0.72
44:BN:17:VAL:HG23	44:BN:137:PRO:HB2	1.72	0.72
45:BO:2:ILE:O	45:BO:3:GLN:HG2	1.89	0.72
1:AA:738:C:H2'	1:AA:739:C:C6	2.23	0.72
2:AB:96:LEU:H	2:AB:99:MET:HE3	1.54	0.72
13:AM:38:ILE:HG13	13:AM:55:LEU:HD21	1.70	0.72
34:BA:1784:A:H4'	34:BA:1785:A:O5'	1.90	0.72
46:BP:110:VAL:O	46:BP:111:ILE:HB	1.89	0.72
12:AL:23:LEU:HB3	12:AL:58:ASN:HD22	1.54	0.72
15:AO:77:TYR:O	15:AO:81:ILE:HG12	1.90	0.72
23:AW:300:VAL:H	23:AW:318:MET:HG3	1.54	0.72
34:BA:1141:U:H4'	34:BA:1142:A:O4'	1.90	0.72
34:BA:1510:G:C2'	34:BA:1511:G:H5'	2.18	0.72
34:BA:1996:C:H4'	34:BA:1997:C:OP1	1.90	0.72
37:BD:98:VAL:HG12	37:BD:180:VAL:HG13	1.71	0.72
53:BW:69:LEU:HG	53:BW:107:VAL:HG13	1.71	0.72
1:AA:1498:U:C5	22:AV:17:U:H5"	2.24	0.72
3:AC:106:ARG:HD3	3:AC:106:ARG:H	1.54	0.72
7:AG:122:GLU:HA	7:AG:125:ASP:HB3	1.71	0.72
11:AK:60:PHE:O	11:AK:64:VAL:HG13	1.90	0.72
25:B0:37:VAL:HG12	25:B0:38:ARG:N	2.00	0.72
34:BA:612:G:C2	34:BA:614:A:H1'	2.24	0.72
34:BA:1654:A:H1'	37:BD:118:PHE:CD1	2.25	0.72
36:BC:245:THR:HB	36:BC:246:PRO:HD2	1.69	0.72
39:BF:40:GLY:HA2	39:BF:84:ILE:HD11	1.72	0.72
1:AA:211:G:C2	1:AA:212:G:H1'	2.23	0.72
1:AA:600:A:H2'	1:AA:601:G:C8	2.25	0.72
23:AW:76:GLN:HE21	23:AW:85:ASN:HD21	1.37	0.72
34:BA:289:G:H2'	34:BA:290:U:H6	1.54	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1475:G:O2'	34:BA:1476:U:P	2.48	0.72
45:BO:77:ILE:HD11	45:BO:105:ARG:HH12	1.55	0.72
48:BR:12:ARG:CZ	48:BR:20:MET:HE1	2.20	0.72
2:AB:114:LYS:HA	2:AB:117:GLU:CG	2.19	0.71
2:AB:161:PHE:HA	2:AB:183:PHE:O	1.89	0.71
10:AJ:80:THR:HG22	10:AJ:83:THR:N	1.99	0.71
23:AW:312:ARG:O	23:AW:314:ARG:N	2.22	0.71
45:BO:18:ARG:H	45:BO:45:GLU:HB2	1.54	0.71
54:BX:29:THR:HB	54:BX:86:THR:HG22	1.72	0.71
1:AA:1355:G:H2'	1:AA:1356:G:C8	2.25	0.71
5:AE:105:ILE:CG1	5:AE:123:LEU:HA	2.19	0.71
10:AJ:22:THR:OG1	10:AJ:72:ARG:HG3	1.90	0.71
18:AR:33:THR:HG23	18:AR:35:SER:H	1.54	0.71
20:AT:67:HIS:HB3	20:AT:68:LYS:HZ2	1.54	0.71
20:AT:67:HIS:HB3	20:AT:68:LYS:NZ	2.05	0.71
25:B0:30:VAL:CG1	34:BA:2353:G:H1'	2.19	0.71
34:BA:1111:A:N3	34:BA:1112:G:H1'	2.05	0.71
34:BA:2058:A:H5"	34:BA:2059:A:OP2	1.90	0.71
34:BA:2150:C:C2'	34:BA:2151:U:C5	2.67	0.71
47:BQ:35:ALA:O	47:BQ:36:VAL:HB	1.90	0.71
47:BQ:136:MET:HE2	56:BZ:57:TYR:HD2	1.54	0.71
52:BV:41:ILE:O	52:BV:46:GLU:HB2	1.89	0.71
55:BY:97:SER:O	55:BY:98:ASN:HB3	1.87	0.71
34:BA:483:A:C8	55:BY:44:HIS:CD2	2.77	0.71
49:BS:33:ARG:HG2	49:BS:34:HIS:ND1	2.05	0.71
54:BX:39:THR:HG22	54:BX:39:THR:O	1.90	0.71
1:AA:672:U:H2'	1:AA:673:A:C8	2.24	0.71
1:AA:890:G:O2'	1:AA:891:U:P	2.48	0.71
7:AG:69:ARG:HG3	7:AG:95:ARG:HG2	1.73	0.71
34:BA:246:C:C2'	34:BA:247:G:H5'	2.21	0.71
34:BA:1797:G:O3'	36:BC:255:LYS:HA	1.90	0.71
40:BG:75:VAL:HG12	40:BG:76:ILE:N	2.05	0.71
41:BH:18:VAL:HA	41:BH:86:MET:HE2	1.72	0.71
41:BH:138:ARG:HA	41:BH:141:ALA:HB3	1.73	0.71
1:AA:1524:C:H2'	1:AA:1525:G:C8	2.26	0.71
4:AD:43:ARG:O	4:AD:45:PRO:HD3	1.89	0.71
7:AG:12:LEU:H	7:AG:12:LEU:HD22	1.55	0.71
7:AG:112:ASP:HB2	7:AG:118:ARG:HG2	1.73	0.71
34:BA:900:A:O2'	34:BA:901:C:OP1	2.07	0.71
34:BA:1174:U:O2	34:BA:1174:U:H2'	1.88	0.71
34:BA:2150:C:C2	34:BA:2151:U:O4	2.43	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BX:48:GLN:HA	54:BX:48:GLN:NE2	1.98	0.71
56:BZ:72:VAL:HG21	56:BZ:91:PHE:HB3	1.73	0.71
1:AA:58:C:O2'	1:AA:59:A:H5'	1.90	0.71
1:AA:1219:A:H2'	1:AA:1220:G:H8	1.56	0.71
4:AD:97:LEU:HD22	4:AD:117:VAL:HG11	1.72	0.71
13:AM:47:LEU:CD2	13:AM:52:ILE:HB	2.21	0.71
13:AM:82:LEU:HB3	19:AS:73:PHE:HE2	1.55	0.71
23:AW:92:HIS:HB3	23:AW:95:PHE:HB3	1.71	0.71
34:BA:1857:G:N2	34:BA:1884:G:H2'	2.05	0.71
34:BA:2273:A:H2'	34:BA:2274:A:C8	2.25	0.71
35:BB:28:C:H42	35:BB:56:G:H1	1.37	0.71
50:BT:50:ARG:CD	50:BT:51:ASN:H	2.03	0.71
53:BW:72:THR:O	53:BW:73:LYS:HD2	1.91	0.71
23:AW:60:MET:SD	23:AW:61:GLU:N	2.64	0.71
45:BO:54:LYS:NZ	45:BO:54:LYS:HB3	2.05	0.71
1:AA:250:A:H4'	1:AA:251:G:O5'	1.91	0.71
14:AN:19:TYR:O	14:AN:22:LYS:HB3	1.90	0.71
27:B2:56:LEU:O	27:B2:57:LEU:HB3	1.88	0.71
35:BB:30:C:H2'	35:BB:31:C:H5'	1.71	0.71
45:BO:59:LYS:HE2	45:BO:89:ASN:HD22	1.56	0.71
54:BX:67:VAL:HG12	54:BX:76:ARG:HG3	1.72	0.71
55:BY:80:ASP:HB3	55:BY:95:PHE:HD2	1.55	0.71
2:AB:101:THR:HG22	2:AB:174:GLU:OE1	1.90	0.71
3:AC:142:ARG:HB3	3:AC:143:LEU:HD13	1.73	0.71
34:BA:370:G:O2'	34:BA:424:G:OP1	2.09	0.71
34:BA:1812:U:H2'	34:BA:1813:G:C8	2.26	0.71
34:BA:2297:A:C2	34:BA:2298:A:C8	2.78	0.71
35:BB:52:A:C4'	35:BB:53:A:OP1	2.38	0.71
34:BA:2674:G:H4'	45:BO:30:ARG:HG3	1.71	0.71
41:BH:23:LEU:HB3	41:BH:87:GLU:HG3	1.72	0.71
1:AA:1251:A:H2'	1:AA:1252:A:C8	2.26	0.70
8:AH:52:GLY:HA3	8:AH:56:PRO:HA	1.72	0.70
34:BA:825:A:H1'	46:BP:54:GLN:NE2	2.06	0.70
34:BA:1714:U:H5"	34:BA:1715:G:H5'	1.72	0.70
38:BE:175:ILE:HD11	38:BE:180:LEU:HD11	1.72	0.70
46:BP:19:LEU:HA	46:BP:27:LEU:HD13	1.73	0.70
50:BT:67:GLU:HG3	50:BT:68:GLY:H	1.56	0.70
54:BX:28:ASN:OD1	54:BX:29:THR:HG22	1.91	0.70
1:AA:662:U:H2'	1:AA:663:A:C8	2.25	0.70
1:AA:983:A:H5'	14:AN:2:LYS:NZ	2.06	0.70
32:B7:3:ILE:CD1	34:BA:666:A:H1'	2.21	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:2286:G:H5”	34:BA:2287:A:O5’	1.90	0.70
41:BH:81:LEU:HD23	41:BH:82:ILE:N	2.05	0.70
1:AA:981:U:H2’	1:AA:982:U:C5	2.26	0.70
1:AA:1236:A:H4’	1:AA:1304:G:H4’	1.72	0.70
29:B4:29:VAL:HG13	29:B4:34:GLY:O	1.91	0.70
34:BA:614:A:O2’	34:BA:615:U:H5’	1.91	0.70
34:BA:2198:A:H4’	34:BA:2199:A:OP1	1.91	0.70
37:BD:118:PHE:HD2	37:BD:119:ALA:N	1.81	0.70
41:BH:24:SER:HB3	41:BH:86:MET:HE1	1.73	0.70
45:BO:97:THR:HB	45:BO:98:ARG:HH21	1.57	0.70
51:BU:60:TRP:O	51:BU:64:ILE:HG12	1.92	0.70
54:BX:29:THR:HA	54:BX:86:THR:CA	2.19	0.70
4:AD:25:ARG:HH12	4:AD:30:LYS:HE3	1.54	0.70
13:AM:106:ARG:NH1	13:AM:109:LYS:HD3	2.05	0.70
34:BA:859:G:O2’	34:BA:860:U:P	2.49	0.70
34:BA:2104:C:H41	34:BA:2184:A:N6	1.89	0.70
34:BA:2150:C:C2’	34:BA:2151:U:C6	2.72	0.70
38:BE:23:PHE:CZ	38:BE:28:VAL:HG11	2.26	0.70
38:BE:151:GLY:HA3	38:BE:191:ASP:OD1	1.91	0.70
1:AA:403:C:H2’	1:AA:404:G:H8	1.57	0.70
1:AA:1308:U:H4’	13:AM:90:HIS:HE1	1.57	0.70
9:AI:3:ASN:CG	9:AI:4:GLN:H	1.99	0.70
34:BA:1693:U:H4’	34:BA:1694:C:OP2	1.89	0.70
41:BH:2:ALA:HB3	41:BH:6:GLN:CB	2.21	0.70
43:BM:7:ILE:O	43:BM:11:VAL:HG23	1.91	0.70
1:AA:974:A:H4’	1:AA:975:A:H5’	1.74	0.70
1:AA:1227:A:O2’	13:AM:114:PRO:HG2	1.90	0.70
10:AJ:57:VAL:HG22	10:AJ:58:ASN:H	1.57	0.70
13:AM:47:LEU:HD21	13:AM:52:ILE:HB	1.72	0.70
34:BA:140:C:H5’	34:BA:141:G:H21	1.56	0.70
34:BA:2681:C:H4’	34:BA:2682:A:OP1	1.91	0.70
39:BF:114:ARG:HD2	39:BF:114:ARG:H	1.57	0.70
1:AA:731:G:H5’	1:AA:766:A:H4’	1.73	0.70
1:AA:978:A:O2’	1:AA:1322:C:C5	2.43	0.70
2:AB:216:VAL:O	2:AB:219:THR:HG22	1.92	0.70
9:AI:128:LYS:CD	9:AI:129:ARG:H	2.04	0.70
23:AW:500:ASN:HB2	23:AW:501:LEU:HG	1.74	0.70
35:BB:49:C:OP1	49:BS:102:ARG:HG2	1.91	0.70
38:BE:137:LYS:O	38:BE:141:MET:HG3	1.91	0.70
3:AC:41:TYR:OH	3:AC:89:VAL:HG21	1.92	0.70
35:BB:87:U:C5’	35:BB:88:C:OP2	2.40	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BE:79:ARG:HG2	38:BE:80:SER:N	2.06	0.70
1:AA:554:A:H5'	12:AL:25:ALA:HB1	1.74	0.70
1:AA:972:C:OP2	10:AJ:59:LYS:HE3	1.92	0.70
20:AT:19:HIS:O	20:AT:23:ARG:HG2	1.91	0.70
29:B4:9:ARG:HH21	29:B4:9:ARG:CG	2.03	0.70
36:BC:124:LYS:HB3	36:BC:127:ASN:HD22	1.56	0.70
45:BO:122:VAL:O	45:BO:122:VAL:HG12	1.92	0.70
1:AA:403:C:H2'	1:AA:404:G:C8	2.27	0.70
1:AA:812:G:O2'	1:AA:813:U:OP2	2.10	0.70
26:B1:13:THR:CG2	34:BA:188:G:H5"	2.21	0.70
34:BA:2149:U:H2'	34:BA:2150:C:O2'	1.91	0.70
34:BA:2197:U:O2'	34:BA:2198:A:C8	2.44	0.70
37:BD:107:VAL:O	37:BD:174:SER:O	2.10	0.70
41:BH:25:ALA:HB3	41:BH:85:SER:HG	1.57	0.70
1:AA:1494:G:C5	24:AY:1:KBE:HGA	2.27	0.69
2:AB:14:HIS:O	2:AB:14:HIS:CG	2.44	0.69
5:AE:14:LEU:H	5:AE:14:LEU:HD12	1.56	0.69
30:B5:49:LYS:HG2	30:B5:50:GLU:H	1.55	0.69
34:BA:527:C:H4'	34:BA:528:A:O5'	1.92	0.69
41:BH:17:GLU:HG2	41:BH:88:HIS:CE1	2.27	0.69
47:BQ:41:LEU:HD12	47:BQ:96:ILE:HG21	1.73	0.69
50:BT:104:GLY:O	50:BT:106:ALA:N	2.25	0.69
52:BV:4:VAL:HG23	52:BV:39:LEU:HG	1.72	0.69
1:AA:687:A:H4'	1:AA:688:G:OP1	1.92	0.69
2:AB:72:LYS:C	2:AB:74:ALA:H	2.00	0.69
25:B0:43:LYS:HD2	25:B0:79:ILE:CD1	2.21	0.69
34:BA:276:U:O2'	34:BA:278:A:N7	2.25	0.69
38:BE:158:PHE:HD1	38:BE:159:LEU:HD12	1.55	0.69
39:BF:35:LEU:HB3	39:BF:153:ILE:HG22	1.74	0.69
46:BP:19:LEU:HD23	46:BP:19:LEU:C	2.17	0.69
46:BP:30:THR:O	46:BP:33:ARG:HG2	1.91	0.69
1:AA:484:G:H4'	1:AA:485:U:C5'	2.21	0.69
34:BA:782:A:H5'	34:BA:783:A:C2	2.27	0.69
34:BA:2840:C:H2'	34:BA:2841:C:C6	2.26	0.69
35:BB:56:G:H5"	35:BB:57:A:OP1	1.92	0.69
38:BE:130:LYS:HB2	38:BE:133:LEU:HD12	1.72	0.69
41:BH:26:VAL:HG22	41:BH:82:ILE:HG21	1.73	0.69
47:BQ:35:ALA:O	47:BQ:128:THR:HA	1.91	0.69
1:AA:940:C:H2'	1:AA:941:G:C8	2.27	0.69
1:AA:1277:C:H1'	1:AA:1282:C:O2	1.91	0.69
5:AE:56:PRO:O	5:AE:59:ILE:HG13	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AH:40:LYS:HG3	8:AH:47:ASP:HA	1.73	0.69
12:AL:23:LEU:C	12:AL:25:ALA:H	2.00	0.69
14:AN:62:ARG:HG2	14:AN:69:PRO:HB3	1.74	0.69
23:AW:50:GLY:HA3	34:BA:2655:G:H8	1.55	0.69
25:B0:17:ALA:HB1	25:B0:36:ILE:HG12	1.74	0.69
34:BA:910:A:H2'	34:BA:911:A:C8	2.27	0.69
34:BA:1061:U:HO2'	34:BA:1070:A:H4'	1.55	0.69
34:BA:1497:U:H5"	34:BA:1498:C:OP2	1.91	0.69
34:BA:1970:A:H5"	34:BA:1971:U:OP1	1.92	0.69
34:BA:2638:G:O2'	34:BA:2639:A:H8	1.76	0.69
35:BB:66:A:C4'	35:BB:67:G:OP1	2.37	0.69
47:BQ:63:ILE:HD11	47:BQ:105:MET:CE	2.22	0.69
51:BU:86:SER:O	52:BV:51:VAL:HA	1.92	0.69
1:AA:1004:A:H2'	1:AA:1005:A:O4'	1.92	0.69
9:AI:33:SER:HB3	9:AI:36:GLN:HG2	1.74	0.69
23:AW:399:ARG:HH22	23:AW:448:VAL:HG21	1.57	0.69
34:BA:1110:G:O2'	34:BA:1111:A:H8	1.75	0.69
1:AA:377:G:H5'	16:AP:5:ARG:HH12	1.57	0.69
1:AA:476:U:H2'	1:AA:477:C:C6	2.27	0.69
23:AW:138:LEU:HD11	23:AW:272:LEU:HD23	1.73	0.69
34:BA:1279:G:C2'	34:BA:1280:G:H5'	2.22	0.69
37:BD:118:PHE:O	37:BD:120:GLY:N	2.23	0.69
46:BP:91:ASP:HB2	46:BP:94:THR:OG1	1.92	0.69
52:BV:28:ALA:O	52:BV:63:VAL:HG11	1.93	0.69
1:AA:1201:A:O2'	1:AA:1202:U:P	2.51	0.69
5:AE:100:GLU:HB3	5:AE:121:ASN:HB3	1.73	0.69
12:AL:30:ARG:HH12	23:AW:408:LYS:CE	2.04	0.69
32:B7:30:HIS:CD2	32:B7:31:ILE:N	2.60	0.69
34:BA:899:A:C2'	34:BA:900:A:H8	2.04	0.69
34:BA:996:A:H4'	51:BU:91:ARG:CD	2.22	0.69
39:BF:35:LEU:HD11	39:BF:88:VAL:HB	1.73	0.69
41:BH:11:ILE:CD1	41:BH:62:ARG:HB3	2.23	0.69
41:BH:11:ILE:HD12	41:BH:62:ARG:HB3	1.73	0.69
42:BI:42:ASN:HA	42:BI:45:THR:HB	1.75	0.69
45:BO:18:ARG:HB2	45:BO:45:GLU:CG	2.22	0.69
55:BY:80:ASP:OD1	55:BY:95:PHE:HB3	1.92	0.69
7:AG:50:ALA:HB2	7:AG:57:GLU:OE2	1.93	0.69
11:AK:108:ASN:HB3	21:AU:6:ARG:HG2	1.74	0.69
15:AO:63:ARG:HD3	15:AO:87:ARG:HH22	1.57	0.69
15:AO:80:LEU:HD11	15:AO:84:LEU:HD22	1.75	0.69
25:B0:24:ARG:HD3	25:B0:65:LYS:HD3	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:B4:33:SER:OG	29:B4:35:GLU:HG3	1.93	0.69
34:BA:622:G:H2'	34:BA:623:C:H6	1.58	0.69
34:BA:1045:C:H1'	34:BA:1047:G:C2	2.26	0.69
34:BA:1779:U:C5	34:BA:1784:A:N7	2.55	0.69
36:BC:12:ARG:HH11	36:BC:12:ARG:HG3	1.56	0.69
41:BH:144:LYS:HD2	41:BH:148:ALA:HB2	1.74	0.69
46:BP:95:LEU:HB3	46:BP:100:ILE:HD11	1.74	0.69
50:BT:50:ARG:HD3	50:BT:56:SER:CB	2.19	0.69
52:BV:41:ILE:HD11	52:BV:54:VAL:HG21	1.75	0.69
54:BX:22:THR:HA	54:BX:25:GLU:HB3	1.74	0.69
55:BY:27:VAL:HG23	55:BY:33:VAL:HG12	1.75	0.69
9:AI:98:ARG:HG2	9:AI:98:ARG:HH11	1.58	0.69
37:BD:49:GLN:NE2	37:BD:67:HIS:CE1	2.59	0.69
44:BN:45:THR:CG2	44:BN:50:THR:HG21	2.23	0.69
51:BU:100:PHE:HD1	52:BV:13:ARG:HH22	1.40	0.69
52:BV:16:GLU:HA	52:BV:98:ILE:HG22	1.73	0.69
1:AA:429:U:C3'	4:AD:8:LEU:HD23	2.20	0.69
5:AE:14:LEU:HD13	5:AE:14:LEU:O	1.92	0.69
34:BA:528:A:C2	34:BA:2043:C:H4'	2.28	0.69
34:BA:1061:U:O2	34:BA:1061:U:H2'	1.92	0.69
34:BA:1594:U:H2'	34:BA:1595:C:C6	2.28	0.69
39:BF:71:LYS:HD3	39:BF:80:GLN:HG3	1.75	0.69
40:BG:132:LEU:N	40:BG:132:LEU:HD23	2.08	0.69
41:BH:93:ALA:HB1	41:BH:130:PRO:HA	1.74	0.69
41:BH:95:LEU:HD13	41:BH:98:GLU:OE1	1.92	0.69
49:BS:66:GLY:HA3	49:BS:102:ARG:NH1	2.08	0.69
1:AA:1321:U:H5'	13:AM:85:TYR:CE2	2.28	0.68
1:AA:1347:G:HO2'	1:AA:1348:U:P	2.15	0.68
2:AB:212:TYR:O	2:AB:216:VAL:HG23	1.92	0.68
23:AW:59:TRP:CE2	23:AW:69:SER:OG	2.45	0.68
36:BC:130:PRO:HA	36:BC:188:ARG:HA	1.75	0.68
44:BN:56:VAL:O	44:BN:124:VAL:O	2.11	0.68
1:AA:1054:C:H1'	1:AA:1196:A:N7	2.08	0.68
1:AA:1144:G:H5"	1:AA:1145:A:OP2	1.94	0.68
1:AA:1308:U:OP1	13:AM:96:VAL:N	2.23	0.68
2:AB:96:LEU:N	2:AB:99:MET:HE3	2.07	0.68
3:AC:81:GLU:O	3:AC:84:GLU:HB3	1.93	0.68
6:AF:38:ARG:HB3	6:AF:63:ASN:HB2	1.76	0.68
11:AK:51:PHE:N	11:AK:51:PHE:CD2	2.60	0.68
12:AL:23:LEU:HB3	12:AL:58:ASN:ND2	2.08	0.68
36:BC:20:ASN:O	36:BC:23:LEU:HB2	1.93	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BD:114:LYS:NZ	37:BD:116:LYS:HE2	2.07	0.68
37:BD:121:THR:O	37:BD:122:VAL:HB	1.92	0.68
38:BE:31:VAL:HG21	38:BE:104:ALA:HB2	1.73	0.68
46:BP:29:LYS:C	46:BP:31:GLY:H	2.01	0.68
48:BR:38:LEU:HB3	48:BR:39:PRO:HD3	1.74	0.68
51:BU:40:LYS:HA	51:BU:43:GLN:HG3	1.73	0.68
25:B0:72:GLY:N	25:B0:73:PRO:HD2	2.08	0.68
34:BA:458:G:O2'	34:BA:459:U:P	2.51	0.68
35:BB:87:U:OP2	35:BB:88:C:H5	1.77	0.68
46:BP:82:LEU:HD23	46:BP:83:ALA:H	1.58	0.68
4:AD:58:GLN:HA	4:AD:58:GLN:HE21	1.59	0.68
31:B6:1:MET:HE3	31:B6:2:LYS:H	1.57	0.68
33:B8:15:LYS:O	33:B8:16:ILE:HB	1.92	0.68
34:BA:528:A:N1	34:BA:2042:A:H2'	2.09	0.68
34:BA:1509:A:O2'	34:BA:1510:G:C8	2.47	0.68
34:BA:1778:U:H2'	34:BA:1784:A:N6	2.09	0.68
38:BE:147:LEU:HB3	38:BE:186:VAL:HG23	1.76	0.68
54:BX:28:ASN:HA	54:BX:91:GLN:NE2	2.09	0.68
7:AG:94:ARG:NH1	7:AG:98:LEU:HD21	2.07	0.68
35:BB:66:A:H61	35:BB:107:G:H2'	1.57	0.68
36:BC:83:ASP:HB2	36:BC:90:ILE:HD12	1.74	0.68
38:BE:161:ALA:C	38:BE:163:ASN:H	2.01	0.68
44:BN:77:HIS:CD2	44:BN:79:GLY:H	2.11	0.68
1:AA:344:A:H4'	1:AA:345:C:OP2	1.91	0.68
1:AA:963:G:H2'	1:AA:964:A:H8	1.59	0.68
5:AE:89:THR:HG22	5:AE:90:GLY:N	2.07	0.68
8:AH:10:LEU:HB3	8:AH:74:ILE:CG1	2.24	0.68
10:AJ:12:ALA:HB3	10:AJ:18:ILE:HG12	1.76	0.68
18:AR:70:THR:HG23	18:AR:72:ARG:H	1.58	0.68
32:B7:30:HIS:HD2	32:B7:31:ILE:H	1.40	0.68
34:BA:435:C:H2'	34:BA:436:C:H5'	1.76	0.68
34:BA:2516:A:O2'	34:BA:2517:C:H5'	1.92	0.68
34:BA:2714:G:O2'	34:BA:2715:C:H5'	1.93	0.68
36:BC:159:THR:O	36:BC:194:VAL:HG12	1.93	0.68
41:BH:136:ILE:HG23	41:BH:139:LEU:HD12	1.75	0.68
43:BM:19:VAL:O	43:BM:23:ILE:HG12	1.94	0.68
44:BN:130:HIS:CD2	44:BN:132:HIS:H	2.11	0.68
4:AD:167:PRO:HG2	4:AD:170:LEU:HD11	1.76	0.68
8:AH:9:MET:HE1	8:AH:32:LYS:HA	1.75	0.68
9:AI:111:GLU:HG2	9:AI:114:LYS:NZ	2.08	0.68
12:AL:30:ARG:HH12	23:AW:408:LYS:HE2	1.57	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1063:G:H2'	34:BA:1064:C:O4'	1.93	0.68
34:BA:1568:G:H4'	36:BC:58:LYS:CB	2.22	0.68
53:BW:1:MET:HE2	53:BW:1:MET:HA	1.74	0.68
1:AA:1279:G:H5"	10:AJ:9:ARG:NH2	2.09	0.68
10:AJ:6:ILE:HD11	10:AJ:79:PRO:HB3	1.75	0.68
12:AL:21:PRO:C	12:AL:23:LEU:H	2.01	0.68
34:BA:1509:A:O2'	34:BA:1510:G:H8	1.77	0.68
36:BC:110:LYS:HB3	36:BC:110:LYS:NZ	2.09	0.68
38:BE:44:ARG:HH21	38:BE:44:ARG:CG	2.00	0.68
43:BJ:8:ILE:HG21	43:BK:28:GLU:OE1	1.93	0.68
50:BT:83:ILE:HD13	50:BT:83:ILE:O	1.94	0.68
1:AA:1065:U:H5"	1:AA:1190:G:N2	2.08	0.68
1:AA:1088:G:H21	1:AA:1167:A:H62	1.38	0.68
34:BA:468:G:H2'	34:BA:469:G:H5'	1.76	0.68
34:BA:1585:C:H2'	34:BA:1586:A:O4'	1.94	0.68
34:BA:2341:G:H2'	34:BA:2342:C:C6	2.29	0.68
40:BG:76:ILE:HD13	40:BG:76:ILE:C	2.18	0.68
41:BH:88:HIS:HB2	41:BH:89:PRO:CD	2.17	0.68
51:BU:91:ARG:NH1	52:BV:10:LYS:HB3	2.08	0.68
1:AA:1225:A:H2'	1:AA:1225:A:N3	2.08	0.68
4:AD:61:ARG:HG2	4:AD:71:PHE:CD2	2.28	0.68
5:AE:33:THR:HB	5:AE:49:TYR:CE2	2.29	0.68
5:AE:80:LEU:HB3	5:AE:146:MET:HE1	1.76	0.68
5:AE:84:VAL:HG22	5:AE:85:LYS:H	1.57	0.68
25:B0:76:ARG:HH21	25:B0:76:ARG:HG3	1.58	0.68
27:B2:46:VAL:O	27:B2:50:VAL:HG23	1.94	0.68
30:B5:34:GLU:HG2	30:B5:49:LYS:HA	1.75	0.68
41:BH:35:VAL:O	41:BH:39:THR:HG23	1.94	0.68
45:BO:71:ARG:CB	45:BO:72:PRO:CD	2.72	0.68
23:AW:472:ARG:HG3	23:AW:504:ILE:H	1.59	0.67
28:B3:29:ARG:H	28:B3:33:HIS:CD2	2.12	0.67
34:BA:289:G:H2'	34:BA:290:U:C6	2.29	0.67
34:BA:587:C:OP2	46:BP:21:ARG:NH1	2.26	0.67
34:BA:812:C:H4'	51:BU:12:ARG:HH12	1.58	0.67
51:BU:104:ALA:HA	52:BV:46:GLU:OE2	1.93	0.67
1:AA:1151:A:H5"	10:AJ:44:THR:OG1	1.94	0.67
23:AW:18:ILE:HG12	23:AW:110:LEU:HD23	1.74	0.67
34:BA:1911:U:H2'	34:BA:1918:A:N1	2.09	0.67
34:BA:2052:A:H4'	37:BD:148:GLN:O	1.94	0.67
38:BE:45:ALA:C	38:BE:46:GLN:HG2	2.20	0.67
4:AD:160:LEU:H	4:AD:160:LEU:HD13	1.57	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AS:37:SER:O	19:AS:70:LEU:HG	1.95	0.67
19:AS:62:THR:HG22	19:AS:63:ASP:N	2.09	0.67
23:AW:80:HIS:ND1	23:AW:81:ASP:OD1	2.27	0.67
34:BA:826:U:O2'	46:BP:53:GLY:HA3	1.93	0.67
39:BF:133:GLU:HA	39:BF:148:VAL:O	1.94	0.67
53:BW:84:ARG:O	53:BW:95:ARG:O	2.12	0.67
54:BX:70:HIS:CD2	54:BX:73:ARG:HB2	2.30	0.67
1:AA:73:C:N4	1:AA:94:G:H22	1.91	0.67
1:AA:718:A:H62	18:AR:62:ARG:HH12	1.41	0.67
3:AC:153:SER:HB3	3:AC:164:THR:HG22	1.75	0.67
8:AH:49:LYS:O	8:AH:58:LEU:HD22	1.95	0.67
12:AL:81:ILE:HD11	12:AL:94:TYR:CG	2.29	0.67
23:AW:399:ARG:NE	23:AW:445:GLN:OE1	2.20	0.67
29:B4:3:GLN:HA	34:BA:2615:U:C2	2.28	0.67
34:BA:1059:G:C8	34:BA:1060:U:C2'	2.74	0.67
41:BH:162:LYS:HD2	43:BL:19:VAL:HG21	1.75	0.67
48:BR:58:ASP:OD2	48:BR:63:ARG:HD2	1.94	0.67
54:BX:50:LEU:O	54:BX:51:PHE:HB2	1.93	0.67
1:AA:1101:A:H61	2:AB:101:THR:HG21	1.60	0.67
21:AU:45:LYS:HA	21:AU:45:LYS:HE3	1.77	0.67
30:B5:7:LYS:HA	30:B5:23:THR:HG22	1.75	0.67
34:BA:659:G:H21	38:BE:30:GLN:HE22	1.42	0.67
34:BA:1481:U:H2'	34:BA:1482:G:H4'	1.76	0.67
34:BA:1818:U:O2'	34:BA:1819:A:OP2	2.12	0.67
36:BC:158:GLY:N	36:BC:194:VAL:HG13	2.09	0.67
48:BR:71:ARG:HH21	48:BR:71:ARG:CG	2.08	0.67
2:AB:18:GLN:HG2	2:AB:189:ASN:ND2	2.10	0.67
15:AO:78:THR:HA	15:AO:81:ILE:HD11	1.75	0.67
23:AW:130:THR:HG21	23:AW:137:ILE:HD11	1.77	0.67
23:AW:307:MET:HG3	23:AW:308:ASP:HA	1.77	0.67
23:AW:474:VAL:HG22	23:AW:501:LEU:HD12	1.75	0.67
25:B0:23:LYS:HD3	34:BA:855:G:H1'	1.74	0.67
34:BA:2287:A:C8	34:BA:2289:G:C8	2.82	0.67
36:BC:100:ARG:HH11	36:BC:100:ARG:HG2	1.58	0.67
41:BH:97:LYS:HD2	41:BH:130:PRO:HB3	1.75	0.67
51:BU:48:ASP:HA	51:BU:51:GLN:HB2	1.76	0.67
53:BW:59:GLU:HA	53:BW:64:ALA:HB2	1.76	0.67
4:AD:50:TYR:OH	4:AD:54:LEU:HD12	1.94	0.67
18:AR:42:ARG:HG3	18:AR:43:ILE:HG12	1.76	0.67
34:BA:1334:G:C2'	34:BA:1335:C:H5'	2.25	0.67
34:BA:2341:G:H2'	34:BA:2342:C:H6	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BI:20:SER:HB3	42:BI:21:PRO:HD3	1.75	0.67
54:BX:12:ARG:HG3	54:BX:12:ARG:NH1	2.06	0.67
1:AA:115:G:H4'	1:AA:116:A:O5'	1.95	0.67
2:AB:156:LEU:HD23	2:AB:156:LEU:H	1.59	0.67
8:AH:79:ARG:HB2	8:AH:80:PRO:HD2	1.77	0.67
10:AJ:50:THR:HG22	10:AJ:64:GLN:HG2	1.76	0.67
25:B0:59:PHE:CE2	34:BA:2365:G:H4'	2.29	0.67
32:B7:7:ARG:HG3	32:B7:7:ARG:NH1	2.08	0.67
34:BA:1936:A:H2	34:BA:1943:U:C5	2.11	0.67
36:BC:170:TYR:HE2	36:BC:184:GLU:HG2	1.59	0.67
40:BG:95:ALA:CB	40:BG:130:ILE:HD11	2.25	0.67
51:BU:91:ARG:HD3	52:BV:11:GLN:HB2	1.77	0.67
52:BV:39:LEU:HA	52:BV:49:ILE:HG21	1.76	0.67
1:AA:299:G:H2'	1:AA:300:A:C8	2.30	0.67
1:AA:377:G:H5'	16:AP:5:ARG:NH1	2.09	0.67
3:AC:21:TRP:HB3	3:AC:58:ARG:H	1.60	0.67
11:AK:22:ILE:HD11	11:AK:85:VAL:HA	1.77	0.67
11:AK:84:MET:HE3	11:AK:112:VAL:HG11	1.77	0.67
20:AT:53:MET:HA	20:AT:56:ILE:HG22	1.76	0.67
26:B1:39:VAL:C	26:B1:41:SER:H	2.00	0.67
34:BA:324:A:N6	34:BA:338:G:O2'	2.28	0.67
34:BA:372:G:H2'	34:BA:400:G:O6	1.94	0.67
34:BA:2033:A:O2'	34:BA:2035:G:OP2	2.09	0.67
34:BA:2147:A:H3'	34:BA:2148:G:H5'	1.76	0.67
34:BA:2720:U:OP1	50:BT:52:ARG:NH2	2.28	0.67
39:BF:128:SER:HA	39:BF:153:ILE:O	1.94	0.67
41:BH:143:MET:C	41:BH:145:GLU:H	2.01	0.67
47:BQ:62:LYS:O	47:BQ:105:MET:HA	1.95	0.67
1:AA:64:G:H4'	1:AA:65:A:O5'	1.95	0.67
34:BA:1510:G:O2'	34:BA:1511:G:H5'	1.94	0.67
34:BA:1923:U:H2'	34:BA:1924:C:C6	2.29	0.67
34:BA:2489:U:C4	34:BA:2490:G:C6	2.83	0.67
34:BA:2516:A:C2'	34:BA:2517:C:H5'	2.25	0.67
34:BA:2867:G:O2'	34:BA:2868:A:OP2	2.12	0.67
39:BF:110:ILE:HD13	39:BF:136:ILE:HG21	1.76	0.67
46:BP:47:ARG:HG3	46:BP:50:PHE:HB2	1.75	0.67
5:AE:156:ARG:O	5:AE:158:LYS:N	2.28	0.66
10:AJ:41:PRO:HA	10:AJ:72:ARG:NH1	2.10	0.66
25:B0:31:LEU:HD22	34:BA:2354:C:H4'	1.77	0.66
30:B5:49:LYS:O	30:B5:50:GLU:HB3	1.93	0.66
31:B6:34:ARG:HG2	31:B6:34:ARG:HH11	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:503:A:O2'	34:BA:504:A:OP2	2.11	0.66
34:BA:876:C:H42	34:BA:900:A:N6	1.93	0.66
36:BC:13:ARG:HG2	36:BC:14:HIS:CD2	2.29	0.66
42:BI:100:ILE:HG22	42:BI:101:SER:H	1.60	0.66
44:BN:6:ALA:CB	44:BN:45:THR:HG21	2.24	0.66
50:BT:96:LEU:HB3	50:BT:99:LEU:HD23	1.76	0.66
54:BX:32:LEU:H	54:BX:83:ALA:HB3	1.60	0.66
56:BZ:44:HIS:HE1	56:BZ:86:LEU:N	1.88	0.66
1:AA:1126:U:H1'	1:AA:1281:C:C1'	2.23	0.66
8:AH:84:ILE:HG22	8:AH:124:ILE:HD11	1.76	0.66
10:AJ:67:ILE:HG12	14:AN:94:GLY:O	1.96	0.66
13:AM:106:ARG:NH2	13:AM:112:ARG:HB3	2.05	0.66
17:AQ:12:VAL:CG1	17:AQ:21:VAL:HG13	2.24	0.66
23:AW:472:ARG:HD2	23:AW:503:TYR:HB3	1.76	0.66
28:B3:3:THR:HA	28:B3:37:ARG:O	1.96	0.66
34:BA:1205:A:H2'	38:BE:165:HIS:CE1	2.27	0.66
34:BA:1420:A:H5'	34:BA:1421:G:OP2	1.94	0.66
46:BP:109:LYS:HA	46:BP:126:ARG:O	1.95	0.66
47:BQ:1:MET:O	47:BQ:2:LEU:HB2	1.94	0.66
10:AJ:41:PRO:O	10:AJ:42:LEU:HB2	1.95	0.66
11:AK:30:ILE:HB	11:AK:45:THR:HG22	1.78	0.66
23:AW:108:CYS:SG	23:AW:109:CYS:N	2.68	0.66
23:AW:403:LEU:HD12	23:AW:407:LEU:HD23	1.76	0.66
32:B7:12:ARG:NH1	34:BA:250:G:OP2	2.27	0.66
34:BA:1110:G:O2'	34:BA:1111:A:C8	2.46	0.66
34:BA:1973:G:O2'	34:BA:1974:C:H5'	1.95	0.66
34:BA:2259:U:C5	34:BA:2427:C:N4	2.64	0.66
34:BA:2302:U:H2'	34:BA:2303:G:H8	1.60	0.66
37:BD:47:ALA:HB2	37:BD:83:ARG:HA	1.78	0.66
41:BH:26:VAL:HG13	41:BH:82:ILE:HD12	1.76	0.66
41:BH:151:LEU:HA	41:BH:155:LEU:HB2	1.78	0.66
43:BM:13:ALA:HB1	43:BM:21:GLU:OE2	1.95	0.66
53:BW:59:GLU:HA	53:BW:64:ALA:CB	2.24	0.66
54:BX:87:LEU:HB2	54:BX:91:GLN:HE21	1.60	0.66
1:AA:1289:A:H61	9:AI:71:ILE:HD11	1.60	0.66
11:AK:75:GLU:C	11:AK:77:GLY:H	2.04	0.66
12:AL:78:VAL:HG21	23:AW:407:LEU:HB2	1.76	0.66
23:AW:210:LEU:O	23:AW:228:ARG:NH1	2.28	0.66
25:B0:38:ARG:CZ	34:BA:2387:U:H1'	2.24	0.66
34:BA:1568:G:C4'	36:BC:58:LYS:HB3	2.25	0.66
34:BA:2197:U:O2'	34:BA:2198:A:C2'	2.39	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BG:82:PHE:HB3	40:BG:140:ILE:HD13	1.76	0.66
42:BI:7:TYR:HB3	42:BI:58:ILE:H	1.60	0.66
44:BN:2:LYS:HD3	44:BN:2:LYS:H	1.60	0.66
44:BN:24:THR:OG1	44:BN:27:ARG:HB2	1.95	0.66
44:BN:45:THR:HG21	44:BN:50:THR:HG21	1.77	0.66
50:BT:22:GLY:O	50:BT:109:ILE:HD11	1.96	0.66
50:BT:57:ALA:HA	50:BT:75:THR:HG22	1.78	0.66
1:AA:981:U:H2'	1:AA:982:U:H5	1.61	0.66
1:AA:1237:C:H3'	1:AA:1238:A:H5'	1.78	0.66
25:B0:59:PHE:CZ	34:BA:2365:G:H4'	2.30	0.66
34:BA:2584:U:H2'	34:BA:2585:U:H5'	1.78	0.66
40:BG:94:ARG:HH12	40:BG:96:ALA:HB2	1.59	0.66
41:BH:57:ASN:C	41:BH:59:LEU:N	2.52	0.66
45:BO:71:ARG:CB	45:BO:72:PRO:HD3	2.25	0.66
47:BQ:55:ARG:HG3	47:BQ:55:ARG:O	1.94	0.66
1:AA:433:G:O2'	1:AA:434:U:H5'	1.96	0.66
1:AA:1070:U:H2'	1:AA:1071:C:H6	1.59	0.66
2:AB:164:ASP:O	2:AB:168:GLU:HG2	1.96	0.66
5:AE:152:VAL:HB	5:AE:156:ARG:HG3	1.78	0.66
8:AH:110:MET:HE1	8:AH:118:ALA:HB2	1.76	0.66
11:AK:86:LYS:HB2	11:AK:112:VAL:HG23	1.76	0.66
34:BA:1288:G:C4	34:BA:1327:A:C2	2.83	0.66
34:BA:1474:U:C2'	34:BA:1475:G:H5'	2.25	0.66
34:BA:2040:G:H2'	34:BA:2041:U:C6	2.31	0.66
34:BA:2149:U:O3'	34:BA:2150:C:C4'	2.30	0.66
36:BC:180:MET:HB2	36:BC:268:ARG:H	1.60	0.66
37:BD:107:VAL:H	37:BD:206:ALA:H	1.43	0.66
38:BE:143:LEU:HD13	38:BE:146:VAL:HG11	1.78	0.66
55:BY:94:PHE:HA	55:BY:101:THR:HA	1.78	0.66
6:AF:3:HIS:H	6:AF:92:THR:HG23	1.61	0.66
9:AI:9:GLY:HA2	9:AI:80:HIS:CD2	2.31	0.66
34:BA:386:G:H4'	34:BA:387:U:OP2	1.96	0.66
34:BA:1199:U:H1'	51:BU:3:VAL:HG22	1.76	0.66
34:BA:1847:A:H2'	34:BA:1848:A:C8	2.31	0.66
34:BA:2243:U:H2'	34:BA:2244:U:C6	2.31	0.66
34:BA:2307:G:H1'	34:BA:2308:G:C5	2.30	0.66
36:BC:29:PHE:CE2	36:BC:31:PRO:HG2	2.31	0.66
48:BR:24:MET:HG2	48:BR:44:LEU:HD22	1.78	0.66
54:BX:8:LEU:HD12	54:BX:46:ALA:HA	1.76	0.66
1:AA:973:G:H3'	1:AA:974:A:H5"	1.78	0.66
1:AA:1096:C:H2'	1:AA:1097:C:C6	2.31	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1491:G:C5'	1:AA:1492:A:OP2	2.44	0.66
1:AA:1494:G:C5	24:AY:1:KBE:HG	2.31	0.66
2:AB:49:PHE:CD1	2:AB:49:PHE:C	2.74	0.66
7:AG:94:ARG:CZ	7:AG:98:LEU:HD21	2.26	0.66
20:AT:27:MET:CE	20:AT:57:VAL:HG22	2.24	0.66
23:AW:522:GLN:CB	23:AW:523:PHE:HB2	2.26	0.66
25:B0:39:GLN:C	25:B0:41:GLY:N	2.49	0.66
40:BG:22:VAL:HG22	40:BG:36:LEU:HD11	1.77	0.66
50:BT:105:LYS:HA	50:BT:108:ARG:HH21	1.59	0.66
1:AA:937:A:H1'	1:AA:1379:G:N2	2.10	0.66
4:AD:197:HIS:O	4:AD:201:GLU:HB2	1.96	0.66
34:BA:2747:G:O2'	40:BG:66:THR:HG22	1.96	0.66
34:BA:2804:U:H2'	34:BA:2805:C:C6	2.30	0.66
37:BD:136:ASN:HD21	37:BD:139:SER:HB2	1.61	0.66
41:BH:149:GLY:HA3	43:BK:30:PHE:CE1	2.31	0.66
44:BN:99:ARG:O	44:BN:103:ILE:HG23	1.96	0.66
1:AA:64:G:H5"	1:AA:65:A:OP1	1.94	0.66
1:AA:1033:G:H2'	1:AA:1034:G:C5'	2.26	0.66
1:AA:1468:A:C2'	1:AA:1469:C:H5"	2.26	0.66
2:AB:218:ALA:HA	2:AB:221:ARG:HH21	1.61	0.66
4:AD:63:ILE:HG23	4:AD:64:TYR:HD1	1.61	0.66
6:AF:50:PRO:HD3	18:AR:73:HIS:HB3	1.77	0.66
23:AW:64:LYS:HE2	23:AW:71:THR:H	1.60	0.66
25:B0:28:GLU:HB3	25:B0:31:LEU:CD2	2.14	0.66
34:BA:282:A:H2'	34:BA:283:G:C8	2.30	0.66
34:BA:1212:G:HO2'	34:BA:1213:A:P	2.18	0.66
34:BA:2726:A:O2'	34:BA:2727:A:O5'	2.13	0.66
36:BC:259:ASN:O	36:BC:260:LYS:HB2	1.95	0.66
44:BN:21:THR:C	44:BN:23:LYS:H	2.03	0.66
45:BO:111:LYS:H	45:BO:111:LYS:CE	2.03	0.66
1:AA:438:U:C4	1:AA:494:G:C5	2.84	0.65
1:AA:595:A:C5	1:AA:641:U:C4	2.83	0.65
4:AD:75:TYR:CG	4:AD:203:TYR:HD1	2.14	0.65
16:AP:6:LEU:HG	16:AP:17:TYR:HB3	1.78	0.65
34:BA:962:G:H21	34:BA:2250:G:H1	1.44	0.65
34:BA:2305:U:H5"	39:BF:130:GLY:HA3	1.77	0.65
35:BB:51:G:OP2	49:BS:64:TYR:CD2	2.49	0.65
37:BD:29:VAL:HB	37:BD:98:VAL:HG22	1.78	0.65
49:BS:88:LYS:O	49:BS:89:ASP:HB2	1.96	0.65
13:AM:14:ALA:O	13:AM:18:LEU:HD23	1.96	0.65
25:B0:35:ILE:O	25:B0:37:VAL:N	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:B1:9:LYS:HE3	26:B1:53:LYS:HD2	1.78	0.65
39:BF:4:HIS:CE1	39:BF:8:LYS:HD3	2.31	0.65
41:BH:29:ASP:HA	41:BH:108:VAL:CG1	2.26	0.65
45:BO:16:ALA:HB2	45:BO:86:LEU:HD11	1.78	0.65
51:BU:91:ARG:HB2	51:BU:94:LEU:HB2	1.78	0.65
16:AP:4:ILE:O	16:AP:71:VAL:HG21	1.96	0.65
27:B2:41:HIS:ND1	34:BA:96:C:H4'	2.11	0.65
1:AA:640:A:H2'	1:AA:641:U:O4'	1.96	0.65
1:AA:813:U:H2'	1:AA:814:A:H5"	1.79	0.65
4:AD:99:ASN:O	4:AD:103:ARG:HB2	1.96	0.65
5:AE:81:GLN:CD	5:AE:149:PRO:HG3	2.22	0.65
23:AW:403:LEU:HG	23:AW:412:LEU:HG	1.77	0.65
28:B3:15:ARG:HD2	28:B3:15:ARG:N	2.11	0.65
32:B7:53:ASP:HB3	46:BP:57:LEU:HD22	1.77	0.65
34:BA:994:C:O2	52:BV:10:LYS:HE2	1.96	0.65
1:AA:597:G:H2'	1:AA:598:U:H5'	1.78	0.65
1:AA:686:U:H1'	11:AK:43:TRP:NE1	2.11	0.65
1:AA:1171:A:H2'	1:AA:1172:C:C6	2.31	0.65
8:AH:87:ARG:O	8:AH:121:GLY:HA3	1.96	0.65
9:AI:5:TYR:HB2	9:AI:20:ILE:HB	1.79	0.65
25:B0:19:ARG:HA	25:B0:34:SER:HA	1.78	0.65
34:BA:467:G:O2'	34:BA:468:G:H5'	1.96	0.65
36:BC:24:HIS:CD2	36:BC:79:ARG:HH21	2.14	0.65
37:BD:5:VAL:HG21	37:BD:80:TRP:CD2	2.32	0.65
44:BN:17:VAL:HG22	44:BN:55:ILE:HG23	1.77	0.65
53:BW:2:GLU:HA	53:BW:108:SER:HB3	1.79	0.65
56:BZ:38:LEU:HD23	56:BZ:40:ILE:HD11	1.78	0.65
1:AA:160:A:H2'	1:AA:161:A:O4'	1.97	0.65
1:AA:182:A:HO2'	1:AA:183:C:H6	1.42	0.65
1:AA:1084:G:C5	1:AA:1085:U:C4	2.85	0.65
1:AA:1160:G:C6	1:AA:1181:G:O6	2.49	0.65
1:AA:1491:G:H5"	1:AA:1492:A:OP2	1.96	0.65
2:AB:67:LEU:HD21	2:AB:91:VAL:HG23	1.77	0.65
23:AW:401:ILE:HD11	23:AW:438:VAL:HG21	1.78	0.65
34:BA:108:G:C2'	34:BA:109:C:H5'	2.26	0.65
34:BA:372:G:O2'	34:BA:373:U:OP2	2.15	0.65
36:BC:43:ASN:HB3	36:BC:45:ASN:N	2.11	0.65
45:BO:42:THR:HG23	45:BO:44:LYS:HE2	1.78	0.65
50:BT:33:GLU:HB2	50:BT:38:ARG:HH11	1.59	0.65
1:AA:511:C:O2'	1:AA:512:U:O5'	2.15	0.65
9:AI:21:LYS:HZ2	9:AI:23:GLY:HA3	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AT:2:ASN:O	20:AT:3:ILE:C	2.39	0.65
34:BA:1084:A:N6	41:BH:37:LYS:HZ1	1.94	0.65
34:BA:2566:A:N1	45:BO:28:SER:HB3	2.11	0.65
39:BF:127:TYR:CE2	39:BF:129:MET:HB3	2.30	0.65
40:BG:84:LYS:CG	40:BG:132:LEU:H	2.09	0.65
42:BI:34:ILE:H	42:BI:34:ILE:HD12	1.62	0.65
44:BN:3:THR:HG21	51:BU:60:TRP:HE1	1.61	0.65
45:BO:87:LEU:HD13	45:BO:92:GLU:HB3	1.78	0.65
52:BV:48:LYS:HD2	52:BV:48:LYS:C	2.21	0.65
4:AD:131:ILE:HD13	4:AD:131:ILE:H	1.62	0.65
6:AF:81:ASN:HB3	6:AF:84:VAL:HG12	1.79	0.65
34:BA:205:G:C2'	34:BA:206:U:OP2	2.44	0.65
34:BA:444:C:H4'	38:BE:44:ARG:HD3	1.79	0.65
34:BA:884:U:O5'	34:BA:884:U:H6	1.80	0.65
34:BA:1484:U:H2'	34:BA:1485:U:C6	2.32	0.65
34:BA:2060:A:H1'	34:BA:2502:G:C1'	2.25	0.65
34:BA:2149:U:C3'	34:BA:2150:C:C4'	2.75	0.65
34:BA:2314:A:H2'	34:BA:2315:G:H8	1.62	0.65
34:BA:2344:U:H4'	34:BA:2345:G:OP1	1.96	0.65
41:BH:25:ALA:CB	41:BH:85:SER:OG	2.38	0.65
43:BL:15:SER:HA	43:BL:18:ASP:CB	2.26	0.65
46:BP:76:GLU:HB2	46:BP:111:ILE:HD12	1.78	0.65
1:AA:150:U:H2'	1:AA:151:A:H8	1.60	0.65
3:AC:41:TYR:CZ	3:AC:89:VAL:HG21	2.32	0.65
10:AJ:53:ILE:HG22	10:AJ:61:ALA:HB1	1.78	0.65
14:AN:66:THR:OG1	14:AN:67:GLY:N	2.22	0.65
26:B1:5:GLN:HG3	26:B1:49:ARG:O	1.97	0.65
34:BA:2286:G:H4'	34:BA:2287:A:O4'	1.96	0.65
49:BS:16:ARG:HH21	49:BS:19:GLN:HE22	1.44	0.65
10:AJ:74:VAL:HG12	10:AJ:75:ASP:N	2.12	0.65
21:AU:39:LYS:N	21:AU:40:PRO:CD	2.60	0.65
23:AW:19:ILE:HB	23:AW:126:LEU:HD13	1.79	0.65
23:AW:445:GLN:O	23:AW:463:TYR:OH	2.11	0.65
34:BA:2591:C:H2'	34:BA:2592:G:C8	2.32	0.65
34:BA:2748:A:H1'	40:BG:66:THR:CG2	2.26	0.65
35:BB:24:G:H4'	35:BB:25:U:H5	1.61	0.65
37:BD:12:THR:CG2	37:BD:13:ARG:N	2.59	0.65
40:BG:117:PRO:HG2	40:BG:120:ILE:CG2	2.27	0.65
41:BH:101:LYS:O	41:BH:105:LYS:HG3	1.95	0.65
42:BI:126:ARG:HA	42:BI:129:GLU:CG	2.27	0.65
49:BS:35:ILE:HG22	49:BS:53:THR:HG23	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BV:10:LYS:HD2	52:BV:10:LYS:N	2.11	0.65
52:BV:60:LYS:H	52:BV:100:GLY:HA3	1.62	0.65
52:BV:61:ALA:CB	52:BV:98:ILE:HA	2.25	0.65
1:AA:1432:G:H1'	1:AA:1468:A:N6	2.12	0.64
1:AA:1444:U:H1'	1:AA:1459:G:N2	2.12	0.64
6:AF:92:THR:O	6:AF:93:LYS:HG2	1.96	0.64
25:B0:18:LYS:HG2	34:BA:2269:G:O2'	1.96	0.64
25:B0:39:GLN:H	25:B0:56:HIS:CD2	2.15	0.64
25:B0:51:GLY:HA3	25:B0:59:PHE:CE2	2.31	0.64
34:BA:2804:U:H2'	34:BA:2805:C:H6	1.61	0.64
41:BH:97:LYS:HD2	41:BH:130:PRO:HB2	1.77	0.64
42:BI:116:MET:HE2	42:BI:116:MET:HA	1.78	0.64
44:BN:21:THR:HG22	44:BN:22:GLY:H	1.61	0.64
45:BO:21:CYS:HA	45:BO:41:ILE:CD1	2.27	0.64
1:AA:374:A:H5"	1:AA:452:A:H2	1.61	0.64
1:AA:789:U:O3'	22:AV:15:A:N6	2.30	0.64
4:AD:105:GLY:HA3	4:AD:161:ALA:HB1	1.79	0.64
4:AD:157:ALA:O	4:AD:160:LEU:HD22	1.97	0.64
10:AJ:12:ALA:HB2	10:AJ:96:VAL:HG13	1.79	0.64
21:AU:39:LYS:N	21:AU:40:PRO:HD2	2.13	0.64
25:B0:37:VAL:O	25:B0:38:ARG:HG2	1.97	0.64
32:B7:21:PHE:O	32:B7:22:LYS:HG2	1.97	0.64
34:BA:845:A:H3'	34:BA:845:A:N3	2.13	0.64
34:BA:1474:U:H2'	34:BA:1475:G:H5'	1.79	0.64
34:BA:2321:U:H5'	34:BA:2322:A:OP2	1.97	0.64
38:BE:47:LYS:HB3	38:BE:51:GLU:HG3	1.78	0.64
38:BE:105:LEU:HB2	38:BE:200:LEU:HD11	1.78	0.64
41:BH:74:ASP:HA	41:BH:77:VAL:HB	1.79	0.64
42:BI:7:TYR:HA	42:BI:58:ILE:HB	1.80	0.64
44:BN:58:ASN:HB3	44:BN:61:LYS:HE2	1.78	0.64
45:BO:61:VAL:HG22	45:BO:87:LEU:HD11	1.78	0.64
1:AA:652:U:O4	1:AA:752:G:H2'	1.97	0.64
1:AA:812:G:O2'	1:AA:813:U:P	2.55	0.64
1:AA:1478:U:H2'	1:AA:1479:C:C6	2.32	0.64
2:AB:32:GLY:HA3	2:AB:39:ILE:N	2.09	0.64
2:AB:113:LEU:HD13	2:AB:143:LEU:HD12	1.78	0.64
10:AJ:100:ILE:HD12	10:AJ:101:SER:H	1.62	0.64
23:AW:158:VAL:HG13	23:AW:162:LEU:HD12	1.79	0.64
25:B0:44:PHE:O	25:B0:78:PHE:HA	1.97	0.64
34:BA:780:G:N2	34:BA:783:A:H62	1.95	0.64
34:BA:2314:A:H2'	34:BA:2315:G:C8	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:2892:G:H5”	34:BA:2894:G:N2	2.13	0.64
37:BD:106:LYS:HB3	37:BD:206:ALA:CB	2.26	0.64
52:BV:96:VAL:HG23	52:BV:98:ILE:HD12	1.79	0.64
1:AA:1508:A:H2’	1:AA:1509:C:O4’	1.97	0.64
6:AF:36:ILE:HG22	6:AF:64:VAL:HG22	1.79	0.64
16:AP:51:ARG:C	16:AP:52:LEU:HD12	2.23	0.64
34:BA:228:C:H4’	34:BA:229:C:H5”	1.79	0.64
34:BA:833:A:H2’	34:BA:834:G:H8	1.63	0.64
34:BA:900:A:H2	34:BA:901:C:C5	2.12	0.64
34:BA:1055:G:O3’	41:BH:34:THR:HG23	1.96	0.64
34:BA:1316:U:H2’	34:BA:1317:G:H8	1.63	0.64
34:BA:2093:G:H1’	34:BA:2198:A:H2	1.62	0.64
50:BT:4:ILE:HG22	50:BT:5:LYS:N	2.12	0.64
14:AN:81:ILE:O	14:AN:85:GLU:HG2	1.97	0.64
34:BA:796:C:H2’	34:BA:797:G:C8	2.32	0.64
39:BF:40:GLY:CA	39:BF:84:ILE:HD11	2.27	0.64
48:BR:73:ASN:ND2	48:BR:76:VAL:HG11	2.10	0.64
1:AA:598:U:H2’	1:AA:599:C:C6	2.32	0.64
1:AA:1328:C:H5”	13:AM:27:THR:CG2	2.23	0.64
1:AA:1469:C:H5’	1:AA:1469:C:H6	1.62	0.64
17:AQ:11:VAL:O	17:AQ:12:VAL:HB	1.96	0.64
23:AW:149:ARG:NH1	23:AW:157:GLU:OE1	2.31	0.64
29:B4:35:GLU:OE1	29:B4:45:ASP:HB2	1.98	0.64
34:BA:1853:A:N1	34:BA:2087:G:H1’	2.13	0.64
34:BA:2800:A:H3’	34:BA:2801:G:C5’	2.28	0.64
35:BB:94:A:O2’	35:BB:95:U:H5’	1.97	0.64
38:BE:146:VAL:HA	38:BE:185:LYS:O	1.98	0.64
41:BH:158:VAL:HG11	43:BL:23:ILE:HG13	1.78	0.64
46:BP:77:ILE:O	46:BP:110:VAL:O	2.16	0.64
52:BV:39:LEU:O	52:BV:40:MET:HB2	1.97	0.64
1:AA:181:A:O2’	1:AA:182:A:C8	2.51	0.64
1:AA:477:C:H2’	1:AA:478:A:C8	2.33	0.64
1:AA:1084:G:C6	1:AA:1085:U:O4	2.51	0.64
1:AA:1347:G:C2’	1:AA:1348:U:OP2	2.46	0.64
4:AD:56:GLU:O	4:AD:59:LYS:HB3	1.97	0.64
5:AE:80:LEU:HD12	5:AE:146:MET:SD	2.37	0.64
10:AJ:65:TYR:HB3	14:AN:95:LEU:HD11	1.78	0.64
27:B2:31:GLN:HG2	27:B2:37:LEU:HB2	1.79	0.64
34:BA:1313:U:H2’	34:BA:1610:A:C2	2.32	0.64
37:BD:172:VAL:O	37:BD:173:GLN:HB2	1.98	0.64
43:BJ:15:SER:HB3	43:BM:11:VAL:HG12	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BQ:62:LYS:C	47:BQ:63:ILE:HD12	2.22	0.64
51:BU:94:LEU:C	51:BU:96:ASP:H	2.05	0.64
56:BZ:26:PHE:CZ	56:BZ:42:LEU:HD12	2.32	0.64
1:AA:73:C:N4	1:AA:97:G:H1	1.88	0.64
1:AA:158:G:C3'	1:AA:159:G:H5"	2.28	0.64
1:AA:376:G:C2	1:AA:389:A:C2	2.85	0.64
1:AA:976:G:C2	1:AA:1363:A:C2	2.85	0.64
2:AB:19:THR:HA	2:AB:37:VAL:HG23	1.80	0.64
9:AI:57:VAL:HG12	9:AI:58:GLU:HG2	1.80	0.64
9:AI:112:ARG:HH22	10:AJ:64:GLN:NE2	1.92	0.64
25:B0:24:ARG:HD3	25:B0:65:LYS:CD	2.27	0.64
30:B5:5:ARG:CZ	30:B5:24:LYS:HA	2.27	0.64
33:B8:19:ARG:NH1	34:BA:2755:C:C4	2.66	0.64
34:BA:659:G:H21	38:BE:30:GLN:NE2	1.96	0.64
34:BA:1858:A:H8	34:BA:1858:A:OP2	1.81	0.64
34:BA:2840:C:H2'	34:BA:2841:C:H6	1.63	0.64
37:BD:184:ARG:HH11	50:BT:6:GLN:NE2	1.95	0.64
38:BE:35:TYR:CE2	38:BE:176:ASP:HB2	2.33	0.64
38:BE:119:ILE:HD11	38:BE:187:VAL:HG22	1.80	0.64
51:BU:63:ARG:CZ	51:BU:96:ASP:HA	2.25	0.64
51:BU:63:ARG:HD2	51:BU:64:ILE:N	2.13	0.64
1:AA:33:A:H2'	1:AA:34:C:C6	2.32	0.64
1:AA:203:G:H4'	1:AA:466:A:H2	1.63	0.64
1:AA:878:A:OP1	8:AH:79:ARG:HD2	1.98	0.64
1:AA:1054:C:H1'	1:AA:1196:A:C5	2.32	0.64
1:AA:1173:U:H2'	1:AA:1174:G:C8	2.33	0.64
1:AA:1301:U:O2'	1:AA:1302:C:H5	1.81	0.64
16:AP:10:GLY:HA3	16:AP:15:PRO:HA	1.80	0.64
17:AQ:55:GLY:HA3	17:AQ:82:VAL:HG11	1.79	0.64
25:B0:37:VAL:CG1	25:B0:38:ARG:H	2.06	0.64
25:B0:73:PRO:CG	25:B0:76:ARG:HD2	2.28	0.64
30:B5:9:LYS:HB2	30:B5:19:PHE:HD2	1.62	0.64
34:BA:1084:A:H5'	41:BH:55:VAL:HG22	1.79	0.64
34:BA:1521:G:C6	34:BA:1522:A:N6	2.66	0.64
41:BH:58:THR:HG22	41:BH:82:ILE:O	1.97	0.64
50:BT:50:ARG:HD2	50:BT:51:ASN:N	2.12	0.64
1:AA:277:C:OP1	17:AQ:44:HIS:CE1	2.51	0.64
1:AA:409:U:H2'	1:AA:410:G:C8	2.33	0.64
1:AA:1281:C:H5"	1:AA:1282:C:C5	2.29	0.64
9:AI:90:ASP:OD2	9:AI:93:LEU:HG	1.98	0.64
13:AM:32:ILE:HG23	13:AM:58:GLU:HG2	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:B0:49:ASN:HD22	25:B0:60:ALA:HA	1.63	0.64
32:B7:44:ARG:N	32:B7:45:PRO:HD2	2.13	0.64
34:BA:833:A:H2'	34:BA:834:G:C8	2.33	0.64
34:BA:2149:U:H3'	34:BA:2150:C:C4'	2.28	0.64
36:BC:219:VAL:HG12	36:BC:224:MET:HE3	1.79	0.64
40:BG:22:VAL:HG22	40:BG:36:LEU:CD1	2.28	0.64
55:BY:39:ASN:HB3	55:BY:62:ALA:O	1.97	0.64
1:AA:49:U:O4	1:AA:365:U:C5	2.49	0.63
1:AA:71:A:H61	1:AA:99:C:H1'	1.63	0.63
1:AA:1251:A:H2'	1:AA:1252:A:H8	1.61	0.63
1:AA:1297:G:H5'	1:AA:1302:C:H42	1.63	0.63
14:AN:30:ILE:HG23	14:AN:44:VAL:HG12	1.80	0.63
23:AW:56:LYS:HB2	23:AW:57:SER:HA	1.80	0.63
29:B4:39:ARG:HG2	29:B4:40:HIS:CE1	2.32	0.63
34:BA:875:G:H2'	34:BA:876:C:H5'	1.79	0.63
34:BA:1715:G:O2'	34:BA:1716:U:H6	1.81	0.63
34:BA:2104:C:H2'	34:BA:2105:U:O4'	1.98	0.63
34:BA:2714:G:H2'	34:BA:2715:C:H5'	1.79	0.63
36:BC:109:LEU:O	36:BC:110:LYS:HB2	1.96	0.63
42:BI:24:GLY:O	42:BI:27:LEU:HG	1.99	0.63
56:BZ:75:GLN:HB2	56:BZ:92:VAL:CG2	2.28	0.63
2:AB:71:THR:HG22	2:AB:72:LYS:H	1.63	0.63
5:AE:152:VAL:HG11	8:AH:98:LEU:HD22	1.81	0.63
12:AL:23:LEU:HG	12:AL:24:GLU:N	2.13	0.63
14:AN:46:LYS:HD2	19:AS:12:LEU:HD21	1.80	0.63
34:BA:1131:G:H4'	34:BA:1132:U:OP1	1.98	0.63
45:BO:76:VAL:HB	50:BT:72:VAL:CG2	2.28	0.63
51:BU:87:VAL:HB	52:BV:52:PRO:HD3	1.80	0.63
1:AA:55:A:N1	23:AW:311:HIS:CE1	2.66	0.63
1:AA:1242:G:C6	1:AA:1243:C:C4	2.86	0.63
9:AI:41:GLU:C	9:AI:43:ALA:H	2.06	0.63
34:BA:587:C:O2'	46:BP:19:LEU:HD22	1.97	0.63
34:BA:1913:A:O2'	34:BA:1914:C:OP2	2.15	0.63
34:BA:1962:C:O2'	34:BA:1964:G:OP2	2.17	0.63
40:BG:117:PRO:HG2	40:BG:120:ILE:HG21	1.79	0.63
41:BH:136:ILE:HD12	41:BH:136:ILE:H	1.64	0.63
50:BT:91:VAL:O	50:BT:92:ARG:C	2.41	0.63
54:BX:44:LYS:HG3	54:BX:55:VAL:HG11	1.80	0.63
54:BX:48:GLN:HE21	54:BX:48:GLN:CA	2.02	0.63
1:AA:309:A:H2'	1:AA:310:G:H8	1.63	0.63
1:AA:1055:A:H1'	3:AC:155:ARG:NH2	2.13	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1343:G:H2'	1:AA:1344:C:C6	2.33	0.63
7:AG:145:GLU:HA	7:AG:148:LYS:HE2	1.80	0.63
8:AH:82:LEU:HD12	12:AL:3:VAL:HG11	1.79	0.63
9:AI:51:LEU:HA	9:AI:54:VAL:HG23	1.80	0.63
34:BA:1161:C:H1'	52:BV:8:GLY:O	1.97	0.63
34:BA:2423:U:C2'	34:BA:2424:C:OP2	2.46	0.63
34:BA:2867:G:O2'	34:BA:2868:A:P	2.56	0.63
36:BC:229:HIS:ND1	36:BC:230:PRO:HD2	2.13	0.63
40:BG:23:ILE:N	40:BG:23:ILE:HD12	2.13	0.63
45:BO:113:MET:O	45:BO:116:ILE:HG13	1.98	0.63
51:BU:6:GLY:HA2	51:BU:9:ALA:HB3	1.81	0.63
54:BX:39:THR:O	54:BX:40:LYS:HB2	1.99	0.63
1:AA:64:G:C2	1:AA:67:C:N4	2.66	0.63
1:AA:1222:G:H5"	19:AS:77:ARG:NH1	2.14	0.63
3:AC:153:SER:HB2	3:AC:164:THR:HG22	1.81	0.63
4:AD:117:VAL:HG13	4:AD:122:ILE:CD1	2.26	0.63
5:AE:114:LEU:O	5:AE:119:VAL:HG22	1.98	0.63
6:AF:38:ARG:NH2	6:AF:96:VAL:HG23	2.13	0.63
25:B0:23:LYS:HD3	34:BA:855:G:N3	2.14	0.63
34:BA:558:U:H5"	44:BN:111:LYS:CE	2.28	0.63
34:BA:622:G:H2'	34:BA:623:C:C6	2.33	0.63
35:BB:34:A:N6	35:BB:44:G:O2'	2.32	0.63
35:BB:48:U:P	49:BS:30:ARG:HH22	2.22	0.63
36:BC:116:GLN:HG2	36:BC:117:SER:H	1.63	0.63
39:BF:134:GLN:HE22	39:BF:149:ARG:HB3	1.63	0.63
50:BT:24:THR:O	50:BT:24:THR:HG23	1.98	0.63
1:AA:277:C:OP1	17:AQ:44:HIS:HE1	1.80	0.63
1:AA:428:G:OP2	4:AD:9:LYS:HD2	1.99	0.63
1:AA:450:G:N7	1:AA:481:G:O6	2.31	0.63
1:AA:566:G:H4'	1:AA:567:G:OP1	1.98	0.63
4:AD:53:GLN:HE21	4:AD:202:LEU:HA	1.63	0.63
8:AH:7:ALA:O	8:AH:11:THR:HB	1.99	0.63
12:AL:24:GLU:HB2	12:AL:26:CYS:SG	2.39	0.63
13:AM:77:LYS:HA	13:AM:80:MET:HE3	1.79	0.63
15:AO:77:TYR:CE1	15:AO:81:ILE:HD13	2.34	0.63
34:BA:629:G:H4'	34:BA:650:C:O2	1.99	0.63
34:BA:2197:U:HO2'	34:BA:2198:A:H2'	1.59	0.63
39:BF:37:MET:HB2	39:BF:86:CYS:SG	2.39	0.63
50:BT:30:TRP:CH2	50:BT:39:LEU:HD11	2.34	0.63
1:AA:673:A:H1'	18:AR:63:TYR:CD1	2.34	0.63
1:AA:1167:A:C8	1:AA:1169:A:C5	2.87	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AH:28:SER:HB2	8:AH:58:LEU:HB2	1.81	0.63
17:AQ:11:VAL:HG12	17:AQ:13:SER:H	1.64	0.63
32:B7:31:ILE:O	32:B7:35:LYS:HE3	1.97	0.63
34:BA:108:G:O2'	34:BA:109:C:H5'	1.99	0.63
34:BA:543:G:N2	34:BA:551:G:H1'	2.14	0.63
34:BA:864:G:C6	34:BA:865:C:N4	2.67	0.63
34:BA:1509:A:O2'	34:BA:1510:G:O5'	2.15	0.63
35:BB:5:U:H2'	35:BB:6:G:C8	2.33	0.63
51:BU:73:ILE:HG21	51:BU:109:VAL:HG13	1.80	0.63
1:AA:736:C:H2'	1:AA:737:C:H6	1.64	0.63
1:AA:1102:A:H2'	1:AA:1103:C:H6	1.64	0.63
2:AB:80:LYS:HD3	2:AB:90:PHE:HE1	1.64	0.63
2:AB:96:LEU:HB2	2:AB:99:MET:HE2	1.80	0.63
3:AC:181:ILE:HD13	3:AC:202:PHE:HA	1.80	0.63
10:AJ:5:ARG:HA	10:AJ:5:ARG:HH11	1.64	0.63
10:AJ:66:GLU:HB3	14:AN:98:ALA:HB2	1.80	0.63
23:AW:21:HIS:HD2	23:AW:122:ARG:H	1.47	0.63
25:B0:45:HIS:CB	25:B0:50:VAL:HG13	2.28	0.63
29:B4:9:ARG:HB2	29:B4:12:ARG:NH2	2.14	0.63
34:BA:2787:C:H2'	34:BA:2788:C:H6	1.64	0.63
35:BB:30:C:C2'	35:BB:31:C:H5'	2.29	0.63
40:BG:95:ALA:HB3	40:BG:130:ILE:HD11	1.80	0.63
42:BI:70:THR:C	42:BI:71:LYS:HD3	2.23	0.63
43:BJ:11:VAL:CG2	43:BM:15:SER:H	2.12	0.63
45:BO:73:ASP:O	50:BT:74:GLN:HG3	1.99	0.63
56:BZ:80:HIS:HD2	56:BZ:83:LYS:N	1.95	0.63
1:AA:182:A:O2'	1:AA:183:C:H6	1.82	0.63
1:AA:810:C:O2'	1:AA:811:C:H5'	1.98	0.63
1:AA:1469:C:H6	1:AA:1469:C:C5'	2.12	0.63
10:AJ:10:LEU:HB2	10:AJ:72:ARG:HB2	1.81	0.63
20:AT:8:LYS:O	20:AT:12:GLN:HB2	1.98	0.63
23:AW:59:TRP:CD2	23:AW:64:LYS:HD3	2.34	0.63
34:BA:1360:G:H5'	34:BA:1361:G:OP2	1.99	0.63
34:BA:1818:U:O2'	34:BA:1819:A:P	2.56	0.63
49:BS:102:ARG:HA	49:BS:105:ALA:HB3	1.81	0.63
51:BU:85:ALA:O	51:BU:86:SER:C	2.42	0.63
1:AA:41:G:H2'	1:AA:42:G:C8	2.33	0.62
2:AB:90:PHE:O	2:AB:149:GLY:HA3	1.98	0.62
9:AI:3:ASN:ND2	9:AI:4:GLN:H	1.96	0.62
16:AP:18:GLN:HE21	16:AP:35:ARG:HD2	1.62	0.62
25:B0:17:ALA:HA	25:B0:35:ILE:CG2	2.29	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:B3:6:ILE:HG21	28:B3:47:ILE:HD12	1.79	0.62
30:B5:16:THR:HG21	30:B5:41:VAL:HG23	1.81	0.62
34:BA:504:A:H4'	34:BA:505:A:OP2	1.97	0.62
34:BA:693:A:H2'	34:BA:694:U:H6	1.64	0.62
34:BA:995:C:O2'	34:BA:996:A:P	2.57	0.62
34:BA:1319:C:O2	34:BA:1334:G:C2	2.52	0.62
41:BH:77:VAL:O	41:BH:77:VAL:HG12	1.98	0.62
54:BX:59:ASN:O	54:BX:83:ALA:O	2.17	0.62
55:BY:95:PHE:HE1	55:BY:102:ILE:HB	1.63	0.62
3:AC:13:ILE:HD11	3:AC:177:LEU:HB3	1.81	0.62
6:AF:13:ASP:O	6:AF:15:SER:N	2.32	0.62
34:BA:1107:G:H2'	34:BA:1108:U:C6	2.35	0.62
34:BA:1334:G:H2'	34:BA:1335:C:H5'	1.81	0.62
34:BA:1842:G:H2'	34:BA:1843:C:C6	2.33	0.62
34:BA:2148:G:C6	34:BA:2149:U:O2	2.51	0.62
37:BD:133:THR:HG23	37:BD:134:HIS:N	2.14	0.62
41:BH:18:VAL:CG1	41:BH:117:LEU:HD12	2.29	0.62
41:BH:27:VAL:HG13	41:BH:110:ALA:HA	1.80	0.62
41:BH:58:THR:C	41:BH:60:LEU:N	2.56	0.62
1:AA:17:U:H2'	1:AA:18:C:C6	2.33	0.62
1:AA:634:C:H2'	1:AA:635:A:H8	1.64	0.62
1:AA:922:G:H2'	1:AA:923:A:C8	2.34	0.62
1:AA:1299:A:C5	1:AA:1301:U:O2	2.52	0.62
1:AA:1343:G:H1'	9:AI:122:ARG:NH1	2.14	0.62
1:AA:1494:G:H4'	34:BA:1913:A:N7	2.14	0.62
2:AB:40:ILE:HG21	2:AB:201:GLY:H	1.65	0.62
4:AD:3:TYR:O	4:AD:4:LEU:HB2	1.99	0.62
5:AE:140:ILE:C	5:AE:142:GLY:H	2.05	0.62
12:AL:41:PRO:HG2	12:AL:45:ASN:O	1.99	0.62
23:AW:59:TRP:CZ2	23:AW:69:SER:CB	2.81	0.62
25:B0:41:GLY:HA2	25:B0:44:PHE:CE2	2.34	0.62
34:BA:1812:U:H2'	34:BA:1813:G:H8	1.61	0.62
39:BF:125:GLY:H	39:BF:162:ASP:HB3	1.64	0.62
46:BP:68:SER:HB3	46:BP:71:ALA:CB	2.28	0.62
56:BZ:9:ARG:HB2	56:BZ:39:ALA:HB1	1.81	0.62
2:AB:17:HIS:CD2	2:AB:202:ASN:HD21	2.17	0.62
2:AB:187:ASP:HB2	2:AB:203:ASP:HB3	1.81	0.62
9:AI:21:LYS:NZ	9:AI:23:GLY:HA3	2.15	0.62
13:AM:84:CYS:HB2	19:AS:72:GLU:HB3	1.82	0.62
17:AQ:64:ARG:H	17:AQ:64:ARG:HD3	1.65	0.62
21:AU:9:GLU:CG	21:AU:10:PRO:HD3	2.29	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AW:304:GLN:O	23:AW:306:ASN:N	2.32	0.62
34:BA:37:C:O2'	38:BE:45:ALA:HB2	1.98	0.62
34:BA:2325:G:C6	34:BA:2326:C:N4	2.66	0.62
34:BA:2567:G:H2'	34:BA:2568:U:C6	2.34	0.62
36:BC:33:LEU:O	36:BC:34:GLU:HB3	1.99	0.62
38:BE:195:GLN:O	38:BE:199:MET:HB2	2.00	0.62
46:BP:68:SER:HB3	46:BP:71:ALA:HB2	1.82	0.62
52:BV:49:ILE:HG13	52:BV:52:PRO:HA	1.81	0.62
52:BV:90:ARG:O	52:BV:91:GLN:HB3	2.00	0.62
1:AA:182:A:O2'	1:AA:183:C:C6	2.51	0.62
1:AA:1410:A:H2'	1:AA:1411:C:H6	1.63	0.62
15:AO:72:LYS:HE2	15:AO:72:LYS:HA	1.81	0.62
34:BA:1187:G:H5"	52:BV:83:TYR:CE2	2.34	0.62
34:BA:1277:G:C5'	48:BR:20:MET:HE2	2.29	0.62
34:BA:1327:A:H2'	34:BA:1328:A:O4'	2.00	0.62
40:BG:120:ILE:HD13	40:BG:143:VAL:HG21	1.82	0.62
43:BJ:27:GLU:CD	43:BJ:28:GLU:H	2.07	0.62
45:BO:63:VAL:HG12	45:BO:64:ARG:HG3	1.82	0.62
50:BT:99:LEU:C	50:BT:101:GLU:H	2.08	0.62
1:AA:216:U:H2'	1:AA:217:C:C6	2.35	0.62
1:AA:235:C:H1'	17:AQ:62:GLU:OE2	1.98	0.62
1:AA:507:C:C3'	1:AA:508:U:H5"	2.26	0.62
1:AA:633:G:H2'	1:AA:634:C:C6	2.34	0.62
1:AA:1129:C:O2'	1:AA:1130:A:C8	2.51	0.62
34:BA:2391:G:O6	34:BA:2425:A:H8	1.82	0.62
35:BB:104:A:H2'	35:BB:105:G:O4'	1.99	0.62
42:BI:102:ARG:HB2	42:BI:141:ASP:HA	1.82	0.62
54:BX:22:THR:HA	54:BX:25:GLU:CB	2.29	0.62
2:AB:221:ARG:HB3	2:AB:221:ARG:CZ	2.29	0.62
4:AD:121:ALA:HA	4:AD:145:ARG:CG	2.29	0.62
34:BA:616:A:H4'	38:BE:101:TYR:CE2	2.35	0.62
34:BA:1405:U:O2'	34:BA:1406:U:H5'	2.00	0.62
34:BA:2393:U:H5'	46:BP:60:ARG:O	1.99	0.62
37:BD:121:THR:HB	37:BD:127:PHE:CD1	2.34	0.62
37:BD:181:ASP:HB3	37:BD:186:LEU:HB2	1.82	0.62
39:BF:128:SER:OG	39:BF:154:THR:HB	1.99	0.62
39:BF:134:GLN:HE21	39:BF:134:GLN:N	1.97	0.62
39:BF:135:ILE:HD11	39:BF:145:VAL:HG11	1.81	0.62
41:BH:154:THR:H	43:BM:22:LEU:HD21	1.64	0.62
45:BO:2:ILE:O	45:BO:6:THR:OG1	2.18	0.62
46:BP:95:LEU:O	46:BP:100:ILE:HG12	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BQ:41:LEU:HA	47:BQ:45:GLN:OE1	2.00	0.62
1:AA:1127:G:H5'	1:AA:1280:A:O2'	1.98	0.62
1:AA:1320:C:H41	19:AS:36:ARG:HG2	1.64	0.62
3:AC:71:ARG:O	3:AC:75:VAL:HG23	1.99	0.62
18:AR:34:GLU:HB2	21:AU:18:PHE:HZ	1.64	0.62
34:BA:1923:U:H2'	34:BA:1924:C:H6	1.64	0.62
37:BD:114:LYS:HZ3	37:BD:116:LYS:HE2	1.63	0.62
41:BH:23:LEU:HA	41:BH:118:ILE:HG13	1.81	0.62
42:BI:46:ASP:HA	42:BI:50:LYS:HD2	1.82	0.62
44:BN:88:THR:HG22	44:BN:91:GLU:CG	2.29	0.62
56:BZ:29:ILE:HD12	56:BZ:38:LEU:O	1.99	0.62
1:AA:812:G:HO2'	1:AA:813:U:P	2.23	0.62
1:AA:1064:G:N2	1:AA:1190:G:O2'	2.32	0.62
1:AA:1486:G:H2'	1:AA:1487:G:O4'	1.99	0.62
2:AB:221:ARG:HH11	2:AB:222:GLU:HG2	1.64	0.62
5:AE:11:GLN:HG3	5:AE:116:VAL:HB	1.82	0.62
34:BA:588:U:H2'	34:BA:589:U:C6	2.35	0.62
34:BA:1279:G:H4'	48:BR:31:HIS:CD2	2.34	0.62
35:BB:115:A:H2'	35:BB:116:G:C8	2.33	0.62
36:BC:119:VAL:HB	36:BC:133:ASN:ND2	2.15	0.62
36:BC:142:ASN:HA	36:BC:153:LEU:O	2.00	0.62
36:BC:255:LYS:C	36:BC:257:ARG:H	2.08	0.62
37:BD:38:LYS:O	37:BD:46:ARG:HA	1.99	0.62
46:BP:85:VAL:HG21	46:BP:94:THR:HG22	1.82	0.62
1:AA:274:A:H4'	1:AA:275:G:O5'	1.98	0.62
1:AA:429:U:H3'	4:AD:8:LEU:CD2	2.21	0.62
1:AA:1031:C:H4'	1:AA:1032:G:C4	2.35	0.62
13:AM:72:ILE:O	13:AM:76:ILE:HG13	1.99	0.62
23:AW:314:ARG:CZ	23:AW:421:GLU:HB2	2.29	0.62
34:BA:962:G:N2	34:BA:2250:G:H1	1.98	0.62
36:BC:59:GLN:HG2	36:BC:84:PRO:HB2	1.82	0.62
39:BF:169:LEU:HD23	39:BF:174:PHE:CE1	2.35	0.62
45:BO:40:LYS:HZ3	45:BO:89:ASN:HD21	1.48	0.62
45:BO:107:LEU:C	45:BO:109:SER:H	2.08	0.62
52:BV:49:ILE:O	52:BV:49:ILE:HG12	2.00	0.62
1:AA:728:A:H2'	1:AA:729:A:C8	2.33	0.61
1:AA:955:U:H3	1:AA:1225:A:H61	1.48	0.61
1:AA:1412:C:H2'	1:AA:1413:A:C8	2.34	0.61
34:BA:458:G:O2'	34:BA:459:U:OP2	2.18	0.61
34:BA:636:G:C6	46:BP:111:ILE:HD11	2.34	0.61
39:BF:8:LYS:O	39:BF:12:VAL:HG12	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BU:63:ARG:HD2	51:BU:63:ARG:C	2.24	0.61
55:BY:11:ILE:HG13	55:BY:21:ARG:HG3	1.82	0.61
1:AA:189:A:H2'	1:AA:190:A:O4'	2.00	0.61
1:AA:977:A:H2	1:AA:1362:A:N6	1.97	0.61
1:AA:1016:A:H4'	1:AA:1217:C:O2'	2.00	0.61
8:AH:13:ILE:HD11	8:AH:60:LEU:HD12	1.82	0.61
9:AI:83:THR:HG22	9:AI:97:LEU:HD21	1.82	0.61
11:AK:110:THR:HG22	21:AU:4:LYS:HA	1.83	0.61
20:AT:24:ARG:O	20:AT:27:MET:HB3	1.99	0.61
34:BA:1278:C:OP1	48:BR:36:THR:HB	1.98	0.61
45:BO:47:ILE:CD1	45:BO:48:PRO:HD2	2.30	0.61
46:BP:79:LEU:H	46:BP:113:ALA:HB3	1.65	0.61
47:BQ:136:MET:HE2	56:BZ:57:TYR:CD2	2.35	0.61
1:AA:194:C:O2'	1:AA:195:A:H5'	2.00	0.61
1:AA:208:U:O4	1:AA:210:C:H1'	1.99	0.61
1:AA:220:G:H2'	1:AA:221:C:C6	2.34	0.61
1:AA:624:C:H4'	16:AP:10:GLY:O	1.99	0.61
4:AD:145:ARG:HH11	4:AD:147:LYS:NZ	1.97	0.61
4:AD:151:GLN:H	4:AD:154:VAL:CG1	2.14	0.61
15:AO:9:LYS:O	15:AO:13:GLU:HG3	2.00	0.61
20:AT:43:LYS:HE2	20:AT:86:ALA:HB1	1.83	0.61
27:B2:16:THR:O	27:B2:20:ASN:HB2	2.00	0.61
34:BA:1935:G:H1	34:BA:1962:C:H2'	1.65	0.61
41:BH:12:VAL:HG13	41:BH:69:PHE:HZ	1.64	0.61
42:BI:48:ILE:O	42:BI:49:GLU:HB2	1.99	0.61
48:BR:1:MET:O	48:BR:2:ARG:HB2	2.00	0.61
54:BX:69:ARG:CZ	54:BX:70:HIS:H	2.12	0.61
1:AA:33:A:H2'	1:AA:34:C:H6	1.64	0.61
1:AA:711:G:O2'	1:AA:712:A:H5'	2.00	0.61
1:AA:1170:A:H2'	1:AA:1171:A:O4'	2.00	0.61
3:AC:35:ASP:O	3:AC:38:VAL:HG22	2.01	0.61
15:AO:28:VAL:HG11	15:AO:66:LEU:HD21	1.80	0.61
21:AU:19:LYS:HB2	21:AU:20:ARG:NH1	2.14	0.61
26:B1:7:THR:HG21	26:B1:53:LYS:HD3	1.81	0.61
34:BA:27:G:O2'	34:BA:28:A:P	2.57	0.61
34:BA:704:G:H1'	34:BA:727:A:H62	1.65	0.61
34:BA:1084:A:OP2	41:BH:55:VAL:HG22	2.01	0.61
34:BA:1131:G:OP1	44:BN:82:GLY:HA2	2.00	0.61
35:BB:37:C:C5	35:BB:38:C:C4	2.88	0.61
36:BC:77:VAL:HG12	36:BC:113:ASP:O	2.01	0.61
36:BC:210:ALA:O	36:BC:215:VAL:HG23	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BE:131:THR:HG22	38:BE:160:ALA:HA	1.82	0.61
4:AD:199:ILE:HD13	4:AD:199:ILE:C	2.26	0.61
13:AM:2:ARG:O	13:AM:3:ILE:HG12	2.00	0.61
26:B1:34:SER:HA	26:B1:48:LEU:O	2.00	0.61
26:B1:69:GLU:O	26:B1:71:ARG:N	2.33	0.61
34:BA:558:U:H5"	44:BN:111:LYS:HE3	1.82	0.61
34:BA:883:G:H2'	34:BA:884:U:C6	2.36	0.61
34:BA:2282:G:H4'	34:BA:2389:G:O2'	2.00	0.61
35:BB:65:U:H3'	35:BB:108:A:N6	2.16	0.61
39:BF:71:LYS:NZ	39:BF:80:GLN:HE21	1.97	0.61
1:AA:785:G:C2'	1:AA:786:G:H5'	2.30	0.61
5:AE:105:ILE:HD11	5:AE:123:LEU:HD23	1.82	0.61
12:AL:23:LEU:O	12:AL:25:ALA:N	2.33	0.61
23:AW:59:TRP:HA	23:AW:59:TRP:HE3	1.65	0.61
27:B2:49:ASP:O	27:B2:53:VAL:HG23	2.00	0.61
34:BA:458:G:C2'	34:BA:459:U:OP2	2.49	0.61
34:BA:679:C:O2'	34:BA:680:C:H5'	2.00	0.61
40:BG:24:THR:OG1	40:BG:34:ARG:HB3	2.01	0.61
43:BL:25:ALA:HA	43:BL:28:GLU:OE1	2.00	0.61
45:BO:24:VAL:HA	45:BO:39:ILE:HD12	1.81	0.61
51:BU:60:TRP:CZ2	51:BU:93:ILE:HB	2.35	0.61
53:BW:6:LYS:HB3	53:BW:104:THR:HG23	1.81	0.61
1:AA:503:C:O5'	1:AA:503:C:H6	1.82	0.61
1:AA:1126:U:O2	1:AA:1126:U:H2'	2.00	0.61
1:AA:1312:G:N7	19:AS:2:ARG:HA	2.16	0.61
2:AB:9:LEU:HD12	2:AB:42:LEU:HD22	1.82	0.61
2:AB:96:LEU:HB2	2:AB:99:MET:CE	2.30	0.61
3:AC:123:LEU:HD21	3:AC:129:PHE:HB3	1.81	0.61
3:AC:146:LYS:HB2	3:AC:202:PHE:CD2	2.36	0.61
10:AJ:81:GLU:O	10:AJ:85:ASP:HB2	2.01	0.61
14:AN:44:VAL:HG23	14:AN:45:LEU:H	1.65	0.61
21:AU:4:LYS:HD2	21:AU:4:LYS:O	2.00	0.61
34:BA:286:U:H2'	34:BA:287:G:C8	2.36	0.61
34:BA:370:G:H4'	34:BA:371:A:OP2	1.99	0.61
34:BA:646:U:H3'	34:BA:647:G:H5"	1.82	0.61
34:BA:1268:A:H2'	34:BA:1269:A:O4'	2.00	0.61
34:BA:1348:C:H2'	34:BA:1349:C:H5'	1.82	0.61
34:BA:2788:C:H2'	34:BA:2789:C:C6	2.36	0.61
36:BC:255:LYS:O	36:BC:257:ARG:N	2.34	0.61
37:BD:68:PHE:O	37:BD:71:ALA:O	2.18	0.61
39:BF:71:LYS:HZ2	39:BF:80:GLN:HE21	1.48	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BG:73:SER:HA	40:BG:76:ILE:CG2	2.30	0.61
40:BG:84:LYS:HB3	40:BG:132:LEU:O	2.00	0.61
42:BI:126:ARG:HA	42:BI:129:GLU:CD	2.25	0.61
1:AA:153:C:H2'	1:AA:154:U:C6	2.36	0.61
1:AA:408:A:OP1	4:AD:111:ALA:HB3	2.00	0.61
1:AA:634:C:H2'	1:AA:635:A:C8	2.35	0.61
1:AA:890:G:C2'	1:AA:891:U:OP2	2.48	0.61
1:AA:1521:C:H2'	1:AA:1522:U:H6	1.66	0.61
10:AJ:52:LEU:HD23	10:AJ:62:ARG:HG3	1.81	0.61
12:AL:81:ILE:HD11	12:AL:94:TYR:CB	2.31	0.61
14:AN:5:MET:SD	14:AN:8:ARG:HD2	2.41	0.61
14:AN:82:LYS:CE	14:AN:85:GLU:HG3	2.31	0.61
16:AP:21:VAL:HG21	16:AP:60:TRP:CD1	2.35	0.61
20:AT:4:LYS:HE2	20:AT:5:SER:N	2.16	0.61
34:BA:468:G:C2'	34:BA:469:G:H5'	2.30	0.61
34:BA:675:A:OP1	38:BE:58:LYS:HE2	2.01	0.61
34:BA:878:A:H1'	34:BA:901:C:C5	2.36	0.61
35:BB:89:U:H5'	35:BB:90:C:C6	2.35	0.61
37:BD:89:GLU:HG3	37:BD:94:GLN:OE1	2.01	0.61
41:BH:100:ALA:HB2	41:BH:125:ARG:CZ	2.31	0.61
49:BS:17:LYS:O	49:BS:21:LEU:HB2	2.00	0.61
53:BW:2:GLU:O	53:BW:107:VAL:O	2.19	0.61
1:AA:965:U:C5'	1:AA:966:G:OP1	2.45	0.61
1:AA:1327:C:H2'	1:AA:1328:C:C6	2.36	0.61
2:AB:207:ARG:HB3	2:AB:211:LEU:HD13	1.82	0.61
4:AD:166:LYS:HB3	4:AD:166:LYS:NZ	2.16	0.61
6:AF:89:VAL:HG22	6:AF:90:MET:H	1.64	0.61
12:AL:87:LYS:O	12:AL:87:LYS:HG3	2.00	0.61
20:AT:43:LYS:HB3	20:AT:86:ALA:HB1	1.82	0.61
23:AW:432:SER:O	23:AW:434:ASN:N	2.34	0.61
27:B2:50:VAL:O	27:B2:54:LYS:HG3	2.01	0.61
33:B8:10:LEU:HD12	33:B8:33:HIS:CD2	2.36	0.61
34:BA:2092:U:C4'	34:BA:2093:G:O5'	2.49	0.61
34:BA:2260:C:H2'	34:BA:2261:C:H6	1.66	0.61
35:BB:51:G:OP2	49:BS:64:TYR:HD2	1.83	0.61
42:BI:3:LYS:CD	42:BI:4:VAL:HG23	2.31	0.61
45:BO:59:LYS:HE2	45:BO:89:ASN:ND2	2.16	0.61
52:BV:7:SER:OG	52:BV:22:LEU:HD13	2.01	0.61
1:AA:1185:G:C2'	1:AA:1186:G:H5'	2.30	0.61
1:AA:1324:A:H5'	1:AA:1362:A:O2'	2.01	0.61
8:AH:104:SER:HB2	8:AH:125:ILE:HD11	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AI:24:ASN:C	9:AI:26:LYS:H	2.09	0.61
13:AM:84:CYS:O	13:AM:88:LEU:HG	2.00	0.61
14:AN:90:GLY:O	14:AN:92:ILE:N	2.34	0.61
19:AS:35:ARG:HB3	19:AS:71:GLY:CA	2.30	0.61
19:AS:51:HIS:CD2	19:AS:53:GLY:H	2.18	0.61
27:B2:9:LYS:HB3	27:B2:12:GLU:HB2	1.83	0.61
34:BA:704:G:H2'	34:BA:726:G:N2	2.14	0.61
34:BA:1188:U:O2'	34:BA:1189:A:H5'	2.01	0.61
34:BA:1509:A:O2'	34:BA:1510:G:O4'	2.18	0.61
34:BA:1722:A:H2'	34:BA:1723:G:H8	1.66	0.61
43:BK:28:GLU:HG3	43:BK:29:LYS:N	2.12	0.61
46:BP:93:ASN:HD22	46:BP:94:THR:H	1.47	0.61
54:BX:22:THR:O	54:BX:25:GLU:HB3	2.01	0.61
54:BX:28:ASN:CA	54:BX:91:GLN:HE22	2.10	0.61
1:AA:673:A:H1'	18:AR:63:TYR:CE1	2.36	0.60
1:AA:1323:G:H4'	1:AA:1362:A:C2	2.35	0.60
3:AC:39:ARG:NH1	3:AC:54:ILE:HG12	2.15	0.60
4:AD:171:GLU:OE2	4:AD:182:LYS:HD3	2.01	0.60
9:AI:24:ASN:H	9:AI:61:ASP:HB2	1.65	0.60
12:AL:101:LEU:HG	23:AW:409:GLN:NE2	2.16	0.60
13:AM:113:LYS:HB2	13:AM:114:PRO:HD3	1.83	0.60
34:BA:866:A:H2'	34:BA:867:C:H5'	1.83	0.60
34:BA:1460:U:C5'	34:BA:1461:C:OP2	2.45	0.60
34:BA:2150:C:N3	34:BA:2151:U:O4	2.34	0.60
37:BD:191:GLY:O	37:BD:192:ALA:HB3	2.01	0.60
41:BH:117:LEU:O	41:BH:119:PRO:HD2	2.01	0.60
47:BQ:53:MET:HE1	47:BQ:103:TYR:CE2	2.36	0.60
50:BT:21:PRO:HD3	50:BT:49:ILE:HD12	1.82	0.60
1:AA:36:C:H4'	12:AL:118:VAL:O	2.01	0.60
1:AA:940:C:H2'	1:AA:941:G:H8	1.66	0.60
1:AA:1401:G:OP1	22:AV:19:U:OP1	2.19	0.60
3:AC:124:GLU:C	3:AC:126:ARG:H	2.09	0.60
4:AD:124:VAL:C	4:AD:126:GLY:H	2.09	0.60
8:AH:17:GLN:OE1	8:AH:62:LEU:HD12	2.01	0.60
19:AS:51:HIS:HB2	19:AS:56:HIS:CD2	2.36	0.60
25:B0:73:PRO:HG2	25:B0:76:ARG:HD2	1.83	0.60
47:BQ:41:LEU:HD22	47:BQ:124:LEU:HD22	1.82	0.60
49:BS:100:HIS:H	49:BS:103:VAL:CG2	2.13	0.60
1:AA:433:G:C2'	1:AA:434:U:H5'	2.31	0.60
3:AC:76:ILE:HD11	3:AC:102:ILE:HG21	1.84	0.60
3:AC:194:VAL:C	3:AC:195:ILE:HD12	2.26	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:54:LEU:HD23	4:AD:55:ARG:N	2.16	0.60
4:AD:113:ALA:O	4:AD:117:VAL:HG23	2.02	0.60
8:AH:9:MET:CE	8:AH:32:LYS:HA	2.31	0.60
9:AI:46:VAL:HA	9:AI:49:GLN:HE21	1.66	0.60
13:AM:82:LEU:HB3	19:AS:73:PHE:CE2	2.35	0.60
20:AT:53:MET:HE3	20:AT:57:VAL:HG21	1.83	0.60
23:AW:20:SER:OG	23:AW:24:ALA:HB3	2.01	0.60
25:B0:50:VAL:HG12	25:B0:51:GLY:N	2.15	0.60
34:BA:545:U:H3'	34:BA:545:U:H6	1.66	0.60
34:BA:859:G:H2'	34:BA:916:G:O6	2.00	0.60
34:BA:2152:G:H2'	34:BA:2153:C:O4'	2.01	0.60
34:BA:2294:G:C5'	49:BS:10:ARG:HD3	2.31	0.60
41:BH:31:ARG:HH12	41:BH:109:LYS:HE3	1.66	0.60
41:BH:162:LYS:HE3	43:BL:15:SER:HB2	1.83	0.60
42:BI:14:ALA:HB3	42:BI:51:GLY:H	1.66	0.60
49:BS:40:ILE:HG12	49:BS:47:VAL:HG12	1.83	0.60
1:AA:85:U:O2	1:AA:85:U:H2'	2.00	0.60
1:AA:87:C:H2'	1:AA:88:U:O4'	2.01	0.60
1:AA:890:G:HO2'	1:AA:891:U:P	2.24	0.60
1:AA:1039:G:O2'	1:AA:1040:U:H5'	2.01	0.60
1:AA:1220:G:C4	1:AA:1221:G:C8	2.89	0.60
4:AD:143:SER:HB3	4:AD:178:GLU:CB	2.31	0.60
5:AE:11:GLN:HB3	5:AE:39:GLY:O	2.00	0.60
6:AF:62:MET:HG3	6:AF:64:VAL:HG23	1.83	0.60
33:B8:22:VAL:HG11	33:B8:36:ARG:HG2	1.83	0.60
34:BA:372:G:HO2'	34:BA:373:U:P	2.25	0.60
34:BA:784:G:C6	36:BC:227:VAL:HG11	2.37	0.60
34:BA:900:A:C2	34:BA:902:C:N4	2.69	0.60
34:BA:995:C:HO2'	34:BA:996:A:P	2.21	0.60
34:BA:1211:C:H4'	34:BA:1212:G:OP2	2.01	0.60
34:BA:1274:A:N3	34:BA:1297:C:H1'	2.17	0.60
34:BA:2425:A:H5"	34:BA:2426:A:H3'	1.83	0.60
34:BA:2561:U:H4'	45:BO:22:ILE:HD11	1.83	0.60
40:BG:97:VAL:HG23	40:BG:102:ILE:HG12	1.82	0.60
44:BN:81:ILE:CG2	44:BN:82:GLY:H	2.00	0.60
48:BR:96:ARG:HD3	48:BR:98:LEU:HD21	1.82	0.60
1:AA:109:A:H4'	1:AA:110:C:OP2	2.00	0.60
1:AA:659:U:O2'	1:AA:660:C:H5'	2.00	0.60
1:AA:829:G:C2'	1:AA:830:G:H5'	2.31	0.60
1:AA:1036:A:H4'	1:AA:1037:C:OP1	2.02	0.60
1:AA:1477:U:H2'	1:AA:1478:U:C6	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:80:LEU:CD2	5:AE:122:VAL:HG11	2.32	0.60
6:AF:67:PRO:HG2	6:AF:70:VAL:HG22	1.82	0.60
21:AU:3:ILE:HD13	21:AU:19:LYS:NZ	2.13	0.60
26:B1:29:LEU:HD23	34:BA:2231:U:P	2.41	0.60
34:BA:481:G:C4	34:BA:507:A:C2	2.89	0.60
34:BA:572:A:H5"	34:BA:573:U:OP2	2.02	0.60
34:BA:1141:U:H4'	34:BA:1142:A:O5'	2.02	0.60
34:BA:1420:A:C4	34:BA:2211:A:N6	2.68	0.60
34:BA:2748:A:H4'	40:BG:3:VAL:HG11	1.82	0.60
34:BA:2787:C:H2'	34:BA:2788:C:C6	2.37	0.60
36:BC:209:ALA:HA	36:BC:212:TRP:NE1	2.17	0.60
36:BC:222:THR:HA	36:BC:232:GLY:H	1.67	0.60
46:BP:29:LYS:O	46:BP:31:GLY:N	2.34	0.60
54:BX:45:ALA:O	54:BX:48:GLN:HB2	2.02	0.60
1:AA:620:C:H1'	4:AD:131:ILE:HG13	1.83	0.60
1:AA:992:U:C4	1:AA:1043:G:C8	2.90	0.60
1:AA:1113:C:H2'	1:AA:1114:C:H6	1.67	0.60
1:AA:1464:U:P	50:BT:108:ARG:HH12	2.25	0.60
20:AT:8:LYS:HE2	20:AT:12:GLN:NE2	2.17	0.60
25:B0:30:VAL:O	25:B0:30:VAL:HG22	1.99	0.60
34:BA:866:A:C2'	34:BA:867:C:H5'	2.31	0.60
34:BA:933:A:H5'	34:BA:934:U:OP2	2.02	0.60
34:BA:1654:A:H2'	34:BA:1655:A:C8	2.35	0.60
34:BA:1935:G:H1'	34:BA:1964:G:N2	2.17	0.60
34:BA:1936:A:H2	34:BA:1943:U:C4	2.20	0.60
34:BA:2742:G:H2'	34:BA:2743:U:H5'	1.82	0.60
37:BD:12:THR:HG23	37:BD:13:ARG:N	2.16	0.60
37:BD:41:ALA:C	37:BD:43:ASP:H	2.09	0.60
41:BH:73:LYS:O	41:BH:77:VAL:HG23	2.01	0.60
44:BN:88:THR:HG23	44:BN:90:GLU:HG2	1.84	0.60
46:BP:55:MET:HE2	46:BP:56:PRO:HD3	1.83	0.60
46:BP:112:LEU:HD23	46:BP:114:GLY:H	1.65	0.60
48:BR:101:GLY:HA2	48:BR:110:MET:H	1.65	0.60
50:BT:61:ARG:HG2	50:BT:70:GLU:CG	2.31	0.60
55:BY:86:PHE:CE1	55:BY:101:THR:HG21	2.36	0.60
1:AA:1085:U:H1'	1:AA:1094:G:C6	2.36	0.60
1:AA:1367:C:C4	1:AA:1368:A:N7	2.69	0.60
1:AA:1452:C:H5'	1:AA:1453:G:C6	2.36	0.60
23:AW:300:VAL:HG12	23:AW:301:PHE:H	1.66	0.60
23:AW:472:ARG:HH21	23:AW:505:ALA:HB2	1.66	0.60
34:BA:38:A:HO2'	38:BE:43:THR:HA	1.64	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:636:G:C2	46:BP:111:ILE:HD11	2.37	0.60
34:BA:659:G:O5'	38:BE:95:LYS:HD3	2.02	0.60
34:BA:2203:U:H5"	34:BA:2204:G:OP1	2.01	0.60
34:BA:2287:A:O2'	34:BA:2288:A:O5'	2.19	0.60
34:BA:2678:C:H2'	34:BA:2679:A:O4'	2.01	0.60
37:BD:184:ARG:NH1	50:BT:6:GLN:NE2	2.42	0.60
40:BG:59:ASP:HB3	40:BG:63:GLN:HG2	1.84	0.60
41:BH:30:SER:O	41:BH:108:VAL:HG13	2.01	0.60
51:BU:8:ILE:O	51:BU:11:ALA:HB3	2.01	0.60
1:AA:607:A:H2'	1:AA:608:A:C8	2.36	0.60
1:AA:811:C:H4'	1:AA:900:A:N6	2.17	0.60
4:AD:145:ARG:HD2	4:AD:147:LYS:HE2	1.83	0.60
6:AF:15:SER:O	6:AF:18:VAL:HG23	2.01	0.60
8:AH:86:LYS:HB3	8:AH:91:LEU:HD23	1.82	0.60
13:AM:52:ILE:CD1	13:AM:55:LEU:HD12	2.27	0.60
16:AP:23:ASP:OD2	16:AP:25:ARG:HB2	2.01	0.60
21:AU:36:PHE:HA	21:AU:39:LYS:HE2	1.83	0.60
34:BA:309:A:H4'	55:BY:15:GLY:HA2	1.82	0.60
34:BA:2867:G:C2'	34:BA:2868:A:OP2	2.49	0.60
40:BG:24:THR:HG23	40:BG:34:ARG:HD2	1.83	0.60
49:BS:31:THR:HG23	49:BS:34:HIS:H	1.66	0.60
50:BT:28:LYS:O	50:BT:80:VAL:O	2.19	0.60
53:BW:73:LYS:HA	53:BW:73:LYS:HE3	1.83	0.60
1:AA:619:U:H3	4:AD:130:ASN:HB3	1.66	0.60
1:AA:959:A:H2'	1:AA:960:U:H4'	1.84	0.60
3:AC:161:ILE:HD13	3:AC:161:ILE:H	1.66	0.60
7:AG:16:LYS:HD3	7:AG:43:TYR:CD1	2.36	0.60
10:AJ:51:VAL:O	10:AJ:62:ARG:HA	2.02	0.60
13:AM:21:ILE:O	13:AM:24:VAL:HG22	2.02	0.60
23:AW:20:SER:H	23:AW:26:LYS:HZ2	1.47	0.60
23:AW:23:ASP:OD2	23:AW:68:ILE:HD13	2.02	0.60
23:AW:53:GLN:O	23:AW:55:ALA:N	2.32	0.60
23:AW:59:TRP:CZ2	23:AW:69:SER:OG	2.54	0.60
23:AW:63:GLU:HB2	23:AW:450:VAL:HG11	1.83	0.60
23:AW:427:VAL:HG12	23:AW:438:VAL:HG22	1.83	0.60
23:AW:518:TYR:CD1	23:AW:519:PRO:HA	2.36	0.60
34:BA:533:G:H2'	34:BA:534:U:C6	2.37	0.60
34:BA:1783:A:H5'	34:BA:2608:G:H4'	1.82	0.60
34:BA:2311:A:O2'	39:BF:78:ILE:HD13	2.01	0.60
51:BU:85:ALA:O	51:BU:88:GLU:HB2	2.01	0.60
1:AA:328:C:C2'	1:AA:328:C:O2	2.50	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1281:C:H5'	1:AA:1282:C:OP2	2.01	0.60
9:AI:86:LEU:O	9:AI:86:LEU:HD23	2.01	0.60
14:AN:50:LEU:HB3	14:AN:51:PRO:HD2	1.83	0.60
17:AQ:16:MET:HE2	17:AQ:20:ILE:HA	1.84	0.60
23:AW:18:ILE:O	23:AW:26:LYS:HE2	2.02	0.60
23:AW:35:LEU:HD11	23:AW:262:ASN:HD21	1.67	0.60
34:BA:232:G:H4'	34:BA:233:A:OP1	2.02	0.60
34:BA:328:U:O3'	55:BY:65:GLN:HG3	2.01	0.60
34:BA:504:A:C4'	34:BA:505:A:OP2	2.49	0.60
34:BA:868:U:C4	34:BA:869:G:N7	2.70	0.60
34:BA:900:A:H2'	34:BA:900:A:N3	2.17	0.60
34:BA:2490:G:H4'	34:BA:2491:U:OP1	2.02	0.60
37:BD:113:SER:HB3	37:BD:170:VAL:HG11	1.83	0.60
46:BP:82:LEU:HD23	46:BP:83:ALA:N	2.17	0.60
1:AA:658:C:H2'	1:AA:659:U:H6	1.67	0.59
1:AA:1347:G:O2'	1:AA:1348:U:P	2.58	0.59
14:AN:47:LEU:O	14:AN:47:LEU:HD23	2.02	0.59
15:AO:86:LEU:C	15:AO:88:ARG:H	2.09	0.59
23:AW:522:GLN:HB2	23:AW:524:HIS:H	1.67	0.59
25:B0:30:VAL:HG12	34:BA:2353:G:H1'	1.82	0.59
34:BA:815:C:OP2	52:BV:85:LYS:HE3	2.02	0.59
34:BA:1105:U:H2'	34:BA:1106:G:H8	1.67	0.59
34:BA:1621:U:H5"	34:BA:1622:G:OP1	2.02	0.59
34:BA:2377:A:O2'	34:BA:2378:A:H5'	2.02	0.59
34:BA:2469:A:N6	34:BA:2481:G:O2'	2.35	0.59
37:BD:106:LYS:O	37:BD:107:VAL:HB	2.02	0.59
39:BF:4:HIS:HE1	39:BF:8:LYS:HD3	1.65	0.59
41:BH:32:GLY:HA2	41:BH:108:VAL:HG21	1.83	0.59
41:BH:78:GLY:N	41:BH:79:PRO:CD	2.65	0.59
49:BS:67:ASN:C	49:BS:69:ASP:H	2.10	0.59
52:BV:21:ARG:HD3	52:BV:93:PHE:CG	2.37	0.59
1:AA:404:G:H4'	1:AA:439:U:H3	1.66	0.59
1:AA:792:A:H1'	1:AA:794:A:N7	2.17	0.59
1:AA:1491:G:C2'	24:AY:6:5OH:HP	2.31	0.59
1:AA:1504:G:H4'	1:AA:1505:G:C4	2.37	0.59
6:AF:51:ILE:O	6:AF:52:ASN:HB2	2.01	0.59
7:AG:112:ASP:HB2	7:AG:118:ARG:HG3	1.84	0.59
10:AJ:42:LEU:HD12	10:AJ:71:LEU:HD12	1.84	0.59
11:AK:125:LYS:O	11:AK:126:ARG:HB2	2.02	0.59
12:AL:113:ARG:NH2	12:AL:120:ARG:HG2	2.16	0.59
25:B0:17:ALA:O	25:B0:18:LYS:CB	2.49	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:B0:76:ARG:HH21	25:B0:76:ARG:HG2	1.67	0.59
41:BH:103:ASN:CB	41:BH:110:ALA:HB2	2.32	0.59
44:BN:38:GLY:O	44:BN:43:GLU:HB2	2.02	0.59
45:BO:7:MET:SD	45:BO:20:MET:HB2	2.41	0.59
47:BQ:43:ALA:HA	47:BQ:46:ILE:HG12	1.84	0.59
47:BQ:108:VAL:HG13	47:BQ:112:LEU:HB3	1.82	0.59
1:AA:123:U:OP1	1:AA:312:C:H5'	2.02	0.59
1:AA:211:G:N1	1:AA:212:G:H1'	2.17	0.59
1:AA:703:G:H5'	1:AA:704:A:OP1	2.02	0.59
1:AA:882:C:O2'	1:AA:883:C:H5'	2.02	0.59
2:AB:219:THR:HG23	2:AB:220:VAL:H	1.66	0.59
11:AK:22:ILE:HG22	11:AK:31:VAL:HG22	1.84	0.59
21:AU:18:PHE:O	21:AU:21:SER:HB3	2.01	0.59
23:AW:105:ALA:O	23:AW:319:ARG:NH1	2.32	0.59
25:B0:24:ARG:HD2	25:B0:24:ARG:C	2.28	0.59
34:BA:345:A:H5"	34:BA:346:A:OP1	2.03	0.59
34:BA:1179:G:H3'	34:BA:1180:U:H4'	1.84	0.59
34:BA:2726:A:O2'	34:BA:2727:A:P	2.60	0.59
34:BA:2748:A:H1'	40:BG:66:THR:HG23	1.83	0.59
36:BC:250:GLN:HG2	36:BC:254:LYS:HE2	1.83	0.59
1:AA:835:U:OP1	18:AR:52:ARG:NH1	2.34	0.59
4:AD:62:ARG:NE	4:AD:62:ARG:HA	2.17	0.59
10:AJ:100:ILE:HD12	10:AJ:101:SER:N	2.17	0.59
13:AM:21:ILE:HB	13:AM:24:VAL:CG2	2.33	0.59
25:B0:39:GLN:O	25:B0:40:ARG:C	2.45	0.59
29:B4:40:HIS:HD1	34:BA:2815:C:HO2'	1.49	0.59
34:BA:500:G:N2	34:BA:502:A:H3'	2.18	0.59
34:BA:1061:U:O2'	34:BA:1070:A:C4'	2.50	0.59
34:BA:1161:C:H2'	34:BA:1162:G:H8	1.66	0.59
39:BF:39:VAL:CG1	39:BF:49:LEU:HD13	2.32	0.59
40:BG:8:VAL:HG12	40:BG:49:LEU:N	2.15	0.59
45:BO:76:VAL:HB	50:BT:72:VAL:HG22	1.84	0.59
47:BQ:28:PHE:HB3	47:BQ:64:TRP:CE2	2.38	0.59
1:AA:405:U:OP1	1:AA:406:G:O2'	2.14	0.59
1:AA:959:A:H5"	1:AA:960:U:OP2	2.02	0.59
4:AD:57:LYS:HG3	4:AD:58:GLN:N	2.17	0.59
4:AD:172:VAL:HG22	4:AD:173:ASP:N	2.18	0.59
5:AE:106:ALA:HB2	5:AE:124:ALA:HB3	1.85	0.59
23:AW:19:ILE:O	23:AW:20:SER:HB3	2.03	0.59
25:B0:23:LYS:NZ	34:BA:923:G:H21	2.01	0.59
33:B8:18:LYS:HG3	33:B8:23:ILE:HD12	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:205:G:O2'	34:BA:206:U:P	2.60	0.59
34:BA:1796:U:H2'	34:BA:1797:G:C8	2.37	0.59
34:BA:2017:U:H5"	34:BA:2018:G:OP2	2.02	0.59
34:BA:2259:U:C6	34:BA:2427:C:C4	2.91	0.59
37:BD:181:ASP:HB3	37:BD:186:LEU:CB	2.33	0.59
39:BF:24:VAL:O	39:BF:27:VAL:HG12	2.03	0.59
47:BQ:108:VAL:HG13	47:BQ:109:PRO:HD2	1.83	0.59
1:AA:110:C:H2'	1:AA:111:G:O4'	2.03	0.59
1:AA:1102:A:H2'	1:AA:1103:C:C6	2.38	0.59
16:AP:52:LEU:O	16:AP:54:LEU:HD12	2.02	0.59
34:BA:5:A:H2'	34:BA:6:A:C8	2.37	0.59
34:BA:603:A:H4'	34:BA:604:G:OP1	2.03	0.59
34:BA:1000:A:C6	34:BA:1155:A:C8	2.90	0.59
34:BA:1005:C:O2'	44:BN:30:THR:HG21	2.03	0.59
34:BA:1248:G:OP2	38:BE:44:ARG:NH1	2.36	0.59
34:BA:1565:C:HO2'	34:BA:1566:A:H2'	1.68	0.59
34:BA:1818:U:H5	36:BC:155:ARG:HH12	1.51	0.59
34:BA:2287:A:O2'	34:BA:2288:A:H3'	2.02	0.59
34:BA:2820:A:C2'	34:BA:2821:A:OP1	2.51	0.59
41:BH:4:ASN:O	41:BH:8:LYS:HG3	2.02	0.59
44:BN:40:HIS:CE1	44:BN:41:LYS:HE3	2.37	0.59
48:BR:73:ASN:HD22	48:BR:76:VAL:CG1	2.09	0.59
1:AA:815:A:N6	1:AA:1509:C:H1'	2.16	0.59
1:AA:1342:C:O2'	1:AA:1343:G:H5'	2.02	0.59
1:AA:1435:G:H2'	1:AA:1436:U:C6	2.38	0.59
3:AC:51:VAL:HG22	3:AC:52:SER:H	1.68	0.59
6:AF:3:HIS:ND1	6:AF:65:GLU:HB2	2.17	0.59
12:AL:1:ALA:HB3	12:AL:5:GLN:OE1	2.03	0.59
12:AL:23:LEU:HG	12:AL:24:GLU:HG3	1.85	0.59
13:AM:7:ASN:HD22	13:AM:8:ILE:N	2.00	0.59
23:AW:22:PRO:HA	58:AW:602:GNP:O2G	2.02	0.59
27:B2:2:LYS:N	27:B2:2:LYS:HD2	2.17	0.59
41:BH:143:MET:C	41:BH:145:GLU:N	2.60	0.59
48:BR:96:ARG:HH22	48:BR:116:VAL:HG23	1.67	0.59
54:BX:39:THR:O	54:BX:39:THR:CG2	2.50	0.59
56:BZ:86:LEU:HD13	56:BZ:89:ILE:HD11	1.85	0.59
1:AA:274:A:H4'	17:AQ:15:LYS:HE2	1.84	0.59
4:AD:55:ARG:HA	4:AD:55:ARG:HH11	1.68	0.59
4:AD:73:ASN:HA	4:AD:76:LYS:HE2	1.85	0.59
5:AE:12:GLU:HB3	5:AE:38:VAL:HG12	1.84	0.59
9:AI:23:GLY:H	9:AI:61:ASP:N	1.98	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AI:93:LEU:C	9:AI:95:SER:H	2.10	0.59
25:B0:30:VAL:HG23	25:B0:60:ALA:O	2.03	0.59
27:B2:23:ARG:O	27:B2:24:GLU:C	2.45	0.59
30:B5:49:LYS:HG2	30:B5:50:GLU:N	2.18	0.59
33:B8:9:LYS:HG3	33:B8:16:ILE:HG13	1.84	0.59
35:BB:86:G:C6	35:BB:88:C:H1'	2.38	0.59
36:BC:24:HIS:CD2	36:BC:79:ARG:NH2	2.71	0.59
38:BE:148:ILE:HA	38:BE:187:VAL:HB	1.85	0.59
39:BF:127:TYR:HB3	39:BF:155:ILE:HB	1.85	0.59
41:BH:143:MET:O	41:BH:148:ALA:HB3	2.03	0.59
48:BR:114:GLU:HB2	48:BR:118:ARG:HD3	1.85	0.59
50:BT:50:ARG:CB	50:BT:57:ALA:N	2.45	0.59
53:BW:13:SER:O	53:BW:14:ALA:CB	2.50	0.59
56:BZ:2:PHE:CE2	56:BZ:56:PHE:HA	2.37	0.59
1:AA:82:G:C6	1:AA:88:U:O2	2.56	0.59
1:AA:1369:C:H2'	1:AA:1370:G:C8	2.37	0.59
2:AB:105:THR:HA	2:AB:108:GLN:OE1	2.03	0.59
18:AR:33:THR:HG23	18:AR:35:SER:N	2.17	0.59
23:AW:56:LYS:H	23:AW:57:SER:HB3	1.68	0.59
34:BA:511:U:H2'	34:BA:512:G:H5'	1.83	0.59
34:BA:912:C:C2	34:BA:913:U:C5	2.90	0.59
34:BA:1049:C:C2'	34:BA:1050:A:H5'	2.33	0.59
34:BA:1131:G:OP1	44:BN:77:HIS:HE1	1.86	0.59
34:BA:1722:A:H2'	34:BA:1723:G:C8	2.37	0.59
39:BF:28:PRO:CB	39:BF:168:LEU:HD22	2.32	0.59
45:BO:103:VAL:O	45:BO:122:VAL:HB	2.02	0.59
47:BQ:40:ARG:HB2	47:BQ:93:VAL:CG2	2.33	0.59
54:BX:64:LYS:HA	54:BX:79:ASP:OD1	2.02	0.59
1:AA:230:G:O2'	1:AA:231:U:H5'	2.02	0.59
1:AA:594:U:H2'	1:AA:595:A:O4'	2.03	0.59
1:AA:1003:G:N2	1:AA:1005:A:H5'	2.18	0.59
1:AA:1478:U:H2'	1:AA:1479:C:H6	1.66	0.59
2:AB:39:ILE:HG22	2:AB:40:ILE:HD12	1.85	0.59
2:AB:53:LEU:HD13	2:AB:56:LEU:HD12	1.85	0.59
11:AK:30:ILE:HB	11:AK:45:THR:CG2	2.33	0.59
17:AQ:25:GLU:OE2	17:AQ:38:LYS:HD3	2.02	0.59
23:AW:401:ILE:HG22	23:AW:461:ALA:HB1	1.84	0.59
34:BA:995:C:H1'	51:BU:60:TRP:HZ2	1.68	0.59
34:BA:1656:C:H2'	34:BA:1657:U:C6	2.38	0.59
34:BA:1993:U:H4'	37:BD:133:THR:CG2	2.31	0.59
34:BA:2146:C:H4'	34:BA:2147:A:OP1	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BE:48:THR:HG22	38:BE:86:ALA:HB3	1.85	0.59
40:BG:9:VAL:O	40:BG:11:PRO:HD3	2.03	0.59
41:BH:155:LEU:HD22	43:BL:22:LEU:HB3	1.85	0.59
56:BZ:80:HIS:HD2	56:BZ:83:LYS:HB2	1.63	0.59
1:AA:85:U:H1'	1:AA:86:G:C2	2.38	0.58
1:AA:555:U:H2'	1:AA:556:C:C6	2.37	0.58
1:AA:937:A:H1'	1:AA:1379:G:H22	1.67	0.58
2:AB:205:ALA:O	2:AB:209:VAL:HG22	2.02	0.58
4:AD:131:ILE:O	4:AD:131:ILE:HG12	2.03	0.58
25:B0:72:GLY:N	25:B0:73:PRO:CD	2.66	0.58
39:BF:128:SER:HA	39:BF:154:THR:HA	1.85	0.58
40:BG:6:ALA:HB1	40:BG:7:PRO:HD2	1.85	0.58
40:BG:10:VAL:HG11	40:BG:16:VAL:HG21	1.86	0.58
43:BL:11:VAL:HG13	43:BM:29:LYS:HZ1	1.66	0.58
55:BY:82:VAL:HG12	55:BY:83:GLY:N	2.12	0.58
1:AA:247:G:C6	1:AA:278:G:C2	2.92	0.58
1:AA:1195:C:H5"	1:AA:1196:A:OP2	2.03	0.58
3:AC:54:ILE:H	3:AC:54:ILE:HD13	1.68	0.58
12:AL:19:ASN:O	12:AL:93:ARG:HD2	2.02	0.58
15:AO:70:LYS:HD2	15:AO:77:TYR:CE2	2.38	0.58
21:AU:3:ILE:HA	21:AU:19:LYS:NZ	2.18	0.58
33:B8:14:CYS:SG	33:B8:33:HIS:ND1	2.76	0.58
34:BA:2226:C:H2'	34:BA:2227:A:O4'	2.03	0.58
34:BA:2423:U:O2'	34:BA:2424:C:OP2	2.21	0.58
34:BA:2425:A:H4'	34:BA:2426:A:O5'	2.03	0.58
49:BS:59:ALA:HA	49:BS:62:LEU:HD12	1.86	0.58
1:AA:69:G:H5'	1:AA:70:U:OP1	2.03	0.58
1:AA:437:U:H4'	4:AD:153:ARG:NH2	2.19	0.58
1:AA:500:G:N2	1:AA:546:A:H1'	2.18	0.58
1:AA:1129:C:C5'	1:AA:1130:A:OP1	2.46	0.58
1:AA:1323:G:O2'	1:AA:1362:A:C1'	2.51	0.58
4:AD:54:LEU:HD23	4:AD:54:LEU:C	2.29	0.58
11:AK:69:CYS:O	11:AK:73:VAL:HG13	2.03	0.58
12:AL:23:LEU:C	12:AL:25:ALA:N	2.59	0.58
14:AN:12:ARG:HG2	14:AN:53:ASP:HB3	1.84	0.58
24:AY:4:SER:O	34:BA:1914:C:OP2	2.21	0.58
34:BA:398:C:H5"	34:BA:2090:A:O4'	2.03	0.58
34:BA:1666:G:H1'	45:BO:3:GLN:OE1	2.03	0.58
41:BH:57:ASN:O	41:BH:59:LEU:N	2.37	0.58
43:BM:2:ILE:HG23	43:BM:3:THR:N	2.18	0.58
43:BM:6:GLN:O	43:BM:10:ALA:HB2	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BN:44:TYR:HD1	44:BN:44:TYR:C	2.10	0.58
53:BW:75:PHE:CE1	53:BW:104:THR:HB	2.38	0.58
1:AA:951:G:O2'	1:AA:972:C:N4	2.36	0.58
1:AA:1129:C:H2'	1:AA:1139:G:O6	2.04	0.58
1:AA:1379:G:O6	7:AG:1:PRO:HG2	2.03	0.58
2:AB:22:TRP:CG	2:AB:22:TRP:O	2.57	0.58
6:AF:42:TRP:HZ2	6:AF:61:LEU:HD22	1.68	0.58
11:AK:57:SER:O	11:AK:90:PRO:HG3	2.03	0.58
12:AL:89:LEU:HD22	12:AL:89:LEU:N	2.19	0.58
25:B0:36:ILE:HG22	25:B0:36:ILE:O	2.03	0.58
28:B3:4:ILE:HG12	28:B3:5:LYS:N	2.17	0.58
30:B5:5:ARG:HG3	30:B5:24:LYS:O	2.04	0.58
31:B6:19:ARG:HD3	34:BA:125:A:OP2	2.03	0.58
32:B7:14:LYS:O	32:B7:21:PHE:O	2.20	0.58
32:B7:41:ARG:HG3	32:B7:44:ARG:HH22	1.68	0.58
34:BA:995:C:C2'	34:BA:996:A:OP2	2.51	0.58
34:BA:1061:U:H5"	42:BI:9:LYS:NZ	2.18	0.58
34:BA:2106:U:H3	34:BA:2183:A:H61	1.50	0.58
37:BD:120:GLY:HA2	37:BD:162:ALA:CB	2.33	0.58
38:BE:159:LEU:HD12	38:BE:159:LEU:N	2.19	0.58
41:BH:26:VAL:HG23	41:BH:116:GLU:OE1	2.03	0.58
45:BO:102:PRO:HB3	45:BO:121:GLU:HB3	1.84	0.58
48:BR:13:ASN:O	48:BR:15:SER:N	2.36	0.58
54:BX:12:ARG:HG2	54:BX:35:ALA:H	1.69	0.58
1:AA:98:A:H2'	1:AA:99:C:C6	2.37	0.58
1:AA:746:A:C6	1:AA:747:A:N6	2.72	0.58
1:AA:1491:G:O2'	24:AY:6:5OH:HR	2.03	0.58
7:AG:144:ALA:C	7:AG:146:ALA:H	2.12	0.58
9:AI:6:TYR:HE2	9:AI:17:ARG:HB2	1.67	0.58
12:AL:30:ARG:HH12	23:AW:408:LYS:CG	2.10	0.58
13:AM:44:ILE:HD12	13:AM:44:ILE:N	2.17	0.58
25:B0:30:VAL:HG11	34:BA:2352:A:N1	2.18	0.58
26:B1:58:ILE:HD13	26:B1:66:VAL:HG21	1.86	0.58
34:BA:435:C:C2'	34:BA:436:C:H5'	2.32	0.58
34:BA:1107:G:H2'	34:BA:1108:U:H6	1.67	0.58
34:BA:1181:U:H2'	34:BA:1182:G:C8	2.38	0.58
37:BD:40:LEU:H	37:BD:40:LEU:CD1	2.01	0.58
41:BH:23:LEU:HB2	41:BH:92:ALA:HB1	1.85	0.58
41:BH:28:ALA:H	41:BH:111:ALA:HB2	1.68	0.58
43:BL:17:MET:O	43:BL:21:GLU:HG3	2.03	0.58
51:BU:23:TYR:HB3	51:BU:27:ARG:HB3	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BZ:72:VAL:HB	56:BZ:92:VAL:O	2.04	0.58
1:AA:265:G:N2	1:AA:267:C:H5'	2.19	0.58
1:AA:977:A:C2	1:AA:1362:A:N6	2.67	0.58
1:AA:1323:G:O2'	1:AA:1362:A:H1'	2.04	0.58
2:AB:53:LEU:HA	2:AB:56:LEU:HB3	1.84	0.58
3:AC:128:MET:HB3	3:AC:131:ARG:HB2	1.84	0.58
6:AF:3:HIS:HB2	6:AF:92:THR:HG23	1.84	0.58
11:AK:28:ASN:ND2	11:AK:56:LYS:HD2	2.19	0.58
13:AM:85:TYR:H	19:AS:72:GLU:HB3	1.68	0.58
25:B0:23:LYS:HE3	25:B0:24:ARG:O	2.04	0.58
25:B0:43:LYS:CD	25:B0:79:ILE:HD11	2.29	0.58
34:BA:319:G:H2'	34:BA:320:A:O4'	2.04	0.58
34:BA:322:A:H5'	34:BA:340:A:H1'	1.85	0.58
34:BA:388:G:N7	34:BA:390:U:H2'	2.19	0.58
34:BA:901:C:H2'	34:BA:902:C:O5'	2.04	0.58
34:BA:1020:A:O5'	34:BA:1020:A:H8	1.86	0.58
34:BA:1056:G:O2'	34:BA:1086:A:H1'	2.04	0.58
34:BA:1107:G:H5"	41:BH:58:THR:OG1	2.04	0.58
34:BA:1107:G:H4'	41:BH:81:LEU:HG	1.85	0.58
34:BA:2297:A:H2'	34:BA:2297:A:N3	2.18	0.58
36:BC:141:HIS:HD2	36:BC:192:GLY:O	1.86	0.58
40:BG:168:VAL:HG23	40:BG:168:VAL:O	2.04	0.58
42:BI:24:GLY:C	42:BI:26:ALA:H	2.12	0.58
42:BI:33:ASN:HB3	42:BI:36:GLU:HB2	1.85	0.58
46:BP:19:LEU:HD23	46:BP:19:LEU:O	2.04	0.58
50:BT:79:VAL:HG23	50:BT:79:VAL:O	2.02	0.58
52:BV:49:ILE:HG12	52:BV:51:VAL:O	2.04	0.58
56:BZ:62:THR:HA	56:BZ:71:LYS:HA	1.84	0.58
1:AA:641:U:H4'	8:AH:106:SER:O	2.03	0.58
1:AA:713:G:H2'	1:AA:714:G:C8	2.38	0.58
1:AA:1054:C:O2'	1:AA:1055:A:H5"	2.02	0.58
1:AA:1110:A:H8	1:AA:1110:A:O5'	1.87	0.58
11:AK:86:LYS:HG3	11:AK:112:VAL:O	2.04	0.58
12:AL:41:PRO:HA	12:AL:88:ASP:O	2.04	0.58
12:AL:109:ARG:CG	12:AL:109:ARG:HH11	2.17	0.58
26:B1:30:PRO:HB2	26:B1:32:LEU:HD11	1.83	0.58
34:BA:1107:G:OP1	41:BH:58:THR:C	2.47	0.58
34:BA:1340:U:C4'	34:BA:1341:G:OP2	2.40	0.58
34:BA:1913:A:O2'	34:BA:1914:C:P	2.61	0.58
34:BA:1913:A:H4'	34:BA:1914:C:H5'	1.84	0.58
37:BD:151:THR:O	37:BD:152:PRO:C	2.42	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BI:19:PRO:HG2	42:BI:23:VAL:HG22	1.86	0.58
50:BT:50:ARG:CB	50:BT:57:ALA:O	2.51	0.58
52:BV:24:LYS:HA	52:BV:94:THR:HG23	1.86	0.58
1:AA:1124:G:O2'	1:AA:1125:U:C5	2.56	0.58
1:AA:1219:A:H2'	1:AA:1220:G:C8	2.36	0.58
1:AA:1321:U:H5"	1:AA:1322:C:OP2	2.04	0.58
1:AA:1495:U:C5	24:AY:1:KBE:HE	2.34	0.58
3:AC:154:GLY:O	3:AC:155:ARG:C	2.45	0.58
4:AD:29:THR:O	4:AD:30:LYS:HE2	2.02	0.58
19:AS:10:ILE:HG22	19:AS:37:SER:HB3	1.84	0.58
23:AW:314:ARG:NH2	23:AW:418:GLN:HA	2.19	0.58
26:B1:56:ARG:NH1	34:BA:400:G:O6	2.36	0.58
34:BA:158:U:H2'	34:BA:159:G:H5'	1.85	0.58
34:BA:849:A:H2'	34:BA:850:U:C6	2.39	0.58
34:BA:2800:A:H3'	34:BA:2801:G:H5'	1.86	0.58
36:BC:141:HIS:CB	36:BC:190:THR:HB	2.29	0.58
36:BC:161:VAL:CG1	36:BC:173:LEU:HG	2.32	0.58
44:BN:55:ILE:HD11	44:BN:130:HIS:CG	2.39	0.58
53:BW:20:VAL:CG1	53:BW:47:VAL:HG11	2.33	0.58
1:AA:1206:G:H4'	3:AC:192:TYR:HA	1.84	0.58
1:AA:1240:U:C4	7:AG:31:VAL:HG11	2.39	0.58
1:AA:1253:G:N2	1:AA:1254:A:C4	2.72	0.58
1:AA:1306:A:N6	1:AA:1331:G:H1'	2.18	0.58
6:AF:9:MET:HA	6:AF:58:HIS:O	2.04	0.58
7:AG:74:VAL:HG11	7:AG:143:MET:HG3	1.85	0.58
8:AH:115:ALA:HA	8:AH:118:ALA:HB3	1.86	0.58
10:AJ:18:ILE:HG23	10:AJ:72:ARG:HE	1.69	0.58
14:AN:21:ALA:N	14:AN:24:ALA:HB3	2.19	0.58
17:AQ:11:VAL:HG12	17:AQ:12:VAL:H	1.69	0.58
17:AQ:45:VAL:HG11	17:AQ:60:ILE:HD12	1.85	0.58
23:AW:448:VAL:HG13	23:AW:452:ARG:HH21	1.68	0.58
25:B0:23:LYS:HD2	25:B0:24:ARG:N	2.19	0.58
34:BA:277:G:H4'	34:BA:278:A:N7	2.18	0.58
34:BA:882:G:C2	34:BA:883:G:C5	2.91	0.58
34:BA:1261:C:C2'	34:BA:1262:A:O5'	2.52	0.58
34:BA:1831:G:O2'	34:BA:1832:C:H5'	2.04	0.58
34:BA:2811:G:H2'	34:BA:2812:G:O4'	2.04	0.58
39:BF:100:GLU:C	39:BF:102:LEU:H	2.10	0.58
39:BF:175:PRO:O	39:BF:176:PHE:HB2	2.04	0.58
40:BG:60:GLY:O	40:BG:61:TRP:HB2	2.02	0.58
44:BN:44:TYR:C	44:BN:44:TYR:CD1	2.82	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BT:19:PHE:HE2	50:BT:83:ILE:HD12	1.67	0.58
1:AA:418:C:O5'	1:AA:418:C:H6	1.87	0.58
1:AA:950:U:H2'	1:AA:951:G:H8	1.68	0.58
1:AA:1005:A:H2'	1:AA:1006:G:O4'	2.04	0.58
2:AB:51:GLU:HG2	2:AB:197:PHE:HE1	1.69	0.58
3:AC:57:GLU:HG2	3:AC:64:ARG:HB3	1.86	0.58
4:AD:63:ILE:HG23	4:AD:64:TYR:CD1	2.38	0.58
5:AE:75:LEU:HD21	5:AE:119:VAL:HG12	1.86	0.58
23:AW:97:GLU:O	23:AW:99:THR:N	2.37	0.58
28:B3:28:LEU:HA	28:B3:33:HIS:HD2	1.67	0.58
34:BA:967:U:H2'	34:BA:968:C:C6	2.39	0.58
34:BA:2294:G:P	49:BS:94:ARG:HH12	2.27	0.58
37:BD:97:SER:OG	37:BD:98:VAL:N	2.37	0.58
38:BE:153:LEU:HB3	38:BE:171:ASP:HB3	1.85	0.58
39:BF:3:LEU:HD12	39:BF:172:PHE:CE2	2.39	0.58
48:BR:31:HIS:O	48:BR:33:ILE:HD12	2.03	0.58
1:AA:1015:G:O2'	1:AA:1218:C:H4'	2.04	0.57
2:AB:56:LEU:HD22	2:AB:59:ILE:HD11	1.86	0.57
11:AK:14:GLN:HE22	11:AK:77:GLY:CA	2.16	0.57
12:AL:2:THR:HG22	12:AL:4:ASN:H	1.69	0.57
12:AL:115:LYS:HB2	12:AL:116:TYR:CD2	2.39	0.57
16:AP:68:SER:HB2	16:AP:71:VAL:H	1.69	0.57
34:BA:936:A:H2'	34:BA:937:C:C6	2.38	0.57
34:BA:1165:A:H2'	34:BA:1166:G:H8	1.69	0.57
34:BA:1799:G:OP2	36:BC:269:ARG:NH2	2.37	0.57
34:BA:1809:A:H2'	34:BA:1810:A:C8	2.39	0.57
1:AA:376:G:H2'	1:AA:377:G:C8	2.37	0.57
1:AA:701:U:H1'	1:AA:703:G:C2	2.39	0.57
1:AA:1494:G:O6	24:AY:1:KBE:HAA	2.03	0.57
3:AC:83:VAL:HA	3:AC:86:LEU:HD12	1.86	0.57
5:AE:63:MET:O	5:AE:67:ARG:HG2	2.04	0.57
7:AG:68:VAL:HG11	7:AG:133:ALA:HB1	1.86	0.57
8:AH:54:THR:O	8:AH:56:PRO:HD3	2.04	0.57
26:B1:29:LEU:HD23	34:BA:2231:U:OP1	2.04	0.57
34:BA:1533:C:O2	34:BA:1533:C:H2'	2.04	0.57
34:BA:2297:A:N1	34:BA:2321:U:H5	2.02	0.57
38:BE:149:ILE:HD12	38:BE:175:ILE:HB	1.84	0.57
39:BF:46:LYS:H	39:BF:46:LYS:HD2	1.68	0.57
42:BI:23:VAL:HG23	42:BI:24:GLY:H	1.69	0.57
43:BJ:3:THR:O	43:BJ:7:ILE:HG12	2.04	0.57
43:BM:26:MET:SD	43:BM:30:PHE:HB2	2.44	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BN:98:GLU:HB3	44:BN:124:VAL:HG21	1.87	0.57
49:BS:11:ALA:O	49:BS:15:ARG:HB2	2.05	0.57
54:BX:67:VAL:O	54:BX:68:LYS:HD2	2.03	0.57
1:AA:598:U:H2'	1:AA:599:C:H6	1.70	0.57
1:AA:688:G:O2'	1:AA:704:A:N1	2.36	0.57
1:AA:702:A:C2'	1:AA:703:G:OP1	2.51	0.57
1:AA:1370:G:P	9:AI:110:VAL:HG21	2.44	0.57
1:AA:1458:G:H4'	20:AT:22:SER:HB2	1.86	0.57
2:AB:143:LEU:HA	2:AB:146:SER:OG	2.04	0.57
5:AE:42:ASN:C	5:AE:42:ASN:HD22	2.10	0.57
7:AG:110:ARG:HG2	7:AG:112:ASP:OD2	2.05	0.57
9:AI:17:ARG:NH2	9:AI:67:LYS:HZ1	2.02	0.57
12:AL:86:VAL:HG22	12:AL:95:HIS:CE1	2.39	0.57
19:AS:52:ASN:HB2	19:AS:76:THR:HG22	1.86	0.57
23:AW:68:ILE:HG23	23:AW:68:ILE:O	2.03	0.57
28:B3:26:LEU:HD21	28:B3:47:ILE:HD13	1.86	0.57
34:BA:642:U:H2'	34:BA:644:A:OP2	2.05	0.57
34:BA:782:A:C8	36:BC:219:VAL:HG21	2.39	0.57
34:BA:1338:G:H4'	54:BX:18:GLU:HB2	1.84	0.57
34:BA:1652:A:OP1	48:BR:8:ARG:HD3	2.04	0.57
35:BB:87:U:C4'	35:BB:88:C:OP2	2.51	0.57
37:BD:5:VAL:HG21	37:BD:80:TRP:CE3	2.39	0.57
41:BH:23:LEU:HD21	41:BH:96:PHE:CD2	2.38	0.57
44:BN:111:LYS:HD3	44:BN:112:GLY:N	2.07	0.57
45:BO:36:GLY:HA2	45:BO:62:VAL:O	2.04	0.57
45:BO:70:ARG:HG2	45:BO:76:VAL:HG22	1.85	0.57
46:BP:90:VAL:O	46:BP:90:VAL:HG12	2.03	0.57
48:BR:65:LEU:HD11	48:BR:69:ARG:CZ	2.34	0.57
1:AA:345:C:H1'	1:AA:346:G:C2	2.38	0.57
1:AA:585:G:O3'	17:AQ:35:LYS:NZ	2.34	0.57
1:AA:1069:C:H4'	1:AA:1192:C:O2	2.03	0.57
2:AB:103:TRP:CD1	2:AB:150:ILE:HD11	2.39	0.57
2:AB:108:GLN:NE2	2:AB:108:GLN:H	2.02	0.57
5:AE:79:THR:OG1	5:AE:80:LEU:N	2.37	0.57
7:AG:14:ASP:HB3	7:AG:19:SER:H	1.68	0.57
9:AI:117:LEU:CD2	9:AI:123:ARG:HA	2.34	0.57
11:AK:26:PHE:CE1	11:AK:88:PRO:HG2	2.40	0.57
12:AL:33:CYS:HB2	12:AL:54:VAL:HG22	1.86	0.57
12:AL:49:ARG:HG2	12:AL:49:ARG:HH11	1.70	0.57
21:AU:19:LYS:C	21:AU:21:SER:H	2.10	0.57
23:AW:307:MET:HE2	23:AW:309:PRO:HD3	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AW:399:ARG:HG3	23:AW:438:VAL:O	2.05	0.57
34:BA:136:G:C6	34:BA:142:A:N6	2.71	0.57
34:BA:480:A:OP2	55:BY:43:LYS:HD2	2.04	0.57
34:BA:528:A:C2	34:BA:2042:A:H2'	2.39	0.57
34:BA:1316:U:H2'	34:BA:1317:G:C8	2.39	0.57
34:BA:2040:G:H2'	34:BA:2041:U:H6	1.67	0.57
34:BA:2756:U:H1'	34:BA:2757:A:H5"	1.86	0.57
38:BE:147:LEU:O	38:BE:168:ASP:O	2.20	0.57
51:BU:91:ARG:HH11	52:BV:11:GLN:H	1.50	0.57
54:BX:12:ARG:HH11	54:BX:12:ARG:CG	2.12	0.57
1:AA:8:A:H5'	5:AE:124:ALA:O	2.04	0.57
1:AA:1190:G:H5'	3:AC:175:HIS:NE2	2.20	0.57
1:AA:1239:A:H1'	1:AA:1241:G:C4	2.39	0.57
1:AA:1366:C:O2'	10:AJ:62:ARG:NH2	2.36	0.57
2:AB:15:PHE:O	2:AB:40:ILE:HG13	2.04	0.57
3:AC:185:THR:HG22	3:AC:186:SER:N	2.19	0.57
14:AN:58:ARG:HG2	14:AN:58:ARG:NH1	2.19	0.57
19:AS:14:LEU:HD13	19:AS:32:THR:HG21	1.85	0.57
20:AT:26:MET:HG3	20:AT:27:MET:N	2.18	0.57
34:BA:878:A:N1	34:BA:900:A:H1'	2.18	0.57
34:BA:1140:C:OP1	44:BN:25:LEU:O	2.22	0.57
34:BA:1458:U:H5'	34:BA:1459:G:N3	2.20	0.57
36:BC:216:ARG:HH11	36:BC:216:ARG:HG3	1.69	0.57
38:BE:188:MET:SD	38:BE:193:VAL:HG22	2.44	0.57
44:BN:42:ALA:O	44:BN:45:THR:HG22	2.03	0.57
50:BT:59:THR:OG1	50:BT:72:VAL:HG12	2.05	0.57
55:BY:71:ILE:HD13	55:BY:82:VAL:HG22	1.87	0.57
1:AA:633:G:H2'	1:AA:634:C:H6	1.70	0.57
1:AA:1003:G:O6	1:AA:1036:A:N7	2.37	0.57
1:AA:1180:A:H5"	1:AA:1181:G:OP2	2.04	0.57
2:AB:26:MET:HG2	2:AB:188:THR:HA	1.87	0.57
2:AB:41:ASN:C	2:AB:41:ASN:HD22	2.11	0.57
2:AB:65:LYS:HG2	2:AB:89:PHE:HE1	1.68	0.57
3:AC:110:LEU:HD21	3:AC:143:LEU:HD23	1.87	0.57
8:AH:84:ILE:CG2	8:AH:124:ILE:HD11	2.34	0.57
12:AL:109:ARG:HH11	12:AL:109:ARG:HG2	1.69	0.57
16:AP:20:VAL:HG21	16:AP:32:PHE:CG	2.39	0.57
18:AR:44:THR:OG1	18:AR:46:THR:HG22	2.04	0.57
27:B2:39:GLN:HG3	27:B2:42:LEU:HD22	1.87	0.57
34:BA:870:U:C2'	34:BA:871:U:H5'	2.34	0.57
34:BA:996:A:O3'	51:BU:91:ARG:HG2	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1056:G:H5'	41:BH:34:THR:CG2	2.34	0.57
34:BA:1522:A:H1'	34:BA:1524:G:C5	2.40	0.57
37:BD:107:VAL:HG13	37:BD:203:VAL:CG2	2.35	0.57
44:BN:54:ILE:CD1	44:BN:122:LEU:HD13	2.33	0.57
47:BQ:36:VAL:HB	47:BQ:127:LYS:O	2.04	0.57
48:BR:55:ALA:HB1	48:BR:80:PHE:N	2.19	0.57
55:BY:5:ARG:O	55:BY:6:ARG:O	2.22	0.57
1:AA:939:G:C6	1:AA:940:C:C4	2.93	0.57
1:AA:962:C:C1'	1:AA:1201:A:N6	2.66	0.57
1:AA:963:G:H2'	1:AA:964:A:C8	2.39	0.57
1:AA:1203:C:H6	1:AA:1203:C:O5'	1.87	0.57
1:AA:1239:A:H1'	1:AA:1241:G:C5	2.39	0.57
1:AA:1512:U:H2'	1:AA:1513:A:C8	2.40	0.57
6:AF:61:LEU:HG	6:AF:62:MET:H	1.69	0.57
16:AP:71:VAL:O	16:AP:75:ILE:HG13	2.04	0.57
19:AS:42:ASN:C	19:AS:42:ASN:HD22	2.13	0.57
34:BA:142:A:H2'	34:BA:143:C:C6	2.39	0.57
34:BA:686:U:H2'	34:BA:788:A:C2	2.40	0.57
34:BA:1535:A:H4'	34:BA:1536:C:OP2	2.04	0.57
34:BA:2287:A:O2'	34:BA:2288:A:H2'	2.04	0.57
38:BE:18:THR:HB	38:BE:106:LYS:HG2	1.87	0.57
38:BE:47:LYS:HA	38:BE:51:GLU:OE2	2.05	0.57
41:BH:116:GLU:HG2	41:BH:117:LEU:H	1.69	0.57
48:BR:25:ALA:O	48:BR:29:VAL:HG23	2.05	0.57
50:BT:50:ARG:HB3	50:BT:57:ALA:O	2.05	0.57
54:BX:43:ILE:O	54:BX:47:VAL:HG23	2.03	0.57
55:BY:47:PRO:HB3	55:BY:54:PRO:C	2.29	0.57
56:BZ:80:HIS:CD2	56:BZ:83:LYS:H	2.23	0.57
1:AA:752:G:H1'	1:AA:754:C:N4	2.20	0.57
1:AA:965:U:H4'	1:AA:966:G:C5'	2.35	0.57
1:AA:1347:G:H22	1:AA:1373:G:H2'	1.67	0.57
2:AB:41:ASN:HD22	2:AB:42:LEU:N	2.03	0.57
2:AB:183:PHE:CZ	2:AB:197:PHE:CE2	2.92	0.57
3:AC:148:ILE:CG1	3:AC:201:ILE:HG12	2.35	0.57
5:AE:154:ALA:HB3	5:AE:155:LYS:HE3	1.86	0.57
30:B5:33:LEU:N	30:B5:51:ALA:HB3	2.07	0.57
34:BA:1022:G:O6	44:BN:68:LYS:HE2	2.05	0.57
34:BA:1930:G:C2'	34:BA:1931:U:OP2	2.53	0.57
37:BD:48:ILE:C	37:BD:48:ILE:HD12	2.29	0.57
44:BN:45:THR:H	44:BN:46:PRO:HD3	1.69	0.57
46:BP:27:LEU:HD12	46:BP:27:LEU:N	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BS:74:VAL:O	49:BS:78:VAL:HG22	2.04	0.57
51:BU:49:ARG:HH11	51:BU:49:ARG:HG3	1.69	0.57
55:BY:6:ARG:O	55:BY:24:VAL:HB	2.04	0.57
1:AA:155:A:H2'	1:AA:156:C:O4'	2.05	0.57
1:AA:641:U:O2'	1:AA:642:A:C8	2.57	0.57
1:AA:801:U:H2'	1:AA:802:A:C8	2.39	0.57
2:AB:44:LYS:O	2:AB:48:MET:HB2	2.04	0.57
2:AB:185:ILE:HA	2:AB:199:ILE:HB	1.86	0.57
9:AI:49:GLN:N	9:AI:50:PRO:HD2	2.19	0.57
12:AL:49:ARG:HH11	12:AL:89:LEU:HD21	1.70	0.57
32:B7:33:THR:HB	34:BA:2420:C:OP1	2.05	0.57
32:B7:63:TYR:CE2	34:BA:242:G:H5"	2.40	0.57
34:BA:563:A:OP2	52:BV:79:ARG:NH2	2.35	0.57
34:BA:883:G:C2	34:BA:884:U:C2	2.92	0.57
34:BA:1212:G:O2'	34:BA:1213:A:OP2	2.14	0.57
34:BA:1257:C:H5'	38:BE:78:TRP:CH2	2.40	0.57
34:BA:1535:A:N3	34:BA:1535:A:H2'	2.20	0.57
35:BB:5:U:H2'	35:BB:6:G:H8	1.68	0.57
35:BB:65:U:H3'	35:BB:108:A:H61	1.68	0.57
39:BF:154:THR:C	39:BF:155:ILE:HD12	2.30	0.57
45:BO:51:LYS:HD2	45:BO:51:LYS:O	2.05	0.57
48:BR:55:ALA:HB2	48:BR:79:LEU:HB3	1.86	0.57
52:BV:38:VAL:O	52:BV:53:PHE:HA	2.05	0.57
1:AA:688:G:H2'	1:AA:689:C:O4'	2.05	0.57
6:AF:51:ILE:HD12	6:AF:85:ILE:HD12	1.86	0.57
8:AH:46:GLU:HA	8:AH:63:LYS:HD2	1.86	0.57
11:AK:28:ASN:OD1	11:AK:46:ALA:HB3	2.05	0.57
20:AT:34:VAL:O	20:AT:38:ILE:HG12	2.05	0.57
34:BA:172:A:H2'	34:BA:173:A:C8	2.40	0.57
34:BA:492:A:H2'	34:BA:493:G:O4'	2.05	0.57
34:BA:1343:G:N3	34:BA:1343:G:H2'	2.20	0.57
34:BA:2281:A:C2'	34:BA:2282:G:H5'	2.33	0.57
36:BC:23:LEU:HD11	36:BC:81:GLU:C	2.30	0.57
37:BD:61:THR:OG1	37:BD:63:PRO:HD2	2.05	0.57
37:BD:117:GLY:C	37:BD:118:PHE:CG	2.81	0.57
38:BE:108:ILE:HG13	38:BE:181:ILE:HG12	1.86	0.57
41:BH:32:GLY:HA3	41:BH:56:ARG:NH2	2.20	0.57
50:BT:64:SER:O	50:BT:65:ASN:C	2.48	0.57
1:AA:960:U:O4	1:AA:1225:A:C4	2.58	0.56
1:AA:1233:G:C6	1:AA:1234:C:N4	2.73	0.56
4:AD:145:ARG:O	4:AD:149:LYS:HG3	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AS:33:TRP:NE1	19:AS:51:HIS:ND1	2.52	0.56
34:BA:358:U:H2'	34:BA:359:G:O4'	2.05	0.56
34:BA:1509:A:O2'	34:BA:1510:G:C5'	2.53	0.56
34:BA:2758:A:H2'	34:BA:2759:G:H5'	1.87	0.56
36:BC:118:GLY:O	36:BC:129:LEU:HD23	2.04	0.56
43:BJ:24:SER:C	43:BJ:26:MET:H	2.13	0.56
44:BN:24:THR:HA	44:BN:63:ALA:HB3	1.87	0.56
47:BQ:97:GLN:CD	47:BQ:97:GLN:N	2.63	0.56
52:BV:61:ALA:HB1	52:BV:98:ILE:H	1.70	0.56
54:BX:1:MET:HE3	54:BX:3:ARG:O	2.05	0.56
1:AA:484:G:N7	1:AA:486:U:H1'	2.20	0.56
1:AA:736:C:H2'	1:AA:737:C:C6	2.39	0.56
1:AA:1206:G:H2'	1:AA:1207:G:O4'	2.05	0.56
6:AF:45:ARG:HB3	6:AF:59:TYR:CE1	2.40	0.56
7:AG:22:LEU:O	7:AG:26:VAL:HG13	2.04	0.56
12:AL:101:LEU:HG	23:AW:409:GLN:HE22	1.69	0.56
13:AM:28:ARG:NH1	13:AM:28:ARG:HB3	2.20	0.56
20:AT:53:MET:HE3	20:AT:57:VAL:CG2	2.35	0.56
23:AW:147:ASP:OD2	40:BG:91:VAL:HG13	2.05	0.56
30:B5:8:ILE:HG23	30:B5:51:ALA:HA	1.87	0.56
33:B8:11:CYS:SG	33:B8:33:HIS:ND1	2.76	0.56
34:BA:170:U:O2'	34:BA:171:U:H5'	2.04	0.56
34:BA:459:U:C2'	34:BA:460:A:H5'	2.36	0.56
34:BA:1154:G:OP2	51:BU:57:ARG:NH1	2.38	0.56
34:BA:2275:C:O2	47:BQ:84:LYS:HD2	2.05	0.56
34:BA:2839:G:H2'	34:BA:2840:C:C6	2.40	0.56
36:BC:140:VAL:CG1	36:BC:189:ALA:HB1	2.34	0.56
41:BH:157:ALA:O	41:BH:161:ALA:N	2.38	0.56
44:BN:44:TYR:CD2	51:BU:63:ARG:HG2	2.39	0.56
48:BR:106:ASP:O	48:BR:107:ASN:HB3	2.05	0.56
1:AA:237:G:OP1	17:AQ:41:THR:HG23	2.05	0.56
1:AA:328:C:O2	1:AA:328:C:H2'	2.05	0.56
1:AA:427:U:OP1	4:AD:12:ARG:NH2	2.38	0.56
1:AA:686:U:C1'	11:AK:43:TRP:HE1	2.16	0.56
1:AA:965:U:H4'	1:AA:966:G:H5"	1.86	0.56
1:AA:1125:U:N3	1:AA:1127:G:C8	2.73	0.56
1:AA:1300:G:O2'	1:AA:1301:U:P	2.62	0.56
5:AE:63:MET:O	5:AE:66:ALA:HB3	2.05	0.56
16:AP:48:GLU:HG3	16:AP:49:GLY:H	1.70	0.56
20:AT:50:PHE:O	20:AT:53:MET:HG3	2.05	0.56
23:AW:71:THR:HG22	23:AW:72:THR:H	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AW:145:ASP:OD2	58:AW:602:GNP:N1	2.37	0.56
23:AW:394:ALA:HB2	23:AW:525:GLN:HG2	1.86	0.56
32:B7:16:THR:HG21	32:B7:48:MET:HE1	1.86	0.56
34:BA:27:G:O2'	34:BA:28:A:O5'	2.22	0.56
34:BA:1261:C:H2'	34:BA:1262:A:O5'	2.06	0.56
34:BA:1717:A:N6	34:BA:1743:G:H1'	2.21	0.56
34:BA:2557:G:H2'	34:BA:2558:C:C6	2.40	0.56
34:BA:2564:A:OP1	34:BA:2648:G:H4'	2.04	0.56
34:BA:2636:C:H2'	34:BA:2637:U:C6	2.40	0.56
36:BC:119:VAL:HB	36:BC:133:ASN:HD21	1.69	0.56
36:BC:121:ALA:HB3	36:BC:129:LEU:HD21	1.87	0.56
36:BC:154:ALA:HB2	36:BC:161:VAL:HG23	1.88	0.56
37:BD:118:PHE:CD2	37:BD:119:ALA:N	2.65	0.56
40:BG:83:THR:HA	40:BG:84:LYS:CE	2.35	0.56
40:BG:163:TYR:O	40:BG:164:ALA:HB2	2.04	0.56
41:BH:31:ARG:HH22	41:BH:109:LYS:HE3	1.69	0.56
44:BN:2:LYS:H	44:BN:2:LYS:CD	2.18	0.56
47:BQ:40:ARG:HB2	47:BQ:93:VAL:HG21	1.87	0.56
47:BQ:43:ALA:O	47:BQ:44:ARG:C	2.48	0.56
53:BW:73:LYS:HA	53:BW:73:LYS:CE	2.34	0.56
1:AA:518:C:H2'	1:AA:530:G:H8	1.68	0.56
1:AA:1058:G:H2'	1:AA:1059:C:O4'	2.06	0.56
1:AA:1359:C:H5	14:AN:74:ARG:HH12	1.53	0.56
2:AB:170:ILE:O	2:AB:174:GLU:HB2	2.05	0.56
6:AF:70:VAL:HG23	6:AF:71:ILE:N	2.20	0.56
14:AN:51:PRO:O	14:AN:52:ARG:HB2	2.06	0.56
24:AY:6:5OH:N	24:AY:6:5OH:HS	2.19	0.56
26:B1:76:LYS:HG3	26:B1:77:TYR:H	1.70	0.56
34:BA:1266:G:C2'	34:BA:1267:U:OP2	2.53	0.56
34:BA:1279:G:H2'	34:BA:1280:G:H5'	1.88	0.56
37:BD:191:GLY:O	37:BD:192:ALA:CB	2.53	0.56
38:BE:27:LEU:O	38:BE:31:VAL:HG23	2.05	0.56
40:BG:94:ARG:HG3	40:BG:127:GLN:HB3	1.86	0.56
41:BH:51:TYR:HB2	41:BH:89:PRO:CD	2.32	0.56
41:BH:58:THR:C	41:BH:60:LEU:H	2.13	0.56
41:BH:139:LEU:HD13	43:BJ:26:MET:SD	2.45	0.56
44:BN:31:GLU:HG3	44:BN:142:ILE:HG21	1.88	0.56
44:BN:42:ALA:C	44:BN:44:TYR:N	2.59	0.56
49:BS:16:ARG:NH2	49:BS:19:GLN:HE22	2.03	0.56
50:BT:19:PHE:CE2	50:BT:83:ILE:CD1	2.89	0.56
51:BU:4:LYS:HG3	51:BU:5:ARG:H	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:70:U:HO2'	1:AA:71:A:H8	1.52	0.56
1:AA:169:C:O2'	1:AA:170:U:H5'	2.06	0.56
8:AH:40:LYS:C	8:AH:42:GLU:H	2.13	0.56
9:AI:26:LYS:HG3	9:AI:61:ASP:OD1	2.06	0.56
9:AI:93:LEU:HD12	9:AI:94:ARG:N	2.20	0.56
13:AM:32:ILE:HG23	13:AM:58:GLU:CG	2.36	0.56
18:AR:40:PRO:HB2	18:AR:42:ARG:HG2	1.87	0.56
20:AT:4:LYS:HE2	20:AT:4:LYS:C	2.31	0.56
23:AW:108:CYS:HA	23:AW:135:THR:HG23	1.88	0.56
34:BA:287:G:H2'	34:BA:288:U:C6	2.41	0.56
34:BA:361:G:O2'	34:BA:362:A:H5'	2.06	0.56
34:BA:372:G:C2'	34:BA:373:U:OP2	2.53	0.56
34:BA:495:G:H21	53:BW:61:ASN:HD21	1.53	0.56
34:BA:1799:G:N2	36:BC:153:LEU:HD23	2.21	0.56
37:BD:14:ILE:C	37:BD:14:ILE:HD12	2.30	0.56
38:BE:175:ILE:O	38:BE:175:ILE:HG23	2.05	0.56
39:BF:157:THR:C	39:BF:159:ALA:H	2.13	0.56
41:BH:151:LEU:CD2	41:BH:155:LEU:HD12	2.34	0.56
43:BJ:7:ILE:HG22	43:BJ:8:ILE:HD13	1.87	0.56
48:BR:33:ILE:HG23	48:BR:114:GLU:HB3	1.88	0.56
55:BY:80:ASP:HB3	55:BY:95:PHE:CD2	2.39	0.56
1:AA:1054:C:OP2	1:AA:1197:A:OP2	2.24	0.56
1:AA:1214:C:H5"	1:AA:1215:G:OP2	2.05	0.56
3:AC:83:VAL:CG1	3:AC:100:ILE:HG21	2.35	0.56
4:AD:2:ARG:CZ	4:AD:114:ARG:HD2	2.36	0.56
4:AD:23:GLY:O	4:AD:160:LEU:HG	2.05	0.56
6:AF:47:LEU:HD23	6:AF:59:TYR:OH	2.06	0.56
9:AI:78:ILE:O	9:AI:82:ILE:HG13	2.06	0.56
34:BA:161:A:O5'	34:BA:162:U:H5'	2.06	0.56
34:BA:345:A:O2'	34:BA:346:A:N7	2.36	0.56
34:BA:2591:C:OP1	36:BC:237:ARG:HG3	2.05	0.56
35:BB:86:G:N1	35:BB:88:C:H1'	2.20	0.56
36:BC:52:HIS:HA	36:BC:216:ARG:HB2	1.87	0.56
36:BC:67:LYS:O	36:BC:68:ARG:HB2	2.04	0.56
39:BF:28:PRO:HB2	39:BF:168:LEU:HD22	1.86	0.56
51:BU:42:GLY:HA3	52:BV:75:VAL:HG21	1.87	0.56
52:BV:66:HIS:CD2	52:BV:94:THR:HG22	2.40	0.56
53:BW:63:GLY:O	53:BW:64:ALA:HB3	2.04	0.56
1:AA:1327:C:H2'	1:AA:1328:C:H6	1.69	0.56
5:AE:149:PRO:HG2	5:AE:150:GLU:H	1.71	0.56
11:AK:22:ILE:HD11	11:AK:85:VAL:HG22	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AM:2:ARG:C	13:AM:3:ILE:HG12	2.30	0.56
16:AP:80:LYS:HB2	16:AP:80:LYS:HZ2	1.70	0.56
17:AQ:8:GLN:O	17:AQ:24:ILE:HG23	2.05	0.56
23:AW:47:LYS:HE2	23:AW:66:ARG:O	2.06	0.56
26:B1:39:VAL:C	26:B1:41:SER:N	2.64	0.56
34:BA:323:C:H6	34:BA:1205:A:N1	2.03	0.56
34:BA:519:U:O2'	53:BW:73:LYS:HE2	2.06	0.56
34:BA:878:A:N6	34:BA:900:A:H1'	2.20	0.56
34:BA:995:C:C6	34:BA:995:C:C5'	2.88	0.56
34:BA:1737:G:C6	34:BA:1738:G:N2	2.74	0.56
34:BA:2287:A:HO2'	34:BA:2288:A:P	2.28	0.56
34:BA:2468:A:HO2'	34:BA:2469:A:H8	1.53	0.56
37:BD:3:GLY:O	37:BD:4:LEU:HD12	2.06	0.56
41:BH:76:PHE:O	41:BH:79:PRO:HD3	2.06	0.56
41:BH:81:LEU:O	41:BH:82:ILE:HD13	2.06	0.56
41:BH:93:ALA:CA	41:BH:129:LEU:HB3	2.36	0.56
46:BP:51:GLU:OE1	46:BP:56:PRO:HA	2.06	0.56
46:BP:55:MET:HE2	46:BP:56:PRO:CD	2.35	0.56
55:BY:73:ASN:ND2	55:BY:76:THR:H	1.99	0.56
1:AA:49:U:H5	1:AA:365:U:O4	1.89	0.56
1:AA:198:G:H2'	1:AA:199:A:H8	1.70	0.56
1:AA:538:G:OP1	12:AL:109:ARG:HD3	2.06	0.56
1:AA:738:C:C2	1:AA:739:C:C5	2.93	0.56
1:AA:875:U:O2'	8:AH:14:ARG:NH1	2.39	0.56
1:AA:1124:G:O2'	1:AA:1125:U:C6	2.59	0.56
1:AA:1159:U:N3	1:AA:1182:G:C4	2.72	0.56
1:AA:1495:U:C5	24:AY:1:KBE:CE	2.89	0.56
2:AB:98:GLY:HA2	2:AB:101:THR:CG2	2.36	0.56
12:AL:17:LYS:O	12:AL:17:LYS:HD2	2.05	0.56
23:AW:453:LEU:HD13	23:AW:458:ASN:HA	1.86	0.56
34:BA:127:A:H5"	34:BA:128:C:O4'	2.05	0.56
34:BA:1914:C:O2	34:BA:1914:C:H2'	2.04	0.56
34:BA:2379:G:H4'	49:BS:21:LEU:HD11	1.87	0.56
34:BA:2591:C:P	36:BC:237:ARG:HG3	2.45	0.56
38:BE:121:VAL:O	38:BE:189:THR:HA	2.04	0.56
45:BO:71:ARG:HB2	45:BO:72:PRO:CD	2.35	0.56
48:BR:24:MET:HG2	48:BR:44:LEU:CD2	2.36	0.56
49:BS:100:HIS:O	49:BS:104:GLN:HB3	2.05	0.56
51:BU:34:ALA:O	51:BU:38:VAL:HG23	2.05	0.56
54:BX:4:GLU:OE1	54:BX:6:ARG:HG3	2.06	0.56
1:AA:751:U:H2'	1:AA:752:G:O4'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1006:G:H2'	1:AA:1007:U:C6	2.40	0.56
1:AA:1100:C:OP2	2:AB:94:ARG:HG2	2.06	0.56
3:AC:20:THR:O	3:AC:57:GLU:HA	2.06	0.56
3:AC:33:ASP:CG	14:AN:64:ARG:HG2	2.30	0.56
12:AL:115:LYS:C	12:AL:117:GLY:H	2.13	0.56
13:AM:10:ASP:CG	13:AM:11:HIS:H	2.13	0.56
23:AW:26:LYS:CE	23:AW:89:THR:O	2.54	0.56
23:AW:525:GLN:HE21	23:AW:525:GLN:N	2.04	0.56
33:B8:27:CYS:HB3	33:B8:30:GLU:O	2.06	0.56
34:BA:37:C:O2'	38:BE:45:ALA:CB	2.54	0.56
34:BA:693:A:H2'	34:BA:694:U:C6	2.41	0.56
34:BA:1849:G:H2'	34:BA:1850:G:H8	1.70	0.56
34:BA:1930:G:O2'	34:BA:1931:U:P	2.64	0.56
38:BE:12:LEU:O	38:BE:12:LEU:HD13	2.05	0.56
40:BG:27:GLY:O	40:BG:28:LYS:C	2.47	0.56
40:BG:96:ALA:HB3	40:BG:103:ASN:HB3	1.86	0.56
41:BH:59:LEU:O	41:BH:61:ARG:N	2.39	0.56
41:BH:128:THR:C	41:BH:130:PRO:HD2	2.31	0.56
41:BH:144:LYS:HB2	41:BH:148:ALA:N	2.17	0.56
42:BI:8:VAL:HG22	42:BI:58:ILE:HG13	1.87	0.56
47:BQ:35:ALA:O	47:BQ:36:VAL:CB	2.54	0.56
48:BR:66:ALA:O	48:BR:69:ARG:O	2.24	0.56
1:AA:399:G:H2'	1:AA:400:C:C6	2.41	0.56
1:AA:646:G:N1	1:AA:647:C:C2	2.74	0.56
2:AB:22:TRP:CH2	2:AB:24:PRO:HA	2.41	0.56
4:AD:31:CYS:O	4:AD:32:LYS:HB2	2.05	0.56
4:AD:67:LEU:O	4:AD:71:PHE:HB2	2.06	0.56
6:AF:21:MET:HE2	6:AF:25:TYR:OH	2.06	0.56
10:AJ:13:PHE:HA	10:AJ:68:ARG:O	2.05	0.56
11:AK:71:ASP:C	11:AK:73:VAL:H	2.13	0.56
18:AR:43:ILE:O	18:AR:43:ILE:HG22	2.06	0.56
23:AW:428:PHE:HB2	23:AW:437:ILE:HB	1.87	0.56
25:B0:18:LYS:CA	25:B0:36:ILE:HG13	2.35	0.56
32:B7:12:ARG:NH2	46:BP:59:ARG:HA	2.21	0.56
34:BA:609:A:H2'	34:BA:610:C:O4'	2.06	0.56
36:BC:64:VAL:HG11	36:BC:66:PHE:CZ	2.42	0.56
39:BF:30:VAL:HG13	39:BF:30:VAL:O	2.06	0.56
41:BH:3:LEU:H	41:BH:3:LEU:HD12	1.71	0.56
42:BI:79:LEU:HA	42:BI:83:ALA:HB3	1.88	0.56
47:BQ:72:PRO:O	47:BQ:91:TYR:O	2.23	0.56
51:BU:49:ARG:HG3	51:BU:49:ARG:NH1	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BU:82:LEU:O	51:BU:88:GLU:HB3	2.05	0.56
53:BW:13:SER:OG	53:BW:14:ALA:N	2.39	0.56
1:AA:140:U:H2'	1:AA:141:G:O4'	2.05	0.55
1:AA:251:G:N1	1:AA:266:G:O6	2.39	0.55
1:AA:345:C:C2'	1:AA:346:G:OP2	2.54	0.55
1:AA:798:U:H2'	1:AA:799:G:O4'	2.05	0.55
1:AA:1297:G:C2'	1:AA:1298:U:OP2	2.53	0.55
7:AG:121:ASN:O	7:AG:125:ASP:HB2	2.06	0.55
11:AK:28:ASN:OD1	11:AK:29:THR:N	2.38	0.55
17:AQ:17:GLU:O	17:AQ:18:LYS:HB2	2.06	0.55
34:BA:1045:C:C5'	34:BA:1046:A:H5'	2.37	0.55
34:BA:1416:G:H2'	34:BA:1417:C:C6	2.41	0.55
34:BA:1851:U:H2'	34:BA:1852:U:O4'	2.06	0.55
34:BA:2468:A:O2'	34:BA:2469:A:H8	1.88	0.55
34:BA:2473:U:O2	34:BA:2473:U:H2'	2.05	0.55
38:BE:119:ILE:O	38:BE:119:ILE:HG12	2.06	0.55
40:BG:164:ALA:C	40:BG:166:GLU:H	2.14	0.55
50:BT:50:ARG:CD	50:BT:56:SER:HB3	2.23	0.55
1:AA:329:A:C6	1:AA:332:G:C2	2.94	0.55
1:AA:981:U:O3'	14:AN:62:ARG:NH2	2.39	0.55
1:AA:1458:G:O3'	20:AT:22:SER:HB3	2.06	0.55
2:AB:168:GLU:O	2:AB:169:HIS:C	2.50	0.55
5:AE:93:VAL:HG21	5:AE:110:MET:SD	2.46	0.55
5:AE:155:LYS:CB	8:AH:70:VAL:HG13	2.36	0.55
6:AF:43:GLY:HA2	6:AF:58:HIS:CE1	2.41	0.55
6:AF:66:ALA:HB1	6:AF:67:PRO:HD2	1.87	0.55
11:AK:124:LYS:O	21:AU:33:ARG:NE	2.40	0.55
16:AP:10:GLY:O	16:AP:11:ALA:HB2	2.06	0.55
23:AW:20:SER:N	23:AW:26:LYS:HZ1	2.00	0.55
34:BA:859:G:O2'	34:BA:860:U:OP2	2.25	0.55
34:BA:1085:A:N7	41:BH:37:LYS:HE2	2.21	0.55
34:BA:1266:G:O2'	34:BA:1267:U:P	2.64	0.55
34:BA:1399:C:H2'	34:BA:1400:U:H6	1.71	0.55
34:BA:1436:G:O2'	34:BA:1515:A:N1	2.36	0.55
34:BA:1789:A:OP1	36:BC:219:VAL:HA	2.06	0.55
36:BC:30:ALA:HA	36:BC:33:LEU:HD12	1.88	0.55
37:BD:8:LYS:HB2	37:BD:201:LEU:HD22	1.88	0.55
37:BD:97:SER:HB3	37:BD:99:GLU:OE1	2.07	0.55
44:BN:81:ILE:HG23	44:BN:82:GLY:N	2.09	0.55
44:BN:111:LYS:CD	44:BN:112:GLY:N	2.64	0.55
45:BO:18:ARG:HB2	45:BO:45:GLU:HG2	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BP:82:LEU:C	46:BP:84:LYS:H	2.14	0.55
47:BQ:73:ILE:HG21	47:BQ:91:TYR:CZ	2.41	0.55
53:BW:13:SER:O	53:BW:14:ALA:HB2	2.06	0.55
1:AA:246:A:C4'	1:AA:247:G:OP1	2.47	0.55
1:AA:269:C:H2'	1:AA:270:A:C8	2.41	0.55
1:AA:662:U:H2'	1:AA:663:A:H8	1.69	0.55
1:AA:668:G:O4'	15:AO:48:ASP:HB2	2.06	0.55
1:AA:1014:A:H2'	1:AA:1015:G:O4'	2.06	0.55
2:AB:95:TRP:CH2	2:AB:174:GLU:CD	2.85	0.55
6:AF:89:VAL:HG22	6:AF:90:MET:N	2.21	0.55
7:AG:125:ASP:OD1	7:AG:131:GLY:HA2	2.07	0.55
12:AL:23:LEU:CG	12:AL:24:GLU:H	2.19	0.55
12:AL:81:ILE:HD11	12:AL:94:TYR:CD1	2.41	0.55
12:AL:81:ILE:CD1	12:AL:94:TYR:HB3	2.35	0.55
13:AM:44:ILE:HD12	13:AM:44:ILE:H	1.69	0.55
14:AN:55:SER:HB3	14:AN:58:ARG:HB2	1.87	0.55
17:AQ:13:SER:HB3	17:AQ:16:MET:HE1	1.88	0.55
26:B1:39:VAL:HG23	26:B1:40:GLU:N	2.21	0.55
34:BA:1503:A:N6	34:BA:1504:A:N6	2.54	0.55
34:BA:1567:G:H2'	36:BC:84:PRO:HG3	1.88	0.55
34:BA:1571:A:H2'	34:BA:1572:A:C8	2.41	0.55
34:BA:1805:A:N3	36:BC:49:THR:HG22	2.20	0.55
34:BA:2742:G:O2'	34:BA:2743:U:H5'	2.06	0.55
35:BB:28:C:N4	35:BB:56:G:H1	2.04	0.55
38:BE:29:HIS:O	38:BE:32:VAL:HG22	2.06	0.55
41:BH:158:VAL:HG23	43:BL:22:LEU:HD12	1.86	0.55
44:BN:17:VAL:HG23	44:BN:137:PRO:CB	2.37	0.55
50:BT:19:PHE:O	50:BT:20:ARG:CB	2.55	0.55
3:AC:19:SER:HB2	3:AC:39:ARG:NH2	2.21	0.55
4:AD:36:ALA:H	4:AD:37:PRO:HD3	1.71	0.55
24:AY:4:SER:C	24:AY:5:UAL:H6	2.08	0.55
25:B0:39:GLN:O	25:B0:41:GLY:N	2.40	0.55
34:BA:523:C:H5"	34:BA:540:C:O2'	2.06	0.55
34:BA:1599:U:OP2	54:BX:40:LYS:HD2	2.06	0.55
34:BA:1799:G:N2	34:BA:1818:U:O2'	2.39	0.55
34:BA:2491:U:H5'	34:BA:2570:G:H5"	1.87	0.55
35:BB:42:C:H2'	35:BB:43:C:H5'	1.88	0.55
36:BC:42:ARG:NH2	36:BC:48:ILE:HD11	2.20	0.55
37:BD:148:GLN:OE1	37:BD:152:PRO:HG2	2.06	0.55
49:BS:51:ALA:HA	49:BS:55:GLU:OE2	2.07	0.55
55:BY:82:VAL:O	55:BY:96:LYS:HE3	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BZ:4:ILE:HG12	56:BZ:50:MET:SD	2.46	0.55
1:AA:911:U:H2'	1:AA:912:C:C6	2.41	0.55
1:AA:1145:A:O2'	1:AA:1146:A:H8	1.90	0.55
1:AA:1158:C:O2'	2:AB:131:LYS:HB2	2.06	0.55
3:AC:129:PHE:CZ	3:AC:156:LEU:HB3	2.42	0.55
3:AC:139:ASN:HD22	3:AC:139:ASN:N	2.04	0.55
7:AG:78:ARG:HD2	7:AG:82:SER:O	2.07	0.55
12:AL:23:LEU:HG	12:AL:24:GLU:H	1.71	0.55
19:AS:39:ILE:HD12	19:AS:65:MET:O	2.06	0.55
25:B0:65:LYS:HE3	25:B0:84:GLU:HB3	1.89	0.55
32:B7:32:LEU:HD13	34:BA:2419:U:OP2	2.06	0.55
34:BA:391:A:C6	34:BA:411:G:C2	2.94	0.55
34:BA:1188:U:C2'	34:BA:1189:A:H5'	2.37	0.55
34:BA:1379:U:C6	34:BA:1379:U:OP1	2.60	0.55
38:BE:130:LYS:O	38:BE:133:LEU:HB2	2.07	0.55
39:BF:127:TYR:CD2	39:BF:128:SER:N	2.73	0.55
39:BF:134:GLN:HG2	39:BF:135:ILE:H	1.70	0.55
39:BF:146:ASP:HB2	39:BF:149:ARG:HH21	1.71	0.55
43:BL:25:ALA:HA	43:BL:28:GLU:CD	2.32	0.55
44:BN:74:TYR:HB2	44:BN:87:ALA:O	2.06	0.55
47:BQ:64:TRP:CH2	47:BQ:106:ASP:HB2	2.42	0.55
1:AA:41:G:H2'	1:AA:42:G:H8	1.71	0.55
1:AA:1491:G:H2'	24:AY:6:5OH:CB	2.34	0.55
11:AK:82:GLU:H	11:AK:82:GLU:CD	2.15	0.55
13:AM:14:ALA:HB3	13:AM:40:GLU:O	2.07	0.55
13:AM:73:SER:HA	13:AM:76:ILE:CD1	2.32	0.55
17:AQ:22:VAL:HG12	17:AQ:23:ALA:N	2.21	0.55
25:B0:51:GLY:H	25:B0:61:LYS:HE3	1.71	0.55
26:B1:65:THR:O	26:B1:68:ALA:HB3	2.06	0.55
34:BA:900:A:HO2'	34:BA:901:C:P	2.30	0.55
34:BA:1656:C:H2'	34:BA:1657:U:H6	1.71	0.55
34:BA:2272:U:H5"	34:BA:2273:A:OP1	2.07	0.55
34:BA:2294:G:OP1	49:BS:94:ARG:NH1	2.39	0.55
34:BA:2725:A:O2'	34:BA:2726:A:H2'	2.06	0.55
41:BH:54:VAL:O	41:BH:54:VAL:CG1	2.52	0.55
45:BO:19:VAL:HG21	45:BO:41:ILE:HG13	1.86	0.55
46:BP:64:PHE:CD1	46:BP:64:PHE:C	2.83	0.55
53:BW:71:VAL:O	53:BW:71:VAL:HG22	2.07	0.55
1:AA:590:U:H2'	1:AA:591:U:C6	2.42	0.55
1:AA:590:U:H2'	1:AA:591:U:H6	1.72	0.55
1:AA:628:G:H2'	1:AA:629:A:C8	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:868:C:H2'	1:AA:869:G:O4'	2.07	0.55
1:AA:994:A:C5	1:AA:1216:A:H4'	2.42	0.55
1:AA:1070:U:O2'	1:AA:1071:C:H5'	2.06	0.55
1:AA:1401:G:H2'	1:AA:1402:C:O4'	2.07	0.55
2:AB:116:LEU:HB3	2:AB:140:LEU:HD21	1.88	0.55
3:AC:156:LEU:H	3:AC:156:LEU:HD12	1.70	0.55
4:AD:2:ARG:HB2	4:AD:4:LEU:HD13	1.89	0.55
9:AI:11:ARG:HG3	9:AI:11:ARG:HH11	1.70	0.55
13:AM:71:GLU:O	13:AM:74:MET:HB3	2.07	0.55
15:AO:63:ARG:HD3	15:AO:67:ASP:OD1	2.06	0.55
23:AW:399:ARG:CZ	23:AW:445:GLN:HB3	2.37	0.55
34:BA:419:U:H2'	34:BA:420:C:H6	1.70	0.55
34:BA:659:G:H4'	38:BE:95:LYS:HB3	1.88	0.55
34:BA:667:U:H2'	34:BA:668:A:O4'	2.06	0.55
34:BA:1232:G:C5	34:BA:1233:C:C5	2.95	0.55
34:BA:1813:G:N3	36:BC:49:THR:HG21	2.22	0.55
34:BA:2076:U:O2	34:BA:2076:U:O4'	2.23	0.55
38:BE:79:ARG:O	38:BE:80:SER:C	2.50	0.55
41:BH:115:GLY:HA3	41:BH:122:GLN:O	2.07	0.55
42:BI:115:ASP:O	42:BI:116:MET:HG2	2.06	0.55
43:BM:2:ILE:HG22	43:BM:6:GLN:HB2	1.88	0.55
1:AA:206:C:H2'	1:AA:207:C:O4'	2.05	0.55
1:AA:279:A:H5"	1:AA:280:C:O5'	2.07	0.55
1:AA:1070:U:H2'	1:AA:1071:C:C6	2.39	0.55
1:AA:1354:U:H2'	1:AA:1355:G:C8	2.42	0.55
4:AD:52:VAL:HG23	4:AD:53:GLN:N	2.20	0.55
4:AD:84:ASN:HB3	4:AD:87:GLU:HG2	1.89	0.55
4:AD:96:ARG:HB3	4:AD:98:ASP:OD1	2.06	0.55
4:AD:97:LEU:HD22	4:AD:117:VAL:CG1	2.35	0.55
10:AJ:15:HIS:CG	10:AJ:16:ARG:N	2.74	0.55
10:AJ:18:ILE:HG22	10:AJ:19:ASP:N	2.21	0.55
15:AO:45:HIS:C	15:AO:47:LYS:H	2.15	0.55
19:AS:50:VAL:HG21	19:AS:70:LEU:O	2.07	0.55
23:AW:26:LYS:CD	23:AW:89:THR:O	2.55	0.55
23:AW:472:ARG:HG3	23:AW:504:ILE:HA	1.89	0.55
25:B0:39:GLN:HB3	25:B0:56:HIS:HB3	1.89	0.55
26:B1:17:ARG:NH2	34:BA:381:G:OP1	2.40	0.55
28:B3:53:MET:O	28:B3:54:VAL:HG13	2.07	0.55
31:B6:16:HIS:CD2	34:BA:684:G:OP1	2.60	0.55
31:B6:34:ARG:HB3	31:B6:42:LEU:HD13	1.89	0.55
34:BA:580:U:O3'	51:BU:30:VAL:HG13	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:670:A:H5”	46:BP:43:GLY:CA	2.37	0.55
34:BA:675:A:N3	34:BA:2443:C:O2’	2.38	0.55
34:BA:692:C:H2’	34:BA:693:A:H8	1.72	0.55
34:BA:1430:G:H2’	34:BA:1431:A:C8	2.41	0.55
34:BA:2071:A:H2’	34:BA:2072:C:C6	2.41	0.55
39:BF:134:GLN:HE22	39:BF:150:GLY:H	1.54	0.55
1:AA:2:A:N6	1:AA:3:A:N1	2.54	0.55
1:AA:123:U:H5”	1:AA:311:C:O2’	2.07	0.55
2:AB:219:THR:HG23	2:AB:220:VAL:N	2.22	0.55
4:AD:100:VAL:HG21	4:AD:136:VAL:HG21	1.89	0.55
5:AE:121:ASN:CG	5:AE:122:VAL:N	2.58	0.55
17:AQ:7:LEU:O	17:AQ:59:GLU:HA	2.07	0.55
23:AW:72:THR:HG21	23:AW:102:THR:HG21	1.89	0.55
28:B3:23:LEU:HD21	28:B3:53:MET:CE	2.36	0.55
32:B7:1:PRO:N	34:BA:591:U:O2	2.40	0.55
34:BA:948:C:O2	34:BA:984:A:O2’	2.25	0.55
34:BA:1800:C:OP2	36:BC:181:ARG:NH1	2.40	0.55
34:BA:1829:A:C8	34:BA:1830:C:C5	2.93	0.55
34:BA:2837:A:H2’	34:BA:2838:G:C8	2.42	0.55
34:BA:2848:G:O2’	34:BA:2849:U:H5’	2.07	0.55
35:BB:56:G:H4’	35:BB:57:A:C8	2.42	0.55
40:BG:15:ASP:OD1	40:BG:17:LYS:HB2	2.07	0.55
43:BJ:30:PHE:N	43:BJ:30:PHE:CD1	2.72	0.55
45:BO:54:LYS:HB3	45:BO:54:LYS:HZ2	1.72	0.55
47:BQ:42:THR:OG1	47:BQ:45:GLN:HG3	2.07	0.55
52:BV:49:ILE:HD13	52:BV:49:ILE:H	1.72	0.55
1:AA:390:U:O2’	1:AA:391:G:H5’	2.06	0.55
1:AA:443:C:C2’	1:AA:444:G:H5’	2.37	0.55
1:AA:658:C:O2’	1:AA:659:U:H5’	2.06	0.55
1:AA:745:G:O2’	1:AA:746:A:H5’	2.06	0.55
1:AA:1318:A:O2’	19:AS:36:ARG:HD3	2.07	0.55
4:AD:21:LYS:O	4:AD:21:LYS:HD3	2.07	0.55
7:AG:14:ASP:OD2	7:AG:15:PRO:HD2	2.06	0.55
26:B1:31:ASN:OD1	26:B1:33:HIS:NE2	2.38	0.55
34:BA:1343:G:H1’	34:BA:1597:A:C4	2.42	0.55
34:BA:1436:G:H2’	34:BA:1437:C:O4’	2.06	0.55
34:BA:1818:U:H3’	36:BC:155:ARG:HB2	1.89	0.55
34:BA:2149:U:H3’	34:BA:2150:C:O4’	2.07	0.55
37:BD:49:GLN:CD	37:BD:79:LEU:HD23	2.31	0.55
41:BH:18:VAL:HG22	41:BH:86:MET:HE2	1.88	0.55
43:BJ:4:LYS:HZ3	43:BK:21:GLU:HG2	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BN:53:TYR:CE1	44:BN:121:LYS:HG2	2.42	0.55
44:BN:77:HIS:HD2	44:BN:79:GLY:N	2.02	0.55
44:BN:124:VAL:O	44:BN:125:TYR:HB2	2.06	0.55
50:BT:112:ARG:C	50:BT:113:LEU:HD23	2.32	0.55
1:AA:452:A:H2'	1:AA:453:G:O4'	2.08	0.54
1:AA:1006:G:H2'	1:AA:1007:U:O4'	2.08	0.54
2:AB:20:ARG:O	2:AB:21:TYR:C	2.50	0.54
4:AD:7:LYS:O	4:AD:20:LEU:HD12	2.06	0.54
8:AH:101:ALA:HB3	8:AH:112:ASP:HB3	1.89	0.54
9:AI:98:ARG:HH11	9:AI:98:ARG:CG	2.19	0.54
10:AJ:11:LYS:HA	10:AJ:70:HIS:O	2.07	0.54
12:AL:24:GLU:O	12:AL:25:ALA:C	2.50	0.54
12:AL:78:VAL:O	12:AL:102:ASP:HB2	2.07	0.54
16:AP:48:GLU:HG3	16:AP:49:GLY:N	2.21	0.54
20:AT:7:LYS:O	20:AT:10:ALA:HB3	2.07	0.54
23:AW:472:ARG:HA	23:AW:473:TRP:HB2	1.89	0.54
34:BA:533:G:H2'	34:BA:534:U:H6	1.71	0.54
34:BA:655:A:H4'	34:BA:656:G:OP1	2.07	0.54
34:BA:859:G:H2'	34:BA:916:G:C6	2.42	0.54
34:BA:1085:A:H62	41:BH:37:LYS:HD2	1.71	0.54
34:BA:1142:A:C6	34:BA:1144:A:C4	2.95	0.54
34:BA:1252:G:H1'	51:BU:32:ARG:NH2	2.22	0.54
34:BA:1805:A:N3	36:BC:49:THR:CG2	2.71	0.54
34:BA:1909:C:O2'	34:BA:1910:G:H5'	2.06	0.54
37:BD:114:LYS:HE3	37:BD:114:LYS:O	2.07	0.54
44:BN:44:TYR:C	44:BN:45:THR:HG22	2.32	0.54
44:BN:73:VAL:HG12	44:BN:75:TYR:HE2	1.71	0.54
47:BQ:54:THR:O	47:BQ:56:ALA:N	2.37	0.54
1:AA:57:G:H2'	1:AA:58:C:C6	2.42	0.54
1:AA:734:G:N2	18:AR:63:TYR:CE1	2.74	0.54
1:AA:815:A:O2'	1:AA:1527:U:H1'	2.07	0.54
1:AA:959:A:C2'	1:AA:960:U:H4'	2.37	0.54
2:AB:30:ILE:HD11	2:AB:38:HIS:CG	2.41	0.54
2:AB:49:PHE:C	2:AB:49:PHE:HD1	2.15	0.54
2:AB:89:PHE:CZ	2:AB:153:MET:HB2	2.42	0.54
7:AG:14:ASP:CG	7:AG:22:LEU:HD22	2.32	0.54
7:AG:64:ALA:HB1	7:AG:126:ALA:HB3	1.88	0.54
8:AH:8:ASP:O	8:AH:11:THR:HG22	2.07	0.54
11:AK:108:ASN:CB	21:AU:6:ARG:HG2	2.37	0.54
25:B0:20:LEU:CD1	34:BA:2355:G:H4'	2.29	0.54
34:BA:286:U:H2'	34:BA:287:G:H8	1.70	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:414:C:H2'	34:BA:415:A:C8	2.42	0.54
34:BA:453:A:H4'	34:BA:472:A:N6	2.22	0.54
34:BA:882:G:H2'	34:BA:883:G:C8	2.42	0.54
34:BA:1022:G:H22	34:BA:1142:A:H2	1.56	0.54
34:BA:1776:G:C2	34:BA:1777:U:C6	2.95	0.54
34:BA:2103:C:H4'	34:BA:2104:C:OP1	2.06	0.54
34:BA:2150:C:H2'	34:BA:2151:U:H5	1.56	0.54
43:BJ:2:ILE:HA	43:BJ:4:LYS:HE3	1.90	0.54
1:AA:425:G:H2'	1:AA:426:U:O4'	2.07	0.54
1:AA:1022:A:H2'	1:AA:1023:U:O4'	2.08	0.54
2:AB:140:LEU:O	2:AB:144:GLU:N	2.39	0.54
4:AD:12:ARG:NH2	4:AD:36:ALA:O	2.40	0.54
8:AH:82:LEU:HD23	8:AH:82:LEU:C	2.33	0.54
16:AP:3:THR:HG22	16:AP:4:ILE:N	2.23	0.54
16:AP:17:TYR:CE1	16:AP:41:PRO:HG3	2.42	0.54
23:AW:20:SER:N	23:AW:26:LYS:HZ2	2.04	0.54
23:AW:59:TRP:CZ2	23:AW:69:SER:HB3	2.43	0.54
23:AW:145:ASP:CG	58:AW:602:GNP:HN1	2.15	0.54
23:AW:490:GLU:HA	23:AW:493:LEU:HD12	1.89	0.54
25:B0:40:ARG:HB3	34:BA:2336:A:H61	1.72	0.54
28:B3:56:VAL:C	28:B3:57:GLU:HG3	2.32	0.54
34:BA:409:G:O2'	34:BA:410:G:H5'	2.06	0.54
34:BA:412:A:N7	34:BA:2411:A:H2	2.06	0.54
34:BA:2147:A:H3'	34:BA:2148:G:C5'	2.37	0.54
34:BA:2210:U:H4'	34:BA:2211:A:O5'	2.07	0.54
34:BA:2358:A:N6	46:BP:54:GLN:HE22	2.02	0.54
37:BD:109:VAL:O	37:BD:109:VAL:HG12	2.07	0.54
39:BF:46:LYS:H	39:BF:46:LYS:CD	2.20	0.54
39:BF:72:SER:H	39:BF:80:GLN:HB2	1.73	0.54
41:BH:150:LYS:C	41:BH:152:VAL:H	2.15	0.54
43:BJ:2:ILE:O	43:BJ:2:ILE:HG22	2.06	0.54
43:BJ:29:LYS:HD2	43:BJ:29:LYS:C	2.32	0.54
45:BO:91:SER:O	45:BO:92:GLU:C	2.51	0.54
47:BQ:72:PRO:O	47:BQ:89:VAL:HG13	2.07	0.54
52:BV:40:MET:HE2	52:BV:46:GLU:HG3	1.89	0.54
54:BX:54:GLU:O	54:BX:55:VAL:HB	2.06	0.54
56:BZ:80:HIS:HB3	56:BZ:83:LYS:O	2.07	0.54
1:AA:129:A:O2'	1:AA:130:A:H8	1.91	0.54
1:AA:243:A:C2	1:AA:245:U:H2'	2.42	0.54
1:AA:342:C:C2	1:AA:348:G:N2	2.76	0.54
1:AA:376:G:H4'	16:AP:5:ARG:HD2	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:607:A:H2'	1:AA:608:A:H8	1.72	0.54
1:AA:1307:U:P	13:AM:99:GLN:HE21	2.31	0.54
16:AP:5:ARG:HA	16:AP:68:SER:OG	2.07	0.54
17:AQ:42:LYS:NZ	17:AQ:42:LYS:HB3	2.23	0.54
31:B6:34:ARG:NH1	31:B6:34:ARG:HG2	2.22	0.54
34:BA:51:G:O2'	34:BA:119:A:N1	2.39	0.54
34:BA:639:U:H2'	34:BA:640:C:C6	2.43	0.54
34:BA:753:A:H2'	34:BA:754:U:H6	1.73	0.54
34:BA:1468:U:H5'	34:BA:1469:A:OP1	2.07	0.54
34:BA:2564:A:C5	34:BA:2565:A:C6	2.95	0.54
36:BC:242:HIS:O	36:BC:244:VAL:HG13	2.08	0.54
39:BF:127:TYR:CB	39:BF:155:ILE:HB	2.37	0.54
46:BP:96:LYS:HE2	46:BP:101:ILE:HG21	1.90	0.54
1:AA:480:U:H5"	1:AA:481:G:OP2	2.07	0.54
1:AA:511:C:O2'	1:AA:512:U:O4'	2.25	0.54
1:AA:1299:A:H2'	1:AA:1301:U:H1'	1.88	0.54
1:AA:1441:A:H62	1:AA:1461:G:N2	2.00	0.54
5:AE:40:ASP:OD1	5:AE:44:ARG:HB2	2.07	0.54
19:AS:35:ARG:HB3	19:AS:71:GLY:HA3	1.88	0.54
23:AW:473:TRP:HA	23:AW:524:HIS:O	2.08	0.54
24:AY:3:SER:O	24:AY:5:UAL:N	2.38	0.54
26:B1:51:SER:C	26:B1:53:LYS:H	2.16	0.54
29:B4:1:ALA:HB3	34:BA:2614:A:O4'	2.07	0.54
34:BA:293:U:C4	34:BA:345:A:C6	2.96	0.54
34:BA:511:U:C2'	34:BA:512:G:H5'	2.37	0.54
34:BA:975:A:H2'	34:BA:976:G:H5'	1.88	0.54
34:BA:996:A:C5'	51:BU:93:ILE:HG21	2.38	0.54
37:BD:116:LYS:HG3	37:BD:165:MET:HE2	1.88	0.54
45:BO:42:THR:CG2	45:BO:44:LYS:HE2	2.37	0.54
47:BQ:66:ARG:NH1	47:BQ:101:VAL:HG11	2.21	0.54
56:BZ:75:GLN:OE1	56:BZ:75:GLN:HA	2.08	0.54
1:AA:181:A:C5'	1:AA:182:A:OP1	2.51	0.54
1:AA:646:G:C6	1:AA:647:C:C4	2.96	0.54
1:AA:694:A:OP1	11:AK:54:SER:HB3	2.07	0.54
2:AB:95:TRP:HZ2	2:AB:100:LEU:HD23	1.71	0.54
2:AB:98:GLY:HA2	2:AB:101:THR:HG22	1.90	0.54
2:AB:162:VAL:HG22	2:AB:184:ALA:CB	2.38	0.54
3:AC:49:ALA:O	3:AC:71:ARG:HB3	2.08	0.54
5:AE:42:ASN:C	5:AE:42:ASN:ND2	2.64	0.54
7:AG:11:ILE:HD13	7:AG:11:ILE:N	2.22	0.54
7:AG:86:VAL:HG22	7:AG:150:PHE:HB3	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:53:ILE:CG2	10:AJ:61:ALA:HB1	2.37	0.54
11:AK:69:CYS:O	11:AK:71:ASP:O	2.26	0.54
12:AL:33:CYS:CA	12:AL:54:VAL:HA	2.22	0.54
12:AL:102:ASP:OD1	23:AW:407:LEU:CD1	2.52	0.54
15:AO:7:THR:O	15:AO:11:VAL:HG23	2.08	0.54
23:AW:479:ALA:O	23:AW:481:LYS:N	2.39	0.54
25:B0:76:ARG:CG	25:B0:76:ARG:NH2	2.59	0.54
29:B4:39:ARG:HG2	29:B4:40:HIS:ND1	2.23	0.54
34:BA:443:A:N7	38:BE:40:ARG:HD3	2.23	0.54
34:BA:545:U:H2'	34:BA:546:U:O3'	2.08	0.54
34:BA:1212:G:O2'	34:BA:1213:A:P	2.65	0.54
34:BA:1784:A:H4'	34:BA:1785:A:C5'	2.38	0.54
34:BA:2060:A:H1'	34:BA:2502:G:H1'	1.88	0.54
34:BA:2297:A:N1	34:BA:2321:U:C5	2.76	0.54
34:BA:2547:A:H2'	34:BA:2548:U:C6	2.43	0.54
34:BA:2591:C:H2'	34:BA:2592:G:H8	1.71	0.54
34:BA:2848:G:H1'	34:BA:2868:A:N6	2.23	0.54
38:BE:32:VAL:HG23	38:BE:33:VAL:N	2.22	0.54
40:BG:53:PRO:HD3	40:BG:61:TRP:CZ3	2.43	0.54
41:BH:42:ARG:C	41:BH:44:ALA:H	2.15	0.54
44:BN:32:LEU:O	44:BN:33:ALA:C	2.50	0.54
45:BO:1:MET:HE2	45:BO:32:TYR:CE1	2.42	0.54
1:AA:308:C:H2'	1:AA:309:A:C8	2.43	0.54
1:AA:1125:U:C2	1:AA:1127:G:C8	2.94	0.54
2:AB:138:ARG:HG3	2:AB:139:GLU:N	2.23	0.54
2:AB:141:GLU:HA	2:AB:144:GLU:HB2	1.87	0.54
3:AC:123:LEU:CD1	3:AC:195:ILE:HG21	2.38	0.54
3:AC:139:ASN:HA	3:AC:142:ARG:CB	2.28	0.54
4:AD:66:VAL:HG12	4:AD:67:LEU:O	2.07	0.54
6:AF:6:ILE:H	6:AF:62:MET:HB3	1.72	0.54
9:AI:7:GLY:HA3	9:AI:85:ALA:HB2	1.90	0.54
23:AW:15:THR:OG1	23:AW:362:GLY:O	2.13	0.54
23:AW:145:ASP:OD2	58:AW:602:GNP:C2	2.55	0.54
25:B0:50:VAL:O	25:B0:52:CYS:N	2.41	0.54
34:BA:538:A:H2'	34:BA:539:G:O4'	2.08	0.54
34:BA:755:U:H2'	34:BA:756:A:C8	2.43	0.54
34:BA:834:G:C6	34:BA:835:C:C4	2.96	0.54
34:BA:1521:G:N1	34:BA:1522:A:N6	2.55	0.54
34:BA:1652:A:C2	34:BA:2006:C:N3	2.75	0.54
34:BA:2428:G:H5"	34:BA:2429:G:O5'	2.08	0.54
34:BA:2503:A:H4'	34:BA:2504:U:OP1	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:2704:C:H2'	34:BA:2705:A:O4'	2.07	0.54
41:BH:144:LYS:NZ	43:BL:30:PHE:HB2	2.22	0.54
43:BL:3:THR:HB	43:BM:21:GLU:HG2	1.90	0.54
43:BM:11:VAL:HG12	43:BM:11:VAL:O	2.07	0.54
48:BR:24:MET:CG	48:BR:44:LEU:HD22	2.38	0.54
48:BR:71:ARG:CG	48:BR:71:ARG:NH2	2.70	0.54
49:BS:36:TYR:HA	49:BS:52:SER:HB3	1.90	0.54
56:BZ:29:ILE:HG22	56:BZ:90:ASP:HA	1.90	0.54
1:AA:210:C:O2'	1:AA:211:G:N2	2.41	0.54
1:AA:1291:U:H4'	9:AI:41:GLU:OE2	2.08	0.54
4:AD:105:GLY:HA3	4:AD:161:ALA:CB	2.37	0.54
5:AE:94:PHE:CZ	5:AE:96:GLN:HG2	2.43	0.54
6:AF:3:HIS:N	6:AF:92:THR:HG23	2.23	0.54
9:AI:82:ILE:O	9:AI:86:LEU:HB2	2.07	0.54
23:AW:310:LYS:O	23:AW:311:HIS:ND1	2.41	0.54
23:AW:347:THR:O	23:AW:354:SER:HB3	2.08	0.54
23:AW:439:GLY:HA2	23:AW:440:ALA:CB	2.33	0.54
25:B0:43:LYS:HB3	25:B0:79:ILE:HD11	1.90	0.54
32:B7:44:ARG:HD3	34:BA:2418:A:OP1	2.08	0.54
33:B8:6:SER:HB2	34:BA:1031:G:C4'	2.36	0.54
33:B8:7:VAL:HG23	33:B8:8:LYS:H	1.71	0.54
34:BA:189:G:H1	34:BA:205:G:HO2'	1.56	0.54
34:BA:498:G:O2'	34:BA:499:U:H5'	2.08	0.54
34:BA:778:G:H2'	34:BA:779:U:C6	2.43	0.54
34:BA:880:G:O6	34:BA:898:C:N3	2.41	0.54
34:BA:910:A:N1	34:BA:2277:G:H1'	2.23	0.54
34:BA:1131:G:O2'	34:BA:2026:U:H5'	2.07	0.54
34:BA:1279:G:O2'	34:BA:1280:G:H5'	2.08	0.54
35:BB:45:A:H2'	35:BB:46:A:C8	2.43	0.54
37:BD:12:THR:O	37:BD:24:VAL:HG22	2.08	0.54
39:BF:114:ARG:HD2	39:BF:114:ARG:N	2.22	0.54
41:BH:23:LEU:HD11	41:BH:96:PHE:CE2	2.42	0.54
42:BI:100:ILE:HD12	42:BI:132:ALA:HB1	1.89	0.54
50:BT:26:GLU:HG2	50:BT:28:LYS:HE2	1.90	0.54
52:BV:68:ARG:HD3	52:BV:92:TRP:CE2	2.43	0.54
1:AA:1363:A:O2'	1:AA:1365:G:N7	2.40	0.54
2:AB:136:ARG:HH11	2:AB:136:ARG:CG	2.21	0.54
3:AC:120:THR:HG23	3:AC:188:ALA:CB	2.37	0.54
4:AD:10:LEU:HD22	4:AD:62:ARG:HG3	1.90	0.54
10:AJ:34:ALA:O	10:AJ:36:VAL:HG23	2.08	0.54
13:AM:18:LEU:O	13:AM:24:VAL:HG21	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AM:101:THR:C	13:AM:103:THR:N	2.66	0.54
15:AO:84:LEU:HB3	15:AO:86:LEU:CD2	2.38	0.54
25:B0:47:GLY:C	25:B0:49:ASN:H	2.16	0.54
32:B7:1:PRO:O	34:BA:592:A:H1'	2.08	0.54
32:B7:41:ARG:HG3	32:B7:44:ARG:NH2	2.22	0.54
34:BA:558:U:H5'	44:BN:114:LEU:HD12	1.89	0.54
34:BA:875:G:C5	34:BA:876:C:C5	2.96	0.54
34:BA:1252:G:H1'	51:BU:32:ARG:HH22	1.73	0.54
34:BA:2807:U:C2'	34:BA:2808:G:H5'	2.37	0.54
34:BA:2880:C:C2	34:BA:2881:U:C5	2.95	0.54
36:BC:90:ILE:HG23	36:BC:102:TYR:CD1	2.43	0.54
41:BH:128:THR:O	41:BH:129:LEU:CB	2.55	0.54
42:BI:96:LYS:HD2	42:BI:96:LYS:N	2.23	0.54
52:BV:64:VAL:O	52:BV:65:ALA:HB3	2.08	0.54
1:AA:537:G:H2'	1:AA:538:G:H8	1.72	0.54
1:AA:1300:G:HO2'	1:AA:1301:U:P	2.31	0.54
1:AA:1342:C:O2'	9:AI:125:GLN:HA	2.07	0.54
13:AM:22:TYR:OH	13:AM:72:ILE:HD12	2.07	0.54
17:AQ:74:LEU:C	17:AQ:74:LEU:HD22	2.33	0.54
20:AT:57:VAL:HG13	20:AT:66:ILE:HD13	1.89	0.54
23:AW:19:ILE:C	23:AW:26:LYS:CE	2.79	0.54
23:AW:91:GLY:O	23:AW:92:HIS:HB2	2.08	0.54
30:B5:5:ARG:NH2	30:B5:24:LYS:HA	2.23	0.54
34:BA:244:A:H2'	34:BA:245:G:O4'	2.08	0.54
34:BA:259:G:O2'	34:BA:260:G:H5'	2.07	0.54
34:BA:364:C:H2'	34:BA:365:U:C6	2.43	0.54
34:BA:796:C:H2'	34:BA:797:G:H8	1.73	0.54
34:BA:915:C:O2	35:BB:100:G:H4'	2.08	0.54
34:BA:1205:A:C4'	34:BA:1206:G:OP2	2.47	0.54
35:BB:66:A:H61	35:BB:107:G:C2'	2.21	0.54
39:BF:12:VAL:HG13	39:BF:13:LYS:N	2.23	0.54
41:BH:26:VAL:O	41:BH:26:VAL:HG12	2.08	0.54
41:BH:40:GLU:O	41:BH:40:GLU:HG2	2.07	0.54
41:BH:119:PRO:O	41:BH:120:ALA:HB3	2.08	0.54
41:BH:158:VAL:HG21	43:BL:22:LEU:HB2	1.89	0.54
43:BK:7:ILE:O	43:BK:11:VAL:HG23	2.08	0.54
50:BT:21:PRO:O	50:BT:91:VAL:HG21	2.07	0.54
1:AA:381:C:O2	1:AA:381:C:H2'	2.07	0.53
1:AA:408:A:OP1	4:AD:109:THR:CG2	2.57	0.53
1:AA:496:A:H2'	1:AA:497:G:C8	2.44	0.53
1:AA:1211:U:O2'	1:AA:1213:A:C2	2.58	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1297:G:H2'	1:AA:1298:U:OP2	2.07	0.53
2:AB:114:LYS:CA	2:AB:117:GLU:HG2	2.28	0.53
5:AE:55:VAL:HB	5:AE:56:PRO:CD	2.38	0.53
6:AF:50:PRO:CD	18:AR:73:HIS:HB3	2.38	0.53
11:AK:73:VAL:O	11:AK:78:ILE:HD11	2.08	0.53
19:AS:62:THR:CG2	19:AS:63:ASP:H	2.21	0.53
23:AW:129:VAL:O	23:AW:132:LEU:HB2	2.09	0.53
34:BA:602:A:O2'	34:BA:604:G:H4'	2.07	0.53
34:BA:2585:U:O2'	34:BA:2586:U:H5'	2.07	0.53
36:BC:30:ALA:HA	36:BC:33:LEU:CD1	2.38	0.53
37:BD:119:ALA:HB1	37:BD:123:LYS:HB3	1.91	0.53
39:BF:52:ALA:O	39:BF:55:ASP:HB2	2.09	0.53
45:BO:18:ARG:HB2	45:BO:45:GLU:HG3	1.90	0.53
49:BS:66:GLY:N	49:BS:70:ALA:HB3	2.23	0.53
50:BT:111:GLU:CD	50:BT:111:GLU:N	2.65	0.53
52:BV:27:ILE:HG22	52:BV:63:VAL:HG11	1.89	0.53
1:AA:88:U:O2	1:AA:88:U:H2'	2.07	0.53
1:AA:1035:A:H2'	1:AA:1036:A:O4'	2.09	0.53
5:AE:71:ILE:HD13	5:AE:72:ASN:N	2.24	0.53
5:AE:113:VAL:HG21	5:AE:140:ILE:HD11	1.91	0.53
11:AK:47:GLY:C	11:AK:49:SER:H	2.14	0.53
18:AR:21:ASP:OD1	18:AR:23:LYS:HG3	2.08	0.53
20:AT:68:LYS:HB2	20:AT:68:LYS:HZ2	1.69	0.53
23:AW:472:ARG:HG3	23:AW:504:ILE:N	2.22	0.53
25:B0:25:PHE:O	25:B0:27:GLY:N	2.42	0.53
34:BA:293:U:C4	34:BA:345:A:N1	2.76	0.53
34:BA:675:A:H4'	38:BE:62:GLN:NE2	2.24	0.53
34:BA:1212:G:H2'	34:BA:1236:G:H22	1.74	0.53
34:BA:2564:A:C2	34:BA:2647:U:H4'	2.43	0.53
37:BD:35:THR:OG1	37:BD:49:GLN:HG2	2.09	0.53
40:BG:59:ASP:HB3	40:BG:63:GLN:CG	2.39	0.53
54:BX:50:LEU:HD12	54:BX:50:LEU:N	2.06	0.53
1:AA:308:C:H2'	1:AA:309:A:H8	1.72	0.53
1:AA:464:U:H2'	1:AA:466:A:OP2	2.09	0.53
1:AA:970:C:O2	1:AA:1231:G:H1'	2.08	0.53
1:AA:1391:U:H2'	1:AA:1392:G:C8	2.43	0.53
12:AL:78:VAL:HB	23:AW:407:LEU:HD12	1.89	0.53
16:AP:19:VAL:HG22	16:AP:36:VAL:HG13	1.89	0.53
34:BA:805:G:OP2	46:BP:41:ARG:HD2	2.08	0.53
34:BA:999:U:O2'	34:BA:1000:A:H5'	2.09	0.53
43:BJ:26:MET:HG3	43:BJ:29:LYS:NZ	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BN:32:LEU:HD22	44:BN:54:ILE:HD11	1.90	0.53
49:BS:52:SER:HA	49:BS:74:VAL:HG11	1.90	0.53
1:AA:114:U:O2'	1:AA:115:G:H5'	2.08	0.53
1:AA:686:U:O2'	11:AK:43:TRP:CZ2	2.60	0.53
1:AA:796:C:H4'	11:AK:126:ARG:HH21	1.73	0.53
1:AA:1062:U:H2'	1:AA:1063:C:C6	2.43	0.53
1:AA:1113:C:H2'	1:AA:1114:C:C6	2.43	0.53
1:AA:1300:G:C2'	1:AA:1301:U:OP2	2.57	0.53
3:AC:54:ILE:HD13	3:AC:54:ILE:N	2.22	0.53
4:AD:176:LYS:HG2	4:AD:178:GLU:CD	2.33	0.53
5:AE:23:THR:HA	5:AE:28:ARG:HA	1.90	0.53
12:AL:14:LYS:HG3	12:AL:14:LYS:O	2.08	0.53
13:AM:44:ILE:HG23	13:AM:47:LEU:HB3	1.90	0.53
13:AM:92:ARG:HG2	13:AM:92:ARG:HH11	1.73	0.53
18:AR:61:ALA:CB	18:AR:67:LEU:HD12	2.38	0.53
25:B0:46:ALA:HB3	25:B0:79:ILE:C	2.33	0.53
34:BA:1358:G:C8	34:BA:1371:G:O6	2.61	0.53
34:BA:1378:A:C4	34:BA:1380:G:N7	2.77	0.53
34:BA:1786:A:H1'	34:BA:1938:A:N6	2.22	0.53
34:BA:1794:A:H2'	34:BA:1795:C:C6	2.44	0.53
36:BC:161:VAL:HG11	36:BC:173:LEU:HG	1.89	0.53
36:BC:203:VAL:O	36:BC:204:LEU:HB2	2.08	0.53
49:BS:26:LEU:HD13	49:BS:39:VAL:HG22	1.90	0.53
54:BX:39:THR:O	54:BX:41:ALA:N	2.41	0.53
56:BZ:80:HIS:HD2	56:BZ:83:LYS:CB	2.20	0.53
1:AA:73:C:N4	1:AA:94:G:N2	2.52	0.53
1:AA:411:A:C6	1:AA:413:G:O2'	2.61	0.53
1:AA:735:C:H2'	1:AA:736:C:H6	1.73	0.53
1:AA:1280:A:OP1	10:AJ:9:ARG:NH1	2.42	0.53
1:AA:1291:U:OP1	7:AG:36:SER:HB3	2.08	0.53
1:AA:1495:U:C4	24:AY:1:KBE:CE	2.63	0.53
7:AG:98:LEU:HD23	7:AG:101:ARG:HH12	1.73	0.53
12:AL:34:THR:C	12:AL:35:ARG:HG2	2.33	0.53
13:AM:82:LEU:HD22	19:AS:65:MET:HE2	1.89	0.53
34:BA:221:A:C8	34:BA:266:G:O6	2.62	0.53
34:BA:348:A:H2'	34:BA:349:U:O4'	2.08	0.53
34:BA:1859:U:H2'	34:BA:1860:G:H8	1.74	0.53
34:BA:2327:A:H2'	34:BA:2328:A:C8	2.43	0.53
39:BF:37:MET:SD	39:BF:56:LEU:HG	2.48	0.53
39:BF:38:GLY:HA2	39:BF:85:GLY:CA	2.39	0.53
47:BQ:21:ALA:HB1	47:BQ:100:LYS:HG2	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BS:70:ALA:O	49:BS:73:ALA:HB3	2.09	0.53
53:BW:4:ILE:HG12	53:BW:5:ALA:N	2.23	0.53
1:AA:115:G:H1'	1:AA:116:A:N7	2.23	0.53
1:AA:947:G:H1	1:AA:1234:C:H42	1.55	0.53
1:AA:1104:G:O2'	1:AA:1105:A:H5'	2.09	0.53
5:AE:12:GLU:HB2	5:AE:63:MET:CE	2.39	0.53
6:AF:45:ARG:O	6:AF:56:LYS:HA	2.08	0.53
6:AF:86:ARG:HH12	6:AF:88:MET:HE3	1.72	0.53
7:AG:11:ILE:HD13	7:AG:11:ILE:H	1.74	0.53
8:AH:111:THR:H	8:AH:114:ALA:HB3	1.74	0.53
9:AI:112:ARG:NH2	10:AJ:64:GLN:HE22	1.98	0.53
10:AJ:10:LEU:CD1	10:AJ:98:VAL:HG12	2.38	0.53
11:AK:76:TYR:HD1	11:AK:76:TYR:H	1.57	0.53
17:AQ:18:LYS:HA	17:AQ:47:ASP:CG	2.33	0.53
18:AR:58:ILE:O	18:AR:62:ARG:HG3	2.08	0.53
25:B0:16:GLU:HG3	34:BA:2356:U:H4'	1.89	0.53
34:BA:110:G:C2	34:BA:111:A:C8	2.97	0.53
34:BA:447:A:N1	34:BA:454:A:O2'	2.39	0.53
34:BA:1287:A:H5'	48:BR:103:ARG:HD2	1.90	0.53
34:BA:1492:G:H2'	34:BA:1493:C:OP1	2.09	0.53
34:BA:1566:A:C6	36:BC:212:TRP:CZ3	2.97	0.53
34:BA:1599:U:OP1	54:BX:40:LYS:HG3	2.08	0.53
34:BA:2683:C:O2	45:BO:70:ARG:NH2	2.41	0.53
37:BD:113:SER:O	37:BD:167:ASN:HA	2.09	0.53
38:BE:172:ALA:O	38:BE:175:ILE:HG22	2.08	0.53
38:BE:187:VAL:O	38:BE:188:MET:HB3	2.08	0.53
40:BG:6:ALA:HB3	40:BG:68:ARG:NH1	2.24	0.53
40:BG:104:LEU:HB2	40:BG:112:VAL:HG21	1.90	0.53
41:BH:52:MET:HE1	41:BH:87:GLU:HG2	1.90	0.53
49:BS:31:THR:HG23	49:BS:34:HIS:N	2.24	0.53
50:BT:23:ASP:OD2	50:BT:88:ARG:HA	2.09	0.53
1:AA:35:G:H2'	1:AA:36:C:C6	2.44	0.53
1:AA:57:G:C5	1:AA:58:C:C4	2.97	0.53
1:AA:1392:G:O2'	1:AA:1393:U:H5'	2.08	0.53
3:AC:148:ILE:HG13	3:AC:201:ILE:HG12	1.90	0.53
5:AE:105:ILE:HD11	5:AE:123:LEU:CG	2.39	0.53
5:AE:134:ASN:O	5:AE:137:ARG:HB3	2.08	0.53
5:AE:135:VAL:O	5:AE:139:THR:HG23	2.09	0.53
6:AF:45:ARG:HB3	6:AF:59:TYR:CD1	2.44	0.53
8:AH:17:GLN:NE2	8:AH:69:ALA:HB1	2.24	0.53
9:AI:6:TYR:HA	9:AI:18:VAL:O	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AQ:16:MET:O	17:AQ:19:SER:N	2.42	0.53
23:AW:522:GLN:HB2	23:AW:523:PHE:CB	2.37	0.53
25:B0:23:LYS:HZ2	25:B0:24:ARG:HG3	1.74	0.53
26:B1:34:SER:HA	26:B1:49:ARG:HA	1.91	0.53
26:B1:56:ARG:NH1	34:BA:400:G:N7	2.45	0.53
34:BA:483:A:N7	55:BY:44:HIS:HD2	2.05	0.53
34:BA:805:G:N2	34:BA:829:A:OP1	2.41	0.53
34:BA:900:A:O2'	34:BA:901:C:P	2.67	0.53
34:BA:2564:A:C6	34:BA:2565:A:N1	2.77	0.53
37:BD:12:THR:HG23	37:BD:13:ARG:H	1.72	0.53
40:BG:3:VAL:O	40:BG:68:ARG:HG3	2.09	0.53
41:BH:15:VAL:HG13	41:BH:67:THR:HG22	1.90	0.53
41:BH:143:MET:O	41:BH:145:GLU:N	2.41	0.53
52:BV:14:VAL:HG23	52:BV:18:GLN:CD	2.34	0.53
1:AA:267:C:H2'	1:AA:268:U:C6	2.44	0.53
1:AA:767:A:H2'	1:AA:768:A:O4'	2.08	0.53
1:AA:1087:G:N2	1:AA:1099:G:H1'	2.23	0.53
1:AA:1159:U:O2	1:AA:1182:G:N3	2.42	0.53
1:AA:1425:U:O2'	1:AA:1426:G:H5'	2.08	0.53
2:AB:49:PHE:CG	2:AB:212:TYR:OH	2.62	0.53
5:AE:12:GLU:CB	5:AE:38:VAL:HG12	2.39	0.53
5:AE:156:ARG:NH2	8:AH:113:ARG:HH12	2.04	0.53
10:AJ:8:ILE:O	10:AJ:8:ILE:HG22	2.07	0.53
17:AQ:4:ILE:N	17:AQ:4:ILE:HD12	2.24	0.53
23:AW:45:THR:N	23:AW:56:LYS:O	2.41	0.53
28:B3:50:VAL:O	28:B3:54:VAL:HG22	2.09	0.53
34:BA:1319:C:O2'	34:BA:1320:C:H5'	2.09	0.53
34:BA:1714:U:H5"	34:BA:1715:G:C5'	2.37	0.53
34:BA:1798:U:OP1	36:BC:257:ARG:HB2	2.09	0.53
34:BA:2840:C:H6	34:BA:2840:C:O5'	1.92	0.53
38:BE:150:THR:HA	38:BE:189:THR:HG22	1.90	0.53
41:BH:136:ILE:HD12	41:BH:136:ILE:N	2.23	0.53
43:BL:12:ALA:O	43:BL:13:ALA:C	2.50	0.53
44:BN:21:THR:O	44:BN:23:LYS:N	2.41	0.53
50:BT:39:LEU:N	50:BT:39:LEU:HD12	2.24	0.53
54:BX:69:ARG:O	54:BX:74:ILE:HD12	2.08	0.53
1:AA:373:A:C1'	1:AA:481:G:H1'	2.37	0.53
1:AA:509:A:N3	1:AA:543:U:O2'	2.31	0.53
1:AA:522:C:H41	12:AL:49:ARG:HH22	1.56	0.53
1:AA:688:G:H2'	1:AA:689:C:H6	1.72	0.53
1:AA:1006:G:H2'	1:AA:1007:U:H6	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1303:C:H2'	1:AA:1304:G:O4'	2.08	0.53
2:AB:209:VAL:HG23	2:AB:210:THR:N	2.18	0.53
3:AC:106:ARG:H	3:AC:106:ARG:CD	2.22	0.53
3:AC:156:LEU:HD12	3:AC:156:LEU:N	2.23	0.53
6:AF:64:VAL:HG12	6:AF:65:GLU:N	2.24	0.53
6:AF:64:VAL:CG1	6:AF:65:GLU:N	2.72	0.53
8:AH:95:MET:HB2	8:AH:98:LEU:O	2.09	0.53
16:AP:46:LYS:CE	16:AP:47:GLU:H	2.16	0.53
25:B0:23:LYS:HB3	34:BA:856:G:C1'	2.35	0.53
30:B5:14:ALA:C	30:B5:16:THR:H	2.17	0.53
34:BA:1045:C:H5"	34:BA:1046:A:H5'	1.91	0.53
34:BA:1152:C:O2'	34:BA:1153:C:H5'	2.08	0.53
34:BA:1384:A:H1'	34:BA:1405:U:H1'	1.91	0.53
34:BA:1794:A:H1'	34:BA:1900:A:C2	2.43	0.53
34:BA:2741:A:H2'	34:BA:2742:G:O4'	2.09	0.53
34:BA:2746:U:H2'	34:BA:2747:G:H5'	1.91	0.53
37:BD:91:THR:C	37:BD:93:GLY:N	2.51	0.53
41:BH:23:LEU:HD21	41:BH:96:PHE:CE2	2.44	0.53
44:BN:21:THR:C	44:BN:23:LYS:N	2.67	0.53
47:BQ:42:THR:H	47:BQ:45:GLN:HB2	1.74	0.53
52:BV:66:HIS:CG	52:BV:94:THR:HG22	2.43	0.53
54:BX:85:VAL:C	54:BX:86:THR:HG23	2.34	0.53
1:AA:6:G:O6	5:AE:98:ALA:CB	2.57	0.53
1:AA:130:A:O2'	1:AA:264:C:H5'	2.09	0.53
1:AA:182:A:N6	1:AA:184:G:C4	2.76	0.53
3:AC:35:ASP:C	3:AC:37:LYS:H	2.17	0.53
8:AH:29:SER:HB3	8:AH:32:LYS:HG3	1.91	0.53
9:AI:6:TYR:CG	9:AI:7:GLY:N	2.76	0.53
9:AI:18:VAL:HA	9:AI:64:ILE:HG23	1.91	0.53
9:AI:19:PHE:HD2	9:AI:63:TYR:O	1.92	0.53
10:AJ:18:ILE:CG2	10:AJ:72:ARG:HE	2.21	0.53
15:AO:84:LEU:HB3	15:AO:86:LEU:HD22	1.90	0.53
23:AW:300:VAL:O	23:AW:301:PHE:HB3	2.09	0.53
25:B0:39:GLN:O	34:BA:2331:G:O2'	2.20	0.53
27:B2:56:LEU:C	27:B2:58:ASN:H	2.17	0.53
34:BA:125:A:H4'	34:BA:126:A:OP2	2.09	0.53
34:BA:205:G:HO2'	34:BA:206:U:P	2.28	0.53
34:BA:809:G:O4'	34:BA:1254:A:H1'	2.10	0.53
34:BA:859:G:O2'	34:BA:860:U:O5'	2.25	0.53
34:BA:927:A:C6	34:BA:928:A:C6	2.97	0.53
34:BA:1126:A:H8	34:BA:1126:A:OP1	1.92	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1587:G:C2	34:BA:1588:G:C8	2.97	0.53
34:BA:1818:U:C5	36:BC:155:ARG:NH1	2.75	0.53
34:BA:2838:G:H1'	48:BR:45:ARG:NH1	2.23	0.53
35:BB:49:C:O3'	49:BS:68:LYS:HE2	2.09	0.53
38:BE:5:LEU:HD13	38:BE:122:GLU:HG3	1.91	0.53
38:BE:8:ALA:O	38:BE:9:GLN:C	2.52	0.53
41:BH:138:ARG:HA	41:BH:141:ALA:CB	2.39	0.53
43:BJ:14:MET:HB2	43:BM:12:ALA:HA	1.89	0.53
56:BZ:63:ILE:O	56:BZ:69:GLU:HA	2.09	0.53
1:AA:501:C:H1'	1:AA:549:C:O2'	2.09	0.52
1:AA:511:C:O2	1:AA:540:G:N2	2.38	0.52
1:AA:769:G:O2'	1:AA:770:C:H5'	2.09	0.52
1:AA:993:G:O6	1:AA:1046:A:C6	2.62	0.52
1:AA:994:A:C4	1:AA:1216:A:H4'	2.44	0.52
1:AA:1512:U:H2'	1:AA:1513:A:H8	1.74	0.52
6:AF:45:ARG:HG2	6:AF:46:GLN:N	2.23	0.52
8:AH:54:THR:HG23	8:AH:55:LYS:HD3	1.90	0.52
20:AT:8:LYS:HA	20:AT:11:ILE:HG22	1.91	0.52
23:AW:472:ARG:HG3	23:AW:504:ILE:CA	2.39	0.52
28:B3:29:ARG:H	28:B3:33:HIS:HD2	1.57	0.52
34:BA:566:U:O4	52:BV:80:ARG:HD3	2.09	0.52
34:BA:783:A:H2'	34:BA:784:G:O3'	2.09	0.52
34:BA:1022:G:N2	34:BA:1142:A:C2	2.77	0.52
34:BA:1873:G:H2'	34:BA:1874:C:H6	1.74	0.52
34:BA:2074:U:H1'	34:BA:2598:A:N3	2.25	0.52
36:BC:170:TYR:CE2	36:BC:184:GLU:HG2	2.43	0.52
37:BD:13:ARG:NH1	50:BT:74:GLN:HE21	2.00	0.52
39:BF:33:ILE:CD1	39:BF:155:ILE:HG13	2.29	0.52
40:BG:72:ASN:C	40:BG:72:ASN:HD22	2.17	0.52
41:BH:23:LEU:HG	41:BH:24:SER:N	2.22	0.52
41:BH:136:ILE:HA	41:BH:139:LEU:HD12	1.91	0.52
43:BJ:27:GLU:O	43:BJ:28:GLU:HB2	2.08	0.52
45:BO:23:LYS:HB3	45:BO:40:LYS:HB3	1.91	0.52
47:BQ:1:MET:O	47:BQ:2:LEU:CB	2.58	0.52
47:BQ:53:MET:HE1	47:BQ:103:TYR:CD2	2.45	0.52
54:BX:13:ALA:O	54:BX:32:LEU:HB2	2.09	0.52
56:BZ:80:HIS:CD2	56:BZ:83:LYS:N	2.78	0.52
1:AA:234:C:H2'	1:AA:235:C:C6	2.43	0.52
1:AA:538:G:OP2	12:AL:111:GLN:HB2	2.09	0.52
1:AA:679:C:H2'	1:AA:680:C:C6	2.44	0.52
1:AA:1364:U:O2	1:AA:1364:U:C2'	2.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1368:A:O2'	1:AA:1369:C:H5'	2.09	0.52
1:AA:1371:G:N3	1:AA:1371:G:H2'	2.23	0.52
4:AD:96:ARG:O	4:AD:100:VAL:HG23	2.09	0.52
6:AF:3:HIS:CB	6:AF:92:THR:HG23	2.38	0.52
16:AP:74:LEU:O	16:AP:75:ILE:C	2.52	0.52
17:AQ:8:GLN:HE21	17:AQ:8:GLN:HA	1.73	0.52
17:AQ:51:GLU:H	17:AQ:51:GLU:CD	2.17	0.52
32:B7:23:HIS:ND1	46:BP:61:LEU:HG	2.23	0.52
33:B8:37:GLN:O	33:B8:37:GLN:HG2	2.08	0.52
34:BA:340:A:C2'	34:BA:341:C:H5'	2.40	0.52
34:BA:449:A:H2'	34:BA:450:G:H5'	1.91	0.52
34:BA:646:U:H3'	34:BA:647:G:C5'	2.38	0.52
34:BA:871:U:H2'	34:BA:872:U:C6	2.44	0.52
34:BA:1028:A:N6	34:BA:1125:G:H2'	2.24	0.52
34:BA:1218:G:C2	34:BA:1232:G:C5	2.97	0.52
34:BA:1501:G:C2'	34:BA:1502:A:H5'	2.39	0.52
34:BA:1797:G:H4'	36:BC:255:LYS:H	1.73	0.52
34:BA:2758:A:C2'	34:BA:2759:G:H5'	2.40	0.52
34:BA:2797:U:H5"	34:BA:2798:U:OP1	2.08	0.52
38:BE:153:LEU:HD12	38:BE:154:ASP:O	2.08	0.52
41:BH:63:ALA:O	41:BH:67:THR:HG23	2.09	0.52
41:BH:144:LYS:HZ1	43:BL:30:PHE:HB2	1.74	0.52
45:BO:105:ARG:HD3	45:BO:105:ARG:H	1.74	0.52
54:BX:54:GLU:HB3	54:BX:88:LYS:CG	2.40	0.52
1:AA:439:U:H1'	4:AD:118:SER:O	2.09	0.52
4:AD:35:GLN:O	4:AD:36:ALA:HB2	2.08	0.52
9:AI:17:ARG:CZ	9:AI:67:LYS:HZ1	2.21	0.52
19:AS:28:LYS:HB3	19:AS:29:PRO:HD2	1.92	0.52
23:AW:68:ILE:HD11	58:AW:602:GNP:H5'1	1.92	0.52
25:B0:47:GLY:C	25:B0:49:ASN:N	2.64	0.52
27:B2:38:GLN:O	34:BA:95:A:H4'	2.08	0.52
28:B3:6:ILE:HG23	28:B3:56:VAL:HG23	1.90	0.52
34:BA:1484:U:H2'	34:BA:1485:U:H6	1.74	0.52
34:BA:1638:C:H1'	34:BA:2698:U:O2'	2.09	0.52
34:BA:1758:U:C5	34:BA:2696:U:H5'	2.44	0.52
34:BA:2825:G:H5"	34:BA:2825:G:N3	2.25	0.52
37:BD:110:THR:OG1	37:BD:171:THR:HB	2.09	0.52
38:BE:46:GLN:CG	38:BE:87:ALA:H	2.08	0.52
38:BE:161:ALA:H	38:BE:164:LEU:HD13	1.74	0.52
39:BF:76:PHE:O	39:BF:77:LYS:HB2	2.09	0.52
44:BN:21:THR:CG2	44:BN:22:GLY:N	2.66	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BO:88:ASN:HD22	45:BO:91:SER:H	1.56	0.52
1:AA:652:U:O2'	1:AA:653:U:O5'	2.27	0.52
1:AA:983:A:H5'	14:AN:2:LYS:HZ2	1.74	0.52
1:AA:1285:A:H4'	1:AA:1286:U:C4	2.45	0.52
4:AD:124:VAL:O	4:AD:126:GLY:N	2.37	0.52
4:AD:143:SER:HB3	4:AD:178:GLU:HB3	1.90	0.52
6:AF:3:HIS:HA	6:AF:64:VAL:O	2.10	0.52
25:B0:19:ARG:HH22	34:BA:856:G:H21	1.57	0.52
34:BA:653:U:C5	34:BA:654:A:C2	2.94	0.52
34:BA:898:C:O5'	34:BA:898:C:H6	1.92	0.52
34:BA:1454:C:N4	48:BR:73:ASN:HD21	2.00	0.52
34:BA:1688:U:H1'	34:BA:1701:A:C6	2.44	0.52
34:BA:1757:A:H3'	34:BA:1758:U:C5'	2.36	0.52
34:BA:1918:A:O2'	34:BA:1919:A:N7	2.42	0.52
34:BA:2103:C:O2'	34:BA:2104:C:P	2.67	0.52
41:BH:136:ILE:HG13	41:BH:139:LEU:HD12	1.91	0.52
54:BX:2:ILE:HD13	54:BX:3:ARG:NE	2.24	0.52
54:BX:24:MET:O	54:BX:29:THR:HG23	2.09	0.52
56:BZ:10:LYS:HB2	56:BZ:10:LYS:NZ	2.23	0.52
1:AA:746:A:N6	1:AA:747:A:N6	2.58	0.52
1:AA:872:A:C5	1:AA:874:G:C8	2.96	0.52
1:AA:1179:A:O3'	9:AI:104:THR:HG23	2.09	0.52
1:AA:1220:G:N3	1:AA:1221:G:C8	2.78	0.52
1:AA:1227:A:OP2	13:AM:109:LYS:HE2	2.10	0.52
2:AB:46:VAL:HB	2:AB:47:PRO:HD3	1.91	0.52
3:AC:20:THR:HG23	3:AC:57:GLU:HB3	1.92	0.52
23:AW:26:LYS:HD2	23:AW:89:THR:O	2.09	0.52
23:AW:408:LYS:HB3	23:AW:409:GLN:O	2.08	0.52
34:BA:1070:A:C2	34:BA:1097:U:H4'	2.45	0.52
34:BA:1385:A:H1'	34:BA:1386:C:C6	2.44	0.52
34:BA:2644:G:N7	34:BA:2645:G:C6	2.78	0.52
37:BD:149:ASN:OD1	37:BD:150:GLN:N	2.42	0.52
38:BE:75:SER:OG	38:BE:77:ILE:HG12	2.08	0.52
39:BF:102:LEU:HD13	39:BF:107:VAL:HG23	1.92	0.52
41:BH:15:VAL:HG12	41:BH:69:PHE:CD1	2.45	0.52
41:BH:117:LEU:O	41:BH:118:ILE:HB	2.09	0.52
42:BI:78:LEU:HD13	42:BI:108:ILE:HG23	1.92	0.52
44:BN:124:VAL:O	44:BN:125:TYR:CB	2.58	0.52
48:BR:54:LEU:HD11	48:BR:62:ASN:ND2	2.24	0.52
50:BT:19:PHE:HE2	50:BT:83:ILE:CD1	2.23	0.52
51:BU:65:ASN:O	51:BU:69:ARG:HB2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BV:4:VAL:HG12	52:BV:13:ARG:HB2	1.91	0.52
1:AA:50:A:O2'	1:AA:360:G:N2	2.43	0.52
1:AA:66:A:H4'	1:AA:173:U:C5	2.45	0.52
1:AA:97:G:H2'	1:AA:98:A:O4'	2.09	0.52
2:AB:27:LYS:N	2:AB:28:PRO:CD	2.72	0.52
3:AC:22:PHE:C	3:AC:22:PHE:CD2	2.88	0.52
3:AC:46:LEU:O	3:AC:49:ALA:HB3	2.10	0.52
3:AC:179:ALA:HB1	3:AC:202:PHE:HE1	1.74	0.52
4:AD:97:LEU:C	4:AD:97:LEU:HD23	2.35	0.52
4:AD:145:ARG:HD2	4:AD:147:LYS:CE	2.40	0.52
5:AE:121:ASN:O	5:AE:122:VAL:O	2.28	0.52
6:AF:42:TRP:CZ2	6:AF:61:LEU:HD22	2.44	0.52
21:AU:3:ILE:HA	21:AU:19:LYS:HZ2	1.75	0.52
21:AU:16:ARG:NH1	21:AU:19:LYS:CG	2.72	0.52
26:B1:67:LEU:HD23	26:B1:67:LEU:N	2.25	0.52
28:B3:42:ALA:O	34:BA:851:C:O2'	2.28	0.52
30:B5:9:LYS:HB2	30:B5:19:PHE:CD2	2.43	0.52
34:BA:620:G:H4'	34:BA:621:A:O5'	2.09	0.52
34:BA:995:C:O2	44:BN:3:THR:HG23	2.10	0.52
34:BA:1568:G:H4'	36:BC:58:LYS:CG	2.40	0.52
34:BA:1717:A:H2'	34:BA:1718:G:O4'	2.09	0.52
34:BA:1935:G:N1	34:BA:1962:C:H2'	2.25	0.52
34:BA:2498:C:O2'	34:BA:2499:C:H5'	2.09	0.52
34:BA:2845:U:O3'	50:BT:52:ARG:NH1	2.42	0.52
37:BD:4:LEU:HD21	37:BD:97:SER:O	2.09	0.52
37:BD:8:LYS:NZ	37:BD:195:GLY:O	2.38	0.52
37:BD:98:VAL:HG12	37:BD:180:VAL:CG1	2.37	0.52
38:BE:149:ILE:O	38:BE:188:MET:HA	2.10	0.52
39:BF:127:TYR:O	39:BF:128:SER:HB2	2.09	0.52
41:BH:144:LYS:O	41:BH:146:ALA:N	2.43	0.52
43:BJ:2:ILE:HG23	43:BJ:4:LYS:HD2	1.91	0.52
48:BR:96:ARG:HH12	48:BR:116:VAL:HG23	1.74	0.52
50:BT:50:ARG:CG	50:BT:57:ALA:H	2.21	0.52
1:AA:53:A:H2'	1:AA:54:C:O5'	2.10	0.52
1:AA:632:U:H5"	1:AA:633:G:C8	2.45	0.52
1:AA:883:C:O2'	1:AA:884:U:H5'	2.09	0.52
1:AA:946:A:H2'	1:AA:947:G:C8	2.45	0.52
1:AA:963:G:O2'	10:AJ:56:HIS:HE1	1.91	0.52
1:AA:991:U:O2'	1:AA:993:G:C8	2.62	0.52
1:AA:1220:G:C2	1:AA:1221:G:C8	2.98	0.52
1:AA:1428:A:H2'	1:AA:1429:A:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1441:A:N6	1:AA:1461:G:H21	2.01	0.52
1:AA:1452:C:H4'	1:AA:1453:G:N1	2.23	0.52
3:AC:54:ILE:HG12	3:AC:54:ILE:O	2.10	0.52
9:AI:22:PRO:HA	9:AI:60:LEU:HA	1.92	0.52
12:AL:43:LYS:HD3	12:AL:43:LYS:N	2.18	0.52
17:AQ:58:VAL:HG22	17:AQ:59:GLU:N	2.25	0.52
23:AW:70:ILE:O	23:AW:90:PRO:HB3	2.09	0.52
23:AW:499:ASP:O	23:AW:500:ASN:HB3	2.10	0.52
30:B5:10:LEU:HB2	30:B5:20:TYR:HB2	1.90	0.52
34:BA:374:A:C2	34:BA:401:A:C4	2.98	0.52
34:BA:613:A:C8	34:BA:616:A:N1	2.78	0.52
34:BA:1064:C:N4	34:BA:1070:A:OP2	2.41	0.52
34:BA:1125:G:C6	34:BA:1126:A:N6	2.77	0.52
34:BA:1174:U:O2	34:BA:1174:U:C2'	2.58	0.52
34:BA:1199:U:C1'	51:BU:3:VAL:HG22	2.39	0.52
34:BA:1903:G:OP1	36:BC:239:PHE:HB3	2.10	0.52
34:BA:2773:C:OP1	37:BD:171:THR:CG2	2.57	0.52
35:BB:29:A:C2	35:BB:30:C:N3	2.78	0.52
36:BC:93:VAL:HG13	36:BC:94:LEU:N	2.25	0.52
36:BC:95:TYR:CE1	36:BC:101:ARG:HD2	2.45	0.52
38:BE:5:LEU:HD23	38:BE:120:VAL:HG22	1.91	0.52
40:BG:142:GLN:HG3	40:BG:146:ASP:OD2	2.09	0.52
42:BI:21:PRO:HB2	42:BI:22:PRO:HD3	1.91	0.52
42:BI:123:ALA:C	42:BI:125:THR:H	2.18	0.52
43:BK:29:LYS:HD3	43:BM:15:SER:OG	2.09	0.52
45:BO:88:ASN:ND2	45:BO:91:SER:H	2.07	0.52
51:BU:71:ASN:CB	51:BU:109:VAL:HG21	2.39	0.52
52:BV:27:ILE:HG12	52:BV:33:VAL:HG12	1.92	0.52
1:AA:785:G:O2'	1:AA:786:G:H5'	2.10	0.52
1:AA:936:C:H2'	1:AA:937:A:O4'	2.10	0.52
1:AA:947:G:C6	1:AA:948:C:N4	2.77	0.52
1:AA:1057:G:H4'	3:AC:196:GLY:H	1.75	0.52
1:AA:1202:U:C1'	14:AN:68:ARG:HD2	2.40	0.52
2:AB:30:ILE:HG12	2:AB:31:PHE:H	1.75	0.52
4:AD:53:GLN:NE2	4:AD:202:LEU:HA	2.24	0.52
6:AF:46:GLN:HA	6:AF:46:GLN:HE21	1.75	0.52
11:AK:20:ALA:HA	11:AK:33:ILE:HD13	1.90	0.52
14:AN:27:LYS:O	14:AN:31:SER:HB2	2.10	0.52
21:AU:19:LYS:HB2	21:AU:20:ARG:HH11	1.74	0.52
23:AW:521:VAL:HG22	23:AW:522:GLN:HG2	1.92	0.52
24:AY:4:SER:C	34:BA:1914:C:OP2	2.52	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:B3:26:LEU:HD21	28:B3:47:ILE:CD1	2.40	0.52
32:B7:29:ARG:NH2	46:BP:62:PRO:HB2	2.25	0.52
32:B7:32:LEU:HB2	34:BA:2420:C:OP2	2.09	0.52
34:BA:616:A:H2'	34:BA:617:G:H5'	1.91	0.52
34:BA:1936:A:N6	34:BA:1963:U:N3	2.57	0.52
34:BA:2578:G:H1'	37:BD:144:GLY:HA2	1.92	0.52
39:BF:172:PHE:C	39:BF:174:PHE:H	2.18	0.52
40:BG:84:LYS:CB	40:BG:132:LEU:H	2.21	0.52
40:BG:102:ILE:HG13	40:BG:116:LEU:HD21	1.92	0.52
40:BG:137:LYS:HA	40:BG:140:ILE:HD11	1.92	0.52
41:BH:1:MET:HE3	41:BH:6:GLN:HE22	1.75	0.52
41:BH:106:PHE:O	41:BH:107:GLU:C	2.53	0.52
48:BR:12:ARG:NH1	48:BR:20:MET:HE1	2.24	0.52
53:BW:13:SER:OG	53:BW:16:LYS:N	2.37	0.52
1:AA:70:U:C2	1:AA:94:G:N7	2.77	0.52
1:AA:579:A:H2'	1:AA:580:C:C6	2.44	0.52
1:AA:579:A:O2'	15:AO:53:ARG:NH1	2.43	0.52
1:AA:705:G:C5	1:AA:706:A:C8	2.97	0.52
1:AA:1196:A:C2	3:AC:161:ILE:HG22	2.45	0.52
3:AC:79:LYS:HA	3:AC:79:LYS:HE3	1.92	0.52
3:AC:163:ARG:NH1	3:AC:163:ARG:HB2	2.25	0.52
3:AC:163:ARG:HB2	3:AC:163:ARG:HH11	1.75	0.52
5:AE:155:LYS:HB3	8:AH:70:VAL:HG13	1.92	0.52
6:AF:36:ILE:H	6:AF:36:ILE:CD1	2.14	0.52
6:AF:68:GLN:H	6:AF:68:GLN:CD	2.16	0.52
8:AH:12:ARG:HH11	8:AH:26:MET:CB	2.23	0.52
14:AN:40:ARG:HH12	14:AN:44:VAL:CG2	2.17	0.52
14:AN:42:ASN:HD21	14:AN:46:LYS:HE2	1.73	0.52
20:AT:5:SER:C	20:AT:7:LYS:H	2.18	0.52
20:AT:29:THR:O	20:AT:32:LYS:HB2	2.10	0.52
25:B0:58:LEU:HD12	25:B0:58:LEU:N	2.25	0.52
28:B3:40:THR:CG2	28:B3:43:ILE:HG23	2.40	0.52
34:BA:670:A:H5"	46:BP:43:GLY:HA3	1.92	0.52
34:BA:825:A:H1'	46:BP:54:GLN:HE21	1.73	0.52
34:BA:1668:A:O2'	34:BA:1674:G:N7	2.42	0.52
39:BF:12:VAL:HG13	39:BF:13:LYS:H	1.75	0.52
41:BH:158:VAL:CG1	43:BL:23:ILE:HG13	2.40	0.52
45:BO:47:ILE:HG23	45:BO:48:PRO:HD2	1.91	0.52
47:BQ:108:VAL:CG1	47:BQ:112:LEU:HB3	2.40	0.52
1:AA:183:C:H5"	1:AA:184:G:OP2	2.10	0.52
1:AA:253:A:OP2	17:AQ:68:LYS:HD3	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:545:C:H5'	4:AD:68:GLU:CG	2.35	0.52
1:AA:567:G:H2'	1:AA:568:G:O4'	2.09	0.52
1:AA:975:A:N1	1:AA:1366:C:O2'	2.35	0.52
1:AA:1143:G:H2'	1:AA:1144:G:O4'	2.10	0.52
2:AB:59:ILE:HD12	2:AB:66:ILE:HD11	1.92	0.52
4:AD:191:SER:O	4:AD:192:ALA:CB	2.58	0.52
4:AD:191:SER:O	4:AD:192:ALA:HB2	2.08	0.52
7:AG:65:LEU:HG	7:AG:69:ARG:NE	2.25	0.52
7:AG:91:ARG:C	7:AG:93:VAL:H	2.18	0.52
14:AN:31:SER:O	14:AN:32:ASP:HB2	2.08	0.52
23:AW:369:ASN:ND2	23:AW:373:ILE:H	2.08	0.52
25:B0:18:LYS:HG3	25:B0:19:ARG:H	1.75	0.52
25:B0:18:LYS:HG3	25:B0:19:ARG:N	2.25	0.52
29:B4:54:ILE:HG22	29:B4:54:ILE:O	2.09	0.52
32:B7:24:LYS:HD3	46:BP:62:PRO:HG2	1.92	0.52
34:BA:320:A:H4'	34:BA:322:A:N7	2.25	0.52
34:BA:508:A:H4'	34:BA:509:C:OP2	2.10	0.52
34:BA:1045:C:H5'	34:BA:1047:G:O4'	2.10	0.52
34:BA:2773:C:OP1	37:BD:171:THR:HG22	2.09	0.52
38:BE:161:ALA:C	38:BE:163:ASN:N	2.68	0.52
43:BJ:11:VAL:HG22	43:BM:15:SER:H	1.74	0.52
44:BN:98:GLU:O	44:BN:102:GLU:HG3	2.10	0.52
48:BR:96:ARG:NH2	48:BR:116:VAL:HG23	2.25	0.52
53:BW:95:ARG:O	53:BW:96:ILE:HG12	2.10	0.52
54:BX:69:ARG:NH2	54:BX:70:HIS:HA	2.25	0.52
55:BY:53:GLN:N	55:BY:54:PRO:CD	2.72	0.52
1:AA:373:A:C4	1:AA:482:A:N7	2.78	0.51
1:AA:552:U:C2	1:AA:553:A:C8	2.99	0.51
1:AA:702:A:O2'	1:AA:703:G:P	2.68	0.51
1:AA:974:A:OP2	14:AN:68:ARG:NH2	2.43	0.51
1:AA:1221:G:H5"	19:AS:35:ARG:HH11	1.75	0.51
1:AA:1370:G:O5'	9:AI:110:VAL:HG21	2.10	0.51
1:AA:1525:G:H5"	21:AU:37:TYR:CD1	2.45	0.51
3:AC:123:LEU:CD2	3:AC:129:PHE:HB3	2.40	0.51
5:AE:10:LEU:HD23	5:AE:10:LEU:H	1.75	0.51
8:AH:65:PHE:CD2	8:AH:66:GLN:OE1	2.63	0.51
23:AW:290:GLU:HB2	23:AW:293:GLU:HG3	1.92	0.51
29:B4:9:ARG:CG	29:B4:9:ARG:NH2	2.67	0.51
34:BA:219:A:N6	34:BA:220:G:C6	2.78	0.51
34:BA:301:G:O2'	34:BA:302:C:P	2.68	0.51
34:BA:417:C:C2	34:BA:418:C:C5	2.98	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:753:A:H2'	34:BA:754:U:C6	2.45	0.51
34:BA:1092:C:N4	34:BA:1093:G:C2	2.78	0.51
34:BA:2033:A:H4'	34:BA:2034:U:OP1	2.09	0.51
34:BA:2502:G:H5'	34:BA:2503:A:C5'	2.38	0.51
34:BA:2598:A:H5"	36:BC:233:GLY:HA3	1.91	0.51
34:BA:2680:U:P	37:BD:114:LYS:HE2	2.49	0.51
34:BA:2781:A:H5"	34:BA:2782:G:H5'	1.91	0.51
35:BB:40:U:N3	35:BB:44:G:OP2	2.39	0.51
36:BC:173:LEU:HD22	36:BC:183:VAL:CG2	2.36	0.51
39:BF:16:MET:O	39:BF:20:ASN:HA	2.09	0.51
39:BF:22:ASN:N	39:BF:22:ASN:HD22	2.08	0.51
40:BG:140:ILE:HG13	40:BG:141:GLY:H	1.75	0.51
52:BV:96:VAL:HG23	52:BV:98:ILE:CD1	2.39	0.51
1:AA:65:A:N6	1:AA:381:C:C2	2.78	0.51
1:AA:148:G:C6	1:AA:149:A:N7	2.79	0.51
1:AA:148:G:O2'	1:AA:1446:A:N3	2.39	0.51
1:AA:920:U:H2'	1:AA:921:U:C6	2.46	0.51
1:AA:1392:G:C2'	1:AA:1393:U:H5'	2.41	0.51
5:AE:51:LYS:HZ3	5:AE:51:LYS:HB2	1.74	0.51
8:AH:86:LYS:HG3	8:AH:90:GLU:HB3	1.92	0.51
23:AW:470:THR:HA	23:AW:471:ALA:HB3	1.91	0.51
25:B0:65:LYS:HE3	25:B0:84:GLU:CB	2.40	0.51
25:B0:67:LYS:O	25:B0:68:PHE:HB2	2.10	0.51
27:B2:8:GLU:O	27:B2:9:LYS:HB3	2.09	0.51
30:B5:34:GLU:HA	30:B5:48:TYR:O	2.10	0.51
34:BA:481:G:O2'	34:BA:507:A:N1	2.43	0.51
34:BA:723:C:H2'	34:BA:724:U:O4'	2.11	0.51
34:BA:779:U:H5"	36:BC:48:ILE:CD1	2.40	0.51
34:BA:1847:A:C8	34:BA:1848:A:N7	2.78	0.51
34:BA:1926:U:O2	34:BA:1928:A:C8	2.64	0.51
34:BA:2030:A:C2	34:BA:2499:C:H5"	2.45	0.51
34:BA:2048:G:H2'	34:BA:2049:G:H5"	1.91	0.51
34:BA:2063:C:O2	34:BA:2450:A:N1	2.43	0.51
34:BA:2262:U:H4'	34:BA:2328:A:C2	2.46	0.51
34:BA:2287:A:O2'	34:BA:2288:A:P	2.68	0.51
35:BB:33:G:H2'	35:BB:34:A:O4'	2.09	0.51
35:BB:69:G:H2'	35:BB:70:C:H5'	1.93	0.51
39:BF:35:LEU:HD12	39:BF:35:LEU:O	2.10	0.51
41:BH:106:PHE:O	41:BH:108:VAL:N	2.43	0.51
43:BM:13:ALA:O	43:BM:14:MET:O	2.28	0.51
46:BP:7:SER:HB2	46:BP:8:PRO:HD2	1.90	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BT:37:LYS:HD3	50:BT:37:LYS:N	2.25	0.51
52:BV:64:VAL:HG21	52:BV:97:LYS:HB2	1.92	0.51
1:AA:692:U:H2'	1:AA:694:A:OP2	2.09	0.51
1:AA:981:U:H5"	14:AN:5:MET:HE1	1.91	0.51
1:AA:1021:A:C2'	1:AA:1022:A:H5"	2.38	0.51
13:AM:90:HIS:C	13:AM:92:ARG:H	2.17	0.51
16:AP:24:SER:C	16:AP:26:ASN:H	2.18	0.51
19:AS:20:LYS:NZ	19:AS:20:LYS:HB2	2.24	0.51
20:AT:84:LYS:O	20:AT:84:LYS:HD2	2.10	0.51
21:AU:24:LYS:HA	21:AU:28:LEU:HD12	1.93	0.51
26:B1:70:LEU:O	26:B1:73:ARG:HG2	2.10	0.51
34:BA:158:U:C2'	34:BA:159:G:H5'	2.40	0.51
34:BA:393:C:O2	34:BA:393:C:H2'	2.09	0.51
34:BA:996:A:H5'	51:BU:91:ARG:CZ	2.40	0.51
34:BA:996:A:OP1	52:BV:10:LYS:HG2	2.11	0.51
34:BA:1926:U:C2	34:BA:1928:A:OP2	2.63	0.51
34:BA:2148:G:H2'	34:BA:2149:U:O5'	2.10	0.51
34:BA:2292:U:O2'	34:BA:2293:G:H5'	2.11	0.51
34:BA:2726:A:HO2'	34:BA:2727:A:P	2.31	0.51
34:BA:2734:A:H2'	34:BA:2735:G:H5'	1.93	0.51
34:BA:2838:G:H2'	34:BA:2839:G:O4'	2.10	0.51
37:BD:182:ALA:C	37:BD:183:GLU:HG3	2.36	0.51
41:BH:154:THR:HG23	43:BM:22:LEU:HG	1.93	0.51
43:BL:12:ALA:O	43:BL:14:MET:N	2.43	0.51
48:BR:73:ASN:HA	48:BR:76:VAL:CG1	2.38	0.51
50:BT:99:LEU:C	50:BT:101:GLU:N	2.69	0.51
56:BZ:61:LEU:O	56:BZ:71:LYS:HA	2.11	0.51
1:AA:8:A:N6	4:AD:53:GLN:HE22	2.01	0.51
1:AA:430:A:OP2	4:AD:7:LYS:HG2	2.10	0.51
1:AA:1007:U:H2'	1:AA:1008:U:H5"	1.93	0.51
1:AA:1173:U:H2'	1:AA:1174:G:H8	1.74	0.51
1:AA:1256:A:C6	1:AA:1278:G:N2	2.79	0.51
1:AA:1498:U:OP2	22:AV:16:A:O2'	2.25	0.51
2:AB:89:PHE:CE2	2:AB:153:MET:HB2	2.46	0.51
4:AD:121:ALA:HA	4:AD:145:ARG:HG3	1.92	0.51
9:AI:87:MET:SD	9:AI:88:GLU:N	2.84	0.51
10:AJ:11:LYS:HB3	10:AJ:71:LEU:HD22	1.92	0.51
10:AJ:12:ALA:CB	10:AJ:18:ILE:HG12	2.40	0.51
13:AM:46:GLU:HG3	13:AM:46:GLU:O	2.10	0.51
14:AN:42:ASN:C	14:AN:44:VAL:H	2.19	0.51
20:AT:42:ASP:HB3	20:AT:45:ALA:HB3	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AU:16:ARG:HH11	21:AU:19:LYS:HG2	1.76	0.51
23:AW:59:TRP:HZ2	23:AW:69:SER:HB3	1.75	0.51
23:AW:173:ILE:HG21	23:AW:219:VAL:HG11	1.93	0.51
25:B0:19:ARG:NH2	25:B0:22:VAL:HG21	2.25	0.51
27:B2:18:LEU:HD11	54:BX:5:GLU:OE1	2.11	0.51
28:B3:13:ILE:HD12	34:BA:989:G:C8	2.45	0.51
28:B3:29:ARG:O	28:B3:30:ARG:HG3	2.09	0.51
33:B8:36:ARG:HG2	33:B8:37:GLN:N	2.24	0.51
34:BA:2017:U:H5"	34:BA:2018:G:P	2.50	0.51
34:BA:2723:C:O3'	48:BR:1:MET:HE3	2.11	0.51
34:BA:2821:A:OP2	37:BD:115:GLY:N	2.43	0.51
34:BA:2823:A:OP2	37:BD:118:PHE:CE1	2.63	0.51
36:BC:43:ASN:CB	36:BC:45:ASN:H	2.20	0.51
36:BC:121:ALA:HB3	36:BC:129:LEU:CD2	2.40	0.51
36:BC:151:GLY:C	36:BC:152:GLN:HG3	2.36	0.51
38:BE:51:GLU:OE2	38:BE:88:ARG:NH1	2.43	0.51
54:BX:7:LEU:O	54:BX:8:LEU:HD22	2.11	0.51
1:AA:16:A:C2'	1:AA:17:U:H5'	2.41	0.51
1:AA:374:A:H2'	1:AA:375:U:H6	1.76	0.51
1:AA:410:G:H5"	1:AA:411:A:OP1	2.11	0.51
1:AA:448:A:C8	1:AA:487:A:C6	2.99	0.51
1:AA:1096:C:H2'	1:AA:1097:C:H6	1.71	0.51
1:AA:1185:G:H2'	1:AA:1186:G:H5'	1.91	0.51
1:AA:1222:G:OP1	1:AA:1321:U:H2'	2.11	0.51
1:AA:1242:G:C5	1:AA:1243:C:C4	2.98	0.51
1:AA:1449:C:C2	1:AA:1455:G:N2	2.78	0.51
11:AK:125:LYS:C	21:AU:33:ARG:NH2	2.69	0.51
16:AP:17:TYR:HE1	16:AP:41:PRO:HG3	1.75	0.51
23:AW:290:GLU:N	23:AW:293:GLU:OE2	2.44	0.51
28:B3:7:THR:O	28:B3:54:VAL:HA	2.10	0.51
28:B3:8:GLN:O	28:B3:10:ARG:N	2.43	0.51
34:BA:221:A:N1	34:BA:265:A:O2'	2.43	0.51
34:BA:532:A:HO2'	34:BA:2021:C:H5	1.59	0.51
34:BA:621:A:OP2	34:BA:622:G:OP2	2.27	0.51
34:BA:621:A:H2'	34:BA:622:G:H5'	1.93	0.51
34:BA:723:C:O2'	34:BA:724:U:H5'	2.10	0.51
34:BA:725:G:C6	34:BA:726:G:N1	2.78	0.51
34:BA:878:A:N6	34:BA:879:G:N3	2.58	0.51
34:BA:1025:G:H4'	34:BA:1026:G:OP2	2.10	0.51
34:BA:1340:U:H3'	54:BX:61:LEU:HD22	1.93	0.51
34:BA:1973:G:C2'	34:BA:1974:C:H5'	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:2444:G:OP2	38:BE:63:LYS:HD2	2.10	0.51
34:BA:2564:A:C6	34:BA:2565:A:C6	2.98	0.51
35:BB:113:C:H1'	49:BS:46:GLU:HA	1.92	0.51
36:BC:90:ILE:CG2	36:BC:102:TYR:CD1	2.93	0.51
37:BD:158:GLY:O	37:BD:159:LYS:C	2.54	0.51
38:BE:125:SER:O	38:BE:137:LYS:HE3	2.09	0.51
39:BF:135:ILE:C	39:BF:137:PHE:N	2.68	0.51
43:BJ:26:MET:HG3	43:BJ:29:LYS:HZ3	1.75	0.51
50:BT:24:THR:CG2	50:BT:87:ARG:HB3	2.41	0.51
1:AA:6:G:O6	5:AE:98:ALA:HB1	2.10	0.51
1:AA:345:C:H1'	1:AA:346:G:N1	2.26	0.51
1:AA:357:G:C2	1:AA:358:U:C5	2.99	0.51
1:AA:415:A:H2'	1:AA:416:G:O4'	2.10	0.51
1:AA:962:C:H1'	1:AA:1201:A:C6	2.44	0.51
1:AA:1094:G:C2'	1:AA:1095:U:OP2	2.59	0.51
2:AB:221:ARG:NH1	2:AB:222:GLU:HG2	2.25	0.51
3:AC:137:VAL:O	3:AC:140:ALA:HB3	2.11	0.51
7:AG:124:SER:C	7:AG:126:ALA:H	2.19	0.51
9:AI:33:SER:HB3	9:AI:36:GLN:CG	2.38	0.51
10:AJ:18:ILE:CG2	10:AJ:19:ASP:N	2.72	0.51
11:AK:73:VAL:O	11:AK:73:VAL:HG23	2.10	0.51
12:AL:84:GLY:O	12:AL:95:HIS:CD2	2.63	0.51
15:AO:52:ARG:O	15:AO:55:LEU:HB3	2.10	0.51
18:AR:19:GLU:HG3	18:AR:54:LEU:HD21	1.91	0.51
19:AS:35:ARG:HE	19:AS:71:GLY:HA2	1.76	0.51
28:B3:11:SER:HB3	34:BA:988:A:OP1	2.10	0.51
34:BA:825:A:C1'	46:BP:54:GLN:HE21	2.23	0.51
34:BA:1212:G:O2'	34:BA:1236:G:N2	2.43	0.51
34:BA:1254:A:H5"	34:BA:1255:U:H5"	1.93	0.51
34:BA:1399:C:H2'	34:BA:1400:U:C6	2.46	0.51
34:BA:2400:G:H2'	34:BA:2401:U:C6	2.46	0.51
34:BA:2778:A:H4'	34:BA:2779:U:OP2	2.10	0.51
37:BD:66:GLY:O	37:BD:69:ALA:HB3	2.10	0.51
39:BF:32:LYS:HD2	39:BF:89:THR:HG23	1.93	0.51
42:BI:19:PRO:HB2	42:BI:22:PRO:HD2	1.93	0.51
44:BN:99:ARG:HD2	44:BN:102:GLU:OE1	2.10	0.51
50:BT:72:VAL:O	50:BT:72:VAL:HG23	2.10	0.51
50:BT:111:GLU:CD	50:BT:111:GLU:H	2.19	0.51
1:AA:231:U:P	16:AP:31:ARG:HH22	2.34	0.51
1:AA:686:U:O2'	11:AK:43:TRP:HZ2	1.94	0.51
1:AA:990:C:H2'	1:AA:991:U:O4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:149:LYS:HG3	3:AC:200:TRP:HE3	1.76	0.51
4:AD:169:TRP:HB2	4:AD:183:ARG:O	2.10	0.51
5:AE:149:PRO:C	5:AE:151:MET:H	2.19	0.51
12:AL:2:THR:HG22	12:AL:4:ASN:N	2.25	0.51
21:AU:24:LYS:O	21:AU:28:LEU:HB2	2.11	0.51
28:B3:24:LEU:HD23	28:B3:24:LEU:C	2.36	0.51
33:B8:19:ARG:HG2	34:BA:2756:U:OP2	2.11	0.51
34:BA:644:A:H2'	34:BA:645:C:O4'	2.11	0.51
34:BA:662:G:O2'	34:BA:663:G:H5'	2.10	0.51
34:BA:1046:A:O2'	41:BH:61:ARG:HB2	2.11	0.51
34:BA:2341:G:H2'	34:BA:2342:C:O4'	2.11	0.51
37:BD:111:GLY:O	37:BD:169:ARG:O	2.29	0.51
39:BF:9:ASP:O	39:BF:10:GLU:HB2	2.11	0.51
48:BR:73:ASN:O	48:BR:76:VAL:HG12	2.09	0.51
50:BT:86:LYS:O	50:BT:87:ARG:HB2	2.09	0.51
1:AA:1367:C:H5'	10:AJ:62:ARG:NH1	2.25	0.51
2:AB:132:GLU:HG3	2:AB:136:ARG:HB2	1.91	0.51
3:AC:70:ALA:HB2	3:AC:114:LEU:CD1	2.41	0.51
3:AC:100:ILE:C	3:AC:100:ILE:HD13	2.35	0.51
9:AI:9:GLY:N	9:AI:84:ARG:HH12	2.08	0.51
15:AO:44:GLU:O	15:AO:45:HIS:HB2	2.11	0.51
16:AP:46:LYS:NZ	16:AP:48:GLU:H	2.08	0.51
23:AW:11:ALA:O	23:AW:14:ARG:NH2	2.43	0.51
25:B0:51:GLY:N	25:B0:61:LYS:HE3	2.25	0.51
27:B2:57:LEU:HA	27:B2:60:LYS:HB3	1.92	0.51
34:BA:84:A:H4'	34:BA:85:G:O5'	2.10	0.51
34:BA:975:A:C2'	34:BA:976:G:H5'	2.41	0.51
34:BA:1087:G:H2'	34:BA:1089:A:H1'	1.92	0.51
34:BA:1427:A:H4'	34:BA:1428:C:O5'	2.11	0.51
34:BA:1894:C:H2'	34:BA:1895:C:H6	1.75	0.51
34:BA:2104:C:N4	34:BA:2184:A:N6	2.56	0.51
34:BA:2287:A:O2'	34:BA:2288:A:C3'	2.59	0.51
34:BA:2716:C:C2'	34:BA:2717:C:H5'	2.40	0.51
34:BA:2790:U:H4'	34:BA:2791:G:OP2	2.09	0.51
36:BC:158:GLY:H	36:BC:194:VAL:HG13	1.73	0.51
39:BF:55:ASP:O	39:BF:59:ILE:HG13	2.11	0.51
40:BG:8:VAL:HG11	40:BG:49:LEU:HD12	1.93	0.51
43:BJ:17:MET:O	43:BJ:20:VAL:HB	2.11	0.51
43:BL:6:GLN:HE22	43:BM:13:ALA:HB2	1.75	0.51
43:BL:25:ALA:O	43:BL:28:GLU:HG2	2.10	0.51
44:BN:23:LYS:C	44:BN:63:ALA:HB3	2.34	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BU:91:ARG:HE	51:BU:93:ILE:HG23	1.75	0.51
52:BV:1:MET:HA	52:BV:42:ALA:O	2.11	0.51
55:BY:73:ASN:ND2	55:BY:75:ALA:HB3	2.26	0.51
55:BY:86:PHE:HB2	55:BY:92:VAL:HB	1.93	0.51
1:AA:98:A:H2'	1:AA:99:C:H6	1.75	0.51
1:AA:449:G:N1	1:AA:450:G:C6	2.79	0.51
1:AA:588:G:H5"	8:AH:2:MET:O	2.11	0.51
1:AA:957:U:H4'	19:AS:78:THR:O	2.11	0.51
1:AA:1136:C:H5"	1:AA:1137:C:OP1	2.10	0.51
1:AA:1396:A:H4'	1:AA:1397:C:H5"	1.92	0.51
2:AB:90:PHE:O	2:AB:149:GLY:CA	2.59	0.51
4:AD:122:ILE:HD12	4:AD:122:ILE:C	2.36	0.51
5:AE:152:VAL:HA	5:AE:155:LYS:HZ1	1.76	0.51
9:AI:3:ASN:CG	9:AI:4:GLN:N	2.69	0.51
13:AM:28:ARG:HB3	13:AM:28:ARG:HH11	1.76	0.51
34:BA:235:U:H2'	34:BA:236:C:H6	1.75	0.51
34:BA:321:U:O4'	38:BE:159:LEU:HB3	2.10	0.51
34:BA:588:U:O4	34:BA:670:A:H1'	2.10	0.51
34:BA:1091:G:H2'	34:BA:1092:C:H6	1.76	0.51
34:BA:1353:A:H2'	34:BA:1354:A:C8	2.45	0.51
34:BA:2233:U:H2'	34:BA:2234:G:C8	2.46	0.51
34:BA:2282:G:H5"	34:BA:2389:G:H1'	1.93	0.51
34:BA:2895:G:H2'	34:BA:2896:C:C6	2.46	0.51
37:BD:69:ALA:O	37:BD:71:ALA:N	2.43	0.51
38:BE:124:PHE:CD1	38:BE:124:PHE:C	2.89	0.51
40:BG:83:THR:HA	40:BG:84:LYS:HZ2	1.73	0.51
50:BT:67:GLU:CG	50:BT:68:GLY:H	2.23	0.51
1:AA:1343:G:H4'	9:AI:123:ARG:O	2.10	0.51
1:AA:1345:U:OP1	9:AI:121:ARG:NH1	2.44	0.51
3:AC:70:ALA:HA	3:AC:105:VAL:HB	1.93	0.51
10:AJ:40:ILE:HB	10:AJ:73:LEU:CB	2.36	0.51
10:AJ:42:LEU:CD1	10:AJ:71:LEU:HD12	2.41	0.51
11:AK:107:THR:HG22	11:AK:108:ASN:ND2	2.26	0.51
11:AK:124:LYS:HG2	21:AU:34:ARG:HG2	1.92	0.51
12:AL:122:LYS:HD3	23:AW:487:ARG:O	2.10	0.51
13:AM:47:LEU:HD23	13:AM:48:SER:O	2.11	0.51
25:B0:26:GLY:O	25:B0:27:GLY:C	2.54	0.51
25:B0:76:ARG:HG2	25:B0:76:ARG:NH2	2.25	0.51
28:B3:4:ILE:HD11	28:B3:56:VAL:CG2	2.41	0.51
33:B8:33:HIS:O	33:B8:35:GLN:HG3	2.11	0.51
34:BA:732:C:H2'	34:BA:733:G:O4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:915:C:H2'	34:BA:916:G:H5'	1.93	0.51
34:BA:1303:G:C2'	34:BA:1304:A:H5'	2.41	0.51
34:BA:1432:G:H2'	34:BA:1433:A:C8	2.46	0.51
34:BA:2730:C:O3'	37:BD:174:SER:HB3	2.10	0.51
34:BA:2747:G:O6	34:BA:2755:C:H5"	2.11	0.51
36:BC:190:THR:HG22	36:BC:191:LEU:N	2.26	0.51
36:BC:259:ASN:O	36:BC:260:LYS:CB	2.58	0.51
38:BE:58:LYS:HE3	38:BE:62:GLN:HE21	1.76	0.51
40:BG:101:VAL:HG23	40:BG:101:VAL:O	2.10	0.51
41:BH:33:VAL:HG12	41:BH:34:THR:N	2.26	0.51
41:BH:154:THR:N	43:BM:22:LEU:HD21	2.25	0.51
43:BJ:4:LYS:NZ	43:BK:21:GLU:HG2	2.26	0.51
56:BZ:62:THR:HG22	56:BZ:71:LYS:HG3	1.93	0.51
1:AA:55:A:C6	1:AA:56:U:C2	3.00	0.50
1:AA:337:G:H2'	1:AA:338:A:C8	2.46	0.50
1:AA:824:G:N3	8:AH:1:SER:HA	2.26	0.50
1:AA:952:U:H2'	1:AA:953:G:C8	2.47	0.50
1:AA:1124:G:H2'	1:AA:1145:A:N6	2.26	0.50
3:AC:42:LEU:HD21	3:AC:67:ILE:HD11	1.94	0.50
3:AC:149:LYS:HD2	3:AC:200:TRP:CZ3	2.45	0.50
4:AD:56:GLU:OE2	4:AD:194:ILE:HA	2.11	0.50
4:AD:121:ALA:HA	4:AD:145:ARG:HG2	1.92	0.50
4:AD:190:LEU:HD12	4:AD:190:LEU:O	2.11	0.50
6:AF:32:ALA:O	6:AF:33:GLU:HB2	2.10	0.50
15:AO:8:ALA:O	15:AO:11:VAL:HG23	2.10	0.50
23:AW:437:ILE:HD12	23:AW:504:ILE:HD13	1.92	0.50
25:B0:22:VAL:HG23	34:BA:856:G:O2'	2.11	0.50
34:BA:253:C:H2'	34:BA:254:G:O4'	2.11	0.50
34:BA:455:C:N3	34:BA:472:A:H2'	2.25	0.50
34:BA:878:A:C6	34:BA:900:A:C1'	2.94	0.50
34:BA:1205:A:C2'	38:BE:165:HIS:CE1	2.94	0.50
34:BA:1813:G:N3	36:BC:49:THR:CG2	2.74	0.50
34:BA:2260:C:H2'	34:BA:2261:C:C6	2.46	0.50
34:BA:2793:C:H2'	34:BA:2794:C:C6	2.46	0.50
35:BB:91:C:H2'	35:BB:92:C:H6	1.75	0.50
41:BH:154:THR:HG23	43:BM:22:LEU:CD2	2.41	0.50
49:BS:88:LYS:O	49:BS:89:ASP:CB	2.60	0.50
51:BU:24:TYR:CG	51:BU:25:GLY:N	2.79	0.50
51:BU:91:ARG:HH11	52:BV:10:LYS:HB3	1.74	0.50
1:AA:574:A:H5"	1:AA:575:G:OP2	2.10	0.50
1:AA:575:G:H4'	1:AA:576:C:OP1	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:579:A:H2'	1:AA:580:C:H6	1.76	0.50
1:AA:642:A:C5	1:AA:643:C:C4	2.99	0.50
1:AA:652:U:O2'	1:AA:653:U:C6	2.62	0.50
1:AA:793:U:H5'	1:AA:794:A:O5'	2.11	0.50
1:AA:939:G:N3	1:AA:1375:A:C2	2.79	0.50
1:AA:1347:G:C8	9:AI:108:ARG:HB3	2.47	0.50
4:AD:29:THR:O	4:AD:30:LYS:HB2	2.11	0.50
8:AH:10:LEU:HD13	8:AH:74:ILE:HD11	1.92	0.50
8:AH:48:PHE:O	8:AH:49:LYS:HG3	2.11	0.50
8:AH:77:VAL:HG12	8:AH:78:SER:N	2.26	0.50
12:AL:38:THR:HG22	12:AL:50:LYS:HA	1.93	0.50
12:AL:56:LEU:HB2	12:AL:60:PHE:O	2.11	0.50
13:AM:19:THR:CA	13:AM:24:VAL:HG23	2.40	0.50
20:AT:21:ALA:O	20:AT:25:SER:HB2	2.11	0.50
33:B8:25:VAL:HG21	33:B8:35:GLN:NE2	2.26	0.50
34:BA:468:G:H2'	34:BA:469:G:C5'	2.40	0.50
34:BA:498:G:C2'	34:BA:499:U:H5'	2.41	0.50
34:BA:752:A:H62	34:BA:2609:U:H3	1.58	0.50
34:BA:1810:A:C8	34:BA:1811:G:C8	2.99	0.50
34:BA:1824:G:O2'	36:BC:245:THR:HG22	2.11	0.50
34:BA:2197:U:O2'	34:BA:2198:A:O5'	2.28	0.50
34:BA:2211:A:OP2	34:BA:2211:A:H4'	2.10	0.50
37:BD:34:VAL:HG22	37:BD:94:GLN:H	1.76	0.50
37:BD:193:VAL:HB	37:BD:194:PRO:HD2	1.93	0.50
42:BI:7:TYR:HB3	42:BI:57:VAL:HG13	1.94	0.50
45:BO:39:ILE:CG2	45:BO:41:ILE:HD13	2.39	0.50
52:BV:4:VAL:HA	52:BV:12:HIS:O	2.12	0.50
52:BV:21:ARG:HD3	52:BV:93:PHE:CD1	2.46	0.50
54:BX:70:HIS:HD2	54:BX:73:ARG:HB2	1.75	0.50
55:BY:5:ARG:O	55:BY:6:ARG:C	2.54	0.50
1:AA:428:G:C4'	1:AA:429:U:OP1	2.59	0.50
1:AA:449:G:O2'	1:AA:450:G:H5'	2.12	0.50
5:AE:15:ILE:HD11	5:AE:112:ALA:HB3	1.92	0.50
5:AE:110:MET:O	5:AE:114:LEU:HB2	2.10	0.50
6:AF:85:ILE:O	6:AF:86:ARG:C	2.54	0.50
9:AI:31:GLN:O	9:AI:32:ARG:CB	2.57	0.50
12:AL:3:VAL:HG23	12:AL:4:ASN:N	2.26	0.50
13:AM:21:ILE:HB	13:AM:24:VAL:HG22	1.93	0.50
32:B7:22:LYS:H	32:B7:48:MET:HA	1.76	0.50
34:BA:167:A:H2'	34:BA:168:G:O4'	2.11	0.50
34:BA:295:G:O2'	34:BA:296:U:H5'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:445:C:O2'	34:BA:446:G:H5'	2.10	0.50
34:BA:467:G:C2'	34:BA:468:G:H5'	2.42	0.50
34:BA:770:G:H1'	34:BA:1379:U:C4	2.47	0.50
34:BA:971:G:H2'	34:BA:972:A:O4'	2.11	0.50
34:BA:1361:G:H2'	34:BA:1362:C:C6	2.46	0.50
34:BA:1849:G:H2'	34:BA:1850:G:C8	2.46	0.50
34:BA:2281:A:O2'	34:BA:2282:G:H5'	2.10	0.50
34:BA:2869:G:H2'	34:BA:2870:C:C6	2.47	0.50
36:BC:140:VAL:HG13	36:BC:189:ALA:HB1	1.93	0.50
37:BD:170:VAL:O	37:BD:170:VAL:HG22	2.11	0.50
38:BE:177:PRO:O	38:BE:181:ILE:HG13	2.11	0.50
41:BH:24:SER:HB2	41:BH:116:GLU:CD	2.37	0.50
43:BK:19:VAL:C	43:BK:21:GLU:H	2.20	0.50
45:BO:13:ASN:C	45:BO:15:GLY:H	2.19	0.50
51:BU:46:TYR:CZ	51:BU:50:ARG:NH2	2.79	0.50
1:AA:55:A:C6	23:AW:311:HIS:CE1	3.00	0.50
1:AA:148:G:H1'	1:AA:1447:A:H1'	1.94	0.50
1:AA:203:G:H4'	1:AA:466:A:C2	2.45	0.50
1:AA:1166:G:H8	1:AA:1166:G:O5'	1.95	0.50
2:AB:75:ALA:O	2:AB:79:VAL:HG23	2.12	0.50
3:AC:123:LEU:HD21	3:AC:129:PHE:CB	2.41	0.50
11:AK:34:THR:HG23	11:AK:35:ASP:O	2.11	0.50
34:BA:161:A:H2	34:BA:2217:G:N3	2.09	0.50
34:BA:340:A:H2'	34:BA:341:C:H5'	1.93	0.50
34:BA:419:U:H2'	34:BA:420:C:C6	2.46	0.50
34:BA:495:G:N2	34:BA:496:G:H1'	2.26	0.50
34:BA:1522:A:C2'	34:BA:1523:U:OP2	2.59	0.50
34:BA:1614:A:O5'	34:BA:1614:A:H8	1.94	0.50
34:BA:1943:U:C5	34:BA:1945:G:O4'	2.65	0.50
34:BA:2277:G:H3'	34:BA:2278:A:H5"	1.93	0.50
34:BA:2378:A:N3	49:BS:18:LEU:HD11	2.26	0.50
34:BA:2779:U:OP1	34:BA:2780:G:H2'	2.11	0.50
35:BB:87:U:H4'	35:BB:88:C:OP2	2.10	0.50
44:BN:32:LEU:HD22	44:BN:54:ILE:CD1	2.41	0.50
50:BT:83:ILE:C	50:BT:83:ILE:CD1	2.77	0.50
50:BT:92:ARG:O	50:BT:93:LYS:HB2	2.10	0.50
52:BV:51:VAL:HB	52:BV:52:PRO:CD	2.42	0.50
54:BX:32:LEU:N	54:BX:83:ALA:HB3	2.25	0.50
1:AA:201:G:H2'	1:AA:202:G:O4'	2.12	0.50
1:AA:426:U:H5"	4:AD:36:ALA:HB1	1.94	0.50
1:AA:697:U:H2'	1:AA:698:G:H5'	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1350:A:C6	1:AA:1351:U:N3	2.80	0.50
4:AD:123:MET:O	4:AD:142:VAL:HA	2.12	0.50
4:AD:191:SER:HA	4:AD:194:ILE:HD11	1.92	0.50
9:AI:83:THR:HG21	9:AI:102:PHE:HB3	1.92	0.50
12:AL:43:LYS:N	12:AL:44:PRO:HD2	2.26	0.50
12:AL:88:ASP:HB3	12:AL:89:LEU:HD22	1.94	0.50
13:AM:70:ARG:HA	13:AM:73:SER:HB2	1.93	0.50
19:AS:39:ILE:HD13	19:AS:61:VAL:HG12	1.93	0.50
25:B0:40:ARG:HB3	34:BA:2336:A:N6	2.26	0.50
27:B2:5:GLU:O	27:B2:6:LEU:C	2.54	0.50
32:B7:1:PRO:HD2	34:BA:667:U:O2	2.11	0.50
34:BA:945:A:C4	34:BA:2448:A:C2	2.99	0.50
34:BA:1165:A:H2'	34:BA:1166:G:C8	2.46	0.50
34:BA:1205:A:N1	38:BE:165:HIS:HB2	2.27	0.50
34:BA:1494:A:H2'	34:BA:1495:A:C8	2.46	0.50
34:BA:1583:A:H2'	34:BA:1584:U:OP2	2.11	0.50
34:BA:1818:U:C2'	34:BA:1819:A:OP2	2.58	0.50
34:BA:1936:A:N3	34:BA:1943:U:H5	2.10	0.50
34:BA:2149:U:H3'	34:BA:2149:U:H6	1.76	0.50
34:BA:2470:G:OP1	47:BQ:55:ARG:NH1	2.44	0.50
35:BB:29:A:C4	35:BB:56:G:N2	2.79	0.50
36:BC:269:ARG:HD3	36:BC:270:ARG:H	1.77	0.50
37:BD:40:LEU:HD12	37:BD:40:LEU:N	2.08	0.50
37:BD:48:ILE:CD1	37:BD:50:VAL:HG13	2.36	0.50
40:BG:68:ARG:HD2	40:BG:68:ARG:C	2.37	0.50
40:BG:94:ARG:HH21	40:BG:105:SER:HB2	1.75	0.50
42:BI:102:ARG:HB2	42:BI:141:ASP:OD2	2.12	0.50
43:BJ:11:VAL:HB	43:BK:29:LYS:NZ	2.27	0.50
50:BT:33:GLU:CB	50:BT:38:ARG:HH11	2.25	0.50
53:BW:89:ALA:O	53:BW:90:LYS:HB2	2.11	0.50
55:BY:95:PHE:CE1	55:BY:102:ILE:HB	2.45	0.50
2:AB:113:LEU:HD12	2:AB:113:LEU:O	2.12	0.50
2:AB:132:GLU:CG	2:AB:136:ARG:HG3	2.41	0.50
2:AB:140:LEU:O	2:AB:143:LEU:N	2.45	0.50
3:AC:143:LEU:HD22	3:AC:143:LEU:H	1.77	0.50
9:AI:9:GLY:H	9:AI:84:ARG:HH12	1.59	0.50
9:AI:60:LEU:N	9:AI:60:LEU:HD23	2.27	0.50
11:AK:30:ILE:HD13	11:AK:30:ILE:O	2.12	0.50
28:B3:7:THR:HG22	28:B3:9:THR:H	1.76	0.50
28:B3:37:ARG:HD2	28:B3:37:ARG:N	2.27	0.50
31:B6:34:ARG:HD3	31:B6:42:LEU:HA	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:31:C:O2'	34:BA:1238:G:H5'	2.11	0.50
34:BA:171:U:H2'	34:BA:172:A:C8	2.47	0.50
34:BA:368:A:C2'	34:BA:369:U:H5'	2.42	0.50
34:BA:417:C:H2'	34:BA:418:C:H6	1.77	0.50
34:BA:804:A:H5"	34:BA:805:G:OP1	2.11	0.50
34:BA:1087:G:H2'	34:BA:1089:A:C1'	2.42	0.50
34:BA:1245:G:OP1	46:BP:13:LYS:HE3	2.11	0.50
34:BA:2134:A:O2'	34:BA:2135:A:H8	1.93	0.50
34:BA:2786:U:O2	37:BD:63:PRO:HB3	2.11	0.50
34:BA:2807:U:O2'	34:BA:2808:G:H5'	2.12	0.50
36:BC:68:ARG:CD	36:BC:103:ILE:HD11	2.37	0.50
37:BD:168:GLU:HG3	37:BD:170:VAL:HG12	1.94	0.50
38:BE:83:VAL:HG11	38:BE:86:ALA:HA	1.92	0.50
40:BG:95:ALA:HB2	40:BG:104:LEU:HD23	1.92	0.50
41:BH:78:GLY:N	41:BH:79:PRO:HD3	2.27	0.50
49:BS:77:ALA:O	49:BS:80:GLU:HG2	2.12	0.50
55:BY:21:ARG:CZ	55:BY:72:PHE:CZ	2.94	0.50
1:AA:204:G:C3'	1:AA:205:A:H5"	2.33	0.50
1:AA:618:C:O2	1:AA:618:C:H2'	2.11	0.50
1:AA:938:A:C6	1:AA:939:G:C5	2.99	0.50
1:AA:960:U:N3	1:AA:1225:A:C8	2.79	0.50
1:AA:1258:G:O2'	1:AA:1259:C:H5'	2.11	0.50
1:AA:1316:G:N1	1:AA:1319:A:OP2	2.44	0.50
5:AE:79:THR:HG23	5:AE:80:LEU:O	2.11	0.50
19:AS:36:ARG:HA	19:AS:69:LYS:HD2	1.92	0.50
25:B0:28:GLU:HG3	25:B0:29:SER:N	2.26	0.50
34:BA:289:G:O2'	34:BA:290:U:H5'	2.11	0.50
34:BA:364:C:H2'	34:BA:365:U:H6	1.77	0.50
34:BA:721:A:H2'	34:BA:722:A:C8	2.47	0.50
34:BA:1813:G:H1'	36:BC:49:THR:HG21	1.93	0.50
34:BA:2335:A:C6	34:BA:2337:G:H1'	2.47	0.50
34:BA:2831:G:H1'	34:BA:2883:A:H2'	1.94	0.50
35:BB:29:A:C2	35:BB:30:C:C2	2.99	0.50
35:BB:91:C:H2'	35:BB:92:C:C6	2.46	0.50
36:BC:58:LYS:O	36:BC:59:GLN:HB2	2.11	0.50
37:BD:26:VAL:HG22	37:BD:188:LEU:HD22	1.94	0.50
37:BD:107:VAL:HA	37:BD:204:LYS:O	2.11	0.50
37:BD:172:VAL:CG1	37:BD:175:LEU:HD11	2.41	0.50
40:BG:37:ASN:OD1	40:BG:37:ASN:N	2.45	0.50
42:BI:126:ARG:HA	42:BI:129:GLU:HG3	1.93	0.50
48:BR:55:ALA:HA	48:BR:80:PHE:CE1	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BU:16:ILE:HG23	51:BU:38:VAL:HG21	1.92	0.50
54:BX:19:LYS:O	54:BX:23:ALA:N	2.35	0.50
54:BX:61:LEU:HG	54:BX:82:LYS:HB2	1.93	0.50
56:BZ:50:MET:O	56:BZ:56:PHE:HB2	2.12	0.50
1:AA:309:A:H2'	1:AA:310:G:C8	2.46	0.50
1:AA:501:C:O2'	1:AA:502:A:H5'	2.12	0.50
1:AA:763:G:H2'	1:AA:764:C:H6	1.77	0.50
1:AA:791:G:C6	1:AA:792:A:N7	2.79	0.50
1:AA:1036:A:H5'	1:AA:1037:C:OP2	2.11	0.50
1:AA:1322:C:O2'	1:AA:1323:G:C5'	2.60	0.50
1:AA:1479:C:H2'	1:AA:1480:A:H8	1.76	0.50
2:AB:209:VAL:O	2:AB:213:LEU:HB3	2.12	0.50
4:AD:53:GLN:HE21	4:AD:202:LEU:CA	2.23	0.50
4:AD:58:GLN:HE22	4:AD:61:ARG:HH11	1.60	0.50
4:AD:60:VAL:HA	4:AD:63:ILE:HG22	1.93	0.50
5:AE:105:ILE:HD11	5:AE:123:LEU:CD2	2.41	0.50
6:AF:24:ARG:H	6:AF:24:ARG:HD2	1.76	0.50
6:AF:26:THR:HG22	6:AF:36:ILE:HG21	1.94	0.50
11:AK:81:LEU:HD21	11:AK:104:PHE:HB3	1.94	0.50
12:AL:21:PRO:C	12:AL:23:LEU:N	2.67	0.50
23:AW:308:ASP:CG	23:AW:309:PRO:HD2	2.37	0.50
23:AW:333:GLN:NE2	23:AW:372:THR:O	2.35	0.50
24:AY:3:SER:O	24:AY:4:SER:HB3	2.12	0.50
34:BA:581:C:H2'	34:BA:582:A:C8	2.47	0.50
34:BA:662:G:C2'	34:BA:663:G:H5'	2.42	0.50
34:BA:822:G:H2'	34:BA:823:C:H6	1.76	0.50
34:BA:1324:G:H1'	34:BA:1616:A:N6	2.26	0.50
34:BA:2331:G:N2	34:BA:2385:C:C2	2.80	0.50
34:BA:2688:G:H1'	34:BA:2721:A:N6	2.27	0.50
38:BE:48:THR:C	38:BE:50:ALA:H	2.19	0.50
38:BE:144:GLU:O	38:BE:166:LYS:HB2	2.12	0.50
41:BH:48:ALA:HA	41:BH:51:TYR:CE2	2.37	0.50
41:BH:48:ALA:CA	41:BH:51:TYR:HE2	2.20	0.50
41:BH:59:LEU:O	41:BH:61:ARG:HG2	2.12	0.50
42:BI:5:GLN:O	42:BI:6:ALA:HB2	2.11	0.50
42:BI:32:VAL:HG13	42:BI:66:PHE:CE2	2.47	0.50
43:BJ:15:SER:HB3	43:BM:11:VAL:CG1	2.41	0.50
45:BO:64:ARG:HH12	45:BO:101:GLY:C	2.20	0.50
49:BS:16:ARG:HD3	49:BS:19:GLN:NE2	2.27	0.50
55:BY:21:ARG:CZ	55:BY:72:PHE:CE2	2.95	0.50
55:BY:80:ASP:CB	55:BY:95:PHE:HD2	2.23	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:70:U:O2	1:AA:70:U:H2'	2.11	0.50
1:AA:81:A:H2	1:AA:88:U:H3	1.58	0.50
1:AA:92:U:OP2	1:AA:92:U:H6	1.95	0.50
1:AA:332:G:H2'	1:AA:333:U:C6	2.46	0.50
1:AA:345:C:O3'	50:BT:33:GLU:OE1	2.29	0.50
1:AA:476:U:H2'	1:AA:477:C:H6	1.75	0.50
1:AA:552:U:H2'	1:AA:553:A:H8	1.77	0.50
1:AA:1255:G:C8	1:AA:1279:G:O6	2.65	0.50
3:AC:31:ASN:O	3:AC:34:SER:HB3	2.12	0.50
3:AC:149:LYS:CD	3:AC:200:TRP:CE3	2.95	0.50
3:AC:195:ILE:HD12	3:AC:195:ILE:N	2.27	0.50
6:AF:24:ARG:H	6:AF:24:ARG:CD	2.24	0.50
11:AK:34:THR:HA	11:AK:40:ALA:HA	1.94	0.50
11:AK:47:GLY:HA3	11:AK:52:ARG:NH1	2.27	0.50
11:AK:75:GLU:O	11:AK:77:GLY:N	2.45	0.50
26:B1:39:VAL:HG23	26:B1:40:GLU:H	1.77	0.50
26:B1:39:VAL:HG22	26:B1:44:ARG:O	2.12	0.50
34:BA:825:A:C1'	46:BP:54:GLN:NE2	2.75	0.50
34:BA:1118:C:H5"	56:BZ:84:PRO:HG2	1.94	0.50
34:BA:1829:A:O2'	36:BC:14:HIS:CE1	2.65	0.50
34:BA:2182:U:C2'	34:BA:2183:A:OP1	2.60	0.50
39:BF:3:LEU:HD12	39:BF:172:PHE:HE2	1.77	0.50
41:BH:29:ASP:CA	41:BH:108:VAL:HG11	2.39	0.50
43:BJ:8:ILE:HG21	43:BK:28:GLU:CD	2.37	0.50
44:BN:21:THR:HG23	44:BN:61:LYS:HE3	1.93	0.50
44:BN:93:ILE:O	44:BN:97:PRO:HG3	2.12	0.50
48:BR:82:GLU:O	48:BR:85:PRO:HD2	2.11	0.50
51:BU:97:ILE:HD11	51:BU:108:LEU:HD12	1.93	0.50
53:BW:24:ILE:HG12	53:BW:36:LEU:HD22	1.94	0.50
1:AA:220:G:O2'	1:AA:221:C:H5'	2.12	0.49
1:AA:596:A:C2	1:AA:597:G:C8	2.99	0.49
1:AA:685:G:H2'	1:AA:686:U:C6	2.47	0.49
1:AA:747:A:N6	1:AA:748:G:C6	2.80	0.49
1:AA:957:U:O2	1:AA:959:A:C8	2.65	0.49
1:AA:1242:G:C6	1:AA:1243:C:N3	2.79	0.49
1:AA:1361:G:C2'	1:AA:1362:A:H5'	2.42	0.49
2:AB:19:THR:HB	2:AB:37:VAL:HB	1.94	0.49
3:AC:150:VAL:HG12	3:AC:199:VAL:HB	1.93	0.49
7:AG:86:VAL:HG22	7:AG:150:PHE:CB	2.41	0.49
12:AL:3:VAL:HG23	12:AL:4:ASN:H	1.77	0.49
16:AP:12:LYS:O	16:AP:13:LYS:HB2	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AU:48:LYS:HD2	21:AU:51:ALA:HB3	1.94	0.49
23:AW:26:LYS:CD	59:AW:702:HOH:O	2.37	0.49
25:B0:18:LYS:HA	25:B0:36:ILE:HG13	1.94	0.49
34:BA:368:A:H2'	34:BA:369:U:O4'	2.11	0.49
34:BA:704:G:HO2'	34:BA:705:A:P	2.34	0.49
34:BA:784:G:N1	36:BC:227:VAL:HG11	2.27	0.49
34:BA:800:A:H4'	34:BA:801:G:O5'	2.11	0.49
34:BA:1392:A:H62	54:BX:19:LYS:HD2	1.77	0.49
34:BA:1450:G:H21	34:BA:1452:G:H1	1.60	0.49
34:BA:1653:G:O5'	48:BR:2:ARG:HD3	2.11	0.49
34:BA:2848:G:O2'	34:BA:2867:G:N2	2.45	0.49
36:BC:29:PHE:CZ	36:BC:100:ARG:HG3	2.47	0.49
37:BD:4:LEU:HD22	37:BD:101:PHE:HE1	1.76	0.49
37:BD:16:THR:HG23	37:BD:20:VAL:HB	1.94	0.49
37:BD:189:VAL:O	37:BD:191:GLY:N	2.44	0.49
38:BE:188:MET:HG2	38:BE:193:VAL:HG23	1.94	0.49
41:BH:67:THR:C	41:BH:69:PHE:H	2.20	0.49
41:BH:145:GLU:HA	43:BK:30:PHE:CE2	2.47	0.49
44:BN:132:HIS:O	44:BN:133:ALA:C	2.55	0.49
1:AA:146:G:O2'	1:AA:147:G:H5'	2.12	0.49
1:AA:220:G:N3	1:AA:221:C:C6	2.80	0.49
1:AA:413:G:O2'	1:AA:428:G:N2	2.43	0.49
1:AA:959:A:C3'	1:AA:960:U:H4'	2.42	0.49
1:AA:1147:C:O2	9:AI:17:ARG:NH1	2.44	0.49
4:AD:145:ARG:HH11	4:AD:147:LYS:CE	2.25	0.49
4:AD:176:LYS:HG2	4:AD:178:GLU:HG2	1.94	0.49
4:AD:200:VAL:CG1	5:AE:102:THR:HA	2.38	0.49
7:AG:70:PRO:O	7:AG:95:ARG:HG3	2.13	0.49
7:AG:107:ALA:HB1	7:AG:115:MET:HE1	1.94	0.49
11:AK:22:ILE:CD1	11:AK:85:VAL:HA	2.41	0.49
11:AK:108:ASN:HB3	21:AU:5:VAL:O	2.12	0.49
21:AU:34:ARG:HD3	21:AU:39:LYS:HZ2	1.77	0.49
23:AW:407:LEU:HB3	23:AW:409:GLN:HG3	1.94	0.49
25:B0:15:SER:C	25:B0:16:GLU:HG2	2.37	0.49
34:BA:163:C:O2	34:BA:163:C:C2'	2.57	0.49
34:BA:686:U:H2'	34:BA:788:A:N1	2.27	0.49
34:BA:702:U:O2	34:BA:702:U:H2'	2.11	0.49
34:BA:733:G:O6	34:BA:761:A:C8	2.65	0.49
34:BA:1179:G:C5	34:BA:1180:U:H1'	2.47	0.49
34:BA:1410:G:O2'	34:BA:1411:U:H5'	2.12	0.49
34:BA:1533:C:H42	34:BA:1538:G:H1	1.61	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1783:A:N1	34:BA:2587:A:H2'	2.27	0.49
34:BA:2430:A:H5'	34:BA:2431:U:OP2	2.12	0.49
36:BC:4:LYS:HG2	36:BC:16:VAL:HG22	1.94	0.49
40:BG:76:ILE:CD1	40:BG:82:PHE:CZ	2.91	0.49
41:BH:57:ASN:HB3	41:BH:59:LEU:HD22	1.94	0.49
42:BI:132:ALA:O	42:BI:137:LEU:HB2	2.11	0.49
43:BJ:23:ILE:O	43:BJ:27:GLU:HB2	2.12	0.49
50:BT:91:VAL:HG11	50:BT:96:LEU:HD21	1.94	0.49
52:BV:77:PHE:HD2	52:BV:84:ARG:HB3	1.77	0.49
1:AA:345:C:H5'	50:BT:33:GLU:OE1	2.12	0.49
1:AA:404:G:H2'	1:AA:405:U:H6	1.76	0.49
1:AA:591:U:H2'	1:AA:592:G:H8	1.77	0.49
1:AA:757:U:O2'	1:AA:879:C:H1'	2.12	0.49
1:AA:859:G:H2'	1:AA:860:A:C8	2.48	0.49
3:AC:83:VAL:HG12	3:AC:100:ILE:HG21	1.92	0.49
3:AC:120:THR:HG23	3:AC:188:ALA:HB2	1.93	0.49
4:AD:43:ARG:C	4:AD:45:PRO:HD3	2.36	0.49
4:AD:63:ILE:O	4:AD:63:ILE:HG12	2.12	0.49
6:AF:79:ARG:HA	6:AF:79:ARG:HE	1.78	0.49
12:AL:86:VAL:CG1	12:AL:89:LEU:HD23	2.42	0.49
17:AQ:76:ARG:HG2	17:AQ:77:VAL:N	2.28	0.49
23:AW:314:ARG:NH1	23:AW:421:GLU:HB2	2.27	0.49
25:B0:23:LYS:HZ3	34:BA:923:G:H21	1.60	0.49
26:B1:3:VAL:HA	26:B1:9:LYS:O	2.11	0.49
34:BA:270:A:C2	34:BA:369:U:H4'	2.46	0.49
34:BA:307:G:N2	34:BA:309:A:H3'	2.27	0.49
34:BA:417:C:C2	34:BA:418:C:C6	3.01	0.49
34:BA:1419:A:H2'	34:BA:1421:G:C8	2.47	0.49
34:BA:1510:G:H2'	34:BA:1511:G:H5'	1.92	0.49
34:BA:2557:G:H2'	34:BA:2558:C:H6	1.77	0.49
39:BF:37:MET:HG2	39:BF:151:LEU:HB3	1.92	0.49
39:BF:43:ILE:HD12	39:BF:44:ALA:N	2.27	0.49
39:BF:72:SER:HB2	39:BF:80:GLN:HB2	1.94	0.49
41:BH:120:ALA:O	41:BH:121:SER:HB2	2.12	0.49
44:BN:58:ASN:HA	44:BN:126:ALA:O	2.13	0.49
46:BP:68:SER:O	46:BP:69:ARG:HB2	2.12	0.49
49:BS:24:THR:OG1	49:BS:90:VAL:HG12	2.12	0.49
1:AA:205:A:C8	1:AA:206:C:C5	3.01	0.49
1:AA:472:U:H2'	1:AA:473:U:C6	2.47	0.49
1:AA:529:G:O6	12:AL:45:ASN:HA	2.12	0.49
1:AA:940:C:C2	1:AA:941:G:C8	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:49:PHE:CB	2:AB:212:TYR:OH	2.60	0.49
3:AC:18:ASN:H	14:AN:90:GLY:HA3	1.76	0.49
3:AC:21:TRP:CE2	14:AN:93:PRO:HG2	2.47	0.49
4:AD:75:TYR:CE2	4:AD:203:TYR:HB2	2.47	0.49
4:AD:143:SER:O	4:AD:144:ILE:C	2.54	0.49
6:AF:6:ILE:HB	6:AF:62:MET:CB	2.42	0.49
11:AK:84:MET:HG2	11:AK:110:THR:OG1	2.11	0.49
12:AL:86:VAL:HG12	12:AL:89:LEU:HD23	1.94	0.49
13:AM:84:CYS:HB3	19:AS:73:PHE:CZ	2.47	0.49
21:AU:24:LYS:HG2	21:AU:25:ALA:N	2.23	0.49
34:BA:840:C:H42	34:BA:938:G:H1	1.59	0.49
34:BA:1059:G:N7	34:BA:1060:U:H2'	2.23	0.49
34:BA:1061:U:H1'	34:BA:1070:A:C1'	2.40	0.49
34:BA:1707:G:C5	34:BA:1756:G:C6	3.00	0.49
34:BA:2150:C:O2'	34:BA:2151:U:P	2.70	0.49
34:BA:2255:G:H2'	34:BA:2256:G:O4'	2.12	0.49
37:BD:116:LYS:O	37:BD:118:PHE:CE2	2.65	0.49
39:BF:32:LYS:O	39:BF:33:ILE:HD13	2.11	0.49
39:BF:96:TRP:HA	39:BF:99:PHE:HB3	1.94	0.49
41:BH:51:TYR:CE1	41:BH:95:LEU:HD21	2.48	0.49
51:BU:60:TRP:O	51:BU:63:ARG:HG3	2.11	0.49
1:AA:267:C:H2'	1:AA:268:U:H6	1.76	0.49
1:AA:411:A:N6	1:AA:413:G:N3	2.60	0.49
1:AA:514:C:H2'	1:AA:515:G:C8	2.46	0.49
1:AA:666:G:C6	1:AA:741:G:C6	3.01	0.49
1:AA:687:A:N6	1:AA:703:G:O2'	2.41	0.49
1:AA:940:C:C2	1:AA:941:G:N7	2.81	0.49
1:AA:1304:G:C6	1:AA:1305:G:N2	2.81	0.49
1:AA:1349:A:C2	1:AA:1374:A:C5	3.01	0.49
3:AC:165:GLU:N	3:AC:165:GLU:OE1	2.45	0.49
5:AE:14:LEU:H	5:AE:14:LEU:CD1	2.23	0.49
5:AE:81:GLN:HG2	5:AE:149:PRO:CB	2.43	0.49
8:AH:12:ARG:NH1	8:AH:26:MET:HA	2.27	0.49
9:AI:62:LEU:N	9:AI:62:LEU:HD23	2.27	0.49
21:AU:38:GLU:HG3	21:AU:41:THR:OG1	2.11	0.49
23:AW:355:HIS:HA	23:AW:356:VAL:CG2	2.41	0.49
27:B2:55:THR:O	27:B2:58:ASN:HB3	2.12	0.49
33:B8:27:CYS:CB	33:B8:33:HIS:HB2	2.42	0.49
34:BA:172:A:O2'	34:BA:173:A:H5'	2.13	0.49
34:BA:846:U:O2	34:BA:846:U:H2'	2.12	0.49
34:BA:1265:A:O4'	34:BA:1267:U:C6	2.66	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1487:U:H2'	34:BA:1488:C:C6	2.48	0.49
34:BA:1665:A:H5"	45:BO:66:LYS:HG3	1.94	0.49
34:BA:1692:U:O2'	34:BA:1693:U:H2'	2.13	0.49
34:BA:2065:C:H1'	34:BA:2449:U:O2	2.12	0.49
34:BA:2740:A:H2'	34:BA:2741:A:C8	2.47	0.49
34:BA:2885:G:H3'	34:BA:2886:A:H5"	1.93	0.49
36:BC:160:TYR:HB3	36:BC:193:GLU:HB3	1.95	0.49
40:BG:24:THR:HG23	40:BG:34:ARG:CD	2.43	0.49
41:BH:18:VAL:CA	41:BH:86:MET:HE2	2.42	0.49
44:BN:25:LEU:HB2	44:BN:62:VAL:HG22	1.95	0.49
44:BN:42:ALA:O	44:BN:43:GLU:C	2.55	0.49
46:BP:2:ARG:C	46:BP:4:ASN:H	2.19	0.49
49:BS:117:PHE:C	49:BS:117:PHE:CD1	2.89	0.49
50:BT:20:ARG:HB3	50:BT:23:ASP:OD1	2.12	0.49
52:BV:14:VAL:HG22	52:BV:15:SER:N	2.27	0.49
52:BV:20:VAL:CG2	52:BV:22:LEU:HD21	2.42	0.49
56:BZ:65:VAL:C	56:BZ:67:GLY:N	2.69	0.49
1:AA:345:C:H2'	1:AA:346:G:OP2	2.13	0.49
1:AA:471:U:C2'	1:AA:472:U:H5'	2.42	0.49
1:AA:1400:C:OP2	22:AV:18:G:O6	2.31	0.49
2:AB:112:ARG:O	2:AB:116:LEU:HD23	2.13	0.49
3:AC:36:PHE:HA	3:AC:39:ARG:HD2	1.94	0.49
3:AC:49:ALA:O	3:AC:50:SER:HB3	2.13	0.49
12:AL:43:LYS:H	12:AL:43:LYS:CD	2.18	0.49
13:AM:47:LEU:HD22	13:AM:52:ILE:HB	1.95	0.49
14:AN:2:LYS:O	14:AN:3:GLN:C	2.56	0.49
17:AQ:16:MET:O	17:AQ:17:GLU:C	2.55	0.49
23:AW:91:GLY:HA2	23:AW:122:ARG:NH1	2.28	0.49
23:AW:211:ASN:HA	23:AW:228:ARG:NH1	2.27	0.49
23:AW:485:PHE:C	23:AW:487:ARG:H	2.21	0.49
34:BA:191:A:H2'	34:BA:192:C:C6	2.47	0.49
34:BA:294:A:N7	34:BA:344:A:H2	2.10	0.49
34:BA:321:U:OP2	38:BE:130:LYS:HD3	2.13	0.49
34:BA:463:G:N2	34:BA:466:A:OP2	2.42	0.49
34:BA:1735:A:H2'	34:BA:1736:U:O4'	2.12	0.49
34:BA:2103:C:H2'	34:BA:2104:C:C6	2.47	0.49
34:BA:2180:U:H2'	34:BA:2181:U:C5	2.48	0.49
34:BA:2837:A:H2'	34:BA:2838:G:H8	1.77	0.49
42:BI:90:GLY:O	42:BI:92:PRO:HD3	2.12	0.49
43:BK:13:ALA:O	43:BK:14:MET:HE2	2.13	0.49
43:BM:13:ALA:O	43:BM:14:MET:C	2.55	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BO:11:ALA:O	45:BO:100:PHE:HD1	1.96	0.49
47:BQ:80:VAL:HG22	47:BQ:81:ARG:O	2.13	0.49
48:BR:28:LEU:HD22	48:BR:113:ILE:HD12	1.93	0.49
51:BU:91:ARG:HD3	52:BV:11:GLN:CB	2.41	0.49
55:BY:38:ILE:HG22	55:BY:39:ASN:N	2.27	0.49
1:AA:1159:U:O2	1:AA:1182:G:C2	2.65	0.49
1:AA:1202:U:O2	1:AA:1202:U:H2'	2.13	0.49
8:AH:31:LEU:O	8:AH:35:ILE:HG12	2.12	0.49
9:AI:18:VAL:HG21	9:AI:82:ILE:N	2.28	0.49
9:AI:55:ASP:O	9:AI:59:LYS:HE3	2.13	0.49
23:AW:408:LYS:HG2	23:AW:409:GLN:HB2	1.95	0.49
34:BA:1022:G:N2	34:BA:1142:A:H2	2.11	0.49
34:BA:1404:C:H2'	34:BA:1405:U:H6	1.78	0.49
34:BA:2422:C:H5'	34:BA:2423:U:OP2	2.11	0.49
34:BA:2875:C:O2'	34:BA:2876:G:H5'	2.13	0.49
36:BC:254:LYS:O	36:BC:255:LYS:HB2	2.12	0.49
39:BF:101:ARG:O	39:BF:101:ARG:HG3	2.13	0.49
43:BJ:17:MET:O	43:BJ:21:GLU:HG3	2.12	0.49
1:AA:130:A:H61	1:AA:233:C:C2'	2.25	0.49
1:AA:1036:A:H5'	1:AA:1037:C:P	2.53	0.49
1:AA:1098:C:O2'	1:AA:1099:G:H5'	2.13	0.49
1:AA:1223:C:OP2	1:AA:1224:U:C6	2.66	0.49
1:AA:1435:G:H2'	1:AA:1436:U:H6	1.76	0.49
2:AB:65:LYS:HG2	2:AB:89:PHE:CE1	2.47	0.49
2:AB:95:TRP:CZ2	2:AB:100:LEU:HD23	2.47	0.49
6:AF:41:ASP:C	6:AF:43:GLY:H	2.20	0.49
9:AI:59:LYS:CD	9:AI:60:LEU:HD22	2.36	0.49
23:AW:415:GLY:HA2	23:AW:457:TYR:CZ	2.48	0.49
28:B3:6:ILE:O	28:B3:34:THR:HA	2.13	0.49
32:B7:27:ASN:HD22	34:BA:2392:A:H5"	1.77	0.49
32:B7:30:HIS:O	32:B7:31:ILE:C	2.54	0.49
33:B8:22:VAL:HG11	33:B8:36:ARG:CG	2.42	0.49
34:BA:882:G:N2	34:BA:883:G:C4	2.81	0.49
34:BA:1078:U:H4'	34:BA:1079:C:C6	2.48	0.49
34:BA:1430:G:H2'	34:BA:1431:A:H8	1.78	0.49
34:BA:2280:G:N3	34:BA:2388:A:H2	2.11	0.49
36:BC:141:HIS:N	36:BC:190:THR:O	2.41	0.49
37:BD:111:GLY:HA2	37:BD:201:LEU:HD12	1.94	0.49
40:BG:25:ILE:O	40:BG:32:LEU:O	2.30	0.49
42:BI:126:ARG:HD3	42:BI:126:ARG:H	1.77	0.49
1:AA:80:A:C2	1:AA:90:C:C2	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:513:C:H2'	1:AA:514:C:H6	1.78	0.49
1:AA:773:G:C2	1:AA:807:A:C2	3.01	0.49
1:AA:1053:G:N7	1:AA:1200:C:H5"	2.27	0.49
1:AA:1159:U:N3	1:AA:1182:G:C5	2.79	0.49
1:AA:1239:A:H5'	1:AA:1240:U:OP1	2.12	0.49
1:AA:1322:C:O2'	1:AA:1323:G:H5'	2.13	0.49
3:AC:22:PHE:CD2	3:AC:23:ALA:N	2.81	0.49
4:AD:101:VAL:HG12	4:AD:102:TYR:N	2.28	0.49
16:AP:71:VAL:HG12	16:AP:75:ILE:HD11	1.95	0.49
19:AS:30:LEU:HD12	19:AS:30:LEU:H	1.78	0.49
23:AW:194:GLN:HB2	23:AW:205:ARG:HH12	1.76	0.49
25:B0:19:ARG:NH1	25:B0:22:VAL:HG11	2.27	0.49
34:BA:328:U:C2'	34:BA:329:G:OP1	2.61	0.49
34:BA:1169:A:N6	34:BA:1180:U:H3	2.00	0.49
34:BA:1710:G:C2	34:BA:1749:A:C2	3.00	0.49
34:BA:2182:U:H2'	34:BA:2183:A:OP1	2.11	0.49
36:BC:51:ARG:HH22	36:BC:246:PRO:HG3	1.77	0.49
36:BC:67:LYS:HG2	36:BC:150:GLY:HA2	1.93	0.49
37:BD:57:ALA:O	37:BD:60:VAL:HG12	2.13	0.49
37:BD:73:VAL:HG23	37:BD:74:GLU:H	1.77	0.49
38:BE:176:ASP:C	38:BE:176:ASP:OD1	2.56	0.49
39:BF:102:LEU:HD22	39:BF:106:ALA:HB3	1.94	0.49
45:BO:47:ILE:HD13	45:BO:48:PRO:CD	2.38	0.49
45:BO:108:ARG:NH1	45:BO:113:MET:HE1	2.28	0.49
46:BP:28:GLY:O	46:BP:29:LYS:O	2.30	0.49
48:BR:55:ALA:CB	48:BR:79:LEU:HB3	2.42	0.49
49:BS:16:ARG:HD3	49:BS:19:GLN:HE21	1.76	0.49
50:BT:9:GLN:HA	50:BT:12:MET:HG3	1.94	0.49
54:BX:49:LYS:HE3	54:BX:49:LYS:HA	1.95	0.49
55:BY:98:ASN:OD1	55:BY:100:GLU:N	2.36	0.49
1:AA:132:C:H2'	1:AA:133:U:H6	1.78	0.49
1:AA:352:C:H4'	1:AA:354:G:OP1	2.12	0.49
1:AA:735:C:H2'	1:AA:736:C:C6	2.48	0.49
1:AA:1077:G:N2	1:AA:1080:A:OP2	2.45	0.49
1:AA:1494:G:H4'	34:BA:1913:A:C5	2.47	0.49
2:AB:90:PHE:H	2:AB:149:GLY:HA2	1.78	0.49
3:AC:6:PRO:HG2	3:AC:183:TYR:CD2	2.48	0.49
9:AI:98:ARG:CG	9:AI:103:VAL:HG21	2.28	0.49
9:AI:127:SER:O	9:AI:128:LYS:C	2.55	0.49
10:AJ:7:ARG:O	10:AJ:100:ILE:HA	2.13	0.49
10:AJ:15:HIS:C	10:AJ:17:LEU:H	2.20	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AL:119:LYS:O	12:AL:120:ARG:C	2.56	0.49
33:B8:36:ARG:CG	33:B8:37:GLN:H	2.22	0.49
34:BA:1628:G:C4	34:BA:1629:U:C5	3.00	0.49
34:BA:1717:A:H61	34:BA:1743:G:H1'	1.78	0.49
34:BA:1906:G:C5'	34:BA:1929:G:O2'	2.60	0.49
34:BA:2702:G:H2'	34:BA:2703:C:C6	2.48	0.49
36:BC:32:LEU:HD22	36:BC:63:ILE:HB	1.95	0.49
41:BH:81:LEU:CD2	41:BH:82:ILE:N	2.74	0.49
44:BN:35:ARG:HA	44:BN:40:HIS:CD2	2.48	0.49
45:BO:13:ASN:O	45:BO:15:GLY:N	2.46	0.49
45:BO:72:PRO:O	45:BO:74:GLY:N	2.46	0.49
47:BQ:96:ILE:HA	47:BQ:97:GLN:OE1	2.12	0.49
53:BW:97:LEU:N	53:BW:97:LEU:HD22	2.28	0.49
1:AA:191:G:C4	1:AA:192:A:C8	3.01	0.48
1:AA:342:C:C2	1:AA:348:G:C2	3.01	0.48
1:AA:426:U:O3'	4:AD:38:GLY:O	2.30	0.48
1:AA:478:A:H2'	1:AA:479:U:O4'	2.13	0.48
1:AA:539:A:H2'	1:AA:540:G:H8	1.77	0.48
1:AA:1185:G:O2'	1:AA:1186:G:H5'	2.13	0.48
1:AA:1288:A:C6	1:AA:1289:A:C5	3.01	0.48
1:AA:1469:C:H5'	1:AA:1469:C:C6	2.44	0.48
2:AB:15:PHE:HD1	2:AB:16:GLY:N	2.11	0.48
5:AE:81:GLN:O	5:AE:82:HIS:C	2.55	0.48
6:AF:61:LEU:CG	6:AF:62:MET:H	2.26	0.48
11:AK:20:ALA:HA	11:AK:33:ILE:CD1	2.43	0.48
11:AK:49:SER:HB2	11:AK:51:PHE:HE2	1.78	0.48
11:AK:75:GLU:C	11:AK:77:GLY:N	2.70	0.48
34:BA:435:C:H2'	34:BA:436:C:C5'	2.42	0.48
34:BA:784:G:O2'	34:BA:785:G:H5"	2.13	0.48
34:BA:814:C:H2'	34:BA:815:C:H6	1.78	0.48
34:BA:1049:C:O2'	34:BA:1050:A:H5'	2.13	0.48
34:BA:1097:U:H3'	34:BA:1098:A:H4'	1.95	0.48
34:BA:1383:A:H2	34:BA:1405:U:O2	1.96	0.48
34:BA:1795:C:H2'	34:BA:1796:U:O4'	2.12	0.48
34:BA:1858:A:N6	34:BA:1884:G:O2'	2.45	0.48
34:BA:2358:A:H61	46:BP:54:GLN:NE2	2.04	0.48
34:BA:2646:C:H2'	34:BA:2647:U:O4'	2.12	0.48
35:BB:78:A:H2'	35:BB:79:G:O4'	2.13	0.48
36:BC:108:GLY:O	36:BC:109:LEU:C	2.56	0.48
36:BC:131:MET:HA	36:BC:134:ILE:HD12	1.94	0.48
36:BC:141:HIS:CD2	36:BC:192:GLY:O	2.66	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BG:28:LYS:HD3	40:BG:79:THR:O	2.13	0.48
40:BG:67:ALA:O	40:BG:68:ARG:C	2.56	0.48
45:BO:16:ALA:O	45:BO:17:ARG:HB2	2.13	0.48
45:BO:77:ILE:CD1	45:BO:105:ARG:HH12	2.24	0.48
45:BO:80:ASP:OD2	50:BT:61:ARG:NH1	2.46	0.48
48:BR:79:LEU:O	48:BR:80:PHE:CB	2.56	0.48
50:BT:62:LYS:C	50:BT:63:ILE:HD12	2.38	0.48
51:BU:15:LYS:O	51:BU:18:LYS:HB3	2.13	0.48
51:BU:91:ARG:CB	51:BU:94:LEU:HB2	2.41	0.48
1:AA:130:A:H1'	1:AA:264:C:C4'	2.42	0.48
1:AA:380:G:C2	1:AA:384:G:C6	3.00	0.48
1:AA:779:C:C2'	1:AA:780:A:H5'	2.43	0.48
1:AA:829:G:H2'	1:AA:830:G:H5'	1.94	0.48
1:AA:1470:U:O2'	1:AA:1471:U:H5'	2.13	0.48
4:AD:137:SER:HB3	4:AD:138:PRO:CD	2.42	0.48
6:AF:51:ILE:C	6:AF:53:LYS:H	2.21	0.48
11:AK:69:CYS:O	11:AK:73:VAL:HG22	2.13	0.48
15:AO:77:TYR:CZ	15:AO:81:ILE:HD13	2.48	0.48
17:AQ:60:ILE:HG22	17:AQ:72:TRP:HE3	1.77	0.48
19:AS:42:ASN:C	19:AS:42:ASN:ND2	2.69	0.48
21:AU:33:ARG:HD3	21:AU:34:ARG:H	1.77	0.48
23:AW:94:ASP:HB3	23:AW:443:VAL:H	1.77	0.48
25:B0:27:GLY:HA2	25:B0:31:LEU:HD12	1.94	0.48
33:B8:16:ILE:HA	33:B8:24:ARG:O	2.12	0.48
34:BA:492:A:H2'	34:BA:493:G:C5'	2.43	0.48
34:BA:871:U:OP1	47:BQ:5:LYS:HG3	2.13	0.48
34:BA:1334:G:O2'	34:BA:1335:C:H5'	2.13	0.48
34:BA:1497:U:C5'	34:BA:1498:C:OP2	2.59	0.48
34:BA:1567:G:C8	36:BC:82:TYR:CE1	3.01	0.48
34:BA:1797:G:O3'	36:BC:255:LYS:O	2.31	0.48
34:BA:2340:A:H2'	34:BA:2341:G:H8	1.78	0.48
34:BA:2709:G:H2'	34:BA:2710:C:C6	2.48	0.48
37:BD:14:ILE:HD12	37:BD:14:ILE:O	2.13	0.48
37:BD:64:GLU:O	37:BD:68:PHE:CD1	2.67	0.48
39:BF:41:GLU:HB2	39:BF:48:LEU:HD23	1.95	0.48
40:BG:82:PHE:HB3	40:BG:140:ILE:CD1	2.42	0.48
40:BG:82:PHE:HB2	40:BG:134:GLY:O	2.13	0.48
47:BQ:31:PHE:CE1	47:BQ:110:GLU:HA	2.48	0.48
49:BS:66:GLY:H	49:BS:70:ALA:CB	2.26	0.48
54:BX:12:ARG:NH1	54:BX:12:ARG:CG	2.75	0.48
56:BZ:66:ASP:O	56:BZ:66:ASP:CG	2.55	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:175:C:C2'	1:AA:176:C:H5'	2.44	0.48
1:AA:658:C:C2	1:AA:659:U:C5	3.01	0.48
1:AA:674:G:O2'	1:AA:675:A:H5'	2.13	0.48
1:AA:833:G:C6	1:AA:834:U:C4	3.01	0.48
1:AA:911:U:H2'	1:AA:912:C:H6	1.78	0.48
1:AA:923:A:N6	1:AA:1392:G:O6	2.46	0.48
1:AA:1306:A:C6	1:AA:1307:U:C2	3.00	0.48
1:AA:1374:A:C4	1:AA:1375:A:C8	3.01	0.48
1:AA:1489:G:O2'	1:AA:1490:U:H5'	2.13	0.48
1:AA:1495:U:O2'	34:BA:1919:A:N1	2.37	0.48
2:AB:61:SER:C	2:AB:63:LYS:H	2.22	0.48
2:AB:110:ILE:HD12	2:AB:110:ILE:N	2.28	0.48
6:AF:16:GLU:O	6:AF:19:PRO:HD2	2.14	0.48
6:AF:20:GLY:O	6:AF:23:GLU:HB3	2.14	0.48
12:AL:67:GLY:O	12:AL:98:ARG:NH1	2.46	0.48
15:AO:81:ILE:HG22	15:AO:87:ARG:HB2	1.96	0.48
17:AQ:42:LYS:HB3	17:AQ:42:LYS:HZ3	1.76	0.48
23:AW:16:PHE:CZ	23:AW:276:ALA:HB1	2.48	0.48
23:AW:117:LYS:O	23:AW:149:ARG:NH2	2.46	0.48
23:AW:300:VAL:HG13	23:AW:316:ALA:HB1	1.96	0.48
27:B2:41:HIS:NE2	27:B2:42:LEU:HD13	2.28	0.48
34:BA:742:A:H2'	34:BA:743:A:C8	2.47	0.48
34:BA:901:C:C2'	34:BA:902:C:O5'	2.61	0.48
34:BA:1138:G:N3	44:BN:108:MET:HE2	2.28	0.48
34:BA:1693:U:H3'	34:BA:1694:C:H6	1.78	0.48
34:BA:2290:G:H2'	34:BA:2291:U:H6	1.78	0.48
34:BA:2333:A:H4'	34:BA:2334:U:O5'	2.12	0.48
36:BC:14:HIS:O	36:BC:203:VAL:HG11	2.13	0.48
40:BG:7:PRO:O	40:BG:68:ARG:NH1	2.47	0.48
40:BG:8:VAL:CG1	40:BG:49:LEU:HB2	2.40	0.48
41:BH:13:ALA:O	41:BH:17:GLU:HG3	2.13	0.48
41:BH:54:VAL:HG23	41:BH:85:SER:HA	1.95	0.48
44:BN:44:TYR:HB2	51:BU:63:ARG:HB3	1.95	0.48
47:BQ:42:THR:O	47:BQ:44:ARG:N	2.47	0.48
48:BR:54:LEU:HD23	48:BR:66:ALA:HB2	1.95	0.48
48:BR:85:PRO:HA	48:BR:88:ALA:HB2	1.94	0.48
50:BT:33:GLU:HG2	50:BT:36:LYS:HD3	1.94	0.48
55:BY:98:ASN:OD1	55:BY:98:ASN:C	2.56	0.48
1:AA:80:A:C2	1:AA:81:A:H1'	2.49	0.48
1:AA:346:G:H4'	50:BT:38:ARG:NH2	2.29	0.48
1:AA:779:C:O2'	1:AA:780:A:H5'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:930:C:O2'	1:AA:931:C:H5'	2.12	0.48
1:AA:1037:C:H2'	1:AA:1038:C:C6	2.49	0.48
1:AA:1097:C:H2'	1:AA:1098:C:C6	2.49	0.48
1:AA:1198:G:C5	1:AA:1199:U:C5	3.01	0.48
4:AD:156:ALA:O	4:AD:159:GLU:HB3	2.13	0.48
5:AE:93:VAL:HG22	5:AE:94:PHE:N	2.28	0.48
6:AF:93:LYS:O	6:AF:94:HIS:HB2	2.13	0.48
7:AG:72:VAL:HG12	7:AG:89:GLU:HG3	1.94	0.48
11:AK:22:ILE:HD13	11:AK:22:ILE:N	2.26	0.48
16:AP:46:LYS:NZ	16:AP:48:GLU:N	2.62	0.48
19:AS:37:SER:HB2	19:AS:70:LEU:CD1	2.43	0.48
26:B1:46:VAL:HG23	26:B1:46:VAL:O	2.12	0.48
26:B1:50:VAL:HG12	26:B1:51:SER:N	2.27	0.48
34:BA:57:C:H2'	34:BA:58:G:O4'	2.13	0.48
34:BA:786:C:O2'	34:BA:787:C:H5'	2.13	0.48
34:BA:864:G:C5	34:BA:865:C:C5	3.01	0.48
34:BA:1063:G:H1	34:BA:1075:C:H42	1.60	0.48
34:BA:1443:U:H2'	34:BA:1444:G:C8	2.49	0.48
34:BA:2287:A:N7	34:BA:2289:G:C8	2.81	0.48
34:BA:2807:U:O2	34:BA:2892:G:C2	2.67	0.48
41:BH:18:VAL:HG11	41:BH:117:LEU:HD12	1.94	0.48
44:BN:12:LYS:O	44:BN:13:ARG:HB2	2.14	0.48
48:BR:3:HIS:O	48:BR:4:ARG:HB2	2.13	0.48
51:BU:50:ARG:HG2	51:BU:50:ARG:HH11	1.77	0.48
52:BV:89:HIS:NE2	52:BV:91:GLN:HB2	2.28	0.48
53:BW:41:LYS:O	53:BW:42:LYS:C	2.56	0.48
1:AA:43:C:P	16:AP:12:LYS:HZ3	2.36	0.48
1:AA:94:G:H4'	1:AA:95:C:C5	2.49	0.48
1:AA:1190:G:OP2	3:AC:4:VAL:HB	2.13	0.48
1:AA:1221:G:H4'	19:AS:76:THR:HG21	1.96	0.48
1:AA:1466:C:H2'	1:AA:1467:C:O4'	2.14	0.48
2:AB:24:PRO:C	2:AB:26:MET:H	2.21	0.48
3:AC:148:ILE:HA	3:AC:200:TRP:O	2.13	0.48
4:AD:166:LYS:HB3	4:AD:166:LYS:HZ3	1.77	0.48
7:AG:130:LYS:N	7:AG:134:VAL:HG21	2.28	0.48
9:AI:10:ARG:HB2	9:AI:15:ALA:HA	1.94	0.48
9:AI:24:ASN:O	9:AI:61:ASP:HA	2.13	0.48
10:AJ:42:LEU:HD11	10:AJ:73:LEU:HD23	1.95	0.48
11:AK:19:VAL:HB	11:AK:34:THR:HG22	1.93	0.48
18:AR:63:TYR:CE1	18:AR:69:TYR:OH	2.67	0.48
23:AW:419:LEU:HD12	23:AW:452:ARG:NH2	2.27	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AW:448:VAL:HG13	23:AW:452:ARG:NH2	2.28	0.48
34:BA:460:A:C2'	34:BA:461:C:O5'	2.62	0.48
34:BA:634:C:OP2	46:BP:70:LYS:HE2	2.13	0.48
34:BA:1085:A:N6	41:BH:34:THR:HG22	2.13	0.48
34:BA:1181:U:H2'	34:BA:1182:G:H8	1.78	0.48
34:BA:1250:G:H5"	51:BU:5:ARG:HD2	1.95	0.48
34:BA:1289:C:O2	34:BA:1289:C:H2'	2.13	0.48
34:BA:1416:G:H2'	34:BA:1417:C:H6	1.78	0.48
34:BA:1510:G:H2'	34:BA:1511:G:O4'	2.14	0.48
34:BA:2583:G:H2'	34:BA:2584:U:O4'	2.14	0.48
34:BA:2619:C:O2'	34:BA:2620:C:H5'	2.13	0.48
34:BA:2720:U:H2'	34:BA:2721:A:C8	2.49	0.48
41:BH:71:CYS:HB3	41:BH:74:ASP:OD2	2.14	0.48
46:BP:95:LEU:HB2	46:BP:101:ILE:CD1	2.44	0.48
48:BR:78:LYS:HG2	48:BR:83:LEU:HD13	1.95	0.48
53:BW:42:LYS:HG2	59:BW:201:HOH:O	2.14	0.48
1:AA:66:A:H5'	1:AA:173:U:O4	2.14	0.48
1:AA:130:A:H2'	1:AA:263:A:O2'	2.13	0.48
1:AA:344:A:C4'	1:AA:345:C:OP2	2.60	0.48
1:AA:365:U:H5"	1:AA:366:A:OP1	2.12	0.48
1:AA:380:G:N2	1:AA:384:G:C6	2.82	0.48
1:AA:382:A:H2'	1:AA:383:A:C8	2.49	0.48
1:AA:388:G:C2'	1:AA:389:A:OP2	2.62	0.48
1:AA:927:G:O2'	1:AA:1503:A:N7	2.45	0.48
1:AA:1053:G:N7	1:AA:1199:U:H3'	2.28	0.48
1:AA:1256:A:N6	1:AA:1278:G:H21	2.12	0.48
3:AC:86:LEU:O	3:AC:89:VAL:HG22	2.14	0.48
3:AC:148:ILE:HG12	3:AC:200:TRP:O	2.14	0.48
4:AD:102:TYR:C	4:AD:102:TYR:CD2	2.91	0.48
6:AF:38:ARG:HH11	6:AF:61:LEU:HD21	1.74	0.48
23:AW:71:THR:HG22	23:AW:72:THR:N	2.28	0.48
23:AW:279:PRO:HG3	23:AW:362:GLY:HA3	1.96	0.48
23:AW:448:VAL:HG22	23:AW:452:ARG:HH21	1.79	0.48
25:B0:18:LYS:NZ	34:BA:858:G:H4'	2.28	0.48
25:B0:37:VAL:C	25:B0:38:ARG:CG	2.79	0.48
29:B4:12:ARG:HG3	29:B4:15:ARG:NH1	2.28	0.48
34:BA:532:A:N3	34:BA:532:A:H2'	2.27	0.48
34:BA:777:G:O2'	34:BA:778:G:H5'	2.13	0.48
34:BA:779:U:H5"	36:BC:48:ILE:HD13	1.96	0.48
34:BA:1239:G:H2'	34:BA:1240:U:O4'	2.13	0.48
34:BA:1322:A:C5	34:BA:1323:C:C5	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1566:A:H5'	36:BC:213:ARG:NH1	2.29	0.48
34:BA:1930:G:O2'	34:BA:1931:U:O5'	2.31	0.48
34:BA:1930:G:H2'	34:BA:1931:U:OP2	2.14	0.48
34:BA:2198:A:C4'	34:BA:2199:A:OP1	2.58	0.48
34:BA:2217:G:H2'	34:BA:2218:G:O4'	2.14	0.48
34:BA:2317:A:N6	34:BA:2318:G:C2	2.81	0.48
34:BA:2651:C:O2'	34:BA:2652:C:H5'	2.13	0.48
34:BA:2746:U:C2'	34:BA:2747:G:H5'	2.44	0.48
35:BB:77:U:C2'	35:BB:78:A:H5'	2.42	0.48
35:BB:92:C:O2'	35:BB:93:C:H5'	2.13	0.48
39:BF:134:GLN:HG2	39:BF:135:ILE:N	2.29	0.48
48:BR:92:GLY:O	48:BR:93:GLY:C	2.56	0.48
51:BU:74:SER:O	51:BU:75:TYR:C	2.57	0.48
54:BX:7:LEU:C	54:BX:8:LEU:HD22	2.39	0.48
54:BX:29:THR:HA	54:BX:86:THR:N	2.27	0.48
1:AA:62:U:H2'	1:AA:63:C:C6	2.48	0.48
1:AA:86:G:O2'	1:AA:87:C:O4'	2.32	0.48
1:AA:207:C:H2'	1:AA:208:U:C5	2.48	0.48
1:AA:1057:G:O2'	3:AC:187:GLU:HG2	2.13	0.48
1:AA:1072:G:C6	1:AA:1073:U:N3	2.81	0.48
1:AA:1101:A:N7	2:AB:170:ILE:HG23	2.29	0.48
1:AA:1279:G:H5"	10:AJ:9:ARG:CZ	2.43	0.48
1:AA:1361:G:N2	1:AA:1362:A:N7	2.62	0.48
2:AB:132:GLU:HG2	2:AB:136:ARG:HG3	1.96	0.48
3:AC:106:ARG:HD3	3:AC:106:ARG:N	2.26	0.48
12:AL:20:VAL:HB	12:AL:94:TYR:HE1	1.79	0.48
13:AM:101:THR:C	13:AM:103:THR:H	2.21	0.48
14:AN:86:ALA:O	14:AN:87:ALA:C	2.57	0.48
20:AT:8:LYS:HE2	20:AT:12:GLN:HE22	1.79	0.48
23:AW:500:ASN:HB2	23:AW:501:LEU:CG	2.42	0.48
34:BA:1919:A:H8	34:BA:1919:A:O5'	1.97	0.48
34:BA:2199:A:N3	34:BA:2199:A:H2'	2.27	0.48
34:BA:2800:A:H4'	34:BA:2801:G:OP2	2.13	0.48
38:BE:31:VAL:HG21	38:BE:104:ALA:CB	2.41	0.48
38:BE:48:THR:C	38:BE:50:ALA:N	2.68	0.48
40:BG:132:LEU:N	40:BG:132:LEU:CD2	2.77	0.48
41:BH:147:SER:O	41:BH:150:LYS:HB3	2.14	0.48
42:BI:107:GLU:O	42:BI:111:THR:HG23	2.13	0.48
48:BR:73:ASN:CA	48:BR:76:VAL:HG12	2.40	0.48
51:BU:63:ARG:NH2	51:BU:95:ALA:C	2.71	0.48
52:BV:42:ALA:HA	52:BV:46:GLU:CB	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BX:19:LYS:O	54:BX:20:ALA:C	2.57	0.48
1:AA:646:G:C2	1:AA:647:C:C2	3.01	0.48
1:AA:810:C:H2'	1:AA:811:C:O4'	2.13	0.48
1:AA:980:C:O3'	14:AN:12:ARG:NH2	2.47	0.48
1:AA:1136:C:O2	1:AA:1136:C:C2'	2.61	0.48
1:AA:1284:C:C6	1:AA:1285:A:N7	2.81	0.48
2:AB:93:HIS:O	2:AB:94:ARG:C	2.57	0.48
2:AB:117:GLU:HG3	2:AB:118:THR:H	1.79	0.48
3:AC:76:ILE:HG23	3:AC:80:GLY:HA2	1.96	0.48
4:AD:7:LYS:HZ1	4:AD:21:LYS:HG3	1.78	0.48
6:AF:97:THR:HG22	6:AF:98:GLU:H	1.77	0.48
7:AG:43:TYR:O	7:AG:47:GLU:N	2.47	0.48
9:AI:66:VAL:C	9:AI:67:LYS:HD3	2.39	0.48
17:AQ:76:ARG:HG2	17:AQ:77:VAL:H	1.79	0.48
34:BA:84:A:N1	34:BA:98:G:O2'	2.44	0.48
34:BA:155:A:H2'	34:BA:156:A:C8	2.48	0.48
34:BA:633:A:H2'	34:BA:634:C:H5'	1.95	0.48
34:BA:1061:U:O2	34:BA:1061:U:C2'	2.61	0.48
34:BA:1257:C:H5'	38:BE:78:TRP:CZ3	2.47	0.48
34:BA:1381:G:H2'	34:BA:1382:G:H5'	1.96	0.48
34:BA:1912:A:H4'	34:BA:1913:A:OP1	2.14	0.48
34:BA:2230:G:H2'	34:BA:2231:U:C6	2.48	0.48
34:BA:2637:U:H2'	34:BA:2638:G:O4'	2.14	0.48
40:BG:23:ILE:HD12	40:BG:23:ILE:H	1.79	0.48
46:BP:27:LEU:HD12	46:BP:27:LEU:H	1.77	0.48
48:BR:2:ARG:O	48:BR:3:HIS:C	2.56	0.48
52:BV:90:ARG:O	52:BV:91:GLN:CB	2.62	0.48
1:AA:24:U:O2'	1:AA:25:C:H5'	2.13	0.48
1:AA:52:C:H6	1:AA:52:C:H5'	1.79	0.48
1:AA:333:U:O5'	1:AA:333:U:H6	1.96	0.48
1:AA:526:C:OP2	12:AL:87:LYS:HD3	2.14	0.48
1:AA:542:G:O2'	1:AA:543:U:H5'	2.13	0.48
1:AA:947:G:C6	1:AA:948:C:C4	3.02	0.48
4:AD:7:LYS:NZ	4:AD:21:LYS:HG3	2.28	0.48
4:AD:185:PRO:HB2	4:AD:190:LEU:HD21	1.96	0.48
5:AE:153:ALA:O	5:AE:154:ALA:O	2.32	0.48
11:AK:88:PRO:HD3	21:AU:28:LEU:HD13	1.95	0.48
13:AM:44:ILE:O	13:AM:44:ILE:HG22	2.14	0.48
20:AT:32:LYS:O	20:AT:33:LYS:C	2.55	0.48
23:AW:96:SER:HA	23:AW:97:GLU:CB	2.43	0.48
25:B0:71:LYS:HD2	25:B0:71:LYS:N	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:B1:68:ALA:C	26:B1:69:GLU:O	2.56	0.48
29:B4:40:HIS:ND1	34:BA:2815:C:O2'	2.46	0.48
34:BA:80:G:C4	34:BA:81:G:C8	3.02	0.48
34:BA:176:A:C2'	34:BA:177:G:H5'	2.43	0.48
34:BA:219:A:C6	34:BA:220:G:C6	3.02	0.48
34:BA:363:G:H2'	34:BA:364:C:C6	2.49	0.48
34:BA:443:A:C5	38:BE:40:ARG:HD3	2.49	0.48
34:BA:460:A:C2	34:BA:470:A:C4	3.02	0.48
34:BA:565:C:H2'	34:BA:566:U:O4'	2.14	0.48
34:BA:630:G:N2	34:BA:633:A:OP2	2.46	0.48
34:BA:866:A:O4'	34:BA:914:G:N2	2.47	0.48
34:BA:1166:G:C6	34:BA:1167:C:C4	3.02	0.48
34:BA:1570:A:C6	34:BA:1571:A:C6	3.02	0.48
34:BA:2489:U:H1'	34:BA:2491:U:O4	2.14	0.48
35:BB:43:C:O2	39:BF:91:ARG:HD2	2.14	0.48
35:BB:56:G:H5'	39:BF:23:SER:HB2	1.96	0.48
38:BE:97:ASN:HB2	38:BE:100:MET:HG3	1.96	0.48
40:BG:101:VAL:O	40:BG:101:VAL:CG2	2.61	0.48
40:BG:155:PRO:O	40:BG:170:THR:HA	2.14	0.48
41:BH:25:ALA:C	41:BH:85:SER:HG	2.22	0.48
41:BH:149:GLY:HA3	43:BK:30:PHE:CZ	2.49	0.48
46:BP:55:MET:HA	46:BP:56:PRO:HD3	1.66	0.48
47:BQ:8:LYS:HD2	47:BQ:8:LYS:HA	1.52	0.48
49:BS:111:ARG:C	49:BS:113:ALA:H	2.22	0.48
52:BV:49:ILE:CG1	52:BV:51:VAL:O	2.62	0.48
52:BV:49:ILE:HG22	52:BV:54:VAL:HG13	1.95	0.48
54:BX:55:VAL:HG12	54:BX:55:VAL:O	2.14	0.48
1:AA:340:U:O2	1:AA:350:G:N2	2.47	0.48
1:AA:452:A:N6	1:AA:480:U:C2	2.82	0.48
1:AA:732:C:H5"	1:AA:733:G:OP2	2.14	0.48
1:AA:953:G:C6	1:AA:1229:A:N1	2.82	0.48
1:AA:1225:A:H4'	19:AS:77:ARG:HE	1.77	0.48
2:AB:166:ASP:OD2	2:AB:190:SER:HA	2.14	0.48
2:AB:212:TYR:O	2:AB:216:VAL:N	2.44	0.48
4:AD:36:ALA:N	4:AD:37:PRO:HD3	2.28	0.48
6:AF:86:ARG:CZ	18:AR:63:TYR:HB3	2.44	0.48
7:AG:112:ASP:O	7:AG:113:LYS:HD3	2.14	0.48
11:AK:125:LYS:O	11:AK:126:ARG:CB	2.61	0.48
12:AL:42:LYS:C	12:AL:44:PRO:HD2	2.39	0.48
12:AL:74:GLN:O	12:AL:75:GLU:C	2.57	0.48
14:AN:76:PHE:CD2	14:AN:92:ILE:HG21	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AP:19:VAL:HG13	16:AP:37:GLY:C	2.39	0.48
19:AS:45:GLY:N	19:AS:61:VAL:HG23	2.29	0.48
21:AU:16:ARG:HH11	21:AU:19:LYS:CG	2.25	0.48
25:B0:17:ALA:HA	25:B0:35:ILE:HG23	1.96	0.48
25:B0:41:GLY:O	25:B0:42:THR:C	2.56	0.48
28:B3:8:GLN:CG	28:B3:28:LEU:HB3	2.44	0.48
34:BA:5:A:H2'	34:BA:6:A:H8	1.79	0.48
34:BA:100:U:C2	34:BA:101:A:C6	3.02	0.48
34:BA:692:C:H2'	34:BA:693:A:C8	2.49	0.48
34:BA:1091:G:O2'	34:BA:1092:C:H5'	2.14	0.48
34:BA:1177:G:H2'	34:BA:1178:C:O4'	2.14	0.48
34:BA:2134:A:HO2'	34:BA:2135:A:H8	1.53	0.48
34:BA:2846:G:OP1	50:BT:52:ARG:NH1	2.43	0.48
35:BB:42:C:C2'	35:BB:43:C:H5'	2.44	0.48
36:BC:23:LEU:HD13	36:BC:24:HIS:H	1.78	0.48
43:BJ:22:LEU:O	43:BJ:26:MET:HG2	2.14	0.48
43:BL:28:GLU:HG3	43:BL:29:LYS:N	2.29	0.48
44:BN:44:TYR:CD1	44:BN:44:TYR:O	2.67	0.48
44:BN:114:LEU:O	44:BN:118:MET:HG3	2.13	0.48
45:BO:97:THR:C	45:BO:98:ARG:HE	2.21	0.48
50:BT:50:ARG:HG2	50:BT:57:ALA:N	2.29	0.48
51:BU:71:ASN:HB3	51:BU:109:VAL:HG11	1.96	0.48
53:BW:20:VAL:HG12	53:BW:47:VAL:HG11	1.95	0.48
53:BW:29:VAL:HG12	53:BW:30:SER:N	2.27	0.48
54:BX:64:LYS:HG3	54:BX:79:ASP:OD1	2.13	0.48
1:AA:674:G:H2'	1:AA:675:A:H8	1.79	0.47
1:AA:719:C:O2	18:AR:38:ILE:HG12	2.14	0.47
1:AA:826:C:H5'	8:AH:12:ARG:NH2	2.25	0.47
1:AA:913:A:C4'	1:AA:914:A:O5'	2.58	0.47
1:AA:1118:U:H2'	1:AA:1119:C:O4'	2.14	0.47
1:AA:1353:G:H8	1:AA:1353:G:OP2	1.96	0.47
1:AA:1452:C:C4'	1:AA:1453:G:C2	2.79	0.47
1:AA:1492:A:OP1	12:AL:43:LYS:HA	2.14	0.47
3:AC:82:ASP:O	3:AC:85:LYS:HG2	2.14	0.47
3:AC:167:TYR:C	3:AC:167:TYR:CD2	2.92	0.47
9:AI:21:LYS:HZ2	9:AI:23:GLY:CA	2.25	0.47
12:AL:43:LYS:HB2	12:AL:44:PRO:HD3	1.96	0.47
15:AO:81:ILE:HG12	15:AO:81:ILE:H	1.41	0.47
18:AR:38:ILE:CD1	18:AR:58:ILE:HG21	2.43	0.47
32:B7:38:LYS:NZ	34:BA:2365:G:N7	2.62	0.47
34:BA:1049:C:H2'	34:BA:1050:A:H5'	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1084:A:C4'	41:BH:55:VAL:HG13	2.43	0.47
34:BA:1870:C:H5"	34:BA:1871:A:OP2	2.13	0.47
37:BD:169:ARG:C	37:BD:170:VAL:CG1	2.87	0.47
40:BG:100:ASN:O	40:BG:116:LEU:HB2	2.13	0.47
41:BH:52:MET:CE	41:BH:87:GLU:HG2	2.44	0.47
41:BH:87:GLU:OE2	41:BH:95:LEU:HB2	2.14	0.47
44:BN:25:LEU:HD22	44:BN:25:LEU:C	2.38	0.47
48:BR:13:ASN:O	48:BR:14:SER:C	2.57	0.47
54:BX:40:LYS:CA	54:BX:43:ILE:HG23	2.44	0.47
1:AA:65:A:C5	1:AA:381:C:C5	3.02	0.47
1:AA:79:G:N2	1:AA:91:U:N3	2.62	0.47
1:AA:266:G:O2'	1:AA:267:C:OP2	2.27	0.47
1:AA:347:G:C2'	1:AA:348:G:O5'	2.62	0.47
1:AA:393:A:OP2	16:AP:12:LYS:HD2	2.14	0.47
1:AA:539:A:H2'	1:AA:540:G:C8	2.49	0.47
1:AA:657:U:O2'	1:AA:658:C:H5'	2.14	0.47
1:AA:810:C:C2'	1:AA:811:C:H5'	2.43	0.47
1:AA:922:G:H4'	5:AE:24:VAL:HA	1.96	0.47
1:AA:1126:U:O2	1:AA:1126:U:C2'	2.61	0.47
1:AA:1358:U:H5"	14:AN:72:PHE:O	2.13	0.47
1:AA:1510:C:H2'	1:AA:1511:G:C8	2.49	0.47
3:AC:167:TYR:C	3:AC:167:TYR:HD2	2.22	0.47
5:AE:45:VAL:HG22	5:AE:117:ALA:HA	1.95	0.47
6:AF:79:ARG:HE	6:AF:79:ARG:CA	2.27	0.47
10:AJ:11:LYS:HE2	10:AJ:71:LEU:HD21	1.96	0.47
13:AM:103:THR:O	13:AM:104:ASN:C	2.57	0.47
17:AQ:51:GLU:O	17:AQ:52:CYS:O	2.31	0.47
25:B0:9:THR:HG23	25:B0:10:ARG:CD	2.27	0.47
25:B0:71:LYS:C	25:B0:73:PRO:HD2	2.38	0.47
26:B1:14:GLY:O	26:B1:26:ARG:HG3	2.14	0.47
30:B5:39:ASP:O	30:B5:43:ARG:N	2.46	0.47
34:BA:31:C:O3'	34:BA:1238:G:H5"	2.14	0.47
34:BA:70:G:H5"	34:BA:112:U:O2	2.14	0.47
34:BA:70:G:H2'	34:BA:113:U:O2'	2.13	0.47
34:BA:275:C:H3'	34:BA:276:U:H5"	1.95	0.47
34:BA:878:A:N6	34:BA:900:A:C8	2.82	0.47
34:BA:1398:C:H2'	34:BA:1399:C:C6	2.48	0.47
34:BA:1568:G:H4'	36:BC:58:LYS:HG2	1.95	0.47
34:BA:2258:C:H4'	34:BA:2259:U:OP2	2.13	0.47
34:BA:2311:A:C5'	34:BA:2312:U:OP2	2.60	0.47
36:BC:169:ALA:O	36:BC:185:ALA:HB3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BF:30:VAL:CG2	39:BF:33:ILE:HD11	2.43	0.47
39:BF:131:VAL:HG22	39:BF:151:LEU:H	1.80	0.47
41:BH:96:PHE:CB	41:BH:125:ARG:HH22	2.27	0.47
49:BS:51:ALA:HB3	49:BS:78:VAL:CG1	2.41	0.47
50:BT:19:PHE:CE2	50:BT:83:ILE:HD11	2.49	0.47
55:BY:52:ASN:C	55:BY:54:PRO:CD	2.87	0.47
55:BY:82:VAL:CG1	55:BY:93:ARG:HB3	2.44	0.47
1:AA:256:U:O2'	1:AA:257:G:H5'	2.14	0.47
1:AA:433:G:C6	1:AA:434:U:C4	3.03	0.47
1:AA:605:U:H2'	1:AA:606:G:H8	1.80	0.47
1:AA:801:U:H2'	1:AA:802:A:H8	1.78	0.47
1:AA:979:C:H41	1:AA:1360:A:N6	2.13	0.47
1:AA:1314:C:OP2	19:AS:5:LYS:HD2	2.13	0.47
1:AA:1340:A:H2'	1:AA:1341:U:O4'	2.14	0.47
1:AA:1525:G:OP1	11:AK:121:ARG:NH2	2.45	0.47
3:AC:5:HIS:O	3:AC:9:ILE:HG22	2.15	0.47
4:AD:57:LYS:HB3	4:AD:199:ILE:HG12	1.96	0.47
4:AD:97:LEU:HD23	4:AD:97:LEU:O	2.12	0.47
7:AG:29:LEU:O	7:AG:29:LEU:HD23	2.14	0.47
7:AG:49:LEU:O	7:AG:49:LEU:HD13	2.13	0.47
11:AK:86:LYS:HG3	11:AK:113:THR:HA	1.95	0.47
11:AK:117:HIS:O	11:AK:118:ASN:HB2	2.14	0.47
12:AL:56:LEU:HD21	12:AL:81:ILE:HG21	1.96	0.47
12:AL:108:ASP:O	12:AL:110:LYS:HG3	2.14	0.47
14:AN:42:ASN:HD21	14:AN:46:LYS:CE	2.27	0.47
15:AO:2:LEU:O	15:AO:3:SER:C	2.57	0.47
17:AQ:10:ARG:O	17:AQ:22:VAL:HG13	2.14	0.47
20:AT:78:LEU:O	20:AT:82:ILE:HG23	2.14	0.47
21:AU:9:GLU:CB	21:AU:10:PRO:HD3	2.44	0.47
25:B0:11:ASN:ND2	34:BA:2264:C:H41	2.11	0.47
25:B0:77:LYS:O	25:B0:78:PHE:HB2	2.14	0.47
28:B3:8:GLN:HG2	28:B3:28:LEU:HB3	1.96	0.47
29:B4:47:TYR:CZ	29:B4:52:LYS:HD3	2.50	0.47
30:B5:14:ALA:O	30:B5:16:THR:N	2.46	0.47
33:B8:36:ARG:O	33:B8:37:GLN:C	2.57	0.47
34:BA:196:A:OP2	46:BP:47:ARG:NH1	2.47	0.47
34:BA:346:A:C2	34:BA:347:A:H1'	2.48	0.47
34:BA:659:G:N2	38:BE:30:GLN:HE22	2.10	0.47
34:BA:822:G:H2'	34:BA:823:C:C6	2.49	0.47
34:BA:996:A:H5"	51:BU:93:ILE:HG21	1.97	0.47
34:BA:1150:C:H2'	34:BA:1151:A:O5'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1161:C:H2'	34:BA:1162:G:C8	2.47	0.47
34:BA:1682:G:H2'	34:BA:1683:U:C6	2.48	0.47
34:BA:1827:U:H2'	34:BA:1828:G:O4'	2.14	0.47
34:BA:1886:U:H2'	34:BA:1887:C:H6	1.78	0.47
34:BA:2261:C:C2	34:BA:2280:G:C2	3.02	0.47
34:BA:2262:U:H4'	34:BA:2328:A:H2	1.80	0.47
34:BA:2282:G:C4	34:BA:2425:A:N6	2.82	0.47
36:BC:12:ARG:HH11	36:BC:12:ARG:CG	2.22	0.47
36:BC:160:TYR:CD1	36:BC:160:TYR:C	2.91	0.47
38:BE:83:VAL:CG1	38:BE:86:ALA:HA	2.44	0.47
38:BE:104:ALA:O	38:BE:108:ILE:HG22	2.14	0.47
38:BE:132:LYS:O	38:BE:135:ALA:HB3	2.14	0.47
39:BF:46:LYS:HD2	39:BF:46:LYS:N	2.30	0.47
40:BG:71:LEU:HD13	40:BG:71:LEU:HA	1.74	0.47
41:BH:68:PRO:C	41:BH:70:GLU:H	2.20	0.47
43:BM:26:MET:HA	43:BM:29:LYS:O	2.15	0.47
44:BN:4:PHE:O	44:BN:44:TYR:HE1	1.96	0.47
45:BO:122:VAL:O	45:BO:122:VAL:CG1	2.62	0.47
46:BP:78:ARG:NH2	46:BP:78:ARG:HB3	2.29	0.47
49:BS:49:VAL:HG21	49:BS:82:ALA:HA	1.96	0.47
56:BZ:10:LYS:HD3	56:BZ:10:LYS:H	1.77	0.47
56:BZ:51:GLN:NE2	56:BZ:79:ARG:HH22	2.13	0.47
1:AA:2:A:H2	1:AA:614:C:O4'	1.98	0.47
1:AA:207:C:H2'	1:AA:208:U:C4	2.50	0.47
1:AA:807:A:H2'	1:AA:808:C:C6	2.48	0.47
1:AA:1239:A:H4'	1:AA:1240:U:O5'	2.14	0.47
1:AA:1308:U:H5"	13:AM:96:VAL:CG2	2.43	0.47
1:AA:1327:C:O2'	1:AA:1328:C:H5'	2.14	0.47
2:AB:26:MET:HA	2:AB:26:MET:HE3	1.96	0.47
2:AB:125:PHE:N	2:AB:125:PHE:HD2	2.13	0.47
2:AB:183:PHE:CZ	2:AB:197:PHE:HE2	2.32	0.47
5:AE:25:LYS:NZ	5:AE:25:LYS:HB3	2.30	0.47
5:AE:140:ILE:O	5:AE:142:GLY:N	2.45	0.47
6:AF:42:TRP:CZ2	6:AF:61:LEU:HB2	2.50	0.47
9:AI:98:ARG:CG	9:AI:98:ARG:NH1	2.77	0.47
15:AO:69:LEU:HD22	15:AO:77:TYR:HB2	1.95	0.47
30:B5:8:ILE:N	30:B5:22:THR:O	2.44	0.47
34:BA:878:A:N7	34:BA:899:A:H2	2.12	0.47
34:BA:1179:G:C6	34:BA:1180:U:O2'	2.67	0.47
34:BA:1628:G:H2'	34:BA:1629:U:H6	1.78	0.47
34:BA:1850:G:C6	34:BA:1851:U:C4	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1936:A:H2	34:BA:1943:U:O4	1.97	0.47
34:BA:2032:G:N1	34:BA:2572:A:C8	2.82	0.47
34:BA:2714:G:H2'	34:BA:2715:C:C5'	2.42	0.47
34:BA:2800:A:C2	34:BA:2895:G:H1'	2.48	0.47
36:BC:140:VAL:HA	36:BC:190:THR:O	2.14	0.47
37:BD:69:ALA:HA	37:BD:73:VAL:HG13	1.95	0.47
37:BD:94:GLN:O	37:BD:94:GLN:HG2	2.15	0.47
40:BG:76:ILE:HD13	40:BG:76:ILE:O	2.14	0.47
41:BH:96:PHE:HB3	41:BH:125:ARG:HH12	1.79	0.47
42:BI:123:ALA:HA	42:BI:126:ARG:CZ	2.44	0.47
44:BN:4:PHE:CG	44:BN:5:THR:N	2.82	0.47
45:BO:43:ILE:HG21	45:BO:46:ALA:HB2	1.97	0.47
52:BV:51:VAL:HG23	52:BV:52:PRO:O	2.14	0.47
55:BY:25:LYS:HG2	55:BY:36:GLU:HB3	1.96	0.47
55:BY:27:VAL:HG23	55:BY:33:VAL:CG1	2.43	0.47
1:AA:58:C:H1'	1:AA:388:G:O6	2.14	0.47
1:AA:76:G:N2	1:AA:77:A:H1'	2.29	0.47
1:AA:205:A:C6	1:AA:206:C:C2	3.03	0.47
1:AA:429:U:H3	1:AA:431:A:H62	1.61	0.47
1:AA:615:G:C6	1:AA:626:G:C6	3.03	0.47
1:AA:695:A:H2'	1:AA:696:A:C8	2.49	0.47
1:AA:947:G:OP1	13:AM:106:ARG:HG3	2.15	0.47
1:AA:1171:A:H2'	1:AA:1172:C:H6	1.75	0.47
3:AC:21:TRP:HB3	3:AC:58:ARG:N	2.27	0.47
3:AC:26:LYS:HB2	3:AC:27:GLU:OE1	2.14	0.47
4:AD:138:PRO:O	4:AD:139:ASN:HB2	2.13	0.47
5:AE:152:VAL:O	5:AE:154:ALA:N	2.47	0.47
6:AF:3:HIS:HA	6:AF:65:GLU:HA	1.95	0.47
7:AG:14:ASP:CB	7:AG:19:SER:H	2.28	0.47
7:AG:119:LEU:HD23	7:AG:119:LEU:C	2.38	0.47
14:AN:14:ALA:O	14:AN:18:LYS:HG3	2.14	0.47
14:AN:25:GLU:HG3	14:AN:26:LEU:HD12	1.97	0.47
16:AP:20:VAL:CG2	16:AP:32:PHE:HB2	2.44	0.47
23:AW:114:ASP:CG	23:AW:143:LYS:HD2	2.40	0.47
23:AW:491:SER:N	23:AW:492:GLN:HB2	2.30	0.47
25:B0:49:ASN:HD22	25:B0:60:ALA:CA	2.26	0.47
26:B1:38:TRP:HA	26:B1:38:TRP:CE3	2.50	0.47
28:B3:35:VAL:HG22	28:B3:37:ARG:NE	2.29	0.47
31:B6:16:HIS:HD2	34:BA:684:G:OP1	1.97	0.47
34:BA:192:C:O2'	34:BA:802:A:H1'	2.14	0.47
34:BA:566:U:H5	52:BV:80:ARG:HG2	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:980:A:C6	34:BA:981:A:C6	3.03	0.47
34:BA:1386:C:H1'	34:BA:1470:A:H1'	1.96	0.47
34:BA:1559:U:C4'	34:BA:1560:G:OP2	2.38	0.47
34:BA:2703:C:H2'	34:BA:2704:C:H6	1.79	0.47
35:BB:52:A:C5'	35:BB:53:A:OP1	2.62	0.47
36:BC:77:VAL:HG22	36:BC:111:ALA:HA	1.97	0.47
36:BC:108:GLY:O	36:BC:109:LEU:HD22	2.14	0.47
37:BD:157:LYS:HD2	44:BN:79:GLY:O	2.15	0.47
38:BE:72:SER:C	38:BE:74:LYS:H	2.20	0.47
39:BF:47:LYS:NZ	39:BF:47:LYS:HB3	2.29	0.47
40:BG:117:PRO:HD2	40:BG:120:ILE:HG23	1.96	0.47
44:BN:6:ALA:HB3	44:BN:45:THR:CG2	2.39	0.47
51:BU:6:GLY:HA2	51:BU:9:ALA:CB	2.43	0.47
51:BU:26:ALA:HB1	51:BU:30:VAL:HB	1.96	0.47
54:BX:29:THR:HB	54:BX:86:THR:CG2	2.42	0.47
54:BX:32:LEU:O	54:BX:83:ALA:HB2	2.15	0.47
54:BX:34:VAL:HG21	54:BX:43:ILE:HD12	1.97	0.47
1:AA:8:A:N1	5:AE:111:ARG:NH1	2.62	0.47
1:AA:47:C:H4'	1:AA:48:C:O5'	2.14	0.47
1:AA:202:G:H21	1:AA:466:A:H61	1.62	0.47
1:AA:516:U:C5	1:AA:517:G:C6	3.03	0.47
1:AA:707:U:H2'	1:AA:708:C:C6	2.50	0.47
1:AA:723:U:H5"	21:AU:48:LYS:HG2	1.96	0.47
1:AA:1007:U:C3'	1:AA:1008:U:H5"	2.44	0.47
1:AA:1256:A:C6	1:AA:1278:G:N3	2.83	0.47
1:AA:1372:U:H2'	1:AA:1373:G:H5'	1.96	0.47
3:AC:6:PRO:HB3	3:AC:174:LEU:HD13	1.96	0.47
3:AC:70:ALA:HB2	3:AC:114:LEU:HD11	1.96	0.47
7:AG:77:ARG:O	7:AG:78:ARG:HB2	2.14	0.47
10:AJ:10:LEU:HD11	10:AJ:98:VAL:HG12	1.97	0.47
13:AM:2:ARG:HG3	13:AM:3:ILE:H	1.79	0.47
23:AW:127:MET:HG3	23:AW:162:LEU:HD22	1.96	0.47
25:B0:35:ILE:O	25:B0:36:ILE:C	2.57	0.47
25:B0:72:GLY:HA2	35:BB:12:C:H2'	1.97	0.47
30:B5:39:ASP:OD1	30:B5:41:VAL:HG22	2.14	0.47
34:BA:156:A:H2'	34:BA:157:C:C6	2.49	0.47
34:BA:1022:G:O6	44:BN:68:LYS:CE	2.62	0.47
34:BA:1028:A:N3	34:BA:2486:C:O2'	2.45	0.47
34:BA:1292:G:H2'	34:BA:1293:C:C6	2.49	0.47
34:BA:1303:G:H2'	34:BA:1304:A:H5'	1.96	0.47
34:BA:1583:A:C2'	34:BA:1584:U:OP2	2.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1886:U:H2'	34:BA:1887:C:C6	2.49	0.47
34:BA:2307:G:C2	34:BA:2311:A:N7	2.82	0.47
34:BA:2307:G:N3	34:BA:2311:A:N7	2.62	0.47
34:BA:2579:C:O5'	34:BA:2579:C:H6	1.97	0.47
34:BA:2655:G:O2'	34:BA:2656:U:OP2	2.33	0.47
34:BA:2753:A:C2'	34:BA:2754:U:H5'	2.44	0.47
37:BD:169:ARG:O	37:BD:170:VAL:HG13	2.15	0.47
39:BF:65:LEU:O	39:BF:86:CYS:HA	2.14	0.47
39:BF:102:LEU:HD13	39:BF:107:VAL:CG2	2.45	0.47
40:BG:32:LEU:O	40:BG:33:THR:HG23	2.14	0.47
43:BJ:4:LYS:O	43:BJ:8:ILE:HG12	2.14	0.47
43:BM:17:MET:O	43:BM:21:GLU:HG3	2.14	0.47
44:BN:13:ARG:O	44:BN:52:ASP:OD2	2.31	0.47
45:BO:24:VAL:HG13	45:BO:33:ALA:HB2	1.95	0.47
45:BO:91:SER:O	45:BO:93:GLN:HB2	2.14	0.47
47:BQ:62:LYS:O	47:BQ:63:ILE:HD12	2.14	0.47
48:BR:59:SER:O	48:BR:60:VAL:C	2.56	0.47
55:BY:12:VAL:O	55:BY:18:LYS:O	2.33	0.47
1:AA:181:A:H4'	1:AA:182:A:O5'	2.13	0.47
1:AA:411:A:C4	1:AA:413:G:H1'	2.49	0.47
1:AA:429:U:H4'	1:AA:430:A:OP1	2.12	0.47
1:AA:556:C:C2'	1:AA:557:G:H5'	2.45	0.47
1:AA:769:G:H4'	1:AA:1513:A:H4'	1.96	0.47
1:AA:813:U:C2'	1:AA:814:A:H5"	2.44	0.47
1:AA:957:U:H4'	19:AS:78:THR:OG1	2.14	0.47
1:AA:1168:U:O2	1:AA:1168:U:C2'	2.61	0.47
1:AA:1229:A:OP2	13:AM:112:ARG:HD3	2.14	0.47
1:AA:1308:U:H5"	13:AM:96:VAL:HG23	1.97	0.47
2:AB:20:ARG:O	2:AB:22:TRP:N	2.47	0.47
2:AB:137:THR:HA	2:AB:140:LEU:HD13	1.95	0.47
2:AB:140:LEU:HD12	2:AB:140:LEU:N	2.30	0.47
2:AB:186:VAL:HG21	2:AB:198:VAL:HG23	1.96	0.47
5:AE:105:ILE:HD11	5:AE:123:LEU:HG	1.97	0.47
7:AG:128:GLU:O	7:AG:129:ASN:C	2.57	0.47
8:AH:17:GLN:NE2	8:AH:71:VAL:H	2.11	0.47
8:AH:36:ALA:O	8:AH:37:ASN:C	2.58	0.47
8:AH:54:THR:C	8:AH:56:PRO:HD3	2.40	0.47
8:AH:74:ILE:HD12	8:AH:127:TYR:O	2.15	0.47
8:AH:82:LEU:HD22	8:AH:84:ILE:HD11	1.97	0.47
10:AJ:19:ASP:HA	10:AJ:22:THR:HB	1.95	0.47
11:AK:30:ILE:CB	11:AK:45:THR:HG22	2.43	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AM:21:ILE:HB	13:AM:24:VAL:HG21	1.95	0.47
13:AM:47:LEU:HD11	13:AM:52:ILE:HD13	1.96	0.47
19:AS:10:ILE:HD11	19:AS:15:LEU:HD13	1.95	0.47
23:AW:307:MET:CG	23:AW:308:ASP:HA	2.44	0.47
25:B0:18:LYS:H	25:B0:36:ILE:CG1	2.23	0.47
28:B3:16:LEU:H	28:B3:19:HIS:CD2	2.32	0.47
34:BA:8:C:H5"	44:BN:53:TYR:OH	2.15	0.47
34:BA:27:G:O2'	34:BA:28:A:C8	2.42	0.47
34:BA:519:U:HO2'	53:BW:73:LYS:HE2	1.79	0.47
34:BA:543:G:C5	34:BA:551:G:C2	3.02	0.47
34:BA:545:U:H3'	34:BA:545:U:C6	2.48	0.47
34:BA:588:U:H1'	38:BE:85:PHE:CD1	2.49	0.47
34:BA:646:U:O4	34:BA:2368:C:H1'	2.14	0.47
34:BA:709:U:O2'	34:BA:710:U:H5'	2.14	0.47
34:BA:729:G:OP1	36:BC:12:ARG:HB2	2.15	0.47
34:BA:861:A:H2'	34:BA:862:G:O4'	2.15	0.47
34:BA:893:C:C2'	34:BA:894:U:O4'	2.61	0.47
34:BA:1046:A:N6	41:BH:8:LYS:HG2	2.30	0.47
34:BA:1059:G:C6	34:BA:1080:A:N1	2.83	0.47
34:BA:1430:G:H2'	34:BA:1431:A:O4'	2.15	0.47
34:BA:1497:U:C5	34:BA:1578:U:O5'	2.68	0.47
34:BA:1524:G:H2'	34:BA:1525:A:O4'	2.14	0.47
34:BA:1820:U:OP1	36:BC:176:ARG:HG3	2.15	0.47
34:BA:1893:C:C5	34:BA:1894:C:C5	3.02	0.47
34:BA:2244:U:C2'	34:BA:2245:U:H5'	2.45	0.47
34:BA:2783:U:H2'	34:BA:2784:U:C6	2.49	0.47
34:BA:2857:G:C5	34:BA:2859:G:OP2	2.68	0.47
36:BC:116:GLN:HG2	36:BC:117:SER:N	2.28	0.47
36:BC:219:VAL:HG12	36:BC:224:MET:CE	2.44	0.47
37:BD:114:LYS:N	37:BD:114:LYS:CE	2.72	0.47
38:BE:42:GLY:O	38:BE:43:THR:OG1	2.27	0.47
38:BE:158:PHE:CD1	38:BE:159:LEU:HD12	2.42	0.47
38:BE:175:ILE:HD11	38:BE:180:LEU:CD1	2.43	0.47
39:BF:102:LEU:O	39:BF:107:VAL:HG23	2.14	0.47
40:BG:94:ARG:HG2	40:BG:95:ALA:N	2.27	0.47
41:BH:21:GLY:HA2	41:BH:87:GLU:O	2.13	0.47
41:BH:55:VAL:HG12	41:BH:57:ASN:ND2	2.30	0.47
41:BH:59:LEU:HB2	41:BH:62:ARG:HB2	1.96	0.47
41:BH:71:CYS:SG	41:BH:117:LEU:HD11	2.55	0.47
42:BI:89:SER:HA	42:BI:135:MET:CB	2.42	0.47
43:BJ:26:MET:HE2	43:BJ:29:LYS:HZ2	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BK:22:LEU:O	43:BK:25:ALA:HB3	2.15	0.47
43:BM:10:ALA:O	43:BM:11:VAL:C	2.56	0.47
45:BO:41:ILE:HD12	45:BO:41:ILE:HA	1.68	0.47
47:BQ:71:LYS:HD2	47:BQ:95:LEU:HD13	1.95	0.47
48:BR:71:ARG:HH21	48:BR:71:ARG:HG2	1.80	0.47
50:BT:33:GLU:HG3	50:BT:34:GLY:N	2.30	0.47
51:BU:94:LEU:C	51:BU:96:ASP:N	2.73	0.47
54:BX:29:THR:HA	54:BX:86:THR:H	1.80	0.47
55:BY:52:ASN:C	55:BY:54:PRO:HD2	2.40	0.47
1:AA:38:G:C2	1:AA:397:A:C2	3.03	0.47
1:AA:169:C:H2'	1:AA:170:U:H6	1.78	0.47
1:AA:175:C:O2'	1:AA:176:C:H5'	2.15	0.47
1:AA:176:C:H2'	1:AA:177:G:N3	2.30	0.47
1:AA:1370:G:C2	1:AA:1371:G:C8	3.03	0.47
2:AB:20:ARG:O	2:AB:22:TRP:HB3	2.14	0.47
2:AB:36:LYS:HA	2:AB:36:LYS:HE3	1.97	0.47
3:AC:14:VAL:HG21	3:AC:177:LEU:O	2.15	0.47
3:AC:49:ALA:O	3:AC:50:SER:CB	2.63	0.47
5:AE:95:MET:HE3	5:AE:95:MET:HB3	1.68	0.47
5:AE:146:MET:O	5:AE:146:MET:HG2	2.14	0.47
6:AF:6:ILE:HB	6:AF:62:MET:HG2	1.95	0.47
6:AF:25:TYR:O	6:AF:29:ILE:CD1	2.63	0.47
6:AF:38:ARG:HH11	6:AF:61:LEU:CD2	2.28	0.47
6:AF:51:ILE:O	6:AF:51:ILE:HG23	2.15	0.47
6:AF:53:LYS:HG3	6:AF:54:LEU:H	1.80	0.47
6:AF:68:GLN:O	6:AF:71:ILE:HG22	2.15	0.47
11:AK:60:PHE:O	11:AK:64:VAL:CG1	2.62	0.47
14:AN:32:ASP:O	14:AN:33:VAL:C	2.58	0.47
16:AP:42:ILE:HG22	16:AP:43:ALA:N	2.29	0.47
18:AR:38:ILE:HD11	18:AR:62:ARG:HH21	1.80	0.47
19:AS:21:ALA:HB1	19:AS:46:LEU:HD21	1.97	0.47
19:AS:51:HIS:HD2	19:AS:53:GLY:H	1.63	0.47
19:AS:79:TYR:CG	19:AS:80:ARG:N	2.82	0.47
21:AU:35:GLU:OE2	21:AU:37:TYR:HB2	2.15	0.47
23:AW:276:ALA:HA	23:AW:277:PRO:HD3	1.80	0.47
23:AW:398:PHE:CG	23:AW:399:ARG:N	2.83	0.47
25:B0:13:ARG:HG2	25:B0:14:ASP:HB2	1.96	0.47
25:B0:75:ASN:O	25:B0:76:ARG:HB2	2.13	0.47
29:B4:31:LYS:HB3	34:BA:2885:G:N2	2.29	0.47
33:B8:9:LYS:CD	33:B8:9:LYS:N	2.67	0.47
34:BA:830:G:H4'	34:BA:831:G:OP2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1042:G:C5	34:BA:1043:C:C5	3.03	0.47
34:BA:1072:C:N4	34:BA:1093:G:H1	2.12	0.47
34:BA:1501:G:O2'	34:BA:1502:A:H5'	2.14	0.47
34:BA:1761:C:O5'	34:BA:1761:C:H6	1.98	0.47
34:BA:2423:U:O2'	34:BA:2424:C:P	2.73	0.47
34:BA:2682:A:C8	37:BD:11:MET:HG2	2.50	0.47
34:BA:2840:C:O2'	34:BA:2841:C:H5'	2.14	0.47
36:BC:104:LEU:HB3	36:BC:105:ALA:H	1.55	0.47
36:BC:224:MET:HB2	36:BC:228:ASP:HB2	1.96	0.47
37:BD:98:VAL:CG1	37:BD:180:VAL:HG13	2.42	0.47
40:BG:83:THR:C	40:BG:84:LYS:CD	2.86	0.47
44:BN:4:PHE:O	44:BN:44:TYR:CE1	2.68	0.47
48:BR:33:ILE:HG13	48:BR:118:ARG:HD2	1.96	0.47
56:BZ:80:HIS:ND1	56:BZ:81:PRO:HD2	2.30	0.47
1:AA:234:C:H2'	1:AA:235:C:H6	1.80	0.47
2:AB:222:GLU:OE1	2:AB:225:SER:HA	2.15	0.47
3:AC:119:ILE:HA	3:AC:122:GLN:HG3	1.96	0.47
4:AD:102:TYR:CG	4:AD:110:ARG:HG3	2.50	0.47
11:AK:107:THR:HG22	11:AK:108:ASN:CG	2.40	0.47
13:AM:70:ARG:O	13:AM:74:MET:HB2	2.15	0.47
14:AN:14:ALA:HB1	14:AN:18:LYS:HE2	1.96	0.47
14:AN:21:ALA:H	14:AN:24:ALA:HB3	1.79	0.47
19:AS:30:LEU:HD12	19:AS:30:LEU:N	2.30	0.47
20:AT:34:VAL:HG11	20:AT:78:LEU:HD22	1.97	0.47
23:AW:172:PRO:HD3	23:AW:256:PHE:CG	2.50	0.47
23:AW:284:THR:HG21	23:AW:385:MET:SD	2.55	0.47
25:B0:14:ASP:O	25:B0:15:SER:HB2	2.15	0.47
25:B0:20:LEU:HD12	25:B0:32:ALA:O	2.14	0.47
25:B0:46:ALA:O	25:B0:47:GLY:O	2.32	0.47
30:B5:34:GLU:HG2	30:B5:49:LYS:HG3	1.96	0.47
34:BA:659:G:C5'	38:BE:95:LYS:HD3	2.44	0.47
34:BA:996:A:H5'	51:BU:93:ILE:HG21	1.96	0.47
34:BA:1084:A:C6	41:BH:37:LYS:NZ	2.82	0.47
34:BA:1142:A:N6	34:BA:1144:A:C2	2.82	0.47
34:BA:1801:A:H5'	34:BA:2203:U:O2'	2.14	0.47
34:BA:1992:G:N2	34:BA:1996:C:O2'	2.48	0.47
34:BA:2287:A:HO2'	34:BA:2288:A:H2'	1.80	0.47
34:BA:2290:G:H2'	34:BA:2291:U:C6	2.50	0.47
38:BE:44:ARG:NH2	38:BE:44:ARG:CG	2.66	0.47
40:BG:10:VAL:HG23	40:BG:10:VAL:O	2.15	0.47
41:BH:4:ASN:O	41:BH:7:ASP:HB2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BH:60:LEU:C	41:BH:62:ARG:N	2.70	0.47
41:BH:103:ASN:CG	41:BH:110:ALA:HB2	2.39	0.47
44:BN:64:VAL:CG1	44:BN:65:THR:N	2.78	0.47
44:BN:130:HIS:CD2	44:BN:132:HIS:HB2	2.50	0.47
45:BO:17:ARG:HB2	45:BO:45:GLU:HB3	1.96	0.47
47:BQ:33:LEU:CD2	47:BQ:128:THR:HB	2.44	0.47
48:BR:8:ARG:HB2	48:BR:43:GLU:CD	2.40	0.47
48:BR:47:VAL:O	48:BR:50:PRO:HD2	2.15	0.47
51:BU:71:ASN:OD1	51:BU:106:THR:HG23	2.15	0.47
54:BX:29:THR:N	54:BX:86:THR:HA	2.29	0.47
55:BY:86:PHE:HB2	55:BY:92:VAL:CG1	2.45	0.47
1:AA:481:G:H4'	1:AA:481:G:OP1	2.15	0.47
1:AA:513:C:C2	1:AA:514:C:C6	3.03	0.47
1:AA:537:G:H2'	1:AA:538:G:C8	2.50	0.47
1:AA:679:C:H2'	1:AA:680:C:H6	1.80	0.47
1:AA:715:A:H2'	1:AA:716:A:C8	2.49	0.47
1:AA:734:G:C2	1:AA:735:C:C2	3.03	0.47
1:AA:980:C:C5	1:AA:981:U:C2	3.03	0.47
1:AA:1001:C:H2'	1:AA:1002:G:C8	2.50	0.47
1:AA:1081:A:H2'	1:AA:1082:A:O4'	2.15	0.47
1:AA:1126:U:C6	1:AA:1281:C:C2	3.02	0.47
1:AA:1422:G:C2	1:AA:1423:G:C8	3.02	0.47
2:AB:76:SER:HB2	2:AB:92:ASN:HB2	1.97	0.47
2:AB:125:PHE:N	2:AB:125:PHE:CD2	2.83	0.47
5:AE:152:VAL:C	5:AE:154:ALA:N	2.72	0.47
6:AF:10:VAL:HG13	6:AF:83:ALA:O	2.15	0.47
7:AG:20:GLU:O	7:AG:23:ALA:HB3	2.15	0.47
11:AK:60:PHE:CZ	11:AK:64:VAL:HG11	2.50	0.47
20:AT:53:MET:CE	20:AT:57:VAL:HG21	2.45	0.47
23:AW:59:TRP:HZ2	23:AW:69:SER:CB	2.24	0.47
23:AW:64:LYS:CE	23:AW:71:THR:H	2.25	0.47
25:B0:46:ALA:HB3	25:B0:79:ILE:O	2.15	0.47
26:B1:2:ARG:HD2	26:B1:29:LEU:HD12	1.97	0.47
26:B1:27:ARG:NH2	34:BA:1365:A:O5'	2.40	0.47
31:B6:39:ARG:NH2	34:BA:468:G:N7	2.62	0.47
33:B8:19:ARG:O	33:B8:20:ASP:HB2	2.15	0.47
34:BA:531:C:H5"	34:BA:532:A:C5	2.50	0.47
34:BA:747:U:O2	34:BA:2014:A:H1'	2.15	0.47
34:BA:782:A:N7	36:BC:219:VAL:HG21	2.30	0.47
34:BA:963:U:H2'	34:BA:964:C:C6	2.50	0.47
34:BA:1014:A:C2	34:BA:1149:G:C2	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1100:C:O5'	34:BA:1100:C:H6	1.97	0.47
34:BA:1416:G:O2'	34:BA:1417:C:O4'	2.30	0.47
34:BA:1692:U:H2'	34:BA:1694:C:C5	2.50	0.47
36:BC:106:PRO:HA	36:BC:141:HIS:CE1	2.50	0.47
36:BC:143:VAL:O	36:BC:151:GLY:HA2	2.14	0.47
36:BC:159:THR:HG22	36:BC:176:ARG:HG2	1.97	0.47
37:BD:113:SER:C	37:BD:114:LYS:HE3	2.39	0.47
38:BE:41:GLN:O	38:BE:41:GLN:HG2	2.14	0.47
38:BE:160:ALA:O	38:BE:161:ALA:HB3	2.15	0.47
40:BG:36:LEU:C	40:BG:37:ASN:OD1	2.58	0.47
41:BH:23:LEU:HB2	41:BH:92:ALA:CB	2.45	0.47
41:BH:57:ASN:HA	41:BH:59:LEU:HD13	1.96	0.47
43:BJ:11:VAL:HB	43:BK:29:LYS:HZ3	1.78	0.47
44:BN:27:ARG:HH11	44:BN:27:ARG:HG2	1.80	0.47
45:BO:40:LYS:NZ	45:BO:89:ASN:ND2	2.59	0.47
48:BR:71:ARG:NH2	48:BR:71:ARG:HG3	2.30	0.47
56:BZ:65:VAL:HG23	56:BZ:65:VAL:O	2.15	0.47
1:AA:669:G:O2'	1:AA:670:G:H5'	2.15	0.46
1:AA:679:C:O2'	1:AA:680:C:H5'	2.15	0.46
1:AA:1032:G:N2	1:AA:1033:G:C8	2.83	0.46
1:AA:1108:G:H5"	3:AC:175:HIS:ND1	2.30	0.46
1:AA:1138:G:H3'	1:AA:1138:G:N3	2.30	0.46
4:AD:2:ARG:HB2	4:AD:4:LEU:CD1	2.45	0.46
4:AD:124:VAL:C	4:AD:126:GLY:N	2.72	0.46
5:AE:12:GLU:HB2	5:AE:63:MET:HE1	1.97	0.46
7:AG:125:ASP:OD2	7:AG:130:LYS:HG3	2.15	0.46
11:AK:16:SER:O	11:AK:78:ILE:HA	2.14	0.46
17:AQ:47:ASP:OD2	17:AQ:47:ASP:N	2.45	0.46
23:AW:22:PRO:HG3	23:AW:91:GLY:C	2.40	0.46
23:AW:401:ILE:HD11	23:AW:438:VAL:CG2	2.44	0.46
29:B4:22:THR:O	29:B4:23:ALA:O	2.33	0.46
33:B8:16:ILE:O	33:B8:16:ILE:HG22	2.14	0.46
33:B8:27:CYS:HB2	33:B8:33:HIS:HB2	1.96	0.46
34:BA:49:A:H5'	34:BA:51:G:O4'	2.15	0.46
34:BA:449:A:C2'	34:BA:450:G:H5'	2.45	0.46
34:BA:460:A:H2'	34:BA:461:C:O5'	2.15	0.46
34:BA:511:U:H4'	34:BA:1235:G:H4'	1.97	0.46
34:BA:1109:C:N4	34:BA:1110:G:N2	2.64	0.46
34:BA:1138:G:H2'	34:BA:1139:G:O4'	2.14	0.46
34:BA:1297:C:OP1	34:BA:2710:C:H4'	2.16	0.46
34:BA:2038:G:H2'	34:BA:2039:U:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:2197:U:O2'	34:BA:2198:A:H8	1.94	0.46
34:BA:2638:G:O2'	34:BA:2639:A:P	2.73	0.46
34:BA:2857:G:C4	34:BA:2859:G:OP2	2.68	0.46
39:BF:108:PRO:C	39:BF:110:ILE:H	2.23	0.46
40:BG:9:VAL:O	40:BG:9:VAL:HG13	2.14	0.46
40:BG:116:LEU:HA	40:BG:116:LEU:HD13	1.70	0.46
44:BN:58:ASN:CB	44:BN:61:LYS:HE2	2.43	0.46
54:BX:24:MET:HE3	54:BX:27:SER:HB3	1.96	0.46
54:BX:40:LYS:HA	54:BX:58:VAL:HG11	1.97	0.46
55:BY:91:LYS:O	55:BY:92:VAL:HB	2.15	0.46
56:BZ:67:GLY:O	56:BZ:68:LYS:HG3	2.15	0.46
1:AA:177:G:C2'	1:AA:178:C:H5'	2.46	0.46
1:AA:374:A:H2'	1:AA:375:U:C6	2.50	0.46
1:AA:624:C:C2	1:AA:625:U:C6	3.03	0.46
1:AA:720:C:H2'	1:AA:721:G:C8	2.51	0.46
1:AA:1055:A:H2	3:AC:192:TYR:O	1.99	0.46
3:AC:55:VAL:O	3:AC:65:VAL:HA	2.16	0.46
5:AE:135:VAL:C	5:AE:137:ARG:N	2.62	0.46
6:AF:97:THR:HG22	6:AF:98:GLU:N	2.31	0.46
8:AH:13:ILE:HD11	8:AH:26:MET:HE1	1.96	0.46
9:AI:12:LYS:C	9:AI:14:SER:H	2.24	0.46
9:AI:12:LYS:HA	9:AI:109:GLN:OE1	2.15	0.46
12:AL:30:ARG:HH12	23:AW:408:LYS:CD	2.28	0.46
25:B0:68:PHE:CD1	25:B0:79:ILE:HD12	2.48	0.46
26:B1:37:PHE:O	26:B1:45:PHE:HD2	1.98	0.46
27:B2:21:LEU:O	27:B2:22:LEU:C	2.58	0.46
27:B2:23:ARG:NE	27:B2:23:ARG:HA	2.31	0.46
31:B6:34:ARG:HH12	31:B6:39:ARG:HG2	1.77	0.46
33:B8:7:VAL:HG23	33:B8:8:LYS:N	2.30	0.46
34:BA:112:U:H2'	34:BA:113:U:H5'	1.97	0.46
34:BA:1476:U:H1'	34:BA:1732:C:O2	2.15	0.46
34:BA:1913:A:H4'	34:BA:1914:C:C5'	2.45	0.46
34:BA:2033:A:C4'	34:BA:2034:U:OP1	2.63	0.46
34:BA:2148:G:C2'	34:BA:2149:U:O5'	2.63	0.46
34:BA:2230:G:H2'	34:BA:2231:U:H6	1.80	0.46
34:BA:2287:A:O2'	34:BA:2288:A:C2'	2.63	0.46
34:BA:2306:C:C4	34:BA:2307:G:C5	3.03	0.46
39:BF:114:ARG:N	39:BF:114:ARG:CD	2.78	0.46
40:BG:14:VAL:HA	40:BG:26:LYS:O	2.15	0.46
45:BO:11:ALA:HB2	45:BO:64:ARG:NH2	2.30	0.46
47:BQ:70:ASP:OD1	47:BQ:70:ASP:C	2.58	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BR:69:ARG:C	48:BR:71:ARG:H	2.23	0.46
51:BU:64:ILE:HD12	51:BU:95:ALA:HB3	1.98	0.46
51:BU:96:ASP:OD2	51:BU:96:ASP:C	2.55	0.46
54:BX:11:LEU:HD22	54:BX:34:VAL:HG11	1.97	0.46
54:BX:25:GLU:C	54:BX:27:SER:H	2.23	0.46
55:BY:27:VAL:HA	55:BY:33:VAL:HG12	1.97	0.46
1:AA:200:G:H22	1:AA:218:U:H1'	1.81	0.46
1:AA:318:G:O2'	1:AA:319:G:H5'	2.15	0.46
1:AA:579:A:C2	1:AA:763:G:C2	3.03	0.46
1:AA:602:A:O2'	1:AA:603:U:H5'	2.15	0.46
1:AA:1314:C:O2'	1:AA:1315:U:H5'	2.14	0.46
1:AA:1329:A:O2'	13:AM:23:GLY:HA2	2.15	0.46
1:AA:1364:U:O2	1:AA:1364:U:H2'	2.15	0.46
9:AI:21:LYS:HD2	9:AI:21:LYS:C	2.40	0.46
11:AK:21:HIS:HE1	11:AK:84:MET:CE	2.28	0.46
11:AK:76:TYR:N	11:AK:76:TYR:CD1	2.83	0.46
18:AR:32:ILE:HD12	18:AR:33:THR:O	2.16	0.46
23:AW:26:LYS:NZ	23:AW:89:THR:O	2.46	0.46
23:AW:315:VAL:HG11	23:AW:346:LEU:HD12	1.98	0.46
23:AW:403:LEU:HD21	23:AW:459:VAL:HG12	1.97	0.46
23:AW:449:VAL:HG23	23:AW:463:TYR:OH	2.15	0.46
25:B0:49:ASN:HB2	25:B0:81:ILE:CG1	2.46	0.46
28:B3:8:GLN:HB2	28:B3:33:HIS:H	1.81	0.46
34:BA:340:A:H2'	34:BA:341:C:O4'	2.15	0.46
34:BA:345:A:H4'	34:BA:346:A:OP1	2.16	0.46
34:BA:954:G:C5	34:BA:955:U:C5	3.04	0.46
34:BA:1097:U:H1'	42:BI:8:VAL:HG12	1.97	0.46
34:BA:1109:C:C4	34:BA:1110:G:N2	2.84	0.46
34:BA:1799:G:O6	36:BC:177:SER:HB3	2.15	0.46
34:BA:2026:U:H2'	34:BA:2027:G:O4'	2.15	0.46
34:BA:2716:C:H2'	34:BA:2717:C:H5'	1.97	0.46
34:BA:2822:G:OP2	37:BD:115:GLY:HA3	2.16	0.46
34:BA:2888:C:H2'	34:BA:2889:C:H6	1.80	0.46
36:BC:255:LYS:C	36:BC:257:ARG:N	2.74	0.46
55:BY:62:ALA:O	55:BY:63:ALA:O	2.33	0.46
1:AA:266:G:H4'	1:AA:267:C:H5	1.80	0.46
1:AA:332:G:O2'	1:AA:333:U:H5'	2.16	0.46
1:AA:620:C:C2	4:AD:131:ILE:HG21	2.50	0.46
1:AA:978:A:C4	1:AA:1319:A:N3	2.83	0.46
1:AA:983:A:H5'	14:AN:2:LYS:HZ3	1.76	0.46
1:AA:1402:C:O2	1:AA:1500:A:N1	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:23:ASN:H	2:AB:189:ASN:HA	1.81	0.46
2:AB:90:PHE:HE2	2:AB:148:GLY:HA3	1.80	0.46
4:AD:116:LEU:HD21	4:AD:153:ARG:HH21	1.80	0.46
10:AJ:73:LEU:O	10:AJ:74:VAL:HB	2.14	0.46
12:AL:32:VAL:O	12:AL:76:HIS:O	2.33	0.46
13:AM:89:ARG:HG3	13:AM:96:VAL:HA	1.98	0.46
14:AN:30:ILE:HD12	14:AN:30:ILE:N	2.29	0.46
14:AN:68:ARG:HH11	14:AN:68:ARG:HG2	1.81	0.46
23:AW:300:VAL:HA	23:AW:318:MET:HA	1.98	0.46
23:AW:523:PHE:O	23:AW:525:GLN:NE2	2.49	0.46
25:B0:31:LEU:N	25:B0:31:LEU:HD23	2.30	0.46
34:BA:372:G:O2'	34:BA:373:U:O5'	2.29	0.46
34:BA:1169:A:N1	34:BA:1181:U:O2	2.48	0.46
34:BA:2270:A:H2'	34:BA:2271:G:O4'	2.15	0.46
34:BA:2312:U:OP1	39:BF:70:ARG:HB3	2.16	0.46
35:BB:66:A:N6	35:BB:107:G:H2'	2.28	0.46
41:BH:59:LEU:H	41:BH:59:LEU:HD13	1.79	0.46
41:BH:67:THR:N	41:BH:68:PRO:CD	2.78	0.46
42:BI:39:LYS:HZ3	42:BI:39:LYS:HB2	1.81	0.46
42:BI:80:LYS:HA	42:BI:85:ILE:O	2.15	0.46
44:BN:45:THR:N	44:BN:46:PRO:HD3	2.30	0.46
47:BQ:41:LEU:CD2	47:BQ:124:LEU:HD22	2.44	0.46
47:BQ:76:LYS:O	47:BQ:77:PRO:O	2.33	0.46
53:BW:28:LYS:O	53:BW:29:VAL:C	2.59	0.46
1:AA:347:G:H2'	1:AA:348:G:O5'	2.15	0.46
1:AA:596:A:H61	1:AA:644:U:H3	1.63	0.46
1:AA:1112:C:H6	1:AA:1112:C:O5'	1.99	0.46
2:AB:41:ASN:HB3	2:AB:44:LYS:HB3	1.98	0.46
2:AB:67:LEU:O	2:AB:160:LEU:HD12	2.16	0.46
4:AD:59:LYS:HE3	4:AD:193:ASP:O	2.15	0.46
4:AD:164:ARG:HG2	4:AD:165:GLU:H	1.80	0.46
5:AE:14:LEU:CD1	5:AE:14:LEU:N	2.78	0.46
5:AE:155:LYS:O	5:AE:158:LYS:O	2.33	0.46
6:AF:71:ILE:HG23	6:AF:72:ASP:N	2.31	0.46
9:AI:23:GLY:H	9:AI:60:LEU:HA	1.80	0.46
20:AT:26:MET:O	20:AT:27:MET:C	2.57	0.46
23:AW:472:ARG:HA	23:AW:473:TRP:CB	2.46	0.46
23:AW:491:SER:HB2	23:AW:492:GLN:HB2	1.98	0.46
25:B0:47:GLY:O	25:B0:49:ASN:N	2.49	0.46
25:B0:54:ARG:NH2	34:BA:2384:U:OP2	2.48	0.46
26:B1:50:VAL:HG12	26:B1:51:SER:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:B5:33:LEU:HD11	30:B5:35:LEU:HD22	1.97	0.46
34:BA:477:A:C6	34:BA:478:A:C6	3.02	0.46
34:BA:621:A:OP2	46:BP:99:ASN:ND2	2.49	0.46
34:BA:879:G:N2	34:BA:899:A:H1'	2.29	0.46
34:BA:1045:C:H1'	34:BA:1047:G:N3	2.30	0.46
34:BA:1062:G:C4	34:BA:1088:A:N7	2.83	0.46
34:BA:1172:C:C4	34:BA:1173:U:H1'	2.51	0.46
34:BA:2308:G:O6	34:BA:2311:A:C5	2.69	0.46
34:BA:2590:A:O2'	34:BA:2591:C:H5'	2.16	0.46
34:BA:2627:G:O2'	34:BA:2781:A:N1	2.44	0.46
34:BA:2834:G:H2'	34:BA:2879:A:H61	1.80	0.46
35:BB:59:A:H2'	35:BB:60:C:O4'	2.15	0.46
38:BE:127:GLU:CD	38:BE:127:GLU:N	2.66	0.46
39:BF:3:LEU:HB2	39:BF:96:TRP:HB3	1.98	0.46
39:BF:39:VAL:CG1	39:BF:42:ALA:HB2	2.41	0.46
39:BF:127:TYR:HE2	39:BF:129:MET:CB	2.21	0.46
41:BH:23:LEU:HD21	41:BH:96:PHE:CG	2.50	0.46
45:BO:64:ARG:NH1	45:BO:101:GLY:C	2.73	0.46
46:BP:21:ARG:HD3	46:BP:21:ARG:HA	1.74	0.46
47:BQ:57:VAL:HA	47:BQ:112:LEU:HD21	1.97	0.46
50:BT:37:LYS:O	50:BT:37:LYS:HG2	2.14	0.46
53:BW:24:ILE:HD11	53:BW:35:ILE:HB	1.97	0.46
55:BY:40:LEU:HD23	55:BY:61:GLU:HA	1.98	0.46
1:AA:265:G:H2'	1:AA:266:G:H4'	1.98	0.46
1:AA:443:C:O2'	1:AA:444:G:H5'	2.16	0.46
1:AA:858:G:O2'	1:AA:859:G:H5'	2.15	0.46
1:AA:1198:G:H2'	1:AA:1199:U:O4'	2.15	0.46
1:AA:1210:C:C2'	1:AA:1211:U:H5'	2.46	0.46
1:AA:1333:A:C8	1:AA:1334:G:C8	3.03	0.46
2:AB:117:GLU:HG3	2:AB:118:THR:N	2.30	0.46
3:AC:123:LEU:HD13	3:AC:195:ILE:HG21	1.97	0.46
4:AD:13:ARG:CG	4:AD:55:ARG:HH21	2.28	0.46
4:AD:84:ASN:O	4:AD:87:GLU:HG2	2.15	0.46
7:AG:68:VAL:O	7:AG:68:VAL:HG12	2.16	0.46
15:AO:86:LEU:C	15:AO:88:ARG:N	2.73	0.46
16:AP:30:GLY:O	16:AP:31:ARG:C	2.59	0.46
23:AW:30:THR:HG23	23:AW:86:LEU:HD21	1.97	0.46
23:AW:306:ASN:HD21	23:AW:313:ASP:HB2	1.80	0.46
27:B2:33:ALA:CB	54:BX:14:PRO:HD2	2.46	0.46
27:B2:41:HIS:CD2	34:BA:95:A:O2'	2.69	0.46
31:B6:35:ARG:HG2	31:B6:42:LEU:HD11	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:221:A:C8	34:BA:266:G:C6	3.03	0.46
34:BA:279:A:N6	34:BA:361:G:H1'	2.31	0.46
34:BA:634:C:C2	34:BA:635:C:C5	3.04	0.46
34:BA:1019:U:H3	34:BA:1142:A:H62	1.61	0.46
34:BA:1060:U:O4'	34:BA:1062:G:H5'	2.16	0.46
34:BA:1084:A:N6	41:BH:37:LYS:NZ	2.62	0.46
34:BA:1304:A:H2'	34:BA:1305:C:H6	1.80	0.46
34:BA:1477:A:C2'	34:BA:1478:G:H5'	2.46	0.46
34:BA:1745:A:O2'	34:BA:1746:A:H5'	2.16	0.46
34:BA:2137:U:O4	34:BA:2154:A:C6	2.69	0.46
34:BA:2425:A:H4'	34:BA:2426:A:C5'	2.45	0.46
36:BC:61:TYR:CE1	36:BC:62:ARG:O	2.69	0.46
37:BD:133:THR:HG23	37:BD:134:HIS:H	1.81	0.46
39:BF:56:LEU:HA	39:BF:56:LEU:HD23	1.65	0.46
41:BH:52:MET:SD	41:BH:87:GLU:HG2	2.56	0.46
41:BH:154:THR:O	41:BH:155:LEU:HD23	2.16	0.46
43:BJ:4:LYS:NZ	43:BK:21:GLU:OE2	2.42	0.46
44:BN:123:LYS:HD2	44:BN:123:LYS:H	1.80	0.46
46:BP:29:LYS:C	46:BP:31:GLY:N	2.65	0.46
54:BX:39:THR:HB	54:BX:42:GLU:HB3	1.96	0.46
1:AA:441:A:H1'	1:AA:497:G:N2	2.31	0.46
1:AA:542:G:OP1	4:AD:9:LYS:HE2	2.15	0.46
1:AA:1176:A:H2'	1:AA:1177:G:O4'	2.16	0.46
1:AA:1256:A:C5	1:AA:1278:G:N3	2.83	0.46
4:AD:32:LYS:O	4:AD:33:ILE:C	2.59	0.46
4:AD:190:LEU:O	4:AD:191:SER:HB2	2.16	0.46
6:AF:88:MET:CG	6:AF:90:MET:HE2	2.43	0.46
8:AH:1:SER:OG	8:AH:2:MET:N	2.44	0.46
8:AH:88:LYS:HG3	8:AH:89:ASP:H	1.79	0.46
12:AL:23:LEU:CG	12:AL:24:GLU:N	2.73	0.46
13:AM:59:VAL:HG22	13:AM:59:VAL:O	2.16	0.46
14:AN:22:LYS:HG3	14:AN:23:ARG:N	2.31	0.46
17:AQ:20:ILE:HG23	17:AQ:20:ILE:O	2.15	0.46
25:B0:20:LEU:HD11	25:B0:35:ILE:HB	1.97	0.46
27:B2:37:LEU:HD21	27:B2:39:GLN:O	2.16	0.46
29:B4:2:VAL:HG23	34:BA:2015:A:C6	2.51	0.46
34:BA:154:U:H2'	34:BA:155:A:C8	2.50	0.46
34:BA:748:G:OP2	53:BW:88:ARG:HG3	2.16	0.46
34:BA:1290:C:H2'	34:BA:1291:C:H6	1.81	0.46
34:BA:1475:G:H1'	34:BA:1476:U:OP2	2.15	0.46
34:BA:1551:A:H2'	34:BA:1552:A:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1874:C:H2'	34:BA:1875:G:O4'	2.15	0.46
34:BA:1921:G:O2'	34:BA:1922:G:H5'	2.16	0.46
34:BA:2286:G:C5'	34:BA:2287:A:O4'	2.64	0.46
35:BB:39:A:H2'	35:BB:40:U:C6	2.50	0.46
37:BD:120:GLY:O	37:BD:121:THR:C	2.58	0.46
42:BI:6:ALA:HB3	42:BI:60:VAL:H	1.80	0.46
43:BL:22:LEU:O	43:BL:26:MET:HG3	2.15	0.46
45:BO:72:PRO:C	45:BO:74:GLY:H	2.23	0.46
48:BR:37:THR:OG1	48:BR:40:LYS:HG3	2.16	0.46
48:BR:96:ARG:NH1	48:BR:116:VAL:HG23	2.30	0.46
55:BY:24:VAL:O	55:BY:24:VAL:HG12	2.14	0.46
1:AA:409:U:OP1	4:AD:23:GLY:HA3	2.16	0.46
1:AA:620:C:N3	4:AD:131:ILE:HG21	2.31	0.46
1:AA:976:G:C8	1:AA:1358:U:O2	2.69	0.46
1:AA:1220:G:C5	1:AA:1221:G:N7	2.84	0.46
1:AA:1434:A:N6	1:AA:1435:G:C6	2.84	0.46
1:AA:1468:A:C3'	1:AA:1469:C:H5"	2.46	0.46
5:AE:12:GLU:OE1	5:AE:67:ARG:NH1	2.49	0.46
6:AF:52:ASN:O	6:AF:53:LYS:CB	2.64	0.46
9:AI:117:LEU:HD22	9:AI:123:ARG:HA	1.98	0.46
14:AN:76:PHE:HE2	14:AN:95:LEU:HD22	1.81	0.46
15:AO:78:THR:HA	15:AO:81:ILE:CD1	2.44	0.46
16:AP:24:SER:O	16:AP:26:ASN:N	2.49	0.46
17:AQ:54:ILE:HG12	17:AQ:55:GLY:N	2.31	0.46
17:AQ:59:GLU:O	17:AQ:60:ILE:HD13	2.15	0.46
25:B0:39:GLN:HG3	25:B0:42:THR:N	2.30	0.46
28:B3:43:ILE:C	28:B3:43:ILE:HD12	2.41	0.46
31:B6:12:ARG:HD2	34:BA:686:U:O4	2.16	0.46
34:BA:781:A:C2'	34:BA:782:A:OP2	2.63	0.46
34:BA:1129:A:C2	34:BA:2569:G:N3	2.84	0.46
34:BA:1519:G:C6	34:BA:1520:U:C4	3.04	0.46
34:BA:1541:C:H2'	34:BA:1542:U:H6	1.81	0.46
34:BA:1600:C:O2'	34:BA:1601:G:H5'	2.16	0.46
34:BA:1682:G:H2'	34:BA:1683:U:H6	1.80	0.46
34:BA:1705:A:C5	34:BA:1706:C:N4	2.84	0.46
34:BA:1799:G:H22	34:BA:1818:U:C2'	2.29	0.46
34:BA:1894:C:H2'	34:BA:1895:C:C6	2.50	0.46
35:BB:15:A:H1'	35:BB:109:A:N7	2.27	0.46
36:BC:30:ALA:N	36:BC:31:PRO:HD2	2.31	0.46
36:BC:41:GLY:HA3	36:BC:53:ILE:HB	1.98	0.46
36:BC:109:LEU:HD23	36:BC:110:LYS:N	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BC:245:THR:HB	36:BC:246:PRO:CD	2.43	0.46
37:BD:52:THR:HG22	37:BD:80:TRP:CZ3	2.51	0.46
38:BE:117:ARG:NH2	38:BE:183:PHE:O	2.48	0.46
38:BE:119:ILE:HD13	38:BE:119:ILE:H	1.79	0.46
38:BE:171:ASP:OD1	38:BE:174:GLY:N	2.49	0.46
39:BF:89:THR:C	39:BF:90:LEU:HD22	2.40	0.46
41:BH:64:VAL:C	41:BH:66:GLY:N	2.74	0.46
42:BI:8:VAL:H	42:BI:58:ILE:HG12	1.81	0.46
42:BI:57:VAL:O	42:BI:58:ILE:HD13	2.16	0.46
42:BI:123:ALA:HA	42:BI:126:ARG:NH2	2.31	0.46
43:BJ:2:ILE:HA	43:BJ:4:LYS:CE	2.46	0.46
43:BK:3:THR:O	43:BK:7:ILE:HG12	2.15	0.46
45:BO:77:ILE:HD11	45:BO:105:ARG:NH1	2.29	0.46
47:BQ:41:LEU:O	47:BQ:93:VAL:HG23	2.14	0.46
50:BT:4:ILE:HA	50:BT:7:LEU:HB2	1.98	0.46
50:BT:33:GLU:OE1	50:BT:33:GLU:C	2.59	0.46
51:BU:31:TYR:O	51:BU:32:ARG:C	2.58	0.46
51:BU:77:LYS:O	51:BU:78:PHE:C	2.59	0.46
56:BZ:38:LEU:HD12	56:BZ:38:LEU:HA	1.77	0.46
1:AA:75:G:H1	1:AA:95:C:H42	1.63	0.46
1:AA:273:U:OP2	1:AA:273:U:H6	1.99	0.46
1:AA:522:C:H1’	1:AA:536:C:H5”	1.98	0.46
1:AA:666:G:H5’	1:AA:726:C:H1’	1.97	0.46
1:AA:826:C:C5’	8:AH:12:ARG:HH21	2.24	0.46
1:AA:1052:U:H5’	1:AA:1053:G:OP2	2.16	0.46
1:AA:1300:G:O2’	1:AA:1301:U:O5’	2.34	0.46
1:AA:1426:G:H2’	1:AA:1427:C:O4’	2.16	0.46
2:AB:9:LEU:HD23	2:AB:9:LEU:C	2.41	0.46
2:AB:157:PRO:C	2:AB:159:ALA:H	2.24	0.46
11:AK:63:GLN:HG3	11:AK:98:ALA:HB2	1.98	0.46
12:AL:78:VAL:H	12:AL:102:ASP:HB2	1.80	0.46
21:AU:16:ARG:NH1	21:AU:19:LYS:HG2	2.31	0.46
23:AW:169:ILE:HG22	23:AW:170:THR:HG23	1.98	0.46
25:B0:13:ARG:O	25:B0:14:ASP:C	2.59	0.46
30:B5:11:VAL:HA	30:B5:19:PHE:HB3	1.98	0.46
34:BA:178:G:C2’	34:BA:179:C:H5’	2.46	0.46
34:BA:271:G:C4’	34:BA:272:A:OP1	2.40	0.46
34:BA:451:U:C2	34:BA:453:A:N7	2.84	0.46
34:BA:525:U:O2’	34:BA:526:A:H5’	2.16	0.46
34:BA:914:G:H5’	34:BA:915:C:OP2	2.16	0.46
34:BA:1001:A:H2’	34:BA:1002:G:O4’	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1212:G:C2'	34:BA:1213:A:OP2	2.64	0.46
34:BA:1818:U:C6	36:BC:155:ARG:NH1	2.84	0.46
34:BA:1847:A:N3	34:BA:1847:A:H5"	2.31	0.46
34:BA:2346:A:H3'	34:BA:2347:C:H5"	1.98	0.46
39:BF:45:ASP:C	39:BF:47:LYS:H	2.23	0.46
40:BG:33:THR:HA	40:BG:34:ARG:NH1	2.31	0.46
41:BH:67:THR:C	41:BH:69:PHE:N	2.74	0.46
41:BH:96:PHE:HB3	41:BH:125:ARG:HH22	1.80	0.46
41:BH:123:ILE:O	41:BH:124:ASP:CG	2.59	0.46
43:BJ:11:VAL:C	43:BJ:13:ALA:N	2.73	0.46
43:BM:21:GLU:O	43:BM:25:ALA:HB2	2.15	0.46
43:BM:29:LYS:O	43:BM:30:PHE:HB2	2.16	0.46
44:BN:47:HIS:ND1	44:BN:48:VAL:HG23	2.31	0.46
45:BO:107:LEU:HD23	45:BO:115:ILE:HG21	1.97	0.46
48:BR:108:ALA:O	48:BR:110:MET:HG2	2.16	0.46
50:BT:96:LEU:C	50:BT:98:TYR:N	2.73	0.46
52:BV:14:VAL:HG23	52:BV:18:GLN:OE1	2.16	0.46
55:BY:48:VAL:H	55:BY:53:GLN:HA	1.80	0.46
1:AA:688:G:C6	1:AA:700:G:C2	3.04	0.46
1:AA:992:U:N3	1:AA:1043:G:N7	2.64	0.46
2:AB:49:PHE:HB2	2:AB:212:TYR:OH	2.15	0.46
5:AE:104:ILE:H	5:AE:121:ASN:CA	2.28	0.46
9:AI:49:GLN:C	9:AI:51:LEU:N	2.73	0.46
10:AJ:6:ILE:CD1	10:AJ:79:PRO:HB3	2.44	0.46
10:AJ:71:LEU:O	10:AJ:72:ARG:HD3	2.16	0.46
12:AL:23:LEU:HD23	12:AL:58:ASN:CB	2.46	0.46
12:AL:109:ARG:CG	12:AL:109:ARG:NH1	2.76	0.46
14:AN:53:ASP:HA	14:AN:58:ARG:HH11	1.80	0.46
19:AS:40:PHE:C	19:AS:42:ASN:H	2.23	0.46
23:AW:94:ASP:HB3	23:AW:442:GLY:HA3	1.98	0.46
26:B1:54:GLY:O	26:B1:58:ILE:HG12	2.16	0.46
27:B2:25:GLN:O	27:B2:26:PHE:C	2.57	0.46
33:B8:37:GLN:HG3	34:BA:1125:G:H5'	1.97	0.46
34:BA:45:G:C5'	34:BA:46:G:H5'	2.31	0.46
34:BA:747:U:C5	34:BA:2613:U:C5	3.04	0.46
34:BA:819:A:C4	34:BA:1189:A:C2	3.04	0.46
34:BA:884:U:H2'	34:BA:885:C:O5'	2.16	0.46
34:BA:1131:G:O6	34:BA:2024:G:O2'	2.31	0.46
34:BA:2104:C:H41	34:BA:2184:A:H61	1.60	0.46
34:BA:2223:G:H2'	34:BA:2224:G:H5'	1.98	0.46
34:BA:2511:U:O4	34:BA:2575:C:N3	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:2623:G:H4'	34:BA:2825:G:C8	2.51	0.46
34:BA:2703:C:C2	34:BA:2704:C:C5	3.04	0.46
34:BA:2715:C:O5'	34:BA:2715:C:H6	1.99	0.46
36:BC:100:ARG:HH11	36:BC:100:ARG:CG	2.27	0.46
36:BC:104:LEU:HD12	36:BC:104:LEU:HA	1.56	0.46
42:BI:135:MET:HG2	42:BI:137:LEU:HG	1.97	0.46
43:BM:14:MET:HG3	43:BM:16:VAL:HB	1.97	0.46
45:BO:51:LYS:HE2	45:BO:95:ILE:HG13	1.98	0.46
49:BS:106:LEU:HD12	49:BS:106:LEU:C	2.41	0.46
52:BV:20:VAL:HG22	52:BV:98:ILE:HD11	1.98	0.46
52:BV:52:PRO:O	52:BV:53:PHE:HB2	2.15	0.46
53:BW:66:ILE:HG13	53:BW:67:ASP:N	2.31	0.46
54:BX:61:LEU:C	54:BX:61:LEU:HD12	2.41	0.46
55:BY:65:GLN:O	55:BY:68:ASN:N	2.46	0.46
1:AA:154:U:O2'	1:AA:155:A:H5'	2.16	0.45
1:AA:591:U:H2'	1:AA:592:G:C8	2.51	0.45
1:AA:597:G:C2'	1:AA:598:U:H5'	2.47	0.45
1:AA:1157:A:C6	1:AA:1180:A:C6	3.04	0.45
1:AA:1199:U:H4'	10:AJ:56:HIS:ND1	2.30	0.45
1:AA:1221:G:H5"	19:AS:35:ARG:NH1	2.31	0.45
1:AA:1405:G:O4'	1:AA:1519:A:H4'	2.16	0.45
2:AB:110:ILE:HD11	2:AB:147:LEU:HD22	1.98	0.45
2:AB:156:LEU:H	2:AB:156:LEU:CD2	2.28	0.45
3:AC:139:ASN:CA	3:AC:142:ARG:HB2	2.33	0.45
4:AD:29:THR:C	4:AD:30:LYS:HE2	2.41	0.45
5:AE:85:LYS:HG3	5:AE:93:VAL:O	2.16	0.45
6:AF:47:LEU:HG	6:AF:56:LYS:N	2.31	0.45
8:AH:40:LYS:O	8:AH:42:GLU:N	2.48	0.45
9:AI:6:TYR:CD1	9:AI:7:GLY:N	2.84	0.45
10:AJ:48:ARG:NH2	14:AN:100:TRP:CE2	2.84	0.45
15:AO:18:ALA:O	15:AO:19:ASN:HB2	2.16	0.45
23:AW:310:LYS:HE2	23:AW:310:LYS:HB3	1.67	0.45
27:B2:30:MET:HE3	27:B2:30:MET:HB3	1.84	0.45
28:B3:48:ASN:O	28:B3:50:VAL:N	2.48	0.45
34:BA:216:A:C8	34:BA:432:A:C6	3.04	0.45
34:BA:460:A:H2'	34:BA:461:C:O4'	2.16	0.45
34:BA:528:A:H3'	44:BN:116:ARG:HH22	1.81	0.45
34:BA:918:A:H5"	35:BB:97:C:O2'	2.16	0.45
34:BA:1019:U:C2	34:BA:1142:A:N6	2.84	0.45
34:BA:1961:C:C5	34:BA:1962:C:C4	3.04	0.45
34:BA:2682:A:O2'	34:BA:2683:C:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BC:69:ASN:O	36:BC:70:LYS:C	2.56	0.45
47:BQ:97:GLN:N	47:BQ:97:GLN:OE1	2.48	0.45
52:BV:38:VAL:HG22	52:BV:54:VAL:HG22	1.97	0.45
53:BW:20:VAL:HG11	53:BW:47:VAL:HG11	1.98	0.45
1:AA:32:A:OP2	1:AA:398:U:H1'	2.16	0.45
1:AA:141:G:H4'	1:AA:141:G:OP1	2.16	0.45
1:AA:423:G:N2	1:AA:424:G:C8	2.85	0.45
1:AA:496:A:H2'	1:AA:497:G:N7	2.31	0.45
1:AA:621:A:N6	1:AA:622:A:C6	2.84	0.45
1:AA:751:U:O4	1:AA:752:G:C2	2.69	0.45
1:AA:981:U:C5	1:AA:982:U:H2'	2.51	0.45
1:AA:1084:G:C5	1:AA:1085:U:O4	2.68	0.45
1:AA:1203:C:H2'	1:AA:1204:A:O4'	2.16	0.45
1:AA:1357:A:C8	1:AA:1358:U:C5	3.05	0.45
1:AA:1422:G:C4	1:AA:1423:G:C8	3.04	0.45
2:AB:130:LYS:HA	2:AB:130:LYS:NZ	2.31	0.45
4:AD:114:ARG:C	4:AD:116:LEU:N	2.74	0.45
9:AI:60:LEU:HD23	9:AI:60:LEU:H	1.80	0.45
9:AI:93:LEU:C	9:AI:95:SER:N	2.74	0.45
15:AO:77:TYR:OH	15:AO:87:ARG:HG2	2.17	0.45
18:AR:39:VAL:CG1	18:AR:40:PRO:HD2	2.46	0.45
27:B2:47:ARG:HH21	27:B2:47:ARG:HG3	1.80	0.45
34:BA:179:C:H2'	34:BA:180:G:O4'	2.16	0.45
34:BA:1506:U:H2'	34:BA:1507:C:C6	2.51	0.45
34:BA:1906:G:H5'	34:BA:1929:G:O2'	2.17	0.45
34:BA:2223:G:C2'	34:BA:2224:G:H5'	2.46	0.45
34:BA:2401:U:O5'	34:BA:2401:U:H6	2.00	0.45
34:BA:2807:U:H2'	34:BA:2808:G:H5'	1.95	0.45
34:BA:2821:A:P	37:BD:115:GLY:H	2.39	0.45
36:BC:76:VAL:O	36:BC:77:VAL:C	2.57	0.45
36:BC:180:MET:CB	36:BC:267:VAL:HB	2.46	0.45
37:BD:71:ALA:O	37:BD:72:GLY:C	2.59	0.45
37:BD:190:LYS:O	37:BD:191:GLY:O	2.35	0.45
40:BG:9:VAL:HA	40:BG:48:THR:HG22	1.98	0.45
41:BH:1:MET:HE3	41:BH:6:GLN:NE2	2.30	0.45
41:BH:52:MET:SD	41:BH:87:GLU:HA	2.56	0.45
41:BH:142:THR:O	41:BH:145:GLU:HG3	2.16	0.45
42:BI:107:GLU:HA	42:BI:110:GLN:HB3	1.98	0.45
55:BY:6:ARG:HD2	55:BY:6:ARG:HA	1.86	0.45
1:AA:49:U:C5	1:AA:365:U:O4	2.69	0.45
1:AA:193:C:O2'	1:AA:194:C:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:396:C:H2'	1:AA:397:A:H5"	1.98	0.45
1:AA:411:A:N1	1:AA:413:G:O2'	2.47	0.45
1:AA:660:C:H2'	1:AA:661:G:H8	1.80	0.45
1:AA:822:U:H2'	1:AA:823:C:H6	1.81	0.45
1:AA:948:C:H2'	1:AA:949:A:H8	1.81	0.45
1:AA:1253:G:C2	1:AA:1254:A:C4	3.05	0.45
4:AD:27:ILE:O	4:AD:28:ASP:C	2.58	0.45
4:AD:143:SER:HB3	4:AD:178:GLU:HB2	1.99	0.45
5:AE:44:ARG:HA	5:AE:71:ILE:O	2.17	0.45
7:AG:94:ARG:O	7:AG:98:LEU:HG	2.16	0.45
7:AG:115:MET:HE3	7:AG:115:MET:O	2.16	0.45
9:AI:23:GLY:N	9:AI:61:ASP:H	2.05	0.45
12:AL:79:ILE:HG22	12:AL:103:CYS:HB2	1.99	0.45
21:AU:48:LYS:HA	21:AU:51:ALA:HB3	1.97	0.45
23:AW:64:LYS:HE2	23:AW:71:THR:N	2.30	0.45
25:B0:9:THR:OG1	25:B0:10:ARG:N	2.44	0.45
25:B0:14:ASP:OD2	25:B0:16:GLU:OE1	2.33	0.45
26:B1:17:ARG:NH1	34:BA:201:C:OP1	2.50	0.45
34:BA:301:G:O2'	34:BA:302:C:OP2	2.31	0.45
34:BA:1010:A:H1'	34:BA:1153:C:C1'	2.47	0.45
34:BA:1068:G:H2'	34:BA:1068:G:N3	2.31	0.45
34:BA:2243:U:H2'	34:BA:2244:U:H6	1.81	0.45
34:BA:2472:G:H2'	34:BA:2475:C:H42	1.81	0.45
34:BA:2637:U:H5"	37:BD:83:ARG:NH2	2.31	0.45
35:BB:45:A:H2'	35:BB:46:A:H8	1.79	0.45
37:BD:22:ILE:HA	37:BD:23:PRO:HD3	1.79	0.45
37:BD:174:SER:O	37:BD:175:LEU:CB	2.58	0.45
39:BF:14:LYS:C	39:BF:14:LYS:HD3	2.42	0.45
40:BG:149:ALA:C	40:BG:151:ARG:N	2.74	0.45
42:BI:32:VAL:HG22	42:BI:66:PHE:CD2	2.51	0.45
43:BJ:14:MET:HB2	43:BM:12:ALA:CB	2.46	0.45
45:BO:2:ILE:HD12	45:BO:8:LEU:HD13	1.99	0.45
51:BU:64:ILE:CD1	51:BU:95:ALA:HB3	2.46	0.45
52:BV:10:LYS:NZ	52:BV:23:GLU:OE1	2.49	0.45
54:BX:1:MET:C	54:BX:2:ILE:HG13	2.41	0.45
1:AA:62:U:OP1	1:AA:385:C:O2'	2.30	0.45
1:AA:364:A:H8	1:AA:364:A:O5'	1.98	0.45
1:AA:554:A:C5'	12:AL:25:ALA:HB1	2.43	0.45
1:AA:607:A:C4	1:AA:608:A:C8	3.05	0.45
1:AA:1314:C:N4	19:AS:3:SER:O	2.42	0.45
2:AB:86:CYS:SG	2:AB:221:ARG:HB2	2.56	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:116:LEU:HD12	2:AB:140:LEU:HD11	1.98	0.45
3:AC:76:ILE:HD12	3:AC:76:ILE:N	2.31	0.45
8:AH:74:ILE:HD13	8:AH:128:VAL:CG2	2.25	0.45
11:AK:60:PHE:CE2	11:AK:64:VAL:HG11	2.52	0.45
12:AL:81:ILE:CG1	12:AL:94:TYR:HB3	2.46	0.45
12:AL:115:LYS:C	12:AL:117:GLY:N	2.75	0.45
19:AS:13:HIS:O	19:AS:17:LYS:HG3	2.17	0.45
23:AW:522:GLN:OE1	23:AW:524:HIS:ND1	2.48	0.45
25:B0:58:LEU:N	25:B0:58:LEU:CD1	2.78	0.45
25:B0:63:ASP:OD1	25:B0:63:ASP:N	2.49	0.45
26:B1:32:LEU:HD23	26:B1:49:ARG:HE	1.80	0.45
30:B5:7:LYS:HE3	32:B7:33:THR:CG2	2.37	0.45
30:B5:7:LYS:NZ	34:BA:2420:C:H5"	2.31	0.45
34:BA:847:U:O2	34:BA:934:U:H1'	2.16	0.45
34:BA:869:G:H2'	34:BA:870:U:O4'	2.16	0.45
34:BA:878:A:C6	34:BA:879:G:H1'	2.52	0.45
34:BA:993:G:C6	34:BA:994:C:N4	2.85	0.45
34:BA:1653:G:H3'	48:BR:2:ARG:HG3	1.98	0.45
34:BA:1789:A:H2'	34:BA:1790:C:O4'	2.16	0.45
34:BA:1872:A:H2'	34:BA:1873:G:O4'	2.16	0.45
34:BA:2263:C:H4'	34:BA:2329:U:H4'	1.98	0.45
34:BA:2347:C:H4'	34:BA:2347:C:OP1	2.15	0.45
35:BB:24:G:O2'	35:BB:27:C:N4	2.49	0.45
37:BD:47:ALA:CB	37:BD:83:ARG:HA	2.46	0.45
43:BM:10:ALA:O	43:BM:12:ALA:N	2.50	0.45
46:BP:79:LEU:O	46:BP:81:ASP:O	2.35	0.45
50:BT:24:THR:O	50:BT:24:THR:CG2	2.64	0.45
50:BT:25:VAL:HA	50:BT:85:VAL:HA	1.99	0.45
50:BT:58:PHE:N	50:BT:58:PHE:CD2	2.84	0.45
1:AA:682:G:O2'	1:AA:683:G:H5'	2.16	0.45
1:AA:775:G:C2'	1:AA:776:G:H5'	2.47	0.45
1:AA:981:U:OP1	14:AN:5:MET:HE1	2.17	0.45
1:AA:1159:U:H4'	1:AA:1160:G:OP1	2.16	0.45
1:AA:1181:G:C6	1:AA:1182:G:N2	2.84	0.45
1:AA:1312:G:C2	1:AA:1326:U:C2	3.04	0.45
1:AA:1402:C:H3'	1:AA:1403:C:H6	1.81	0.45
3:AC:84:GLU:HA	3:AC:87:ARG:HH21	1.82	0.45
4:AD:50:TYR:O	4:AD:51:GLY:C	2.60	0.45
5:AE:89:THR:HG22	5:AE:90:GLY:H	1.82	0.45
5:AE:105:ILE:HG12	5:AE:122:VAL:O	2.16	0.45
7:AG:41:ILE:O	7:AG:41:ILE:HG22	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AK:93:GLU:O	11:AK:96:ILE:HG12	2.16	0.45
12:AL:43:LYS:N	12:AL:44:PRO:CD	2.79	0.45
14:AN:32:ASP:O	14:AN:34:ASN:N	2.50	0.45
14:AN:44:VAL:C	14:AN:46:LYS:H	2.25	0.45
15:AO:26:VAL:HG12	15:AO:30:LEU:CD1	2.46	0.45
16:AP:50:THR:HG22	16:AP:51:ARG:N	2.30	0.45
16:AP:72:ALA:C	16:AP:74:LEU:H	2.24	0.45
23:AW:74:VAL:CG1	23:AW:317:PHE:HE2	2.30	0.45
23:AW:314:ARG:NH1	23:AW:418:GLN:O	2.50	0.45
23:AW:430:PRO:HD2	23:AW:435:ASP:O	2.17	0.45
28:B3:44:ARG:HA	28:B3:47:ILE:HG12	1.98	0.45
34:BA:27:G:H1'	34:BA:513:A:H62	1.82	0.45
34:BA:80:G:C6	34:BA:81:G:C5	3.05	0.45
34:BA:708:G:O2'	34:BA:709:U:H5'	2.16	0.45
34:BA:986:C:H2'	34:BA:987:C:H6	1.82	0.45
34:BA:1183:U:H2'	34:BA:1184:U:C6	2.52	0.45
34:BA:1275:A:H4'	34:BA:1276:A:OP1	2.16	0.45
34:BA:1388:G:O2'	34:BA:1389:G:H5'	2.17	0.45
34:BA:1654:A:H4'	37:BD:118:PHE:CZ	2.51	0.45
34:BA:1695:G:H8	36:BC:7:PRO:O	1.99	0.45
34:BA:1708:C:H2'	34:BA:1709:U:C6	2.51	0.45
34:BA:1715:G:C2'	34:BA:1716:U:OP2	2.64	0.45
34:BA:2452:C:C4	34:BA:2453:A:C6	3.04	0.45
34:BA:2599:G:N7	36:BC:234:GLY:HA2	2.32	0.45
34:BA:2850:A:N7	34:BA:2868:A:O2'	2.48	0.45
36:BC:115:ILE:HD12	36:BC:115:ILE:HA	1.80	0.45
37:BD:60:VAL:O	37:BD:60:VAL:HG13	2.16	0.45
38:BE:145:ASP:CG	38:BE:184:ASP:H	2.25	0.45
38:BE:147:LEU:HD23	38:BE:183:PHE:CE1	2.51	0.45
39:BF:100:GLU:C	39:BF:102:LEU:N	2.75	0.45
39:BF:107:VAL:HG12	39:BF:113:PHE:CZ	2.52	0.45
40:BG:8:VAL:HG11	40:BG:49:LEU:CB	2.42	0.45
40:BG:137:LYS:O	40:BG:140:ILE:HG13	2.17	0.45
41:BH:17:GLU:HG2	41:BH:88:HIS:NE2	2.31	0.45
41:BH:51:TYR:CD1	41:BH:52:MET:HG2	2.51	0.45
44:BN:55:ILE:HD11	44:BN:130:HIS:CB	2.47	0.45
44:BN:55:ILE:CD1	44:BN:130:HIS:CG	2.99	0.45
45:BO:34:GLY:O	45:BO:35:VAL:C	2.60	0.45
56:BZ:30:ILE:HG12	56:BZ:91:PHE:HB2	1.98	0.45
1:AA:155:A:C5	1:AA:156:C:C5	3.05	0.45
1:AA:174:A:C5	1:AA:175:C:C5	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:198:G:H2'	1:AA:199:A:C8	2.50	0.45
1:AA:211:G:C6	1:AA:212:G:H1'	2.52	0.45
1:AA:230:G:H4'	16:AP:25:ARG:NH2	2.31	0.45
1:AA:307:C:O5'	1:AA:307:C:H6	1.99	0.45
1:AA:435:A:H2'	1:AA:435:A:N3	2.32	0.45
1:AA:484:G:C5	1:AA:486:U:H1'	2.52	0.45
1:AA:503:C:OP2	12:AL:112:ALA:HB2	2.16	0.45
1:AA:628:G:H2'	1:AA:629:A:H8	1.81	0.45
2:AB:131:LYS:C	2:AB:133:ALA:H	2.25	0.45
3:AC:148:ILE:HD13	3:AC:148:ILE:C	2.41	0.45
4:AD:21:LYS:O	4:AD:22:SER:C	2.60	0.45
4:AD:56:GLU:CD	4:AD:195:ASN:H	2.25	0.45
6:AF:3:HIS:CD2	6:AF:94:HIS:HA	2.51	0.45
7:AG:137:ARG:HG3	7:AG:141:HIS:CE1	2.51	0.45
7:AG:145:GLU:HA	7:AG:148:LYS:HB2	1.99	0.45
8:AH:38:VAL:O	8:AH:39:LEU:C	2.59	0.45
10:AJ:53:ILE:HG22	10:AJ:62:ARG:H	1.82	0.45
12:AL:6:LEU:HB3	17:AQ:33:TYR:CE1	2.52	0.45
13:AM:40:GLU:HG3	13:AM:41:ASP:H	1.82	0.45
16:AP:4:ILE:N	16:AP:4:ILE:HD12	2.32	0.45
28:B3:4:ILE:HD11	28:B3:56:VAL:HG23	1.98	0.45
34:BA:55:G:N2	34:BA:116:C:C2	2.84	0.45
34:BA:135:U:H3	34:BA:144:A:N6	2.06	0.45
34:BA:324:A:H2'	34:BA:325:G:O4'	2.17	0.45
34:BA:417:C:N3	34:BA:418:C:C5	2.84	0.45
34:BA:1082:U:O3'	41:BH:41:LEU:HD13	2.16	0.45
34:BA:1205:A:C2	38:BE:165:HIS:HB2	2.51	0.45
34:BA:1644:C:O2	34:BA:1644:C:H2'	2.17	0.45
34:BA:2197:U:C5	34:BA:2224:G:C6	3.04	0.45
36:BC:73:ILE:HA	36:BC:74:PRO:HD3	1.62	0.45
36:BC:203:VAL:O	36:BC:204:LEU:CB	2.63	0.45
37:BD:16:THR:HG1	37:BD:18:ASP:CG	2.22	0.45
37:BD:41:ALA:C	37:BD:43:ASP:N	2.73	0.45
37:BD:98:VAL:O	37:BD:100:LEU:N	2.50	0.45
41:BH:96:PHE:CA	41:BH:125:ARG:HH22	2.30	0.45
41:BH:144:LYS:HB2	41:BH:148:ALA:CB	2.47	0.45
43:BK:2:ILE:O	43:BK:6:GLN:HG3	2.16	0.45
44:BN:23:LYS:O	44:BN:63:ALA:HB3	2.16	0.45
44:BN:124:VAL:HG23	44:BN:125:TYR:H	1.80	0.45
45:BO:38:ILE:HD12	45:BO:38:ILE:N	2.32	0.45
46:BP:128:THR:O	46:BP:129:LYS:C	2.60	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BR:108:ALA:HA	48:BR:109:PRO:HD2	1.83	0.45
52:BV:87:GLN:HE21	52:BV:87:GLN:HB3	1.55	0.45
1:AA:129:A:O2'	1:AA:130:A:C8	2.70	0.45
1:AA:273:U:H2'	1:AA:274:A:H5'	1.97	0.45
1:AA:489:C:O2'	1:AA:490:C:H5'	2.16	0.45
1:AA:523:A:H61	12:AL:88:ASP:HB2	1.82	0.45
1:AA:541:G:H2'	1:AA:542:G:H8	1.81	0.45
1:AA:656:G:O2'	15:AO:27:GLN:OE1	2.35	0.45
1:AA:858:G:C6	1:AA:869:G:C8	3.05	0.45
1:AA:886:G:H2'	1:AA:887:G:O4'	2.17	0.45
1:AA:988:G:C6	1:AA:989:U:C4	3.05	0.45
1:AA:1081:A:OP2	5:AE:51:LYS:HE3	2.16	0.45
1:AA:1125:U:O2	1:AA:1125:U:H2'	2.16	0.45
1:AA:1261:A:N7	1:AA:1262:C:C2	2.85	0.45
1:AA:1385:G:H2'	1:AA:1386:G:O4'	2.16	0.45
2:AB:67:LEU:HD21	2:AB:91:VAL:CG2	2.47	0.45
4:AD:167:PRO:CG	4:AD:170:LEU:HD11	2.44	0.45
4:AD:191:SER:OG	4:AD:192:ALA:N	2.48	0.45
5:AE:46:GLY:HA3	5:AE:70:MET:HG2	1.99	0.45
8:AH:2:MET:HE2	8:AH:2:MET:HB3	1.87	0.45
12:AL:7:VAL:O	12:AL:8:ARG:O	2.35	0.45
12:AL:66:ILE:HG21	12:AL:71:HIS:CD2	2.52	0.45
19:AS:43:MET:O	19:AS:44:ILE:C	2.60	0.45
29:B4:54:ILE:O	29:B4:55:ALA:C	2.59	0.45
34:BA:704:G:C2'	34:BA:705:A:OP2	2.64	0.45
34:BA:870:U:H2'	34:BA:871:U:H5'	1.98	0.45
34:BA:877:A:C6	34:BA:899:A:N6	2.85	0.45
34:BA:1061:U:H5"	42:BI:9:LYS:HZ1	1.81	0.45
34:BA:1109:C:N4	34:BA:1110:G:H22	2.15	0.45
34:BA:1179:G:C2	34:BA:1180:U:O2'	2.69	0.45
34:BA:1278:C:H2'	34:BA:1279:G:C8	2.52	0.45
34:BA:1475:G:O2'	34:BA:1476:U:OP1	2.35	0.45
34:BA:1782:U:C4	34:BA:2587:A:C2	3.04	0.45
34:BA:1853:A:H2'	34:BA:1854:A:C8	2.51	0.45
34:BA:2013:A:OP1	53:BW:96:ILE:HA	2.15	0.45
34:BA:2014:A:H2'	34:BA:2015:A:C8	2.52	0.45
34:BA:2051:A:H5'	34:BA:2578:G:O4'	2.16	0.45
34:BA:2201:G:H2'	34:BA:2202:U:H6	1.82	0.45
35:BB:7:G:O2'	49:BS:38:GLN:NE2	2.49	0.45
35:BB:116:G:H4'	49:BS:54:VAL:O	2.17	0.45
36:BC:18:VAL:HG13	36:BC:18:VAL:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BC:170:TYR:CD2	36:BC:184:GLU:HA	2.52	0.45
38:BE:101:TYR:CZ	38:BE:105:LEU:HD11	2.50	0.45
41:BH:66:GLY:C	41:BH:68:PRO:CD	2.89	0.45
42:BI:120:ASP:OD1	42:BI:122:GLU:HB3	2.17	0.45
43:BJ:26:MET:O	43:BJ:29:LYS:HG3	2.16	0.45
43:BL:2:ILE:HB	43:BL:5:ASP:OD2	2.17	0.45
44:BN:16:TYR:HA	44:BN:138:GLN:O	2.17	0.45
44:BN:124:VAL:O	44:BN:125:TYR:CD2	2.69	0.45
46:BP:93:ASN:O	46:BP:94:THR:HB	2.15	0.45
47:BQ:41:LEU:HB3	47:BQ:46:ILE:CG2	2.46	0.45
50:BT:12:MET:HE3	50:BT:76:HIS:NE2	2.31	0.45
51:BU:17:LEU:HD12	51:BU:28:SER:O	2.17	0.45
51:BU:100:PHE:HD1	52:BV:13:ARG:NH2	2.12	0.45
1:AA:57:G:C6	1:AA:58:C:N4	2.84	0.45
1:AA:66:A:H4'	1:AA:173:U:C4	2.52	0.45
1:AA:584:G:O2'	1:AA:585:G:H5'	2.17	0.45
1:AA:678:U:O2'	1:AA:679:C:H5'	2.17	0.45
1:AA:747:A:H2'	1:AA:748:G:O4'	2.16	0.45
1:AA:913:A:H1'	1:AA:914:A:O4'	2.17	0.45
1:AA:1136:C:O2	1:AA:1136:C:H2'	2.17	0.45
1:AA:1220:G:C6	1:AA:1221:G:N7	2.84	0.45
1:AA:1358:U:O2'	1:AA:1359:C:H5'	2.17	0.45
8:AH:4:ASP:HB2	8:AH:80:PRO:HG3	1.98	0.45
10:AJ:67:ILE:HG13	14:AN:95:LEU:HD13	1.99	0.45
11:AK:20:ALA:CB	11:AK:83:VAL:HG22	2.40	0.45
16:AP:11:ALA:O	16:AP:12:LYS:C	2.58	0.45
17:AQ:7:LEU:HD21	17:AQ:24:ILE:HD13	1.99	0.45
18:AR:57:ALA:O	18:AR:60:ARG:HB2	2.17	0.45
23:AW:89:THR:HA	23:AW:90:PRO:HD2	1.59	0.45
25:B0:23:LYS:CD	34:BA:855:G:N3	2.79	0.45
26:B1:50:VAL:CG1	26:B1:51:SER:N	2.80	0.45
29:B4:27:LEU:O	29:B4:27:LEU:HD23	2.17	0.45
30:B5:29:LYS:HE3	34:BA:2286:G:H3'	1.97	0.45
34:BA:545:U:C6	34:BA:545:U:C3'	2.99	0.45
34:BA:547:A:H3'	34:BA:548:G:C5'	2.47	0.45
34:BA:874:G:C2	34:BA:904:G:C2	3.04	0.45
34:BA:1000:A:C2	34:BA:1155:A:C4	3.05	0.45
34:BA:1083:U:C6	34:BA:1085:A:OP2	2.68	0.45
34:BA:1154:G:O5'	34:BA:1154:G:H8	1.99	0.45
34:BA:1456:G:C6	34:BA:1457:U:C4	3.05	0.45
34:BA:2360:G:H4'	46:BP:61:LEU:HD11	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:2572:A:N7	37:BD:150:GLN:HB3	2.32	0.45
34:BA:2820:A:O2'	34:BA:2821:A:OP1	2.34	0.45
34:BA:2845:U:H5"	50:BT:51:ASN:O	2.17	0.45
36:BC:110:LYS:HB3	36:BC:110:LYS:HZ3	1.82	0.45
37:BD:93:GLY:O	37:BD:95:SER:N	2.49	0.45
41:BH:74:ASP:HA	41:BH:77:VAL:CB	2.47	0.45
44:BN:57:LEU:HA	44:BN:57:LEU:HD13	1.68	0.45
46:BP:78:ARG:CZ	46:BP:113:ALA:HB1	2.47	0.45
46:BP:111:ILE:HA	46:BP:128:THR:HG21	1.98	0.45
50:BT:78:PRO:C	50:BT:80:VAL:H	2.25	0.45
54:BX:67:VAL:C	54:BX:68:LYS:HD2	2.42	0.45
55:BY:15:GLY:O	55:BY:17:ASP:N	2.50	0.45
1:AA:683:G:O2'	1:AA:684:U:H5'	2.17	0.45
1:AA:1217:C:H2'	1:AA:1218:C:H6	1.81	0.45
1:AA:1352:C:H2'	1:AA:1353:G:C8	2.51	0.45
1:AA:1394:A:C5	1:AA:1501:C:H4'	2.51	0.45
3:AC:59:PRO:HG3	3:AC:64:ARG:HH21	1.80	0.45
3:AC:141:MET:O	3:AC:142:ARG:C	2.60	0.45
5:AE:155:LYS:HD2	5:AE:156:ARG:N	2.32	0.45
8:AH:8:ASP:HA	8:AH:11:THR:HG22	1.99	0.45
11:AK:17:ASP:HA	11:AK:80:ASN:O	2.17	0.45
11:AK:92:ARG:NH2	21:AU:19:LYS:HG3	2.32	0.45
13:AM:82:LEU:HA	19:AS:65:MET:HE2	1.98	0.45
14:AN:46:LYS:C	14:AN:48:GLN:H	2.25	0.45
20:AT:53:MET:O	20:AT:57:VAL:HG23	2.16	0.45
23:AW:46:VAL:O	23:AW:49:ARG:HB2	2.17	0.45
26:B1:44:ARG:HG2	26:B1:45:PHE:N	2.31	0.45
28:B3:28:LEU:HA	28:B3:33:HIS:CD2	2.51	0.45
34:BA:36:G:N3	34:BA:450:G:O2'	2.50	0.45
34:BA:158:U:H2'	34:BA:158:U:O2	2.17	0.45
34:BA:314:C:O2'	34:BA:315:G:H5'	2.17	0.45
34:BA:441:U:H2'	34:BA:442:G:C8	2.51	0.45
34:BA:495:G:C2	34:BA:496:G:H1'	2.52	0.45
34:BA:538:A:H61	34:BA:555:G:H1'	1.82	0.45
34:BA:973:A:O4'	34:BA:1188:U:C6	2.70	0.45
34:BA:1011:G:C6	34:BA:1151:A:C6	3.05	0.45
34:BA:1216:G:C5	34:BA:1217:U:C5	3.05	0.45
34:BA:1475:G:HO2'	34:BA:1476:U:P	2.34	0.45
34:BA:1558:C:H4'	34:BA:1559:U:H5"	1.99	0.45
34:BA:1859:U:H2'	34:BA:1860:G:C8	2.52	0.45
34:BA:1889:A:N3	34:BA:2086:U:O2'	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1946:U:H2'	34:BA:1947:C:H6	1.81	0.45
34:BA:2803:G:H2'	34:BA:2804:U:H6	1.82	0.45
34:BA:2824:C:C4	34:BA:2825:G:C5	3.05	0.45
35:BB:57:A:H1'	39:BF:26:GLN:HA	1.98	0.45
36:BC:10:PRO:C	36:BC:12:ARG:H	2.25	0.45
36:BC:115:ILE:HD11	36:BC:126:GLY:C	2.41	0.45
36:BC:143:VAL:HG12	36:BC:144:GLU:O	2.17	0.45
36:BC:245:THR:C	36:BC:247:TRP:N	2.74	0.45
37:BD:121:THR:O	37:BD:122:VAL:CB	2.62	0.45
39:BF:107:VAL:N	39:BF:108:PRO:CD	2.80	0.45
39:BF:134:GLN:C	39:BF:136:ILE:H	2.25	0.45
40:BG:84:LYS:HB2	40:BG:132:LEU:H	1.82	0.45
41:BH:60:LEU:O	41:BH:61:ARG:C	2.60	0.45
47:BQ:26:VAL:HG13	47:BQ:104:GLU:CD	2.42	0.45
52:BV:48:LYS:HD2	52:BV:48:LYS:O	2.17	0.45
54:BX:44:LYS:HE3	54:BX:55:VAL:CG1	2.45	0.45
1:AA:424:G:O2'	1:AA:425:G:H5'	2.17	0.45
1:AA:702:A:H2'	1:AA:703:G:OP1	2.15	0.45
1:AA:925:G:H2'	1:AA:927:G:H5"	1.98	0.45
1:AA:1151:A:C6	1:AA:1152:A:N6	2.85	0.45
1:AA:1168:U:C5'	1:AA:1169:A:OP2	2.56	0.45
1:AA:1246:A:N1	1:AA:1292:G:C6	2.85	0.45
2:AB:95:TRP:CD1	2:AB:171:ALA:HB2	2.51	0.45
2:AB:162:VAL:HG22	2:AB:184:ALA:HB1	1.99	0.45
3:AC:149:LYS:HG3	3:AC:200:TRP:CE3	2.52	0.45
4:AD:52:VAL:CG2	4:AD:53:GLN:N	2.80	0.45
4:AD:88:ASN:O	4:AD:92:LEU:HD23	2.17	0.45
4:AD:104:MET:HG3	4:AD:170:LEU:HD22	1.99	0.45
5:AE:152:VAL:HA	5:AE:155:LYS:NZ	2.32	0.45
6:AF:3:HIS:H	6:AF:92:THR:CG2	2.29	0.45
6:AF:21:MET:HE3	6:AF:81:ASN:ND2	2.32	0.45
6:AF:51:ILE:C	6:AF:51:ILE:HD13	2.42	0.45
9:AI:47:VAL:O	9:AI:50:PRO:HD2	2.17	0.45
9:AI:49:GLN:C	9:AI:51:LEU:H	2.25	0.45
9:AI:107:ALA:O	9:AI:109:GLN:HG2	2.16	0.45
10:AJ:27:GLU:HG2	10:AJ:27:GLU:O	2.17	0.45
16:AP:37:GLY:HA2	16:AP:51:ARG:HH11	1.82	0.45
19:AS:43:MET:O	19:AS:61:VAL:HG21	2.16	0.45
20:AT:20:ASN:O	20:AT:21:ALA:C	2.60	0.45
23:AW:413:LEU:O	23:AW:417:VAL:N	2.32	0.45
27:B2:9:LYS:HG2	27:B2:12:GLU:H	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B7:4:LYS:O	46:BP:48:ARG:NH2	2.41	0.45
33:B8:9:LYS:HD3	33:B8:9:LYS:N	2.15	0.45
33:B8:25:VAL:CB	33:B8:35:GLN:HE21	2.30	0.45
34:BA:71:A:C2	34:BA:73:A:C2	3.05	0.45
34:BA:90:U:H2'	34:BA:91:A:C8	2.51	0.45
34:BA:270:A:N1	34:BA:369:U:O2'	2.39	0.45
34:BA:912:C:C4	34:BA:913:U:O4	2.70	0.45
34:BA:1109:C:C4	34:BA:1110:G:C2	3.05	0.45
34:BA:2109:U:C4	34:BA:2181:U:O4	2.70	0.45
34:BA:2607:G:H2'	34:BA:2608:G:O4'	2.17	0.45
35:BB:68:C:H2'	35:BB:69:G:O4'	2.17	0.45
39:BF:110:ILE:CD1	39:BF:136:ILE:HG21	2.43	0.45
42:BI:89:SER:O	42:BI:91:LYS:N	2.50	0.45
44:BN:43:GLU:O	44:BN:45:THR:C	2.59	0.45
44:BN:48:VAL:HG12	44:BN:50:THR:HG22	1.99	0.45
46:BP:68:SER:CB	46:BP:71:ALA:HB2	2.46	0.45
55:BY:17:ASP:O	55:BY:18:LYS:C	2.60	0.45
56:BZ:68:LYS:O	56:BZ:69:GLU:O	2.35	0.45
1:AA:130:A:H1'	1:AA:264:C:O4'	2.18	0.44
1:AA:513:C:H2'	1:AA:514:C:C6	2.52	0.44
1:AA:607:A:C2	1:AA:608:A:C4	3.05	0.44
1:AA:760:G:H2'	1:AA:761:G:H5'	2.00	0.44
1:AA:1159:U:O2	1:AA:1159:U:O4'	2.35	0.44
1:AA:1251:A:H2'	1:AA:1252:A:O4'	2.16	0.44
2:AB:122:ASP:O	2:AB:123:GLY:C	2.60	0.44
3:AC:62:SER:OG	3:AC:63:ILE:N	2.51	0.44
4:AD:73:ASN:HA	4:AD:76:LYS:CE	2.47	0.44
4:AD:82:LYS:HB2	4:AD:82:LYS:NZ	2.31	0.44
5:AE:86:GLY:O	5:AE:93:VAL:HG12	2.17	0.44
8:AH:110:MET:HE2	8:AH:114:ALA:CB	2.39	0.44
9:AI:17:ARG:NH2	9:AI:67:LYS:NZ	2.65	0.44
11:AK:124:LYS:O	21:AU:33:ARG:CZ	2.65	0.44
13:AM:90:HIS:NE2	13:AM:96:VAL:HG21	2.32	0.44
15:AO:25:GLU:OE1	15:AO:25:GLU:N	2.50	0.44
23:AW:125:LYS:O	23:AW:129:VAL:HG23	2.18	0.44
32:B7:16:THR:HG21	32:B7:48:MET:SD	2.57	0.44
32:B7:21:PHE:O	32:B7:22:LYS:O	2.35	0.44
34:BA:466:A:O4'	34:BA:683:U:H4'	2.16	0.44
34:BA:495:G:H1'	53:BW:57:ASN:OD1	2.16	0.44
34:BA:818:G:H5'	34:BA:839:U:OP1	2.17	0.44
34:BA:983:A:C6	34:BA:984:A:C2	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1047:G:O2'	34:BA:1110:G:N2	2.51	0.44
34:BA:1088:A:O3'	34:BA:1089:A:H8	2.00	0.44
34:BA:1374:G:H2'	34:BA:1375:U:O4'	2.16	0.44
34:BA:1856:U:C5	34:BA:1857:G:C6	3.05	0.44
34:BA:1857:G:H21	34:BA:1884:G:H2'	1.79	0.44
34:BA:2063:C:O2	34:BA:2451:A:C2	2.70	0.44
34:BA:2096:C:H2'	34:BA:2097:A:C8	2.52	0.44
34:BA:2102:G:N2	34:BA:2188:U:C2	2.85	0.44
36:BC:36:ASN:HD22	36:BC:85:ASN:HD21	1.65	0.44
39:BF:127:TYR:O	39:BF:128:SER:CB	2.65	0.44
40:BG:102:ILE:HG13	40:BG:116:LEU:CD2	2.46	0.44
45:BO:107:LEU:C	45:BO:109:SER:N	2.75	0.44
48:BR:24:MET:SD	48:BR:44:LEU:HD22	2.57	0.44
48:BR:63:ARG:O	48:BR:64:ARG:C	2.60	0.44
50:BT:3:ILE:C	50:BT:4:ILE:O	2.59	0.44
55:BY:86:PHE:HB2	55:BY:92:VAL:HG11	1.98	0.44
1:AA:15:G:C4	1:AA:16:A:C8	3.04	0.44
1:AA:62:U:H2'	1:AA:63:C:H6	1.83	0.44
1:AA:556:C:H6	1:AA:556:C:O5'	2.00	0.44
1:AA:710:G:H2'	1:AA:711:G:H8	1.82	0.44
1:AA:1309:G:H2'	1:AA:1310:G:H8	1.83	0.44
2:AB:207:ARG:HB3	2:AB:211:LEU:CD1	2.47	0.44
3:AC:86:LEU:O	3:AC:87:ARG:C	2.60	0.44
3:AC:154:GLY:H	3:AC:156:LEU:HD11	1.82	0.44
7:AG:115:MET:HE3	7:AG:118:ARG:HB2	1.99	0.44
8:AH:50:VAL:O	8:AH:50:VAL:HG22	2.16	0.44
9:AI:6:TYR:CE2	9:AI:17:ARG:HB2	2.49	0.44
10:AJ:14:ASP:HB2	10:AJ:17:LEU:HB3	1.99	0.44
13:AM:44:ILE:H	13:AM:44:ILE:CD1	2.29	0.44
18:AR:62:ARG:C	18:AR:64:LEU:H	2.25	0.44
19:AS:4:LEU:N	19:AS:4:LEU:CD1	2.80	0.44
20:AT:53:MET:O	20:AT:54:GLN:C	2.60	0.44
21:AU:33:ARG:CD	21:AU:34:ARG:H	2.30	0.44
23:AW:145:ASP:O	23:AW:176:GLY:HA2	2.17	0.44
25:B0:28:GLU:H	25:B0:31:LEU:CD1	2.24	0.44
26:B1:29:LEU:HD23	34:BA:2230:G:O3'	2.18	0.44
27:B2:56:LEU:O	27:B2:57:LEU:CB	2.58	0.44
29:B4:38:LEU:HB2	29:B4:41:HIS:HB2	1.99	0.44
30:B5:12:SER:HB2	30:B5:48:TYR:CE1	2.52	0.44
32:B7:4:LYS:HE2	34:BA:242:G:C6	2.53	0.44
32:B7:51:LYS:N	32:B7:51:LYS:HD2	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:287:G:H2'	34:BA:288:U:H6	1.82	0.44
34:BA:443:A:C8	38:BE:40:ARG:HD3	2.53	0.44
34:BA:569:U:H1'	34:BA:947:A:O4'	2.17	0.44
34:BA:1021:A:H2'	34:BA:1023:U:H5'	1.98	0.44
34:BA:1097:U:C5	34:BA:1098:A:H1'	2.53	0.44
34:BA:1385:A:H4'	34:BA:1386:C:OP1	2.17	0.44
34:BA:1510:G:H2'	34:BA:1511:G:C5'	2.47	0.44
34:BA:1570:A:H2'	34:BA:1571:A:C8	2.52	0.44
34:BA:1773:A:N7	34:BA:1829:A:H1'	2.33	0.44
34:BA:1910:G:C4	34:BA:1921:G:C2	3.06	0.44
34:BA:2154:A:C4	34:BA:2155:U:H1'	2.52	0.44
35:BB:8:C:H2'	35:BB:9:G:O4'	2.17	0.44
37:BD:85:ALA:O	37:BD:86:GLU:HB2	2.16	0.44
37:BD:120:GLY:HA2	37:BD:162:ALA:HA	2.00	0.44
39:BF:35:LEU:CD1	39:BF:88:VAL:HB	2.44	0.44
40:BG:15:ASP:OD1	40:BG:17:LYS:HE3	2.17	0.44
40:BG:132:LEU:H	40:BG:132:LEU:HD23	1.82	0.44
41:BH:31:ARG:NH1	41:BH:109:LYS:HE3	2.32	0.44
42:BI:75:ALA:HB3	42:BI:131:THR:HG21	1.99	0.44
44:BN:125:TYR:HH	44:BN:132:HIS:CE1	2.30	0.44
45:BO:61:VAL:HG11	45:BO:112:PHE:CZ	2.52	0.44
46:BP:79:LEU:HD23	46:BP:79:LEU:HA	1.75	0.44
49:BS:6:ALA:O	49:BS:10:ARG:HB2	2.17	0.44
51:BU:65:ASN:HD21	51:BU:69:ARG:NH2	2.15	0.44
52:BV:67:GLY:HA3	52:BV:93:PHE:CZ	2.51	0.44
54:BX:18:GLU:C	54:BX:20:ALA:N	2.75	0.44
1:AA:182:A:N7	1:AA:184:G:N7	2.64	0.44
1:AA:431:A:H2'	1:AA:432:A:O4'	2.17	0.44
1:AA:654:G:C2	1:AA:753:A:C4	3.06	0.44
1:AA:880:C:H2'	1:AA:881:G:H8	1.83	0.44
1:AA:960:U:C2'	1:AA:1222:G:HO2'	2.29	0.44
1:AA:993:G:O6	1:AA:1046:A:C5	2.70	0.44
1:AA:1036:A:H3'	1:AA:1037:C:C5	2.52	0.44
1:AA:1143:G:H2'	1:AA:1144:G:H8	1.81	0.44
1:AA:1256:A:C6	1:AA:1278:G:C2	3.06	0.44
1:AA:1256:A:N7	1:AA:1278:G:H1'	2.32	0.44
1:AA:1256:A:N7	1:AA:1278:G:C1'	2.80	0.44
2:AB:134:LEU:O	2:AB:138:ARG:HB3	2.17	0.44
3:AC:5:HIS:ND1	14:AN:88:MET:HB3	2.32	0.44
5:AE:104:ILE:HG13	5:AE:111:ARG:HG3	1.99	0.44
8:AH:115:ALA:O	8:AH:116:ARG:C	2.59	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AO:63:ARG:CD	15:AO:87:ARG:HH22	2.28	0.44
17:AQ:16:MET:O	17:AQ:19:SER:CB	2.65	0.44
23:AW:100:TYR:CE1	23:AW:129:VAL:HG21	2.52	0.44
25:B0:8:SER:O	25:B0:9:THR:HB	2.18	0.44
25:B0:39:GLN:HE21	25:B0:43:LYS:N	2.16	0.44
25:B0:40:ARG:HG3	25:B0:56:HIS:ND1	2.32	0.44
28:B3:23:LEU:HD21	28:B3:53:MET:HE2	1.99	0.44
29:B4:53:VAL:O	29:B4:54:ILE:C	2.59	0.44
34:BA:31:C:O3'	34:BA:1238:G:C5'	2.66	0.44
34:BA:111:A:C2	34:BA:112:U:C2	3.06	0.44
34:BA:123:G:C2'	34:BA:124:G:H5'	2.48	0.44
34:BA:322:A:H1'	34:BA:339:U:O2	2.17	0.44
34:BA:768:G:O2'	34:BA:769:U:H5'	2.18	0.44
34:BA:1083:U:H3'	34:BA:1083:U:H6	1.83	0.44
34:BA:1628:G:O2'	34:BA:1629:U:H5'	2.17	0.44
34:BA:1654:A:OP2	48:BR:1:MET:HA	2.18	0.44
34:BA:1792:G:C2'	34:BA:1793:C:H5'	2.47	0.44
34:BA:1920:C:H6	34:BA:1920:C:O5'	2.00	0.44
34:BA:2109:U:H2'	34:BA:2110:G:H5'	1.99	0.44
34:BA:2490:G:C4'	34:BA:2491:U:OP1	2.65	0.44
35:BB:77:U:H2'	35:BB:78:A:H5'	1.98	0.44
36:BC:245:THR:HG23	36:BC:251:THR:HG23	1.99	0.44
48:BR:13:ASN:C	48:BR:15:SER:N	2.75	0.44
50:BT:50:ARG:CG	50:BT:57:ALA:N	2.80	0.44
54:BX:32:LEU:HG	54:BX:83:ALA:HB2	2.00	0.44
56:BZ:60:VAL:HG12	56:BZ:61:LEU:N	2.32	0.44
1:AA:150:U:H2'	1:AA:151:A:C8	2.47	0.44
1:AA:155:A:H2'	1:AA:156:C:H6	1.82	0.44
1:AA:599:C:H2'	1:AA:600:A:C8	2.51	0.44
1:AA:620:C:C4	4:AD:131:ILE:HG21	2.52	0.44
1:AA:666:G:C6	1:AA:741:G:C5	3.06	0.44
1:AA:716:A:H2'	1:AA:717:U:O4'	2.18	0.44
1:AA:784:A:H2'	1:AA:785:G:O4'	2.18	0.44
1:AA:872:A:C8	1:AA:874:G:C8	3.05	0.44
1:AA:1001:C:H2'	1:AA:1002:G:H8	1.81	0.44
2:AB:57:ASN:O	2:AB:57:ASN:ND2	2.50	0.44
2:AB:68:PHE:O	2:AB:91:VAL:N	2.50	0.44
3:AC:38:VAL:O	3:AC:42:LEU:HB2	2.18	0.44
3:AC:76:ILE:HA	3:AC:83:VAL:HG23	1.98	0.44
6:AF:5:GLU:OE1	18:AR:22:TYR:CE2	2.71	0.44
6:AF:86:ARG:NH1	6:AF:88:MET:HE3	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AK:95:THR:HG23	11:AK:96:ILE:N	2.32	0.44
12:AL:115:LYS:H	12:AL:115:LYS:HG3	1.38	0.44
12:AL:123:ALA:O	23:AW:487:ARG:NH1	2.50	0.44
17:AQ:11:VAL:HG23	17:AQ:56:ASP:O	2.18	0.44
18:AR:70:THR:OG1	18:AR:71:ASP:N	2.48	0.44
19:AS:4:LEU:N	19:AS:4:LEU:HD12	2.33	0.44
25:B0:39:GLN:HG3	25:B0:42:THR:HB	2.00	0.44
34:BA:201:C:C2'	34:BA:202:U:H5'	2.47	0.44
34:BA:378:C:C2'	34:BA:379:G:H5'	2.48	0.44
34:BA:418:C:C2	34:BA:419:U:C6	3.05	0.44
34:BA:553:G:H2'	34:BA:554:U:O4'	2.17	0.44
34:BA:883:G:C5	34:BA:884:U:C4	3.05	0.44
34:BA:1010:A:H1'	34:BA:1153:C:H1'	1.98	0.44
34:BA:1054:A:H3'	34:BA:1055:G:H8	1.81	0.44
34:BA:1084:A:O4'	41:BH:55:VAL:HG13	2.17	0.44
34:BA:1097:U:H3'	34:BA:1098:A:C4'	2.47	0.44
34:BA:1348:C:C2'	34:BA:1349:C:H5'	2.48	0.44
34:BA:1544:A:C6	34:BA:1545:A:C6	3.06	0.44
34:BA:2187:U:H2'	34:BA:2188:U:C6	2.52	0.44
34:BA:2277:G:C3'	34:BA:2278:A:H5"	2.47	0.44
34:BA:2393:U:H2'	34:BA:2394:C:H6	1.83	0.44
34:BA:2477:U:H5"	34:BA:2479:U:O4	2.17	0.44
34:BA:2690:U:H4'	34:BA:2691:C:OP2	2.16	0.44
34:BA:2694:G:C5	34:BA:2695:U:C5	3.06	0.44
34:BA:2859:G:H2'	34:BA:2860:A:C8	2.53	0.44
35:BB:28:C:H2'	35:BB:29:A:O4'	2.17	0.44
37:BD:98:VAL:O	37:BD:99:GLU:C	2.60	0.44
38:BE:18:THR:HG22	38:BE:106:LYS:HE3	2.00	0.44
38:BE:134:LEU:CD2	38:BE:161:ALA:HB2	2.48	0.44
39:BF:89:THR:O	39:BF:90:LEU:HD13	2.17	0.44
39:BF:151:LEU:C	39:BF:151:LEU:HD12	2.42	0.44
41:BH:81:LEU:HD23	41:BH:82:ILE:H	1.80	0.44
44:BN:25:LEU:O	44:BN:25:LEU:HD13	2.17	0.44
44:BN:45:THR:O	44:BN:45:THR:HG23	2.17	0.44
44:BN:125:TYR:CE2	44:BN:130:HIS:HB2	2.53	0.44
45:BO:118:LEU:O	45:BO:119:ALA:C	2.60	0.44
50:BT:4:ILE:CG2	50:BT:5:LYS:N	2.77	0.44
50:BT:43:GLU:O	50:BT:62:LYS:HG3	2.18	0.44
52:BV:21:ARG:HG3	52:BV:95:ASP:OD1	2.17	0.44
52:BV:98:ILE:HG22	52:BV:98:ILE:O	2.16	0.44
54:BX:27:SER:O	54:BX:28:ASN:CG	2.60	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2:A:N7	1:AA:3:A:C5	2.85	0.44
1:AA:20:U:H4'	1:AA:572:A:C6	2.53	0.44
1:AA:219:U:N3	1:AA:220:G:N7	2.65	0.44
1:AA:243:A:N6	1:AA:281:G:O2'	2.50	0.44
1:AA:247:G:O2'	1:AA:248:C:H5'	2.17	0.44
1:AA:260:G:H2'	1:AA:261:U:C6	2.53	0.44
1:AA:668:G:O2'	1:AA:669:G:H5'	2.18	0.44
1:AA:838:G:O5'	1:AA:838:G:H8	2.01	0.44
1:AA:909:A:C8	1:AA:910:C:C5	3.05	0.44
1:AA:1191:A:H5"	3:AC:3:LYS:HE3	1.99	0.44
3:AC:1:GLY:C	3:AC:2:GLN:HG3	2.41	0.44
8:AH:36:ALA:HA	8:AH:39:LEU:HD12	1.99	0.44
13:AM:82:LEU:HD22	19:AS:65:MET:HG2	1.98	0.44
14:AN:46:LYS:HD2	19:AS:12:LEU:CD2	2.46	0.44
15:AO:42:PHE:CZ	15:AO:52:ARG:HA	2.52	0.44
18:AR:31:TYR:O	18:AR:39:VAL:HG23	2.17	0.44
23:AW:19:ILE:HA	23:AW:89:THR:OG1	2.18	0.44
23:AW:452:ARG:O	23:AW:459:VAL:HG23	2.16	0.44
25:B0:39:GLN:HG3	25:B0:42:THR:H	1.82	0.44
26:B1:62:GLY:O	26:B1:66:VAL:HG23	2.17	0.44
27:B2:1:MET:H3	27:B2:2:LYS:HD2	1.82	0.44
33:B8:4:ARG:O	33:B8:37:GLN:O	2.36	0.44
34:BA:83:A:N6	34:BA:101:A:C8	2.85	0.44
34:BA:225:C:C2	34:BA:231:A:C2	3.05	0.44
34:BA:293:U:O4	34:BA:345:A:C6	2.70	0.44
34:BA:543:G:C4	34:BA:551:G:C2	3.05	0.44
34:BA:768:G:C2'	34:BA:769:U:H5'	2.47	0.44
34:BA:950:G:H2'	34:BA:951:C:O4'	2.18	0.44
34:BA:988:A:H4'	34:BA:1155:A:N1	2.33	0.44
34:BA:1106:G:H5"	41:BH:59:LEU:HD11	1.98	0.44
34:BA:1301:A:H2'	34:BA:1301:A:N3	2.32	0.44
34:BA:1377:G:O5'	34:BA:1377:G:H8	2.01	0.44
34:BA:1545:A:H2'	34:BA:1546:G:O4'	2.18	0.44
34:BA:1745:A:C2'	34:BA:1746:A:H5'	2.47	0.44
34:BA:1779:U:C2	34:BA:1783:A:N7	2.85	0.44
34:BA:2199:A:H3'	34:BA:2200:C:H6	1.82	0.44
34:BA:2218:G:C6	34:BA:2219:U:C4	3.05	0.44
34:BA:2725:A:O2'	34:BA:2726:A:H3'	2.17	0.44
38:BE:158:PHE:HD1	38:BE:159:LEU:CD1	2.29	0.44
39:BF:76:PHE:O	39:BF:77:LYS:CB	2.64	0.44
41:BH:11:ILE:HD13	41:BH:11:ILE:N	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BI:52:LEU:HD11	42:BI:81:LYS:HE2	1.98	0.44
44:BN:44:TYR:O	44:BN:45:THR:HG22	2.17	0.44
45:BO:107:LEU:O	45:BO:109:SER:N	2.47	0.44
45:BO:121:GLU:HG2	45:BO:122:VAL:N	2.33	0.44
48:BR:49:GLU:OE2	48:BR:95:THR:HB	2.18	0.44
53:BW:69:LEU:HA	53:BW:108:SER:O	2.17	0.44
1:AA:94:G:H4'	1:AA:95:C:C6	2.52	0.44
1:AA:291:U:O2'	1:AA:292:G:H5'	2.17	0.44
1:AA:511:C:C2	1:AA:512:U:C5	3.05	0.44
1:AA:779:C:O3'	11:AK:123:PRO:HA	2.17	0.44
1:AA:853:C:C2'	1:AA:854:U:H5'	2.47	0.44
1:AA:977:A:H3'	1:AA:977:A:N3	2.31	0.44
1:AA:1050:G:N2	1:AA:1051:C:C2	2.86	0.44
1:AA:1203:C:H2'	1:AA:1204:A:H8	1.83	0.44
1:AA:1350:A:OP1	9:AI:122:ARG:HD3	2.18	0.44
1:AA:1372:U:C2'	1:AA:1373:G:H5'	2.47	0.44
1:AA:1441:A:H5'	1:AA:1442:G:OP2	2.18	0.44
2:AB:22:TRP:HA	2:AB:188:THR:O	2.18	0.44
3:AC:5:HIS:CG	14:AN:88:MET:HB3	2.53	0.44
4:AD:50:TYR:CZ	4:AD:54:LEU:HD12	2.53	0.44
4:AD:121:ALA:C	4:AD:145:ARG:HG2	2.43	0.44
4:AD:145:ARG:HH11	4:AD:147:LYS:HZ1	1.63	0.44
6:AF:25:TYR:O	6:AF:29:ILE:HD13	2.18	0.44
8:AH:45:ILE:C	8:AH:45:ILE:HD12	2.43	0.44
10:AJ:29:ALA:O	10:AJ:33:GLY:CA	2.65	0.44
12:AL:23:LEU:HD12	12:AL:24:GLU:H	1.83	0.44
12:AL:106:VAL:HG23	12:AL:116:TYR:HB3	1.99	0.44
19:AS:39:ILE:HB	19:AS:65:MET:O	2.18	0.44
23:AW:49:ARG:HB3	23:AW:50:GLY:H	1.35	0.44
23:AW:304:GLN:HG2	23:AW:305:ALA:N	2.31	0.44
23:AW:472:ARG:CD	23:AW:503:TYR:HB3	2.44	0.44
34:BA:42:A:N6	34:BA:437:U:H3	2.16	0.44
34:BA:143:C:O5'	34:BA:143:C:H6	2.01	0.44
34:BA:493:G:H2'	34:BA:494:G:O4'	2.18	0.44
34:BA:599:A:O2'	34:BA:600:G:H5'	2.18	0.44
34:BA:706:A:OP1	36:BC:6:LYS:HE3	2.18	0.44
34:BA:843:G:O2'	34:BA:844:A:H5'	2.18	0.44
34:BA:1018:U:N3	34:BA:1019:U:C5	2.86	0.44
34:BA:1170:C:H2'	34:BA:1171:G:O4'	2.18	0.44
34:BA:2323:G:H2'	34:BA:2324:U:O4'	2.18	0.44
36:BC:16:VAL:HB	36:BC:203:VAL:HG23	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BC:29:PHE:CZ	36:BC:31:PRO:HG2	2.53	0.44
40:BG:64:ALA:O	40:BG:67:ALA:HB3	2.17	0.44
43:BJ:12:ALA:HA	43:BM:14:MET:CB	2.39	0.44
50:BT:81:ASP:OD2	50:BT:82:SER:N	2.51	0.44
51:BU:73:ILE:HD11	51:BU:77:LYS:HB2	2.00	0.44
52:BV:19:THR:HG23	52:BV:96:VAL:O	2.17	0.44
56:BZ:53:LYS:C	56:BZ:55:GLU:H	2.25	0.44
56:BZ:61:LEU:O	56:BZ:71:LYS:HG2	2.17	0.44
1:AA:70:U:O2'	1:AA:71:A:H8	2.01	0.44
1:AA:177:G:N3	1:AA:177:G:O4'	2.51	0.44
1:AA:280:C:O2	17:AQ:39:ARG:HD2	2.16	0.44
1:AA:821:G:C6	1:AA:822:U:C4	3.06	0.44
1:AA:960:U:N3	1:AA:1225:A:C5	2.83	0.44
1:AA:1014:A:N7	1:AA:1015:G:C5	2.86	0.44
1:AA:1202:U:H5	10:AJ:55:PRO:HB3	1.82	0.44
1:AA:1324:A:C4'	1:AA:1362:A:H4'	2.48	0.44
1:AA:1406:U:H5'	1:AA:1407:C:OP2	2.18	0.44
1:AA:1489:G:C2'	1:AA:1490:U:H5'	2.47	0.44
4:AD:8:LEU:O	4:AD:9:LYS:C	2.60	0.44
5:AE:10:LEU:HG	5:AE:11:GLN:N	2.32	0.44
5:AE:59:ILE:C	5:AE:59:ILE:HD12	2.43	0.44
6:AF:90:MET:HE3	6:AF:90:MET:HB2	1.89	0.44
9:AI:75:ALA:O	9:AI:78:ILE:HB	2.18	0.44
10:AJ:66:GLU:CB	14:AN:98:ALA:HB2	2.47	0.44
12:AL:5:GLN:O	12:AL:8:ARG:HB2	2.17	0.44
14:AN:30:ILE:HD12	14:AN:30:ILE:H	1.82	0.44
15:AO:40:GLY:O	15:AO:43:ALA:HB3	2.18	0.44
17:AQ:8:GLN:HE21	17:AQ:8:GLN:CA	2.31	0.44
17:AQ:16:MET:O	17:AQ:19:SER:HB3	2.18	0.44
17:AQ:29:LYS:HD3	17:AQ:34:GLY:HA2	1.99	0.44
17:AQ:79:GLU:C	17:AQ:80:LYS:HD3	2.42	0.44
20:AT:77:ASN:HD22	20:AT:78:LEU:N	2.15	0.44
21:AU:16:ARG:NH1	21:AU:19:LYS:HG3	2.32	0.44
21:AU:19:LYS:C	21:AU:21:SER:N	2.76	0.44
21:AU:39:LYS:HE2	21:AU:39:LYS:HB2	1.66	0.44
23:AW:111:MET:HE1	23:AW:127:MET:HG2	2.00	0.44
26:B1:20:ALA:HB3	26:B1:22:ASN:ND2	2.33	0.44
28:B3:9:THR:HG22	28:B3:10:ARG:N	2.32	0.44
34:BA:475:C:O5'	34:BA:475:C:H6	2.01	0.44
34:BA:1197:G:H2'	34:BA:1198:U:C6	2.53	0.44
34:BA:1287:A:C5'	48:BR:103:ARG:HD2	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1535:A:C4'	34:BA:1536:C:OP2	2.63	0.44
34:BA:1538:G:O2'	34:BA:1539:U:H5'	2.18	0.44
34:BA:1597:A:H5"	34:BA:1598:A:H5'	1.99	0.44
34:BA:2308:G:C5'	34:BA:2309:A:OP2	2.66	0.44
34:BA:2707:U:O2	48:BR:71:ARG:NH1	2.51	0.44
36:BC:7:PRO:HB3	36:BC:13:ARG:HB2	1.99	0.44
36:BC:83:ASP:HB2	36:BC:90:ILE:CD1	2.44	0.44
36:BC:266:ILE:N	36:BC:266:ILE:HD12	2.33	0.44
37:BD:114:LYS:O	37:BD:114:LYS:CE	2.65	0.44
40:BG:163:TYR:O	40:BG:164:ALA:CB	2.65	0.44
41:BH:33:VAL:HG12	41:BH:34:THR:H	1.82	0.44
41:BH:105:LYS:HB2	41:BH:107:GLU:OE2	2.16	0.44
42:BI:74:PRO:O	42:BI:77:VAL:HG22	2.18	0.44
47:BQ:64:TRP:CZ3	47:BQ:106:ASP:HB2	2.53	0.44
49:BS:34:HIS:CD2	49:BS:53:THR:O	2.71	0.44
50:BT:52:ARG:O	50:BT:53:GLY:C	2.60	0.44
50:BT:79:VAL:O	50:BT:79:VAL:CG2	2.64	0.44
50:BT:89:GLY:O	50:BT:112:ARG:HD2	2.18	0.44
1:AA:57:G:C6	1:AA:58:C:C4	3.06	0.44
1:AA:244:U:O4	1:AA:906:A:H1'	2.18	0.44
1:AA:247:G:C5	1:AA:278:G:N2	2.85	0.44
1:AA:652:U:O2'	1:AA:653:U:H6	1.99	0.44
1:AA:994:A:C6	1:AA:995:C:C4	3.06	0.44
1:AA:1055:A:C2	3:AC:192:TYR:O	2.71	0.44
1:AA:1284:C:C5	1:AA:1285:A:N7	2.86	0.44
1:AA:1357:A:N7	1:AA:1358:U:C5	2.86	0.44
2:AB:132:GLU:O	2:AB:136:ARG:HB3	2.17	0.44
3:AC:99:GLN:OE1	3:AC:99:GLN:N	2.51	0.44
3:AC:156:LEU:H	3:AC:156:LEU:CD1	2.31	0.44
4:AD:61:ARG:CZ	4:AD:68:GLU:HG2	2.47	0.44
5:AE:73:VAL:CG1	5:AE:143:LEU:HB3	2.48	0.44
5:AE:149:PRO:HG2	5:AE:150:GLU:HG2	1.99	0.44
9:AI:11:ARG:HG3	9:AI:11:ARG:NH1	2.31	0.44
17:AQ:20:ILE:O	17:AQ:20:ILE:CG2	2.65	0.44
21:AU:52:VAL:HG13	21:AU:53:LYS:N	2.18	0.44
23:AW:390:ILE:HA	23:AW:391:PRO:HD3	1.72	0.44
23:AW:428:PHE:N	23:AW:437:ILE:O	2.47	0.44
23:AW:474:VAL:CG2	23:AW:501:LEU:H	2.31	0.44
34:BA:108:G:H2'	34:BA:109:C:H5'	1.97	0.44
34:BA:771:G:H2'	34:BA:772:C:H6	1.82	0.44
34:BA:900:A:N3	34:BA:900:A:C2'	2.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:927:A:H2'	34:BA:928:A:C8	2.53	0.44
34:BA:1025:G:C4'	34:BA:1026:G:OP2	2.66	0.44
34:BA:1029:A:N1	34:BA:2465:C:O2'	2.45	0.44
34:BA:1198:U:H2'	34:BA:1199:U:C6	2.52	0.44
34:BA:1275:A:H4'	34:BA:1276:A:O5'	2.17	0.44
34:BA:1476:U:O2	34:BA:1476:U:H2'	2.16	0.44
34:BA:1565:C:O2'	34:BA:1566:A:O5'	2.33	0.44
34:BA:1654:A:O2'	37:BD:118:PHE:CD1	2.62	0.44
34:BA:2033:A:O2'	34:BA:2035:G:P	2.76	0.44
34:BA:2103:C:N4	34:BA:2185:U:O4	2.51	0.44
34:BA:2365:G:H2'	34:BA:2366:A:C8	2.53	0.44
34:BA:2740:A:C6	34:BA:2741:A:C6	3.06	0.44
35:BB:10:G:C8	35:BB:11:C:C5	3.06	0.44
36:BC:118:GLY:O	36:BC:129:LEU:CD2	2.66	0.44
39:BF:4:HIS:O	39:BF:8:LYS:HG2	2.18	0.44
39:BF:172:PHE:C	39:BF:174:PHE:N	2.76	0.44
40:BG:76:ILE:HD12	40:BG:82:PHE:CE2	2.53	0.44
40:BG:149:ALA:C	40:BG:151:ARG:H	2.26	0.44
42:BI:57:VAL:HG12	42:BI:58:ILE:N	2.33	0.44
42:BI:100:ILE:HG22	42:BI:101:SER:N	2.30	0.44
43:BJ:13:ALA:HB1	43:BJ:17:MET:HE3	1.99	0.44
44:BN:73:VAL:HG23	44:BN:74:TYR:N	2.27	0.44
45:BO:61:VAL:HG11	45:BO:112:PHE:CE1	2.52	0.44
46:BP:95:LEU:HB2	46:BP:101:ILE:HD11	1.99	0.44
49:BS:49:VAL:HG21	49:BS:81:ARG:O	2.17	0.44
51:BU:63:ARG:HH22	51:BU:96:ASP:N	2.15	0.44
55:BY:35:VAL:CG1	55:BY:38:ILE:HG13	2.48	0.44
55:BY:48:VAL:HG13	55:BY:51:LEU:O	2.17	0.44
1:AA:117:G:O6	1:AA:289:G:H1'	2.18	0.44
1:AA:500:G:C6	1:AA:501:C:N4	2.86	0.44
1:AA:607:A:H2'	1:AA:608:A:O4'	2.18	0.44
1:AA:785:G:H2'	1:AA:786:G:H5'	2.00	0.44
1:AA:827:U:H5"	1:AA:828:U:OP2	2.18	0.44
1:AA:1205:U:O2'	3:AC:194:VAL:HG23	2.18	0.44
1:AA:1234:C:C1'	1:AA:1364:U:H1'	2.47	0.44
1:AA:1361:G:H2'	1:AA:1362:A:H5'	1.99	0.44
1:AA:1432:G:H1'	1:AA:1468:A:H61	1.80	0.44
3:AC:152:VAL:HG12	3:AC:197:VAL:HG22	2.00	0.44
3:AC:185:THR:HG22	3:AC:186:SER:H	1.83	0.44
4:AD:36:ALA:O	4:AD:38:GLY:N	2.51	0.44
4:AD:69:ARG:HA	4:AD:69:ARG:HE	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:114:ARG:O	4:AD:116:LEU:N	2.51	0.44
4:AD:198:LEU:HD23	4:AD:198:LEU:HA	1.77	0.44
6:AF:46:GLN:HE21	6:AF:56:LYS:HG2	1.83	0.44
9:AI:24:ASN:HD22	9:AI:26:LYS:HE3	1.82	0.44
16:AP:53:ASP:HB3	16:AP:56:ARG:HB2	1.99	0.44
21:AU:34:ARG:CZ	21:AU:39:LYS:NZ	2.80	0.44
27:B2:2:LYS:HB2	34:BA:102:U:H3	1.83	0.44
32:B7:22:LYS:HA	32:B7:48:MET:HA	2.00	0.44
33:B8:7:VAL:O	33:B8:8:LYS:O	2.36	0.44
34:BA:119:A:O2'	34:BA:120:U:OP2	2.28	0.44
34:BA:836:G:C5	34:BA:837:C:C4	3.06	0.44
34:BA:847:U:O2	34:BA:847:U:H2'	2.16	0.44
34:BA:900:A:C2	34:BA:901:C:C6	3.05	0.44
34:BA:1465:G:H2'	34:BA:1466:U:O4'	2.18	0.44
34:BA:1492:G:C2'	34:BA:1493:C:OP1	2.66	0.44
34:BA:1541:C:H2'	34:BA:1542:U:C6	2.53	0.44
34:BA:1715:G:O2'	34:BA:1716:U:C6	2.56	0.44
34:BA:1838:C:H4'	34:BA:1839:G:C8	2.53	0.44
34:BA:2244:U:O2'	34:BA:2245:U:H5'	2.18	0.44
34:BA:2306:C:C4	34:BA:2307:G:C6	3.06	0.44
34:BA:2654:A:H8	34:BA:2654:A:OP1	2.01	0.44
35:BB:51:G:N1	35:BB:52:A:C2	2.86	0.44
36:BC:105:ALA:HA	36:BC:106:PRO:HD2	1.86	0.44
37:BD:48:ILE:HD13	37:BD:50:VAL:CG1	2.37	0.44
38:BE:63:LYS:NZ	38:BE:63:LYS:HB3	2.33	0.44
38:BE:130:LYS:HB2	38:BE:133:LEU:CD1	2.45	0.44
38:BE:159:LEU:N	38:BE:159:LEU:CD1	2.81	0.44
39:BF:129:MET:HG3	39:BF:153:ILE:HG12	2.00	0.44
39:BF:134:GLN:CG	39:BF:135:ILE:H	2.29	0.44
40:BG:30:GLY:O	40:BG:32:LEU:N	2.51	0.44
41:BH:66:GLY:C	41:BH:68:PRO:HD2	2.43	0.44
41:BH:69:PHE:N	41:BH:69:PHE:CD2	2.85	0.44
41:BH:142:THR:O	41:BH:145:GLU:N	2.49	0.44
44:BN:43:GLU:O	44:BN:44:TYR:C	2.60	0.44
44:BN:60:ASP:OD1	44:BN:60:ASP:N	2.51	0.44
52:BV:1:MET:HE2	52:BV:43:ASN:HD21	1.83	0.44
55:BY:73:ASN:HD21	55:BY:75:ALA:HB3	1.82	0.44
55:BY:73:ASN:HA	55:BY:95:PHE:CE2	2.53	0.44
1:AA:81:A:N7	1:AA:83:C:N4	2.65	0.43
1:AA:179:A:H2'	1:AA:180:U:O4'	2.18	0.43
1:AA:620:C:C1'	4:AD:131:ILE:HG13	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:938:A:C6	1:AA:939:G:N7	2.86	0.43
1:AA:1145:A:O2'	1:AA:1146:A:O5'	2.36	0.43
1:AA:1169:A:H2'	1:AA:1170:A:C8	2.53	0.43
1:AA:1223:C:OP2	1:AA:1224:U:H6	2.01	0.43
1:AA:1297:G:H5'	1:AA:1302:C:N4	2.32	0.43
1:AA:1357:A:N7	1:AA:1358:U:C4	2.86	0.43
1:AA:1374:A:N3	1:AA:1375:A:C8	2.86	0.43
4:AD:68:GLU:O	4:AD:69:ARG:C	2.61	0.43
4:AD:87:GLU:HB3	4:AD:187:ARG:HD3	1.99	0.43
4:AD:115:GLN:O	4:AD:115:GLN:HG3	2.17	0.43
4:AD:203:TYR:N	4:AD:203:TYR:CD2	2.86	0.43
5:AE:52:ALA:C	5:AE:54:GLU:H	2.25	0.43
11:AK:93:GLU:C	11:AK:95:THR:H	2.26	0.43
13:AM:89:ARG:HH11	13:AM:94:LEU:HB3	1.83	0.43
13:AM:92:ARG:HB3	13:AM:92:ARG:CZ	2.48	0.43
14:AN:58:ARG:NH1	14:AN:58:ARG:CG	2.81	0.43
23:AW:407:LEU:HD22	23:AW:409:GLN:HG3	2.00	0.43
23:AW:420:SER:HB3	23:AW:426:GLN:OE1	2.18	0.43
23:AW:503:TYR:O	23:AW:504:ILE:HB	2.17	0.43
28:B3:29:ARG:NH1	34:BA:930:G:H5"	2.33	0.43
34:BA:495:G:H21	53:BW:61:ASN:ND2	2.15	0.43
34:BA:593:U:H2'	34:BA:594:U:C6	2.53	0.43
34:BA:1541:C:O2'	34:BA:1542:U:H5'	2.18	0.43
34:BA:1614:A:C2	53:BW:93:ALA:HB2	2.53	0.43
34:BA:1715:G:H2'	34:BA:1716:U:OP2	2.18	0.43
34:BA:1911:U:C4	34:BA:1918:A:C5	3.06	0.43
34:BA:2065:C:H2'	34:BA:2066:C:C6	2.53	0.43
34:BA:2300:C:H2'	34:BA:2301:C:C6	2.53	0.43
34:BA:2424:C:O2	34:BA:2429:G:O2'	2.29	0.43
37:BD:14:ILE:HD11	37:BD:22:ILE:HD12	1.98	0.43
37:BD:78:GLY:C	37:BD:79:LEU:HD12	2.43	0.43
37:BD:85:ALA:O	37:BD:86:GLU:CB	2.66	0.43
37:BD:106:LYS:O	37:BD:175:LEU:O	2.35	0.43
40:BG:30:GLY:HA3	40:BG:78:VAL:HG12	1.99	0.43
40:BG:34:ARG:HD3	40:BG:34:ARG:N	2.33	0.43
40:BG:88:LEU:N	40:BG:88:LEU:HD23	2.33	0.43
41:BH:54:VAL:HA	41:BH:84:TYR:O	2.17	0.43
44:BN:11:VAL:HG11	44:BN:50:THR:HA	2.00	0.43
47:BQ:73:ILE:N	47:BQ:73:ILE:CD1	2.81	0.43
50:BT:80:VAL:O	50:BT:81:ASP:HB3	2.18	0.43
54:BX:21:SER:HA	54:BX:31:VAL:CG1	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:53:A:C2'	1:AA:54:C:O5'	2.65	0.43
1:AA:237:G:O2'	1:AA:238:A:H5'	2.18	0.43
1:AA:373:A:O2'	1:AA:374:A:H5'	2.18	0.43
1:AA:736:C:C2	1:AA:737:C:C5	3.06	0.43
1:AA:1144:G:N2	1:AA:1146:A:H62	2.16	0.43
1:AA:1261:A:C5	1:AA:1262:C:C4	3.06	0.43
1:AA:1315:U:O4	1:AA:1316:G:C6	2.71	0.43
2:AB:138:ARG:HA	2:AB:141:GLU:OE2	2.18	0.43
11:AK:12:ARG:O	11:AK:14:GLN:N	2.52	0.43
12:AL:2:THR:HG22	12:AL:3:VAL:N	2.33	0.43
12:AL:20:VAL:HG23	12:AL:20:VAL:O	2.17	0.43
12:AL:62:VAL:HG21	12:AL:94:TYR:CD2	2.53	0.43
17:AQ:30:HIS:HB2	17:AQ:37:ILE:CD1	2.48	0.43
20:AT:4:LYS:NZ	20:AT:6:ALA:H	2.16	0.43
20:AT:82:ILE:O	20:AT:86:ALA:HB3	2.18	0.43
21:AU:18:PHE:O	21:AU:18:PHE:HD2	2.00	0.43
23:AW:319:ARG:HA	23:AW:364:ILE:HD13	1.98	0.43
23:AW:410:LYS:HA	23:AW:414:LYS:H	1.84	0.43
23:AW:471:ALA:HA	23:AW:472:ARG:O	2.18	0.43
34:BA:63:A:O2'	34:BA:64:A:H5'	2.18	0.43
34:BA:63:A:C2	34:BA:64:A:C5	3.06	0.43
34:BA:215:G:O4'	34:BA:216:A:H4'	2.18	0.43
34:BA:580:U:O3'	51:BU:30:VAL:CG1	2.66	0.43
34:BA:646:U:C4	34:BA:2368:C:H1'	2.53	0.43
34:BA:801:G:H4'	34:BA:802:A:OP2	2.17	0.43
34:BA:1814:G:C6	34:BA:1815:A:C6	3.06	0.43
34:BA:1824:G:C2'	34:BA:1825:U:H5'	2.48	0.43
34:BA:1915:U:H2'	34:BA:1916:A:O4'	2.18	0.43
34:BA:2019:A:H2'	34:BA:2020:A:O5'	2.17	0.43
34:BA:2291:U:H2'	34:BA:2292:U:C6	2.53	0.43
34:BA:2329:U:H2'	34:BA:2330:G:C8	2.53	0.43
34:BA:2902:C:H2'	34:BA:2903:U:O4'	2.19	0.43
35:BB:76:G:H2'	35:BB:77:U:H6	1.83	0.43
36:BC:9:SER:O	36:BC:10:PRO:C	2.61	0.43
36:BC:103:ILE:O	36:BC:104:LEU:O	2.36	0.43
39:BF:25:MET:C	39:BF:27:VAL:H	2.25	0.43
39:BF:124:ARG:HA	39:BF:160:LYS:O	2.18	0.43
39:BF:134:GLN:O	39:BF:136:ILE:N	2.40	0.43
39:BF:169:LEU:O	39:BF:174:PHE:HB3	2.18	0.43
43:BL:29:LYS:O	43:BL:30:PHE:O	2.36	0.43
46:BP:93:ASN:O	46:BP:95:LEU:N	2.45	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BX:10:VAL:HG23	54:BX:11:LEU:N	2.33	0.43
54:BX:65:GLY:HA3	54:BX:77:ARG:O	2.18	0.43
1:AA:109:A:C6	1:AA:326:G:C6	3.06	0.43
1:AA:261:U:OP2	20:AT:73:ARG:NH2	2.51	0.43
1:AA:269:C:H2'	1:AA:270:A:H8	1.82	0.43
1:AA:545:C:P	4:AD:61:ARG:HH12	2.42	0.43
1:AA:652:U:O4	1:AA:752:G:C4	2.71	0.43
1:AA:682:G:H2'	1:AA:683:G:H8	1.82	0.43
1:AA:837:U:H2'	1:AA:838:G:C8	2.53	0.43
1:AA:973:G:H1'	10:AJ:56:HIS:CD2	2.53	0.43
1:AA:1058:G:H1	1:AA:1199:U:H3	1.65	0.43
1:AA:1322:C:O2	1:AA:1322:C:O4'	2.35	0.43
1:AA:1329:A:C2'	1:AA:1330:U:H5'	2.48	0.43
3:AC:124:GLU:C	3:AC:126:ARG:N	2.75	0.43
9:AI:14:SER:OG	9:AI:68:GLY:O	2.29	0.43
9:AI:119:LYS:O	9:AI:120:ALA:HB3	2.18	0.43
10:AJ:91:ASP:O	10:AJ:92:LEU:O	2.35	0.43
13:AM:113:LYS:CB	13:AM:114:PRO:HD3	2.48	0.43
17:AQ:30:HIS:HA	17:AQ:31:PRO:HD3	1.72	0.43
18:AR:34:GLU:HB2	21:AU:18:PHE:CZ	2.48	0.43
23:AW:466:VAL:HG12	23:AW:468:VAL:HG23	2.00	0.43
29:B4:28:SER:HB2	29:B4:37:HIS:NE2	2.33	0.43
31:B6:5:PHE:CZ	31:B6:7:PRO:HB3	2.54	0.43
34:BA:183:C:N4	34:BA:213:A:H61	2.16	0.43
34:BA:328:U:H2'	34:BA:329:G:OP1	2.18	0.43
34:BA:779:U:OP1	36:BC:48:ILE:CD1	2.66	0.43
34:BA:975:A:C4	34:BA:990:A:C5	3.07	0.43
34:BA:1224:U:H4'	52:BV:88:GLY:O	2.18	0.43
34:BA:1268:A:C2	34:BA:2013:A:C4	3.06	0.43
34:BA:2364:C:H2'	34:BA:2365:G:O4'	2.18	0.43
34:BA:2455:G:H2'	34:BA:2456:C:C6	2.54	0.43
34:BA:2682:A:H61	34:BA:2728:U:H1'	1.84	0.43
34:BA:2850:A:H2'	34:BA:2851:A:O4'	2.18	0.43
35:BB:46:A:C5	35:BB:47:C:C4	3.06	0.43
39:BF:129:MET:O	39:BF:152:ASP:HA	2.18	0.43
40:BG:84:LYS:CG	40:BG:131:VAL:HG23	2.48	0.43
43:BL:28:GLU:CG	43:BL:29:LYS:N	2.82	0.43
43:BL:28:GLU:CG	43:BL:29:LYS:H	2.31	0.43
49:BS:59:ALA:CB	49:BS:62:LEU:HD12	2.48	0.43
56:BZ:20:LEU:C	56:BZ:22:ALA:N	2.75	0.43
1:AA:201:G:N2	1:AA:217:C:O2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:426:U:H2'	1:AA:427:U:C6	2.54	0.43
1:AA:1087:G:H2'	1:AA:1088:G:C8	2.53	0.43
1:AA:1098:C:C2'	1:AA:1099:G:H5'	2.48	0.43
1:AA:1169:A:H2'	1:AA:1170:A:H8	1.84	0.43
1:AA:1192:C:C5	1:AA:1193:G:C8	3.06	0.43
1:AA:1368:A:C2	1:AA:1369:C:C6	3.06	0.43
2:AB:41:ASN:C	2:AB:41:ASN:ND2	2.76	0.43
2:AB:49:PHE:HD1	2:AB:49:PHE:O	2.02	0.43
3:AC:13:ILE:CD1	3:AC:177:LEU:HB3	2.48	0.43
3:AC:55:VAL:HG23	3:AC:68:HIS:NE2	2.33	0.43
4:AD:75:TYR:CD1	4:AD:75:TYR:C	2.95	0.43
6:AF:1:MET:HG3	6:AF:66:ALA:C	2.44	0.43
6:AF:39:LEU:C	6:AF:40:GLU:HG3	2.43	0.43
9:AI:23:GLY:N	9:AI:60:LEU:HA	2.33	0.43
9:AI:24:ASN:C	9:AI:26:LYS:N	2.75	0.43
10:AJ:65:TYR:HH	14:AN:84:ARG:HG3	1.82	0.43
10:AJ:71:LEU:HD22	10:AJ:71:LEU:HA	1.80	0.43
13:AM:84:CYS:HB2	19:AS:72:GLU:CB	2.48	0.43
34:BA:178:G:O2'	34:BA:179:C:H5'	2.18	0.43
34:BA:747:U:C4	34:BA:2613:U:C5	3.06	0.43
34:BA:956:G:OP1	47:BQ:86:LYS:HG3	2.18	0.43
34:BA:1061:U:H5"	42:BI:9:LYS:HZ2	1.84	0.43
34:BA:1286:A:H4'	34:BA:1287:A:OP1	2.18	0.43
34:BA:1290:C:H2'	34:BA:1291:C:C6	2.53	0.43
34:BA:1587:G:N3	34:BA:1588:G:C8	2.87	0.43
34:BA:1656:C:O5'	34:BA:1656:C:H6	2.01	0.43
34:BA:1805:A:C2	36:BC:49:THR:CG2	3.02	0.43
34:BA:1829:A:N3	36:BC:14:HIS:HE1	2.16	0.43
34:BA:2137:U:H6	34:BA:2137:U:O5'	2.01	0.43
34:BA:2467:C:H2'	34:BA:2468:A:O4'	2.18	0.43
34:BA:2565:A:H5"	34:BA:2566:A:OP2	2.19	0.43
34:BA:2584:U:C2'	34:BA:2585:U:H5'	2.46	0.43
34:BA:2648:G:H2'	34:BA:2649:C:C6	2.54	0.43
34:BA:2662:A:H2'	34:BA:2663:G:O4'	2.17	0.43
37:BD:16:THR:OG1	37:BD:18:ASP:OD1	2.25	0.43
37:BD:96:ILE:H	37:BD:96:ILE:HG13	1.49	0.43
38:BE:48:THR:OG1	38:BE:50:ALA:HB3	2.18	0.43
39:BF:106:ALA:O	39:BF:136:ILE:HB	2.18	0.43
40:BG:70:LEU:HD23	40:BG:70:LEU:HA	1.76	0.43
43:BJ:4:LYS:H	43:BJ:4:LYS:HG2	1.62	0.43
52:BV:78:ARG:O	52:BV:79:ARG:C	2.62	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:BW:44:ALA:HA	53:BW:47:VAL:HG12	1.99	0.43
1:AA:177:G:H2'	1:AA:178:C:H5'	2.00	0.43
1:AA:196:A:OP1	20:AT:63:LYS:HE2	2.19	0.43
1:AA:205:A:C5	1:AA:206:C:C2	3.07	0.43
1:AA:239:U:H5"	1:AA:240:G:OP2	2.19	0.43
1:AA:266:G:H4'	1:AA:267:C:C5	2.54	0.43
1:AA:596:A:N6	1:AA:645:G:C6	2.85	0.43
1:AA:926:G:N2	22:AV:15:A:H4'	2.34	0.43
1:AA:1004:A:H5'	1:AA:1024:G:N2	2.33	0.43
1:AA:1252:A:C2	1:AA:1253:G:C8	3.07	0.43
1:AA:1264:U:H2'	1:AA:1265:C:C6	2.53	0.43
1:AA:1458:G:OP1	20:AT:26:MET:HA	2.18	0.43
2:AB:10:LYS:HB2	2:AB:10:LYS:HE3	1.75	0.43
4:AD:62:ARG:C	4:AD:64:TYR:H	2.26	0.43
4:AD:151:GLN:H	4:AD:154:VAL:HG12	1.82	0.43
4:AD:196:GLU:C	4:AD:198:LEU:H	2.24	0.43
6:AF:99:ALA:O	6:AF:100:SER:HB2	2.17	0.43
8:AH:10:LEU:HD22	8:AH:74:ILE:HD11	2.01	0.43
8:AH:21:LYS:HE2	8:AH:21:LYS:HA	2.00	0.43
8:AH:88:LYS:HG3	8:AH:89:ASP:N	2.33	0.43
23:AW:398:PHE:O	23:AW:399:ARG:HB2	2.17	0.43
23:AW:434:ASN:HB3	23:AW:435:ASP:H	1.41	0.43
26:B1:66:VAL:O	26:B1:69:GLU:HB2	2.18	0.43
32:B7:53:ASP:HB3	46:BP:57:LEU:CD2	2.47	0.43
34:BA:49:A:H4'	34:BA:50:U:H5"	2.00	0.43
34:BA:345:A:C4'	34:BA:346:A:OP1	2.67	0.43
34:BA:827:U:H5'	34:BA:828:U:O5'	2.18	0.43
34:BA:947:A:H2'	34:BA:948:C:C6	2.54	0.43
34:BA:1757:A:C3'	34:BA:1758:U:C5'	2.96	0.43
34:BA:1799:G:C2	36:BC:153:LEU:HD23	2.53	0.43
34:BA:2335:A:N6	34:BA:2337:G:H1'	2.33	0.43
34:BA:2348:U:O2'	34:BA:2349:G:H5'	2.18	0.43
35:BB:49:C:H2'	35:BB:50:A:C8	2.53	0.43
36:BC:61:TYR:CD1	36:BC:62:ARG:O	2.72	0.43
37:BD:13:ARG:O	37:BD:13:ARG:HG2	2.18	0.43
37:BD:51:THR:OG1	37:BD:76:GLY:HA3	2.18	0.43
38:BE:134:LEU:HB2	38:BE:160:ALA:HB1	2.01	0.43
39:BF:73:VAL:HG22	39:BF:78:ILE:HD11	2.00	0.43
43:BJ:11:VAL:HG11	43:BM:15:SER:HB3	2.00	0.43
45:BO:110:GLU:OE1	45:BO:110:GLU:HA	2.18	0.43
47:BQ:74:THR:HG21	47:BQ:86:LYS:HE3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:205:A:H3'	1:AA:206:C:C6	2.54	0.43
1:AA:523:A:H61	12:AL:49:ARG:HH12	1.65	0.43
1:AA:533:A:H8	1:AA:533:A:OP1	2.01	0.43
1:AA:545:C:C5'	4:AD:68:GLU:HG3	2.41	0.43
1:AA:682:G:N2	1:AA:709:U:C2	2.86	0.43
1:AA:701:U:O2	1:AA:701:U:H2'	2.19	0.43
1:AA:992:U:H5"	1:AA:993:G:O5'	2.18	0.43
1:AA:1402:C:H2'	1:AA:1403:C:O4'	2.19	0.43
1:AA:1408:A:N1	24:AY:1:KBE:C	2.82	0.43
2:AB:164:ASP:HB3	2:AB:167:HIS:HB3	2.01	0.43
3:AC:185:THR:CG2	3:AC:186:SER:N	2.81	0.43
6:AF:98:GLU:HG3	6:AF:99:ALA:N	2.34	0.43
8:AH:29:SER:O	8:AH:30:LYS:C	2.61	0.43
10:AJ:17:LEU:HA	10:AJ:20:GLN:HB2	1.99	0.43
23:AW:405:ASP:O	23:AW:406:PRO:C	2.61	0.43
25:B0:19:ARG:CZ	25:B0:22:VAL:HB	2.48	0.43
25:B0:25:PHE:C	25:B0:27:GLY:N	2.76	0.43
34:BA:444:C:C4'	38:BE:44:ARG:HD3	2.45	0.43
34:BA:475:C:C4	34:BA:481:G:O6	2.71	0.43
34:BA:547:A:N6	34:BA:549:G:H22	2.17	0.43
34:BA:784:G:H5'	36:BC:225:ASN:ND2	2.32	0.43
34:BA:1409:U:O2'	34:BA:1410:G:H5'	2.18	0.43
34:BA:1793:C:H2'	34:BA:1794:A:O4'	2.19	0.43
34:BA:1969:A:O2'	34:BA:1972:G:N3	2.38	0.43
34:BA:2423:U:O2'	34:BA:2425:A:H2'	2.19	0.43
34:BA:2676:C:OP1	45:BO:31:ARG:NH2	2.52	0.43
36:BC:107:LYS:HA	36:BC:195:GLY:HA2	2.00	0.43
38:BE:105:LEU:O	38:BE:109:LEU:HB2	2.19	0.43
39:BF:135:ILE:C	39:BF:137:PHE:H	2.26	0.43
41:BH:11:ILE:O	41:BH:15:VAL:N	2.41	0.43
44:BN:130:HIS:HD2	44:BN:132:HIS:N	2.16	0.43
47:BQ:7:THR:HG21	47:BQ:92:TRP:HH2	1.83	0.43
47:BQ:35:ALA:HB3	47:BQ:99:GLY:H	1.84	0.43
47:BQ:43:ALA:C	47:BQ:45:GLN:N	2.75	0.43
49:BS:66:GLY:H	49:BS:70:ALA:HB3	1.81	0.43
50:BT:4:ILE:HG22	50:BT:5:LYS:H	1.79	0.43
54:BX:7:LEU:O	54:BX:7:LEU:HG	2.17	0.43
55:BY:73:ASN:O	55:BY:74:ALA:HB3	2.19	0.43
1:AA:163:C:H2'	1:AA:164:G:O4'	2.19	0.43
1:AA:327:A:O3'	1:AA:328:C:C4'	2.57	0.43
1:AA:892:A:O2'	1:AA:1415:G:H4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:982:U:P	14:AN:62:ARG:HH22	2.42	0.43
1:AA:992:U:C5'	1:AA:993:G:O5'	2.67	0.43
2:AB:176:ASN:C	2:AB:178:LEU:H	2.26	0.43
4:AD:196:GLU:C	4:AD:198:LEU:N	2.77	0.43
5:AE:110:MET:HG3	5:AE:139:THR:HG21	2.00	0.43
8:AH:10:LEU:HD11	8:AH:126:CYS:HB3	2.00	0.43
11:AK:79:LYS:O	11:AK:104:PHE:HD1	2.02	0.43
12:AL:106:VAL:CG2	12:AL:116:TYR:HB3	2.49	0.43
13:AM:12:LYS:HB2	13:AM:17:ALA:HB2	1.99	0.43
16:AP:56:ARG:O	16:AP:59:HIS:HB3	2.19	0.43
16:AP:66:THR:O	16:AP:67:ILE:HD12	2.18	0.43
17:AQ:14:ASP:HB2	17:AQ:54:ILE:HG22	2.00	0.43
17:AQ:49:ASN:O	17:AQ:50:ASN:C	2.61	0.43
21:AU:34:ARG:CZ	21:AU:39:LYS:HZ3	2.32	0.43
23:AW:114:ASP:HB3	23:AW:117:LYS:HB2	2.01	0.43
23:AW:216:ASP:OD2	23:AW:216:ASP:N	2.52	0.43
23:AW:472:ARG:CG	23:AW:504:ILE:H	2.28	0.43
32:B7:22:LYS:HA	32:B7:47:ALA:C	2.41	0.43
34:BA:27:G:H1'	34:BA:513:A:N6	2.34	0.43
34:BA:36:G:O2'	34:BA:450:G:H2'	2.19	0.43
34:BA:118:A:N3	34:BA:178:G:H1'	2.33	0.43
34:BA:273:G:N2	34:BA:365:U:C2	2.86	0.43
34:BA:603:A:H4'	34:BA:604:G:H5'	2.01	0.43
34:BA:1139:G:OP1	44:BN:103:ILE:HD11	2.19	0.43
34:BA:1416:G:O2'	34:BA:1417:C:O5'	2.36	0.43
34:BA:1521:G:C6	34:BA:1522:A:C6	3.07	0.43
34:BA:1774:C:O5'	34:BA:1774:C:H6	2.01	0.43
34:BA:2290:G:C5	34:BA:2291:U:C5	3.07	0.43
34:BA:2412:A:H8	34:BA:2412:A:O5'	2.02	0.43
35:BB:10:G:H2'	35:BB:11:C:H5'	2.01	0.43
37:BD:90:PHE:O	37:BD:94:GLN:HB2	2.17	0.43
39:BF:78:ILE:O	39:BF:78:ILE:HG13	2.19	0.43
41:BH:50:VAL:HG12	41:BH:50:VAL:O	2.19	0.43
41:BH:162:LYS:CD	43:BL:19:VAL:HG21	2.47	0.43
42:BI:3:LYS:HB3	42:BI:4:VAL:H	1.66	0.43
44:BN:123:LYS:N	44:BN:123:LYS:CD	2.72	0.43
47:BQ:7:THR:HG21	47:BQ:92:TRP:CH2	2.54	0.43
51:BU:75:TYR:O	51:BU:78:PHE:HB3	2.19	0.43
52:BV:49:ILE:O	52:BV:50:GLY:C	2.61	0.43
54:BX:21:SER:HA	54:BX:31:VAL:HG11	1.99	0.43
55:BY:30:SER:HB2	55:BY:32:LYS:HD3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BY:86:PHE:HB2	55:BY:92:VAL:CB	2.49	0.43
1:AA:69:G:N3	1:AA:69:G:H2'	2.34	0.43
1:AA:110:C:C4	1:AA:111:G:C5	3.07	0.43
1:AA:132:C:H2'	1:AA:133:U:C6	2.54	0.43
1:AA:277:C:P	17:AQ:44:HIS:HE1	2.42	0.43
1:AA:755:G:H2'	1:AA:756:C:C6	2.53	0.43
1:AA:960:U:N3	1:AA:1225:A:N7	2.67	0.43
1:AA:1050:G:C6	1:AA:1051:C:C4	3.07	0.43
1:AA:1309:G:P	13:AM:90:HIS:HE2	2.42	0.43
1:AA:1312:G:O2'	1:AA:1313:U:H5'	2.19	0.43
2:AB:20:ARG:HA	2:AB:20:ARG:NE	2.22	0.43
2:AB:150:ILE:O	2:AB:151:LYS:C	2.62	0.43
3:AC:35:ASP:O	3:AC:37:LYS:N	2.50	0.43
6:AF:6:ILE:CD1	6:AF:62:MET:HG2	2.42	0.43
6:AF:20:GLY:O	6:AF:24:ARG:HD2	2.18	0.43
6:AF:38:ARG:HH21	6:AF:96:VAL:HG23	1.82	0.43
6:AF:49:TYR:CE1	18:AR:65:SER:HA	2.54	0.43
7:AG:3:ARG:HG3	7:AG:4:ARG:N	2.34	0.43
7:AG:122:GLU:HA	7:AG:125:ASP:CB	2.44	0.43
9:AI:56:MET:O	9:AI:58:GLU:N	2.50	0.43
10:AJ:92:LEU:O	10:AJ:93:ALA:HB3	2.19	0.43
11:AK:62:ALA:CB	11:AK:91:GLY:HA3	2.49	0.43
13:AM:67:ASP:O	13:AM:71:GLU:HB2	2.18	0.43
17:AQ:54:ILE:HD13	17:AQ:54:ILE:C	2.43	0.43
19:AS:50:VAL:O	19:AS:57:VAL:HG22	2.19	0.43
19:AS:55:GLN:CD	19:AS:56:HIS:H	2.26	0.43
23:AW:152:MET:HE2	23:AW:152:MET:HB2	1.83	0.43
23:AW:332:ARG:HD3	23:AW:339:ASP:CG	2.43	0.43
23:AW:401:ILE:HD12	23:AW:416:LEU:HD11	2.00	0.43
25:B0:25:PHE:O	25:B0:26:GLY:C	2.62	0.43
34:BA:53:A:H61	34:BA:117:G:C2'	2.32	0.43
34:BA:123:G:O3'	34:BA:1376:C:H4'	2.18	0.43
34:BA:538:A:N6	34:BA:555:G:H1'	2.34	0.43
34:BA:704:G:O2'	34:BA:705:A:P	2.76	0.43
34:BA:1000:A:H62	34:BA:1154:G:H2'	1.84	0.43
34:BA:1054:A:H4'	41:BH:31:ARG:HA	2.00	0.43
34:BA:1421:G:C2	34:BA:1422:G:C8	3.06	0.43
34:BA:1488:C:O5'	34:BA:1488:C:H6	2.02	0.43
34:BA:1562:U:H2'	34:BA:1563:U:O4'	2.18	0.43
34:BA:1797:G:C6	34:BA:1798:U:C4	3.06	0.43
34:BA:1832:C:H2'	34:BA:1833:C:O5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:2221:G:C6	34:BA:2222:C:C4	3.07	0.43
35:BB:24:G:C5	35:BB:56:G:C4	3.06	0.43
37:BD:34:VAL:HG23	37:BD:91:THR:HA	2.01	0.43
37:BD:70:LYS:O	37:BD:71:ALA:HB3	2.18	0.43
37:BD:110:THR:N	37:BD:202:ILE:O	2.50	0.43
37:BD:125:TRP:CG	37:BD:160:LYS:HB3	2.54	0.43
40:BG:104:LEU:HD11	40:BG:147:LEU:HD22	2.01	0.43
42:BI:17:ALA:O	42:BI:18:ASN:C	2.62	0.43
43:BL:11:VAL:HG13	43:BM:29:LYS:HE3	2.00	0.43
45:BO:19:VAL:HG22	45:BO:20:MET:N	2.33	0.43
45:BO:92:GLU:O	45:BO:93:GLN:O	2.37	0.43
46:BP:111:ILE:HA	46:BP:128:THR:CG2	2.49	0.43
46:BP:118:THR:HA	46:BP:119:PRO:HD3	1.88	0.43
48:BR:51:LEU:HB3	48:BR:79:LEU:HD11	2.00	0.43
49:BS:36:TYR:O	49:BS:37:ALA:HB2	2.19	0.43
49:BS:67:ASN:C	49:BS:69:ASP:N	2.72	0.43
50:BT:4:ILE:O	50:BT:5:LYS:CB	2.66	0.43
51:BU:35:PHE:CD1	51:BU:35:PHE:C	2.97	0.43
55:BY:24:VAL:O	55:BY:25:LYS:C	2.60	0.43
55:BY:73:ASN:OD1	55:BY:95:PHE:CD2	2.71	0.43
55:BY:86:PHE:CG	55:BY:87:GLU:N	2.84	0.43
1:AA:441:A:H2'	1:AA:441:A:N3	2.33	0.43
1:AA:977:A:OP1	14:AN:60:ARG:NH2	2.51	0.43
1:AA:1108:G:H2'	1:AA:1109:C:H5'	2.01	0.43
1:AA:1127:G:O2'	1:AA:1128:C:H5'	2.18	0.43
1:AA:1148:U:H5"	9:AI:8:THR:HG23	2.00	0.43
2:AB:63:LYS:HA	2:AB:224:ARG:NH1	2.34	0.43
3:AC:89:VAL:O	3:AC:93:ILE:HG12	2.18	0.43
5:AE:37:VAL:HG11	5:AE:113:VAL:HA	2.00	0.43
5:AE:103:GLY:HA2	5:AE:121:ASN:HA	2.00	0.43
7:AG:45:ALA:HB2	7:AG:116:ALA:HA	2.00	0.43
9:AI:100:ALA:HB1	9:AI:102:PHE:CE2	2.53	0.43
10:AJ:49:PHE:CE2	14:AN:76:PHE:HE1	2.37	0.43
11:AK:31:VAL:O	11:AK:43:TRP:HA	2.18	0.43
18:AR:48:ALA:O	18:AR:49:LYS:C	2.62	0.43
19:AS:37:SER:HB2	19:AS:70:LEU:HD12	2.01	0.43
30:B5:33:LEU:HB3	30:B5:51:ALA:CB	2.49	0.43
31:B6:34:ARG:CB	31:B6:42:LEU:HD13	2.48	0.43
33:B8:25:VAL:HB	33:B8:35:GLN:HE21	1.83	0.43
34:BA:54:G:H2'	34:BA:55:G:O4'	2.19	0.43
34:BA:311:A:C2	34:BA:328:U:O4	2.72	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:600:G:O4'	38:BE:100:MET:HE3	2.18	0.43
34:BA:704:G:C2'	34:BA:726:G:H22	2.22	0.43
34:BA:1039:A:H2'	34:BA:1040:A:O4'	2.19	0.43
34:BA:1855:U:O5'	34:BA:1855:U:H6	2.01	0.43
34:BA:1873:G:H2'	34:BA:1874:C:C6	2.53	0.43
34:BA:2376:A:N1	49:BS:92:PHE:HD2	2.16	0.43
34:BA:2478:A:C2'	34:BA:2479:U:H5'	2.48	0.43
35:BB:40:U:H1'	35:BB:45:A:N6	2.34	0.43
36:BC:244:VAL:HG12	36:BC:250:GLN:HA	1.99	0.43
38:BE:37:ALA:C	38:BE:39:ALA:H	2.26	0.43
41:BH:136:ILE:HA	41:BH:139:LEU:CG	2.49	0.43
42:BI:1:ALA:O	42:BI:2:LYS:HD3	2.18	0.43
42:BI:85:ILE:O	42:BI:85:ILE:HD12	2.19	0.43
43:BJ:27:GLU:HA	43:BJ:29:LYS:NZ	2.33	0.43
43:BL:8:ILE:O	43:BL:12:ALA:HB3	2.19	0.43
47:BQ:34:LYS:HA	47:BQ:101:VAL:HA	2.00	0.43
47:BQ:57:VAL:O	47:BQ:58:LYS:C	2.61	0.43
51:BU:83:LYS:O	51:BU:87:VAL:O	2.37	0.43
51:BU:96:ASP:C	51:BU:98:ALA:N	2.76	0.43
53:BW:83:LYS:H	53:BW:83:LYS:HG2	1.64	0.43
1:AA:44:A:O2'	1:AA:45:G:H5'	2.19	0.43
1:AA:68:G:C5	1:AA:69:G:H1'	2.53	0.43
1:AA:499:A:C2	1:AA:546:A:N3	2.87	0.43
1:AA:540:G:H2'	1:AA:541:G:O4'	2.18	0.43
1:AA:792:A:H4'	1:AA:793:U:O5'	2.18	0.43
1:AA:981:U:C6	1:AA:982:U:H2'	2.54	0.43
1:AA:1058:G:H2'	1:AA:1059:C:C6	2.54	0.43
1:AA:1129:C:O2'	1:AA:1130:A:N7	2.46	0.43
1:AA:1203:C:H5'	14:AN:66:THR:HB	2.01	0.43
1:AA:1239:A:C6	1:AA:1298:U:C5	3.06	0.43
1:AA:1491:G:O2'	24:AY:6:5OH:CR	2.66	0.43
2:AB:119:GLN:HE21	2:AB:119:GLN:C	2.27	0.43
3:AC:10:ARG:HG2	3:AC:10:ARG:HH11	1.84	0.43
4:AD:61:ARG:NH1	4:AD:68:GLU:HG2	2.34	0.43
6:AF:5:GLU:OE1	18:AR:22:TYR:HE2	2.02	0.43
8:AH:8:ASP:C	8:AH:11:THR:HG22	2.43	0.43
9:AI:56:MET:HA	9:AI:59:LYS:HB3	2.00	0.43
12:AL:23:LEU:CD1	12:AL:24:GLU:H	2.32	0.43
12:AL:88:ASP:C	12:AL:89:LEU:HD22	2.43	0.43
15:AO:49:HIS:O	15:AO:52:ARG:HB3	2.18	0.43
16:AP:4:ILE:CG2	16:AP:19:VAL:HG23	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AS:45:GLY:H	19:AS:61:VAL:HG23	1.82	0.43
23:AW:24:ALA:O	23:AW:143:LYS:HE3	2.19	0.43
23:AW:71:THR:CG2	23:AW:72:THR:H	2.31	0.43
26:B1:20:ALA:O	26:B1:21:LEU:HB2	2.18	0.43
29:B4:42:ILE:HD11	48:BR:98:LEU:HD13	2.00	0.43
33:B8:1:MET:HE2	33:B8:34:LYS:HG2	2.01	0.43
34:BA:42:A:H61	34:BA:437:U:H3	1.65	0.43
34:BA:176:A:O2'	34:BA:177:G:H5'	2.19	0.43
34:BA:335:C:H2'	34:BA:336:C:H6	1.83	0.43
34:BA:510:C:H2'	34:BA:511:U:O4'	2.19	0.43
34:BA:707:G:O2'	34:BA:708:G:H5'	2.19	0.43
34:BA:724:U:H2'	34:BA:725:G:O4'	2.19	0.43
34:BA:1079:C:N4	34:BA:1088:A:C2	2.86	0.43
34:BA:1339:G:N2	34:BA:1603:A:H1'	2.34	0.43
34:BA:1464:G:H2'	34:BA:1465:G:C8	2.54	0.43
34:BA:1788:C:C2'	34:BA:1789:A:H5'	2.49	0.43
34:BA:1790:C:H2'	34:BA:1791:A:C5	2.54	0.43
34:BA:1906:G:H5"	34:BA:1929:G:O2'	2.19	0.43
34:BA:2155:U:C4	34:BA:2156:G:C6	3.06	0.43
34:BA:2517:C:C6	34:BA:2542:A:N7	2.87	0.43
34:BA:2555:U:C5	34:BA:2556:C:C2	3.07	0.43
34:BA:2638:G:O2'	34:BA:2639:A:O5'	2.37	0.43
34:BA:2874:C:H2'	34:BA:2875:C:C6	2.53	0.43
35:BB:66:A:OP2	35:BB:108:A:N6	2.52	0.43
35:BB:86:G:H2'	35:BB:87:U:H5"	1.99	0.43
35:BB:87:U:OP2	35:BB:88:C:C5	2.65	0.43
36:BC:74:PRO:HA	36:BC:115:ILE:O	2.19	0.43
36:BC:89:ASN:HD22	36:BC:89:ASN:HA	1.66	0.43
36:BC:115:ILE:HD11	36:BC:126:GLY:HA3	2.01	0.43
37:BD:46:ARG:HG3	37:BD:84:LEU:HB2	2.01	0.43
39:BF:131:VAL:O	39:BF:132:ARG:O	2.36	0.43
40:BG:53:PRO:HD3	40:BG:61:TRP:CE3	2.52	0.43
41:BH:144:LYS:CD	41:BH:148:ALA:HB2	2.47	0.43
43:BL:14:MET:HE2	43:BL:14:MET:CA	2.40	0.43
43:BL:14:MET:O	43:BL:18:ASP:HB2	2.19	0.43
44:BN:21:THR:CG2	44:BN:22:GLY:H	2.26	0.43
44:BN:130:HIS:HD2	44:BN:132:HIS:H	1.62	0.43
45:BO:95:ILE:HD13	45:BO:95:ILE:HA	1.81	0.43
46:BP:3:LEU:HD23	46:BP:3:LEU:HA	1.75	0.43
48:BR:69:ARG:H	48:BR:69:ARG:HG2	1.49	0.43
51:BU:91:ARG:NH1	52:BV:11:GLN:H	2.15	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:BW:2:GLU:C	53:BW:3:THR:CG2	2.92	0.43
55:BY:25:LYS:HB2	55:BY:34:ILE:O	2.19	0.43
55:BY:82:VAL:CG1	55:BY:83:GLY:H	2.15	0.43
1:AA:8:A:O4'	5:AE:106:ALA:HA	2.19	0.42
1:AA:275:G:O2'	1:AA:276:G:H5'	2.19	0.42
1:AA:336:A:H2'	1:AA:337:G:H8	1.84	0.42
1:AA:414:A:N7	1:AA:431:A:C2	2.87	0.42
1:AA:753:A:H4'	1:AA:754:C:O5'	2.18	0.42
1:AA:1241:G:H2'	1:AA:1242:G:H8	1.84	0.42
1:AA:1317:C:H4'	14:AN:48:GLN:NE2	2.33	0.42
1:AA:1324:A:C1'	1:AA:1362:A:H4'	2.48	0.42
1:AA:1426:G:O2'	1:AA:1427:C:H5'	2.19	0.42
1:AA:1467:C:H2'	1:AA:1468:A:C8	2.54	0.42
2:AB:95:TRP:HZ3	2:AB:98:GLY:H	1.67	0.42
2:AB:102:ASN:C	2:AB:102:ASN:HD22	2.27	0.42
2:AB:162:VAL:HG22	2:AB:184:ALA:HB2	2.00	0.42
2:AB:185:ILE:HA	2:AB:199:ILE:O	2.19	0.42
5:AE:33:THR:HB	5:AE:49:TYR:CZ	2.54	0.42
5:AE:104:ILE:N	5:AE:121:ASN:O	2.53	0.42
7:AG:35:LYS:O	7:AG:39:GLU:HG2	2.19	0.42
12:AL:100:ALA:O	12:AL:101:LEU:C	2.62	0.42
14:AN:14:ALA:HB1	14:AN:18:LYS:CE	2.48	0.42
14:AN:42:ASN:C	14:AN:44:VAL:N	2.77	0.42
16:AP:20:VAL:HG22	16:AP:32:PHE:HB2	2.01	0.42
23:AW:59:TRP:NE1	23:AW:69:SER:CA	2.82	0.42
23:AW:96:SER:HB3	23:AW:99:THR:H	1.84	0.42
23:AW:405:ASP:O	23:AW:407:LEU:N	2.52	0.42
23:AW:411:GLN:N	23:AW:414:LYS:HB3	2.13	0.42
23:AW:428:PHE:HB3	23:AW:504:ILE:HD11	2.01	0.42
23:AW:490:GLU:HA	23:AW:493:LEU:HB2	2.00	0.42
27:B2:9:LYS:HZ1	27:B2:9:LYS:HA	1.84	0.42
27:B2:12:GLU:O	27:B2:15:ASN:HB2	2.18	0.42
30:B5:24:LYS:HE2	30:B5:51:ALA:O	2.19	0.42
31:B6:26:ASN:O	31:B6:30:VAL:HG23	2.19	0.42
32:B7:1:PRO:H3	34:BA:591:U:H1'	1.84	0.42
34:BA:486:C:H4'	53:BW:60:HIS:CD2	2.54	0.42
34:BA:749:A:N3	34:BA:1618:A:H2'	2.34	0.42
34:BA:1930:G:O2'	34:BA:1931:U:C6	2.72	0.42
34:BA:1990:C:H2'	34:BA:1991:U:C1'	2.49	0.42
34:BA:2029:G:N1	34:BA:2033:A:OP2	2.38	0.42
34:BA:2030:A:N3	34:BA:2499:C:H5"	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:2287:A:C5	34:BA:2289:G:C8	3.06	0.42
34:BA:2298:A:C6	34:BA:2299:U:C2	3.07	0.42
34:BA:2375:G:N2	34:BA:2378:A:C8	2.87	0.42
34:BA:2489:U:HO2'	34:BA:2491:U:H5	1.67	0.42
34:BA:2667:C:H1'	40:BG:108:PHE:HD2	1.84	0.42
34:BA:2740:A:C6	34:BA:2764:A:C8	3.07	0.42
36:BC:171:VAL:O	36:BC:182:LYS:HA	2.18	0.42
36:BC:245:THR:O	36:BC:246:PRO:C	2.62	0.42
39:BF:21:TYR:CE2	39:BF:27:VAL:HA	2.53	0.42
47:BQ:4:PRO:CG	47:BQ:70:ASP:HA	2.49	0.42
48:BR:75:ILE:C	48:BR:75:ILE:HD12	2.43	0.42
56:BZ:39:ALA:O	56:BZ:40:ILE:HD13	2.18	0.42
56:BZ:60:VAL:HG11	56:BZ:71:LYS:HD2	2.01	0.42
1:AA:6:G:H3'	1:AA:6:G:N3	2.34	0.42
1:AA:354:G:C2	1:AA:355:C:C6	3.07	0.42
1:AA:436:C:O2'	1:AA:437:U:H5'	2.19	0.42
1:AA:455:G:C2	1:AA:478:A:C2	3.07	0.42
1:AA:496:A:N3	1:AA:497:G:N7	2.67	0.42
1:AA:502:A:H2'	1:AA:503:C:O4'	2.20	0.42
1:AA:502:A:OP1	12:AL:114:SER:CB	2.67	0.42
1:AA:629:A:H2'	1:AA:630:A:O4'	2.19	0.42
1:AA:1057:G:H8	1:AA:1057:G:O5'	2.01	0.42
1:AA:1104:G:H2'	1:AA:1105:A:O4'	2.19	0.42
1:AA:1255:G:N2	1:AA:1283:U:O2	2.53	0.42
1:AA:1288:A:N6	1:AA:1289:A:N6	2.67	0.42
2:AB:68:PHE:H	2:AB:90:PHE:HA	1.83	0.42
2:AB:100:LEU:HA	2:AB:100:LEU:HD13	1.75	0.42
4:AD:117:VAL:HA	4:AD:122:ILE:HG13	2.00	0.42
6:AF:46:GLN:HE22	6:AF:55:HIS:HD2	1.67	0.42
6:AF:93:LYS:O	6:AF:94:HIS:CB	2.67	0.42
11:AK:93:GLU:OE2	11:AK:97:ARG:NH2	2.52	0.42
12:AL:30:ARG:HH11	23:AW:408:LYS:CG	2.30	0.42
20:AT:38:ILE:HD13	20:AT:38:ILE:N	2.33	0.42
21:AU:37:TYR:O	21:AU:37:TYR:CD2	2.60	0.42
23:AW:425:VAL:HB	23:AW:426:GLN:H	1.67	0.42
29:B4:16:ARG:NE	34:BA:1266:G:OP2	2.49	0.42
30:B5:6:GLU:OE1	30:B5:52:LYS:HG3	2.19	0.42
34:BA:771:G:C4	34:BA:772:C:C5	3.07	0.42
34:BA:1071:G:OP2	34:BA:1071:G:H8	2.01	0.42
34:BA:1152:C:C2'	34:BA:1153:C:H5'	2.49	0.42
34:BA:1223:G:OP1	52:BV:68:ARG:NH1	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1585:C:C2’	34:BA:1586:A:H5’	2.50	0.42
34:BA:1741:C:H2’	34:BA:1742:U:H6	1.83	0.42
34:BA:1999:C:H5”	34:BA:2723:C:O2’	2.19	0.42
34:BA:2221:G:H2’	34:BA:2222:C:H6	1.83	0.42
34:BA:2293:G:H2’	34:BA:2294:G:O4’	2.19	0.42
34:BA:2443:C:O2’	34:BA:2444:G:H5’	2.20	0.42
34:BA:2478:A:H2’	34:BA:2479:U:O4’	2.18	0.42
36:BC:76:VAL:O	36:BC:77:VAL:O	2.36	0.42
37:BD:89:GLU:HA	37:BD:94:GLN:OE1	2.19	0.42
41:BH:42:ARG:C	41:BH:44:ALA:N	2.77	0.42
41:BH:51:TYR:CE1	41:BH:52:MET:HG2	2.54	0.42
46:BP:79:LEU:O	46:BP:82:LEU:HD22	2.19	0.42
47:BQ:63:ILE:O	47:BQ:63:ILE:HG22	2.19	0.42
49:BS:78:VAL:HG23	49:BS:79:ALA:N	2.35	0.42
49:BS:103:VAL:HG23	49:BS:104:GLN:H	1.84	0.42
52:BV:82:HIS:CG	52:BV:82:HIS:O	2.71	0.42
56:BZ:53:LYS:O	56:BZ:55:GLU:N	2.51	0.42
1:AA:64:G:H5”	1:AA:65:A:P	2.58	0.42
1:AA:110:C:N4	1:AA:111:G:C6	2.87	0.42
1:AA:658:C:H1’	15:AO:21:THR:HG21	2.02	0.42
1:AA:679:C:O2	1:AA:712:A:C2	2.72	0.42
1:AA:1118:U:H5”	9:AI:105:ARG:HG3	2.01	0.42
1:AA:1157:A:H5’	1:AA:1158:C:C6	2.54	0.42
1:AA:1309:G:C6	1:AA:1329:A:C6	3.08	0.42
3:AC:163:ARG:NH1	3:AC:165:GLU:OE2	2.51	0.42
6:AF:90:MET:HB3	6:AF:91:ARG:H	1.46	0.42
7:AG:65:LEU:HG	7:AG:69:ARG:HE	1.83	0.42
16:AP:46:LYS:HE2	16:AP:47:GLU:N	2.18	0.42
17:AQ:11:VAL:HB	17:AQ:55:GLY:H	1.85	0.42
17:AQ:12:VAL:O	17:AQ:13:SER:HB2	2.19	0.42
19:AS:48:ILE:HD12	19:AS:59:VAL:O	2.18	0.42
20:AT:60:GLN:NE2	20:AT:60:GLN:HA	2.35	0.42
20:AT:66:ILE:HG13	20:AT:70:LYS:HE3	2.00	0.42
24:AY:5:UAL:C	24:AY:6:5OH:HS	2.48	0.42
25:B0:72:GLY:HA3	35:BB:12:C:C5	2.55	0.42
29:B4:9:ARG:HB3	29:B4:9:ARG:CZ	2.49	0.42
29:B4:54:ILE:HG22	29:B4:56:LYS:OXT	2.19	0.42
30:B5:6:GLU:O	30:B5:23:THR:HB	2.20	0.42
34:BA:279:A:H61	34:BA:361:G:H1’	1.84	0.42
34:BA:579:G:H2’	34:BA:580:U:C6	2.54	0.42
34:BA:689:A:O2’	34:BA:690:G:H5’	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:794:A:H2'	34:BA:795:C:C6	2.55	0.42
34:BA:1230:A:C2	34:BA:1231:U:C2	3.07	0.42
34:BA:1517:G:N2	34:BA:1732:C:C4	2.87	0.42
34:BA:1577:C:H2'	34:BA:1578:U:O4'	2.19	0.42
34:BA:1739:A:H2'	34:BA:1740:G:O4'	2.19	0.42
34:BA:1919:A:O5'	34:BA:1919:A:C8	2.72	0.42
34:BA:1967:C:H2'	34:BA:1968:G:H5'	2.00	0.42
34:BA:2423:U:H2'	34:BA:2424:C:OP2	2.17	0.42
34:BA:2489:U:O2	34:BA:2491:U:O4	2.37	0.42
34:BA:2635:A:C2	34:BA:2636:C:H1'	2.54	0.42
34:BA:2748:A:H1'	40:BG:66:THR:HG22	2.01	0.42
36:BC:12:ARG:CG	36:BC:12:ARG:NH1	2.82	0.42
36:BC:216:ARG:HH11	36:BC:216:ARG:CG	2.32	0.42
38:BE:147:LEU:O	38:BE:148:ILE:C	2.61	0.42
38:BE:153:LEU:O	38:BE:153:LEU:HG	2.19	0.42
41:BH:9:GLN:HG3	41:BH:10:ALA:N	2.34	0.42
41:BH:23:LEU:CD1	41:BH:92:ALA:HB1	2.41	0.42
42:BI:39:LYS:HB2	42:BI:39:LYS:NZ	2.34	0.42
42:BI:86:LYS:H	42:BI:86:LYS:HD2	1.84	0.42
42:BI:92:PRO:HB2	42:BI:93:ASN:H	1.68	0.42
46:BP:11:GLY:O	46:BP:12:SER:C	2.62	0.42
46:BP:93:ASN:ND2	46:BP:94:THR:H	2.13	0.42
46:BP:96:LYS:HA	46:BP:101:ILE:HB	2.01	0.42
48:BR:16:HIS:C	48:BR:16:HIS:CD2	2.97	0.42
51:BU:112:ALA:O	51:BU:116:LEU:HB2	2.19	0.42
54:BX:2:ILE:HB	54:BX:3:ARG:HD3	2.00	0.42
56:BZ:53:LYS:C	56:BZ:55:GLU:N	2.76	0.42
1:AA:148:G:C2	1:AA:149:A:C8	3.08	0.42
1:AA:270:A:C5	1:AA:271:C:C4	3.07	0.42
1:AA:646:G:C6	1:AA:647:C:N3	2.87	0.42
1:AA:690:G:H2'	1:AA:691:G:O4'	2.20	0.42
1:AA:832:G:C2	1:AA:855:U:C2	3.07	0.42
1:AA:853:C:H2'	1:AA:854:U:O4'	2.20	0.42
1:AA:1251:A:H1'	1:AA:1370:G:O4'	2.18	0.42
1:AA:1350:A:C5	1:AA:1351:U:C4	3.07	0.42
3:AC:5:HIS:O	3:AC:6:PRO:C	2.61	0.42
3:AC:39:ARG:NH2	3:AC:56:ILE:HG12	2.34	0.42
3:AC:179:ALA:HB1	3:AC:202:PHE:CE1	2.53	0.42
4:AD:128:VAL:HG21	4:AD:145:ARG:HH21	1.83	0.42
8:AH:52:GLY:HA3	8:AH:57:GLU:H	1.83	0.42
10:AJ:5:ARG:HA	10:AJ:5:ARG:NH1	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AK:26:PHE:CZ	11:AK:88:PRO:HG2	2.53	0.42
12:AL:56:LEU:HD23	12:AL:56:LEU:HA	1.78	0.42
14:AN:89:ARG:O	14:AN:91:GLU:HG2	2.19	0.42
16:AP:72:ALA:C	16:AP:74:LEU:N	2.77	0.42
18:AR:49:LYS:O	18:AR:52:ARG:HB2	2.19	0.42
20:AT:50:PHE:HA	20:AT:53:MET:HG2	2.01	0.42
23:AW:407:LEU:HA	23:AW:408:LYS:C	2.44	0.42
23:AW:419:LEU:HG	23:AW:452:ARG:HH12	1.84	0.42
28:B3:29:ARG:N	28:B3:33:HIS:HD2	2.16	0.42
33:B8:17:VAL:HG12	33:B8:18:LYS:N	2.34	0.42
34:BA:372:G:H1'	34:BA:373:U:H5	1.84	0.42
34:BA:864:G:O2'	34:BA:914:G:O6	2.37	0.42
34:BA:919:U:C2'	34:BA:920:A:H5'	2.49	0.42
34:BA:1087:G:C2'	34:BA:1089:A:H1'	2.50	0.42
34:BA:1211:C:H3'	34:BA:1212:G:H5'	2.01	0.42
34:BA:1334:G:H2'	34:BA:1335:C:C5'	2.48	0.42
34:BA:2150:C:O2'	34:BA:2151:U:C6	2.72	0.42
34:BA:2681:C:C2	34:BA:2724:U:O4	2.73	0.42
34:BA:2728:U:H2'	34:BA:2729:G:C8	2.54	0.42
34:BA:2825:G:H2'	34:BA:2826:A:H5'	2.01	0.42
35:BB:7:G:H5'	49:BS:29:HIS:CE1	2.54	0.42
35:BB:115:A:H2'	35:BB:116:G:H8	1.82	0.42
38:BE:5:LEU:CD2	38:BE:120:VAL:HG22	2.49	0.42
38:BE:52:VAL:HG11	38:BE:81:GLY:HA3	2.02	0.42
38:BE:155:GLU:O	38:BE:158:PHE:HB3	2.19	0.42
40:BG:70:LEU:O	40:BG:74:MET:HG3	2.19	0.42
40:BG:84:LYS:O	40:BG:85:LYS:HB2	2.19	0.42
40:BG:116:LEU:CD1	40:BG:143:VAL:HG11	2.49	0.42
43:BM:14:MET:HG2	43:BM:17:MET:HG2	2.02	0.42
44:BN:81:ILE:HG12	44:BN:82:GLY:N	2.34	0.42
46:BP:14:LYS:HE2	46:BP:14:LYS:HB2	1.78	0.42
50:BT:31:VAL:HG11	50:BT:40:GLN:HB2	2.01	0.42
51:BU:111:LYS:HE2	52:BV:48:LYS:HD3	2.02	0.42
52:BV:39:LEU:CA	52:BV:49:ILE:HG21	2.48	0.42
53:BW:33:LEU:HD22	53:BW:51:LEU:HD21	2.00	0.42
54:BX:28:ASN:HA	54:BX:91:GLN:OE1	2.20	0.42
1:AA:200:G:C2	1:AA:218:U:O2	2.72	0.42
1:AA:624:C:H2'	1:AA:625:U:O4'	2.19	0.42
1:AA:639:G:C2'	1:AA:640:A:H5'	2.50	0.42
1:AA:762:U:C2	1:AA:763:G:C8	3.07	0.42
3:AC:107:LYS:HB2	3:AC:107:LYS:NZ	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:29:ILE:HD13	5:AE:29:ILE:C	2.44	0.42
5:AE:97:PRO:HB2	5:AE:98:ALA:H	1.47	0.42
5:AE:155:LYS:HB2	8:AH:70:VAL:HG13	2.01	0.42
7:AG:64:ALA:O	7:AG:126:ALA:HB1	2.19	0.42
9:AI:119:LYS:HG3	9:AI:122:ARG:HB3	2.00	0.42
13:AM:65:GLU:HB3	13:AM:66:GLY:H	1.57	0.42
14:AN:72:PHE:CD1	14:AN:72:PHE:C	2.98	0.42
23:AW:320:VAL:HG12	23:AW:361:PRO:HA	2.01	0.42
26:B1:38:TRP:HA	26:B1:38:TRP:HE3	1.84	0.42
28:B3:38:GLU:OE1	34:BA:928:A:H4'	2.20	0.42
31:B6:39:ARG:NH1	34:BA:459:U:OP2	2.53	0.42
32:B7:44:ARG:N	32:B7:45:PRO:CD	2.82	0.42
34:BA:183:C:O5'	34:BA:183:C:H6	2.02	0.42
34:BA:799:G:C6	34:BA:800:A:C6	3.07	0.42
34:BA:817:C:O2'	34:BA:839:U:H5"	2.20	0.42
34:BA:991:C:C5	34:BA:1185:G:C6	3.08	0.42
34:BA:1354:A:H2'	34:BA:1355:G:O4'	2.20	0.42
34:BA:1914:C:O2	34:BA:1914:C:C2'	2.66	0.42
34:BA:2070:A:H2'	34:BA:2071:A:O4'	2.19	0.42
34:BA:2103:C:O2'	34:BA:2104:C:OP1	2.38	0.42
34:BA:2260:C:C2	34:BA:2281:A:C2	3.08	0.42
34:BA:2619:C:H5"	37:BD:157:LYS:HA	2.01	0.42
34:BA:2888:C:H2'	34:BA:2889:C:C6	2.54	0.42
36:BC:39:SER:C	36:BC:41:GLY:N	2.77	0.42
36:BC:141:HIS:HB3	36:BC:142:ASN:H	1.35	0.42
37:BD:93:GLY:C	37:BD:95:SER:H	2.27	0.42
40:BG:2:ARG:O	40:BG:3:VAL:C	2.63	0.42
40:BG:39:ALA:CB	40:BG:57:TYR:CD2	3.02	0.42
41:BH:67:THR:HB	41:BH:71:CYS:HB2	2.01	0.42
41:BH:106:PHE:CD2	41:BH:106:PHE:C	2.95	0.42
42:BI:7:TYR:CB	42:BI:58:ILE:H	2.29	0.42
42:BI:45:THR:C	42:BI:47:SER:H	2.27	0.42
45:BO:2:ILE:O	45:BO:3:GLN:CG	2.63	0.42
49:BS:28:VAL:HG23	49:BS:36:TYR:O	2.20	0.42
52:BV:9:GLY:C	52:BV:10:LYS:HD2	2.45	0.42
1:AA:24:U:C2'	1:AA:25:C:H5'	2.50	0.42
1:AA:82:G:N2	1:AA:88:U:HO2'	2.16	0.42
1:AA:130:A:C4	1:AA:264:C:H1'	2.55	0.42
1:AA:192:A:C6	1:AA:193:C:C4	3.07	0.42
1:AA:429:U:OP2	4:AD:31:CYS:HB2	2.20	0.42
1:AA:857:C:H2'	1:AA:858:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:960:U:C2'	1:AA:1222:G:O2'	2.68	0.42
1:AA:979:C:C4	1:AA:1318:A:N6	2.82	0.42
1:AA:1007:U:H3'	1:AA:1008:U:H5"	2.00	0.42
1:AA:1190:G:HO2'	1:AA:1191:A:P	2.42	0.42
1:AA:1250:A:H2'	1:AA:1251:A:C8	2.54	0.42
3:AC:104:GLU:HG2	3:AC:105:VAL:N	2.32	0.42
4:AD:176:LYS:HG2	4:AD:178:GLU:CG	2.50	0.42
11:AK:22:ILE:HD11	11:AK:85:VAL:CA	2.48	0.42
11:AK:24:ALA:HB1	11:AK:88:PRO:O	2.18	0.42
11:AK:71:ASP:O	11:AK:72:ALA:HB3	2.20	0.42
11:AK:115:ILE:N	11:AK:115:ILE:HD12	2.35	0.42
12:AL:20:VAL:HG12	12:AL:94:TYR:CE1	2.55	0.42
12:AL:21:PRO:O	12:AL:23:LEU:N	2.53	0.42
13:AM:10:ASP:CG	13:AM:11:HIS:N	2.76	0.42
16:AP:68:SER:HB2	16:AP:71:VAL:HB	2.01	0.42
17:AQ:21:VAL:HG21	17:AQ:42:LYS:HZ3	1.85	0.42
17:AQ:48:GLU:O	17:AQ:49:ASN:C	2.62	0.42
20:AT:5:SER:O	20:AT:7:LYS:N	2.52	0.42
23:AW:193:TYR:HA	23:AW:263:PHE:CE1	2.53	0.42
25:B0:30:VAL:HG21	34:BA:2352:A:N1	2.35	0.42
25:B0:49:ASN:CB	25:B0:81:ILE:HG12	2.50	0.42
26:B1:28:PHE:HB3	34:BA:396:G:H1'	2.01	0.42
26:B1:69:GLU:O	26:B1:70:LEU:C	2.62	0.42
34:BA:137:U:H3'	34:BA:140:C:H6	1.85	0.42
34:BA:408:G:N2	34:BA:420:C:H1'	2.34	0.42
34:BA:653:U:H2'	34:BA:654:A:OP1	2.20	0.42
34:BA:879:G:C2	34:BA:880:G:N7	2.88	0.42
34:BA:1045:C:C5'	34:BA:1047:G:O4'	2.67	0.42
34:BA:1414:C:C5	34:BA:1415:U:C5	3.08	0.42
34:BA:1477:A:H2'	34:BA:1478:G:H5'	2.01	0.42
34:BA:1538:G:N2	34:BA:1539:U:C2	2.88	0.42
34:BA:1619:G:H8	34:BA:1619:G:O5'	2.03	0.42
34:BA:1654:A:O2'	34:BA:1655:A:H5'	2.20	0.42
34:BA:1726:C:H2'	34:BA:1727:C:O4'	2.19	0.42
34:BA:1774:C:O2	36:BC:10:PRO:HB2	2.19	0.42
34:BA:1818:U:H5"	36:BC:156:SER:HB2	2.01	0.42
34:BA:2060:A:H1'	34:BA:2502:G:O4'	2.18	0.42
34:BA:2221:G:C5	34:BA:2222:C:C5	3.07	0.42
34:BA:2444:G:P	38:BE:63:LYS:HD2	2.59	0.42
34:BA:2452:C:N4	34:BA:2453:A:N6	2.67	0.42
34:BA:2601:C:H2'	34:BA:2603:G:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:2601:C:C2	34:BA:2603:G:N7	2.88	0.42
34:BA:2783:U:H2'	34:BA:2784:U:H6	1.83	0.42
34:BA:2867:G:O2'	34:BA:2868:A:H8	2.03	0.42
37:BD:13:ARG:HD2	50:BT:55:HIS:ND1	2.34	0.42
38:BE:37:ALA:C	38:BE:39:ALA:N	2.77	0.42
39:BF:71:LYS:O	39:BF:72:SER:C	2.63	0.42
39:BF:146:ASP:O	39:BF:147:ARG:HB2	2.19	0.42
42:BI:109:ALA:O	42:BI:124:MET:HE1	2.19	0.42
43:BK:4:LYS:O	43:BK:8:ILE:HG12	2.19	0.42
46:BP:109:LYS:CG	46:BP:126:ARG:HB3	2.32	0.42
50:BT:47:ILE:HD12	50:BT:97:TYR:HD2	1.85	0.42
52:BV:64:VAL:O	52:BV:64:VAL:HG12	2.19	0.42
53:BW:36:LEU:HD12	53:BW:36:LEU:HA	1.70	0.42
54:BX:50:LEU:C	54:BX:52:GLU:H	2.27	0.42
1:AA:70:U:C2	1:AA:94:G:C5	3.08	0.42
1:AA:687:A:H4'	1:AA:688:G:O5'	2.15	0.42
1:AA:971:G:O2'	1:AA:1365:G:O2'	2.28	0.42
1:AA:1069:C:O2'	1:AA:1192:C:H1'	2.20	0.42
1:AA:1221:G:O2'	1:AA:1222:G:H5'	2.19	0.42
1:AA:1225:A:H4'	19:AS:77:ARG:NE	2.35	0.42
1:AA:1280:A:O4'	10:AJ:43:PRO:HG3	2.20	0.42
1:AA:1371:G:OP1	9:AI:12:LYS:HG2	2.20	0.42
2:AB:86:CYS:HB2	2:AB:88:GLN:HG3	2.02	0.42
2:AB:90:PHE:N	2:AB:90:PHE:CD2	2.86	0.42
3:AC:24:ASN:O	3:AC:25:THR:C	2.63	0.42
4:AD:77:GLU:OE1	4:AD:77:GLU:HA	2.19	0.42
4:AD:160:LEU:HD13	4:AD:160:LEU:N	2.30	0.42
5:AE:147:ASN:O	5:AE:149:PRO:HD3	2.19	0.42
6:AF:71:ILE:O	6:AF:74:LEU:HB3	2.19	0.42
7:AG:143:MET:O	7:AG:143:MET:HE3	2.20	0.42
23:AW:264:GLY:HA2	23:AW:267:HIS:CE1	2.54	0.42
25:B0:14:ASP:HB3	25:B0:15:SER:H	1.53	0.42
25:B0:23:LYS:O	25:B0:66:VAL:HB	2.20	0.42
26:B1:19:HIS:C	26:B1:21:LEU:N	2.78	0.42
28:B3:15:ARG:HD2	28:B3:15:ARG:H	1.81	0.42
29:B4:29:VAL:HA	29:B4:35:GLU:O	2.20	0.42
34:BA:9:G:N2	34:BA:2629:U:C2	2.87	0.42
34:BA:201:C:O2	34:BA:251:A:C2	2.73	0.42
34:BA:278:A:H2'	34:BA:278:A:N3	2.34	0.42
34:BA:345:A:C5'	34:BA:346:A:OP1	2.68	0.42
34:BA:479:A:N3	34:BA:481:G:H5"	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:633:A:N3	34:BA:2403:C:H4'	2.35	0.42
34:BA:1086:A:H3'	34:BA:1086:A:N3	2.34	0.42
34:BA:1392:A:C6	34:BA:1393:A:C6	3.08	0.42
34:BA:1401:G:C6	34:BA:1402:U:C4	3.08	0.42
34:BA:1499:C:O2'	34:BA:1500:G:H5'	2.20	0.42
34:BA:1586:A:N7	34:BA:1587:G:N7	2.68	0.42
34:BA:1741:C:H2'	34:BA:1742:U:O4'	2.20	0.42
34:BA:2058:A:H8	34:BA:2058:A:O5'	2.02	0.42
34:BA:2211:A:OP2	34:BA:2211:A:C4'	2.68	0.42
34:BA:2680:U:OP1	37:BD:114:LYS:HG3	2.19	0.42
34:BA:2793:C:H2'	34:BA:2794:C:O4'	2.20	0.42
36:BC:108:GLY:C	36:BC:109:LEU:HD22	2.45	0.42
36:BC:145:MET:HE2	36:BC:145:MET:HB3	1.89	0.42
37:BD:64:GLU:O	37:BD:68:PHE:HD1	2.02	0.42
37:BD:98:VAL:C	37:BD:100:LEU:N	2.75	0.42
38:BE:24:ASN:ND2	38:BE:26:ALA:HB3	2.34	0.42
39:BF:93:GLU:HG3	39:BF:97:GLU:OE1	2.20	0.42
39:BF:155:ILE:HD12	39:BF:155:ILE:N	2.34	0.42
41:BH:7:ASP:O	41:BH:8:LYS:C	2.62	0.42
41:BH:60:LEU:O	41:BH:64:VAL:HB	2.20	0.42
43:BJ:13:ALA:HB1	43:BJ:17:MET:CB	2.50	0.42
47:BQ:17:ASN:O	47:BQ:38:ARG:NH1	2.53	0.42
48:BR:97:ILE:HD12	48:BR:97:ILE:N	2.35	0.42
49:BS:72:ALA:HA	49:BS:106:LEU:HA	2.01	0.42
50:BT:96:LEU:C	50:BT:98:TYR:H	2.27	0.42
51:BU:59:LEU:O	51:BU:60:TRP:C	2.63	0.42
52:BV:41:ILE:CD1	52:BV:54:VAL:HG21	2.47	0.42
54:BX:28:ASN:HA	54:BX:91:GLN:CD	2.44	0.42
54:BX:51:PHE:O	54:BX:52:GLU:C	2.62	0.42
56:BZ:30:ILE:O	56:BZ:37:PRO:HA	2.20	0.42
1:AA:181:A:H2'	1:AA:194:C:N4	2.35	0.42
1:AA:205:A:H3'	1:AA:206:C:H6	1.85	0.42
1:AA:411:A:C2'	1:AA:412:A:O5'	2.68	0.42
1:AA:512:U:H2'	1:AA:513:C:H6	1.85	0.42
1:AA:747:A:C6	1:AA:748:G:C5	3.07	0.42
1:AA:986:U:H2'	1:AA:987:G:C8	2.54	0.42
1:AA:1032:G:C2	1:AA:1033:G:H1'	2.55	0.42
1:AA:1125:U:C4	1:AA:1127:G:C4	3.08	0.42
1:AA:1206:G:C6	1:AA:1207:G:C5	3.07	0.42
1:AA:1301:U:H5"	1:AA:1302:C:OP2	2.18	0.42
1:AA:1346:A:C5	7:AG:9:ARG:NH1	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1480:A:H2'	1:AA:1481:U:H6	1.83	0.42
2:AB:40:ILE:HG21	2:AB:201:GLY:N	2.33	0.42
2:AB:59:ILE:HG13	2:AB:60:ALA:N	2.35	0.42
2:AB:119:GLN:C	2:AB:119:GLN:NE2	2.78	0.42
3:AC:116:ALA:HB2	3:AC:199:VAL:HG12	2.01	0.42
4:AD:141:VAL:HG12	4:AD:180:THR:OG1	2.20	0.42
4:AD:166:LYS:HA	4:AD:167:PRO:HD3	1.88	0.42
5:AE:80:LEU:N	5:AE:80:LEU:HD22	2.34	0.42
7:AG:69:ARG:HD2	7:AG:96:ASN:HA	2.02	0.42
9:AI:21:LYS:HB3	9:AI:21:LYS:HE3	1.62	0.42
10:AJ:73:LEU:HD22	10:AJ:73:LEU:HA	1.88	0.42
12:AL:89:LEU:O	12:AL:92:VAL:HB	2.19	0.42
17:AQ:14:ASP:O	17:AQ:16:MET:HG2	2.19	0.42
23:AW:314:ARG:HB2	23:AW:369:ASN:HB3	2.02	0.42
27:B2:28:LEU:HA	27:B2:28:LEU:HD23	1.75	0.42
29:B4:1:ALA:HB1	34:BA:2615:U:O4	2.19	0.42
30:B5:27:ARG:O	30:B5:30:PRO:HD3	2.20	0.42
30:B5:28:THR:O	30:B5:29:LYS:HG2	2.20	0.42
33:B8:4:ARG:H	33:B8:4:ARG:HG2	1.49	0.42
34:BA:246:C:H2'	34:BA:247:G:C5'	2.45	0.42
34:BA:304:U:H2'	34:BA:305:C:C6	2.54	0.42
34:BA:674:G:H4'	38:BE:69:ARG:HB3	2.02	0.42
34:BA:704:G:C2'	34:BA:726:G:N2	2.82	0.42
34:BA:1383:A:C2	34:BA:1405:U:O2	2.72	0.42
34:BA:1450:G:C2	34:BA:1462:C:C2	3.08	0.42
34:BA:1509:A:P	34:BA:1509:A:O4'	2.78	0.42
34:BA:1576:U:N3	34:BA:1577:C:C5	2.88	0.42
34:BA:1801:A:OP2	36:BC:149:LYS:NZ	2.46	0.42
34:BA:1841:U:O2	36:BC:242:HIS:HE1	2.03	0.42
34:BA:1957:C:H5'	34:BA:1984:G:O2'	2.20	0.42
34:BA:2086:U:C2	34:BA:2234:G:C6	3.08	0.42
34:BA:2734:A:C2'	34:BA:2735:G:H5'	2.50	0.42
34:BA:2798:U:C5'	34:BA:2799:A:OP1	2.61	0.42
36:BC:175:LEU:HD12	36:BC:175:LEU:HA	1.78	0.42
36:BC:239:PHE:HE1	36:BC:241:LYS:O	2.02	0.42
37:BD:26:VAL:HG22	37:BD:188:LEU:CD2	2.50	0.42
37:BD:92:VAL:O	37:BD:92:VAL:HG12	2.20	0.42
37:BD:169:ARG:C	37:BD:170:VAL:HG13	2.45	0.42
38:BE:24:ASN:HD21	38:BE:26:ALA:HB3	1.84	0.42
38:BE:136:GLN:O	38:BE:137:LYS:C	2.63	0.42
40:BG:61:TRP:O	40:BG:65:GLY:N	2.42	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BG:115:GLN:H	40:BG:115:GLN:CD	2.28	0.42
40:BG:123:GLU:CD	40:BG:124:CYS:H	2.28	0.42
41:BH:150:LYS:HG2	41:BH:154:THR:OG1	2.20	0.42
42:BI:23:VAL:HG23	42:BI:24:GLY:N	2.34	0.42
43:BK:7:ILE:HG22	43:BK:11:VAL:CG2	2.49	0.42
44:BN:9:GLU:O	44:BN:9:GLU:HG3	2.20	0.42
46:BP:81:ASP:O	46:BP:83:ALA:N	2.50	0.42
46:BP:110:VAL:HB	46:BP:127:VAL:HG23	2.02	0.42
53:BW:63:GLY:O	53:BW:64:ALA:CB	2.67	0.42
53:BW:73:LYS:HB2	53:BW:106:VAL:HB	2.02	0.42
54:BX:24:MET:HG3	54:BX:29:THR:CG2	2.50	0.42
54:BX:63:VAL:O	54:BX:79:ASP:HB3	2.20	0.42
1:AA:632:U:H5”	1:AA:633:G:H8	1.84	0.42
1:AA:752:G:H8	1:AA:752:G:O5’	2.03	0.42
1:AA:815:A:O2’	1:AA:1527:U:C1’	2.68	0.42
1:AA:878:A:H2’	1:AA:879:C:C6	2.55	0.42
1:AA:949:A:C2	1:AA:950:U:H1’	2.55	0.42
1:AA:1317:C:O2’	14:AN:48:GLN:HG3	2.20	0.42
2:AB:95:TRP:CE3	2:AB:96:LEU:O	2.73	0.42
4:AD:54:LEU:HD23	4:AD:55:ARG:HA	2.01	0.42
4:AD:57:LYS:CB	4:AD:199:ILE:HG12	2.50	0.42
4:AD:61:ARG:HG2	4:AD:71:PHE:HD2	1.82	0.42
4:AD:119:HIS:O	4:AD:120:LYS:C	2.63	0.42
4:AD:159:GLU:HB3	4:AD:160:LEU:HD13	2.02	0.42
8:AH:12:ARG:HH11	8:AH:26:MET:HB2	1.84	0.42
8:AH:41:GLU:HG3	8:AH:41:GLU:O	2.20	0.42
8:AH:82:LEU:HD22	8:AH:84:ILE:CD1	2.50	0.42
10:AJ:26:VAL:O	10:AJ:30:LYS:HG2	2.20	0.42
10:AJ:61:ALA:O	10:AJ:62:ARG:HB2	2.19	0.42
11:AK:116:PRO:C	11:AK:118:ASN:H	2.28	0.42
19:AS:69:LYS:HB3	19:AS:70:LEU:H	1.66	0.42
25:B0:71:LYS:HB3	25:B0:73:PRO:HD2	2.02	0.42
29:B4:32:THR:CB	29:B4:50:GLY:HA2	2.50	0.42
30:B5:47:ILE:H	30:B5:47:ILE:HD12	1.85	0.42
34:BA:269:C:H2’	34:BA:270:A:C8	2.55	0.42
34:BA:528:A:P	44:BN:116:ARG:HH21	2.43	0.42
34:BA:569:U:C4	34:BA:570:G:C6	3.07	0.42
34:BA:995:C:H6	34:BA:995:C:C5’	2.18	0.42
34:BA:1016:G:C2	34:BA:1147:A:C2	3.08	0.42
34:BA:1079:C:N4	34:BA:1088:A:H2	2.18	0.42
34:BA:1079:C:H42	34:BA:1088:A:H2	1.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1087:G:C6	34:BA:1089:A:C2	3.08	0.42
34:BA:1141:U:OP2	44:BN:65:THR:HG21	2.19	0.42
34:BA:2313:C:H2'	34:BA:2314:A:C8	2.55	0.42
34:BA:2561:U:O2'	45:BO:23:LYS:HD2	2.19	0.42
36:BC:23:LEU:CD1	36:BC:82:TYR:N	2.80	0.42
37:BD:181:ASP:C	37:BD:182:ALA:O	2.63	0.42
41:BH:25:ALA:CB	41:BH:85:SER:HG	2.23	0.42
41:BH:113:PHE:C	41:BH:115:GLY:H	2.28	0.42
42:BI:116:MET:SD	42:BI:124:MET:HB2	2.60	0.42
43:BL:11:VAL:HG13	43:BM:29:LYS:CE	2.50	0.42
44:BN:93:ILE:HD13	44:BN:93:ILE:HA	1.84	0.42
47:BQ:109:PRO:O	47:BQ:110:GLU:C	2.63	0.42
52:BV:10:LYS:N	52:BV:10:LYS:CD	2.82	0.42
55:BY:35:VAL:O	55:BY:36:GLU:C	2.62	0.42
1:AA:29:U:H5'	1:AA:296:U:OP1	2.20	0.42
1:AA:168:G:O2'	1:AA:169:C:H5'	2.20	0.42
1:AA:405:U:O4	4:AD:1:ALA:N	2.53	0.42
1:AA:537:G:O2'	1:AA:538:G:H5'	2.20	0.42
1:AA:556:C:H2'	1:AA:557:G:H5'	2.02	0.42
1:AA:660:C:C2	1:AA:746:A:H2	2.38	0.42
1:AA:769:G:C2'	1:AA:770:C:H5'	2.50	0.42
1:AA:858:G:O6	1:AA:869:G:C8	2.73	0.42
1:AA:978:A:C8	1:AA:1319:A:C2	3.07	0.42
1:AA:989:U:H2'	1:AA:990:C:H6	1.85	0.42
1:AA:1143:G:H2'	1:AA:1144:G:C8	2.55	0.42
1:AA:1308:U:O3'	13:AM:90:HIS:CE1	2.72	0.42
1:AA:1318:A:O2'	19:AS:36:ARG:CD	2.68	0.42
6:AF:7:VAL:O	6:AF:7:VAL:HG22	2.20	0.42
8:AH:71:VAL:O	8:AH:71:VAL:HG12	2.19	0.42
9:AI:103:VAL:HG23	9:AI:104:THR:N	2.34	0.42
10:AJ:37:ARG:C	10:AJ:38:GLY:O	2.62	0.42
12:AL:43:LYS:NZ	12:AL:44:PRO:HD3	2.35	0.42
14:AN:33:VAL:O	14:AN:33:VAL:HG12	2.20	0.42
15:AO:70:LYS:HB2	15:AO:77:TYR:CG	2.55	0.42
18:AR:21:ASP:C	18:AR:23:LYS:H	2.28	0.42
20:AT:2:ASN:O	20:AT:4:LYS:N	2.53	0.42
23:AW:101:ARG:NH1	23:AW:392:ASN:OD1	2.53	0.42
25:B0:37:VAL:HG13	25:B0:55:ASP:C	2.43	0.42
33:B8:30:GLU:HA	33:B8:31:PRO:HD3	1.79	0.42
34:BA:96:C:O2'	34:BA:97:C:H5'	2.20	0.42
34:BA:340:A:H2'	34:BA:341:C:C5'	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:534:U:O2'	51:BU:48:ASP:OD1	2.17	0.42
34:BA:832:U:O2'	34:BA:833:A:H5'	2.20	0.42
34:BA:881:G:H1	34:BA:895:U:H3	1.67	0.42
34:BA:920:A:C6	34:BA:921:C:C4	3.08	0.42
34:BA:936:A:H2'	34:BA:937:C:H6	1.83	0.42
34:BA:1628:G:C5	34:BA:1629:U:C5	3.08	0.42
34:BA:2187:U:C4	34:BA:2188:U:O4	2.73	0.42
34:BA:2204:G:O5'	36:BC:149:LYS:HE3	2.19	0.42
34:BA:2224:G:H4'	34:BA:2226:C:C2	2.55	0.42
34:BA:2291:U:H5"	34:BA:2380:C:O2'	2.19	0.42
34:BA:2331:G:O2'	34:BA:2336:A:N1	2.53	0.42
36:BC:77:VAL:HA	36:BC:93:VAL:HA	2.01	0.42
38:BE:13:THR:O	38:BE:13:THR:HG22	2.19	0.42
38:BE:101:TYR:CE2	38:BE:105:LEU:HD11	2.54	0.42
39:BF:9:ASP:O	39:BF:10:GLU:CB	2.67	0.42
39:BF:32:LYS:HD2	39:BF:89:THR:CG2	2.50	0.42
39:BF:169:LEU:HD23	39:BF:174:PHE:CZ	2.55	0.42
40:BG:37:ASN:HB3	40:BG:40:VAL:HG13	2.01	0.42
41:BH:9:GLN:O	41:BH:10:ALA:C	2.62	0.42
41:BH:96:PHE:C	41:BH:125:ARG:HH22	2.27	0.42
43:BL:3:THR:HB	43:BM:21:GLU:CG	2.50	0.42
43:BM:2:ILE:HD13	43:BM:3:THR:H	1.85	0.42
45:BO:8:LEU:N	45:BO:8:LEU:HD23	2.35	0.42
46:BP:136:GLU:C	46:BP:138:ALA:H	2.28	0.42
47:BQ:36:VAL:H	47:BQ:99:GLY:H	1.68	0.42
47:BQ:66:ARG:HB2	47:BQ:101:VAL:O	2.20	0.42
48:BR:36:THR:OG1	48:BR:37:THR:N	2.53	0.42
49:BS:108:ASP:O	49:BS:112:GLU:HB2	2.19	0.42
50:BT:30:TRP:CZ3	50:BT:39:LEU:HD11	2.55	0.42
52:BV:41:ILE:HG21	52:BV:103:ALA:HB2	2.02	0.42
52:BV:62:GLU:O	52:BV:64:VAL:HG23	2.20	0.42
52:BV:93:PHE:CD1	52:BV:93:PHE:C	2.98	0.42
54:BX:11:LEU:HD11	54:BX:47:VAL:HG22	2.02	0.42
1:AA:143:A:H2'	1:AA:143:A:N3	2.33	0.41
1:AA:275:G:C2	1:AA:276:G:C4	3.08	0.41
1:AA:1202:U:C5	10:AJ:55:PRO:HB3	2.54	0.41
1:AA:1307:U:OP1	13:AM:99:GLN:HG2	2.20	0.41
1:AA:1316:G:N2	1:AA:1319:A:C8	2.88	0.41
1:AA:1333:A:C8	1:AA:1334:G:N7	2.88	0.41
1:AA:1458:G:O3'	20:AT:22:SER:CB	2.67	0.41
5:AE:11:GLN:HG3	5:AE:116:VAL:CB	2.47	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:104:ILE:H	5:AE:121:ASN:C	2.28	0.41
9:AI:80:HIS:O	9:AI:81:GLY:C	2.63	0.41
10:AJ:42:LEU:HB2	10:AJ:71:LEU:HB3	2.02	0.41
13:AM:77:LYS:HA	13:AM:80:MET:CE	2.49	0.41
15:AO:34:GLN:O	15:AO:35:ILE:C	2.62	0.41
19:AS:48:ILE:HD12	19:AS:48:ILE:O	2.20	0.41
23:AW:61:GLU:HB2	23:AW:64:LYS:HG3	2.02	0.41
23:AW:285:ASP:OD1	23:AW:285:ASP:N	2.53	0.41
23:AW:401:ILE:HA	23:AW:462:VAL:O	2.20	0.41
34:BA:89:A:C2	34:BA:90:U:C2	3.08	0.41
34:BA:341:C:C2'	34:BA:342:A:H5'	2.50	0.41
34:BA:1063:G:N2	34:BA:1076:C:O2	2.53	0.41
34:BA:1505:A:H2'	34:BA:1506:U:O4'	2.20	0.41
34:BA:1592:C:H2'	34:BA:1593:A:C8	2.55	0.41
34:BA:1820:U:H3	36:BC:197:ALA:HA	1.85	0.41
34:BA:1894:C:C2	34:BA:1895:C:C5	3.08	0.41
38:BE:79:ARG:CG	38:BE:80:SER:H	2.05	0.41
40:BG:39:ALA:O	40:BG:54:ARG:HB3	2.20	0.41
40:BG:162:ARG:CZ	40:BG:168:VAL:HG11	2.50	0.41
42:BI:27:LEU:HD11	42:BI:34:ILE:HA	2.02	0.41
42:BI:107:GLU:HA	42:BI:110:GLN:HE21	1.85	0.41
43:BJ:29:LYS:HB2	43:BJ:30:PHE:CD1	2.55	0.41
44:BN:114:LEU:HA	44:BN:114:LEU:HD23	1.66	0.41
47:BQ:33:LEU:HD22	47:BQ:128:THR:HB	2.02	0.41
47:BQ:64:TRP:HH2	47:BQ:106:ASP:HB2	1.83	0.41
51:BU:80:ASN:O	51:BU:83:LYS:HB3	2.19	0.41
53:BW:45:VAL:CG2	53:BW:46:LEU:N	2.83	0.41
54:BX:85:VAL:O	54:BX:86:THR:HG23	2.20	0.41
1:AA:256:U:C2'	1:AA:257:G:H5'	2.50	0.41
1:AA:332:G:OP2	20:AT:4:LYS:CB	2.68	0.41
1:AA:374:A:C4	1:AA:375:U:C5	3.08	0.41
1:AA:464:U:C6	1:AA:466:A:OP2	2.73	0.41
1:AA:635:A:H2'	1:AA:636:U:C6	2.55	0.41
1:AA:737:C:H2'	1:AA:738:C:C6	2.54	0.41
1:AA:1058:G:N2	10:AJ:55:PRO:HG3	2.35	0.41
1:AA:1079:G:N2	1:AA:1080:A:C2	2.88	0.41
1:AA:1119:C:OP1	9:AI:84:ARG:NH2	2.53	0.41
1:AA:1434:A:C6	1:AA:1435:G:C5	3.08	0.41
2:AB:88:GLN:HE21	2:AB:88:GLN:H	1.68	0.41
2:AB:136:ARG:CG	2:AB:136:ARG:NH1	2.80	0.41
4:AD:22:SER:O	4:AD:23:GLY:C	2.63	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:194:ILE:O	4:AD:194:ILE:HG13	2.20	0.41
5:AE:110:MET:CE	5:AE:124:ALA:HB1	2.50	0.41
6:AF:44:ARG:HG3	6:AF:58:HIS:ND1	2.35	0.41
8:AH:64:TYR:CE2	8:AH:69:ALA:HB2	2.56	0.41
9:AI:66:VAL:HG22	9:AI:67:LYS:N	2.35	0.41
10:AJ:7:ARG:HD3	10:AJ:75:ASP:OD1	2.20	0.41
10:AJ:37:ARG:HB2	10:AJ:75:ASP:HB3	2.02	0.41
11:AK:39:ASN:O	11:AK:41:LEU:HD23	2.20	0.41
15:AO:52:ARG:O	15:AO:56:LEU:HG	2.19	0.41
20:AT:68:LYS:HB2	20:AT:68:LYS:HZ3	1.81	0.41
23:AW:59:TRP:O	23:AW:60:MET:C	2.62	0.41
27:B2:56:LEU:HA	27:B2:59:GLU:HG2	2.03	0.41
31:B6:9:VAL:HG12	34:BA:1309:G:OP1	2.20	0.41
34:BA:136:G:H1	34:BA:143:C:H42	1.68	0.41
34:BA:171:U:H2'	34:BA:172:A:H8	1.85	0.41
34:BA:555:G:C2'	34:BA:556:A:OP2	2.68	0.41
34:BA:629:G:H1'	34:BA:639:U:H1'	2.02	0.41
34:BA:778:G:C5	34:BA:779:U:C4	3.08	0.41
34:BA:882:G:N2	34:BA:895:U:O2'	2.53	0.41
34:BA:1056:G:OP1	41:BH:34:THR:OG1	2.31	0.41
34:BA:1132:U:H3'	34:BA:1133:A:H5"	2.02	0.41
34:BA:1205:A:H5"	34:BA:1206:G:C8	2.55	0.41
34:BA:1229:C:H2'	34:BA:1230:A:H8	1.85	0.41
34:BA:1904:G:H1'	34:BA:1927:A:N1	2.34	0.41
34:BA:1935:G:H1	34:BA:1962:C:C2'	2.31	0.41
34:BA:2151:U:N3	34:BA:2152:G:C5	2.88	0.41
34:BA:2839:G:OP1	48:BR:46:ARG:HD2	2.20	0.41
36:BC:29:PHE:CD2	36:BC:31:PRO:HG2	2.54	0.41
37:BD:24:VAL:HA	37:BD:191:GLY:N	2.23	0.41
37:BD:133:THR:HG23	37:BD:134:HIS:CD2	2.55	0.41
38:BE:79:ARG:CG	38:BE:80:SER:N	2.73	0.41
40:BG:6:ALA:CB	40:BG:68:ARG:NH1	2.83	0.41
41:BH:138:ARG:O	41:BH:142:THR:HG23	2.20	0.41
44:BN:25:LEU:HB2	44:BN:62:VAL:CG2	2.50	0.41
44:BN:45:THR:HG23	44:BN:50:THR:HG21	1.98	0.41
45:BO:4:GLU:OE2	45:BO:23:LYS:HE2	2.20	0.41
45:BO:77:ILE:CD1	45:BO:105:ARG:NH1	2.83	0.41
46:BP:108:ALA:HB3	46:BP:125:LEU:HD22	2.01	0.41
48:BR:8:ARG:HB2	48:BR:43:GLU:OE1	2.20	0.41
48:BR:49:GLU:N	48:BR:50:PRO:CD	2.83	0.41
50:BT:57:ALA:CA	50:BT:75:THR:HG22	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BU:79:ILE:HA	51:BU:79:ILE:HD13	1.80	0.41
52:BV:5:PHE:CE2	52:BV:35:PHE:CD2	3.08	0.41
53:BW:29:VAL:HG22	53:BW:51:LEU:HD11	2.01	0.41
1:AA:82:G:N2	1:AA:84:U:C4	2.89	0.41
1:AA:197:A:N3	1:AA:198:G:H1'	2.36	0.41
1:AA:212:G:H2'	1:AA:213:G:H8	1.84	0.41
1:AA:263:A:P	20:AT:73:ARG:HH11	2.43	0.41
1:AA:429:U:H1'	1:AA:430:A:H5"	2.02	0.41
1:AA:518:C:C6	1:AA:529:G:H2'	2.55	0.41
1:AA:595:A:H61	1:AA:641:U:H2'	1.85	0.41
1:AA:963:G:C2'	1:AA:964:A:O5'	2.68	0.41
1:AA:1085:U:C1'	1:AA:1094:G:C6	3.02	0.41
1:AA:1085:U:C6	1:AA:1094:G:N1	2.88	0.41
1:AA:1210:C:O4'	1:AA:1214:C:N4	2.52	0.41
1:AA:1277:C:O2'	1:AA:1279:G:H1'	2.20	0.41
1:AA:1394:A:N1	1:AA:1500:A:O2'	2.49	0.41
3:AC:6:PRO:HB3	3:AC:174:LEU:CD1	2.50	0.41
3:AC:122:GLN:HB3	3:AC:127:VAL:CG2	2.50	0.41
3:AC:159:ALA:HB1	3:AC:161:ILE:CD1	2.36	0.41
4:AD:57:LYS:HB3	4:AD:199:ILE:CG1	2.50	0.41
4:AD:185:PRO:HB2	4:AD:190:LEU:CD2	2.50	0.41
7:AG:65:LEU:HG	7:AG:69:ARG:CZ	2.50	0.41
7:AG:89:GLU:H	7:AG:89:GLU:CD	2.28	0.41
7:AG:98:LEU:CD2	7:AG:101:ARG:HH12	2.32	0.41
7:AG:99:ALA:O	7:AG:103:ILE:HG13	2.20	0.41
8:AH:124:ILE:HD13	8:AH:124:ILE:N	2.35	0.41
9:AI:27:ILE:HG12	9:AI:62:LEU:HG	2.01	0.41
9:AI:56:MET:HB3	9:AI:60:LEU:HD21	2.02	0.41
9:AI:77:ALA:O	9:AI:78:ILE:C	2.64	0.41
11:AK:126:ARG:C	21:AU:33:ARG:NH1	2.64	0.41
13:AM:9:PRO:O	13:AM:10:ASP:HB2	2.20	0.41
14:AN:26:LEU:HA	14:AN:30:ILE:HD13	2.02	0.41
17:AQ:65:PRO:C	17:AQ:66:LEU:HG	2.45	0.41
22:AV:15:A:N3	22:AV:15:A:C2'	2.77	0.41
25:B0:28:GLU:N	25:B0:31:LEU:HD11	2.27	0.41
25:B0:37:VAL:CG1	34:BA:2386:A:O2'	2.69	0.41
27:B2:45:GLN:O	27:B2:46:VAL:CB	2.68	0.41
27:B2:45:GLN:O	27:B2:46:VAL:HB	2.20	0.41
32:B7:12:ARG:NH1	34:BA:250:G:P	2.94	0.41
34:BA:14:A:H5"	34:BA:15:G:OP2	2.20	0.41
34:BA:197:A:C6	34:BA:198:C:C2	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:293:U:C5	34:BA:345:A:N6	2.88	0.41
34:BA:426:C:C4	34:BA:427:U:C5	3.07	0.41
34:BA:633:A:H1'	34:BA:2403:C:O3'	2.19	0.41
34:BA:826:U:H2'	34:BA:828:U:O4'	2.20	0.41
34:BA:864:G:C6	34:BA:865:C:C4	3.07	0.41
34:BA:876:C:N4	34:BA:900:A:N6	2.65	0.41
34:BA:900:A:C2	34:BA:902:C:C4	3.07	0.41
34:BA:1059:G:C6	34:BA:1080:A:C6	3.08	0.41
34:BA:1288:G:C5	34:BA:1327:A:C2	3.08	0.41
34:BA:1302:A:H5'	34:BA:1608:A:OP2	2.20	0.41
34:BA:1378:A:C4	34:BA:1380:G:C8	3.08	0.41
34:BA:1693:U:H3'	34:BA:1694:C:C6	2.54	0.41
34:BA:2328:A:C5	34:BA:2329:U:C4	3.07	0.41
34:BA:2567:G:H2'	34:BA:2568:U:H6	1.81	0.41
34:BA:2822:G:P	37:BD:115:GLY:HA3	2.61	0.41
35:BB:94:A:C5	35:BB:95:U:C4	3.09	0.41
36:BC:33:LEU:O	36:BC:34:GLU:CB	2.68	0.41
36:BC:250:GLN:NE2	36:BC:250:GLN:H	2.18	0.41
39:BF:71:LYS:HD3	39:BF:71:LYS:HA	1.90	0.41
39:BF:110:ILE:O	39:BF:110:ILE:HG22	2.19	0.41
41:BH:8:LYS:O	41:BH:11:ILE:HG12	2.19	0.41
41:BH:28:ALA:CB	41:BH:111:ALA:HB2	2.51	0.41
41:BH:64:VAL:C	41:BH:66:GLY:H	2.27	0.41
41:BH:132:TYR:OH	43:BK:19:VAL:HG21	2.20	0.41
42:BI:133:ARG:HG2	42:BI:133:ARG:O	2.19	0.41
44:BN:64:VAL:HG13	44:BN:68:LYS:HB2	2.01	0.41
45:BO:15:GLY:O	45:BO:16:ALA:C	2.63	0.41
45:BO:70:ARG:HD3	45:BO:76:VAL:HG22	2.02	0.41
48:BR:116:VAL:O	48:BR:116:VAL:HG22	2.19	0.41
49:BS:103:VAL:O	49:BS:105:ALA:O	2.37	0.41
52:BV:74:ILE:HD12	52:BV:74:ILE:N	2.36	0.41
53:BW:62:ASP:O	53:BW:63:GLY:C	2.62	0.41
53:BW:82:MET:HE2	53:BW:82:MET:HB3	1.90	0.41
1:AA:402:G:C6	1:AA:403:C:C4	3.09	0.41
1:AA:453:G:C6	1:AA:480:U:C2	3.08	0.41
1:AA:953:G:C2	1:AA:1229:A:C2	3.09	0.41
1:AA:956:U:H6	1:AA:956:U:O5'	2.03	0.41
1:AA:1061:G:C5	1:AA:1062:U:C4	3.08	0.41
1:AA:1167:A:N7	1:AA:1169:A:C6	2.88	0.41
1:AA:1210:C:H2'	1:AA:1211:U:H5'	2.01	0.41
1:AA:1300:G:O2'	1:AA:1301:U:OP2	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1322:C:OP2	13:AM:98:GLY:HA2	2.20	0.41
2:AB:90:PHE:CE2	2:AB:148:GLY:HA3	2.55	0.41
2:AB:99:MET:CA	2:AB:106:VAL:HG21	2.36	0.41
3:AC:185:THR:O	3:AC:186:SER:HB2	2.20	0.41
4:AD:131:ILE:O	4:AD:133:SER:N	2.48	0.41
5:AE:73:VAL:HG11	5:AE:143:LEU:HB3	2.03	0.41
6:AF:11:HIS:HA	6:AF:12:PRO:HD2	1.67	0.41
9:AI:80:HIS:HE1	9:AI:103:VAL:O	2.03	0.41
10:AJ:77:VAL:O	10:AJ:79:PRO:HD3	2.20	0.41
11:AK:30:ILE:HA	11:AK:45:THR:HA	2.03	0.41
13:AM:82:LEU:CB	19:AS:73:PHE:HE2	2.28	0.41
14:AN:12:ARG:HG2	14:AN:53:ASP:CB	2.50	0.41
15:AO:38:LEU:HD13	15:AO:38:LEU:HA	1.90	0.41
20:AT:78:LEU:HD23	20:AT:78:LEU:HA	1.87	0.41
23:AW:165:GLY:HA3	23:AW:251:ILE:HG22	2.02	0.41
23:AW:172:PRO:HD3	23:AW:256:PHE:CD1	2.55	0.41
23:AW:183:TYR:CZ	23:AW:210:LEU:HD13	2.56	0.41
25:B0:17:ALA:HB1	25:B0:36:ILE:HA	2.03	0.41
25:B0:23:LYS:HD2	25:B0:24:ARG:H	1.86	0.41
34:BA:9:G:C6	34:BA:2629:U:C6	3.08	0.41
34:BA:242:G:N2	34:BA:255:A:OP2	2.41	0.41
34:BA:547:A:H3'	34:BA:548:G:H5'	2.02	0.41
34:BA:570:G:H2'	34:BA:2030:A:N7	2.36	0.41
34:BA:580:U:O2'	34:BA:581:C:H5'	2.20	0.41
34:BA:604:G:N2	34:BA:657:U:H4'	2.35	0.41
34:BA:621:A:H2'	34:BA:622:G:C5'	2.51	0.41
34:BA:644:A:N1	34:BA:2369:A:H1'	2.36	0.41
34:BA:714:U:H5'	34:BA:715:A:OP2	2.21	0.41
34:BA:971:G:O2'	34:BA:983:A:N3	2.52	0.41
34:BA:1119:U:OP1	56:BZ:83:LYS:HD3	2.21	0.41
34:BA:1418:G:H8	34:BA:1418:G:O5'	2.03	0.41
34:BA:2228:G:H2'	34:BA:2229:U:C6	2.55	0.41
34:BA:2261:C:C2	34:BA:2280:G:N2	2.88	0.41
34:BA:2357:G:N2	34:BA:2360:G:OP2	2.45	0.41
34:BA:2866:U:H4'	34:BA:2867:G:O5'	2.20	0.41
37:BD:16:THR:O	37:BD:17:GLU:C	2.63	0.41
37:BD:184:ARG:O	37:BD:186:LEU:HD13	2.20	0.41
41:BH:25:ALA:HB2	41:BH:96:PHE:HE1	1.86	0.41
42:BI:56:VAL:CG2	42:BI:68:PHE:HB2	2.50	0.41
43:BK:19:VAL:C	43:BK:21:GLU:N	2.76	0.41
44:BN:14:ASP:O	44:BN:52:ASP:HB3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BP:2:ARG:HG2	46:BP:5:THR:OG1	2.20	0.41
46:BP:47:ARG:CG	46:BP:50:PHE:HB2	2.48	0.41
49:BS:26:LEU:CD1	49:BS:39:VAL:HG22	2.49	0.41
49:BS:28:VAL:HG12	49:BS:93:ASP:O	2.20	0.41
53:BW:72:THR:HG21	53:BW:108:SER:OG	2.20	0.41
54:BX:24:MET:HG3	54:BX:29:THR:HG23	2.02	0.41
55:BY:53:GLN:N	55:BY:54:PRO:HD3	2.36	0.41
55:BY:82:VAL:HG13	55:BY:93:ARG:HB3	2.02	0.41
1:AA:95:C:O2	1:AA:95:C:C2'	2.56	0.41
1:AA:205:A:N7	1:AA:206:C:C4	2.88	0.41
1:AA:341:C:H2'	1:AA:342:C:C6	2.55	0.41
1:AA:373:A:H2'	1:AA:374:A:H8	1.85	0.41
1:AA:414:A:H2'	1:AA:415:A:C8	2.55	0.41
1:AA:433:G:H2'	1:AA:434:U:H5'	2.03	0.41
1:AA:745:G:H5"	1:AA:851:G:O2'	2.20	0.41
1:AA:1027:C:O5'	1:AA:1027:C:H6	2.04	0.41
1:AA:1050:G:N1	1:AA:1051:C:C4	2.89	0.41
1:AA:1255:G:H21	1:AA:1258:G:N2	2.17	0.41
1:AA:1260:G:OP1	1:AA:1284:C:H4'	2.21	0.41
1:AA:1273:C:N4	1:AA:1274:A:C2	2.87	0.41
2:AB:96:LEU:HB2	2:AB:99:MET:HE3	2.03	0.41
3:AC:15:LYS:HA	3:AC:15:LYS:HD2	1.90	0.41
5:AE:14:LEU:HA	5:AE:36:THR:HG22	2.03	0.41
6:AF:79:ARG:HA	6:AF:79:ARG:NE	2.36	0.41
8:AH:103:VAL:O	8:AH:103:VAL:HG23	2.20	0.41
9:AI:40:ARG:C	9:AI:44:ARG:HG2	2.45	0.41
9:AI:98:ARG:C	9:AI:100:ALA:N	2.77	0.41
14:AN:82:LYS:HA	14:AN:82:LYS:CE	2.39	0.41
23:AW:64:LYS:HE2	23:AW:70:ILE:H	1.85	0.41
23:AW:325:TYR:OH	23:AW:327:LYS:HA	2.20	0.41
25:B0:31:LEU:HD22	34:BA:2354:C:C4'	2.48	0.41
33:B8:9:LYS:HG3	33:B8:16:ILE:CG1	2.48	0.41
34:BA:27:G:C2'	34:BA:28:A:OP2	2.68	0.41
34:BA:197:A:N6	34:BA:2430:A:H2'	2.35	0.41
34:BA:313:G:C6	34:BA:314:C:C4	3.08	0.41
34:BA:647:G:H2'	34:BA:648:G:O4'	2.20	0.41
34:BA:653:U:C2'	34:BA:654:A:OP1	2.69	0.41
34:BA:712:G:H2'	34:BA:713:G:O4'	2.19	0.41
34:BA:839:U:H2'	34:BA:840:C:C6	2.55	0.41
34:BA:1319:C:C2'	34:BA:1320:C:H5'	2.50	0.41
34:BA:1450:G:N2	34:BA:1462:C:C2	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1589:U:H2'	34:BA:1590:A:C8	2.56	0.41
34:BA:1930:G:N2	34:BA:1968:G:H2'	2.36	0.41
34:BA:1966:A:N3	34:BA:2592:G:O2'	2.47	0.41
34:BA:2306:C:N4	34:BA:2307:G:C6	2.88	0.41
34:BA:2418:A:H2'	34:BA:2419:U:C6	2.55	0.41
34:BA:2461:A:H1'	34:BA:2492:U:C2	2.56	0.41
34:BA:2881:U:O2'	34:BA:2882:A:H5'	2.20	0.41
35:BB:30:C:C3'	35:BB:31:C:H5'	2.50	0.41
35:BB:94:A:C6	35:BB:95:U:C4	3.09	0.41
40:BG:71:LEU:HD13	40:BG:74:MET:SD	2.60	0.41
41:BH:117:LEU:C	41:BH:119:PRO:HD2	2.45	0.41
41:BH:123:ILE:O	41:BH:124:ASP:CB	2.68	0.41
48:BR:24:MET:HE1	48:BR:40:LYS:HB3	2.02	0.41
49:BS:31:THR:HG23	49:BS:34:HIS:O	2.21	0.41
49:BS:83:LEU:HD21	49:BS:114:GLY:O	2.20	0.41
50:BT:47:ILE:HD12	50:BT:97:TYR:CD2	2.55	0.41
51:BU:81:GLY:O	51:BU:82:LEU:C	2.64	0.41
1:AA:70:U:O2'	1:AA:71:A:C8	2.69	0.41
1:AA:83:C:N3	1:AA:86:G:N2	2.65	0.41
1:AA:461:A:N3	1:AA:461:A:H2'	2.34	0.41
1:AA:815:A:C2	1:AA:1529:G:C4	3.08	0.41
1:AA:954:G:N1	1:AA:955:U:O2	2.54	0.41
1:AA:967:C:H6	1:AA:967:C:O5'	2.04	0.41
1:AA:990:C:H2'	1:AA:990:C:O2	2.19	0.41
1:AA:992:U:C4	1:AA:1043:G:H8	2.39	0.41
1:AA:1023:U:O5'	1:AA:1023:U:H6	2.03	0.41
1:AA:1250:A:C6	1:AA:1251:A:C6	3.08	0.41
1:AA:1251:A:O4'	1:AA:1370:G:H4'	2.21	0.41
1:AA:1404:C:H2'	1:AA:1405:G:C8	2.56	0.41
1:AA:1463:U:H2'	1:AA:1464:U:C6	2.55	0.41
2:AB:9:LEU:HD12	2:AB:42:LEU:CD2	2.47	0.41
2:AB:186:VAL:O	2:AB:186:VAL:HG23	2.20	0.41
2:AB:207:ARG:O	2:AB:208:ALA:C	2.64	0.41
3:AC:54:ILE:N	3:AC:54:ILE:CD1	2.84	0.41
5:AE:10:LEU:HD23	5:AE:10:LEU:N	2.35	0.41
6:AF:89:VAL:O	6:AF:90:MET:HG3	2.21	0.41
7:AG:72:VAL:HA	7:AG:89:GLU:HA	2.03	0.41
10:AJ:80:THR:HG23	10:AJ:82:LYS:H	1.85	0.41
12:AL:8:ARG:HB3	12:AL:9:LYS:H	1.59	0.41
14:AN:68:ARG:NH1	14:AN:70:HIS:HB2	2.35	0.41
17:AQ:43:LEU:HD23	17:AQ:43:LEU:HA	1.91	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AT:65:LEU:C	20:AT:65:LEU:HD12	2.45	0.41
21:AU:18:PHE:O	21:AU:18:PHE:CD2	2.74	0.41
28:B3:16:LEU:HD23	28:B3:16:LEU:HA	1.82	0.41
30:B5:34:GLU:OE1	30:B5:49:LYS:HG3	2.20	0.41
31:B6:34:ARG:NH1	31:B6:39:ARG:CG	2.75	0.41
34:BA:527:C:H2'	34:BA:2779:U:O2'	2.20	0.41
34:BA:572:A:OP2	52:BV:80:ARG:NH2	2.53	0.41
34:BA:793:A:O2'	34:BA:794:A:P	2.78	0.41
34:BA:812:C:H1'	34:BA:1250:G:C2	2.56	0.41
34:BA:879:G:N1	34:BA:880:G:O6	2.53	0.41
34:BA:927:A:N6	34:BA:928:A:C6	2.88	0.41
34:BA:1380:G:N2	34:BA:1570:A:N1	2.67	0.41
34:BA:1731:G:C2	34:BA:1733:G:C5	3.09	0.41
34:BA:1818:U:H2'	36:BC:152:GLN:O	2.19	0.41
34:BA:1863:G:H2'	34:BA:1864:U:O4'	2.20	0.41
34:BA:2259:U:C6	34:BA:2427:C:N4	2.88	0.41
34:BA:2425:A:H4'	34:BA:2426:A:H5"	2.03	0.41
34:BA:2680:U:H2'	34:BA:2681:C:C6	2.56	0.41
34:BA:2720:U:H5"	50:BT:52:ARG:NH2	2.35	0.41
34:BA:2798:U:H1'	34:BA:2799:A:C6	2.55	0.41
36:BC:92:LEU:HA	36:BC:92:LEU:HD12	1.66	0.41
37:BD:24:VAL:HA	37:BD:189:VAL:O	2.21	0.41
39:BF:135:ILE:HD11	39:BF:145:VAL:CG1	2.49	0.41
40:BG:139:VAL:O	40:BG:143:VAL:HG23	2.21	0.41
41:BH:11:ILE:HG22	41:BH:15:VAL:HG21	2.02	0.41
41:BH:12:VAL:O	41:BH:16:SER:HB3	2.20	0.41
41:BH:82:ILE:CG2	41:BH:83:ALA:N	2.82	0.41
41:BH:135:ALA:HB1	41:BH:138:ARG:HD2	2.02	0.41
44:BN:64:VAL:HG11	44:BN:69:ARG:N	2.36	0.41
45:BO:18:ARG:N	45:BO:45:GLU:HB2	2.30	0.41
46:BP:57:LEU:HA	46:BP:57:LEU:HD12	1.86	0.41
49:BS:67:ASN:O	49:BS:69:ASP:N	2.38	0.41
50:BT:50:ARG:O	50:BT:51:ASN:HB2	2.21	0.41
51:BU:64:ILE:HD12	51:BU:95:ALA:CB	2.51	0.41
1:AA:518:C:C2'	1:AA:530:G:C8	2.89	0.41
1:AA:552:U:H2'	1:AA:553:A:C8	2.56	0.41
1:AA:704:A:C6	1:AA:705:G:C4	3.09	0.41
1:AA:811:C:H4'	1:AA:900:A:H61	1.85	0.41
1:AA:930:C:H2'	1:AA:931:C:H6	1.85	0.41
1:AA:981:U:C2	1:AA:982:U:C5	3.08	0.41
1:AA:1118:U:H1'	1:AA:1179:A:C5	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1360:A:H2'	1:AA:1361:G:O4'	2.20	0.41
1:AA:1401:G:P	22:AV:19:U:OP1	2.78	0.41
1:AA:1505:G:H4'	1:AA:1506:U:C5'	2.47	0.41
3:AC:135:ARG:CZ	3:AC:135:ARG:HA	2.51	0.41
5:AE:93:VAL:HG22	5:AE:94:PHE:H	1.85	0.41
7:AG:34:LYS:O	7:AG:35:LYS:C	2.63	0.41
8:AH:8:ASP:HA	8:AH:11:THR:CG2	2.51	0.41
8:AH:74:ILE:HA	8:AH:127:TYR:O	2.21	0.41
9:AI:10:ARG:HB2	9:AI:14:SER:O	2.21	0.41
10:AJ:51:VAL:HB	14:AN:80:ARG:HB2	2.03	0.41
14:AN:50:LEU:O	14:AN:51:PRO:C	2.63	0.41
14:AN:92:ILE:HB	14:AN:95:LEU:HD23	2.02	0.41
17:AQ:49:ASN:C	17:AQ:49:ASN:HD22	2.28	0.41
21:AU:34:ARG:HD3	21:AU:39:LYS:NZ	2.36	0.41
23:AW:59:TRP:CZ3	23:AW:64:LYS:NZ	2.82	0.41
23:AW:119:VAL:HB	23:AW:157:GLU:HG2	2.03	0.41
23:AW:403:LEU:HA	23:AW:461:ALA:HA	2.02	0.41
26:B1:19:HIS:C	26:B1:21:LEU:H	2.28	0.41
28:B3:8:GLN:CB	28:B3:32:GLY:H	2.33	0.41
34:BA:235:U:H2'	34:BA:236:C:C6	2.53	0.41
34:BA:645:C:O2	34:BA:645:C:C2'	2.61	0.41
34:BA:1070:A:N7	34:BA:1096:A:O2'	2.48	0.41
34:BA:1199:U:H2'	34:BA:1200:C:C6	2.55	0.41
34:BA:1577:C:H2'	34:BA:1578:U:C6	2.55	0.41
34:BA:1668:A:H4'	34:BA:1669:A:O5'	2.20	0.41
34:BA:2563:U:C5'	45:BO:27:GLY:HA2	2.51	0.41
34:BA:2578:G:OP2	34:BA:2578:G:H4'	2.19	0.41
34:BA:2633:G:H2'	34:BA:2634:A:O4'	2.21	0.41
34:BA:2664:G:O5'	34:BA:2664:G:H8	2.04	0.41
34:BA:2709:G:H2'	34:BA:2710:C:H6	1.86	0.41
34:BA:2851:A:H2'	34:BA:2852:G:C8	2.55	0.41
34:BA:2880:C:N3	34:BA:2881:U:C5	2.89	0.41
36:BC:128:THR:HG22	36:BC:129:LEU:N	2.36	0.41
39:BF:104:THR:O	39:BF:108:PRO:HG2	2.21	0.41
40:BG:35:THR:C	40:BG:36:LEU:HD22	2.45	0.41
40:BG:61:TRP:HA	40:BG:64:ALA:HB3	2.03	0.41
42:BI:56:VAL:HG23	42:BI:70:THR:HA	2.02	0.41
44:BN:88:THR:O	44:BN:89:PHE:C	2.61	0.41
44:BN:95:ARG:HG3	44:BN:95:ARG:O	2.20	0.41
44:BN:102:GLU:O	44:BN:106:LYS:HB2	2.21	0.41
46:BP:77:ILE:O	46:BP:77:ILE:HG22	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BQ:54:THR:C	47:BQ:56:ALA:N	2.79	0.41
47:BQ:63:ILE:HA	47:BQ:104:GLU:O	2.21	0.41
1:AA:204:G:C3'	1:AA:205:A:C5'	2.95	0.41
1:AA:423:G:N2	1:AA:424:G:C4	2.89	0.41
1:AA:621:A:C6	1:AA:622:A:C6	3.09	0.41
1:AA:639:G:H2'	1:AA:640:A:H5'	2.03	0.41
1:AA:661:G:C2'	1:AA:662:U:H5'	2.51	0.41
1:AA:794:A:C6	1:AA:795:C:C4	3.08	0.41
1:AA:828:U:H4'	1:AA:828:U:OP1	2.19	0.41
1:AA:1211:U:H4'	1:AA:1213:A:C1'	2.50	0.41
1:AA:1284:C:C4	1:AA:1285:A:N6	2.89	0.41
1:AA:1475:G:C4	1:AA:1476:A:C8	3.09	0.41
3:AC:25:THR:O	3:AC:26:LYS:C	2.63	0.41
9:AI:114:LYS:N	9:AI:114:LYS:HD2	2.34	0.41
10:AJ:56:HIS:O	10:AJ:57:VAL:CG1	2.65	0.41
10:AJ:57:VAL:HG13	10:AJ:58:ASN:N	2.36	0.41
14:AN:9:GLU:O	14:AN:13:VAL:HG23	2.21	0.41
16:AP:53:ASP:OD1	16:AP:56:ARG:HG2	2.20	0.41
23:AW:26:LYS:O	23:AW:29:ILE:HG22	2.21	0.41
23:AW:398:PHE:CD1	23:AW:399:ARG:N	2.88	0.41
25:B0:69:GLU:O	25:B0:77:LYS:O	2.38	0.41
27:B2:20:ASN:O	27:B2:24:GLU:HB2	2.21	0.41
28:B3:46:MET:O	28:B3:47:ILE:C	2.63	0.41
34:BA:80:G:C5	34:BA:81:G:N7	2.89	0.41
34:BA:184:C:O2'	34:BA:217:A:H1'	2.20	0.41
34:BA:478:A:C6	34:BA:480:A:C6	3.09	0.41
34:BA:864:G:H2'	34:BA:865:C:C6	2.56	0.41
34:BA:1062:G:C2	34:BA:1077:A:C2	3.09	0.41
34:BA:1550:C:O2'	34:BA:1551:A:H5'	2.21	0.41
34:BA:1789:A:OP2	36:BC:220:ARG:NH1	2.53	0.41
34:BA:1908:C:C4	34:BA:1909:C:C5	3.09	0.41
34:BA:2031:A:C6	34:BA:2498:C:H1'	2.56	0.41
34:BA:2080:A:C5	34:BA:2081:U:C4	3.09	0.41
34:BA:2619:C:OP1	37:BD:157:LYS:HE2	2.20	0.41
34:BA:2755:C:O2'	34:BA:2756:U:H2'	2.20	0.41
37:BD:139:SER:HA	37:BD:142:VAL:CG1	2.50	0.41
38:BE:35:TYR:O	38:BE:37:ALA:O	2.39	0.41
39:BF:39:VAL:HG11	39:BF:49:LEU:HD13	2.01	0.41
39:BF:72:SER:H	39:BF:80:GLN:CB	2.34	0.41
39:BF:107:VAL:HB	39:BF:108:PRO:HD3	2.01	0.41
42:BI:7:TYR:HA	42:BI:58:ILE:CB	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BL:11:VAL:HG21	43:BM:28:GLU:OE1	2.20	0.41
48:BR:78:LYS:HE2	48:BR:83:LEU:HD11	2.02	0.41
50:BT:33:GLU:C	50:BT:33:GLU:CD	2.87	0.41
51:BU:49:ARG:O	51:BU:53:LYS:HE3	2.20	0.41
52:BV:101:ILE:O	52:BV:101:ILE:HG22	2.21	0.41
53:BW:2:GLU:O	53:BW:3:THR:HG23	2.21	0.41
54:BX:24:MET:O	54:BX:28:ASN:O	2.38	0.41
54:BX:86:THR:C	54:BX:87:LEU:HG	2.46	0.41
56:BZ:2:PHE:HE2	56:BZ:55:GLU:O	2.03	0.41
1:AA:109:A:H2'	1:AA:326:G:N2	2.35	0.41
1:AA:112:G:H4'	1:AA:389:A:H4'	2.03	0.41
1:AA:143:A:H5'	1:AA:144:G:H5'	2.03	0.41
1:AA:182:A:N7	1:AA:184:G:C6	2.89	0.41
1:AA:257:G:C2	1:AA:270:A:C2	3.09	0.41
1:AA:261:U:H2'	1:AA:263:A:OP2	2.20	0.41
1:AA:297:G:H4'	1:AA:557:G:H4'	2.03	0.41
1:AA:527:G:O2'	1:AA:535:A:N1	2.32	0.41
1:AA:577:G:C6	1:AA:765:G:C2	3.09	0.41
1:AA:602:A:C2'	1:AA:603:U:H5'	2.50	0.41
1:AA:691:G:H2'	1:AA:692:U:C6	2.56	0.41
1:AA:815:A:H4'	1:AA:817:C:N4	2.34	0.41
1:AA:859:G:H2'	1:AA:860:A:H8	1.86	0.41
1:AA:908:A:C2	1:AA:909:A:C4	3.09	0.41
1:AA:938:A:H2	1:AA:1376:U:O2	2.04	0.41
1:AA:979:C:H1'	1:AA:1317:C:N4	2.36	0.41
1:AA:1138:G:C2	1:AA:1140:C:C5	3.09	0.41
1:AA:1255:G:H21	1:AA:1258:G:H22	1.68	0.41
1:AA:1336:C:HO2'	1:AA:1337:G:P	2.44	0.41
1:AA:1343:G:H1'	9:AI:122:ARG:HH12	1.86	0.41
1:AA:1434:A:H2'	1:AA:1435:G:O4'	2.20	0.41
2:AB:80:LYS:HD3	2:AB:90:PHE:CE1	2.50	0.41
2:AB:113:LEU:HD13	2:AB:143:LEU:CD1	2.48	0.41
4:AD:18:LEU:HB2	4:AD:20:LEU:HG	2.03	0.41
4:AD:67:LEU:HD23	4:AD:67:LEU:HA	1.84	0.41
6:AF:16:GLU:C	6:AF:18:VAL:H	2.28	0.41
8:AH:4:ASP:HA	8:AH:5:PRO:HD2	1.94	0.41
11:AK:81:LEU:CD2	11:AK:104:PHE:HB3	2.50	0.41
13:AM:38:ILE:CG1	13:AM:55:LEU:HD21	2.44	0.41
16:AP:42:ILE:C	16:AP:44:SER:H	2.26	0.41
17:AQ:78:VAL:O	17:AQ:79:GLU:O	2.39	0.41
20:AT:4:LYS:O	20:AT:5:SER:C	2.64	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AT:54:GLN:N	20:AT:55:PRO:HD2	2.36	0.41
23:AW:59:TRP:NE1	23:AW:69:SER:HA	2.36	0.41
23:AW:481:LYS:NZ	23:AW:520:ASP:HB2	2.36	0.41
23:AW:491:SER:CA	23:AW:492:GLN:HB2	2.51	0.41
25:B0:52:CYS:HA	25:B0:57:THR:O	2.21	0.41
30:B5:3:GLY:O	30:B5:4:ILE:HG13	2.21	0.41
32:B7:24:LYS:HB3	46:BP:62:PRO:HG2	2.02	0.41
32:B7:57:VAL:O	32:B7:58:ILE:C	2.62	0.41
34:BA:9:G:C2	34:BA:2629:U:C2	3.09	0.41
34:BA:34:U:H1'	34:BA:35:G:OP1	2.21	0.41
34:BA:162:U:O4	34:BA:2218:G:H4'	2.21	0.41
34:BA:206:U:O2	34:BA:206:U:H2'	2.21	0.41
34:BA:361:G:C8	34:BA:361:G:OP2	2.73	0.41
34:BA:584:C:H6	34:BA:584:C:O5'	2.04	0.41
34:BA:628:G:H4'	34:BA:651:G:O2'	2.20	0.41
34:BA:760:G:H2'	34:BA:761:A:O4'	2.21	0.41
34:BA:815:C:OP2	52:BV:85:LYS:CE	2.68	0.41
34:BA:899:A:O2'	34:BA:900:A:O4'	2.36	0.41
34:BA:900:A:H2	34:BA:902:C:C5	2.39	0.41
34:BA:1010:A:H1'	34:BA:1153:C:O4'	2.21	0.41
34:BA:1042:G:C2'	34:BA:1043:C:H5'	2.50	0.41
34:BA:1042:G:H2'	34:BA:1043:C:H5'	2.02	0.41
34:BA:1141:U:C4'	34:BA:1142:A:O4'	2.64	0.41
34:BA:1142:A:C5	34:BA:1144:A:C5	3.09	0.41
34:BA:1199:U:H5'	51:BU:4:LYS:HG2	2.03	0.41
34:BA:1216:G:C6	34:BA:1217:U:C4	3.09	0.41
34:BA:1307:A:C5	34:BA:1308:A:C8	3.09	0.41
34:BA:1338:G:O2'	34:BA:1393:A:N1	2.45	0.41
34:BA:1358:G:C8	34:BA:1371:G:C6	3.09	0.41
34:BA:1433:A:H5"	34:BA:1434:A:OP2	2.21	0.41
34:BA:1563:U:H2'	34:BA:1564:C:H6	1.82	0.41
34:BA:1687:G:C2	34:BA:1688:U:C2	3.09	0.41
34:BA:1724:G:N1	34:BA:1737:G:H1'	2.36	0.41
34:BA:1973:G:C5	34:BA:1974:C:C5	3.09	0.41
34:BA:2077:A:OP1	34:BA:2238:G:N2	2.36	0.41
34:BA:2489:U:O2	34:BA:2491:U:C4	2.73	0.41
34:BA:2563:U:H1'	34:BA:2566:A:N6	2.36	0.41
34:BA:2638:G:H2'	34:BA:2775:G:H22	1.86	0.41
34:BA:2700:A:H2'	34:BA:2701:U:C6	2.56	0.41
34:BA:2720:U:H2'	34:BA:2721:A:H8	1.85	0.41
34:BA:2832:U:O4	34:BA:2883:A:H5"	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BB:62:C:O5'	35:BB:62:C:H6	2.04	0.41
36:BC:35:LYS:HB3	36:BC:35:LYS:HE3	1.83	0.41
36:BC:209:ALA:HA	36:BC:212:TRP:CE2	2.56	0.41
36:BC:239:PHE:HB3	36:BC:240:GLY:H	1.64	0.41
37:BD:109:VAL:HG11	37:BD:193:VAL:HB	2.03	0.41
38:BE:101:TYR:HE1	38:BE:177:PRO:HG3	1.86	0.41
38:BE:147:LEU:HD12	38:BE:186:VAL:HG23	2.01	0.41
39:BF:11:VAL:HG11	39:BF:172:PHE:HE1	1.86	0.41
39:BF:19:PHE:O	39:BF:20:ASN:C	2.64	0.41
41:BH:25:ALA:HB2	41:BH:96:PHE:CE1	2.56	0.41
41:BH:60:LEU:O	41:BH:62:ARG:N	2.54	0.41
41:BH:69:PHE:O	41:BH:70:GLU:HB2	2.20	0.41
41:BH:77:VAL:O	41:BH:77:VAL:CG1	2.68	0.41
42:BI:24:GLY:C	42:BI:26:ALA:N	2.76	0.41
42:BI:48:ILE:HD12	42:BI:49:GLU:N	2.36	0.41
42:BI:58:ILE:O	42:BI:60:VAL:HG23	2.21	0.41
42:BI:71:LYS:HD3	42:BI:71:LYS:N	2.36	0.41
42:BI:77:VAL:C	42:BI:79:LEU:H	2.29	0.41
44:BN:103:ILE:HD13	44:BN:104:ALA:H	1.79	0.41
45:BO:22:ILE:O	45:BO:23:LYS:HB2	2.21	0.41
45:BO:64:ARG:O	45:BO:82:ASN:HA	2.21	0.41
46:BP:19:LEU:CA	46:BP:27:LEU:HD13	2.48	0.41
46:BP:81:ASP:O	46:BP:82:LEU:HD23	2.21	0.41
47:BQ:73:ILE:O	47:BQ:73:ILE:HG22	2.21	0.41
49:BS:90:VAL:O	49:BS:117:PHE:HB3	2.20	0.41
50:BT:67:GLU:HG3	50:BT:68:GLY:N	2.29	0.41
51:BU:48:ASP:O	51:BU:52:ARG:N	2.53	0.41
51:BU:63:ARG:HH21	51:BU:64:ILE:HD11	1.85	0.41
51:BU:93:ILE:O	51:BU:96:ASP:HB3	2.21	0.41
55:BY:25:LYS:HD2	55:BY:25:LYS:HA	1.88	0.41
55:BY:40:LEU:HD23	55:BY:40:LEU:HA	1.84	0.41
1:AA:2:A:C2	1:AA:614:C:O4'	2.74	0.41
1:AA:720:C:H2'	1:AA:721:G:N7	2.36	0.41
1:AA:728:A:C6	1:AA:729:A:C6	3.09	0.41
1:AA:791:G:C5	1:AA:792:A:N7	2.89	0.41
1:AA:833:G:C5	1:AA:834:U:C5	3.09	0.41
1:AA:939:G:N3	1:AA:1375:A:H2	2.19	0.41
1:AA:949:A:H1'	1:AA:1364:U:H3	1.86	0.41
1:AA:1203:C:H2'	1:AA:1204:A:C8	2.56	0.41
1:AA:1211:U:H4'	1:AA:1213:A:H1'	2.02	0.41
1:AA:1479:C:H2'	1:AA:1480:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1521:C:H2'	1:AA:1522:U:C6	2.52	0.41
2:AB:32:GLY:O	2:AB:33:ALA:HB2	2.20	0.41
5:AE:11:GLN:CG	5:AE:116:VAL:HB	2.49	0.41
5:AE:59:ILE:HD12	5:AE:60:GLN:N	2.36	0.41
5:AE:153:ALA:O	5:AE:156:ARG:O	2.39	0.41
7:AG:68:VAL:HG22	7:AG:134:VAL:HG12	2.02	0.41
8:AH:79:ARG:HB2	8:AH:80:PRO:CD	2.50	0.41
9:AI:83:THR:HG21	9:AI:102:PHE:CB	2.51	0.41
11:AK:76:TYR:O	11:AK:77:GLY:C	2.65	0.41
11:AK:124:LYS:HE3	21:AU:34:ARG:CD	2.51	0.41
12:AL:46:SER:O	12:AL:47:ALA:HB2	2.21	0.41
12:AL:98:ARG:HA	12:AL:98:ARG:HD2	1.55	0.41
16:AP:79:ASN:O	16:AP:80:LYS:HB2	2.21	0.41
20:AT:27:MET:SD	20:AT:66:ILE:HD12	2.61	0.41
21:AU:37:TYR:CD2	21:AU:37:TYR:C	2.99	0.41
21:AU:44:ARG:HD2	21:AU:44:ARG:N	2.36	0.41
23:AW:20:SER:O	23:AW:122:ARG:NH1	2.52	0.41
23:AW:45:THR:HG23	23:AW:51:SER:HB2	2.02	0.41
23:AW:45:THR:HB	23:AW:46:VAL:H	1.50	0.41
23:AW:305:ALA:HA	23:AW:422:GLU:CD	2.46	0.41
23:AW:313:ASP:C	23:AW:315:VAL:H	2.28	0.41
25:B0:28:GLU:CG	25:B0:29:SER:N	2.84	0.41
25:B0:49:ASN:HB2	25:B0:81:ILE:HG13	2.03	0.41
25:B0:51:GLY:CA	25:B0:61:LYS:HE3	2.51	0.41
28:B3:29:ARG:N	28:B3:33:HIS:CD2	2.85	0.41
32:B7:29:ARG:HH22	46:BP:62:PRO:HB2	1.85	0.41
34:BA:420:C:O2	34:BA:420:C:H2'	2.21	0.41
34:BA:434:U:H4'	34:BA:435:C:OP1	2.21	0.41
34:BA:627:A:C6	34:BA:637:A:C8	3.09	0.41
34:BA:671:C:H2'	34:BA:672:C:C6	2.55	0.41
34:BA:859:G:C2'	34:BA:860:U:OP2	2.69	0.41
34:BA:915:C:C2'	34:BA:916:G:H5'	2.51	0.41
34:BA:1676:A:H2'	34:BA:1677:A:O4'	2.21	0.41
34:BA:1922:G:C6	34:BA:1923:U:C4	3.09	0.41
34:BA:1943:U:O2	34:BA:1943:U:H2'	2.21	0.41
34:BA:1973:G:H2'	34:BA:1974:C:C6	2.56	0.41
34:BA:2788:C:O2'	34:BA:2809:A:N3	2.46	0.41
34:BA:2821:A:OP2	37:BD:115:GLY:CA	2.69	0.41
36:BC:262:THR:O	36:BC:266:ILE:HD13	2.21	0.41
37:BD:2:ILE:HG13	37:BD:100:LEU:HD21	2.03	0.41
38:BE:68:ALA:O	38:BE:69:ARG:C	2.63	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BE:101:TYR:CE1	38:BE:177:PRO:HG3	2.55	0.41
38:BE:132:LYS:NZ	38:BE:132:LYS:HB3	2.36	0.41
39:BF:105:ILE:HD12	39:BF:106:ALA:N	2.36	0.41
43:BJ:24:SER:C	43:BJ:26:MET:N	2.79	0.41
45:BO:12:ASP:C	45:BO:100:PHE:HE1	2.28	0.41
49:BS:33:ARG:O	49:BS:65:THR:O	2.38	0.41
49:BS:36:TYR:HA	49:BS:52:SER:CB	2.51	0.41
50:BT:24:THR:HB	50:BT:87:ARG:HB3	2.03	0.41
53:BW:17:VAL:O	53:BW:18:ARG:C	2.64	0.41
56:BZ:36:ALA:HA	56:BZ:37:PRO:HD3	1.81	0.41
1:AA:155:A:H2'	1:AA:156:C:C6	2.57	0.40
1:AA:165:G:N2	1:AA:166:U:C2	2.89	0.40
1:AA:687:A:C4'	1:AA:688:G:O5'	2.68	0.40
1:AA:868:C:N4	1:AA:869:G:C2	2.89	0.40
1:AA:1026:G:C6	1:AA:1027:C:N4	2.89	0.40
1:AA:1145:A:HO2'	1:AA:1146:A:P	2.44	0.40
1:AA:1222:G:OP1	1:AA:1321:U:C2'	2.70	0.40
1:AA:1294:G:H2'	1:AA:1295:U:O4'	2.21	0.40
2:AB:147:LEU:HD22	2:AB:150:ILE:HG21	2.03	0.40
4:AD:187:ARG:HA	4:AD:187:ARG:HD2	1.92	0.40
5:AE:57:ALA:O	5:AE:61:LYS:HB2	2.21	0.40
8:AH:5:PRO:O	8:AH:8:ASP:HB3	2.21	0.40
11:AK:124:LYS:HE3	21:AU:34:ARG:CG	2.51	0.40
14:AN:70:HIS:O	14:AN:71:GLY:C	2.63	0.40
25:B0:39:GLN:NE2	25:B0:43:LYS:N	2.70	0.40
25:B0:66:VAL:HA	25:B0:81:ILE:HD13	2.03	0.40
34:BA:21:A:C6	34:BA:22:C:C4	3.09	0.40
34:BA:297:G:H2'	34:BA:298:G:O4'	2.21	0.40
34:BA:616:A:C2'	34:BA:617:G:H5'	2.50	0.40
34:BA:744:U:H2'	34:BA:745:G:O4'	2.21	0.40
34:BA:781:A:OP1	36:BC:216:ARG:NH2	2.55	0.40
34:BA:820:A:H2'	34:BA:821:A:O4'	2.21	0.40
34:BA:1067:A:C8	34:BA:1068:G:N7	2.88	0.40
34:BA:1381:G:C2'	34:BA:1382:G:H5'	2.51	0.40
34:BA:1429:G:O2'	34:BA:1430:G:H5'	2.22	0.40
34:BA:1520:U:H2'	34:BA:1521:G:O4'	2.21	0.40
34:BA:1936:A:H4'	34:BA:1937:A:O5'	2.20	0.40
34:BA:2102:G:H2'	34:BA:2103:C:C6	2.57	0.40
34:BA:2194:U:C2'	34:BA:2195:U:H5'	2.51	0.40
34:BA:2282:G:C5'	34:BA:2389:G:H1'	2.52	0.40
34:BA:2286:G:C4'	34:BA:2287:A:O4'	2.68	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:2325:G:OP1	34:BA:2325:G:H3'	2.21	0.40
36:BC:136:VAL:HG21	36:BC:166:ARG:HG2	2.03	0.40
36:BC:193:GLU:H	36:BC:193:GLU:HG3	1.58	0.40
37:BD:69:ALA:O	37:BD:70:LYS:C	2.64	0.40
37:BD:112:THR:O	37:BD:195:GLY:HA2	2.20	0.40
40:BG:34:ARG:N	40:BG:34:ARG:HH11	2.20	0.40
40:BG:167:VAL:O	40:BG:168:VAL:C	2.64	0.40
41:BH:31:ARG:HH22	41:BH:109:LYS:CE	2.33	0.40
41:BH:126:LEU:HD12	41:BH:128:THR:OG1	2.21	0.40
42:BI:53:PRO:CD	42:BI:77:VAL:HG21	2.44	0.40
43:BM:15:SER:HA	43:BM:18:ASP:HB2	2.02	0.40
44:BN:7:LYS:HA	44:BN:8:PRO:HD3	1.93	0.40
44:BN:17:VAL:CG1	44:BN:57:LEU:HD23	2.51	0.40
45:BO:1:MET:CE	45:BO:32:TYR:CZ	3.04	0.40
46:BP:102:GLY:O	46:BP:104:GLN:N	2.54	0.40
48:BR:31:HIS:C	48:BR:33:ILE:H	2.29	0.40
51:BU:63:ARG:NH2	51:BU:64:ILE:HD11	2.36	0.40
54:BX:29:THR:HB	54:BX:86:THR:CB	2.51	0.40
1:AA:151:A:N3	1:AA:151:A:H2'	2.35	0.40
1:AA:606:G:H21	1:AA:631:C:H3'	1.86	0.40
1:AA:717:U:H6	1:AA:717:U:OP2	2.04	0.40
1:AA:865:A:H2'	1:AA:866:C:O4'	2.20	0.40
1:AA:1076:U:H3	1:AA:1081:A:H61	1.68	0.40
1:AA:1309:G:N2	1:AA:1329:A:C4	2.90	0.40
2:AB:86:CYS:C	2:AB:88:GLN:H	2.29	0.40
4:AD:2:ARG:NH2	4:AD:114:ARG:CD	2.85	0.40
4:AD:54:LEU:HD23	4:AD:55:ARG:CA	2.52	0.40
4:AD:58:GLN:O	4:AD:62:ARG:HG2	2.21	0.40
5:AE:15:ILE:CD1	5:AE:112:ALA:HB3	2.51	0.40
6:AF:9:MET:HE2	6:AF:9:MET:HB3	1.98	0.40
6:AF:70:VAL:CG2	6:AF:71:ILE:N	2.83	0.40
7:AG:34:LYS:O	7:AG:36:SER:N	2.55	0.40
8:AH:46:GLU:N	8:AH:63:LYS:HG3	2.36	0.40
11:AK:71:ASP:C	11:AK:73:VAL:N	2.78	0.40
16:AP:16:PHE:HD1	16:AP:16:PHE:O	2.03	0.40
19:AS:3:SER:HB2	19:AS:4:LEU:CD1	2.51	0.40
20:AT:6:ALA:HB1	20:AT:9:ARG:HB2	2.02	0.40
23:AW:321:VAL:HG21	23:AW:387:PHE:CE2	2.56	0.40
23:AW:399:ARG:NE	23:AW:445:GLN:HB3	2.36	0.40
25:B0:41:GLY:C	25:B0:43:LYS:N	2.76	0.40
27:B2:14:LEU:O	27:B2:18:LEU:HB2	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B7:22:LYS:N	32:B7:48:MET:HA	2.37	0.40
34:BA:160:A:C4	34:BA:167:A:C2	3.09	0.40
34:BA:215:G:C4'	34:BA:216:A:H4'	2.51	0.40
34:BA:501:A:N6	34:BA:502:A:C6	2.89	0.40
34:BA:662:G:O2'	46:BP:14:LYS:HD3	2.21	0.40
34:BA:793:A:C2'	34:BA:794:A:OP2	2.70	0.40
34:BA:859:G:H2'	34:BA:916:G:N1	2.36	0.40
34:BA:870:U:O2'	34:BA:871:U:H5'	2.21	0.40
34:BA:882:G:N2	34:BA:883:G:C2	2.89	0.40
34:BA:1021:A:H8	34:BA:1122:G:HO2'	1.68	0.40
34:BA:1026:G:H2'	34:BA:1027:A:C8	2.56	0.40
34:BA:1224:U:H2'	34:BA:1225:G:C8	2.57	0.40
34:BA:1244:A:C2'	34:BA:1245:G:H5'	2.51	0.40
34:BA:1483:G:C5	34:BA:1484:U:C4	3.09	0.40
34:BA:1973:G:H2'	34:BA:1974:C:H6	1.85	0.40
34:BA:2094:A:C2	34:BA:2196:C:C2	3.09	0.40
34:BA:2201:G:C5	34:BA:2202:U:C5	3.09	0.40
34:BA:2256:G:H2'	34:BA:2257:U:H6	1.86	0.40
34:BA:2320:U:H4'	34:BA:2321:U:C6	2.57	0.40
34:BA:2867:G:O2'	34:BA:2868:A:C8	2.75	0.40
35:BB:68:C:O2'	35:BB:69:G:H5'	2.21	0.40
36:BC:229:HIS:CE1	36:BC:230:PRO:HD2	2.55	0.40
37:BD:9:VAL:HG22	37:BD:26:VAL:O	2.21	0.40
37:BD:39:ASP:CG	37:BD:40:LEU:HD12	2.46	0.40
37:BD:159:LYS:C	37:BD:159:LYS:HD3	2.47	0.40
39:BF:161:SER:C	39:BF:163:GLU:N	2.79	0.40
40:BG:75:VAL:O	40:BG:76:ILE:C	2.64	0.40
40:BG:84:LYS:CG	40:BG:132:LEU:N	2.68	0.40
41:BH:27:VAL:HG21	41:BH:99:PHE:CD1	2.56	0.40
41:BH:35:VAL:HA	41:BH:38:MET:HB2	2.02	0.40
41:BH:136:ILE:HA	41:BH:139:LEU:CD1	2.51	0.40
45:BO:2:ILE:HG23	45:BO:6:THR:HG21	2.02	0.40
46:BP:28:GLY:C	46:BP:29:LYS:O	2.64	0.40
46:BP:68:SER:O	46:BP:69:ARG:CB	2.68	0.40
47:BQ:57:VAL:HG12	47:BQ:112:LEU:CD2	2.52	0.40
50:BT:50:ARG:N	50:BT:57:ALA:O	2.54	0.40
52:BV:51:VAL:HB	52:BV:52:PRO:HD2	2.03	0.40
1:AA:192:A:C5	1:AA:193:C:C5	3.08	0.40
1:AA:192:A:H2'	1:AA:192:A:N3	2.37	0.40
1:AA:665:A:C8	1:AA:725:G:C2	3.10	0.40
1:AA:754:C:H3'	1:AA:755:G:H5'	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:944:G:O6	1:AA:1337:G:H8	2.03	0.40
1:AA:1224:U:C5'	1:AA:1225:A:OP2	2.69	0.40
1:AA:1290:G:C2	1:AA:1291:U:C2	3.09	0.40
1:AA:1319:A:N6	1:AA:1323:G:C2	2.89	0.40
2:AB:114:LYS:C	2:AB:116:LEU:N	2.79	0.40
2:AB:170:ILE:H	2:AB:170:ILE:HG13	1.53	0.40
3:AC:113:LYS:HB2	3:AC:184:ASN:OD1	2.22	0.40
3:AC:161:ILE:HD13	3:AC:161:ILE:O	2.21	0.40
3:AC:177:LEU:HD13	3:AC:177:LEU:HA	1.80	0.40
3:AC:183:TYR:CD2	3:AC:183:TYR:C	2.97	0.40
4:AD:36:ALA:O	4:AD:37:PRO:C	2.64	0.40
5:AE:52:ALA:C	5:AE:54:GLU:N	2.78	0.40
5:AE:93:VAL:CG2	5:AE:110:MET:SD	3.09	0.40
6:AF:11:HIS:O	6:AF:13:ASP:N	2.55	0.40
10:AJ:59:LYS:HD2	10:AJ:60:ASP:N	2.36	0.40
11:AK:115:ILE:HA	11:AK:116:PRO:HD2	1.93	0.40
11:AK:126:ARG:O	21:AU:33:ARG:NH1	2.54	0.40
15:AO:45:HIS:C	15:AO:47:LYS:N	2.78	0.40
16:AP:38:PHE:CE2	16:AP:51:ARG:HB3	2.56	0.40
28:B3:12:ALA:HB2	28:B3:53:MET:HE1	2.03	0.40
28:B3:16:LEU:O	28:B3:19:HIS:HB2	2.22	0.40
30:B5:35:LEU:N	30:B5:35:LEU:HD23	2.37	0.40
32:B7:35:LYS:HD3	32:B7:39:ARG:HH21	1.87	0.40
34:BA:78:U:H2'	34:BA:79:C:C6	2.55	0.40
34:BA:391:A:H2'	34:BA:392:U:H5'	2.03	0.40
34:BA:588:U:H2'	34:BA:589:U:H6	1.84	0.40
34:BA:588:U:O5'	34:BA:588:U:H6	2.04	0.40
34:BA:957:C:O2'	34:BA:958:U:H5"	2.21	0.40
34:BA:1171:G:C6	34:BA:1172:C:C4	3.09	0.40
34:BA:1340:U:C5	34:BA:1603:A:C8	3.09	0.40
34:BA:1996:C:OP1	45:BO:31:ARG:NE	2.54	0.40
34:BA:2079:U:H4'	34:BA:2433:A:C2	2.56	0.40
34:BA:2149:U:C3'	34:BA:2149:U:C6	3.04	0.40
35:BB:69:G:C2'	35:BB:70:C:H5'	2.51	0.40
36:BC:211:ARG:HA	36:BC:211:ARG:HD2	1.65	0.40
37:BD:108:ASP:O	37:BD:109:VAL:HB	2.21	0.40
37:BD:125:TRP:CE3	37:BD:160:LYS:HD3	2.56	0.40
37:BD:172:VAL:HG11	37:BD:175:LEU:HD11	2.02	0.40
39:BF:92:GLY:O	39:BF:95:MET:HB3	2.21	0.40
41:BH:81:LEU:CD2	41:BH:81:LEU:C	2.95	0.40
43:BL:9:GLU:O	43:BL:13:ALA:CB	2.70	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BN:72:LYS:O	44:BN:73:VAL:O	2.39	0.40
47:BQ:71:LYS:HA	47:BQ:72:PRO:HD3	1.82	0.40
48:BR:60:VAL:O	48:BR:61:ALA:C	2.64	0.40
49:BS:25:ARG:HG3	49:BS:27:VAL:HG23	2.02	0.40
50:BT:32:VAL:O	50:BT:33:GLU:C	2.64	0.40
54:BX:40:LYS:H	54:BX:43:ILE:CG2	2.34	0.40
55:BY:60:LYS:HA	55:BY:60:LYS:HD2	1.68	0.40
1:AA:77:A:N6	1:AA:90:C:N4	2.63	0.40
1:AA:146:G:C2'	1:AA:147:G:H5'	2.52	0.40
1:AA:224:U:O2'	1:AA:225:C:H5'	2.21	0.40
1:AA:652:U:C4	1:AA:752:G:C4	3.10	0.40
1:AA:711:G:H2'	1:AA:712:A:H8	1.86	0.40
1:AA:815:A:H5"	1:AA:817:C:N4	2.37	0.40
1:AA:939:G:C5	1:AA:940:C:C5	3.09	0.40
1:AA:960:U:H2'	1:AA:1222:G:O2'	2.22	0.40
1:AA:972:C:H1'	10:AJ:57:VAL:HG23	2.04	0.40
1:AA:974:A:OP2	14:AN:68:ARG:NH1	2.54	0.40
1:AA:1007:U:C2'	1:AA:1008:U:H5"	2.51	0.40
1:AA:1085:U:H1'	1:AA:1094:G:C5	2.56	0.40
1:AA:1157:A:H61	1:AA:1178:G:H1'	1.87	0.40
1:AA:1261:A:C8	1:AA:1262:C:C6	3.10	0.40
1:AA:1324:A:H4'	1:AA:1362:A:O3'	2.22	0.40
2:AB:10:LYS:H	2:AB:10:LYS:HG3	1.66	0.40
2:AB:79:VAL:HG13	2:AB:213:LEU:HD21	2.02	0.40
3:AC:39:ARG:O	3:AC:43:THR:HG23	2.21	0.40
3:AC:79:LYS:HE3	3:AC:79:LYS:CA	2.51	0.40
3:AC:119:ILE:CG2	3:AC:197:VAL:HG21	2.51	0.40
4:AD:103:ARG:C	4:AD:105:GLY:H	2.28	0.40
5:AE:82:HIS:O	5:AE:82:HIS:ND1	2.55	0.40
8:AH:105:THR:HB	8:AH:120:LEU:HD13	2.03	0.40
9:AI:34:LEU:HG	9:AI:39:GLY:HA3	2.04	0.40
9:AI:40:ARG:O	9:AI:44:ARG:HG2	2.21	0.40
11:AK:47:GLY:C	11:AK:49:SER:N	2.79	0.40
13:AM:44:ILE:C	13:AM:46:GLU:H	2.29	0.40
15:AO:81:ILE:O	15:AO:85:GLY:N	2.54	0.40
18:AR:70:THR:OG1	18:AR:72:ARG:HG2	2.22	0.40
21:AU:14:ALA:O	21:AU:15:LEU:HB2	2.22	0.40
21:AU:38:GLU:CD	21:AU:41:THR:HG21	2.44	0.40
23:AW:411:GLN:O	23:AW:411:GLN:HG2	2.21	0.40
25:B0:39:GLN:HE21	25:B0:42:THR:HG22	1.86	0.40
29:B4:15:ARG:HA	34:BA:2046:G:H5'	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:B6:19:ARG:NH1	34:BA:124:G:C6	2.90	0.40
34:BA:169:G:C4	34:BA:170:U:C5	3.10	0.40
34:BA:366:C:H6	34:BA:366:C:O5'	2.05	0.40
34:BA:520:G:H2'	34:BA:521:U:C6	2.56	0.40
34:BA:524:G:C6	34:BA:525:U:C4	3.09	0.40
34:BA:942:G:C4	34:BA:943:A:C8	3.09	0.40
34:BA:1130:U:O2'	34:BA:1131:G:H2'	2.21	0.40
34:BA:1230:A:C6	34:BA:1231:U:C4	3.10	0.40
34:BA:1314:C:O2	34:BA:1314:C:H2'	2.22	0.40
34:BA:1507:C:C5'	34:BA:1508:A:OP2	2.69	0.40
34:BA:1638:C:H2'	34:BA:1639:C:O5'	2.22	0.40
34:BA:2313:C:H2'	34:BA:2314:A:H8	1.85	0.40
34:BA:2561:U:H4'	45:BO:22:ILE:CD1	2.50	0.40
34:BA:2723:C:H2'	34:BA:2724:U:O4'	2.21	0.40
35:BB:47:C:C2'	35:BB:48:U:H5'	2.51	0.40
35:BB:49:C:OP1	49:BS:101:GLY:HA3	2.21	0.40
37:BD:109:VAL:HG22	37:BD:203:VAL:HB	2.04	0.40
38:BE:122:GLU:O	38:BE:123:LYS:O	2.40	0.40
39:BF:134:GLN:C	39:BF:136:ILE:N	2.80	0.40
42:BI:45:THR:HG22	42:BI:50:LYS:HG3	2.03	0.40
43:BJ:29:LYS:HD3	43:BJ:30:PHE:CD2	2.56	0.40
44:BN:49:ASP:C	44:BN:49:ASP:OD2	2.64	0.40
46:BP:30:THR:O	46:BP:31:GLY:C	2.65	0.40
46:BP:131:ALA:O	46:BP:132:ARG:C	2.63	0.40
47:BQ:4:PRO:HG3	47:BQ:70:ASP:HA	2.03	0.40
47:BQ:45:GLN:HE22	47:BQ:125:PRO:HG3	1.85	0.40
49:BS:23:ALA:O	49:BS:42:PRO:HA	2.21	0.40
50:BT:105:LYS:CA	50:BT:108:ARG:HH21	2.32	0.40
51:BU:56:PHE:O	51:BU:57:ARG:C	2.63	0.40
51:BU:57:ARG:HH22	51:BU:92:LYS:NZ	2.20	0.40
54:BX:2:ILE:N	54:BX:2:ILE:HD12	2.37	0.40
55:BY:21:ARG:NH2	55:BY:72:PHE:CE2	2.90	0.40
55:BY:65:GLN:O	55:BY:68:ASN:HB2	2.21	0.40
55:BY:90:LYS:O	55:BY:91:LYS:C	2.64	0.40
56:BZ:2:PHE:CD2	56:BZ:61:LEU:HD23	2.57	0.40
56:BZ:21:ARG:HA	56:BZ:25:LYS:O	2.21	0.40
1:AA:43:C:P	16:AP:12:LYS:NZ	2.94	0.40
1:AA:375:U:C2	1:AA:376:G:C8	3.10	0.40
1:AA:422:C:C2'	1:AA:423:G:OP2	2.69	0.40
1:AA:504:C:O4'	1:AA:510:A:C2	2.75	0.40
1:AA:692:U:O2'	1:AA:694:A:N7	2.48	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:718:A:N6	18:AR:62:ARG:NH1	2.61	0.40
1:AA:1007:U:H3	1:AA:1022:A:H61	1.69	0.40
1:AA:1101:A:C4'	1:AA:1102:A:O5'	2.55	0.40
1:AA:1136:C:H5"	1:AA:1137:C:P	2.62	0.40
1:AA:1251:A:C1'	1:AA:1370:G:H4'	2.52	0.40
2:AB:165:ALA:O	2:AB:172:ILE:HD12	2.21	0.40
3:AC:106:ARG:O	3:AC:107:LYS:HB2	2.22	0.40
4:AD:84:ASN:HB3	4:AD:87:GLU:CD	2.46	0.40
4:AD:127:ARG:HD3	4:AD:127:ARG:H	1.87	0.40
5:AE:123:LEU:HD12	5:AE:123:LEU:H	1.87	0.40
5:AE:153:ALA:O	5:AE:154:ALA:C	2.64	0.40
7:AG:144:ALA:C	7:AG:146:ALA:N	2.77	0.40
8:AH:112:ASP:CG	8:AH:113:ARG:N	2.80	0.40
11:AK:126:ARG:HB2	21:AU:33:ARG:NH1	2.37	0.40
13:AM:5:GLY:CA	13:AM:65:GLU:HG3	2.43	0.40
15:AO:84:LEU:HD12	15:AO:84:LEU:HA	1.75	0.40
16:AP:5:ARG:O	16:AP:19:VAL:HA	2.21	0.40
23:AW:21:HIS:CD2	23:AW:122:ARG:H	2.35	0.40
23:AW:389:GLY:O	23:AW:390:ILE:HD13	2.21	0.40
23:AW:424:ALA:O	23:AW:441:VAL:HG13	2.22	0.40
25:B0:17:ALA:O	25:B0:18:LYS:HB3	2.20	0.40
26:B1:49:ARG:HH12	34:BA:1364:G:P	2.44	0.40
26:B1:70:LEU:O	26:B1:73:ARG:N	2.54	0.40
29:B4:49:ARG:C	29:B4:50:GLY:O	2.62	0.40
34:BA:78:U:H2'	34:BA:79:C:H6	1.86	0.40
34:BA:195:A:H5"	46:BP:47:ARG:HH22	1.86	0.40
34:BA:563:A:C4	34:BA:2018:G:C2	3.10	0.40
34:BA:1092:C:H3'	34:BA:1093:G:C8	2.56	0.40
34:BA:1270:C:H6	34:BA:1270:C:O5'	2.05	0.40
34:BA:1477:A:H2'	34:BA:1478:G:O4'	2.22	0.40
34:BA:1590:A:H2'	34:BA:1591:A:C8	2.56	0.40
34:BA:1759:A:H4'	34:BA:2715:C:O4'	2.21	0.40
34:BA:1813:G:C4	36:BC:49:THR:HG21	2.56	0.40
34:BA:2312:U:O5'	34:BA:2312:U:H6	2.05	0.40
34:BA:2325:G:OP1	34:BA:2326:C:OP2	2.39	0.40
34:BA:2592:G:H2'	34:BA:2593:U:O4'	2.22	0.40
35:BB:94:A:H2'	35:BB:95:U:C6	2.56	0.40
36:BC:78:GLU:OE1	36:BC:100:ARG:NE	2.50	0.40
36:BC:95:TYR:HE1	36:BC:101:ARG:HD2	1.84	0.40
36:BC:249:VAL:O	36:BC:250:GLN:C	2.64	0.40
38:BE:146:VAL:HB	38:BE:148:ILE:HG13	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BE:147:LEU:O	38:BE:148:ILE:O	2.40	0.40
39:BF:110:ILE:HD11	39:BF:136:ILE:HD13	2.03	0.40
40:BG:164:ALA:C	40:BG:166:GLU:N	2.78	0.40
41:BH:129:LEU:N	41:BH:130:PRO:HD2	2.36	0.40
41:BH:136:ILE:HA	41:BH:139:LEU:HG	2.03	0.40
44:BN:73:VAL:CG2	44:BN:74:TYR:H	2.21	0.40
44:BN:122:LEU:O	44:BN:122:LEU:HG	2.22	0.40
45:BO:14:SER:O	45:BO:52:VAL:HG22	2.21	0.40
45:BO:113:MET:O	45:BO:114:LYS:C	2.65	0.40
46:BP:79:LEU:HD21	46:BP:135:ILE:HD11	2.03	0.40
47:BQ:74:THR:HA	47:BQ:88:ASN:O	2.22	0.40
50:BT:96:LEU:HB3	50:BT:99:LEU:CD2	2.46	0.40
52:BV:60:LYS:HB2	52:BV:100:GLY:HA3	2.03	0.40
53:BW:50:VAL:O	53:BW:51:LEU:C	2.63	0.40
54:BX:22:THR:HA	54:BX:25:GLU:HB2	2.03	0.40
54:BX:22:THR:CA	54:BX:25:GLU:HB3	2.47	0.40
55:BY:85:ARG:HA	55:BY:85:ARG:HD3	1.91	0.40

All (7) 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)
3:AC:131:ARG:NH2	34:BA:2157:G:P[4_445]	1.17	1.03
3:AC:131:ARG:CZ	34:BA:2157:G:OP1[4_445]	1.23	0.97
3:AC:131:ARG:NH2	34:BA:2157:G:OP1[4_445]	1.40	0.80
3:AC:131:ARG:NH2	34:BA:2157:G:O5'[4_445]	1.48	0.72
3:AC:131:ARG:NE	34:BA:2157:G:OP1[4_445]	1.68	0.52
3:AC:131:ARG:NH2	34:BA:2156:G:O3'[4_445]	1.80	0.40
3:AC:131:ARG:CZ	34:BA:2157:G:P[4_445]	2.10	0.10

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
2	AB	216/241 (90%)	130 (60%)	52 (24%)	34 (16%)	0 0
3	AC	204/233 (88%)	156 (76%)	32 (16%)	16 (8%)	1 5
4	AD	203/206 (98%)	134 (66%)	45 (22%)	24 (12%)	0 1
5	AE	148/167 (89%)	97 (66%)	31 (21%)	20 (14%)	0 1
6	AF	98/131 (75%)	66 (67%)	19 (19%)	13 (13%)	0 1
7	AG	149/156 (96%)	112 (75%)	28 (19%)	9 (6%)	1 10
8	AH	127/130 (98%)	96 (76%)	27 (21%)	4 (3%)	3 22
9	AI	125/130 (96%)	83 (66%)	25 (20%)	17 (14%)	0 1
10	AJ	96/103 (93%)	68 (71%)	18 (19%)	10 (10%)	0 2
11	AK	115/129 (89%)	82 (71%)	25 (22%)	8 (7%)	1 6
12	AL	121/124 (98%)	89 (74%)	22 (18%)	10 (8%)	0 4
13	AM	112/118 (95%)	78 (70%)	27 (24%)	7 (6%)	1 8
14	AN	92/101 (91%)	55 (60%)	24 (26%)	13 (14%)	0 1
15	AO	86/89 (97%)	68 (79%)	15 (17%)	3 (4%)	3 20
16	AP	80/82 (98%)	57 (71%)	16 (20%)	7 (9%)	0 3
17	AQ	78/84 (93%)	57 (73%)	10 (13%)	11 (14%)	0 1
18	AR	53/75 (71%)	38 (72%)	12 (23%)	3 (6%)	1 11
19	AS	77/92 (84%)	60 (78%)	14 (18%)	3 (4%)	2 18
20	AT	83/87 (95%)	59 (71%)	20 (24%)	4 (5%)	2 14
21	AU	49/71 (69%)	24 (49%)	19 (39%)	6 (12%)	0 1
23	AW	523/529 (99%)	381 (73%)	82 (16%)	60 (12%)	0 1
24	AY	2/6 (33%)	1 (50%)	1 (50%)	0	100 100
25	B0	77/85 (91%)	35 (46%)	18 (23%)	24 (31%)	0 0
26	B1	75/78 (96%)	56 (75%)	16 (21%)	3 (4%)	2 17
27	B2	61/63 (97%)	41 (67%)	15 (25%)	5 (8%)	0 4
28	B3	56/59 (95%)	46 (82%)	5 (9%)	5 (9%)	0 3
29	B4	54/57 (95%)	43 (80%)	7 (13%)	4 (7%)	1 6
30	B5	48/55 (87%)	41 (85%)	3 (6%)	4 (8%)	0 4
31	B6	44/46 (96%)	35 (80%)	7 (16%)	2 (4%)	2 15
32	B7	62/65 (95%)	53 (86%)	6 (10%)	3 (5%)	2 14
33	B8	36/38 (95%)	27 (75%)	5 (14%)	4 (11%)	0 2
36	BC	269/273 (98%)	212 (79%)	31 (12%)	26 (10%)	0 3

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
37	BD	207/209 (99%)	157 (76%)	23 (11%)	27 (13%)	0 1
38	BE	199/201 (99%)	143 (72%)	33 (17%)	23 (12%)	0 1
39	BF	175/179 (98%)	117 (67%)	41 (23%)	17 (10%)	0 3
40	BG	174/177 (98%)	104 (60%)	44 (25%)	26 (15%)	0 1
41	BH	161/165 (98%)	98 (61%)	38 (24%)	25 (16%)	0 0
42	BI	139/142 (98%)	83 (60%)	38 (27%)	18 (13%)	0 1
43	BJ	28/121 (23%)	17 (61%)	6 (21%)	5 (18%)	0 0
43	BK	28/121 (23%)	21 (75%)	5 (18%)	2 (7%)	1 6
43	BL	28/121 (23%)	22 (79%)	4 (14%)	2 (7%)	1 6
43	BM	28/121 (23%)	19 (68%)	7 (25%)	2 (7%)	1 6
44	BN	140/142 (99%)	101 (72%)	24 (17%)	15 (11%)	0 2
45	BO	120/123 (98%)	88 (73%)	19 (16%)	13 (11%)	0 2
46	BP	141/144 (98%)	88 (62%)	34 (24%)	19 (14%)	0 1
47	BQ	134/136 (98%)	104 (78%)	18 (13%)	12 (9%)	0 3
48	BR	118/127 (93%)	86 (73%)	20 (17%)	12 (10%)	0 2
49	BS	114/117 (97%)	90 (79%)	14 (12%)	10 (9%)	0 3
50	BT	112/115 (97%)	74 (66%)	21 (19%)	17 (15%)	0 0
51	BU	115/118 (98%)	85 (74%)	23 (20%)	7 (6%)	1 9
52	BV	101/103 (98%)	75 (74%)	18 (18%)	8 (8%)	1 5
53	BW	108/116 (93%)	89 (82%)	15 (14%)	4 (4%)	2 18
54	BX	91/100 (91%)	49 (54%)	23 (25%)	19 (21%)	0 0
55	BY	100/104 (96%)	65 (65%)	22 (22%)	13 (13%)	0 1
56	BZ	92/94 (98%)	72 (78%)	14 (15%)	6 (6%)	1 8
All	All	6272/6999 (90%)	4427 (71%)	1181 (19%)	664 (11%)	0 2

All (664) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	AB	21	TYR
2	AB	22	TRP
2	AB	33	ALA
2	AB	40	ILE
2	AB	75	ALA
2	AB	163	ILE

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Mol	Chain	Res	Type
2	AB	169	HIS
3	AC	14	VAL
3	AC	186	SER
4	AD	24	VAL
4	AD	28	ASP
4	AD	34	GLU
4	AD	84	ASN
4	AD	108	ALA
4	AD	147	LYS
4	AD	167	PRO
4	AD	192	ALA
5	AE	44	ARG
5	AE	122	VAL
5	AE	154	ALA
6	AF	14	GLN
6	AF	53	LYS
6	AF	86	ARG
7	AG	112	ASP
7	AG	129	ASN
8	AH	87	ARG
9	AI	32	ARG
9	AI	44	ARG
9	AI	71	ILE
10	AJ	36	VAL
10	AJ	57	VAL
10	AJ	61	ALA
10	AJ	92	LEU
11	AK	125	LYS
11	AK	126	ARG
12	AL	8	ARG
12	AL	24	GLU
13	AM	46	GLU
14	AN	22	LYS
14	AN	33	VAL
14	AN	51	PRO
14	AN	52	ARG
14	AN	91	GLU
16	AP	75	ILE
17	AQ	11	VAL
17	AQ	12	VAL
17	AQ	16	MET
17	AQ	52	CYS

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Mol	Chain	Res	Type
17	AQ	70	LYS
20	AT	3	ILE
20	AT	67	HIS
23	AW	52	ASN
23	AW	61	GLU
23	AW	69	SER
23	AW	98	ASP
23	AW	301	PHE
23	AW	305	ALA
23	AW	309	PRO
23	AW	313	ASP
23	AW	315	VAL
23	AW	390	ILE
23	AW	398	PHE
23	AW	399	ARG
23	AW	406	PRO
23	AW	434	ASN
23	AW	440	ALA
23	AW	441	VAL
23	AW	521	VAL
23	AW	522	GLN
25	B0	9	THR
25	B0	18	LYS
25	B0	36	ILE
25	B0	50	VAL
26	B1	69	GLU
27	B2	24	GLU
28	B3	34	THR
29	B4	23	ALA
29	B4	35	GLU
32	B7	31	ILE
33	B8	8	LYS
36	BC	77	VAL
36	BC	104	LEU
37	BD	73	VAL
37	BD	92	VAL
37	BD	106	LYS
37	BD	122	VAL
37	BD	191	GLY
37	BD	192	ALA
38	BE	79	ARG
38	BE	80	SER

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Mol	Chain	Res	Type
39	BF	8	LYS
39	BF	132	ARG
39	BF	134	GLN
39	BF	160	LYS
39	BF	175	PRO
40	BG	9	VAL
40	BG	28	LYS
40	BG	53	PRO
40	BG	84	LYS
40	BG	97	VAL
40	BG	118	ALA
40	BG	168	VAL
41	BH	58	THR
41	BH	80	THR
41	BH	93	ALA
41	BH	106	PHE
41	BH	107	GLU
41	BH	108	VAL
41	BH	118	ILE
41	BH	121	SER
41	BH	124	ASP
41	BH	129	LEU
41	BH	145	GLU
42	BI	92	PRO
42	BI	97	VAL
43	BJ	4	LYS
43	BJ	27	GLU
43	BK	11	VAL
43	BK	28	GLU
43	BL	13	ALA
43	BM	10	ALA
43	BM	14	MET
44	BN	44	TYR
44	BN	45	THR
44	BN	73	VAL
44	BN	81	ILE
44	BN	111	LYS
45	BO	16	ALA
45	BO	71	ARG
45	BO	73	ASP
45	BO	92	GLU
45	BO	93	GLN

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Mol	Chain	Res	Type
46	BP	15	ALA
46	BP	66	PHE
46	BP	93	ASN
46	BP	103	ILE
47	BQ	2	LEU
47	BQ	13	HIS
47	BQ	60	GLN
47	BQ	69	PRO
47	BQ	77	PRO
48	BR	117	ASP
49	BS	67	ASN
50	BT	19	PHE
50	BT	25	VAL
50	BT	37	LYS
50	BT	50	ARG
50	BT	103	THR
50	BT	105	LYS
53	BW	3	THR
53	BW	14	ALA
53	BW	64	ALA
54	BX	29	THR
54	BX	39	THR
54	BX	49	LYS
54	BX	88	LYS
55	BY	6	ARG
55	BY	16	LYS
55	BY	63	ALA
55	BY	98	ASN
56	BZ	69	GLU
2	AB	20	ARG
2	AB	72	LYS
2	AB	85	SER
2	AB	94	ARG
2	AB	119	GLN
2	AB	123	GLY
2	AB	125	PHE
2	AB	136	ARG
2	AB	150	ILE
2	AB	189	ASN
2	AB	219	THR
3	AC	50	SER
3	AC	60	ALA

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Mol	Chain	Res	Type
3	AC	145	ALA
3	AC	205	GLU
4	AD	22	SER
4	AD	36	ALA
4	AD	125	ASN
4	AD	150	LYS
4	AD	174	ALA
4	AD	191	SER
5	AE	97	PRO
5	AE	110	MET
5	AE	121	ASN
5	AE	133	ILE
5	AE	144	GLU
5	AE	153	ALA
5	AE	157	GLY
6	AF	69	GLU
7	AG	36	SER
7	AG	55	LYS
9	AI	40	ARG
9	AI	128	LYS
10	AJ	75	ASP
10	AJ	101	SER
11	AK	13	LYS
11	AK	76	TYR
11	AK	88	PRO
11	AK	102	ALA
12	AL	33	CYS
12	AL	75	GLU
12	AL	88	ASP
12	AL	122	LYS
13	AM	3	ILE
13	AM	104	ASN
14	AN	44	VAL
14	AN	54	SER
14	AN	61	ASN
16	AP	36	VAL
16	AP	80	LYS
17	AQ	17	GLU
17	AQ	49	ASN
17	AQ	79	GLU
20	AT	5	SER
21	AU	12	ASP

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Mol	Chain	Res	Type
21	AU	23	GLU
23	AW	60	MET
23	AW	68	ILE
23	AW	96	SER
23	AW	300	VAL
23	AW	356	VAL
23	AW	410	LYS
23	AW	413	LEU
23	AW	424	ALA
23	AW	433	ASN
23	AW	500	ASN
23	AW	504	ILE
23	AW	524	HIS
23	AW	526	THR
25	B0	10	ARG
25	B0	23	LYS
25	B0	26	GLY
25	B0	29	SER
25	B0	40	ARG
25	B0	47	GLY
25	B0	51	GLY
25	B0	52	CYS
26	B1	17	ARG
26	B1	70	LEU
27	B2	25	GLN
30	B5	15	GLY
30	B5	51	ALA
32	B7	22	LYS
36	BC	35	LYS
36	BC	57	HIS
36	BC	140	VAL
36	BC	141	HIS
36	BC	196	ASN
36	BC	232	GLY
36	BC	234	GLY
36	BC	239	PHE
36	BC	260	LYS
37	BD	69	ALA
37	BD	70	LYS
37	BD	72	GLY
37	BD	99	GLU
37	BD	107	VAL

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Mol	Chain	Res	Type
37	BD	118	PHE
37	BD	119	ALA
37	BD	144	GLY
37	BD	170	VAL
37	BD	184	ARG
37	BD	190	LYS
38	BE	42	GLY
38	BE	123	LYS
38	BE	148	ILE
38	BE	175	ILE
39	BF	72	SER
40	BG	45	ALA
40	BG	54	ARG
40	BG	60	GLY
40	BG	75	VAL
40	BG	79	THR
40	BG	164	ALA
41	BH	47	GLU
41	BH	54	VAL
41	BH	56	ARG
41	BH	60	LEU
41	BH	88	HIS
41	BH	144	LYS
42	BI	3	LYS
42	BI	6	ALA
42	BI	83	ALA
42	BI	85	ILE
42	BI	90	GLY
43	BJ	26	MET
43	BL	14	MET
44	BN	13	ARG
45	BO	14	SER
45	BO	35	VAL
45	BO	50	GLY
45	BO	108	ARG
46	BP	29	LYS
46	BP	86	GLU
46	BP	111	ILE
47	BQ	35	ALA
47	BQ	36	VAL
47	BQ	55	ARG
47	BQ	73	ILE

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Mol	Chain	Res	Type
48	BR	14	SER
48	BR	91	ALA
48	BR	93	GLY
48	BR	101	GLY
49	BS	22	GLY
49	BS	66	GLY
49	BS	89	ASP
50	BT	20	ARG
50	BT	93	LYS
50	BT	100	ARG
51	BU	5	ARG
51	BU	85	ALA
51	BU	86	SER
51	BU	87	VAL
52	BV	55	ASP
54	BX	28	ASN
54	BX	36	LYS
54	BX	73	ARG
55	BY	7	ASP
55	BY	88	ASP
55	BY	92	VAL
56	BZ	2	PHE
2	AB	12	GLY
2	AB	31	PHE
2	AB	32	GLY
2	AB	73	ARG
2	AB	81	ASP
2	AB	148	GLY
2	AB	211	LEU
3	AC	36	PHE
3	AC	88	LYS
4	AD	6	PRO
4	AD	43	ARG
4	AD	115	GLN
4	AD	124	VAL
4	AD	132	ALA
4	AD	166	LYS
5	AE	98	ALA
5	AE	149	PRO
6	AF	7	VAL
6	AF	91	ARG
7	AG	35	LYS

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Mol	Chain	Res	Type
8	AH	41	GLU
8	AH	65	PHE
9	AI	22	PRO
11	AK	107	THR
13	AM	36	ALA
13	AM	103	THR
13	AM	113	LYS
14	AN	27	LYS
14	AN	45	LEU
14	AN	67	GLY
16	AP	11	ALA
16	AP	25	ARG
17	AQ	5	ARG
17	AQ	68	LYS
18	AR	48	ALA
19	AS	69	LYS
21	AU	34	ARG
23	AW	18	ILE
23	AW	49	ARG
23	AW	53	GLN
23	AW	54	HIS
23	AW	62	MET
23	AW	92	HIS
23	AW	391	PRO
23	AW	404	LYS
23	AW	405	ASP
23	AW	435	ASP
23	AW	477	ALA
23	AW	492	GLN
23	AW	523	PHE
25	B0	14	ASP
25	B0	16	GLU
25	B0	27	GLY
25	B0	34	SER
25	B0	37	VAL
25	B0	41	GLY
27	B2	37	LEU
28	B3	49	ALA
32	B7	28	LEU
33	B8	16	ILE
33	B8	37	GLN
36	BC	23	LEU

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Mol	Chain	Res	Type
36	BC	37	SER
36	BC	64	VAL
36	BC	109	LEU
36	BC	204	LEU
36	BC	231	HIS
37	BD	43	ASP
37	BD	71	ALA
38	BE	6	LYS
38	BE	9	GLN
38	BE	46	GLN
38	BE	153	LEU
39	BF	20	ASN
39	BF	113	PHE
39	BF	133	GLU
40	BG	31	GLU
40	BG	33	THR
40	BG	44	HIS
40	BG	68	ARG
40	BG	151	ARG
40	BG	170	THR
41	BH	7	ASP
41	BH	61	ARG
41	BH	113	PHE
41	BH	120	ALA
41	BH	151	LEU
42	BI	49	GLU
44	BN	4	PHE
44	BN	25	LEU
44	BN	41	LYS
44	BN	65	THR
45	BO	46	ALA
45	BO	48	PRO
46	BP	36	LYS
46	BP	41	ARG
46	BP	88	GLY
46	BP	115	GLU
47	BQ	43	ALA
47	BQ	56	ALA
47	BQ	134	THR
48	BR	2	ARG
48	BR	3	HIS
48	BR	59	SER

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Mol	Chain	Res	Type
48	BR	60	VAL
49	BS	3	LYS
50	BT	15	ASP
50	BT	65	ASN
50	BT	92	ARG
50	BT	104	GLY
51	BU	91	ARG
52	BV	40	MET
52	BV	43	ASN
52	BV	98	ILE
52	BV	100	GLY
54	BX	20	ALA
54	BX	38	ALA
54	BX	57	VAL
54	BX	70	HIS
55	BY	99	SER
55	BY	101	THR
56	BZ	71	LYS
56	BZ	93	ARG
2	AB	18	GLN
2	AB	54	ALA
2	AB	62	ARG
2	AB	67	LEU
2	AB	128	LEU
2	AB	209	VAL
3	AC	35	ASP
3	AC	52	SER
3	AC	65	VAL
3	AC	125	ARG
3	AC	142	ARG
5	AE	75	LEU
5	AE	100	GLU
5	AE	141	ASP
6	AF	12	PRO
6	AF	13	ASP
6	AF	55	HIS
6	AF	63	ASN
7	AG	6	ILE
7	AG	57	GLU
7	AG	95	ARG
9	AI	8	THR
9	AI	56	MET

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Mol	Chain	Res	Type
9	AI	120	ALA
15	AO	3	SER
15	AO	45	HIS
16	AP	49	GLY
17	AQ	50	ASN
18	AR	54	LEU
18	AR	56	ARG
19	AS	5	LYS
21	AU	9	GLU
21	AU	37	TYR
23	AW	20	SER
23	AW	295	LYS
23	AW	403	LEU
23	AW	412	LEU
23	AW	480	LYS
25	B0	30	VAL
27	B2	36	GLN
28	B3	3	THR
29	B4	51	ARG
29	B4	54	ILE
33	B8	20	ASP
36	BC	28	PRO
36	BC	68	ARG
36	BC	255	LYS
36	BC	256	THR
37	BD	121	THR
37	BD	182	ALA
38	BE	10	SER
38	BE	13	THR
38	BE	45	ALA
38	BE	69	ARG
38	BE	151	GLY
38	BE	163	ASN
39	BF	101	ARG
39	BF	128	SER
39	BF	158	THR
40	BG	16	VAL
40	BG	38	ASP
40	BG	113	ASP
41	BH	59	LEU
42	BI	5	GLN
42	BI	31	GLY

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Mol	Chain	Res	Type
42	BI	124	MET
44	BN	14	ASP
45	BO	75	SER
46	BP	3	LEU
46	BP	12	SER
46	BP	30	THR
46	BP	81	ASP
48	BR	80	PHE
49	BS	71	ALA
51	BU	76	SER
52	BV	91	GLN
53	BW	96	ILE
54	BX	19	LYS
54	BX	69	ARG
54	BX	86	THR
55	BY	54	PRO
56	BZ	68	LYS
2	AB	86	CYS
3	AC	107	LYS
5	AE	11	GLN
5	AE	23	THR
6	AF	54	LEU
6	AF	62	MET
6	AF	94	HIS
9	AI	31	GLN
9	AI	41	GLU
9	AI	42	THR
9	AI	80	HIS
9	AI	119	LYS
9	AI	122	ARG
12	AL	21	PRO
12	AL	114	SER
12	AL	117	GLY
14	AN	3	GLN
23	AW	93	GLU
23	AW	304	GLN
23	AW	467	ASN
23	AW	473	TRP
25	B0	28	GLU
25	B0	74	LYS
25	B0	76	ARG
25	B0	78	PHE

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Mol	Chain	Res	Type
30	B5	50	GLU
31	B6	44	VAL
36	BC	34	GLU
36	BC	110	LYS
37	BD	86	GLU
37	BD	94	GLN
37	BD	175	LEU
38	BE	83	VAL
38	BE	96	VAL
38	BE	109	LEU
38	BE	110	SER
38	BE	162	ARG
39	BF	2	LYS
39	BF	77	LYS
39	BF	109	ARG
39	BF	162	ASP
40	BG	85	LYS
41	BH	67	THR
42	BI	20	SER
42	BI	25	PRO
42	BI	30	GLN
42	BI	64	ARG
42	BI	65	SER
43	BJ	25	ALA
44	BN	22	GLY
44	BN	125	TYR
46	BP	19	LEU
48	BR	102	PHE
48	BR	118	ARG
49	BS	37	ALA
49	BS	56	LYS
49	BS	100	HIS
49	BS	113	ALA
50	BT	87	ARG
51	BU	114	ALA
52	BV	53	PHE
54	BX	18	GLU
54	BX	55	VAL
56	BZ	44	HIS
2	AB	63	LYS
2	AB	177	ASN
4	AD	33	ILE

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Mol	Chain	Res	Type
4	AD	56	GLU
4	AD	63	ILE
5	AE	101	GLY
8	AH	40	LYS
10	AJ	35	GLN
10	AJ	62	ARG
11	AK	118	ASN
12	AL	23	LEU
14	AN	87	ALA
20	AT	6	ALA
23	AW	320	VAL
23	AW	407	LEU
23	AW	411	GLN
28	B3	9	THR
30	B5	4	ILE
31	B6	43	THR
36	BC	237	ARG
36	BC	238	ASN
36	BC	267	VAL
37	BD	42	ASN
37	BD	109	VAL
37	BD	145	SER
38	BE	11	ALA
40	BG	8	VAL
44	BN	21	THR
45	BO	3	GLN
50	BT	63	ILE
55	BY	53	GLN
55	BY	85	ARG
4	AD	144	ILE
5	AE	104	ILE
5	AE	136	VAL
7	AG	92	PRO
9	AI	78	ILE
10	AJ	38	GLY
16	AP	42	ILE
19	AS	44	ILE
21	AU	52	VAL
25	B0	22	VAL
44	BN	124	VAL
46	BP	65	GLY
46	BP	114	GLY

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Mol	Chain	Res	Type
54	BX	2	ILE
54	BX	74	ILE
3	AC	13	ILE
23	AW	518	TYR
40	BG	76	ILE
42	BI	88	GLY
52	BV	101	ILE
3	AC	97	PRO
9	AI	9	GLY
15	AO	35	ILE
40	BG	7	PRO
42	BI	118	GLY
43	BJ	2	ILE
46	BP	116	VAL
50	BT	4	ILE
50	BT	34	GLY
54	BX	16	VAL
13	AM	76	ILE
23	AW	78	PRO
23	AW	382	GLY
27	B2	46	VAL
38	BE	73	ILE
39	BF	135	ILE
10	AJ	41	PRO
28	B3	31	ILE
41	BH	119	PRO
55	BY	38	ILE
23	AW	519	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
2	AB	180/199 (90%)	149 (83%)	31 (17%)	2 10
3	AC	170/190 (90%)	142 (84%)	28 (16%)	2 12
4	AD	172/173 (99%)	149 (87%)	23 (13%)	4 19

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
5	AE	113/126 (90%)	93 (82%)	20 (18%)	2 10
6	AF	87/112 (78%)	76 (87%)	11 (13%)	4 21
7	AG	124/129 (96%)	120 (97%)	4 (3%)	34 65
8	AH	104/105 (99%)	92 (88%)	12 (12%)	5 24
9	AI	105/107 (98%)	94 (90%)	11 (10%)	6 28
10	AJ	86/90 (96%)	69 (80%)	17 (20%)	1 8
11	AK	90/99 (91%)	73 (81%)	17 (19%)	1 9
12	AL	103/104 (99%)	87 (84%)	16 (16%)	2 14
13	AM	92/96 (96%)	90 (98%)	2 (2%)	45 71
14	AN	79/84 (94%)	70 (89%)	9 (11%)	5 24
15	AO	76/77 (99%)	66 (87%)	10 (13%)	4 19
16	AP	65/65 (100%)	54 (83%)	11 (17%)	2 11
17	AQ	74/78 (95%)	63 (85%)	11 (15%)	3 15
18	AR	48/65 (74%)	43 (90%)	5 (10%)	7 28
19	AS	70/79 (89%)	62 (89%)	8 (11%)	5 24
20	AT	65/66 (98%)	57 (88%)	8 (12%)	4 22
21	AU	44/61 (72%)	38 (86%)	6 (14%)	3 18
23	AW	447/453 (99%)	372 (83%)	75 (17%)	2 11
24	AY	2/2 (100%)	2 (100%)	0	100 100
25	B0	59/63 (94%)	42 (71%)	17 (29%)	0 1
26	B1	67/68 (98%)	57 (85%)	10 (15%)	3 15
27	B2	55/55 (100%)	46 (84%)	9 (16%)	2 12
28	B3	48/49 (98%)	37 (77%)	11 (23%)	1 5
29	B4	47/48 (98%)	39 (83%)	8 (17%)	2 11
30	B5	45/49 (92%)	39 (87%)	6 (13%)	4 19
31	B6	38/38 (100%)	35 (92%)	3 (8%)	11 40
32	B7	51/52 (98%)	49 (96%)	2 (4%)	28 62
33	B8	34/34 (100%)	31 (91%)	3 (9%)	9 35
36	BC	216/218 (99%)	174 (81%)	42 (19%)	1 8
37	BD	164/164 (100%)	138 (84%)	26 (16%)	2 13
38	BE	165/165 (100%)	137 (83%)	28 (17%)	2 11

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
39	BF	148/150 (99%)	136 (92%)	12 (8%)	11 39
40	BG	137/138 (99%)	112 (82%)	25 (18%)	2 9
41	BH	123/123 (100%)	109 (89%)	14 (11%)	5 24
42	BI	109/110 (99%)	103 (94%)	6 (6%)	19 52
43	BJ	26/85 (31%)	22 (85%)	4 (15%)	2 14
43	BK	26/85 (31%)	26 (100%)	0	100 100
43	BL	26/85 (31%)	25 (96%)	1 (4%)	29 62
43	BM	26/85 (31%)	24 (92%)	2 (8%)	12 41
44	BN	116/116 (100%)	92 (79%)	24 (21%)	1 7
45	BO	103/104 (99%)	75 (73%)	28 (27%)	0 2
46	BP	102/103 (99%)	84 (82%)	18 (18%)	2 10
47	BQ	109/109 (100%)	91 (84%)	18 (16%)	2 12
48	BR	100/103 (97%)	89 (89%)	11 (11%)	6 26
49	BS	86/87 (99%)	74 (86%)	12 (14%)	3 17
50	BT	99/100 (99%)	80 (81%)	19 (19%)	1 8
51	BU	89/90 (99%)	71 (80%)	18 (20%)	1 7
52	BV	84/84 (100%)	72 (86%)	12 (14%)	3 16
53	BW	93/99 (94%)	69 (74%)	24 (26%)	0 3
54	BX	80/84 (95%)	66 (82%)	14 (18%)	2 10
55	BY	83/85 (98%)	74 (89%)	9 (11%)	6 27
56	BZ	78/78 (100%)	73 (94%)	5 (6%)	16 48
All	All	5228/5666 (92%)	4452 (85%)	776 (15%)	3 15

All (776) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	AB	8	MET
2	AB	10	LYS
2	AB	14	HIS
2	AB	15	PHE
2	AB	19	THR
2	AB	22	TRP
2	AB	26	MET
2	AB	36	LYS
2	AB	38	HIS

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Mol	Chain	Res	Type
2	AB	40	ILE
2	AB	56	LEU
2	AB	71	THR
2	AB	86	CYS
2	AB	88	GLN
2	AB	90	PHE
2	AB	93	HIS
2	AB	94	ARG
2	AB	100	LEU
2	AB	108	GLN
2	AB	113	LEU
2	AB	115	ASP
2	AB	119	GLN
2	AB	125	PHE
2	AB	128	LEU
2	AB	130	LYS
2	AB	136	ARG
2	AB	143	LEU
2	AB	162	VAL
2	AB	170	ILE
2	AB	174	GLU
2	AB	198	VAL
3	AC	2	GLN
3	AC	13	ILE
3	AC	14	VAL
3	AC	15	LYS
3	AC	26	LYS
3	AC	32	LEU
3	AC	36	PHE
3	AC	38	VAL
3	AC	54	ILE
3	AC	57	GLU
3	AC	79	LYS
3	AC	100	ILE
3	AC	102	ILE
3	AC	119	ILE
3	AC	120	THR
3	AC	127	VAL
3	AC	135	ARG
3	AC	139	ASN
3	AC	143	LEU
3	AC	148	ILE

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Mol	Chain	Res	Type
3	AC	149	LYS
3	AC	156	LEU
3	AC	161	ILE
3	AC	166	TRP
3	AC	177	LEU
3	AC	183	TYR
3	AC	184	ASN
3	AC	205	GLU
4	AD	8	LEU
4	AD	25	ARG
4	AD	29	THR
4	AD	32	LYS
4	AD	39	GLN
4	AD	54	LEU
4	AD	55	ARG
4	AD	57	LYS
4	AD	58	GLN
4	AD	82	LYS
4	AD	115	GLN
4	AD	123	MET
4	AD	128	VAL
4	AD	131	ILE
4	AD	143	SER
4	AD	151	GLN
4	AD	155	LYS
4	AD	160	LEU
4	AD	162	GLU
4	AD	166	LYS
4	AD	170	LEU
4	AD	199	ILE
4	AD	205	LYS
5	AE	9	GLU
5	AE	14	LEU
5	AE	29	ILE
5	AE	31	SER
5	AE	45	VAL
5	AE	51	LYS
5	AE	71	ILE
5	AE	92	ARG
5	AE	95	MET
5	AE	96	GLN
5	AE	100	GLU

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Mol	Chain	Res	Type
5	AE	105	ILE
5	AE	114	LEU
5	AE	123	LEU
5	AE	125	LYS
5	AE	135	VAL
5	AE	146	MET
5	AE	150	GLU
5	AE	155	LYS
5	AE	156	ARG
6	AF	7	VAL
6	AF	14	GLN
6	AF	36	ILE
6	AF	46	GLN
6	AF	51	ILE
6	AF	68	GLN
6	AF	69	GLU
6	AF	77	THR
6	AF	90	MET
6	AF	93	LYS
6	AF	96	VAL
7	AG	6	ILE
7	AG	11	ILE
7	AG	12	LEU
7	AG	62	GLU
8	AH	2	MET
8	AH	11	THR
8	AH	21	LYS
8	AH	50	VAL
8	AH	55	LYS
8	AH	59	GLU
8	AH	72	GLU
8	AH	74	ILE
8	AH	76	ARG
8	AH	84	ILE
8	AH	111	THR
8	AH	124	ILE
9	AI	13	SER
9	AI	35	GLU
9	AI	54	VAL
9	AI	60	LEU
9	AI	62	LEU
9	AI	64	ILE

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Mol	Chain	Res	Type
9	AI	67	LYS
9	AI	87	MET
9	AI	89	TYR
9	AI	115	VAL
9	AI	128	LYS
10	AJ	7	ARG
10	AJ	18	ILE
10	AJ	25	ILE
10	AJ	32	THR
10	AJ	35	GLN
10	AJ	44	THR
10	AJ	48	ARG
10	AJ	59	LYS
10	AJ	63	ASP
10	AJ	71	LEU
10	AJ	73	LEU
10	AJ	78	GLU
10	AJ	80	THR
10	AJ	83	THR
10	AJ	92	LEU
10	AJ	96	VAL
10	AJ	100	ILE
11	AK	17	ASP
11	AK	19	VAL
11	AK	22	ILE
11	AK	30	ILE
11	AK	41	LEU
11	AK	51	PHE
11	AK	64	VAL
11	AK	73	VAL
11	AK	76	TYR
11	AK	78	ILE
11	AK	81	LEU
11	AK	100	ASN
11	AK	106	ILE
11	AK	117	HIS
11	AK	124	LYS
11	AK	125	LYS
11	AK	128	VAL
12	AL	9	LYS
12	AL	28	GLN
12	AL	33	CYS

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Mol	Chain	Res	Type
12	AL	43	LYS
12	AL	57	THR
12	AL	63	THR
12	AL	73	LEU
12	AL	81	ILE
12	AL	87	LYS
12	AL	88	ASP
12	AL	89	LEU
12	AL	101	LEU
12	AL	102	ASP
12	AL	109	ARG
12	AL	111	GLN
12	AL	115	LYS
13	AM	44	ILE
13	AM	103	THR
14	AN	3	GLN
14	AN	27	LYS
14	AN	29	ILE
14	AN	44	VAL
14	AN	59	GLN
14	AN	61	ASN
14	AN	72	PHE
14	AN	82	LYS
14	AN	99	SER
15	AO	11	VAL
15	AO	21	THR
15	AO	24	THR
15	AO	25	GLU
15	AO	38	LEU
15	AO	39	GLN
15	AO	60	SER
15	AO	65	LEU
15	AO	81	ILE
15	AO	82	GLU
16	AP	2	VAL
16	AP	6	LEU
16	AP	12	LYS
16	AP	19	VAL
16	AP	26	ASN
16	AP	46	LYS
16	AP	54	LEU
16	AP	63	GLN

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Mol	Chain	Res	Type
16	AP	67	ILE
16	AP	74	LEU
16	AP	80	LYS
17	AQ	3	LYS
17	AQ	16	MET
17	AQ	21	VAL
17	AQ	24	ILE
17	AQ	47	ASP
17	AQ	49	ASN
17	AQ	51	GLU
17	AQ	54	ILE
17	AQ	74	LEU
17	AQ	78	VAL
17	AQ	80	LYS
18	AR	20	ILE
18	AR	24	ASP
18	AR	25	ILE
18	AR	35	SER
18	AR	71	ASP
19	AS	4	LEU
19	AS	20	LYS
19	AS	36	ARG
19	AS	42	ASN
19	AS	48	ILE
19	AS	60	PHE
19	AS	61	VAL
19	AS	64	GLU
20	AT	4	LYS
20	AT	14	GLU
20	AT	35	TYR
20	AT	48	LYS
20	AT	68	LYS
20	AT	69	ASN
20	AT	75	LYS
20	AT	77	ASN
21	AU	9	GLU
21	AU	19	LYS
21	AU	27	VAL
21	AU	33	ARG
21	AU	39	LYS
21	AU	45	LYS
23	AW	3	LEU

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Mol	Chain	Res	Type
23	AW	14	ARG
23	AW	27	THR
23	AW	31	GLU
23	AW	35	LEU
23	AW	42	THR
23	AW	45	THR
23	AW	46	VAL
23	AW	49	ARG
23	AW	51	SER
23	AW	59	TRP
23	AW	60	MET
23	AW	70	ILE
23	AW	72	THR
23	AW	73	SER
23	AW	94	ASP
23	AW	97	GLU
23	AW	99	THR
23	AW	108	CYS
23	AW	110	LEU
23	AW	113	ILE
23	AW	117	LYS
23	AW	127	MET
23	AW	145	ASP
23	AW	155	LEU
23	AW	178	LEU
23	AW	202	GLN
23	AW	204	VAL
23	AW	231	LEU
23	AW	232	GLU
23	AW	238	SER
23	AW	258	THR
23	AW	268	MET
23	AW	272	LEU
23	AW	273	VAL
23	AW	304	GLN
23	AW	307	MET
23	AW	310	LYS
23	AW	311	HIS
23	AW	332	ARG
23	AW	336	THR
23	AW	343	SER
23	AW	344	ASP

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Mol	Chain	Res	Type
23	AW	353	ARG
23	AW	355	HIS
23	AW	356	VAL
23	AW	358	GLU
23	AW	390	ILE
23	AW	397	LEU
23	AW	398	PHE
23	AW	400	ARG
23	AW	401	ILE
23	AW	403	LEU
23	AW	404	LYS
23	AW	410	LYS
23	AW	411	GLN
23	AW	412	LEU
23	AW	433	ASN
23	AW	441	VAL
23	AW	444	LEU
23	AW	445	GLN
23	AW	447	ASP
23	AW	452	ARG
23	AW	453	LEU
23	AW	454	LYS
23	AW	458	ASN
23	AW	459	VAL
23	AW	460	GLU
23	AW	462	VAL
23	AW	490	GLU
23	AW	499	ASP
23	AW	501	LEU
23	AW	518	TYR
23	AW	521	VAL
23	AW	525	GLN
25	B0	14	ASP
25	B0	19	ARG
25	B0	22	VAL
25	B0	24	ARG
25	B0	35	ILE
25	B0	36	ILE
25	B0	38	ARG
25	B0	40	ARG
25	B0	42	THR
25	B0	45	HIS

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Mol	Chain	Res	Type
25	B0	49	ASN
25	B0	54	ARG
25	B0	63	ASP
25	B0	67	LYS
25	B0	71	LYS
25	B0	76	ARG
25	B0	79	ILE
26	B1	6	VAL
26	B1	10	ARG
26	B1	24	THR
26	B1	26	ARG
26	B1	36	ARG
26	B1	47	THR
26	B1	57	VAL
26	B1	67	LEU
26	B1	70	LEU
26	B1	77	TYR
27	B2	9	LYS
27	B2	13	GLU
27	B2	18	LEU
27	B2	20	ASN
27	B2	39	GLN
27	B2	42	LEU
27	B2	47	ARG
27	B2	57	LEU
27	B2	59	GLU
28	B3	4	ILE
28	B3	6	ILE
28	B3	8	GLN
28	B3	9	THR
28	B3	15	ARG
28	B3	23	LEU
28	B3	30	ARG
28	B3	31	ILE
28	B3	37	ARG
28	B3	40	THR
28	B3	43	ILE
29	B4	2	VAL
29	B4	8	THR
29	B4	9	ARG
29	B4	22	THR
29	B4	27	LEU

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Mol	Chain	Res	Type
29	B4	28	SER
29	B4	42	ILE
29	B4	45	ASP
30	B5	4	ILE
30	B5	9	LYS
30	B5	19	PHE
30	B5	29	LYS
30	B5	33	LEU
30	B5	46	VAL
31	B6	3	ARG
31	B6	24	THR
31	B6	42	LEU
32	B7	7	ARG
32	B7	22	LYS
33	B8	4	ARG
33	B8	9	LYS
33	B8	16	ILE
36	BC	2	VAL
36	BC	3	VAL
36	BC	12	ARG
36	BC	20	ASN
36	BC	23	LEU
36	BC	27	LYS
36	BC	35	LYS
36	BC	43	ASN
36	BC	49	THR
36	BC	52	HIS
36	BC	70	LYS
36	BC	73	ILE
36	BC	76	VAL
36	BC	87	SER
36	BC	90	ILE
36	BC	103	ILE
36	BC	104	LEU
36	BC	109	LEU
36	BC	110	LYS
36	BC	114	GLN
36	BC	115	ILE
36	BC	117	SER
36	BC	123	ILE
36	BC	142	ASN
36	BC	155	ARG

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Mol	Chain	Res	Type
36	BC	173	LEU
36	BC	175	LEU
36	BC	183	VAL
36	BC	191	LEU
36	BC	193	GLU
36	BC	202	ARG
36	BC	204	LEU
36	BC	215	VAL
36	BC	224	MET
36	BC	241	LYS
36	BC	250	GLN
36	BC	251	THR
36	BC	252	LYS
36	BC	254	LYS
36	BC	268	ARG
36	BC	269	ARG
36	BC	270	ARG
37	BD	9	VAL
37	BD	11	MET
37	BD	12	THR
37	BD	14	ILE
37	BD	16	THR
37	BD	25	THR
37	BD	33	ARG
37	BD	40	LEU
37	BD	73	VAL
37	BD	90	PHE
37	BD	91	THR
37	BD	110	THR
37	BD	114	LYS
37	BD	118	PHE
37	BD	124	ARG
37	BD	129	THR
37	BD	133	THR
37	BD	138	LEU
37	BD	142	VAL
37	BD	159	LYS
37	BD	170	VAL
37	BD	171	THR
37	BD	176	ASP
37	BD	186	LEU
37	BD	201	LEU

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Mol	Chain	Res	Type
37	BD	203	VAL
38	BE	12	LEU
38	BE	41	GLN
38	BE	44	ARG
38	BE	46	GLN
38	BE	51	GLU
38	BE	63	LYS
38	BE	70	SER
38	BE	72	SER
38	BE	77	ILE
38	BE	90	GLN
38	BE	93	SER
38	BE	108	ILE
38	BE	109	LEU
38	BE	116	ASP
38	BE	118	LEU
38	BE	119	ILE
38	BE	120	VAL
38	BE	127	GLU
38	BE	132	LYS
38	BE	136	GLN
38	BE	146	VAL
38	BE	147	LEU
38	BE	150	THR
38	BE	153	LEU
38	BE	178	VAL
38	BE	180	LEU
38	BE	189	THR
38	BE	200	LEU
39	BF	9	ASP
39	BF	14	LYS
39	BF	24	VAL
39	BF	35	LEU
39	BF	46	LYS
39	BF	47	LYS
39	BF	66	ILE
39	BF	80	GLN
39	BF	114	ARG
39	BF	134	GLN
39	BF	154	THR
39	BF	157	THR
40	BG	8	VAL

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Mol	Chain	Res	Type
40	BG	15	ASP
40	BG	17	LYS
40	BG	23	ILE
40	BG	34	ARG
40	BG	37	ASN
40	BG	40	VAL
40	BG	55	ASP
40	BG	68	ARG
40	BG	71	LEU
40	BG	76	ILE
40	BG	78	VAL
40	BG	84	LYS
40	BG	91	VAL
40	BG	97	VAL
40	BG	100	ASN
40	BG	101	VAL
40	BG	120	ILE
40	BG	131	VAL
40	BG	132	LEU
40	BG	138	GLN
40	BG	140	ILE
40	BG	151	ARG
40	BG	166	GLU
40	BG	174	LYS
41	BH	3	LEU
41	BH	11	ILE
41	BH	26	VAL
41	BH	31	ARG
41	BH	54	VAL
41	BH	58	THR
41	BH	59	LEU
41	BH	81	LEU
41	BH	107	GLU
41	BH	123	ILE
41	BH	126	LEU
41	BH	134	GLU
41	BH	143	MET
41	BH	154	THR
42	BI	10	LEU
42	BI	11	GLN
42	BI	39	LYS
42	BI	49	GLU

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Mol	Chain	Res	Type
42	BI	71	LYS
42	BI	126	ARG
43	BJ	4	LYS
43	BJ	27	GLU
43	BJ	29	LYS
43	BJ	30	PHE
43	BL	18	ASP
43	BM	2	ILE
43	BM	18	ASP
44	BN	2	LYS
44	BN	18	VAL
44	BN	25	LEU
44	BN	30	THR
44	BN	36	LEU
44	BN	39	LYS
44	BN	44	TYR
44	BN	50	THR
44	BN	54	ILE
44	BN	55	ILE
44	BN	57	LEU
44	BN	64	VAL
44	BN	65	THR
44	BN	72	LYS
44	BN	85	LYS
44	BN	93	ILE
44	BN	103	ILE
44	BN	111	LYS
44	BN	123	LYS
44	BN	124	VAL
44	BN	129	GLU
44	BN	131	ASN
44	BN	135	GLN
44	BN	140	LEU
45	BO	8	LEU
45	BO	10	VAL
45	BO	13	ASN
45	BO	21	CYS
45	BO	23	LYS
45	BO	25	LEU
45	BO	28	SER
45	BO	30	ARG
45	BO	41	ILE

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Mol	Chain	Res	Type
45	BO	47	ILE
45	BO	51	LYS
45	BO	54	LYS
45	BO	58	LEU
45	BO	61	VAL
45	BO	63	VAL
45	BO	70	ARG
45	BO	73	ASP
45	BO	77	ILE
45	BO	82	ASN
45	BO	89	ASN
45	BO	92	GLU
45	BO	93	GLN
45	BO	95	ILE
45	BO	105	ARG
45	BO	107	LEU
45	BO	111	LYS
45	BO	114	LYS
45	BO	118	LEU
46	BP	2	ARG
46	BP	3	LEU
46	BP	6	LEU
46	BP	13	LYS
46	BP	19	LEU
46	BP	21	ARG
46	BP	25	SER
46	BP	27	LEU
46	BP	39	LYS
46	BP	46	VAL
46	BP	47	ARG
46	BP	55	MET
46	BP	59	ARG
46	BP	61	LEU
46	BP	82	LEU
46	BP	95	LEU
46	BP	120	VAL
46	BP	121	THR
47	BQ	10	ARG
47	BQ	11	LYS
47	BQ	24	THR
47	BQ	25	ASP
47	BQ	27	SER

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Mol	Chain	Res	Type
47	BQ	33	LEU
47	BQ	70	ASP
47	BQ	73	ILE
47	BQ	75	GLU
47	BQ	76	LYS
47	BQ	78	LEU
47	BQ	81	ARG
47	BQ	95	LEU
47	BQ	96	ILE
47	BQ	97	GLN
47	BQ	100	LYS
47	BQ	102	LEU
47	BQ	134	THR
48	BR	2	ARG
48	BR	10	LEU
48	BR	27	SER
48	BR	33	ILE
48	BR	36	THR
48	BR	38	LEU
48	BR	69	ARG
48	BR	71	ARG
48	BR	75	ILE
48	BR	95	THR
48	BR	113	ILE
49	BS	9	ARG
49	BS	15	ARG
49	BS	17	LYS
49	BS	21	LEU
49	BS	31	THR
49	BS	35	ILE
49	BS	49	VAL
49	BS	94	ARG
49	BS	106	LEU
49	BS	111	ARG
49	BS	112	GLU
49	BS	116	GLN
50	BT	7	LEU
50	BT	16	VAL
50	BT	18	SER
50	BT	24	THR
50	BT	28	LYS
50	BT	36	LYS

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Mol	Chain	Res	Type
50	BT	37	LYS
50	BT	38	ARG
50	BT	47	ILE
50	BT	50	ARG
50	BT	61	ARG
50	BT	75	THR
50	BT	79	VAL
50	BT	83	ILE
50	BT	91	VAL
50	BT	93	LYS
50	BT	96	LEU
50	BT	99	LEU
50	BT	109	ILE
51	BU	7	VAL
51	BU	10	ARG
51	BU	17	LEU
51	BU	39	ILE
51	BU	50	ARG
51	BU	53	LYS
51	BU	59	LEU
51	BU	63	ARG
51	BU	65	ASN
51	BU	69	ARG
51	BU	73	ILE
51	BU	79	ILE
51	BU	88	GLU
51	BU	89	ILE
51	BU	93	ILE
51	BU	94	LEU
51	BU	96	ASP
51	BU	99	VAL
52	BV	4	VAL
52	BV	10	LYS
52	BV	22	LEU
52	BV	25	LEU
52	BV	37	GLU
52	BV	38	VAL
52	BV	39	LEU
52	BV	46	GLU
52	BV	48	LYS
52	BV	49	ILE
52	BV	63	VAL

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Mol	Chain	Res	Type
52	BV	87	GLN
53	BW	3	THR
53	BW	4	ILE
53	BW	19	LEU
53	BW	24	ILE
53	BW	29	VAL
53	BW	33	LEU
53	BW	36	LEU
53	BW	41	LYS
53	BW	45	VAL
53	BW	46	LEU
53	BW	48	LYS
53	BW	68	ASP
53	BW	69	LEU
53	BW	75	PHE
53	BW	76	VAL
53	BW	78	GLU
53	BW	81	SER
53	BW	82	MET
53	BW	83	LYS
53	BW	88	ARG
53	BW	96	ILE
53	BW	97	LEU
53	BW	101	SER
53	BW	107	VAL
54	BX	2	ILE
54	BX	3	ARG
54	BX	4	GLU
54	BX	12	ARG
54	BX	30	ILE
54	BX	31	VAL
54	BX	37	ASP
54	BX	43	ILE
54	BX	48	GLN
54	BX	49	LYS
54	BX	50	LEU
54	BX	63	VAL
54	BX	68	LYS
54	BX	86	THR
55	BY	23	LYS
55	BY	26	ASN
55	BY	27	VAL

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Mol	Chain	Res	Type
55	BY	32	LYS
55	BY	42	LYS
55	BY	43	LYS
55	BY	61	GLU
55	BY	67	SER
55	BY	102	ILE
56	BZ	10	LYS
56	BZ	51	GLN
56	BZ	61	LEU
56	BZ	66	ASP
56	BZ	77	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (205) such sidechains are listed below:

Mol	Chain	Res	Type
2	AB	17	HIS
2	AB	41	ASN
2	AB	57	ASN
2	AB	88	GLN
2	AB	102	ASN
2	AB	108	GLN
2	AB	119	GLN
3	AC	24	ASN
3	AC	31	ASN
3	AC	139	ASN
4	AD	53	GLN
4	AD	58	GLN
4	AD	70	GLN
4	AD	73	ASN
4	AD	135	GLN
4	AD	163	GLN
5	AE	18	ASN
5	AE	42	ASN
5	AE	72	ASN
5	AE	81	GLN
5	AE	88	HIS
5	AE	96	GLN
5	AE	121	ASN
6	AF	11	HIS
6	AF	46	GLN
6	AF	52	ASN
6	AF	68	GLN

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Mol	Chain	Res	Type
7	AG	141	HIS
8	AH	3	GLN
8	AH	17	GLN
8	AH	20	ASN
8	AH	117	GLN
9	AI	3	ASN
9	AI	4	GLN
9	AI	24	ASN
9	AI	49	GLN
9	AI	74	GLN
9	AI	80	HIS
9	AI	125	GLN
10	AJ	20	GLN
10	AJ	35	GLN
10	AJ	56	HIS
10	AJ	58	ASN
10	AJ	64	GLN
10	AJ	99	GLN
11	AK	14	GLN
11	AK	21	HIS
11	AK	108	ASN
11	AK	118	ASN
12	AL	28	GLN
12	AL	45	ASN
12	AL	95	HIS
12	AL	111	GLN
13	AM	7	ASN
14	AN	48	GLN
14	AN	59	GLN
14	AN	61	ASN
15	AO	37	HIS
15	AO	39	GLN
15	AO	45	HIS
16	AP	18	GLN
16	AP	26	ASN
16	AP	59	HIS
16	AP	63	GLN
17	AQ	8	GLN
17	AQ	44	HIS
17	AQ	49	ASN
17	AQ	50	ASN
18	AR	30	ASN

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Mol	Chain	Res	Type
18	AR	53	GLN
18	AR	73	HIS
19	AS	13	HIS
19	AS	42	ASN
20	AT	12	GLN
20	AT	20	ASN
20	AT	54	GLN
20	AT	60	GLN
20	AT	74	HIS
20	AT	77	ASN
21	AU	8	ASN
23	AW	21	HIS
23	AW	85	ASN
23	AW	262	ASN
23	AW	267	HIS
23	AW	306	ASN
23	AW	369	ASN
23	AW	467	ASN
23	AW	510	ASN
23	AW	525	GLN
25	B0	39	GLN
25	B0	49	ASN
26	B1	5	GLN
26	B1	22	ASN
27	B2	15	ASN
27	B2	20	ASN
27	B2	27	ASN
27	B2	31	GLN
27	B2	41	HIS
27	B2	45	GLN
27	B2	58	ASN
28	B3	8	GLN
28	B3	19	HIS
28	B3	33	HIS
29	B4	3	GLN
29	B4	4	GLN
29	B4	37	HIS
29	B4	41	HIS
31	B6	6	GLN
31	B6	13	ASN
31	B6	16	HIS
32	B7	27	ASN

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Mol	Chain	Res	Type
32	B7	30	HIS
33	B8	35	GLN
33	B8	37	GLN
36	BC	14	HIS
36	BC	24	HIS
36	BC	43	ASN
36	BC	45	ASN
36	BC	59	GLN
36	BC	85	ASN
36	BC	89	ASN
36	BC	114	GLN
36	BC	152	GLN
36	BC	238	ASN
36	BC	250	GLN
36	BC	259	ASN
37	BD	32	ASN
37	BD	42	ASN
37	BD	49	GLN
37	BD	67	HIS
37	BD	126	ASN
37	BD	136	ASN
37	BD	173	GLN
38	BE	24	ASN
38	BE	29	HIS
38	BE	30	GLN
38	BE	41	GLN
38	BE	62	GLN
38	BE	92	HIS
38	BE	94	GLN
38	BE	97	ASN
38	BE	136	GLN
38	BE	165	HIS
39	BF	22	ASN
39	BF	26	GLN
39	BF	80	GLN
39	BF	134	GLN
40	BG	100	ASN
40	BG	114	HIS
41	BH	6	GLN
42	BI	5	GLN
42	BI	11	GLN
42	BI	18	ASN

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Mol	Chain	Res	Type
42	BI	110	GLN
43	BL	6	GLN
44	BN	40	HIS
44	BN	76	HIS
44	BN	77	HIS
44	BN	80	HIS
44	BN	130	HIS
45	BO	88	ASN
45	BO	89	ASN
46	BP	54	GLN
46	BP	93	ASN
46	BP	104	GLN
48	BR	9	GLN
48	BR	11	ASN
48	BR	23	ASN
48	BR	62	ASN
48	BR	73	ASN
49	BS	19	GLN
49	BS	34	HIS
49	BS	38	GLN
49	BS	100	HIS
49	BS	104	GLN
50	BT	2	ASN
50	BT	6	GLN
50	BT	9	GLN
50	BT	11	GLN
50	BT	65	ASN
50	BT	74	GLN
51	BU	51	GLN
51	BU	65	ASN
51	BU	80	ASN
52	BV	18	GLN
52	BV	43	ASN
52	BV	66	HIS
52	BV	82	HIS
52	BV	87	GLN
53	BW	57	ASN
53	BW	61	ASN
54	BX	48	GLN
54	BX	70	HIS
54	BX	72	GLN
54	BX	91	GLN

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Mol	Chain	Res	Type
55	BY	45	GLN
55	BY	52	ASN
55	BY	65	GLN
55	BY	73	ASN
56	BZ	24	ASN
56	BZ	44	HIS
56	BZ	51	GLN
56	BZ	78	GLN
56	BZ	80	HIS
56	BZ	88	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1531/1533 (99%)	300 (19%)	45 (2%)
22	AV	5/27 (18%)	3 (60%)	0
34	BA	2849/2903 (98%)	577 (20%)	95 (3%)
35	BB	117/118 (99%)	22 (18%)	3 (2%)
All	All	4502/4581 (98%)	902 (20%)	143 (3%)

All (902) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	5	U
1	AA	9	G
1	AA	19	A
1	AA	22	G
1	AA	31	G
1	AA	32	A
1	AA	39	G
1	AA	47	C
1	AA	48	C
1	AA	50	A
1	AA	51	A
1	AA	52	C
1	AA	63	C
1	AA	65	A
1	AA	66	A
1	AA	70	U
1	AA	71	A
1	AA	75	G

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Mol	Chain	Res	Type
1	AA	76	G
1	AA	78	A
1	AA	81	A
1	AA	82	G
1	AA	83	C
1	AA	84	U
1	AA	85	U
1	AA	86	G
1	AA	89	U
1	AA	92	U
1	AA	95	C
1	AA	115	G
1	AA	116	A
1	AA	119	A
1	AA	121	U
1	AA	122	G
1	AA	141	G
1	AA	143	A
1	AA	146	G
1	AA	151	A
1	AA	159	G
1	AA	163	C
1	AA	166	U
1	AA	173	U
1	AA	182	A
1	AA	183	C
1	AA	193	C
1	AA	197	A
1	AA	205	A
1	AA	209	U
1	AA	210	C
1	AA	219	U
1	AA	245	U
1	AA	247	G
1	AA	250	A
1	AA	251	G
1	AA	266	G
1	AA	267	C
1	AA	273	U
1	AA	274	A
1	AA	275	G
1	AA	280	C

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Mol	Chain	Res	Type
1	AA	281	G
1	AA	285	C
1	AA	289	G
1	AA	305	G
1	AA	306	A
1	AA	316	C
1	AA	321	A
1	AA	328	C
1	AA	329	A
1	AA	330	C
1	AA	332	G
1	AA	345	C
1	AA	346	G
1	AA	347	G
1	AA	352	C
1	AA	354	G
1	AA	367	U
1	AA	372	C
1	AA	373	A
1	AA	384	G
1	AA	389	A
1	AA	398	U
1	AA	406	G
1	AA	411	A
1	AA	412	A
1	AA	413	G
1	AA	421	U
1	AA	423	G
1	AA	424	G
1	AA	428	G
1	AA	429	U
1	AA	430	A
1	AA	448	A
1	AA	452	A
1	AA	459	A
1	AA	461	A
1	AA	462	G
1	AA	463	U
1	AA	465	A
1	AA	467	U
1	AA	468	A
1	AA	481	G

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Mol	Chain	Res	Type
1	AA	484	G
1	AA	485	U
1	AA	486	U
1	AA	496	A
1	AA	500	G
1	AA	505	G
1	AA	508	U
1	AA	511	C
1	AA	518	C
1	AA	527	G
1	AA	531	U
1	AA	532	A
1	AA	533	A
1	AA	536	C
1	AA	547	A
1	AA	559	A
1	AA	560	A
1	AA	562	U
1	AA	564	C
1	AA	572	A
1	AA	573	A
1	AA	575	G
1	AA	576	C
1	AA	577	G
1	AA	588	G
1	AA	595	A
1	AA	633	G
1	AA	653	U
1	AA	662	U
1	AA	665	A
1	AA	687	A
1	AA	688	G
1	AA	701	U
1	AA	702	A
1	AA	703	G
1	AA	704	A
1	AA	721	G
1	AA	722	G
1	AA	723	U
1	AA	724	G
1	AA	725	G
1	AA	731	G

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Mol	Chain	Res	Type
1	AA	733	G
1	AA	735	C
1	AA	748	G
1	AA	753	A
1	AA	758	C
1	AA	777	A
1	AA	792	A
1	AA	794	A
1	AA	799	G
1	AA	804	U
1	AA	809	G
1	AA	812	G
1	AA	813	U
1	AA	814	A
1	AA	815	A
1	AA	816	A
1	AA	817	C
1	AA	828	U
1	AA	841	C
1	AA	843	U
1	AA	845	A
1	AA	846	G
1	AA	859	G
1	AA	885	G
1	AA	890	G
1	AA	891	U
1	AA	913	A
1	AA	914	A
1	AA	926	G
1	AA	927	G
1	AA	934	C
1	AA	935	A
1	AA	960	U
1	AA	961	U
1	AA	964	A
1	AA	966	G
1	AA	969	A
1	AA	972	C
1	AA	974	A
1	AA	975	A
1	AA	976	G
1	AA	977	A

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Mol	Chain	Res	Type
1	AA	983	A
1	AA	992	U
1	AA	993	G
1	AA	994	A
1	AA	1003	G
1	AA	1004	A
1	AA	1008	U
1	AA	1018	G
1	AA	1022	A
1	AA	1025	U
1	AA	1030	U
1	AA	1031	C
1	AA	1032	G
1	AA	1033	G
1	AA	1034	G
1	AA	1037	C
1	AA	1049	U
1	AA	1050	G
1	AA	1053	G
1	AA	1054	C
1	AA	1064	G
1	AA	1065	U
1	AA	1085	U
1	AA	1086	U
1	AA	1087	G
1	AA	1094	G
1	AA	1095	U
1	AA	1101	A
1	AA	1102	A
1	AA	1124	G
1	AA	1127	G
1	AA	1130	A
1	AA	1133	G
1	AA	1136	C
1	AA	1137	C
1	AA	1138	G
1	AA	1139	G
1	AA	1145	A
1	AA	1146	A
1	AA	1159	U
1	AA	1160	G
1	AA	1167	A

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Mol	Chain	Res	Type
1	AA	1168	U
1	AA	1169	A
1	AA	1181	G
1	AA	1182	G
1	AA	1183	U
1	AA	1184	G
1	AA	1196	A
1	AA	1200	C
1	AA	1201	A
1	AA	1202	U
1	AA	1212	U
1	AA	1213	A
1	AA	1224	U
1	AA	1225	A
1	AA	1226	C
1	AA	1227	A
1	AA	1240	U
1	AA	1241	G
1	AA	1257	A
1	AA	1258	G
1	AA	1261	A
1	AA	1278	G
1	AA	1279	G
1	AA	1280	A
1	AA	1281	C
1	AA	1285	A
1	AA	1286	U
1	AA	1287	A
1	AA	1297	G
1	AA	1298	U
1	AA	1300	G
1	AA	1301	U
1	AA	1303	C
1	AA	1305	G
1	AA	1317	C
1	AA	1320	C
1	AA	1321	U
1	AA	1323	G
1	AA	1336	C
1	AA	1337	G
1	AA	1347	G
1	AA	1348	U

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Mol	Chain	Res	Type
1	AA	1353	G
1	AA	1362	A
1	AA	1364	U
1	AA	1365	G
1	AA	1380	U
1	AA	1381	U
1	AA	1397	C
1	AA	1398	A
1	AA	1413	A
1	AA	1419	G
1	AA	1432	G
1	AA	1441	A
1	AA	1446	A
1	AA	1448	C
1	AA	1451	U
1	AA	1452	C
1	AA	1453	G
1	AA	1469	C
1	AA	1475	G
1	AA	1487	G
1	AA	1492	A
1	AA	1493	A
1	AA	1494	G
1	AA	1497	G
1	AA	1503	A
1	AA	1506	U
1	AA	1517	G
1	AA	1519	A
1	AA	1529	G
1	AA	1530	G
22	AV	18	G
22	AV	19	U
22	AV	20	A
34	BA	10	A
34	BA	12	U
34	BA	13	A
34	BA	15	G
34	BA	28	A
34	BA	35	G
34	BA	43	G
34	BA	46	G
34	BA	49	A

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Mol	Chain	Res	Type
34	BA	51	G
34	BA	52	A
34	BA	60	G
34	BA	61	C
34	BA	63	A
34	BA	71	A
34	BA	72	U
34	BA	74	A
34	BA	75	G
34	BA	82	U
34	BA	83	A
34	BA	84	A
34	BA	91	A
34	BA	100	U
34	BA	101	A
34	BA	103	A
34	BA	118	A
34	BA	120	U
34	BA	125	A
34	BA	126	A
34	BA	135	U
34	BA	137	U
34	BA	138	U
34	BA	139	U
34	BA	140	C
34	BA	141	G
34	BA	142	A
34	BA	162	U
34	BA	163	C
34	BA	164	C
34	BA	181	A
34	BA	188	G
34	BA	196	A
34	BA	199	A
34	BA	205	G
34	BA	206	U
34	BA	215	G
34	BA	216	A
34	BA	221	A
34	BA	222	A
34	BA	229	C
34	BA	230	G

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Mol	Chain	Res	Type
34	BA	233	A
34	BA	248	G
34	BA	249	C
34	BA	250	G
34	BA	255	A
34	BA	265	A
34	BA	266	G
34	BA	267	C
34	BA	268	C
34	BA	271	G
34	BA	272	A
34	BA	276	U
34	BA	285	G
34	BA	294	A
34	BA	302	C
34	BA	311	A
34	BA	325	G
34	BA	329	G
34	BA	330	A
34	BA	331	C
34	BA	335	C
34	BA	344	A
34	BA	346	A
34	BA	353	C
34	BA	359	G
34	BA	361	G
34	BA	371	A
34	BA	372	G
34	BA	373	U
34	BA	382	A
34	BA	383	C
34	BA	386	G
34	BA	396	G
34	BA	403	U
34	BA	404	A
34	BA	405	U
34	BA	411	G
34	BA	424	G
34	BA	442	G
34	BA	443	A
34	BA	455	C
34	BA	458	G

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Mol	Chain	Res	Type
34	BA	459	U
34	BA	460	A
34	BA	461	C
34	BA	479	A
34	BA	480	A
34	BA	481	G
34	BA	490	C
34	BA	491	G
34	BA	496	G
34	BA	504	A
34	BA	505	A
34	BA	509	C
34	BA	510	C
34	BA	518	G
34	BA	527	C
34	BA	528	A
34	BA	531	C
34	BA	532	A
34	BA	533	G
34	BA	544	C
34	BA	546	U
34	BA	547	A
34	BA	548	G
34	BA	549	G
34	BA	550	C
34	BA	557	C
34	BA	563	A
34	BA	573	U
34	BA	575	A
34	BA	586	A
34	BA	588	U
34	BA	603	A
34	BA	604	G
34	BA	613	A
34	BA	614	A
34	BA	615	U
34	BA	627	A
34	BA	628	G
34	BA	637	A
34	BA	645	C
34	BA	646	U
34	BA	647	G

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Mol	Chain	Res	Type
34	BA	654	A
34	BA	655	A
34	BA	656	G
34	BA	668	A
34	BA	669	G
34	BA	670	A
34	BA	685	A
34	BA	686	U
34	BA	702	U
34	BA	705	A
34	BA	715	A
34	BA	717	C
34	BA	726	G
34	BA	730	A
34	BA	747	U
34	BA	764	A
34	BA	775	G
34	BA	776	G
34	BA	782	A
34	BA	784	G
34	BA	785	G
34	BA	789	A
34	BA	794	A
34	BA	801	G
34	BA	805	G
34	BA	812	C
34	BA	819	A
34	BA	827	U
34	BA	828	U
34	BA	829	A
34	BA	831	G
34	BA	845	A
34	BA	846	U
34	BA	847	U
34	BA	859	G
34	BA	860	U
34	BA	876	C
34	BA	877	A
34	BA	896	A
34	BA	897	C
34	BA	900	A
34	BA	901	C

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Mol	Chain	Res	Type
34	BA	902	C
34	BA	907	G
34	BA	910	A
34	BA	914	G
34	BA	915	C
34	BA	931	U
34	BA	932	U
34	BA	941	A
34	BA	946	C
34	BA	957	C
34	BA	958	U
34	BA	961	C
34	BA	974	G
34	BA	983	A
34	BA	989	G
34	BA	995	C
34	BA	996	A
34	BA	1012	U
34	BA	1013	C
34	BA	1020	A
34	BA	1021	A
34	BA	1022	G
34	BA	1023	U
34	BA	1025	G
34	BA	1026	G
34	BA	1033	U
34	BA	1046	A
34	BA	1060	U
34	BA	1061	U
34	BA	1066	U
34	BA	1070	A
34	BA	1071	G
34	BA	1074	G
34	BA	1078	U
34	BA	1083	U
34	BA	1084	A
34	BA	1088	A
34	BA	1098	A
34	BA	1102	C
34	BA	1103	A
34	BA	1110	G
34	BA	1112	G

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Mol	Chain	Res	Type
34	BA	1130	U
34	BA	1132	U
34	BA	1133	A
34	BA	1134	A
34	BA	1135	C
34	BA	1136	G
34	BA	1139	G
34	BA	1142	A
34	BA	1143	A
34	BA	1151	A
34	BA	1156	A
34	BA	1157	G
34	BA	1168	G
34	BA	1169	A
34	BA	1174	U
34	BA	1175	A
34	BA	1176	U
34	BA	1180	U
34	BA	1186	G
34	BA	1206	G
34	BA	1211	C
34	BA	1212	G
34	BA	1213	A
34	BA	1219	U
34	BA	1236	G
34	BA	1237	A
34	BA	1238	G
34	BA	1247	A
34	BA	1248	G
34	BA	1250	G
34	BA	1252	G
34	BA	1253	A
34	BA	1254	A
34	BA	1256	G
34	BA	1259	G
34	BA	1266	G
34	BA	1267	U
34	BA	1271	G
34	BA	1272	A
34	BA	1273	U
34	BA	1276	A
34	BA	1300	G

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Mol	Chain	Res	Type
34	BA	1301	A
34	BA	1306	C
34	BA	1313	U
34	BA	1317	G
34	BA	1321	A
34	BA	1328	A
34	BA	1329	U
34	BA	1332	G
34	BA	1336	A
34	BA	1341	G
34	BA	1344	U
34	BA	1345	C
34	BA	1346	G
34	BA	1352	U
34	BA	1365	A
34	BA	1368	G
34	BA	1378	A
34	BA	1379	U
34	BA	1383	A
34	BA	1386	C
34	BA	1390	U
34	BA	1395	A
34	BA	1397	U
34	BA	1416	G
34	BA	1419	A
34	BA	1420	A
34	BA	1421	G
34	BA	1428	C
34	BA	1435	G
34	BA	1437	C
34	BA	1451	C
34	BA	1453	A
34	BA	1454	C
34	BA	1458	U
34	BA	1459	G
34	BA	1461	C
34	BA	1475	G
34	BA	1476	U
34	BA	1482	G
34	BA	1490	A
34	BA	1493	C
34	BA	1497	U

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Mol	Chain	Res	Type
34	BA	1502	A
34	BA	1504	A
34	BA	1507	C
34	BA	1508	A
34	BA	1509	A
34	BA	1515	A
34	BA	1522	A
34	BA	1523	U
34	BA	1524	G
34	BA	1530	G
34	BA	1531	C
34	BA	1532	A
34	BA	1533	C
34	BA	1534	U
34	BA	1536	C
34	BA	1540	G
34	BA	1560	G
34	BA	1565	C
34	BA	1566	A
34	BA	1569	A
34	BA	1578	U
34	BA	1581	G
34	BA	1584	U
34	BA	1585	C
34	BA	1608	A
34	BA	1609	A
34	BA	1610	A
34	BA	1613	G
34	BA	1616	A
34	BA	1622	G
34	BA	1647	U
34	BA	1648	U
34	BA	1649	G
34	BA	1651	G
34	BA	1652	A
34	BA	1674	G
34	BA	1688	U
34	BA	1706	C
34	BA	1707	G
34	BA	1714	U
34	BA	1715	G
34	BA	1716	U

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Mol	Chain	Res	Type
34	BA	1729	U
34	BA	1730	C
34	BA	1732	C
34	BA	1738	G
34	BA	1744	A
34	BA	1758	U
34	BA	1759	A
34	BA	1764	C
34	BA	1773	A
34	BA	1781	U
34	BA	1782	U
34	BA	1791	A
34	BA	1800	C
34	BA	1801	A
34	BA	1808	A
34	BA	1816	C
34	BA	1819	A
34	BA	1822	C
34	BA	1829	A
34	BA	1839	G
34	BA	1858	A
34	BA	1869	G
34	BA	1871	A
34	BA	1884	G
34	BA	1906	G
34	BA	1907	G
34	BA	1912	A
34	BA	1913	A
34	BA	1914	C
34	BA	1918	A
34	BA	1919	A
34	BA	1927	A
34	BA	1929	G
34	BA	1930	G
34	BA	1931	U
34	BA	1936	A
34	BA	1937	A
34	BA	1938	A
34	BA	1955	U
34	BA	1962	C
34	BA	1963	U
34	BA	1964	G

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Mol	Chain	Res	Type
34	BA	1965	C
34	BA	1967	C
34	BA	1970	A
34	BA	1971	U
34	BA	1972	G
34	BA	1986	C
34	BA	1991	U
34	BA	1993	U
34	BA	1996	C
34	BA	1997	C
34	BA	2017	U
34	BA	2018	G
34	BA	2020	A
34	BA	2022	U
34	BA	2023	C
34	BA	2027	G
34	BA	2031	A
34	BA	2033	A
34	BA	2034	U
34	BA	2035	G
34	BA	2043	C
34	BA	2049	G
34	BA	2051	A
34	BA	2055	C
34	BA	2056	G
34	BA	2060	A
34	BA	2061	G
34	BA	2062	A
34	BA	2069	G
34	BA	2072	C
34	BA	2093	G
34	BA	2104	C
34	BA	2107	G
34	BA	2109	U
34	BA	2110	G
34	BA	2134	A
34	BA	2135	A
34	BA	2136	G
34	BA	2137	U
34	BA	2139	U
34	BA	2140	G
34	BA	2143	C

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Mol	Chain	Res	Type
34	BA	2144	G
34	BA	2145	C
34	BA	2146	C
34	BA	2147	A
34	BA	2148	G
34	BA	2149	U
34	BA	2150	C
34	BA	2151	U
34	BA	2155	U
34	BA	2156	G
34	BA	2180	U
34	BA	2181	U
34	BA	2183	A
34	BA	2184	A
34	BA	2185	U
34	BA	2187	U
34	BA	2194	U
34	BA	2198	A
34	BA	2199	A
34	BA	2203	U
34	BA	2204	G
34	BA	2210	U
34	BA	2211	A
34	BA	2212	A
34	BA	2213	U
34	BA	2225	A
34	BA	2226	C
34	BA	2238	G
34	BA	2239	G
34	BA	2248	C
34	BA	2250	G
34	BA	2268	A
34	BA	2273	A
34	BA	2278	A
34	BA	2282	G
34	BA	2283	C
34	BA	2297	A
34	BA	2305	U
34	BA	2307	G
34	BA	2309	A
34	BA	2311	A
34	BA	2325	G

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Mol	Chain	Res	Type
34	BA	2326	C
34	BA	2327	A
34	BA	2333	A
34	BA	2334	U
34	BA	2336	A
34	BA	2347	C
34	BA	2350	C
34	BA	2353	G
34	BA	2361	G
34	BA	2382	G
34	BA	2383	G
34	BA	2385	C
34	BA	2402	U
34	BA	2403	C
34	BA	2406	A
34	BA	2407	A
34	BA	2423	U
34	BA	2424	C
34	BA	2425	A
34	BA	2426	A
34	BA	2429	G
34	BA	2430	A
34	BA	2435	A
34	BA	2441	U
34	BA	2448	A
34	BA	2450	A
34	BA	2458	G
34	BA	2459	A
34	BA	2474	U
34	BA	2476	A
34	BA	2478	A
34	BA	2491	U
34	BA	2494	G
34	BA	2497	A
34	BA	2502	G
34	BA	2503	A
34	BA	2505	G
34	BA	2506	U
34	BA	2507	C
34	BA	2517	C
34	BA	2518	A
34	BA	2520	C

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Mol	Chain	Res	Type
34	BA	2529	G
34	BA	2554	U
34	BA	2562	U
34	BA	2566	A
34	BA	2567	G
34	BA	2569	G
34	BA	2585	U
34	BA	2586	U
34	BA	2602	A
34	BA	2603	G
34	BA	2609	U
34	BA	2613	U
34	BA	2614	A
34	BA	2615	U
34	BA	2617	U
34	BA	2629	U
34	BA	2632	A
34	BA	2638	G
34	BA	2639	A
34	BA	2640	G
34	BA	2642	G
34	BA	2645	G
34	BA	2655	G
34	BA	2661	G
34	BA	2663	G
34	BA	2689	U
34	BA	2690	U
34	BA	2714	G
34	BA	2716	C
34	BA	2725	A
34	BA	2726	A
34	BA	2727	A
34	BA	2729	G
34	BA	2731	G
34	BA	2732	G
34	BA	2748	A
34	BA	2757	A
34	BA	2762	C
34	BA	2765	A
34	BA	2769	U
34	BA	2778	A
34	BA	2780	G

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Mol	Chain	Res	Type
34	BA	2790	U
34	BA	2791	G
34	BA	2798	U
34	BA	2799	A
34	BA	2800	A
34	BA	2818	U
34	BA	2820	A
34	BA	2821	A
34	BA	2833	U
34	BA	2848	G
34	BA	2849	U
34	BA	2861	U
34	BA	2866	U
34	BA	2867	G
34	BA	2868	A
34	BA	2873	A
34	BA	2874	C
34	BA	2879	A
34	BA	2883	A
34	BA	2884	U
34	BA	2886	A
34	BA	2887	A
35	BB	3	C
35	BB	9	G
35	BB	15	A
35	BB	16	G
35	BB	25	U
35	BB	30	C
35	BB	35	C
35	BB	41	G
35	BB	44	G
35	BB	53	A
35	BB	57	A
35	BB	58	A
35	BB	66	A
35	BB	67	G
35	BB	87	U
35	BB	88	C
35	BB	89	U
35	BB	90	C
35	BB	99	A
35	BB	107	G

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Mol	Chain	Res	Type
35	BB	108	A
35	BB	109	A

All (143) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	AA	4	U
1	AA	8	A
1	AA	51	A
1	AA	64	G
1	AA	115	G
1	AA	119	A
1	AA	181	A
1	AA	246	A
1	AA	250	A
1	AA	274	A
1	AA	305	G
1	AA	344	A
1	AA	345	C
1	AA	351	G
1	AA	388	G
1	AA	412	A
1	AA	428	G
1	AA	429	U
1	AA	451	A
1	AA	484	G
1	AA	495	A
1	AA	559	A
1	AA	687	A
1	AA	702	A
1	AA	721	G
1	AA	812	G
1	AA	815	A
1	AA	890	G
1	AA	913	A
1	AA	965	U
1	AA	982	U
1	AA	1036	A
1	AA	1049	U
1	AA	1094	G
1	AA	1101	A
1	AA	1136	C

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Mol	Chain	Res	Type
1	AA	1145	A
1	AA	1201	A
1	AA	1224	U
1	AA	1239	A
1	AA	1257	A
1	AA	1297	G
1	AA	1300	G
1	AA	1336	C
1	AA	1347	G
34	BA	27	G
34	BA	34	U
34	BA	51	G
34	BA	60	G
34	BA	71	A
34	BA	74	A
34	BA	100	U
34	BA	119	A
34	BA	125	A
34	BA	205	G
34	BA	215	G
34	BA	221	A
34	BA	232	G
34	BA	265	A
34	BA	271	G
34	BA	345	A
34	BA	370	G
34	BA	372	G
34	BA	404	A
34	BA	442	G
34	BA	458	G
34	BA	479	A
34	BA	503	A
34	BA	504	A
34	BA	527	C
34	BA	603	A
34	BA	614	A
34	BA	627	A
34	BA	655	A
34	BA	669	G
34	BA	685	A
34	BA	704	G
34	BA	764	A

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Mol	Chain	Res	Type
34	BA	793	A
34	BA	800	A
34	BA	859	G
34	BA	900	A
34	BA	957	C
34	BA	995	C
34	BA	1020	A
34	BA	1025	G
34	BA	1060	U
34	BA	1141	U
34	BA	1142	A
34	BA	1205	A
34	BA	1212	G
34	BA	1236	G
34	BA	1247	A
34	BA	1253	A
34	BA	1266	G
34	BA	1275	A
34	BA	1340	U
34	BA	1378	A
34	BA	1454	C
34	BA	1458	U
34	BA	1475	G
34	BA	1559	U
34	BA	1565	C
34	BA	1608	A
34	BA	1647	U
34	BA	1706	C
34	BA	1715	G
34	BA	1758	U
34	BA	1818	U
34	BA	1857	G
34	BA	1870	C
34	BA	1912	A
34	BA	1913	A
34	BA	1918	A
34	BA	1929	G
34	BA	1930	G
34	BA	1936	A
34	BA	1970	A
34	BA	2017	U
34	BA	2033	A

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Mol	Chain	Res	Type
34	BA	2092	U
34	BA	2103	C
34	BA	2146	C
34	BA	2149	U
34	BA	2150	C
34	BA	2211	A
34	BA	2225	A
34	BA	2326	C
34	BA	2423	U
34	BA	2602	A
34	BA	2638	G
34	BA	2725	A
34	BA	2726	A
34	BA	2756	U
34	BA	2790	U
34	BA	2798	U
34	BA	2820	A
34	BA	2848	G
34	BA	2867	G
34	BA	2873	A
35	BB	52	A
35	BB	66	A
35	BB	87	U

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

4 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	$\#\|Z\| > 2$
24	UAL	AY	5	24	6,8,9	2.53	2 (33%)	4,9,11	1.30	1 (25%)
24	5OH	AY	6	24	7,12,13	0.53	0	4,16,18	0.72	0
24	KBE	AY	1	24	8,8,9	0.57	0	6,8,10	1.30	1 (16%)
24	DPP	AY	2	24	4,5,6	1.10	1 (25%)	1,5,7	0.18	0

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	UAL	AY	5	24	-	0/3/7/9	-
24	5OH	AY	6	24	-	0/2/18/20	0/1/1/1
24	KBE	AY	1	24	-	1/7/7/8	-
24	DPP	AY	2	24	-	0/2/4/6	-

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	AY	5	UAL	C-CA	4.89	1.53	1.45
24	AY	5	UAL	C1-N1	-3.17	1.35	1.40
24	AY	2	DPP	O-C	2.15	1.28	1.20

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	AY	1	KBE	CB-CA-C	2.61	116.38	112.17
24	AY	5	UAL	O-C-CA	-2.37	122.42	125.39

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
24	AY	1	KBE	C-CA-CB-N

There are no ring outliers.

4 monomers are involved in 28 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
24	AY	5	UAL	4	0
24	AY	6	5OH	7	0
24	AY	1	KBE	17	0
24	AY	2	DPP	1	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 494 ligands modelled in this entry, 493 are monoatomic - leaving 1 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	$\#\|Z\| > 2$
58	GNP	AW	602	57	34,34,34	1.48	5 (14%)	47,54,54	1.37	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
58	GNP	AW	602	57	-	7/18/38/38	0/3/3/3

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	AW	602	GNP	PG-O1G	5.02	1.53	1.46
58	AW	602	GNP	PA-O3A	-4.25	1.54	1.59
58	AW	602	GNP	PB-O3A	-2.48	1.56	1.59
58	AW	602	GNP	PA-O2A	-2.15	1.45	1.55
58	AW	602	GNP	PB-O2B	-2.02	1.51	1.56

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
58	AW	602	GNP	O2B-PB-O1B	3.44	117.24	109.87
58	AW	602	GNP	O2G-PG-O3G	3.31	116.48	107.59
58	AW	602	GNP	O3G-PG-O1G	-2.98	105.98	113.45
58	AW	602	GNP	O1B-PB-N3B	2.83	115.94	111.77
58	AW	602	GNP	C5'-C4'-C3'	-2.31	106.90	115.21
58	AW	602	GNP	O2A-PA-O3A	2.26	113.38	107.27
58	AW	602	GNP	O3A-PA-O1A	-2.25	103.94	110.70
58	AW	602	GNP	O1G-PG-N3B	-2.20	108.53	111.77

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
58	AW	602	GNP	PG-N3B-PB-O1B
58	AW	602	GNP	PG-N3B-PB-O3A
58	AW	602	GNP	PA-O3A-PB-O2B
58	AW	602	GNP	C5'-O5'-PA-O3A
58	AW	602	GNP	C5'-O5'-PA-O1A
58	AW	602	GNP	C3'-C4'-C5'-O5'
58	AW	602	GNP	PA-O3A-PB-O1B

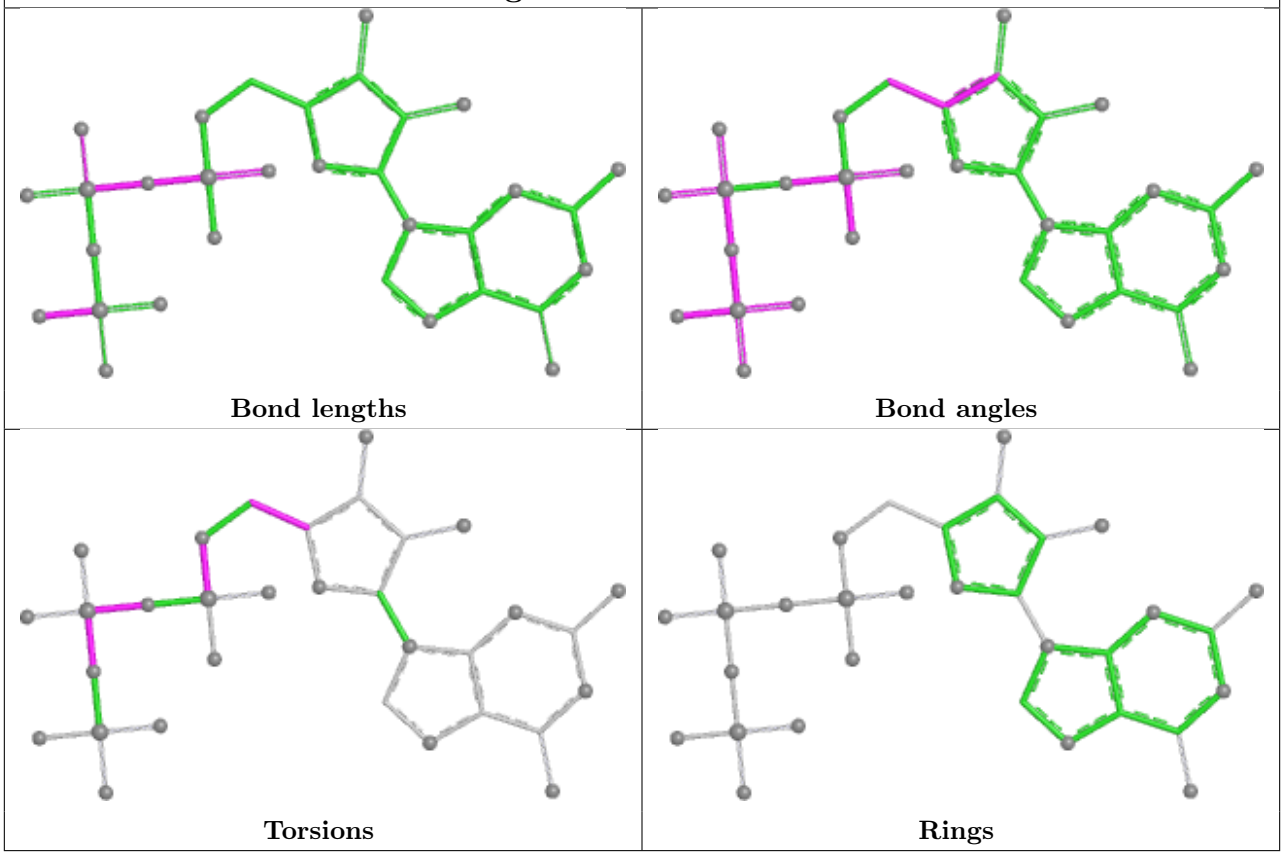
There are no ring outliers.

1 monomer is involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
58	AW	602	GNP	6	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 AW 602



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
34	BA	2

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	BA	2106:U	O3'	2107:G	P	1.86
1	BA	2183:A	O3'	2184:A	P	1.80

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	AA	1532/1533 (99%)	0.36	58 (3%) 44 27	51, 102, 197, 245	0
2	AB	218/241 (90%)	0.88	23 (10%) 11 8	91, 120, 142, 158	0
3	AC	206/233 (88%)	0.61	14 (6%) 23 15	75, 114, 132, 139	0
4	AD	205/206 (99%)	1.12	34 (16%) 4 3	86, 110, 132, 147	0
5	AE	150/167 (89%)	0.74	12 (8%) 18 12	73, 94, 129, 143	0
6	AF	100/131 (76%)	0.62	6 (6%) 27 17	98, 122, 135, 145	0
7	AG	151/156 (96%)	1.30	30 (19%) 3 2	107, 144, 159, 163	0
8	AH	129/130 (99%)	0.65	10 (7%) 19 12	77, 97, 121, 139	0
9	AI	127/130 (97%)	0.97	11 (8%) 16 11	77, 122, 148, 159	0
10	AJ	98/103 (95%)	1.32	17 (17%) 4 3	89, 106, 143, 156	0
11	AK	117/129 (90%)	0.85	9 (7%) 19 13	73, 105, 133, 150	0
12	AL	123/124 (99%)	0.58	8 (6%) 25 16	55, 74, 111, 142	0
13	AM	114/118 (96%)	1.67	43 (37%) 1 1	137, 149, 163, 165	0
14	AN	96/101 (95%)	1.69	36 (37%) 1 1	79, 128, 152, 160	0
15	AO	88/89 (98%)	0.49	3 (3%) 48 30	79, 101, 131, 142	0
16	AP	82/82 (100%)	0.78	6 (7%) 21 13	72, 95, 131, 147	0
17	AQ	80/84 (95%)	1.21	8 (10%) 12 8	78, 111, 136, 147	0
18	AR	55/75 (73%)	0.99	8 (14%) 6 5	77, 100, 126, 165	0
19	AS	79/92 (85%)	1.57	22 (27%) 1 1	131, 153, 159, 164	0
20	AT	85/87 (97%)	1.12	14 (16%) 4 3	80, 105, 126, 142	0
21	AU	51/71 (71%)	1.60	17 (33%) 1 1	106, 132, 153, 157	0
22	AV	6/27 (22%)	2.34	3 (50%) 0 1	181, 198, 202, 206	0
23	AW	525/529 (99%)	0.94	78 (14%) 5 4	47, 99, 188, 267	0
24	AY	2/6 (33%)	1.41	0 100 100	85, 85, 85, 88	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
25	B0	79/85 (92%)	1.38	21 (26%) 1 1	62, 87, 115, 129	0
26	B1	77/78 (98%)	0.37	2 (2%) 57 37	55, 71, 124, 126	0
27	B2	63/63 (100%)	0.69	6 (9%) 14 9	69, 101, 126, 140	0
28	B3	58/59 (98%)	0.28	0 100 100	63, 75, 121, 129	0
29	B4	56/57 (98%)	0.26	5 (8%) 15 10	42, 63, 97, 125	0
30	B5	50/55 (90%)	1.21	6 (12%) 9 6	114, 128, 137, 151	0
31	B6	46/46 (100%)	0.28	3 (6%) 25 16	43, 56, 77, 114	0
32	B7	64/65 (98%)	0.36	1 (1%) 70 51	57, 68, 83, 90	0
33	B8	38/38 (100%)	0.69	1 (2%) 57 37	61, 78, 90, 105	0
34	BA	2853/2903 (98%)	-0.22	46 (1%) 70 51	35, 67, 195, 445	0
35	BB	118/118 (100%)	0.10	0 100 100	61, 106, 152, 188	0
36	BC	271/273 (99%)	0.25	12 (4%) 39 24	36, 66, 83, 108	0
37	BD	209/209 (100%)	0.05	6 (2%) 53 35	37, 57, 89, 99	0
38	BE	201/201 (100%)	0.28	8 (3%) 42 26	37, 76, 109, 131	0
39	BF	177/179 (98%)	0.94	13 (7%) 21 13	106, 128, 152, 165	0
40	BG	176/177 (99%)	0.42	9 (5%) 33 21	54, 80, 116, 131	0
41	BH	163/165 (98%)	1.94	60 (36%) 1 1	55, 145, 163, 185	1 (0%)
42	BI	141/142 (99%)	1.82	54 (38%) 1 1	135, 157, 169, 176	0
43	BJ	30/121 (24%)	1.27	6 (20%) 3 2	126, 137, 143, 145	0
43	BK	30/121 (24%)	1.38	6 (20%) 3 2	133, 146, 152, 156	0
43	BL	30/121 (24%)	2.16	14 (46%) 0 1	132, 148, 158, 163	0
43	BM	30/121 (24%)	1.20	5 (16%) 4 3	128, 142, 149, 151	0
44	BN	142/142 (100%)	0.29	10 (7%) 22 14	45, 65, 91, 117	0
45	BO	122/123 (99%)	0.18	4 (3%) 49 30	41, 61, 84, 104	0
46	BP	143/144 (99%)	0.58	6 (4%) 40 25	41, 84, 112, 132	0
47	BQ	136/136 (100%)	0.11	2 (1%) 72 52	47, 70, 100, 126	0
48	BR	120/127 (94%)	-0.09	1 (0%) 82 67	40, 56, 72, 138	0
49	BS	116/117 (99%)	0.68	7 (6%) 27 17	81, 100, 121, 128	0
50	BT	114/115 (99%)	0.27	3 (2%) 57 37	48, 71, 112, 121	0
51	BU	117/118 (99%)	0.16	4 (3%) 48 30	37, 59, 94, 108	0
52	BV	103/103 (100%)	0.43	3 (2%) 53 35	43, 86, 111, 119	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
53	BW	110/116 (94%)	-0.11	1 (0%) 81 64	41, 54, 82, 127	0
54	BX	93/100 (93%)	0.55	7 (7%) 20 13	50, 81, 134, 144	0
55	BY	102/104 (98%)	0.66	7 (6%) 23 14	63, 84, 126, 141	0
56	BZ	94/94 (100%)	0.31	3 (3%) 50 31	68, 94, 113, 126	0
All	All	10891/11580 (94%)	0.43	812 (7%) 20 13	35, 89, 165, 445	1 (0%)

All (812) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
43	BL	22	LEU	9.7
11	AK	125	LYS	9.6
23	AW	424	ALA	7.3
4	AD	24	VAL	6.9
2	AB	150	ILE	6.8
17	AQ	19	SER	6.7
1	AA	1086	U	6.6
8	AH	1	SER	6.6
23	AW	16	PHE	6.5
44	BN	9	GLU	6.4
41	BH	113	PHE	6.3
4	AD	23	GLY	6.3
23	AW	423	GLY	6.3
18	AR	19	GLU	6.3
41	BH	84	TYR	6.3
25	B0	51	GLY	6.2
41	BH	62	ARG	6.2
17	AQ	13	SER	6.2
41	BH	85	SER	6.1
23	AW	45	THR	6.1
23	AW	305	ALA	6.1
23	AW	304	GLN	6.0
29	B4	26	SER	5.9
23	AW	456	GLU	5.8
41	BH	14	GLU	5.8
7	AG	1	PRO	5.8
36	BC	250	GLN	5.6
1	AA	1362	A	5.6
13	AM	3	ILE	5.3
9	AI	124	PRO	5.2
7	AG	4	ARG	5.2
43	BL	16	VAL	5.2

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Mol	Chain	Res	Type	RSRZ
41	BH	145	GLU	5.2
23	AW	42	THR	5.2
14	AN	13	VAL	5.2
43	BK	9	GLU	5.1
42	BI	75	ALA	5.1
52	BV	50	GLY	5.1
14	AN	51	PRO	5.1
12	AL	24	GLU	5.0
4	AD	28	ASP	5.0
56	BZ	94	ALA	5.0
4	AD	62	ARG	5.0
21	AU	37	TYR	5.0
14	AN	7	ALA	5.0
19	AS	32	THR	5.0
14	AN	56	PRO	4.9
23	AW	399	ARG	4.9
23	AW	50	GLY	4.9
41	BH	36	ASP	4.7
6	AF	89	VAL	4.7
20	AT	67	HIS	4.7
8	AH	2	MET	4.7
42	BI	131	THR	4.7
41	BH	56	ARG	4.6
14	AN	1	ALA	4.6
19	AS	50	VAL	4.6
42	BI	10	LEU	4.6
25	B0	50	VAL	4.6
23	AW	307	MET	4.6
34	BA	2151	U	4.5
20	AT	52	GLU	4.5
14	AN	4	SER	4.5
14	AN	21	ALA	4.5
14	AN	6	LYS	4.5
42	BI	12	VAL	4.5
14	AN	53	ASP	4.4
13	AM	105	ALA	4.4
41	BH	3	LEU	4.4
23	AW	58	ASP	4.4
23	AW	455	SER	4.4
42	BI	128	ILE	4.3
8	AH	67	GLY	4.3
51	BU	87	VAL	4.3

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Mol	Chain	Res	Type	RSRZ
34	BA	504	A	4.2
21	AU	34	ARG	4.2
23	AW	314	ARG	4.2
42	BI	79	LEU	4.1
23	AW	91	GLY	4.1
23	AW	452	ARG	4.1
42	BI	78	LEU	4.1
14	AN	11	LYS	4.1
17	AQ	82	VAL	4.1
34	BA	881	G	4.1
41	BH	35	VAL	4.1
41	BH	2	ALA	4.1
49	BS	58	ILE	4.0
19	AS	49	ALA	4.0
34	BA	2402	U	4.0
30	B5	22	THR	4.0
10	AJ	86	ALA	4.0
42	BI	109	ALA	4.0
49	BS	3	LYS	4.0
2	AB	138	ARG	4.0
41	BH	116	GLU	4.0
43	BJ	21	GLU	4.0
23	AW	122	ARG	4.0
21	AU	36	PHE	4.0
9	AI	129	ARG	3.9
51	BU	86	SER	3.9
7	AG	87	PRO	3.9
42	BI	53	PRO	3.9
10	AJ	34	ALA	3.9
14	AN	29	ILE	3.9
4	AD	1	ALA	3.9
21	AU	31	VAL	3.9
55	BY	86	PHE	3.9
2	AB	220	VAL	3.8
4	AD	34	GLU	3.8
41	BH	154	THR	3.8
18	AR	73	HIS	3.8
23	AW	303	ILE	3.8
23	AW	309	PRO	3.8
2	AB	134	LEU	3.8
41	BH	112	ALA	3.8
2	AB	142	LYS	3.8

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Mol	Chain	Res	Type	RSRZ
34	BA	2152	G	3.8
41	BH	99	PHE	3.8
13	AM	18	LEU	3.8
13	AM	100	ARG	3.7
42	BI	112	LYS	3.7
43	BJ	24	SER	3.7
41	BH	25	ALA	3.7
36	BC	251	THR	3.7
37	BD	209	ALA	3.7
17	AQ	12	VAL	3.7
37	BD	92	VAL	3.7
44	BN	81	ILE	3.7
42	BI	105	LEU	3.7
21	AU	35	GLU	3.6
41	BH	86	MET	3.6
22	AV	20	A	3.6
25	B0	40	ARG	3.6
42	BI	111	THR	3.6
10	AJ	90	LEU	3.6
13	AM	104	ASN	3.6
19	AS	75	PRO	3.6
41	BH	160	ASP	3.6
13	AM	15	VAL	3.6
25	B0	49	ASN	3.6
14	AN	15	LEU	3.6
17	AQ	69	THR	3.6
55	BY	1	ALA	3.6
23	AW	221	GLU	3.6
43	BM	1	SER	3.6
1	AA	1323	G	3.5
34	BA	2108	A	3.5
1	AA	995	C	3.5
34	BA	2901	C	3.5
9	AI	120	ALA	3.5
17	AQ	20	ILE	3.5
34	BA	2903	U	3.5
42	BI	22	PRO	3.5
34	BA	2107	G	3.5
39	BF	153	ILE	3.5
43	BL	1	SER	3.5
7	AG	74	VAL	3.5
37	BD	43	ASP	3.5

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Mol	Chain	Res	Type	RSRZ
20	AT	3	ILE	3.5
34	BA	883	G	3.5
10	AJ	35	GLN	3.5
23	AW	57	SER	3.5
36	BC	271	SER	3.5
42	BI	77	VAL	3.5
23	AW	496	ASP	3.5
12	AL	123	ALA	3.5
1	AA	1224	U	3.5
31	B6	1	MET	3.4
23	AW	70	ILE	3.4
13	AM	79	LEU	3.4
13	AM	98	GLY	3.4
43	BL	12	ALA	3.4
34	BA	2585	U	3.4
38	BE	201	ALA	3.4
10	AJ	30	LYS	3.4
3	AC	154	GLY	3.4
4	AD	148	ALA	3.4
13	AM	4	ALA	3.4
23	AW	39	ALA	3.4
3	AC	206	ILE	3.4
42	BI	58	ILE	3.4
5	AE	102	THR	3.4
42	BI	92	PRO	3.4
41	BH	4	ASN	3.3
1	AA	1319	A	3.3
7	AG	5	VAL	3.3
42	BI	54	ILE	3.3
54	BX	74	ILE	3.3
43	BL	6	GLN	3.3
23	AW	348	PHE	3.3
42	BI	19	PRO	3.3
1	AA	1364	U	3.3
25	B0	12	GLY	3.3
23	AW	51	SER	3.3
23	AW	41	GLN	3.3
30	B5	21	THR	3.3
34	BA	880	G	3.3
46	BP	92	LEU	3.3
41	BH	33	VAL	3.3
45	BO	122	VAL	3.3

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Mol	Chain	Res	Type	RSRZ
34	BA	884	U	3.3
1	AA	1214	C	3.3
1	AA	1325	C	3.3
25	B0	17	ALA	3.3
27	B2	5	GLU	3.3
36	BC	235	GLU	3.3
39	BF	127	TYR	3.2
23	AW	344	ASP	3.2
25	B0	45	HIS	3.2
13	AM	63	VAL	3.2
23	AW	46	VAL	3.2
1	AA	121	U	3.2
4	AD	118	SER	3.2
4	AD	205	LYS	3.2
7	AG	79	VAL	3.2
10	AJ	84	VAL	3.2
14	AN	43	ALA	3.2
3	AC	12	GLY	3.2
14	AN	45	LEU	3.2
34	BA	2148	G	3.2
34	BA	2150	C	3.2
38	BE	7	ASP	3.2
52	BV	62	GLU	3.2
18	AR	63	TYR	3.2
40	BG	83	THR	3.2
2	AB	87	ASP	3.2
42	BI	108	ILE	3.2
43	BL	29	LYS	3.2
41	BH	81	LEU	3.2
42	BI	52	LEU	3.2
42	BI	66	PHE	3.2
14	AN	62	ARG	3.2
18	AR	20	ILE	3.2
47	BQ	1	MET	3.2
23	AW	447	ASP	3.1
41	BH	117	LEU	3.1
13	AM	64	VAL	3.1
42	BI	60	VAL	3.1
20	AT	11	ILE	3.1
4	AD	7	LYS	3.1
20	AT	15	LYS	3.1
49	BS	50	ALA	3.1

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Mol	Chain	Res	Type	RSRZ
44	BN	44	TYR	3.1
42	BI	76	ALA	3.1
14	AN	50	LEU	3.1
18	AR	70	THR	3.1
41	BH	129	LEU	3.1
55	BY	80	ASP	3.1
41	BH	103	ASN	3.1
43	BM	8	ILE	3.1
8	AH	98	LEU	3.1
41	BH	50	VAL	3.1
5	AE	25	LYS	3.1
14	AN	2	LYS	3.1
7	AG	104	VAL	3.1
37	BD	118	PHE	3.1
34	BA	1509	A	3.1
21	AU	14	ALA	3.0
40	BG	30	GLY	3.0
16	AP	69	ASP	3.0
4	AD	18	LEU	3.0
8	AH	129	ALA	3.0
23	AW	493	LEU	3.0
42	BI	132	ALA	3.0
2	AB	64	GLY	3.0
23	AW	441	VAL	3.0
8	AH	9	MET	3.0
1	AA	723	U	3.0
22	AV	18	G	3.0
34	BA	1062	G	3.0
44	BN	80	HIS	3.0
34	BA	900	A	3.0
26	B1	75	GLU	3.0
54	BX	24	MET	3.0
7	AG	46	LEU	3.0
41	BH	88	HIS	3.0
42	BI	91	LYS	3.0
34	BA	879	G	3.0
1	AA	4	U	3.0
34	BA	2109	U	3.0
19	AS	78	THR	3.0
23	AW	431	ILE	3.0
29	B4	25	THR	3.0
14	AN	52	ARG	2.9

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Mol	Chain	Res	Type	RSRZ
25	B0	73	PRO	2.9
7	AG	76	SER	2.9
36	BC	167	ASP	2.9
1	AA	631	C	2.9
44	BN	142	ILE	2.9
39	BF	90	LEU	2.9
20	AT	68	LYS	2.9
2	AB	21	TYR	2.9
42	BI	4	VAL	2.9
42	BI	69	VAL	2.9
45	BO	35	VAL	2.9
42	BI	37	PHE	2.9
7	AG	6	ILE	2.9
1	AA	1201	A	2.9
14	AN	9	GLU	2.9
41	BH	40	GLU	2.9
43	BK	10	ALA	2.9
1	AA	1235	U	2.9
41	BH	78	GLY	2.9
54	BX	73	ARG	2.9
39	BF	173	ASP	2.9
41	BH	37	LYS	2.9
34	BA	885	C	2.9
5	AE	30	PHE	2.9
23	AW	472	ARG	2.9
14	AN	47	LEU	2.9
23	AW	94	ASP	2.9
13	AM	95	PRO	2.9
46	BP	115	GLU	2.9
5	AE	136	VAL	2.9
39	BF	24	VAL	2.9
20	AT	4	LYS	2.9
34	BA	2211	A	2.9
20	AT	65	LEU	2.9
44	BN	111	LYS	2.9
23	AW	308	ASP	2.8
42	BI	57	VAL	2.8
19	AS	31	ARG	2.8
2	AB	131	LYS	2.8
42	BI	118	GLY	2.8
43	BL	30	PHE	2.8
41	BH	38	MET	2.8

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Mol	Chain	Res	Type	RSRZ
23	AW	409	GLN	2.8
21	AU	5	VAL	2.8
3	AC	166	TRP	2.8
9	AI	71	ILE	2.8
17	AQ	27	PHE	2.8
42	BI	27	LEU	2.8
12	AL	37	TYR	2.8
25	B0	13	ARG	2.8
3	AC	36	PHE	2.8
6	AF	54	LEU	2.8
7	AG	25	PHE	2.8
19	AS	12	LEU	2.8
22	AV	17	U	2.8
23	AW	411	GLN	2.8
48	BR	119	SER	2.8
41	BH	114	GLU	2.8
13	AM	21	ILE	2.8
20	AT	66	ILE	2.8
43	BL	2	ILE	2.8
42	BI	23	VAL	2.8
19	AS	15	LEU	2.8
41	BH	39	THR	2.8
1	AA	1324	A	2.7
13	AM	44	ILE	2.7
23	AW	63	GLU	2.7
34	BA	2902	C	2.7
46	BP	28	GLY	2.7
18	AR	50	TYR	2.7
13	AM	84	CYS	2.7
42	BI	136	GLY	2.7
13	AM	97	ARG	2.7
14	AN	18	LYS	2.7
31	B6	44	VAL	2.7
41	BH	6	GLN	2.7
14	AN	5	MET	2.7
25	B0	21	GLY	2.7
34	BA	1508	A	2.7
34	BA	2406	A	2.7
2	AB	11	ALA	2.7
42	BI	25	PRO	2.7
23	AW	96	SER	2.7
2	AB	82	ALA	2.7

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Mol	Chain	Res	Type	RSRZ
13	AM	42	VAL	2.7
14	AN	10	VAL	2.7
23	AW	3	LEU	2.7
30	B5	41	VAL	2.7
1	AA	205	A	2.6
42	BI	74	PRO	2.6
7	AG	61	PHE	2.6
23	AW	48	GLY	2.6
1	AA	469	C	2.6
1	AA	962	C	2.6
23	AW	473	TRP	2.6
7	AG	123	LEU	2.6
32	B7	64	ALA	2.6
19	AS	79	TYR	2.6
1	AA	1370	G	2.6
41	BH	17	GLU	2.6
7	AG	60	ALA	2.6
21	AU	13	VAL	2.6
1	AA	1226	C	2.6
41	BH	51	TYR	2.6
29	B4	54	ILE	2.6
38	BE	188	MET	2.6
41	BH	89	PRO	2.6
42	BI	130	GLY	2.6
44	BN	90	GLU	2.6
40	BG	32	LEU	2.6
54	BX	93	LEU	2.6
7	AG	68	VAL	2.6
23	AW	417	VAL	2.6
41	BH	54	VAL	2.6
13	AM	28	ARG	2.6
4	AD	27	ILE	2.6
13	AM	85	TYR	2.6
19	AS	48	ILE	2.6
42	BI	34	ILE	2.6
23	AW	349	MET	2.6
1	AA	1296	C	2.6
36	BC	114	GLN	2.6
38	BE	91	ASP	2.6
2	AB	141	GLU	2.6
12	AL	23	LEU	2.6
27	B2	22	LEU	2.6

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Mol	Chain	Res	Type	RSRZ
18	AR	39	VAL	2.6
21	AU	27	VAL	2.6
29	B4	56	LYS	2.6
36	BC	268	ARG	2.6
2	AB	59	ILE	2.6
42	BI	73	PRO	2.6
1	AA	996	A	2.6
1	AA	1363	A	2.6
11	AK	53	GLY	2.6
25	B0	11	ASN	2.6
38	BE	97	ASN	2.6
12	AL	13	ARG	2.6
14	AN	33	VAL	2.6
36	BC	202	ARG	2.6
41	BH	58	THR	2.6
9	AI	127	SER	2.5
19	AS	14	LEU	2.5
7	AG	77	ARG	2.5
7	AG	108	ARG	2.5
9	AI	118	ARG	2.5
10	AJ	74	VAL	2.5
25	B0	14	ASP	2.5
34	BA	548	G	2.5
46	BP	91	ASP	2.5
4	AD	156	ALA	2.5
43	BM	12	ALA	2.5
13	AM	101	THR	2.5
14	AN	49	THR	2.5
30	B5	47	ILE	2.5
55	BY	102	ILE	2.5
14	AN	70	HIS	2.5
41	BH	79	PRO	2.5
45	BO	71	ARG	2.5
4	AD	113	ALA	2.5
41	BH	75	ALA	2.5
23	AW	72	THR	2.5
34	BA	1084	A	2.5
34	BA	2138	G	2.5
7	AG	84	TYR	2.5
23	AW	87	LEU	2.5
25	B0	38	ARG	2.5
41	BH	77	VAL	2.5

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Mol	Chain	Res	Type	RSRZ
12	AL	22	ALA	2.5
3	AC	74	ILE	2.5
3	AC	102	ILE	2.5
4	AD	98	ASP	2.5
10	AJ	85	ASP	2.5
13	AM	16	ILE	2.5
20	AT	58	ASP	2.5
41	BH	136	ILE	2.5
43	BL	14	MET	2.5
8	AH	54	THR	2.5
2	AB	212	TYR	2.5
3	AC	123	LEU	2.5
4	AD	150	LYS	2.5
14	AN	19	TYR	2.5
41	BH	43	LYS	2.5
25	B0	72	GLY	2.5
34	BA	547	A	2.5
4	AD	26	ALA	2.5
23	AW	69	SER	2.5
23	AW	109	CYS	2.5
43	BL	13	ALA	2.5
4	AD	33	ILE	2.5
4	AD	63	ILE	2.5
5	AE	104	ILE	2.5
8	AH	48	PHE	2.5
16	AP	16	PHE	2.5
19	AS	40	PHE	2.5
39	BF	45	ASP	2.5
34	BA	1094	U	2.5
23	AW	47	LYS	2.5
43	BK	4	LYS	2.5
13	AM	114	PRO	2.5
41	BH	60	LEU	2.5
6	AF	58	HIS	2.5
7	AG	82	SER	2.4
1	AA	994	A	2.4
11	AK	26	PHE	2.4
23	AW	480	LYS	2.4
40	BG	59	ASP	2.4
1	AA	1305	G	2.4
4	AD	10	LEU	2.4
34	BA	897	C	2.4

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Mol	Chain	Res	Type	RSRZ
34	BA	2144	G	2.4
19	AS	68	HIS	2.4
34	BA	2149	U	2.4
42	BI	7	TYR	2.4
41	BH	64	VAL	2.4
42	BI	90	GLY	2.4
18	AR	53	GLN	2.4
20	AT	6	ALA	2.4
13	AM	6	ILE	2.4
25	B0	35	ILE	2.4
25	B0	28	GLU	2.4
45	BO	109	SER	2.4
4	AD	147	LYS	2.4
51	BU	4	LYS	2.4
7	AG	111	GLY	2.4
11	AK	23	HIS	2.4
23	AW	438	VAL	2.4
9	AI	43	ALA	2.4
1	AA	1240	U	2.4
1	AA	1361	G	2.4
10	AJ	53	ILE	2.4
41	BH	63	ALA	2.4
10	AJ	66	GLU	2.4
50	BT	50	ARG	2.4
55	BY	87	GLU	2.4
13	AM	29	SER	2.4
46	BP	68	SER	2.4
41	BH	5	LEU	2.4
10	AJ	32	THR	2.4
30	B5	40	PRO	2.4
7	AG	88	VAL	2.4
5	AE	101	GLY	2.4
19	AS	51	HIS	2.4
23	AW	442	GLY	2.4
33	B8	38	GLY	2.4
4	AD	111	ALA	2.4
27	B2	63	ALA	2.4
41	BH	92	ALA	2.4
1	AA	77	A	2.4
19	AS	55	GLN	2.4
23	AW	327	LYS	2.4
51	BU	91	ARG	2.4

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Mol	Chain	Res	Type	RSRZ
4	AD	116	LEU	2.4
4	AD	152	SER	2.4
6	AF	100	SER	2.4
4	AD	109	THR	2.4
41	BH	128	THR	2.4
27	B2	62	GLY	2.4
41	BH	141	ALA	2.4
44	BN	95	ARG	2.4
49	BS	98	GLN	2.4
10	AJ	102	LEU	2.4
39	BF	35	LEU	2.4
1	AA	1167	A	2.4
1	AA	1238	A	2.4
1	AA	84	U	2.4
1	AA	1049	U	2.4
1	AA	1202	U	2.4
4	AD	124	VAL	2.4
36	BC	254	LYS	2.3
42	BI	82	ALA	2.3
43	BL	8	ILE	2.3
1	AA	971	G	2.3
34	BA	1063	G	2.3
55	BY	45	GLN	2.3
3	AC	205	GLU	2.3
9	AI	91	GLU	2.3
38	BE	96	VAL	2.3
42	BI	138	VAL	2.3
44	BN	73	VAL	2.3
1	AA	81	A	2.3
1	AA	1332	A	2.3
42	BI	70	THR	2.3
1	AA	470	C	2.3
1	AA	1302	C	2.3
41	BH	76	PHE	2.3
40	BG	172	GLU	2.3
1	AA	94	G	2.3
21	AU	52	VAL	2.3
54	BX	16	VAL	2.3
16	AP	22	ALA	2.3
23	AW	43	ALA	2.3
16	AP	40	ASN	2.3
5	AE	141	ASP	2.3

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Mol	Chain	Res	Type	RSRZ
34	BA	1729	U	2.3
10	AJ	81	GLU	2.3
1	AA	990	C	2.3
36	BC	4	LYS	2.3
13	AM	86	ARG	2.3
3	AC	161	ILE	2.3
12	AL	121	PRO	2.3
11	AK	18	GLY	2.3
23	AW	504	ILE	2.3
5	AE	126	ALA	2.3
42	BI	26	ALA	2.3
6	AF	9	MET	2.3
23	AW	62	MET	2.3
7	AG	36	SER	2.3
30	B5	33	LEU	2.3
47	BQ	78	LEU	2.3
1	AA	1316	G	2.3
14	AN	63	CYS	2.3
23	AW	482	PHE	2.3
23	AW	467	ASN	2.3
14	AN	48	GLN	2.3
1	AA	958	A	2.3
1	AA	1236	A	2.3
41	BH	152	VAL	2.3
43	BK	11	VAL	2.3
34	BA	1180	U	2.3
14	AN	30	ILE	2.3
14	AN	71	GLY	2.3
16	AP	30	GLY	2.3
21	AU	25	ALA	2.3
3	AC	190	THR	2.3
21	AU	15	LEU	2.3
19	AS	73	PHE	2.3
4	AD	69	ARG	2.3
23	AW	357	GLU	2.2
1	AA	973	G	2.2
39	BF	84	ILE	2.2
43	BK	8	ILE	2.2
42	BI	137	LEU	2.2
50	BT	19	PHE	2.2
50	BT	98	TYR	2.2
4	AD	145	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
21	AU	16	ARG	2.2
34	BA	490	C	2.2
2	AB	158	ASP	2.2
10	AJ	60	ASP	2.2
13	AM	67	ASP	2.2
43	BM	7	ILE	2.2
7	AG	117	LEU	2.2
39	BF	1	ALA	2.2
41	BH	83	ALA	2.2
44	BN	42	ALA	2.2
7	AG	83	THR	2.2
21	AU	42	THR	2.2
1	AA	961	U	2.2
34	BA	895	U	2.2
1	AA	975	A	2.2
34	BA	613	A	2.2
2	AB	198	VAL	2.2
43	BL	20	VAL	2.2
8	AH	3	GLN	2.2
56	BZ	12	GLN	2.2
23	AW	31	GLU	2.2
2	AB	135	MET	2.2
5	AE	26	GLY	2.2
13	AM	1	ALA	2.2
13	AM	80	MET	2.2
23	AW	376	GLY	2.2
41	BH	115	GLY	2.2
41	BH	157	ALA	2.2
42	BI	123	ALA	2.2
52	BV	57	GLY	2.2
13	AM	102	LYS	2.2
31	B6	46	LYS	2.2
13	AM	62	PHE	2.2
14	AN	41	TRP	2.2
25	B0	24	ARG	2.2
13	AM	107	THR	2.2
43	BJ	11	VAL	2.2
4	AD	122	ILE	2.2
1	AA	412	A	2.2
13	AM	58	GLU	2.2
23	AW	421	GLU	2.2
7	AG	64	ALA	2.2

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Mol	Chain	Res	Type	RSRZ
23	AW	514	ALA	2.2
43	BJ	25	ALA	2.2
55	BY	50	ALA	2.2
2	AB	72	LYS	2.2
11	AK	124	LYS	2.2
13	AM	12	LYS	2.2
36	BC	264	LYS	2.2
15	AO	57	ARG	2.2
34	BA	1075	C	2.2
4	AD	35	GLN	2.2
4	AD	131	ILE	2.2
20	AT	56	ILE	2.2
25	B0	36	ILE	2.2
43	BK	7	ILE	2.2
46	BP	42	SER	2.2
19	AS	30	LEU	2.2
11	AK	72	ALA	2.2
23	AW	306	ASN	2.2
23	AW	369	ASN	2.2
27	B2	13	GLU	2.2
40	BG	171	LYS	2.2
43	BL	25	ALA	2.2
2	AB	149	GLY	2.2
7	AG	3	ARG	2.2
40	BG	15	ASP	2.2
17	AQ	73	THR	2.1
43	BL	19	VAL	2.1
9	AI	117	LEU	2.1
19	AS	46	LEU	2.1
42	BI	94	LYS	2.1
8	AH	57	GLU	2.1
13	AM	14	ALA	2.1
15	AO	25	GLU	2.1
23	AW	350	ALA	2.1
23	AW	435	ASP	2.1
42	BI	32	VAL	2.1
42	BI	97	VAL	2.1
2	AB	19	THR	2.1
4	AD	3	TYR	2.1
34	BA	899	A	2.1
14	AN	46	LYS	2.1
21	AU	28	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
41	BH	150	LYS	2.1
1	AA	413	G	2.1
2	AB	99	MET	2.1
15	AO	61	GLN	2.1
34	BA	2157	G	2.1
43	BJ	14	MET	2.1
7	AG	38	ALA	2.1
7	AG	116	ALA	2.1
38	BE	80	SER	2.1
38	BE	198	GLU	2.1
2	AB	49	PHE	2.1
23	AW	95	PHE	2.1
13	AM	94	LEU	2.1
41	BH	95	LEU	2.1
39	BF	129	MET	2.1
42	BI	116	MET	2.1
13	AM	99	GLN	2.1
19	AS	74	ALA	2.1
5	AE	103	GLY	2.1
23	AW	389	GLY	2.1
40	BG	31	GLU	2.1
41	BH	107	GLU	2.1
1	AA	79	G	2.1
1	AA	606	G	2.1
12	AL	15	VAL	2.1
43	BM	16	VAL	2.1
6	AF	6	ILE	2.1
19	AS	4	LEU	2.1
54	BX	8	LEU	2.1
13	AM	108	ARG	2.1
23	AW	527	ARG	2.1
25	B0	42	THR	2.1
42	BI	67	THR	2.1
14	AN	14	ALA	2.1
20	AT	40	ALA	2.1
34	BA	1066	U	2.1
41	BH	49	GLY	2.1
4	AD	181	PHE	2.1
13	AM	111	PRO	2.1
21	AU	10	PRO	2.1
27	B2	59	GLU	2.1
42	BI	8	VAL	2.1

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Mol	Chain	Res	Type	RSRZ
1	AA	974	A	2.1
34	BA	1383	A	2.1
13	AM	38	ILE	2.1
23	AW	311	HIS	2.1
10	AJ	88	MET	2.1
37	BD	151	THR	2.1
1	AA	1365	G	2.1
14	AN	35	ALA	2.1
29	B4	44	ALA	2.1
37	BD	87	GLY	2.1
5	AE	9	GLU	2.1
1	AA	1052	U	2.0
13	AM	96	VAL	2.0
21	AU	24	LYS	2.0
25	B0	74	LYS	2.0
14	AN	79	SER	2.0
23	AW	238	SER	2.0
42	BI	134	SER	2.0
3	AC	174	LEU	2.0
9	AI	32	ARG	2.0
41	BH	82	ILE	2.0
10	AJ	14	ASP	2.0
13	AM	19	THR	2.0
13	AM	39	ALA	2.0
23	AW	121	ASP	2.0
40	BG	136	ASP	2.0
2	AB	97	GLY	2.0
34	BA	1102	C	2.0
53	BW	42	LYS	2.0
1	AA	203	G	2.0
9	AI	122	ARG	2.0
11	AK	126	ARG	2.0
16	AP	52	LEU	2.0
19	AS	70	LEU	2.0
23	AW	66	ARG	2.0
39	BF	3	LEU	2.0
39	BF	102	LEU	2.0
49	BS	62	LEU	2.0
10	AJ	6	ILE	2.0
5	AE	151	MET	2.0
23	AW	355	HIS	2.0
42	BI	135	MET	2.0

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Mol	Chain	Res	Type	RSRZ
26	B1	23	ALA	2.0
3	AC	192	TYR	2.0
49	BS	2	ASP	2.0
23	AW	44	GLY	2.0
23	AW	393	PHE	2.0
25	B0	33	GLY	2.0
39	BF	165	GLY	2.0
43	BJ	30	PHE	2.0
49	BS	97	PHE	2.0
20	AT	70	LYS	2.0
56	BZ	71	LYS	2.0
1	AA	532	A	2.0
1	AA	978	A	2.0
1	AA	1280	A	2.0
4	AD	2	ARG	2.0
7	AG	140	VAL	2.0
19	AS	59	VAL	2.0
36	BC	22	GLU	2.0
13	AM	82	LEU	2.0
54	BX	7	LEU	2.0
3	AC	76	ILE	2.0
7	AG	103	ILE	2.0
11	AK	106	ILE	2.0
34	BA	2145	C	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, 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
24	UAL	AY	5	9/10	0.66	0.16	81,82,83,84	0
24	KBE	AY	1	9/10	0.69	0.25	78,79,82,82	0
24	5OH	AY	6	12/13	0.75	0.20	84,89,92,94	0
24	DPP	AY	2	6/7	0.85	0.18	79,82,82,84	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
57	MG	BA	3350	1/1	0.59	0.22	80,80,80,80	0
57	MG	BA	3242	1/1	0.60	0.18	72,72,72,72	0
57	MG	BA	3141	1/1	0.61	0.25	54,54,54,54	0
57	MG	BA	3281	1/1	0.63	0.23	73,73,73,73	0
57	MG	BA	3349	1/1	0.66	0.40	79,79,79,79	0
57	MG	BA	3317	1/1	0.66	0.34	88,88,88,88	0
57	MG	BA	3306	1/1	0.67	0.19	67,67,67,67	0
57	MG	BA	3330	1/1	0.70	0.17	83,83,83,83	0
57	MG	BA	3333	1/1	0.70	0.29	77,77,77,77	0
57	MG	AA	1680	1/1	0.71	0.20	55,55,55,55	0
57	MG	AA	1687	1/1	0.72	0.20	81,81,81,81	0
57	MG	BA	3346	1/1	0.72	0.27	83,83,83,83	0
57	MG	AA	1701	1/1	0.73	0.18	79,79,79,79	0
57	MG	BA	3343	1/1	0.74	0.16	71,71,71,71	0
57	MG	BA	3357	1/1	0.74	0.19	81,81,81,81	0
57	MG	BA	3305	1/1	0.76	0.23	71,71,71,71	0
57	MG	B0	103	1/1	0.77	0.13	54,54,54,54	0
57	MG	BA	3065	1/1	0.77	0.28	46,46,46,46	0
57	MG	AA	1700	1/1	0.77	0.29	65,65,65,65	0
57	MG	BA	3214	1/1	0.77	0.13	43,43,43,43	0
57	MG	AA	1686	1/1	0.78	0.17	93,93,93,93	0
57	MG	BA	3284	1/1	0.78	0.21	73,73,73,73	0
57	MG	BA	3298	1/1	0.78	0.22	76,76,76,76	0
57	MG	BA	3205	1/1	0.78	0.15	50,50,50,50	0
57	MG	BA	3355	1/1	0.78	0.21	69,69,69,69	0
57	MG	BA	3334	1/1	0.78	0.15	56,56,56,56	0
57	MG	BA	3311	1/1	0.79	0.14	48,48,48,48	0
57	MG	BA	3312	1/1	0.79	0.14	56,56,56,56	0
57	MG	AA	1679	1/1	0.79	0.22	62,62,62,62	0
57	MG	AA	1659	1/1	0.79	0.08	55,55,55,55	0
57	MG	BA	3352	1/1	0.79	0.16	61,61,61,61	0
57	MG	BA	3270	1/1	0.79	0.24	59,59,59,59	0
57	MG	AA	1696	1/1	0.79	0.20	89,89,89,89	0
57	MG	AA	1621	1/1	0.80	0.25	57,57,57,57	0
57	MG	BA	3104	1/1	0.80	0.18	45,45,45,45	0
57	MG	AW	601	1/1	0.80	0.10	36,36,36,36	0
57	MG	AA	1662	1/1	0.80	0.24	57,57,57,57	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	BA	3348	1/1	0.80	0.09	67,67,67,67	0
57	MG	BB	203	1/1	0.80	0.10	51,51,51,51	0
57	MG	BA	3152	1/1	0.81	0.09	41,41,41,41	0
57	MG	BA	3177	1/1	0.81	0.27	59,59,59,59	0
57	MG	AM	201	1/1	0.81	0.10	80,80,80,80	0
57	MG	BA	3211	1/1	0.81	0.18	48,48,48,48	0
57	MG	AA	1668	1/1	0.81	0.10	51,51,51,51	0
57	MG	AA	1633	1/1	0.81	0.24	53,53,53,53	0
57	MG	BA	3243	1/1	0.81	0.16	62,62,62,62	0
57	MG	BO	201	1/1	0.81	0.14	41,41,41,41	0
57	MG	BA	3244	1/1	0.82	0.26	76,76,76,76	0
57	MG	BA	3262	1/1	0.82	0.47	85,85,85,85	0
57	MG	BA	3075	1/1	0.82	0.09	43,43,43,43	0
57	MG	AA	1649	1/1	0.82	0.25	49,49,49,49	0
57	MG	AA	1689	1/1	0.82	0.37	69,69,69,69	0
57	MG	BA	3216	1/1	0.82	0.22	63,63,63,63	0
57	MG	BA	3001	1/1	0.82	0.33	42,42,42,42	0
57	MG	BB	205	1/1	0.82	0.33	79,79,79,79	0
57	MG	BD	303	1/1	0.82	0.07	57,57,57,57	0
57	MG	AA	1651	1/1	0.82	0.12	51,51,51,51	0
57	MG	BA	3184	1/1	0.83	0.09	37,37,37,37	0
57	MG	BA	3299	1/1	0.83	0.19	64,64,64,64	0
57	MG	BA	3105	1/1	0.83	0.25	49,49,49,49	0
57	MG	BA	3335	1/1	0.83	0.13	58,58,58,58	0
57	MG	AA	1667	1/1	0.83	0.11	87,87,87,87	0
57	MG	AA	1646	1/1	0.83	0.16	50,50,50,50	0
57	MG	BA	3174	1/1	0.83	0.14	49,49,49,49	0
57	MG	AA	1669	1/1	0.83	0.07	71,71,71,71	0
57	MG	BA	3148	1/1	0.84	0.16	50,50,50,50	0
57	MG	AA	1672	1/1	0.84	0.07	52,52,52,52	0
57	MG	BA	3160	1/1	0.84	0.19	49,49,49,49	0
57	MG	BA	3170	1/1	0.84	0.15	52,52,52,52	0
57	MG	BA	3172	1/1	0.84	0.14	53,53,53,53	0
57	MG	AA	1638	1/1	0.84	0.11	55,55,55,55	0
57	MG	AA	1639	1/1	0.84	0.13	49,49,49,49	0
57	MG	BA	3287	1/1	0.84	0.14	83,83,83,83	0
57	MG	AA	1645	1/1	0.84	0.16	62,62,62,62	0
57	MG	BA	3197	1/1	0.84	0.08	38,38,38,38	0
57	MG	AA	1656	1/1	0.84	0.21	73,73,73,73	0
57	MG	BA	3117	1/1	0.84	0.19	46,46,46,46	0
57	MG	BA	3125	1/1	0.84	0.31	53,53,53,53	0
57	MG	AA	1657	1/1	0.84	0.10	83,83,83,83	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	BA	3316	1/1	0.84	0.17	61,61,61,61	0
57	MG	BA	3232	1/1	0.84	0.19	54,54,54,54	0
57	MG	AA	1694	1/1	0.85	0.13	75,75,75,75	0
57	MG	AA	1658	1/1	0.85	0.26	61,61,61,61	0
57	MG	BA	3321	1/1	0.85	0.13	73,73,73,73	0
57	MG	AA	1683	1/1	0.85	0.08	63,63,63,63	0
57	MG	BA	3354	1/1	0.85	0.08	62,62,62,62	0
57	MG	BA	3332	1/1	0.85	0.15	96,96,96,96	0
57	MG	AA	1647	1/1	0.85	0.13	60,60,60,60	0
57	MG	BA	3261	1/1	0.85	0.17	63,63,63,63	0
57	MG	AA	1635	1/1	0.85	0.19	58,58,58,58	0
57	MG	AA	1688	1/1	0.85	0.15	77,77,77,77	0
57	MG	BE	301	1/1	0.85	0.12	67,67,67,67	0
57	MG	AA	1650	1/1	0.85	0.19	67,67,67,67	0
57	MG	AA	1603	1/1	0.86	0.34	42,42,42,42	0
57	MG	BA	3136	1/1	0.86	0.28	53,53,53,53	0
57	MG	BA	3223	1/1	0.86	0.39	75,75,75,75	0
57	MG	BA	3225	1/1	0.86	0.29	60,60,60,60	0
57	MG	AA	1671	1/1	0.86	0.12	53,53,53,53	0
57	MG	BA	3303	1/1	0.86	0.08	56,56,56,56	0
57	MG	AA	1685	1/1	0.86	0.08	64,64,64,64	0
57	MG	BA	3016	1/1	0.86	0.30	39,39,39,39	0
57	MG	BA	3157	1/1	0.86	0.26	46,46,46,46	0
57	MG	BA	3247	1/1	0.86	0.19	61,61,61,61	0
57	MG	BA	3313	1/1	0.86	0.22	67,67,67,67	0
57	MG	BA	3356	1/1	0.86	0.16	61,61,61,61	0
57	MG	BA	3253	1/1	0.86	0.17	65,65,65,65	0
57	MG	BA	3255	1/1	0.86	0.09	66,66,66,66	0
57	MG	BA	3201	1/1	0.86	0.19	47,47,47,47	0
57	MG	BB	208	1/1	0.86	0.11	59,59,59,59	0
57	MG	BC	301	1/1	0.86	0.14	53,53,53,53	0
57	MG	BA	3032	1/1	0.86	0.31	38,38,38,38	0
57	MG	BA	3331	1/1	0.86	0.15	64,64,64,64	0
57	MG	BA	3169	1/1	0.86	0.16	39,39,39,39	0
57	MG	BA	3215	1/1	0.87	0.09	53,53,53,53	0
57	MG	AA	1675	1/1	0.87	0.11	57,57,57,57	0
57	MG	BA	3219	1/1	0.87	0.28	69,69,69,69	0
57	MG	BA	3294	1/1	0.87	0.11	43,43,43,43	0
57	MG	BA	3295	1/1	0.87	0.18	57,57,57,57	0
57	MG	BA	3296	1/1	0.87	0.16	60,60,60,60	0
57	MG	AA	1677	1/1	0.87	0.16	57,57,57,57	0
57	MG	AA	1648	1/1	0.87	0.06	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	BA	3227	1/1	0.87	0.17	63,63,63,63	0
57	MG	BA	3231	1/1	0.87	0.14	56,56,56,56	0
57	MG	AA	1632	1/1	0.87	0.20	40,40,40,40	0
57	MG	AA	1610	1/1	0.87	0.17	45,45,45,45	0
57	MG	AA	1634	1/1	0.87	0.18	55,55,55,55	0
57	MG	BA	3144	1/1	0.87	0.12	68,68,68,68	0
57	MG	BA	3198	1/1	0.87	0.16	60,60,60,60	0
57	MG	BA	3048	1/1	0.87	0.27	40,40,40,40	0
57	MG	AA	1652	1/1	0.87	0.17	60,60,60,60	0
57	MG	BA	3207	1/1	0.87	0.29	54,54,54,54	0
57	MG	AF	201	1/1	0.87	0.17	65,65,65,65	0
57	MG	BA	3096	1/1	0.87	0.17	44,44,44,44	0
57	MG	AA	1606	1/1	0.88	0.25	45,45,45,45	0
57	MG	AA	1673	1/1	0.88	0.16	84,84,84,84	0
57	MG	BA	3288	1/1	0.88	0.15	95,95,95,95	0
57	MG	BA	3353	1/1	0.88	0.26	73,73,73,73	0
57	MG	AA	1674	1/1	0.88	0.15	55,55,55,55	0
57	MG	AA	1666	1/1	0.88	0.16	62,62,62,62	0
57	MG	AA	1670	1/1	0.88	0.12	62,62,62,62	0
57	MG	BA	3154	1/1	0.88	0.35	43,43,43,43	0
57	MG	AA	1636	1/1	0.88	0.08	36,36,36,36	0
57	MG	AL	201	1/1	0.88	0.26	54,54,54,54	0
57	MG	BA	3161	1/1	0.88	0.12	42,42,42,42	0
57	MG	BA	3268	1/1	0.88	0.08	52,52,52,52	0
57	MG	BA	3345	1/1	0.88	0.23	67,67,67,67	0
57	MG	BA	3202	1/1	0.88	0.18	57,57,57,57	0
57	MG	BA	3204	1/1	0.88	0.20	72,72,72,72	0
57	MG	BA	3109	1/1	0.89	0.15	38,38,38,38	0
57	MG	BA	3115	1/1	0.89	0.15	37,37,37,37	0
57	MG	BA	3274	1/1	0.89	0.24	52,52,52,52	0
57	MG	AA	1699	1/1	0.89	0.36	49,49,49,49	0
57	MG	BA	3124	1/1	0.89	0.23	42,42,42,42	0
57	MG	BA	3222	1/1	0.89	0.09	50,50,50,50	0
57	MG	BA	3338	1/1	0.89	0.08	61,61,61,61	0
57	MG	BA	3037	1/1	0.89	0.24	36,36,36,36	0
57	MG	BA	3131	1/1	0.89	0.14	40,40,40,40	0
57	MG	BA	3179	1/1	0.89	0.16	46,46,46,46	0
57	MG	BA	3347	1/1	0.89	0.15	76,76,76,76	0
57	MG	BA	3134	1/1	0.89	0.24	49,49,49,49	0
57	MG	BA	3187	1/1	0.89	0.23	56,56,56,56	0
57	MG	BA	3235	1/1	0.89	0.14	64,64,64,64	0
57	MG	BA	3301	1/1	0.89	0.27	64,64,64,64	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	AA	1625	1/1	0.89	0.09	40,40,40,40	0
57	MG	BA	3304	1/1	0.89	0.19	50,50,50,50	0
57	MG	B0	102	1/1	0.89	0.14	33,33,33,33	0
57	MG	AA	1613	1/1	0.89	0.24	58,58,58,58	0
57	MG	BA	3079	1/1	0.89	0.24	44,44,44,44	0
57	MG	BA	3248	1/1	0.89	0.21	52,52,52,52	0
57	MG	BA	3095	1/1	0.89	0.21	42,42,42,42	0
57	MG	AA	1663	1/1	0.89	0.15	74,74,74,74	0
57	MG	AA	1654	1/1	0.89	0.22	58,58,58,58	0
57	MG	BD	302	1/1	0.89	0.27	53,53,53,53	0
57	MG	BA	3318	1/1	0.89	0.27	57,57,57,57	0
57	MG	BA	3023	1/1	0.89	0.29	39,39,39,39	0
57	MG	BA	3323	1/1	0.89	0.08	64,64,64,64	0
57	MG	BA	3237	1/1	0.90	0.10	51,51,51,51	0
57	MG	BA	3286	1/1	0.90	0.11	48,48,48,48	0
57	MG	BA	3238	1/1	0.90	0.12	50,50,50,50	0
57	MG	BA	3046	1/1	0.90	0.28	27,27,27,27	0
57	MG	BA	3351	1/1	0.90	0.16	58,58,58,58	0
57	MG	AA	1631	1/1	0.90	0.13	60,60,60,60	0
57	MG	BA	3322	1/1	0.90	0.12	62,62,62,62	0
57	MG	AA	1692	1/1	0.90	0.14	67,67,67,67	0
57	MG	BA	3327	1/1	0.90	0.11	64,64,64,64	0
57	MG	BA	3153	1/1	0.90	0.17	59,59,59,59	0
57	MG	AA	1608	1/1	0.90	0.21	59,59,59,59	0
57	MG	BB	201	1/1	0.90	0.27	54,54,54,54	0
57	MG	BA	3189	1/1	0.90	0.12	51,51,51,51	0
57	MG	AA	1624	1/1	0.90	0.20	51,51,51,51	0
57	MG	BA	3029	1/1	0.90	0.19	28,28,28,28	0
57	MG	BA	3030	1/1	0.90	0.24	38,38,38,38	0
57	MG	AA	1615	1/1	0.90	0.13	40,40,40,40	0
57	MG	BA	3203	1/1	0.90	0.17	50,50,50,50	0
57	MG	BA	3138	1/1	0.90	0.25	58,58,58,58	0
57	MG	AA	1682	1/1	0.90	0.05	76,76,76,76	0
58	GNP	AW	602	32/32	0.90	0.10	58,71,81,83	0
57	MG	BA	3256	1/1	0.91	0.11	56,56,56,56	0
57	MG	BA	3258	1/1	0.91	0.09	50,50,50,50	0
57	MG	BA	3064	1/1	0.91	0.14	24,24,24,24	0
57	MG	BA	3326	1/1	0.91	0.09	42,42,42,42	0
57	MG	AA	1641	1/1	0.91	0.09	67,67,67,67	0
57	MG	BA	3264	1/1	0.91	0.10	67,67,67,67	0
57	MG	BA	3068	1/1	0.91	0.25	28,28,28,28	0
57	MG	BA	3070	1/1	0.91	0.16	44,44,44,44	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	AA	1678	1/1	0.91	0.17	65,65,65,65	0
57	MG	BA	3276	1/1	0.91	0.24	58,58,58,58	0
57	MG	BA	3279	1/1	0.91	0.13	50,50,50,50	0
57	MG	BA	3280	1/1	0.91	0.22	73,73,73,73	0
57	MG	BA	3339	1/1	0.91	0.17	76,76,76,76	0
57	MG	BA	3218	1/1	0.91	0.16	50,50,50,50	0
57	MG	BA	3344	1/1	0.91	0.10	71,71,71,71	0
57	MG	BA	3076	1/1	0.91	0.19	36,36,36,36	0
57	MG	BA	3078	1/1	0.91	0.23	32,32,32,32	0
57	MG	BA	3039	1/1	0.91	0.23	31,31,31,31	0
57	MG	BA	3181	1/1	0.91	0.11	44,44,44,44	0
57	MG	BA	3291	1/1	0.91	0.20	58,58,58,58	0
57	MG	BA	3140	1/1	0.91	0.23	46,46,46,46	0
57	MG	BA	3186	1/1	0.91	0.12	47,47,47,47	0
57	MG	BA	3045	1/1	0.91	0.28	35,35,35,35	0
57	MG	BA	3297	1/1	0.91	0.11	49,49,49,49	0
57	MG	BA	3143	1/1	0.91	0.07	32,32,32,32	0
57	MG	BA	3195	1/1	0.91	0.06	47,47,47,47	0
57	MG	AA	1605	1/1	0.91	0.18	38,38,38,38	0
57	MG	BA	3145	1/1	0.91	0.24	55,55,55,55	0
57	MG	BA	3097	1/1	0.91	0.20	48,48,48,48	0
57	MG	BA	3102	1/1	0.91	0.20	36,36,36,36	0
57	MG	BA	3246	1/1	0.91	0.08	48,48,48,48	0
57	MG	BB	207	1/1	0.91	0.07	47,47,47,47	0
57	MG	BA	3307	1/1	0.91	0.07	52,52,52,52	0
57	MG	BA	3012	1/1	0.91	0.22	18,18,18,18	0
57	MG	BA	3051	1/1	0.91	0.15	33,33,33,33	0
57	MG	BA	3250	1/1	0.91	0.34	66,66,66,66	0
57	MG	BA	3061	1/1	0.91	0.28	48,48,48,48	0
57	MG	BA	3254	1/1	0.91	0.15	59,59,59,59	0
57	MG	BA	3206	1/1	0.91	0.09	52,52,52,52	0
57	MG	AA	1661	1/1	0.92	0.12	49,49,49,49	0
57	MG	BA	3171	1/1	0.92	0.11	57,57,57,57	0
57	MG	BA	3251	1/1	0.92	0.15	49,49,49,49	0
57	MG	BA	3137	1/1	0.92	0.19	42,42,42,42	0
57	MG	BA	3098	1/1	0.92	0.12	47,47,47,47	0
57	MG	BA	3175	1/1	0.92	0.11	44,44,44,44	0
57	MG	BA	3066	1/1	0.92	0.24	41,41,41,41	0
57	MG	AA	1616	1/1	0.92	0.14	37,37,37,37	0
57	MG	B4	101	1/1	0.92	0.24	40,40,40,40	0
57	MG	BA	3107	1/1	0.92	0.16	36,36,36,36	0
57	MG	BA	3185	1/1	0.92	0.18	52,52,52,52	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	BA	3308	1/1	0.92	0.12	82,82,82,82	0
57	MG	AA	1612	1/1	0.92	0.18	29,29,29,29	0
57	MG	BA	3112	1/1	0.92	0.08	41,41,41,41	0
57	MG	BA	3229	1/1	0.92	0.10	46,46,46,46	0
57	MG	BA	3314	1/1	0.92	0.13	56,56,56,56	0
57	MG	BA	3315	1/1	0.92	0.20	63,63,63,63	0
57	MG	BA	3275	1/1	0.92	0.08	59,59,59,59	0
57	MG	AA	1665	1/1	0.92	0.17	56,56,56,56	0
57	MG	BA	3278	1/1	0.92	0.20	48,48,48,48	0
57	MG	BA	3319	1/1	0.92	0.12	68,68,68,68	0
57	MG	BA	3193	1/1	0.92	0.18	61,61,61,61	0
57	MG	AA	1627	1/1	0.92	0.16	40,40,40,40	0
57	MG	AL	202	1/1	0.92	0.24	73,73,73,73	0
57	MG	BA	3089	1/1	0.92	0.17	52,52,52,52	0
57	MG	BA	3158	1/1	0.92	0.13	35,35,35,35	0
57	MG	AA	1655	1/1	0.92	0.16	60,60,60,60	0
57	MG	BA	3132	1/1	0.92	0.25	52,52,52,52	0
57	MG	BA	3164	1/1	0.92	0.10	45,45,45,45	0
57	MG	BT	201	1/1	0.92	0.12	40,40,40,40	0
57	MG	AA	1660	1/1	0.92	0.09	46,46,46,46	0
57	MG	BA	3329	1/1	0.93	0.12	58,58,58,58	0
57	MG	AA	1629	1/1	0.93	0.17	41,41,41,41	0
57	MG	BA	3116	1/1	0.93	0.18	41,41,41,41	0
57	MG	BA	3044	1/1	0.93	0.26	37,37,37,37	0
57	MG	BA	3292	1/1	0.93	0.12	54,54,54,54	0
57	MG	BA	3077	1/1	0.93	0.18	41,41,41,41	0
57	MG	AA	1676	1/1	0.93	0.12	52,52,52,52	0
57	MG	BA	3336	1/1	0.93	0.07	86,86,86,86	0
57	MG	BA	3337	1/1	0.93	0.09	55,55,55,55	0
57	MG	BA	3129	1/1	0.93	0.14	43,43,43,43	0
57	MG	BA	3130	1/1	0.93	0.15	41,41,41,41	0
57	MG	BA	3210	1/1	0.93	0.23	73,73,73,73	0
57	MG	AA	1618	1/1	0.93	0.17	49,49,49,49	0
57	MG	BA	3300	1/1	0.93	0.21	69,69,69,69	0
57	MG	AA	1637	1/1	0.93	0.07	54,54,54,54	0
57	MG	BA	3094	1/1	0.93	0.18	47,47,47,47	0
57	MG	BA	3257	1/1	0.93	0.07	48,48,48,48	0
57	MG	AA	1622	1/1	0.93	0.16	42,42,42,42	0
57	MG	BA	3260	1/1	0.93	0.17	50,50,50,50	0
57	MG	BA	3052	1/1	0.93	0.37	39,39,39,39	0
57	MG	BA	3027	1/1	0.93	0.29	40,40,40,40	0
57	MG	BA	3310	1/1	0.93	0.10	75,75,75,75	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	AA	1623	1/1	0.93	0.10	42,42,42,42	0
57	MG	AA	1628	1/1	0.93	0.14	44,44,44,44	0
57	MG	BA	3269	1/1	0.93	0.11	51,51,51,51	0
57	MG	BA	3103	1/1	0.93	0.16	28,28,28,28	0
57	MG	AA	1643	1/1	0.93	0.14	56,56,56,56	0
57	MG	BA	3034	1/1	0.93	0.23	36,36,36,36	0
57	MG	BA	3069	1/1	0.93	0.19	39,39,39,39	0
57	MG	BA	3150	1/1	0.93	0.16	53,53,53,53	0
57	MG	AA	1684	1/1	0.93	0.23	60,60,60,60	0
57	MG	BA	3111	1/1	0.93	0.12	29,29,29,29	0
57	MG	BD	301	1/1	0.93	0.11	49,49,49,49	0
57	MG	BA	3073	1/1	0.93	0.25	42,42,42,42	0
57	MG	BA	3239	1/1	0.93	0.07	71,71,71,71	0
57	MG	BA	3325	1/1	0.93	0.20	59,59,59,59	0
57	MG	BA	3285	1/1	0.93	0.25	75,75,75,75	0
57	MG	BQ	201	1/1	0.93	0.07	44,44,44,44	0
57	MG	BA	3199	1/1	0.93	0.18	42,42,42,42	0
57	MG	BX	201	1/1	0.93	0.07	47,47,47,47	0
57	MG	BA	3328	1/1	0.93	0.10	71,71,71,71	0
57	MG	AA	1630	1/1	0.94	0.24	48,48,48,48	0
57	MG	BA	3226	1/1	0.94	0.16	51,51,51,51	0
57	MG	BA	3062	1/1	0.94	0.13	42,42,42,42	0
57	MG	BA	3178	1/1	0.94	0.22	49,49,49,49	0
57	MG	AA	1619	1/1	0.94	0.11	40,40,40,40	0
57	MG	BA	3100	1/1	0.94	0.25	36,36,36,36	0
57	MG	BA	3233	1/1	0.94	0.13	46,46,46,46	0
57	MG	AA	1690	1/1	0.94	0.09	83,83,83,83	0
57	MG	BA	3036	1/1	0.94	0.16	43,43,43,43	0
57	MG	BA	3142	1/1	0.94	0.19	50,50,50,50	0
57	MG	AA	1702	1/1	0.94	0.18	58,58,58,58	0
57	MG	BA	3188	1/1	0.94	0.26	51,51,51,51	0
57	MG	BA	3038	1/1	0.94	0.10	21,21,21,21	0
57	MG	BA	3192	1/1	0.94	0.25	59,59,59,59	0
57	MG	BA	3245	1/1	0.94	0.11	46,46,46,46	0
57	MG	AA	1691	1/1	0.94	0.07	63,63,63,63	0
57	MG	BA	3015	1/1	0.94	0.27	38,38,38,38	0
57	MG	BA	3149	1/1	0.94	0.22	42,42,42,42	0
57	MG	BA	3302	1/1	0.94	0.17	68,68,68,68	0
57	MG	BA	3249	1/1	0.94	0.07	49,49,49,49	0
57	MG	BA	3110	1/1	0.94	0.10	38,38,38,38	0
57	MG	BA	3151	1/1	0.94	0.19	47,47,47,47	0
57	MG	AA	1617	1/1	0.94	0.13	47,47,47,47	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	BA	3017	1/1	0.94	0.15	30,30,30,30	0
57	MG	AA	1693	1/1	0.94	0.12	56,56,56,56	0
57	MG	BA	3155	1/1	0.94	0.21	51,51,51,51	0
57	MG	BA	3156	1/1	0.94	0.12	41,41,41,41	0
57	MG	AA	1602	1/1	0.94	0.22	37,37,37,37	0
57	MG	AA	1644	1/1	0.94	0.05	49,49,49,49	0
57	MG	BA	3208	1/1	0.94	0.16	62,62,62,62	0
57	MG	BB	206	1/1	0.94	0.08	65,65,65,65	0
57	MG	BA	3121	1/1	0.94	0.22	39,39,39,39	0
57	MG	BA	3122	1/1	0.94	0.11	38,38,38,38	0
57	MG	BB	209	1/1	0.94	0.25	36,36,36,36	0
57	MG	BA	3267	1/1	0.94	0.12	52,52,52,52	0
57	MG	BA	3081	1/1	0.94	0.20	35,35,35,35	0
57	MG	BA	3165	1/1	0.94	0.20	52,52,52,52	0
57	MG	BA	3087	1/1	0.94	0.18	42,42,42,42	0
57	MG	BA	3272	1/1	0.94	0.12	55,55,55,55	0
57	MG	BN	201	1/1	0.94	0.15	51,51,51,51	0
57	MG	BA	3088	1/1	0.94	0.14	36,36,36,36	0
57	MG	BA	3324	1/1	0.94	0.11	59,59,59,59	0
57	MG	BA	3054	1/1	0.94	0.23	36,36,36,36	0
57	MG	BA	3056	1/1	0.94	0.15	26,26,26,26	0
57	MG	BA	3059	1/1	0.94	0.12	43,43,43,43	0
57	MG	BA	3176	1/1	0.95	0.13	50,50,50,50	0
57	MG	BA	3099	1/1	0.95	0.32	44,44,44,44	0
57	MG	BA	3022	1/1	0.95	0.14	28,28,28,28	0
57	MG	BA	3228	1/1	0.95	0.10	42,42,42,42	0
57	MG	AA	1695	1/1	0.95	0.08	62,62,62,62	0
57	MG	BA	3282	1/1	0.95	0.13	55,55,55,55	0
57	MG	BA	3180	1/1	0.95	0.04	45,45,45,45	0
57	MG	AA	1604	1/1	0.95	0.25	42,42,42,42	0
57	MG	BA	3047	1/1	0.95	0.22	51,51,51,51	0
57	MG	BA	3234	1/1	0.95	0.10	49,49,49,49	0
57	MG	BA	3074	1/1	0.95	0.15	44,44,44,44	0
57	MG	BA	3289	1/1	0.95	0.06	62,62,62,62	0
57	MG	BA	3106	1/1	0.95	0.18	37,37,37,37	0
57	MG	BA	3340	1/1	0.95	0.10	61,61,61,61	0
57	MG	BA	3028	1/1	0.95	0.19	26,26,26,26	0
57	MG	BA	3108	1/1	0.95	0.18	42,42,42,42	0
57	MG	BA	3240	1/1	0.95	0.19	56,56,56,56	0
57	MG	BA	3146	1/1	0.95	0.20	40,40,40,40	0
57	MG	BA	3147	1/1	0.95	0.13	46,46,46,46	0
57	MG	AA	1681	1/1	0.95	0.05	38,38,38,38	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	BA	3194	1/1	0.95	0.11	49,49,49,49	0
57	MG	BA	3010	1/1	0.95	0.12	33,33,33,33	0
57	MG	BA	3196	1/1	0.95	0.23	46,46,46,46	0
57	MG	BA	3053	1/1	0.95	0.28	31,31,31,31	0
57	MG	AA	1601	1/1	0.95	0.15	22,22,22,22	0
57	MG	BA	3014	1/1	0.95	0.19	27,27,27,27	0
57	MG	BA	3058	1/1	0.95	0.22	35,35,35,35	0
57	MG	AA	1620	1/1	0.95	0.14	52,52,52,52	0
57	MG	BA	3118	1/1	0.95	0.20	40,40,40,40	0
57	MG	BA	3120	1/1	0.95	0.05	31,31,31,31	0
57	MG	BB	202	1/1	0.95	0.20	43,43,43,43	0
57	MG	B0	101	1/1	0.95	0.05	23,23,23,23	0
57	MG	BB	204	1/1	0.95	0.22	53,53,53,53	0
57	MG	BA	3090	1/1	0.95	0.20	40,40,40,40	0
57	MG	BA	3123	1/1	0.95	0.12	36,36,36,36	0
57	MG	BA	3259	1/1	0.95	0.06	69,69,69,69	0
57	MG	BA	3091	1/1	0.95	0.29	42,42,42,42	0
57	MG	BA	3209	1/1	0.95	0.13	42,42,42,42	0
57	MG	BA	3092	1/1	0.95	0.30	43,43,43,43	0
57	MG	BA	3263	1/1	0.95	0.17	53,53,53,53	0
57	MG	AA	1640	1/1	0.95	0.06	41,41,41,41	0
57	MG	BA	3166	1/1	0.95	0.06	50,50,50,50	0
57	MG	BA	3320	1/1	0.95	0.12	52,52,52,52	0
57	MG	BA	3063	1/1	0.95	0.16	32,32,32,32	0
57	MG	BA	3020	1/1	0.95	0.24	29,29,29,29	0
57	MG	BA	3041	1/1	0.95	0.10	27,27,27,27	0
57	MG	BR	202	1/1	0.95	0.10	51,51,51,51	0
57	MG	BA	3133	1/1	0.95	0.11	45,45,45,45	0
57	MG	BA	3042	1/1	0.95	0.12	27,27,27,27	0
57	MG	BA	3135	1/1	0.95	0.14	45,45,45,45	0
57	MG	BA	3341	1/1	0.96	0.11	57,57,57,57	0
57	MG	BA	3342	1/1	0.96	0.09	54,54,54,54	0
57	MG	AA	1698	1/1	0.96	0.05	51,51,51,51	0
57	MG	BA	3080	1/1	0.96	0.25	43,43,43,43	0
57	MG	BA	3271	1/1	0.96	0.16	53,53,53,53	0
57	MG	BA	3183	1/1	0.96	0.05	48,48,48,48	0
57	MG	BA	3309	1/1	0.96	0.04	62,62,62,62	0
57	MG	BA	3273	1/1	0.96	0.13	72,72,72,72	0
57	MG	AA	1611	1/1	0.96	0.20	44,44,44,44	0
57	MG	BA	3139	1/1	0.96	0.15	43,43,43,43	0
57	MG	BA	3119	1/1	0.96	0.11	29,29,29,29	0
57	MG	BA	3277	1/1	0.96	0.08	42,42,42,42	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	BA	3083	1/1	0.96	0.30	47,47,47,47	0
57	MG	BA	3212	1/1	0.96	0.24	45,45,45,45	0
57	MG	BA	3033	1/1	0.96	0.19	25,25,25,25	0
57	MG	AA	1614	1/1	0.96	0.18	42,42,42,42	0
57	MG	BA	3190	1/1	0.96	0.14	43,43,43,43	0
57	MG	BA	3283	1/1	0.96	0.20	25,25,25,25	0
57	MG	BA	3217	1/1	0.96	0.12	56,56,56,56	0
57	MG	BA	3191	1/1	0.96	0.07	57,57,57,57	0
57	MG	BA	3071	1/1	0.96	0.24	35,35,35,35	0
57	MG	BA	3252	1/1	0.96	0.19	49,49,49,49	0
57	MG	BA	3220	1/1	0.96	0.16	56,56,56,56	0
57	MG	BA	3072	1/1	0.96	0.17	36,36,36,36	0
57	MG	BA	3290	1/1	0.96	0.05	56,56,56,56	0
57	MG	BA	3060	1/1	0.96	0.25	27,27,27,27	0
57	MG	BA	3224	1/1	0.96	0.10	41,41,41,41	0
57	MG	BA	3128	1/1	0.96	0.10	33,33,33,33	0
57	MG	BA	3024	1/1	0.96	0.25	32,32,32,32	0
57	MG	BA	3173	1/1	0.96	0.06	36,36,36,36	0
57	MG	BD	304	1/1	0.96	0.20	28,28,28,28	0
57	MG	BA	3093	1/1	0.96	0.14	42,42,42,42	0
57	MG	BA	3026	1/1	0.96	0.14	24,24,24,24	0
57	MG	BA	3200	1/1	0.96	0.10	44,44,44,44	0
57	MG	B2	101	1/1	0.96	0.04	49,49,49,49	0
57	MG	AA	1653	1/1	0.96	0.12	41,41,41,41	0
57	MG	BA	3266	1/1	0.96	0.05	56,56,56,56	0
57	MG	BA	3114	1/1	0.96	0.15	32,32,32,32	0
57	MG	AA	1697	1/1	0.96	0.04	64,64,64,64	0
57	MG	BA	3002	1/1	0.97	0.13	13,13,13,13	0
57	MG	BA	3221	1/1	0.97	0.23	43,43,43,43	0
57	MG	BA	3004	1/1	0.97	0.18	21,21,21,21	0
57	MG	BA	3167	1/1	0.97	0.27	48,48,48,48	0
57	MG	BA	3168	1/1	0.97	0.03	32,32,32,32	0
57	MG	BA	3049	1/1	0.97	0.14	31,31,31,31	0
57	MG	BA	3050	1/1	0.97	0.20	33,33,33,33	0
57	MG	BA	3005	1/1	0.97	0.11	20,20,20,20	0
57	MG	BA	3019	1/1	0.97	0.15	15,15,15,15	0
57	MG	BA	3293	1/1	0.97	0.08	53,53,53,53	0
57	MG	BA	3035	1/1	0.97	0.19	26,26,26,26	0
57	MG	BA	3230	1/1	0.97	0.09	46,46,46,46	0
57	MG	BA	3006	1/1	0.97	0.18	22,22,22,22	0
57	MG	BA	3021	1/1	0.97	0.13	18,18,18,18	0
57	MG	BA	3007	1/1	0.97	0.18	17,17,17,17	0

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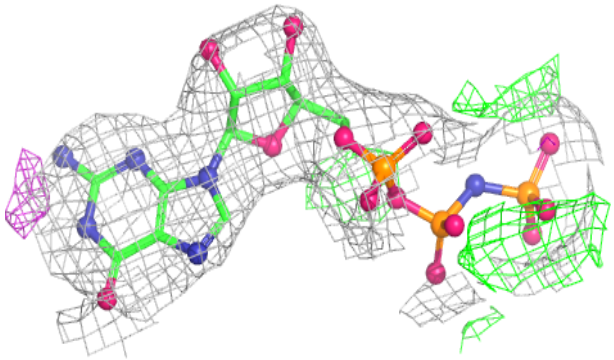
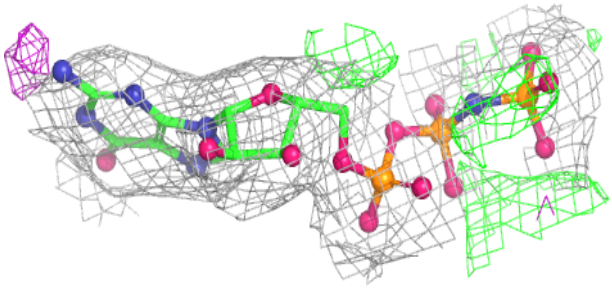
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	BA	3101	1/1	0.97	0.10	43,43,43,43	0
57	MG	BA	3008	1/1	0.97	0.14	22,22,22,22	0
57	MG	BA	3236	1/1	0.97	0.06	46,46,46,46	0
57	MG	BA	3040	1/1	0.97	0.24	43,43,43,43	0
57	MG	BA	3009	1/1	0.97	0.18	14,14,14,14	0
57	MG	AA	1609	1/1	0.97	0.27	40,40,40,40	0
57	MG	BA	3182	1/1	0.97	0.18	48,48,48,48	0
57	MG	BA	3043	1/1	0.97	0.23	26,26,26,26	0
57	MG	BA	3084	1/1	0.97	0.20	21,21,21,21	0
57	MG	BD	305	1/1	0.97	0.09	16,16,16,16	0
57	MG	BA	3086	1/1	0.97	0.23	43,43,43,43	0
57	MG	BA	3213	1/1	0.97	0.10	46,46,46,46	0
57	MG	BA	3011	1/1	0.97	0.30	23,23,23,23	0
57	MG	AH	201	1/1	0.97	0.11	50,50,50,50	0
57	MG	BR	201	1/1	0.97	0.12	69,69,69,69	0
57	MG	AA	1664	1/1	0.97	0.04	41,41,41,41	0
57	MG	BA	3067	1/1	0.97	0.16	35,35,35,35	0
57	MG	BA	3162	1/1	0.97	0.07	56,56,56,56	0
57	MG	BA	3113	1/1	0.97	0.16	34,34,34,34	0
57	MG	BA	3013	1/1	0.98	0.18	20,20,20,20	0
57	MG	BA	3085	1/1	0.98	0.15	40,40,40,40	0
57	MG	BA	3265	1/1	0.98	0.21	45,45,45,45	0
57	MG	BA	3057	1/1	0.98	0.22	33,33,33,33	0
57	MG	BA	3159	1/1	0.98	0.17	49,49,49,49	0
57	MG	AA	1642	1/1	0.98	0.08	53,53,53,53	0
57	MG	AA	1626	1/1	0.98	0.23	45,45,45,45	0
57	MG	BA	3003	1/1	0.98	0.24	18,18,18,18	0
57	MG	BA	3163	1/1	0.98	0.14	49,49,49,49	0
57	MG	AA	1607	1/1	0.98	0.20	33,33,33,33	0
57	MG	BA	3018	1/1	0.98	0.16	16,16,16,16	0
57	MG	BA	3241	1/1	0.98	0.08	57,57,57,57	0
57	MG	BA	3025	1/1	0.98	0.17	32,32,32,32	0
57	MG	BA	3126	1/1	0.98	0.14	31,31,31,31	0
57	MG	BA	3127	1/1	0.98	0.14	38,38,38,38	0
57	MG	BA	3082	1/1	0.98	0.25	36,36,36,36	0
57	MG	BA	3055	1/1	0.98	0.18	24,24,24,24	0
57	MG	BA	3031	1/1	0.99	0.18	25,25,25,25	0

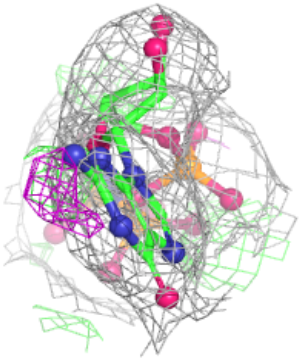
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around GNP AW 602:

$2mF_o$-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.