Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 01:27 PM UTC

PDB ID	:	4V5L / pdb_00004v5l
Title	:	The structure of EF-Tu and aminoacyl-tRNA bound to the 70S ribosome with a GTP analog
Authors	:	Voorhees, R.M.; Schmeing, T.M.; Ramakrishnan, V.
Deposited on	:	2010-09-02
Resolution	:	3.10 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:

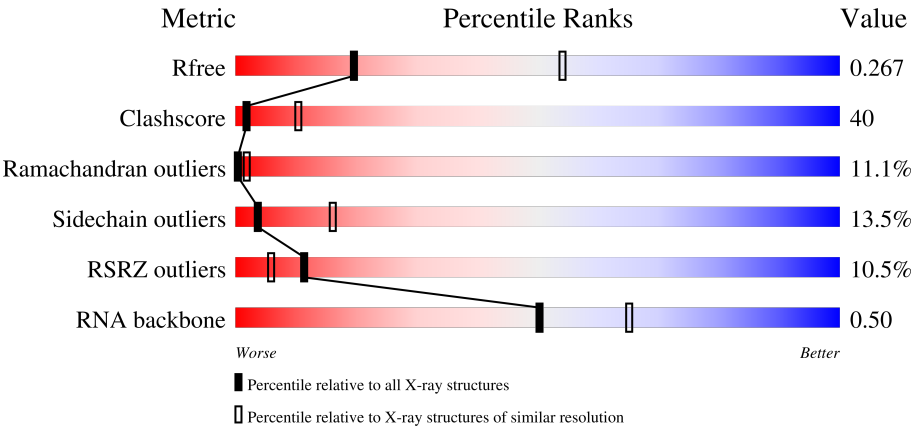
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal 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

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

The reported resolution of this entry is 3.10 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	1456 (3.10-3.10)
Clashscore	190562	1539 (3.10-3.10)
Ramachandran outliers	187476	1467 (3.10-3.10)
Sidechain outliers	187428	1467 (3.10-3.10)
RSRZ outliers	180081	1456 (3.10-3.10)
RNA backbone	3983	1022 (3.32-2.88)

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	1522	5% 33% 52% 10%
2	AB	256	6% 19% 49% 21% 9%
3	AC	239	% 23% 51% 12% 14%
4	AD	209	4% 35% 47% 16%

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Mol	Chain	Length	Quality of chain
5	AE	162	2% 30% 50% 12% 7%
6	AF	101	39% 52% 9%
7	AG	156	4% 37% 49% 13%
8	AH	138	2% 33% 57% 9%
9	AI	128	5% 30% 54% 15%
10	AJ	105	10% 21% 50% 18% 7%
11	AK	129	% 35% 47% 10% 8%
12	AL	135	4% 30% 42% 18% 8%
13	AM	126	12% 21% 52% 24%
14	AN	61	2% 31% 43% 21%
15	AO	89	40% 49% 9%
16	AP	88	% 26% 53% 15% 6%
17	AQ	105	5% 26% 57% 11% 6%
18	AR	88	% 32% 35% 11% 20%
19	AS	93	11% 12% 43% 23% 6% 16%
20	AT	106	8% 23% 52% 16% 7%
21	AU	27	11% 11% 70% 7% 11%
22	AV	76	16% 43% 33% 24%
22	AW	76	59% 37% 47% 16%
23	AX	14	36% 29% 43% 21% 7%
24	AY	77	22% 30% 43% 17% 10%
25	AZ	405	7% 23% 59% 16%
26	B0	85	15% 32% 51% 15%
27	B1	98	5% 27% 53% 12% 5%
28	B2	72	8% 17% 68% 12%

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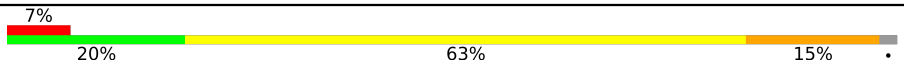
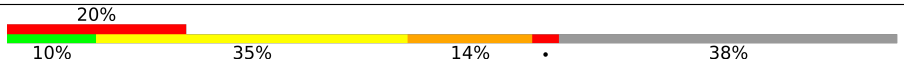
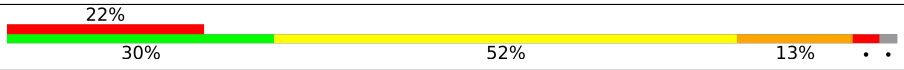
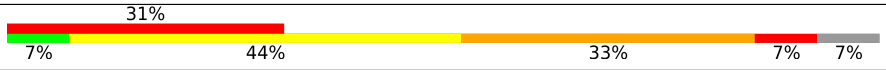
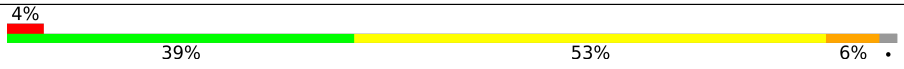
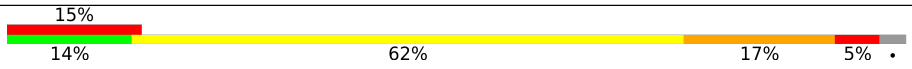
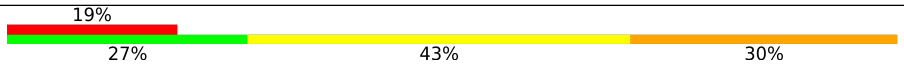
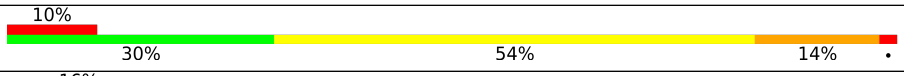
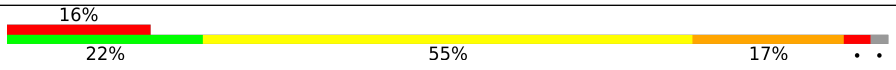
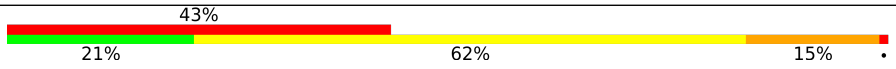
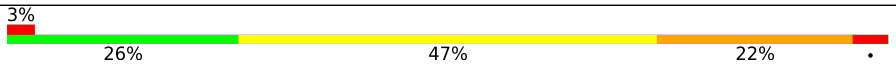
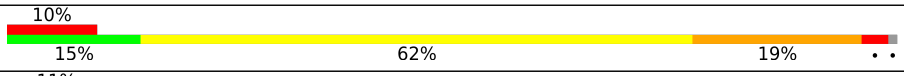
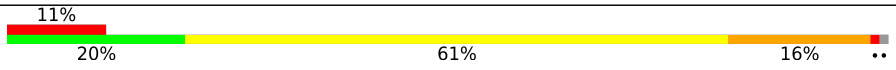
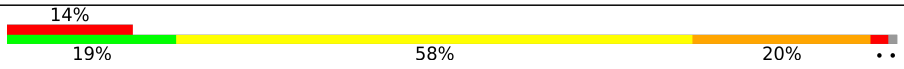
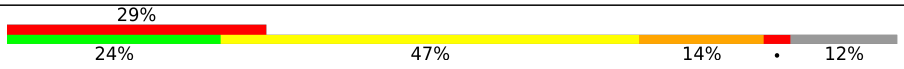
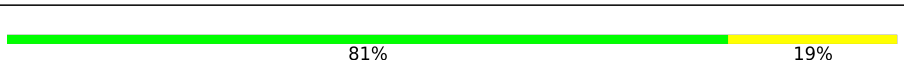
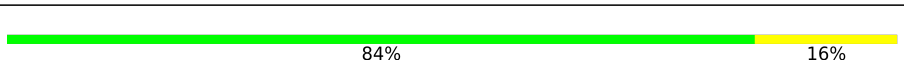
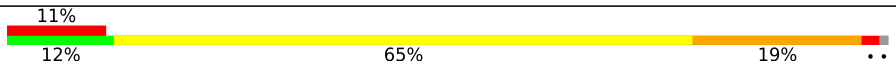
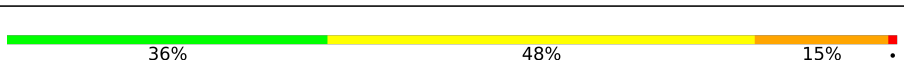
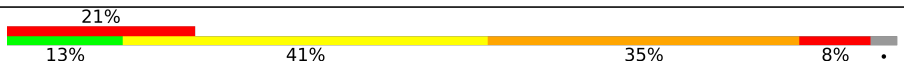
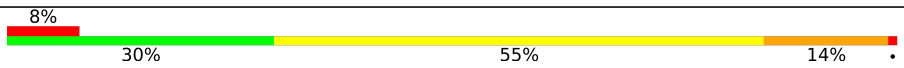
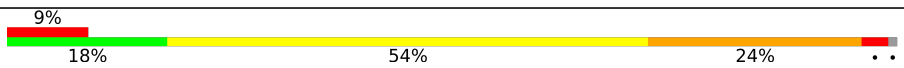
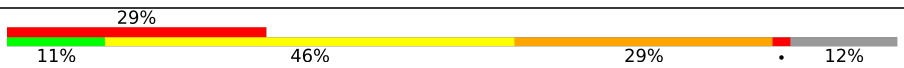
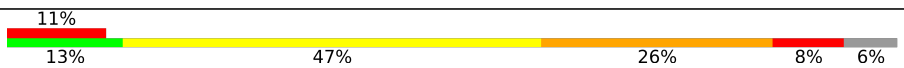
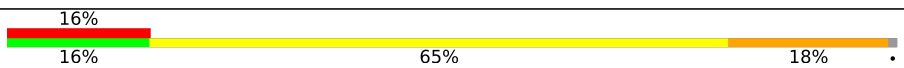
Mol	Chain	Length	Quality of chain
29	B3	60	
30	B4	71	
31	B5	60	
32	B6	54	
33	B7	49	
34	B8	65	
35	B9	37	
36	BA	2915	
37	BB	122	
38	BC	229	
39	BD	276	
40	BE	206	
41	BF	210	
42	BG	182	
43	BH	180	
44	BJ	130	
45	BK	140	
46	BN	140	
47	BO	122	
48	BP	150	
49	BQ	141	
50	BR	118	
51	BS	112	
52	BT	146	
53	BU	118	

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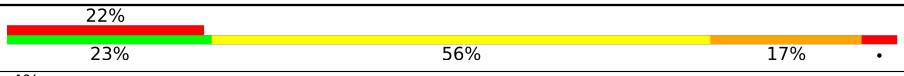
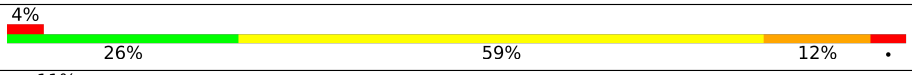
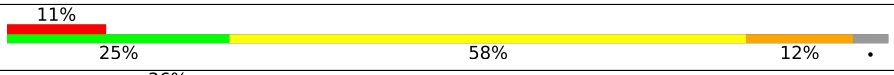
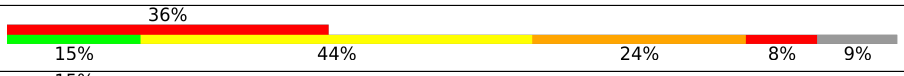
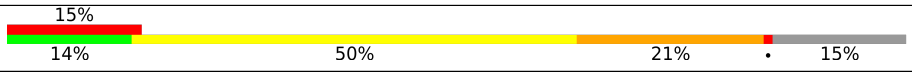
Mol	Chain	Length	Quality of chain
54	BV	101	
55	BW	113	
56	BX	96	
57	BY	110	
58	BZ	206	

2 Entry composition (i)

There are 63 unique types of molecules in this entry. The entry contains 153628 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	1504	32329	14390	5992	10444	1503	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	234	1900	1213	341	341	5	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	1612	1016	314	281	1	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	208	1703	1066	339	291	7	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	1146	724	217	201	4	0	0	0

- Molecule 6 is a protein called 30S RIBOSOMAL PROTEIN S6.

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

- Molecule 7 is a protein called 30S RIBOSOMAL PROTEIN S7.

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

- Molecule 8 is a protein called 30S RIBOSOMAL PROTEIN S8.

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

- Molecule 9 is a protein called 30S RIBOSOMAL PROTEIN S9.

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

- 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
			794	499	156	138	1			

- Molecule 11 is a protein called 30S RIBOSOMAL PROTEIN S11.

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

- Molecule 12 is a protein called 30S RIBOSOMAL PROTEIN S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	AL	124	Total	C	N	O	S	0	0	0
			970	611	195	163	1			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AL	1	MET	-	expression tag	UNP P17293
AL	2	VAL	-	expression tag	UNP P17293
AL	3	ALA	-	expression tag	UNP P17293
AL	4	LEU	-	expression tag	UNP P17293

- Molecule 13 is a protein called 30S RIBOSOMAL PROTEIN S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	AM	124	Total	C	N	O	S	0	0	0
			987	611	205	169	2			

- Molecule 14 is a protein called 30S RIBOSOMAL PROTEIN S14.

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

- Molecule 15 is a protein called 30S RIBOSOMAL PROTEIN S15.

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

- Molecule 16 is a protein called 30S RIBOSOMAL PROTEIN S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	AP	83	Total	C	N	O	S	0	0	0
			700	443	139	117	1			

- Molecule 17 is a protein called 30S RIBOSOMAL PROTEIN S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	AQ	99	Total	C	N	O	S	0	0	0
			823	528	151	142	2			

- Molecule 18 is a protein called 30S RIBOSOMAL PROTEIN S18.

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

- Molecule 19 is a protein called 30S RIBOSOMAL PROTEIN S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	AS	78	Total	C	N	O	S	0	0	0
			629	403	114	110	2			

- Molecule 20 is a protein called 30S RIBOSOMAL PROTEIN S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	AT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			

- Molecule 21 is a protein called 30S RIBOSOMAL PROTEIN THX.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	AU	24	Total	C	N	O	0	0	0
			208	128	50	30			

- Molecule 22 is a RNA chain called E-SITE TRNA PHE OR P-SITE TRNA PHE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	AV	76	Total	C	N	O	P	0	0	0
			1619	723	290	531	75			
22	AW	76	Total	C	N	O	P	0	0	0
			1619	723	290	531	75			

- Molecule 23 is a RNA chain called MRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	AX	14	Total	C	N	O	P	0	0	0
			298	135	56	94	13			

- Molecule 24 is a RNA chain called A-SITE TRNA G24A TRP-TRNA TRP.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
24	AY	77	Total	C	N	O	P	S	0	0	0
			1644	742	289	535	76	2			

- Molecule 25 is a protein called ELONGATION FACTOR TU.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	AZ	405	Total	C	N	O	S	0	0	0
			3142	1983	550	597	12			

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L27.

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

- Molecule 27 is a protein called 50S RIBOSOMAL PROTEIN L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	B1	93	Total	C	N	O	S	0	0	0
			731	460	145	125	1			

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L29.

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

- Molecule 29 is a protein called 50S RIBOSOMAL PROTEIN L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	B3	59	Total	C	N	O	S	0	0	0
			467	298	90	78	1			

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	B4	44	Total	C	N	O	S	0	0	0
			340	218	57	61	4			

- Molecule 31 is a protein called 50S RIBOSOMAL PROTEIN L32.

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

- Molecule 32 is a protein called 50S RIBOSOMAL PROTEIN L33.

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

- Molecule 33 is a protein called 50S RIBOSOMAL PROTEIN L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	B7	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			

- Molecule 34 is a protein called 50S RIBOSOMAL PROTEIN L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	B8	63	Total	C	N	O	S	0	0	0
			507	326	101	78	2			

- Molecule 35 is a protein called 50S RIBOSOMAL PROTEIN L36.

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

- Molecule 36 is a RNA chain called 23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	BA	2901	Total	C	N	O	P	0	0	0
			62477	27807	11683	20087	2900			

- Molecule 37 is a RNA chain called 5S RIBOSOMAL RNA.

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

- Molecule 38 is a protein called 50S RIBOSOMAL PROTEIN L1.

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BC	27	ARG	LEU	conflict	UNP Q5SLP7

- Molecule 39 is a protein called 50S RIBOSOMAL PROTEIN L2.

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

- Molecule 40 is a protein called 50S RIBOSOMAL PROTEIN L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	BE	204	Total	C	N	O	S	0	0	0
			1563	988	299	270	6			

- Molecule 41 is a protein called 50S RIBOSOMAL PROTEIN L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	BF	207	Total	C	N	O	S	0	0	0
			1623	1035	303	282	3			

- Molecule 42 is a protein called 50S RIBOSOMAL PROTEIN L5.

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

- Molecule 43 is a protein called 50S RIBOSOMAL PROTEIN L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	BH	159	Total	C	N	O	S	0	0	0
			1222	773	228	220	1			

- Molecule 44 is a protein called 50S RIBOSOMAL PROTEIN L10.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
44	BJ	130	Total	C	N	O	0	0	0
			651	391	130	130			

- Molecule 45 is a protein called 50S RIBOSOMAL PROTEIN L11.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
45	BK	140	Total	C	N	O	0	0	0
			700	420	140	140			

- Molecule 46 is a protein called 50S RIBOSOMAL PROTEIN L13.

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

- Molecule 47 is a protein called 50S RIBOSOMAL PROTEIN L14.

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

- Molecule 48 is a protein called 50S RIBOSOMAL PROTEIN L15.

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

- Molecule 49 is a protein called 50S RIBOSOMAL PROTEIN L16.

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

- Molecule 50 is a protein called 50S RIBOSOMAL PROTEIN L17.

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

- Molecule 51 is a protein called 50S RIBOSOMAL PROTEIN L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
51	BS	98	Total	C	N	O	0	0	0
			770	486	154	130			

- Molecule 52 is a protein called 50S RIBOSOMAL PROTEIN L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	BT	137	Total	C	N	O	S	0	0	0
			1141	710	234	196	1			

- Molecule 53 is a protein called 50S RIBOSOMAL PROTEIN L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	BU	117	Total	C	N	O	S	0	0	0
			958	604	202	151	1			

- Molecule 54 is a protein called 50S RIBOSOMAL PROTEIN L21.

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

- Molecule 55 is a protein called 50S RIBOSOMAL PROTEIN L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	BW	113	Total	C	N	O	S	0	0	0
			896	563	176	155	2			

- Molecule 56 is a protein called 50S RIBOSOMAL PROTEIN L23.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
56	BX	92	Total	C	N	O	0	0	0
			725	471	131	123			

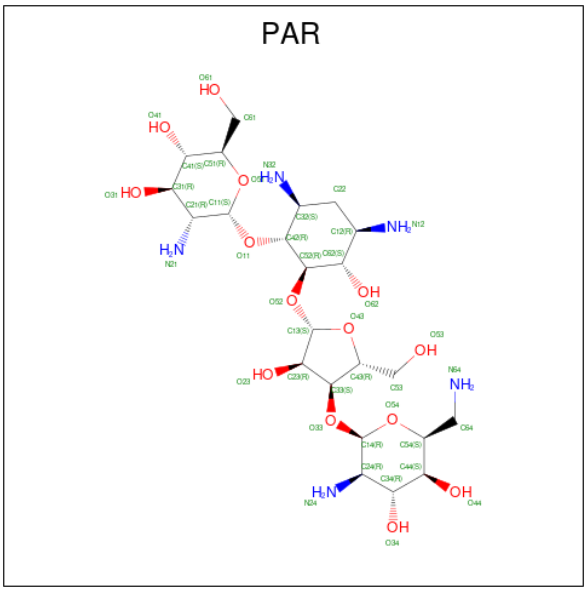
- Molecule 57 is a protein called 50S RIBOSOMAL PROTEIN L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
57	BY	100	Total	C	N	O	S	0	0	0
			775	500	148	123	4			

- Molecule 58 is a protein called 50S RIBOSOMAL PROTEIN L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
58	BZ	176	Total	C	N	O	S	0	0	0
			1403	897	252	252	2			

- Molecule 59 is PAROMOMYCIN (CCD ID: PAR) (formula: $C_{23}H_{45}N_5O_{14}$).

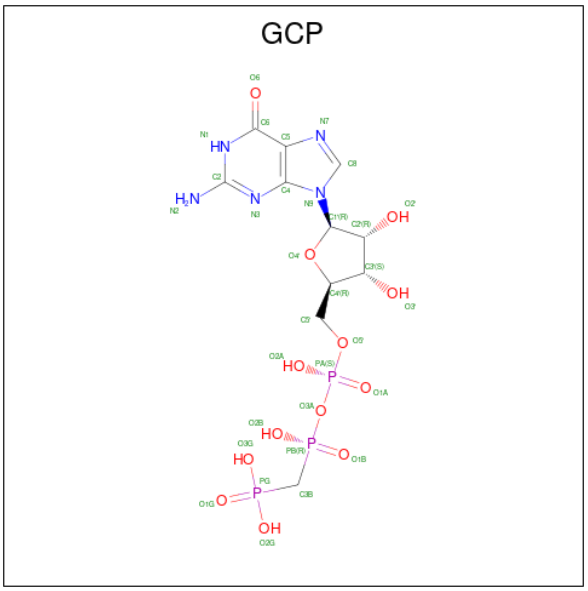


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
59	AA	1	Total C N O 42 23 5 14	0	0

- Molecule 60 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
60	AD	1	Total Zn 1 1	0	0
60	AN	1	Total Zn 1 1	0	0
60	B4	1	Total Zn 1 1	0	0
60	B9	1	Total Zn 1 1	0	0

- Molecule 61 is PHOSPHOMETHYLPHOSPHONIC ACID GUANYLATE ESTER (CCD ID: GCP) (formula: $C_{11}H_{18}N_5O_{13}P_3$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
61	AZ	1	Total	C	N	O	P	0	0
			32	11	5	13	3		

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

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

- Molecule 63 is water.

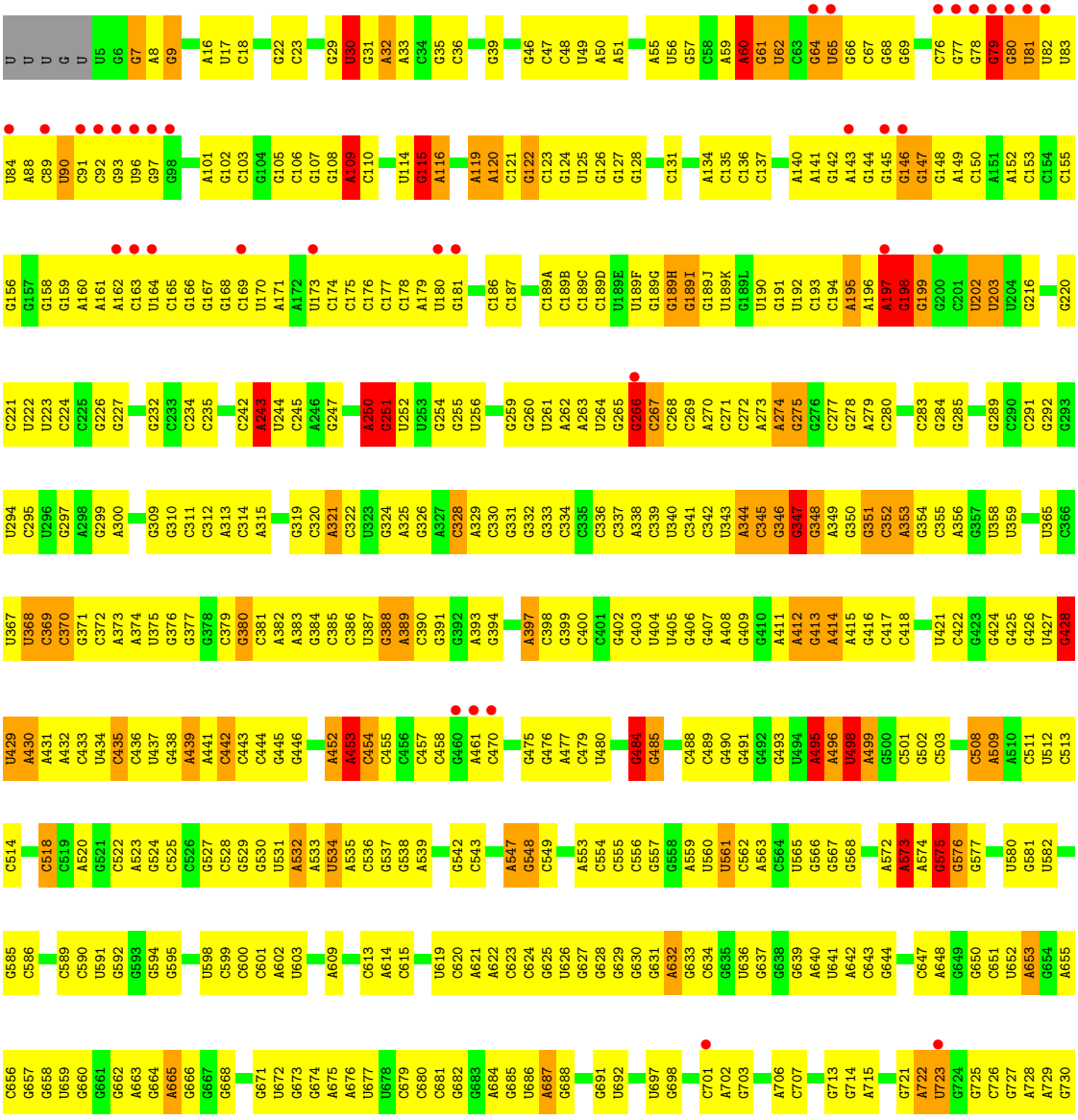
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
63	AZ	1	Total	O	0	0
			1	1		

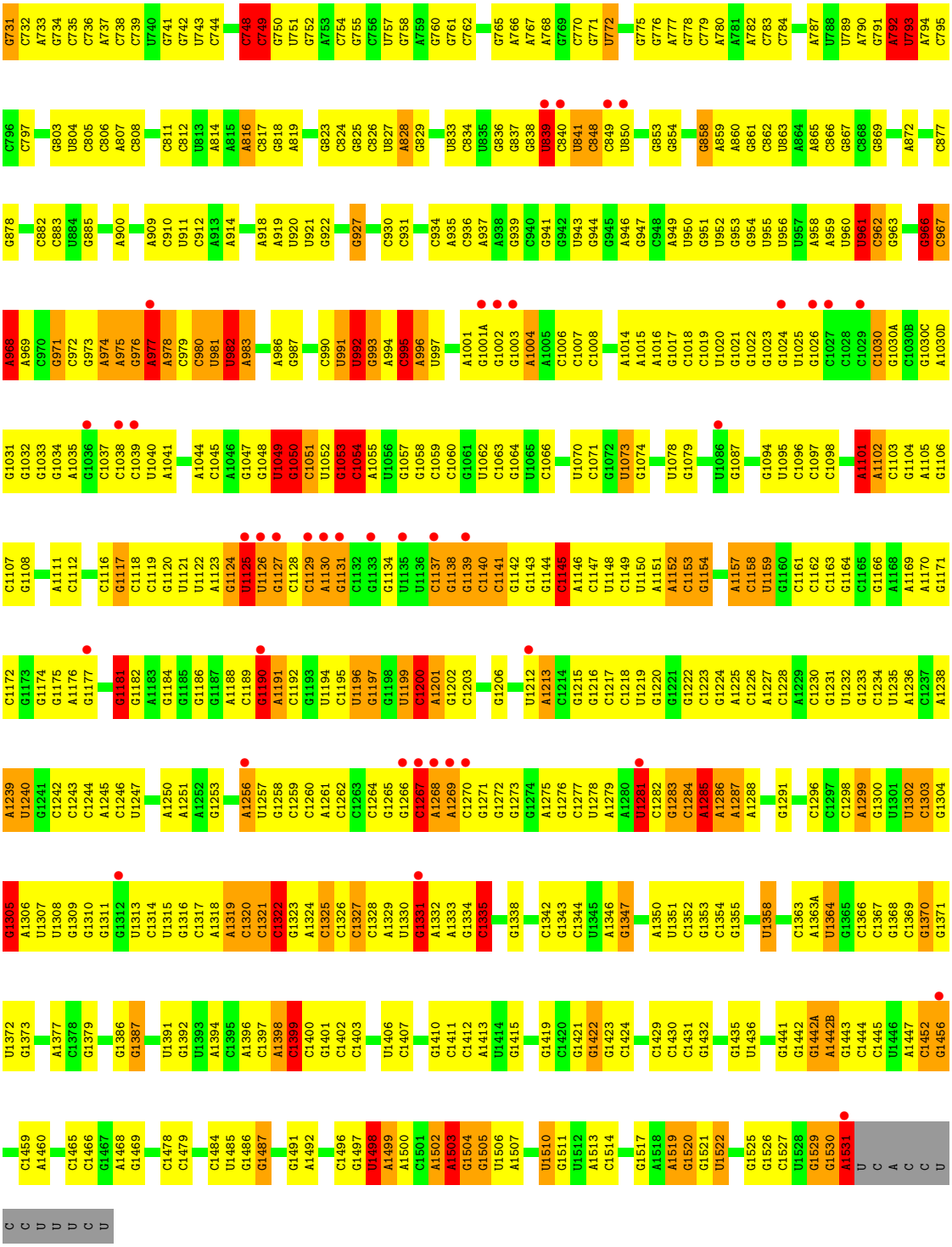
3 Residue-property plots (i)

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.

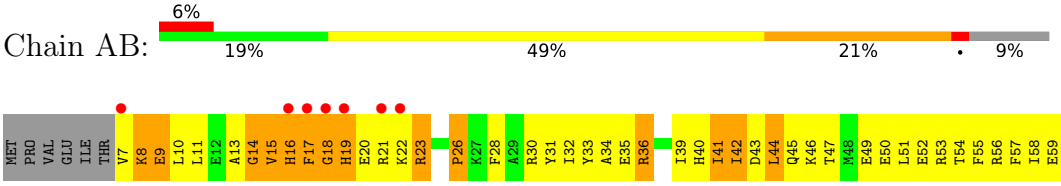
- Molecule 1: 16S RRNA

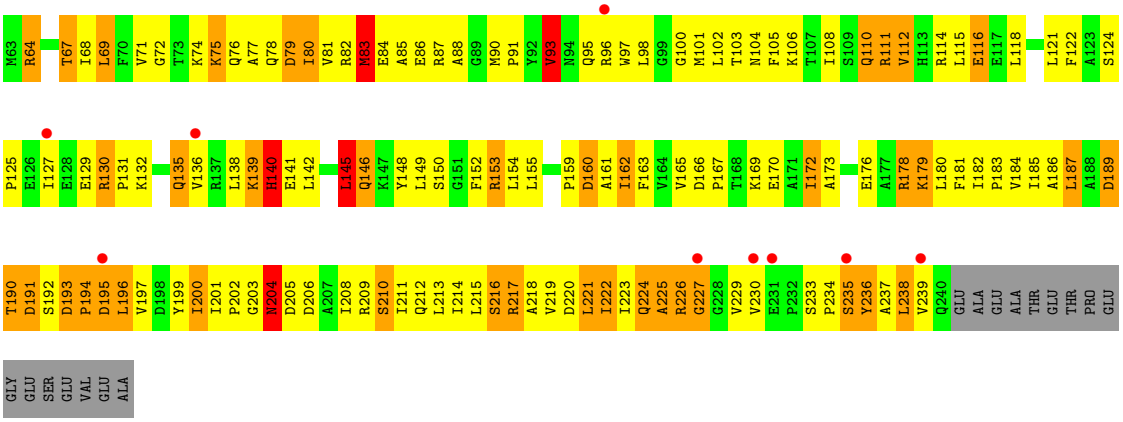
Chain AA:

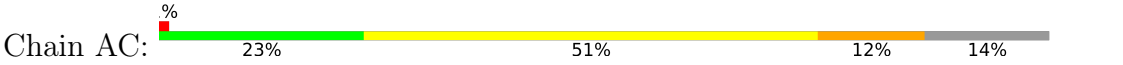


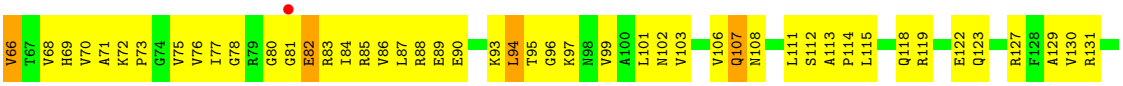


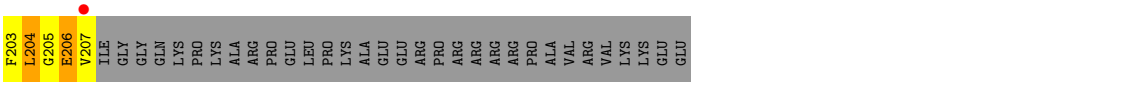
• Molecule 2: 30S RIBOSOMAL PROTEIN S2

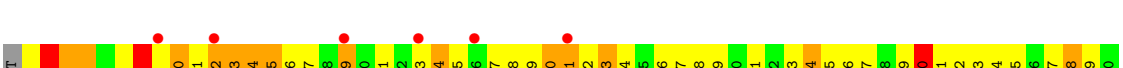










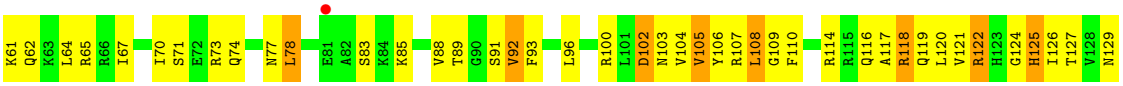


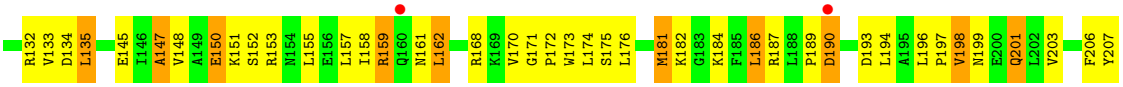
• Molecule 3: 30S RIBOSOMAL PROTEIN S3

Chain AC:

• Molecule 4: 30S RIBOSOMAL PROTEIN S4

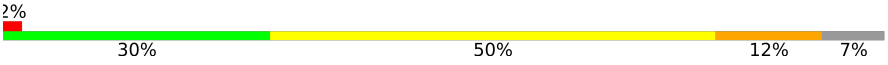
Chain AD:

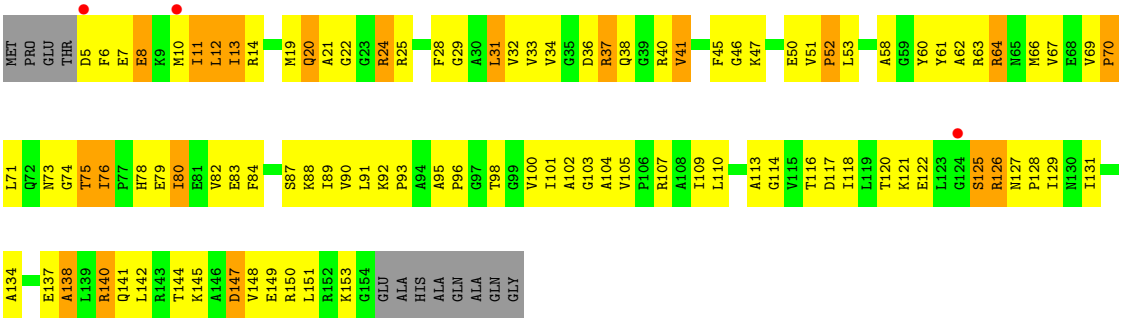




• Molecule 5: 30S RIBOSOMAL PROTEIN S5

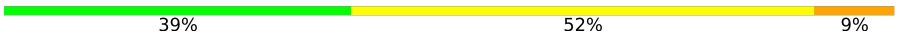
Chain AE:

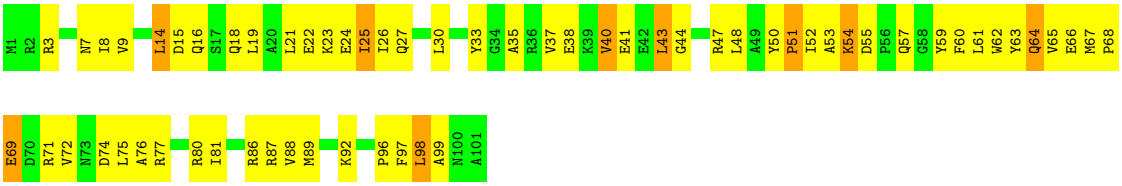




• Molecule 6: 30S RIBOSOMAL PROTEIN S6

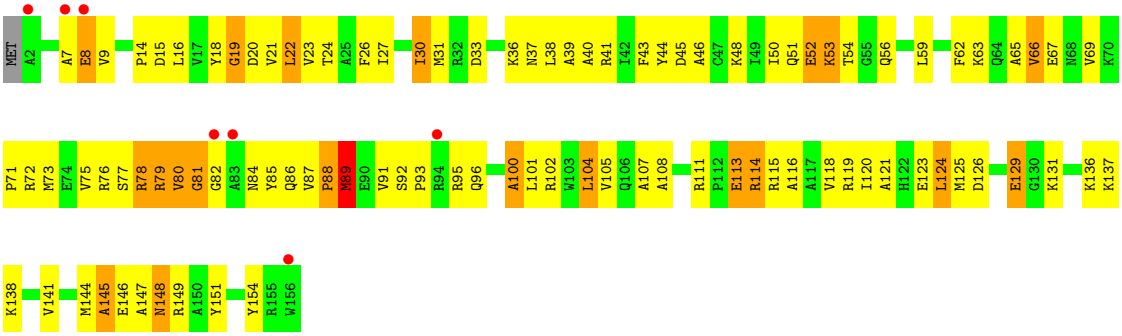
Chain AF:





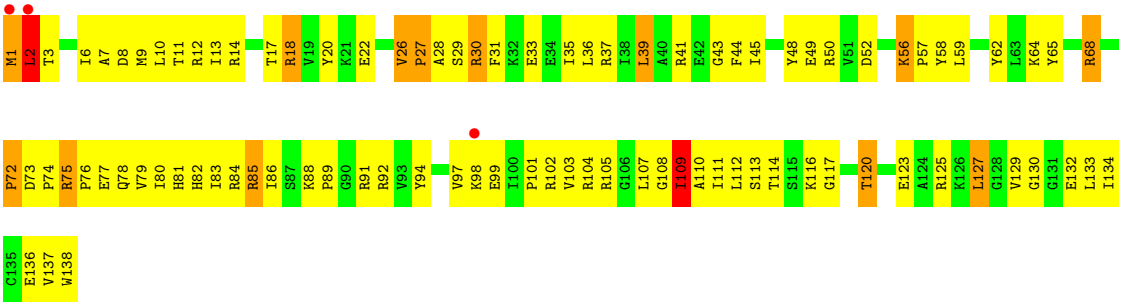
• Molecule 7: 30S RIBOSOMAL PROTEIN S7

Chain AG:



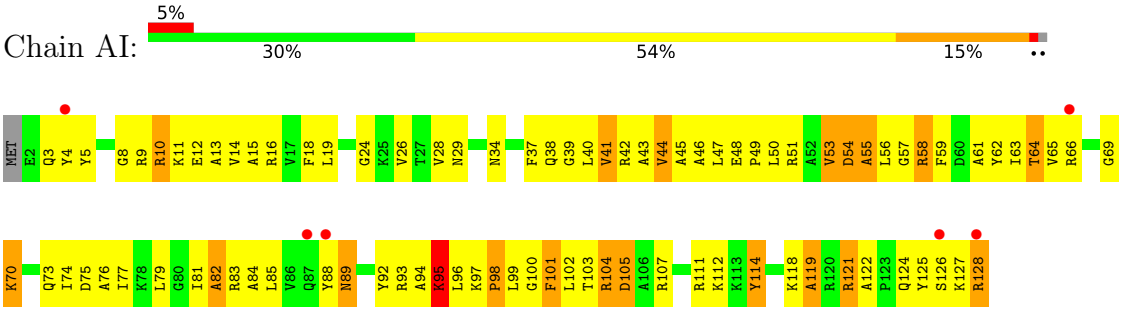
• Molecule 8: 30S RIBOSOMAL PROTEIN S8

Chain AH:



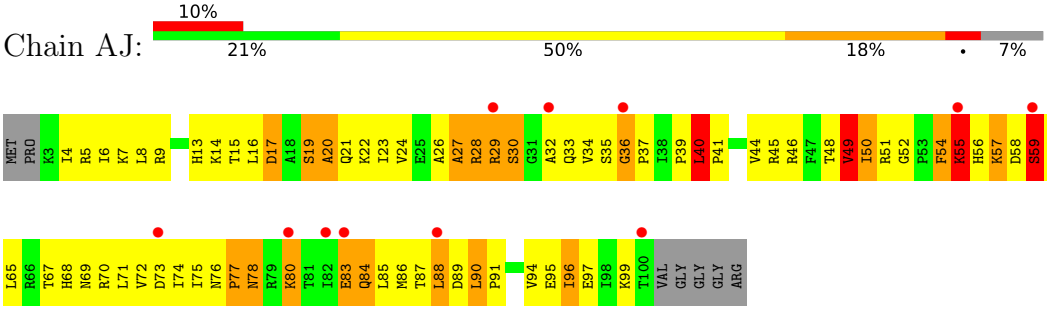
• Molecule 9: 30S RIBOSOMAL PROTEIN S9

Chain AI:



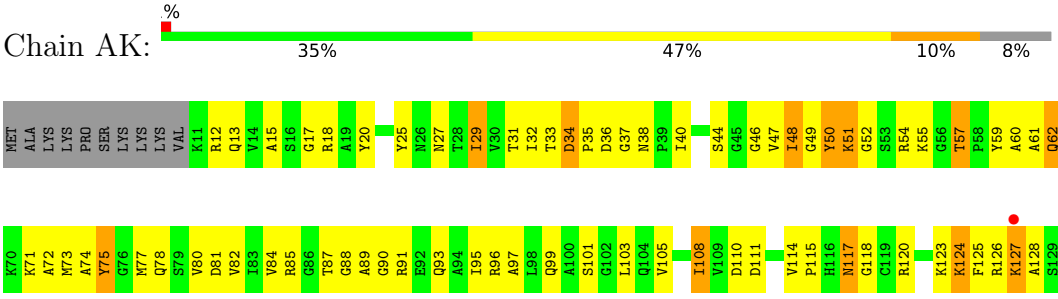
• Molecule 10: 30S RIBOSOMAL PROTEIN S10

Chain AJ:



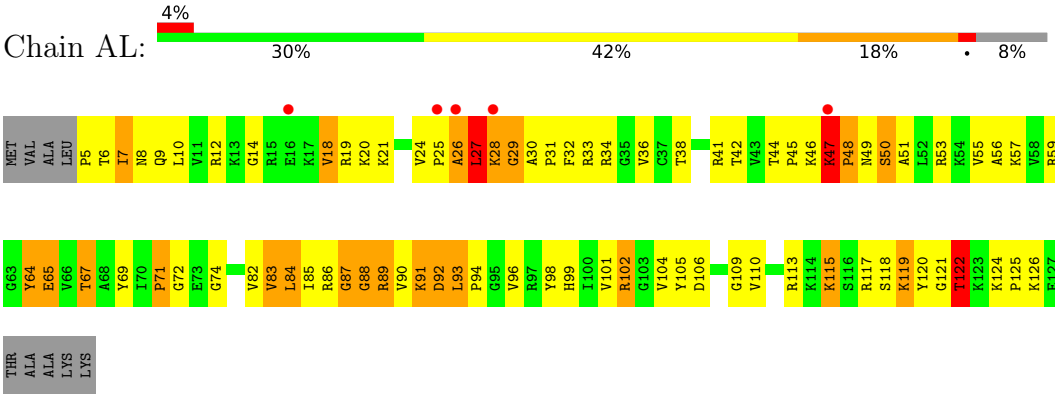
• Molecule 11: 30S RIBOSOMAL PROTEIN S11

Chain AK:



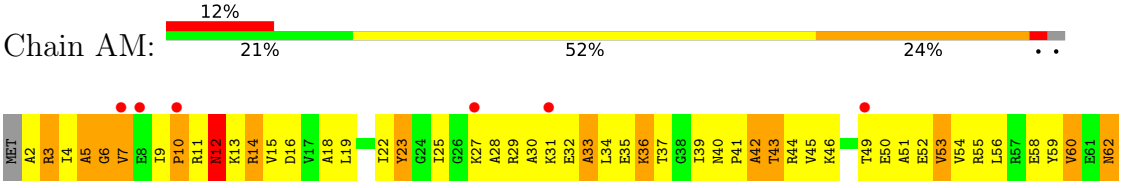
• Molecule 12: 30S RIBOSOMAL PROTEIN S12

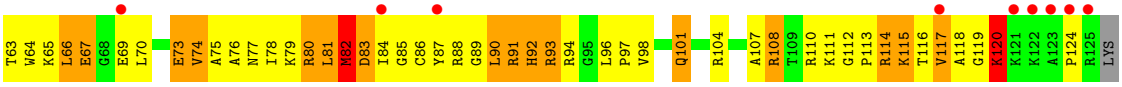
Chain AL:



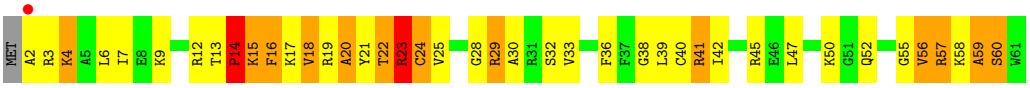
• Molecule 13: 30S RIBOSOMAL PROTEIN S13

Chain AM:

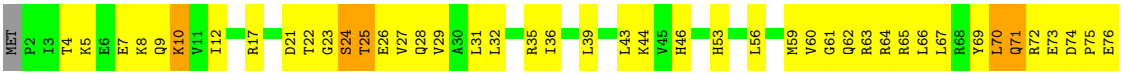


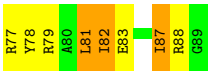


• Molecule 14: 30S RIBOSOMAL PROTEIN S14

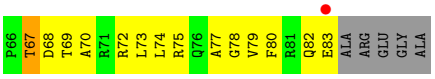


• Molecule 15: 30S RIBOSOMAL PROTEIN S15

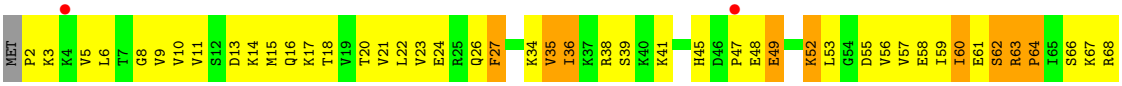


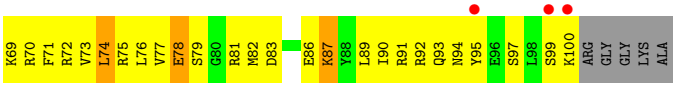


• Molecule 16: 30S RIBOSOMAL PROTEIN S16

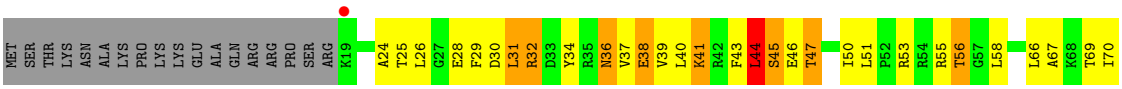


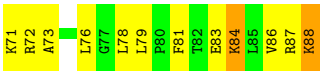
• Molecule 17: 30S RIBOSOMAL PROTEIN S17





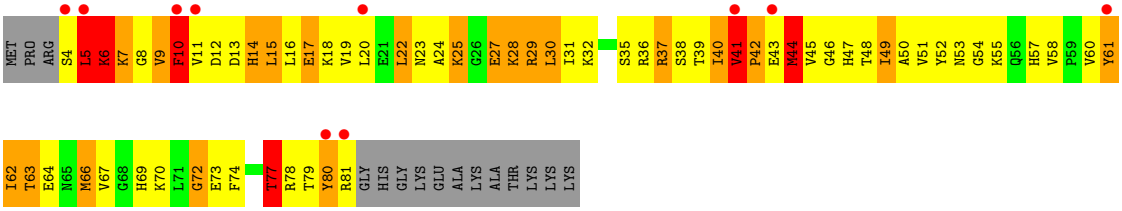
• Molecule 18: 30S RIBOSOMAL PROTEIN S18





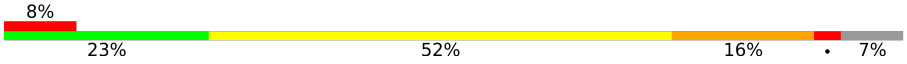
• Molecule 19: 30S RIBOSOMAL PROTEIN S19

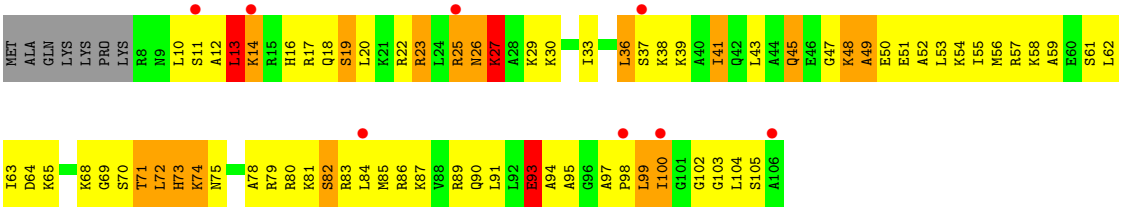
Chain AS:



• Molecule 20: 30S RIBOSOMAL PROTEIN S20

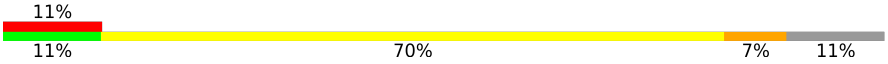
Chain AT:

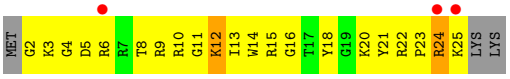




• Molecule 21: 30S RIBOSOMAL PROTEIN THX

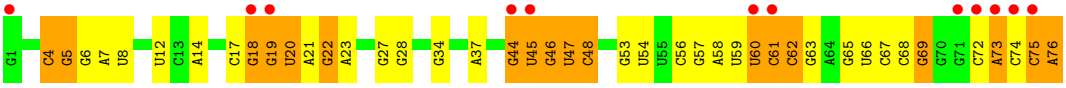
Chain AU:





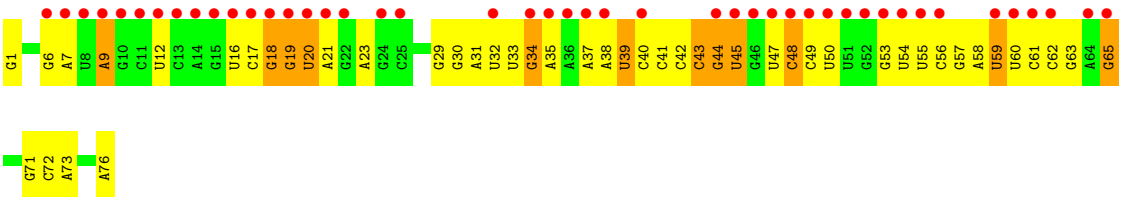
• Molecule 22: E-SITE TRNA PHE OR P-SITE TRNA PHE

Chain AV:



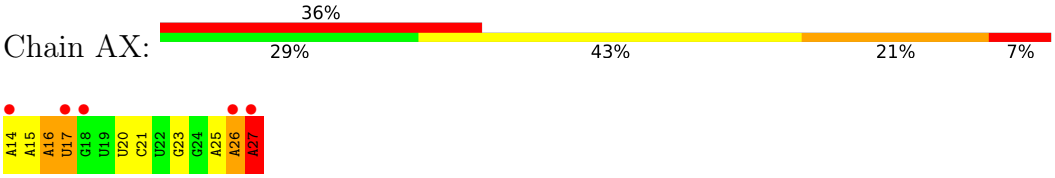
• Molecule 22: E-SITE TRNA PHE OR P-SITE TRNA PHE

Chain AW:



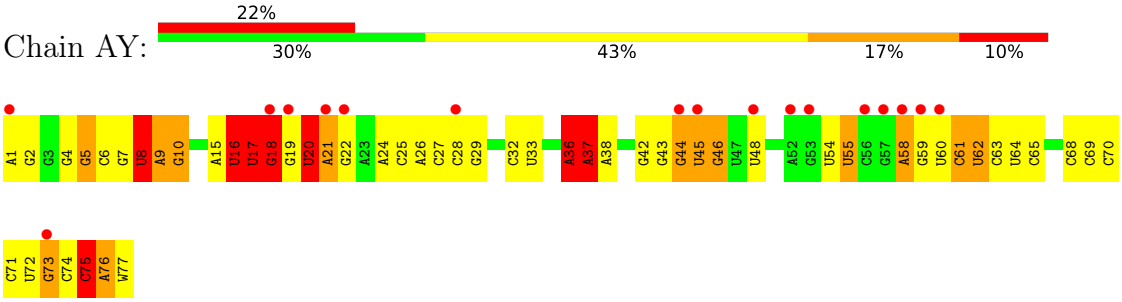
• Molecule 23: MRNA

Chain AX:



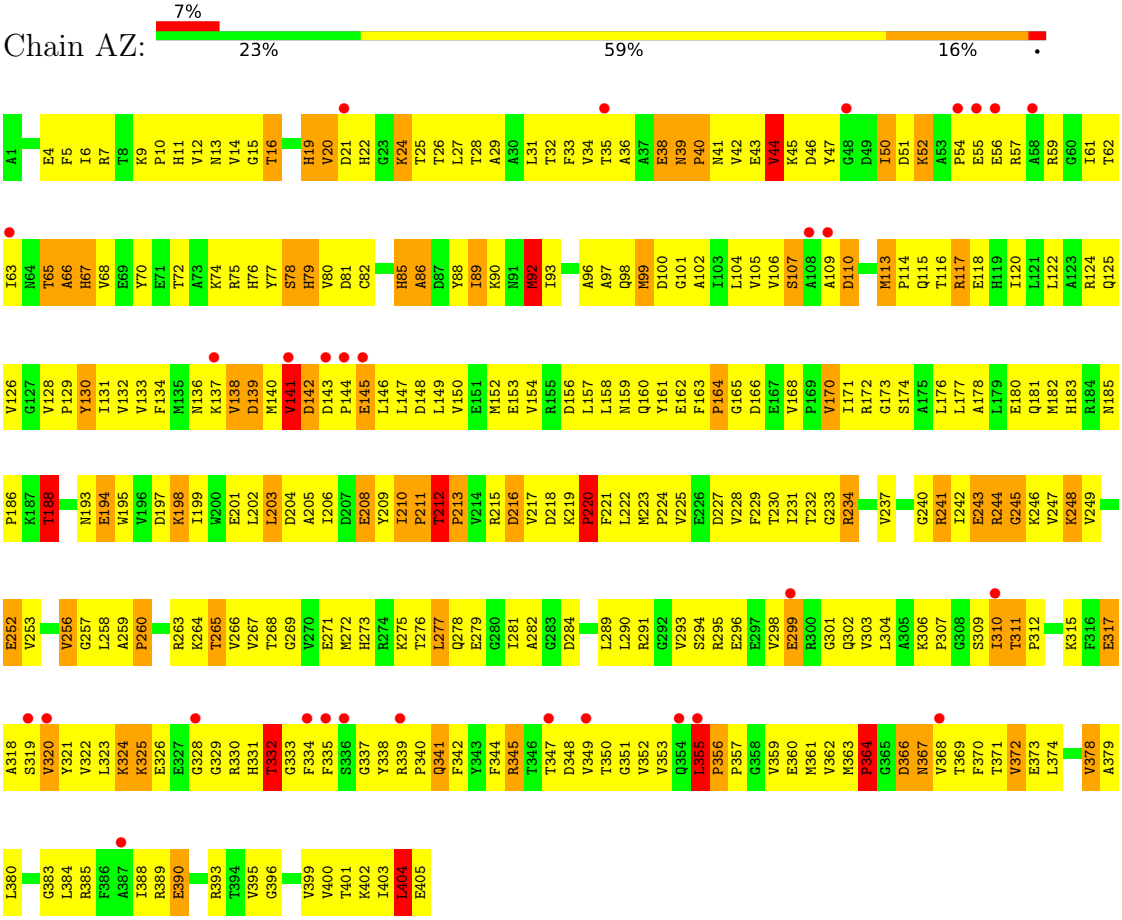
• Molecule 24: A-SITE TRNA G24A TRP-TRNA TRP

Chain AY:



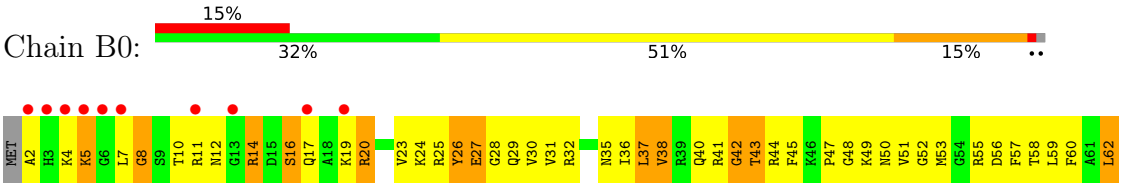
• Molecule 25: ELONGATION FACTOR TU

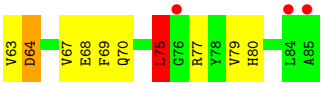
Chain AZ:



• Molecule 26: 50S RIBOSOMAL PROTEIN L27

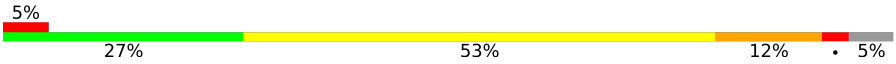
Chain B0:

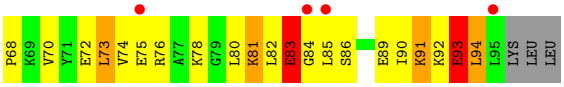




• Molecule 27: 50S RIBOSOMAL PROTEIN L28

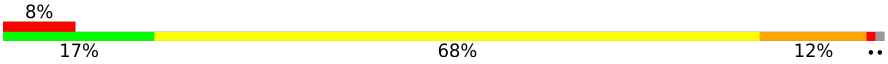
Chain B1:

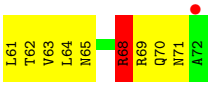




• Molecule 28: 50S RIBOSOMAL PROTEIN L29

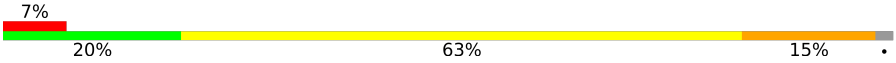
Chain B2:





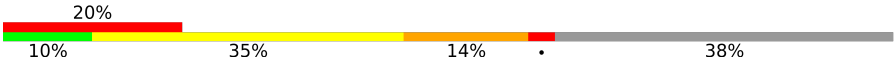
• Molecule 29: 50S RIBOSOMAL PROTEIN L30

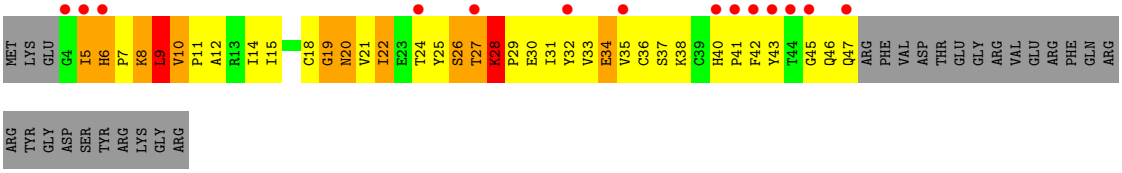
Chain B3:



• Molecule 30: 50S RIBOSOMAL PROTEIN L31

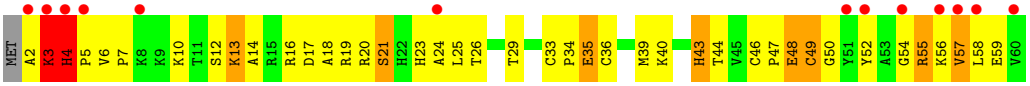
Chain B4:





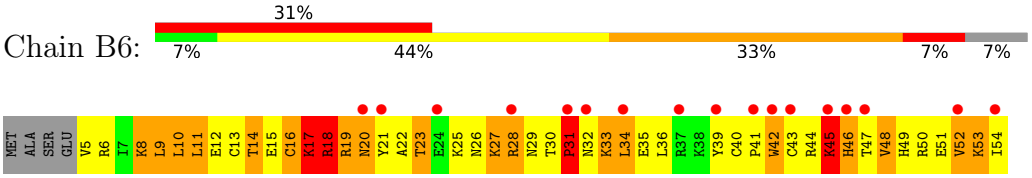
• Molecule 31: 50S RIBOSOMAL PROTEIN L32

Chain B5:



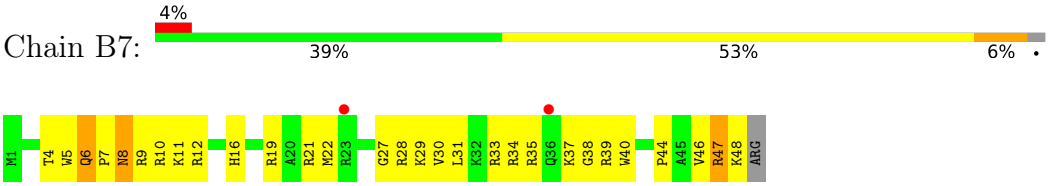
• Molecule 32: 50S RIBOSOMAL PROTEIN L33

Chain B6:



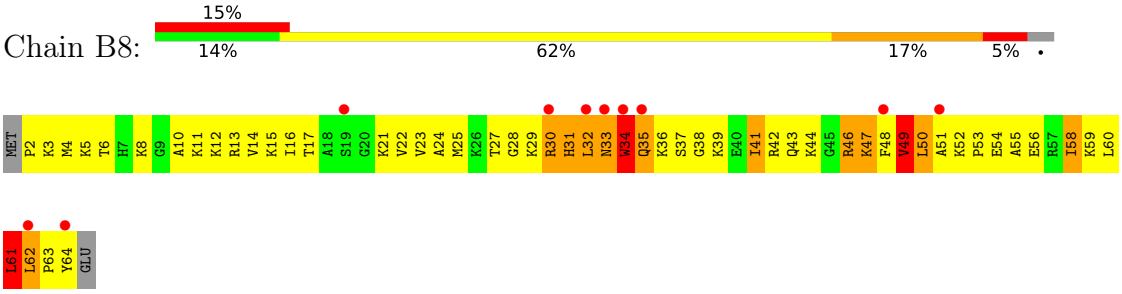
• Molecule 33: 50S RIBOSOMAL PROTEIN L34

Chain B7:



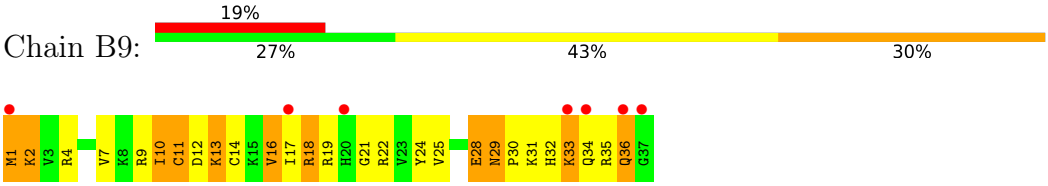
• Molecule 34: 50S RIBOSOMAL PROTEIN L35

Chain B8:



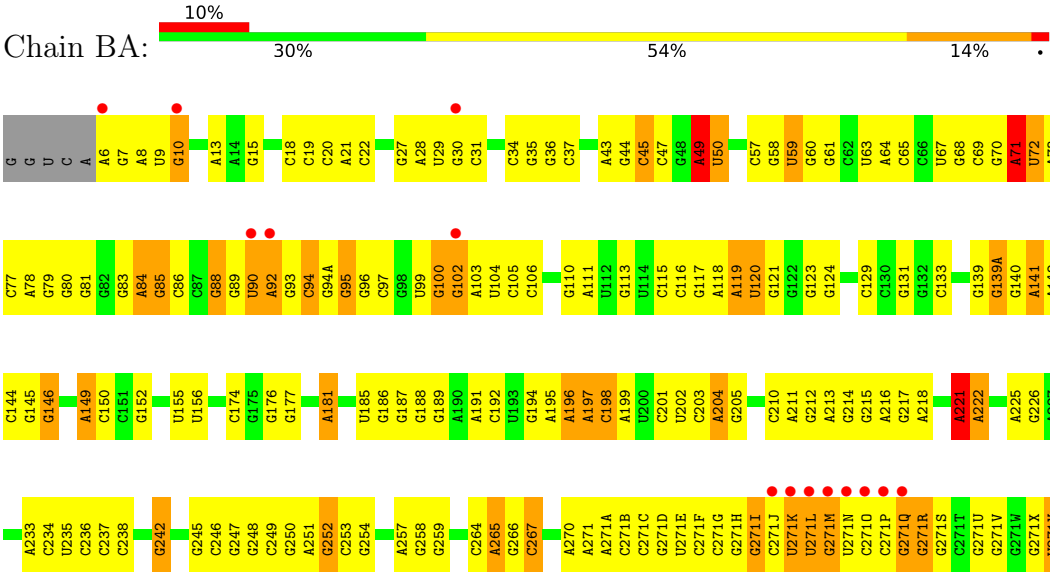
• Molecule 35: 50S RIBOSOMAL PROTEIN L36

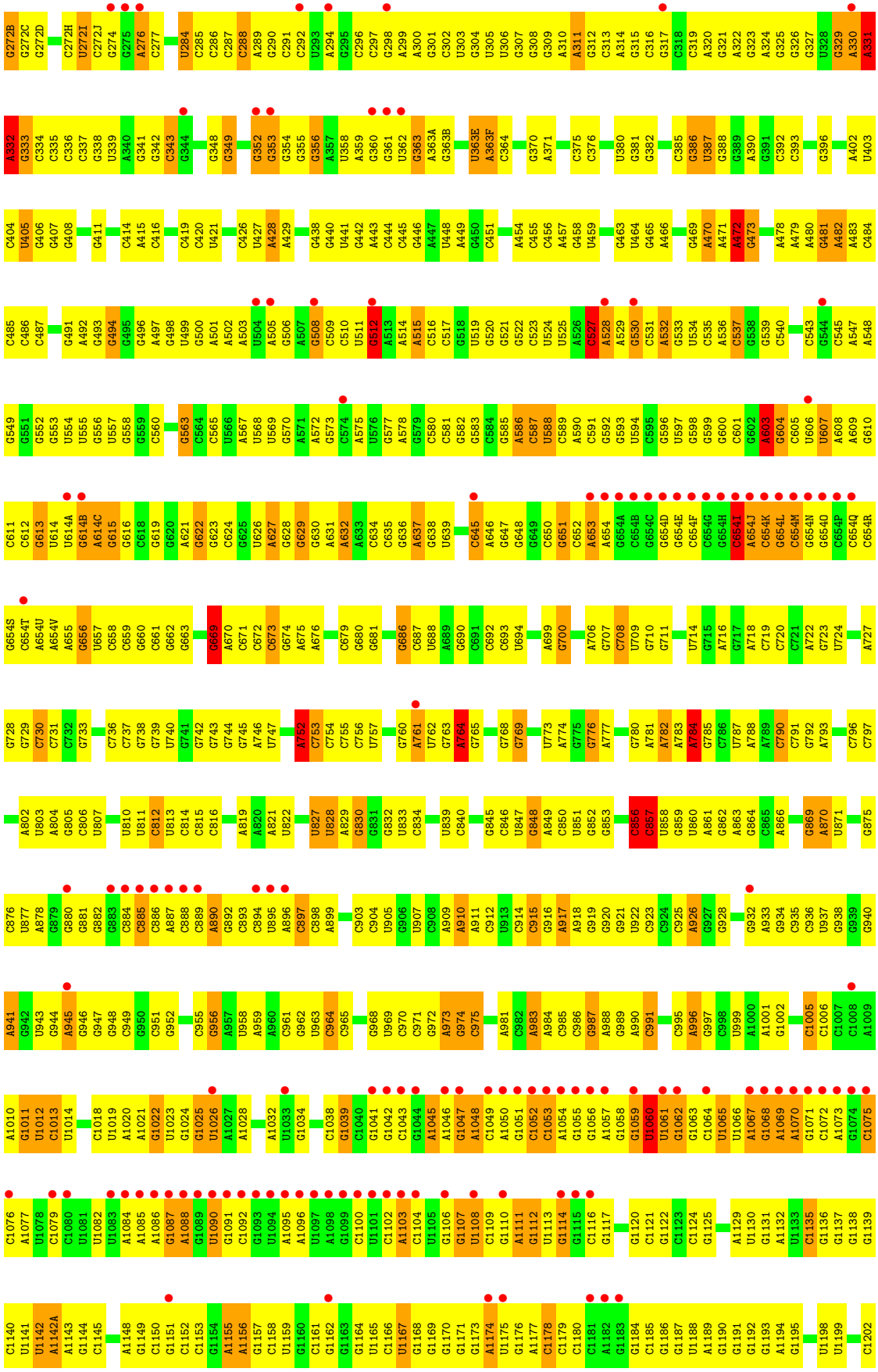
Chain B9:

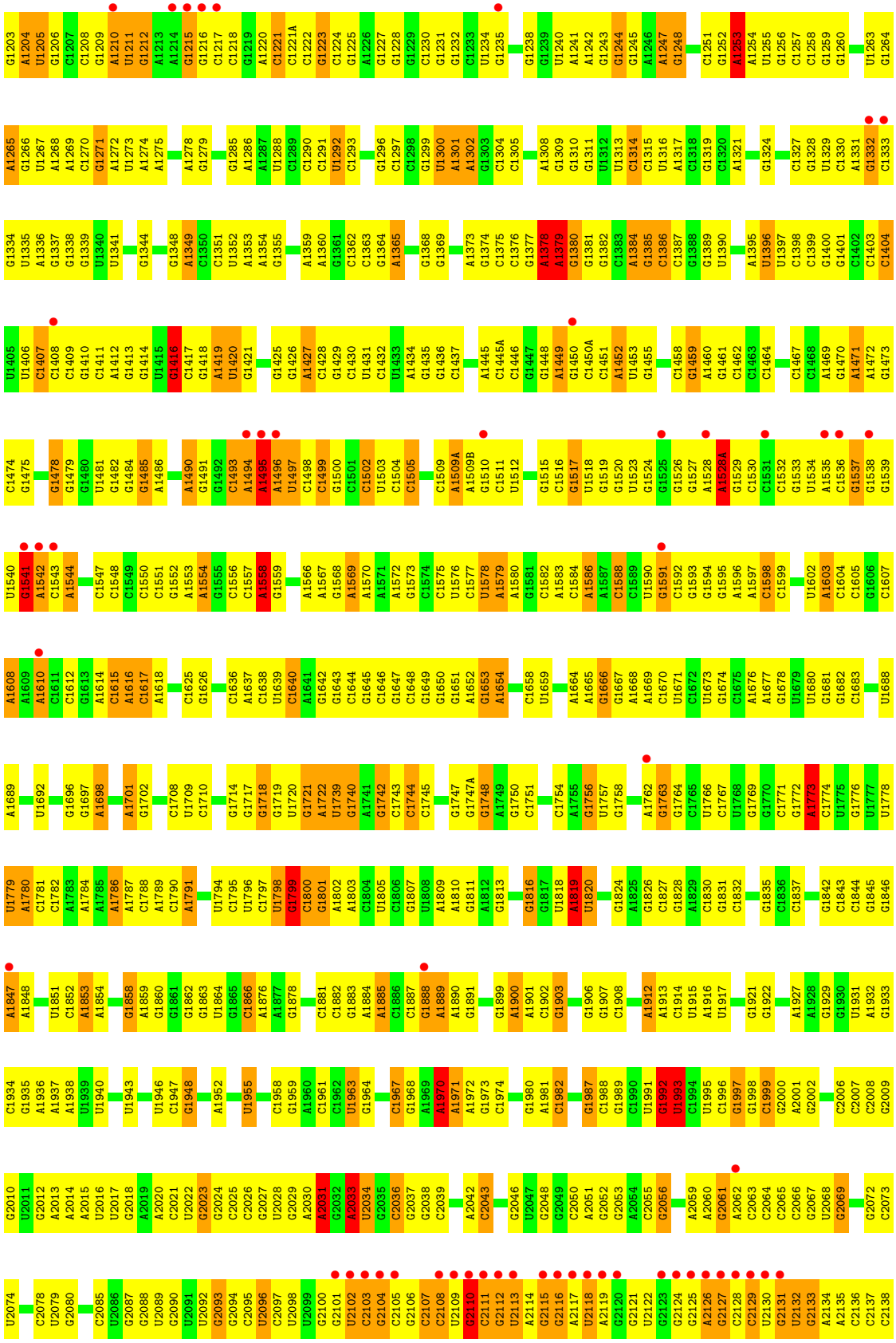


• Molecule 36: 23S RIBOSOMAL RNA

Chain BA:



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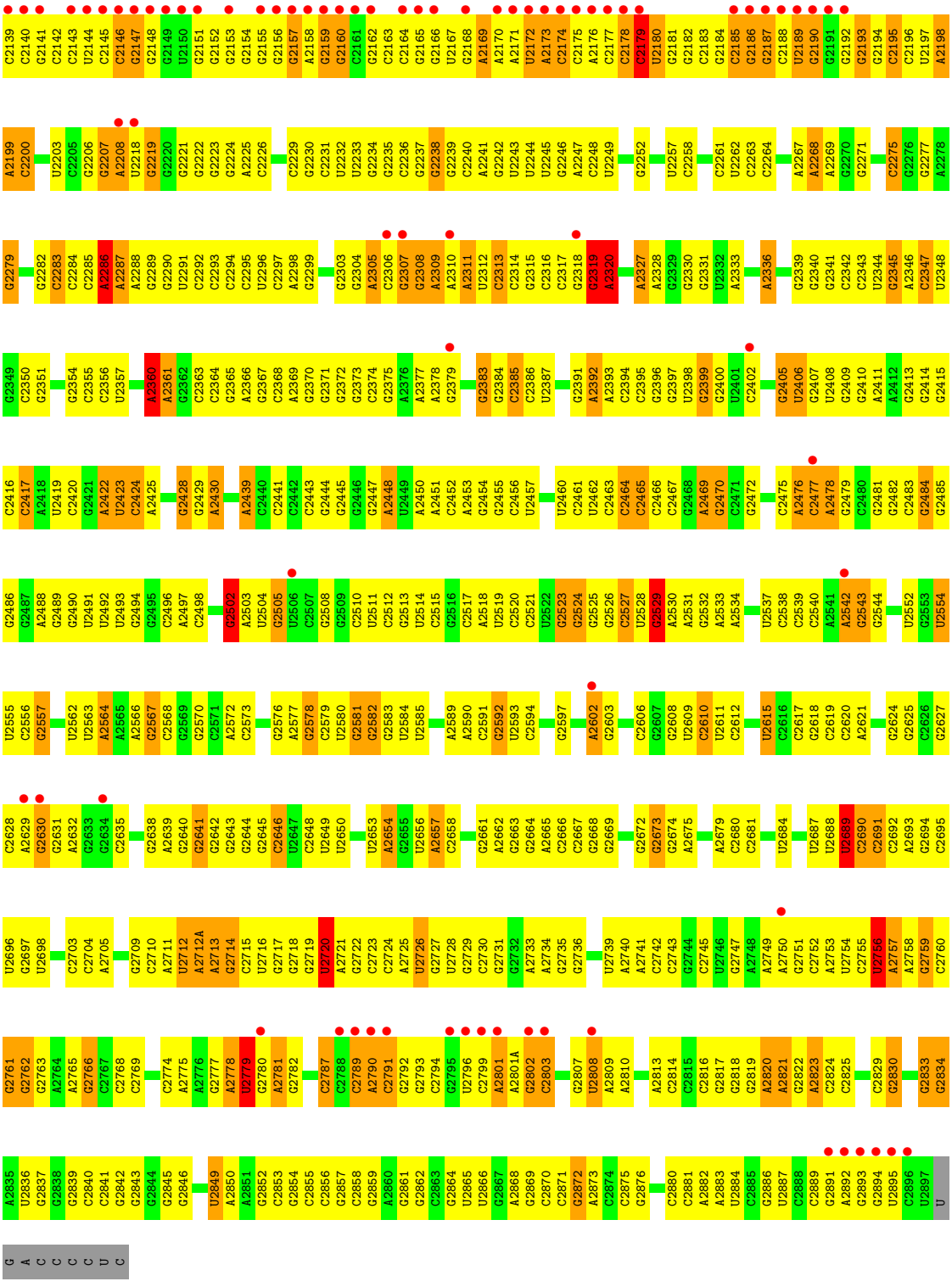
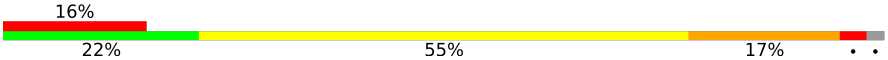
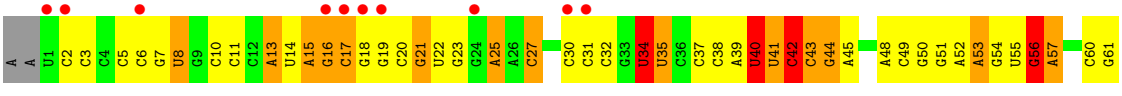
A1265 G1266 U1267 A1268 A1269 C1270 G1271 A1272 U1273 A1274 A1275 A1278 G1279 G1285 A1286 A1287 U1288 C1289 C1290 C1291 U1292 C1293 G1296 C1297 C1298 G1299 U1300 A1301 A1302 G1303 C1304 C1305 A1308 G1309 G1310 G1311 U1312 U1313 C1314 C1315 U1316 A1317 C1318 G1319 C1320 A1321 G1324 C1327 G1328 U1329 C1330 A1331 G1332 C1333
G1334 U1335 A1336 G1337 G1338 G1339 U1340 U1341 G1344 G1348 A1349 C1350 C1351 U1352 A1353 A1354 G1355 A1359 A1360 G1361 C1362 C1363 G1364 A1365 G1368 G1369 A1373 G1374 C1375 C1376 C1377 A1378 A1379 G1380 G1381 G1382 C1383 A1384 G1385 C1386 C1387 G1388 G1389 U1390 A1395 U1396 U1397 C1398 G1399 G1400 G1401 C1402 C1403 C1404
U1405 U1406 C1407 C1408 C1409 G1410 C1411 A1412 G1413 G1414 U1415 G1416 C1417 G1418 A1419 U1420 G1421 G1425 G1426 A1427 C1428 G1429 C1430 U1431 C1432 U1433 A1434 G1435 G1436 C1437 A1445 C1445A C1446 G1447 G1448 A1449 G1450 C1450A C1451 A1452 U1453 G1455 C1458 G1459 A1460 G1461 C1462 C1463 C1464 C1467 C1468 A1469 G1470 A1471 A1472 G1473
C1474 G1475 G1478 G1479 G1480 U1481 G1482 G1484 G1485 A1486 A1490 G1491 G1492 C1493 A1494 A1495 A1496 U1497 C1498 C1499 G1500 C1501 C1502 U1503 C1504 C1505 C1509 A1509A A1509B G1510 C1511 U1512 G1515 C1516 G1517 U1518 G1519 G1520 U1523 G1524 G1525 G1526 G1527 A1528 A1528A G1529 C1530 C1531 C1532 G1533 U1534 G1535 C1536 G1537 G1538 G1539
U1540 G1541 A1542 C1543 A1544 C1547 C1548 C1549 C1550 C1551 G1552 A1553 A1554 G1555 C1556 C1557 A1558 G1559 A1566 A1567 G1568 A1569 A1570 A1571 A1572 G1573 C1574 C1575 U1576 C1577 U1578 A1579 A1580 G1581 C1582 A1583 C1584 A1586 A1587 C1588 C1589 U1590 G1591 C1592 G1593 G1594 G1595 A1596 A1597 C1598 C1599 U1602 A1603 C1604 C1605 G1606 C1607
A1608 A1609 A1610 C1611 C1612 G1613 A1614 C1615 A1616 C1617 A1618 C1625 G1626 C1636 A1637 C1638 U1639 C1640 A1641 G1642 G1643 C1644 G1645 C1646 G1647 C1648 G1649 G1650 G1651 A1652 G1653 A1654 C1658 U1659 A1664 A1665 G1666 G1667 A1668 A1669 C1670 U1671 C1672 U1673 G1674 C1675 A1676 A1677 G1678 U1679 U1680 G1681 G1682 C1683 U1688
A1689 U1692 G1696 G1697 A1698 A1701 G1702 C1708 U1709 C1710 G1714 G1717 G1718 G1719 U1720 G1721 A1722 U1739 G1740 A1741 G1742 C1743 C1744 C1745 G1747 G1747A G1748 A1749 G1750 C1751 C1754 A1755 G1756 U1757 G1758 A1762 G1763 G1764 C1765 U1766 C1767 U1768 G1769 G1770 C1771 G1772 A1773 C1774 U1775 G1776 U1777 U1778
U1779 A1780 C1781 C1782 A1783 A1784 A1785 A1786 A1787 C1788 A1789 C1790 A1791 U1794 C1795 U1796 C1797 U1798 G1799 C1800 G1801 A1802 A1803 C1804 U1805 C1806 G1807 U1808 A1809 A1810 G1811 A1812 G1813 G1816 G1817 U1818 A1819 U1820 G1824 A1825 G1826 C1827 G1828 A1829 C1830 G1831 C1832 G1835 C1836 C1837 G1842 C1843 C1844 G1845 G1846
A1847 A1848 U1851 C1852 A1853 A1854 G1858 A1859 G1860 G1861 G1862 G1863 U1864 G1865 C1866 A1876 A1877 G1878 C1881 C1882 G1883 A1884 A1885 C1886 C1887 G1888 A1889 A1890 G1891 G1899 A1900 A1901 C1902 G1903 G1906 G1907 C1908 A1912 A1913 C1914 U1915 A1916 U1917 G1921 G1922 A1927 A1928 G1929 G1930 U1931 A1932 G1933
C1934 G1935 A1936 A1937 A1938 U1939 U1940 U1943 U1946 C1947 G1948 A1952 U1955 C1958 G1959 A1960 C1961 C1962 U1963 G1964 C1967 G1968 A1969 A1970 A1971 A1972 G1973 C1974 G1980 A1981 C1982 G1987 C1988 G1989 C1990 U1991 G1992 U1993 C1994 U1995 C1996 G1997 G1998 C1999 G2000 A2001 G2002 C2006 C2007 C2008 C2009
G2010 U2011 G2012 A2013 A2014 A2015 U2016 U2017 G2018 A2019 A2020 C2021 U2022 G2023 G2024 C2025 C2026 G2027 U2028 G2029 A2030 A2031 G2032 A2033 U2034 G2035 C2036 G2037 G2038 C2039 A2042 C2043 G2046 U2047 G2048 G2049 C2050 A2051 G2052 G2053 A2054 C2055 G2056 A2059 A2060 G2061 A2062 C2063 C2064 C2065 C2066 G2067 U2068 G2069 G2072 C2073
U2074 C2078 U2079 G2080 C2085 U2086 G2087 G2088 U2089 G2090 U2091 U2092 G2093 G2094 C2095 U2096 C2097 U2098 U2099 G2100 G2101 U2102 C2103 G2104 C2105 G2106 C2107 C2108 U2109 G2110 C2111 G2112 U2113 A2114 G2115 G2116 A2117 U2118 A2119 G2120 G2121 U2122 G2123 G2124 G2125 A2126 G2127 C2128 C2129 U2130 G2131 U2132 G2133 A2134 A2135 C2136 C2137 C2138

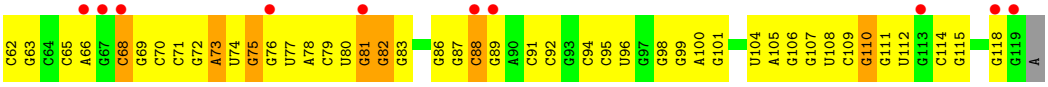


• Molecule 37: 5S RIBOSOMAL RNA

Chain BB:

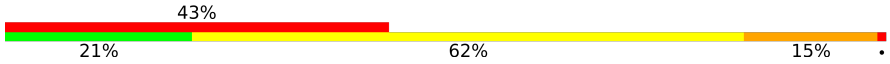


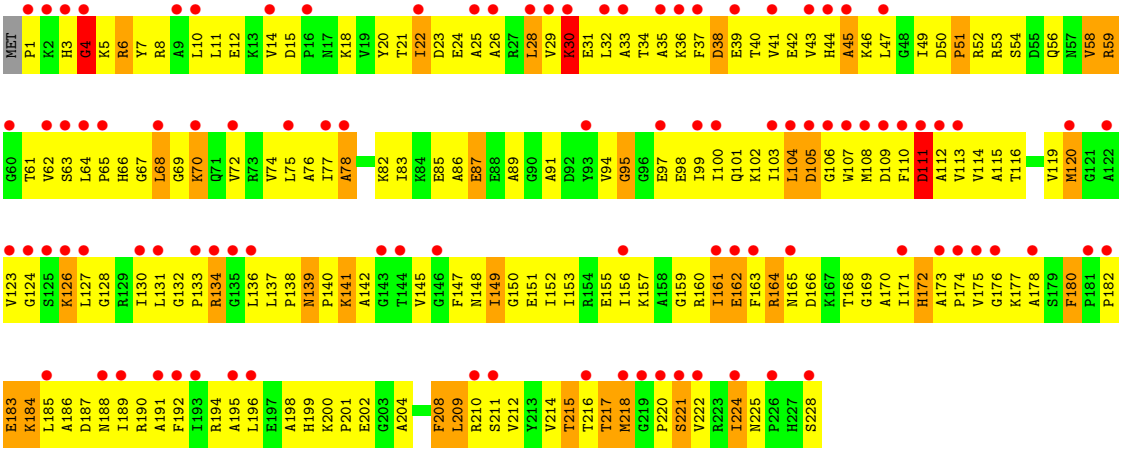




• Molecule 38: 50S RIBOSOMAL PROTEIN L1

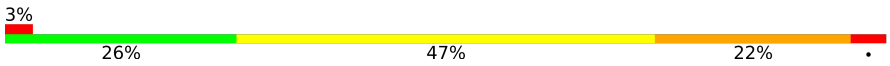
Chain BC:

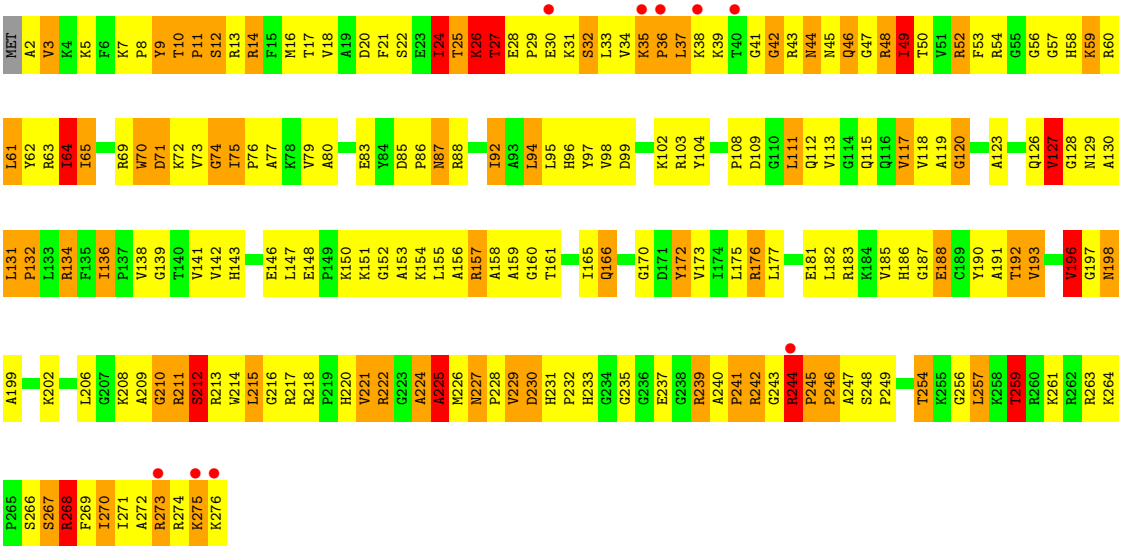




• Molecule 39: 50S RIBOSOMAL PROTEIN L2

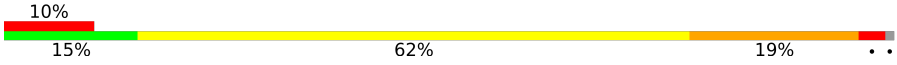
Chain BD:

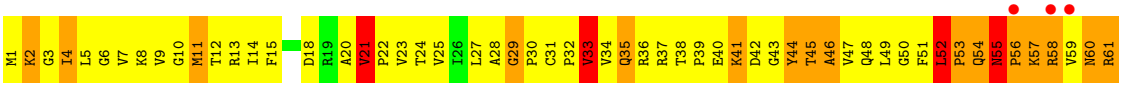


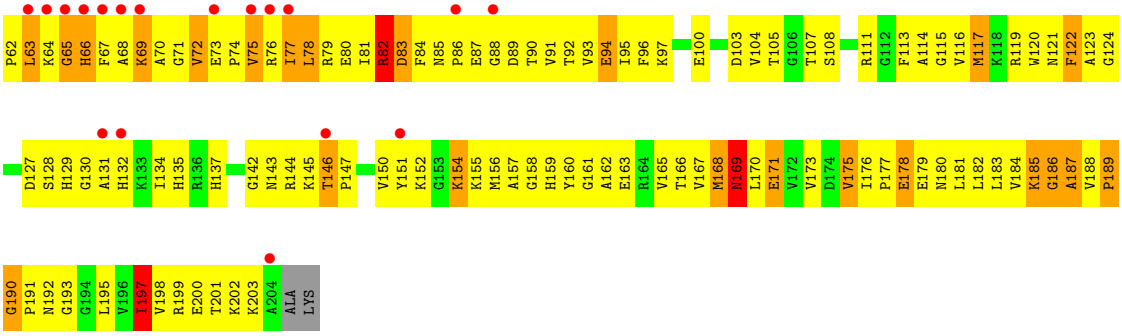


• Molecule 40: 50S RIBOSOMAL PROTEIN L3

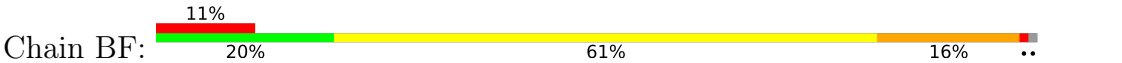
Chain BE:

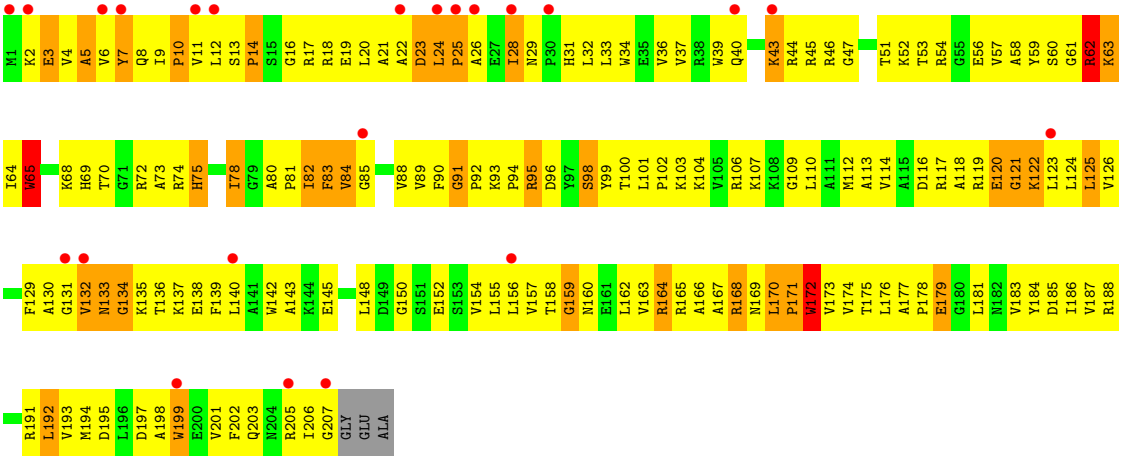




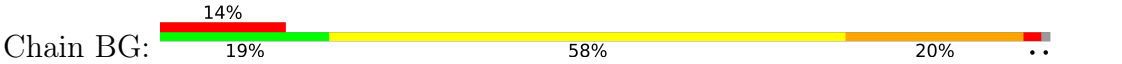


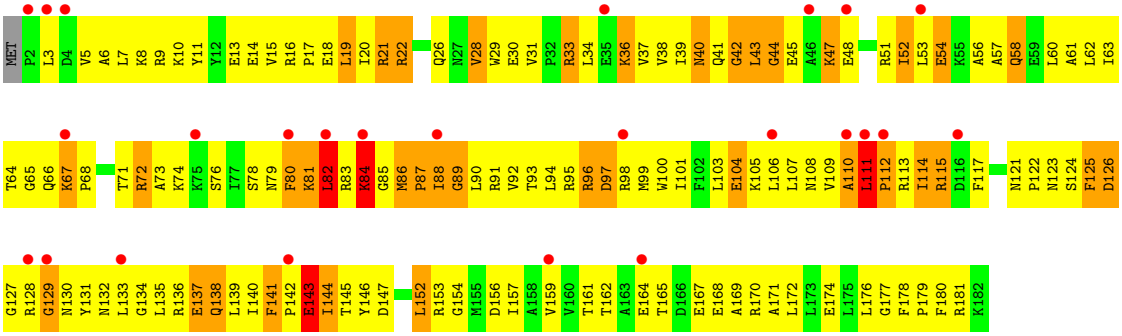
• Molecule 41: 50S RIBOSOMAL PROTEIN L4



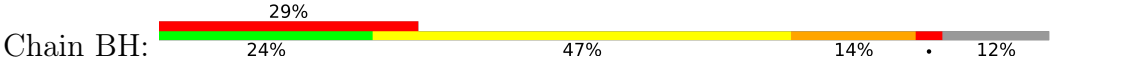


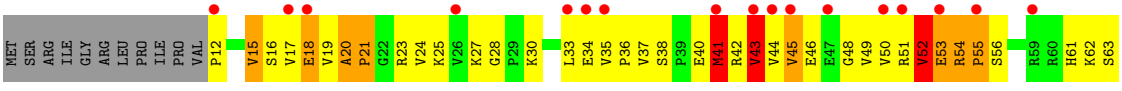
• Molecule 42: 50S RIBOSOMAL PROTEIN L5

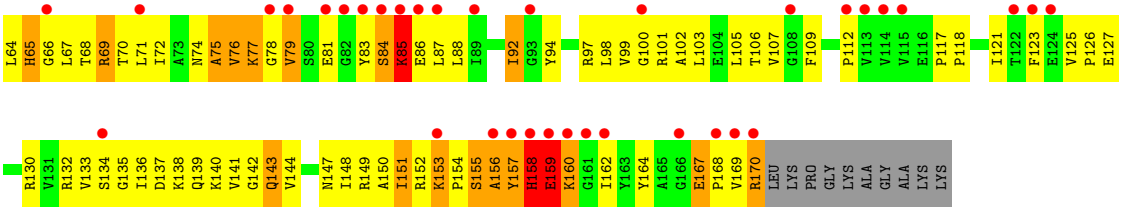




• Molecule 43: 50S RIBOSOMAL PROTEIN L6

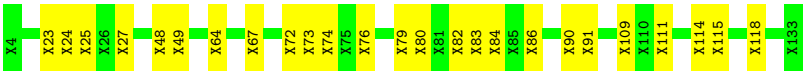






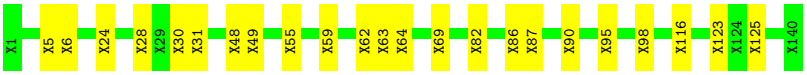
• Molecule 44: 50S RIBOSOMAL PROTEIN L10

Chain BJ:



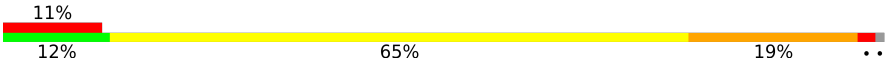
• Molecule 45: 50S RIBOSOMAL PROTEIN L11

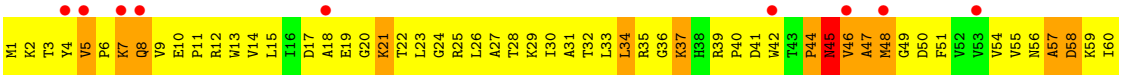
Chain BK:

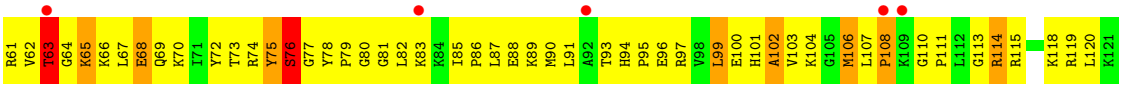


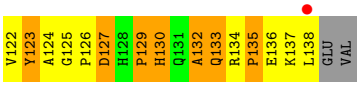
• Molecule 46: 50S RIBOSOMAL PROTEIN L13

Chain BN:



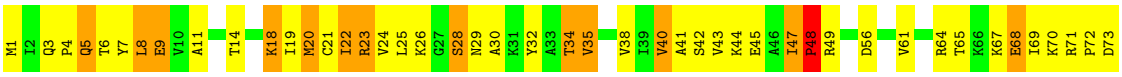


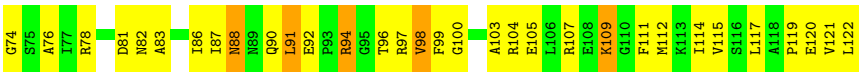




• Molecule 47: 50S RIBOSOMAL PROTEIN L14

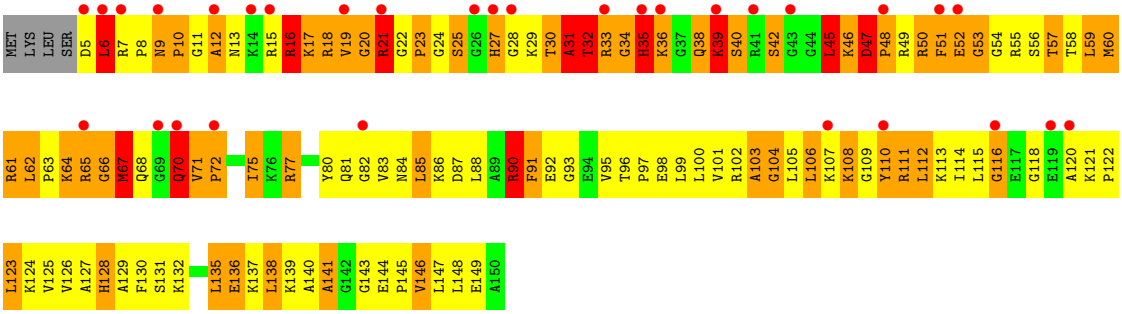
Chain BO:





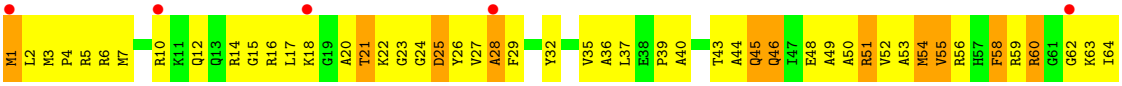
• Molecule 48: 50S RIBOSOMAL PROTEIN L15

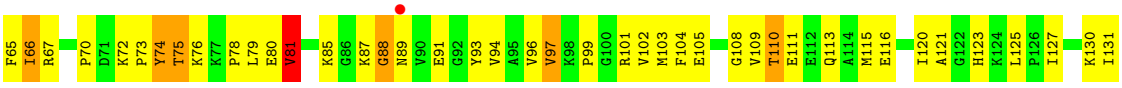
Chain BP:

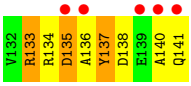


• Molecule 49: 50S RIBOSOMAL PROTEIN L16

Chain BQ:

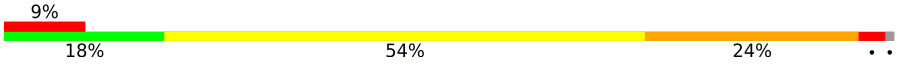


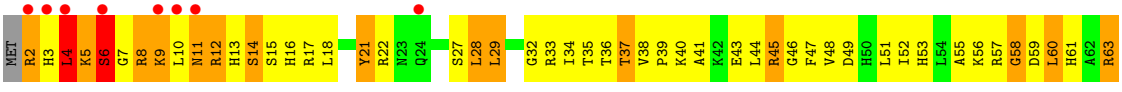


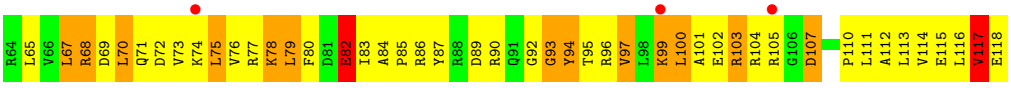


• Molecule 50: 50S RIBOSOMAL PROTEIN L17

Chain BR:

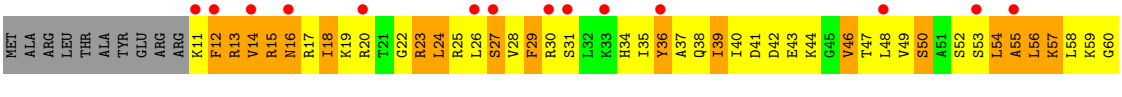






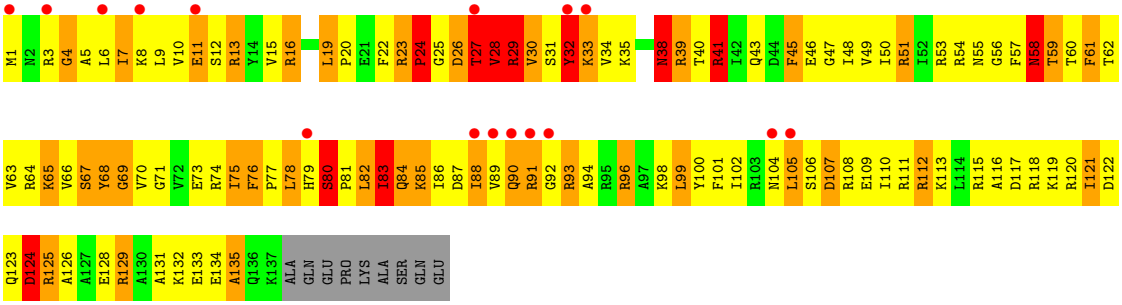
• Molecule 51: 50S RIBOSOMAL PROTEIN L18

Chain BS:



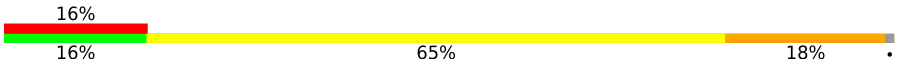
• Molecule 52: 50S RIBOSOMAL PROTEIN L19

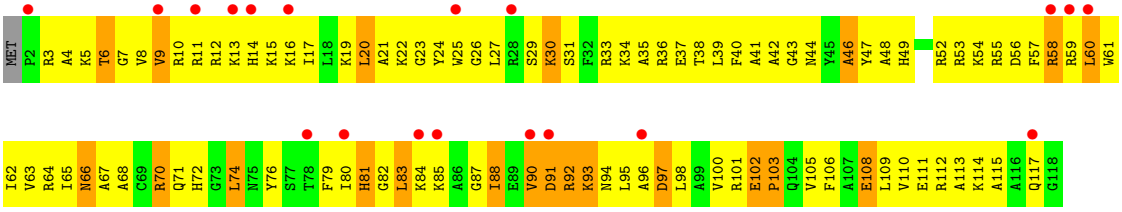
Chain BT:



• Molecule 53: 50S RIBOSOMAL PROTEIN L20

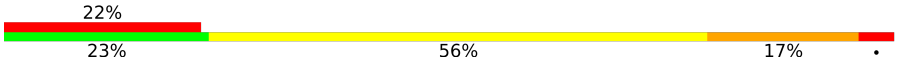
Chain BU:

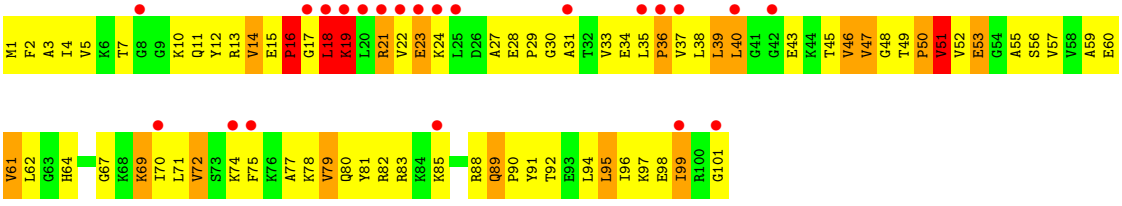




• Molecule 54: 50S RIBOSOMAL PROTEIN L21

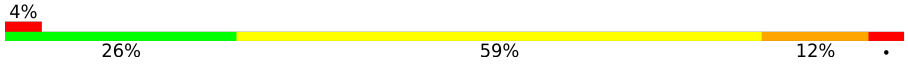
Chain BV:

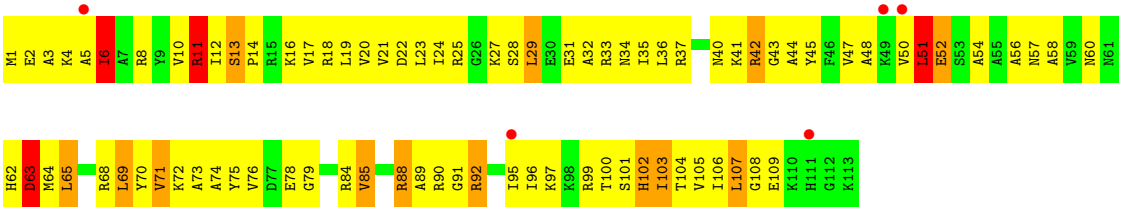




• Molecule 55: 50S RIBOSOMAL PROTEIN L22

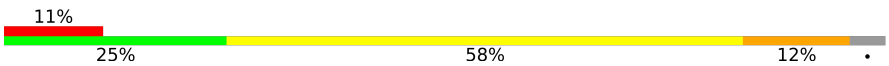
Chain BW:

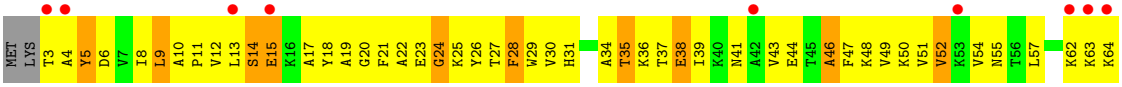


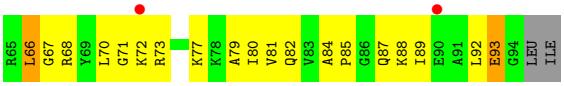


• Molecule 56: 50S RIBOSOMAL PROTEIN L23

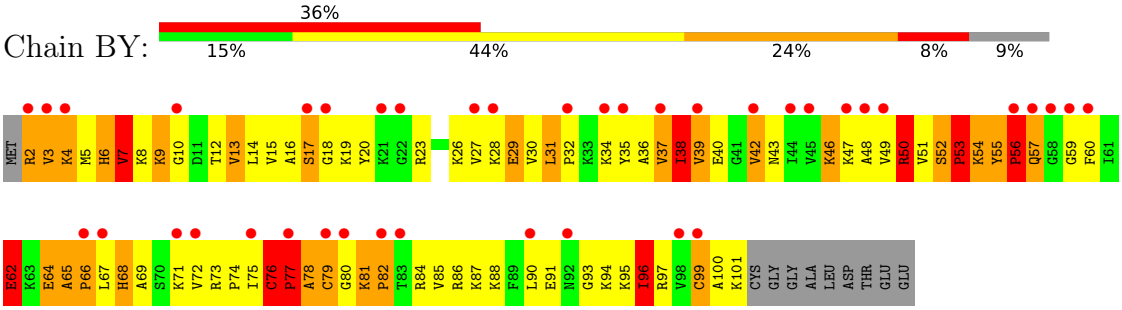
Chain BX:



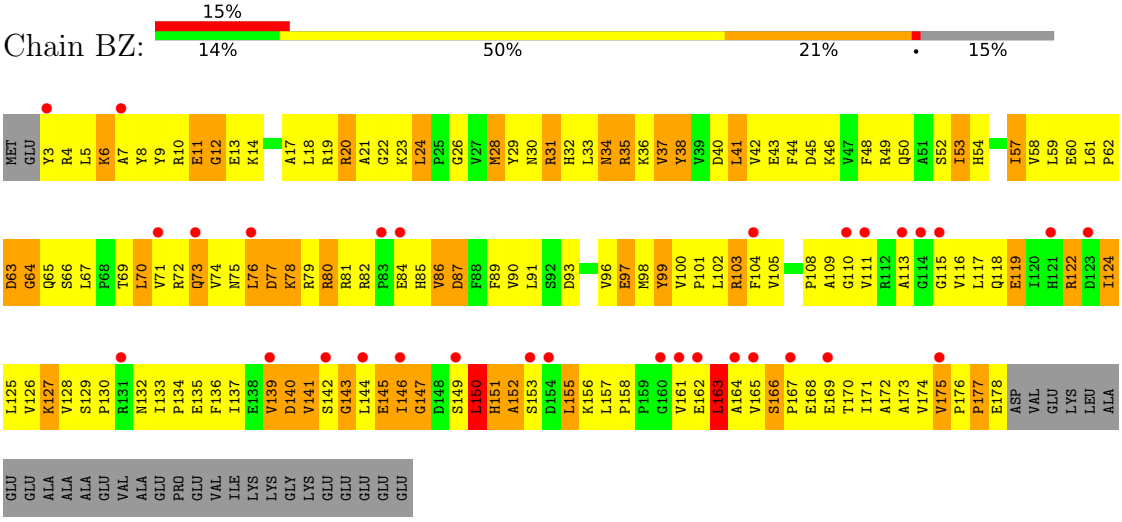




• Molecule 57: 50S RIBOSOMAL PROTEIN L24



• Molecule 58: 50S RIBOSOMAL PROTEIN L25



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	197.60Å 274.93Å 282.46Å 90.00° 91.81° 90.00°	Depositor
Resolution (Å)	50.00 – 3.10 50.00 – 3.10	Depositor EDS
% Data completeness (in resolution range)	98.8 (50.00-3.10) 98.8 (50.00-3.10)	Depositor EDS
R_{merge}	0.02	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.38 (at 3.01Å)	Xtriage
Refinement program	CNS 1.2	Depositor
R, R_{free}	0.231 , 0.268 0.232 , 0.267	Depositor DCC
R_{free} test set	28503 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	64.7	Xtriage
Anisotropy	0.187	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 82.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.46$, $< L^2 > = 0.28$	Xtriage
Estimated twinning fraction	0.018 for -h,l,k 0.019 for -h,-l,-k 0.027 for h,-k,-l	Xtriage
F_o,F_c correlation	0.90	EDS
Total number of atoms	153628	wwPDB-VP
Average B, all atoms (Å^2)	84.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.59% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG, 7MG, OMC, PSU, PAR, MIA, H2U, 4SU, GCP, 5MU

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	0.47	3/36190 (0.0%)	0.75	74/56486 (0.1%)
2	AB	0.56	0/1935	1.13	14/2609 (0.5%)
3	AC	0.62	1/1636 (0.1%)	1.12	12/2205 (0.5%)
4	AD	0.52	0/1733	1.09	14/2318 (0.6%)
5	AE	0.68	0/1162	1.13	5/1564 (0.3%)
6	AF	0.53	0/856	1.02	4/1154 (0.3%)
7	AG	0.53	0/1276	1.04	6/1709 (0.4%)
8	AH	0.58	0/1136	1.13	11/1527 (0.7%)
9	AI	0.53	0/1029	0.98	3/1378 (0.2%)
10	AJ	0.61	0/807	1.18	12/1085 (1.1%)
11	AK	0.59	0/900	1.16	7/1213 (0.6%)
12	AL	0.69	0/986	1.33	15/1320 (1.1%)
13	AM	0.54	0/998	1.18	9/1336 (0.7%)
14	AN	0.63	0/501	1.12	2/664 (0.3%)
15	AO	0.52	0/745	0.96	0/992
16	AP	0.53	0/716	1.10	7/963 (0.7%)
17	AQ	0.49	0/836	1.05	5/1117 (0.4%)
18	AR	0.57	0/579	1.09	4/768 (0.5%)
19	AS	0.50	0/642	1.08	5/865 (0.6%)
20	AT	0.47	0/765	1.14	9/1007 (0.9%)
21	AU	0.51	0/212	0.99	0/277
22	AV	0.45	0/1809	0.68	0/2819
22	AW	0.45	0/1809	0.64	3/2819 (0.1%)
23	AX	0.51	0/334	0.82	2/519 (0.4%)
24	AY	0.45	1/1618 (0.1%)	0.77	6/2514 (0.2%)
25	AZ	0.50	0/3203	1.03	18/4346 (0.4%)
26	B0	0.48	0/671	1.00	1/892 (0.1%)
27	B1	0.57	0/738	1.11	5/981 (0.5%)
28	B2	0.42	0/600	1.04	2/793 (0.3%)
29	B3	0.46	0/472	1.04	2/634 (0.3%)
30	B4	0.52	0/349	0.88	0/474
31	B5	0.53	0/473	1.06	4/639 (0.6%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
32	B6	0.75	0/440	1.28	4/586 (0.7%)
33	B7	0.54	0/426	1.07	3/561 (0.5%)
34	B8	0.57	0/515	1.14	5/679 (0.7%)
35	B9	0.57	0/310	0.90	0/407
36	BA	0.45	0/69976	0.70	68/109244 (0.1%)
37	BB	0.41	0/2853	0.68	3/4451 (0.1%)
38	BC	0.57	4/1774 (0.2%)	1.08	11/2391 (0.5%)
39	BD	0.73	2/2195 (0.1%)	1.37	34/2955 (1.2%)
40	BE	0.55	0/1596	1.11	15/2153 (0.7%)
41	BF	0.46	0/1658	1.09	11/2244 (0.5%)
42	BG	0.44	0/1499	1.05	11/2016 (0.5%)
43	BH	0.49	0/1245	1.10	9/1682 (0.5%)
46	BN	0.45	0/1131	1.06	5/1525 (0.3%)
47	BO	0.61	0/943	1.10	6/1269 (0.5%)
48	BP	0.64	1/1131 (0.1%)	1.44	22/1504 (1.5%)
49	BQ	0.52	0/1143	1.02	5/1527 (0.3%)
50	BR	0.47	0/974	1.04	4/1302 (0.3%)
51	BS	0.50	0/778	1.06	5/1036 (0.5%)
52	BT	0.55	0/1155	1.28	21/1542 (1.4%)
53	BU	0.45	0/975	1.08	8/1297 (0.6%)
54	BV	0.43	0/790	0.96	3/1057 (0.3%)
55	BW	0.49	0/907	1.04	9/1216 (0.7%)
56	BX	0.50	0/739	1.01	4/993 (0.4%)
57	BY	0.48	0/788	1.13	8/1051 (0.8%)
58	BZ	0.48	0/1435	0.95	2/1949 (0.1%)
All	All	0.48	12/165092 (0.0%)	0.84	537/246624 (0.2%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	AA	3	51
23	AX	0	1
24	AY	2	1
36	BA	4	70
37	BB	0	2
All	All	9	125

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	BD	64	ILE	CA-CB	7.20	1.62	1.53
38	BC	120	MET	CG-SD	6.78	1.97	1.80
48	BP	38	GLN	CA-C	6.64	1.55	1.52
39	BD	221	VAL	CA-CB	6.07	1.61	1.54
1	AA	1125	U	O5'-C5'	5.84	1.51	1.42
38	BC	120	MET	SD-CE	5.83	1.94	1.79
38	BC	218	MET	CG-SD	5.75	1.95	1.80
1	AA	1267	C	O5'-C5'	5.72	1.51	1.42
38	BC	218	MET	SD-CE	5.59	1.93	1.79
3	AC	2	GLY	N-CA	5.50	1.54	1.45
24	AY	8	4SU	O3'-P	5.24	1.61	1.56
1	AA	1267	C	C5'-C4'	5.07	1.58	1.51

All (537) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	AA	1498	U	C2'-C3'-O3'	15.02	132.03	109.50
1	AA	508	C	C2'-C3'-O3'	14.90	131.85	109.50
24	AY	75	C	C2'-C3'-O3'	13.79	130.19	109.50
36	BA	1799	G	C2'-C3'-O3'	13.73	130.09	109.50
1	AA	1504	G	C2'-C3'-O3'	13.37	129.55	109.50
1	AA	687	A	C2'-C3'-O3'	13.06	129.10	109.50
36	BA	1378	A	C2'-C3'-O3'	13.04	129.05	109.50
1	AA	1399	C	C2'-C3'-O3'	12.73	128.59	109.50
52	BT	29	ARG	N-CA-C	12.34	127.69	108.07
1	AA	243	A	C2'-C3'-O3'	12.30	127.95	109.50
1	AA	109	A	C2'-C3'-O3'	12.25	127.88	109.50
36	BA	1300	U	C2'-C3'-O3'	12.24	127.86	109.50
1	AA	1239	A	C2'-C3'-O3'	12.10	127.66	109.50
1	AA	1049	U	C2'-C3'-O3'	12.04	127.57	109.50
36	BA	1819	A	C2'-C3'-O3'	11.88	127.33	109.50
36	BA	387	U	C2'-C3'-O3'	11.88	127.32	109.50
50	BR	5	LYS	N-CA-C	-11.81	95.42	113.02
12	AL	26	ALA	N-CA-C	-11.67	99.39	112.57
19	AS	41	VAL	N-CA-C	11.62	119.49	107.76
48	BP	52	GLU	N-CA-C	11.61	135.53	110.80
2	AB	23	ARG	N-CA-C	-11.57	96.62	112.94
1	AA	30	U	C2'-C3'-O3'	11.40	126.60	109.50
11	AK	40	ILE	N-CA-C	-11.36	101.60	112.96
1	AA	1101	A	C2'-C3'-O3'	11.23	126.34	109.50
36	BA	1992	G	C2'-C3'-O3'	10.86	125.80	109.50
48	BP	27	HIS	N-CA-C	10.86	125.58	109.07
13	AM	90	LEU	N-CA-C	-10.72	95.13	110.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	AB	145	LEU	N-CA-C	-10.66	99.67	112.89
48	BP	54	GLY	N-CA-C	-10.45	101.20	114.37
36	BA	1427	A	C2'-C3'-O3'	10.34	125.01	109.50
13	AM	92	HIS	N-CA-C	-10.31	99.86	111.82
1	AA	60	A	C2'-C3'-O3'	10.31	124.96	109.50
52	BT	7	ILE	N-CA-C	-10.24	101.93	111.45
24	AY	36	A	C2'-C3'-O3'	10.10	128.85	113.70
48	BP	66	GLY	N-CA-C	-10.10	98.24	112.37
36	BA	2610	C	C2'-C3'-O3'	10.00	124.50	109.50
25	AZ	212	THR	CA-C-N	10.00	132.34	119.84
25	AZ	212	THR	C-N-CA	10.00	132.34	119.84
12	AL	38	THR	N-CA-C	-9.78	103.47	114.62
1	AA	428	G	C2'-C3'-O3'	9.69	124.03	109.50
1	AA	792	A	C2'-C3'-O3'	9.59	123.89	109.50
36	BA	1653	G	C2'-C3'-O3'	9.59	123.89	109.50
39	BD	212	SER	N-CA-C	-9.50	100.91	111.07
36	BA	1819	A	C4'-C3'-O3'	9.47	123.61	109.40
1	AA	968	A	C2'-C3'-O3'	9.41	123.61	109.50
36	BA	1378	A	C4'-C3'-O3'	9.37	123.46	109.40
56	BX	5	TYR	N-CA-C	-9.32	102.10	112.72
36	BA	1300	U	C4'-C3'-O3'	9.25	123.28	109.40
39	BD	198	ASN	N-CA-C	-9.19	99.04	111.54
16	AP	20	VAL	N-CA-C	9.17	122.02	108.45
36	BA	2756	U	C2'-C3'-O3'	9.16	123.24	109.50
1	AA	1504	G	C4'-C3'-O3'	9.09	123.03	109.40
53	BU	70	ARG	N-CA-C	-9.01	102.06	113.23
36	BA	1799	G	C4'-C3'-O3'	9.00	122.90	109.40
43	BH	157	TYR	N-CA-C	-8.76	100.33	111.90
1	AA	1267	C	C5'-C4'-C3'	8.74	128.31	115.20
36	BA	654(I)	C	N1-C1'-C2'	8.69	127.04	114.00
1	AA	243	A	C4'-C3'-O3'	8.65	122.38	109.40
3	AC	88	ARG	N-CA-C	-8.63	100.46	112.45
52	BT	53	ARG	N-CA-C	-8.55	98.44	110.50
36	BA	1558	A	C2'-C3'-O3'	8.53	122.30	109.50
12	AL	30	ALA	N-CA-C	-8.52	100.33	110.13
40	BE	65	GLY	N-CA-C	-8.52	103.86	114.16
1	AA	920	U	C5'-C4'-C3'	-8.46	103.31	116.00
1	AA	1157	A	C2'-C3'-O3'	8.43	122.15	109.50
48	BP	59	LEU	N-CA-C	-8.41	102.03	112.88
48	BP	116	GLY	N-CA-C	8.37	121.95	110.56
24	AY	75	C	C4'-C3'-O3'	8.36	121.93	109.40
39	BD	224	ALA	N-CA-C	-8.30	97.60	109.96

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	BA	331	A	C2'-C3'-O3'	8.29	121.94	109.50
1	AA	1239	A	C4'-C3'-O3'	8.25	121.77	109.40
2	AB	154	LEU	N-CA-C	-8.24	102.25	111.82
52	BT	30	VAL	N-CA-C	8.24	126.47	109.34
51	BS	44	LYS	N-CA-C	-8.22	103.20	113.55
1	AA	508	C	C4'-C3'-O3'	8.13	121.60	109.40
48	BP	53	GLY	N-CA-C	-8.13	93.92	113.18
8	AH	75	ARG	CA-C-N	8.11	128.06	120.03
8	AH	75	ARG	C-N-CA	8.11	128.06	120.03
38	BC	172	HIS	N-CA-C	8.08	121.68	108.26
48	BP	64	LYS	N-CA-C	-8.05	100.45	112.04
39	BD	210	GLY	N-CA-C	-8.03	101.50	112.25
1	AA	1498	U	C4'-C3'-O3'	7.96	121.34	109.40
36	BA	2110	G	C2'-C3'-O3'	7.90	121.35	109.50
36	BA	1786	A	N9-C1'-C2'	7.90	125.85	114.00
1	AA	115	G	C2'-C3'-O3'	7.89	121.34	109.50
2	AB	140	HIS	N-CA-C	-7.86	104.58	114.56
40	BE	186	GLY	N-CA-C	-7.85	103.50	112.29
41	BF	121	GLY	N-CA-C	-7.80	105.80	115.08
1	AA	966	G	C2'-C3'-O3'	-7.79	102.02	113.70
2	AB	160	ASP	N-CA-C	-7.76	103.33	114.12
25	AZ	86	ALA	N-CA-C	-7.75	94.30	110.80
42	BG	54	GLU	N-CA-C	-7.73	103.81	113.55
12	AL	119	LYS	N-CA-C	-7.65	97.27	109.59
20	AT	14	LYS	N-CA-C	-7.65	102.94	111.28
48	BP	118	GLY	N-CA-C	7.65	122.64	111.24
51	BS	56	LEU	N-CA-C	-7.63	101.07	110.61
1	AA	748	C	C2'-C3'-O3'	7.59	120.88	109.50
1	AA	1181	G	N9-C1'-C2'	7.57	123.36	112.00
12	AL	44	THR	CA-C-N	7.55	129.28	119.84
12	AL	44	THR	C-N-CA	7.55	129.28	119.84
42	BG	47	LYS	N-CA-C	7.54	115.99	108.75
53	BU	63	VAL	N-CA-C	-7.54	103.33	110.42
1	AA	575	G	C4'-C3'-O3'	7.53	120.69	109.40
49	BQ	81	VAL	N-CA-C	-7.52	101.71	110.21
24	AY	18	G	C2'-C3'-O3'	7.52	120.78	109.50
7	AG	31	MET	N-CA-C	7.39	121.11	110.10
1	AA	1399	C	C4'-C3'-O3'	7.38	120.47	109.40
39	BD	259	THR	N-CA-C	7.37	126.50	110.80
48	BP	135	LEU	N-CA-C	-7.35	103.93	113.12
58	BZ	176	PRO	N-CA-C	7.32	118.41	110.58
6	AF	81	ILE	N-CA-C	7.31	117.44	110.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	AT	93	GLU	N-CA-C	-7.29	104.64	113.97
49	BQ	27	VAL	N-CA-C	7.27	117.40	110.42
12	AL	93	LEU	CA-C-N	7.26	128.91	119.84
12	AL	93	LEU	C-N-CA	7.26	128.91	119.84
27	B1	43	TYR	CA-C-N	-7.26	112.85	120.03
27	B1	43	TYR	C-N-CA	-7.26	112.85	120.03
1	AA	1335	C	C4'-C3'-O3'	-7.24	102.14	113.00
39	BD	52	ARG	N-CA-C	7.24	119.91	110.43
57	BY	52	SER	CA-C-N	7.18	128.81	119.84
57	BY	52	SER	C-N-CA	7.18	128.81	119.84
1	AA	1285	A	C2'-C3'-O3'	7.16	120.25	109.50
39	BD	14	ARG	N-CA-C	-7.16	104.14	113.17
39	BD	271	ILE	N-CA-C	7.16	120.04	111.09
48	BP	60	MET	N-CA-C	-7.16	104.42	113.01
20	AT	13	LEU	N-CA-C	-7.13	103.56	112.90
39	BD	244	ARG	C-N-CD	-7.13	104.92	120.60
42	BG	30	GLU	N-CA-C	-7.12	104.40	113.23
25	AZ	92	MET	N-CA-C	-7.11	102.57	112.45
40	BE	168	MET	N-CA-C	7.11	120.52	110.50
55	BW	13	SER	N-CA-C	7.02	119.59	109.48
39	BD	49	ILE	CB-CA-C	-7.02	102.21	110.91
25	AZ	256	VAL	N-CA-C	6.98	117.94	108.17
6	AF	66	GLU	N-CA-C	-6.98	96.89	108.34
32	B6	47	THR	N-CA-C	6.97	118.69	108.86
47	BO	28	SER	N-CA-C	-6.96	104.77	113.20
39	BD	56	GLY	N-CA-C	-6.96	99.61	112.62
11	AK	118	GLY	N-CA-C	6.95	116.54	110.21
5	AE	11	ILE	N-CA-C	6.93	117.05	110.74
48	BP	16	ARG	N-CA-C	-6.93	104.64	113.23
1	AA	1186	G	C5'-C4'-C3'	-6.92	105.62	116.00
4	AD	27	TYR	N-CA-C	-6.91	104.73	113.72
20	AT	27	LYS	N-CA-C	-6.90	103.69	111.07
36	BA	1541	G	C2'-C3'-O3'	6.88	119.82	109.50
41	BF	65	TRP	CA-C-N	6.88	128.44	119.84
41	BF	65	TRP	C-N-CA	6.88	128.44	119.84
39	BD	59	LYS	N-CA-C	-6.86	101.45	110.43
32	B6	45	LYS	N-CA-C	6.85	120.84	109.46
7	AG	30	ILE	N-CA-C	-6.80	103.58	111.00
13	AM	12	ASN	N-CA-C	6.80	125.28	110.80
13	AM	80	ARG	N-CA-C	-6.80	104.95	113.18
43	BH	75	ALA	N-CA-C	-6.79	103.96	111.36
52	BT	124	ASP	N-CA-C	-6.79	104.63	113.12

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	AA	484	G	C2'-C3'-O3'	6.77	119.65	109.50
37	BB	34	U	C2'-C3'-O3'	-6.76	103.56	113.70
42	BG	89	GLY	N-CA-C	-6.74	97.21	113.18
20	AT	84	LEU	N-CA-C	-6.73	105.07	113.55
43	BH	79	VAL	N-CA-C	-6.71	107.34	113.71
10	AJ	54	PHE	N-CA-C	6.69	121.03	108.65
1	AA	1049	U	C4'-C3'-O3'	6.69	119.44	109.40
1	AA	1190	G	C3'-C2'-O2'	6.68	120.73	110.70
13	AM	81	LEU	N-CA-C	-6.68	105.44	112.93
36	BA	614(C)	A	C2'-C3'-O3'	6.68	119.53	109.50
52	BT	58	ASN	N-CA-C	6.67	119.95	110.68
34	B8	34	TRP	N-CA-C	-6.66	96.62	110.80
39	BD	120	GLY	CA-C-N	6.65	126.91	119.32
39	BD	120	GLY	C-N-CA	6.65	126.91	119.32
1	AA	961	U	C4'-C3'-O3'	6.64	122.96	113.00
41	BF	12	LEU	N-CA-C	-6.64	104.49	112.59
3	AC	173	VAL	CA-C-N	6.63	128.13	119.84
3	AC	173	VAL	C-N-CA	6.63	128.13	119.84
52	BT	80	SER	N-CA-C	6.63	124.47	109.81
2	AB	169	LYS	N-CA-C	-6.63	103.31	111.40
57	BY	54	LYS	N-CA-C	-6.61	99.76	110.20
56	BX	38	GLU	N-CA-C	-6.59	104.10	111.28
14	AN	38	GLY	N-CA-C	-6.58	105.58	115.32
31	B5	4	HIS	CA-C-N	-6.58	113.18	119.76
31	B5	4	HIS	C-N-CA	-6.58	113.18	119.76
19	AS	44	MET	N-CA-C	-6.55	105.01	112.87
4	AD	11	LEU	N-CA-C	-6.54	104.08	111.14
8	AH	56	LYS	CA-C-N	6.53	126.56	119.90
8	AH	56	LYS	C-N-CA	6.53	126.56	119.90
3	AC	139	GLN	N-CA-C	-6.52	103.79	111.03
4	AD	105	VAL	N-CA-C	-6.51	103.98	110.62
13	AM	50	GLU	N-CA-C	-6.50	105.07	112.87
48	BP	90	ARG	N-CA-C	-6.49	107.22	114.62
1	AA	412	A	C2'-C3'-O3'	-6.47	104.00	113.70
17	AQ	62	SER	N-CA-C	6.47	117.66	108.74
22	AW	76	A	C2'-C3'-O3'	-6.46	99.81	109.50
25	AZ	50	ILE	N-CA-C	-6.46	103.02	111.09
48	BP	50	ARG	N-CA-C	-6.45	107.26	114.62
57	BY	55	TYR	CA-C-N	6.45	127.91	119.84
57	BY	55	TYR	C-N-CA	6.45	127.91	119.84
1	AA	1256	A	C4'-C3'-O3'	-6.45	103.33	113.00
38	BC	208	PHE	N-CA-C	6.45	120.72	112.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
38	BC	30	LYS	N-CA-C	-6.43	105.43	113.28
36	BA	2286	A	N9-C1'-C2'	6.43	123.64	114.00
1	AA	1331	G	N9-C1'-C2'	6.42	121.63	112.00
19	AS	22	LEU	N-CA-C	-6.41	105.28	113.23
42	BG	141	PHE	CA-C-N	6.41	127.85	119.84
42	BG	141	PHE	C-N-CA	6.41	127.85	119.84
53	BU	97	ASP	N-CA-C	-6.41	105.32	113.01
3	AC	19	GLU	N-CA-C	-6.41	105.33	113.02
25	AZ	355	LEU	CA-C-N	6.40	126.97	120.38
25	AZ	355	LEU	C-N-CA	6.40	126.97	120.38
36	BA	1495	A	N9-C1'-C2'	6.37	121.56	112.00
53	BU	30	LYS	N-CA-C	-6.36	106.73	114.75
58	BZ	64	GLY	N-CA-C	-6.36	107.00	115.40
16	AP	12	LYS	N-CA-C	-6.35	101.54	110.50
4	AD	36	ARG	CA-C-N	6.35	127.78	119.84
4	AD	36	ARG	C-N-CA	6.35	127.78	119.84
9	AI	55	ALA	N-CA-C	-6.31	105.43	113.01
7	AG	148	ASN	N-CA-C	-6.31	103.72	112.30
41	BF	197	ASP	N-CA-C	-6.30	104.64	112.90
53	BU	105	VAL	N-CA-C	-6.28	103.24	111.09
2	AB	64	ARG	N-CA-C	-6.27	105.62	113.20
29	B3	15	TYR	CA-C-N	6.25	127.66	119.84
29	B3	15	TYR	C-N-CA	6.25	127.66	119.84
1	AA	1305	G	N9-C1'-C2'	6.25	121.37	112.00
36	BA	2089	U	C5'-C4'-C3'	-6.24	106.63	116.00
36	BA	669	G	C2'-C3'-O3'	-6.21	104.38	113.70
43	BH	52	VAL	N-CA-C	6.21	122.25	109.34
1	AA	1050	G	N9-C1'-C2'	-6.20	102.69	112.00
7	AG	145	ALA	N-CA-C	-6.20	100.11	109.79
48	BP	62	LEU	N-CA-C	6.20	117.62	109.93
5	AE	138	ALA	N-CA-C	-6.19	104.16	111.03
52	BT	112	ARG	N-CA-C	-6.19	105.86	113.41
25	AZ	170	VAL	N-CA-C	6.19	115.52	106.55
48	BP	138	LEU	N-CA-C	-6.19	105.68	113.72
40	BE	190	GLY	CA-C-N	6.18	126.14	120.21
40	BE	190	GLY	C-N-CA	6.18	126.14	120.21
36	BA	332	A	C2'-C3'-O3'	6.18	118.77	109.50
36	BA	221	A	C2'-C3'-O3'	6.17	118.75	109.50
3	AC	119	ARG	N-CA-C	-6.16	104.48	111.07
1	AA	1267	C	C5'-C4'-O4'	6.16	118.34	109.10
40	BE	63	LEU	N-CA-C	-6.16	104.57	111.28
36	BA	2689	U	C2'-C3'-O3'	6.15	118.73	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
13	AM	115	LYS	N-CA-C	-6.15	101.04	109.71
18	AR	86	VAL	N-CA-C	6.15	117.87	108.71
36	BA	827	U	C2'-C3'-O3'	-6.14	104.49	113.70
57	BY	4	LYS	N-CA-C	-6.12	104.72	111.82
1	AA	1335	C	N1-C1'-C2'	6.12	121.18	112.00
42	BG	81	LYS	N-CA-C	6.11	119.29	109.02
53	BU	81	HIS	N-CA-C	-6.11	104.70	111.36
1	AA	64	G	C2'-C3'-O3'	-6.11	104.54	113.70
18	AR	28	GLU	N-CA-C	-6.11	101.89	110.50
8	AH	72	PRO	N-CA-C	-6.09	102.69	111.22
54	BV	14	VAL	N-CA-C	6.09	118.14	108.89
31	B5	3	LYS	N-CA-C	6.08	119.79	110.36
39	BD	193	VAL	N-CA-C	6.06	118.17	109.51
36	BA	1459	G	N9-C1'-C2'	6.05	121.08	112.00
40	BE	122	PHE	N-CA-C	-6.05	102.69	110.19
36	BA	74	A	C2'-C3'-O3'	6.04	118.57	109.50
25	AZ	44	VAL	N-CA-C	6.03	117.36	109.58
4	AD	33	MET	N-CA-C	-6.03	104.78	111.71
2	AB	127	ILE	N-CA-C	-6.03	104.53	113.39
39	BD	241	PRO	N-CA-C	6.02	123.59	112.33
36	BA	1970	A	C5'-C4'-O4'	6.00	118.10	109.10
36	BA	71	A	C2'-C3'-O3'	5.99	118.48	109.50
37	BB	56	G	C2'-C3'-O3'	5.99	118.48	109.50
55	BW	69	LEU	N-CA-C	5.99	118.41	109.25
24	AY	36	A	C4'-C3'-O3'	5.98	121.97	113.00
38	BC	6	ARG	N-CA-C	-5.98	105.99	113.28
2	AB	135	GLN	N-CA-C	-5.97	105.95	113.18
48	BP	45	LEU	N-CA-C	-5.96	100.94	108.45
39	BD	32	SER	N-CA-C	5.95	119.37	111.75
36	BA	2405	G	C4'-C3'-O3'	-5.95	104.07	113.00
2	AB	186	ALA	N-CA-C	5.95	118.11	109.07
1	AA	992	U	C2'-C3'-O3'	5.95	118.42	109.50
40	BE	52	LEU	CA-C-N	5.95	127.27	119.84
40	BE	52	LEU	C-N-CA	5.95	127.27	119.84
40	BE	41	LYS	N-CA-C	-5.94	106.36	113.97
56	BX	46	ALA	N-CA-C	-5.94	106.65	114.31
4	AD	8	VAL	N-CA-C	5.93	116.66	111.56
42	BG	29	TRP	N-CA-C	-5.92	107.29	114.75
1	AA	495	A	C2'-C3'-O3'	5.92	118.37	109.50
52	BT	29	ARG	CA-C-N	5.92	132.62	121.97
52	BT	29	ARG	C-N-CA	5.92	132.62	121.97
36	BA	2360	A	N9-C1'-C2'	-5.90	103.15	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	BA	2179	C	C4'-C3'-O3'	5.90	118.24	109.40
1	AA	347	G	N9-C1'-C2'	-5.89	103.16	112.00
11	AK	34	ASP	CA-C-N	-5.89	113.58	120.12
11	AK	34	ASP	C-N-CA	-5.89	113.58	120.12
36	BA	669	G	N9-C1'-C2'	5.89	120.84	112.00
36	BA	1427	A	C4'-C3'-O3'	5.89	118.23	109.40
1	AA	839	U	N1-C1'-C2'	5.89	120.83	112.00
3	AC	99	VAL	N-CA-C	5.88	117.22	108.23
47	BO	109	LYS	N-CA-C	-5.87	106.45	113.97
17	AQ	35	VAL	N-CA-C	5.87	115.06	106.55
46	BN	132	ALA	N-CA-C	-5.87	107.35	114.75
55	BW	51	LEU	N-CA-C	-5.87	106.03	113.43
41	BF	120	GLU	N-CA-C	-5.87	105.95	113.23
48	BP	51	PHE	N-CA-C	5.85	118.75	110.50
1	AA	1502	A	N9-C1'-C2'	5.85	122.77	114.00
18	AR	44	LEU	N-CA-C	5.84	118.01	110.65
48	BP	128	HIS	N-CA-C	-5.84	106.28	113.41
53	BU	88	ILE	N-CA-C	5.84	115.02	106.55
7	AG	89	MET	N-CA-C	5.83	117.12	107.73
4	AD	186	LEU	N-CA-C	5.83	118.13	111.02
38	BC	22	ILE	N-CA-C	-5.81	106.07	113.22
1	AA	687	A	C4'-C3'-O3'	5.79	118.09	109.40
1	AA	266	G	C2'-C3'-O3'	5.79	122.39	113.70
1	AA	369	C	N1-C1'-C2'	-5.79	103.31	112.00
48	BP	31	ALA	N-CA-C	5.79	123.13	110.80
6	AF	97	PHE	N-CA-C	-5.79	98.98	108.41
10	AJ	28	ARG	N-CA-C	-5.78	105.90	113.12
36	BA	1060	U	C2'-C3'-O3'	5.77	118.16	109.50
42	BG	44	GLY	N-CA-C	-5.77	107.22	115.64
8	AH	80	ILE	CB-CA-C	-5.77	105.30	112.45
22	AW	65	G	C4'-C3'-O3'	-5.76	104.36	113.00
36	BA	2557	G	C5'-C4'-C3'	-5.76	107.36	116.00
1	AA	1054	C	C5'-C4'-C3'	-5.76	106.56	115.20
52	BT	76	PHE	CA-C-N	5.74	126.24	120.04
52	BT	76	PHE	C-N-CA	5.74	126.24	120.04
12	AL	61	THR	N-CA-C	-5.73	105.55	112.54
36	BA	654(K)	C	N1-C1'-C2'	5.72	122.58	114.00
10	AJ	19	SER	N-CA-C	-5.72	106.65	113.97
38	BC	69	GLY	N-CA-C	-5.72	106.85	115.32
12	AL	83	VAL	N-CA-C	5.71	116.40	108.23
39	BD	240	ALA	N-CA-C	5.71	115.48	108.11
1	AA	977	A	C4'-C3'-O3'	5.71	117.96	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	AL	47	LYS	N-CA-C	5.71	122.42	109.81
38	BC	87	GLU	N-CA-C	-5.71	106.45	113.41
52	BT	28	VAL	N-CA-C	5.70	121.19	109.34
2	AB	8	LYS	CB-CA-C	-5.69	108.87	117.07
17	AQ	11	VAL	N-CA-C	-5.69	107.95	113.53
36	BA	2405	G	N9-C1'-C2'	5.69	120.54	112.00
51	BS	98	VAL	N-CA-C	5.69	121.17	109.34
4	AD	31	CYS	N-CA-C	-5.68	106.43	113.19
55	BW	6	ILE	N-CA-C	5.68	121.16	109.34
11	AK	44	SER	N-CA-C	5.67	116.76	108.14
36	BA	915	C	C5'-C4'-C3'	5.67	124.50	116.00
20	AT	38	LYS	N-CA-C	-5.64	104.77	111.03
50	BR	12	ARG	N-CA-C	-5.64	98.79	110.80
7	AG	129	GLU	N-CA-C	-5.64	104.76	111.69
40	BE	75	VAL	N-CA-C	-5.63	105.61	111.58
20	AT	72	LEU	N-CA-C	-5.62	101.33	109.31
31	B5	13	LYS	N-CA-C	-5.62	104.56	111.75
10	AJ	20	ALA	N-CA-C	-5.58	104.59	111.40
22	AW	65	G	N9-C1'-C2'	5.58	120.37	112.00
40	BE	21	VAL	N-CA-C	5.58	114.63	108.05
33	B7	31	LEU	N-CA-C	-5.56	105.30	111.36
43	BH	156	ALA	N-CA-C	-5.56	102.09	110.70
13	AM	82	MET	N-CA-C	-5.55	105.72	112.88
55	BW	42	ARG	N-CA-C	-5.54	106.52	113.28
1	AA	79	G	C2'-C3'-O3'	5.54	117.81	109.50
26	B0	38	VAL	N-CA-C	5.54	116.10	108.12
1	AA	563	A	C4'-C3'-O3'	-5.54	104.69	113.00
25	AZ	52	LYS	N-CA-C	5.54	119.52	112.87
36	BA	857	C	C5'-C4'-C3'	-5.54	107.69	116.00
34	B8	49	VAL	N-CA-C	-5.54	97.82	109.34
54	BV	69	LYS	N-CA-C	5.54	118.26	109.96
42	BG	47	LYS	CB-CA-C	-5.53	108.39	116.53
10	AJ	29	ARG	N-CA-C	-5.53	104.73	112.25
52	BT	19	LEU	CA-C-N	5.53	125.84	119.92
52	BT	19	LEU	C-N-CA	5.53	125.84	119.92
8	AH	129	VAL	N-CA-C	5.52	116.80	108.96
52	BT	9	LEU	N-CA-C	-5.52	106.59	113.38
8	AH	79	VAL	N-CA-C	-5.52	104.05	111.44
3	AC	159	GLY	N-CA-C	-5.51	107.72	115.32
47	BO	74	GLY	N-CA-C	5.51	122.67	115.40
39	BD	227	ASN	N-CA-C	-5.50	103.71	110.31
10	AJ	80	LYS	N-CA-C	-5.50	104.69	111.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	BA	856	C	C2'-C3'-O3'	5.49	121.93	113.70
52	BT	23	ARG	CA-C-N	5.49	126.70	119.84
52	BT	23	ARG	C-N-CA	5.49	126.70	119.84
8	AH	120	THR	N-CA-C	-5.48	103.46	110.53
43	BH	18	GLU	N-CA-C	5.48	115.78	108.38
8	AH	84	ARG	N-CA-C	5.47	118.38	108.69
39	BD	172	TYR	N-CA-C	5.47	118.49	109.85
53	BU	6	THR	N-CA-C	-5.46	105.24	111.14
1	AA	1200	C	C2'-C3'-O3'	5.46	117.68	109.50
10	AJ	55	LYS	CA-C-N	-5.45	114.83	123.12
10	AJ	55	LYS	C-N-CA	-5.45	114.83	123.12
12	AL	88	GLY	N-CA-C	-5.45	100.25	113.18
36	BA	2714	G	C5'-C4'-C3'	-5.45	107.82	116.00
47	BO	42	SER	N-CA-C	-5.44	100.83	109.76
1	AA	197	A	C2'-C3'-O3'	5.44	117.66	109.50
2	AB	110	GLN	N-CA-C	-5.44	106.49	113.23
28	B2	10	LEU	N-CA-C	-5.43	105.44	111.36
36	BA	1970	A	C5'-C4'-C3'	5.43	123.34	115.20
37	BB	44	G	N9-C1'-C2'	5.43	120.14	112.00
5	AE	37	ARG	N-CA-C	-5.42	105.97	112.58
39	BD	221	VAL	N-CA-C	5.42	116.11	108.36
18	AR	81	PHE	N-CA-C	-5.42	104.92	112.45
36	BA	1701	A	C5'-C4'-C3'	-5.42	107.88	116.00
8	AH	134	ILE	N-CA-C	5.41	116.18	110.72
50	BR	78	LYS	N-CA-C	-5.41	105.94	112.54
39	BD	230	ASP	N-CA-C	5.41	119.93	113.23
32	B6	9	LEU	N-CA-C	5.40	122.30	110.80
38	BC	23	ASP	N-CA-C	-5.40	104.35	111.96
36	BA	352	G	N9-C1'-C2'	5.40	120.09	112.00
36	BA	2033	A	C1'-C2'-O2'	-5.39	103.71	111.80
25	AZ	113	MET	CA-C-N	5.39	126.58	119.84
25	AZ	113	MET	C-N-CA	5.39	126.58	119.84
36	BA	2502	G	N9-C1'-C2'	5.39	120.08	112.00
36	BA	2033	A	C2'-C3'-O3'	5.38	117.58	109.50
25	AZ	79	HIS	N-CA-C	5.38	117.40	108.20
39	BD	11	PRO	N-CA-C	-5.37	103.65	111.33
3	AC	158	GLY	N-CA-C	-5.37	107.91	115.32
9	AI	111	ARG	N-CA-C	5.37	118.07	110.50
46	BN	114	ARG	N-CA-C	-5.36	104.86	111.40
1	AA	961	U	C5'-C4'-C3'	-5.36	107.96	116.00
10	AJ	40	LEU	CA-C-N	5.35	126.53	119.84
10	AJ	40	LEU	C-N-CA	5.35	126.53	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	AZ	320	VAL	N-CA-C	5.35	116.07	108.42
4	AD	50	ARG	CA-C-N	5.35	126.17	120.13
4	AD	50	ARG	C-N-CA	5.35	126.17	120.13
11	AK	81	ASP	N-CA-C	-5.34	100.47	108.96
1	AA	792	A	C4'-C3'-O3'	5.34	117.41	109.40
39	BD	7	LYS	N-CA-C	-5.34	102.42	109.84
43	BH	144	VAL	N-CA-C	-5.34	107.17	113.42
57	BY	62	GLU	N-CA-C	5.34	122.17	110.80
3	AC	127	ARG	N-CA-C	5.34	117.69	111.02
51	BS	27	SER	N-CA-C	5.33	116.94	108.67
32	B6	8	LYS	N-CA-C	-5.33	105.36	111.07
2	AB	112	VAL	N-CA-C	-5.33	105.34	110.72
39	BD	196	VAL	N-CA-C	5.33	120.42	109.34
4	AD	34	GLU	N-CA-C	-5.32	106.81	113.15
41	BF	75	HIS	N-CA-C	5.32	117.48	109.23
52	BT	126	ALA	N-CA-C	-5.32	107.33	113.88
49	BQ	66	ILE	N-CA-C	-5.32	100.23	107.99
27	B1	44	PRO	N-CA-C	-5.31	103.44	111.41
1	AA	1325	C	C5'-C4'-C3'	-5.29	108.06	116.00
4	AD	147	ALA	N-CA-C	5.29	117.12	108.76
39	BD	235	GLY	N-CA-C	5.29	119.58	112.17
25	AZ	339	ARG	CA-C-N	5.29	126.45	119.84
25	AZ	339	ARG	C-N-CA	5.29	126.45	119.84
39	BD	222	ARG	N-CA-C	5.29	117.90	110.23
16	AP	65	GLN	CA-C-N	5.29	125.26	120.03
16	AP	65	GLN	C-N-CA	5.29	125.26	120.03
46	BN	75	TYR	N-CA-C	5.28	116.85	108.67
41	BF	5	ALA	N-CA-C	5.27	116.80	109.31
23	AX	27	A	N9-C1'-C2'	5.26	119.90	112.00
36	BA	1912	A	C4'-C3'-O3'	-5.26	105.11	113.00
1	AA	1281	U	C2'-C3'-O3'	5.25	117.37	109.50
46	BN	37	LYS	N-CA-C	-5.24	107.05	113.50
5	AE	11	ILE	CB-CA-C	-5.24	105.02	111.94
12	AL	109	GLY	N-CA-C	-5.24	103.49	112.30
9	AI	5	TYR	N-CA-C	5.24	117.99	109.24
36	BA	1481	U	C5'-C4'-C3'	-5.24	108.15	116.00
40	BE	11	MET	N-CA-C	5.24	116.76	108.96
20	AT	19	SER	N-CA-C	5.23	116.67	110.97
1	AA	995	C	N1-C1'-C2'	-5.23	106.16	114.00
12	AL	60	LEU	N-CA-C	5.23	118.63	110.32
49	BQ	97	VAL	N-CA-C	5.23	115.11	107.37
1	AA	1531	A	C2'-C3'-O3'	-5.22	101.67	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	BF	199	TRP	N-CA-C	-5.22	106.86	114.12
20	AT	12	ALA	N-CA-C	-5.21	105.65	113.89
36	BA	654(K)	C	C1'-O4'-C4'	-5.21	104.49	109.70
36	BA	975	C	N1-C1'-C2'	5.21	121.82	114.00
42	BG	81	LYS	CB-CA-C	-5.21	109.01	115.89
1	AA	1239	A	C4'-C3'-C2'	5.21	107.81	102.60
4	AD	12	CYS	N-CA-C	-5.21	102.83	111.37
16	AP	67	THR	N-CA-C	-5.21	103.04	110.59
39	BD	227	ASN	CA-C-N	5.20	125.25	119.32
39	BD	227	ASN	C-N-CA	5.20	125.25	119.32
23	AX	27	A	C2'-C3'-O3'	5.20	121.49	113.70
3	AC	27	LYS	N-CA-C	5.19	117.02	111.36
38	BC	4	GLY	N-CA-C	5.19	125.48	113.18
24	AY	75	C	C4'-C3'-C2'	5.19	107.79	102.60
51	BS	16	ASN	N-CA-C	-5.19	105.75	111.71
1	AA	961	U	C1'-C2'-O2'	5.19	116.18	108.40
27	B1	93	GLU	N-CA-C	-5.18	105.32	110.97
1	AA	1053	G	C2'-C3'-O3'	5.18	121.47	113.70
39	BD	48	ARG	N-CA-C	5.17	116.97	110.24
39	BD	70	TRP	N-CA-C	-5.17	107.04	113.19
36	BA	2527	C	C5'-C4'-C3'	-5.17	108.25	116.00
1	AA	968	A	N9-C1'-C2'	5.16	121.75	114.00
43	BH	65	HIS	N-CA-C	-5.16	103.33	110.35
1	AA	772	U	C5'-C4'-C3'	-5.16	108.26	116.00
12	AL	65	GLU	N-CA-C	-5.16	100.49	108.90
33	B7	6	GLN	CA-C-N	5.16	126.29	119.84
33	B7	6	GLN	C-N-CA	5.16	126.29	119.84
56	BX	52	VAL	N-CA-C	5.15	116.45	112.12
47	BO	88	ASN	N-CA-C	-5.15	102.44	110.42
36	BA	265	A	N9-C1'-C2'	5.14	121.71	114.00
36	BA	527	C	N1-C1'-C2'	5.14	121.71	114.00
55	BW	13	SER	CA-C-N	5.14	124.58	119.24
55	BW	13	SER	C-N-CA	5.14	124.58	119.24
36	BA	2527	C	C2'-C3'-O3'	5.14	121.41	113.70
1	AA	920	U	C2'-C3'-O3'	5.13	121.40	113.70
16	AP	8	ARG	N-CA-C	5.13	117.30	110.53
19	AS	77	THR	N-CA-C	5.13	119.58	112.45
36	BA	790	C	C2'-C3'-O3'	5.13	117.19	109.50
41	BF	63	LYS	N-CA-C	-5.12	100.81	108.96
46	BN	106	MET	N-CA-C	-5.12	108.30	114.75
48	BP	28	GLY	N-CA-C	-5.12	101.05	113.18
43	BH	158	HIS	N-CA-C	5.11	121.69	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	AA	982	U	C2'-C3'-O3'	5.11	117.16	109.50
39	BD	225	ALA	N-CA-C	-5.11	99.92	110.80
52	BT	59	THR	N-CA-C	-5.10	101.39	109.96
39	BD	275	LYS	N-CA-C	5.09	117.60	109.81
13	AM	62	ASN	N-CA-C	5.09	119.47	113.16
27	B1	29	GLY	N-CA-C	5.09	117.46	110.69
38	BC	180	PHE	CA-C-N	5.09	125.62	120.38
38	BC	180	PHE	C-N-CA	5.09	125.62	120.38
1	AA	1256	A	N9-C1'-C2'	5.08	119.63	112.00
34	B8	62	LEU	CA-C-N	-5.08	115.03	120.47
34	B8	62	LEU	C-N-CA	-5.08	115.03	120.47
47	BO	22	ILE	N-CA-C	-5.08	108.88	113.71
28	B2	28	LYS	N-CA-C	-5.08	106.34	112.54
16	AP	77	ALA	N-CA-C	-5.08	106.86	113.16
48	BP	72	PRO	N-CA-C	-5.08	106.19	113.75
52	BT	104	ASN	N-CA-C	5.08	118.73	112.54
1	AA	586	C	C3'-C2'-O2'	5.08	118.31	110.70
39	BD	132	PRO	N-CA-C	-5.07	102.65	111.32
40	BE	169	ASN	N-CA-C	5.07	121.60	110.80
5	AE	24	ARG	N-CA-C	-5.06	101.45	109.59
2	AB	210	SER	N-CA-C	5.05	116.59	111.14
6	AF	81	ILE	CB-CA-C	-5.04	105.51	111.97
36	BA	2428	G	C2'-C3'-O3'	-5.04	106.13	113.70
50	BR	6	SER	N-CA-C	-5.04	100.06	110.80
34	B8	23	VAL	N-CA-C	5.04	115.23	107.77
55	BW	48	ALA	N-CA-C	-5.04	105.70	111.14
36	BA	49	A	C4'-C3'-O3'	5.04	116.96	109.40
36	BA	512	G	C4'-C3'-O3'	-5.04	105.44	113.00
49	BQ	75	THR	N-CA-C	5.04	119.01	107.48
54	BV	61	VAL	N-CA-C	5.03	115.58	107.73
19	AS	10	PHE	N-CA-C	5.03	121.52	110.80
55	BW	85	VAL	N-CA-C	5.03	115.55	108.36
40	BE	186	GLY	CA-C-O	-5.02	118.76	122.23
14	AN	14	PRO	N-CA-C	5.02	122.82	112.47
10	AJ	49	VAL	N-CA-C	5.02	116.94	108.81
17	AQ	63	ARG	CA-C-N	5.02	126.11	119.84
17	AQ	63	ARG	C-N-CA	5.02	126.11	119.84
57	BY	16	ALA	N-CA-C	-5.02	107.65	112.97
36	BA	472	A	C5'-C4'-O4'	-5.02	102.27	109.80
10	AJ	55	LYS	N-CA-C	5.02	121.48	110.80
25	AZ	61	ILE	N-CA-C	5.02	119.77	109.34
36	BA	784	A	N9-C1'-C2'	5.02	119.52	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	BA	603	A	C2'-C3'-O3'	5.01	117.01	109.50
1	AA	575	G	C2'-C3'-O3'	5.01	117.01	109.50
36	BA	752	A	C2'-C3'-O3'	5.01	117.01	109.50
3	AC	195	VAL	N-CA-C	5.00	115.12	108.11
11	AK	75	TYR	N-CA-C	-5.00	105.66	112.26
41	BF	95	ARG	N-CA-C	5.00	118.22	107.67

All (9) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	AA	508	C	C3'
1	AA	1498	U	C3'
1	AA	1504	G	C3'
24	AY	36	A	C3'
24	AY	75	C	C3'
36	BA	1300	U	C3'
36	BA	1378	A	C3'
36	BA	1799	G	C3'
36	BA	1819	A	C3'

All (125) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	AA	1049	U	Sidechain
1	AA	1050	G	Sidechain
1	AA	1073	U	Sidechain
1	AA	1079	G	Sidechain
1	AA	1096	C	Sidechain
1	AA	1131	G	Sidechain
1	AA	1145	C	Sidechain
1	AA	1153	C	Sidechain
1	AA	1181	G	Sidechain
1	AA	1194	U	Sidechain
1	AA	1281	U	Sidechain
1	AA	1283	G	Sidechain
1	AA	1305	G	Sidechain
1	AA	1322	C	Sidechain
1	AA	1331	G	Sidechain
1	AA	1335	C	Sidechain
1	AA	1338	G	Sidechain
1	AA	1358	U	Sidechain
1	AA	1370	G	Sidechain

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Mol	Chain	Res	Type	Group
1	AA	1372	U	Sidechain
1	AA	1503	A	Sidechain
1	AA	1510	U	Sidechain
1	AA	1522	U	Sidechain
1	AA	1531	A	Sidechain
1	AA	198	G	Sidechain
1	AA	250	A	Sidechain
1	AA	251	G	Sidechain
1	AA	279	A	Sidechain
1	AA	347	G	Sidechain
1	AA	380	G	Sidechain
1	AA	453	A	Sidechain
1	AA	484	G	Sidechain
1	AA	498	U	Sidechain
1	AA	50	A	Sidechain
1	AA	529	G	Sidechain
1	AA	561	U	Sidechain
1	AA	573	A	Sidechain
1	AA	603	U	Sidechain
1	AA	609	A	Sidechain
1	AA	62	U	Sidechain
1	AA	7	G	Sidechain
1	AA	727	G	Sidechain
1	AA	733	A	Sidechain
1	AA	749	C	Sidechain
1	AA	793	U	Sidechain
1	AA	941	G	Sidechain
1	AA	959	A	Sidechain
1	AA	961	U	Sidechain
1	AA	968	A	Sidechain
1	AA	982	U	Sidechain
1	AA	995	C	Sidechain
23	AX	16	A	Sidechain
24	AY	33	U	Sidechain
36	BA	1156	A	Sidechain
36	BA	1215	G	Sidechain
36	BA	1238	G	Sidechain
36	BA	1253	A	Sidechain
36	BA	1364	G	Sidechain
36	BA	1379	A	Sidechain
36	BA	1416	G	Sidechain
36	BA	1452	A	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	1528(A)	A	Sidechain
36	BA	1673	U	Sidechain
36	BA	1692	U	Sidechain
36	BA	1772	G	Sidechain
36	BA	1773	A	Sidechain
36	BA	1779	U	Sidechain
36	BA	1798	U	Sidechain
36	BA	1807	G	Sidechain
36	BA	1931	U	Sidechain
36	BA	1940	U	Sidechain
36	BA	1943	U	Sidechain
36	BA	1964	G	Sidechain
36	BA	1993	U	Sidechain
36	BA	1995	U	Sidechain
36	BA	1999	C	Sidechain
36	BA	2031	A	Sidechain
36	BA	2033	A	Sidechain
36	BA	2195	C	Sidechain
36	BA	2222	G	Sidechain
36	BA	2286	A	Sidechain
36	BA	2319	G	Sidechain
36	BA	2320	A	Sidechain
36	BA	2360	A	Sidechain
36	BA	2414	G	Sidechain
36	BA	2417	C	Sidechain
36	BA	242	G	Sidechain
36	BA	2452	C	Sidechain
36	BA	2464	C	Sidechain
36	BA	249	C	Sidechain
36	BA	250	G	Sidechain
36	BA	2523	G	Sidechain
36	BA	2529	G	Sidechain
36	BA	2542	A	Sidechain
36	BA	2564	A	Sidechain
36	BA	2581	G	Sidechain
36	BA	2582	G	Sidechain
36	BA	2592	G	Sidechain
36	BA	2597	G	Sidechain
36	BA	2603	G	Sidechain
36	BA	2608	G	Sidechain
36	BA	2687	U	Sidechain
36	BA	271(Q)	G	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	2720	U	Sidechain
36	BA	2779	U	Sidechain
36	BA	463	G	Sidechain
36	BA	515	A	Sidechain
36	BA	527	C	Sidechain
36	BA	567	A	Sidechain
36	BA	59	U	Sidechain
36	BA	630	G	Sidechain
36	BA	632	A	Sidechain
36	BA	688	U	Sidechain
36	BA	690	G	Sidechain
36	BA	700	G	Sidechain
36	BA	740	U	Sidechain
36	BA	746	A	Sidechain
36	BA	764	A	Sidechain
36	BA	769	G	Sidechain
36	BA	869	G	Sidechain
36	BA	870	A	Sidechain
36	BA	956	G	Sidechain
36	BA	987	G	Sidechain
37	BB	40	U	Sidechain
37	BB	42	C	Sidechain

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	32329	0	16318	1086	2
2	AB	1900	0	1951	273	0
3	AC	1612	0	1677	148	0
4	AD	1703	0	1764	159	0
5	AE	1146	0	1207	106	0
6	AF	843	0	857	54	0
7	AG	1257	0	1296	124	0
8	AH	1116	0	1177	94	0
9	AI	1011	0	1043	138	0
10	AJ	794	0	840	138	0
11	AK	885	0	904	79	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
12	AL	970	0	1057	112	0
13	AM	987	0	1059	142	0
14	AN	492	0	529	66	0
15	AO	734	0	771	68	0
16	AP	700	0	720	70	0
17	AQ	823	0	891	90	0
18	AR	574	0	644	39	0
19	AS	629	0	652	128	0
20	AT	763	0	861	116	0
21	AU	208	0	221	29	0
22	AV	1619	0	822	61	0
22	AW	1619	0	822	85	0
23	AX	298	0	152	25	0
24	AY	1644	0	853	68	0
25	AZ	3142	0	3152	401	0
26	B0	662	0	688	107	0
27	B1	731	0	808	86	0
28	B2	598	0	653	78	0
29	B3	467	0	523	61	0
30	B4	340	0	337	57	0
31	B5	459	0	480	82	0
32	B6	433	0	461	137	0
33	B7	418	0	467	31	0
34	B8	507	0	576	110	0
35	B9	307	0	335	52	0
36	BA	62477	0	31497	2449	2
37	BB	2551	0	1295	117	0
38	BC	1742	0	1800	360	0
39	BD	2145	0	2234	332	0
40	BE	1563	0	1629	279	0
41	BF	1623	0	1677	263	0
42	BG	1474	0	1535	242	0
43	BH	1222	0	1282	176	0
44	BJ	651	0	152	15	0
45	BK	700	0	166	13	0
46	BN	1104	0	1180	194	0
47	BO	933	0	996	93	0
48	BP	1114	0	1187	308	0
49	BQ	1122	0	1179	154	0
50	BR	960	0	1021	153	0
51	BS	770	0	832	176	0
52	BT	1141	0	1202	255	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
53	BU	958	0	1015	163	0
54	BV	779	0	852	130	0
55	BW	896	0	953	110	0
56	BX	725	0	778	101	0
57	BY	775	0	870	199	0
58	BZ	1403	0	1432	253	0
59	AA	42	0	45	2	0
60	AD	1	0	0	1	0
60	AN	1	0	0	0	0
60	B4	1	0	0	0	0
60	B9	1	0	0	0	0
61	AZ	32	0	14	5	0
62	AZ	1	0	0	0	0
63	AZ	1	0	0	0	0
All	All	153628	0	104391	10252	2

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 40.

All (10252) 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)
36:BA:1899:G:N2	36:BA:1902:C:H41	1.36	1.21
36:BA:2833:G:H3'	36:BA:2834:G:H5"	1.24	1.20
24:AY:1:A:H5'	25:AZ:90:LYS:HZ2	1.06	1.17
2:AB:84:GLU:HB3	2:AB:219:VAL:HG21	1.22	1.17
55:BW:14:PRO:HG2	55:BW:78:GLU:HG3	1.22	1.17
42:BG:60:LEU:HD22	42:BG:63:ILE:HD11	1.27	1.17
36:BA:1516:C:H2'	36:BA:1517:G:H5"	1.26	1.16
36:BA:2781:A:H5'	36:BA:2782:G:H5'	1.28	1.16
36:BA:654(L):G:H2'	36:BA:654(M):C:H4'	1.20	1.16
53:BU:112:ARG:HH12	54:BV:46:VAL:HG11	1.08	1.15
55:BW:8:ARG:HA	55:BW:102:HIS:HB3	1.19	1.15
53:BU:24:TYR:HB2	53:BU:29:SER:HB3	1.23	1.15
41:BF:24:LEU:HB3	41:BF:25:PRO:HD2	1.23	1.15
48:BP:62:LEU:HD23	48:BP:62:LEU:H	1.08	1.14
12:AL:47:LYS:HB3	12:AL:48:PRO:HD3	1.20	1.13
1:AA:1386:G:H2'	1:AA:1387:G:H5"	1.31	1.13
32:B6:18:ARG:HG2	32:B6:18:ARG:HH11	1.08	1.12
28:B2:35:LEU:HD11	28:B2:50:ILE:HG13	1.21	1.12
57:BY:7:VAL:HB	57:BY:8:LYS:HD2	1.32	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:68:VAL:HG23	25:AZ:79:HIS:HB3	1.30	1.11
36:BA:1884:A:H2'	36:BA:1885:A:H5"	1.24	1.11
26:B0:14:ARG:HB2	26:B0:14:ARG:HH11	1.16	1.11
1:AA:1053:G:H4'	1:AA:1054:C:H5'	1.19	1.11
36:BA:1484:G:H2'	36:BA:1485:G:H5"	1.30	1.10
38:BC:10:LEU:HD12	38:BC:32:LEU:HA	1.29	1.10
2:AB:209:ARG:HH11	2:AB:239:VAL:HG11	1.11	1.10
42:BG:115:ARG:HH22	42:BG:136:ARG:HB2	1.13	1.10
36:BA:925:C:H2'	36:BA:926:A:H5"	1.31	1.09
36:BA:2140:C:H2'	36:BA:2141:G:H8	1.17	1.09
32:B6:30:THR:HG22	32:B6:31:PRO:HD2	1.11	1.09
38:BC:180:PHE:HB3	38:BC:184:LYS:HB3	1.11	1.09
1:AA:8:A:H62	4:AD:208:SER:HB2	0.96	1.09
56:BX:24:GLY:O	56:BX:82:GLN:HA	1.52	1.08
10:AJ:50:ILE:HD13	10:AJ:50:ILE:H	1.14	1.08
36:BA:1024:G:H3'	36:BA:1025:G:H5"	1.33	1.08
48:BP:47:ASP:HB2	48:BP:51:PHE:HB2	1.33	1.08
15:AO:87:ILE:HG22	15:AO:88:ARG:H	1.13	1.08
24:AY:1:A:H5'	25:AZ:90:LYS:NZ	1.68	1.08
36:BA:1058:G:H2'	36:BA:1059:G:H5"	1.31	1.08
22:AV:46:G:H3'	22:AV:47:U:H5"	1.15	1.08
36:BA:1665:A:H2'	36:BA:1666:G:H5"	1.30	1.08
57:BY:8:LYS:HD2	57:BY:8:LYS:H	1.14	1.08
19:AS:6:LYS:N	19:AS:6:LYS:HD2	1.69	1.07
40:BE:34:VAL:HG11	40:BE:78:LEU:HD22	1.35	1.07
55:BW:14:PRO:HG3	55:BW:101:SER:HB3	1.36	1.07
36:BA:2491:U:H5'	36:BA:2570:G:H5"	1.31	1.07
40:BE:57:LYS:HA	40:BE:57:LYS:HE3	1.32	1.07
43:BH:85:LYS:HZ3	43:BH:133:VAL:N	1.52	1.06
51:BS:13:ARG:HG3	51:BS:14:VAL:H	1.21	1.06
24:AY:4:G:H2'	24:AY:5:G:H5"	1.38	1.06
25:AZ:11:HIS:NE2	25:AZ:78:SER:HB2	1.71	1.06
57:BY:96:ILE:HG13	57:BY:99:CYS:HB3	1.36	1.06
36:BA:2523:G:H2'	36:BA:2524:G:H5"	1.38	1.06
52:BT:60:THR:HG22	52:BT:77:PRO:HA	1.36	1.06
22:AV:68:C:H2'	22:AV:69:G:H5"	1.36	1.05
46:BN:73:THR:HG23	46:BN:82:LEU:HD11	1.36	1.05
58:BZ:20:ARG:HH11	58:BZ:20:ARG:HB2	1.15	1.05
48:BP:9:ASN:H	48:BP:10:PRO:HD2	1.19	1.05
2:AB:18:GLY:H	2:AB:42:ILE:HG22	1.21	1.05
31:B5:4:HIS:HB3	31:B5:5:PRO:HD3	1.37	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BV:47:VAL:HG12	54:BV:52:VAL:HB	1.38	1.05
1:AA:9:G:H5'	5:AE:122:GLU:OE1	1.55	1.04
55:BW:1:MET:HG3	55:BW:64:MET:HE3	1.38	1.04
22:AW:56:C:H4'	38:BC:128:GLY:O	1.57	1.04
43:BH:153:LYS:H	43:BH:153:LYS:HD3	1.14	1.04
52:BT:55:ASN:H	52:BT:59:THR:HG22	1.21	1.04
29:B3:22:ALA:HB1	29:B3:46:ASN:HD21	1.16	1.04
36:BA:1516:C:C2'	36:BA:1517:G:H5"	1.86	1.04
40:BE:77:ILE:HG22	40:BE:78:LEU:H	1.21	1.04
51:BS:58:LEU:HG	51:BS:59:LYS:H	1.19	1.04
36:BA:2893:G:H5'	36:BA:2894:G:H5'	1.33	1.04
39:BD:239:ARG:HG2	39:BD:239:ARG:HH21	1.17	1.04
2:AB:200:ILE:H	2:AB:200:ILE:HD12	1.22	1.03
12:AL:47:LYS:HB3	12:AL:48:PRO:CD	1.88	1.03
25:AZ:368:VAL:HG12	25:AZ:369:THR:H	1.23	1.03
33:B7:8:ASN:HD22	33:B7:8:ASN:C	1.61	1.03
43:BH:167:GLU:HG2	43:BH:168:PRO:HD2	1.40	1.03
36:BA:1243:G:H2'	36:BA:1244:G:H5"	1.37	1.03
52:BT:85:LYS:HB3	52:BT:85:LYS:HZ3	1.22	1.03
1:AA:980:C:H6	1:AA:980:C:H5'	1.19	1.03
36:BA:2833:G:H3'	36:BA:2834:G:C5'	1.89	1.03
36:BA:629:G:H5'	36:BA:629:G:H8	1.24	1.03
52:BT:65:LYS:HE3	52:BT:66:VAL:H	1.22	1.03
30:B4:6:HIS:HB3	42:BG:67:LYS:HE3	1.40	1.03
41:BF:188:ARG:HA	48:BP:7:ARG:HD3	1.40	1.03
12:AL:46:LYS:HG2	12:AL:47:LYS:H	1.17	1.02
36:BA:330:A:H2	36:BA:1210:A:H2'	1.20	1.02
36:BA:2312:U:H2'	36:BA:2313:C:H5"	1.37	1.02
38:BC:164:ARG:HG2	38:BC:165:ASN:H	1.19	1.02
58:BZ:126:VAL:HG12	58:BZ:163:LEU:HB2	1.36	1.02
22:AW:62:C:H2'	22:AW:63:G:H8	1.22	1.02
37:BB:7:G:H3'	37:BB:8:U:H5"	1.42	1.02
39:BD:35:LYS:HZ2	39:BD:35:LYS:HB3	1.24	1.02
57:BY:75:ILE:HD12	57:BY:79:CYS:HA	1.40	1.02
38:BC:70:LYS:HD2	38:BC:177:LYS:HZ3	1.21	1.02
39:BD:85:ASP:HB2	39:BD:92:ILE:HD13	1.40	1.02
29:B3:35:ARG:HB2	29:B3:35:ARG:HH11	1.21	1.02
26:B0:27:GLU:HB3	26:B0:68:GLU:HA	1.39	1.01
32:B6:33:LYS:HE2	32:B6:33:LYS:HA	1.41	1.01
34:B8:62:LEU:HD13	36:BA:242:G:H5"	1.38	1.01
36:BA:2756:U:H1'	36:BA:2757:A:H5"	1.42	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BR:45:ARG:HG3	50:BR:46:GLY:H	1.23	1.01
51:BS:97:ARG:HH21	51:BS:98:VAL:HA	1.24	1.01
36:BA:272(H):C:H2'	36:BA:272(I):U:H5"	1.42	1.01
36:BA:1222:C:H2'	36:BA:1223:G:H5"	1.37	1.01
38:BC:86:ALA:HB3	38:BC:94:VAL:HG11	1.40	1.01
51:BS:78:LEU:HD11	51:BS:103:GLU:HB2	1.42	1.01
57:BY:43:ASN:HB3	57:BY:64:GLU:HA	1.43	1.01
29:B3:8:LEU:HD22	29:B3:31:LEU:HA	1.39	1.00
31:B5:44:THR:HG21	50:BR:101:ALA:HB2	1.43	1.00
46:BN:55:VAL:HG22	46:BN:125:GLY:HA3	1.43	1.00
57:BY:17:SER:HB2	57:BY:71:LYS:HE2	1.41	1.00
23:AX:26:A:H3'	23:AX:27:A:H5"	1.42	1.00
36:BA:2101:G:H2'	36:BA:2102:U:H5"	1.42	1.00
38:BC:42:GLU:HB3	38:BC:215:THR:HG23	1.42	1.00
1:AA:1320:C:H5"	19:AS:70:LYS:HG3	1.41	0.99
40:BE:50:GLY:HA2	40:BE:78:LEU:HB3	1.44	0.99
5:AE:148:VAL:HG21	8:AH:107:LEU:HD13	1.43	0.99
55:BW:6:ILE:HG12	55:BW:104:THR:HB	1.44	0.99
36:BA:2761:G:H2'	36:BA:2762:G:H5"	1.42	0.99
35:B9:30:PRO:HB2	36:BA:2527:C:H5'	1.41	0.99
1:AA:1116:C:H2'	1:AA:1117:G:H5"	1.43	0.99
36:BA:2110:G:H1	36:BA:2178:C:H41	1.10	0.99
36:BA:1747(A):G:C2'	36:BA:1748:G:H5"	1.93	0.99
38:BC:127:LEU:HD23	38:BC:130:ILE:HD12	1.44	0.99
41:BF:6:VAL:HG12	41:BF:7:TYR:H	1.24	0.99
35:B9:17:ILE:HG21	35:B9:19:ARG:HH21	1.28	0.99
38:BC:30:LYS:HZ1	38:BC:178:ALA:HB1	1.26	0.99
51:BS:97:ARG:NH2	51:BS:98:VAL:HA	1.78	0.99
55:BW:29:LEU:HG	55:BW:33:ARG:HD2	1.44	0.98
58:BZ:33:LEU:HD12	58:BZ:34:ASN:H	1.22	0.98
36:BA:1884:A:C2'	36:BA:1885:A:H5"	1.93	0.98
10:AJ:30:SER:C	10:AJ:80:LYS:HD3	1.88	0.98
19:AS:46:GLY:H	19:AS:62:ILE:HG23	1.24	0.98
36:BA:1301:A:O2'	36:BA:1302:A:H2'	1.61	0.98
57:BY:46:LYS:HG2	57:BY:47:LYS:H	1.28	0.98
36:BA:1747(A):G:H2'	36:BA:1748:G:H5"	1.44	0.98
22:AV:68:C:C2'	22:AV:69:G:H5"	1.93	0.98
5:AE:50:GLU:HG3	5:AE:52:PRO:HD2	1.46	0.98
28:B2:41:ILE:HG13	28:B2:42:GLY:H	1.26	0.98
43:BH:52:VAL:HB	43:BH:69:ARG:HD3	1.43	0.97
32:B6:26:ASN:HD22	32:B6:32:ASN:HD21	1.03	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1665:A:C2'	36:BA:1666:G:H5"	1.93	0.97
40:BE:60:ASN:OD1	40:BE:62:PRO:HD2	1.64	0.97
2:AB:204:ASN:C	2:AB:204:ASN:HD22	1.71	0.97
31:B5:40:LYS:NZ	31:B5:46:CYS:H	1.61	0.97
32:B6:26:ASN:HD22	32:B6:32:ASN:ND2	1.60	0.97
36:BA:2801(A):A:H4'	36:BA:2802:G:H5'	1.46	0.97
38:BC:163:PHE:HB3	38:BC:173:ALA:HB2	1.46	0.97
48:BP:62:LEU:H	48:BP:62:LEU:CD2	1.78	0.97
32:B6:19:ARG:HG3	32:B6:20:ASN:H	1.25	0.97
36:BA:884:C:H2'	36:BA:885:C:H5'	1.47	0.97
19:AS:11:VAL:HA	19:AS:38:SER:HB2	1.45	0.97
41:BF:9:ILE:HG12	41:BF:14:PRO:HA	1.45	0.97
36:BA:1899:G:N2	36:BA:1902:C:N4	2.12	0.97
56:BX:12:VAL:HB	56:BX:17:ALA:HB1	1.47	0.97
1:AA:1003:G:H2'	1:AA:1004:A:H4'	1.44	0.96
36:BA:271(L):U:H5"	36:BA:271(M):G:H5'	1.44	0.96
24:AY:9:A:H2	24:AY:44:G:HO2'	1.04	0.96
6:AF:67:MET:HB2	6:AF:68:PRO:HD2	1.47	0.96
56:BX:80:ILE:HG13	56:BX:80:ILE:O	1.66	0.96
12:AL:20:LYS:HD3	12:AL:20:LYS:H	1.31	0.96
32:B6:45:LYS:H	32:B6:45:LYS:HD3	1.30	0.96
36:BA:1095:A:H2'	36:BA:1096:A:H8	1.29	0.96
36:BA:2476:A:H2'	36:BA:2477:C:H5"	1.42	0.96
40:BE:47:VAL:HG21	40:BE:86:PRO:HD2	1.46	0.96
58:BZ:69:THR:HG22	58:BZ:90:VAL:HA	1.46	0.96
12:AL:89:ARG:HH11	12:AL:91:LYS:HA	1.28	0.96
22:AW:55:U:H5"	38:BC:164:ARG:HH12	1.29	0.96
33:B7:34:ARG:HD2	33:B7:39:ARG:HG3	1.48	0.96
16:AP:43:LYS:HG2	16:AP:48:TRP:CE3	2.00	0.96
1:AA:1125:U:H3	10:AJ:5:ARG:HH21	1.14	0.95
1:AA:1502:A:H2	1:AA:1505:G:H1	1.03	0.95
36:BA:1403:C:H5"	36:BA:1471:A:H1'	1.48	0.95
38:BC:61:THR:HG22	38:BC:162:GLU:HG2	1.46	0.95
1:AA:92:C:H2'	1:AA:93:G:H8	1.29	0.95
12:AL:46:LYS:HG2	12:AL:47:LYS:N	1.79	0.95
25:AZ:32:THR:HG21	25:AZ:45:LYS:H	1.26	0.95
30:B4:22:ILE:H	30:B4:22:ILE:HD12	1.32	0.95
43:BH:70:THR:HG22	43:BH:74:ASN:HD21	1.31	0.95
36:BA:2641:G:H5'	36:BA:2641:G:H8	1.31	0.95
52:BT:80:SER:HB3	52:BT:81:PRO:HD3	1.49	0.95
1:AA:664:G:H22	1:AA:741:G:H1	1.00	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1321:C:H5”	1:AA:1322:C:H5”	1.48	0.95
36:BA:472:A:H5’	36:BA:472:A:H8	1.30	0.95
36:BA:969:U:H2’	36:BA:970:C:C6	2.02	0.95
49:BQ:76:LYS:HB3	49:BQ:91:GLU:HG3	1.48	0.95
48:BP:16:ARG:HD3	48:BP:18:ARG:H	1.28	0.95
1:AA:8:A:N6	4:AD:208:SER:HB2	1.80	0.95
26:B0:49:LYS:H	26:B0:80:HIS:HD1	1.14	0.95
42:BG:64:THR:HG23	42:BG:66:GLN:H	1.32	0.95
27:B1:45:ASN:HD21	36:BA:2090:G:H21	1.08	0.94
39:BD:30:GLU:HG3	39:BD:63:ARG:NE	1.81	0.94
5:AE:101:ILE:O	5:AE:120:THR:HG22	1.67	0.94
25:AZ:143:ASP:HB3	25:AZ:146:LEU:HB3	1.46	0.94
38:BC:74:VAL:H	38:BC:157:LYS:HE2	1.30	0.94
52:BT:85:LYS:HB3	52:BT:85:LYS:NZ	1.79	0.94
36:BA:2375:G:H1’	36:BA:2379:G:H22	1.30	0.94
32:B6:15:GLU:CD	32:B6:18:ARG:CZ	2.40	0.94
36:BA:2726:U:H5’	36:BA:2726:U:O2	1.66	0.94
24:AY:75:C:H6	25:AZ:231:ILE:HA	1.28	0.94
34:B8:49:VAL:HG12	34:B8:53:PRO:HD3	1.49	0.94
36:BA:2159:G:H2’	36:BA:2160:G:H5”	1.50	0.94
39:BD:24:ILE:HD13	39:BD:25:THR:N	1.82	0.94
48:BP:62:LEU:HD23	48:BP:62:LEU:N	1.81	0.94
50:BR:2:ARG:HH11	50:BR:2:ARG:HG3	1.32	0.94
36:BA:1902:C:O2’	39:BD:244:ARG:HB2	1.66	0.94
38:BC:120:MET:HE1	38:BC:138:PRO:HB2	1.47	0.94
41:BF:132:VAL:HG22	41:BF:133:ASN:H	1.28	0.94
28:B2:17:SER:HB2	28:B2:18:PRO:HD2	1.49	0.93
36:BA:1053:C:H42	36:BA:1108:U:H3	0.99	0.93
39:BD:26:LYS:H	39:BD:26:LYS:HE2	1.31	0.93
43:BH:18:GLU:HG3	43:BH:25:LYS:HB2	1.46	0.93
48:BP:146:VAL:HG22	48:BP:147:LEU:H	1.31	0.93
22:AW:55:U:H5’	38:BC:164:ARG:HH22	1.31	0.93
32:B6:6:ARG:HB3	32:B6:6:ARG:NH1	1.81	0.93
39:BD:35:LYS:N	39:BD:36:PRO:HD2	1.82	0.93
2:AB:68:ILE:H	2:AB:90:MET:HE2	1.33	0.93
38:BC:68:LEU:HD23	38:BC:176:GLY:HA2	1.46	0.93
13:AM:10:PRO:HB2	13:AM:18:ALA:HB1	1.49	0.93
52:BT:83:ILE:HG13	52:BT:84:GLN:N	1.84	0.93
1:AA:1305:G:N2	1:AA:1331:G:H2’	1.81	0.93
36:BA:61:G:H1	36:BA:94:C:H42	1.17	0.93
36:BA:1222:C:C2’	36:BA:1223:G:H5”	1.98	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AH:114:THR:HG22	8:AH:130:GLY:O	1.69	0.93
51:BS:49:VAL:HG12	51:BS:50:SER:H	1.34	0.93
37:BB:40:U:H3'	37:BB:41:U:H5"	1.50	0.93
41:BF:181:LEU:HD11	41:BF:186:ILE:HD11	1.51	0.93
56:BX:54:VAL:HG22	56:BX:81:VAL:HA	1.50	0.93
47:BO:88:ASN:HD21	47:BO:92:GLU:HB3	1.31	0.93
52:BT:39:ARG:H	52:BT:39:ARG:HD2	1.33	0.93
17:AQ:24:GLU:HG2	17:AQ:39:SER:HB3	1.49	0.92
48:BP:16:ARG:NH1	48:BP:16:ARG:HB2	1.83	0.92
48:BP:23:PRO:HD2	48:BP:33:ARG:HE	1.35	0.92
50:BR:38:VAL:HB	50:BR:39:PRO:HD3	1.48	0.92
54:BV:72:VAL:HG23	54:BV:85:LYS:HB2	1.50	0.92
22:AV:46:G:H3'	22:AV:47:U:C5'	1.98	0.92
3:AC:5:ILE:HD13	3:AC:5:ILE:H	1.34	0.92
12:AL:18:VAL:HG23	12:AL:19:ARG:H	1.30	0.92
13:AM:97:PRO:HA	13:AM:110:ARG:HD3	1.48	0.92
36:BA:1170:G:H22	36:BA:1179:C:H42	1.16	0.92
20:AT:36:LEU:HD12	20:AT:59:ALA:HB2	1.50	0.92
36:BA:655:A:H4'	36:BA:656:G:H5'	1.51	0.92
28:B2:65:ASN:HD22	28:B2:69:ARG:HH21	1.03	0.92
48:BP:6:LEU:HD23	48:BP:6:LEU:H	1.35	0.92
50:BR:2:ARG:HD2	50:BR:2:ARG:O	1.70	0.92
36:BA:613:G:H5'	36:BA:613:G:H8	1.33	0.92
52:BT:55:ASN:N	52:BT:59:THR:HG22	1.84	0.92
32:B6:30:THR:CG2	32:B6:31:PRO:HD2	1.98	0.92
48:BP:75:ILE:H	48:BP:75:ILE:HD12	1.35	0.92
39:BD:28:GLU:H	39:BD:29:PRO:HD2	1.34	0.92
52:BT:13:ARG:CZ	52:BT:13:ARG:HA	1.99	0.92
25:AZ:315:LYS:HG2	25:AZ:373:GLU:HG3	1.50	0.92
39:BD:261:LYS:HZ1	39:BD:263:ARG:NH2	1.65	0.92
26:B0:4:LYS:HD3	36:BA:2252:G:O6	1.69	0.92
36:BA:2287:A:N6	36:BA:2344:U:H3	1.68	0.92
39:BD:176:ARG:HG2	39:BD:176:ARG:HH11	1.32	0.91
31:B5:2:ALA:HA	36:BA:2015:A:H1'	1.51	0.91
36:BA:914:C:H2'	36:BA:915:C:H5'	1.50	0.91
52:BT:13:ARG:HA	52:BT:13:ARG:NH1	1.85	0.91
1:AA:405:U:H3'	1:AA:406:G:H5'	1.52	0.91
41:BF:101:LEU:HD12	41:BF:102:PRO:HD2	1.50	0.91
3:AC:20:SER:HB2	3:AC:40:ARG:HH22	1.36	0.91
36:BA:229:A:H3'	36:BA:230:U:H5'	1.52	0.91
41:BF:160:ASN:HD21	41:BF:162:LEU:HD13	1.35	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BQ:141:GLN:HE22	58:BZ:72:ARG:HD3	1.36	0.91
19:AS:31:ILE:HG23	19:AS:49:ILE:HA	1.53	0.91
1:AA:939:G:H5"	7:AG:102:ARG:NH2	1.85	0.91
1:AA:1281:U:H5'	1:AA:1282:C:H5	1.35	0.91
36:BA:675:A:OP1	41:BF:63:LYS:HE2	1.71	0.91
38:BC:100:ILE:HG23	38:BC:127:LEU:HG	1.53	0.91
1:AA:1277:C:HO2'	1:AA:1279:A:H8	0.99	0.91
36:BA:1462:C:H4'	36:BA:2703:C:H5'	1.52	0.91
38:BC:65:PRO:HD2	38:BC:188:ASN:HA	1.52	0.91
43:BH:12:PRO:HA	43:BH:48:GLY:HA2	1.53	0.91
49:BQ:141:GLN:N	58:BZ:53:ILE:HD12	1.85	0.91
1:AA:1386:G:C2'	1:AA:1387:G:H5"	1.99	0.91
15:AO:87:ILE:CG2	15:AO:88:ARG:H	1.83	0.91
35:B9:1:MET:HA	35:B9:4:ARG:NH2	1.85	0.91
36:BA:1511:C:H2'	36:BA:1512:U:H6	1.36	0.90
39:BD:34:VAL:C	39:BD:36:PRO:HD2	1.96	0.90
48:BP:58:THR:O	48:BP:61:ARG:NE	2.04	0.90
36:BA:1947:C:H2'	36:BA:1948:G:H5"	1.53	0.90
2:AB:209:ARG:NH1	2:AB:239:VAL:HG11	1.86	0.90
4:AD:3:ARG:HE	4:AD:5:ILE:HG13	1.35	0.90
7:AG:75:VAL:HG12	7:AG:88:PRO:HB3	1.51	0.90
24:AY:4:G:C2'	24:AY:5:G:H5"	2.01	0.90
51:BS:15:ARG:HH11	51:BS:15:ARG:HB2	1.36	0.90
55:BW:72:LYS:HE3	55:BW:108:GLY:HA3	1.51	0.90
38:BC:127:LEU:CD2	38:BC:130:ILE:HD12	2.01	0.90
53:BU:112:ARG:NH1	54:BV:46:VAL:HG11	1.85	0.90
54:BV:39:LEU:HD12	54:BV:47:VAL:HG11	1.53	0.90
22:AV:59:U:HO2'	22:AV:60:U:H6	0.92	0.90
19:AS:49:ILE:H	19:AS:49:ILE:HD12	1.37	0.90
25:AZ:324:LYS:HG2	25:AZ:364:PRO:HB3	1.53	0.90
36:BA:1378:A:O2'	36:BA:1379:A:H5'	1.71	0.90
26:B0:14:ARG:HH11	26:B0:14:ARG:CB	1.84	0.90
36:BA:2140:C:H2'	36:BA:2141:G:C8	2.06	0.90
9:AI:105:ASP:OD1	9:AI:107:ARG:HD3	1.71	0.90
26:B0:7:LEU:HD22	49:BQ:85:LYS:HB2	1.53	0.90
32:B6:36:LEU:HD12	32:B6:50:ARG:NH1	1.86	0.90
36:BA:1053:C:N4	36:BA:1108:U:H3	1.69	0.90
47:BO:20:MET:HE3	47:BO:44:LYS:HE3	1.54	0.90
48:BP:23:PRO:HB2	48:BP:33:ARG:HG3	1.54	0.90
1:AA:858:G:C6	1:AA:869:G:N7	2.40	0.90
1:AA:963:G:H21	10:AJ:55:LYS:HD3	1.33	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1305:G:H22	1:AA:1331:G:H2'	1.31	0.89
2:AB:204:ASN:HD21	2:AB:206:ASP:H	1.20	0.89
36:BA:2476:A:C2'	36:BA:2477:C:H5"	2.01	0.89
2:AB:68:ILE:H	2:AB:90:MET:CE	1.85	0.89
22:AV:4:C:H2'	22:AV:5:G:H5"	1.54	0.89
36:BA:2151:G:H2'	36:BA:2152:G:H8	1.35	0.89
37:BB:114:C:H4'	51:BS:46:VAL:HG13	1.52	0.89
52:BT:65:LYS:HA	52:BT:65:LYS:NZ	1.86	0.89
32:B6:14:THR:HG22	32:B6:50:ARG:HB2	1.53	0.89
48:BP:71:VAL:H	48:BP:72:PRO:CD	1.85	0.89
36:BA:1947:C:C2'	36:BA:1948:G:H5"	2.02	0.89
25:AZ:303:VAL:HG12	25:AZ:304:LEU:H	1.35	0.89
25:AZ:355:LEU:HD23	25:AZ:356:PRO:HD2	1.53	0.89
36:BA:1771:C:HO2'	36:BA:1786:A:H8	1.19	0.89
36:BA:1899:G:H21	36:BA:1902:C:H41	0.93	0.89
54:BV:52:VAL:HG13	54:BV:55:ALA:HB3	1.51	0.89
1:AA:173:U:H5'	1:AA:197:A:O4'	1.73	0.89
1:AA:1363(A):A:H4'	1:AA:1364:U:H5"	1.51	0.89
11:AK:48:ILE:HG22	11:AK:49:GLY:H	1.34	0.89
20:AT:73:HIS:HB3	20:AT:74:LYS:HD3	1.54	0.89
25:AZ:20:VAL:HG12	25:AZ:85:HIS:H	1.36	0.89
27:B1:73:LEU:HD22	27:B1:94:LEU:HB3	1.52	0.89
48:BP:31:ALA:C	48:BP:33:ARG:H	1.79	0.89
10:AJ:96:ILE:HD13	10:AJ:96:ILE:H	1.37	0.89
14:AN:32:SER:HB3	14:AN:41:ARG:HG2	1.55	0.89
36:BA:747:U:H5'	55:BW:90:ARG:HH12	1.36	0.89
49:BQ:141:GLN:NE2	58:BZ:72:ARG:HD3	1.87	0.89
36:BA:83:G:N2	36:BA:102:G:H2'	1.87	0.89
36:BA:84:A:H5'	57:BY:9:LYS:HB3	1.55	0.89
36:BA:2523:G:C2'	36:BA:2524:G:H5"	2.02	0.89
36:BA:2729:G:H1'	40:BE:187:ALA:HB2	1.54	0.89
48:BP:56:SER:O	48:BP:57:THR:HG23	1.72	0.89
52:BT:11:GLU:H	52:BT:11:GLU:CD	1.80	0.89
15:AO:87:ILE:HG22	15:AO:88:ARG:N	1.82	0.89
36:BA:925:C:C2'	36:BA:926:A:H5"	2.03	0.89
43:BH:12:PRO:HD2	43:BH:15:VAL:HG21	1.52	0.89
55:BW:69:LEU:HA	55:BW:108:GLY:O	1.73	0.89
32:B6:19:ARG:HD3	36:BA:2400:G:H4'	1.55	0.88
36:BA:2189:U:H2'	36:BA:2190:G:C4'	2.03	0.88
36:BA:2693:A:H2'	36:BA:2694:G:H8	1.39	0.88
52:BT:55:ASN:HD22	52:BT:58:ASN:HD21	1.21	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BY:31:LEU:HB2	57:BY:32:PRO:HA	1.55	0.88
17:AQ:67:LYS:HA	17:AQ:70:ARG:HH12	1.38	0.88
10:AJ:75:ILE:HG13	10:AJ:76:ASN:H	1.38	0.88
22:AW:62:C:H2'	22:AW:63:G:C8	2.07	0.88
2:AB:87:ARG:HH11	2:AB:223:ILE:HD11	1.38	0.88
4:AD:129:ASN:HD21	4:AD:145:GLU:H	1.22	0.88
36:BA:1598:C:H5'	56:BX:36:LYS:HG2	1.55	0.88
25:AZ:19:HIS:CD2	25:AZ:20:VAL:H	1.90	0.88
36:BA:2169:A:H2'	36:BA:2170:A:C8	2.09	0.88
36:BA:2208:A:H1'	36:BA:2219:G:C5	2.07	0.88
46:BN:5:VAL:HG12	46:BN:7:LYS:HG3	1.54	0.88
20:AT:26:ASN:HB2	20:AT:71:THR:HG23	1.53	0.88
36:BA:2640:G:H2'	36:BA:2641:G:H5"	1.53	0.88
48:BP:59:LEU:HA	48:BP:61:ARG:NE	1.89	0.88
40:BE:117:MET:O	40:BE:121:ASN:HA	1.74	0.88
41:BF:178:PRO:HB2	41:BF:201:VAL:HG11	1.54	0.88
57:BY:95:LYS:HG3	57:BY:100:ALA:HA	1.53	0.88
25:AZ:198:LYS:HE2	25:AZ:198:LYS:N	1.89	0.88
36:BA:2464:C:HO2'	36:BA:2465:C:H6	1.15	0.88
58:BZ:10:ARG:HH21	58:BZ:36:LYS:HB2	1.39	0.88
24:AY:61:C:C2'	24:AY:62:U:H5"	2.04	0.88
36:BA:1038:C:H2'	36:BA:1039:G:H5"	1.56	0.88
50:BR:99:LYS:H	50:BR:99:LYS:HD2	1.36	0.88
52:BT:16:ARG:HB3	52:BT:16:ARG:HH11	1.36	0.88
52:BT:3:ARG:HB3	52:BT:6:LEU:HB2	1.55	0.88
43:BH:66:GLY:HA2	43:BH:69:ARG:HB3	1.54	0.87
36:BA:543:C:H42	36:BA:549:G:H1	1.22	0.87
36:BA:2189:U:H2'	36:BA:2190:G:H4'	1.55	0.87
42:BG:52:ILE:HG12	42:BG:53:LEU:H	1.39	0.87
1:AA:102:G:H2'	1:AA:103:C:H6	1.40	0.87
1:AA:975:A:H4'	1:AA:976:G:H5"	1.55	0.87
3:AC:34:LEU:HG	14:AN:25:VAL:HG11	1.55	0.87
36:BA:1543:C:H3'	36:BA:1544:A:H5"	1.54	0.87
38:BC:164:ARG:O	38:BC:171:ILE:HA	1.74	0.87
36:BA:1067:A:H3'	36:BA:1068:G:H5"	1.55	0.87
2:AB:204:ASN:ND2	2:AB:206:ASP:H	1.73	0.87
4:AD:194:LEU:HB3	4:AD:196:LEU:HD13	1.56	0.87
2:AB:18:GLY:H	2:AB:42:ILE:CG2	1.87	0.87
58:BZ:20:ARG:HB2	58:BZ:20:ARG:NH1	1.89	0.87
36:BA:259:G:H21	36:BA:621:A:H8	1.23	0.87
13:AM:12:ASN:HD22	13:AM:12:ASN:H	1.18	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AW:57:G:H2'	22:AW:58:A:H5'	1.57	0.87
52:BT:55:ASN:HD22	52:BT:58:ASN:ND2	1.72	0.87
24:AY:1:A:H61	24:AY:72:U:H3	1.18	0.86
31:B5:57:VAL:HG12	31:B5:58:LEU:HD12	1.54	0.86
36:BA:654(L):G:H2'	36:BA:654(M):C:C4'	2.05	0.86
49:BQ:54:MET:HE2	49:BQ:64:ILE:HD13	1.56	0.86
32:B6:30:THR:HG22	32:B6:31:PRO:CD	2.01	0.86
36:BA:2801(A):A:H5'	36:BA:2802:G:H8	1.37	0.86
38:BC:161:ILE:HD13	38:BC:173:ALA:HB1	1.57	0.86
33:B7:8:ASN:HD22	33:B7:9:ARG:N	1.74	0.86
27:B1:89:GLU:HA	27:B1:92:LYS:HE3	1.57	0.86
31:B5:29:THR:HG21	36:BA:2814:C:O2'	1.74	0.86
36:BA:404:C:H4'	36:BA:405:U:H5'	1.55	0.86
58:BZ:108:PRO:HA	58:BZ:141:VAL:CG1	2.05	0.86
32:B6:53:LYS:HD3	32:B6:54:ILE:H	1.40	0.86
34:B8:25:MET:HG3	48:BP:64:LYS:HB2	1.56	0.86
36:BA:774:A:H2	36:BA:787:U:HO2'	0.90	0.86
37:BB:80:U:H2'	37:BB:81:G:H21	1.41	0.86
36:BA:2287:A:H62	36:BA:2344:U:H3	1.23	0.86
36:BA:2807:G:H3'	36:BA:2808:U:H5"	1.57	0.86
58:BZ:53:ILE:HG22	58:BZ:71:VAL:HB	1.56	0.86
58:BZ:151:HIS:CB	58:BZ:170:THR:HA	2.04	0.86
1:AA:194:C:H2'	1:AA:195:A:H5"	1.57	0.86
4:AD:129:ASN:ND2	4:AD:145:GLU:H	1.72	0.86
36:BA:2656:U:H3	36:BA:2665:A:H2	1.23	0.86
25:AZ:234:ARG:HE	25:AZ:234:ARG:HA	1.40	0.86
25:AZ:355:LEU:HD22	25:AZ:359:VAL:HB	1.57	0.86
28:B2:50:ILE:HG21	36:BA:61:G:H5'	1.55	0.86
36:BA:1409:C:H2'	36:BA:1410:G:H8	1.41	0.86
37:BB:20:C:H2'	37:BB:21:G:H5"	1.54	0.86
39:BD:35:LYS:HD2	39:BD:36:PRO:N	1.90	0.86
41:BF:24:LEU:HB3	41:BF:25:PRO:CD	2.05	0.86
1:AA:509:A:H5'	4:AD:54:TYR:HD2	1.40	0.86
58:BZ:152:ALA:HB1	58:BZ:167:PRO:HB2	1.58	0.86
58:BZ:166:SER:HB2	58:BZ:168:GLU:N	1.91	0.85
19:AS:29:ARG:HB2	19:AS:48:THR:HB	1.56	0.85
41:BF:135:LYS:HB3	41:BF:138:GLU:HG3	1.55	0.85
46:BN:60:ILE:HD13	46:BN:99:LEU:HD23	1.55	0.85
53:BU:101:ARG:O	53:BU:103:PRO:HD3	1.76	0.85
1:AA:1003:G:C2'	1:AA:1004:A:H4'	2.07	0.85
1:AA:1116:C:C2'	1:AA:1117:G:H5"	2.07	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:172:ILE:HD12	2:AB:172:ILE:H	1.41	0.85
9:AI:114:TYR:HE1	10:AJ:60:ARG:H	1.22	0.85
36:BA:414:C:H1'	36:BA:1864:U:O2'	1.75	0.85
36:BA:1058:G:C2'	36:BA:1059:G:H5"	2.06	0.85
36:BA:2476:A:H2	36:BA:2477:C:C5	1.93	0.85
46:BN:86:PRO:HG2	46:BN:89:LYS:HG2	1.57	0.85
48:BP:64:LYS:O	48:BP:66:GLY:N	2.10	0.85
5:AE:126:ARG:HA	5:AE:131:ILE:HD11	1.59	0.85
32:B6:18:ARG:HG3	32:B6:19:ARG:H	1.42	0.85
36:BA:676:A:H8	36:BA:2069:G:H21	1.22	0.85
57:BY:8:LYS:HD2	57:BY:8:LYS:N	1.90	0.85
2:AB:18:GLY:N	2:AB:42:ILE:HG22	1.90	0.85
12:AL:41:ARG:HG2	12:AL:42:THR:H	1.39	0.85
20:AT:89:ARG:HB2	20:AT:104:LEU:HD11	1.58	0.85
28:B2:51:ARG:HD3	28:B2:55:ARG:HH22	1.39	0.85
36:BA:612:C:C2'	36:BA:613:G:H5"	2.06	0.85
39:BD:263:ARG:HH11	39:BD:263:ARG:HB2	1.42	0.85
40:BE:1:MET:HB3	40:BE:200:GLU:OE1	1.75	0.85
40:BE:14:ILE:HD11	40:BE:173:VAL:HG11	1.58	0.85
5:AE:51:VAL:HB	5:AE:52:PRO:HD3	1.58	0.85
36:BA:2036:C:H5'	36:BA:2036:C:H6	1.40	0.85
47:BO:87:ILE:HG21	47:BO:91:LEU:HA	1.59	0.85
49:BQ:17:LEU:HD21	49:BQ:96:VAL:HG13	1.57	0.85
1:AA:1266:G:N2	1:AA:1268:A:OP2	2.10	0.85
11:AK:82:VAL:HG12	11:AK:108:ILE:HA	1.58	0.85
27:B1:44:PRO:HG2	27:B1:46:LEU:HD23	1.59	0.85
52:BT:96:ARG:NH1	52:BT:96:ARG:HB2	1.92	0.85
57:BY:49:VAL:O	57:BY:50:ARG:HB2	1.74	0.85
25:AZ:318:ALA:HA	25:AZ:401:THR:HG22	1.56	0.85
1:AA:1305:G:H5'	21:AU:4:GLY:HA3	1.59	0.85
13:AM:88:ARG:HG3	13:AM:98:VAL:HG11	1.57	0.85
36:BA:673:C:H6	36:BA:673:C:H5'	1.42	0.85
52:BT:28:VAL:HG22	52:BT:47:GLY:N	1.92	0.85
13:AM:93:ARG:HG3	36:BA:888:C:OP1	1.77	0.84
19:AS:6:LYS:O	19:AS:7:LYS:HD3	1.77	0.84
22:AV:21:A:C2'	22:AV:22:G:H5"	2.07	0.84
52:BT:28:VAL:CG1	52:BT:46:GLU:HA	2.07	0.84
8:AH:98:LYS:HG3	8:AH:99:GLU:HG3	1.57	0.84
14:AN:13:THR:N	14:AN:14:PRO:HD2	1.91	0.84
14:AN:29:ARG:HG2	14:AN:29:ARG:HH11	1.41	0.84
19:AS:10:PHE:CE1	19:AS:70:LYS:HD2	2.11	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:B7:38:GLY:O	36:BA:458:G:H5”	1.78	0.84
36:BA:898:C:H2’	36:BA:899:A:H5’	1.57	0.84
57:BY:87:LYS:C	57:BY:88:LYS:HD2	2.01	0.84
24:AY:75:C:H5	25:AZ:232:THR:H	1.22	0.84
36:BA:1678:G:H22	36:BA:1989:G:H22	1.23	0.84
36:BA:1697:G:H3’	36:BA:1698:A:H5”	1.57	0.84
38:BC:53:ARG:HB3	38:BC:53:ARG:HH11	1.40	0.84
2:AB:114:ARG:HD2	2:AB:141:GLU:OE2	1.76	0.84
36:BA:654(M):C:H2’	36:BA:654(N):G:C8	2.13	0.84
36:BA:2245:U:H5’	36:BA:2246:G:H5’	1.57	0.84
7:AG:84:ASN:OD1	22:AW:33:U:H5’	1.77	0.84
9:AI:53:VAL:HG13	9:AI:95:LYS:HE3	1.58	0.84
22:AW:57:G:C2’	22:AW:58:A:H5’	2.06	0.84
36:BA:271(L):U:H4’	36:BA:271(M):G:C8	2.11	0.84
1:AA:266:G:H5”	1:AA:267:C:H5	1.43	0.84
36:BA:621:A:H2’	36:BA:622:G:H5’	1.58	0.84
36:BA:2287:A:H2	36:BA:2346:A:N1	1.76	0.84
50:BR:2:ARG:HG3	50:BR:2:ARG:NH1	1.90	0.84
58:BZ:155:LEU:H	58:BZ:155:LEU:HD23	1.42	0.84
1:AA:1218:C:H2’	1:AA:1219:U:C6	2.12	0.84
43:BH:143:GLN:HE21	43:BH:143:GLN:HA	1.43	0.84
56:BX:30:VAL:HG22	56:BX:77:LYS:O	1.78	0.84
12:AL:89:ARG:NH1	12:AL:91:LYS:HA	1.93	0.84
36:BA:304:G:H1	36:BA:313:C:H42	1.23	0.84
42:BG:6:ALA:O	42:BG:10:LYS:HB2	1.78	0.84
22:AW:56:C:O4’	38:BC:132:GLY:HA3	1.76	0.84
30:B4:6:HIS:HA	42:BG:67:LYS:HD2	1.60	0.84
36:BA:2593:U:H2’	36:BA:2594:C:H6	1.42	0.84
38:BC:45:ALA:HA	38:BC:211:SER:O	1.78	0.84
43:BH:23:ARG:HD3	43:BH:36:PRO:HB3	1.60	0.84
48:BP:112:LEU:H	48:BP:128:HIS:HD2	1.23	0.84
1:AA:522:C:H41	12:AL:53:ARG:HH22	1.25	0.83
36:BA:1762:A:H8	36:BA:1762:A:O5’	1.59	0.83
36:BA:2645:G:H3’	36:BA:2646:C:H5’	1.60	0.83
42:BG:67:LYS:HD3	42:BG:67:LYS:N	1.93	0.83
48:BP:47:ASP:HB3	48:BP:48:PRO:CA	2.06	0.83
50:BR:18:LEU:HD11	50:BR:22:ARG:CZ	2.08	0.83
52:BT:28:VAL:HG13	52:BT:46:GLU:HA	1.60	0.83
32:B6:11:LEU:HD13	32:B6:12:GLU:H	1.43	0.83
36:BA:2781:A:C5’	36:BA:2782:G:H5’	2.07	0.83
51:BS:48:LEU:HD23	51:BS:82:ILE:HG13	1.60	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:80:ILE:H	2:AB:80:ILE:HD12	1.41	0.83
36:BA:1899:G:H21	36:BA:1902:C:N4	1.75	0.83
38:BC:164:ARG:HG2	38:BC:165:ASN:N	1.93	0.83
42:BG:140:ILE:HD12	42:BG:141:PHE:N	1.94	0.83
55:BW:6:ILE:HG23	55:BW:104:THR:HG22	1.59	0.83
1:AA:963:G:N2	10:AJ:55:LYS:HD3	1.93	0.83
18:AR:73:ALA:HB3	18:AR:79:LEU:HD12	1.61	0.83
39:BD:270:ILE:H	39:BD:270:ILE:HD12	1.43	0.83
46:BN:134:ARG:HH21	46:BN:136:GLU:HB2	1.43	0.83
14:AN:6:LEU:HB3	14:AN:23:ARG:NH2	1.94	0.83
25:AZ:321:TYR:HA	25:AZ:367:ASN:HB3	1.60	0.83
30:B4:9:LEU:HG	42:BG:98:ARG:HH12	1.44	0.83
32:B6:13:CYS:HB2	32:B6:22:ALA:HB3	1.60	0.83
34:B8:28:GLY:O	34:B8:32:LEU:HG	1.78	0.83
36:BA:1335:U:H2'	36:BA:1336:A:C8	2.14	0.83
48:BP:59:LEU:HA	48:BP:61:ARG:HE	1.41	0.83
36:BA:654(L):G:C2'	36:BA:654(M):C:H4'	2.07	0.83
43:BH:70:THR:HG22	43:BH:74:ASN:ND2	1.94	0.83
46:BN:2:LYS:NZ	53:BU:95:LEU:HD21	1.92	0.83
55:BW:1:MET:HE1	55:BW:62:HIS:CD2	2.13	0.83
2:AB:61:LEU:HA	2:AB:64:ARG:NE	1.94	0.83
10:AJ:24:VAL:HG21	10:AJ:37:PRO:HG3	1.60	0.83
34:B8:8:LYS:O	34:B8:12:LYS:HG3	1.78	0.83
50:BR:18:LEU:HD11	50:BR:22:ARG:NE	1.92	0.83
36:BA:1484:G:C2'	36:BA:1485:G:H5"	2.08	0.83
38:BC:58:VAL:HG22	38:BC:201:PRO:HG2	1.58	0.83
1:AA:1218:C:H2'	1:AA:1219:U:H6	1.41	0.83
20:AT:51:GLU:HA	20:AT:54:LYS:HE3	1.59	0.83
25:AZ:195:TRP:HA	25:AZ:198:LYS:HD2	1.60	0.83
36:BA:1286:A:H2'	36:BA:1288:U:OP2	1.76	0.83
43:BH:97:ARG:HG2	43:BH:98:LEU:H	1.42	0.83
50:BR:55:ALA:HA	50:BR:80:PHE:CE1	2.12	0.83
1:AA:351:G:H4'	1:AA:352:C:OP1	1.79	0.82
1:AA:979:C:C3'	1:AA:980:C:H5"	2.09	0.82
24:AY:61:C:H2'	24:AY:62:U:H5"	1.60	0.82
26:B0:36:ILE:HG22	26:B0:60:PHE:HB3	1.61	0.82
38:BC:30:LYS:NZ	38:BC:178:ALA:HB1	1.94	0.82
39:BD:80:ALA:HB3	39:BD:94:LEU:O	1.79	0.82
40:BE:6:GLY:HA2	40:BE:51:PHE:CZ	2.14	0.82
50:BR:7:GLY:O	50:BR:8:ARG:HB2	1.78	0.82
52:BT:68:TYR:O	52:BT:70:VAL:N	2.11	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:160:A:H1'	1:AA:344:A:C5	2.15	0.82
34:B8:52:LYS:N	34:B8:53:PRO:HD2	1.93	0.82
36:BA:27:G:N2	36:BA:512:G:H2'	1.94	0.82
36:BA:796:C:H2'	36:BA:797:C:C6	2.14	0.82
46:BN:57:ALA:HB3	46:BN:124:ALA:HA	1.61	0.82
50:BR:47:PHE:O	50:BR:51:LEU:HD13	1.79	0.82
9:AI:9:ARG:HG2	9:AI:14:VAL:HG22	1.61	0.82
36:BA:672:C:C2'	36:BA:673:C:H5"	2.09	0.82
55:BW:6:ILE:HG12	55:BW:104:THR:CB	2.09	0.82
36:BA:1169:G:H1	36:BA:1180:C:H42	1.28	0.82
48:BP:16:ARG:CZ	48:BP:18:ARG:HB2	2.09	0.82
52:BT:50:ILE:HD11	52:BT:64:ARG:CB	2.10	0.82
1:AA:547:A:H4'	1:AA:548:G:O5'	1.79	0.82
1:AA:677:U:H3	1:AA:713:G:H22	1.23	0.82
10:AJ:55:LYS:N	10:AJ:55:LYS:HE3	1.95	0.82
12:AL:41:ARG:HH22	12:AL:57:LYS:NZ	1.78	0.82
36:BA:272(J):C:H2'	36:BA:274:G:H5"	1.60	0.82
36:BA:1779:U:H5	36:BA:1784:A:N7	1.77	0.82
36:BA:2124:G:H1'	38:BC:42:GLU:HG3	1.60	0.82
36:BA:2175:C:H4'	38:BC:221:SER:HB3	1.60	0.82
43:BH:98:LEU:HB2	43:BH:125:VAL:HG21	1.61	0.82
51:BS:85:VAL:HG23	51:BS:106:ARG:HG3	1.59	0.82
54:BV:21:ARG:HB3	54:BV:91:TYR:HB2	1.60	0.82
9:AI:4:TYR:CD2	9:AI:88:TYR:HB2	2.14	0.82
36:BA:629:G:H5'	36:BA:629:G:C8	2.14	0.82
36:BA:2807:G:H1	36:BA:2893:G:H1	1.24	0.82
39:BD:263:ARG:HH11	39:BD:263:ARG:CB	1.93	0.82
39:BD:263:ARG:HB2	39:BD:263:ARG:NH1	1.93	0.82
36:BA:708:C:H42	36:BA:723:G:H1	1.26	0.82
39:BD:30:GLU:HG3	39:BD:63:ARG:HE	1.43	0.82
39:BD:261:LYS:NZ	39:BD:263:ARG:NH2	2.27	0.82
41:BF:6:VAL:HG12	41:BF:7:TYR:N	1.94	0.82
42:BG:124:SER:HB2	42:BG:131:TYR:CE1	2.14	0.82
46:BN:22:THR:HG22	46:BN:61:ARG:HB3	1.60	0.82
2:AB:200:ILE:HD12	2:AB:200:ILE:N	1.95	0.82
18:AR:45:SER:H	18:AR:51:LEU:HG	1.44	0.82
26:B0:48:GLY:H	26:B0:51:VAL:HB	1.42	0.82
36:BA:1243:G:C2'	36:BA:1244:G:H5"	2.09	0.82
38:BC:180:PHE:HB3	38:BC:184:LYS:CB	2.04	0.82
50:BR:99:LYS:HA	50:BR:112:ALA:HA	1.61	0.82
51:BS:85:VAL:C	51:BS:106:ARG:HG2	2.04	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:BU:112:ARG:HH12	54:BV:46:VAL:CG1	1.91	0.82
19:AS:29:ARG:HB3	19:AS:48:THR:H	1.45	0.82
36:BA:1291:C:H2'	36:BA:1292:U:H5'	1.62	0.82
38:BC:86:ALA:HB3	38:BC:94:VAL:CG1	2.10	0.82
50:BR:73:VAL:O	50:BR:76:VAL:HG12	1.79	0.82
32:B6:18:ARG:HG2	32:B6:18:ARG:NH1	1.82	0.82
36:BA:1543:C:H3'	36:BA:1544:A:C5'	2.09	0.82
36:BA:1689:A:H62	36:BA:1698:A:H2	1.28	0.82
48:BP:83:VAL:HG12	48:BP:112:LEU:HD21	1.62	0.82
54:BV:36:PRO:HA	54:BV:56:SER:HB3	1.61	0.82
13:AM:97:PRO:CA	13:AM:110:ARG:HD3	2.09	0.81
26:B0:43:THR:HG23	26:B0:43:THR:O	1.78	0.81
29:B3:15:TYR:O	29:B3:20:LYS:HE3	1.80	0.81
41:BF:132:VAL:HG23	41:BF:162:LEU:HD23	1.62	0.81
41:BF:167:ALA:HB1	41:BF:173:VAL:HG11	1.60	0.81
42:BG:18:GLU:O	42:BG:22:ARG:HB2	1.80	0.81
1:AA:198:G:HO2'	1:AA:199:G:H8	0.84	0.81
19:AS:32:LYS:HA	19:AS:50:ALA:HB3	1.61	0.81
32:B6:15:GLU:OE2	32:B6:41:PRO:CB	2.28	0.81
42:BG:43:LEU:HD11	42:BG:153:ARG:HG3	1.61	0.81
48:BP:24:GLY:HA3	48:BP:33:ARG:NH1	1.95	0.81
1:AA:192:U:H2'	1:AA:193:C:H6	1.45	0.81
1:AA:198:G:O2'	1:AA:199:G:H8	1.62	0.81
2:AB:90:MET:HE3	2:AB:91:PRO:HD3	1.62	0.81
2:AB:204:ASN:HD22	2:AB:205:ASP:N	1.78	0.81
21:AU:12:LYS:HG2	21:AU:22:ARG:HB3	1.62	0.81
25:AZ:101:GLY:HA3	25:AZ:210:ILE:HD11	1.60	0.81
34:B8:25:MET:CG	48:BP:64:LYS:HB2	2.09	0.81
49:BQ:141:GLN:O	58:BZ:53:ILE:HB	1.79	0.81
50:BR:74:LYS:HD2	50:BR:77:ARG:HH21	1.45	0.81
53:BU:8:VAL:HG23	53:BU:11:ARG:HH21	1.45	0.81
57:BY:75:ILE:CD1	57:BY:79:CYS:HA	2.11	0.81
28:B2:41:ILE:HG13	28:B2:42:GLY:N	1.85	0.81
36:BA:2312:U:C2'	36:BA:2313:C:H5"	2.10	0.81
38:BC:128:GLY:HA2	38:BC:137:LEU:CD2	2.11	0.81
1:AA:1314:C:OP2	19:AS:6:LYS:HG3	1.79	0.81
2:AB:97:TRP:CH2	2:AB:173:ALA:HA	2.15	0.81
31:B5:4:HIS:HB3	31:B5:5:PRO:CD	2.08	0.81
36:BA:472:A:H5'	36:BA:472:A:C8	2.15	0.81
43:BH:12:PRO:CA	43:BH:48:GLY:HA2	2.10	0.81
46:BN:3:THR:HG22	46:BN:4:TYR:H	1.46	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1432:G:OP1	52:BT:107:ASP:HB2	1.79	0.81
36:BA:83:G:H22	36:BA:102:G:H2'	1.44	0.81
36:BA:2801(A):A:C4'	36:BA:2802:G:H5'	2.10	0.81
40:BE:116:VAL:O	40:BE:117:MET:HB2	1.77	0.81
41:BF:25:PRO:HB3	41:BF:119:ARG:HB2	1.63	0.81
22:AV:72:C:H2'	22:AV:73:A:H5"	1.62	0.81
36:BA:2126:A:H4'	36:BA:2127:G:O5'	1.81	0.81
38:BC:180:PHE:CB	38:BC:184:LYS:HB3	2.03	0.81
40:BE:11:MET:HB2	40:BE:23:VAL:O	1.81	0.81
41:BF:84:VAL:HG12	41:BF:85:GLY:N	1.94	0.81
48:BP:124:LYS:HD3	48:BP:143:GLY:HA3	1.60	0.81
49:BQ:134:ARG:NH2	58:BZ:122:ARG:HE	1.78	0.81
53:BU:70:ARG:HA	53:BU:74:LEU:O	1.79	0.81
55:BW:13:SER:HB3	55:BW:16:LYS:HD2	1.62	0.81
57:BY:28:LYS:HB3	57:BY:37:VAL:HB	1.63	0.81
1:AA:979:C:H2'	1:AA:980:C:H5"	1.63	0.81
3:AC:130:VAL:O	3:AC:134:ILE:HG13	1.81	0.81
36:BA:330:A:C2	36:BA:1210:A:H2'	2.10	0.81
36:BA:1409:C:H2'	36:BA:1410:G:C8	2.16	0.81
36:BA:2185:C:H2'	36:BA:2186:G:H5'	1.63	0.81
52:BT:33:LYS:HG3	52:BT:43:GLN:HB2	1.62	0.81
1:AA:573:A:H5'	1:AA:573:A:H8	1.46	0.81
13:AM:91:ARG:HB3	13:AM:98:VAL:HG22	1.62	0.81
36:BA:1314:C:H6	36:BA:1314:C:H5'	1.44	0.81
39:BD:30:GLU:HG3	39:BD:63:ARG:CZ	2.10	0.81
51:BS:83:LYS:HG2	51:BS:105:ALA:HB3	1.63	0.81
1:AA:1320:C:H6	1:AA:1320:C:H5'	1.45	0.81
13:AM:90:LEU:HA	13:AM:93:ARG:HB2	1.63	0.81
22:AW:54:U:H2'	22:AW:55:U:O4'	1.81	0.81
25:AZ:330:ARG:O	25:AZ:364:PRO:HG3	1.79	0.81
36:BA:471:A:H2'	36:BA:472:A:H5"	1.63	0.81
36:BA:1198:U:H2'	36:BA:1199:U:C6	2.16	0.81
36:BA:1948:G:H5'	36:BA:1948:G:H8	1.45	0.81
41:BF:5:ALA:HB2	41:BF:24:LEU:HD11	1.62	0.81
1:AA:266:G:H5"	1:AA:267:C:C5	2.15	0.80
36:BA:747:U:H5'	55:BW:90:ARG:NH1	1.95	0.80
36:BA:1859:A:H61	36:BA:1883:G:H1'	1.46	0.80
36:BA:2836:U:H2'	36:BA:2837:G:C8	2.16	0.80
48:BP:84:ASN:HA	48:BP:115:LEU:O	1.80	0.80
1:AA:1281:U:H5'	1:AA:1282:C:C5	2.16	0.80
3:AC:7:PRO:O	3:AC:11:ARG:HG2	1.81	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:50:ILE:HD13	10:AJ:50:ILE:N	1.94	0.80
25:AZ:301:GLY:CA	25:AZ:347:THR:HB	2.10	0.80
28:B2:17:SER:HB2	28:B2:18:PRO:CD	2.11	0.80
32:B6:6:ARG:HB3	32:B6:6:ARG:HH11	1.45	0.80
36:BA:628:G:C2'	36:BA:629:G:H5"	2.12	0.80
46:BN:2:LYS:HZ1	53:BU:95:LEU:HD21	1.44	0.80
55:BW:40:ASN:O	55:BW:41:LYS:HG2	1.81	0.80
7:AG:113:GLU:CG	7:AG:119:ARG:HG2	2.12	0.80
38:BC:29:VAL:HG23	38:BC:30:LYS:HD2	1.63	0.80
46:BN:73:THR:CG2	46:BN:82:LEU:HD11	2.11	0.80
48:BP:105:LEU:O	48:BP:106:LEU:HB2	1.78	0.80
53:BU:15:LYS:O	53:BU:19:LYS:HG3	1.82	0.80
19:AS:78:ARG:H	19:AS:81:ARG:NH1	1.79	0.80
34:B8:4:MET:HE2	36:BA:592:G:N3	1.95	0.80
36:BA:2640:G:C2'	36:BA:2641:G:H5"	2.12	0.80
48:BP:97:PRO:O	48:BP:98:GLU:HB3	1.80	0.80
58:BZ:103:ARG:HD2	58:BZ:136:PHE:HB2	1.64	0.80
36:BA:266:G:H2'	36:BA:267:C:H5"	1.64	0.80
37:BB:7:G:C3'	37:BB:8:U:H5"	2.11	0.80
25:AZ:104:LEU:HD12	25:AZ:105:VAL:H	1.43	0.80
25:AZ:311:THR:HG22	25:AZ:312:PRO:HD2	1.63	0.80
38:BC:49:ILE:HG22	38:BC:204:ALA:HB1	1.62	0.80
42:BG:56:ALA:HA	42:BG:153:ARG:HH21	1.47	0.80
43:BH:16:SER:HB2	43:BH:27:LYS:HB2	1.64	0.80
1:AA:1266:G:H22	1:AA:1268:A:H5"	1.45	0.80
1:AA:1502:A:H2	1:AA:1505:G:N1	1.78	0.80
26:B0:10:THR:HG22	26:B0:12:ASN:H	1.46	0.80
29:B3:22:ALA:O	29:B3:25:ALA:HB3	1.82	0.80
41:BF:160:ASN:ND2	41:BF:162:LEU:HD13	1.96	0.80
2:AB:77:ALA:HB2	2:AB:211:ILE:HD13	1.62	0.80
4:AD:107:ARG:HH21	4:AD:194:LEU:HD12	1.47	0.80
5:AE:6:PHE:HB3	5:AE:34:VAL:HG22	1.64	0.80
8:AH:10:LEU:HD22	8:AH:83:ILE:HD11	1.61	0.80
2:AB:215:LEU:O	2:AB:219:VAL:HG23	1.82	0.80
32:B6:15:GLU:OE1	32:B6:18:ARG:NE	2.15	0.80
36:BA:500:G:N2	36:BA:502:A:H3'	1.96	0.80
36:BA:969:U:H2'	36:BA:970:C:H6	1.45	0.80
36:BA:2128:C:HO2'	36:BA:2129:C:H6	1.30	0.80
36:BA:2184:G:H2'	36:BA:2185:C:C1'	2.12	0.80
36:BA:2631:G:N2	40:BE:61:ARG:HH12	1.79	0.80
19:AS:46:GLY:N	19:AS:62:ILE:HG23	1.97	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:124:ARG:HB2	25:AZ:163:PHE:HE2	1.46	0.80
36:BA:81:G:H21	57:BY:2:ARG:HH12	1.26	0.80
36:BA:2370:G:H2'	36:BA:2371:G:C8	2.16	0.80
49:BQ:97:VAL:HG11	49:BQ:103:MET:HE3	1.62	0.80
53:BU:88:ILE:HG13	53:BU:88:ILE:O	1.79	0.80
1:AA:961:U:HO2'	1:AA:962:C:H6	1.30	0.79
10:AJ:30:SER:O	10:AJ:80:LYS:HD3	1.81	0.79
28:B2:65:ASN:ND2	28:B2:69:ARG:HH21	1.78	0.79
42:BG:52:ILE:HD13	42:BG:52:ILE:H	1.47	0.79
48:BP:47:ASP:HB3	48:BP:48:PRO:HA	1.64	0.79
52:BT:66:VAL:HG12	52:BT:71:GLY:HA2	1.64	0.79
53:BU:92:ARG:HD2	54:BV:11:GLN:CG	2.12	0.79
1:AA:751:U:H4'	15:AO:24:SER:HB2	1.64	0.79
31:B5:40:LYS:HZ3	31:B5:46:CYS:H	1.25	0.79
36:BA:1614:A:H2'	36:BA:1615:C:H5'	1.65	0.79
36:BA:2129:C:OP2	38:BC:6:ARG:HB3	1.82	0.79
36:BA:2893:G:C5'	36:BA:2894:G:H5'	2.12	0.79
41:BF:3:GLU:O	41:BF:24:LEU:HG	1.81	0.79
50:BR:84:ALA:HB3	50:BR:85:PRO:HD3	1.64	0.79
3:AC:19:GLU:HG2	3:AC:54:ARG:HE	1.46	0.79
5:AE:12:LEU:HD22	5:AE:13:ILE:N	1.98	0.79
22:AV:68:C:H2'	22:AV:69:G:C5'	2.12	0.79
2:AB:96:ARG:HD3	2:AB:148:TYR:HE1	1.47	0.79
10:AJ:54:PHE:CE2	10:AJ:55:LYS:HD2	2.18	0.79
12:AL:27:LEU:HB2	12:AL:62:SER:HB2	1.64	0.79
25:AZ:281:ILE:O	25:AZ:284:ASP:HB2	1.83	0.79
34:B8:30:ARG:HA	34:B8:30:ARG:HE	1.48	0.79
36:BA:2428:G:O2'	48:BP:56:SER:HB2	1.81	0.79
52:BT:13:ARG:HH12	52:BT:15:VAL:HG12	1.46	0.79
55:BW:29:LEU:O	55:BW:33:ARG:HG3	1.81	0.79
4:AD:12:CYS:O	4:AD:33:MET:HE1	1.82	0.79
14:AN:13:THR:H	14:AN:14:PRO:HD2	1.44	0.79
19:AS:29:ARG:CB	19:AS:48:THR:HB	2.11	0.79
36:BA:1494:A:C2'	36:BA:1495:A:H5"	2.13	0.79
36:BA:1494:A:H2'	36:BA:1495:A:H5"	1.65	0.79
42:BG:57:ALA:HB2	42:BG:90:LEU:HD21	1.63	0.79
47:BO:4:PRO:O	47:BO:5:GLN:HB2	1.82	0.79
6:AF:43:LEU:H	6:AF:43:LEU:HD22	1.46	0.79
29:B3:28:LEU:HD23	29:B3:28:LEU:N	1.96	0.79
34:B8:50:LEU:H	34:B8:53:PRO:HD3	1.48	0.79
41:BF:4:VAL:HA	41:BF:19:GLU:HG3	1.62	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BR:45:ARG:HG3	50:BR:46:GLY:N	1.98	0.79
19:AS:5:LEU:C	19:AS:6:LYS:HD2	2.08	0.79
36:BA:860:U:H5	36:BA:917:A:N7	1.80	0.79
36:BA:2693:A:H2'	36:BA:2694:G:C8	2.17	0.79
39:BD:210:GLY:O	39:BD:211:ARG:HB3	1.82	0.79
10:AJ:49:VAL:O	10:AJ:60:ARG:HB3	1.81	0.79
15:AO:10:LYS:HA	15:AO:10:LYS:HE3	1.63	0.79
36:BA:622:G:O2'	36:BA:623:G:H5'	1.82	0.79
39:BD:35:LYS:HB3	39:BD:35:LYS:NZ	1.96	0.79
58:BZ:126:VAL:HG12	58:BZ:163:LEU:CB	2.13	0.79
1:AA:1139:G:H5'	1:AA:1140:C:OP1	1.82	0.79
2:AB:77:ALA:O	2:AB:81:VAL:HG23	1.82	0.79
17:AQ:52:LYS:H	17:AQ:52:LYS:HD2	1.46	0.79
29:B3:22:ALA:HB1	29:B3:46:ASN:ND2	1.96	0.79
36:BA:1010:A:H1'	36:BA:1153:C:H1'	1.65	0.79
41:BF:206:ILE:HG22	41:BF:207:GLY:H	1.45	0.79
51:BS:101:LEU:HD12	51:BS:101:LEU:O	1.82	0.79
52:BT:56:GLY:O	52:BT:59:THR:HG23	1.83	0.79
22:AV:62:C:H5'	22:AV:62:C:H6	1.46	0.79
22:AW:38:A:H2'	22:AW:39:U:H5"	1.64	0.79
36:BA:782:A:C2	39:BD:226:MET:HG2	2.17	0.79
36:BA:1348:G:H2'	36:BA:1349:A:H5"	1.62	0.79
36:BA:1639:U:C2'	36:BA:1640:C:H5"	2.13	0.79
42:BG:51:ARG:HD3	42:BG:53:LEU:HD21	1.65	0.79
1:AA:429:U:H2'	4:AD:25:ARG:HH12	1.47	0.78
36:BA:484:C:OP1	57:BY:49:VAL:HG13	1.83	0.78
51:BS:35:ILE:H	51:BS:53:SER:HB2	1.48	0.78
1:AA:980:C:H5'	1:AA:980:C:C6	2.12	0.78
12:AL:24:VAL:HG13	12:AL:98:TYR:HE2	1.46	0.78
27:B1:37:ILE:HD12	27:B1:37:ILE:O	1.82	0.78
38:BC:94:VAL:HG12	38:BC:95:GLY:N	1.97	0.78
55:BW:70:TYR:CE2	55:BW:72:LYS:HG2	2.18	0.78
57:BY:96:ILE:CG1	57:BY:99:CYS:HB3	2.14	0.78
3:AC:131:ARG:HD3	3:AC:166:GLU:OE1	1.84	0.78
12:AL:32:PHE:HB3	12:AL:84:LEU:HD22	1.66	0.78
22:AV:61:C:H2'	22:AV:62:C:H5"	1.65	0.78
24:AY:75:C:C6	25:AZ:231:ILE:HA	2.17	0.78
27:B1:80:LEU:HD23	27:B1:81:LYS:H	1.48	0.78
36:BA:271(M):G:H2'	36:BA:271(N):U:H5"	1.63	0.78
40:BE:9:VAL:HG12	40:BE:25:VAL:O	1.83	0.78
47:BO:71:ARG:HH11	47:BO:71:ARG:HG3	1.48	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BP:83:VAL:HG23	48:BP:105:LEU:HD22	1.64	0.78
49:BQ:133:ARG:HB2	49:BQ:133:ARG:HH11	1.48	0.78
53:BU:95:LEU:C	53:BU:97:ASP:H	1.90	0.78
58:BZ:33:LEU:CD1	58:BZ:34:ASN:H	1.96	0.78
1:AA:950:U:H2'	1:AA:951:G:H8	1.48	0.78
3:AC:180:ALA:O	3:AC:181:ASN:HB3	1.80	0.78
8:AH:89:PRO:HA	8:AH:92:ARG:NH1	1.98	0.78
25:AZ:21:ASP:H	61:AZ:501:GCP:C3B	1.97	0.78
36:BA:733:G:N7	36:BA:761:A:C6	2.51	0.78
31:B5:3:LYS:HD3	36:BA:747:U:OP2	1.83	0.78
32:B6:45:LYS:HD3	32:B6:45:LYS:N	1.97	0.78
36:BA:2760:C:H2'	36:BA:2761:G:H5"	1.65	0.78
36:BA:2789:C:H1'	36:BA:2892:A:N1	1.98	0.78
43:BH:153:LYS:H	43:BH:153:LYS:CD	1.94	0.78
58:BZ:130:PRO:HA	58:BZ:133:ILE:HD11	1.65	0.78
4:AD:7:PRO:HB2	4:AD:10:ARG:HD2	1.65	0.78
12:AL:24:VAL:O	12:AL:24:VAL:HG12	1.84	0.78
15:AO:29:VAL:HG11	15:AO:67:LEU:HD21	1.65	0.78
30:B4:10:VAL:HG23	30:B4:11:PRO:HD2	1.66	0.78
36:BA:654(N):G:H2'	36:BA:654(O):G:O4'	1.83	0.78
40:BE:24:THR:HG21	40:BE:188:VAL:HG11	1.65	0.78
41:BF:51:THR:HG23	41:BF:92:PRO:HD2	1.65	0.78
50:BR:27:SER:O	50:BR:34:ILE:HD11	1.83	0.78
1:AA:1127:G:H1	1:AA:1145:C:N4	1.82	0.78
2:AB:200:ILE:H	2:AB:200:ILE:CD1	1.95	0.78
34:B8:61:LEU:HD13	34:B8:62:LEU:H	1.47	0.78
36:BA:1528(A):A:H62	36:BA:1541:G:N2	1.82	0.78
38:BC:66:HIS:CD2	38:BC:184:LYS:HD3	2.19	0.78
38:BC:191:ALA:HA	38:BC:194:ARG:HD2	1.64	0.78
46:BN:28:THR:HG23	46:BN:29:LYS:HG3	1.65	0.78
1:AA:1503:A:N7	23:AX:15:A:C6	2.52	0.78
2:AB:33:TYR:HB3	2:AB:41:ILE:HG22	1.66	0.78
28:B2:64:LEU:O	28:B2:64:LEU:HD23	1.83	0.78
36:BA:612:C:H2'	36:BA:613:G:C5'	2.13	0.78
40:BE:77:ILE:HG22	40:BE:78:LEU:N	1.96	0.78
48:BP:16:ARG:NE	48:BP:18:ARG:HB2	1.99	0.78
9:AI:4:TYR:HB2	9:AI:19:LEU:HB2	1.66	0.78
25:AZ:66:ALA:HB3	25:AZ:81:ASP:HB3	1.66	0.78
26:B0:27:GLU:HG3	26:B0:69:PHE:HD1	1.46	0.78
36:BA:392:C:H2'	36:BA:393:C:H6	1.48	0.78
36:BA:672:C:H2'	36:BA:673:C:C5'	2.14	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BR:2:ARG:HD2	50:BR:2:ARG:C	2.06	0.78
2:AB:36:ARG:HA	2:AB:36:ARG:NE	1.99	0.78
10:AJ:65:LEU:HD13	14:AN:56:VAL:H	1.48	0.78
25:AZ:148:ASP:HA	25:AZ:172:ARG:HH22	1.49	0.78
30:B4:5:ILE:O	30:B4:5:ILE:HG12	1.84	0.78
38:BC:59:ARG:CZ	38:BC:142:ALA:HB2	2.13	0.78
46:BN:133:GLN:HG2	46:BN:135:PRO:HD3	1.66	0.78
52:BT:89:VAL:HG12	52:BT:91:ARG:HG3	1.63	0.78
52:BT:131:ALA:C	52:BT:133:GLU:H	1.90	0.78
1:AA:265:G:H2'	1:AA:266:G:H5"	1.65	0.77
22:AV:21:A:H2'	22:AV:22:G:H5"	1.62	0.77
26:B0:7:LEU:HB3	49:BQ:85:LYS:HG3	1.66	0.77
32:B6:15:GLU:HB2	32:B6:20:ASN:HB3	1.66	0.77
55:BW:107:LEU:H	55:BW:107:LEU:HD12	1.47	0.77
58:BZ:40:ASP:HB3	58:BZ:43:GLU:HG2	1.66	0.77
2:AB:61:LEU:HD12	2:AB:64:ARG:HD2	1.66	0.77
20:AT:14:LYS:O	20:AT:18:GLN:HB2	1.83	0.77
29:B3:35:ARG:HH11	29:B3:35:ARG:CB	1.98	0.77
31:B5:16:ARG:HD2	31:B5:20:ARG:NH2	1.98	0.77
37:BB:13:A:O2'	37:BB:14:U:H3'	1.83	0.77
52:BT:10:VAL:O	52:BT:13:ARG:HG2	1.83	0.77
10:AJ:89:ASP:HB3	10:AJ:91:PRO:HD3	1.64	0.77
25:AZ:34:VAL:HG21	25:AZ:199:ILE:HG21	1.65	0.77
36:BA:1434:A:H61	36:BA:1558:A:N6	1.81	0.77
37:BB:60:C:H2'	37:BB:61:G:H8	1.49	0.77
46:BN:58:ASP:C	46:BN:60:ILE:H	1.92	0.77
48:BP:34:GLY:O	48:BP:35:HIS:HB2	1.85	0.77
13:AM:22:ILE:HG21	13:AM:66:LEU:HD23	1.64	0.77
17:AQ:66:SER:OG	17:AQ:69:LYS:HB2	1.84	0.77
25:AZ:230:THR:OG1	25:AZ:295:ARG:HD2	1.84	0.77
32:B6:15:GLU:OE2	32:B6:41:PRO:HB3	1.83	0.77
36:BA:614(A):U:H4'	36:BA:614(B):G:H5"	1.67	0.77
42:BG:44:GLY:O	42:BG:47:LYS:HE2	1.84	0.77
4:AD:19:LEU:HD23	4:AD:21:LEU:HD21	1.67	0.77
11:AK:57:THR:CG2	11:AK:60:ALA:H	1.98	0.77
19:AS:11:VAL:HA	19:AS:38:SER:CB	2.14	0.77
20:AT:63:ILE:HG22	20:AT:64:ASP:N	1.99	0.77
34:B8:32:LEU:HD12	34:B8:36:LYS:NZ	1.99	0.77
36:BA:1227:G:OP1	53:BU:13:LYS:HD2	1.83	0.77
38:BC:41:VAL:HG12	38:BC:43:VAL:HG23	1.64	0.77
43:BH:20:ALA:HB1	43:BH:21:PRO:CD	2.15	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:967:C:H4'	9:AI:125:TYR:HE2	1.49	0.77
12:AL:91:LYS:O	12:AL:92:ASP:HB2	1.83	0.77
25:AZ:303:VAL:HG12	25:AZ:304:LEU:N	2.00	0.77
33:B7:8:ASN:C	33:B7:8:ASN:ND2	2.35	0.77
36:BA:1678:G:N2	36:BA:1989:G:H22	1.81	0.77
56:BX:18:TYR:HA	56:BX:21:PHE:CE1	2.19	0.77
58:BZ:19:ARG:HH12	58:BZ:84:GLU:HA	1.48	0.77
9:AI:53:VAL:HG13	9:AI:95:LYS:CE	2.15	0.77
40:BE:47:VAL:O	40:BE:49:LEU:HD22	1.84	0.77
53:BU:92:ARG:HD3	53:BU:94:ASN:HB3	1.65	0.77
54:BV:36:PRO:HA	54:BV:56:SER:CB	2.15	0.77
8:AH:7:ALA:HB2	8:AH:85:ARG:HD3	1.67	0.77
24:AY:72:U:H2'	24:AY:73:G:H5"	1.65	0.77
31:B5:3:LYS:HA	31:B5:3:LYS:HE3	1.67	0.77
51:BS:24:LEU:HB3	51:BS:85:VAL:HG12	1.67	0.77
51:BS:67:ARG:NH2	51:BS:100:ALA:HB3	1.99	0.77
53:BU:13:LYS:CD	53:BU:16:LYS:HZ2	1.97	0.77
25:AZ:202:LEU:O	25:AZ:206:ILE:HG13	1.84	0.77
25:AZ:277:LEU:HD12	25:AZ:279:GLU:H	1.47	0.77
36:BA:654(J):A:H8	36:BA:654(L):G:H1'	1.48	0.77
38:BC:186:ALA:HB1	38:BC:190:ARG:NH2	1.99	0.77
40:BE:47:VAL:HG21	40:BE:86:PRO:CD	2.14	0.77
1:AA:265:G:H5'	17:AQ:64:PRO:O	1.85	0.77
10:AJ:40:LEU:HD23	10:AJ:40:LEU:H	1.48	0.77
36:BA:672:C:H2'	36:BA:673:C:H5"	1.67	0.77
36:BA:1484:G:H2'	36:BA:1485:G:C5'	2.13	0.77
36:BA:1722:A:O2'	36:BA:1739:U:H5"	1.84	0.77
42:BG:115:ARG:NH2	42:BG:136:ARG:HB2	1.95	0.77
36:BA:271(E):U:H2'	36:BA:271(F):C:C6	2.20	0.76
36:BA:615:G:OP2	41:BF:40:GLN:HG3	1.86	0.76
36:BA:2593:U:H2'	36:BA:2594:C:C6	2.20	0.76
40:BE:51:PHE:O	40:BE:74:PRO:HB3	1.84	0.76
35:B9:7:VAL:HG13	35:B9:34:GLN:HG2	1.67	0.76
36:BA:296:C:O2'	36:BA:297:C:H5'	1.84	0.76
40:BE:199:ARG:HG2	40:BE:200:GLU:H	1.51	0.76
52:BT:64:ARG:HD2	52:BT:73:GLU:OE1	1.86	0.76
30:B4:14:ILE:HG13	30:B4:31:ILE:HG21	1.67	0.76
36:BA:1095:A:H2'	36:BA:1096:A:C8	2.19	0.76
42:BG:96:ARG:O	42:BG:97:ASP:HB2	1.85	0.76
47:BO:87:ILE:CG2	47:BO:91:LEU:HA	2.15	0.76
54:BV:69:LYS:HB2	54:BV:88:ARG:HD3	1.66	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:176:C:H2'	1:AA:177:C:C6	2.21	0.76
20:AT:73:HIS:C	20:AT:74:LYS:HD3	2.10	0.76
21:AU:6:ARG:HD3	21:AU:15:ARG:NH1	2.00	0.76
27:B1:80:LEU:HD23	27:B1:81:LYS:N	2.01	0.76
35:B9:35:ARG:O	35:B9:35:ARG:HG2	1.86	0.76
36:BA:1899:G:O2'	36:BA:1900:A:H5"	1.84	0.76
38:BC:131:LEU:HD22	38:BC:136:LEU:HD12	1.66	0.76
5:AE:80:ILE:HD11	5:AE:138:ALA:HA	1.68	0.76
13:AM:90:LEU:O	13:AM:91:ARG:HB2	1.84	0.76
28:B2:43:GLN:HG2	28:B2:44:LEU:H	1.50	0.76
36:BA:1847:A:H4'	36:BA:1848:A:OP2	1.84	0.76
47:BO:88:ASN:ND2	47:BO:92:GLU:HB3	1.99	0.76
2:AB:204:ASN:C	2:AB:204:ASN:ND2	2.44	0.76
31:B5:3:LYS:HD3	36:BA:747:U:P	2.26	0.76
36:BA:581:C:H2'	36:BA:582:G:H8	1.51	0.76
36:BA:2151:G:H2'	36:BA:2152:G:C8	2.19	0.76
10:AJ:33:GLN:O	10:AJ:75:ILE:HG12	1.84	0.76
19:AS:6:LYS:HG2	19:AS:7:LYS:HE3	1.67	0.76
36:BA:143(A):C:H4'	56:BX:38:GLU:OE1	1.85	0.76
36:BA:1231:G:H2'	36:BA:1232:G:H8	1.50	0.76
36:BA:1290:C:H2'	36:BA:1291:C:H6	1.50	0.76
36:BA:2022:U:O2'	36:BA:2617:C:H5'	1.85	0.76
50:BR:92:GLY:H	50:BR:94:TYR:HE2	1.34	0.76
36:BA:1353:A:H4'	39:BD:38:LYS:HE3	1.68	0.76
38:BC:164:ARG:O	38:BC:171:ILE:HD12	1.85	0.76
51:BS:54:LEU:C	51:BS:56:LEU:H	1.93	0.76
1:AA:1452:C:H5"	1:AA:1456:G:OP1	1.85	0.76
10:AJ:23:ILE:HG23	10:AJ:85:LEU:HD22	1.67	0.76
25:AZ:224:PRO:HG3	25:AZ:345:ARG:HD3	1.64	0.76
36:BA:1019:U:HO2'	36:BA:1021:A:H2	1.34	0.76
36:BA:1798:U:H5'	39:BD:259:THR:HG22	1.66	0.76
51:BS:15:ARG:HH12	51:BS:18:ILE:HD11	1.51	0.76
52:BT:80:SER:CB	52:BT:81:PRO:HD3	2.16	0.76
57:BY:79:CYS:SG	57:BY:80:GLY:N	2.58	0.76
1:AA:1305:G:C5'	21:AU:4:GLY:HA3	2.16	0.76
11:AK:57:THR:HG22	11:AK:60:ALA:H	1.50	0.76
24:AY:75:C:H1'	25:AZ:231:ILE:CD1	2.16	0.76
31:B5:4:HIS:CB	31:B5:5:PRO:HD3	2.15	0.76
36:BA:1947:C:H2'	36:BA:1948:G:C5'	2.16	0.76
36:BA:2836:U:H2'	36:BA:2837:G:H8	1.49	0.76
38:BC:107:TRP:CZ3	38:BC:131:LEU:HD21	2.20	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BR:7:GLY:O	50:BR:8:ARG:NE	2.18	0.76
1:AA:490:G:H2'	1:AA:491:G:H8	1.51	0.75
9:AI:49:PRO:HB3	9:AI:101:PHE:HD2	1.50	0.75
10:AJ:62:HIS:HB2	14:AN:59:ALA:HB3	1.67	0.75
31:B5:50:GLY:HA3	31:B5:56:LYS:HD3	1.67	0.75
38:BC:75:LEU:HG	38:BC:112:ALA:O	1.85	0.75
39:BD:72:LYS:HB3	39:BD:72:LYS:HZ3	1.51	0.75
52:BT:32:TYR:HD2	52:BT:32:TYR:N	1.84	0.75
1:AA:1023:G:H2'	1:AA:1024:G:H5'	1.67	0.75
1:AA:1052:U:O4	1:AA:1200:C:H2'	1.86	0.75
2:AB:155:LEU:HD21	2:AB:159:PRO:HG3	1.66	0.75
4:AD:61:LYS:CE	4:AD:62:GLN:HE21	2.00	0.75
36:BA:548:A:H2'	36:BA:549:G:H5'	1.68	0.75
42:BG:66:GLN:OE1	42:BG:94:LEU:HD23	1.85	0.75
49:BQ:60:ARG:HB3	49:BQ:60:ARG:HH11	1.50	0.75
55:BW:65:LEU:HD23	55:BW:68:ARG:NE	2.02	0.75
36:BA:2317:C:H2'	36:BA:2318:G:H5'	1.66	0.75
43:BH:153:LYS:HD3	43:BH:153:LYS:N	1.96	0.75
51:BS:66:ALA:HB1	51:BS:99:LYS:HD3	1.68	0.75
25:AZ:35:THR:CG2	25:AZ:203:LEU:HD11	2.17	0.75
35:B9:10:ILE:O	35:B9:11:CYS:HB3	1.86	0.75
36:BA:2315:G:H2'	36:BA:2316:C:H6	1.51	0.75
39:BD:60:ARG:HG3	39:BD:86:PRO:HB2	1.67	0.75
43:BH:18:GLU:CG	43:BH:25:LYS:HB2	2.15	0.75
1:AA:979:C:C2'	1:AA:980:C:H5"	2.15	0.75
2:AB:84:GLU:HB3	2:AB:219:VAL:CG2	2.12	0.75
15:AO:17:ARG:HD3	15:AO:26:GLU:HG3	1.67	0.75
36:BA:1590:U:H2'	36:BA:1591:G:H5"	1.68	0.75
38:BC:175:VAL:HG21	38:BC:189:ILE:HG12	1.69	0.75
1:AA:280:C:O2	17:AQ:38:ARG:HG3	1.87	0.75
34:B8:21:LYS:HZ3	34:B8:48:PHE:HZ	1.34	0.75
36:BA:2113:U:H2'	36:BA:2114:A:H8	1.50	0.75
36:BA:2170:A:H5'	38:BC:133:PRO:HG2	1.69	0.75
38:BC:100:ILE:O	38:BC:104:LEU:HD23	1.87	0.75
43:BH:41:MET:HG3	43:BH:42:ARG:O	1.85	0.75
48:BP:50:ARG:HG3	48:BP:51:PHE:N	2.01	0.75
57:BY:42:VAL:HG21	57:BY:67:LEU:HD12	1.68	0.75
58:BZ:20:ARG:HH11	58:BZ:20:ARG:CB	1.97	0.75
58:BZ:100:VAL:HG23	58:BZ:126:VAL:HG21	1.67	0.75
1:AA:963:G:H21	10:AJ:55:LYS:CD	2.00	0.75
11:AK:84:VAL:HG11	11:AK:95:ILE:HD11	1.67	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2028:U:H2'	36:BA:2029:G:C8	2.22	0.75
36:BA:2375:G:H1'	36:BA:2379:G:N2	2.02	0.75
37:BB:87:G:H3'	37:BB:88:C:H5"	1.68	0.75
49:BQ:62:GLY:HA2	58:BZ:116:VAL:HG21	1.68	0.75
51:BS:13:ARG:HG3	51:BS:14:VAL:N	2.01	0.75
51:BS:85:VAL:O	51:BS:106:ARG:HG2	1.86	0.75
56:BX:89:ILE:HG22	56:BX:92:LEU:H	1.52	0.75
58:BZ:33:LEU:HD12	58:BZ:34:ASN:N	2.00	0.75
8:AH:83:ILE:HD12	8:AH:137:VAL:HG22	1.66	0.75
22:AV:61:C:C2'	22:AV:62:C:H5"	2.17	0.75
25:AZ:213:PRO:HG2	25:AZ:215:ARG:HH21	1.52	0.75
28:B2:19:VAL:HG12	28:B2:23:LYS:HE3	1.68	0.75
36:BA:1503:U:H2'	36:BA:1504:C:C6	2.22	0.75
37:BB:40:U:H3'	37:BB:41:U:C5'	2.17	0.75
49:BQ:133:ARG:HH11	49:BQ:133:ARG:CB	1.99	0.75
52:BT:80:SER:HB3	52:BT:81:PRO:CD	2.16	0.75
58:BZ:40:ASP:HB3	58:BZ:43:GLU:CD	2.12	0.75
11:AK:62:GLN:HG2	11:AK:63:LEU:HD23	1.66	0.75
22:AV:72:C:C2'	22:AV:73:A:H5"	2.17	0.75
25:AZ:99:MET:HE2	25:AZ:102:ALA:HB2	1.69	0.75
25:AZ:256:VAL:HG12	25:AZ:379:ALA:HB2	1.69	0.75
25:AZ:330:ARG:HG3	25:AZ:395:VAL:HB	1.69	0.75
36:BA:2184:G:H2'	36:BA:2185:C:H1'	1.67	0.75
52:BT:82:LEU:H	52:BT:82:LEU:HD12	1.52	0.75
54:BV:18:LEU:HD23	54:BV:19:LYS:N	2.01	0.75
55:BW:68:ARG:O	55:BW:109:GLU:HA	1.85	0.75
57:BY:7:VAL:HG11	57:BY:8:LYS:HZ2	1.52	0.75
35:B9:35:ARG:HD3	36:BA:2742:C:OP1	1.87	0.74
36:BA:598:G:H5'	48:BP:15:ARG:HB2	1.68	0.74
36:BA:833:U:H5"	48:BP:48:PRO:CB	2.17	0.74
36:BA:2813:A:H61	36:BA:2887:U:H3	1.30	0.74
39:BD:26:LYS:HE2	39:BD:26:LYS:N	2.02	0.74
39:BD:176:ARG:HG2	39:BD:176:ARG:NH1	2.01	0.74
40:BE:87:GLU:O	40:BE:89:ASP:N	2.20	0.74
41:BF:155:LEU:HD11	41:BF:176:LEU:HD13	1.68	0.74
46:BN:28:THR:HG23	46:BN:29:LYS:N	2.01	0.74
52:BT:50:ILE:HD11	52:BT:64:ARG:HB3	1.65	0.74
55:BW:29:LEU:CG	55:BW:33:ARG:HD2	2.17	0.74
57:BY:13:VAL:HG22	57:BY:73:ARG:C	2.12	0.74
2:AB:98:LEU:O	2:AB:101:MET:HG3	1.87	0.74
13:AM:3:ARG:HB2	30:B4:34:GLU:HG2	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AP:20:VAL:HG21	16:AP:32:TYR:CG	2.22	0.74
36:BA:984:A:H5"	36:BA:985:C:H5	1.53	0.74
36:BA:2108:C:O2	36:BA:2108:C:H2'	1.86	0.74
36:BA:2712:U:H1'	36:BA:2712(A):A:C8	2.22	0.74
41:BF:101:LEU:HD12	41:BF:102:PRO:CD	2.17	0.74
48:BP:106:LEU:HD11	48:BP:112:LEU:HD23	1.70	0.74
52:BT:106:SER:HA	52:BT:110:ILE:HG12	1.69	0.74
1:AA:1321:C:H5"	1:AA:1322:C:C5'	2.15	0.74
5:AE:100:VAL:HG12	5:AE:118:ILE:HG22	1.68	0.74
22:AV:20:U:H3'	22:AV:21:A:H5'	1.68	0.74
28:B2:53:LEU:O	28:B2:57:ILE:HG12	1.88	0.74
36:BA:1608:A:H1'	36:BA:1610:A:OP2	1.85	0.74
36:BA:2101:G:H2'	36:BA:2102:U:C5'	2.15	0.74
36:BA:2206:G:N2	36:BA:2207:G:H5'	2.02	0.74
36:BA:2577:A:H5"	36:BA:2578:G:H5'	1.68	0.74
37:BB:106:G:H2'	37:BB:107:G:H8	1.51	0.74
38:BC:128:GLY:HA2	38:BC:137:LEU:HD23	1.70	0.74
41:BF:154:VAL:HG22	41:BF:191:ARG:HB3	1.68	0.74
41:BF:192:LEU:HD21	41:BF:194:MET:HG3	1.68	0.74
58:BZ:144:LEU:HD11	58:BZ:150:LEU:HD22	1.68	0.74
4:AD:47:ARG:HD3	4:AD:49:ARG:HH21	1.52	0.74
36:BA:774:A:H2	36:BA:787:U:O2'	1.70	0.74
39:BD:35:LYS:HZ2	39:BD:35:LYS:CB	2.00	0.74
50:BR:34:ILE:HB	50:BR:114:VAL:HG23	1.69	0.74
56:BX:10:ALA:HB1	56:BX:11:PRO:HD2	1.68	0.74
57:BY:50:ARG:HG3	57:BY:56:PRO:O	1.86	0.74
1:AA:961:U:O2'	1:AA:962:C:H6	1.70	0.74
3:AC:80:GLY:O	3:AC:82:GLU:HG3	1.87	0.74
9:AI:104:ARG:HD3	9:AI:104:ARG:C	2.12	0.74
36:BA:2159:G:H2'	36:BA:2160:G:C5'	2.17	0.74
41:BF:159:GLY:HA2	41:BF:164:ARG:HH21	1.52	0.74
46:BN:89:LYS:O	46:BN:93:THR:HG22	1.87	0.74
48:BP:111:ARG:HH21	48:BP:111:ARG:HG2	1.52	0.74
58:BZ:10:ARG:HH21	58:BZ:36:LYS:CB	2.01	0.74
9:AI:40:LEU:HD11	9:AI:70:LYS:HG2	1.68	0.74
36:BA:1658:C:OP1	40:BE:132:HIS:ND1	2.20	0.74
36:BA:2176:A:H2	38:BC:172:HIS:CE1	2.06	0.74
47:BO:115:VAL:HG13	47:BO:121:VAL:HG21	1.69	0.74
58:BZ:17:ALA:HA	58:BZ:20:ARG:HG2	1.68	0.74
11:AK:52:GLY:H	11:AK:55:LYS:CE	2.00	0.74
17:AQ:57:VAL:HA	17:AQ:77:VAL:HG23	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:B1:44:PRO:HG2	27:B1:46:LEU:CD2	2.17	0.74
36:BA:1264:G:H3'	36:BA:1265:A:H5"	1.70	0.74
36:BA:2165:G:OP2	38:BC:108:MET:HE2	1.88	0.74
36:BA:2413:G:H21	48:BP:70:GLN:HE22	1.36	0.74
9:AI:95:LYS:HD3	9:AI:96:LEU:N	2.02	0.74
12:AL:5:PRO:HG2	12:AL:10:LEU:HD21	1.70	0.74
13:AM:11:ARG:HG2	13:AM:12:ASN:HD22	1.52	0.74
36:BA:2189:U:C2'	36:BA:2190:G:H4'	2.17	0.74
4:AD:175:SER:HB3	4:AD:186:LEU:HD11	1.68	0.74
16:AP:20:VAL:HG23	16:AP:34:GLU:O	1.88	0.74
28:B2:65:ASN:HD22	28:B2:69:ARG:NH2	1.83	0.74
30:B4:25:TYR:HB2	42:BG:101:ILE:HD13	1.68	0.74
36:BA:612:C:H2'	36:BA:613:G:H5"	1.67	0.74
36:BA:2307:G:H21	36:BA:2308:G:H5'	1.52	0.74
40:BE:35:GLN:HG2	40:BE:36:ARG:H	1.51	0.74
1:AA:1226:C:H4'	1:AA:1227:A:OP1	1.85	0.74
4:AD:150:GLU:CD	4:AD:151:LYS:N	2.46	0.74
19:AS:62:ILE:HA	19:AS:66:MET:HE2	1.70	0.74
25:AZ:324:LYS:HD3	25:AZ:325:LYS:N	2.03	0.74
25:AZ:388:ILE:O	25:AZ:395:VAL:HG22	1.88	0.74
36:BA:1061:U:H4'	36:BA:1070:A:O4'	1.88	0.74
38:BC:164:ARG:CG	38:BC:165:ASN:H	1.99	0.74
38:BC:184:LYS:HE2	38:BC:184:LYS:N	2.03	0.74
48:BP:121:LYS:O	48:BP:123:LEU:HD23	1.87	0.74
48:BP:122:PRO:HA	48:BP:141:ALA:O	1.87	0.74
49:BQ:1:MET:HE2	49:BQ:44:ALA:HB1	1.70	0.74
51:BS:40:ILE:HG22	51:BS:47:THR:HG23	1.70	0.74
51:BS:78:LEU:HD11	51:BS:103:GLU:CB	2.17	0.74
53:BU:93:LYS:H	53:BU:93:LYS:HD2	1.53	0.74
54:BV:28:GLU:HB3	54:BV:29:PRO:HD2	1.68	0.74
56:BX:64:LYS:NZ	56:BX:73:ARG:HH21	1.86	0.74
16:AP:34:GLU:OE2	16:AP:55:ARG:HD3	1.88	0.73
36:BA:2416:C:H2'	36:BA:2417:C:H6	1.53	0.73
5:AE:6:PHE:CB	5:AE:34:VAL:HG22	2.17	0.73
25:AZ:54:PRO:O	25:AZ:55:GLU:HB3	1.86	0.73
25:AZ:263:ARG:HE	25:AZ:293:VAL:HG12	1.52	0.73
25:AZ:368:VAL:HG12	25:AZ:369:THR:N	2.01	0.73
30:B4:14:ILE:HG13	30:B4:31:ILE:CG2	2.18	0.73
36:BA:252:G:OP2	48:BP:50:ARG:NH1	2.21	0.73
37:BB:91:C:OP1	49:BQ:16:ARG:HG2	1.88	0.73
39:BD:267:SER:O	39:BD:269:PHE:N	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BG:11:TYR:HA	42:BG:15:VAL:HG23	1.69	0.73
42:BG:16:ARG:HH11	42:BG:16:ARG:HG3	1.51	0.73
46:BN:36:GLY:O	46:BN:42:TRP:HB2	1.87	0.73
51:BS:58:LEU:HG	51:BS:59:LYS:N	2.01	0.73
53:BU:48:ALA:O	53:BU:52:ARG:HG3	1.87	0.73
55:BW:17:VAL:C	55:BW:19:LEU:H	1.95	0.73
1:AA:92:C:H2'	1:AA:93:G:C8	2.19	0.73
10:AJ:90:LEU:H	10:AJ:91:PRO:HD3	1.53	0.73
12:AL:59:ARG:HD3	12:AL:65:GLU:OE2	1.88	0.73
26:B0:27:GLU:OE2	36:BA:856:C:H1'	1.88	0.73
36:BA:2580:U:C5'	40:BE:131:ALA:H	2.01	0.73
42:BG:76:SER:OG	42:BG:84:LYS:HG3	1.88	0.73
43:BH:158:HIS:NE2	43:BH:170:ARG:HA	2.03	0.73
52:BT:54:ARG:HA	52:BT:59:THR:HB	1.71	0.73
58:BZ:151:HIS:HB2	58:BZ:170:THR:HA	1.68	0.73
1:AA:66:G:H4'	1:AA:173:U:C5	2.23	0.73
1:AA:1226:C:C5	13:AM:104:ARG:HB2	2.24	0.73
16:AP:20:VAL:HG21	16:AP:32:TYR:CB	2.18	0.73
28:B2:25:VAL:C	28:B2:27:GLU:H	1.95	0.73
36:BA:1798:U:C5'	39:BD:259:THR:HG22	2.17	0.73
36:BA:2315:G:H2'	36:BA:2316:C:C6	2.23	0.73
50:BR:2:ARG:HH11	50:BR:2:ARG:N	1.85	0.73
1:AA:1148:U:H2'	1:AA:1149:C:O4'	1.87	0.73
36:BA:94(A):G:H2'	36:BA:95:G:O4'	1.87	0.73
36:BA:272(J):C:C2'	36:BA:274:G:H5"	2.19	0.73
38:BC:215:THR:HB	38:BC:221:SER:HA	1.68	0.73
43:BH:106:THR:HG22	43:BH:112:PRO:HA	1.68	0.73
52:BT:91:ARG:O	52:BT:117:ASP:HB3	1.88	0.73
56:BX:35:THR:HG22	56:BX:37:THR:H	1.51	0.73
1:AA:453:A:H5"	16:AP:72:ARG:HD2	1.70	0.73
1:AA:950:U:H2'	1:AA:951:G:C8	2.23	0.73
5:AE:144:THR:O	5:AE:148:VAL:HG23	1.87	0.73
9:AI:48:GLU:N	9:AI:49:PRO:HD2	2.03	0.73
13:AM:25:ILE:HD11	13:AM:60:VAL:HG13	1.71	0.73
22:AV:69:G:H5'	22:AV:69:G:H8	1.52	0.73
22:AW:55:U:H5'	38:BC:164:ARG:NH2	2.03	0.73
34:B8:61:LEU:CD1	34:B8:62:LEU:H	2.01	0.73
36:BA:1012:U:O4	46:BN:28:THR:HG21	1.89	0.73
36:BA:1813:G:H4'	39:BD:44:ASN:O	1.88	0.73
42:BG:38:VAL:HG22	42:BG:93:THR:HG23	1.69	0.73
26:B0:69:PHE:CD2	26:B0:79:VAL:HG22	2.24	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:723:G:H2'	36:BA:724:U:C6	2.24	0.73
36:BA:1786:A:H2	36:BA:2606:C:H1'	1.54	0.73
41:BF:159:GLY:HA2	41:BF:164:ARG:NH2	2.04	0.73
42:BG:5:VAL:HG12	42:BG:6:ALA:H	1.54	0.73
43:BH:17:VAL:HG12	43:BH:18:GLU:H	1.53	0.73
51:BS:36:TYR:N	51:BS:36:TYR:HD1	1.86	0.73
57:BY:14:LEU:HD12	57:BY:23:ARG:O	1.89	0.73
1:AA:453:A:HO2'	1:AA:454:C:H6	1.35	0.73
7:AG:121:ALA:O	7:AG:125:MET:HG3	1.89	0.73
8:AH:20:TYR:HE2	8:AH:75:ARG:HD2	1.53	0.73
13:AM:11:ARG:HG2	13:AM:12:ASN:ND2	2.03	0.73
38:BC:59:ARG:HG3	38:BC:164:ARG:HG3	1.70	0.73
39:BD:94:LEU:HB2	39:BD:104:TYR:HE2	1.53	0.73
42:BG:67:LYS:HD3	42:BG:67:LYS:H	1.53	0.73
51:BS:17:ARG:C	51:BS:19:LYS:H	1.95	0.73
57:BY:81:LYS:HD3	57:BY:97:ARG:O	1.89	0.73
1:AA:1040:U:H2'	1:AA:1041:A:H8	1.54	0.73
7:AG:46:ALA:O	7:AG:50:ILE:HG12	1.88	0.73
12:AL:6:THR:OG1	12:AL:9:GLN:HG3	1.88	0.73
25:AZ:301:GLY:HA2	25:AZ:347:THR:HB	1.71	0.73
34:B8:50:LEU:C	34:B8:53:PRO:HD2	2.14	0.73
36:BA:428:A:H3'	36:BA:429:A:C8	2.23	0.73
36:BA:1230:C:H2'	36:BA:1231:G:C8	2.23	0.73
36:BA:2308:G:O6	36:BA:2310:A:H2'	1.89	0.73
48:BP:9:ASN:N	48:BP:10:PRO:HD2	1.99	0.73
49:BQ:3:MET:HB2	49:BQ:4:PRO:HD2	1.70	0.73
52:BT:102:ILE:HB	52:BT:110:ILE:CD1	2.19	0.73
54:BV:77:ALA:O	54:BV:79:VAL:HG23	1.89	0.73
1:AA:266:G:C5'	1:AA:267:C:C5	2.71	0.73
1:AA:1285:A:H4'	1:AA:1286:A:O5'	1.88	0.73
3:AC:58:GLU:H	3:AC:65:ALA:HB3	1.53	0.73
23:AX:25:A:O2'	23:AX:26:A:H5'	1.88	0.73
24:AY:62:U:H5'	24:AY:62:U:H6	1.53	0.73
27:B1:80:LEU:HD22	27:B1:82:LEU:HD22	1.71	0.73
29:B3:31:LEU:HD23	29:B3:32:GLN:N	2.04	0.73
34:B8:49:VAL:CG1	34:B8:53:PRO:HD3	2.18	0.73
1:AA:192:U:H5'	20:AT:102:GLY:O	1.89	0.72
6:AF:19:LEU:O	6:AF:19:LEU:HD23	1.88	0.72
17:AQ:45:HIS:O	17:AQ:73:VAL:HG23	1.89	0.72
20:AT:39:LYS:O	20:AT:43:LEU:HG	1.89	0.72
36:BA:662:G:OP1	48:BP:18:ARG:HD2	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1750:G:O2'	36:BA:1751:C:H5'	1.89	0.72
43:BH:76:VAL:C	43:BH:78:GLY:H	1.97	0.72
47:BO:26:LYS:HB2	47:BO:30:ALA:HB2	1.69	0.72
51:BS:58:LEU:HD23	51:BS:65:VAL:HG13	1.71	0.72
58:BZ:163:LEU:HG	58:BZ:165:VAL:HG23	1.69	0.72
9:AI:40:LEU:CD1	9:AI:70:LYS:HG2	2.19	0.72
11:AK:69:ALA:HB1	11:AK:103:LEU:HD21	1.69	0.72
35:B9:1:MET:SD	36:BA:2478:A:OP2	2.46	0.72
36:BA:1666:G:H2'	36:BA:1667:G:H5'	1.69	0.72
43:BH:52:VAL:HG21	43:BH:69:ARG:HB2	1.71	0.72
50:BR:49:ASP:OD1	50:BR:95:THR:HG22	1.88	0.72
56:BX:12:VAL:HG23	56:BX:13:LEU:N	2.04	0.72
57:BY:8:LYS:H	57:BY:8:LYS:CD	1.95	0.72
5:AE:20:GLN:HE22	5:AE:25:ARG:NH2	1.87	0.72
36:BA:1386:C:H2'	36:BA:1387:C:H6	1.54	0.72
36:BA:2179:C:H5"	36:BA:2180:U:OP1	1.90	0.72
38:BC:30:LYS:HD3	38:BC:185:LEU:HD11	1.71	0.72
38:BC:152:ILE:HA	38:BC:155:GLU:OE2	1.88	0.72
40:BE:35:GLN:HG2	40:BE:36:ARG:N	2.04	0.72
52:BT:50:ILE:HG23	52:BT:99:LEU:HD12	1.70	0.72
1:AA:177:C:H2'	1:AA:178:C:C6	2.25	0.72
1:AA:454:C:H5'	1:AA:455:C:OP2	1.89	0.72
1:AA:858:G:C5'	1:AA:858:G:H8	2.01	0.72
1:AA:1435:G:H2'	1:AA:1436:U:C6	2.23	0.72
22:AV:53:G:O2'	22:AV:54:U:H5'	1.90	0.72
36:BA:272(H):C:C2'	36:BA:272(I):U:H5"	2.19	0.72
36:BA:1590:U:C2'	36:BA:1591:G:H5"	2.18	0.72
48:BP:100:LEU:HB2	48:BP:106:LEU:HD22	1.71	0.72
57:BY:86:ARG:HB3	57:BY:88:LYS:HE3	1.71	0.72
57:BY:86:ARG:HG2	57:BY:87:LYS:H	1.55	0.72
58:BZ:117:LEU:HA	58:BZ:174:VAL:HG22	1.68	0.72
22:AW:56:C:H5'	38:BC:137:LEU:HB2	1.71	0.72
36:BA:237:C:O2'	36:BA:238:C:H5'	1.90	0.72
36:BA:812:C:H5'	48:BP:25:SER:HB2	1.70	0.72
36:BA:2283:C:H2'	36:BA:2284:C:H5'	1.71	0.72
37:BB:87:G:C3'	37:BB:88:C:H5"	2.18	0.72
39:BD:27:THR:CG2	39:BD:83:GLU:HG2	2.19	0.72
50:BR:21:TYR:N	50:BR:21:TYR:HD1	1.87	0.72
4:AD:3:ARG:HE	4:AD:5:ILE:CG1	2.01	0.72
14:AN:22:THR:O	14:AN:23:ARG:HB2	1.89	0.72
14:AN:23:ARG:HD2	14:AN:28:GLY:O	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AP:53:VAL:HG23	16:AP:54:GLU:H	1.55	0.72
36:BA:686:G:N2	36:BA:788:A:H61	1.87	0.72
36:BA:1639:U:H2'	36:BA:1640:C:H5"	1.72	0.72
42:BG:11:TYR:HA	42:BG:15:VAL:CG2	2.18	0.72
46:BN:12:ARG:HG2	46:BN:50:ASP:OD2	1.89	0.72
1:AA:1452:C:H5'	1:AA:1456:G:C2	2.25	0.72
25:AZ:32:THR:HG21	25:AZ:45:LYS:N	2.02	0.72
36:BA:547:A:H2'	36:BA:548:A:C8	2.25	0.72
36:BA:742:G:H2'	36:BA:743:G:H8	1.55	0.72
36:BA:2378:A:H62	36:BA:2379:G:H21	1.35	0.72
38:BC:7:TYR:CE2	38:BC:11:LEU:HD11	2.24	0.72
39:BD:222:ARG:O	39:BD:225:ALA:HB3	1.88	0.72
13:AM:10:PRO:CB	13:AM:18:ALA:HB1	2.20	0.72
32:B6:26:ASN:ND2	32:B6:32:ASN:HD21	1.82	0.72
34:B8:30:ARG:HA	34:B8:30:ARG:NE	2.03	0.72
40:BE:96:PHE:HA	40:BE:100:GLU:OE1	1.89	0.72
52:BT:102:ILE:HB	52:BT:110:ILE:HD13	1.71	0.72
1:AA:662:G:O2'	1:AA:836:G:H5'	1.88	0.72
1:AA:1015:A:H2'	1:AA:1016:A:C8	2.25	0.72
4:AD:107:ARG:NH2	4:AD:194:LEU:HD12	2.03	0.72
38:BC:35:ALA:HB3	38:BC:39:GLU:OE2	1.90	0.72
39:BD:8:PRO:HB3	39:BD:14:ARG:HB2	1.72	0.72
42:BG:133:LEU:HD11	42:BG:157:ILE:HD12	1.72	0.72
46:BN:9:VAL:HG21	46:BN:41:ASP:OD2	1.90	0.72
56:BX:35:THR:CG2	56:BX:37:THR:H	2.03	0.72
58:BZ:151:HIS:HA	58:BZ:171:ILE:HG12	1.71	0.72
7:AG:15:ASP:HB2	7:AG:20:ASP:O	1.90	0.72
8:AH:68:ARG:HG2	8:AH:68:ARG:HH11	1.52	0.72
13:AM:10:PRO:HG2	13:AM:45:VAL:HG11	1.72	0.72
13:AM:116:THR:O	13:AM:117:VAL:C	2.31	0.72
33:B7:11:LYS:HE2	36:BA:686:G:H5"	1.72	0.72
36:BA:2779:U:H1'	36:BA:2781:A:C5	2.25	0.72
38:BC:10:LEU:CD1	38:BC:32:LEU:HA	2.16	0.72
38:BC:180:PHE:O	38:BC:185:LEU:HG	1.90	0.72
41:BF:33:LEU:HD21	41:BF:112:MET:HB3	1.72	0.72
42:BG:57:ALA:CB	42:BG:90:LEU:HD21	2.18	0.72
19:AS:10:PHE:CZ	19:AS:70:LYS:HD2	2.25	0.71
25:AZ:21:ASP:H	61:AZ:501:GCP:H3B1	1.54	0.71
25:AZ:92:MET:HG3	25:AZ:93:ILE:N	2.05	0.71
26:B0:20:ARG:HH11	26:B0:20:ARG:CG	2.03	0.71
36:BA:2113:U:H2'	36:BA:2114:A:C8	2.25	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:94:VAL:HG12	38:BC:95:GLY:H	1.54	0.71
40:BE:49:LEU:O	40:BE:78:LEU:HB2	1.90	0.71
46:BN:30:ILE:O	46:BN:34:LEU:HB2	1.90	0.71
52:BT:23:ARG:HB2	52:BT:24:PRO:HD2	1.72	0.71
57:BY:50:ARG:HB3	57:BY:53:PRO:HG3	1.72	0.71
1:AA:509:A:H5'	4:AD:54:TYR:CD2	2.25	0.71
1:AA:1053:G:C4'	1:AA:1054:C:H5'	2.11	0.71
10:AJ:6:ILE:HG13	10:AJ:72:VAL:HB	1.72	0.71
20:AT:53:LEU:HB3	20:AT:57:ARG:HH12	1.55	0.71
32:B6:15:GLU:OE1	32:B6:18:ARG:CZ	2.38	0.71
36:BA:81:G:H21	57:BY:2:ARG:NH1	1.86	0.71
36:BA:221:A:H4'	36:BA:222:A:O5'	1.90	0.71
36:BA:848:G:N3	36:BA:933:A:H1'	2.05	0.71
36:BA:2303:G:O2'	42:BG:132:ASN:HB2	1.89	0.71
36:BA:2317:C:C2'	36:BA:2318:G:H5'	2.20	0.71
36:BA:2632:A:N3	40:BE:61:ARG:NH1	2.38	0.71
40:BE:38:THR:HB	40:BE:41:LYS:HG2	1.72	0.71
50:BR:117:VAL:HG22	50:BR:118:GLU:H	1.53	0.71
52:BT:33:LYS:HE2	52:BT:43:GLN:HE21	1.54	0.71
58:BZ:128:VAL:HG22	58:BZ:129:SER:H	1.52	0.71
1:AA:17:U:H2'	1:AA:18:C:C6	2.26	0.71
1:AA:384:G:H2'	1:AA:385:C:C6	2.25	0.71
1:AA:1305:G:H5"	21:AU:4:GLY:C	2.16	0.71
2:AB:15:VAL:H	2:AB:16:HIS:CE1	2.08	0.71
14:AN:13:THR:H	14:AN:14:PRO:CD	2.03	0.71
36:BA:2408:U:H2'	36:BA:2409:G:C8	2.25	0.71
39:BD:28:GLU:N	39:BD:29:PRO:HD2	2.03	0.71
40:BE:24:THR:HG21	40:BE:188:VAL:CG1	2.19	0.71
40:BE:132:HIS:HA	40:BE:135:HIS:HE1	1.54	0.71
42:BG:133:LEU:CD1	42:BG:157:ILE:HB	2.20	0.71
48:BP:108:LYS:C	48:BP:110:TYR:H	1.99	0.71
51:BS:62:LYS:H	51:BS:65:VAL:HG23	1.54	0.71
52:BT:85:LYS:NZ	52:BT:85:LYS:CB	2.52	0.71
54:BV:38:LEU:HD23	54:BV:39:LEU:N	2.05	0.71
1:AA:639:G:O2'	1:AA:640:A:H5'	1.89	0.71
2:AB:178:ARG:HH12	8:AH:74:PRO:HB3	1.55	0.71
7:AG:8:GLU:HG3	7:AG:9:VAL:H	1.54	0.71
32:B6:5:VAL:N	32:B6:9:LEU:H	1.88	0.71
36:BA:203:C:H3'	36:BA:204:A:H5"	1.72	0.71
36:BA:613:G:H5'	36:BA:613:G:C8	2.22	0.71
36:BA:2243:U:H2'	36:BA:2244:U:C6	2.25	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2464:C:O2'	36:BA:2465:C:H6	1.73	0.71
48:BP:38:GLN:HG3	48:BP:39:LYS:H	1.53	0.71
1:AA:1377:A:H2'	7:AG:7:ALA:HB2	1.72	0.71
8:AH:101:PRO:C	8:AH:102:ARG:HD3	2.15	0.71
13:AM:90:LEU:O	13:AM:91:ARG:CB	2.38	0.71
16:AP:44:THR:O	16:AP:45:THR:HB	1.90	0.71
17:AQ:76:LEU:HD12	17:AQ:77:VAL:H	1.54	0.71
22:AV:20:U:H3'	22:AV:21:A:C5'	2.21	0.71
36:BA:481:G:OP2	57:BY:47:LYS:HB2	1.91	0.71
36:BA:2023:G:H5'	36:BA:2617:C:H4'	1.72	0.71
36:BA:2661:G:O2'	36:BA:2662:A:H5'	1.90	0.71
38:BC:30:LYS:NZ	38:BC:30:LYS:HA	2.05	0.71
40:BE:47:VAL:HG23	40:BE:84:PHE:O	1.91	0.71
56:BX:12:VAL:HG12	56:BX:27:THR:O	1.90	0.71
1:AA:627:G:H2'	1:AA:628:G:H8	1.56	0.71
1:AA:977:A:O2'	1:AA:978:A:C5'	2.39	0.71
19:AS:63:THR:HG22	19:AS:66:MET:SD	2.30	0.71
32:B6:11:LEU:HD13	32:B6:12:GLU:N	2.05	0.71
32:B6:11:LEU:HD11	32:B6:51:GLU:HG3	1.72	0.71
36:BA:2170:A:H5"	38:BC:134:ARG:NH2	2.06	0.71
38:BC:53:ARG:HB3	38:BC:53:ARG:NH1	2.04	0.71
43:BH:105:LEU:H	43:BH:105:LEU:HD23	1.55	0.71
49:BQ:141:GLN:H	58:BZ:53:ILE:HD12	1.55	0.71
52:BT:23:ARG:O	52:BT:25:GLY:N	2.24	0.71
4:AD:43:HIS:O	4:AD:45:GLN:N	2.22	0.71
8:AH:86:ILE:HG21	8:AH:133:LEU:HD23	1.73	0.71
9:AI:114:TYR:CE1	10:AJ:60:ARG:N	2.55	0.71
11:AK:52:GLY:H	11:AK:55:LYS:HE3	1.53	0.71
13:AM:82:MET:O	13:AM:82:MET:HG2	1.90	0.71
24:AY:76:A:O4'	25:AZ:237:VAL:HG11	1.90	0.71
36:BA:322:A:OP2	41:BF:169:ASN:HB2	1.88	0.71
36:BA:471:A:C2'	36:BA:472:A:H5"	2.20	0.71
36:BA:673:C:H5'	36:BA:673:C:C6	2.25	0.71
36:BA:1539:G:C2	36:BA:1540:U:H1'	2.25	0.71
36:BA:1794:U:H2'	36:BA:1795:C:C6	2.26	0.71
38:BC:83:ILE:HG23	38:BC:95:GLY:HA3	1.73	0.71
39:BD:108:PRO:HG2	39:BD:111:LEU:HB2	1.72	0.71
40:BE:37:ARG:HA	40:BE:42:ASP:OD2	1.90	0.71
40:BE:79:ARG:NH1	40:BE:195:LEU:HD21	2.06	0.71
58:BZ:102:LEU:HD22	58:BZ:137:ILE:HB	1.71	0.71
26:B0:7:LEU:HD21	49:BQ:81:VAL:HG23	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:B1:33:LYS:HD3	27:B1:33:LYS:N	2.04	0.71
38:BC:30:LYS:HA	38:BC:30:LYS:HZ2	1.55	0.71
41:BF:33:LEU:O	41:BF:37:VAL:HG23	1.91	0.71
52:BT:28:VAL:O	52:BT:29:ARG:HD3	1.91	0.71
55:BW:73:ALA:HB3	55:BW:106:ILE:HG13	1.72	0.71
3:AC:154:SER:HA	3:AC:165:THR:HA	1.72	0.71
18:AR:32:ARG:HA	18:AR:69:THR:HG21	1.72	0.71
25:AZ:142:ASP:O	25:AZ:144:PRO:HD3	1.90	0.71
26:B0:14:ARG:HB2	26:B0:14:ARG:NH1	2.00	0.71
36:BA:392:C:H2'	36:BA:393:C:C6	2.25	0.71
36:BA:1639:U:O2'	36:BA:1640:C:H5"	1.91	0.71
41:BF:6:VAL:CG1	41:BF:7:TYR:H	2.01	0.71
50:BR:28:LEU:HD12	50:BR:114:VAL:HG23	1.71	0.71
51:BS:58:LEU:CG	51:BS:59:LYS:H	1.98	0.71
1:AA:148:G:H2'	1:AA:149:A:H8	1.55	0.71
9:AI:37:PHE:HB3	9:AI:43:ALA:HB2	1.73	0.71
9:AI:93:ARG:C	9:AI:95:LYS:H	1.99	0.71
22:AW:20:U:H5'	36:BA:2112:G:H1	1.56	0.71
36:BA:1161:C:H2'	36:BA:1162:G:H8	1.56	0.71
36:BA:1335:U:H2'	36:BA:1336:A:H8	1.56	0.71
36:BA:1709:U:H2'	36:BA:1710:C:C6	2.26	0.71
38:BC:99:ILE:HD12	38:BC:102:LYS:NZ	2.05	0.71
40:BE:34:VAL:O	40:BE:35:GLN:HB2	1.91	0.71
50:BR:2:ARG:HH11	50:BR:2:ARG:CG	2.03	0.71
51:BS:36:TYR:N	51:BS:36:TYR:CD1	2.57	0.71
57:BY:42:VAL:HG12	57:BY:65:ALA:HB3	1.73	0.71
2:AB:152:PHE:O	2:AB:153:ARG:HB3	1.91	0.70
13:AM:66:LEU:H	13:AM:66:LEU:HD12	1.54	0.70
26:B0:7:LEU:HD21	49:BQ:81:VAL:CG2	2.21	0.70
35:B9:4:ARG:O	35:B9:36:GLN:HA	1.91	0.70
36:BA:259:G:H1'	36:BA:621:A:O2'	1.91	0.70
36:BA:654(J):A:C8	36:BA:654(L):G:H1'	2.26	0.70
36:BA:1116:C:H2'	36:BA:1117:G:H8	1.56	0.70
36:BA:1251:C:OP1	53:BU:10:ARG:HG3	1.89	0.70
36:BA:1569:A:O2'	39:BD:38:LYS:HG3	1.90	0.70
38:BC:163:PHE:HA	38:BC:172:HIS:O	1.90	0.70
46:BN:17:ASP:OD2	46:BN:56:ASN:HB3	1.91	0.70
57:BY:77:PRO:HB2	57:BY:99:CYS:SG	2.31	0.70
58:BZ:119:GLU:HG2	58:BZ:122:ARG:NH1	2.05	0.70
5:AE:31:LEU:HD23	5:AE:45:PHE:HD1	1.56	0.70
17:AQ:26:GLN:O	17:AQ:27:PHE:HB3	1.89	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:B3:26:LEU:HB2	29:B3:28:LEU:HD21	1.73	0.70
32:B6:5:VAL:N	32:B6:8:LYS:HB3	2.06	0.70
36:BA:416:C:H42	36:BA:2407:G:H1	1.39	0.70
36:BA:915:C:H2'	36:BA:916:G:H8	1.54	0.70
36:BA:2641:G:H5'	36:BA:2641:G:C8	2.22	0.70
48:BP:16:ARG:HB2	48:BP:16:ARG:HH11	1.56	0.70
54:BV:49:THR:HB	54:BV:50:PRO:CD	2.21	0.70
1:AA:1127:G:H1	1:AA:1145:C:H42	1.38	0.70
2:AB:122:PHE:HA	2:AB:139:LYS:NZ	2.06	0.70
3:AC:68:VAL:HG12	3:AC:70:VAL:HG23	1.72	0.70
7:AG:16:LEU:CD1	9:AI:42:ARG:HA	2.20	0.70
28:B2:2:LYS:O	28:B2:5:GLU:HG2	1.91	0.70
36:BA:121:G:H4'	36:BA:149:A:H5'	1.74	0.70
36:BA:612:C:O2'	36:BA:613:G:H5"	1.91	0.70
36:BA:1252:G:N3	53:BU:33:ARG:HD2	2.05	0.70
36:BA:1512:U:H2'	36:BA:1512:U:O2	1.90	0.70
22:AW:57:G:H2'	22:AW:58:A:C5'	2.21	0.70
22:AW:59:U:H2'	22:AW:60:U:H5'	1.73	0.70
34:B8:33:ASN:CG	34:B8:34:TRP:N	2.50	0.70
36:BA:1053:C:H2'	36:BA:1054:A:H8	1.57	0.70
36:BA:1981:A:H5"	36:BA:1982:C:OP2	1.91	0.70
36:BA:2207:G:O2'	36:BA:2208:A:H5"	1.91	0.70
36:BA:2875:C:H4'	52:BT:5:ALA:HB2	1.72	0.70
1:AA:1510:U:H2'	1:AA:1511:G:C8	2.26	0.70
2:AB:42:ILE:HD11	2:AB:202:PRO:HB2	1.72	0.70
34:B8:33:ASN:ND2	36:BA:2419:U:H5"	2.05	0.70
36:BA:481:G:H1'	36:BA:506:G:N2	2.05	0.70
39:BD:3:VAL:CG1	39:BD:17:THR:HB	2.22	0.70
39:BD:35:LYS:O	39:BD:37:LEU:N	2.25	0.70
40:BE:48:GLN:NE2	40:BE:78:LEU:HD13	2.07	0.70
49:BQ:140:ALA:HB3	58:BZ:53:ILE:HD11	1.73	0.70
52:BT:32:TYR:N	52:BT:32:TYR:CD2	2.57	0.70
52:BT:65:LYS:HA	52:BT:65:LYS:HZ2	1.56	0.70
57:BY:7:VAL:HB	57:BY:8:LYS:CD	2.17	0.70
57:BY:86:ARG:HD3	57:BY:88:LYS:HG3	1.73	0.70
1:AA:542:G:OP1	4:AD:10:ARG:NH2	2.25	0.70
1:AA:1120:G:H2'	1:AA:1121:U:H6	1.55	0.70
9:AI:26:VAL:HG22	9:AI:61:ALA:HB3	1.71	0.70
10:AJ:90:LEU:H	10:AJ:91:PRO:CD	2.05	0.70
15:AO:17:ARG:HH11	15:AO:17:ARG:HG3	1.56	0.70
34:B8:47:LYS:HB2	34:B8:47:LYS:NZ	2.07	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1348:G:C2'	36:BA:1349:A:H5"	2.20	0.70
38:BC:77:ILE:O	38:BC:95:GLY:HA2	1.90	0.70
38:BC:215:THR:HB	38:BC:221:SER:CA	2.22	0.70
47:BO:47:ILE:HG23	47:BO:48:PRO:HD2	1.71	0.70
54:BV:49:THR:HB	54:BV:50:PRO:HD2	1.73	0.70
1:AA:299:G:H2'	1:AA:300:A:C8	2.27	0.70
1:AA:534:U:H6	1:AA:534:U:H5'	1.56	0.70
20:AT:26:ASN:HB3	20:AT:71:THR:OG1	1.91	0.70
32:B6:36:LEU:HD12	32:B6:50:ARG:HH12	1.53	0.70
36:BA:191:A:O2'	36:BA:192:C:H5'	1.92	0.70
36:BA:2761:G:C2'	36:BA:2762:G:H5"	2.19	0.70
39:BD:27:THR:O	39:BD:27:THR:HG23	1.91	0.70
40:BE:57:LYS:O	40:BE:58:ARG:HG3	1.91	0.70
1:AA:250:A:H4'	1:AA:251:G:O5'	1.92	0.70
1:AA:254:G:H21	17:AQ:16:GLN:HE22	1.39	0.70
2:AB:22:LYS:HE2	2:AB:22:LYS:HA	1.73	0.70
2:AB:80:ILE:H	2:AB:80:ILE:CD1	2.04	0.70
10:AJ:16:LEU:HD11	10:AJ:70:ARG:HG2	1.74	0.70
24:AY:65:C:H5'	25:AZ:341:GLN:HG2	1.74	0.70
29:B3:40:THR:O	29:B3:44:ARG:HB2	1.91	0.70
43:BH:85:LYS:HZ3	43:BH:133:VAL:H	1.39	0.70
50:BR:117:VAL:O	50:BR:118:GLU:HB2	1.90	0.70
52:BT:61:PHE:CE2	52:BT:76:PHE:HB2	2.27	0.70
7:AG:145:ALA:O	7:AG:146:GLU:C	2.34	0.70
36:BA:936:C:H2'	36:BA:937:U:C6	2.27	0.70
36:BA:1665:A:C3'	36:BA:1666:G:H5"	2.21	0.70
38:BC:49:ILE:HG22	38:BC:204:ALA:CB	2.22	0.70
41:BF:51:THR:CG2	41:BF:92:PRO:HD2	2.22	0.70
42:BG:42:GLY:O	42:BG:89:GLY:HA2	1.92	0.70
48:BP:47:ASP:CB	48:BP:48:PRO:HA	2.22	0.70
51:BS:88:ASP:CG	51:BS:89:ARG:H	1.98	0.70
8:AH:11:THR:HA	8:AH:14:ARG:NH1	2.06	0.70
22:AW:72:C:O2'	22:AW:73:A:H5'	1.92	0.70
36:BA:991:C:H6	36:BA:991:C:H5'	1.57	0.70
36:BA:1142(A):A:H4'	46:BN:25:ARG:HH22	1.56	0.70
36:BA:1771:C:H1'	36:BA:1786:A:C8	2.27	0.70
36:BA:2131:G:H5"	36:BA:2132:U:O5'	1.92	0.70
36:BA:2313:C:H5'	36:BA:2313:C:H6	1.56	0.70
38:BC:70:LYS:CD	38:BC:177:LYS:HZ3	2.00	0.70
38:BC:75:LEU:HD21	38:BC:113:VAL:HG22	1.72	0.70
40:BE:107:THR:O	40:BE:190:GLY:HA2	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BN:63:THR:HB	46:BN:66:LYS:HZ3	1.56	0.70
49:BQ:29:PHE:HB2	49:BQ:105:GLU:OE2	1.91	0.70
50:BR:100:LEU:H	50:BR:100:LEU:HD22	1.57	0.70
51:BS:97:ARG:O	51:BS:99:LYS:HG2	1.92	0.70
58:BZ:126:VAL:CG1	58:BZ:163:LEU:HB2	2.20	0.70
1:AA:977:A:O2'	1:AA:978:A:H5"	1.91	0.69
4:AD:64:LEU:HB2	4:AD:198:VAL:HG21	1.74	0.69
11:AK:48:ILE:HG22	11:AK:49:GLY:N	2.07	0.69
34:B8:49:VAL:O	34:B8:50:LEU:HB2	1.92	0.69
36:BA:1041:G:O2'	36:BA:1042:G:H5'	1.91	0.69
36:BA:1747(A):G:H2'	36:BA:1748:G:C5'	2.21	0.69
43:BH:143:GLN:HE21	43:BH:143:GLN:CA	2.05	0.69
46:BN:67:LEU:HD23	46:BN:87:LEU:HD12	1.74	0.69
51:BS:24:LEU:HD13	51:BS:41:ASP:HB2	1.74	0.69
4:AD:155:LEU:HB2	4:AD:158:ILE:HG12	1.74	0.69
22:AV:62:C:H2'	22:AV:63:G:H8	1.56	0.69
24:AY:44:G:H4'	24:AY:45:U:OP1	1.92	0.69
29:B3:18:ASP:OD2	29:B3:49:LYS:HE3	1.91	0.69
36:BA:142:A:H8	36:BA:1408:C:H1'	1.57	0.69
36:BA:952:G:P	49:BQ:16:ARG:HH12	2.16	0.69
46:BN:58:ASP:O	46:BN:60:ILE:N	2.25	0.69
50:BR:11:ASN:O	50:BR:12:ARG:HB2	1.92	0.69
56:BX:12:VAL:HG23	56:BX:13:LEU:H	1.57	0.69
56:BX:27:THR:HG22	56:BX:80:ILE:HG22	1.74	0.69
57:BY:27:VAL:HG12	57:BY:28:LYS:H	1.56	0.69
57:BY:50:ARG:O	57:BY:53:PRO:HD3	1.92	0.69
2:AB:51:LEU:O	2:AB:55:PHE:HD2	1.75	0.69
2:AB:121:LEU:HD23	2:AB:121:LEU:O	1.92	0.69
6:AF:33:TYR:CD2	6:AF:75:LEU:HA	2.28	0.69
15:AO:39:LEU:HD13	15:AO:56:LEU:HB2	1.72	0.69
18:AR:37:VAL:CG1	18:AR:78:LEU:HB3	2.22	0.69
48:BP:16:ARG:HD3	48:BP:16:ARG:C	2.17	0.69
58:BZ:19:ARG:HH12	58:BZ:84:GLU:CA	2.04	0.69
1:AA:1125:U:H5	10:AJ:73:ASP:OD2	1.75	0.69
2:AB:145:LEU:HD13	2:AB:149:LEU:HD12	1.75	0.69
10:AJ:50:ILE:HD11	14:AN:41:ARG:HD2	1.73	0.69
13:AM:66:LEU:HD12	13:AM:66:LEU:N	2.06	0.69
14:AN:13:THR:N	14:AN:14:PRO:CD	2.54	0.69
25:AZ:331:HIS:O	25:AZ:332:THR:HG23	1.92	0.69
28:B2:18:PRO:HG2	28:B2:19:VAL:H	1.57	0.69
28:B2:35:LEU:CD1	28:B2:50:ILE:HG13	2.13	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:B4:7:PRO:O	30:B4:8:LYS:HB3	1.91	0.69
32:B6:12:GLU:HA	32:B6:23:THR:HG22	1.72	0.69
35:B9:18:ARG:HD2	36:BA:1034:G:H5'	1.72	0.69
36:BA:674:G:H1'	41:BF:74:ARG:HD3	1.74	0.69
36:BA:996:A:H4'	53:BU:92:ARG:NE	2.06	0.69
36:BA:1065:U:O2'	36:BA:1066:U:H5"	1.92	0.69
1:AA:643:C:H2'	1:AA:644:G:H8	1.57	0.69
25:AZ:324:LYS:HG2	25:AZ:364:PRO:CB	2.22	0.69
27:B1:29:GLY:O	27:B1:30:VAL:HG22	1.92	0.69
32:B6:18:ARG:HH11	32:B6:18:ARG:CG	1.97	0.69
36:BA:806:C:OP2	48:BP:39:LYS:HD2	1.91	0.69
36:BA:1184:G:O2'	36:BA:1185:C:H5'	1.91	0.69
36:BA:2101:G:C2'	36:BA:2102:U:H5"	2.19	0.69
36:BA:2648:C:H2'	36:BA:2649:U:C6	2.27	0.69
36:BA:2712:U:O2'	36:BA:2713:A:H5'	1.91	0.69
38:BC:62:VAL:HG21	38:BC:192:PHE:HA	1.73	0.69
48:BP:71:VAL:H	48:BP:72:PRO:HD3	1.57	0.69
58:BZ:23:LYS:HD3	58:BZ:38:TYR:CE1	2.28	0.69
1:AA:353:A:H8	1:AA:353:A:H5'	1.58	0.69
2:AB:167:PRO:HG2	2:AB:192:SER:OG	1.92	0.69
8:AH:86:ILE:HD11	8:AH:136:GLU:HG2	1.73	0.69
36:BA:30:G:H2'	36:BA:31:C:C6	2.26	0.69
36:BA:784:A:H5"	39:BD:227:ASN:CG	2.18	0.69
36:BA:1414:G:H1	36:BA:1588:C:H42	1.40	0.69
36:BA:1434:A:H61	36:BA:1558:A:H62	1.39	0.69
36:BA:1495:A:N3	36:BA:1496:A:C2	2.60	0.69
36:BA:2249:U:H4'	36:BA:2275:C:C5	2.27	0.69
36:BA:2308:G:H2'	36:BA:2309:A:C8	2.28	0.69
42:BG:122:PRO:HD3	42:BG:181:ARG:HB3	1.72	0.69
1:AA:624:C:O3'	16:AP:10:GLY:HA2	1.92	0.69
24:AY:20:H2U:H4'	24:AY:21:A:C5'	2.23	0.69
29:B3:43:ILE:O	29:B3:47:VAL:HG23	1.92	0.69
36:BA:1242:A:N1	48:BP:8:PRO:HG3	2.07	0.69
36:BA:1786:A:C2	36:BA:2606:C:H1'	2.28	0.69
36:BA:2124:G:H21	38:BC:217:THR:C	2.00	0.69
36:BA:2245:U:H5'	36:BA:2246:G:C5'	2.23	0.69
36:BA:2312:U:O3'	42:BG:71:THR:HG21	1.92	0.69
36:BA:2350:C:H2'	36:BA:2351:G:O4'	1.93	0.69
36:BA:2807:G:C3'	36:BA:2808:U:H5"	2.23	0.69
38:BC:114:VAL:CG2	38:BC:149:ILE:HD11	2.23	0.69
39:BD:25:THR:HG22	39:BD:26:LYS:HD2	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BD:131:LEU:HD12	39:BD:131:LEU:N	2.07	0.69
39:BD:210:GLY:O	39:BD:211:ARG:CB	2.39	0.69
42:BG:176:LEU:O	42:BG:176:LEU:HD23	1.91	0.69
43:BH:68:THR:C	43:BH:70:THR:H	2.00	0.69
58:BZ:151:HIS:HB3	58:BZ:170:THR:HA	1.74	0.69
1:AA:29:G:O2'	1:AA:30:U:H5'	1.93	0.69
1:AA:102:G:H2'	1:AA:103:C:C6	2.25	0.69
2:AB:36:ARG:HA	2:AB:36:ARG:CZ	2.21	0.69
2:AB:80:ILE:HD12	2:AB:80:ILE:N	2.07	0.69
2:AB:194:PRO:O	2:AB:196:LEU:N	2.26	0.69
11:AK:15:ALA:HB1	11:AK:78:GLN:HB2	1.73	0.69
13:AM:14:ARG:H	13:AM:44:ARG:HH11	1.41	0.69
13:AM:49:THR:HG22	13:AM:51:ALA:H	1.58	0.69
30:B4:30:GLU:O	30:B4:31:ILE:HD12	1.93	0.69
31:B5:19:ARG:HG3	36:BA:2046:G:H5'	1.74	0.69
32:B6:52:VAL:HG22	32:B6:53:LYS:H	1.56	0.69
36:BA:428:A:H3'	36:BA:429:A:H8	1.58	0.69
36:BA:719:C:O2'	36:BA:720:C:H5'	1.93	0.69
36:BA:915:C:H2'	36:BA:916:G:C8	2.28	0.69
36:BA:1290:C:H2'	36:BA:1291:C:C6	2.27	0.69
36:BA:1353:A:H2'	36:BA:1354:A:C8	2.28	0.69
36:BA:1419:A:O2'	36:BA:1420:U:H5"	1.93	0.69
36:BA:2124:G:N2	38:BC:218:MET:HG2	2.07	0.69
36:BA:2666:C:H5'	36:BA:2667:C:OP2	1.93	0.69
36:BA:2777:G:H5"	36:BA:2778:A:H5'	1.75	0.69
38:BC:14:VAL:CG2	38:BC:32:LEU:HD11	2.22	0.69
40:BE:52:LEU:HD23	40:BE:75:VAL:HB	1.74	0.69
47:BO:71:ARG:HB3	47:BO:72:PRO:HD2	1.72	0.69
47:BO:98:VAL:HG12	47:BO:117:LEU:HB3	1.73	0.69
50:BR:34:ILE:HB	50:BR:114:VAL:CG2	2.21	0.69
55:BW:1:MET:HE1	55:BW:62:HIS:HD2	1.57	0.69
57:BY:46:LYS:HG2	57:BY:47:LYS:N	2.05	0.69
58:BZ:40:ASP:HB3	58:BZ:43:GLU:CG	2.22	0.69
3:AC:3:ASN:O	3:AC:4:LYS:HB2	1.93	0.69
25:AZ:243:GLU:OE1	25:AZ:243:GLU:HA	1.93	0.69
26:B0:20:ARG:HH11	26:B0:20:ARG:HG2	1.57	0.69
36:BA:6:A:H2'	36:BA:7:G:H8	1.57	0.69
36:BA:74:A:H5"	36:BA:75:G:O4'	1.92	0.69
36:BA:784:A:H5"	39:BD:227:ASN:ND2	2.08	0.69
36:BA:1038:C:C2'	36:BA:1039:G:H5"	2.23	0.69
36:BA:1721:G:C6	36:BA:1739:U:H5'	2.28	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1991:U:H2'	36:BA:1992:G:H5"	1.74	0.69
36:BA:2283:C:C2'	36:BA:2284:C:H5'	2.23	0.69
49:BQ:60:ARG:HH11	49:BQ:60:ARG:CB	2.06	0.69
50:BR:12:ARG:HB3	50:BR:16:HIS:CD2	2.27	0.69
52:BT:129:ARG:NH2	52:BT:131:ALA:HB3	2.08	0.69
1:AA:1498:U:H4'	1:AA:1519:A:C2	2.28	0.69
8:AH:20:TYR:CE2	8:AH:75:ARG:HD2	2.28	0.69
10:AJ:50:ILE:H	10:AJ:50:ILE:CD1	1.83	0.69
21:AU:5:ASP:O	21:AU:11:GLY:HA3	1.93	0.69
27:B1:45:ASN:ND2	36:BA:2090:G:H21	1.87	0.69
28:B2:12:GLU:O	28:B2:16:LEU:HG	1.92	0.69
30:B4:10:VAL:CG2	30:B4:11:PRO:HD2	2.22	0.69
36:BA:2170:A:H4'	38:BC:133:PRO:CB	2.22	0.69
39:BD:8:PRO:HB3	39:BD:14:ARG:CB	2.23	0.69
41:BF:205:ARG:O	41:BF:206:ILE:HD13	1.93	0.69
42:BG:76:SER:HB3	42:BG:83:ARG:HB3	1.75	0.69
49:BQ:134:ARG:HA	49:BQ:137:TYR:HD2	1.57	0.69
50:BR:52:ILE:HD13	50:BR:79:LEU:HD21	1.74	0.69
50:BR:57:ARG:O	50:BR:59:ASP:N	2.26	0.69
1:AA:1152:A:H5"	10:AJ:13:HIS:CD2	2.29	0.68
6:AF:25:ILE:O	6:AF:25:ILE:HD13	1.92	0.68
9:AI:4:TYR:CE2	9:AI:88:TYR:HB2	2.28	0.68
19:AS:24:ALA:O	19:AS:25:LYS:HG3	1.93	0.68
22:AW:19:G:C5	36:BA:2169:A:H1'	2.28	0.68
24:AY:27:C:H2'	24:AY:28:C:C6	2.29	0.68
30:B4:5:ILE:HD13	30:B4:5:ILE:H	1.58	0.68
36:BA:484:C:O2'	36:BA:485:C:H5'	1.93	0.68
39:BD:118:VAL:HG22	39:BD:119:ALA:H	1.58	0.68
46:BN:56:ASN:H	46:BN:125:GLY:HA3	1.58	0.68
50:BR:32:GLY:HA2	50:BR:116:LEU:HD12	1.75	0.68
3:AC:11:ARG:NH2	3:AC:182:ILE:HD12	2.07	0.68
7:AG:72:ARG:HA	7:AG:96:GLN:HE22	1.58	0.68
7:AG:79:ARG:HH21	22:AW:33:U:H4'	1.57	0.68
23:AX:26:A:H3'	23:AX:27:A:C5'	2.19	0.68
29:B3:28:LEU:HD23	29:B3:28:LEU:H	1.57	0.68
33:B7:37:LYS:HE2	36:BA:469:G:O6	1.94	0.68
36:BA:2131:G:OP1	36:BA:2132:U:H3'	1.92	0.68
38:BC:100:ILE:HG23	38:BC:127:LEU:CG	2.23	0.68
38:BC:100:ILE:CG2	38:BC:127:LEU:HG	2.22	0.68
39:BD:24:ILE:O	39:BD:25:THR:O	2.10	0.68
39:BD:43:ARG:HD2	39:BD:44:ASN:OD1	1.93	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BD:130:ALA:C	39:BD:131:LEU:HD12	2.18	0.68
42:BG:114:ILE:HG23	42:BG:117:PHE:HB2	1.76	0.68
47:BO:1:MET:HB3	47:BO:32:TYR:HD2	1.58	0.68
48:BP:47:ASP:HB3	48:BP:49:ARG:N	2.08	0.68
51:BS:106:ARG:NH1	51:BS:106:ARG:HB3	2.08	0.68
1:AA:1125:U:C5	10:AJ:73:ASP:OD2	2.47	0.68
25:AZ:147:LEU:HG	25:AZ:172:ARG:NH1	2.08	0.68
25:AZ:301:GLY:HA3	25:AZ:347:THR:HB	1.75	0.68
36:BA:1064:C:H3'	36:BA:1065:U:H5"	1.75	0.68
36:BA:1747(A):G:O2'	36:BA:1748:G:H5"	1.94	0.68
46:BN:32:THR:HG22	46:BN:37:LYS:HB3	1.74	0.68
47:BO:1:MET:HE2	47:BO:32:TYR:CD2	2.29	0.68
55:BW:3:ALA:CB	55:BW:58:ALA:HB2	2.23	0.68
58:BZ:37:VAL:O	58:BZ:38:TYR:HB3	1.94	0.68
1:AA:878:G:H5'	8:AH:89:PRO:HG2	1.75	0.68
1:AA:943:U:H2'	1:AA:944:G:H5'	1.75	0.68
1:AA:1001:A:H2'	1:AA:1001:A:N3	2.07	0.68
27:B1:45:ASN:HD21	36:BA:2090:G:N2	1.89	0.68
34:B8:25:MET:HE2	48:BP:64:LYS:HD3	1.75	0.68
36:BA:1858:G:H22	36:BA:1883:G:H2'	1.58	0.68
36:BA:2159:G:C2'	36:BA:2160:G:H5"	2.21	0.68
36:BA:2415:G:O3'	48:BP:66:GLY:HA3	1.93	0.68
43:BH:42:ARG:O	43:BH:43:VAL:HG13	1.92	0.68
52:BT:32:TYR:O	52:BT:33:LYS:HB2	1.91	0.68
55:BW:29:LEU:HD21	55:BW:33:ARG:NH1	2.08	0.68
1:AA:1366:C:H2'	1:AA:1367:C:H6	1.58	0.68
3:AC:16:ARG:HA	3:AC:16:ARG:HH11	1.58	0.68
6:AF:69:GLU:O	6:AF:72:VAL:HG12	1.94	0.68
13:AM:119:GLY:O	13:AM:120:LYS:HB2	1.91	0.68
27:B1:67:ILE:N	27:B1:68:PRO:HD2	2.08	0.68
29:B3:4:LEU:HD11	29:B3:39:ASP:OD1	1.94	0.68
36:BA:34:C:H5'	36:BA:35:G:OP2	1.93	0.68
36:BA:621:A:H2'	36:BA:622:G:C5'	2.23	0.68
36:BA:1666:G:C2'	36:BA:1667:G:H5'	2.22	0.68
39:BD:44:ASN:HB3	39:BD:49:ILE:HA	1.75	0.68
49:BQ:134:ARG:CZ	58:BZ:122:ARG:HE	2.07	0.68
50:BR:63:ARG:HG3	50:BR:80:PHE:HE2	1.58	0.68
51:BS:90:GLY:O	51:BS:92:TYR:N	2.27	0.68
58:BZ:177:PRO:C	58:BZ:178:GLU:HG2	2.18	0.68
1:AA:429:U:H2'	4:AD:25:ARG:NH1	2.09	0.68
1:AA:1189:C:OP1	10:AJ:51:ARG:NH2	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:219:VAL:O	2:AB:222:ILE:HG12	1.93	0.68
4:AD:107:ARG:HH12	4:AD:114:ARG:HH21	1.39	0.68
9:AI:118:LYS:O	9:AI:119:ALA:CB	2.41	0.68
16:AP:25:ARG:HH11	16:AP:25:ARG:HG3	1.57	0.68
17:AQ:24:GLU:HG2	17:AQ:39:SER:CB	2.21	0.68
22:AV:72:C:C3'	22:AV:73:A:H5"	2.24	0.68
39:BD:96:HIS:CE1	39:BD:102:LYS:NZ	2.62	0.68
47:BO:107:ARG:NH1	52:BT:35:LYS:HD2	2.08	0.68
51:BS:38:GLN:O	51:BS:39:ILE:HG13	1.94	0.68
53:BU:68:ALA:O	53:BU:71:GLN:HB3	1.93	0.68
1:AA:982:U:H4'	1:AA:983:A:O5'	1.94	0.68
4:AD:30:LYS:C	4:AD:32:ALA:H	2.00	0.68
8:AH:8:ASP:O	8:AH:12:ARG:HG3	1.94	0.68
10:AJ:54:PHE:O	10:AJ:56:HIS:N	2.27	0.68
22:AW:18:G:H1'	22:AW:57:G:O6	1.94	0.68
25:AZ:124:ARG:HB2	25:AZ:163:PHE:CE2	2.28	0.68
27:B1:89:GLU:HA	27:B1:92:LYS:CE	2.23	0.68
36:BA:628:G:H2'	36:BA:629:G:H5"	1.76	0.68
36:BA:2394:C:OP1	48:BP:63:PRO:HD2	1.94	0.68
37:BB:50:G:OP1	51:BS:63:THR:HG23	1.94	0.68
39:BD:35:LYS:HD2	39:BD:35:LYS:C	2.18	0.68
39:BD:248:SER:HB2	39:BD:249:PRO:HD2	1.76	0.68
40:BE:167:VAL:HG13	40:BE:167:VAL:O	1.92	0.68
42:BG:42:GLY:HA2	42:BG:90:LEU:H	1.58	0.68
42:BG:91:ARG:HD2	42:BG:91:ARG:C	2.18	0.68
48:BP:107:LYS:C	48:BP:109:GLY:H	1.99	0.68
54:BV:81:TYR:HE2	54:BV:83:ARG:HE	1.39	0.68
57:BY:67:LEU:HD21	57:BY:71:LYS:HE2	1.74	0.68
58:BZ:35:ARG:HA	58:BZ:35:ARG:NE	2.08	0.68
1:AA:1296:C:H4'	1:AA:1302:U:C5	2.29	0.68
5:AE:145:LYS:O	5:AE:149:GLU:HG2	1.93	0.68
9:AI:24:GLY:HA2	9:AI:59:PHE:O	1.93	0.68
10:AJ:75:ILE:HG13	10:AJ:76:ASN:N	2.08	0.68
18:AR:73:ALA:CB	18:AR:79:LEU:HD12	2.23	0.68
19:AS:10:PHE:HE1	19:AS:70:LYS:HD2	1.58	0.68
20:AT:25:ARG:HH11	20:AT:25:ARG:HG3	1.58	0.68
24:AY:27:C:H2'	24:AY:28:C:H6	1.59	0.68
32:B6:11:LEU:HD21	32:B6:51:GLU:CG	2.24	0.68
35:B9:31:LYS:HE2	36:BA:2478:A:H5'	1.76	0.68
36:BA:1067:A:H3'	36:BA:1068:G:C5'	2.23	0.68
36:BA:1161:C:H2'	36:BA:1162:G:C8	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1540:U:H3'	36:BA:1541:G:H3'	1.75	0.68
36:BA:2137:C:H42	36:BA:2154:G:H22	1.41	0.68
36:BA:2662:A:H2'	36:BA:2663:G:O4'	1.92	0.68
39:BD:247:ALA:HA	39:BD:254:THR:HG22	1.75	0.68
47:BO:107:ARG:HH21	47:BO:115:VAL:HG11	1.58	0.68
48:BP:112:LEU:H	48:BP:128:HIS:CD2	2.09	0.68
53:BU:36:ARG:HG2	53:BU:40:PHE:CE1	2.28	0.68
58:BZ:71:VAL:HG11	58:BZ:74:VAL:HG23	1.75	0.68
1:AA:918:A:H2'	1:AA:919:A:C8	2.29	0.68
1:AA:1004:A:H5"	1:AA:1025:U:C4	2.29	0.68
21:AU:12:LYS:HG2	21:AU:22:ARG:CB	2.24	0.68
26:B0:36:ILE:HD11	36:BA:2355:C:C1'	2.23	0.68
27:B1:53:VAL:HG22	27:B1:74:VAL:HG13	1.75	0.68
36:BA:2728:U:O2'	36:BA:2729:G:H5'	1.91	0.68
43:BH:157:TYR:O	43:BH:158:HIS:HB2	1.93	0.68
48:BP:146:VAL:HG22	48:BP:147:LEU:N	2.08	0.68
50:BR:55:ALA:HA	50:BR:80:PHE:HE1	1.53	0.68
58:BZ:128:VAL:HG22	58:BZ:129:SER:N	2.09	0.68
7:AG:129:GLU:OE1	7:AG:131:LYS:HE2	1.93	0.68
24:AY:75:C:N4	25:AZ:232:THR:HG1	1.91	0.68
25:AZ:181:GLN:CD	25:AZ:193:ASN:HD21	2.02	0.68
30:B4:8:LYS:O	30:B4:9:LEU:HB2	1.93	0.68
30:B4:40:HIS:CD2	30:B4:41:PRO:HA	2.29	0.68
31:B5:40:LYS:HZ1	31:B5:46:CYS:H	1.37	0.68
36:BA:472:A:H2'	36:BA:473:G:H5'	1.75	0.68
36:BA:1230:C:H2'	36:BA:1231:G:H8	1.58	0.68
36:BA:1497:U:O2	36:BA:1497:U:H2'	1.92	0.68
36:BA:2163:C:H2'	36:BA:2164:C:O4'	1.94	0.68
36:BA:2554:U:H2'	36:BA:2555:U:C6	2.29	0.68
36:BA:2723:C:H4'	50:BR:2:ARG:HE	1.57	0.68
42:BG:113:ARG:NE	42:BG:113:ARG:HA	2.09	0.68
52:BT:28:VAL:CG2	52:BT:46:GLU:HA	2.24	0.68
53:BU:90:VAL:HG12	53:BU:91:ASP:H	1.58	0.68
1:AA:158:G:H2'	1:AA:159:G:H8	1.58	0.67
1:AA:650:G:O2'	1:AA:651:C:H5'	1.93	0.67
1:AA:1060:C:C5	3:AC:2:GLY:HA3	2.29	0.67
24:AY:75:C:H1'	25:AZ:231:ILE:HD12	1.74	0.67
25:AZ:28:THR:HG23	25:AZ:79:HIS:ND1	2.09	0.67
25:AZ:363:MET:HB3	25:AZ:364:PRO:HD2	1.75	0.67
36:BA:1859:A:N6	36:BA:1883:G:H1'	2.10	0.67
36:BA:1902:C:HO2'	39:BD:244:ARG:HB2	1.57	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2377:A:H2'	36:BA:2378:A:C8	2.29	0.67
38:BC:6:ARG:HH11	38:BC:34:THR:HB	1.57	0.67
42:BG:60:LEU:CD2	42:BG:63:ILE:HD11	2.17	0.67
49:BQ:60:ARG:HB3	49:BQ:60:ARG:NH1	2.08	0.67
52:BT:29:ARG:HB3	52:BT:85:LYS:HA	1.75	0.67
56:BX:47:PHE:O	56:BX:49:VAL:N	2.25	0.67
57:BY:54:LYS:HE3	57:BY:55:TYR:CE1	2.30	0.67
1:AA:108:G:H5'	1:AA:109:A:C5'	2.23	0.67
1:AA:1008:C:H42	1:AA:1021:G:H1	1.41	0.67
4:AD:39:PRO:HD2	4:AD:44:GLY:O	1.94	0.67
10:AJ:7:LYS:HB2	10:AJ:97:GLU:HB2	1.75	0.67
12:AL:6:THR:H	12:AL:9:GLN:HE21	1.41	0.67
15:AO:70:LEU:HD23	15:AO:78:TYR:HA	1.74	0.67
16:AP:53:VAL:HG23	16:AP:54:GLU:N	2.07	0.67
28:B2:51:ARG:HD3	28:B2:55:ARG:NH2	2.08	0.67
36:BA:287:C:H2'	36:BA:288:C:C6	2.29	0.67
36:BA:590:A:H2'	36:BA:591:C:C6	2.29	0.67
36:BA:1058:G:H2'	36:BA:1059:G:C5'	2.19	0.67
36:BA:1385:G:H4'	36:BA:1386:C:OP1	1.93	0.67
36:BA:2672:G:C3'	36:BA:2673:G:H5"	2.23	0.67
41:BF:34:TRP:HB2	48:BP:10:PRO:HB2	1.75	0.67
43:BH:167:GLU:CG	43:BH:168:PRO:HD2	2.21	0.67
48:BP:23:PRO:CD	48:BP:33:ARG:HE	2.06	0.67
48:BP:31:ALA:O	48:BP:33:ARG:N	2.28	0.67
52:BT:51:ARG:HB2	52:BT:98:LYS:HG3	1.76	0.67
3:AC:80:GLY:O	3:AC:82:GLU:N	2.27	0.67
10:AJ:90:LEU:N	10:AJ:91:PRO:CD	2.57	0.67
36:BA:1469:A:H2'	36:BA:1470:G:O4'	1.94	0.67
36:BA:1598:C:H5'	56:BX:36:LYS:CG	2.23	0.67
38:BC:47:LEU:HD11	38:BC:171:ILE:HB	1.73	0.67
40:BE:179:GLU:HG3	40:BE:179:GLU:O	1.94	0.67
51:BS:17:ARG:C	51:BS:19:LYS:N	2.51	0.67
52:BT:109:GLU:HG2	52:BT:112:ARG:CZ	2.23	0.67
55:BW:14:PRO:HG3	55:BW:101:SER:CB	2.20	0.67
55:BW:95:ILE:O	55:BW:95:ILE:HG13	1.93	0.67
57:BY:31:LEU:HB2	57:BY:32:PRO:CA	2.22	0.67
1:AA:191:G:C4	20:AT:105:SER:HB3	2.30	0.67
1:AA:818:G:O2'	1:AA:819:A:H5'	1.94	0.67
1:AA:1330:U:H5'	1:AA:1331:G:OP2	1.95	0.67
2:AB:172:ILE:HD12	2:AB:172:ILE:N	2.08	0.67
13:AM:23:TYR:HB3	13:AM:67:GLU:CB	2.24	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AS:44:MET:HA	19:AS:47:HIS:HD2	1.57	0.67
26:B0:27:GLU:CD	36:BA:856:C:H1'	2.19	0.67
26:B0:53:MET:HA	26:B0:58:THR:O	1.95	0.67
29:B3:8:LEU:CD2	29:B3:31:LEU:HG	2.24	0.67
36:BA:851:U:H3	36:BA:926:A:H61	1.42	0.67
36:BA:1268:A:H2'	36:BA:1269:A:O4'	1.93	0.67
36:BA:2469:A:O2'	49:BQ:56:ARG:HD2	1.94	0.67
47:BO:1:MET:HE2	47:BO:32:TYR:CE2	2.30	0.67
53:BU:91:ASP:OD1	53:BU:96:ALA:HB2	1.95	0.67
53:BU:95:LEU:HD12	54:BV:11:GLN:HE21	1.59	0.67
57:BY:28:LYS:HA	57:BY:38:ILE:HG22	1.75	0.67
1:AA:407:G:O2'	4:AD:116:GLN:HG3	1.93	0.67
1:AA:424:G:O2'	1:AA:425:G:H5'	1.94	0.67
1:AA:1234:C:O2'	1:AA:1235:U:H5'	1.95	0.67
2:AB:22:LYS:HE2	2:AB:22:LYS:CA	2.25	0.67
2:AB:102:LEU:HD23	2:AB:182:ILE:HD12	1.76	0.67
4:AD:125:HIS:C	4:AD:126:ILE:HD12	2.19	0.67
7:AG:115:ARG:O	7:AG:118:VAL:HG22	1.95	0.67
25:AZ:185:ASN:HD21	25:AZ:188:THR:CB	2.07	0.67
36:BA:611:C:H2'	36:BA:612:C:C6	2.30	0.67
36:BA:2012:G:H4'	55:BW:96:ILE:HD11	1.76	0.67
36:BA:2050:C:H1'	40:BE:156:MET:CE	2.25	0.67
36:BA:2147:G:H2'	36:BA:2148:G:H5'	1.77	0.67
36:BA:2716:U:O2'	36:BA:2717:G:H5'	1.93	0.67
53:BU:85:LYS:HD3	53:BU:117:GLN:HE22	1.58	0.67
54:BV:35:LEU:O	54:BV:37:VAL:N	2.28	0.67
55:BW:8:ARG:CA	55:BW:102:HIS:HB3	2.12	0.67
1:AA:8:A:N6	4:AD:209:ARG:H	1.93	0.67
5:AE:12:LEU:CD2	5:AE:13:ILE:N	2.58	0.67
10:AJ:78:ASN:HD22	10:AJ:80:LYS:HB3	1.59	0.67
18:AR:29:PHE:CE1	18:AR:31:LEU:HB3	2.30	0.67
36:BA:287:C:H42	36:BA:354:G:H1	1.43	0.67
36:BA:611:C:H2'	36:BA:612:C:H6	1.58	0.67
36:BA:1681:G:O2'	36:BA:1762:A:H2'	1.95	0.67
42:BG:9:ARG:O	42:BG:13:GLU:HG2	1.95	0.67
42:BG:43:LEU:HB3	42:BG:45:GLU:HG2	1.77	0.67
58:BZ:100:VAL:CG2	58:BZ:126:VAL:HG21	2.25	0.67
1:AA:393:A:O2'	1:AA:394:G:H5'	1.95	0.67
1:AA:1073:U:H2'	1:AA:1074:G:H8	1.59	0.67
1:AA:1368:G:OP2	9:AI:112:LYS:HD3	1.95	0.67
6:AF:8:ILE:HD12	6:AF:26:ILE:HD13	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:14:PRO:HA	7:AG:21:VAL:HG12	1.77	0.67
8:AH:125:ARG:HG3	8:AH:125:ARG:HH11	1.58	0.67
13:AM:11:ARG:HG2	13:AM:12:ASN:H	1.59	0.67
22:AW:38:A:C2'	22:AW:39:U:H5"	2.24	0.67
25:AZ:299:GLU:O	25:AZ:302:GLN:HG2	1.94	0.67
25:AZ:371:THR:HG22	25:AZ:372:VAL:H	1.59	0.67
38:BC:68:LEU:O	38:BC:177:LYS:HG2	1.94	0.67
39:BD:139:GLY:H	39:BD:165:ILE:HB	1.59	0.67
41:BF:22:ALA:O	41:BF:26:ALA:HB2	1.95	0.67
47:BO:107:ARG:HG3	47:BO:112:MET:HE1	1.76	0.67
3:AC:60:ALA:HB3	3:AC:63:ASN:HD21	1.59	0.67
20:AT:50:GLU:HB2	20:AT:100:ILE:HD13	1.77	0.67
25:AZ:241:ARG:HB3	25:AZ:241:ARG:HH11	1.59	0.67
27:B1:41:ARG:HH12	36:BA:1365:A:H5"	1.60	0.67
36:BA:2656:U:H2'	36:BA:2657:A:H5"	1.76	0.67
38:BC:68:LEU:CD2	38:BC:176:GLY:HA2	2.24	0.67
48:BP:20:GLY:O	48:BP:21:ARG:HB2	1.95	0.67
48:BP:77:ARG:HG2	48:BP:77:ARG:HH11	1.60	0.67
48:BP:126:VAL:HG22	48:BP:145:PRO:CB	2.24	0.67
51:BS:66:ALA:O	51:BS:70:GLY:N	2.27	0.67
54:BV:52:VAL:CG1	54:BV:55:ALA:HB3	2.21	0.67
58:BZ:108:PRO:HA	58:BZ:141:VAL:HG11	1.76	0.67
2:AB:90:MET:HE3	2:AB:91:PRO:CD	2.25	0.67
2:AB:138:LEU:C	2:AB:140:HIS:H	2.00	0.67
15:AO:43:LEU:HD11	15:AO:53:HIS:HA	1.77	0.67
25:AZ:356:PRO:HG2	25:AZ:369:THR:O	1.95	0.67
36:BA:524:U:H2'	36:BA:525:U:H6	1.60	0.67
36:BA:797:C:OP2	41:BF:62:ARG:HG3	1.93	0.67
36:BA:2511:U:H4'	40:BE:124:GLY:HA2	1.76	0.67
38:BC:47:LEU:HB3	38:BC:49:ILE:HG13	1.76	0.67
46:BN:6:PRO:HB3	46:BN:41:ASP:OD1	1.95	0.67
47:BO:19:ILE:HD12	47:BO:41:ALA:CB	2.25	0.67
52:BT:39:ARG:HD2	52:BT:39:ARG:N	2.07	0.67
53:BU:13:LYS:HD2	53:BU:16:LYS:HZ2	1.60	0.67
1:AA:429:U:H1'	1:AA:430:A:H5"	1.76	0.67
1:AA:1152:A:H5'	10:AJ:70:ARG:NH2	2.09	0.67
1:AA:1170:A:H2'	1:AA:1171:G:O4'	1.95	0.67
2:AB:204:ASN:ND2	2:AB:205:ASP:N	2.43	0.67
2:AB:222:ILE:O	2:AB:226:ARG:HB2	1.95	0.67
26:B0:26:TYR:HE2	36:BA:857:C:H1'	1.60	0.67
34:B8:43:GLN:C	34:B8:44:LYS:HD2	2.20	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:18:C:O3'	53:BU:23:GLY:HA2	1.95	0.67
39:BD:131:LEU:HB2	39:BD:136:ILE:HD11	1.76	0.67
41:BF:154:VAL:HG11	41:BF:193:VAL:HG23	1.77	0.67
41:BF:188:ARG:HA	48:BP:7:ARG:CD	2.21	0.67
42:BG:115:ARG:NH1	42:BG:137:GLU:HG3	2.10	0.67
48:BP:111:ARG:HA	48:BP:128:HIS:CD2	2.30	0.67
53:BU:66:ASN:ND2	53:BU:76:TYR:H	1.93	0.67
54:BV:88:ARG:O	54:BV:90:PRO:HD3	1.95	0.67
58:BZ:155:LEU:HD23	58:BZ:155:LEU:N	2.10	0.67
1:AA:980:C:H6	1:AA:980:C:C5'	2.04	0.66
10:AJ:54:PHE:CE1	10:AJ:55:LYS:NZ	2.63	0.66
22:AW:19:G:C4	36:BA:2169:A:H1'	2.30	0.66
24:AY:8:4SU:H6	24:AY:8:4SU:H5"	1.77	0.66
25:AZ:138:VAL:C	25:AZ:140:MET:H	2.01	0.66
25:AZ:318:ALA:HB2	25:AZ:400:VAL:HA	1.76	0.66
36:BA:1907:G:O2'	36:BA:1908:C:H5'	1.95	0.66
36:BA:2114:A:H2'	36:BA:2115:G:H5'	1.75	0.66
36:BA:2688:U:H1'	36:BA:2721:A:N6	2.10	0.66
36:BA:2842:G:O2'	36:BA:2843:G:H5'	1.95	0.66
38:BC:24:GLU:O	38:BC:28:LEU:HB3	1.93	0.66
38:BC:140:PRO:HA	38:BC:145:VAL:HB	1.76	0.66
40:BE:4:ILE:HD12	40:BE:92:THR:O	1.95	0.66
41:BF:10:PRO:HD2	41:BF:13:SER:O	1.95	0.66
41:BF:124:LEU:HD12	41:BF:125:LEU:H	1.59	0.66
49:BQ:131:ILE:H	49:BQ:131:ILE:HD12	1.60	0.66
52:BT:27:THR:CG2	52:BT:49:VAL:HB	2.25	0.66
2:AB:116:GLU:C	2:AB:118:LEU:H	2.01	0.66
3:AC:20:SER:HB2	3:AC:40:ARG:NH2	2.09	0.66
4:AD:31:CYS:SG	60:AD:301:ZN:ZN	1.82	0.66
12:AL:67:THR:HG21	12:AL:96:VAL:HG22	1.76	0.66
13:AM:88:ARG:HG3	13:AM:98:VAL:CG1	2.26	0.66
25:AZ:185:ASN:HD21	25:AZ:188:THR:HB	1.60	0.66
27:B1:89:GLU:HG2	27:B1:92:LYS:NZ	2.09	0.66
36:BA:607:U:OP1	41:BF:102:PRO:HA	1.95	0.66
36:BA:812:C:H2'	36:BA:813:U:H6	1.59	0.66
36:BA:2125:G:H21	36:BA:2173:A:N6	1.91	0.66
36:BA:2186:G:H2'	36:BA:2187:G:C8	2.30	0.66
41:BF:17:ARG:HH11	41:BF:17:ARG:HG3	1.60	0.66
49:BQ:134:ARG:HA	49:BQ:137:TYR:CD2	2.30	0.66
51:BS:29:PHE:HD2	51:BS:29:PHE:C	2.04	0.66
53:BU:6:THR:O	53:BU:9:VAL:HG22	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:162:GLU:O	58:BZ:163:LEU:HD23	1.96	0.66
1:AA:1529:G:H4'	1:AA:1530:G:OP2	1.94	0.66
9:AI:53:VAL:HG11	9:AI:92:TYR:CD2	2.31	0.66
36:BA:833:U:H5"	48:BP:48:PRO:HB3	1.75	0.66
36:BA:1539:G:H2'	36:BA:1540:U:O4'	1.96	0.66
36:BA:2284:C:H2'	36:BA:2285:C:H6	1.60	0.66
38:BC:6:ARG:NH1	38:BC:34:THR:HB	2.11	0.66
46:BN:94:HIS:HB3	46:BN:97:ARG:HG3	1.78	0.66
50:BR:21:TYR:N	50:BR:21:TYR:CD1	2.59	0.66
54:BV:16:PRO:O	54:BV:96:ILE:HB	1.95	0.66
57:BY:35:TYR:HD2	57:BY:68:HIS:HE1	1.42	0.66
1:AA:723:U:O2	1:AA:723:U:H2'	1.95	0.66
1:AA:979:C:H3'	1:AA:980:C:H5"	1.77	0.66
1:AA:1321:C:O2'	19:AS:77:THR:HG21	1.94	0.66
2:AB:32:ILE:HD11	2:AB:40:HIS:CG	2.30	0.66
3:AC:138:VAL:HG23	3:AC:149:ALA:HB3	1.77	0.66
14:AN:6:LEU:HB3	14:AN:23:ARG:HH22	1.60	0.66
15:AO:74:ASP:OD1	15:AO:77:ARG:HG2	1.95	0.66
25:AZ:143:ASP:HB3	25:AZ:146:LEU:CB	2.22	0.66
25:AZ:371:THR:HG22	25:AZ:372:VAL:N	2.10	0.66
26:B0:50:ASN:HD22	26:B0:63:VAL:HG21	1.61	0.66
36:BA:648:G:H4'	36:BA:2351:G:H5"	1.77	0.66
36:BA:654(U):A:O2'	36:BA:654(V):A:H5'	1.94	0.66
36:BA:1494:A:H3'	36:BA:1494:A:N3	2.10	0.66
36:BA:2293:C:H5"	51:BS:92:TYR:OH	1.94	0.66
40:BE:111:ARG:HD3	40:BE:160:TYR:CE1	2.31	0.66
41:BF:175:THR:O	41:BF:176:LEU:HD12	1.94	0.66
47:BO:97:ARG:NH2	47:BO:99:PHE:HE1	1.93	0.66
48:BP:7:ARG:HB3	48:BP:8:PRO:HD3	1.77	0.66
51:BS:24:LEU:CD1	51:BS:41:ASP:HB2	2.26	0.66
57:BY:86:ARG:HG2	57:BY:87:LYS:N	2.07	0.66
58:BZ:19:ARG:NH1	58:BZ:84:GLU:HA	2.11	0.66
3:AC:8:ILE:HG12	3:AC:16:ARG:HG2	1.77	0.66
6:AF:3:ARG:HG3	6:AF:3:ARG:HH11	1.60	0.66
17:AQ:67:LYS:HA	17:AQ:70:ARG:NH1	2.10	0.66
27:B1:89:GLU:HG2	27:B1:92:LYS:HZ1	1.59	0.66
31:B5:16:ARG:HD2	31:B5:20:ARG:CZ	2.26	0.66
32:B6:8:LYS:HG3	32:B6:25:LYS:HD3	1.78	0.66
36:BA:2249:U:H4'	36:BA:2275:C:H5	1.60	0.66
36:BA:2370:G:H2'	36:BA:2371:G:H8	1.58	0.66
43:BH:17:VAL:HG12	43:BH:18:GLU:N	2.10	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:48:PHE:CD2	58:BZ:52:SER:HA	2.31	0.66
58:BZ:119:GLU:H	58:BZ:119:GLU:CD	2.02	0.66
3:AC:114:PRO:O	3:AC:118:GLN:HG3	1.96	0.66
8:AH:2:LEU:HD21	8:AH:8:ASP:HB2	1.76	0.66
9:AI:114:TYR:HE1	10:AJ:60:ARG:N	1.90	0.66
36:BA:1678:G:N2	36:BA:1989:G:N2	2.43	0.66
36:BA:2729:G:H1'	40:BE:187:ALA:CB	2.24	0.66
38:BC:208:PHE:C	38:BC:209:LEU:HD23	2.20	0.66
41:BF:5:ALA:H	41:BF:19:GLU:HB3	1.61	0.66
41:BF:51:THR:HB	41:BF:88:VAL:HG11	1.76	0.66
42:BG:52:ILE:HB	42:BG:54:GLU:OE1	1.95	0.66
48:BP:111:ARG:HE	48:BP:149:GLU:HG3	1.60	0.66
51:BS:96:GLY:C	51:BS:98:VAL:H	2.03	0.66
53:BU:52:ARG:NH1	53:BU:52:ARG:HB3	2.10	0.66
1:AA:1030(D):A:H2'	1:AA:1031:G:H5'	1.77	0.66
2:AB:19:HIS:O	2:AB:39:ILE:HG23	1.95	0.66
35:B9:29:ASN:ND2	35:B9:29:ASN:O	2.28	0.66
36:BA:2183:C:H2'	36:BA:2184:G:H8	1.61	0.66
38:BC:45:ALA:O	38:BC:47:LEU:HD12	1.96	0.66
41:BF:114:VAL:HG21	41:BF:202:PHE:CE1	2.30	0.66
48:BP:66:GLY:O	48:BP:67:MET:CB	2.44	0.66
50:BR:52:ILE:CD1	50:BR:79:LEU:HD21	2.26	0.66
52:BT:32:TYR:HB3	52:BT:81:PRO:HB3	1.78	0.66
53:BU:88:ILE:HB	53:BU:90:VAL:HG23	1.78	0.66
56:BX:35:THR:HG22	56:BX:38:GLU:H	1.60	0.66
57:BY:17:SER:HB2	57:BY:71:LYS:CE	2.23	0.66
1:AA:991:U:O2	1:AA:991:U:H2'	1.96	0.66
1:AA:1499:A:H1'	1:AA:1520:G:H5'	1.77	0.66
32:B6:19:ARG:CG	32:B6:20:ASN:H	1.96	0.66
36:BA:1131:G:H21	46:BN:73:THR:HG21	1.60	0.66
36:BA:2476:A:C2	36:BA:2477:C:C5	2.81	0.66
38:BC:66:HIS:NE2	38:BC:184:LYS:HD3	2.11	0.66
38:BC:99:ILE:HD12	38:BC:102:LYS:HZ3	1.59	0.66
46:BN:15:LEU:O	46:BN:136:GLU:HA	1.95	0.66
53:BU:66:ASN:HD21	53:BU:76:TYR:H	1.44	0.66
56:BX:35:THR:HG22	56:BX:37:THR:N	2.11	0.66
2:AB:235:SER:HG	2:AB:236:TYR:HD1	1.42	0.66
13:AM:97:PRO:HA	13:AM:110:ARG:CD	2.23	0.66
24:AY:20:H2U:H4'	24:AY:21:A:H5"	1.77	0.66
25:AZ:159:ASN:HD21	25:AZ:166:ASP:N	1.94	0.66
28:B2:11:GLU:O	28:B2:15:LYS:HG2	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:660:G:H5'	41:BF:99:TYR:CE2	2.31	0.66
36:BA:1362:C:O2'	36:BA:1363:C:H5'	1.96	0.66
36:BA:2193:G:H2'	36:BA:2194:G:O4'	1.95	0.66
37:BB:3:C:H42	37:BB:118:G:H1	1.44	0.66
39:BD:226:MET:HB3	39:BD:230:ASP:HB2	1.77	0.66
41:BF:125:LEU:N	41:BF:125:LEU:HD23	2.11	0.66
47:BO:104:ARG:HE	52:BT:33:LYS:HE3	1.61	0.66
48:BP:16:ARG:CD	48:BP:18:ARG:H	2.07	0.66
48:BP:83:VAL:CG1	48:BP:112:LEU:HD21	2.25	0.66
53:BU:21:ALA:HB1	53:BU:24:TYR:CD1	2.30	0.66
54:BV:99:ILE:HD13	54:BV:99:ILE:N	2.11	0.66
1:AA:1264:C:H2'	1:AA:1265:G:C8	2.31	0.66
2:AB:9:GLU:N	2:AB:9:GLU:OE2	2.29	0.66
4:AD:117:ALA:O	4:AD:121:VAL:HG23	1.96	0.66
16:AP:67:THR:H	16:AP:70:ALA:HB3	1.60	0.66
25:AZ:72:THR:C	25:AZ:74:LYS:H	2.03	0.66
25:AZ:272:MET:HE1	25:AZ:284:ASP:OD2	1.96	0.66
29:B3:35:ARG:HB2	29:B3:35:ARG:NH1	2.04	0.66
36:BA:404:C:C4'	36:BA:405:U:H5'	2.26	0.66
36:BA:886:C:H2'	36:BA:887:A:O4'	1.95	0.66
36:BA:2248:C:C2'	36:BA:2249:U:H5'	2.25	0.66
36:BA:2416:C:H2'	36:BA:2417:C:C6	2.31	0.66
36:BA:2476:A:H2	36:BA:2477:C:C6	2.13	0.66
38:BC:107:TRP:C	38:BC:108:MET:HE3	2.21	0.66
41:BF:102:PRO:O	41:BF:106:ARG:HG3	1.96	0.66
41:BF:114:VAL:HG21	41:BF:202:PHE:HE1	1.60	0.66
46:BN:65:LYS:NZ	46:BN:65:LYS:HB3	2.11	0.66
53:BU:92:ARG:NH2	54:BV:10:LYS:HA	2.10	0.66
3:AC:14:ILE:O	3:AC:15:THR:HB	1.95	0.65
12:AL:27:LEU:O	12:AL:29:GLY:N	2.29	0.65
13:AM:54:VAL:O	13:AM:58:GLU:HG2	1.96	0.65
20:AT:93:GLU:C	20:AT:93:GLU:CD	2.63	0.65
36:BA:650:C:H3'	36:BA:651:G:H5"	1.78	0.65
36:BA:2128:C:O2'	36:BA:2129:C:H6	1.79	0.65
36:BA:2146:C:H4'	36:BA:2147:G:N7	2.11	0.65
36:BA:2866:U:C6	36:BA:2868:A:H1'	2.31	0.65
38:BC:43:VAL:HG22	38:BC:214:VAL:HG22	1.77	0.65
49:BQ:135:ASP:HB2	58:BZ:81:ARG:HH22	1.60	0.65
51:BS:61:ASN:O	51:BS:62:LYS:HB2	1.93	0.65
52:BT:3:ARG:HH11	52:BT:6:LEU:HD13	1.60	0.65
52:BT:89:VAL:CG1	52:BT:91:ARG:HG3	2.26	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BV:18:LEU:HD23	54:BV:19:LYS:H	1.60	0.65
1:AA:59:A:H3'	1:AA:331:G:H22	1.60	0.65
6:AF:9:VAL:HB	6:AF:87:ARG:HB2	1.78	0.65
19:AS:29:ARG:O	19:AS:31:ILE:HG22	1.96	0.65
19:AS:40:ILE:HG21	19:AS:66:MET:O	1.95	0.65
19:AS:53:ASN:OD1	19:AS:55:LYS:HB3	1.95	0.65
20:AT:36:LEU:O	20:AT:36:LEU:HD13	1.97	0.65
21:AU:6:ARG:CD	21:AU:15:ARG:NH1	2.60	0.65
22:AW:43:C:O2	22:AW:44:G:H1'	1.96	0.65
31:B5:3:LYS:HB2	36:BA:747:U:C5	2.31	0.65
31:B5:25:LEU:HD12	55:BW:19:LEU:O	1.96	0.65
36:BA:234:C:H2'	36:BA:235:U:H6	1.59	0.65
36:BA:752:A:O2'	36:BA:753:C:OP2	2.13	0.65
36:BA:1188:U:O2'	36:BA:1189:A:H5'	1.96	0.65
37:BB:20:C:C2'	37:BB:21:G:H5"	2.24	0.65
40:BE:59:VAL:HG22	40:BE:63:LEU:HA	1.76	0.65
43:BH:148:ILE:HG22	43:BH:162:ILE:HD11	1.78	0.65
54:BV:15:GLU:HB3	54:BV:16:PRO:HD2	1.79	0.65
58:BZ:166:SER:HB2	58:BZ:167:PRO:C	2.21	0.65
1:AA:80:G:C2'	1:AA:81:U:H5'	2.26	0.65
1:AA:453:A:O2'	1:AA:454:C:H6	1.78	0.65
1:AA:979:C:H3'	1:AA:980:C:C5'	2.27	0.65
1:AA:1265:G:C6	1:AA:1266:G:O6	2.49	0.65
1:AA:1266:G:N2	1:AA:1268:A:H5"	2.10	0.65
2:AB:69:LEU:HD22	2:AB:91:PRO:HB2	1.78	0.65
5:AE:11:ILE:HD11	5:AE:33:VAL:HG21	1.78	0.65
10:AJ:78:ASN:ND2	10:AJ:80:LYS:HB3	2.11	0.65
14:AN:50:LYS:HB2	14:AN:52:GLN:HG3	1.76	0.65
19:AS:51:VAL:HG23	19:AS:60:VAL:HG11	1.77	0.65
20:AT:89:ARG:HH21	20:AT:104:LEU:HD21	1.61	0.65
31:B5:39:MET:HG3	55:BW:34:ASN:OD1	1.95	0.65
40:BE:50:GLY:CA	40:BE:78:LEU:HB3	2.23	0.65
41:BF:82:ILE:HG13	41:BF:83:PHE:N	2.11	0.65
46:BN:56:ASN:H	46:BN:125:GLY:CA	2.08	0.65
48:BP:16:ARG:HH11	48:BP:16:ARG:CB	2.10	0.65
49:BQ:141:GLN:CD	58:BZ:72:ARG:HD3	2.22	0.65
50:BR:94:TYR:N	50:BR:94:TYR:CD2	2.61	0.65
50:BR:94:TYR:N	50:BR:94:TYR:HD2	1.95	0.65
51:BS:59:LYS:HG2	51:BS:60:GLY:H	1.59	0.65
56:BX:8:ILE:C	56:BX:9:LEU:HD23	2.20	0.65
58:BZ:11:GLU:H	58:BZ:11:GLU:CD	2.03	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1030(A):G:H1'	1:AA:1031:G:H1	1.61	0.65
2:AB:10:LEU:O	2:AB:13:ALA:HB3	1.97	0.65
2:AB:189:ASP:OD2	2:AB:190:THR:N	2.28	0.65
25:AZ:145:GLU:O	25:AZ:145:GLU:HG2	1.96	0.65
29:B3:31:LEU:O	29:B3:32:GLN:HB2	1.95	0.65
36:BA:1252:G:O4'	53:BU:33:ARG:HD3	1.96	0.65
38:BC:149:ILE:O	38:BC:153:ILE:HG13	1.96	0.65
39:BD:28:GLU:H	39:BD:29:PRO:CD	2.06	0.65
39:BD:30:GLU:HG3	39:BD:63:ARG:NH2	2.10	0.65
41:BF:84:VAL:HG12	41:BF:85:GLY:H	1.60	0.65
48:BP:59:LEU:CA	48:BP:61:ARG:HE	2.09	0.65
51:BS:15:ARG:HH11	51:BS:15:ARG:CB	2.09	0.65
51:BS:28:VAL:HG12	51:BS:29:PHE:H	1.60	0.65
1:AA:1313:U:O4	19:AS:4:SER:HB2	1.97	0.65
5:AE:148:VAL:CG2	8:AH:107:LEU:HD13	2.24	0.65
22:AV:47:U:H3'	22:AV:48:C:C5'	2.26	0.65
25:AZ:149:LEU:O	25:AZ:153:GLU:HG2	1.97	0.65
25:AZ:368:VAL:CG1	25:AZ:369:THR:H	2.06	0.65
27:B1:48:LYS:NZ	27:B1:61:ARG:HG2	2.11	0.65
30:B4:28:LYS:HE3	30:B4:28:LYS:HA	1.78	0.65
34:B8:14:VAL:HG21	34:B8:22:VAL:CG1	2.27	0.65
36:BA:2398:U:H5'	36:BA:2399:G:OP2	1.96	0.65
37:BB:105:A:H2'	37:BB:106:G:O4'	1.97	0.65
39:BD:30:GLU:CG	39:BD:63:ARG:HE	2.09	0.65
40:BE:31:CYS:HB3	40:BE:49:LEU:HB3	1.77	0.65
42:BG:72:ARG:CZ	42:BG:86:MET:HA	2.26	0.65
43:BH:20:ALA:HB1	43:BH:21:PRO:HD2	1.77	0.65
50:BR:38:VAL:O	50:BR:41:ALA:HB3	1.96	0.65
51:BS:17:ARG:HA	51:BS:20:ARG:NH1	2.12	0.65
57:BY:82:PRO:O	57:BY:96:ILE:HG22	1.96	0.65
1:AA:404:U:H5"	4:AD:122:ARG:HD3	1.78	0.65
1:AA:573:A:H5'	1:AA:573:A:C8	2.32	0.65
4:AD:148:VAL:HG11	4:AD:158:ILE:HG21	1.79	0.65
6:AF:15:ASP:OD1	6:AF:18:GLN:HG3	1.96	0.65
10:AJ:32:ALA:CB	10:AJ:76:ASN:HB2	2.27	0.65
11:AK:82:VAL:CG1	11:AK:108:ILE:HA	2.26	0.65
18:AR:37:VAL:HG12	18:AR:78:LEU:HB3	1.79	0.65
25:AZ:139:ASP:O	25:AZ:140:MET:HE2	1.96	0.65
36:BA:304:G:H1	36:BA:313:C:N4	1.93	0.65
36:BA:709:U:H2'	36:BA:710:G:C8	2.31	0.65
36:BA:1024:G:C3'	36:BA:1025:G:H5"	2.20	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BR:12:ARG:HB3	50:BR:16:HIS:HD2	1.60	0.65
52:BT:129:ARG:CZ	52:BT:131:ALA:HB3	2.26	0.65
2:AB:72:GLY:HA2	2:AB:165:VAL:HG22	1.78	0.65
2:AB:212:GLN:O	2:AB:216:SER:HB2	1.97	0.65
13:AM:120:LYS:HA	13:AM:120:LYS:HE3	1.79	0.65
22:AW:16:U:H5'	22:AW:17:C:OP2	1.97	0.65
32:B6:22:ALA:C	32:B6:23:THR:HG23	2.21	0.65
36:BA:225:A:O2'	36:BA:257:A:H4'	1.97	0.65
36:BA:266:G:C2'	36:BA:267:C:H5"	2.27	0.65
36:BA:1019:U:O2'	36:BA:1021:A:H2	1.79	0.65
36:BA:2667:C:H1'	43:BH:109:PHE:CD1	2.30	0.65
39:BD:166:GLN:HA	39:BD:166:GLN:HE21	1.60	0.65
39:BD:273:ARG:O	39:BD:274:ARG:HG3	1.97	0.65
43:BH:46:GLU:HB3	43:BH:50:VAL:HG22	1.77	0.65
51:BS:88:ASP:CG	51:BS:89:ARG:N	2.55	0.65
51:BS:92:TYR:CG	51:BS:93:LYS:N	2.61	0.65
1:AA:977:A:H2'	1:AA:977:A:N3	2.11	0.65
9:AI:41:VAL:O	9:AI:41:VAL:HG12	1.97	0.65
13:AM:22:ILE:HG21	13:AM:66:LEU:CD2	2.27	0.65
20:AT:89:ARG:HD2	20:AT:104:LEU:HD11	1.78	0.65
22:AV:59:U:O2'	22:AV:60:U:H6	1.72	0.65
36:BA:1042:G:C2	36:BA:1043:C:H1'	2.31	0.65
36:BA:2777:G:H5"	36:BA:2778:A:C5'	2.27	0.65
38:BC:58:VAL:HG22	38:BC:201:PRO:CG	2.27	0.65
39:BD:96:HIS:CE1	39:BD:102:LYS:HZ1	2.14	0.65
41:BF:195:ASP:H	41:BF:198:ALA:HB3	1.61	0.65
42:BG:76:SER:CB	42:BG:83:ARG:HB3	2.27	0.65
42:BG:145:THR:HG22	42:BG:147:ASP:H	1.62	0.65
43:BH:51:ARG:HG3	43:BH:52:VAL:H	1.62	0.65
43:BH:85:LYS:NZ	43:BH:133:VAL:N	2.38	0.65
51:BS:57:LYS:HD2	51:BS:57:LYS:O	1.97	0.65
53:BU:3:ARG:HH12	53:BU:5:LYS:HB3	1.60	0.65
3:AC:5:ILE:HD13	3:AC:5:ILE:N	2.11	0.65
10:AJ:30:SER:HA	10:AJ:80:LYS:CE	2.27	0.65
10:AJ:30:SER:HA	10:AJ:80:LYS:NZ	2.11	0.65
13:AM:49:THR:C	13:AM:51:ALA:H	2.05	0.65
30:B4:20:ASN:HD22	30:B4:21:VAL:N	1.93	0.65
33:B7:8:ASN:ND2	33:B7:11:LYS:H	1.95	0.65
36:BA:629:G:H1'	36:BA:639:U:O2'	1.96	0.65
36:BA:2289:G:H1'	36:BA:2346:A:H2	1.62	0.65
38:BC:41:VAL:HB	38:BC:175:VAL:HB	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:104:VAL:HG11	40:BE:188:VAL:CG2	2.27	0.65
43:BH:87:LEU:HD23	43:BH:164:TYR:HA	1.79	0.65
48:BP:33:ARG:O	48:BP:34:GLY:C	2.40	0.65
48:BP:39:LYS:HD3	48:BP:40:SER:H	1.61	0.65
49:BQ:78:PRO:O	49:BQ:81:VAL:HG12	1.97	0.65
1:AA:1002:G:H2'	1:AA:1003:G:C8	2.32	0.65
19:AS:43:GLU:C	19:AS:45:VAL:H	2.05	0.65
22:AW:30:G:H2'	22:AW:31:A:C8	2.32	0.65
22:AW:56:C:C5'	38:BC:137:LEU:HB2	2.27	0.65
25:AZ:96:ALA:C	25:AZ:98:GLN:H	2.05	0.65
25:AZ:322:VAL:HG13	25:AZ:395:VAL:O	1.97	0.65
36:BA:1782:C:H1'	36:BA:2609:U:H5"	1.79	0.65
36:BA:2146:C:H4'	36:BA:2147:G:C8	2.32	0.65
36:BA:2199:A:H5'	36:BA:2200:C:OP2	1.97	0.65
36:BA:2760:C:C2'	36:BA:2761:G:H5"	2.27	0.65
46:BN:137:LYS:O	46:BN:138:LEU:HG	1.97	0.65
48:BP:83:VAL:O	48:BP:114:ILE:HD12	1.97	0.65
7:AG:20:ASP:HB3	7:AG:23:VAL:HG23	1.78	0.64
14:AN:55:GLY:O	14:AN:56:VAL:C	2.40	0.64
19:AS:19:VAL:HG11	19:AS:44:MET:HG3	1.77	0.64
25:AZ:129:PRO:O	25:AZ:130:TYR:HB2	1.97	0.64
26:B0:7:LEU:HD22	49:BQ:85:LYS:CB	2.26	0.64
33:B7:9:ARG:NE	36:BA:1310:G:OP2	2.28	0.64
36:BA:20:C:H2'	36:BA:21:A:H8	1.62	0.64
36:BA:2176:A:H2	38:BC:172:HIS:NE2	1.94	0.64
36:BA:2176:A:C2	38:BC:172:HIS:CE1	2.84	0.64
36:BA:2248:C:H2'	36:BA:2249:U:H5'	1.79	0.64
40:BE:182:LEU:C	40:BE:183:LEU:HD12	2.21	0.64
41:BF:3:GLU:O	41:BF:19:GLU:HB2	1.96	0.64
46:BN:55:VAL:HG22	46:BN:126:PRO:HA	1.79	0.64
53:BU:52:ARG:HB3	53:BU:52:ARG:HH11	1.62	0.64
57:BY:13:VAL:HG11	57:BY:28:LYS:HZ3	1.61	0.64
1:AA:194:C:C2'	1:AA:195:A:H5"	2.27	0.64
7:AG:113:GLU:HB2	7:AG:119:ARG:HG2	1.79	0.64
36:BA:270:A:O2'	36:BA:271:A:H5'	1.97	0.64
36:BA:894:C:H2'	36:BA:895:U:H5'	1.78	0.64
36:BA:1248:G:OP1	41:BF:92:PRO:HG3	1.96	0.64
38:BC:128:GLY:HA2	38:BC:137:LEU:HD21	1.78	0.64
39:BD:118:VAL:HG22	39:BD:119:ALA:N	2.12	0.64
46:BN:28:THR:HG23	46:BN:29:LYS:H	1.59	0.64
51:BS:14:VAL:O	51:BS:15:ARG:C	2.39	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AL:55:VAL:HG21	12:AL:67:THR:HG23	1.79	0.64
36:BA:1310:G:H2'	36:BA:1311:G:H5'	1.79	0.64
47:BO:86:ILE:HG22	47:BO:94:ARG:HG3	1.78	0.64
49:BQ:75:THR:HG22	49:BQ:75:THR:O	1.97	0.64
51:BS:96:GLY:O	51:BS:98:VAL:N	2.24	0.64
58:BZ:37:VAL:HG23	58:BZ:38:TYR:N	2.11	0.64
1:AA:943:U:C2'	1:AA:944:G:H5'	2.27	0.64
1:AA:1327:C:H2'	1:AA:1328:C:H6	1.63	0.64
3:AC:11:ARG:O	3:AC:14:ILE:O	2.16	0.64
12:AL:32:PHE:HB3	12:AL:84:LEU:CD2	2.27	0.64
13:AM:15:VAL:HG22	13:AM:41:PRO:O	1.97	0.64
19:AS:44:MET:N	19:AS:44:MET:SD	2.70	0.64
36:BA:780:G:H21	36:BA:783:A:H62	1.45	0.64
36:BA:922:U:H2'	36:BA:923:C:C6	2.33	0.64
36:BA:1697:G:H3'	36:BA:1698:A:C5'	2.22	0.64
38:BC:68:LEU:HD23	38:BC:176:GLY:CA	2.23	0.64
39:BD:94:LEU:HB2	39:BD:104:TYR:CE2	2.31	0.64
41:BF:7:TYR:HD2	41:BF:16:GLY:CA	2.09	0.64
49:BQ:39:PRO:O	49:BQ:40:ALA:HB2	1.97	0.64
1:AA:269:C:H2'	1:AA:270:A:C8	2.32	0.64
1:AA:961:U:O2'	1:AA:962:C:P	2.56	0.64
13:AM:27:LYS:HE2	13:AM:31:LYS:HE3	1.80	0.64
27:B1:72:GLU:O	27:B1:76:ARG:HG3	1.97	0.64
27:B1:84:GLY:O	27:B1:86:SER:N	2.29	0.64
36:BA:471:A:H2'	36:BA:472:A:C5'	2.28	0.64
36:BA:605:C:O2'	36:BA:606:U:H5'	1.97	0.64
36:BA:892:G:H2'	36:BA:893:C:C5	2.33	0.64
36:BA:1386:C:H2'	36:BA:1387:C:C6	2.32	0.64
36:BA:2115:G:H5'	36:BA:2167:U:O2'	1.96	0.64
36:BA:2761:G:H2'	36:BA:2762:G:C5'	2.25	0.64
39:BD:31:LYS:HE3	39:BD:102:LYS:HD3	1.79	0.64
41:BF:192:LEU:HD23	41:BF:192:LEU:C	2.23	0.64
46:BN:57:ALA:CB	46:BN:124:ALA:HA	2.27	0.64
52:BT:66:VAL:HG12	52:BT:71:GLY:CA	2.27	0.64
58:BZ:4:ARG:HG2	58:BZ:58:VAL:HB	1.79	0.64
1:AA:108:G:H5'	1:AA:109:A:H5'	1.79	0.64
4:AD:124:GLY:O	4:AD:126:ILE:N	2.31	0.64
7:AG:15:ASP:OD2	7:AG:16:LEU:N	2.31	0.64
34:B8:30:ARG:NH2	36:BA:2419:U:O4	2.30	0.64
36:BA:760:G:C2'	36:BA:761:A:H5'	2.28	0.64
36:BA:941:A:H4'	48:BP:35:HIS:CE1	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1887:C:H3'	36:BA:1888:G:H5"	1.77	0.64
39:BD:35:LYS:HD2	39:BD:36:PRO:CA	2.28	0.64
39:BD:186:HIS:HD2	39:BD:188:GLU:HB2	1.63	0.64
43:BH:52:VAL:HG21	43:BH:69:ARG:CB	2.27	0.64
46:BN:115:ARG:HA	46:BN:118:LYS:HE2	1.80	0.64
1:AA:452:A:O2'	1:AA:453:A:H5'	1.97	0.64
9:AI:93:ARG:O	9:AI:95:LYS:N	2.28	0.64
15:AO:26:GLU:OE1	15:AO:81:LEU:HD23	1.98	0.64
18:AR:53:ARG:C	18:AR:55:ARG:H	2.05	0.64
26:B0:25:ARG:HD2	26:B0:29:GLN:NE2	2.13	0.64
32:B6:12:GLU:HG3	32:B6:23:THR:HG22	1.80	0.64
36:BA:81:G:N2	57:BY:2:ARG:HH12	1.95	0.64
36:BA:298:G:H8	36:BA:298:G:OP2	1.79	0.64
36:BA:907:U:OP1	49:BQ:24:GLY:N	2.29	0.64
36:BA:1222:C:H2'	36:BA:1223:G:C5'	2.21	0.64
36:BA:2066:C:O2'	36:BA:2067:G:H5'	1.98	0.64
36:BA:2444:G:OP2	41:BF:68:LYS:NZ	2.29	0.64
36:BA:2465:C:O2'	36:BA:2466:C:H5'	1.98	0.64
36:BA:2619:C:OP1	40:BE:152:LYS:HD3	1.98	0.64
36:BA:2713:A:H3'	36:BA:2714:G:C5'	2.27	0.64
39:BD:76:PRO:HG2	39:BD:98:VAL:HG21	1.78	0.64
43:BH:18:GLU:HB2	43:BH:25:LYS:H	1.62	0.64
51:BS:28:VAL:HG12	51:BS:29:PHE:N	2.12	0.64
51:BS:93:LYS:O	51:BS:95:HIS:N	2.31	0.64
52:BT:16:ARG:HH11	52:BT:16:ARG:CB	2.07	0.64
52:BT:55:ASN:ND2	52:BT:58:ASN:HD21	1.94	0.64
54:BV:38:LEU:O	54:BV:39:LEU:HD13	1.96	0.64
55:BW:76:VAL:HB	55:BW:103:ILE:HG23	1.79	0.64
58:BZ:108:PRO:CA	58:BZ:141:VAL:HG11	2.27	0.64
1:AA:254:G:H21	17:AQ:16:GLN:NE2	1.96	0.64
1:AA:594:G:C2'	1:AA:595:G:H5'	2.27	0.64
2:AB:30:ARG:HG3	2:AB:31:TYR:CD2	2.33	0.64
4:AD:187:ARG:HB3	4:AD:187:ARG:HH11	1.62	0.64
8:AH:83:ILE:CD1	8:AH:137:VAL:HG22	2.28	0.64
25:AZ:355:LEU:CD2	25:AZ:359:VAL:HB	2.26	0.64
26:B0:56:ASP:OD1	26:B0:58:THR:OG1	2.16	0.64
36:BA:587:C:C4	48:BP:33:ARG:HG2	2.33	0.64
36:BA:598:G:H5'	48:BP:15:ARG:CB	2.27	0.64
36:BA:1223:G:H5'	36:BA:1223:G:H8	1.62	0.64
38:BC:163:PHE:HB3	38:BC:173:ALA:CB	2.25	0.64
42:BG:15:VAL:O	42:BG:19:LEU:HG	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BS:12:PHE:O	51:BS:14:VAL:HG23	1.97	0.64
51:BS:66:ALA:HA	51:BS:69:VAL:CG1	2.27	0.64
53:BU:95:LEU:C	53:BU:97:ASP:N	2.53	0.64
54:BV:38:LEU:O	54:BV:52:VAL:HG12	1.98	0.64
56:BX:27:THR:CG2	56:BX:80:ILE:HG22	2.27	0.64
2:AB:193:ASP:C	2:AB:193:ASP:OD2	2.41	0.64
4:AD:9:CYS:O	4:AD:12:CYS:HB2	1.98	0.64
7:AG:77:SER:HB2	7:AG:84:ASN:HD21	1.62	0.64
13:AM:97:PRO:HB2	13:AM:101:GLN:NE2	2.12	0.64
15:AO:71:GLN:HG2	15:AO:71:GLN:O	1.98	0.64
36:BA:936:C:H2'	36:BA:937:U:H6	1.61	0.64
36:BA:1314:C:H5'	36:BA:1314:C:C6	2.31	0.64
36:BA:1511:C:H2'	36:BA:1512:U:C6	2.27	0.64
36:BA:2053:G:H5'	40:BE:144:ARG:O	1.97	0.64
39:BD:239:ARG:HG2	39:BD:239:ARG:NH2	1.96	0.64
53:BU:8:VAL:HG23	53:BU:11:ARG:NH2	2.11	0.64
25:AZ:265:THR:HG22	25:AZ:291:ARG:HB3	1.80	0.64
31:B5:59:GLU:HG3	31:B5:59:GLU:O	1.98	0.64
32:B6:30:THR:O	32:B6:32:ASN:N	2.31	0.64
36:BA:259:G:N2	36:BA:621:A:H8	1.93	0.64
36:BA:1803:A:O2'	39:BD:259:THR:HG21	1.98	0.64
37:BB:30:C:H2'	37:BB:31:C:O4'	1.98	0.64
40:BE:113:PHE:HE1	40:BE:158:GLY:HA2	1.63	0.64
40:BE:199:ARG:HG2	40:BE:200:GLU:OE2	1.98	0.64
40:BE:199:ARG:NH1	40:BE:199:ARG:HB2	2.12	0.64
43:BH:12:PRO:HA	43:BH:48:GLY:CA	2.26	0.64
46:BN:63:THR:HB	46:BN:66:LYS:NZ	2.12	0.64
48:BP:111:ARG:H	48:BP:111:ARG:HD2	1.62	0.64
54:BV:38:LEU:HD12	54:BV:57:VAL:HB	1.80	0.64
1:AA:202:U:H5"	1:AA:203:U:OP2	1.98	0.63
1:AA:681:C:O2'	1:AA:682:G:H5'	1.97	0.63
12:AL:41:ARG:HH12	12:AL:57:LYS:NZ	1.95	0.63
26:B0:42:GLY:HA3	36:BA:2331:G:O4'	1.99	0.63
36:BA:8:A:H2'	36:BA:9:U:H5	1.64	0.63
36:BA:271(U):G:O2'	36:BA:271(V):G:H5'	1.98	0.63
36:BA:558:G:P	46:BN:111:PRO:HD2	2.38	0.63
36:BA:2112:G:H2'	36:BA:2112:G:N3	2.13	0.63
36:BA:2491:U:H5'	36:BA:2570:G:C5'	2.20	0.63
38:BC:14:VAL:HG23	38:BC:32:LEU:HD11	1.79	0.63
39:BD:33:LEU:HD23	39:BD:33:LEU:C	2.22	0.63
41:BF:119:ARG:HG2	41:BF:119:ARG:HH11	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BH:149:ARG:HG3	43:BH:162:ILE:O	1.98	0.63
48:BP:30:THR:HG22	48:BP:31:ALA:N	2.13	0.63
52:BT:25:GLY:O	52:BT:49:VAL:HG12	1.95	0.63
58:BZ:91:LEU:HD13	58:BZ:130:PRO:HB3	1.79	0.63
1:AA:1152:A:O2'	1:AA:1153:C:H5'	1.98	0.63
2:AB:32:ILE:HD11	2:AB:40:HIS:HB3	1.81	0.63
32:B6:45:LYS:O	32:B6:46:HIS:HB3	1.97	0.63
34:B8:59:LYS:HD3	48:BP:50:ARG:HB3	1.78	0.63
36:BA:68:G:H2'	36:BA:69:C:H6	1.62	0.63
36:BA:519:U:H2'	36:BA:520:G:H8	1.63	0.63
36:BA:628:G:H2'	36:BA:629:G:C5'	2.28	0.63
36:BA:2657:A:O2'	43:BH:160:LYS:HE2	1.96	0.63
42:BG:103:LEU:HD21	42:BG:178:PHE:CZ	2.34	0.63
51:BS:25:ARG:HH11	51:BS:25:ARG:HG2	1.63	0.63
52:BT:58:ASN:ND2	52:BT:58:ASN:H	1.96	0.63
1:AA:161:A:H2'	1:AA:162:A:C8	2.33	0.63
1:AA:1275:A:O2'	1:AA:1276:G:H5'	1.97	0.63
2:AB:104:ASN:O	2:AB:108:ILE:HG12	1.98	0.63
10:AJ:20:ALA:C	10:AJ:22:LYS:H	2.07	0.63
12:AL:24:VAL:HG13	12:AL:98:TYR:CE2	2.32	0.63
13:AM:40:ASN:HD22	13:AM:43:THR:HG23	1.63	0.63
17:AQ:62:SER:CB	17:AQ:72:ARG:HG3	2.28	0.63
25:AZ:315:LYS:HE3	25:AZ:373:GLU:HB2	1.81	0.63
26:B0:49:LYS:N	26:B0:80:HIS:HD1	1.92	0.63
35:B9:30:PRO:HB2	36:BA:2527:C:C5'	2.23	0.63
36:BA:1019:U:H3	36:BA:1142(A):A:H62	1.46	0.63
36:BA:1503:U:H2'	36:BA:1504:C:H6	1.62	0.63
36:BA:1766:U:H2'	36:BA:1767:C:H6	1.63	0.63
36:BA:2206:G:C2	36:BA:2207:G:H5'	2.33	0.63
36:BA:2645:G:H3'	36:BA:2646:C:C5'	2.20	0.63
38:BC:165:ASN:HA	38:BC:170:ALA:O	1.98	0.63
40:BE:2:LYS:HB3	40:BE:95:ILE:HG22	1.80	0.63
41:BF:101:LEU:CD1	41:BF:102:PRO:HD2	2.27	0.63
41:BF:132:VAL:HG22	41:BF:133:ASN:N	2.08	0.63
42:BG:152:LEU:HD23	42:BG:152:LEU:H	1.63	0.63
47:BO:35:VAL:HG11	47:BO:103:ALA:HB3	1.80	0.63
52:BT:27:THR:O	52:BT:28:VAL:HB	1.97	0.63
1:AA:393:A:C2'	1:AA:394:G:H5'	2.29	0.63
1:AA:1230:C:O2'	1:AA:1231:G:H5'	1.99	0.63
2:AB:7:VAL:HA	2:AB:11:LEU:HG	1.80	0.63
10:AJ:30:SER:HA	10:AJ:80:LYS:HZ2	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:54:PHE:CZ	10:AJ:55:LYS:NZ	2.66	0.63
10:AJ:61:GLU:OE2	14:AN:45:ARG:HD2	1.98	0.63
10:AJ:96:ILE:H	10:AJ:96:ILE:CD1	2.10	0.63
18:AR:44:LEU:CD2	18:AR:79:LEU:HD22	2.28	0.63
20:AT:53:LEU:HD22	20:AT:100:ILE:O	1.98	0.63
22:AW:38:A:C3'	22:AW:39:U:H5"	2.28	0.63
34:B8:47:LYS:HB2	34:B8:47:LYS:HZ2	1.63	0.63
36:BA:612:C:H2'	36:BA:613:G:H5'	1.81	0.63
36:BA:718:A:H2'	36:BA:719:C:O4'	1.98	0.63
36:BA:1150:C:O2'	36:BA:1151:G:H5'	1.98	0.63
36:BA:1993:U:H4'	40:BE:128:SER:OG	1.99	0.63
37:BB:31:C:H42	37:BB:51:G:H1	1.45	0.63
37:BB:65:C:H2'	37:BB:66:A:H5'	1.79	0.63
38:BC:150:GLY:HA2	38:BC:153:ILE:HD12	1.81	0.63
43:BH:12:PRO:CD	43:BH:15:VAL:HG21	2.25	0.63
48:BP:107:LYS:O	48:BP:109:GLY:N	2.30	0.63
51:BS:104:GLY:C	51:BS:106:ARG:H	2.06	0.63
53:BU:85:LYS:C	53:BU:87:GLY:H	2.05	0.63
1:AA:64:G:H4'	1:AA:65:U:H5"	1.81	0.63
4:AD:74:GLN:NE2	4:AD:100:ARG:HH22	1.97	0.63
19:AS:50:ALA:HA	19:AS:58:VAL:O	1.98	0.63
22:AV:4:C:C2'	22:AV:5:G:H5"	2.26	0.63
25:AZ:223:MET:HE3	25:AZ:240:GLY:HA3	1.80	0.63
36:BA:1291:C:C2'	36:BA:1292:U:H5'	2.27	0.63
36:BA:1594:G:H2'	36:BA:1595:G:H8	1.63	0.63
36:BA:1948:G:H5'	36:BA:1948:G:C8	2.31	0.63
36:BA:2466:C:O2'	36:BA:2467:C:H5'	1.98	0.63
43:BH:50:VAL:HG12	43:BH:51:ARG:N	2.12	0.63
49:BQ:22:LYS:O	49:BQ:22:LYS:HG3	1.99	0.63
53:BU:13:LYS:HA	53:BU:16:LYS:HD2	1.80	0.63
2:AB:8:LYS:HB2	2:AB:9:GLU:OE2	1.98	0.63
3:AC:68:VAL:HG12	3:AC:70:VAL:CG2	2.27	0.63
10:AJ:54:PHE:CD2	10:AJ:55:LYS:HD2	2.34	0.63
22:AW:55:U:C5	22:AW:57:G:H5"	2.34	0.63
31:B5:50:GLY:HA3	31:B5:56:LYS:CD	2.29	0.63
36:BA:35:G:O2'	36:BA:36:G:H5'	1.97	0.63
36:BA:658:C:H2'	36:BA:659:C:C6	2.34	0.63
36:BA:1217:C:H2'	36:BA:1218:C:H6	1.63	0.63
36:BA:1416:G:HO2'	36:BA:1417:C:H5	1.46	0.63
36:BA:1590:U:H2'	36:BA:1591:G:C5'	2.28	0.63
38:BC:137:LEU:HD13	38:BC:138:PRO:N	2.14	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BG:85:GLY:O	42:BG:86:MET:HB3	1.99	0.63
53:BU:92:ARG:HB3	54:BV:11:GLN:NE2	2.14	0.63
1:AA:1304:G:H1'	1:AA:1334:G:N2	2.13	0.63
2:AB:194:PRO:O	2:AB:196:LEU:HD12	1.99	0.63
25:AZ:355:LEU:HD23	25:AZ:356:PRO:CD	2.25	0.63
36:BA:195:A:H5"	36:BA:196:A:OP2	1.98	0.63
36:BA:1528:A:H2'	36:BA:1528:A:N3	2.14	0.63
36:BA:2190:G:H2'	36:BA:2190:G:N3	2.12	0.63
38:BC:200:LYS:HA	38:BC:208:PHE:CZ	2.34	0.63
42:BG:172:LEU:O	42:BG:176:LEU:HB2	1.98	0.63
43:BH:54:ARG:HB2	43:BH:55:PRO:HD2	1.81	0.63
48:BP:126:VAL:HG22	48:BP:145:PRO:HB2	1.80	0.63
52:BT:102:ILE:HD12	52:BT:110:ILE:HD12	1.80	0.63
56:BX:18:TYR:O	56:BX:20:GLY:N	2.32	0.63
1:AA:1459:C:H2'	1:AA:1460:A:C8	2.34	0.63
4:AD:61:LYS:HA	4:AD:203:VAL:HG22	1.81	0.63
6:AF:67:MET:HB2	6:AF:68:PRO:CD	2.27	0.63
10:AJ:58:ASP:O	10:AJ:59:SER:C	2.41	0.63
11:AK:124:LYS:HD2	11:AK:125:PHE:CE1	2.34	0.63
22:AV:75:C:H2'	22:AV:76:A:O4'	1.99	0.63
25:AZ:9:LYS:HB3	25:AZ:10:PRO:HD2	1.81	0.63
25:AZ:19:HIS:CD2	25:AZ:20:VAL:N	2.66	0.63
34:B8:33:ASN:CG	34:B8:34:TRP:H	2.07	0.63
36:BA:2423:U:H5'	36:BA:2423:U:H6	1.62	0.63
36:BA:2512:C:H2'	36:BA:2513:G:O4'	1.99	0.63
38:BC:44:HIS:O	38:BC:212:VAL:HG13	1.97	0.63
38:BC:100:ILE:HD13	38:BC:126:LYS:HB3	1.81	0.63
38:BC:216:THR:O	38:BC:217:THR:C	2.41	0.63
41:BF:5:ALA:HB2	41:BF:24:LEU:CD1	2.28	0.63
41:BF:158:THR:C	41:BF:160:ASN:H	2.06	0.63
42:BG:109:VAL:O	42:BG:112:PRO:HD2	1.97	0.63
1:AA:1366:C:H2'	1:AA:1367:C:C6	2.34	0.63
1:AA:1503:A:N7	23:AX:15:A:C5	2.67	0.63
2:AB:209:ARG:HH11	2:AB:239:VAL:CG1	2.01	0.63
9:AI:40:LEU:C	9:AI:42:ARG:H	2.06	0.63
15:AO:62:GLN:HE21	15:AO:62:GLN:HA	1.64	0.63
34:B8:32:LEU:HD22	36:BA:2392:A:OP1	1.99	0.63
36:BA:606:U:H4'	36:BA:658:C:H4'	1.81	0.63
36:BA:1092:C:H42	36:BA:1100:C:H42	1.46	0.63
36:BA:2306:C:H4'	42:BG:136:ARG:HH22	1.64	0.63
36:BA:2491:U:H4'	36:BA:2570:G:OP1	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2656:U:C2'	36:BA:2657:A:H5"	2.28	0.63
38:BC:120:MET:CE	38:BC:123:VAL:HG11	2.28	0.63
2:AB:87:ARG:HH11	2:AB:223:ILE:CD1	2.12	0.62
12:AL:46:LYS:CG	12:AL:47:LYS:H	2.02	0.62
13:AM:12:ASN:H	13:AM:12:ASN:ND2	1.94	0.62
28:B2:21:LEU:HD11	28:B2:63:VAL:HG12	1.79	0.62
28:B2:47:ASN:HA	28:B2:50:ILE:HD13	1.81	0.62
36:BA:2639:A:H2'	36:BA:2640:G:O4'	1.99	0.62
40:BE:111:ARG:HD3	40:BE:160:TYR:CD1	2.34	0.62
42:BG:64:THR:OG1	42:BG:94:LEU:HD11	1.99	0.62
42:BG:113:ARG:HA	42:BG:113:ARG:HE	1.63	0.62
49:BQ:131:ILE:HD12	49:BQ:131:ILE:N	2.15	0.62
50:BR:99:LYS:HD2	50:BR:99:LYS:N	2.12	0.62
52:BT:128:GLU:O	52:BT:129:ARG:C	2.41	0.62
53:BU:79:PHE:O	53:BU:83:LEU:HD13	1.99	0.62
56:BX:26:TYR:HB2	56:BX:81:VAL:HG23	1.81	0.62
2:AB:115:LEU:HB2	2:AB:145:LEU:HD12	1.81	0.62
7:AG:71:PRO:O	7:AG:91:VAL:HG11	1.98	0.62
9:AI:16:ARG:HH11	9:AI:16:ARG:HG3	1.63	0.62
19:AS:16:LEU:C	19:AS:18:LYS:H	2.08	0.62
25:AZ:194:GLU:HG3	25:AZ:195:TRP:N	2.14	0.62
28:B2:35:LEU:HD13	28:B2:35:LEU:C	2.24	0.62
32:B6:26:ASN:ND2	32:B6:32:ASN:ND2	2.42	0.62
32:B6:45:LYS:N	32:B6:45:LYS:CD	2.58	0.62
36:BA:234:C:H2'	36:BA:235:U:C6	2.34	0.62
36:BA:287:C:H2'	36:BA:288:C:H6	1.64	0.62
36:BA:631:A:H5"	48:BP:65:ARG:NH1	2.13	0.62
36:BA:1087:G:H8	36:BA:1088:A:H4'	1.64	0.62
36:BA:1921:G:O2'	36:BA:1922:G:H5'	1.99	0.62
41:BF:103:LYS:O	41:BF:107:LYS:HG2	1.98	0.62
47:BO:111:PHE:HB3	47:BO:114:ILE:HD13	1.81	0.62
1:AA:339:C:H2'	1:AA:340:U:C6	2.34	0.62
2:AB:60:ASP:HB3	2:AB:64:ARG:HH21	1.63	0.62
9:AI:88:TYR:O	9:AI:89:ASN:ND2	2.32	0.62
12:AL:20:LYS:HD3	12:AL:20:LYS:N	2.08	0.62
30:B4:9:LEU:HG	42:BG:98:ARG:NH1	2.13	0.62
36:BA:1386:C:OP2	36:BA:1396:U:H5	1.82	0.62
36:BA:1464:C:O2'	36:BA:1528:A:C8	2.52	0.62
36:BA:2630:G:H1'	36:BA:2894:G:H1'	1.81	0.62
40:BE:59:VAL:CG2	40:BE:63:LEU:HA	2.28	0.62
50:BR:2:ARG:NH1	50:BR:2:ARG:N	2.47	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BX:26:TYR:O	56:BX:81:VAL:HG22	1.99	0.62
58:BZ:100:VAL:HG23	58:BZ:126:VAL:CG2	2.29	0.62
1:AA:163:C:H2'	1:AA:164:U:C6	2.34	0.62
1:AA:178:C:O2'	1:AA:179:A:H5'	2.00	0.62
1:AA:192:U:H4'	20:AT:57:ARG:HD3	1.80	0.62
1:AA:388:G:O2'	1:AA:389:A:P	2.57	0.62
3:AC:113:ALA:HB3	3:AC:114:PRO:HD3	1.80	0.62
9:AI:53:VAL:HG13	9:AI:95:LYS:NZ	2.14	0.62
10:AJ:61:GLU:OE2	14:AN:45:ARG:NH1	2.31	0.62
11:AK:50:TYR:HH	11:AK:59:TYR:HE2	1.42	0.62
20:AT:23:ARG:HG2	20:AT:23:ARG:HH11	1.65	0.62
25:AZ:318:ALA:CB	25:AZ:400:VAL:HA	2.28	0.62
36:BA:145:G:C3'	36:BA:146:G:H5"	2.29	0.62
36:BA:2756:U:H1'	36:BA:2757:A:C5'	2.24	0.62
36:BA:2787:C:O2	40:BE:61:ARG:NH1	2.33	0.62
46:BN:18:ALA:HB3	46:BN:26:LEU:HD22	1.80	0.62
47:BO:107:ARG:HH12	52:BT:35:LYS:HD2	1.64	0.62
55:BW:73:ALA:HB3	55:BW:106:ILE:CG1	2.30	0.62
58:BZ:71:VAL:HG11	58:BZ:74:VAL:CG2	2.29	0.62
1:AA:397:A:N7	1:AA:547:A:O2'	2.29	0.62
1:AA:757:U:H2'	1:AA:758:G:O4'	2.00	0.62
1:AA:838:G:H2'	1:AA:839:U:H5"	1.82	0.62
4:AD:3:ARG:O	4:AD:5:ILE:HG13	2.00	0.62
11:AK:120:ARG:HH11	11:AK:120:ARG:HG3	1.64	0.62
13:AM:3:ARG:HD3	42:BG:113:ARG:HH11	1.64	0.62
20:AT:89:ARG:NH2	20:AT:104:LEU:HD21	2.14	0.62
34:B8:32:LEU:HD12	34:B8:36:LYS:HZ1	1.63	0.62
36:BA:534:U:O2'	53:BU:49:HIS:HD2	1.83	0.62
36:BA:1057:A:H2	36:BA:1082:U:H3	1.47	0.62
36:BA:1387:C:H5'	36:BA:1469:A:H4'	1.82	0.62
36:BA:2781:A:H5'	36:BA:2782:G:C5'	2.19	0.62
37:BB:65:C:C2'	37:BB:66:A:H5'	2.30	0.62
41:BF:7:TYR:HD2	41:BF:16:GLY:HA3	1.63	0.62
41:BF:175:THR:C	41:BF:176:LEU:HD12	2.24	0.62
42:BG:78:SER:O	42:BG:80:PHE:N	2.32	0.62
49:BQ:136:ALA:C	49:BQ:138:ASP:H	2.07	0.62
53:BU:12:ARG:O	53:BU:16:LYS:HG3	1.98	0.62
1:AA:170:U:O2'	1:AA:171:A:H5'	1.99	0.62
1:AA:405:U:O2	1:AA:498:U:H2'	1.98	0.62
2:AB:87:ARG:NH1	2:AB:220:ASP:OD1	2.31	0.62
5:AE:20:GLN:NE2	5:AE:25:ARG:CZ	2.62	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:55:LYS:HE3	10:AJ:55:LYS:H	1.61	0.62
11:AK:97:ALA:O	11:AK:101:SER:HB3	1.99	0.62
13:AM:86:CYS:HA	19:AS:73:GLU:O	2.00	0.62
36:BA:1199:U:H1'	53:BU:4:ALA:HB2	1.82	0.62
36:BA:1851:U:O2'	36:BA:1852:C:H5'	1.99	0.62
36:BA:1902:C:H4'	39:BD:244:ARG:HA	1.81	0.62
38:BC:141:LYS:HB2	38:BC:141:LYS:NZ	2.14	0.62
39:BD:77:ALA:HB2	39:BD:97:TYR:CD2	2.34	0.62
39:BD:261:LYS:NZ	39:BD:263:ARG:CZ	2.62	0.62
48:BP:31:ALA:C	48:BP:33:ARG:N	2.51	0.62
48:BP:50:ARG:NH2	48:BP:50:ARG:HG2	2.15	0.62
49:BQ:108:GLY:HA3	58:BZ:116:VAL:CG1	2.29	0.62
51:BS:29:PHE:C	51:BS:29:PHE:CD2	2.75	0.62
52:BT:19:LEU:HD13	52:BT:78:LEU:HD23	1.82	0.62
52:BT:50:ILE:HD11	52:BT:64:ARG:HB2	1.82	0.62
52:BT:91:ARG:HA	52:BT:117:ASP:H	1.63	0.62
1:AA:977:A:N3	1:AA:977:A:C2'	2.63	0.62
1:AA:992:U:H1'	1:AA:993:G:C2	2.34	0.62
3:AC:90:GLU:O	3:AC:93:LYS:HB3	1.99	0.62
4:AD:28:SER:HB3	4:AD:29:PRO:HD2	1.80	0.62
8:AH:33:GLU:HG2	8:AH:48:TYR:CE1	2.35	0.62
17:AQ:22:LEU:HD12	17:AQ:41:LYS:HG2	1.81	0.62
23:AX:20:U:O2'	23:AX:21:C:H5'	1.99	0.62
25:AZ:104:LEU:HD12	25:AZ:105:VAL:N	2.14	0.62
29:B3:4:LEU:O	29:B3:36:VAL:HA	2.00	0.62
36:BA:473:G:H5"	36:BA:508:G:H22	1.64	0.62
36:BA:588:U:H2'	36:BA:589:C:C6	2.35	0.62
36:BA:2124:G:H3'	36:BA:2125:G:H8	1.65	0.62
36:BA:2208:A:H1'	36:BA:2219:G:C6	2.34	0.62
36:BA:2632:A:H2	40:BE:61:ARG:HD2	1.64	0.62
37:BB:104:U:O2'	37:BB:105:A:H5'	1.98	0.62
38:BC:14:VAL:HG13	38:BC:20:TYR:CE1	2.34	0.62
39:BD:27:THR:HG23	39:BD:83:GLU:HG2	1.81	0.62
39:BD:46:GLN:OE1	39:BD:46:GLN:N	2.33	0.62
46:BN:132:ALA:O	46:BN:133:GLN:HB2	2.00	0.62
46:BN:134:ARG:NH2	46:BN:136:GLU:HB2	2.13	0.62
47:BO:22:ILE:HB	47:BO:40:VAL:O	1.99	0.62
49:BQ:17:LEU:CD2	49:BQ:96:VAL:HG13	2.29	0.62
51:BS:49:VAL:HG13	51:BS:76:LYS:HD2	1.80	0.62
58:BZ:17:ALA:HA	58:BZ:20:ARG:CG	2.30	0.62
5:AE:11:ILE:HD11	5:AE:33:VAL:CG2	2.30	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:83:GLU:O	10:AJ:85:LEU:N	2.32	0.62
11:AK:51:LYS:HA	11:AK:55:LYS:HE2	1.80	0.62
17:AQ:67:LYS:O	17:AQ:69:LYS:N	2.32	0.62
25:AZ:342:PHE:HB2	25:AZ:344:PHE:HE1	1.65	0.62
26:B0:17:GLN:O	26:B0:19:LYS:HG3	1.99	0.62
29:B3:56:VAL:HG12	29:B3:57:GLU:H	1.64	0.62
34:B8:56:GLU:OE1	34:B8:56:GLU:N	2.23	0.62
36:BA:142:A:C8	36:BA:1408:C:H1'	2.34	0.62
36:BA:657:U:H2'	36:BA:658:C:C6	2.35	0.62
36:BA:944:G:H5'	36:BA:945:A:O5'	2.00	0.62
36:BA:1193:G:H2'	36:BA:1194:A:O4'	1.99	0.62
36:BA:1198:U:H2'	36:BA:1199:U:H6	1.65	0.62
36:BA:2310:A:O2'	36:BA:2311:A:H5'	1.98	0.62
37:BB:52:A:O2'	37:BB:53:A:C8	2.49	0.62
41:BF:157:VAL:CG2	41:BF:194:MET:HG2	2.30	0.62
46:BN:34:LEU:HD21	46:BN:120:LEU:HD23	1.81	0.62
46:BN:129:PRO:O	46:BN:130:HIS:HB3	1.99	0.62
48:BP:16:ARG:HD3	48:BP:18:ARG:N	2.08	0.62
48:BP:23:PRO:O	48:BP:33:ARG:HD2	2.00	0.62
53:BU:101:ARG:O	53:BU:103:PRO:CD	2.47	0.62
54:BV:51:VAL:HG12	54:BV:52:VAL:H	1.64	0.62
55:BW:52:GLU:C	55:BW:54:ALA:H	2.08	0.62
57:BY:27:VAL:HG12	57:BY:28:LYS:N	2.15	0.62
57:BY:39:VAL:HG12	57:BY:40:GLU:N	2.15	0.62
57:BY:86:ARG:NH2	57:BY:95:LYS:HZ3	1.97	0.62
58:BZ:26:GLY:HA2	58:BZ:85:HIS:CD2	2.34	0.62
58:BZ:48:PHE:CZ	58:BZ:74:VAL:HG21	2.34	0.62
58:BZ:156:LYS:O	58:BZ:158:PRO:HD3	2.00	0.62
4:AD:107:ARG:HH12	4:AD:114:ARG:NH2	1.97	0.62
4:AD:187:ARG:HB3	4:AD:187:ARG:NH1	2.15	0.62
21:AU:23:PRO:C	21:AU:25:LYS:H	2.07	0.62
22:AV:56:C:O4'	42:BG:76:SER:HB2	2.00	0.62
22:AW:18:G:H22	22:AW:55:U:H6	1.47	0.62
28:B2:35:LEU:HD11	28:B2:50:ILE:CG1	2.13	0.62
29:B3:5:LYS:HD2	29:B3:57:GLU:HB3	1.81	0.62
34:B8:34:TRP:HA	36:BA:2420:C:OP1	2.00	0.62
35:B9:7:VAL:HG22	35:B9:34:GLN:HG3	1.81	0.62
36:BA:80:G:O2'	36:BA:81:G:H5'	2.00	0.62
36:BA:105:C:H2'	36:BA:106:C:H6	1.64	0.62
36:BA:596:G:H2'	36:BA:597:U:O4'	2.00	0.62
36:BA:1499:C:O2'	36:BA:1500:G:H5'	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1677:A:H2'	36:BA:1678:G:C8	2.35	0.62
36:BA:1688:U:H1'	36:BA:1701:A:C6	2.35	0.62
36:BA:1854:A:H62	36:BA:1888:G:H8	1.48	0.62
36:BA:1952:A:C6	47:BO:22:ILE:HD12	2.35	0.62
52:BT:75:ILE:N	52:BT:75:ILE:HD12	2.14	0.62
53:BU:112:ARG:O	53:BU:115:ALA:HB3	1.99	0.62
1:AA:858:G:H8	1:AA:858:G:O5'	1.82	0.62
9:AI:47:LEU:C	9:AI:49:PRO:HD2	2.24	0.62
16:AP:45:THR:HG22	16:AP:47:ASP:HB3	1.81	0.62
19:AS:31:ILE:CG2	19:AS:49:ILE:HA	2.26	0.62
20:AT:20:LEU:O	20:AT:23:ARG:HB3	1.99	0.62
21:AU:6:ARG:HD3	21:AU:15:ARG:HH12	1.63	0.62
22:AW:20:U:H5'	36:BA:2112:G:N1	2.15	0.62
36:BA:612:C:C2'	36:BA:613:G:C5'	2.76	0.62
36:BA:1498:C:H2'	36:BA:1499:C:C5'	2.30	0.62
36:BA:1498:C:H2'	36:BA:1499:C:H5'	1.81	0.62
36:BA:2052:G:H4'	40:BE:143:ASN:O	2.00	0.62
41:BF:29:ASN:ND2	41:BF:32:LEU:H	1.98	0.62
42:BG:86:MET:N	42:BG:87:PRO:CD	2.63	0.62
53:BU:57:PHE:C	53:BU:59:ARG:N	2.56	0.62
54:BV:72:VAL:HG23	54:BV:85:LYS:CB	2.29	0.62
55:BW:5:ALA:HB2	55:BW:54:ALA:HB2	1.81	0.62
58:BZ:40:ASP:OD1	58:BZ:42:VAL:HG12	2.00	0.62
58:BZ:141:VAL:O	58:BZ:141:VAL:HG12	2.00	0.62
1:AA:309:G:O2'	1:AA:310:G:H5'	2.00	0.61
1:AA:1447:A:H2'	1:AA:1447:A:N3	2.14	0.61
5:AE:20:GLN:HG2	5:AE:21:ALA:H	1.65	0.61
7:AG:22:LEU:O	7:AG:22:LEU:HD23	2.00	0.61
16:AP:74:LEU:O	16:AP:79:VAL:HG23	2.00	0.61
25:AZ:34:VAL:HG11	25:AZ:199:ILE:CG2	2.30	0.61
25:AZ:75:ARG:HH12	25:AZ:210:ILE:HG22	1.65	0.61
26:B0:7:LEU:CB	49:BQ:85:LYS:HG3	2.30	0.61
36:BA:330:A:O2'	36:BA:331:A:H8	1.83	0.61
36:BA:442:G:H4'	41:BF:46:ARG:HB2	1.81	0.61
36:BA:1151:G:H2'	36:BA:1152:C:C6	2.34	0.61
36:BA:1400:G:H2'	36:BA:1401:G:C8	2.35	0.61
36:BA:1591:G:O2'	36:BA:1592:C:H5'	2.00	0.61
36:BA:1914:C:H2'	36:BA:1915:U:O4'	2.00	0.61
48:BP:7:ARG:O	48:BP:10:PRO:HD2	2.00	0.61
50:BR:99:LYS:H	50:BR:99:LYS:CD	2.10	0.61
52:BT:115:ARG:HH11	52:BT:115:ARG:HG3	1.63	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BV:19:LYS:HG2	54:BV:94:LEU:HB2	1.82	0.61
54:BV:39:LEU:CD1	54:BV:47:VAL:HG11	2.29	0.61
55:BW:69:LEU:HD23	55:BW:108:GLY:O	1.99	0.61
57:BY:64:GLU:O	57:BY:65:ALA:HB2	1.97	0.61
4:AD:61:LYS:HE2	4:AD:62:GLN:HE21	1.63	0.61
7:AG:78:ARG:HG3	7:AG:78:ARG:O	2.00	0.61
10:AJ:5:ARG:HG3	10:AJ:71:LEU:HD11	1.82	0.61
10:AJ:17:ASP:OD1	10:AJ:70:ARG:NE	2.33	0.61
26:B0:20:ARG:H	26:B0:20:ARG:HD2	1.65	0.61
26:B0:36:ILE:HD11	36:BA:2355:C:O4'	1.99	0.61
35:B9:11:CYS:SG	35:B9:12:ASP:N	2.73	0.61
36:BA:524:U:H4'	36:BA:555:U:H4'	1.80	0.61
36:BA:1141:U:H2'	46:BN:63:THR:CG2	2.29	0.61
36:BA:1324:G:H4'	36:BA:1616:A:C2	2.35	0.61
36:BA:1803:A:H4'	39:BD:259:THR:CG2	2.30	0.61
39:BD:33:LEU:O	39:BD:36:PRO:HG3	2.00	0.61
43:BH:37:VAL:HG12	43:BH:38:SER:N	2.15	0.61
43:BH:44:VAL:HG12	43:BH:45:VAL:N	2.14	0.61
48:BP:56:SER:O	48:BP:57:THR:CG2	2.47	0.61
52:BT:30:VAL:HA	52:BT:43:GLN:O	2.00	0.61
57:BY:12:THR:HG22	57:BY:75:ILE:HG21	1.81	0.61
57:BY:35:TYR:HD2	57:BY:68:HIS:CE1	2.17	0.61
57:BY:85:VAL:HG12	57:BY:86:ARG:N	2.14	0.61
1:AA:1128:C:O2'	1:AA:1130:A:C8	2.53	0.61
17:AQ:91:ARG:HH11	17:AQ:91:ARG:HB2	1.66	0.61
19:AS:44:MET:O	19:AS:47:HIS:HB2	2.00	0.61
36:BA:1963:U:O2	36:BA:1963:U:H2'	1.99	0.61
36:BA:2801:A:O2'	36:BA:2895:U:H5'	1.99	0.61
39:BD:75:ILE:HD13	39:BD:75:ILE:N	2.15	0.61
39:BD:261:LYS:HZ1	39:BD:263:ARG:HH21	1.48	0.61
40:BE:186:GLY:O	40:BE:187:ALA:HB3	2.00	0.61
58:BZ:10:ARG:NH2	58:BZ:36:LYS:HB2	2.12	0.61
1:AA:189(I):G:H2'	1:AA:189(J):G:H8	1.63	0.61
1:AA:1007:C:O2'	1:AA:1008:C:H5'	1.98	0.61
1:AA:1429:C:H2'	1:AA:1430:C:C6	2.35	0.61
2:AB:111:ARG:HG2	2:AB:111:ARG:HH11	1.64	0.61
4:AD:102:ASP:HA	4:AD:121:VAL:HG21	1.83	0.61
9:AI:95:LYS:HZ3	9:AI:96:LEU:HD13	1.65	0.61
10:AJ:29:ARG:HG2	10:AJ:29:ARG:HH11	1.65	0.61
13:AM:87:TYR:O	13:AM:90:LEU:O	2.18	0.61
22:AW:29:G:H1	22:AW:41:C:H42	1.46	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:309:SER:O	25:AZ:310:ILE:HB	2.00	0.61
36:BA:20:C:H2'	36:BA:21:A:C8	2.36	0.61
36:BA:311:A:H5'	36:BA:332:A:C2	2.35	0.61
36:BA:742:G:H2'	36:BA:743:G:C8	2.35	0.61
36:BA:935:C:O2'	36:BA:936:C:H5'	2.01	0.61
36:BA:2097:C:H2'	36:BA:2098:U:O4'	2.00	0.61
36:BA:2886:G:H2'	36:BA:2887:U:H6	1.65	0.61
38:BC:180:PHE:HD2	38:BC:184:LYS:HG3	1.64	0.61
42:BG:34:LEU:HD12	42:BG:34:LEU:O	2.00	0.61
42:BG:61:ALA:HA	42:BG:66:GLN:O	1.99	0.61
45:BK:59:UNK:HA	45:BK:64:UNK:O	2.00	0.61
48:BP:23:PRO:HD2	48:BP:33:ARG:NE	2.11	0.61
53:BU:17:ILE:HG23	53:BU:39:LEU:HD11	1.81	0.61
57:BY:8:LYS:HE3	57:BY:74:PRO:HD3	1.83	0.61
58:BZ:10:ARG:HB2	58:BZ:37:VAL:O	2.00	0.61
1:AA:148:G:H2'	1:AA:149:A:C8	2.34	0.61
1:AA:274:A:O2'	1:AA:275:G:H8	1.83	0.61
1:AA:368:U:OP1	25:AZ:291:ARG:NH1	2.33	0.61
1:AA:627:G:H2'	1:AA:628:G:C8	2.34	0.61
1:AA:679:C:H2'	1:AA:680:C:C6	2.35	0.61
13:AM:49:THR:C	13:AM:51:ALA:N	2.55	0.61
16:AP:45:THR:C	16:AP:47:ASP:H	2.07	0.61
21:AU:24:ARG:O	21:AU:25:LYS:HB2	1.99	0.61
34:B8:32:LEU:HB3	34:B8:36:LYS:HE2	1.82	0.61
36:BA:524:U:H2'	36:BA:525:U:C6	2.35	0.61
36:BA:1532:C:O2'	36:BA:1533:G:H5'	2.00	0.61
36:BA:1887:C:C3'	36:BA:1888:G:H5"	2.31	0.61
36:BA:2102:U:H2'	36:BA:2103:C:O4'	2.01	0.61
36:BA:2377:A:O2'	36:BA:2378:A:H5'	2.00	0.61
39:BD:10:THR:HG23	39:BD:13:ARG:CB	2.31	0.61
39:BD:160:GLY:HA2	39:BD:197:GLY:H	1.66	0.61
46:BN:96:GLU:O	46:BN:100:GLU:HG3	2.00	0.61
47:BO:35:VAL:HG21	47:BO:69:ILE:HD11	1.81	0.61
52:BT:27:THR:OG1	52:BT:28:VAL:N	2.33	0.61
58:BZ:59:LEU:O	58:BZ:66:SER:HA	2.00	0.61
1:AA:346:G:H2'	1:AA:346:G:N3	2.13	0.61
12:AL:18:VAL:HG23	12:AL:19:ARG:N	2.10	0.61
16:AP:44:THR:O	16:AP:45:THR:CB	2.48	0.61
25:AZ:204:ASP:O	25:AZ:208:GLU:HG2	2.00	0.61
36:BA:1771:C:C1'	36:BA:1786:A:C8	2.83	0.61
36:BA:2364:C:O2'	36:BA:2365:G:H5'	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2839:G:H21	50:BR:92:GLY:HA3	1.66	0.61
37:BB:25:A:H2'	37:BB:25:A:N3	2.14	0.61
39:BD:33:LEU:O	39:BD:36:PRO:CG	2.49	0.61
39:BD:267:SER:HA	39:BD:270:ILE:CG1	2.31	0.61
42:BG:34:LEU:HD12	42:BG:34:LEU:C	2.26	0.61
43:BH:76:VAL:O	43:BH:79:VAL:HG22	1.99	0.61
49:BQ:140:ALA:HB1	58:BZ:99:TYR:HB2	1.82	0.61
50:BR:97:VAL:HA	50:BR:113:LEU:O	2.01	0.61
54:BV:72:VAL:CG2	54:BV:85:LYS:HB2	2.28	0.61
1:AA:119:A:H4'	1:AA:120:A:O5'	2.00	0.61
1:AA:1319:A:H5'	1:AA:1320:C:OP1	2.00	0.61
1:AA:1327:C:H2'	1:AA:1328:C:C6	2.36	0.61
1:AA:1531:A:O5'	1:AA:1531:A:H8	1.84	0.61
5:AE:84:PHE:HB2	5:AE:134:ALA:HB2	1.83	0.61
8:AH:102:ARG:HD3	8:AH:102:ARG:N	2.15	0.61
14:AN:57:ARG:NH1	14:AN:57:ARG:HG2	2.15	0.61
15:AO:82:ILE:HD13	15:AO:82:ILE:C	2.26	0.61
26:B0:10:THR:HG22	26:B0:12:ASN:N	2.13	0.61
36:BA:1139:G:H5"	46:BN:70:LYS:NZ	2.15	0.61
36:BA:1859:A:H2'	36:BA:1860:G:O4'	2.00	0.61
36:BA:2672:G:H3'	36:BA:2673:G:H5"	1.82	0.61
38:BC:94:VAL:CG1	38:BC:95:GLY:N	2.64	0.61
40:BE:107:THR:HA	40:BE:163:GLU:O	2.00	0.61
41:BF:155:LEU:CD1	41:BF:176:LEU:HD13	2.30	0.61
50:BR:69:ASP:O	50:BR:71:GLN:N	2.33	0.61
51:BS:104:GLY:O	51:BS:106:ARG:N	2.34	0.61
53:BU:57:PHE:O	53:BU:59:ARG:N	2.34	0.61
7:AG:22:LEU:HD22	7:AG:62:PHE:CE2	2.35	0.61
19:AS:29:ARG:HB3	19:AS:48:THR:N	2.14	0.61
20:AT:10:LEU:HD12	20:AT:11:SER:H	1.66	0.61
25:AZ:21:ASP:H	61:AZ:501:GCP:H3B2	1.65	0.61
36:BA:709:U:H2'	36:BA:710:G:H8	1.64	0.61
36:BA:2127:G:H5'	38:BC:37:PHE:HB3	1.81	0.61
36:BA:2189:U:H2'	36:BA:2190:G:O4'	2.00	0.61
36:BA:2628:C:H1'	36:BA:2781:A:H2'	1.83	0.61
39:BD:25:THR:O	39:BD:26:LYS:O	2.19	0.61
39:BD:270:ILE:H	39:BD:270:ILE:CD1	2.03	0.61
42:BG:111:LEU:HD21	42:BG:179:PRO:HG2	1.83	0.61
43:BH:121:ILE:HD11	43:BH:140:LYS:HB3	1.83	0.61
46:BN:57:ALA:H	46:BN:124:ALA:HA	1.66	0.61
48:BP:80:TYR:CD1	48:BP:111:ARG:HB3	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BT:28:VAL:HG22	52:BT:46:GLU:HA	1.82	0.61
53:BU:54:LYS:O	53:BU:58:ARG:HG3	2.00	0.61
55:BW:21:VAL:C	55:BW:23:LEU:H	2.08	0.61
1:AA:490:G:H2'	1:AA:491:G:C8	2.35	0.61
7:AG:149:ARG:HG2	7:AG:149:ARG:HH11	1.66	0.61
20:AT:73:HIS:HB3	20:AT:74:LYS:CD	2.28	0.61
26:B0:20:ARG:HD3	36:BA:2356:C:O3'	2.01	0.61
36:BA:289:A:H2'	36:BA:290:G:C8	2.36	0.61
36:BA:335:C:H2'	36:BA:336:C:C6	2.36	0.61
36:BA:875:G:H2'	36:BA:876:C:C6	2.35	0.61
36:BA:1718:G:H5'	36:BA:1718:G:H8	1.66	0.61
36:BA:2641:G:H8	36:BA:2641:G:C5'	2.12	0.61
37:BB:5:C:O2'	37:BB:6:C:H5'	2.01	0.61
38:BC:62:VAL:HG11	38:BC:192:PHE:CD1	2.36	0.61
38:BC:70:LYS:HD2	38:BC:177:LYS:NZ	2.08	0.61
38:BC:82:LYS:HD3	38:BC:85:GLU:OE1	2.01	0.61
39:BD:44:ASN:HB2	39:BD:48:ARG:O	1.99	0.61
40:BE:27:LEU:HD12	40:BE:180:ASN:O	2.01	0.61
42:BG:125:PHE:HB3	42:BG:130:ASN:O	2.01	0.61
43:BH:52:VAL:CB	43:BH:69:ARG:HD3	2.26	0.61
49:BQ:101:ARG:HH11	49:BQ:101:ARG:HG3	1.65	0.61
50:BR:101:ALA:O	50:BR:102:GLU:HB2	1.98	0.61
51:BS:34:HIS:HB2	51:BS:36:TYR:HE1	1.65	0.61
57:BY:46:LYS:H	57:BY:62:GLU:HG2	1.66	0.61
58:BZ:26:GLY:HA2	58:BZ:85:HIS:HD2	1.65	0.61
1:AA:80:G:H1	1:AA:90:U:H5'	1.66	0.61
1:AA:80:G:N1	1:AA:90:U:H5'	2.16	0.61
1:AA:1134:G:N2	1:AA:1141:C:C2	2.69	0.61
2:AB:17:PHE:O	2:AB:18:GLY:O	2.18	0.61
5:AE:11:ILE:HG21	5:AE:105:VAL:HG22	1.83	0.61
5:AE:147:ASP:HA	5:AE:150:ARG:NH1	2.16	0.61
31:B5:36:CYS:SG	31:B5:48:GLU:O	2.59	0.61
36:BA:558:G:OP1	46:BN:111:PRO:HD2	2.01	0.61
36:BA:1013:C:O2'	36:BA:1014:U:H5'	2.01	0.61
37:BB:50:G:OP2	51:BS:62:LYS:HD3	2.01	0.61
38:BC:30:LYS:HD3	38:BC:185:LEU:CD1	2.30	0.61
40:BE:116:VAL:HG21	40:BE:122:PHE:CD2	2.36	0.61
41:BF:4:VAL:HA	41:BF:19:GLU:CG	2.31	0.61
48:BP:84:ASN:ND2	48:BP:116:GLY:HA2	2.16	0.61
52:BT:93:ARG:HG2	52:BT:117:ASP:HB2	1.82	0.61
52:BT:96:ARG:HB2	52:BT:96:ARG:CZ	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BT:109:GLU:O	52:BT:112:ARG:HG2	2.01	0.61
55:BW:51:LEU:HD22	55:BW:51:LEU:O	2.01	0.61
57:BY:86:ARG:NH2	57:BY:95:LYS:NZ	2.49	0.61
4:AD:70:ILE:HG22	4:AD:71:SER:N	2.15	0.60
4:AD:145:GLU:HG2	4:AD:184:LYS:HG2	1.83	0.60
6:AF:80:ARG:NH1	6:AF:88:VAL:HB	2.16	0.60
13:AM:40:ASN:HD21	13:AM:42:ALA:HB3	1.66	0.60
19:AS:47:HIS:O	19:AS:62:ILE:HG22	2.01	0.60
34:B8:55:ALA:HB1	48:BP:49:ARG:O	2.01	0.60
36:BA:348:G:H2'	36:BA:349:G:C8	2.36	0.60
36:BA:680:G:H2'	36:BA:681:G:C8	2.36	0.60
36:BA:1023:U:O2'	36:BA:1122:G:H5"	2.01	0.60
36:BA:2463:C:O2'	36:BA:2464:C:H5'	2.01	0.60
42:BG:67:LYS:H	42:BG:67:LYS:CD	2.10	0.60
52:BT:48:ILE:O	52:BT:63:VAL:HG13	2.00	0.60
52:BT:65:LYS:HA	52:BT:65:LYS:HZ1	1.64	0.60
55:BW:24:ILE:HG21	55:BW:36:LEU:HD21	1.81	0.60
56:BX:12:VAL:CG2	56:BX:13:LEU:H	2.14	0.60
56:BX:64:LYS:HZ3	56:BX:73:ARG:HH21	1.48	0.60
58:BZ:108:PRO:N	58:BZ:141:VAL:HG11	2.16	0.60
3:AC:108:ASN:HB3	3:AC:111:LEU:HD12	1.83	0.60
3:AC:150:LYS:HG3	3:AC:169:ALA:HB2	1.82	0.60
11:AK:33:THR:HB	11:AK:38:ASN:N	2.16	0.60
13:AM:11:ARG:O	13:AM:13:LYS:N	2.34	0.60
22:AW:55:U:OP1	38:BC:59:ARG:NH1	2.34	0.60
25:AZ:25:THR:O	25:AZ:28:THR:HB	2.00	0.60
34:B8:41:ILE:HD12	36:BA:2419:U:OP1	2.00	0.60
36:BA:152:G:H1	36:BA:174:C:H42	1.48	0.60
36:BA:614(B):G:H2'	41:BF:44:ARG:HH11	1.66	0.60
36:BA:1594:G:H2'	36:BA:1595:G:C8	2.36	0.60
36:BA:2183:C:H2'	36:BA:2184:G:C8	2.36	0.60
39:BD:126:GLN:HG2	39:BD:129:ASN:ND2	2.16	0.60
39:BD:142:VAL:HG23	39:BD:192:THR:C	2.26	0.60
40:BE:68:ALA:C	40:BE:70:ALA:H	2.09	0.60
42:BG:52:ILE:HG12	42:BG:53:LEU:N	2.13	0.60
42:BG:110:ALA:CB	42:BG:140:ILE:HD13	2.31	0.60
47:BO:65:THR:HA	47:BO:82:ASN:OD1	2.01	0.60
48:BP:85:LEU:HA	48:BP:88:LEU:HB3	1.83	0.60
53:BU:79:PHE:HD1	53:BU:80:ILE:HD13	1.66	0.60
1:AA:67:C:H2'	1:AA:68:G:C8	2.35	0.60
1:AA:614:A:O2'	1:AA:615:C:H5'	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:697:U:H2'	1:AA:698:G:H5'	1.82	0.60
1:AA:996:A:H2'	1:AA:997:U:C6	2.36	0.60
7:AG:52:GLU:O	7:AG:53:LYS:C	2.44	0.60
10:AJ:78:ASN:HD22	10:AJ:80:LYS:CB	2.13	0.60
22:AW:42:C:H2'	22:AW:43:C:C6	2.37	0.60
24:AY:61:C:H2'	24:AY:62:U:C5'	2.30	0.60
26:B0:40:GLN:OE1	26:B0:44:ARG:HB2	2.00	0.60
32:B6:6:ARG:HH11	32:B6:6:ARG:CB	2.12	0.60
36:BA:298:G:H5'	36:BA:299:A:OP1	2.01	0.60
36:BA:2692:C:H2'	36:BA:2693:A:H8	1.65	0.60
46:BN:67:LEU:O	46:BN:68:GLU:HB2	2.01	0.60
48:BP:122:PRO:HB3	48:BP:141:ALA:CB	2.31	0.60
49:BQ:1:MET:HE3	49:BQ:1:MET:C	2.26	0.60
50:BR:87:TYR:OH	50:BR:116:LEU:O	2.18	0.60
50:BR:102:GLU:O	50:BR:103:ARG:C	2.43	0.60
58:BZ:166:SER:HB2	58:BZ:167:PRO:CA	2.31	0.60
1:AA:345:C:H1'	1:AA:346:G:N2	2.16	0.60
2:AB:142:LEU:O	2:AB:142:LEU:HD23	2.02	0.60
5:AE:137:GLU:O	5:AE:141:GLN:HG3	2.00	0.60
8:AH:82:HIS:HD2	8:AH:138:TRP:NE1	1.99	0.60
17:AQ:92:ARG:HA	17:AQ:95:TYR:CE2	2.36	0.60
20:AT:100:ILE:HD12	20:AT:100:ILE:N	2.15	0.60
34:B8:41:ILE:O	34:B8:41:ILE:HG12	2.01	0.60
35:B9:17:ILE:HG21	35:B9:19:ARG:NH2	2.09	0.60
36:BA:2167:U:H3	36:BA:2171:A:N6	1.98	0.60
36:BA:2538:C:H2'	36:BA:2539:C:H6	1.65	0.60
38:BC:42:GLU:CB	38:BC:215:THR:HG23	2.23	0.60
39:BD:215:LEU:HD13	39:BD:217:ARG:HH21	1.65	0.60
40:BE:4:ILE:CD1	40:BE:28:ALA:HB1	2.31	0.60
40:BE:14:ILE:HD11	40:BE:173:VAL:CG1	2.28	0.60
40:BE:132:HIS:HA	40:BE:135:HIS:CE1	2.36	0.60
47:BO:1:MET:HB3	47:BO:32:TYR:CD2	2.35	0.60
50:BR:38:VAL:CB	50:BR:39:PRO:HD3	2.25	0.60
50:BR:96:ARG:NH2	50:BR:117:VAL:HG23	2.16	0.60
51:BS:56:LEU:HD23	51:BS:56:LEU:O	2.01	0.60
55:BW:24:ILE:O	55:BW:27:LYS:HG3	2.02	0.60
55:BW:29:LEU:HD21	55:BW:33:ARG:HH11	1.66	0.60
56:BX:23:GLU:O	56:BX:25:LYS:N	2.33	0.60
1:AA:197:A:O2'	1:AA:198:G:C8	2.55	0.60
1:AA:1003:G:N2	1:AA:1038:C:C4	2.69	0.60
3:AC:16:ARG:HH11	3:AC:16:ARG:CB	2.15	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:36:ASP:OD1	5:AE:38:GLN:N	2.33	0.60
7:AG:113:GLU:CB	7:AG:119:ARG:HG2	2.31	0.60
11:AK:38:ASN:N	11:AK:38:ASN:HD22	2.00	0.60
11:AK:61:ALA:HB2	11:AK:90:GLY:HA3	1.84	0.60
12:AL:41:ARG:HH22	12:AL:57:LYS:HZ3	1.50	0.60
22:AW:43:C:C2	22:AW:44:G:H1'	2.37	0.60
28:B2:2:LYS:HB2	36:BA:97:C:H5"	1.84	0.60
29:B3:17:LYS:HG2	36:BA:969:U:OP1	2.02	0.60
31:B5:48:GLU:O	31:B5:49:CYS:SG	2.60	0.60
36:BA:116:C:O2'	36:BA:117:G:H5'	2.01	0.60
36:BA:1526:G:O2'	36:BA:1527:G:H5'	2.02	0.60
36:BA:1643:G:H2'	36:BA:1644:C:H6	1.67	0.60
36:BA:2668:G:O2'	36:BA:2669:G:H5'	2.00	0.60
36:BA:2730:C:O2'	36:BA:2731:G:H5'	2.01	0.60
38:BC:42:GLU:HB2	38:BC:215:THR:O	2.01	0.60
39:BD:117:VAL:HG21	39:BD:128:GLY:C	2.26	0.60
40:BE:146:THR:HA	40:BE:147:PRO:C	2.26	0.60
41:BF:32:LEU:O	41:BF:32:LEU:HD23	2.01	0.60
42:BG:115:ARG:HH12	42:BG:137:GLU:HG3	1.66	0.60
53:BU:90:VAL:HG12	53:BU:91:ASP:N	2.15	0.60
53:BU:111:GLU:O	53:BU:115:ALA:HB2	2.02	0.60
54:BV:38:LEU:C	54:BV:39:LEU:HD13	2.27	0.60
55:BW:97:LYS:HE3	55:BW:99:ARG:CZ	2.31	0.60
3:AC:84:ILE:O	3:AC:84:ILE:HG12	2.00	0.60
7:AG:75:VAL:HA	7:AG:88:PRO:HA	1.83	0.60
10:AJ:5:ARG:O	10:AJ:99:LYS:HB2	2.01	0.60
22:AV:20:U:H5'	22:AV:21:A:OP2	2.02	0.60
25:AZ:32:THR:CG2	25:AZ:44:VAL:HA	2.31	0.60
25:AZ:55:GLU:O	25:AZ:59:ARG:HB3	2.01	0.60
28:B2:30:ARG:HB2	56:BX:5:TYR:CE1	2.37	0.60
32:B6:53:LYS:O	32:B6:54:ILE:HG22	2.01	0.60
36:BA:659:C:H4'	41:BF:100:THR:O	2.01	0.60
36:BA:1328:G:H2'	36:BA:1330:C:C5	2.37	0.60
36:BA:2681:C:H2'	36:BA:2681:C:O2	2.01	0.60
37:BB:54:G:O2'	37:BB:55:U:H5'	2.02	0.60
40:BE:8:LYS:O	40:BE:193:GLY:HA2	2.01	0.60
40:BE:82:ARG:HH11	40:BE:82:ARG:HG3	1.66	0.60
40:BE:116:VAL:O	40:BE:117:MET:CB	2.49	0.60
42:BG:73:ALA:O	42:BG:85:GLY:HA2	2.02	0.60
47:BO:26:LYS:HB2	47:BO:30:ALA:CB	2.31	0.60
54:BV:5:VAL:HG23	54:BV:37:VAL:O	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:80:G:C3'	1:AA:81:U:H5'	2.32	0.60
1:AA:161:A:H2'	1:AA:162:A:H8	1.65	0.60
1:AA:1305:G:C5'	21:AU:4:GLY:C	2.75	0.60
3:AC:17:ASP:OD1	3:AC:18:TRP:N	2.34	0.60
9:AI:49:PRO:HB3	9:AI:101:PHE:CD2	2.35	0.60
10:AJ:51:ARG:NH1	10:AJ:60:ARG:O	2.35	0.60
17:AQ:8:GLY:HA3	17:AQ:21:VAL:CG1	2.31	0.60
25:AZ:35:THR:HG22	25:AZ:203:LEU:CD1	2.31	0.60
26:B0:43:THR:O	26:B0:43:THR:CG2	2.49	0.60
36:BA:672:C:C2'	36:BA:673:C:C5'	2.78	0.60
36:BA:860:U:C5	36:BA:917:A:N7	2.67	0.60
36:BA:1529:G:O2'	36:BA:1530:C:H5'	2.02	0.60
36:BA:1866:C:H2'	36:BA:1876:A:O4'	2.02	0.60
36:BA:2163:C:H3'	36:BA:2164:C:C6	2.36	0.60
36:BA:2223:G:C2'	36:BA:2224:G:H5'	2.32	0.60
38:BC:94:VAL:CG1	38:BC:95:GLY:H	2.14	0.60
38:BC:155:GLU:O	38:BC:160:ARG:HB2	2.01	0.60
38:BC:164:ARG:C	38:BC:171:ILE:HD12	2.25	0.60
39:BD:32:SER:O	39:BD:36:PRO:HG3	2.02	0.60
41:BF:5:ALA:HB3	41:BF:18:ARG:O	2.01	0.60
42:BG:133:LEU:HD11	42:BG:157:ILE:HB	1.82	0.60
43:BH:54:ARG:HG2	43:BH:54:ARG:HH11	1.65	0.60
48:BP:23:PRO:CB	48:BP:33:ARG:HG3	2.29	0.60
48:BP:112:LEU:HD22	48:BP:113:LYS:N	2.17	0.60
50:BR:55:ALA:HB2	50:BR:79:LEU:CD1	2.32	0.60
53:BU:62:ILE:HG23	53:BU:76:TYR:CE1	2.37	0.60
53:BU:68:ALA:HB1	53:BU:106:PHE:HE2	1.67	0.60
57:BY:60:PHE:HA	57:BY:62:GLU:OE2	2.01	0.60
1:AA:353:A:H5'	1:AA:353:A:C8	2.37	0.60
1:AA:1003:G:H2'	1:AA:1004:A:C4'	2.28	0.60
1:AA:1412:C:H2'	1:AA:1413:A:C8	2.36	0.60
6:AF:30:LEU:HB3	6:AF:35:ALA:HB3	1.83	0.60
9:AI:104:ARG:HD3	9:AI:105:ASP:N	2.16	0.60
20:AT:100:ILE:C	20:AT:102:GLY:H	2.10	0.60
25:AZ:185:ASN:ND2	25:AZ:188:THR:HB	2.16	0.60
30:B4:9:LEU:CG	42:BG:98:ARG:HH12	2.15	0.60
36:BA:30:G:H2'	36:BA:31:C:H6	1.67	0.60
36:BA:729:G:OP2	39:BD:13:ARG:NH1	2.35	0.60
36:BA:1718:G:O2'	36:BA:1719:G:H5'	2.02	0.60
36:BA:2147:G:C2'	36:BA:2148:G:H5'	2.32	0.60
36:BA:2580:U:H5'	40:BE:131:ALA:H	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BF:32:LEU:HD23	41:BF:32:LEU:C	2.26	0.60
41:BF:95:ARG:O	41:BF:95:ARG:HG3	2.02	0.60
41:BF:126:VAL:HG11	41:BF:142:TRP:HH2	1.66	0.60
42:BG:172:LEU:HD23	42:BG:176:LEU:HD12	1.82	0.60
46:BN:5:VAL:CG1	46:BN:7:LYS:HG3	2.28	0.60
46:BN:57:ALA:HB3	46:BN:124:ALA:CA	2.30	0.60
47:BO:98:VAL:CG1	47:BO:117:LEU:HB3	2.32	0.60
48:BP:7:ARG:HB3	48:BP:8:PRO:CD	2.31	0.60
1:AA:190:U:O2'	1:AA:191:G:H5'	2.02	0.60
1:AA:1050:G:O2'	1:AA:1051:C:P	2.60	0.60
1:AA:1151:A:HO2'	1:AA:1152:A:H8	1.50	0.60
1:AA:1392:G:N2	1:AA:1502:A:C8	2.70	0.60
2:AB:61:LEU:O	2:AB:64:ARG:HG2	2.02	0.60
20:AT:18:GLN:O	20:AT:22:ARG:HG3	2.02	0.60
24:AY:15:A:H3'	24:AY:16:H2U:H5"	1.83	0.60
25:AZ:163:PHE:O	25:AZ:165:GLY:N	2.31	0.60
36:BA:1106:G:C2	36:BA:1107:G:H1'	2.36	0.60
36:BA:1170:G:N2	36:BA:1179:C:H42	1.93	0.60
36:BA:1773:A:H2'	36:BA:1774:C:H5'	1.83	0.60
36:BA:2138:C:H2'	36:BA:2139:C:H6	1.66	0.60
36:BA:2502:G:H5"	36:BA:2503:A:H5"	1.84	0.60
40:BE:94:GLU:OE2	40:BE:177:PRO:HB3	2.02	0.60
41:BF:118:ALA:HA	41:BF:123:LEU:HB2	1.83	0.60
42:BG:97:ASP:H	42:BG:100:TRP:HD1	1.49	0.60
48:BP:9:ASN:H	48:BP:10:PRO:CD	2.05	0.60
49:BQ:97:VAL:HG11	49:BQ:103:MET:CE	2.29	0.60
49:BQ:101:ARG:HG3	49:BQ:101:ARG:NH1	2.17	0.60
53:BU:5:LYS:HG3	53:BU:7:GLY:N	2.16	0.60
53:BU:13:LYS:N	53:BU:13:LYS:HD3	2.17	0.60
1:AA:1320:C:H6	1:AA:1320:C:C5'	2.13	0.60
5:AE:7:GLU:O	5:AE:8:GLU:HB3	2.02	0.60
5:AE:20:GLN:NE2	5:AE:25:ARG:NE	2.49	0.60
9:AI:114:TYR:O	9:AI:114:TYR:CD2	2.54	0.60
20:AT:13:LEU:N	20:AT:13:LEU:HD23	2.17	0.60
22:AW:55:U:C5'	38:BC:164:ARG:HH22	2.11	0.60
25:AZ:21:ASP:N	61:AZ:501:GCP:H3B1	2.17	0.60
25:AZ:201:GLU:O	25:AZ:205:ALA:HB2	2.02	0.60
25:AZ:310:ILE:O	25:AZ:310:ILE:HG22	2.02	0.60
25:AZ:324:LYS:HD3	25:AZ:326:GLU:H	1.65	0.60
31:B5:33:CYS:HG	31:B5:36:CYS:HG	1.50	0.60
36:BA:8:A:H2'	36:BA:9:U:C5	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2175:C:O2	38:BC:44:HIS:NE2	2.35	0.60
36:BA:2257:U:O2'	36:BA:2258:C:H5'	2.01	0.60
36:BA:2579:C:O3'	40:BE:131:ALA:HB2	2.02	0.60
38:BC:186:ALA:O	38:BC:190:ARG:HG3	2.02	0.60
39:BD:148:GLU:HB2	39:BD:151:LYS:HD2	1.82	0.60
41:BF:120:GLU:HB3	41:BF:122:LYS:HE3	1.83	0.60
46:BN:56:ASN:N	46:BN:125:GLY:H	2.00	0.60
51:BS:17:ARG:O	51:BS:19:LYS:N	2.35	0.60
56:BX:10:ALA:HB3	56:BX:29:TRP:HD1	1.66	0.60
58:BZ:57:ILE:HD12	58:BZ:57:ILE:N	2.17	0.60
1:AA:1073:U:H2'	1:AA:1074:G:C8	2.36	0.59
8:AH:39:LEU:HB3	8:AH:45:ILE:HG12	1.84	0.59
8:AH:68:ARG:HG2	8:AH:68:ARG:NH1	2.15	0.59
19:AS:42:PRO:O	19:AS:44:MET:SD	2.60	0.59
19:AS:61:TYR:O	19:AS:62:ILE:HB	2.01	0.59
20:AT:22:ARG:O	20:AT:26:ASN:ND2	2.35	0.59
22:AW:44:G:H2'	22:AW:44:G:N3	2.16	0.59
36:BA:585:G:H2'	36:BA:586:A:N7	2.17	0.59
36:BA:621:A:C2'	36:BA:622:G:H5'	2.29	0.59
36:BA:1257:C:H4'	41:BF:83:PHE:CD2	2.36	0.59
36:BA:1899:G:H22	36:BA:1902:C:N4	1.97	0.59
36:BA:2185:C:C2'	36:BA:2186:G:H5'	2.31	0.59
41:BF:52:LYS:O	41:BF:88:VAL:HG12	2.02	0.59
43:BH:40:GLU:O	43:BH:41:MET:HB3	2.01	0.59
52:BT:19:LEU:HD13	52:BT:78:LEU:CD2	2.32	0.59
52:BT:27:THR:O	52:BT:28:VAL:CB	2.50	0.59
52:BT:106:SER:O	52:BT:107:ASP:OD1	2.20	0.59
1:AA:176:C:H2'	1:AA:177:C:H6	1.67	0.59
1:AA:524:G:H2'	1:AA:525:C:C6	2.37	0.59
1:AA:1281:U:H4'	1:AA:1282:C:OP2	2.00	0.59
1:AA:1392:G:N2	1:AA:1502:A:H8	2.00	0.59
2:AB:172:ILE:H	2:AB:172:ILE:CD1	2.12	0.59
14:AN:57:ARG:HH11	14:AN:57:ARG:CG	2.15	0.59
18:AR:67:ALA:O	18:AR:71:LYS:HG3	2.02	0.59
26:B0:36:ILE:HD11	36:BA:2355:C:H1'	1.83	0.59
31:B5:50:GLY:CA	31:B5:56:LYS:HD3	2.32	0.59
36:BA:93:G:H2'	36:BA:94:C:C6	2.37	0.59
36:BA:272(J):C:C3'	36:BA:274:G:H5"	2.32	0.59
36:BA:291:C:H2'	36:BA:292:C:H6	1.67	0.59
36:BA:614:U:H2'	36:BA:614(A):U:H5'	1.84	0.59
36:BA:1047:G:C2	36:BA:1110:G:H2'	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1048:A:H2	36:BA:1112:G:H21	1.47	0.59
36:BA:2068:U:H3	36:BA:2430:A:H2	1.50	0.59
36:BA:2869:G:H2'	36:BA:2870:C:O4'	2.02	0.59
37:BB:114:C:H2'	37:BB:115:G:C8	2.38	0.59
38:BC:212:VAL:O	38:BC:224:ILE:HG12	2.02	0.59
43:BH:44:VAL:HG12	43:BH:45:VAL:H	1.67	0.59
47:BO:19:ILE:HD12	47:BO:41:ALA:HB3	1.84	0.59
52:BT:28:VAL:HG22	52:BT:46:GLU:C	2.27	0.59
4:AD:133:VAL:HG12	4:AD:135:LEU:H	1.66	0.59
6:AF:19:LEU:HD11	6:AF:59:TYR:CZ	2.38	0.59
9:AI:104:ARG:HH11	9:AI:104:ARG:HG3	1.67	0.59
12:AL:119:LYS:O	12:AL:120:TYR:CB	2.49	0.59
25:AZ:150:VAL:O	25:AZ:154:VAL:HG23	2.02	0.59
25:AZ:211:PRO:HG2	25:AZ:213:PRO:HD3	1.84	0.59
36:BA:94:C:H5'	36:BA:94(A):G:OP2	2.02	0.59
36:BA:419:C:H2'	36:BA:420:C:H6	1.67	0.59
36:BA:1188:U:C2'	36:BA:1189:A:H5'	2.32	0.59
36:BA:1509(A):A:H2'	36:BA:1509(B):A:C8	2.37	0.59
36:BA:1644:C:O2	36:BA:1644:C:H2'	2.01	0.59
36:BA:2423:U:H5'	36:BA:2423:U:C6	2.37	0.59
36:BA:2791:C:N4	36:BA:2801(A):A:H62	1.99	0.59
38:BC:180:PHE:CD2	38:BC:184:LYS:HG3	2.37	0.59
40:BE:10:GLY:HA2	40:BE:192:ASN:OD1	2.02	0.59
46:BN:42:TRP:CZ2	46:BN:44:PRO:HB3	2.37	0.59
48:BP:85:LEU:HA	48:BP:88:LEU:CB	2.32	0.59
51:BS:67:ARG:HH21	51:BS:100:ALA:HB3	1.66	0.59
51:BS:77:ALA:HB1	51:BS:82:ILE:O	2.03	0.59
52:BT:131:ALA:C	52:BT:133:GLU:N	2.61	0.59
53:BU:29:SER:O	53:BU:30:LYS:HD3	2.02	0.59
55:BW:88:ARG:HB3	55:BW:92:ARG:HB2	1.84	0.59
57:BY:95:LYS:CG	57:BY:100:ALA:HA	2.31	0.59
58:BZ:76:LEU:O	58:BZ:77:ASP:HB2	2.01	0.59
22:AW:43:C:H3'	22:AW:44:G:O4'	2.03	0.59
25:AZ:122:LEU:O	25:AZ:126:VAL:HG23	2.03	0.59
25:AZ:130:TYR:CD2	25:AZ:211:PRO:HD3	2.37	0.59
34:B8:50:LEU:H	34:B8:53:PRO:CD	2.15	0.59
34:B8:52:LYS:N	34:B8:53:PRO:CD	2.66	0.59
36:BA:214:G:H1'	36:BA:216:A:O2'	2.02	0.59
36:BA:310:A:OP1	57:BY:17:SER:O	2.19	0.59
36:BA:363(A):A:H2'	36:BA:363(A):A:N3	2.16	0.59
36:BA:672:C:O2'	36:BA:673:C:H5"	2.00	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1771:C:C1'	36:BA:1786:A:H8	2.14	0.59
36:BA:2115:G:H4'	36:BA:2167:U:O2	2.02	0.59
36:BA:2184:G:H2'	36:BA:2185:C:O4'	2.02	0.59
36:BA:2327:A:H2'	36:BA:2328:A:C8	2.37	0.59
36:BA:2386:C:H2'	36:BA:2387:U:C6	2.36	0.59
36:BA:2496:C:O2'	36:BA:2497:A:H5'	2.03	0.59
38:BC:58:VAL:O	38:BC:59:ARG:HB2	2.03	0.59
39:BD:9:TYR:C	39:BD:10:THR:HG22	2.27	0.59
39:BD:267:SER:C	39:BD:269:PHE:H	2.10	0.59
42:BG:36:LYS:HG2	42:BG:37:VAL:N	2.16	0.59
43:BH:30:LYS:HA	43:BH:30:LYS:HE2	1.84	0.59
43:BH:51:ARG:O	43:BH:52:VAL:HB	2.03	0.59
47:BO:87:ILE:HG22	47:BO:88:ASN:N	2.17	0.59
47:BO:104:ARG:HB3	47:BO:104:ARG:CZ	2.32	0.59
50:BR:92:GLY:N	50:BR:94:TYR:HE2	2.00	0.59
51:BS:89:ARG:HB3	51:BS:92:TYR:HB3	1.83	0.59
55:BW:17:VAL:C	55:BW:19:LEU:N	2.58	0.59
58:BZ:28:MET:CE	58:BZ:33:LEU:HD21	2.32	0.59
1:AA:337:C:H2'	1:AA:338:A:C8	2.38	0.59
1:AA:404:U:H2'	1:AA:405:U:C6	2.37	0.59
1:AA:591:U:H2'	1:AA:592:G:H8	1.67	0.59
1:AA:1016:A:H2'	1:AA:1017:G:O4'	2.02	0.59
1:AA:1117:G:H5'	1:AA:1117:G:H8	1.67	0.59
10:AJ:46:ARG:HG2	10:AJ:46:ARG:HH11	1.67	0.59
12:AL:8:ASN:HD22	17:AQ:34:LYS:HE2	1.68	0.59
19:AS:78:ARG:H	19:AS:81:ARG:HH12	1.50	0.59
24:AY:65:C:C5'	25:AZ:341:GLN:HG2	2.32	0.59
24:AY:75:C:H5	25:AZ:232:THR:N	1.97	0.59
25:AZ:113:MET:HB3	25:AZ:114:PRO:HD2	1.84	0.59
31:B5:57:VAL:HG12	31:B5:58:LEU:CD1	2.28	0.59
36:BA:90:U:H2'	36:BA:90:U:O2	2.01	0.59
36:BA:850:C:H2'	36:BA:851:U:H6	1.67	0.59
40:BE:38:THR:HG22	40:BE:40:GLU:H	1.67	0.59
41:BF:24:LEU:CB	41:BF:25:PRO:HD2	2.15	0.59
41:BF:39:TRP:CH2	41:BF:106:ARG:HD2	2.38	0.59
42:BG:95:ARG:O	42:BG:96:ARG:O	2.18	0.59
43:BH:68:THR:HA	43:BH:71:LEU:HB2	1.84	0.59
52:BT:48:ILE:C	52:BT:63:VAL:HG13	2.27	0.59
57:BY:50:ARG:HD2	57:BY:53:PRO:HA	1.82	0.59
1:AA:195:A:OP1	20:AT:65:LYS:HE2	2.03	0.59
1:AA:837:G:H22	1:AA:850:U:H1'	1.66	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1175:G:O2'	1:AA:1176:A:H5'	2.03	0.59
1:AA:1269:A:C2	1:AA:1313:U:C2	2.90	0.59
2:AB:67:THR:CG2	2:AB:90:MET:HE1	2.32	0.59
2:AB:235:SER:OG	2:AB:236:TYR:HD1	1.85	0.59
3:AC:5:ILE:H	3:AC:5:ILE:CD1	2.12	0.59
25:AZ:16:THR:CG2	25:AZ:81:ASP:HA	2.32	0.59
31:B5:4:HIS:O	36:BA:2056:G:N2	2.35	0.59
32:B6:18:ARG:HG3	32:B6:19:ARG:N	2.17	0.59
36:BA:2873:A:H1'	50:BR:6:SER:OG	2.02	0.59
39:BD:72:LYS:HD2	39:BD:103:ARG:NH1	2.17	0.59
43:BH:125:VAL:O	43:BH:125:VAL:HG12	2.03	0.59
46:BN:46:VAL:O	46:BN:47:ALA:HB3	2.02	0.59
49:BQ:67:ARG:HB3	49:BQ:67:ARG:NH1	2.18	0.59
1:AA:346:G:O2'	1:AA:347:G:H8	1.85	0.59
1:AA:878:G:H1'	8:AH:3:THR:HG21	1.85	0.59
1:AA:972:C:O2	10:AJ:55:LYS:HG3	2.03	0.59
1:AA:1145:C:O2'	1:AA:1146:A:H8	1.86	0.59
1:AA:1202:G:H2'	1:AA:1203:C:H5'	1.84	0.59
2:AB:223:ILE:HG21	2:AB:230:VAL:HG22	1.83	0.59
4:AD:105:VAL:HG21	4:AD:121:VAL:HG22	1.83	0.59
8:AH:112:LEU:HB2	8:AH:132:GLU:O	2.02	0.59
9:AI:10:ARG:HG3	9:AI:75:ASP:CB	2.33	0.59
12:AL:110:VAL:CG2	12:AL:120:TYR:HB3	2.33	0.59
15:AO:9:GLN:NE2	15:AO:12:ILE:HD12	2.17	0.59
18:AR:36:ASN:C	18:AR:38:GLU:H	2.11	0.59
31:B5:47:PRO:C	31:B5:49:CYS:H	2.10	0.59
35:B9:19:ARG:C	35:B9:21:GLY:H	2.10	0.59
36:BA:133:C:N3	36:BA:146:G:O6	2.35	0.59
36:BA:1301:A:H4'	36:BA:1302:A:OP1	2.02	0.59
36:BA:1654:A:N3	40:BE:113:PHE:HD2	2.01	0.59
36:BA:1688:U:H5'	36:BA:1689:A:OP1	2.03	0.59
36:BA:2308:G:N7	36:BA:2310:A:H5'	2.17	0.59
36:BA:2555:U:H2'	36:BA:2556:C:H5'	1.83	0.59
36:BA:2653:U:H5'	36:BA:2654:A:OP2	2.02	0.59
36:BA:2674:G:H2'	36:BA:2675:A:C8	2.38	0.59
36:BA:2852:G:H2'	36:BA:2853:C:C6	2.37	0.59
38:BC:149:ILE:HG23	38:BC:150:GLY:N	2.16	0.59
46:BN:39:ARG:C	46:BN:41:ASP:H	2.09	0.59
1:AA:475:G:H2'	1:AA:476:G:H8	1.66	0.59
1:AA:1441:G:H4'	1:AA:1442:G:C4	2.37	0.59
3:AC:22:TRP:CG	3:AC:59:ARG:HG3	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:12:LEU:HD21	5:AE:14:ARG:HB3	1.84	0.59
8:AH:44:PHE:CE2	8:AH:109:ILE:HG21	2.38	0.59
15:AO:69:TYR:CE1	15:AO:73:GLU:HG3	2.36	0.59
24:AY:77:TRP:N	25:AZ:272:MET:HA	2.17	0.59
34:B8:39:LYS:HE3	36:BA:2365:G:O6	2.02	0.59
36:BA:89:G:H3'	36:BA:90:U:H5"	1.83	0.59
36:BA:2115:G:C3'	36:BA:2116:G:H5"	2.33	0.59
39:BD:62:TYR:CE1	39:BD:64:ILE:HA	2.37	0.59
47:BO:8:LEU:N	47:BO:8:LEU:CD1	2.65	0.59
49:BQ:52:VAL:O	49:BQ:55:VAL:HG13	2.03	0.59
52:BT:106:SER:C	52:BT:107:ASP:OD1	2.46	0.59
1:AA:542:G:H5'	4:AD:41:GLY:HA3	1.85	0.59
1:AA:770:C:O2'	1:AA:771:G:H5'	2.03	0.59
10:AJ:4:ILE:O	10:AJ:74:ILE:HG12	2.02	0.59
22:AW:40:C:H2'	22:AW:41:C:H6	1.68	0.59
24:AY:7:G:H3'	24:AY:8:4SU:H5'	1.85	0.59
25:AZ:75:ARG:HH12	25:AZ:210:ILE:CG2	2.16	0.59
32:B6:15:GLU:CD	32:B6:18:ARG:NH2	2.60	0.59
36:BA:481:G:H1'	36:BA:506:G:H21	1.66	0.59
36:BA:672:C:H2'	36:BA:673:C:H5'	1.83	0.59
36:BA:876:C:H2'	36:BA:877:U:O4'	2.03	0.59
36:BA:1799:G:H5'	36:BA:1819:A:H61	1.68	0.59
36:BA:1997:G:O2'	36:BA:1998:G:H5'	2.03	0.59
36:BA:2124:G:H1'	38:BC:42:GLU:CG	2.33	0.59
36:BA:2163:C:H3'	36:BA:2164:C:H6	1.68	0.59
36:BA:2824:C:H2'	36:BA:2825:C:O4'	2.02	0.59
36:BA:2854:G:H2'	36:BA:2855:C:C6	2.38	0.59
41:BF:116:ASP:O	41:BF:120:GLU:HG2	2.03	0.59
48:BP:47:ASP:CB	48:BP:48:PRO:CA	2.80	0.59
49:BQ:45:GLN:HE21	49:BQ:45:GLN:H	1.50	0.59
50:BR:29:LEU:CD2	50:BR:70:LEU:HD11	2.33	0.59
3:AC:58:GLU:HB2	3:AC:65:ALA:HB2	1.85	0.59
4:AD:170:VAL:CG1	4:AD:174:LEU:HB2	2.33	0.59
11:AK:84:VAL:HG22	11:AK:110:ASP:HA	1.84	0.59
19:AS:66:MET:HA	19:AS:69:HIS:HD2	1.67	0.59
25:AZ:96:ALA:HA	25:AZ:99:MET:SD	2.42	0.59
36:BA:360:G:H2'	36:BA:361:G:H8	1.68	0.59
36:BA:486:C:H2'	36:BA:487:C:H6	1.67	0.59
36:BA:1047:G:H2'	36:BA:1110:G:H21	1.68	0.59
36:BA:1967:C:H2'	36:BA:1968:G:H5'	1.85	0.59
36:BA:2572:A:C8	40:BE:144:ARG:HD3	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2713:A:H3'	36:BA:2714:G:H5'	1.84	0.59
38:BC:7:TYR:CE1	38:BC:220:PRO:HD3	2.38	0.59
40:BE:113:PHE:CE1	40:BE:158:GLY:HA2	2.37	0.59
40:BE:169:ASN:O	40:BE:169:ASN:ND2	2.32	0.59
41:BF:62:ARG:HH11	41:BF:62:ARG:HG2	1.67	0.59
42:BG:82:LEU:HD22	42:BG:87:PRO:HB3	1.85	0.59
46:BN:76:SER:OG	46:BN:77:GLY:N	2.36	0.59
48:BP:90:ARG:HD2	48:BP:91:PHE:HD1	1.67	0.59
49:BQ:67:ARG:HB3	49:BQ:67:ARG:HH11	1.68	0.59
52:BT:83:ILE:HG13	52:BT:84:GLN:HG2	1.85	0.59
57:BY:88:LYS:NZ	57:BY:93:GLY:O	2.33	0.59
1:AA:1004:A:H5"	1:AA:1025:U:O4	2.02	0.58
1:AA:1503:A:N3	23:AX:16:A:C6	2.71	0.58
4:AD:70:ILE:HG22	4:AD:71:SER:O	2.03	0.58
7:AG:52:GLU:O	7:AG:54:THR:N	2.36	0.58
10:AJ:23:ILE:HG23	10:AJ:85:LEU:CD2	2.33	0.58
11:AK:18:ARG:NH2	11:AK:35:PRO:O	2.36	0.58
27:B1:44:PRO:HA	36:BA:396:G:O3'	2.03	0.58
29:B3:11:SER:HB3	36:BA:988:A:P	2.43	0.58
41:BF:82:ILE:O	41:BF:83:PHE:HB2	2.02	0.58
41:BF:148:LEU:HB3	41:BF:172:TRP:HZ3	1.67	0.58
47:BO:4:PRO:O	47:BO:5:GLN:CB	2.51	0.58
48:BP:6:LEU:HD23	48:BP:6:LEU:N	2.14	0.58
49:BQ:10:ARG:HB2	49:BQ:10:ARG:HH11	1.67	0.58
53:BU:92:ARG:HD2	54:BV:11:GLN:HG2	1.85	0.58
54:BV:1:MET:HE1	54:BV:43:GLU:OE2	2.03	0.58
1:AA:321:A:C2	1:AA:333:G:C2	2.91	0.58
2:AB:61:LEU:HA	2:AB:64:ARG:CZ	2.32	0.58
8:AH:1:MET:HE2	8:AH:1:MET:N	2.18	0.58
9:AI:10:ARG:HG3	9:AI:75:ASP:HB3	1.85	0.58
10:AJ:5:ARG:CG	10:AJ:71:LEU:HD11	2.32	0.58
20:AT:74:LYS:HG2	20:AT:75:ASN:N	2.17	0.58
25:AZ:35:THR:HG22	25:AZ:203:LEU:HD11	1.85	0.58
36:BA:744:G:O2'	36:BA:745:G:H5'	2.03	0.58
36:BA:1165:U:H2'	36:BA:1166:C:C6	2.38	0.58
36:BA:1331:A:C2'	36:BA:1332:G:H5"	2.33	0.58
36:BA:1902:C:H2'	36:BA:1903:G:O5'	2.02	0.58
36:BA:2631:G:N2	40:BE:61:ARG:NH1	2.48	0.58
36:BA:2801(A):A:H4'	36:BA:2802:G:C5'	2.27	0.58
40:BE:1:MET:HB3	40:BE:200:GLU:CD	2.27	0.58
49:BQ:6:ARG:O	49:BQ:7:MET:HG3	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BQ:36:ALA:O	49:BQ:37:LEU:HD23	2.03	0.58
51:BS:74:ALA:HB1	51:BS:103:GLU:CG	2.32	0.58
51:BS:89:ARG:O	51:BS:92:TYR:HB3	2.03	0.58
58:BZ:171:ILE:HG13	58:BZ:172:ALA:N	2.19	0.58
1:AA:333:G:H4'	20:AT:16:HIS:CE1	2.38	0.58
1:AA:585:G:H4'	12:AL:8:ASN:HD21	1.68	0.58
3:AC:20:SER:CB	3:AC:40:ARG:HH22	2.13	0.58
14:AN:57:ARG:HG2	14:AN:57:ARG:HH11	1.68	0.58
25:AZ:19:HIS:CG	25:AZ:20:VAL:H	2.21	0.58
28:B2:47:ASN:O	28:B2:48:HIS:C	2.46	0.58
34:B8:61:LEU:HD12	34:B8:61:LEU:N	2.19	0.58
36:BA:6:A:H2'	36:BA:7:G:C8	2.38	0.58
36:BA:1494:A:N3	36:BA:1494:A:H5'	2.18	0.58
36:BA:1636:C:H2'	36:BA:1637:A:C8	2.38	0.58
36:BA:1813:G:H1'	39:BD:50:THR:OG1	2.03	0.58
36:BA:2138:C:H2'	36:BA:2139:C:C6	2.37	0.58
36:BA:2292:C:O2'	36:BA:2293:C:H5'	2.03	0.58
37:BB:56:G:O2'	37:BB:57:A:OP2	2.21	0.58
38:BC:26:ALA:O	38:BC:185:LEU:HD12	2.03	0.58
39:BD:35:LYS:HG3	39:BD:63:ARG:HG3	1.86	0.58
39:BD:77:ALA:CB	39:BD:95:LEU:HD13	2.32	0.58
40:BE:32:PRO:O	40:BE:34:VAL:N	2.36	0.58
41:BF:10:PRO:HG2	41:BF:13:SER:OG	2.02	0.58
43:BH:137:ASP:OD1	43:BH:138:LYS:N	2.26	0.58
48:BP:58:THR:C	48:BP:61:ARG:HE	2.11	0.58
48:BP:71:VAL:N	48:BP:72:PRO:CD	2.61	0.58
57:BY:46:LYS:N	57:BY:62:GLU:HG2	2.18	0.58
57:BY:52:SER:O	57:BY:54:LYS:N	2.37	0.58
11:AK:99:GLN:HG2	11:AK:105:VAL:HG21	1.85	0.58
13:AM:15:VAL:HG23	13:AM:16:ASP:N	2.18	0.58
16:AP:28:ARG:HG2	16:AP:29:ASP:OD2	2.03	0.58
16:AP:45:THR:CG2	16:AP:47:ASP:HB3	2.33	0.58
28:B2:46:GLN:OE1	36:BA:95:G:H4'	2.03	0.58
29:B3:54:VAL:HG12	29:B3:55:ARG:N	2.17	0.58
33:B7:9:ARG:HH11	33:B7:9:ARG:HG3	1.68	0.58
33:B7:22:MET:O	33:B7:28:ARG:NH1	2.37	0.58
36:BA:845:G:H8	36:BA:845:G:OP2	1.87	0.58
36:BA:2584:U:H2'	36:BA:2585:U:H2'	1.85	0.58
36:BA:2787:C:O2	40:BE:61:ARG:HD3	2.02	0.58
38:BC:120:MET:CE	38:BC:138:PRO:HB2	2.28	0.58
39:BD:27:THR:CG2	39:BD:27:THR:O	2.50	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1050:G:HO2'	1:AA:1051:C:H6	1.48	0.58
1:AA:1283:G:O2'	1:AA:1284:C:P	2.61	0.58
3:AC:61:ALA:N	3:AC:63:ASN:OD1	2.35	0.58
4:AD:158:ILE:O	4:AD:162:LEU:HB2	2.04	0.58
12:AL:113:ARG:HB3	12:AL:122:THR:HG21	1.83	0.58
16:AP:53:VAL:O	16:AP:54:GLU:C	2.46	0.58
24:AY:63:C:H2'	24:AY:64:U:C6	2.38	0.58
26:B0:27:GLU:HB3	26:B0:68:GLU:CA	2.25	0.58
32:B6:5:VAL:HG11	36:BA:2283:C:H5'	1.85	0.58
34:B8:27:THR:HG22	48:BP:62:LEU:HD22	1.86	0.58
36:BA:270:A:C2'	36:BA:271:A:H5'	2.33	0.58
36:BA:603:A:H1'	36:BA:604:G:OP2	2.03	0.58
36:BA:1536:C:H2'	36:BA:1537:G:C4'	2.34	0.58
36:BA:1799:G:H5'	36:BA:1819:A:N6	2.18	0.58
39:BD:28:GLU:N	39:BD:29:PRO:CD	2.64	0.58
48:BP:50:ARG:HG2	48:BP:50:ARG:HH21	1.69	0.58
52:BT:24:PRO:HA	52:BT:49:VAL:HG13	1.84	0.58
1:AA:149:A:O2'	1:AA:150:C:H5'	2.03	0.58
1:AA:722:A:H2'	1:AA:722:A:N3	2.18	0.58
1:AA:1321:C:H3'	1:AA:1322:C:H5"	1.84	0.58
7:AG:8:GLU:HG3	7:AG:9:VAL:N	2.17	0.58
11:AK:34:ASP:OD2	11:AK:36:ASP:N	2.37	0.58
11:AK:37:GLY:C	11:AK:38:ASN:HD22	2.11	0.58
25:AZ:171:ILE:HG22	25:AZ:172:ARG:N	2.18	0.58
34:B8:50:LEU:O	34:B8:51:ALA:HB3	2.02	0.58
36:BA:2125:G:H21	36:BA:2173:A:H61	1.49	0.58
36:BA:2356:C:O2'	36:BA:2357:U:H5'	2.02	0.58
38:BC:22:ILE:HD12	38:BC:228:SER:O	2.03	0.58
40:BE:104:VAL:HG11	40:BE:188:VAL:HG23	1.86	0.58
40:BE:115:GLY:HA2	40:BE:157:ALA:HB1	1.85	0.58
42:BG:83:ARG:HB2	42:BG:84:LYS:HD2	1.84	0.58
46:BN:126:PRO:O	46:BN:127:ASP:HB2	2.04	0.58
48:BP:111:ARG:HH11	48:BP:149:GLU:HG3	1.67	0.58
48:BP:123:LEU:HD23	48:BP:123:LEU:H	1.69	0.58
52:BT:65:LYS:CE	52:BT:66:VAL:H	2.06	0.58
57:BY:2:ARG:C	57:BY:4:LYS:H	2.11	0.58
1:AA:642:A:H2'	1:AA:643:C:C6	2.39	0.58
1:AA:673:G:H2'	1:AA:674:G:C8	2.38	0.58
1:AA:1327:C:OP1	21:AU:20:LYS:N	2.36	0.58
1:AA:1371:G:O3'	9:AI:69:GLY:HA3	2.03	0.58
17:AQ:9:VAL:HG12	17:AQ:56:VAL:HG22	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:56:GLU:HG3	25:AZ:63:ILE:HB	1.85	0.58
25:AZ:197:ASP:C	25:AZ:198:LYS:HE2	2.28	0.58
25:AZ:303:VAL:CG1	25:AZ:304:LEU:H	2.13	0.58
27:B1:51:VAL:HG11	27:B1:74:VAL:HG21	1.86	0.58
28:B2:31:GLU:HB3	28:B2:53:LEU:HD11	1.85	0.58
32:B6:14:THR:CG2	32:B6:50:ARG:HB2	2.31	0.58
35:B9:24:TYR:O	35:B9:25:VAL:HG23	2.03	0.58
35:B9:36:GLN:OE1	36:BA:1124:C:H1'	2.03	0.58
36:BA:1170:G:H22	36:BA:1179:C:N4	1.93	0.58
36:BA:1916:A:H2'	36:BA:1917:U:O4'	2.02	0.58
36:BA:2030:A:H5"	36:BA:2031:A:OP1	2.03	0.58
40:BE:78:LEU:C	40:BE:79:ARG:HD2	2.29	0.58
40:BE:111:ARG:HA	50:BR:2:ARG:HG3	1.84	0.58
41:BF:122:LYS:HG3	41:BF:191:ARG:HG3	1.85	0.58
56:BX:12:VAL:HG12	56:BX:27:THR:C	2.28	0.58
56:BX:26:TYR:HB2	56:BX:81:VAL:CG2	2.34	0.58
1:AA:1143:G:H2'	1:AA:1144:G:C8	2.39	0.58
1:AA:1308:U:H2'	1:AA:1309:G:H8	1.69	0.58
2:AB:187:LEU:HD13	2:AB:205:ASP:HB3	1.84	0.58
5:AE:100:VAL:O	5:AE:100:VAL:HG23	2.04	0.58
10:AJ:89:ASP:CB	10:AJ:91:PRO:HD3	2.34	0.58
11:AK:82:VAL:HG11	11:AK:108:ILE:HG23	1.85	0.58
25:AZ:157:LEU:O	25:AZ:160:GLN:HB3	2.04	0.58
26:B0:41:ARG:O	26:B0:42:GLY:C	2.44	0.58
34:B8:17:THR:OG1	34:B8:21:LYS:HB2	2.04	0.58
36:BA:736:C:H2'	36:BA:737:C:H6	1.69	0.58
36:BA:761:A:H8	36:BA:761:A:H3'	1.66	0.58
36:BA:1060:U:H1'	36:BA:1061:U:O5'	2.04	0.58
36:BA:1569:A:O2'	39:BD:38:LYS:HE2	2.04	0.58
36:BA:2360:A:O2'	36:BA:2361:A:O4'	2.20	0.58
39:BD:70:TRP:HZ3	39:BD:146:GLU:OE2	1.86	0.58
39:BD:70:TRP:CZ3	39:BD:146:GLU:OE2	2.57	0.58
39:BD:97:TYR:CE1	39:BD:103:ARG:HD3	2.38	0.58
42:BG:41:GLN:HG2	42:BG:154:GLY:O	2.04	0.58
43:BH:34:GLU:O	43:BH:36:PRO:HD3	2.02	0.58
54:BV:95:LEU:HD23	54:BV:96:ILE:N	2.18	0.58
58:BZ:96:VAL:HG22	58:BZ:97:GLU:H	1.67	0.58
3:AC:95:THR:HG22	3:AC:97:LYS:HB2	1.85	0.58
5:AE:51:VAL:HB	5:AE:52:PRO:CD	2.32	0.58
9:AI:10:ARG:O	9:AI:11:LYS:HB3	2.03	0.58
24:AY:15:A:H61	24:AY:48:U:H3	1.50	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B6:15:GLU:HG2	32:B6:18:ARG:NH1	2.19	0.58
34:B8:25:MET:CE	48:BP:64:LYS:HD3	2.33	0.58
36:BA:57:C:O2'	36:BA:58:G:H5'	2.03	0.58
36:BA:1310:G:C2'	36:BA:1311:G:H5'	2.33	0.58
36:BA:2801(A):A:H5'	36:BA:2802:G:C8	2.29	0.58
39:BD:72:LYS:HB3	39:BD:72:LYS:NZ	2.17	0.58
40:BE:198:VAL:HG12	40:BE:199:ARG:N	2.18	0.58
46:BN:26:LEU:HG	46:BN:30:ILE:HD11	1.85	0.58
46:BN:78:TYR:N	46:BN:78:TYR:CD1	2.72	0.58
48:BP:136:GLU:O	48:BP:139:LYS:HB3	2.03	0.58
49:BQ:134:ARG:NH2	58:BZ:122:ARG:NE	2.50	0.58
50:BR:74:LYS:CD	50:BR:77:ARG:HH21	2.17	0.58
51:BS:85:VAL:HG23	51:BS:106:ARG:CG	2.34	0.58
51:BS:102:ALA:HB3	51:BS:103:GLU:OE1	2.04	0.58
58:BZ:166:SER:HB2	58:BZ:168:GLU:H	1.68	0.58
1:AA:67:C:H2'	1:AA:68:G:H8	1.68	0.58
1:AA:197:A:C6	1:AA:221:C:H4'	2.39	0.58
59:AA:1601:PAR:H642	59:AA:1601:PAR:H43	1.85	0.58
2:AB:20:GLU:HG3	2:AB:191:ASP:HB2	1.86	0.58
3:AC:16:ARG:HH11	3:AC:16:ARG:CA	2.16	0.58
3:AC:86:VAL:O	3:AC:89:GLU:HB3	2.03	0.58
4:AD:53:ASP:O	4:AD:57:ARG:HG3	2.03	0.58
4:AD:73:ARG:O	4:AD:77:ASN:HB2	2.04	0.58
4:AD:110:PHE:HZ	4:AD:182:LYS:O	1.87	0.58
5:AE:147:ASP:HB3	5:AE:150:ARG:HH12	1.69	0.58
25:AZ:36:ALA:O	25:AZ:39:ASN:O	2.22	0.58
25:AZ:55:GLU:O	25:AZ:56:GLU:C	2.45	0.58
36:BA:145:G:H2'	36:BA:146:G:H5"	1.84	0.58
36:BA:528:A:C2	36:BA:2043:C:H4'	2.38	0.58
36:BA:614(A):U:H4'	36:BA:614(B):G:C5'	2.34	0.58
36:BA:886:C:O2'	36:BA:887:A:H4'	2.04	0.58
36:BA:898:C:C2'	36:BA:899:A:H5'	2.32	0.58
36:BA:1155:A:O2'	36:BA:1156:A:H2'	2.04	0.58
36:BA:1462:C:H4'	36:BA:2703:C:C5'	2.30	0.58
39:BD:241:PRO:O	39:BD:243:GLY:N	2.37	0.58
40:BE:108:SER:OG	40:BE:163:GLU:HG2	2.04	0.58
42:BG:34:LEU:N	42:BG:172:LEU:HD11	2.19	0.58
42:BG:57:ALA:CA	42:BG:90:LEU:HD21	2.34	0.58
43:BH:37:VAL:HG12	43:BH:38:SER:H	1.68	0.58
47:BO:120:GLU:HG2	47:BO:122:LEU:HD21	1.84	0.58
48:BP:81:GLN:NE2	48:BP:106:LEU:HA	2.19	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BS:88:ASP:OD2	51:BS:89:ARG:N	2.36	0.58
53:BU:90:VAL:CG1	53:BU:91:ASP:H	2.14	0.58
54:BV:19:LYS:HE2	54:BV:19:LYS:HA	1.85	0.58
1:AA:382:A:H2'	1:AA:383:A:H8	1.69	0.57
8:AH:103:VAL:HG21	8:AH:110:ALA:HB2	1.85	0.57
9:AI:65:VAL:HG21	9:AI:73:GLN:HB3	1.86	0.57
17:AQ:10:VAL:HA	17:AQ:20:THR:O	2.03	0.57
25:AZ:130:TYR:CE2	25:AZ:211:PRO:HD3	2.39	0.57
30:B4:30:GLU:C	30:B4:31:ILE:HD12	2.29	0.57
36:BA:266:G:C3'	36:BA:267:C:H5"	2.34	0.57
36:BA:2129:C:OP1	38:BC:4:GLY:HA3	2.04	0.57
36:BA:2136:C:O2'	36:BA:2137:C:H5'	2.04	0.57
36:BA:2291:U:H2'	36:BA:2292:C:C6	2.39	0.57
37:BB:30:C:H1'	37:BB:57:A:H61	1.68	0.57
49:BQ:51:ARG:O	49:BQ:55:VAL:HG12	2.04	0.57
58:BZ:17:ALA:HA	58:BZ:20:ARG:HD3	1.85	0.57
1:AA:1033:G:H2'	1:AA:1034:G:O4'	2.04	0.57
1:AA:1299:A:H5"	1:AA:1299:A:N3	2.19	0.57
2:AB:17:PHE:CB	2:AB:44:LEU:HD11	2.35	0.57
2:AB:112:VAL:O	2:AB:116:GLU:HG2	2.04	0.57
3:AC:14:ILE:O	3:AC:14:ILE:HG12	1.96	0.57
8:AH:82:HIS:CD2	8:AH:138:TRP:NE1	2.72	0.57
19:AS:43:GLU:C	19:AS:45:VAL:N	2.57	0.57
22:AW:30:G:H2'	22:AW:31:A:H8	1.69	0.57
22:AW:55:U:C5'	38:BC:164:ARG:HH12	2.12	0.57
25:AZ:55:GLU:O	25:AZ:59:ARG:N	2.37	0.57
28:B2:47:ASN:O	28:B2:49:LYS:N	2.37	0.57
31:B5:40:LYS:HZ1	31:B5:46:CYS:N	2.00	0.57
31:B5:50:GLY:HA3	31:B5:56:LYS:HB3	1.85	0.57
36:BA:92:A:O2'	36:BA:93:G:H5'	2.04	0.57
36:BA:104:U:H2'	36:BA:105:C:H5'	1.85	0.57
36:BA:1069:A:H1'	36:BA:1070:A:P	2.45	0.57
36:BA:1403:C:H5"	36:BA:1471:A:C1'	2.28	0.57
36:BA:1647:G:H3'	36:BA:1647:G:OP2	2.05	0.57
36:BA:1890:A:H2'	36:BA:1891:G:H5'	1.86	0.57
36:BA:2720:U:O2	36:BA:2720:U:H2'	2.03	0.57
39:BD:32:SER:O	39:BD:36:PRO:CG	2.51	0.57
41:BF:31:HIS:ND1	48:BP:13:ASN:HB2	2.18	0.57
43:BH:85:LYS:C	43:BH:85:LYS:HE2	2.29	0.57
51:BS:89:ARG:HB3	51:BS:92:TYR:CB	2.34	0.57
55:BW:5:ALA:HB2	55:BW:54:ALA:CB	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BX:84:ALA:HB1	56:BX:85:PRO:HD2	1.85	0.57
58:BZ:149:SER:CB	58:BZ:173:ALA:HA	2.34	0.57
1:AA:1014:A:H4'	19:AS:14:HIS:CE1	2.39	0.57
1:AA:1310:G:O2'	1:AA:1311:G:H5'	2.03	0.57
6:AF:33:TYR:HD2	6:AF:75:LEU:HA	1.69	0.57
7:AG:72:ARG:NH2	7:AG:73:MET:HE2	2.19	0.57
13:AM:49:THR:HB	13:AM:52:GLU:H	1.69	0.57
19:AS:62:ILE:HG23	19:AS:62:ILE:O	2.03	0.57
25:AZ:24:LYS:HB2	25:AZ:24:LYS:NZ	2.18	0.57
26:B0:20:ARG:CG	26:B0:20:ARG:NH1	2.65	0.57
28:B2:47:ASN:O	28:B2:50:ILE:HD13	2.04	0.57
29:B3:45:GLY:HA2	29:B3:48:GLU:HG3	1.85	0.57
36:BA:473:G:H5"	36:BA:508:G:N2	2.18	0.57
36:BA:1092:C:N4	36:BA:1100:C:H42	2.00	0.57
36:BA:1274:A:N3	36:BA:1297:C:H1'	2.19	0.57
36:BA:1598:C:H5'	56:BX:36:LYS:CD	2.35	0.57
36:BA:2373:G:H2'	36:BA:2374:C:C6	2.38	0.57
37:BB:80:U:H2'	37:BB:81:G:N2	2.16	0.57
38:BC:152:ILE:HG22	38:BC:152:ILE:O	2.05	0.57
41:BF:140:LEU:O	41:BF:143:ALA:HB3	2.05	0.57
41:BF:177:ALA:HB1	41:BF:178:PRO:HD2	1.86	0.57
42:BG:14:GLU:O	42:BG:17:PRO:HG2	2.03	0.57
46:BN:86:PRO:HG2	46:BN:89:LYS:CG	2.30	0.57
46:BN:87:LEU:HD13	46:BN:87:LEU:C	2.30	0.57
50:BR:56:LYS:HE3	50:BR:94:TYR:CE1	2.39	0.57
52:BT:134:GLU:O	52:BT:135:ALA:HB3	2.04	0.57
53:BU:112:ARG:NH1	54:BV:46:VAL:HG21	2.20	0.57
57:BY:90:LEU:HG	57:BY:90:LEU:O	2.04	0.57
58:BZ:28:MET:O	58:BZ:29:TYR:HB3	2.02	0.57
1:AA:594:G:H2'	1:AA:595:G:H5'	1.85	0.57
1:AA:767:A:H2'	1:AA:768:A:O4'	2.04	0.57
1:AA:958:A:N6	19:AS:77:THR:O	2.37	0.57
1:AA:1498:U:H4'	1:AA:1519:A:H2	1.65	0.57
2:AB:46:LYS:O	2:AB:47:THR:C	2.48	0.57
11:AK:32:ILE:CG2	11:AK:77:MET:HE3	2.34	0.57
25:AZ:404:LEU:HD12	25:AZ:405:GLU:HG3	1.85	0.57
26:B0:7:LEU:CD2	49:BQ:81:VAL:HG23	2.33	0.57
28:B2:4:SER:HA	28:B2:7:ARG:HH11	1.70	0.57
32:B6:41:PRO:HG3	32:B6:49:HIS:HE1	1.69	0.57
36:BA:88:G:H2'	36:BA:88:G:N3	2.19	0.57
36:BA:438:G:O2'	36:BA:440:G:H5'	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1547:C:O2'	36:BA:1548:C:H5'	2.05	0.57
36:BA:2121:G:H2'	36:BA:2122:U:C6	2.39	0.57
36:BA:2307:G:H3'	36:BA:2307:G:N3	2.19	0.57
36:BA:2648:C:H2'	36:BA:2649:U:H6	1.67	0.57
47:BO:71:ARG:HG3	47:BO:71:ARG:NH1	2.17	0.57
48:BP:90:ARG:HD2	48:BP:91:PHE:CD1	2.39	0.57
51:BS:54:LEU:HD22	51:BS:58:LEU:O	2.04	0.57
57:BY:31:LEU:HD22	57:BY:31:LEU:N	2.19	0.57
1:AA:192:U:O4'	20:AT:103:GLY:HA2	2.05	0.57
1:AA:655:A:H2'	1:AA:656:C:H6	1.70	0.57
1:AA:1441:G:H5"	1:AA:1442:G:O4'	2.04	0.57
1:AA:1513:A:H2'	1:AA:1514:C:C6	2.38	0.57
4:AD:33:MET:O	4:AD:37:PRO:HG3	2.04	0.57
8:AH:82:HIS:CD2	8:AH:138:TRP:HE1	2.23	0.57
16:AP:58:TYR:CD1	16:AP:58:TYR:C	2.82	0.57
22:AW:55:U:H5"	38:BC:164:ARG:NH1	2.10	0.57
32:B6:13:CYS:HB2	32:B6:22:ALA:CB	2.33	0.57
36:BA:1055:G:H1'	36:BA:1084:A:N6	2.20	0.57
36:BA:1255:U:C5	41:BF:73:ALA:HA	2.39	0.57
36:BA:1999:C:H4'	36:BA:2723:C:O2	2.03	0.57
36:BA:2345:G:H5'	36:BA:2347:C:O4'	2.05	0.57
36:BA:2529:G:OP2	36:BA:2530:A:H8	1.87	0.57
38:BC:6:ARG:HD2	38:BC:34:THR:O	2.05	0.57
38:BC:53:ARG:HH11	38:BC:53:ARG:CB	2.14	0.57
39:BD:26:LYS:O	39:BD:27:THR:HG22	2.04	0.57
39:BD:70:TRP:HB3	39:BD:190:TYR:CE1	2.39	0.57
42:BG:86:MET:N	42:BG:87:PRO:HD2	2.20	0.57
43:BH:85:LYS:HE2	43:BH:85:LYS:O	2.04	0.57
49:BQ:67:ARG:HD3	49:BQ:102:VAL:HG12	1.86	0.57
51:BS:30:ARG:HH22	51:BS:62:LYS:CG	2.17	0.57
51:BS:77:ALA:C	51:BS:79:ALA:H	2.12	0.57
1:AA:655:A:H2'	1:AA:656:C:C6	2.39	0.57
1:AA:972:C:O3'	10:AJ:57:LYS:HG2	2.05	0.57
2:AB:75:LYS:C	2:AB:75:LYS:HD3	2.30	0.57
7:AG:18:TYR:C	7:AG:20:ASP:H	2.13	0.57
7:AG:80:VAL:C	7:AG:82:GLY:H	2.12	0.57
7:AG:86:GLN:HE22	22:AW:39:U:H5	1.53	0.57
8:AH:103:VAL:HG12	8:AH:108:GLY:HA3	1.84	0.57
8:AH:108:GLY:C	8:AH:109:ILE:HG22	2.29	0.57
10:AJ:16:LEU:HD11	10:AJ:70:ARG:CG	2.33	0.57
10:AJ:94:VAL:HG12	10:AJ:95:GLU:N	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AL:119:LYS:O	12:AL:120:TYR:HB2	2.04	0.57
13:AM:15:VAL:HG23	13:AM:34:LEU:HD11	1.86	0.57
14:AN:12:ARG:HB3	14:AN:14:PRO:HD2	1.87	0.57
15:AO:17:ARG:HG3	15:AO:17:ARG:NH1	2.19	0.57
16:AP:14:ASN:N	16:AP:15:PRO:HD3	2.20	0.57
17:AQ:66:SER:O	17:AQ:70:ARG:NH1	2.38	0.57
22:AV:62:C:H2'	22:AV:63:G:C8	2.39	0.57
22:AW:18:G:H1	22:AW:55:U:H1'	1.69	0.57
25:AZ:5:PHE:HB2	25:AZ:275:LYS:HB2	1.87	0.57
25:AZ:86:ALA:O	25:AZ:88:TYR:N	2.35	0.57
27:B1:80:LEU:HB3	27:B1:82:LEU:CD2	2.35	0.57
30:B4:9:LEU:CD1	30:B4:10:VAL:H	2.18	0.57
36:BA:13:A:H61	36:BA:525:U:H3'	1.68	0.57
36:BA:64:A:H2'	36:BA:65:C:O4'	2.05	0.57
36:BA:115:C:O2'	36:BA:116:C:H5'	2.05	0.57
36:BA:614:U:C2'	36:BA:614(A):U:H5'	2.34	0.57
36:BA:645:C:O2	36:BA:645:C:H3'	2.04	0.57
37:BB:16:G:HO2'	37:BB:17:C:H6	1.51	0.57
38:BC:59:ARG:HG3	38:BC:164:ARG:CG	2.35	0.57
39:BD:2:ALA:O	39:BD:3:VAL:HB	2.03	0.57
40:BE:51:PHE:O	40:BE:52:LEU:C	2.47	0.57
40:BE:111:ARG:HB3	50:BR:2:ARG:HH12	1.67	0.57
43:BH:102:ALA:HA	43:BH:117:PRO:HD3	1.85	0.57
52:BT:124:ASP:HB3	52:BT:125:ARG:HH12	1.68	0.57
1:AA:986:A:H1'	19:AS:54:GLY:O	2.04	0.57
1:AA:1202:G:C2'	1:AA:1203:C:H5'	2.35	0.57
1:AA:1240:U:H4'	7:AG:38:LEU:HD21	1.87	0.57
3:AC:14:ILE:O	3:AC:15:THR:CB	2.53	0.57
12:AL:28:LYS:O	12:AL:29:GLY:C	2.47	0.57
16:AP:25:ARG:HG3	16:AP:25:ARG:NH1	2.20	0.57
29:B3:7:LYS:O	29:B3:54:VAL:HG13	2.05	0.57
30:B4:42:PHE:CG	30:B4:42:PHE:O	2.57	0.57
36:BA:19:C:O2'	36:BA:20:C:H5'	2.03	0.57
36:BA:2206:G:H21	36:BA:2207:G:H5'	1.67	0.57
36:BA:2524:G:H8	36:BA:2524:G:H5'	1.69	0.57
36:BA:2577:A:C5'	36:BA:2578:G:H5'	2.35	0.57
36:BA:2640:G:H1	36:BA:2774:C:H42	1.51	0.57
37:BB:98:G:O2'	37:BB:99:G:H5'	2.04	0.57
38:BC:49:ILE:C	38:BC:49:ILE:HD12	2.29	0.57
38:BC:78:ALA:HB3	38:BC:95:GLY:CA	2.34	0.57
39:BD:224:ALA:O	39:BD:225:ALA:HB2	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BF:62:ARG:HB3	41:BF:62:ARG:CZ	2.35	0.57
41:BF:162:LEU:H	41:BF:162:LEU:HD12	1.70	0.57
46:BN:96:GLU:CD	46:BN:96:GLU:H	2.12	0.57
49:BQ:116:GLU:O	49:BQ:120:ILE:HG12	2.04	0.57
54:BV:22:VAL:O	54:BV:23:GLU:HB2	2.04	0.57
56:BX:8:ILE:HD12	56:BX:8:ILE:N	2.20	0.57
56:BX:66:LEU:HD23	56:BX:67:GLY:N	2.19	0.57
57:BY:13:VAL:HG23	57:BY:74:PRO:HA	1.86	0.57
58:BZ:17:ALA:CA	58:BZ:20:ARG:HG2	2.34	0.57
1:AA:80:G:H3'	1:AA:81:U:C5'	2.35	0.57
1:AA:235:C:H5'	17:AQ:70:ARG:HG2	1.85	0.57
4:AD:2:GLY:O	4:AD:3:ARG:C	2.47	0.57
7:AG:41:ARG:HG3	9:AI:41:VAL:HG21	1.86	0.57
10:AJ:30:SER:CA	10:AJ:80:LYS:HD3	2.33	0.57
13:AM:98:VAL:O	13:AM:98:VAL:HG12	2.05	0.57
16:AP:45:THR:O	16:AP:47:ASP:N	2.32	0.57
23:AX:16:A:H2'	23:AX:17:U:H5'	1.87	0.57
27:B1:48:LYS:HZ3	27:B1:61:ARG:HG2	1.70	0.57
32:B6:12:GLU:HG3	32:B6:23:THR:CG2	2.35	0.57
36:BA:70:G:H2'	36:BA:113:G:O2'	2.05	0.57
36:BA:191:A:H2'	36:BA:192:C:C6	2.40	0.57
36:BA:1556:C:H2'	36:BA:1557:C:C6	2.39	0.57
36:BA:1607:C:H4'	36:BA:1608:A:O5'	2.05	0.57
36:BA:1654:A:C2	40:BE:113:PHE:HD2	2.22	0.57
36:BA:2188:C:H2'	36:BA:2189:U:C2	2.40	0.57
43:BH:41:MET:O	43:BH:42:ARG:HB3	2.05	0.57
44:BJ:25:UNK:O	44:BJ:84:UNK:HA	2.04	0.57
47:BO:64:ARG:CZ	52:BT:70:VAL:HG21	2.35	0.57
48:BP:107:LYS:C	48:BP:109:GLY:N	2.62	0.57
48:BP:121:LYS:HB2	48:BP:123:LEU:CD2	2.35	0.57
1:AA:68:G:C2	1:AA:69:G:H1'	2.40	0.57
1:AA:312:C:H2'	1:AA:313:A:C8	2.40	0.57
1:AA:737:A:H2'	1:AA:738:C:C6	2.40	0.57
1:AA:963:G:H21	10:AJ:55:LYS:CE	2.17	0.57
1:AA:1146:A:C2	1:AA:1147:C:H1'	2.39	0.57
2:AB:165:VAL:HG23	2:AB:166:ASP:N	2.20	0.57
3:AC:50:ALA:HB1	3:AC:70:VAL:HG11	1.87	0.57
7:AG:15:ASP:HA	7:AG:24:THR:HG22	1.86	0.57
7:AG:80:VAL:HG12	7:AG:81:GLY:N	2.20	0.57
13:AM:80:ARG:NH2	19:AS:69:HIS:NE2	2.52	0.57
15:AO:82:ILE:HG12	15:AO:87:ILE:HB	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AQ:8:GLY:HA3	17:AQ:21:VAL:HG12	1.85	0.57
19:AS:47:HIS:O	19:AS:62:ILE:CG2	2.52	0.57
25:AZ:138:VAL:O	25:AZ:140:MET:N	2.36	0.57
27:B1:11:ARG:HB3	27:B1:11:ARG:HH11	1.70	0.57
36:BA:197:A:C8	36:BA:197:A:H5'	2.39	0.57
36:BA:324:A:H2'	36:BA:325:G:O4'	2.05	0.57
36:BA:852:G:O2'	36:BA:853:G:H5'	2.04	0.57
36:BA:1520:G:H2'	36:BA:1523:U:H5'	1.87	0.57
36:BA:1773:A:C2'	36:BA:1774:C:H5'	2.34	0.57
36:BA:2298:A:H2'	36:BA:2299:G:O4'	2.04	0.57
38:BC:120:MET:HE2	38:BC:123:VAL:HG11	1.86	0.57
39:BD:27:THR:HG21	39:BD:83:GLU:HG2	1.86	0.57
57:BY:13:VAL:HG22	57:BY:73:ARG:O	2.04	0.57
58:BZ:6:LYS:HD3	58:BZ:6:LYS:N	2.20	0.57
58:BZ:74:VAL:O	58:BZ:75:ASN:C	2.47	0.57
1:AA:657:G:O2'	1:AA:658:G:H5'	2.04	0.57
1:AA:1503:A:HO2'	23:AX:16:A:H61	1.53	0.57
2:AB:17:PHE:O	2:AB:17:PHE:CD2	2.58	0.57
2:AB:111:ARG:NH2	2:AB:114:ARG:HG2	2.20	0.57
3:AC:141:VAL:HG11	3:AC:149:ALA:HB2	1.87	0.57
12:AL:55:VAL:CG2	12:AL:67:THR:HG23	2.35	0.57
15:AO:17:ARG:NH1	15:AO:77:ARG:NH1	2.53	0.57
25:AZ:341:GLN:HE22	25:AZ:390:GLU:HB2	1.69	0.57
29:B3:11:SER:HB3	36:BA:988:A:O5'	2.04	0.57
36:BA:686:G:H21	36:BA:788:A:H61	1.53	0.57
36:BA:2050:C:H1'	40:BE:156:MET:HE1	1.86	0.57
36:BA:2467:C:H4'	49:BQ:123:HIS:CD2	2.40	0.57
36:BA:2579:C:O2'	36:BA:2580:U:H5'	2.04	0.57
38:BC:41:VAL:CB	38:BC:175:VAL:HB	2.35	0.57
39:BD:99:ASP:O	39:BD:99:ASP:OD2	2.22	0.57
39:BD:155:LEU:HD23	39:BD:177:LEU:HD22	1.86	0.57
48:BP:16:ARG:HH11	48:BP:16:ARG:C	2.12	0.57
48:BP:38:GLN:O	48:BP:39:LYS:HB2	2.05	0.57
48:BP:125:VAL:O	48:BP:125:VAL:HG13	2.05	0.57
49:BQ:137:TYR:OH	58:BZ:81:ARG:NE	2.37	0.57
51:BS:52:SER:HB3	51:BS:55:ALA:HB3	1.86	0.57
51:BS:66:ALA:O	51:BS:67:ARG:C	2.48	0.57
52:BT:26:ASP:HB3	52:BT:89:VAL:O	2.04	0.57
52:BT:27:THR:HG22	52:BT:49:VAL:HB	1.85	0.57
52:BT:91:ARG:O	52:BT:117:ASP:CB	2.53	0.57
1:AA:532:A:N6	1:AA:1206:G:O2'	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:775:G:O2'	1:AA:776:G:H5'	2.05	0.56
1:AA:961:U:O2'	1:AA:962:C:O5'	2.23	0.56
2:AB:47:THR:HA	2:AB:202:PRO:HG2	1.86	0.56
4:AD:13:ARG:O	4:AD:16:GLY:N	2.31	0.56
15:AO:74:ASP:CG	15:AO:77:ARG:HG2	2.30	0.56
17:AQ:59:ILE:HG22	17:AQ:71:PHE:HD1	1.68	0.56
31:B5:40:LYS:HE2	31:B5:46:CYS:HB3	1.86	0.56
34:B8:60:LEU:C	34:B8:63:PRO:HD2	2.30	0.56
35:B9:10:ILE:O	35:B9:11:CYS:CB	2.52	0.56
36:BA:582:G:H2'	36:BA:583:G:C8	2.39	0.56
36:BA:760:G:H2'	36:BA:761:A:H5'	1.87	0.56
36:BA:1464:C:HO2'	36:BA:1528:A:H8	1.46	0.56
36:BA:1473:G:H2'	36:BA:1474:C:O4'	2.04	0.56
36:BA:2672:G:H2'	36:BA:2673:G:H5"	1.87	0.56
37:BB:22:U:H2'	37:BB:23:G:H8	1.70	0.56
38:BC:74:VAL:HA	38:BC:112:ALA:HB3	1.87	0.56
40:BE:9:VAL:CG1	40:BE:25:VAL:HB	2.34	0.56
40:BE:186:GLY:O	40:BE:187:ALA:CB	2.52	0.56
42:BG:5:VAL:HG12	42:BG:6:ALA:N	2.18	0.56
42:BG:16:ARG:HG3	42:BG:16:ARG:NH1	2.20	0.56
46:BN:90:MET:HE2	46:BN:90:MET:HA	1.87	0.56
48:BP:47:ASP:HB3	48:BP:49:ARG:H	1.67	0.56
52:BT:48:ILE:HD12	52:BT:48:ILE:N	2.20	0.56
58:BZ:108:PRO:HG2	58:BZ:111:VAL:HG23	1.87	0.56
1:AA:190:U:H2'	1:AA:191:G:H8	1.70	0.56
1:AA:1126:U:OP2	1:AA:1281:U:O2	2.23	0.56
1:AA:1503:A:N3	23:AX:16:A:N6	2.52	0.56
5:AE:147:ASP:HB3	5:AE:150:ARG:NH1	2.20	0.56
25:AZ:317:GLU:HG3	25:AZ:402:LYS:HB2	1.87	0.56
31:B5:10:LYS:HB2	36:BA:2017:U:O2	2.04	0.56
36:BA:330:A:HO2'	36:BA:331:A:H8	1.51	0.56
36:BA:654(T):C:H2'	36:BA:654(U):A:O4'	2.05	0.56
36:BA:1056:G:C2	36:BA:1102:C:H5	2.22	0.56
36:BA:1192:G:O2'	36:BA:1193:G:H5'	2.05	0.56
36:BA:1301:A:O2'	36:BA:1302:A:C2'	2.46	0.56
36:BA:1598:C:H2'	36:BA:1599:C:H6	1.69	0.56
36:BA:2233:U:H2'	36:BA:2234:G:C8	2.40	0.56
36:BA:2492:U:O2'	36:BA:2493:U:H5'	2.06	0.56
38:BC:14:VAL:HG22	38:BC:28:LEU:HD11	1.88	0.56
38:BC:175:VAL:CG2	38:BC:189:ILE:HG12	2.35	0.56
39:BD:69:ARG:NH2	39:BD:128:GLY:O	2.32	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:34:VAL:HG13	40:BE:48:GLN:HE21	1.70	0.56
40:BE:111:ARG:HB3	50:BR:2:ARG:NH1	2.20	0.56
40:BE:114:ALA:CB	40:BE:160:TYR:HB3	2.35	0.56
50:BR:58:GLY:HA2	50:BR:80:PHE:CE1	2.40	0.56
51:BS:98:VAL:HG12	51:BS:100:ALA:N	2.20	0.56
52:BT:35:LYS:NZ	52:BT:41:ARG:HD2	2.20	0.56
52:BT:120:ARG:HA	52:BT:123:GLN:HG2	1.87	0.56
54:BV:28:GLU:O	54:BV:61:VAL:HG21	2.06	0.56
1:AA:140:A:O2'	1:AA:141:A:H5'	2.05	0.56
1:AA:272:C:H2'	1:AA:273:A:O4'	2.06	0.56
1:AA:375:U:H4'	16:AP:17:TYR:CE2	2.40	0.56
1:AA:398:C:O2'	1:AA:399:G:H5'	2.06	0.56
1:AA:737:A:H2'	1:AA:738:C:H6	1.70	0.56
1:AA:1030:C:C2'	1:AA:1030(A):G:H5'	2.34	0.56
1:AA:1104:G:O5'	2:AB:111:ARG:HD2	2.06	0.56
1:AA:1151:A:O2'	1:AA:1152:A:H8	1.88	0.56
2:AB:8:LYS:C	2:AB:10:LEU:H	2.13	0.56
2:AB:23:ARG:HG3	2:AB:23:ARG:O	2.05	0.56
2:AB:68:ILE:N	2:AB:90:MET:HE2	2.13	0.56
5:AE:87:SER:HB3	5:AE:131:ILE:HD13	1.86	0.56
5:AE:102:ALA:HB2	5:AE:120:THR:HG21	1.87	0.56
7:AG:15:ASP:HA	7:AG:24:THR:CG2	2.35	0.56
7:AG:26:PHE:HB2	7:AG:101:LEU:HD22	1.87	0.56
7:AG:76:ARG:HG2	7:AG:76:ARG:HH11	1.71	0.56
10:AJ:32:ALA:HB3	10:AJ:76:ASN:HB2	1.85	0.56
11:AK:84:VAL:O	11:AK:85:ARG:HG3	2.05	0.56
12:AL:67:THR:CG2	12:AL:96:VAL:HG22	2.36	0.56
16:AP:19:ILE:N	16:AP:37:GLY:O	2.32	0.56
19:AS:9:VAL:O	19:AS:11:VAL:N	2.38	0.56
19:AS:16:LEU:H	19:AS:16:LEU:HD12	1.69	0.56
25:AZ:104:LEU:HD21	25:AZ:120:ILE:HD11	1.87	0.56
25:AZ:228:VAL:HG21	25:AZ:298:VAL:HG12	1.87	0.56
25:AZ:317:GLU:HG3	25:AZ:317:GLU:O	2.05	0.56
31:B5:40:LYS:HE2	31:B5:46:CYS:SG	2.44	0.56
34:B8:24:ALA:O	34:B8:46:ARG:HA	2.05	0.56
34:B8:35:GLN:O	34:B8:36:LYS:HG3	2.05	0.56
35:B9:4:ARG:NH1	36:BA:2477:C:N3	2.53	0.56
35:B9:35:ARG:HH11	36:BA:2742:C:P	2.28	0.56
36:BA:693:C:H2'	36:BA:694:U:C6	2.40	0.56
36:BA:862:G:H2'	36:BA:863:A:O4'	2.05	0.56
36:BA:1001:A:H2'	36:BA:1002:G:O4'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1056:G:H21	36:BA:1104:C:N4	2.02	0.56
36:BA:1301:A:HO2'	36:BA:1302:A:P	2.27	0.56
36:BA:2580:U:C5'	40:BE:131:ALA:HB2	2.35	0.56
36:BA:2787:C:O2	36:BA:2787:C:H2'	2.05	0.56
36:BA:2886:G:H2'	36:BA:2887:U:C6	2.40	0.56
38:BC:75:LEU:CD1	38:BC:113:VAL:HA	2.35	0.56
38:BC:116:THR:OG1	38:BC:119:VAL:HG22	2.05	0.56
39:BD:10:THR:HG23	39:BD:13:ARG:HB3	1.87	0.56
39:BD:186:HIS:CD2	39:BD:188:GLU:HB2	2.40	0.56
39:BD:243:GLY:O	39:BD:244:ARG:HB3	2.04	0.56
40:BE:44:TYR:HD2	40:BE:45:THR:O	1.87	0.56
40:BE:169:ASN:HD22	40:BE:169:ASN:C	2.13	0.56
40:BE:176:ILE:HG22	40:BE:178:GLU:HB3	1.86	0.56
41:BF:84:VAL:O	41:BF:85:GLY:C	2.48	0.56
43:BH:97:ARG:HG2	43:BH:98:LEU:N	2.18	0.56
43:BH:101:ARG:O	43:BH:117:PRO:HG3	2.04	0.56
46:BN:1:MET:HE1	46:BN:3:THR:OG1	2.05	0.56
46:BN:28:THR:CG2	46:BN:29:LYS:N	2.68	0.56
46:BN:107:LEU:HB3	46:BN:108:PRO:HD2	1.88	0.56
48:BP:16:ARG:NH1	48:BP:16:ARG:CB	2.62	0.56
48:BP:16:ARG:HB2	48:BP:16:ARG:CZ	2.34	0.56
48:BP:95:VAL:HG23	48:BP:125:VAL:HG23	1.87	0.56
51:BS:97:ARG:NE	51:BS:97:ARG:C	2.64	0.56
52:BT:11:GLU:CD	52:BT:11:GLU:N	2.55	0.56
52:BT:30:VAL:CG2	52:BT:84:GLN:HG3	2.35	0.56
52:BT:82:LEU:HD12	52:BT:82:LEU:N	2.17	0.56
54:BV:3:ALA:HB3	54:BV:14:VAL:HG23	1.85	0.56
54:BV:46:VAL:HG13	54:BV:46:VAL:O	2.05	0.56
55:BW:4:LYS:HA	55:BW:106:ILE:HG22	1.86	0.56
55:BW:34:ASN:O	55:BW:37:ARG:HB3	2.05	0.56
57:BY:6:HIS:H	57:BY:6:HIS:CD2	2.23	0.56
57:BY:75:ILE:O	57:BY:76:CYS:HB2	2.04	0.56
58:BZ:54:HIS:HB3	58:BZ:101:PRO:HG3	1.87	0.56
58:BZ:103:ARG:HG3	58:BZ:103:ARG:NH1	2.18	0.56
1:AA:328:C:H4'	1:AA:329:A:H5'	1.87	0.56
1:AA:1101:A:H4'	1:AA:1102:A:O5'	2.06	0.56
2:AB:8:LYS:HE2	2:AB:217:ARG:NH2	2.20	0.56
3:AC:134:ILE:O	3:AC:138:VAL:HG12	2.05	0.56
5:AE:63:ARG:HA	5:AE:66:MET:HE2	1.87	0.56
5:AE:63:ARG:O	5:AE:64:ARG:HB2	2.04	0.56
7:AG:36:LYS:O	7:AG:39:ALA:HB3	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AM:14:ARG:HG3	13:AM:44:ARG:NH1	2.21	0.56
24:AY:61:C:O2'	24:AY:62:U:H5"	2.05	0.56
25:AZ:248:LYS:HB2	25:AZ:248:LYS:NZ	2.21	0.56
26:B0:67:VAL:HG12	26:B0:68:GLU:N	2.19	0.56
27:B1:11:ARG:HB3	27:B1:12:PRO:HD2	1.86	0.56
36:BA:1056:G:H21	36:BA:1104:C:H42	1.54	0.56
36:BA:1138:G:H2'	36:BA:1139:G:O4'	2.06	0.56
36:BA:1140:C:OP2	46:BN:66:LYS:HE2	2.06	0.56
36:BA:1515:G:H2'	36:BA:1516:C:C6	2.40	0.56
36:BA:2124:G:H22	38:BC:218:MET:HG2	1.70	0.56
36:BA:2369:A:H2'	36:BA:2370:G:H8	1.70	0.56
38:BC:137:LEU:HD22	38:BC:138:PRO:HD2	1.86	0.56
38:BC:212:VAL:CG1	38:BC:224:ILE:HD11	2.36	0.56
42:BG:10:LYS:HE2	42:BG:14:GLU:OE2	2.05	0.56
51:BS:15:ARG:O	51:BS:18:ILE:HG13	2.05	0.56
51:BS:97:ARG:NH2	51:BS:98:VAL:CA	2.62	0.56
57:BY:39:VAL:HG12	57:BY:40:GLU:H	1.69	0.56
1:AA:336:C:O2'	1:AA:337:C:H5'	2.05	0.56
1:AA:1234:C:H2'	1:AA:1235:U:C6	2.40	0.56
1:AA:1305:G:C5'	21:AU:4:GLY:CA	2.83	0.56
2:AB:33:TYR:O	2:AB:34:ALA:HB2	2.05	0.56
2:AB:50:GLU:O	2:AB:53:ARG:N	2.38	0.56
2:AB:97:TRP:HZ2	2:AB:102:LEU:HD13	1.71	0.56
2:AB:114:ARG:O	2:AB:114:ARG:HD3	2.05	0.56
4:AD:107:ARG:NH1	4:AD:114:ARG:HH21	2.02	0.56
5:AE:20:GLN:HG2	5:AE:21:ALA:N	2.20	0.56
8:AH:82:HIS:HD2	8:AH:138:TRP:HE1	1.53	0.56
11:AK:69:ALA:HB1	11:AK:103:LEU:CD2	2.33	0.56
19:AS:46:GLY:H	19:AS:62:ILE:CG2	2.10	0.56
20:AT:93:GLU:O	20:AT:95:ALA:N	2.37	0.56
27:B1:53:VAL:O	27:B1:54:ALA:HB3	2.06	0.56
31:B5:43:HIS:N	31:B5:43:HIS:CD2	2.74	0.56
32:B6:36:LEU:HD12	32:B6:50:ARG:CZ	2.36	0.56
35:B9:1:MET:SD	36:BA:2477:C:H2'	2.46	0.56
36:BA:608:A:H2'	36:BA:609:A:C8	2.39	0.56
36:BA:1596:A:O2'	36:BA:1597:A:H5'	2.05	0.56
36:BA:1863:G:H2'	36:BA:1864:U:O4'	2.05	0.56
36:BA:1932:A:H2'	36:BA:1933:G:O4'	2.06	0.56
36:BA:2307:G:N2	36:BA:2308:G:H5'	2.19	0.56
38:BC:26:ALA:HB1	38:BC:185:LEU:HB2	1.86	0.56
40:BE:45:THR:O	40:BE:46:ALA:HB2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BG:47:LYS:HG2	42:BG:81:LYS:HE2	1.88	0.56
46:BN:2:LYS:NZ	54:BV:12:TYR:HA	2.21	0.56
47:BO:96:THR:O	47:BO:97:ARG:HG2	2.06	0.56
48:BP:66:GLY:O	48:BP:67:MET:HB2	2.06	0.56
51:BS:54:LEU:HD23	51:BS:59:LYS:O	2.05	0.56
52:BT:92:GLY:O	52:BT:93:ARG:C	2.48	0.56
55:BW:72:LYS:CE	55:BW:108:GLY:HA3	2.30	0.56
56:BX:18:TYR:HA	56:BX:21:PHE:HE1	1.66	0.56
1:AA:56:U:H2'	1:AA:57:G:C8	2.40	0.56
1:AA:918:A:H2'	1:AA:919:A:H8	1.67	0.56
1:AA:1116:C:H2'	1:AA:1117:G:C5'	2.28	0.56
2:AB:165:VAL:HG23	2:AB:166:ASP:H	1.69	0.56
7:AG:79:ARG:NH2	22:AW:33:U:H4'	2.19	0.56
8:AH:7:ALA:CB	8:AH:85:ARG:HD3	2.35	0.56
9:AI:48:GLU:N	9:AI:49:PRO:CD	2.68	0.56
10:AJ:35:SER:OG	10:AJ:73:ASP:HB2	2.05	0.56
25:AZ:171:ILE:H	25:AZ:171:ILE:HD12	1.69	0.56
27:B1:75:GLU:OE1	27:B1:75:GLU:HA	2.05	0.56
30:B4:9:LEU:HD12	30:B4:10:VAL:H	1.71	0.56
34:B8:3:LYS:HD3	36:BA:242:G:O5'	2.05	0.56
36:BA:479:A:OP1	57:BY:34:LYS:NZ	2.38	0.56
36:BA:761:A:H3'	36:BA:761:A:C8	2.40	0.56
36:BA:850:C:O2'	36:BA:851:U:H5'	2.06	0.56
36:BA:1316:U:H2'	36:BA:1317:A:C8	2.40	0.56
36:BA:1374:G:H2'	36:BA:1375:C:C6	2.40	0.56
36:BA:1567:A:H5'	39:BD:58:HIS:CD2	2.40	0.56
36:BA:1796:U:H2'	36:BA:1797:C:C6	2.40	0.56
36:BA:2231:C:H2'	36:BA:2232:U:C6	2.40	0.56
38:BC:41:VAL:CG1	38:BC:43:VAL:HG23	2.34	0.56
39:BD:70:TRP:CH2	39:BD:150:LYS:HA	2.41	0.56
41:BF:107:LYS:C	41:BF:109:GLY:N	2.62	0.56
41:BF:158:THR:O	41:BF:160:ASN:N	2.32	0.56
43:BH:68:THR:C	43:BH:70:THR:N	2.62	0.56
45:BK:90:UNK:O	45:BK:95:UNK:HA	2.06	0.56
46:BN:13:TRP:O	46:BN:135:PRO:HD2	2.06	0.56
46:BN:44:PRO:O	46:BN:45:ASN:CB	2.53	0.56
49:BQ:43:THR:OG1	49:BQ:46:GLN:HB2	2.05	0.56
57:BY:75:ILE:HD12	57:BY:79:CYS:CA	2.25	0.56
58:BZ:18:LEU:O	58:BZ:21:ALA:HB3	2.06	0.56
58:BZ:103:ARG:HG3	58:BZ:103:ARG:HH11	1.70	0.56
58:BZ:145:GLU:OE1	58:BZ:145:GLU:HA	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1166:G:N2	1:AA:1169:A:H3'	2.19	0.56
1:AA:1484:C:O2'	36:BA:1961:C:H5'	2.05	0.56
2:AB:21:ARG:HD2	2:AB:39:ILE:HG12	1.86	0.56
2:AB:236:TYR:HD1	2:AB:236:TYR:H	1.51	0.56
7:AG:113:GLU:HG3	7:AG:119:ARG:HG2	1.88	0.56
9:AI:81:ILE:O	9:AI:85:LEU:HG	2.06	0.56
25:AZ:125:GLN:NE2	25:AZ:323:LEU:HD11	2.21	0.56
36:BA:669:G:H2'	36:BA:669:G:N3	2.21	0.56
36:BA:744:G:OP1	40:BE:132:HIS:HB3	2.05	0.56
36:BA:1297:C:OP1	36:BA:2710:C:H4'	2.05	0.56
36:BA:1529:G:N1	36:BA:1541:G:N2	2.53	0.56
36:BA:2173:A:O3'	38:BC:218:MET:HE1	2.05	0.56
36:BA:2240:C:O2'	36:BA:2241:A:H5'	2.06	0.56
38:BC:163:PHE:O	38:BC:164:ARG:HB2	2.05	0.56
39:BD:9:TYR:CZ	39:BD:13:ARG:HD3	2.40	0.56
40:BE:3:GLY:O	40:BE:4:ILE:HB	2.06	0.56
41:BF:118:ALA:HA	41:BF:123:LEU:CB	2.35	0.56
42:BG:107:LEU:HD21	42:BG:178:PHE:CE1	2.41	0.56
43:BH:18:GLU:HB2	43:BH:25:LYS:N	2.20	0.56
43:BH:33:LEU:HD12	43:BH:75:ALA:HA	1.87	0.56
43:BH:98:LEU:HD22	43:BH:125:VAL:HG23	1.86	0.56
45:BK:82:UNK:CB	45:BK:98:UNK:H	2.19	0.56
51:BS:40:ILE:HB	51:BS:46:VAL:O	2.06	0.56
1:AA:29:G:C2'	1:AA:30:U:H5'	2.36	0.56
1:AA:513:C:H2'	1:AA:514:C:H6	1.68	0.56
1:AA:976:G:H5'	1:AA:1358:U:O2'	2.06	0.56
4:AD:109:GLY:O	4:AD:161:ASN:HB3	2.06	0.56
14:AN:15:LYS:HB3	14:AN:16:PHE:CD2	2.40	0.56
22:AV:46:G:C3'	22:AV:47:U:H5"	2.10	0.56
25:AZ:13:ASN:ND2	25:AZ:241:ARG:HG3	2.21	0.56
25:AZ:66:ALA:O	25:AZ:67:HIS:CG	2.59	0.56
25:AZ:257:GLY:O	25:AZ:302:GLN:HB3	2.06	0.56
25:AZ:338:TYR:HD2	25:AZ:353:VAL:HG21	1.70	0.56
26:B0:43:THR:HG21	36:BA:2336:A:H61	1.71	0.56
31:B5:36:CYS:SG	31:B5:49:CYS:SG	3.03	0.56
34:B8:61:LEU:C	34:B8:63:PRO:HD2	2.31	0.56
35:B9:31:LYS:O	35:B9:32:HIS:HD2	1.88	0.56
36:BA:271(F):C:O2'	36:BA:271(G):C:H5'	2.06	0.56
36:BA:301:G:OP2	57:BY:97:ARG:NH1	2.39	0.56
36:BA:336:C:H2'	36:BA:337:C:H6	1.71	0.56
36:BA:875:G:H2'	36:BA:876:C:H6	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2393:A:H5'	48:BP:62:LEU:HB3	1.88	0.56
38:BC:175:VAL:HG21	38:BC:189:ILE:CG1	2.34	0.56
40:BE:1:MET:H2	40:BE:84:PHE:HD2	1.52	0.56
41:BF:7:TYR:CD2	41:BF:16:GLY:HA3	2.40	0.56
41:BF:90:PHE:O	41:BF:91:GLY:O	2.23	0.56
41:BF:103:LYS:HA	41:BF:106:ARG:HE	1.71	0.56
41:BF:185:ASP:HA	41:BF:188:ARG:HG2	1.87	0.56
42:BG:33:ARG:H	42:BG:162:THR:HB	1.70	0.56
42:BG:58:GLN:O	42:BG:62:LEU:HD13	2.06	0.56
49:BQ:66:ILE:HG13	49:BQ:66:ILE:O	2.04	0.56
49:BQ:110:THR:HG23	49:BQ:113:GLN:HG3	1.88	0.56
50:BR:93:GLY:C	50:BR:94:TYR:HD2	2.13	0.56
51:BS:61:ASN:O	51:BS:62:LYS:CB	2.54	0.56
57:BY:95:LYS:HG3	57:BY:101:LYS:N	2.21	0.56
1:AA:1004:A:N6	1:AA:1035:A:C5	2.74	0.56
1:AA:1258:G:O2'	1:AA:1259:C:H5'	2.06	0.56
4:AD:31:CYS:C	4:AD:33:MET:H	2.14	0.56
7:AG:65:ALA:CB	7:AG:124:LEU:HD23	2.36	0.56
12:AL:27:LEU:O	12:AL:28:LYS:C	2.49	0.56
13:AM:19:LEU:O	13:AM:22:ILE:HD13	2.06	0.56
27:B1:27:GLU:HG3	27:B1:28:GLY:N	2.21	0.56
28:B2:48:HIS:CD2	36:BA:96:G:H4'	2.41	0.56
35:B9:16:VAL:HG11	36:BA:1032:A:H4'	1.86	0.56
36:BA:320:A:H2'	41:BF:136:THR:OG1	2.05	0.56
36:BA:1568:G:OP2	39:BD:63:ARG:NH2	2.39	0.56
36:BA:2133:G:H1'	36:BA:2158:A:N6	2.20	0.56
36:BA:2893:G:H5'	36:BA:2894:G:C5'	2.23	0.56
37:BB:15:A:H3'	37:BB:16:G:C5'	2.35	0.56
38:BC:6:ARG:O	38:BC:10:LEU:CD2	2.54	0.56
38:BC:25:ALA:O	38:BC:29:VAL:HG13	2.05	0.56
38:BC:147:PHE:C	38:BC:149:ILE:H	2.14	0.56
39:BD:35:LYS:N	39:BD:36:PRO:CD	2.65	0.56
40:BE:65:GLY:O	40:BE:66:HIS:C	2.47	0.56
49:BQ:79:LEU:HD23	49:BQ:80:GLU:N	2.20	0.56
53:BU:57:PHE:C	53:BU:59:ARG:H	2.13	0.56
53:BU:66:ASN:ND2	53:BU:76:TYR:HB2	2.20	0.56
53:BU:108:GLU:O	53:BU:112:ARG:HG2	2.06	0.56
56:BX:26:TYR:HD2	56:BX:92:LEU:HD12	1.70	0.56
57:BY:6:HIS:H	57:BY:6:HIS:HD2	1.54	0.56
1:AA:1112:C:O2	3:AC:179:ARG:HG3	2.06	0.56
4:AD:8:VAL:HB	4:AD:21:LEU:HD12	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:11:ILE:CG2	5:AE:105:VAL:HG22	2.36	0.56
11:AK:108:ILE:N	11:AK:108:ILE:HD12	2.20	0.56
16:AP:82:GLN:O	16:AP:83:GLU:HB2	2.05	0.56
19:AS:50:ALA:HB1	19:AS:57:HIS:HB3	1.86	0.56
25:AZ:65:THR:HG22	25:AZ:82:CYS:HA	1.87	0.56
27:B1:27:GLU:CG	27:B1:28:GLY:H	2.19	0.56
28:B2:7:ARG:HH11	28:B2:7:ARG:HG2	1.70	0.56
33:B7:7:PRO:HG3	36:BA:1612:C:H5'	1.87	0.56
35:B9:13:LYS:HD2	35:B9:28:GLU:HB2	1.88	0.56
36:BA:523:C:O2'	36:BA:524:U:H5'	2.06	0.56
36:BA:810:U:OP1	36:BA:1253:A:N7	2.39	0.56
36:BA:1240:U:O2'	36:BA:1241:A:H5'	2.06	0.56
36:BA:1333:C:O5'	36:BA:1333:C:H6	1.89	0.56
40:BE:65:GLY:HA2	40:BE:70:ALA:CB	2.36	0.56
43:BH:152:ARG:O	43:BH:162:ILE:HG22	2.06	0.56
49:BQ:32:TYR:O	49:BQ:105:GLU:HB2	2.05	0.56
51:BS:66:ALA:HA	51:BS:69:VAL:HG12	1.86	0.56
56:BX:30:VAL:HG11	56:BX:39:ILE:CD1	2.35	0.56
58:BZ:67:LEU:HD12	58:BZ:67:LEU:N	2.21	0.56
1:AA:61:G:H2'	1:AA:62:U:O4'	2.06	0.55
1:AA:169:C:H2'	1:AA:170:U:H5'	1.87	0.55
1:AA:197:A:H4'	1:AA:198:G:O5'	2.06	0.55
1:AA:983:A:O2'	1:AA:1050:G:OP2	2.24	0.55
1:AA:1152:A:OP1	10:AJ:68:HIS:HD2	1.88	0.55
2:AB:42:ILE:CD1	2:AB:202:PRO:HB2	2.36	0.55
2:AB:193:ASP:OD2	2:AB:193:ASP:O	2.23	0.55
9:AI:95:LYS:NZ	9:AI:96:LEU:HD13	2.21	0.55
12:AL:86:ARG:O	12:AL:86:ARG:HG2	2.05	0.55
13:AM:29:ARG:O	13:AM:32:GLU:HB3	2.06	0.55
14:AN:32:SER:CB	14:AN:41:ARG:HG2	2.33	0.55
25:AZ:46:ASP:OD1	25:AZ:183:HIS:HE1	1.89	0.55
26:B0:69:PHE:HB2	36:BA:857:C:OP1	2.07	0.55
27:B1:80:LEU:HD13	27:B1:82:LEU:HD21	1.87	0.55
32:B6:10:LEU:HD12	34:B8:34:TRP:CD1	2.40	0.55
32:B6:11:LEU:HD21	32:B6:51:GLU:HG2	1.87	0.55
32:B6:15:GLU:OE1	32:B6:18:ARG:CD	2.54	0.55
34:B8:50:LEU:N	34:B8:53:PRO:HD3	2.18	0.55
36:BA:1173:G:H5'	36:BA:1174:A:O5'	2.06	0.55
36:BA:1448:G:H1'	36:BA:1528:A:N6	2.21	0.55
36:BA:1528(A):A:C8	36:BA:1529:G:C8	2.95	0.55
36:BA:1722:A:C2	36:BA:1740:G:H8	2.24	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2472:G:H3'	36:BA:2475:C:N4	2.21	0.55
38:BC:124:GLY:O	38:BC:128:GLY:HA3	2.06	0.55
41:BF:107:LYS:O	41:BF:110:LEU:N	2.39	0.55
41:BF:155:LEU:HD12	41:BF:174:VAL:O	2.06	0.55
41:BF:170:LEU:HD13	41:BF:171:PRO:HD2	1.87	0.55
46:BN:3:THR:HG22	46:BN:4:TYR:N	2.17	0.55
46:BN:48:MET:HE3	46:BN:49:GLY:N	2.21	0.55
48:BP:144:GLU:N	48:BP:145:PRO:HD3	2.21	0.55
52:BT:27:THR:HG21	52:BT:49:VAL:HB	1.88	0.55
52:BT:28:VAL:HG13	52:BT:46:GLU:CA	2.34	0.55
52:BT:96:ARG:HB2	52:BT:96:ARG:HH11	1.70	0.55
55:BW:1:MET:HA	55:BW:1:MET:HE3	1.88	0.55
57:BY:13:VAL:CG1	57:BY:28:LYS:HD3	2.36	0.55
1:AA:454:C:H5"	1:AA:455:C:C5	2.41	0.55
1:AA:909:A:OP1	12:AL:21:LYS:HD3	2.06	0.55
1:AA:1120:G:H2'	1:AA:1121:U:C6	2.39	0.55
4:AD:103:ASN:O	4:AD:106:TYR:HB3	2.07	0.55
11:AK:59:TYR:CE1	11:AK:63:LEU:HD21	2.41	0.55
25:AZ:321:TYR:HD1	25:AZ:367:ASN:HD22	1.54	0.55
29:B3:23:LEU:CD2	29:B3:50:VAL:HG11	2.36	0.55
32:B6:19:ARG:CG	32:B6:20:ASN:N	2.69	0.55
34:B8:32:LEU:HD12	34:B8:36:LYS:HZ3	1.71	0.55
36:BA:77:C:H2'	36:BA:78:A:C8	2.42	0.55
36:BA:310:A:P	57:BY:18:GLY:HA2	2.47	0.55
36:BA:1010:A:H1'	36:BA:1153:C:C1'	2.34	0.55
36:BA:1106:G:H2'	36:BA:1107:G:O4'	2.05	0.55
36:BA:1349:A:N6	36:BA:1598:C:N4	2.54	0.55
36:BA:2133:G:H1'	36:BA:2158:A:H61	1.72	0.55
36:BA:2195:C:O2'	36:BA:2196:C:H5'	2.06	0.55
36:BA:2295:C:H2'	36:BA:2296:U:H6	1.72	0.55
36:BA:2839:G:H2'	36:BA:2840:C:C6	2.41	0.55
40:BE:4:ILE:O	40:BE:4:ILE:HG23	2.06	0.55
41:BF:202:PHE:CE2	41:BF:206:ILE:HG13	2.41	0.55
42:BG:171:ALA:HA	42:BG:174:GLU:HB3	1.87	0.55
53:BU:24:TYR:CB	53:BU:29:SER:HB3	2.16	0.55
53:BU:34:LYS:HE2	53:BU:34:LYS:HA	1.88	0.55
57:BY:2:ARG:CD	57:BY:3:VAL:HG23	2.37	0.55
1:AA:1429:C:H2'	1:AA:1430:C:H6	1.71	0.55
2:AB:60:ASP:CB	2:AB:64:ARG:HH21	2.18	0.55
12:AL:8:ASN:ND2	17:AQ:34:LYS:HE2	2.21	0.55
13:AM:23:TYR:HB3	13:AM:67:GLU:HB3	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AP:21:VAL:CG1	16:AP:34:GLU:HB3	2.36	0.55
18:AR:36:ASN:HB2	18:AR:39:VAL:HG23	1.89	0.55
19:AS:28:LYS:HE2	19:AS:29:ARG:CZ	2.36	0.55
19:AS:41:VAL:HG23	19:AS:44:MET:HG2	1.88	0.55
19:AS:62:ILE:HD12	19:AS:66:MET:HG3	1.87	0.55
27:B1:4:VAL:HG23	27:B1:11:ARG:HG2	1.89	0.55
36:BA:43:A:O2'	36:BA:44:G:H5'	2.06	0.55
36:BA:2126:A:H1'	36:BA:2127:G:C8	2.41	0.55
38:BC:10:LEU:HD22	38:BC:10:LEU:N	2.21	0.55
38:BC:51:PRO:HG2	38:BC:52:ARG:H	1.72	0.55
39:BD:242:ARG:HD2	39:BD:242:ARG:N	2.21	0.55
42:BG:37:VAL:HG21	42:BG:103:LEU:HD12	1.88	0.55
46:BN:35:ARG:NH2	46:BN:42:TRP:HH2	2.04	0.55
48:BP:23:PRO:C	48:BP:33:ARG:NE	2.65	0.55
51:BS:15:ARG:NH1	51:BS:18:ILE:HD11	2.19	0.55
58:BZ:44:PHE:CD1	58:BZ:44:PHE:C	2.85	0.55
1:AA:189(J):G:O2'	1:AA:189(K):U:H5'	2.06	0.55
1:AA:368:U:P	25:AZ:291:ARG:HH11	2.29	0.55
1:AA:714:G:H2'	1:AA:715:A:C8	2.41	0.55
1:AA:1019:C:O2'	1:AA:1020:U:H5'	2.05	0.55
2:AB:8:LYS:O	2:AB:10:LEU:N	2.40	0.55
2:AB:111:ARG:O	2:AB:145:LEU:HD11	2.07	0.55
3:AC:130:VAL:HG12	3:AC:134:ILE:HD11	1.87	0.55
15:AO:32:LEU:HD12	15:AO:63:ARG:HB2	1.87	0.55
19:AS:49:ILE:O	19:AS:60:VAL:HG13	2.06	0.55
24:AY:68:C:H2'	24:AY:69:C:C6	2.41	0.55
25:AZ:298:VAL:HA	25:AZ:302:GLN:OE1	2.06	0.55
26:B0:40:GLN:HE22	26:B0:43:THR:HA	1.72	0.55
30:B4:9:LEU:O	30:B4:10:VAL:HB	2.07	0.55
31:B5:2:ALA:HA	36:BA:2015:A:C1'	2.30	0.55
31:B5:2:ALA:CA	36:BA:2015:A:H1'	2.30	0.55
31:B5:48:GLU:O	31:B5:49:CYS:CB	2.54	0.55
36:BA:628:G:O2'	36:BA:629:G:H5"	2.05	0.55
36:BA:671:C:H2'	36:BA:672:C:C6	2.42	0.55
36:BA:723:G:H2'	36:BA:724:U:H6	1.66	0.55
36:BA:1064:C:C3'	36:BA:1065:U:H5"	2.37	0.55
36:BA:1188:U:H4'	54:BV:79:VAL:CG1	2.37	0.55
36:BA:1429:G:H2'	36:BA:1430:C:C6	2.40	0.55
36:BA:2469:A:N3	36:BA:2469:A:H5'	2.22	0.55
40:BE:108:SER:O	40:BE:162:ALA:HA	2.07	0.55
41:BF:9:ILE:HG12	41:BF:14:PRO:CA	2.30	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BN:22:THR:OG1	46:BN:25:ARG:HB2	2.06	0.55
51:BS:49:VAL:HG12	51:BS:50:SER:N	2.12	0.55
54:BV:17:GLY:C	54:BV:18:LEU:HD13	2.30	0.55
1:AA:189(I):G:H2'	1:AA:189(J):G:C8	2.42	0.55
1:AA:370:C:O2'	1:AA:371:G:H5'	2.06	0.55
1:AA:735:C:H2'	1:AA:736:C:H6	1.70	0.55
1:AA:1234:C:H2'	1:AA:1235:U:H6	1.71	0.55
1:AA:1443:G:H2'	1:AA:1443:G:N3	2.21	0.55
1:AA:1498:U:C4'	1:AA:1519:A:H2	2.19	0.55
2:AB:42:ILE:HD12	2:AB:202:PRO:C	2.32	0.55
3:AC:60:ALA:HB3	3:AC:63:ASN:ND2	2.22	0.55
3:AC:153:VAL:O	3:AC:154:SER:CB	2.54	0.55
4:AD:61:LYS:CE	4:AD:62:GLN:NE2	2.68	0.55
5:AE:41:VAL:HG13	5:AE:113:ALA:HA	1.89	0.55
19:AS:19:VAL:O	19:AS:23:ASN:HB2	2.06	0.55
25:AZ:341:GLN:N	25:AZ:341:GLN:NE2	2.53	0.55
34:B8:14:VAL:HG21	34:B8:22:VAL:HG12	1.89	0.55
36:BA:64:A:C2	56:BX:66:LEU:HD13	2.42	0.55
36:BA:71:A:H5"	36:BA:73:A:C8	2.41	0.55
36:BA:880:G:H1	36:BA:897:C:H42	1.55	0.55
36:BA:1551:C:H2'	36:BA:1552:G:O4'	2.07	0.55
36:BA:1831:G:H2'	36:BA:1832:C:C6	2.42	0.55
36:BA:2078:C:H2'	36:BA:2079:U:C6	2.42	0.55
36:BA:2791:C:H41	36:BA:2801(A):A:H62	1.53	0.55
37:BB:56:G:H4'	37:BB:57:A:O5'	2.06	0.55
39:BD:72:LYS:HD2	39:BD:103:ARG:HH11	1.71	0.55
40:BE:134:ILE:C	40:BE:134:ILE:HD12	2.31	0.55
41:BF:126:VAL:HG21	41:BF:129:PHE:CZ	2.42	0.55
43:BH:139:GLN:O	43:BH:143:GLN:HB2	2.06	0.55
48:BP:24:GLY:CA	48:BP:33:ARG:NH1	2.67	0.55
50:BR:18:LEU:HD13	50:BR:18:LEU:C	2.32	0.55
53:BU:9:VAL:O	53:BU:13:LYS:HG2	2.05	0.55
53:BU:38:THR:O	53:BU:41:ALA:HB3	2.06	0.55
54:BV:39:LEU:N	54:BV:39:LEU:HD22	2.22	0.55
3:AC:131:ARG:HH11	3:AC:166:GLU:HG3	1.72	0.55
8:AH:89:PRO:HA	8:AH:92:ARG:HH11	1.71	0.55
11:AK:17:GLY:O	11:AK:80:VAL:HA	2.06	0.55
12:AL:47:LYS:CB	12:AL:48:PRO:CD	2.74	0.55
16:AP:67:THR:HG22	16:AP:68:ASP:N	2.21	0.55
18:AR:53:ARG:C	18:AR:55:ARG:N	2.63	0.55
26:B0:36:ILE:HA	26:B0:60:PHE:HA	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B6:19:ARG:O	32:B6:20:ASN:O	2.25	0.55
36:BA:341:G:O2'	36:BA:342:G:H5'	2.06	0.55
36:BA:598:G:H2'	36:BA:599:G:O4'	2.07	0.55
36:BA:1349:A:N6	36:BA:1598:C:H42	2.05	0.55
36:BA:2024:G:H2'	36:BA:2025:C:C6	2.42	0.55
36:BA:2185:C:H2'	36:BA:2186:G:C5'	2.34	0.55
38:BC:132:GLY:N	38:BC:133:PRO:CD	2.69	0.55
42:BG:110:ALA:HB2	42:BG:140:ILE:HD13	1.89	0.55
44:BJ:23:UNK:HA	44:BJ:118:UNK:CB	2.36	0.55
46:BN:94:HIS:HA	46:BN:96:GLU:OE1	2.07	0.55
46:BN:103:VAL:O	46:BN:104:LYS:C	2.50	0.55
46:BN:108:PRO:HG2	46:BN:113:GLY:HA3	1.88	0.55
48:BP:57:THR:C	48:BP:59:LEU:H	2.14	0.55
49:BQ:109:VAL:HG13	49:BQ:113:GLN:OE1	2.06	0.55
51:BS:66:ALA:CB	51:BS:99:LYS:HD3	2.37	0.55
51:BS:106:ARG:O	51:BS:106:ARG:HD2	2.07	0.55
52:BT:46:GLU:O	52:BT:65:LYS:HD2	2.07	0.55
56:BX:21:PHE:O	56:BX:22:ALA:C	2.49	0.55
58:BZ:30:ASN:O	58:BZ:32:HIS:N	2.40	0.55
1:AA:269:C:H2'	1:AA:270:A:H8	1.71	0.55
1:AA:575:G:H4'	1:AA:576:G:C5'	2.37	0.55
1:AA:1270:C:H6	1:AA:1270:C:H5"	1.72	0.55
1:AA:1525:G:O2'	1:AA:1526:G:H5'	2.07	0.55
4:AD:150:GLU:CD	4:AD:151:LYS:H	2.11	0.55
12:AL:24:VAL:O	12:AL:24:VAL:CG1	2.54	0.55
19:AS:41:VAL:CG2	19:AS:44:MET:HG2	2.36	0.55
22:AV:4:C:H2'	22:AV:5:G:C5'	2.33	0.55
25:AZ:140:MET:HE3	61:AZ:501:GCP:HN21	1.72	0.55
25:AZ:145:GLU:O	25:AZ:145:GLU:CG	2.54	0.55
25:AZ:161:TYR:O	25:AZ:162:GLU:HB2	2.07	0.55
32:B6:5:VAL:O	32:B6:6:ARG:HB2	2.07	0.55
36:BA:61:G:H1	36:BA:94:C:N4	1.97	0.55
36:BA:337:C:OP1	57:BY:6:HIS:O	2.25	0.55
36:BA:610:G:N2	36:BA:619:G:H1'	2.22	0.55
36:BA:1858:G:O2'	36:BA:1884:A:N6	2.39	0.55
36:BA:2363:C:O2'	36:BA:2364:C:H5'	2.06	0.55
36:BA:2717:G:O2'	52:BT:96:ARG:HD3	2.07	0.55
36:BA:2854:G:H2'	36:BA:2855:C:H6	1.71	0.55
37:BB:114:C:H2'	37:BB:115:G:H8	1.71	0.55
39:BD:35:LYS:CB	39:BD:63:ARG:HA	2.36	0.55
39:BD:218:ARG:HH11	39:BD:218:ARG:HG3	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:197:ILE:HD11	40:BE:199:ARG:NH2	2.22	0.55
41:BF:129:PHE:C	41:BF:131:GLY:H	2.13	0.55
41:BF:137:LYS:HA	41:BF:140:LEU:HB3	1.87	0.55
42:BG:16:ARG:HD3	42:BG:31:VAL:HG21	1.87	0.55
42:BG:107:LEU:HD22	42:BG:177:GLY:O	2.05	0.55
46:BN:28:THR:CG2	46:BN:29:LYS:H	2.18	0.55
48:BP:47:ASP:HB3	48:BP:48:PRO:C	2.32	0.55
49:BQ:32:TYR:CE2	49:BQ:111:GLU:HG3	2.40	0.55
49:BQ:70:PRO:HA	49:BQ:94:VAL:O	2.07	0.55
50:BR:11:ASN:O	50:BR:12:ARG:CB	2.55	0.55
51:BS:65:VAL:O	51:BS:69:VAL:HG12	2.06	0.55
53:BU:85:LYS:CD	53:BU:117:GLN:HE22	2.20	0.55
1:AA:946:A:H2'	1:AA:947:G:C8	2.41	0.55
1:AA:979:C:C3'	1:AA:980:C:C5'	2.81	0.55
1:AA:1402:C:H2'	1:AA:1403:C:O4'	2.07	0.55
5:AE:110:LEU:HD13	5:AE:118:ILE:HD13	1.88	0.55
8:AH:103:VAL:HB	8:AH:109:ILE:H	1.71	0.55
11:AK:111:ASP:O	11:AK:111:ASP:OD2	2.24	0.55
15:AO:29:VAL:CG1	15:AO:67:LEU:HD21	2.36	0.55
24:AY:1:A:C5'	25:AZ:90:LYS:NZ	2.58	0.55
25:AZ:188:THR:O	25:AZ:188:THR:HG22	2.07	0.55
28:B2:25:VAL:C	28:B2:27:GLU:N	2.62	0.55
36:BA:272(D):G:H1	36:BA:364:C:H42	1.52	0.55
36:BA:654(M):C:H2'	36:BA:654(N):G:N7	2.21	0.55
36:BA:894:C:C2'	36:BA:895:U:H5'	2.37	0.55
36:BA:996:A:H61	36:BA:1159:U:H3	1.55	0.55
36:BA:2197:U:H1'	36:BA:2198:A:C8	2.42	0.55
38:BC:215:THR:CB	38:BC:221:SER:HA	2.36	0.55
40:BE:81:ILE:O	40:BE:81:ILE:HG22	2.07	0.55
42:BG:36:LYS:HD3	42:BG:38:VAL:HG23	1.89	0.55
42:BG:103:LEU:HD21	42:BG:178:PHE:HZ	1.70	0.55
43:BH:98:LEU:HD12	43:BH:102:ALA:O	2.06	0.55
1:AA:122:G:H8	1:AA:122:G:O5'	1.90	0.55
1:AA:158:G:H2'	1:AA:159:G:C8	2.41	0.55
1:AA:266:G:H5'	1:AA:268:C:H41	1.71	0.55
1:AA:1228:C:OP1	13:AM:108:ARG:NH2	2.35	0.55
1:AA:1308:U:H2'	1:AA:1309:G:C8	2.42	0.55
1:AA:1327:C:H5"	21:AU:20:LYS:HD3	1.89	0.55
1:AA:1329:A:P	13:AM:28:ALA:HB3	2.46	0.55
1:AA:1369:C:H2'	1:AA:1370:G:C8	2.42	0.55
6:AF:74:ASP:HB3	6:AF:77:ARG:HH21	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:75:VAL:HG12	7:AG:88:PRO:CB	2.31	0.55
9:AI:40:LEU:O	9:AI:42:ARG:N	2.38	0.55
15:AO:82:ILE:HD11	15:AO:87:ILE:C	2.31	0.55
17:AQ:60:ILE:HG23	17:AQ:62:SER:OG	2.07	0.55
19:AS:40:ILE:HG22	19:AS:67:VAL:HA	1.89	0.55
28:B2:47:ASN:ND2	36:BA:94(A):G:N3	2.55	0.55
36:BA:674:G:C1'	41:BF:74:ARG:HD3	2.36	0.55
36:BA:803:U:O2'	36:BA:804:A:H5'	2.06	0.55
36:BA:2839:G:H1'	50:BR:93:GLY:H	1.72	0.55
38:BC:99:ILE:HG23	38:BC:102:LYS:HD2	1.89	0.55
38:BC:171:ILE:HG12	38:BC:196:LEU:HD21	1.88	0.55
39:BD:60:ARG:HG3	39:BD:86:PRO:CB	2.34	0.55
41:BF:195:ASP:HB3	41:BF:198:ALA:HB3	1.89	0.55
48:BP:114:ILE:CG2	48:BP:130:PHE:CD1	2.89	0.55
49:BQ:76:LYS:CB	49:BQ:91:GLU:HG3	2.29	0.55
50:BR:21:TYR:OH	50:BR:43:GLU:HG2	2.07	0.55
50:BR:82:GLU:O	50:BR:86:ARG:HG3	2.07	0.55
56:BX:12:VAL:CG2	56:BX:13:LEU:N	2.69	0.55
1:AA:338:A:O2'	1:AA:339:C:H5'	2.07	0.55
1:AA:426:G:H2'	1:AA:427:U:C6	2.42	0.55
1:AA:1291:G:H4'	9:AI:39:GLY:HA3	1.89	0.55
2:AB:8:LYS:C	2:AB:10:LEU:N	2.64	0.55
7:AG:111:ARG:HD2	7:AG:123:GLU:HB2	1.88	0.55
20:AT:47:GLY:O	20:AT:49:ALA:N	2.33	0.55
28:B2:33:MET:HE1	56:BX:46:ALA:HB1	1.89	0.55
30:B4:7:PRO:O	30:B4:8:LYS:CB	2.55	0.55
36:BA:110:G:O2'	36:BA:111:A:H5'	2.07	0.55
36:BA:968:G:O2'	36:BA:969:U:H5'	2.07	0.55
36:BA:1341:U:OP1	36:BA:1397:U:N3	2.36	0.55
36:BA:1568:G:P	39:BD:63:ARG:HH22	2.29	0.55
36:BA:2008:C:H2'	36:BA:2009:G:H8	1.71	0.55
36:BA:2632:A:C2	40:BE:61:ARG:HD2	2.42	0.55
36:BA:2881:C:C2	36:BA:2882:A:C8	2.94	0.55
37:BB:15:A:H1'	37:BB:110:G:C5	2.42	0.55
40:BE:200:GLU:OE2	40:BE:200:GLU:N	2.40	0.55
43:BH:143:GLN:HA	43:BH:143:GLN:NE2	2.19	0.55
48:BP:92:GLU:HG3	48:BP:121:LYS:NZ	2.22	0.55
49:BQ:109:VAL:HG12	49:BQ:113:GLN:HB2	1.89	0.55
54:BV:61:VAL:HG23	54:BV:61:VAL:O	2.05	0.55
58:BZ:79:ARG:O	58:BZ:80:ARG:C	2.49	0.55
1:AA:346:G:HO2'	1:AA:347:G:H8	1.53	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:414:A:H2'	1:AA:415:A:O4'	2.07	0.54
3:AC:6:HIS:CD2	3:AC:8:ILE:HB	2.43	0.54
5:AE:80:ILE:HG21	5:AE:142:LEU:HD23	1.89	0.54
11:AK:50:TYR:OH	11:AK:59:TYR:HE2	1.90	0.54
11:AK:87:THR:HG22	11:AK:88:GLY:N	2.23	0.54
25:AZ:143:ASP:O	25:AZ:144:PRO:C	2.50	0.54
29:B3:35:ARG:HG2	29:B3:36:VAL:N	2.22	0.54
32:B6:33:LYS:O	32:B6:34:LEU:HB2	2.07	0.54
36:BA:813:U:H2'	36:BA:814:C:C6	2.41	0.54
36:BA:968:G:H2'	36:BA:969:U:C6	2.42	0.54
36:BA:2174:C:H5'	38:BC:3:HIS:NE2	2.21	0.54
36:BA:2892:A:N7	36:BA:2893:G:N3	2.55	0.54
38:BC:186:ALA:HB1	38:BC:190:ARG:CZ	2.36	0.54
39:BD:9:TYR:CD2	39:BD:10:THR:HG22	2.42	0.54
39:BD:131:LEU:HB2	39:BD:136:ILE:CD1	2.37	0.54
42:BG:28:VAL:O	42:BG:28:VAL:HG12	2.07	0.54
42:BG:60:LEU:O	42:BG:63:ILE:HG12	2.06	0.54
48:BP:146:VAL:O	48:BP:148:LEU:HG	2.07	0.54
50:BR:63:ARG:HG3	50:BR:80:PHE:CE2	2.40	0.54
51:BS:25:ARG:NH2	51:BS:40:ILE:HD11	2.21	0.54
51:BS:106:ARG:HB3	51:BS:106:ARG:HH11	1.73	0.54
54:BV:40:LEU:HA	54:BV:45:THR:HB	1.89	0.54
1:AA:319:G:O2'	1:AA:320:C:H5'	2.07	0.54
1:AA:344:A:O2'	1:AA:345:C:OP1	2.24	0.54
1:AA:534:U:H5'	1:AA:534:U:C6	2.41	0.54
1:AA:1216:G:OP1	14:AN:2:ALA:CB	2.56	0.54
1:AA:1503:A:HO2'	23:AX:16:A:N6	2.05	0.54
3:AC:101:LEU:HD23	3:AC:101:LEU:C	2.32	0.54
3:AC:153:VAL:O	3:AC:154:SER:HB3	2.07	0.54
7:AG:27:ILE:HD13	7:AG:40:ALA:HA	1.88	0.54
17:AQ:91:ARG:HH11	17:AQ:91:ARG:CB	2.20	0.54
19:AS:40:ILE:HD13	19:AS:62:ILE:CD1	2.38	0.54
20:AT:16:HIS:O	20:AT:19:SER:HB3	2.07	0.54
20:AT:41:ILE:HG22	20:AT:91:LEU:CD1	2.38	0.54
22:AV:65:G:H2'	22:AV:66:U:C6	2.42	0.54
25:AZ:222:LEU:HD23	25:AZ:243:GLU:HG2	1.88	0.54
25:AZ:335:PHE:C	25:AZ:337:GLY:H	2.16	0.54
26:B0:26:TYR:N	26:B0:26:TYR:CD1	2.74	0.54
27:B1:17:SER:O	27:B1:37:ILE:HA	2.07	0.54
28:B2:28:LYS:O	28:B2:53:LEU:HD21	2.07	0.54
30:B4:25:TYR:O	30:B4:26:SER:HB3	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:B7:8:ASN:ND2	33:B7:10:ARG:N	2.55	0.54
36:BA:94:C:H2'	36:BA:94:C:O2	2.07	0.54
36:BA:315:G:H2'	36:BA:316:C:C6	2.42	0.54
36:BA:426:C:O2'	36:BA:427:U:H5'	2.07	0.54
36:BA:587:C:H4'	36:BA:588:U:OP2	2.06	0.54
36:BA:761:A:C8	36:BA:761:A:O5'	2.60	0.54
36:BA:1053:C:H2'	36:BA:1054:A:C8	2.39	0.54
36:BA:1543:C:C3'	36:BA:1544:A:H5"	2.34	0.54
36:BA:1605:C:O4'	36:BA:1610:A:C6	2.60	0.54
36:BA:2020:A:OP1	53:BU:27:LEU:HD13	2.07	0.54
36:BA:2672:G:C2'	36:BA:2673:G:H5"	2.37	0.54
38:BC:100:ILE:HD12	38:BC:126:LYS:HE2	1.88	0.54
46:BN:23:LEU:HB3	46:BN:60:ILE:HG21	1.87	0.54
49:BQ:48:GLU:HA	49:BQ:51:ARG:HB3	1.88	0.54
49:BQ:87:LYS:O	49:BQ:88:GLY:O	2.24	0.54
51:BS:35:ILE:HD11	51:BS:99:LYS:HE3	1.89	0.54
52:BT:28:VAL:HG22	52:BT:47:GLY:H	1.69	0.54
57:BY:6:HIS:CD2	57:BY:6:HIS:N	2.72	0.54
1:AA:261:U:O2	1:AA:263:A:C8	2.61	0.54
1:AA:398:C:O5'	1:AA:398:C:H6	1.90	0.54
1:AA:1030(C):G:O2'	1:AA:1030(D):A:H5'	2.07	0.54
1:AA:1202:G:C2	14:AN:42:ILE:HG21	2.43	0.54
1:AA:1236:A:H4'	1:AA:1304:G:H4'	1.90	0.54
7:AG:137:LYS:O	7:AG:138:LYS:C	2.49	0.54
17:AQ:58:GLU:OE1	17:AQ:75:ARG:NE	2.41	0.54
20:AT:37:SER:O	20:AT:41:ILE:HG12	2.08	0.54
24:AY:75:C:C6	25:AZ:230:THR:O	2.60	0.54
27:B1:65:SER:O	27:B1:66:HIS:ND1	2.40	0.54
28:B2:9:GLN:O	28:B2:13:ALA:HB2	2.06	0.54
35:B9:1:MET:HA	35:B9:4:ARG:CZ	2.37	0.54
36:BA:1164:G:O2'	36:BA:1165:U:H5'	2.07	0.54
36:BA:1400:G:H2'	36:BA:1401:G:H8	1.72	0.54
36:BA:1528(A):A:H8	36:BA:1529:G:C8	2.24	0.54
36:BA:1682:G:H2'	36:BA:1683:C:C6	2.42	0.54
36:BA:1997:G:OP1	40:BE:123:ALA:HB1	2.07	0.54
36:BA:2787:C:C2	40:BE:61:ARG:HD3	2.42	0.54
37:BB:87:G:H5"	37:BB:88:C:OP2	2.08	0.54
38:BC:175:VAL:HG11	38:BC:189:ILE:HG13	1.89	0.54
39:BD:63:ARG:O	39:BD:65:ILE:HD13	2.06	0.54
40:BE:61:ARG:HG2	40:BE:62:PRO:HD3	1.89	0.54
43:BH:118:PRO:HG2	43:BH:121:ILE:HD12	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BQ:26:TYR:CE1	49:BQ:28:ALA:HB2	2.42	0.54
51:BS:49:VAL:O	51:BS:50:SER:HB3	2.07	0.54
52:BT:29:ARG:HE	52:BT:86:ILE:CG2	2.20	0.54
52:BT:62:THR:HG22	52:BT:75:ILE:HG23	1.90	0.54
58:BZ:108:PRO:HG2	58:BZ:111:VAL:CG2	2.38	0.54
1:AA:1196:U:H5"	23:AX:26:A:N1	2.22	0.54
3:AC:10:PHE:CE2	3:AC:178:LEU:HD13	2.42	0.54
7:AG:80:VAL:HG12	7:AG:81:GLY:H	1.71	0.54
10:AJ:40:LEU:HD23	10:AJ:69:ASN:O	2.06	0.54
25:AZ:342:PHE:HB2	25:AZ:344:PHE:CE1	2.42	0.54
32:B6:35:GLU:OE1	32:B6:35:GLU:HA	2.07	0.54
32:B6:53:LYS:CD	32:B6:54:ILE:H	2.17	0.54
36:BA:78:A:H2'	36:BA:79:G:H8	1.72	0.54
36:BA:483:A:H1'	57:BY:60:PHE:CZ	2.42	0.54
36:BA:545:C:H2'	36:BA:547:A:C8	2.42	0.54
36:BA:761:A:H8	36:BA:761:A:O5'	1.91	0.54
36:BA:995:C:O4'	53:BU:57:PHE:HD1	1.90	0.54
36:BA:2538:C:H2'	36:BA:2539:C:C6	2.42	0.54
38:BC:114:VAL:HG21	38:BC:149:ILE:HD11	1.90	0.54
39:BD:183:ARG:HH11	39:BD:183:ARG:HG2	1.72	0.54
40:BE:38:THR:C	40:BE:40:GLU:H	2.15	0.54
41:BF:160:ASN:HD21	41:BF:162:LEU:CD1	2.14	0.54
52:BT:33:LYS:NZ	52:BT:43:GLN:HG2	2.22	0.54
53:BU:46:ALA:O	53:BU:47:TYR:C	2.51	0.54
54:BV:45:THR:O	54:BV:46:VAL:HG12	2.07	0.54
1:AA:860:A:H2'	1:AA:861:G:O4'	2.08	0.54
1:AA:939:G:C5'	7:AG:102:ARG:NH2	2.67	0.54
1:AA:1118:C:OP1	9:AI:104:ARG:NH1	2.41	0.54
1:AA:1323:G:H2'	1:AA:1324:A:C8	2.43	0.54
2:AB:97:TRP:CZ2	2:AB:173:ALA:HA	2.42	0.54
7:AG:72:ARG:HA	7:AG:96:GLN:NE2	2.20	0.54
13:AM:87:TYR:HE1	19:AS:81:ARG:NH2	2.05	0.54
14:AN:55:GLY:O	14:AN:56:VAL:O	2.25	0.54
25:AZ:138:VAL:HG23	25:AZ:173:GLY:O	2.06	0.54
29:B3:1:MET:HE1	29:B3:40:THR:HG22	1.88	0.54
29:B3:19:GLN:HE22	29:B3:52:HIS:HE1	1.55	0.54
29:B3:31:LEU:O	36:BA:1158:C:H4'	2.08	0.54
35:B9:10:ILE:H	35:B9:10:ILE:HD12	1.73	0.54
36:BA:653:A:N3	36:BA:653:A:H2'	2.21	0.54
36:BA:1067:A:C3'	36:BA:1068:G:H5"	2.34	0.54
36:BA:1257:C:H2'	36:BA:1258:C:C6	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1308:A:H2'	36:BA:1309:G:O4'	2.07	0.54
36:BA:1654:A:C2	40:BE:113:PHE:CD2	2.96	0.54
36:BA:2649:U:H2'	36:BA:2650:U:C6	2.42	0.54
36:BA:2688:U:O2	36:BA:2688:U:H3'	2.07	0.54
36:BA:2845:G:O2'	36:BA:2846:G:H5'	2.07	0.54
37:BB:75:G:H2'	58:BZ:85:HIS:CE1	2.42	0.54
40:BE:64:LYS:O	40:BE:64:LYS:HG2	2.07	0.54
40:BE:142:GLY:C	40:BE:143:ASN:HD22	2.14	0.54
42:BG:42:GLY:CA	42:BG:90:LEU:H	2.20	0.54
42:BG:85:GLY:C	42:BG:87:PRO:CD	2.80	0.54
46:BN:44:PRO:O	46:BN:45:ASN:HB3	2.06	0.54
48:BP:115:LEU:N	48:BP:115:LEU:HD23	2.22	0.54
51:BS:30:ARG:HH22	51:BS:62:LYS:CD	2.21	0.54
54:BV:62:LEU:HD21	54:BV:95:LEU:HB2	1.89	0.54
58:BZ:105:VAL:O	58:BZ:141:VAL:HG23	2.07	0.54
1:AA:135:C:H2'	1:AA:136:C:H5'	1.89	0.54
1:AA:192:U:H2'	1:AA:193:C:C6	2.34	0.54
1:AA:632:A:C2	1:AA:633:G:H1'	2.43	0.54
1:AA:1153:C:O2'	1:AA:1154:G:P	2.65	0.54
2:AB:51:LEU:HD23	2:AB:201:ILE:HD12	1.88	0.54
2:AB:122:PHE:HA	2:AB:139:LYS:HZ1	1.72	0.54
19:AS:29:ARG:N	19:AS:29:ARG:HD2	2.22	0.54
36:BA:298:G:OP2	36:BA:298:G:C8	2.61	0.54
36:BA:614(A):U:C4'	36:BA:614(B):G:H5"	2.36	0.54
36:BA:884:C:C2'	36:BA:885:C:H5'	2.31	0.54
36:BA:1086:A:H3'	36:BA:1086:A:N3	2.23	0.54
36:BA:1270:C:H5"	36:BA:1271:G:O5'	2.08	0.54
36:BA:1794:U:H2'	36:BA:1795:C:H6	1.68	0.54
36:BA:1844:C:H5'	39:BD:256:GLY:O	2.07	0.54
36:BA:2061:G:H5"	36:BA:2503:A:C2	2.42	0.54
36:BA:2305:A:H5"	42:BG:134:GLY:HA3	1.89	0.54
36:BA:2735:G:H2'	36:BA:2736:G:H8	1.72	0.54
37:BB:70:C:O2'	37:BB:71:C:H5'	2.08	0.54
38:BC:50:ASP:OD2	38:BC:53:ARG:HG3	2.08	0.54
41:BF:2:LYS:HG3	41:BF:25:PRO:HG2	1.88	0.54
41:BF:34:TRP:CE3	48:BP:12:ALA:HA	2.43	0.54
42:BG:85:GLY:C	42:BG:87:PRO:HD3	2.32	0.54
47:BO:64:ARG:NH2	47:BO:100:GLY:HA3	2.22	0.54
48:BP:146:VAL:HG13	48:BP:147:LEU:N	2.21	0.54
53:BU:8:VAL:O	53:BU:12:ARG:HG3	2.07	0.54
55:BW:10:VAL:HG23	55:BW:101:SER:O	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:160:A:H1'	1:AA:344:A:N7	2.23	0.54
1:AA:647:C:O2'	1:AA:648:A:H5'	2.08	0.54
1:AA:1040:U:H2'	1:AA:1041:A:C8	2.39	0.54
1:AA:1126:U:P	1:AA:1281:U:O2	2.65	0.54
2:AB:93:VAL:HG21	2:AB:97:TRP:HD1	1.72	0.54
5:AE:12:LEU:HD22	5:AE:12:LEU:C	2.32	0.54
11:AK:82:VAL:CG1	11:AK:108:ILE:HG23	2.38	0.54
14:AN:19:ARG:O	14:AN:20:ALA:O	2.25	0.54
18:AR:84:LYS:N	18:AR:84:LYS:NZ	2.55	0.54
25:AZ:277:LEU:HD12	25:AZ:279:GLU:N	2.21	0.54
28:B2:61:LEU:HD12	36:BA:72:U:C6	2.42	0.54
36:BA:181:A:H5'	36:BA:181:A:H8	1.72	0.54
36:BA:407:G:H2'	36:BA:408:G:H8	1.73	0.54
36:BA:654(L):G:N3	36:BA:654(L):G:H5"	2.22	0.54
36:BA:733:G:O6	36:BA:761:A:C8	2.60	0.54
36:BA:1666:G:H5'	36:BA:1666:G:H8	1.71	0.54
36:BA:2580:U:C5'	40:BE:131:ALA:N	2.71	0.54
38:BC:78:ALA:HB3	38:BC:95:GLY:H	1.73	0.54
40:BE:52:LEU:CD1	52:BT:1:MET:HG2	2.37	0.54
42:BG:51:ARG:HD3	42:BG:53:LEU:CD2	2.35	0.54
54:BV:82:ARG:N	54:BV:82:ARG:HD2	2.22	0.54
1:AA:1152:A:H5"	10:AJ:13:HIS:HD2	1.71	0.54
1:AA:1328:C:O2'	1:AA:1329:A:H5'	2.08	0.54
2:AB:122:PHE:HA	2:AB:139:LYS:HZ2	1.72	0.54
2:AB:194:PRO:O	2:AB:197:VAL:N	2.39	0.54
4:AD:3:ARG:HG2	4:AD:3:ARG:HH21	1.71	0.54
4:AD:61:LYS:HD2	4:AD:207:TYR:OH	2.08	0.54
7:AG:111:ARG:HB3	7:AG:113:GLU:HG2	1.89	0.54
8:AH:44:PHE:HE2	8:AH:109:ILE:HG21	1.72	0.54
12:AL:41:ARG:NH2	12:AL:57:LYS:NZ	2.52	0.54
13:AM:7:VAL:CG2	42:BG:115:ARG:HA	2.38	0.54
15:AO:82:ILE:HG23	15:AO:83:GLU:N	2.22	0.54
17:AQ:67:LYS:CA	17:AQ:70:ARG:HH12	2.16	0.54
24:AY:17:H2U:OP1	24:AY:18:G:H4'	2.08	0.54
25:AZ:13:ASN:O	25:AZ:100:ASP:N	2.39	0.54
25:AZ:42:VAL:HG23	25:AZ:70:TYR:HA	1.89	0.54
25:AZ:138:VAL:HG21	25:AZ:173:GLY:H	1.72	0.54
25:AZ:158:LEU:O	25:AZ:163:PHE:HB2	2.08	0.54
32:B6:17:LYS:HB3	32:B6:18:ARG:NH1	2.23	0.54
32:B6:20:ASN:CG	32:B6:21:TYR:N	2.65	0.54
34:B8:29:LYS:HG2	34:B8:44:LYS:HG2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1779:U:C5	36:BA:1784:A:N7	2.68	0.54
36:BA:2529:G:OP2	36:BA:2530:A:H5"	2.08	0.54
36:BA:2792:G:O2'	36:BA:2793:G:H5'	2.08	0.54
36:BA:2864:G:H2'	36:BA:2865:U:C6	2.43	0.54
38:BC:107:TRP:O	38:BC:108:MET:HE3	2.08	0.54
40:BE:30:PRO:O	40:BE:32:PRO:HD3	2.08	0.54
40:BE:114:ALA:HB3	40:BE:160:TYR:HB3	1.90	0.54
41:BF:9:ILE:CG1	41:BF:14:PRO:HA	2.30	0.54
43:BH:105:LEU:H	43:BH:105:LEU:CD2	2.21	0.54
46:BN:67:LEU:HB3	46:BN:88:GLU:CG	2.37	0.54
48:BP:24:GLY:N	48:BP:33:ARG:CZ	2.71	0.54
49:BQ:74:TYR:CD1	49:BQ:74:TYR:C	2.86	0.54
49:BQ:74:TYR:C	49:BQ:74:TYR:HD1	2.16	0.54
49:BQ:134:ARG:CZ	58:BZ:122:ARG:NE	2.71	0.54
50:BR:3:HIS:O	50:BR:5:LYS:N	2.40	0.54
51:BS:34:HIS:CE1	51:BS:54:LEU:HB3	2.42	0.54
52:BT:12:SER:O	52:BT:13:ARG:NH2	2.41	0.54
52:BT:29:ARG:HE	52:BT:86:ILE:HG23	1.72	0.54
1:AA:255:G:H1'	17:AQ:16:GLN:NE2	2.23	0.54
1:AA:444:C:O2'	1:AA:445:G:H5'	2.08	0.54
1:AA:513:C:H2'	1:AA:514:C:C6	2.43	0.54
1:AA:1023:G:C2'	1:AA:1024:G:H5'	2.36	0.54
1:AA:1503:A:C2	1:AA:1507:A:OP2	2.61	0.54
2:AB:21:ARG:HB3	2:AB:39:ILE:HA	1.90	0.54
7:AG:141:VAL:O	7:AG:144:MET:HB2	2.08	0.54
9:AI:9:ARG:CG	9:AI:14:VAL:HG22	2.35	0.54
9:AI:28:VAL:HA	9:AI:63:ILE:O	2.08	0.54
9:AI:121:ARG:NH1	9:AI:121:ARG:HG2	2.23	0.54
10:AJ:90:LEU:N	10:AJ:91:PRO:HD3	2.22	0.54
14:AN:4:LYS:O	14:AN:7:ILE:HG12	2.08	0.54
19:AS:16:LEU:C	19:AS:18:LYS:N	2.65	0.54
22:AW:19:G:N2	36:BA:2169:A:H4'	2.23	0.54
24:AY:72:U:H2'	24:AY:73:G:C5'	2.37	0.54
25:AZ:356:PRO:HD3	25:AZ:370:PHE:HA	1.90	0.54
26:B0:36:ILE:HG12	36:BA:2354:G:O2'	2.08	0.54
26:B0:45:PHE:HE2	26:B0:77:ARG:HH21	1.55	0.54
27:B1:80:LEU:HB3	27:B1:82:LEU:HD23	1.89	0.54
34:B8:34:TRP:O	34:B8:35:GLN:HB2	2.08	0.54
34:B8:50:LEU:N	34:B8:53:PRO:CD	2.71	0.54
36:BA:142(A):C:O2'	36:BA:143:G:H5'	2.08	0.54
36:BA:332:A:O2'	36:BA:333:G:O5'	2.26	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:634:C:H2'	36:BA:635:C:C6	2.43	0.54
36:BA:943:U:OP2	48:BP:38:GLN:HG2	2.08	0.54
36:BA:1842:G:H2'	36:BA:1843:C:C6	2.43	0.54
36:BA:2790:A:N3	36:BA:2790:A:H2'	2.22	0.54
37:BB:55:U:H2'	37:BB:56:G:C8	2.43	0.54
37:BB:73:A:H2'	37:BB:74:U:H5'	1.90	0.54
38:BC:49:ILE:HG21	38:BC:208:PHE:HE1	1.73	0.54
41:BF:113:ALA:HB2	41:BF:183:VAL:HG12	1.90	0.54
46:BN:76:SER:HB3	46:BN:81:GLY:O	2.07	0.54
48:BP:38:GLN:HG3	48:BP:39:LYS:N	2.23	0.54
50:BR:4:LEU:HD12	50:BR:7:GLY:HA3	1.90	0.54
52:BT:8:LYS:HA	52:BT:11:GLU:OE1	2.07	0.54
53:BU:3:ARG:NH1	53:BU:5:LYS:HB3	2.22	0.54
53:BU:36:ARG:HH11	53:BU:36:ARG:HB2	1.73	0.54
54:BV:47:VAL:O	54:BV:47:VAL:HG23	2.07	0.54
1:AA:355:C:N4	1:AA:356:A:N6	2.56	0.54
1:AA:750:G:N3	15:AO:23:GLY:HA3	2.23	0.54
1:AA:973:G:H1'	10:AJ:55:LYS:NZ	2.22	0.54
2:AB:19:HIS:NE2	2:AB:206:ASP:HB2	2.22	0.54
2:AB:42:ILE:HG12	2:AB:43:ASP:N	2.23	0.54
11:AK:34:ASP:OD2	11:AK:34:ASP:C	2.51	0.54
13:AM:23:TYR:CD1	13:AM:23:TYR:C	2.86	0.54
22:AW:57:G:H2'	22:AW:58:A:C4'	2.38	0.54
25:AZ:355:LEU:HD11	25:AZ:362:VAL:HG23	1.90	0.54
26:B0:26:TYR:CE2	36:BA:857:C:H1'	2.43	0.54
29:B3:4:LEU:HG	29:B3:39:ASP:HB2	1.89	0.54
32:B6:20:ASN:C	32:B6:21:TYR:CD1	2.86	0.54
34:B8:5:LYS:HE2	36:BA:254:G:N7	2.23	0.54
36:BA:536:A:H2'	36:BA:537:C:C6	2.43	0.54
36:BA:1092:C:H42	36:BA:1100:C:N4	2.05	0.54
36:BA:2073:C:O2'	36:BA:2074:U:H5'	2.08	0.54
36:BA:2236:C:H2'	36:BA:2237:G:O4'	2.08	0.54
36:BA:2394:C:O2'	36:BA:2395:C:H5'	2.08	0.54
38:BC:21:THR:OG1	38:BC:24:GLU:HB2	2.08	0.54
38:BC:137:LEU:HD22	38:BC:138:PRO:CD	2.37	0.54
39:BD:44:ASN:CB	39:BD:49:ILE:HA	2.37	0.54
40:BE:2:LYS:HB3	40:BE:95:ILE:CG2	2.38	0.54
42:BG:115:ARG:HH22	42:BG:136:ARG:CB	2.03	0.54
43:BH:85:LYS:HD2	43:BH:133:VAL:HB	1.90	0.54
46:BN:62:VAL:O	46:BN:63:THR:O	2.26	0.54
53:BU:52:ARG:HH11	53:BU:52:ARG:CB	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:180:U:C2'	1:AA:181:G:H5'	2.39	0.53
1:AA:189(H):G:O2'	1:AA:189(I):G:H8	1.91	0.53
1:AA:1305:G:H5'	21:AU:4:GLY:CA	2.34	0.53
3:AC:164:ARG:HH21	3:AC:166:GLU:HB2	1.73	0.53
8:AH:103:VAL:CG2	8:AH:110:ALA:HB2	2.38	0.53
8:AH:104:ARG:CZ	8:AH:138:TRP:CZ2	2.91	0.53
14:AN:29:ARG:HG2	14:AN:29:ARG:NH1	2.19	0.53
14:AN:57:ARG:HG3	14:AN:58:LYS:N	2.22	0.53
15:AO:23:GLY:O	15:AO:24:SER:HB3	2.08	0.53
19:AS:49:ILE:HD12	19:AS:49:ILE:N	2.16	0.53
22:AW:12:U:H3	22:AW:23:A:H61	1.56	0.53
22:AW:19:G:C2	36:BA:2169:A:H4'	2.42	0.53
24:AY:75:C:H41	25:AZ:232:THR:HG1	1.55	0.53
28:B2:19:VAL:CG1	28:B2:23:LYS:HE3	2.37	0.53
34:B8:29:LYS:HD3	34:B8:44:LYS:CB	2.38	0.53
36:BA:1141:U:H2'	46:BN:63:THR:HG22	1.90	0.53
36:BA:1267:U:C5	36:BA:2012:G:C2	2.96	0.53
36:BA:1577:C:H2'	36:BA:1578:U:C1'	2.37	0.53
36:BA:1946:U:H2'	36:BA:1947:C:C6	2.43	0.53
37:BB:15:A:H3'	37:BB:16:G:H5'	1.89	0.53
38:BC:147:PHE:C	38:BC:149:ILE:N	2.65	0.53
39:BD:261:LYS:CE	39:BD:263:ARG:NH2	2.70	0.53
42:BG:111:LEU:CD2	42:BG:179:PRO:HG2	2.38	0.53
48:BP:24:GLY:O	48:BP:25:SER:HB3	2.06	0.53
50:BR:65:LEU:O	50:BR:68:ARG:HB2	2.08	0.53
52:BT:91:ARG:HG2	52:BT:116:ALA:HA	1.89	0.53
55:BW:29:LEU:HG	55:BW:33:ARG:CD	2.29	0.53
1:AA:177:C:H2'	1:AA:178:C:H6	1.72	0.53
1:AA:381:C:H2'	1:AA:382:A:O4'	2.08	0.53
1:AA:865:A:H2'	1:AA:866:C:C6	2.42	0.53
2:AB:145:LEU:O	2:AB:149:LEU:HB2	2.08	0.53
4:AD:91:SER:O	4:AD:92:VAL:C	2.51	0.53
12:AL:45:PRO:HG3	12:AL:53:ARG:HD3	1.90	0.53
13:AM:93:ARG:CG	36:BA:888:C:OP1	2.55	0.53
17:AQ:52:LYS:HD2	17:AQ:52:LYS:N	2.19	0.53
27:B1:75:GLU:O	27:B1:78:LYS:HG2	2.08	0.53
28:B2:32:LEU:HD23	28:B2:32:LEU:C	2.34	0.53
31:B5:49:CYS:O	31:B5:56:LYS:HD2	2.08	0.53
35:B9:30:PRO:HG2	36:BA:2528:U:OP1	2.07	0.53
36:BA:814:C:H2'	36:BA:815:C:H6	1.72	0.53
36:BA:1275:A:C4	50:BR:16:HIS:ND1	2.77	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2012:G:H4'	55:BW:96:ILE:CD1	2.36	0.53
36:BA:2065:C:H2'	36:BA:2066:C:C6	2.42	0.53
36:BA:2640:G:H2'	36:BA:2641:G:C5'	2.33	0.53
38:BC:15:ASP:N	38:BC:20:TYR:OH	2.42	0.53
39:BD:247:ALA:CA	39:BD:254:THR:HG22	2.38	0.53
41:BF:17:ARG:HG3	41:BF:17:ARG:NH1	2.21	0.53
41:BF:43:LYS:HB2	41:BF:98:SER:HB2	1.90	0.53
42:BG:126:ASP:O	42:BG:128:ARG:N	2.38	0.53
58:BZ:140:ASP:O	58:BZ:141:VAL:CG2	2.57	0.53
1:AA:1158:C:O2'	1:AA:1159:U:H4'	2.09	0.53
2:AB:42:ILE:CD1	2:AB:202:PRO:C	2.81	0.53
2:AB:178:ARG:NH2	8:AH:68:ARG:HH22	2.07	0.53
4:AD:9:CYS:SG	4:AD:31:CYS:O	2.67	0.53
5:AE:33:VAL:HG21	5:AE:109:ILE:HG12	1.89	0.53
22:AW:53:G:O2'	22:AW:54:U:H5'	2.09	0.53
25:AZ:133:VAL:HG12	25:AZ:134:PHE:N	2.22	0.53
26:B0:14:ARG:HD2	36:BA:2279:G:O6	2.08	0.53
32:B6:45:LYS:H	32:B6:45:LYS:CD	1.99	0.53
34:B8:49:VAL:HG12	34:B8:50:LEU:H	1.73	0.53
36:BA:605:C:C2'	36:BA:606:U:H5'	2.37	0.53
36:BA:863:A:H2'	36:BA:864:G:C8	2.44	0.53
36:BA:2223:G:H2'	36:BA:2224:G:H5'	1.90	0.53
36:BA:2460:U:O2'	36:BA:2461:C:H5'	2.08	0.53
36:BA:2819:G:H2'	36:BA:2821:A:N7	2.23	0.53
38:BC:191:ALA:HA	38:BC:194:ARG:CD	2.37	0.53
41:BF:40:GLN:HE22	41:BF:184:TYR:HB3	1.74	0.53
41:BF:172:TRP:H	41:BF:172:TRP:CD1	2.26	0.53
42:BG:138:GLN:HG3	42:BG:139:LEU:N	2.23	0.53
42:BG:178:PHE:HB3	42:BG:180:PHE:CE1	2.43	0.53
43:BH:12:PRO:HB2	43:BH:15:VAL:CG1	2.38	0.53
52:BT:80:SER:CB	52:BT:81:PRO:CD	2.81	0.53
58:BZ:76:LEU:O	58:BZ:82:ARG:O	2.26	0.53
1:AA:628:G:O2'	1:AA:629:G:H5'	2.08	0.53
1:AA:837:G:N1	1:AA:850:U:O2	2.42	0.53
7:AG:54:THR:HG22	7:AG:125:MET:CE	2.38	0.53
8:AH:125:ARG:HG3	8:AH:125:ARG:NH1	2.23	0.53
19:AS:29:ARG:HB3	19:AS:48:THR:HB	1.89	0.53
24:AY:73:G:H2'	24:AY:74:C:H5'	1.90	0.53
26:B0:27:GLU:CB	26:B0:68:GLU:HA	2.27	0.53
28:B2:64:LEU:O	28:B2:68:ARG:HB2	2.09	0.53
31:B5:55:ARG:HD3	31:B5:56:LYS:H	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B6:19:ARG:HG3	32:B6:20:ASN:N	2.09	0.53
33:B7:9:ARG:HG3	33:B7:9:ARG:NH1	2.24	0.53
36:BA:105:C:O2'	57:BY:2:ARG:HB2	2.08	0.53
36:BA:271(M):G:C2'	36:BA:271(N):U:H5"	2.34	0.53
36:BA:2753:A:O2'	36:BA:2754:U:H5'	2.08	0.53
37:BB:81:G:H2'	37:BB:82:G:H5'	1.91	0.53
38:BC:100:ILE:HG21	38:BC:126:LYS:HE3	1.90	0.53
41:BF:95:ARG:O	41:BF:95:ARG:CG	2.57	0.53
41:BF:148:LEU:C	41:BF:150:GLY:H	2.16	0.53
41:BF:168:ARG:HB2	41:BF:175:THR:HG21	1.91	0.53
52:BT:61:PHE:H	52:BT:61:PHE:HD2	1.55	0.53
1:AA:300:A:H1'	1:AA:565:U:O2	2.09	0.53
1:AA:475:G:O2'	1:AA:476:G:H5'	2.08	0.53
1:AA:778:G:H21	11:AK:120:ARG:HD2	1.73	0.53
1:AA:967:C:H4'	9:AI:125:TYR:CE2	2.36	0.53
4:AD:107:ARG:NH1	4:AD:114:ARG:NH2	2.56	0.53
4:AD:151:LYS:O	4:AD:151:LYS:HG2	2.07	0.53
7:AG:48:LYS:O	7:AG:51:GLN:HB2	2.08	0.53
14:AN:13:THR:O	14:AN:14:PRO:O	2.26	0.53
19:AS:11:VAL:CA	19:AS:38:SER:HB2	2.31	0.53
24:AY:74:C:O2	25:AZ:295:ARG:NH2	2.40	0.53
35:B9:22:ARG:HB2	35:B9:24:TYR:HE1	1.74	0.53
36:BA:27:G:H22	36:BA:512:G:H2'	1.72	0.53
36:BA:304:G:H2'	36:BA:305:U:C6	2.43	0.53
36:BA:568:U:H2'	36:BA:570:G:OP2	2.09	0.53
36:BA:1022:G:N7	46:BN:66:LYS:HE3	2.24	0.53
36:BA:1292:U:H5'	36:BA:1292:U:H6	1.73	0.53
36:BA:2092:U:H5	36:BA:2226:C:OP2	1.92	0.53
36:BA:2408:U:H2'	36:BA:2409:G:H8	1.72	0.53
37:BB:42:C:O2'	37:BB:43:C:P	2.67	0.53
39:BD:26:LYS:O	39:BD:27:THR:CB	2.56	0.53
40:BE:13:ARG:O	52:BT:57:PHE:HE1	1.91	0.53
43:BH:35:VAL:HG11	43:BH:71:LEU:O	2.09	0.53
48:BP:120:ALA:HB3	48:BP:137:LYS:O	2.08	0.53
48:BP:138:LEU:HD21	48:BP:143:GLY:O	2.09	0.53
56:BX:27:THR:HA	56:BX:79:ALA:O	2.08	0.53
57:BY:13:VAL:CG2	57:BY:73:ARG:C	2.82	0.53
2:AB:152:PHE:O	2:AB:153:ARG:CB	2.55	0.53
6:AF:48:LEU:HD13	6:AF:52:ILE:CG1	2.39	0.53
12:AL:88:GLY:H	12:AL:98:TYR:HA	1.73	0.53
13:AM:49:THR:O	13:AM:53:VAL:HG23	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AO:25:THR:O	15:AO:26:GLU:C	2.51	0.53
19:AS:64:GLU:O	19:AS:67:VAL:HG23	2.08	0.53
20:AT:26:ASN:HD22	20:AT:26:ASN:N	2.05	0.53
25:AZ:194:GLU:O	25:AZ:198:LYS:HE3	2.08	0.53
27:B1:43:TYR:N	27:B1:43:TYR:HD2	2.05	0.53
36:BA:145:G:H2'	36:BA:146:G:O4'	2.08	0.53
36:BA:654(R):C:H2'	36:BA:654(S):G:C8	2.44	0.53
36:BA:1509(B):A:C2'	36:BA:1510:G:H5'	2.39	0.53
37:BB:86:G:H2'	37:BB:87:G:H8	1.73	0.53
43:BH:66:GLY:CA	43:BH:69:ARG:HB3	2.35	0.53
48:BP:62:LEU:HG	48:BP:62:LEU:O	2.07	0.53
49:BQ:56:ARG:HH11	49:BQ:56:ARG:HG3	1.74	0.53
1:AA:284:G:H2'	1:AA:285:G:H8	1.74	0.53
1:AA:310:G:H2'	1:AA:311:C:H6	1.74	0.53
1:AA:429:U:C1'	1:AA:430:A:H5"	2.38	0.53
1:AA:990:C:H2'	1:AA:991:U:C6	2.43	0.53
1:AA:1053:G:H4'	1:AA:1054:C:C5'	2.14	0.53
1:AA:1124:G:H5'	10:AJ:35:SER:HB2	1.91	0.53
1:AA:1342:C:O2'	1:AA:1343:G:H5'	2.08	0.53
1:AA:1452:C:H5'	1:AA:1456:G:N2	2.24	0.53
2:AB:108:ILE:C	2:AB:110:GLN:H	2.17	0.53
3:AC:55:VAL:O	3:AC:55:VAL:HG12	2.08	0.53
9:AI:28:VAL:HG22	9:AI:63:ILE:HB	1.91	0.53
9:AI:77:ILE:O	9:AI:81:ILE:HG12	2.09	0.53
9:AI:99:LEU:HD22	9:AI:99:LEU:N	2.24	0.53
18:AR:84:LYS:N	18:AR:84:LYS:HZ3	2.06	0.53
25:AZ:34:VAL:HG11	25:AZ:199:ILE:HG21	1.89	0.53
25:AZ:352:VAL:HG12	25:AZ:353:VAL:N	2.24	0.53
25:AZ:389:ARG:O	25:AZ:390:GLU:CB	2.56	0.53
27:B1:50:ARG:HG2	27:B1:59:THR:HG22	1.91	0.53
27:B1:83:GLU:OE1	27:B1:83:GLU:N	2.42	0.53
30:B4:8:LYS:O	30:B4:9:LEU:CB	2.56	0.53
36:BA:610:G:H2'	36:BA:611:C:C6	2.44	0.53
36:BA:1292:U:H2'	36:BA:1293:C:C6	2.44	0.53
36:BA:1970:A:H5"	36:BA:1971:A:OP1	2.08	0.53
36:BA:2875:C:H4'	52:BT:5:ALA:CB	2.39	0.53
38:BC:107:TRP:NE1	38:BC:110:PHE:CE2	2.73	0.53
39:BD:268:ARG:N	39:BD:270:ILE:HD11	2.23	0.53
40:BE:15:PHE:HE1	40:BE:20:ALA:HB2	1.73	0.53
41:BF:195:ASP:HB3	41:BF:198:ALA:CB	2.38	0.53
42:BG:41:GLN:C	42:BG:43:LEU:H	2.16	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BG:42:GLY:HA2	42:BG:90:LEU:N	2.24	0.53
42:BG:68:PRO:HA	42:BG:92:VAL:HB	1.91	0.53
48:BP:24:GLY:HA3	48:BP:33:ARG:CZ	2.38	0.53
51:BS:30:ARG:NH2	51:BS:62:LYS:HD3	2.24	0.53
52:BT:11:GLU:C	52:BT:13:ARG:H	2.15	0.53
52:BT:38:ASN:O	52:BT:38:ASN:ND2	2.36	0.53
52:BT:54:ARG:HA	52:BT:59:THR:CB	2.38	0.53
54:BV:47:VAL:C	54:BV:49:THR:H	2.16	0.53
56:BX:10:ALA:HB1	56:BX:11:PRO:CD	2.36	0.53
57:BY:12:THR:CG2	57:BY:75:ILE:HG21	2.39	0.53
57:BY:86:ARG:C	57:BY:88:LYS:HZ2	2.16	0.53
58:BZ:144:LEU:CD1	58:BZ:150:LEU:HD22	2.36	0.53
1:AA:137:C:H42	1:AA:226:G:H1	1.55	0.53
1:AA:1128:C:N4	1:AA:1139:G:H2'	2.24	0.53
3:AC:96:GLY:O	3:AC:97:LYS:HG2	2.09	0.53
4:AD:70:ILE:CG2	4:AD:71:SER:N	2.71	0.53
8:AH:28:ALA:H	8:AH:58:TYR:HA	1.73	0.53
11:AK:52:GLY:N	11:AK:55:LYS:HE3	2.24	0.53
19:AS:49:ILE:O	19:AS:60:VAL:CG1	2.57	0.53
20:AT:50:GLU:HG3	20:AT:100:ILE:HG12	1.90	0.53
25:AZ:208:GLU:O	25:AZ:210:ILE:N	2.41	0.53
36:BA:139(A):G:H22	56:BX:44:GLU:CD	2.17	0.53
36:BA:648:G:C4'	36:BA:2351:G:H5"	2.38	0.53
36:BA:672:C:O3'	41:BF:81:PRO:HG3	2.08	0.53
36:BA:1025:G:N3	36:BA:1135:C:H1'	2.24	0.53
36:BA:1188:U:H4'	54:BV:79:VAL:HG13	1.91	0.53
36:BA:1491:G:O4'	39:BD:99:ASP:OD2	2.27	0.53
36:BA:2839:G:C5'	50:BR:46:GLY:HA2	2.39	0.53
37:BB:7:G:H4'	51:BS:29:PHE:HD1	1.73	0.53
38:BC:7:TYR:OH	38:BC:11:LEU:HD21	2.08	0.53
39:BD:76:PRO:HG2	39:BD:98:VAL:CG2	2.38	0.53
40:BE:77:ILE:CG2	40:BE:78:LEU:N	2.66	0.53
41:BF:83:PHE:O	41:BF:84:VAL:O	2.26	0.53
41:BF:107:LYS:C	41:BF:109:GLY:H	2.17	0.53
47:BO:61:VAL:HG12	47:BO:87:ILE:HD11	1.91	0.53
49:BQ:141:GLN:HB2	58:BZ:99:TYR:CD2	2.44	0.53
51:BS:25:ARG:HG2	51:BS:25:ARG:NH1	2.24	0.53
53:BU:36:ARG:HB2	53:BU:36:ARG:NH1	2.23	0.53
55:BW:12:ILE:HD12	55:BW:42:ARG:NH1	2.23	0.53
1:AA:56:U:H2'	1:AA:57:G:H8	1.74	0.53
2:AB:46:LYS:O	2:AB:49:GLU:N	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AK:57:THR:HG22	11:AK:60:ALA:CB	2.39	0.53
12:AL:53:ARG:HB3	12:AL:93:LEU:HD11	1.90	0.53
19:AS:13:ASP:O	19:AS:15:LEU:N	2.42	0.53
20:AT:81:LYS:C	20:AT:83:ARG:H	2.16	0.53
22:AW:31:A:N1	22:AW:39:U:O4	2.42	0.53
34:B8:25:MET:SD	48:BP:64:LYS:HD3	2.49	0.53
36:BA:543:C:N4	36:BA:549:G:H1	2.01	0.53
36:BA:1385:G:HO2'	36:BA:1396:U:H6	1.54	0.53
36:BA:2027:G:O2'	36:BA:2028:U:H5'	2.09	0.53
36:BA:2153:G:H2'	36:BA:2154:G:O4'	2.08	0.53
36:BA:2478:A:H2'	36:BA:2479:G:H5'	1.91	0.53
36:BA:2796:U:O2'	36:BA:2799:C:H5'	2.09	0.53
37:BB:70:C:HO2'	37:BB:71:C:H5'	1.74	0.53
37:BB:106:G:H2'	37:BB:107:G:C8	2.39	0.53
38:BC:28:LEU:O	38:BC:32:LEU:HG	2.09	0.53
38:BC:107:TRP:HZ3	38:BC:131:LEU:HD21	1.69	0.53
39:BD:73:VAL:HG13	39:BD:120:GLY:CA	2.39	0.53
46:BN:103:VAL:O	46:BN:106:MET:N	2.42	0.53
52:BT:29:ARG:CB	52:BT:85:LYS:HA	2.38	0.53
55:BW:60:ASN:O	55:BW:60:ASN:OD1	2.25	0.53
58:BZ:70:LEU:N	58:BZ:70:LEU:HD23	2.24	0.53
1:AA:128:G:H5'	17:AQ:2:PRO:O	2.09	0.53
1:AA:457:C:C2	1:AA:458:C:H5	2.27	0.53
1:AA:1062:U:H2'	1:AA:1063:C:C6	2.43	0.53
1:AA:1269:A:C2	1:AA:1325:C:O2	2.62	0.53
2:AB:51:LEU:O	2:AB:55:PHE:CD2	2.60	0.53
4:AD:17:VAL:HG11	4:AD:197:PRO:HB2	1.91	0.53
10:AJ:6:ILE:HA	10:AJ:97:GLU:O	2.09	0.53
10:AJ:65:LEU:CD1	14:AN:56:VAL:H	2.18	0.53
17:AQ:60:ILE:HB	17:AQ:74:LEU:HD23	1.89	0.53
19:AS:4:SER:O	19:AS:5:LEU:O	2.26	0.53
22:AV:61:C:H2'	22:AV:62:C:C5'	2.38	0.53
25:AZ:356:PRO:CD	25:AZ:370:PHE:HA	2.39	0.53
27:B1:43:TYR:N	27:B1:43:TYR:CD2	2.75	0.53
36:BA:519:U:H5"	55:BW:25:ARG:HH22	1.74	0.53
36:BA:2124:G:H3'	36:BA:2125:G:C8	2.44	0.53
36:BA:2287:A:H2	36:BA:2346:A:C2	2.25	0.53
36:BA:2317:C:H2'	36:BA:2318:G:C5'	2.36	0.53
36:BA:2621:A:P	40:BE:119:ARG:HH22	2.32	0.53
36:BA:2631:G:H22	40:BE:61:ARG:NH1	2.06	0.53
36:BA:2820:A:O2'	40:BE:191:PRO:HG3	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BD:2:ALA:O	39:BD:3:VAL:CB	2.57	0.53
40:BE:97:LYS:O	40:BE:100:GLU:HG3	2.09	0.53
46:BN:101:HIS:O	46:BN:103:VAL:N	2.42	0.53
48:BP:21:ARG:HH11	48:BP:29:LYS:HG2	1.73	0.53
49:BQ:133:ARG:HB2	49:BQ:133:ARG:NH1	2.21	0.53
58:BZ:8:TYR:HB2	58:BZ:38:TYR:CZ	2.44	0.53
1:AA:84:U:C2'	1:AA:88:A:H5'	2.39	0.52
1:AA:995:C:O2'	1:AA:996:A:P	2.66	0.52
1:AA:1105:A:O2'	1:AA:1106:G:H5'	2.09	0.52
3:AC:58:GLU:C	3:AC:59:ARG:HG2	2.34	0.52
5:AE:82:VAL:HG21	5:AE:138:ALA:HA	1.91	0.52
9:AI:57:GLY:O	9:AI:58:ARG:HB3	2.09	0.52
19:AS:78:ARG:HB2	19:AS:81:ARG:NH1	2.25	0.52
20:AT:27:LYS:HD3	20:AT:27:LYS:C	2.34	0.52
25:AZ:140:MET:O	25:AZ:141:VAL:O	2.26	0.52
29:B3:13:ILE:HG22	29:B3:13:ILE:O	2.09	0.52
29:B3:26:LEU:CB	29:B3:28:LEU:HD21	2.37	0.52
31:B5:7:PRO:HA	36:BA:2615:U:C6	2.44	0.52
36:BA:319:C:O2'	36:BA:320:A:H5'	2.10	0.52
36:BA:528:A:H2	36:BA:2043:C:C5'	2.21	0.52
36:BA:706:A:H2'	36:BA:707:G:O4'	2.08	0.52
36:BA:762:U:H4'	36:BA:763:G:O5'	2.08	0.52
36:BA:1047:G:N2	36:BA:1110:G:H2'	2.24	0.52
36:BA:1556:C:H2'	36:BA:1557:C:H6	1.74	0.52
36:BA:2186:G:C2	36:BA:2187:G:C6	2.97	0.52
36:BA:2392:A:H2	36:BA:2424:C:H42	1.57	0.52
38:BC:53:ARG:HD3	38:BC:56:GLN:NE2	2.24	0.52
39:BD:209:ALA:O	39:BD:212:SER:HB2	2.10	0.52
41:BF:40:GLN:NE2	41:BF:184:TYR:HB3	2.24	0.52
52:BT:105:LEU:HD22	52:BT:109:GLU:OE1	2.10	0.52
56:BX:18:TYR:C	56:BX:20:GLY:H	2.16	0.52
58:BZ:5:LEU:C	58:BZ:6:LYS:HD3	2.34	0.52
58:BZ:30:ASN:HA	58:BZ:89:PHE:HE2	1.73	0.52
58:BZ:141:VAL:HA	58:BZ:144:LEU:HD23	1.91	0.52
1:AA:191:G:N3	20:AT:105:SER:HB3	2.24	0.52
1:AA:613:C:H2'	1:AA:614:A:C8	2.43	0.52
2:AB:7:VAL:HG13	2:AB:11:LEU:HD12	1.91	0.52
2:AB:61:LEU:HD23	2:AB:68:ILE:HD11	1.91	0.52
5:AE:20:GLN:HE22	5:AE:25:ARG:HH21	1.57	0.52
9:AI:53:VAL:HG11	9:AI:92:TYR:CE2	2.44	0.52
14:AN:4:LYS:HD3	14:AN:7:ILE:HD11	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AO:59:MET:O	15:AO:62:GLN:HB3	2.09	0.52
22:AW:56:C:OP2	38:BC:137:LEU:HB3	2.09	0.52
25:AZ:36:ALA:HA	25:AZ:42:VAL:HG11	1.89	0.52
25:AZ:72:THR:C	25:AZ:74:LYS:N	2.65	0.52
25:AZ:385:ARG:HA	25:AZ:399:VAL:HG12	1.92	0.52
26:B0:5:LYS:NZ	26:B0:5:LYS:HB3	2.25	0.52
31:B5:34:PRO:O	31:B5:35:GLU:HG2	2.08	0.52
36:BA:1353:A:H4'	39:BD:38:LYS:CE	2.38	0.52
36:BA:1529:G:C2	36:BA:1541:G:N2	2.77	0.52
36:BA:1827:C:C2'	36:BA:1828:G:H5'	2.39	0.52
36:BA:1971:A:C4	39:BD:241:PRO:HD3	2.44	0.52
36:BA:2296:U:O2	36:BA:2333:A:N3	2.42	0.52
36:BA:2872:G:C2	36:BA:2873:A:N6	2.76	0.52
37:BB:7:G:H4'	51:BS:29:PHE:CD1	2.44	0.52
38:BC:74:VAL:CG2	38:BC:157:LYS:HG2	2.39	0.52
39:BD:35:LYS:HA	39:BD:63:ARG:HA	1.91	0.52
41:BF:8:GLN:O	41:BF:10:PRO:HD3	2.09	0.52
43:BH:53:GLU:C	43:BH:54:ARG:HG3	2.33	0.52
43:BH:107:VAL:O	43:BH:107:VAL:HG23	2.10	0.52
46:BN:93:THR:HG23	46:BN:93:THR:O	2.08	0.52
49:BQ:21:THR:C	49:BQ:23:GLY:H	2.17	0.52
49:BQ:35:VAL:HG23	49:BQ:101:ARG:O	2.09	0.52
53:BU:56:ASP:O	53:BU:60:LEU:HG	2.09	0.52
53:BU:65:ILE:HD11	53:BU:96:ALA:HB3	1.90	0.52
57:BY:13:VAL:CG1	57:BY:28:LYS:HZ3	2.21	0.52
57:BY:81:LYS:HZ3	57:BY:99:CYS:HB2	1.74	0.52
58:BZ:60:GLU:C	58:BZ:61:LEU:HG	2.35	0.52
58:BZ:168:GLU:O	58:BZ:169:GLU:C	2.51	0.52
1:AA:36:C:H5'	12:AL:121:GLY:O	2.09	0.52
1:AA:642:A:H2'	1:AA:643:C:H6	1.73	0.52
1:AA:665:A:N3	1:AA:732:C:H2'	2.24	0.52
1:AA:1444:C:H2'	1:AA:1445:C:C6	2.44	0.52
1:AA:1503:A:O2'	23:AX:16:A:N6	2.41	0.52
2:AB:116:GLU:C	2:AB:118:LEU:N	2.64	0.52
6:AF:48:LEU:HD13	6:AF:52:ILE:HD12	1.92	0.52
13:AM:42:ALA:O	13:AM:43:THR:C	2.50	0.52
16:AP:75:ARG:O	16:AP:78:GLY:N	2.33	0.52
19:AS:17:GLU:HG2	19:AS:17:GLU:O	2.08	0.52
20:AT:26:ASN:ND2	20:AT:26:ASN:H	2.08	0.52
25:AZ:139:ASP:C	25:AZ:140:MET:HE2	2.34	0.52
27:B1:18:ILE:HG12	27:B1:37:ILE:HG22	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:B1:84:GLY:C	27:B1:86:SER:H	2.15	0.52
28:B2:47:ASN:HD22	36:BA:94(A):G:H21	1.55	0.52
31:B5:3:LYS:HB2	36:BA:747:U:H5	1.71	0.52
35:B9:35:ARG:O	35:B9:36:GLN:O	2.27	0.52
36:BA:445:C:O2'	36:BA:446:G:H5'	2.10	0.52
36:BA:1131:G:C8	36:BA:2025:C:H4'	2.44	0.52
36:BA:1313:U:H3'	36:BA:1313:U:O2	2.09	0.52
36:BA:1316:U:O2'	36:BA:1317:A:H5'	2.09	0.52
36:BA:1509(B):A:H2'	36:BA:1510:G:H5'	1.92	0.52
36:BA:1658:C:OP1	40:BE:132:HIS:O	2.27	0.52
36:BA:2119:A:C6	36:BA:2170:A:C6	2.98	0.52
36:BA:2147:G:H2'	36:BA:2148:G:C5'	2.40	0.52
37:BB:78:A:H2'	37:BB:79:C:O4'	2.09	0.52
38:BC:46:LYS:HG3	38:BC:210:ARG:HB2	1.91	0.52
38:BC:100:ILE:HD13	38:BC:126:LYS:CB	2.38	0.52
40:BE:52:LEU:HD11	52:BT:1:MET:HG2	1.91	0.52
42:BG:6:ALA:HB3	42:BG:104:GLU:OE2	2.10	0.52
43:BH:12:PRO:HB2	43:BH:15:VAL:HG13	1.91	0.52
43:BH:126:PRO:HB2	43:BH:130:ARG:NH2	2.25	0.52
46:BN:74:ARG:HH21	46:BN:83:LYS:HD3	1.74	0.52
49:BQ:103:MET:HE1	49:BQ:127:ILE:HD11	1.90	0.52
49:BQ:140:ALA:O	49:BQ:141:GLN:HG2	2.09	0.52
55:BW:52:GLU:C	55:BW:54:ALA:N	2.67	0.52
56:BX:14:SER:OG	56:BX:17:ALA:HB2	2.09	0.52
58:BZ:126:VAL:HA	58:BZ:163:LEU:HA	1.91	0.52
1:AA:386:C:C2'	1:AA:387:U:H5'	2.39	0.52
1:AA:502:G:O2'	1:AA:503:C:H5'	2.10	0.52
1:AA:676:A:H1'	11:AK:115:PRO:HB3	1.91	0.52
1:AA:1306:A:N6	1:AA:1331:G:H1'	2.24	0.52
10:AJ:15:THR:O	10:AJ:19:SER:HB3	2.09	0.52
11:AK:57:THR:HG23	11:AK:59:TYR:H	1.75	0.52
17:AQ:5:VAL:HG13	17:AQ:59:ILE:O	2.10	0.52
19:AS:51:VAL:O	19:AS:58:VAL:HG22	2.09	0.52
25:AZ:56:GLU:CG	25:AZ:63:ILE:H	2.22	0.52
25:AZ:248:LYS:HB2	25:AZ:248:LYS:HZ3	1.74	0.52
31:B5:40:LYS:NZ	31:B5:46:CYS:N	2.42	0.52
35:B9:30:PRO:CB	36:BA:2527:C:H5'	2.28	0.52
36:BA:10:G:N2	36:BA:2895:U:H3	2.08	0.52
36:BA:145:G:H3'	36:BA:146:G:H5"	1.92	0.52
36:BA:494:G:O2'	55:BW:5:ALA:O	2.27	0.52
36:BA:519:U:H2'	36:BA:520:G:C8	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:563:G:C4	36:BA:2018:G:C2	2.98	0.52
36:BA:583:G:OP2	53:BU:10:ARG:NH1	2.42	0.52
36:BA:1902:C:H5'	39:BD:246:PRO:HD3	1.91	0.52
36:BA:2317:C:O2'	36:BA:2318:G:H5'	2.09	0.52
36:BA:2572:A:C5	40:BE:144:ARG:HD3	2.44	0.52
39:BD:75:ILE:HD13	39:BD:75:ILE:H	1.75	0.52
40:BE:32:PRO:O	40:BE:33:VAL:C	2.52	0.52
40:BE:49:LEU:O	40:BE:78:LEU:CB	2.58	0.52
40:BE:70:ALA:O	40:BE:72:VAL:N	2.35	0.52
40:BE:197:ILE:HD11	40:BE:199:ARG:HH22	1.74	0.52
44:BJ:24:UNK:HA	44:BJ:86:UNK:HA	1.91	0.52
46:BN:55:VAL:CG2	46:BN:126:PRO:HA	2.40	0.52
48:BP:30:THR:CG2	48:BP:31:ALA:N	2.72	0.52
48:BP:95:VAL:O	48:BP:125:VAL:HA	2.09	0.52
48:BP:101:VAL:CG2	48:BP:102:ARG:N	2.72	0.52
54:BV:95:LEU:HD23	54:BV:95:LEU:C	2.34	0.52
58:BZ:28:MET:SD	58:BZ:35:ARG:O	2.68	0.52
1:AA:265:G:H2'	1:AA:267:C:H5	1.74	0.52
1:AA:502:G:OP1	12:AL:118:SER:CB	2.58	0.52
1:AA:589:C:O2'	1:AA:590:C:H5'	2.10	0.52
2:AB:19:HIS:ND1	2:AB:204:ASN:OD1	2.43	0.52
2:AB:163:PHE:HA	2:AB:185:ILE:O	2.09	0.52
3:AC:35:GLU:OE2	3:AC:59:ARG:NH1	2.31	0.52
4:AD:58:LEU:HD23	4:AD:206:PHE:CE1	2.45	0.52
6:AF:63:TYR:O	6:AF:64:GLN:HB2	2.10	0.52
12:AL:27:LEU:C	12:AL:29:GLY:N	2.66	0.52
22:AW:43:C:OP2	22:AW:43:C:H6	1.91	0.52
25:AZ:67:HIS:CE1	25:AZ:80:VAL:HG22	2.44	0.52
27:B1:40:ARG:HH12	36:BA:2232:U:P	2.32	0.52
27:B1:48:LYS:HE3	27:B1:59:THR:HB	1.90	0.52
28:B2:10:LEU:O	28:B2:13:ALA:HB3	2.10	0.52
30:B4:5:ILE:O	30:B4:5:ILE:CG1	2.56	0.52
31:B5:46:CYS:SG	31:B5:48:GLU:HB2	2.48	0.52
32:B6:14:THR:HG23	32:B6:16:CYS:H	1.75	0.52
36:BA:314:A:H2'	36:BA:315:G:C8	2.44	0.52
36:BA:440:G:H2'	36:BA:441:U:H6	1.75	0.52
36:BA:528:A:H2	36:BA:2043:C:H5'	1.75	0.52
36:BA:680:G:H2'	36:BA:681:G:H8	1.72	0.52
36:BA:2008:C:H2'	36:BA:2009:G:C8	2.44	0.52
36:BA:2392:A:H1'	48:BP:60:MET:HB3	1.92	0.52
36:BA:2469:A:C5	36:BA:2470:G:H1'	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2810:A:N3	40:BE:61:ARG:NH2	2.56	0.52
39:BD:232:PRO:HD2	39:BD:249:PRO:HA	1.90	0.52
40:BE:199:ARG:CB	40:BE:199:ARG:HH11	2.22	0.52
43:BH:67:LEU:HG	43:BH:71:LEU:HD12	1.89	0.52
43:BH:85:LYS:HZ3	43:BH:132:ARG:C	2.12	0.52
49:BQ:21:THR:CG2	49:BQ:101:ARG:HD2	2.40	0.52
49:BQ:140:ALA:HA	58:BZ:99:TYR:CD1	2.44	0.52
51:BS:35:ILE:O	51:BS:35:ILE:HG23	2.10	0.52
52:BT:83:ILE:O	52:BT:84:GLN:O	2.27	0.52
53:BU:52:ARG:HG2	53:BU:55:ARG:HH12	1.75	0.52
55:BW:70:TYR:HE2	55:BW:72:LYS:HE2	1.74	0.52
58:BZ:139:VAL:O	58:BZ:140:ASP:HB3	2.10	0.52
1:AA:167:G:O2'	1:AA:168:G:H5'	2.10	0.52
1:AA:858:G:C5'	1:AA:858:G:C8	2.88	0.52
1:AA:1258:G:H2'	1:AA:1259:C:C6	2.44	0.52
2:AB:59:GLU:HB2	2:AB:221:LEU:HD11	1.91	0.52
3:AC:23:TYR:CD2	3:AC:24:ALA:N	2.77	0.52
7:AG:20:ASP:HB3	7:AG:23:VAL:CG2	2.40	0.52
12:AL:42:THR:HG23	12:AL:42:THR:O	2.09	0.52
16:AP:22:THR:HA	16:AP:33:ILE:HG12	1.91	0.52
16:AP:45:THR:HG22	16:AP:47:ASP:N	2.24	0.52
17:AQ:26:GLN:O	17:AQ:27:PHE:CB	2.57	0.52
22:AW:43:C:H2'	22:AW:44:G:H1'	1.90	0.52
25:AZ:7:ARG:O	25:AZ:7:ARG:HG3	2.09	0.52
25:AZ:120:ILE:HG22	25:AZ:161:TYR:HD1	1.74	0.52
25:AZ:330:ARG:HG2	25:AZ:330:ARG:HH11	1.75	0.52
25:AZ:359:VAL:C	25:AZ:361:MET:H	2.17	0.52
29:B3:31:LEU:HD23	29:B3:32:GLN:H	1.72	0.52
34:B8:33:ASN:HA	34:B8:36:LYS:HD3	1.91	0.52
36:BA:2479:G:OP1	36:BA:2537:U:H1'	2.09	0.52
36:BA:2749:A:H4'	43:BH:62:LYS:HG2	1.91	0.52
36:BA:2839:G:H2'	36:BA:2840:C:H6	1.74	0.52
37:BB:106:G:H5"	58:BZ:31:ARG:HB3	1.92	0.52
38:BC:30:LYS:CD	38:BC:185:LEU:HD11	2.40	0.52
38:BC:104:LEU:HD22	38:BC:127:LEU:HD21	1.90	0.52
40:BE:68:ALA:O	40:BE:70:ALA:N	2.41	0.52
46:BN:65:LYS:NZ	46:BN:65:LYS:CB	2.73	0.52
47:BO:64:ARG:NH1	47:BO:83:ALA:HB2	2.25	0.52
48:BP:146:VAL:CG2	48:BP:147:LEU:H	2.08	0.52
50:BR:48:VAL:HG13	50:BR:49:ASP:N	2.25	0.52
53:BU:47:TYR:C	53:BU:47:TYR:CD1	2.88	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:BU:92:ARG:O	53:BU:93:LYS:C	2.52	0.52
54:BV:28:GLU:O	54:BV:61:VAL:CG2	2.58	0.52
54:BV:39:LEU:CD1	54:BV:51:VAL:HA	2.40	0.52
58:BZ:34:ASN:C	58:BZ:35:ARG:HE	2.17	0.52
1:AA:189(C):C:O2'	1:AA:189(D):C:H5'	2.09	0.52
1:AA:1060:C:C4	3:AC:2:GLY:HA3	2.44	0.52
3:AC:3:ASN:O	3:AC:4:LYS:CB	2.57	0.52
3:AC:22:TRP:CD1	3:AC:59:ARG:HG3	2.44	0.52
5:AE:64:ARG:HG3	5:AE:64:ARG:HH11	1.75	0.52
10:AJ:6:ILE:CG1	10:AJ:72:VAL:HB	2.37	0.52
10:AJ:85:LEU:C	10:AJ:87:THR:H	2.18	0.52
13:AM:69:GLU:OE1	13:AM:69:GLU:HA	2.09	0.52
14:AN:29:ARG:HH11	14:AN:29:ARG:CG	2.14	0.52
16:AP:58:TYR:O	16:AP:62:VAL:HG22	2.10	0.52
18:AR:30:ASP:OD1	18:AR:32:ARG:HB3	2.09	0.52
19:AS:78:ARG:N	19:AS:81:ARG:NH1	2.54	0.52
22:AW:7:A:C4	22:AW:49:C:H5	2.27	0.52
25:AZ:124:ARG:HD2	25:AZ:163:PHE:CE2	2.44	0.52
31:B5:33:CYS:SG	31:B5:49:CYS:SG	3.05	0.52
32:B6:15:GLU:O	32:B6:16:CYS:C	2.53	0.52
34:B8:50:LEU:C	34:B8:52:LYS:H	2.17	0.52
36:BA:1064:C:H3'	36:BA:1065:U:C5'	2.40	0.52
36:BA:1234:U:H2'	36:BA:1235:G:O4'	2.10	0.52
36:BA:1798:U:H5'	39:BD:259:THR:CG2	2.37	0.52
36:BA:2822:G:H2'	36:BA:2823:A:H5"	1.92	0.52
38:BC:103:ILE:O	38:BC:103:ILE:HG22	2.10	0.52
38:BC:163:PHE:HD1	38:BC:171:ILE:HD11	1.75	0.52
39:BD:32:SER:O	39:BD:36:PRO:HD3	2.10	0.52
39:BD:77:ALA:HB1	39:BD:95:LEU:HD13	1.91	0.52
39:BD:141:VAL:HG23	39:BD:141:VAL:O	2.08	0.52
41:BF:29:ASN:HB3	41:BF:112:MET:SD	2.50	0.52
42:BG:47:LYS:HZ1	42:BG:81:LYS:HB2	1.75	0.52
43:BH:52:VAL:HG12	43:BH:65:HIS:ND1	2.24	0.52
46:BN:134:ARG:N	46:BN:135:PRO:HD3	2.23	0.52
47:BO:87:ILE:HG22	47:BO:88:ASN:O	2.10	0.52
48:BP:16:ARG:O	48:BP:18:ARG:N	2.43	0.52
57:BY:69:ALA:O	57:BY:72:VAL:HG22	2.09	0.52
58:BZ:6:LYS:HG3	58:BZ:60:GLU:HB2	1.91	0.52
58:BZ:134:PRO:HG2	58:BZ:161:VAL:HG21	1.92	0.52
1:AA:223:U:H2'	1:AA:224:C:C6	2.45	0.52
1:AA:814:A:H2'	1:AA:816:A:H5"	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1119:C:O2'	1:AA:1120:G:H5'	2.10	0.52
1:AA:1444:C:H2'	1:AA:1445:C:H6	1.75	0.52
2:AB:35:GLU:O	2:AB:35:GLU:HG2	2.10	0.52
8:AH:28:ALA:HB3	8:AH:57:PRO:HB2	1.90	0.52
22:AW:1:G:H2'	22:AW:1:G:N3	2.25	0.52
25:AZ:125:GLN:HE22	25:AZ:323:LEU:HD11	1.74	0.52
25:AZ:311:THR:CG2	25:AZ:312:PRO:HD2	2.38	0.52
30:B4:19:GLY:O	30:B4:20:ASN:C	2.52	0.52
32:B6:16:CYS:SG	32:B6:48:VAL:CG2	2.98	0.52
34:B8:13:ARG:HD3	48:BP:61:ARG:HD2	1.90	0.52
35:B9:10:ILE:HG12	36:BA:2477:C:C5	2.44	0.52
36:BA:323:G:HO2'	36:BA:1205:U:H3	1.58	0.52
36:BA:469:G:OP1	41:BF:78:ILE:HD11	2.10	0.52
36:BA:943:U:OP2	48:BP:38:GLN:CD	2.53	0.52
36:BA:1050:A:H2'	36:BA:1050:A:N3	2.25	0.52
36:BA:1076:C:H2'	36:BA:1077:A:C8	2.44	0.52
36:BA:1902:C:C2'	36:BA:1903:G:O5'	2.58	0.52
36:BA:2126:A:O2'	36:BA:2127:G:H8	1.93	0.52
36:BA:2385:C:O2'	36:BA:2386:C:H5'	2.10	0.52
36:BA:2692:C:H2'	36:BA:2693:A:C8	2.45	0.52
37:BB:37:C:H2'	37:BB:38:C:O4'	2.09	0.52
37:BB:95:C:O2'	37:BB:96:U:H5'	2.10	0.52
39:BD:24:ILE:HD13	39:BD:24:ILE:C	2.35	0.52
43:BH:12:PRO:N	43:BH:48:GLY:HA2	2.24	0.52
43:BH:50:VAL:HG12	43:BH:51:ARG:H	1.73	0.52
45:BK:30:UNK:O	45:BK:31:UNK:CB	2.58	0.52
46:BN:28:THR:HA	46:BN:106:MET:HE3	1.92	0.52
46:BN:72:TYR:HE1	46:BN:87:LEU:HD23	1.73	0.52
57:BY:14:LEU:O	57:BY:72:VAL:HA	2.09	0.52
58:BZ:63:ASP:C	58:BZ:65:GLN:H	2.16	0.52
1:AA:22:G:H4'	1:AA:885:G:C8	2.45	0.52
1:AA:96:U:H2'	1:AA:97:G:C8	2.45	0.52
1:AA:105:G:H2'	1:AA:106:C:C6	2.44	0.52
2:AB:8:LYS:O	2:AB:11:LEU:N	2.43	0.52
7:AG:26:PHE:O	7:AG:30:ILE:HG12	2.10	0.52
13:AM:36:LYS:HE2	13:AM:59:TYR:CZ	2.44	0.52
13:AM:108:ARG:HD2	13:AM:108:ARG:N	2.24	0.52
13:AM:113:PRO:O	13:AM:114:ARG:C	2.52	0.52
16:AP:48:TRP:CD1	16:AP:48:TRP:H	2.27	0.52
21:AU:12:LYS:HB3	21:AU:22:ARG:HD2	1.91	0.52
25:AZ:11:HIS:CD2	25:AZ:12:VAL:N	2.77	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:148:ASP:HA	25:AZ:172:ARG:NH2	2.20	0.52
25:AZ:318:ALA:HA	25:AZ:401:THR:H	1.75	0.52
25:AZ:355:LEU:HD11	25:AZ:362:VAL:CG2	2.40	0.52
30:B4:31:ILE:CG2	30:B4:33:VAL:HG23	2.40	0.52
36:BA:1026:U:OP2	36:BA:1026:U:C6	2.63	0.52
36:BA:1153:C:O2	36:BA:1153:C:H2'	2.09	0.52
36:BA:1845:G:O2'	36:BA:1846:G:H5'	2.10	0.52
36:BA:1955:U:O4	36:BA:2554:U:H5	1.93	0.52
36:BA:2287:A:N6	36:BA:2344:U:N3	2.50	0.52
36:BA:2289:G:O5'	36:BA:2289:G:H8	1.92	0.52
37:BB:70:C:H2'	37:BB:71:C:H6	1.75	0.52
38:BC:6:ARG:NH1	38:BC:34:THR:O	2.43	0.52
38:BC:104:LEU:O	38:BC:105:ASP:CB	2.57	0.52
39:BD:26:LYS:O	39:BD:27:THR:HB	2.09	0.52
39:BD:142:VAL:HG21	39:BD:191:ALA:HB1	1.91	0.52
40:BE:82:ARG:HG3	40:BE:83:ASP:H	1.75	0.52
40:BE:120:TRP:CD2	40:BE:155:LYS:HB3	2.44	0.52
40:BE:134:ILE:HA	40:BE:137:HIS:CD2	2.45	0.52
40:BE:201:THR:C	40:BE:202:LYS:HD2	2.35	0.52
42:BG:67:LYS:N	42:BG:67:LYS:CD	2.63	0.52
46:BN:22:THR:HA	46:BN:61:ARG:HB2	1.91	0.52
52:BT:33:LYS:HE2	52:BT:43:GLN:NE2	2.24	0.52
57:BY:14:LEU:HG	57:BY:15:VAL:N	2.25	0.52
58:BZ:19:ARG:C	58:BZ:21:ALA:N	2.65	0.52
1:AA:234:C:H2'	1:AA:235:C:C6	2.45	0.52
1:AA:725:G:O2'	1:AA:726:C:H5'	2.10	0.52
1:AA:1050:G:O2'	1:AA:1051:C:H6	1.93	0.52
1:AA:1118:C:O2'	1:AA:1119:C:H5'	2.11	0.52
1:AA:1243:C:H2'	1:AA:1244:C:C6	2.45	0.52
5:AE:122:GLU:OE2	5:AE:131:ILE:HG21	2.10	0.52
7:AG:120:ILE:O	7:AG:124:LEU:HB2	2.09	0.52
17:AQ:47:PRO:HG2	17:AQ:48:GLU:H	1.75	0.52
17:AQ:77:VAL:O	17:AQ:78:GLU:HB3	2.10	0.52
19:AS:31:ILE:HG22	19:AS:48:THR:O	2.10	0.52
20:AT:41:ILE:HG22	20:AT:91:LEU:HD12	1.91	0.52
20:AT:51:GLU:O	20:AT:55:ILE:HG12	2.10	0.52
20:AT:74:LYS:CG	20:AT:75:ASN:H	2.21	0.52
25:AZ:24:LYS:HB2	25:AZ:24:LYS:HZ2	1.75	0.52
25:AZ:114:PRO:HA	25:AZ:117:ARG:HH12	1.75	0.52
25:AZ:272:MET:O	25:AZ:275:LYS:HG2	2.10	0.52
27:B1:66:HIS:C	27:B1:68:PRO:HD2	2.35	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B6:53:LYS:HD3	32:B6:54:ILE:N	2.19	0.52
36:BA:176:G:O2'	36:BA:177:G:H5'	2.10	0.52
36:BA:332:A:H4'	36:BA:333:G:OP1	2.09	0.52
36:BA:850:C:H2'	36:BA:851:U:C6	2.45	0.52
36:BA:1038:C:C3'	36:BA:1039:G:H5"	2.40	0.52
36:BA:1210:A:H5"	36:BA:1212:G:O4'	2.10	0.52
36:BA:1251:C:P	53:BU:10:ARG:HG3	2.50	0.52
36:BA:1790:C:H5"	36:BA:1791:A:OP1	2.10	0.52
36:BA:2162:G:O2'	36:BA:2163:C:H5'	2.10	0.52
36:BA:2563:U:H4'	47:BO:28:SER:HA	1.92	0.52
38:BC:59:ARG:HH11	38:BC:141:LYS:NZ	2.08	0.52
38:BC:62:VAL:O	38:BC:160:ARG:HG2	2.10	0.52
38:BC:123:VAL:HG13	38:BC:124:GLY:N	2.24	0.52
39:BD:270:ILE:HD12	39:BD:270:ILE:N	2.15	0.52
40:BE:103:ASP:OD2	40:BE:168:MET:HE2	2.10	0.52
40:BE:179:GLU:O	40:BE:180:ASN:HB2	2.09	0.52
41:BF:16:GLY:O	41:BF:17:ARG:HG3	2.11	0.52
41:BF:160:ASN:ND2	41:BF:162:LEU:HB2	2.25	0.52
41:BF:205:ARG:C	41:BF:206:ILE:HD13	2.35	0.52
44:BJ:72:UNK:O	44:BJ:73:UNK:CB	2.58	0.52
44:BJ:79:UNK:O	44:BJ:80:UNK:CB	2.57	0.52
48:BP:46:LYS:HB3	48:BP:52:GLU:HG2	1.92	0.52
51:BS:74:ALA:HB1	51:BS:103:GLU:HG2	1.91	0.52
56:BX:30:VAL:HG11	56:BX:39:ILE:HD12	1.91	0.52
56:BX:31:HIS:HB3	56:BX:34:ALA:HB2	1.91	0.52
58:BZ:76:LEU:O	58:BZ:84:GLU:HG3	2.10	0.52
8:AH:37:ARG:NH2	8:AH:41:ARG:HH22	2.08	0.51
10:AJ:40:LEU:HB2	10:AJ:41:PRO:HD2	1.92	0.51
11:AK:71:LYS:O	11:AK:74:ALA:HB3	2.10	0.51
11:AK:126:ARG:O	11:AK:128:ALA:N	2.43	0.51
19:AS:31:ILE:HG23	19:AS:31:ILE:O	2.10	0.51
25:AZ:212:THR:N	25:AZ:213:PRO:CD	2.72	0.51
25:AZ:221:PHE:CE2	25:AZ:247:VAL:HG11	2.44	0.51
25:AZ:317:GLU:O	25:AZ:401:THR:HG22	2.09	0.51
28:B2:50:ILE:N	28:B2:50:ILE:HD12	2.24	0.51
32:B6:20:ASN:O	32:B6:21:TYR:CG	2.62	0.51
34:B8:21:LYS:HD3	34:B8:48:PHE:CE2	2.45	0.51
36:BA:593:G:H2'	36:BA:594:U:O4'	2.11	0.51
36:BA:631:A:H4'	48:BP:65:ARG:HD3	1.92	0.51
36:BA:1227:G:H5'	53:BU:13:LYS:HZ2	1.74	0.51
36:BA:1576:U:H2'	36:BA:1577:C:C6	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1666:G:O3'	47:BO:6:THR:HG23	2.10	0.51
36:BA:1810:A:H2'	36:BA:1811:G:O4'	2.09	0.51
36:BA:1947:C:O2'	36:BA:1948:G:H5"	2.10	0.51
36:BA:1980:G:O2'	36:BA:1982:C:OP2	2.27	0.51
38:BC:6:ARG:NH1	38:BC:6:ARG:O	2.42	0.51
38:BC:8:ARG:O	38:BC:12:GLU:HG2	2.11	0.51
39:BD:214:TRP:C	39:BD:216:GLY:H	2.18	0.51
39:BD:267:SER:CA	39:BD:270:ILE:HD11	2.39	0.51
40:BE:15:PHE:CE1	40:BE:20:ALA:HB2	2.45	0.51
44:BJ:74:UNK:C	44:BJ:76:UNK:H	2.23	0.51
48:BP:101:VAL:HG23	48:BP:102:ARG:N	2.25	0.51
49:BQ:63:LYS:HD2	58:BZ:175:VAL:HG21	1.92	0.51
50:BR:53:HIS:ND1	50:BR:53:HIS:O	2.43	0.51
54:BV:36:PRO:HA	54:BV:56:SER:HB2	1.92	0.51
57:BY:14:LEU:HB3	57:BY:73:ARG:HB2	1.91	0.51
57:BY:31:LEU:CB	57:BY:32:PRO:CA	2.88	0.51
58:BZ:8:TYR:HB2	58:BZ:38:TYR:CE2	2.44	0.51
58:BZ:103:ARG:HD2	58:BZ:136:PHE:CB	2.38	0.51
58:BZ:140:ASP:O	58:BZ:141:VAL:HG23	2.10	0.51
1:AA:347:G:H21	1:AA:348:G:H1'	1.75	0.51
1:AA:453:A:O2'	1:AA:454:C:H5"	2.09	0.51
1:AA:1143:G:H2'	1:AA:1144:G:H8	1.73	0.51
1:AA:1219:U:C2	1:AA:1220:G:C8	2.99	0.51
5:AE:80:ILE:HA	8:AH:104:ARG:NH2	2.25	0.51
5:AE:110:LEU:O	5:AE:113:ALA:HB3	2.09	0.51
13:AM:12:ASN:HD22	13:AM:12:ASN:N	1.90	0.51
13:AM:79:LYS:O	13:AM:82:MET:HB3	2.11	0.51
16:AP:21:VAL:HG11	16:AP:34:GLU:HB3	1.91	0.51
18:AR:37:VAL:HG11	18:AR:78:LEU:HB3	1.92	0.51
19:AS:28:LYS:HE2	19:AS:29:ARG:NH1	2.25	0.51
19:AS:63:THR:OG1	19:AS:64:GLU:N	2.43	0.51
22:AW:59:U:C2'	22:AW:60:U:H5'	2.38	0.51
25:AZ:136:ASN:O	25:AZ:137:LYS:HB2	2.11	0.51
25:AZ:253:VAL:HA	25:AZ:307:PRO:HD3	1.93	0.51
26:B0:16:SER:HB2	36:BA:2262:U:C5	2.45	0.51
36:BA:117:G:C6	36:BA:119:A:C6	2.97	0.51
36:BA:188:G:H2'	36:BA:189:G:H5'	1.92	0.51
36:BA:252:G:H2'	36:BA:253:C:H6	1.76	0.51
36:BA:272(B):G:O2'	36:BA:272(C):G:H5'	2.10	0.51
36:BA:784:A:C6	39:BD:229:VAL:HG11	2.45	0.51
36:BA:812:C:C2	36:BA:813:U:C5	2.98	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1148:A:H2'	36:BA:1148:A:N3	2.25	0.51
36:BA:1316:U:H2'	36:BA:1317:A:H8	1.72	0.51
36:BA:1769:G:O2'	36:BA:1958:C:OP1	2.22	0.51
36:BA:1902:C:H1'	39:BD:244:ARG:HG3	1.90	0.51
36:BA:2181:G:H2'	36:BA:2182:G:H8	1.75	0.51
36:BA:2892:A:H62	36:BA:2893:G:H21	1.57	0.51
37:BB:82:G:O2'	37:BB:83:G:H5'	2.10	0.51
37:BB:86:G:O2'	37:BB:87:G:H5'	2.10	0.51
38:BC:30:LYS:HE2	38:BC:178:ALA:O	2.10	0.51
39:BD:21:PHE:O	39:BD:24:ILE:HG23	2.11	0.51
40:BE:49:LEU:HD11	40:BE:91:VAL:HG21	1.92	0.51
43:BH:40:GLU:O	43:BH:41:MET:CB	2.58	0.51
43:BH:98:LEU:HD22	43:BH:125:VAL:CG2	2.39	0.51
46:BN:62:VAL:HG22	46:BN:66:LYS:HB2	1.90	0.51
48:BP:105:LEU:N	48:BP:105:LEU:HD12	2.25	0.51
51:BS:46:VAL:HG12	51:BS:47:THR:H	1.75	0.51
52:BT:28:VAL:O	52:BT:29:ARG:CD	2.58	0.51
54:BV:34:GLU:O	54:BV:36:PRO:HD2	2.10	0.51
56:BX:18:TYR:HA	56:BX:21:PHE:CD1	2.44	0.51
1:AA:60:A:H4'	1:AA:61:G:O5'	2.09	0.51
1:AA:221:C:H2'	1:AA:222:U:H6	1.75	0.51
1:AA:390:C:H2'	1:AA:391:G:C8	2.45	0.51
1:AA:1001(A):G:O2'	1:AA:1002:G:H5'	2.11	0.51
1:AA:1222:G:O2'	1:AA:1223:C:H5'	2.10	0.51
1:AA:1465:C:H2'	1:AA:1466:C:O4'	2.10	0.51
2:AB:62:ALA:HB2	2:AB:222:ILE:HG23	1.92	0.51
4:AD:126:ILE:CG2	4:AD:127:THR:N	2.73	0.51
9:AI:95:LYS:HZ3	9:AI:96:LEU:CD1	2.22	0.51
10:AJ:7:LYS:HG2	10:AJ:71:LEU:HD13	1.93	0.51
13:AM:9:ILE:N	13:AM:9:ILE:HD12	2.26	0.51
25:AZ:265:THR:HG22	25:AZ:266:VAL:H	1.74	0.51
27:B1:23:LYS:HD2	27:B1:28:GLY:HA3	1.92	0.51
30:B4:36:CYS:HB2	42:BG:108:ASN:O	2.11	0.51
32:B6:13:CYS:O	32:B6:21:TYR:HA	2.10	0.51
36:BA:671:C:H2'	36:BA:672:C:H6	1.75	0.51
36:BA:830:G:H1'	36:BA:2448:A:N1	2.24	0.51
36:BA:1187:G:H5"	54:BV:81:TYR:CZ	2.45	0.51
36:BA:1666:G:H2'	36:BA:1667:G:C5'	2.38	0.51
36:BA:2742:C:O2'	36:BA:2743:C:H5'	2.11	0.51
38:BC:161:ILE:C	38:BC:161:ILE:HD12	2.35	0.51
39:BD:254:THR:O	39:BD:254:THR:OG1	2.24	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BG:10:LYS:O	42:BG:15:VAL:HG23	2.11	0.51
43:BH:88:LEU:HD22	43:BH:88:LEU:N	2.25	0.51
45:BK:62:UNK:O	45:BK:63:UNK:C	2.57	0.51
46:BN:54:VAL:HB	46:BN:122:VAL:HG22	1.92	0.51
48:BP:92:GLU:HG3	48:BP:121:LYS:HZ1	1.76	0.51
50:BR:3:HIS:O	50:BR:4:LEU:C	2.52	0.51
53:BU:5:LYS:HG3	53:BU:7:GLY:H	1.75	0.51
57:BY:81:LYS:NZ	57:BY:99:CYS:HB2	2.25	0.51
1:AA:35:G:H2'	1:AA:36:C:C6	2.45	0.51
1:AA:1176:A:H2'	1:AA:1177:G:C8	2.45	0.51
3:AC:130:VAL:HG21	3:AC:157:ILE:HG23	1.92	0.51
4:AD:108:LEU:CD1	4:AD:174:LEU:HD13	2.40	0.51
6:AF:24:GLU:O	6:AF:27:GLN:HB2	2.10	0.51
7:AG:80:VAL:O	7:AG:82:GLY:N	2.41	0.51
7:AG:87:VAL:HG13	7:AG:151:TYR:O	2.11	0.51
10:AJ:30:SER:HB2	10:AJ:80:LYS:HZ3	1.74	0.51
11:AK:12:ARG:C	11:AK:13:GLN:HG3	2.36	0.51
18:AR:25:THR:O	18:AR:26:LEU:HG	2.09	0.51
19:AS:16:LEU:O	19:AS:18:LYS:N	2.44	0.51
25:AZ:16:THR:HB	25:AZ:79:HIS:HE2	1.74	0.51
27:B1:50:ARG:HD3	27:B1:57:GLU:OE1	2.10	0.51
28:B2:2:LYS:O	28:B2:6:VAL:HG23	2.10	0.51
32:B6:19:ARG:NH1	32:B6:43:CYS:SG	2.83	0.51
36:BA:105:C:H2'	36:BA:106:C:C6	2.43	0.51
36:BA:569:U:O2'	36:BA:983:A:N1	2.43	0.51
36:BA:784:A:H5"	39:BD:227:ASN:OD1	2.10	0.51
36:BA:863:A:O2'	36:BA:864:G:H5'	2.11	0.51
36:BA:1528:A:N1	36:BA:1542:A:H2	2.08	0.51
36:BA:1541:G:H1'	36:BA:1542:A:C4	2.45	0.51
36:BA:1884:A:C3'	36:BA:1885:A:H5"	2.41	0.51
36:BA:2143:C:O2'	36:BA:2144:U:H5'	2.10	0.51
36:BA:2262:U:H2'	36:BA:2263:C:H6	1.75	0.51
38:BC:183:GLU:HB2	38:BC:184:LYS:NZ	2.25	0.51
40:BE:183:LEU:HD12	40:BE:183:LEU:N	2.24	0.51
41:BF:2:LYS:HG3	41:BF:25:PRO:CG	2.40	0.51
43:BH:136:ILE:HD12	43:BH:136:ILE:N	2.24	0.51
49:BQ:10:ARG:HB2	49:BQ:10:ARG:NH1	2.25	0.51
52:BT:16:ARG:H	52:BT:79:HIS:CD2	2.29	0.51
52:BT:28:VAL:O	52:BT:28:VAL:HG12	2.10	0.51
54:BV:47:VAL:O	54:BV:49:THR:N	2.44	0.51
1:AA:235:C:H1'	17:AQ:61:GLU:OE1	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:382:A:H2'	1:AA:383:A:C8	2.46	0.51
1:AA:865:A:H5'	1:AA:1078:U:O4	2.10	0.51
1:AA:954:G:O3'	13:AM:120:LYS:HD2	2.11	0.51
1:AA:1032:G:H2'	1:AA:1033:G:C8	2.46	0.51
1:AA:1117:G:O3'	9:AI:104:ARG:NH1	2.43	0.51
1:AA:1265:G:C2	1:AA:1271:G:C2	2.98	0.51
2:AB:68:ILE:H	2:AB:90:MET:HE1	1.71	0.51
2:AB:162:ILE:CG2	2:AB:184:VAL:HG22	2.41	0.51
13:AM:34:LEU:HD13	13:AM:41:PRO:HA	1.91	0.51
22:AV:73:A:N3	22:AV:73:A:H5'	2.26	0.51
36:BA:145:G:C2'	36:BA:146:G:H5"	2.40	0.51
36:BA:1257:C:H2'	36:BA:1258:C:H6	1.76	0.51
42:BG:114:ILE:HG23	42:BG:114:ILE:O	2.10	0.51
43:BH:15:VAL:HG23	43:BH:16:SER:N	2.26	0.51
47:BO:115:VAL:CG1	47:BO:121:VAL:HG21	2.39	0.51
48:BP:16:ARG:NH1	48:BP:16:ARG:O	2.44	0.51
48:BP:95:VAL:HG23	48:BP:95:VAL:O	2.10	0.51
49:BQ:32:TYR:OH	49:BQ:111:GLU:HB2	2.10	0.51
49:BQ:43:THR:O	49:BQ:46:GLN:HB2	2.10	0.51
49:BQ:48:GLU:O	49:BQ:49:ALA:C	2.52	0.51
52:BT:46:GLU:OE2	52:BT:88:ILE:HG13	2.10	0.51
53:BU:79:PHE:CE1	53:BU:83:LEU:HD21	2.45	0.51
55:BW:52:GLU:O	55:BW:54:ALA:N	2.35	0.51
56:BX:54:VAL:CG2	56:BX:81:VAL:HG12	2.40	0.51
58:BZ:127:LYS:NZ	58:BZ:127:LYS:HB3	2.25	0.51
1:AA:175:C:O2'	1:AA:176:C:H5'	2.11	0.51
1:AA:180:U:H2'	1:AA:181:G:H5'	1.92	0.51
1:AA:254:G:N2	17:AQ:16:GLN:HE22	2.06	0.51
1:AA:502:G:OP1	12:AL:118:SER:HB2	2.11	0.51
1:AA:1320:C:H2'	1:AA:1321:C:O4'	2.10	0.51
13:AM:58:GLU:O	13:AM:62:ASN:HB2	2.10	0.51
13:AM:119:GLY:O	13:AM:120:LYS:CB	2.58	0.51
19:AS:19:VAL:CG1	19:AS:44:MET:HG3	2.40	0.51
24:AY:24:A:H2'	24:AY:25:C:C6	2.46	0.51
24:AY:37:MIA:H121	24:AY:38:A:N1	2.26	0.51
26:B0:45:PHE:HE2	26:B0:77:ARG:NH2	2.08	0.51
31:B5:47:PRO:O	31:B5:49:CYS:N	2.34	0.51
32:B6:8:LYS:O	32:B6:9:LEU:HB3	2.11	0.51
36:BA:511:U:H5"	36:BA:512:G:OP2	2.09	0.51
36:BA:1221:C:H2'	36:BA:1221(A):C:C6	2.44	0.51
36:BA:1278:A:H5"	50:BR:36:THR:HG22	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1654:A:OP2	50:BR:3:HIS:HD2	1.94	0.51
36:BA:1766:U:H2'	36:BA:1767:C:C6	2.46	0.51
36:BA:2020:A:O2'	36:BA:2021:C:H5'	2.10	0.51
36:BA:2688:U:H1'	36:BA:2721:A:H61	1.73	0.51
36:BA:2829:C:H2'	36:BA:2830:G:O4'	2.10	0.51
52:BT:28:VAL:HG22	52:BT:46:GLU:CA	2.41	0.51
53:BU:83:LEU:CD1	53:BU:83:LEU:H	2.24	0.51
54:BV:40:LEU:HD22	54:BV:40:LEU:N	2.26	0.51
56:BX:18:TYR:HD1	56:BX:21:PHE:HE1	1.59	0.51
56:BX:36:LYS:HE2	56:BX:54:VAL:O	2.10	0.51
57:BY:10:GLY:CA	57:BY:27:VAL:HG13	2.41	0.51
57:BY:86:ARG:CD	57:BY:88:LYS:HG3	2.40	0.51
1:AA:417:C:O2'	1:AA:418:C:H5'	2.11	0.51
1:AA:1216:G:H2'	1:AA:1217:C:H6	1.75	0.51
1:AA:1309:G:OP1	13:AM:92:HIS:HE1	1.92	0.51
13:AM:112:GLY:O	13:AM:113:PRO:C	2.53	0.51
16:AP:3:LYS:O	16:AP:21:VAL:HA	2.11	0.51
22:AV:18:G:H2'	22:AV:57:G:N2	2.25	0.51
25:AZ:171:ILE:HD12	25:AZ:171:ILE:N	2.26	0.51
32:B6:41:PRO:HG3	32:B6:49:HIS:CE1	2.45	0.51
35:B9:13:LYS:HD2	35:B9:28:GLU:CB	2.41	0.51
36:BA:963:U:H2'	36:BA:964:C:C6	2.46	0.51
36:BA:1625:C:C2'	36:BA:1626:G:H5'	2.41	0.51
36:BA:1801:G:OP2	39:BD:154:LYS:HE3	2.10	0.51
36:BA:2580:U:H5'	40:BE:131:ALA:HB2	1.93	0.51
37:BB:73:A:C2'	37:BB:74:U:H5'	2.41	0.51
39:BD:73:VAL:HG13	39:BD:120:GLY:HA3	1.92	0.51
40:BE:24:THR:HB	40:BE:184:VAL:CG2	2.40	0.51
51:BS:54:LEU:CD2	51:BS:58:LEU:O	2.59	0.51
52:BT:22:PHE:CD1	52:BT:22:PHE:C	2.89	0.51
52:BT:106:SER:O	52:BT:107:ASP:CB	2.58	0.51
54:BV:47:VAL:CG1	54:BV:52:VAL:HB	2.25	0.51
56:BX:55:ASN:HB2	56:BX:80:ILE:HG12	1.91	0.51
58:BZ:98:MET:O	58:BZ:126:VAL:HG22	2.11	0.51
1:AA:80:G:H3'	1:AA:81:U:H5'	1.92	0.51
1:AA:176:C:H2'	1:AA:177:C:C5	2.46	0.51
1:AA:622:A:C8	1:AA:623:C:C6	2.99	0.51
1:AA:1128:C:O2'	1:AA:1130:A:N7	2.42	0.51
2:AB:32:ILE:HD11	2:AB:40:HIS:CB	2.40	0.51
3:AC:142:MET:C	3:AC:144:SER:H	2.17	0.51
3:AC:164:ARG:HH22	3:AC:166:GLU:CD	2.18	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AM:94:ARG:HH22	36:BA:887:A:H5'	1.76	0.51
18:AR:44:LEU:O	18:AR:45:SER:C	2.54	0.51
22:AV:57:G:O2'	22:AV:58:A:H5'	2.10	0.51
25:AZ:334:PHE:CE2	25:AZ:353:VAL:HG11	2.45	0.51
27:B1:67:ILE:N	27:B1:68:PRO:CD	2.74	0.51
32:B6:22:ALA:O	32:B6:23:THR:HG23	2.09	0.51
35:B9:1:MET:HB2	35:B9:34:GLN:OE1	2.11	0.51
35:B9:7:VAL:HG13	35:B9:34:GLN:CG	2.39	0.51
36:BA:470:A:OP1	41:BF:59:TYR:CE2	2.63	0.51
36:BA:485:C:N3	36:BA:496:G:C2	2.79	0.51
36:BA:1131:G:H8	36:BA:2025:C:H4'	1.75	0.51
36:BA:1744:C:C2'	36:BA:1745:C:H5'	2.41	0.51
36:BA:2483:C:O2	36:BA:2483:C:H2'	2.10	0.51
36:BA:2512:C:H4'	40:BE:122:PHE:CE2	2.45	0.51
36:BA:2735:G:H2'	36:BA:2736:G:C8	2.46	0.51
36:BA:2789:C:H1'	36:BA:2892:A:C2	2.45	0.51
38:BC:76:ALA:HB2	38:BC:153:ILE:HD11	1.92	0.51
42:BG:57:ALA:HA	42:BG:90:LEU:HD21	1.93	0.51
48:BP:24:GLY:CA	48:BP:33:ARG:CZ	2.89	0.51
56:BX:9:LEU:HD23	56:BX:9:LEU:N	2.25	0.51
57:BY:94:LYS:O	57:BY:101:LYS:HA	2.11	0.51
58:BZ:140:ASP:C	58:BZ:141:VAL:HG23	2.36	0.51
1:AA:502:G:H2'	1:AA:503:C:O4'	2.11	0.51
1:AA:1347:G:N2	1:AA:1373:G:H2'	2.25	0.51
1:AA:1351:U:H5'	7:AG:33:ASP:OD1	2.10	0.51
4:AD:47:ARG:HD3	4:AD:49:ARG:NH2	2.23	0.51
8:AH:11:THR:HA	8:AH:14:ARG:HH12	1.76	0.51
9:AI:11:LYS:O	9:AI:13:ALA:N	2.44	0.51
11:AK:117:ASN:HD22	11:AK:117:ASN:N	2.07	0.51
32:B6:27:LYS:HG3	32:B6:27:LYS:O	2.11	0.51
35:B9:10:ILE:HG12	36:BA:2477:C:H5	1.76	0.51
36:BA:89:G:H3'	36:BA:90:U:C5'	2.41	0.51
36:BA:229:A:H3'	36:BA:230:U:C5'	2.33	0.51
36:BA:270:A:H2'	36:BA:271:A:H5'	1.92	0.51
36:BA:1149:G:H2'	36:BA:1150:C:C6	2.46	0.51
37:BB:111:G:O2'	37:BB:112:U:H5'	2.10	0.51
39:BD:69:ARG:HD2	39:BD:119:ALA:HB2	1.93	0.51
42:BG:88:ILE:CG2	42:BG:89:GLY:N	2.73	0.51
46:BN:3:THR:C	46:BN:4:TYR:CG	2.88	0.51
48:BP:29:LYS:N	48:BP:29:LYS:HD2	2.26	0.51
48:BP:113:LYS:HA	48:BP:129:ALA:O	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BS:12:PHE:H	51:BS:12:PHE:HD2	1.59	0.51
53:BU:109:LEU:O	53:BU:113:ALA:N	2.43	0.51
57:BY:31:LEU:CB	57:BY:32:PRO:HA	2.35	0.51
1:AA:355:C:N4	1:AA:356:A:H62	2.09	0.51
1:AA:384:G:H2'	1:AA:385:C:H6	1.74	0.51
1:AA:839:U:O2	1:AA:839:U:H2'	2.11	0.51
1:AA:927:G:O3'	23:AX:15:A:H2	1.93	0.51
1:AA:1002:G:H2'	1:AA:1003:G:H8	1.74	0.51
2:AB:194:PRO:O	2:AB:195:ASP:C	2.52	0.51
6:AF:44:GLY:O	6:AF:60:PHE:N	2.43	0.51
7:AG:75:VAL:HG23	7:AG:75:VAL:O	2.11	0.51
8:AH:116:LYS:CD	8:AH:127:LEU:HD12	2.41	0.51
9:AI:43:ALA:O	9:AI:45:ALA:N	2.44	0.51
15:AO:65:ARG:HG2	15:AO:65:ARG:HH11	1.76	0.51
20:AT:74:LYS:HG2	20:AT:75:ASN:H	1.74	0.51
25:AZ:356:PRO:HB3	25:AZ:357:PRO:HD2	1.93	0.51
26:B0:67:VAL:HG12	26:B0:68:GLU:H	1.75	0.51
33:B7:5:TRP:CZ3	36:BA:464:U:H4'	2.45	0.51
34:B8:53:PRO:O	34:B8:54:GLU:C	2.54	0.51
36:BA:272(H):C:H2'	36:BA:272(I):U:C5'	2.26	0.51
36:BA:310:A:OP1	57:BY:18:GLY:HA2	2.11	0.51
36:BA:491:G:H2'	36:BA:492:A:C8	2.46	0.51
36:BA:761:A:C8	36:BA:761:A:C3'	2.93	0.51
36:BA:1244:G:H2'	36:BA:1245:G:O4'	2.11	0.51
36:BA:1327:C:H2'	36:BA:1328:G:O4'	2.10	0.51
36:BA:1354:A:H2'	36:BA:1355:G:O4'	2.11	0.51
36:BA:2170:A:H4'	38:BC:133:PRO:HB3	1.92	0.51
41:BF:148:LEU:C	41:BF:150:GLY:N	2.67	0.51
41:BF:154:VAL:CG1	41:BF:193:VAL:HG23	2.40	0.51
42:BG:73:ALA:H	42:BG:87:PRO:CG	2.24	0.51
42:BG:133:LEU:C	42:BG:133:LEU:HD12	2.36	0.51
46:BN:62:VAL:CG2	46:BN:66:LYS:HB2	2.41	0.51
48:BP:56:SER:C	48:BP:57:THR:CG2	2.83	0.51
48:BP:111:ARG:NE	48:BP:149:GLU:HG3	2.26	0.51
51:BS:66:ALA:CA	51:BS:69:VAL:HG12	2.41	0.51
52:BT:13:ARG:HH12	52:BT:15:VAL:CG1	2.19	0.51
52:BT:83:ILE:HG13	52:BT:84:GLN:H	1.70	0.51
53:BU:3:ARG:HG2	53:BU:3:ARG:HH11	1.76	0.51
53:BU:46:ALA:O	53:BU:49:HIS:N	2.44	0.51
56:BX:24:GLY:O	56:BX:81:VAL:O	2.29	0.51
1:AA:259:G:O2'	1:AA:260:G:H5'	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:8:LYS:HE2	2:AB:217:ARG:CZ	2.41	0.50
2:AB:221:LEU:HD13	2:AB:221:LEU:C	2.37	0.50
9:AI:121:ARG:HG2	9:AI:121:ARG:HH11	1.75	0.50
11:AK:25:TYR:HE1	11:AK:87:THR:HB	1.75	0.50
11:AK:52:GLY:H	11:AK:55:LYS:HE2	1.73	0.50
12:AL:33:ARG:HB3	12:AL:60:LEU:HD12	1.93	0.50
20:AT:97:ALA:O	20:AT:99:LEU:N	2.44	0.50
25:AZ:352:VAL:O	25:AZ:372:VAL:HG23	2.11	0.50
28:B2:14:ARG:NH2	36:BA:77:C:O3'	2.37	0.50
28:B2:68:ARG:C	28:B2:69:ARG:HG3	2.37	0.50
36:BA:686:G:N2	36:BA:788:A:N6	2.59	0.50
36:BA:1637:A:H4'	36:BA:2711:A:O2'	2.11	0.50
36:BA:1826:G:H4'	39:BD:242:ARG:NH2	2.26	0.50
36:BA:2111:C:N3	36:BA:2145:C:H2'	2.25	0.50
36:BA:2491:U:O2'	36:BA:2492:U:H5'	2.11	0.50
36:BA:2758:A:O2'	36:BA:2759:G:H8	1.94	0.50
36:BA:2791:C:H4'	36:BA:2792:G:O5'	2.12	0.50
39:BD:166:GLN:HE21	39:BD:166:GLN:CA	2.19	0.50
39:BD:266:SER:O	39:BD:267:SER:O	2.29	0.50
47:BO:9:GLU:O	47:BO:83:ALA:HA	2.12	0.50
50:BR:53:HIS:HD2	50:BR:94:TYR:OH	1.94	0.50
50:BR:72:ASP:HB3	50:BR:75:LEU:HB2	1.92	0.50
52:BT:78:LEU:O	52:BT:79:HIS:CG	2.64	0.50
56:BX:27:THR:HG22	56:BX:80:ILE:CG2	2.39	0.50
57:BY:80:GLY:O	57:BY:81:LYS:C	2.53	0.50
57:BY:88:LYS:NZ	57:BY:93:GLY:N	2.58	0.50
58:BZ:86:VAL:O	58:BZ:87:ASP:OD1	2.29	0.50
1:AA:495:A:H1'	1:AA:496:A:C8	2.45	0.50
1:AA:737:A:O2'	1:AA:738:C:H5'	2.11	0.50
1:AA:1060:C:O2'	10:AJ:56:HIS:HD2	1.94	0.50
8:AH:103:VAL:HB	8:AH:109:ILE:N	2.26	0.50
9:AI:57:GLY:O	9:AI:58:ARG:CB	2.58	0.50
19:AS:6:LYS:N	19:AS:6:LYS:CD	2.54	0.50
25:AZ:34:VAL:HG11	25:AZ:199:ILE:HG22	1.93	0.50
25:AZ:181:GLN:OE1	25:AZ:193:ASN:OD1	2.29	0.50
32:B6:11:LEU:HD11	32:B6:51:GLU:CG	2.42	0.50
36:BA:276:A:O2'	36:BA:277:C:H5'	2.10	0.50
36:BA:363(E):U:H3'	36:BA:363(F):A:O4'	2.11	0.50
36:BA:782:A:N1	39:BD:226:MET:HE3	2.27	0.50
36:BA:1301:A:HO2'	36:BA:1302:A:H2'	1.69	0.50
36:BA:1645:G:H5"	36:BA:1646:C:H5'	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2464:C:O2'	36:BA:2465:C:P	2.69	0.50
36:BA:2591:C:P	39:BD:239:ARG:HB2	2.51	0.50
38:BC:190:ARG:O	38:BC:194:ARG:HG3	2.10	0.50
39:BD:244:ARG:HG2	39:BD:245:PRO:HD3	1.93	0.50
40:BE:132:HIS:CA	40:BE:135:HIS:HE1	2.23	0.50
40:BE:200:GLU:H	40:BE:200:GLU:CD	2.18	0.50
42:BG:171:ALA:O	42:BG:172:LEU:C	2.54	0.50
46:BN:62:VAL:O	46:BN:62:VAL:HG13	2.11	0.50
48:BP:17:LYS:O	48:BP:17:LYS:HG2	2.12	0.50
50:BR:80:PHE:O	50:BR:85:PRO:HD3	2.11	0.50
51:BS:17:ARG:O	51:BS:20:ARG:N	2.38	0.50
57:BY:67:LEU:HD23	57:BY:68:HIS:N	2.25	0.50
58:BZ:19:ARG:HH12	58:BZ:84:GLU:CB	2.23	0.50
1:AA:232:G:H1'	1:AA:262:A:N1	2.26	0.50
1:AA:882:C:O2'	1:AA:883:C:H5'	2.12	0.50
5:AE:76:ILE:HG12	5:AE:93:PRO:HG3	1.93	0.50
9:AI:99:LEU:HB3	9:AI:101:PHE:CD1	2.47	0.50
12:AL:41:ARG:HH12	12:AL:57:LYS:HZ3	1.59	0.50
20:AT:41:ILE:HG21	20:AT:87:LYS:CG	2.41	0.50
20:AT:53:LEU:H	20:AT:53:LEU:HD12	1.76	0.50
20:AT:57:ARG:NH1	20:AT:103:GLY:N	2.59	0.50
21:AU:24:ARG:O	21:AU:25:LYS:CB	2.59	0.50
25:AZ:162:GLU:N	25:AZ:162:GLU:OE2	2.45	0.50
25:AZ:185:ASN:OD1	25:AZ:188:THR:HG21	2.12	0.50
27:B1:27:GLU:CG	27:B1:28:GLY:N	2.74	0.50
30:B4:20:ASN:C	30:B4:20:ASN:ND2	2.69	0.50
31:B5:20:ARG:HA	31:B5:23:HIS:CE1	2.47	0.50
32:B6:10:LEU:HD12	34:B8:34:TRP:HD1	1.76	0.50
32:B6:16:CYS:SG	32:B6:48:VAL:HG22	2.51	0.50
32:B6:42:TRP:CE3	32:B6:42:TRP:HA	2.47	0.50
36:BA:251:A:H5"	48:BP:51:PHE:CZ	2.46	0.50
36:BA:308:G:H1'	36:BA:501:A:OP1	2.12	0.50
36:BA:560:C:H4'	53:BU:52:ARG:NH2	2.26	0.50
36:BA:673:C:P	41:BF:81:PRO:HG3	2.52	0.50
36:BA:776:G:H4'	36:BA:777:A:O5'	2.12	0.50
36:BA:898:C:H2'	36:BA:899:A:C5'	2.36	0.50
36:BA:1227:G:O2'	36:BA:1228:G:H5'	2.10	0.50
36:BA:1654:A:OP1	50:BR:3:HIS:N	2.45	0.50
36:BA:2308:G:C2'	36:BA:2309:A:C8	2.95	0.50
38:BC:14:VAL:O	38:BC:14:VAL:HG12	2.10	0.50
38:BC:43:VAL:HG22	38:BC:214:VAL:HG13	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:100:ILE:HG23	38:BC:127:LEU:CD1	2.42	0.50
38:BC:200:LYS:HG3	38:BC:208:PHE:CD1	2.46	0.50
39:BD:35:LYS:O	39:BD:36:PRO:C	2.54	0.50
39:BD:35:LYS:HB2	39:BD:63:ARG:HG2	1.93	0.50
39:BD:70:TRP:CD1	39:BD:70:TRP:C	2.90	0.50
43:BH:46:GLU:OE1	43:BH:50:VAL:HG13	2.11	0.50
43:BH:64:LEU:O	43:BH:67:LEU:HB3	2.11	0.50
52:BT:56:GLY:O	52:BT:57:PHE:C	2.54	0.50
54:BV:3:ALA:CB	54:BV:14:VAL:HG23	2.41	0.50
54:BV:19:LYS:HB2	54:BV:96:ILE:HD11	1.93	0.50
57:BY:8:LYS:HE2	57:BY:72:VAL:HG23	1.92	0.50
57:BY:54:LYS:HE3	57:BY:55:TYR:HE1	1.73	0.50
1:AA:174:C:O5'	1:AA:174:C:H6	1.94	0.50
1:AA:268:C:O2'	1:AA:269:C:H5'	2.11	0.50
1:AA:532:A:H2	1:AA:1206:G:H21	1.57	0.50
1:AA:691:G:O2'	1:AA:797:C:H4'	2.11	0.50
1:AA:1191:A:OP2	3:AC:3:ASN:ND2	2.45	0.50
1:AA:1242:C:O2'	1:AA:1243:C:H5'	2.12	0.50
1:AA:1392:G:H21	1:AA:1502:A:H8	1.56	0.50
2:AB:195:ASP:O	8:AH:68:ARG:NH2	2.40	0.50
6:AF:41:GLU:H	6:AF:62:TRP:HE3	1.60	0.50
10:AJ:83:GLU:O	10:AJ:84:GLN:C	2.53	0.50
13:AM:66:LEU:O	13:AM:70:LEU:HB2	2.11	0.50
15:AO:28:GLN:O	15:AO:32:LEU:HG	2.12	0.50
18:AR:56:THR:HB	18:AR:58:LEU:HD12	1.92	0.50
26:B0:2:ALA:HB3	36:BA:2602:A:N1	2.26	0.50
26:B0:27:GLU:CD	26:B0:27:GLU:N	2.68	0.50
26:B0:52:GLY:N	26:B0:62:LEU:HD21	2.26	0.50
26:B0:56:ASP:OD2	36:BA:2364:C:C5'	2.60	0.50
27:B1:53:VAL:CG2	27:B1:74:VAL:HG13	2.40	0.50
31:B5:44:THR:HG21	50:BR:101:ALA:CB	2.28	0.50
34:B8:6:THR:CG2	34:B8:63:PRO:HD3	2.42	0.50
36:BA:485:C:O2'	36:BA:486:C:H5'	2.11	0.50
36:BA:933:A:H2'	36:BA:934:G:O4'	2.11	0.50
36:BA:1178:C:H2'	36:BA:1179:C:H6	1.76	0.50
36:BA:1270:C:H5"	36:BA:1271:G:C5'	2.41	0.50
36:BA:2290:G:H2'	36:BA:2291:U:O4'	2.12	0.50
36:BA:2330:G:H2'	36:BA:2331:G:O4'	2.12	0.50
36:BA:2724:C:H2'	36:BA:2725:A:C8	2.46	0.50
46:BN:102:ALA:O	46:BN:106:MET:HG3	2.12	0.50
51:BS:12:PHE:O	51:BS:14:VAL:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BS:12:PHE:N	51:BS:12:PHE:CD2	2.78	0.50
52:BT:109:GLU:O	52:BT:110:ILE:C	2.53	0.50
53:BU:85:LYS:C	53:BU:87:GLY:N	2.64	0.50
56:BX:10:ALA:O	56:BX:28:PHE:CB	2.59	0.50
1:AA:9:G:OP2	5:AE:121:LYS:HD2	2.12	0.50
1:AA:16:A:N1	1:AA:919:A:H2	2.08	0.50
1:AA:1124:G:H2'	1:AA:1145:C:H41	1.75	0.50
2:AB:145:LEU:CD1	2:AB:149:LEU:HD12	2.41	0.50
9:AI:11:LYS:O	9:AI:11:LYS:HG2	2.11	0.50
12:AL:6:THR:O	12:AL:7:ILE:C	2.54	0.50
12:AL:47:LYS:HA	12:AL:47:LYS:HZ1	1.77	0.50
13:AM:65:LYS:CE	13:AM:73:GLU:HG3	2.42	0.50
16:AP:48:TRP:O	16:AP:49:LEU:HB2	2.10	0.50
20:AT:59:ALA:C	20:AT:61:SER:N	2.68	0.50
20:AT:93:GLU:OE2	20:AT:94:ALA:N	2.44	0.50
22:AV:5:G:H5'	22:AV:5:G:H8	1.76	0.50
24:AY:42:G:O2'	24:AY:43:G:H5'	2.11	0.50
24:AY:75:C:H1'	25:AZ:231:ILE:HD13	1.92	0.50
25:AZ:4:GLU:O	25:AZ:6:ILE:HD12	2.12	0.50
25:AZ:16:THR:HG23	25:AZ:81:ASP:HA	1.93	0.50
25:AZ:99:MET:HE2	25:AZ:102:ALA:CB	2.39	0.50
36:BA:71:A:C2	56:BX:31:HIS:HE1	2.30	0.50
36:BA:142:A:H1'	36:BA:1408:C:O4'	2.11	0.50
36:BA:335:C:H2'	36:BA:336:C:H6	1.73	0.50
36:BA:336:C:H4'	57:BY:7:VAL:HG21	1.94	0.50
36:BA:498:G:H2'	36:BA:499:U:H6	1.76	0.50
36:BA:679:C:O2'	36:BA:680:G:H5'	2.10	0.50
36:BA:845:G:O2'	36:BA:846:C:H5	1.95	0.50
36:BA:1140:C:H5'	36:BA:1141:U:OP2	2.11	0.50
36:BA:1862:G:O2'	36:BA:1863:G:H5'	2.12	0.50
36:BA:1973:G:H2'	36:BA:1974:C:C6	2.46	0.50
36:BA:2152:G:OP1	38:BC:1:PRO:HA	2.11	0.50
36:BA:2297:C:C2'	36:BA:2298:A:H5'	2.42	0.50
36:BA:2394:C:C2'	36:BA:2395:C:H5'	2.42	0.50
41:BF:36:VAL:HG11	41:BF:183:VAL:HG21	1.93	0.50
42:BG:115:ARG:HG3	42:BG:137:GLU:OE1	2.12	0.50
43:BH:87:LEU:CD2	43:BH:164:TYR:HA	2.40	0.50
44:BJ:23:UNK:O	44:BJ:86:UNK:HA	2.11	0.50
48:BP:30:THR:CG2	48:BP:31:ALA:H	2.25	0.50
50:BR:63:ARG:HA	50:BR:80:PHE:CZ	2.46	0.50
57:BY:13:VAL:CB	57:BY:28:LYS:HZ3	2.24	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BY:20:TYR:N	57:BY:20:TYR:CD1	2.79	0.50
57:BY:37:VAL:HG23	57:BY:38:ILE:N	2.26	0.50
58:BZ:155:LEU:N	58:BZ:155:LEU:CD2	2.74	0.50
1:AA:189(F):U:O4	17:AQ:62:SER:HB3	2.12	0.50
1:AA:838:G:C2'	1:AA:839:U:H5"	2.42	0.50
1:AA:1128:C:H41	1:AA:1139:G:H2'	1.76	0.50
1:AA:1368:G:OP2	9:AI:112:LYS:CD	2.59	0.50
1:AA:1442(B):A:H5'	52:BT:122:ASP:OD1	2.11	0.50
5:AE:6:PHE:CZ	5:AE:66:MET:HE1	2.46	0.50
7:AG:54:THR:O	7:AG:56:GLN:N	2.44	0.50
17:AQ:86:GLU:OE1	17:AQ:86:GLU:HA	2.11	0.50
25:AZ:338:TYR:O	25:AZ:353:VAL:HG23	2.11	0.50
27:B1:11:ARG:HB3	27:B1:11:ARG:NH1	2.27	0.50
30:B4:14:ILE:HG13	30:B4:31:ILE:CB	2.41	0.50
36:BA:265:A:C8	36:BA:266:G:H1'	2.46	0.50
36:BA:990:A:C6	36:BA:1186:G:H1'	2.47	0.50
36:BA:1061:U:H4'	36:BA:1070:A:C1'	2.42	0.50
36:BA:2372:G:O2'	36:BA:2373:G:H5'	2.12	0.50
36:BA:2723:C:H4'	50:BR:2:ARG:NE	2.25	0.50
37:BB:82:G:H2'	37:BB:83:G:H8	1.76	0.50
38:BC:72:VAL:O	38:BC:157:LYS:HD3	2.11	0.50
39:BD:161:THR:O	39:BD:196:VAL:HG23	2.11	0.50
41:BF:28:ILE:O	41:BF:28:ILE:HG12	2.10	0.50
41:BF:43:LYS:HB2	41:BF:98:SER:CB	2.42	0.50
42:BG:76:SER:HA	42:BG:83:ARG:HA	1.94	0.50
42:BG:101:ILE:HG22	42:BG:105:LYS:NZ	2.26	0.50
43:BH:147:ASN:N	43:BH:147:ASN:HD22	2.08	0.50
46:BN:39:ARG:O	46:BN:41:ASP:N	2.43	0.50
46:BN:97:ARG:O	46:BN:101:HIS:HB2	2.12	0.50
50:BR:114:VAL:HG23	50:BR:114:VAL:O	2.12	0.50
52:BT:16:ARG:HH12	52:BT:19:LEU:HD21	1.76	0.50
52:BT:45:PHE:CE1	52:BT:74:ARG:HG3	2.46	0.50
53:BU:13:LYS:HD3	53:BU:16:LYS:HZ2	1.76	0.50
55:BW:3:ALA:O	55:BW:107:LEU:HD12	2.12	0.50
56:BX:23:GLU:CD	56:BX:23:GLU:N	2.70	0.50
57:BY:42:VAL:HG21	57:BY:67:LEU:CD1	2.40	0.50
58:BZ:70:LEU:HD23	58:BZ:70:LEU:H	1.76	0.50
1:AA:18:C:H5"	5:AE:127:ASN:ND2	2.26	0.50
1:AA:156:G:C6	1:AA:166:G:C6	3.00	0.50
1:AA:686:U:O4	1:AA:703:G:H1'	2.11	0.50
1:AA:1169:A:H2'	1:AA:1170:A:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1468:A:H2'	1:AA:1469:G:O4'	2.12	0.50
2:AB:17:PHE:HB2	2:AB:44:LEU:HD11	1.93	0.50
6:AF:14:LEU:HD13	6:AF:18:GLN:HB2	1.94	0.50
6:AF:53:ALA:O	6:AF:54:LYS:HG2	2.11	0.50
12:AL:6:THR:O	12:AL:9:GLN:N	2.45	0.50
12:AL:119:LYS:O	12:AL:120:TYR:CD1	2.65	0.50
14:AN:40:CYS:O	14:AN:41:ARG:C	2.53	0.50
25:AZ:225:VAL:HG23	25:AZ:302:GLN:O	2.11	0.50
26:B0:24:LYS:O	26:B0:25:ARG:HG2	2.11	0.50
28:B2:21:LEU:O	28:B2:24:LEU:HB3	2.12	0.50
36:BA:215:G:H4'	36:BA:216:A:H4'	1.92	0.50
36:BA:2142:C:H2'	36:BA:2143:C:C6	2.47	0.50
36:BA:2392:A:H2	36:BA:2424:C:N4	2.09	0.50
36:BA:2801(A):A:H1'	36:BA:2803:C:C5	2.47	0.50
37:BB:22:U:H2'	37:BB:23:G:C8	2.47	0.50
37:BB:53:A:C5	37:BB:54:G:N7	2.80	0.50
39:BD:12:SER:HB2	39:BD:208:LYS:HB3	1.94	0.50
39:BD:147:LEU:HD11	39:BD:183:ARG:HD3	1.94	0.50
41:BF:65:TRP:HZ3	41:BF:73:ALA:O	1.94	0.50
41:BF:110:LEU:HA	41:BF:183:VAL:CG1	2.42	0.50
42:BG:34:LEU:HA	42:BG:161:THR:HG22	1.93	0.50
43:BH:86:GLU:N	43:BH:86:GLU:OE2	2.44	0.50
46:BN:18:ALA:CB	46:BN:26:LEU:HD22	2.41	0.50
46:BN:56:ASN:H	46:BN:125:GLY:N	2.10	0.50
48:BP:27:HIS:HA	48:BP:30:THR:OG1	2.12	0.50
51:BS:106:ARG:HD2	51:BS:107:GLU:O	2.12	0.50
52:BT:27:THR:O	52:BT:28:VAL:HG23	2.12	0.50
54:BV:2:PHE:CE1	54:BV:13:ARG:NH1	2.79	0.50
54:BV:12:TYR:HE2	54:BV:22:VAL:HG12	1.77	0.50
56:BX:11:PRO:HG2	56:BX:13:LEU:HG	1.92	0.50
57:BY:87:LYS:HG3	57:BY:88:LYS:N	2.27	0.50
58:BZ:60:GLU:O	58:BZ:65:GLN:O	2.29	0.50
1:AA:310:G:H2'	1:AA:311:C:C6	2.46	0.50
1:AA:355:C:C4	1:AA:356:A:N7	2.79	0.50
1:AA:952:U:H2'	1:AA:953:G:H8	1.77	0.50
1:AA:978:A:O2'	1:AA:1322:C:N3	2.43	0.50
1:AA:1322:C:H6	1:AA:1322:C:OP1	1.94	0.50
4:AD:3:ARG:O	4:AD:4:TYR:C	2.54	0.50
4:AD:199:ASN:C	4:AD:199:ASN:OD1	2.54	0.50
7:AG:91:VAL:O	7:AG:91:VAL:HG13	2.12	0.50
12:AL:89:ARG:HH11	12:AL:91:LYS:CA	2.13	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AN:32:SER:O	14:AN:40:CYS:HA	2.12	0.50
16:AP:74:LEU:HD22	16:AP:79:VAL:HG21	1.94	0.50
22:AV:68:C:O2'	22:AV:69:G:H5"	2.11	0.50
25:AZ:98:GLN:O	25:AZ:99:MET:C	2.54	0.50
25:AZ:294:SER:C	25:AZ:296:GLU:H	2.20	0.50
26:B0:70:GLN:NE2	26:B0:80:HIS:NE2	2.60	0.50
28:B2:64:LEU:HD23	28:B2:64:LEU:C	2.37	0.50
30:B4:7:PRO:HD2	42:BG:65:GLY:O	2.12	0.50
32:B6:20:ASN:C	32:B6:21:TYR:CG	2.90	0.50
34:B8:44:LYS:HD2	34:B8:44:LYS:N	2.27	0.50
36:BA:848:G:H5'	36:BA:848:G:H8	1.76	0.50
36:BA:951:C:O2'	36:BA:952:G:H5'	2.12	0.50
36:BA:1677:A:H2'	36:BA:1678:G:H8	1.77	0.50
36:BA:1947:C:C2'	36:BA:1948:G:C5'	2.82	0.50
36:BA:2078:C:H2'	36:BA:2079:U:H6	1.75	0.50
39:BD:97:TYR:C	39:BD:99:ASP:H	2.19	0.50
40:BE:77:ILE:CG2	40:BE:78:LEU:H	1.98	0.50
41:BF:185:ASP:HA	41:BF:188:ARG:CG	2.41	0.50
42:BG:7:LEU:O	42:BG:8:LYS:C	2.54	0.50
43:BH:85:LYS:NZ	43:BH:133:VAL:H	2.07	0.50
48:BP:71:VAL:O	48:BP:72:PRO:C	2.55	0.50
48:BP:111:ARG:HD2	48:BP:111:ARG:N	2.27	0.50
50:BR:34:ILE:HG22	50:BR:36:THR:HG23	1.94	0.50
50:BR:37:THR:HG23	50:BR:40:LYS:HE2	1.93	0.50
51:BS:47:THR:HG22	51:BS:49:VAL:O	2.12	0.50
51:BS:99:LYS:C	51:BS:101:LEU:H	2.19	0.50
52:BT:48:ILE:O	52:BT:63:VAL:HA	2.11	0.50
52:BT:57:PHE:C	52:BT:57:PHE:CD2	2.89	0.50
54:BV:79:VAL:O	54:BV:79:VAL:HG12	2.12	0.50
57:BY:20:TYR:CZ	57:BY:42:VAL:HA	2.47	0.50
58:BZ:177:PRO:O	58:BZ:178:GLU:HG2	2.11	0.50
1:AA:255:G:O6	1:AA:266:G:O6	2.29	0.50
1:AA:978:A:C5	1:AA:1319:A:C2	3.00	0.50
1:AA:1171:G:O2'	1:AA:1172:C:H5'	2.12	0.50
2:AB:222:ILE:O	2:AB:223:ILE:C	2.55	0.50
2:AB:235:SER:O	2:AB:237:ALA:N	2.45	0.50
3:AC:188:LEU:HD11	3:AC:195:VAL:HG11	1.93	0.50
4:AD:108:LEU:HD13	4:AD:174:LEU:HD13	1.94	0.50
6:AF:33:TYR:CE2	6:AF:75:LEU:HA	2.46	0.50
12:AL:102:ARG:HH11	12:AL:102:ARG:CG	2.25	0.50
14:AN:23:ARG:HH11	14:AN:30:ALA:HB2	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AP:74:LEU:C	16:AP:79:VAL:HG23	2.37	0.50
20:AT:26:ASN:ND2	20:AT:26:ASN:N	2.58	0.50
22:AW:38:A:H3'	22:AW:39:U:H5"	1.94	0.50
25:AZ:338:TYR:HB3	25:AZ:353:VAL:HB	1.94	0.50
33:B7:21:ARG:O	33:B7:27:GLY:HA3	2.12	0.50
34:B8:28:GLY:C	34:B8:32:LEU:HG	2.37	0.50
36:BA:212:G:O2'	36:BA:213:A:H5'	2.11	0.50
36:BA:264:C:H4'	36:BA:428:A:N1	2.27	0.50
36:BA:782:A:N1	39:BD:226:MET:CE	2.75	0.50
36:BA:997:G:OP1	53:BU:93:LYS:HD3	2.12	0.50
36:BA:1054:A:N3	36:BA:1054:A:H2'	2.26	0.50
36:BA:1425:G:H2'	36:BA:1426:G:C8	2.47	0.50
36:BA:1714:G:H2'	36:BA:1717:G:O4'	2.11	0.50
36:BA:2085:C:OP1	39:BD:261:LYS:NZ	2.43	0.50
36:BA:2350:C:O2'	36:BA:2351:G:H5'	2.12	0.50
40:BE:105:THR:OG1	40:BE:166:THR:HG23	2.12	0.50
41:BF:20:LEU:HD12	41:BF:203:GLN:HE22	1.76	0.50
42:BG:109:VAL:O	42:BG:111:LEU:N	2.39	0.50
46:BN:120:LEU:CD1	46:BN:122:VAL:HG23	2.42	0.50
48:BP:16:ARG:HH11	48:BP:16:ARG:CA	2.24	0.50
52:BT:129:ARG:C	52:BT:129:ARG:HD2	2.36	0.50
53:BU:35:ALA:O	53:BU:36:ARG:C	2.54	0.50
53:BU:79:PHE:CD1	53:BU:80:ILE:HD13	2.46	0.50
58:BZ:45:ASP:OD2	58:BZ:49:ARG:HG2	2.12	0.50
1:AA:324:G:OP1	20:AT:70:SER:HB2	2.12	0.49
1:AA:849:C:O2'	1:AA:850:U:H5'	2.12	0.49
1:AA:1319:A:H2'	1:AA:1323:G:N7	2.27	0.49
2:AB:7:VAL:O	2:AB:7:VAL:HG12	2.10	0.49
2:AB:22:LYS:HE2	2:AB:22:LYS:N	2.27	0.49
3:AC:113:ALA:HB1	3:AC:185:GLY:N	2.27	0.49
4:AD:153:ARG:HG2	4:AD:181:MET:HE2	1.93	0.49
5:AE:82:VAL:CG1	5:AE:83:GLU:N	2.74	0.49
6:AF:40:VAL:HG23	6:AF:62:TRP:O	2.11	0.49
10:AJ:50:ILE:HG13	14:AN:41:ARG:CZ	2.42	0.49
17:AQ:56:VAL:O	17:AQ:76:LEU:HD12	2.12	0.49
20:AT:50:GLU:C	20:AT:52:ALA:H	2.20	0.49
22:AW:38:A:H2'	22:AW:39:U:C5'	2.39	0.49
25:AZ:156:ASP:O	25:AZ:160:GLN:HB2	2.12	0.49
36:BA:1310:G:H1	36:BA:1604:C:H42	1.60	0.49
36:BA:1802:A:H2'	36:BA:1803:A:C8	2.47	0.49
36:BA:2097:C:O5'	36:BA:2097:C:H6	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2134:A:H1'	36:BA:2159:G:N3	2.27	0.49
36:BA:2159:G:C3'	36:BA:2160:G:H5"	2.42	0.49
36:BA:2287:A:C2	36:BA:2346:A:N1	2.68	0.49
36:BA:2364:C:C2'	36:BA:2365:G:H5'	2.42	0.49
36:BA:2392:A:H2'	36:BA:2393:A:O4'	2.12	0.49
37:BB:14:U:OP2	37:BB:71:C:H5'	2.12	0.49
38:BC:156:ILE:HA	38:BC:160:ARG:HB3	1.93	0.49
39:BD:263:ARG:O	39:BD:264:LYS:C	2.55	0.49
40:BE:199:ARG:NH1	40:BE:199:ARG:CB	2.75	0.49
43:BH:68:THR:O	43:BH:70:THR:N	2.45	0.49
47:BO:24:VAL:HG23	47:BO:24:VAL:O	2.12	0.49
48:BP:113:LYS:HE2	48:BP:131:SER:HB3	1.93	0.49
51:BS:12:PHE:O	51:BS:13:ARG:C	2.54	0.49
54:BV:18:LEU:HD22	54:BV:18:LEU:N	2.27	0.49
56:BX:51:VAL:CG1	56:BX:54:VAL:HG23	2.42	0.49
1:AA:223:U:H2'	1:AA:224:C:H6	1.77	0.49
1:AA:1060:C:O2'	10:AJ:56:HIS:CD2	2.65	0.49
2:AB:187:LEU:CD1	2:AB:205:ASP:HB3	2.42	0.49
4:AD:168:ARG:N	4:AD:168:ARG:HD2	2.27	0.49
10:AJ:4:ILE:HB	10:AJ:74:ILE:HD11	1.94	0.49
10:AJ:46:ARG:HG2	10:AJ:46:ARG:NH1	2.27	0.49
10:AJ:57:LYS:CE	10:AJ:60:ARG:NH2	2.75	0.49
13:AM:25:ILE:HG13	13:AM:66:LEU:HD23	1.95	0.49
20:AT:41:ILE:HG21	20:AT:87:LYS:HG2	1.93	0.49
25:AZ:96:ALA:C	25:AZ:98:GLN:N	2.68	0.49
25:AZ:158:LEU:C	25:AZ:160:GLN:H	2.18	0.49
27:B1:76:ARG:HB3	36:BA:271(R):G:OP1	2.12	0.49
30:B4:24:THR:HG21	42:BG:104:GLU:HG2	1.92	0.49
32:B6:12:GLU:OE1	32:B6:53:LYS:O	2.30	0.49
36:BA:727:A:O2'	36:BA:728:G:H5'	2.12	0.49
36:BA:1241:A:N6	36:BA:1242:A:N6	2.60	0.49
36:BA:1336:A:H2'	36:BA:1337:G:H8	1.77	0.49
36:BA:2295:C:C2	36:BA:2296:U:C5	3.00	0.49
36:BA:2850:A:N7	36:BA:2868:A:O2'	2.45	0.49
38:BC:6:ARG:O	38:BC:10:LEU:HD23	2.12	0.49
40:BE:181:LEU:HD21	52:BT:7:ILE:CG2	2.42	0.49
42:BG:103:LEU:HD23	42:BG:103:LEU:O	2.12	0.49
47:BO:8:LEU:N	47:BO:8:LEU:HD13	2.26	0.49
50:BR:44:LEU:C	50:BR:44:LEU:HD13	2.36	0.49
52:BT:67:SER:O	52:BT:68:TYR:HB2	2.12	0.49
56:BX:3:THR:HA	56:BX:6:ASP:OD2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:441:A:H3'	1:AA:442:C:H6	1.77	0.49
1:AA:681:C:C2'	1:AA:682:G:H5'	2.42	0.49
1:AA:789:U:H2'	1:AA:791:G:OP2	2.13	0.49
1:AA:1286:A:O2'	1:AA:1287:A:C5'	2.60	0.49
1:AA:1491:G:C5	59:AA:1601:PAR:H21	2.48	0.49
3:AC:23:TYR:CG	3:AC:24:ALA:N	2.80	0.49
5:AE:102:ALA:CB	5:AE:120:THR:HG21	2.42	0.49
36:BA:303:U:O2'	36:BA:304:G:H5'	2.12	0.49
36:BA:1208:C:C4	36:BA:1209:G:N7	2.80	0.49
36:BA:1231:G:H2'	36:BA:1232:G:C8	2.40	0.49
36:BA:2360:A:C2	36:BA:2361:A:H1'	2.47	0.49
36:BA:2383:G:O2'	36:BA:2384:G:H5'	2.12	0.49
36:BA:2554:U:H2'	36:BA:2555:U:H6	1.77	0.49
36:BA:2680:C:H5'	40:BE:189:PRO:HA	1.93	0.49
36:BA:2712:U:H1'	36:BA:2712(A):A:H8	1.74	0.49
38:BC:99:ILE:O	38:BC:99:ILE:HG22	2.12	0.49
39:BD:24:ILE:CD1	39:BD:25:THR:N	2.67	0.49
39:BD:65:ILE:HD13	39:BD:65:ILE:N	2.27	0.49
40:BE:35:GLN:CG	40:BE:36:ARG:H	2.21	0.49
40:BE:47:VAL:HG21	40:BE:85:ASN:HA	1.93	0.49
41:BF:119:ARG:HG2	41:BF:119:ARG:NH1	2.27	0.49
41:BF:150:GLY:HA2	41:BF:172:TRP:CE3	2.46	0.49
42:BG:34:LEU:HD13	42:BG:99:MET:SD	2.52	0.49
42:BG:141:PHE:C	42:BG:143:GLU:H	2.20	0.49
48:BP:38:GLN:CG	48:BP:39:LYS:H	2.18	0.49
48:BP:71:VAL:H	48:BP:72:PRO:HD2	1.74	0.49
48:BP:122:PRO:HB3	48:BP:141:ALA:HB1	1.93	0.49
49:BQ:78:PRO:O	49:BQ:81:VAL:CG1	2.59	0.49
53:BU:10:ARG:O	53:BU:11:ARG:C	2.54	0.49
55:BW:44:ALA:O	55:BW:45:TYR:C	2.55	0.49
57:BY:67:LEU:HD21	57:BY:71:LYS:CE	2.42	0.49
58:BZ:34:ASN:O	58:BZ:35:ARG:NE	2.44	0.49
1:AA:511:C:C2	1:AA:512:U:C5	3.00	0.49
1:AA:853:G:O2'	1:AA:854:G:H5'	2.12	0.49
1:AA:974:A:P	14:AN:29:ARG:HH22	2.35	0.49
1:AA:1228:C:O2'	13:AM:118:ALA:HB2	2.13	0.49
1:AA:1309:G:C6	1:AA:1329:A:C2	3.00	0.49
4:AD:17:VAL:HG11	4:AD:197:PRO:CB	2.42	0.49
4:AD:30:LYS:C	4:AD:32:ALA:N	2.62	0.49
9:AI:118:LYS:O	9:AI:119:ALA:HB2	2.11	0.49
25:AZ:217:VAL:HA	25:AZ:245:GLY:HA2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:67:U:H2'	36:BA:68:G:C8	2.47	0.49
36:BA:325:G:O2'	36:BA:326:G:H5'	2.11	0.49
36:BA:500:G:H22	36:BA:503:A:P	2.36	0.49
36:BA:635:C:O2'	36:BA:639:U:H5"	2.12	0.49
36:BA:635:C:H2'	36:BA:636:G:O4'	2.12	0.49
36:BA:1625:C:O2'	36:BA:1626:G:H5'	2.13	0.49
36:BA:2033:A:O2'	36:BA:2034:U:P	2.71	0.49
36:BA:2188:C:H2'	36:BA:2189:U:N1	2.26	0.49
36:BA:2543:G:H2'	36:BA:2544:G:C8	2.48	0.49
36:BA:2839:G:H5'	50:BR:46:GLY:HA2	1.93	0.49
41:BF:81:PRO:C	41:BF:82:ILE:O	2.48	0.49
42:BG:172:LEU:O	42:BG:172:LEU:HD23	2.13	0.49
45:BK:86:UNK:O	45:BK:87:UNK:CB	2.59	0.49
46:BN:41:ASP:C	53:BU:64:ARG:HH22	2.20	0.49
46:BN:65:LYS:HB3	46:BN:65:LYS:HZ3	1.76	0.49
48:BP:17:LYS:C	48:BP:19:VAL:H	2.19	0.49
48:BP:111:ARG:HG2	48:BP:111:ARG:NH2	2.26	0.49
49:BQ:140:ALA:HB1	58:BZ:99:TYR:CB	2.42	0.49
58:BZ:151:HIS:O	58:BZ:152:ALA:C	2.54	0.49
1:AA:35:G:N2	12:AL:118:SER:OG	2.39	0.49
1:AA:242:C:H2'	1:AA:243:A:H5'	1.94	0.49
1:AA:277:C:O2'	1:AA:278:G:H5'	2.12	0.49
4:AD:170:VAL:HG12	4:AD:174:LEU:HB2	1.93	0.49
5:AE:6:PHE:HB2	5:AE:34:VAL:CG2	2.42	0.49
7:AG:37:ASN:HD21	9:AI:40:LEU:HA	1.77	0.49
8:AH:1:MET:HE2	8:AH:2:LEU:N	2.28	0.49
16:AP:53:VAL:CG2	16:AP:54:GLU:H	2.22	0.49
16:AP:74:LEU:HB3	16:AP:79:VAL:HG21	1.93	0.49
17:AQ:66:SER:C	17:AQ:67:LYS:O	2.53	0.49
20:AT:57:ARG:NH1	20:AT:102:GLY:HA3	2.27	0.49
25:AZ:221:PHE:CE2	25:AZ:304:LEU:O	2.65	0.49
27:B1:58:ILE:HD11	27:B1:91:LYS:CB	2.43	0.49
28:B2:33:MET:HG3	28:B2:37:PHE:CE1	2.48	0.49
30:B4:20:ASN:HD22	30:B4:20:ASN:C	2.20	0.49
30:B4:31:ILE:HG22	30:B4:33:VAL:HG23	1.94	0.49
34:B8:38:GLY:O	34:B8:42:ARG:HB2	2.12	0.49
36:BA:85:G:O5'	57:BY:30:VAL:HB	2.11	0.49
36:BA:323:G:C8	41:BF:171:PRO:HG3	2.47	0.49
36:BA:587:C:C5	48:BP:33:ARG:HG2	2.47	0.49
36:BA:652:C:O2'	36:BA:653:A:O5'	2.30	0.49
36:BA:658:C:H2'	36:BA:659:C:H6	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1337:G:H2'	36:BA:1338:G:H8	1.78	0.49
36:BA:1416:G:O2'	36:BA:1417:C:H5	1.95	0.49
36:BA:1859:A:N6	36:BA:1883:G:O2'	2.46	0.49
36:BA:2360:A:O2'	36:BA:2361:A:C5'	2.61	0.49
37:BB:71:C:C2'	37:BB:72:G:H5'	2.42	0.49
39:BD:11:PRO:C	39:BD:13:ARG:H	2.21	0.49
40:BE:171:GLU:O	40:BE:184:VAL:HA	2.12	0.49
42:BG:52:ILE:HD13	42:BG:52:ILE:N	2.23	0.49
47:BO:35:VAL:CG2	47:BO:69:ILE:HD11	2.43	0.49
49:BQ:45:GLN:H	49:BQ:45:GLN:NE2	2.10	0.49
49:BQ:58:PHE:HD1	49:BQ:58:PHE:O	1.96	0.49
50:BR:32:GLY:O	50:BR:115:GLU:HA	2.13	0.49
50:BR:59:ASP:O	50:BR:60:LEU:C	2.56	0.49
50:BR:67:LEU:HD11	50:BR:71:GLN:O	2.12	0.49
55:BW:62:HIS:O	55:BW:63:ASP:C	2.55	0.49
56:BX:51:VAL:HG11	56:BX:54:VAL:HG23	1.93	0.49
57:BY:31:LEU:HG	57:BY:34:LYS:HB2	1.95	0.49
58:BZ:96:VAL:O	58:BZ:127:LYS:HA	2.13	0.49
1:AA:186:C:O3'	20:AT:82:SER:HB3	2.13	0.49
1:AA:386:C:H2'	1:AA:387:U:H5'	1.94	0.49
1:AA:697:U:C2'	1:AA:698:G:H5'	2.42	0.49
1:AA:1216:G:O2'	1:AA:1217:C:H5'	2.12	0.49
1:AA:1412:C:H2'	1:AA:1413:A:H8	1.75	0.49
5:AE:20:GLN:HE22	5:AE:25:ARG:CZ	2.24	0.49
9:AI:88:TYR:O	9:AI:89:ASN:CG	2.56	0.49
15:AO:61:GLY:O	15:AO:65:ARG:HG3	2.12	0.49
23:AX:26:A:C3'	23:AX:27:A:C5'	2.90	0.49
25:AZ:164:PRO:O	25:AZ:168:VAL:HG23	2.12	0.49
36:BA:29:U:O2'	36:BA:30:G:H5'	2.13	0.49
36:BA:416:C:N4	36:BA:2407:G:H1	2.06	0.49
36:BA:660:G:C5'	41:BF:99:TYR:CE2	2.95	0.49
36:BA:1103:A:H5'	36:BA:1104:C:OP2	2.12	0.49
36:BA:1169:G:H1	36:BA:1180:C:N4	2.04	0.49
36:BA:1678:G:H8	36:BA:1678:G:O5'	1.95	0.49
36:BA:2631:G:N3	36:BA:2810:A:H2	2.10	0.49
38:BC:14:VAL:HA	38:BC:20:TYR:OH	2.12	0.49
39:BD:60:ARG:CG	39:BD:86:PRO:HB2	2.38	0.49
39:BD:131:LEU:N	39:BD:131:LEU:CD1	2.73	0.49
42:BG:143:GLU:O	42:BG:144:ILE:C	2.55	0.49
52:BT:128:GLU:CD	52:BT:129:ARG:N	2.70	0.49
53:BU:83:LEU:H	53:BU:83:LEU:HD12	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:109:A:H2'	1:AA:326:G:N2	2.27	0.49
1:AA:149:A:H2'	1:AA:150:C:C6	2.47	0.49
1:AA:580:U:H2'	1:AA:581:G:O4'	2.12	0.49
1:AA:992:U:H4'	1:AA:993:G:O5'	2.13	0.49
1:AA:1152:A:H2'	1:AA:1153:C:C6	2.47	0.49
1:AA:1316:G:O3'	14:AN:18:VAL:HG22	2.12	0.49
1:AA:1478:C:H2'	1:AA:1479:C:C6	2.48	0.49
3:AC:95:THR:O	3:AC:97:LYS:N	2.46	0.49
4:AD:74:GLN:HE22	4:AD:100:ARG:HH22	1.59	0.49
12:AL:5:PRO:HG2	12:AL:10:LEU:CD2	2.42	0.49
17:AQ:58:GLU:O	17:AQ:59:ILE:HD13	2.13	0.49
19:AS:25:LYS:HB3	19:AS:27:GLU:OE2	2.13	0.49
19:AS:48:THR:O	19:AS:48:THR:HG22	2.13	0.49
21:AU:8:THR:O	21:AU:12:LYS:HB2	2.13	0.49
25:AZ:75:ARG:NH2	25:AZ:211:PRO:O	2.46	0.49
26:B0:5:LYS:HG3	49:BQ:80:GLU:HB3	1.94	0.49
36:BA:197:A:H5'	36:BA:197:A:H8	1.76	0.49
36:BA:271(J):C:O2	36:BA:271(J):C:H2'	2.12	0.49
36:BA:534:U:O2'	53:BU:49:HIS:CD2	2.65	0.49
36:BA:600:G:H1	36:BA:657:U:H3	1.61	0.49
36:BA:969:U:O5'	36:BA:969:U:H6	1.96	0.49
36:BA:1638:C:H4'	36:BA:2710:C:O2	2.13	0.49
36:BA:2137:C:O2'	36:BA:2138:C:H5'	2.11	0.49
36:BA:2297:C:O2'	36:BA:2298:A:H5'	2.13	0.49
36:BA:2520:C:C6	36:BA:2567:G:H1'	2.47	0.49
36:BA:2562:U:H1'	47:BO:23:ARG:HH11	1.78	0.49
36:BA:2777:G:C5'	36:BA:2778:A:H5'	2.42	0.49
36:BA:2821:A:H2'	36:BA:2822:G:C8	2.48	0.49
39:BD:64:ILE:C	39:BD:64:ILE:HD12	2.38	0.49
39:BD:170:GLY:C	39:BD:172:TYR:H	2.20	0.49
47:BO:98:VAL:O	47:BO:119:PRO:HD3	2.11	0.49
48:BP:143:GLY:C	48:BP:145:PRO:HD3	2.37	0.49
49:BQ:111:GLU:O	49:BQ:115:MET:HG2	2.12	0.49
52:BT:41:ARG:HG2	52:BT:41:ARG:NH1	2.27	0.49
53:BU:85:LYS:HD3	53:BU:117:GLN:NE2	2.25	0.49
57:BY:90:LEU:HD23	57:BY:90:LEU:H	1.78	0.49
58:BZ:74:VAL:O	58:BZ:74:VAL:HG12	2.12	0.49
1:AA:115:G:H1'	1:AA:116:A:N7	2.28	0.49
1:AA:126:G:H5'	1:AA:633:G:N2	2.28	0.49
1:AA:625:G:O2'	1:AA:626:U:H5'	2.12	0.49
3:AC:15:THR:HG23	3:AC:181:ASN:HB2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:46:GLY:HA3	5:AE:58:ALA:HB2	1.95	0.49
6:AF:98:LEU:H	6:AF:98:LEU:HD12	1.76	0.49
7:AG:78:ARG:O	7:AG:78:ARG:CG	2.60	0.49
8:AH:101:PRO:HG2	8:AH:133:LEU:HD21	1.94	0.49
8:AH:120:THR:OG1	8:AH:123:GLU:HG3	2.12	0.49
10:AJ:39:PRO:HA	10:AJ:70:ARG:HD3	1.94	0.49
13:AM:83:ASP:OD2	13:AM:84:ILE:N	2.46	0.49
26:B0:27:GLU:HG3	26:B0:69:PHE:CD1	2.37	0.49
32:B6:35:GLU:HB3	32:B6:51:GLU:HB2	1.94	0.49
36:BA:271(J):C:H2'	36:BA:271(K):U:H5"	1.94	0.49
36:BA:528:A:C2	36:BA:2042:A:H2'	2.48	0.49
36:BA:882:G:N2	36:BA:894:C:H42	2.11	0.49
36:BA:1166:C:H2'	36:BA:1167:U:C6	2.48	0.49
36:BA:2159:G:H2'	36:BA:2160:G:C4'	2.42	0.49
36:BA:2684:U:O4'	47:BO:70:LYS:HD2	2.13	0.49
38:BC:4:GLY:O	38:BC:8:ARG:HG3	2.12	0.49
38:BC:10:LEU:HD12	38:BC:32:LEU:CA	2.21	0.49
38:BC:217:THR:HG22	38:BC:218:MET:N	2.27	0.49
39:BD:181:GLU:HA	39:BD:272:ALA:O	2.13	0.49
40:BE:132:HIS:CD2	40:BE:135:HIS:CE1	3.00	0.49
42:BG:131:TYR:HB3	42:BG:159:VAL:CG1	2.42	0.49
43:BH:156:ALA:C	43:BH:158:HIS:N	2.63	0.49
46:BN:120:LEU:C	46:BN:120:LEU:HD13	2.37	0.49
47:BO:43:VAL:HG23	47:BO:56:ASP:O	2.13	0.49
52:BT:30:VAL:HG21	52:BT:84:GLN:HG3	1.94	0.49
55:BW:29:LEU:CD2	55:BW:33:ARG:HH11	2.26	0.49
58:BZ:72:ARG:NH2	58:BZ:97:GLU:O	2.45	0.49
58:BZ:109:ALA:HB3	58:BZ:144:LEU:O	2.12	0.49
1:AA:294:U:H2'	1:AA:295:C:H6	1.77	0.49
1:AA:379:C:C2'	1:AA:380:G:H5'	2.43	0.49
1:AA:975:A:H5'	1:AA:975:A:H8	1.77	0.49
1:AA:1240:U:OP1	7:AG:116:ALA:HB2	2.12	0.49
2:AB:189:ASP:O	2:AB:191:ASP:N	2.46	0.49
2:AB:212:GLN:NE2	2:AB:216:SER:HB2	2.26	0.49
3:AC:107:GLN:CD	3:AC:108:ASN:H	2.21	0.49
5:AE:80:ILE:HD11	5:AE:138:ALA:CA	2.42	0.49
7:AG:88:PRO:O	7:AG:89:MET:HB3	2.13	0.49
8:AH:9:MET:HG3	8:AH:26:VAL:HG11	1.95	0.49
9:AI:29:ASN:OD1	9:AI:65:VAL:N	2.46	0.49
9:AI:50:LEU:HG	9:AI:81:ILE:HG21	1.95	0.49
13:AM:65:LYS:HE2	13:AM:73:GLU:HG3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AO:74:ASP:OD2	15:AO:76:GLU:HB3	2.13	0.49
17:AQ:27:PHE:CD1	17:AQ:27:PHE:C	2.91	0.49
20:AT:89:ARG:HD2	20:AT:104:LEU:HD21	1.95	0.49
20:AT:89:ARG:NH2	20:AT:104:LEU:CD2	2.75	0.49
25:AZ:258:LEU:CD2	25:AZ:349:VAL:HG11	2.43	0.49
25:AZ:359:VAL:O	25:AZ:361:MET:N	2.46	0.49
36:BA:258:G:O2'	36:BA:259:G:H5'	2.13	0.49
36:BA:580:C:H2'	36:BA:581:C:C6	2.48	0.49
36:BA:937:U:C2	36:BA:938:G:C8	3.00	0.49
36:BA:1578:U:H2'	36:BA:1579:A:H5"	1.95	0.49
36:BA:1757:U:O4	36:BA:1762:A:C2	2.65	0.49
36:BA:1827:C:OP2	39:BD:222:ARG:HD2	2.12	0.49
36:BA:2092:U:H4'	36:BA:2093:G:H5"	1.95	0.49
36:BA:2130:U:OP2	38:BC:5:LYS:HG2	2.12	0.49
39:BD:35:LYS:CD	39:BD:36:PRO:N	2.69	0.49
40:BE:22:PRO:O	40:BE:185:LYS:O	2.31	0.49
40:BE:132:HIS:CD2	40:BE:135:HIS:HE2	2.30	0.49
40:BE:167:VAL:HG11	40:BE:187:ALA:O	2.11	0.49
41:BF:135:LYS:HB3	41:BF:138:GLU:CG	2.37	0.49
42:BG:100:TRP:O	42:BG:104:GLU:N	2.45	0.49
43:BH:86:GLU:O	43:BH:87:LEU:HD23	2.13	0.49
46:BN:61:ARG:HH11	46:BN:61:ARG:HG3	1.76	0.49
46:BN:78:TYR:N	46:BN:78:TYR:HD1	2.10	0.49
47:BO:19:ILE:HB	47:BO:41:ALA:HB1	1.95	0.49
50:BR:10:LEU:HA	50:BR:17:ARG:HD3	1.94	0.49
50:BR:29:LEU:HD22	50:BR:70:LEU:HD11	1.95	0.49
51:BS:98:VAL:O	51:BS:99:LYS:HB2	2.12	0.49
54:BV:15:GLU:O	54:BV:96:ILE:HB	2.13	0.49
57:BY:80:GLY:O	57:BY:81:LYS:O	2.31	0.49
1:AA:173:U:C5'	1:AA:197:A:O4'	2.55	0.49
1:AA:245:C:O2	1:AA:283:C:N3	2.46	0.49
1:AA:738:C:H2'	1:AA:739:C:H6	1.78	0.49
1:AA:966:G:O2'	1:AA:967:C:C5'	2.61	0.49
1:AA:1047:G:C2'	1:AA:1048:G:H5'	2.43	0.49
1:AA:1217:C:OP1	14:AN:9:LYS:HE3	2.13	0.49
1:AA:1286:A:O2'	1:AA:1287:A:OP2	2.29	0.49
3:AC:94:LEU:C	3:AC:94:LEU:HD12	2.37	0.49
4:AD:88:VAL:O	4:AD:92:VAL:HG23	2.13	0.49
5:AE:64:ARG:HB2	5:AE:64:ARG:CZ	2.43	0.49
22:AW:48:C:H2'	22:AW:59:U:H1'	1.94	0.49
25:AZ:249:VAL:HG22	25:AZ:269:GLY:HA2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:271(A):A:H5'	36:BA:271(B):C:OP2	2.13	0.49
36:BA:370:G:H4'	36:BA:371:A:OP2	2.13	0.49
36:BA:631:A:H2'	36:BA:632:A:O4'	2.13	0.49
36:BA:1131:G:C2	36:BA:1132:A:C5	3.00	0.49
36:BA:1376:C:O2'	36:BA:1377:G:H5'	2.12	0.49
36:BA:1642:G:O2'	36:BA:1643:G:H5'	2.13	0.49
36:BA:2366:A:H2'	36:BA:2367:G:O4'	2.12	0.49
36:BA:2653:U:H5"	36:BA:2654:A:H2'	1.94	0.49
36:BA:2679:A:H4'	40:BE:165:VAL:HG11	1.95	0.49
39:BD:10:THR:HG23	39:BD:13:ARG:HB2	1.94	0.49
40:BE:13:ARG:O	52:BT:57:PHE:CE1	2.66	0.49
42:BG:42:GLY:O	42:BG:43:LEU:C	2.56	0.49
42:BG:128:ARG:O	42:BG:129:GLY:O	2.31	0.49
42:BG:139:LEU:HA	42:BG:144:ILE:HD13	1.94	0.49
43:BH:137:ASP:OD2	43:BH:140:LYS:HE3	2.13	0.49
49:BQ:141:GLN:OE1	58:BZ:72:ARG:HD3	2.13	0.49
50:BR:7:GLY:O	50:BR:8:ARG:CZ	2.61	0.49
52:BT:129:ARG:HH11	52:BT:129:ARG:HG3	1.78	0.49
53:BU:82:GLY:O	53:BU:85:LYS:N	2.46	0.49
57:BY:84:ARG:HG2	57:BY:85:VAL:H	1.78	0.49
1:AA:78:G:H2'	1:AA:79:G:H4'	1.95	0.48
1:AA:433:C:H2'	1:AA:434:U:C6	2.48	0.48
1:AA:567:G:H2'	1:AA:568:G:O4'	2.13	0.48
1:AA:1015:A:H2'	1:AA:1016:A:H8	1.75	0.48
1:AA:1478:C:H2'	1:AA:1479:C:H6	1.78	0.48
12:AL:5:PRO:CG	12:AL:10:LEU:HD21	2.42	0.48
13:AM:82:MET:O	13:AM:82:MET:CG	2.60	0.48
17:AQ:55:ASP:O	17:AQ:57:VAL:HG13	2.13	0.48
18:AR:45:SER:N	18:AR:51:LEU:HG	2.21	0.48
19:AS:72:GLY:C	19:AS:74:PHE:H	2.21	0.48
20:AT:57:ARG:HB2	20:AT:57:ARG:HH11	1.77	0.48
20:AT:100:ILE:O	20:AT:102:GLY:N	2.43	0.48
22:AW:56:C:H5"	38:BC:137:LEU:HG	1.95	0.48
25:AZ:89:ILE:HD13	25:AZ:389:ARG:NH1	2.28	0.48
25:AZ:130:TYR:CG	25:AZ:211:PRO:HD3	2.48	0.48
29:B3:29:ARG:O	29:B3:30:ARG:C	2.55	0.48
30:B4:12:ALA:CB	30:B4:29:PRO:HA	2.42	0.48
32:B6:32:ASN:O	32:B6:33:LYS:HB2	2.13	0.48
36:BA:27:G:O2'	36:BA:28:A:OP2	2.30	0.48
36:BA:68:G:H2'	36:BA:69:C:C6	2.47	0.48
36:BA:271(H):G:N2	36:BA:271(I):G:H1'	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:331:A:H1'	36:BA:332:A:OP1	2.13	0.48
36:BA:708:C:N4	36:BA:723:G:H1	2.04	0.48
36:BA:1087:G:H2'	36:BA:1088:A:H4'	1.95	0.48
36:BA:1417:C:H2'	36:BA:1418:G:O4'	2.12	0.48
36:BA:2320:A:C2	36:BA:2333:A:C8	3.01	0.48
36:BA:2820:A:O3'	50:BR:5:LYS:HE2	2.13	0.48
37:BB:87:G:H3'	37:BB:88:C:C5'	2.40	0.48
39:BD:25:THR:CG2	39:BD:26:LYS:HD2	2.41	0.48
39:BD:57:GLY:HA2	39:BD:214:TRP:O	2.13	0.48
39:BD:117:VAL:HG21	39:BD:128:GLY:HA3	1.94	0.48
40:BE:116:VAL:CG2	40:BE:122:PHE:CD2	2.96	0.48
41:BF:135:LYS:CB	41:BF:138:GLU:HG3	2.36	0.48
41:BF:158:THR:C	41:BF:160:ASN:N	2.71	0.48
49:BQ:63:LYS:HD3	49:BQ:65:PHE:CZ	2.48	0.48
50:BR:87:TYR:O	50:BR:89:ASP:N	2.41	0.48
52:BT:109:GLU:OE2	52:BT:112:ARG:NH2	2.45	0.48
53:BU:59:ARG:C	53:BU:61:TRP:H	2.21	0.48
55:BW:1:MET:HE3	55:BW:2:GLU:N	2.28	0.48
56:BX:50:LYS:HG2	56:BX:84:ALA:HB2	1.94	0.48
56:BX:51:VAL:HG11	56:BX:54:VAL:CG2	2.42	0.48
57:BY:2:ARG:HD3	57:BY:3:VAL:HG23	1.95	0.48
58:BZ:35:ARG:NE	58:BZ:35:ARG:CA	2.75	0.48
1:AA:102:G:C4	1:AA:103:C:C6	3.01	0.48
1:AA:114:U:H2'	1:AA:115:G:C8	2.48	0.48
1:AA:145:G:H2'	1:AA:146:G:O4'	2.13	0.48
1:AA:501:C:H2'	1:AA:502:G:C8	2.48	0.48
2:AB:138:LEU:C	2:AB:140:HIS:N	2.69	0.48
3:AC:103:VAL:O	3:AC:103:VAL:HG12	2.13	0.48
5:AE:82:VAL:HG12	5:AE:83:GLU:N	2.27	0.48
6:AF:40:VAL:O	6:AF:40:VAL:HG13	2.13	0.48
7:AG:65:ALA:HB3	7:AG:124:LEU:HD23	1.95	0.48
10:AJ:35:SER:O	10:AJ:36:GLY:O	2.31	0.48
13:AM:14:ARG:H	13:AM:44:ARG:NH1	2.08	0.48
21:AU:3:LYS:HD3	21:AU:14:TRP:CD1	2.47	0.48
25:AZ:113:MET:HB3	25:AZ:114:PRO:CD	2.43	0.48
25:AZ:176:LEU:O	25:AZ:180:GLU:HG3	2.13	0.48
36:BA:594:U:H3	36:BA:663:G:H1	1.61	0.48
36:BA:904:C:H2'	36:BA:905:U:C6	2.47	0.48
36:BA:1435:G:H2'	36:BA:1436:G:O4'	2.12	0.48
36:BA:1824:G:OP1	39:BD:52:ARG:NH1	2.46	0.48
36:BA:2689:U:H4'	36:BA:2690:C:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2758:A:HO2'	36:BA:2759:G:H8	1.61	0.48
36:BA:2861:G:O2'	36:BA:2862:G:H5'	2.13	0.48
37:BB:66:A:N6	37:BB:108:U:C6	2.82	0.48
38:BC:47:LEU:HD12	38:BC:47:LEU:N	2.28	0.48
38:BC:75:LEU:HD12	38:BC:76:ALA:N	2.28	0.48
39:BD:30:GLU:CD	39:BD:63:ARG:HE	2.21	0.48
39:BD:97:TYR:HE1	39:BD:103:ARG:HD3	1.76	0.48
39:BD:230:ASP:O	39:BD:231:HIS:HB2	2.12	0.48
41:BF:60:SER:OG	41:BF:61:GLY:N	2.46	0.48
42:BG:16:ARG:NE	42:BG:31:VAL:HG11	2.28	0.48
43:BH:85:LYS:NZ	43:BH:132:ARG:HA	2.28	0.48
51:BS:101:LEU:HD12	51:BS:101:LEU:C	2.38	0.48
52:BT:38:ASN:O	52:BT:40:THR:N	2.43	0.48
52:BT:41:ARG:HG2	52:BT:41:ARG:HH11	1.78	0.48
53:BU:25:TRP:CD1	53:BU:26:GLY:N	2.81	0.48
55:BW:64:MET:O	55:BW:65:LEU:O	2.31	0.48
56:BX:18:TYR:C	56:BX:20:GLY:N	2.70	0.48
56:BX:63:LYS:HE2	56:BX:72:LYS:HG2	1.94	0.48
56:BX:88:LYS:HB2	56:BX:93:GLU:OE2	2.13	0.48
57:BY:2:ARG:C	57:BY:4:LYS:N	2.67	0.48
58:BZ:17:ALA:HA	58:BZ:20:ARG:CD	2.43	0.48
1:AA:297:G:O2'	1:AA:299:G:N7	2.45	0.48
1:AA:674:G:O2'	1:AA:675:A:H5'	2.13	0.48
1:AA:729:A:H2'	1:AA:730:G:O4'	2.14	0.48
1:AA:952:U:H2'	1:AA:953:G:C8	2.49	0.48
2:AB:75:LYS:HD3	2:AB:75:LYS:O	2.13	0.48
2:AB:88:ALA:HB2	2:AB:219:VAL:HG13	1.95	0.48
4:AD:64:LEU:O	4:AD:67:ILE:HB	2.14	0.48
9:AI:40:LEU:C	9:AI:42:ARG:N	2.71	0.48
13:AM:22:ILE:CG2	13:AM:66:LEU:HD23	2.39	0.48
14:AN:29:ARG:NH1	14:AN:29:ARG:CG	2.75	0.48
19:AS:13:ASP:C	19:AS:15:LEU:H	2.21	0.48
22:AV:61:C:H2'	22:AV:61:C:O2	2.12	0.48
25:AZ:102:ALA:HB2	25:AZ:128:VAL:HG11	1.94	0.48
25:AZ:272:MET:HB2	25:AZ:277:LEU:HD23	1.95	0.48
26:B0:40:GLN:NE2	26:B0:43:THR:HA	2.28	0.48
29:B3:3:ARG:HB2	29:B3:59:VAL:O	2.12	0.48
29:B3:28:LEU:N	29:B3:28:LEU:CD2	2.69	0.48
36:BA:61:G:H8	36:BA:61:G:O5'	1.96	0.48
36:BA:329:G:N7	57:BY:71:LYS:HE3	2.28	0.48
36:BA:535:C:O3'	53:BU:53:ARG:NH1	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1332:G:H5'	36:BA:1333:C:H5	1.78	0.48
36:BA:1378:A:O2'	36:BA:1379:A:C5'	2.54	0.48
36:BA:1536:C:H2'	36:BA:1537:G:H4'	1.95	0.48
36:BA:2866:U:O2	36:BA:2866:U:H2'	2.13	0.48
38:BC:215:THR:HB	38:BC:221:SER:N	2.28	0.48
39:BD:46:GLN:N	39:BD:46:GLN:CD	2.72	0.48
39:BD:266:SER:C	39:BD:267:SER:O	2.56	0.48
42:BG:91:ARG:HH11	42:BG:91:ARG:HG3	1.78	0.48
42:BG:96:ARG:HA	42:BG:99:MET:HE2	1.95	0.48
43:BH:85:LYS:O	43:BH:132:ARG:HB2	2.13	0.48
49:BQ:6:ARG:C	49:BQ:7:MET:HG3	2.39	0.48
50:BR:48:VAL:O	50:BR:51:LEU:HB2	2.13	0.48
51:BS:35:ILE:CD1	51:BS:99:LYS:HE3	2.43	0.48
52:BT:55:ASN:H	52:BT:59:THR:CG2	2.09	0.48
52:BT:64:ARG:HD2	52:BT:73:GLU:CD	2.38	0.48
52:BT:92:GLY:C	52:BT:94:ALA:N	2.69	0.48
53:BU:21:ALA:HB1	53:BU:24:TYR:HD1	1.75	0.48
53:BU:57:PHE:CD2	53:BU:60:LEU:HD12	2.49	0.48
53:BU:92:ARG:HH22	54:BV:10:LYS:HG2	1.77	0.48
57:BY:64:GLU:O	57:BY:65:ALA:CB	2.61	0.48
57:BY:75:ILE:HG13	57:BY:76:CYS:N	2.28	0.48
57:BY:76:CYS:O	57:BY:77:PRO:C	2.55	0.48
57:BY:95:LYS:HG3	57:BY:101:LYS:H	1.77	0.48
1:AA:64:G:H4'	1:AA:65:U:C5'	2.44	0.48
1:AA:189(C):C:H2'	1:AA:189(D):C:O4'	2.13	0.48
1:AA:376:G:O2'	1:AA:377:G:H5'	2.13	0.48
1:AA:429:U:H4'	1:AA:430:A:O5'	2.13	0.48
1:AA:1108:G:H5'	3:AC:176:HIS:CD2	2.48	0.48
1:AA:1306:A:H61	1:AA:1331:G:H1'	1.77	0.48
3:AC:15:THR:CG2	3:AC:181:ASN:HA	2.43	0.48
3:AC:167:TRP:CD1	3:AC:168:ALA:N	2.81	0.48
4:AD:171:GLY:O	4:AD:173:TRP:N	2.46	0.48
4:AD:199:ASN:OD1	4:AD:201:GLN:HB2	2.13	0.48
5:AE:75:THR:OG1	5:AE:76:ILE:N	2.45	0.48
8:AH:13:ILE:O	8:AH:17:THR:HG23	2.13	0.48
12:AL:110:VAL:HG23	12:AL:120:TYR:HB3	1.95	0.48
15:AO:4:THR:OG1	15:AO:7:GLU:HB2	2.14	0.48
17:AQ:17:LYS:HA	17:AQ:49:GLU:HG2	1.95	0.48
20:AT:26:ASN:HB2	20:AT:71:THR:CG2	2.33	0.48
25:AZ:75:ARG:HD2	25:AZ:77:TYR:CZ	2.48	0.48
31:B5:13:LYS:NZ	36:BA:517:C:OP2	2.36	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B6:12:GLU:HA	32:B6:23:THR:HA	1.94	0.48
36:BA:247:G:H4'	36:BA:386:G:C5	2.48	0.48
36:BA:528:A:OP2	46:BN:114:ARG:NH1	2.43	0.48
36:BA:628:G:C2'	36:BA:629:G:C5'	2.86	0.48
36:BA:914:C:C2'	36:BA:915:C:H5'	2.33	0.48
36:BA:1344:G:H4'	36:BA:1384:A:C5	2.48	0.48
36:BA:2187:G:H2'	36:BA:2188:C:H5'	1.94	0.48
36:BA:2238:G:H2'	36:BA:2238:G:N3	2.28	0.48
36:BA:2369:A:H2'	36:BA:2370:G:C8	2.48	0.48
36:BA:2543:G:H5'	36:BA:2543:G:H8	1.78	0.48
36:BA:2715:C:O2'	36:BA:2716:U:H5'	2.13	0.48
36:BA:2740:A:H2'	36:BA:2741:A:C8	2.48	0.48
39:BD:165:ILE:HG23	39:BD:173:VAL:HG21	1.94	0.48
45:BK:55:UNK:CB	45:BK:69:UNK:HA	2.43	0.48
46:BN:27:ALA:HB1	46:BN:103:VAL:HG22	1.94	0.48
48:BP:92:GLU:HA	48:BP:123:LEU:HD13	1.93	0.48
52:BT:28:VAL:HB	52:BT:88:ILE:HG12	1.95	0.48
53:BU:57:PHE:O	53:BU:58:ARG:C	2.56	0.48
57:BY:31:LEU:HD23	57:BY:36:ALA:H	1.79	0.48
58:BZ:6:LYS:N	58:BZ:6:LYS:CD	2.77	0.48
1:AA:108:G:H5'	1:AA:109:A:H5"	1.93	0.48
1:AA:1053:G:O6	1:AA:1199:U:H2'	2.14	0.48
2:AB:8:LYS:HE2	2:AB:217:ARG:NH1	2.27	0.48
3:AC:154:SER:H	3:AC:157:ILE:HD11	1.79	0.48
4:AD:13:ARG:O	4:AD:14:ARG:C	2.57	0.48
4:AD:147:ALA:HB2	4:AD:182:LYS:HA	1.94	0.48
5:AE:31:LEU:HD23	5:AE:45:PHE:CD1	2.41	0.48
9:AI:93:ARG:C	9:AI:95:LYS:N	2.64	0.48
12:AL:7:ILE:HG21	17:AQ:34:LYS:HB2	1.96	0.48
12:AL:33:ARG:NE	12:AL:62:SER:HB3	2.29	0.48
13:AM:32:GLU:O	13:AM:35:GLU:HG2	2.13	0.48
14:AN:19:ARG:O	14:AN:20:ALA:HB3	2.13	0.48
15:AO:62:GLN:HA	15:AO:62:GLN:NE2	2.27	0.48
22:AV:18:G:H4'	22:AV:60:U:O2	2.14	0.48
25:AZ:46:ASP:O	25:AZ:50:ILE:HG12	2.13	0.48
32:B6:11:LEU:HD21	32:B6:51:GLU:CD	2.38	0.48
32:B6:13:CYS:HA	32:B6:50:ARG:O	2.13	0.48
36:BA:301:G:H1'	36:BA:302:C:C6	2.49	0.48
36:BA:497:A:H2'	36:BA:498:G:H8	1.79	0.48
36:BA:523:C:C2'	36:BA:524:U:H5'	2.44	0.48
36:BA:534:U:H5'	53:BU:42:ALA:CB	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:970:C:H2'	36:BA:971:C:C6	2.48	0.48
36:BA:1517:G:H5'	36:BA:1517:G:H8	1.78	0.48
36:BA:1567:A:C5'	39:BD:58:HIS:CD2	2.97	0.48
36:BA:1598:C:C5'	56:BX:36:LYS:HD2	2.43	0.48
36:BA:2295:C:O2'	36:BA:2296:U:H5'	2.14	0.48
36:BA:2413:G:H21	48:BP:70:GLN:NE2	2.06	0.48
38:BC:37:PHE:CZ	38:BC:39:GLU:HG3	2.49	0.48
38:BC:77:ILE:HB	38:BC:115:ALA:HA	1.95	0.48
39:BD:35:LYS:HG3	39:BD:63:ARG:CG	2.43	0.48
39:BD:129:ASN:O	39:BD:193:VAL:HG12	2.13	0.48
41:BF:110:LEU:C	41:BF:110:LEU:HD13	2.39	0.48
46:BN:57:ALA:O	46:BN:58:ASP:C	2.56	0.48
47:BO:32:TYR:CD1	47:BO:32:TYR:N	2.81	0.48
47:BO:68:GLU:OE2	47:BO:78:ARG:HD3	2.13	0.48
53:BU:92:ARG:O	53:BU:94:ASN:N	2.46	0.48
54:BV:75:PHE:CD1	54:BV:75:PHE:C	2.91	0.48
57:BY:17:SER:HA	57:BY:71:LYS:HD2	1.95	0.48
57:BY:95:LYS:HE3	57:BY:100:ALA:HA	1.94	0.48
58:BZ:7:ALA:HB3	58:BZ:61:LEU:HD23	1.96	0.48
1:AA:84:U:O2'	1:AA:88:A:H5'	2.14	0.48
1:AA:348:G:H2'	1:AA:349:A:H5'	1.96	0.48
1:AA:633:G:H5'	1:AA:634:C:OP2	2.13	0.48
1:AA:858:G:C6	1:AA:869:G:C8	3.01	0.48
1:AA:1442(A):G:C8	52:BT:118:ARG:NH2	2.82	0.48
3:AC:16:ARG:NH1	3:AC:16:ARG:HB2	2.29	0.48
3:AC:60:ALA:CB	3:AC:63:ASN:HD21	2.25	0.48
3:AC:70:VAL:HG12	3:AC:71:ALA:N	2.28	0.48
7:AG:85:TYR:CD1	7:AG:154:TYR:CE1	3.02	0.48
10:AJ:8:LEU:HD22	10:AJ:20:ALA:HB2	1.95	0.48
12:AL:41:ARG:HH22	12:AL:57:LYS:CE	2.26	0.48
15:AO:70:LEU:O	15:AO:72:ARG:N	2.46	0.48
16:AP:19:ILE:HG22	16:AP:36:ILE:HG13	1.95	0.48
20:AT:99:LEU:HB3	20:AT:100:ILE:HD12	1.96	0.48
22:AV:5:G:O2'	22:AV:6:G:H5'	2.13	0.48
25:AZ:222:LEU:CD1	25:AZ:303:VAL:HG11	2.44	0.48
36:BA:521:G:O2'	36:BA:522:G:H5'	2.13	0.48
36:BA:1224:C:C5	36:BA:1225:G:C6	3.01	0.48
36:BA:1682:G:H5'	36:BA:1762:A:O2'	2.14	0.48
36:BA:2234:G:O2'	36:BA:2235:G:H5'	2.13	0.48
36:BA:2580:U:H5'	40:BE:131:ALA:CB	2.43	0.48
36:BA:2580:U:P	40:BE:131:ALA:HB2	2.53	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2880:C:O3'	50:BR:90:ARG:NH1	2.47	0.48
38:BC:22:ILE:HD13	38:BC:190:ARG:HG2	1.95	0.48
38:BC:42:GLU:N	38:BC:215:THR:O	2.35	0.48
39:BD:26:LYS:HZ3	39:BD:26:LYS:HA	1.79	0.48
48:BP:147:LEU:O	48:BP:148:LEU:HB2	2.14	0.48
49:BQ:52:VAL:O	49:BQ:53:ALA:C	2.55	0.48
49:BQ:79:LEU:O	49:BQ:80:GLU:HB2	2.14	0.48
50:BR:14:SER:HA	50:BR:17:ARG:NH2	2.29	0.48
50:BR:45:ARG:O	50:BR:48:VAL:HG12	2.13	0.48
51:BS:34:HIS:HB3	51:BS:53:SER:HB3	1.95	0.48
52:BT:28:VAL:O	52:BT:29:ARG:CB	2.60	0.48
52:BT:83:ILE:O	52:BT:84:GLN:C	2.56	0.48
53:BU:92:ARG:CB	54:BV:11:GLN:NE2	2.76	0.48
55:BW:70:TYR:CZ	55:BW:72:LYS:HG2	2.49	0.48
58:BZ:127:LYS:HD2	58:BZ:162:GLU:OE2	2.13	0.48
1:AA:123:C:OP1	1:AA:312:C:H5'	2.14	0.48
1:AA:415:A:H2'	1:AA:416:G:C8	2.48	0.48
1:AA:495:A:H61	4:AD:119:GLN:NE2	2.12	0.48
1:AA:975:A:H4'	1:AA:976:G:C5'	2.37	0.48
1:AA:1122:U:O2'	1:AA:1123:A:H5'	2.13	0.48
1:AA:1166:G:H22	1:AA:1169:A:H3'	1.79	0.48
1:AA:1423:G:H2'	1:AA:1424:C:H6	1.79	0.48
2:AB:59:GLU:CB	2:AB:221:LEU:HD11	2.43	0.48
2:AB:97:TRP:CH2	2:AB:176:GLU:CD	2.92	0.48
2:AB:160:ASP:O	2:AB:183:PRO:HD2	2.13	0.48
3:AC:173:VAL:HG12	3:AC:175:LEU:CD1	2.43	0.48
4:AD:31:CYS:O	4:AD:32:ALA:HB3	2.13	0.48
4:AD:129:ASN:HD21	4:AD:145:GLU:N	2.01	0.48
6:AF:76:ALA:O	6:AF:80:ARG:HG3	2.14	0.48
7:AG:54:THR:O	7:AG:54:THR:HG23	2.13	0.48
11:AK:126:ARG:C	11:AK:128:ALA:N	2.72	0.48
16:AP:75:ARG:HH11	16:AP:75:ARG:HG3	1.79	0.48
22:AW:29:G:H1	22:AW:41:C:N4	2.11	0.48
25:AZ:129:PRO:O	25:AZ:130:TYR:CB	2.62	0.48
27:B1:41:ARG:NH2	36:BA:1365:A:OP1	2.34	0.48
36:BA:198:C:O5'	36:BA:198:C:H6	1.97	0.48
36:BA:605:C:H1'	36:BA:657:U:O2'	2.14	0.48
36:BA:606:U:H2'	36:BA:607:U:O4'	2.14	0.48
36:BA:623:G:H2'	36:BA:624:C:H6	1.78	0.48
36:BA:654(L):G:N3	36:BA:654(L):G:H3'	2.28	0.48
36:BA:833:U:H2'	36:BA:834:C:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1141:U:C5'	36:BA:1142(A):A:O4'	2.61	0.48
36:BA:1215:G:O2'	36:BA:1216:G:H5'	2.14	0.48
36:BA:1670:C:H2'	36:BA:1671:U:O4'	2.13	0.48
36:BA:1809:A:H2'	36:BA:1810:A:C8	2.48	0.48
36:BA:1809:A:C6	36:BA:1810:A:C6	3.01	0.48
36:BA:1885:A:H8	36:BA:1885:A:H5'	1.78	0.48
36:BA:2009:G:O2'	36:BA:2010:G:H5'	2.13	0.48
36:BA:2360:A:O2'	36:BA:2361:A:P	2.72	0.48
36:BA:2658:C:N4	36:BA:2664:G:N2	2.62	0.48
39:BD:21:PHE:HB3	39:BD:24:ILE:HG21	1.96	0.48
40:BE:60:ASN:O	40:BE:61:ARG:C	2.56	0.48
40:BE:150:VAL:HG13	40:BE:154:LYS:HD3	1.95	0.48
42:BG:31:VAL:HG13	42:BG:31:VAL:O	2.13	0.48
42:BG:111:LEU:CB	42:BG:112:PRO:HD3	2.43	0.48
46:BN:10:GLU:HG3	46:BN:11:PRO:HD2	1.95	0.48
46:BN:72:TYR:CE1	46:BN:87:LEU:HD23	2.48	0.48
48:BP:93:GLY:O	48:BP:123:LEU:HD12	2.13	0.48
49:BQ:14:ARG:HG2	49:BQ:14:ARG:HH11	1.79	0.48
50:BR:78:LYS:O	50:BR:83:ILE:HG12	2.13	0.48
51:BS:104:GLY:C	51:BS:106:ARG:N	2.72	0.48
54:BV:35:LEU:C	54:BV:37:VAL:H	2.22	0.48
58:BZ:9:TYR:CE2	58:BZ:61:LEU:HD13	2.48	0.48
58:BZ:11:GLU:OE2	58:BZ:13:GLU:HG3	2.14	0.48
1:AA:266:G:H5'	1:AA:267:C:C5	2.48	0.48
1:AA:591:U:H2'	1:AA:592:G:C8	2.49	0.48
1:AA:1217:C:O2'	1:AA:1218:C:H5'	2.14	0.48
2:AB:15:VAL:HG23	2:AB:15:VAL:O	2.14	0.48
3:AC:15:THR:HG21	3:AC:181:ASN:HA	1.95	0.48
13:AM:63:THR:HG22	13:AM:64:TRP:N	2.28	0.48
13:AM:97:PRO:N	13:AM:110:ARG:HD3	2.28	0.48
19:AS:4:SER:C	19:AS:5:LEU:O	2.57	0.48
22:AV:69:G:H5'	22:AV:69:G:C8	2.41	0.48
25:AZ:104:LEU:N	25:AZ:132:VAL:O	2.47	0.48
25:AZ:272:MET:O	25:AZ:273:HIS:HB2	2.14	0.48
27:B1:33:LYS:N	27:B1:33:LYS:CD	2.73	0.48
28:B2:34:GLU:O	28:B2:38:GLN:HG2	2.13	0.48
31:B5:2:ALA:HA	36:BA:2015:A:O2'	2.14	0.48
31:B5:49:CYS:O	31:B5:56:LYS:HB2	2.14	0.48
32:B6:11:LEU:HD21	32:B6:51:GLU:OE2	2.13	0.48
34:B8:4:MET:SD	34:B8:61:LEU:CD2	3.02	0.48
36:BA:539:G:H2'	36:BA:540:C:H6	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1131:G:OP1	46:BN:80:GLY:N	2.47	0.48
36:BA:1431:U:H2'	36:BA:1432:C:C6	2.49	0.48
36:BA:1858:G:N2	36:BA:1883:G:H2'	2.26	0.48
36:BA:2050:C:H2'	36:BA:2051:A:O4'	2.14	0.48
36:BA:2289:G:O5'	36:BA:2289:G:C8	2.66	0.48
36:BA:2533:A:C2'	36:BA:2534:A:H5'	2.44	0.48
36:BA:2845:G:H5"	52:BT:54:ARG:O	2.13	0.48
38:BC:43:VAL:CG2	38:BC:214:VAL:HG13	2.44	0.48
39:BD:24:ILE:HG23	39:BD:25:THR:H	1.79	0.48
40:BE:80:GLU:O	40:BE:81:ILE:HD13	2.14	0.48
41:BF:31:HIS:CE1	48:BP:13:ASN:HB2	2.49	0.48
41:BF:36:VAL:CG1	41:BF:183:VAL:HG21	2.43	0.48
41:BF:53:THR:HG23	41:BF:56:GLU:HG3	1.96	0.48
41:BF:185:ASP:HA	41:BF:188:ARG:CD	2.44	0.48
43:BH:83:TYR:HB2	43:BH:134:SER:HA	1.94	0.48
47:BO:81:ASP:C	47:BO:81:ASP:OD1	2.56	0.48
48:BP:126:VAL:HG22	48:BP:145:PRO:HG2	1.95	0.48
49:BQ:12:GLN:OE1	49:BQ:72:LYS:HG3	2.13	0.48
50:BR:4:LEU:O	50:BR:5:LYS:HD2	2.14	0.48
50:BR:13:HIS:HE1	50:BR:15:SER:OG	1.96	0.48
50:BR:83:ILE:HA	50:BR:86:ARG:HD3	1.95	0.48
57:BY:77:PRO:O	57:BY:78:ALA:HB2	2.14	0.48
58:BZ:77:ASP:O	58:BZ:79:ARG:N	2.46	0.48
1:AA:1250:A:H2'	1:AA:1251:A:C8	2.49	0.48
1:AA:1442(A):G:H5'	1:AA:1442(B):A:OP2	2.13	0.48
2:AB:201:ILE:O	2:AB:202:PRO:C	2.56	0.48
2:AB:209:ARG:HD3	2:AB:239:VAL:HG11	1.95	0.48
2:AB:215:LEU:O	2:AB:219:VAL:N	2.42	0.48
7:AG:72:ARG:CZ	7:AG:73:MET:HE2	2.44	0.48
12:AL:25:PRO:C	12:AL:27:LEU:H	2.21	0.48
12:AL:53:ARG:HD2	12:AL:53:ARG:N	2.26	0.48
17:AQ:22:LEU:HD12	17:AQ:41:LYS:CG	2.44	0.48
19:AS:72:GLY:C	19:AS:74:PHE:N	2.71	0.48
25:AZ:324:LYS:CG	25:AZ:364:PRO:HB3	2.34	0.48
29:B3:5:LYS:HB3	29:B3:57:GLU:HB3	1.96	0.48
30:B4:37:SER:O	30:B4:38:LYS:CB	2.62	0.48
31:B5:16:ARG:HH11	31:B5:20:ARG:NH1	2.11	0.48
32:B6:25:LYS:NZ	36:BA:2284:C:H41	2.11	0.48
32:B6:33:LYS:HA	32:B6:33:LYS:CE	2.26	0.48
34:B8:13:ARG:HA	48:BP:63:PRO:HA	1.96	0.48
35:B9:7:VAL:HG22	35:B9:34:GLN:CG	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:321:G:N3	41:BF:165:ARG:HD3	2.28	0.48
36:BA:359:A:H2'	36:BA:360:G:O4'	2.13	0.48
36:BA:534:U:H5'	53:BU:42:ALA:HB1	1.96	0.48
36:BA:548:A:C2'	36:BA:549:G:H5'	2.41	0.48
36:BA:752:A:H4'	36:BA:753:C:O5'	2.13	0.48
36:BA:814:C:H1'	36:BA:1225:G:N2	2.29	0.48
36:BA:2050:C:H1'	40:BE:156:MET:HE2	1.95	0.48
36:BA:2223:G:O2'	36:BA:2224:G:H5'	2.14	0.48
36:BA:2533:A:OP1	36:BA:2665:A:H1'	2.14	0.48
37:BB:71:C:H2'	37:BB:72:G:H5'	1.96	0.48
38:BC:78:ALA:HB1	38:BC:83:ILE:HA	1.95	0.48
40:BE:50:GLY:HA2	40:BE:78:LEU:CB	2.29	0.48
40:BE:93:VAL:C	40:BE:95:ILE:N	2.72	0.48
40:BE:167:VAL:HG12	40:BE:189:PRO:HD3	1.95	0.48
40:BE:197:ILE:O	40:BE:197:ILE:CG1	2.62	0.48
41:BF:20:LEU:HB2	41:BF:23:ASP:OD2	2.14	0.48
41:BF:51:THR:CB	41:BF:88:VAL:HG11	2.44	0.48
42:BG:138:GLN:HG3	42:BG:139:LEU:H	1.79	0.48
44:BJ:64:UNK:HA	44:BJ:67:UNK:CB	2.44	0.48
46:BN:56:ASN:H	46:BN:125:GLY:H	1.62	0.48
48:BP:91:PHE:CD1	48:BP:91:PHE:N	2.81	0.48
48:BP:110:TYR:HE1	48:BP:149:GLU:OE1	1.97	0.48
49:BQ:25:ASP:OD2	58:BZ:78:LYS:HD3	2.13	0.48
50:BR:87:TYR:C	50:BR:89:ASP:H	2.22	0.48
51:BS:27:SER:O	51:BS:37:ALA:HA	2.14	0.48
53:BU:8:VAL:CG2	53:BU:11:ARG:HH21	2.23	0.48
53:BU:47:TYR:HE2	54:BV:74:LYS:NZ	2.10	0.48
55:BW:56:ALA:C	55:BW:58:ALA:H	2.20	0.48
57:BY:29:GLU:N	57:BY:29:GLU:OE1	2.47	0.48
57:BY:62:GLU:CD	57:BY:62:GLU:N	2.72	0.48
58:BZ:71:VAL:HA	58:BZ:87:ASP:O	2.14	0.48
58:BZ:108:PRO:C	58:BZ:110:GLY:N	2.69	0.48
1:AA:122:G:O2'	1:AA:123:C:H5'	2.13	0.48
1:AA:137:C:O2	1:AA:137:C:H2'	2.14	0.48
1:AA:409:G:H5'	4:AD:25:ARG:HB2	1.96	0.48
1:AA:555:C:H2'	1:AA:556:C:C6	2.49	0.48
1:AA:1247:U:H1'	1:AA:1291:G:N2	2.29	0.48
1:AA:1510:U:H2'	1:AA:1511:G:H8	1.76	0.48
2:AB:95:GLN:O	2:AB:96:ARG:HD2	2.14	0.48
2:AB:129:GLU:O	2:AB:130:ARG:O	2.31	0.48
3:AC:188:LEU:HD13	3:AC:195:VAL:HG13	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AL:45:PRO:HG2	12:AL:51:ALA:HB3	1.96	0.48
13:AM:87:TYR:CE1	19:AS:81:ARG:NH2	2.82	0.48
22:AW:56:C:H5"	38:BC:137:LEU:CB	2.43	0.48
27:B1:86:SER:O	27:B1:90:ILE:HG12	2.14	0.48
33:B7:11:LYS:HE2	36:BA:686:G:C5'	2.42	0.48
34:B8:5:LYS:HG2	36:BA:254:G:O6	2.14	0.48
36:BA:744:G:C2'	36:BA:745:G:H5'	2.43	0.48
36:BA:860:U:H2'	36:BA:861:A:H8	1.79	0.48
36:BA:1142:U:H3'	36:BA:1142:U:H6	1.78	0.48
36:BA:1210:A:O2'	36:BA:1211:U:OP2	2.27	0.48
36:BA:1550:C:O2'	36:BA:1551:C:H5'	2.14	0.48
36:BA:1757:U:O4	36:BA:1762:A:H2	1.97	0.48
36:BA:2229:C:O2'	36:BA:2230:G:H5'	2.14	0.48
36:BA:2572:A:C2	40:BE:144:ARG:NH1	2.82	0.48
36:BA:2582:G:OP2	36:BA:2583:G:OP2	2.30	0.48
36:BA:2760:C:C3'	36:BA:2761:G:H5"	2.43	0.48
38:BC:186:ALA:HB1	38:BC:190:ARG:HH22	1.77	0.48
40:BE:38:THR:O	40:BE:42:ASP:HB2	2.12	0.48
41:BF:157:VAL:HG12	41:BF:176:LEU:HB2	1.95	0.48
42:BG:9:ARG:C	42:BG:11:TYR:H	2.22	0.48
43:BH:150:ALA:O	43:BH:152:ARG:N	2.46	0.48
48:BP:23:PRO:C	48:BP:33:ARG:CZ	2.87	0.48
50:BR:29:LEU:HD11	50:BR:52:ILE:HD11	1.95	0.48
53:BU:59:ARG:C	53:BU:61:TRP:N	2.72	0.48
54:BV:33:VAL:O	54:BV:59:ALA:O	2.32	0.48
55:BW:12:ILE:CG1	55:BW:42:ARG:HH12	2.27	0.48
1:AA:434:U:H2'	1:AA:435:C:C6	2.49	0.47
1:AA:539:A:OP2	12:AL:115:LYS:HE3	2.13	0.47
1:AA:779:C:H2'	1:AA:780:A:O4'	2.14	0.47
1:AA:792:A:H4'	1:AA:793:U:O5'	2.14	0.47
1:AA:1137:C:O2'	1:AA:1138:G:N2	2.47	0.47
1:AA:1310:G:H2'	1:AA:1311:G:H8	1.79	0.47
1:AA:1505:G:H4'	23:AX:16:A:N6	2.29	0.47
2:AB:59:GLU:HA	2:AB:221:LEU:HD11	1.95	0.47
4:AD:13:ARG:HD2	4:AD:38:TYR:O	2.14	0.47
6:AF:52:ILE:O	6:AF:53:ALA:HB3	2.12	0.47
7:AG:30:ILE:HD13	7:AG:105:VAL:HG22	1.96	0.47
7:AG:100:ALA:O	7:AG:104:LEU:HD22	2.14	0.47
12:AL:104:VAL:O	12:AL:105:TYR:C	2.57	0.47
16:AP:21:VAL:HG13	16:AP:34:GLU:H	1.78	0.47
20:AT:51:GLU:HA	20:AT:54:LYS:CE	2.39	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AT:93:GLU:CD	20:AT:94:ALA:N	2.72	0.47
24:AY:20:H2U:H4'	24:AY:21:A:H5'	1.96	0.47
24:AY:70:C:H2'	24:AY:71:C:C6	2.49	0.47
24:AY:76:A:N1	25:AZ:269:GLY:C	2.72	0.47
25:AZ:109:ALA:HB3	25:AZ:137:LYS:HE2	1.95	0.47
25:AZ:138:VAL:C	25:AZ:140:MET:N	2.68	0.47
28:B2:53:LEU:O	28:B2:53:LEU:HD23	2.13	0.47
32:B6:5:VAL:HB	36:BA:2284:C:OP2	2.13	0.47
33:B7:47:ARG:HG3	33:B7:48:LYS:N	2.28	0.47
36:BA:90:U:O2	36:BA:90:U:C2'	2.61	0.47
36:BA:1060:U:O2'	36:BA:1061:U:OP2	2.30	0.47
36:BA:1064:C:H4'	45:BK:87:UNK:CB	2.44	0.47
36:BA:1407:C:H5'	36:BA:1408:C:OP2	2.13	0.47
36:BA:1450(A):C:N4	36:BA:1451:C:H41	2.12	0.47
36:BA:1907:G:HO2'	36:BA:1908:C:H5'	1.78	0.47
36:BA:2189:U:H3'	36:BA:2190:G:H5"	1.95	0.47
36:BA:2654:A:N1	36:BA:2665:A:H5"	2.29	0.47
37:BB:73:A:H2'	37:BB:74:U:C5'	2.44	0.47
39:BD:24:ILE:HD13	39:BD:25:THR:CA	2.42	0.47
39:BD:97:TYR:C	39:BD:99:ASP:N	2.67	0.47
39:BD:112:GLN:HG3	39:BD:115:GLN:NE2	2.29	0.47
39:BD:227:ASN:HB3	39:BD:228:PRO:HD2	1.96	0.47
40:BE:5:LEU:HB2	40:BE:51:PHE:CD2	2.49	0.47
46:BN:21:LYS:HD3	46:BN:22:THR:H	1.79	0.47
48:BP:91:PHE:CE2	48:BP:95:VAL:HG12	2.48	0.47
49:BQ:141:GLN:OXT	58:BZ:53:ILE:O	2.32	0.47
51:BS:39:ILE:HD12	51:BS:73:LEU:CD2	2.44	0.47
51:BS:82:ILE:O	51:BS:82:ILE:HG22	2.14	0.47
52:BT:90:GLN:O	52:BT:91:ARG:C	2.57	0.47
1:AA:537:G:H2'	1:AA:538:G:C8	2.49	0.47
1:AA:620:C:H2'	1:AA:621:A:O4'	2.13	0.47
1:AA:668:G:O2'	15:AO:46:HIS:HD2	1.97	0.47
1:AA:713:G:H2'	1:AA:714:G:C8	2.48	0.47
2:AB:51:LEU:CD2	2:AB:55:PHE:HE2	2.27	0.47
3:AC:101:LEU:HD23	3:AC:102:ASN:O	2.14	0.47
3:AC:188:LEU:CD1	3:AC:195:VAL:HG13	2.45	0.47
5:AE:95:ALA:O	5:AE:96:PRO:C	2.56	0.47
6:AF:99:ALA:HB3	18:AR:29:PHE:CE2	2.49	0.47
7:AG:15:ASP:OD1	7:AG:18:TYR:HD1	1.96	0.47
9:AI:121:ARG:NH1	9:AI:122:ALA:O	2.47	0.47
16:AP:20:VAL:CG2	16:AP:32:TYR:HB2	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AP:59:TRP:O	16:AP:62:VAL:HG23	2.14	0.47
17:AQ:83:ASP:O	17:AQ:86:GLU:HB2	2.13	0.47
18:AR:47:THR:O	18:AR:83:GLU:N	2.46	0.47
21:AU:13:ILE:O	21:AU:16:GLY:N	2.41	0.47
24:AY:1:A:H5'	25:AZ:90:LYS:HZ1	1.71	0.47
25:AZ:19:HIS:ND1	25:AZ:115:GLN:HB2	2.29	0.47
25:AZ:92:MET:HE3	25:AZ:96:ALA:HB2	1.96	0.47
25:AZ:232:THR:C	25:AZ:234:ARG:H	2.22	0.47
28:B2:64:LEU:CD2	28:B2:68:ARG:HD2	2.45	0.47
28:B2:69:ARG:NH2	36:BA:111:A:H4'	2.29	0.47
30:B4:45:GLY:O	30:B4:46:GLN:HB2	2.12	0.47
31:B5:13:LYS:HZ1	36:BA:516:C:C5'	2.26	0.47
32:B6:11:LEU:O	32:B6:23:THR:HB	2.14	0.47
36:BA:36:G:H2'	36:BA:37:C:H6	1.79	0.47
36:BA:336:C:O3'	57:BY:7:VAL:HG22	2.14	0.47
36:BA:869:G:O2'	36:BA:870:A:H5'	2.14	0.47
36:BA:1264:G:C3'	36:BA:1265:A:H5"	2.42	0.47
36:BA:1471:A:H2'	36:BA:1472:A:H8	1.77	0.47
36:BA:1798:U:H5"	39:BD:259:THR:HG22	1.93	0.47
36:BA:1800:C:OP1	39:BD:266:SER:OG	2.33	0.47
36:BA:1826:G:H4'	39:BD:242:ARG:HH21	1.79	0.47
36:BA:2051:A:H5'	36:BA:2578:G:O4'	2.15	0.47
36:BA:2590:A:H2'	36:BA:2591:C:H6	1.78	0.47
36:BA:2635:C:OP1	40:BE:77:ILE:HD13	2.14	0.47
36:BA:2880:C:O2'	50:BR:90:ARG:HD3	2.13	0.47
39:BD:3:VAL:HG11	39:BD:17:THR:HB	1.95	0.47
39:BD:30:GLU:CG	39:BD:63:ARG:NE	2.65	0.47
39:BD:34:VAL:HG23	39:BD:35:LYS:H	1.78	0.47
39:BD:35:LYS:O	39:BD:37:LEU:HB2	2.13	0.47
39:BD:126:GLN:HG2	39:BD:129:ASN:HD21	1.77	0.47
39:BD:127:VAL:HA	39:BD:193:VAL:HG13	1.96	0.47
40:BE:3:GLY:HA3	40:BE:81:ILE:HG21	1.96	0.47
42:BG:58:GLN:C	42:BG:58:GLN:CD	2.82	0.47
48:BP:106:LEU:O	48:BP:107:LYS:HG2	2.14	0.47
49:BQ:35:VAL:HG12	49:BQ:130:LYS:O	2.13	0.47
50:BR:18:LEU:CD1	50:BR:22:ARG:NE	2.72	0.47
50:BR:104:ARG:HD3	50:BR:107:ASP:CG	2.39	0.47
52:BT:47:GLY:HA3	52:BT:63:VAL:HG12	1.95	0.47
53:BU:92:ARG:HH22	54:BV:10:LYS:HA	1.77	0.47
55:BW:31:GLU:O	55:BW:34:ASN:HB2	2.14	0.47
55:BW:72:LYS:HE3	55:BW:108:GLY:CA	2.35	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BX:39:ILE:O	56:BX:43:VAL:HG23	2.13	0.47
56:BX:47:PHE:C	56:BX:49:VAL:H	2.17	0.47
57:BY:40:GLU:HA	57:BY:40:GLU:OE2	2.14	0.47
58:BZ:19:ARG:C	58:BZ:21:ALA:H	2.22	0.47
58:BZ:126:VAL:HA	58:BZ:163:LEU:HB2	1.96	0.47
1:AA:169:C:C2'	1:AA:170:U:H5'	2.44	0.47
1:AA:179:A:H2'	1:AA:180:U:C6	2.49	0.47
1:AA:222:U:C2	1:AA:223:U:C5	3.02	0.47
1:AA:413:G:N2	1:AA:428:G:H1'	2.29	0.47
1:AA:477:A:O2'	1:AA:479:C:H5'	2.14	0.47
1:AA:1150:U:C4	1:AA:1151:A:N7	2.82	0.47
1:AA:1201:A:H4'	1:AA:1202:G:H5"	1.95	0.47
2:AB:61:LEU:HD12	2:AB:64:ARG:CD	2.41	0.47
9:AI:16:ARG:HG3	9:AI:16:ARG:NH1	2.27	0.47
12:AL:87:GLY:HA2	12:AL:98:TYR:CD2	2.50	0.47
15:AO:24:SER:O	15:AO:25:THR:C	2.58	0.47
25:AZ:133:VAL:HB	25:AZ:170:VAL:HG22	1.96	0.47
28:B2:7:ARG:O	28:B2:11:GLU:HG3	2.14	0.47
32:B6:10:LEU:HD12	34:B8:34:TRP:HB2	1.95	0.47
36:BA:287:C:N4	36:BA:354:G:H1	2.11	0.47
36:BA:482:A:H62	36:BA:506:G:H1'	1.79	0.47
36:BA:539:G:H2'	36:BA:540:C:C6	2.50	0.47
36:BA:552:G:H1'	36:BA:1220:A:C2	2.49	0.47
36:BA:693:C:H2'	36:BA:694:U:H6	1.79	0.47
36:BA:814:C:H2'	36:BA:815:C:C6	2.50	0.47
36:BA:996:A:H4'	53:BU:92:ARG:CZ	2.45	0.47
36:BA:1141:U:H5"	36:BA:1142(A):A:O4'	2.15	0.47
36:BA:1406:U:N3	36:BA:1597:A:C2	2.83	0.47
36:BA:1512:U:O2	36:BA:1512:U:C2'	2.59	0.47
36:BA:1523:U:H2'	36:BA:1524:G:C8	2.49	0.47
36:BA:2128:C:O2'	36:BA:2129:C:O5'	2.31	0.47
36:BA:2320:A:N3	36:BA:2320:A:H2'	2.29	0.47
36:BA:2422:A:H4'	36:BA:2423:U:OP1	2.14	0.47
36:BA:2476:A:H2'	36:BA:2476:A:N3	2.29	0.47
38:BC:11:LEU:CD2	38:BC:220:PRO:HB3	2.45	0.47
38:BC:98:GLU:HG3	38:BC:98:GLU:O	2.15	0.47
39:BD:61:LEU:O	39:BD:63:ARG:NH1	2.47	0.47
40:BE:3:GLY:O	40:BE:4:ILE:CB	2.61	0.47
43:BH:76:VAL:C	43:BH:78:GLY:N	2.62	0.47
43:BH:149:ARG:HD3	43:BH:164:TYR:CE1	2.49	0.47
46:BN:23:LEU:HB3	46:BN:60:ILE:CG2	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BN:91:LEU:HA	46:BN:95:PRO:HA	1.96	0.47
48:BP:108:LYS:C	48:BP:110:TYR:N	2.67	0.47
51:BS:54:LEU:C	51:BS:56:LEU:N	2.62	0.47
53:BU:88:ILE:HB	53:BU:90:VAL:CG2	2.42	0.47
54:BV:35:LEU:C	54:BV:37:VAL:N	2.71	0.47
55:BW:107:LEU:HD12	55:BW:107:LEU:N	2.24	0.47
57:BY:13:VAL:HG12	57:BY:28:LYS:HD3	1.96	0.47
57:BY:46:LYS:O	57:BY:47:LYS:HD2	2.14	0.47
58:BZ:28:MET:O	58:BZ:34:ASN:HA	2.14	0.47
1:AA:102:G:O2'	1:AA:103:C:H5'	2.13	0.47
1:AA:254:G:O2'	1:AA:255:G:H5'	2.13	0.47
1:AA:432:A:H2'	1:AA:433:C:H5'	1.96	0.47
1:AA:475:G:H2'	1:AA:476:G:C8	2.47	0.47
1:AA:858:G:O5'	1:AA:858:G:C8	2.67	0.47
2:AB:22:LYS:HZ1	2:AB:40:HIS:CE1	2.32	0.47
2:AB:52:GLU:OE1	2:AB:56:ARG:NH2	2.47	0.47
2:AB:229:VAL:HG12	2:AB:230:VAL:N	2.28	0.47
10:AJ:58:ASP:O	10:AJ:59:SER:O	2.32	0.47
13:AM:23:TYR:HB3	13:AM:67:GLU:HB2	1.97	0.47
15:AO:10:LYS:HE3	15:AO:10:LYS:CA	2.42	0.47
16:AP:20:VAL:HG21	16:AP:32:TYR:HB2	1.94	0.47
16:AP:45:THR:C	16:AP:47:ASP:N	2.68	0.47
17:AQ:76:LEU:HD12	17:AQ:77:VAL:N	2.25	0.47
22:AV:66:U:O2'	22:AV:67:C:H5'	2.14	0.47
22:AV:74:C:H2'	22:AV:74:C:O2	2.15	0.47
26:B0:14:ARG:HH11	26:B0:14:ARG:CG	2.24	0.47
29:B3:56:VAL:O	29:B3:57:GLU:HB2	2.14	0.47
35:B9:35:ARG:NH1	36:BA:2741:A:O3'	2.48	0.47
36:BA:271(C):C:H2'	36:BA:271(D):G:H8	1.79	0.47
36:BA:565:C:H5"	54:BV:80:GLN:HE22	1.80	0.47
36:BA:2026:C:C4	36:BA:2027:G:N7	2.82	0.47
36:BA:2124:G:H5"	38:BC:174:PRO:HG3	1.96	0.47
36:BA:2485:G:O2'	36:BA:2486:G:H5'	2.14	0.47
36:BA:2629:A:H2'	36:BA:2629:A:N3	2.29	0.47
36:BA:2695:C:O2'	36:BA:2696:U:H5'	2.14	0.47
38:BC:33:ALA:HB2	38:BC:216:THR:HG21	1.97	0.47
39:BD:35:LYS:CA	39:BD:63:ARG:HA	2.44	0.47
39:BD:72:LYS:HZ3	39:BD:75:ILE:HG13	1.79	0.47
41:BF:131:GLY:HA3	41:BF:138:GLU:O	2.14	0.47
52:BT:50:ILE:HA	52:BT:99:LEU:CD1	2.44	0.47
52:BT:61:PHE:CD2	52:BT:61:PHE:N	2.81	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BT:64:ARG:HB2	52:BT:73:GLU:HG2	1.96	0.47
55:BW:84:ARG:HG2	55:BW:84:ARG:HH11	1.79	0.47
57:BY:85:VAL:HG12	57:BY:86:ARG:H	1.79	0.47
1:AA:390:C:O3'	16:AP:28:ARG:NH1	2.47	0.47
1:AA:619:U:N3	4:AD:134:ASP:OD1	2.42	0.47
1:AA:1269:A:C8	1:AA:1326:C:O4'	2.68	0.47
1:AA:1318:A:H1'	19:AS:37:ARG:HH21	1.80	0.47
2:AB:61:LEU:HD13	2:AB:64:ARG:NH1	2.28	0.47
3:AC:16:ARG:HH11	3:AC:16:ARG:HB2	1.80	0.47
3:AC:34:LEU:CG	14:AN:25:VAL:HG11	2.36	0.47
4:AD:25:ARG:O	4:AD:28:SER:HB2	2.15	0.47
4:AD:78:LEU:CD2	4:AD:96:LEU:HB3	2.44	0.47
4:AD:159:ARG:HG3	4:AD:159:ARG:NH1	2.28	0.47
5:AE:6:PHE:HB2	5:AE:34:VAL:HG22	1.92	0.47
12:AL:41:ARG:HG2	12:AL:42:THR:N	2.20	0.47
25:AZ:181:GLN:OE1	25:AZ:193:ASN:ND2	2.46	0.47
25:AZ:390:GLU:C	25:AZ:390:GLU:CD	2.82	0.47
27:B1:80:LEU:HD22	27:B1:82:LEU:CD2	2.41	0.47
27:B1:90:ILE:O	27:B1:94:LEU:HD13	2.15	0.47
30:B4:6:HIS:HB3	42:BG:67:LYS:CE	2.28	0.47
36:BA:57:C:H2'	36:BA:58:G:O4'	2.14	0.47
36:BA:590:A:H2'	36:BA:591:C:H6	1.79	0.47
36:BA:839:U:H1'	36:BA:1191:G:H1'	1.96	0.47
36:BA:1069:A:C1'	36:BA:1070:A:P	3.03	0.47
36:BA:1142(A):A:H5'	36:BA:1142(A):A:H8	1.79	0.47
36:BA:1210:A:H5"	36:BA:1212:G:H5'	1.96	0.47
36:BA:1252:G:N3	53:BU:33:ARG:CD	2.77	0.47
36:BA:1598:C:H5'	56:BX:36:LYS:HD2	1.97	0.47
36:BA:2128:C:OP1	38:BC:36:LYS:N	2.47	0.47
36:BA:2298:A:H62	36:BA:2318:G:H8	1.61	0.47
36:BA:2342:C:O2'	36:BA:2374:C:H5"	2.14	0.47
36:BA:2538:C:O2'	36:BA:2539:C:H5'	2.15	0.47
39:BD:117:VAL:CG2	39:BD:128:GLY:C	2.87	0.47
42:BG:95:ARG:HG2	42:BG:95:ARG:HH11	1.79	0.47
42:BG:106:LEU:HD12	42:BG:110:ALA:HB3	1.96	0.47
50:BR:118:GLU:OE1	50:BR:118:GLU:HA	2.15	0.47
53:BU:115:ALA:C	53:BU:117:GLN:H	2.22	0.47
56:BX:41:ASN:HD22	56:BX:41:ASN:N	2.12	0.47
58:BZ:11:GLU:CD	58:BZ:11:GLU:N	2.71	0.47
58:BZ:48:PHE:O	58:BZ:52:SER:N	2.47	0.47
58:BZ:149:SER:HB2	58:BZ:172:ALA:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:501:C:H2'	1:AA:502:G:H8	1.79	0.47
1:AA:1277:C:O2'	1:AA:1279:A:C8	2.56	0.47
1:AA:1286:A:O2'	1:AA:1287:A:H5"	2.14	0.47
1:AA:1526:G:O2'	1:AA:1527:C:H5'	2.15	0.47
10:AJ:50:ILE:CD1	14:AN:41:ARG:HD2	2.42	0.47
13:AM:36:LYS:HG3	13:AM:59:TYR:CE2	2.49	0.47
13:AM:78:ILE:O	13:AM:81:LEU:HB2	2.15	0.47
15:AO:21:ASP:OD2	15:AO:21:ASP:C	2.57	0.47
24:AY:62:U:H6	24:AY:62:U:C5'	2.24	0.47
36:BA:310:A:C4	36:BA:312:G:C8	3.03	0.47
36:BA:548:A:H2'	36:BA:549:G:C5'	2.41	0.47
36:BA:793:A:OP2	36:BA:2072:G:H5'	2.15	0.47
36:BA:839:U:H2'	36:BA:840:C:C6	2.49	0.47
36:BA:887:A:N3	36:BA:887:A:H2'	2.29	0.47
36:BA:1202:C:H2'	36:BA:1203:G:H5'	1.96	0.47
36:BA:1762:A:O5'	36:BA:1762:A:C8	2.51	0.47
36:BA:2068:U:N3	36:BA:2430:A:H2	2.13	0.47
36:BA:2168:G:O2'	36:BA:2169:A:C8	2.68	0.47
36:BA:2289:G:C1'	36:BA:2346:A:H2	2.27	0.47
37:BB:10:C:O2'	37:BB:11:C:H5'	2.14	0.47
38:BC:65:PRO:CD	38:BC:188:ASN:HA	2.34	0.47
41:BF:57:VAL:HG12	41:BF:59:TYR:H	1.79	0.47
41:BF:120:GLU:CB	41:BF:122:LYS:HE3	2.44	0.47
42:BG:168:GLU:O	42:BG:169:ALA:C	2.58	0.47
48:BP:32:THR:O	48:BP:33:ARG:O	2.32	0.47
48:BP:108:LYS:O	48:BP:110:TYR:N	2.41	0.47
51:BS:42:ASP:O	51:BS:43:GLU:HB3	2.14	0.47
54:BV:21:ARG:HG2	54:BV:91:TYR:CG	2.49	0.47
58:BZ:48:PHE:HE2	58:BZ:52:SER:O	1.98	0.47
1:AA:192:U:C4'	20:AT:103:GLY:HA2	2.44	0.47
1:AA:271:C:O2'	1:AA:272:C:H5'	2.15	0.47
1:AA:355:C:H42	1:AA:356:A:N6	2.13	0.47
1:AA:404:U:C5'	4:AD:122:ARG:HD3	2.44	0.47
1:AA:495:A:H61	4:AD:119:GLN:HE22	1.63	0.47
1:AA:986:A:C2	1:AA:1220:G:C2	3.02	0.47
1:AA:1030:C:H2'	1:AA:1030(A):G:O4'	2.14	0.47
1:AA:1320:C:H5'	1:AA:1320:C:C6	2.35	0.47
4:AD:122:ARG:NH1	4:AD:134:ASP:O	2.47	0.47
4:AD:150:GLU:C	4:AD:152:SER:H	2.23	0.47
4:AD:187:ARG:HH11	4:AD:187:ARG:CB	2.27	0.47
5:AE:147:ASP:OD2	5:AE:147:ASP:N	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:101:LEU:HA	7:AG:104:LEU:HD23	1.96	0.47
8:AH:9:MET:O	8:AH:13:ILE:HG12	2.14	0.47
10:AJ:83:GLU:HB3	10:AJ:84:GLN:H	1.61	0.47
10:AJ:94:VAL:CG1	10:AJ:95:GLU:N	2.77	0.47
11:AK:27:ASN:HB2	11:AK:55:LYS:HB2	1.96	0.47
11:AK:108:ILE:HD12	11:AK:108:ILE:H	1.79	0.47
11:AK:115:PRO:C	11:AK:117:ASN:H	2.23	0.47
13:AM:23:TYR:C	13:AM:23:TYR:HD1	2.22	0.47
14:AN:15:LYS:O	14:AN:16:PHE:O	2.32	0.47
17:AQ:15:MET:HB2	17:AQ:18:THR:HB	1.95	0.47
19:AS:8:GLY:O	19:AS:9:VAL:HG23	2.15	0.47
25:AZ:130:TYR:CZ	25:AZ:211:PRO:HD3	2.49	0.47
26:B0:7:LEU:CD2	49:BQ:81:VAL:CG2	2.90	0.47
26:B0:45:PHE:HB2	26:B0:59:LEU:HD11	1.97	0.47
26:B0:56:ASP:OD2	36:BA:2364:C:H4'	2.14	0.47
27:B1:37:ILE:HD12	27:B1:37:ILE:C	2.39	0.47
29:B3:19:GLN:HE22	29:B3:52:HIS:CE1	2.31	0.47
31:B5:49:CYS:SG	31:B5:50:GLY:N	2.82	0.47
32:B6:28:ARG:HG2	32:B6:28:ARG:HH11	1.80	0.47
32:B6:45:LYS:O	32:B6:46:HIS:CB	2.63	0.47
34:B8:2:PRO:HA	36:BA:591:C:H1'	1.96	0.47
34:B8:51:ALA:N	34:B8:53:PRO:HD2	2.30	0.47
36:BA:363:G:H2'	36:BA:363(A):A:H8	1.80	0.47
36:BA:1020:A:N1	36:BA:1141:U:H1'	2.29	0.47
36:BA:1205:U:H4'	36:BA:1206:G:OP2	2.14	0.47
36:BA:1315:C:O2'	36:BA:1316:U:H5'	2.15	0.47
36:BA:1516:C:H2'	36:BA:1517:G:C5'	2.19	0.47
36:BA:1566:A:OP1	39:BD:211:ARG:NH1	2.48	0.47
36:BA:1572:A:O2'	36:BA:1573:G:H5'	2.14	0.47
36:BA:1625:C:H2'	36:BA:1626:G:C5'	2.44	0.47
36:BA:1778:U:H2'	36:BA:1784:A:N6	2.30	0.47
36:BA:1830:C:O2'	36:BA:1831:G:H5'	2.15	0.47
36:BA:2167:U:H2'	36:BA:2168:G:H5'	1.95	0.47
36:BA:2439:A:H5'	36:BA:2439:A:C8	2.50	0.47
36:BA:2539:C:O2'	36:BA:2540:C:H5'	2.14	0.47
36:BA:2555:U:C2'	36:BA:2556:C:H5'	2.45	0.47
36:BA:2562:U:C2'	36:BA:2563:U:H5'	2.44	0.47
36:BA:2849:U:O4	52:BT:23:ARG:NH2	2.43	0.47
37:BB:87:G:N2	37:BB:89:G:H3'	2.30	0.47
38:BC:6:ARG:O	38:BC:10:LEU:HD21	2.15	0.47
38:BC:15:ASP:O	38:BC:20:TYR:HE1	1.98	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:30:LYS:HD2	38:BC:30:LYS:N	2.29	0.47
38:BC:120:MET:CE	38:BC:123:VAL:HG21	2.44	0.47
39:BD:96:HIS:HE1	39:BD:102:LYS:NZ	2.09	0.47
39:BD:142:VAL:CG2	39:BD:191:ALA:HB1	2.45	0.47
40:BE:38:THR:HG22	40:BE:40:GLU:N	2.30	0.47
40:BE:74:PRO:HG3	40:BE:77:ILE:O	2.15	0.47
40:BE:144:ARG:HB3	40:BE:145:LYS:H	1.55	0.47
41:BF:29:ASN:N	41:BF:112:MET:SD	2.77	0.47
42:BG:47:LYS:HB3	42:BG:48:GLU:H	1.48	0.47
42:BG:165:THR:OG1	42:BG:168:GLU:HG3	2.15	0.47
43:BH:127:GLU:HB2	43:BH:130:ARG:HB2	1.96	0.47
46:BN:34:LEU:CD2	46:BN:120:LEU:HD23	2.43	0.47
47:BO:73:ASP:CG	52:BT:32:TYR:HE1	2.23	0.47
48:BP:96:THR:HG22	48:BP:126:VAL:CG2	2.45	0.47
49:BQ:48:GLU:HG3	49:BQ:52:VAL:HG23	1.97	0.47
49:BQ:74:TYR:HD1	49:BQ:75:THR:N	2.12	0.47
51:BS:14:VAL:HG12	51:BS:15:ARG:N	2.29	0.47
51:BS:101:LEU:C	51:BS:102:ALA:O	2.58	0.47
52:BT:82:LEU:O	52:BT:82:LEU:HD13	2.15	0.47
54:BV:47:VAL:C	54:BV:49:THR:N	2.71	0.47
55:BW:1:MET:HE2	55:BW:64:MET:SD	2.55	0.47
57:BY:10:GLY:HA2	57:BY:27:VAL:HG13	1.96	0.47
57:BY:81:LYS:O	57:BY:82:PRO:O	2.33	0.47
1:AA:1319:A:OP2	19:AS:5:LEU:HD21	2.15	0.47
1:AA:1441:G:H1'	1:AA:1460:A:H61	1.79	0.47
2:AB:17:PHE:CD1	2:AB:44:LEU:HD11	2.50	0.47
2:AB:101:MET:HA	2:AB:108:ILE:HG13	1.96	0.47
3:AC:142:MET:CE	3:AC:171:GLY:HA3	2.44	0.47
3:AC:203:PHE:CE1	3:AC:205:GLY:O	2.67	0.47
7:AG:22:LEU:HD22	7:AG:62:PHE:CZ	2.50	0.47
7:AG:91:VAL:O	7:AG:92:SER:C	2.58	0.47
11:AK:54:ARG:O	11:AK:57:THR:HB	2.15	0.47
13:AM:70:LEU:HD23	13:AM:74:VAL:HG23	1.97	0.47
18:AR:36:ASN:C	18:AR:38:GLU:N	2.73	0.47
20:AT:73:HIS:CB	20:AT:74:LYS:HD3	2.37	0.47
21:AU:10:ARG:O	21:AU:11:GLY:C	2.58	0.47
28:B2:18:PRO:HG2	28:B2:19:VAL:N	2.29	0.47
28:B2:61:LEU:O	28:B2:62:THR:C	2.57	0.47
32:B6:26:ASN:HD22	32:B6:32:ASN:CG	2.17	0.47
32:B6:42:TRP:HA	32:B6:42:TRP:HE3	1.78	0.47
33:B7:12:ARG:HH11	33:B7:12:ARG:HG3	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B8:52:LYS:O	34:B8:55:ALA:HB3	2.15	0.47
36:BA:84:A:C5'	57:BY:9:LYS:HB3	2.36	0.47
36:BA:225:A:C2'	36:BA:226:G:H5'	2.45	0.47
36:BA:773:U:H4'	39:BD:47:GLY:HA3	1.97	0.47
36:BA:1665:A:H2'	36:BA:1666:G:C5'	2.21	0.47
36:BA:2111:C:H1'	36:BA:2118:U:C4'	2.45	0.47
36:BA:2175:C:H4'	38:BC:221:SER:CB	2.38	0.47
36:BA:2263:C:O2'	36:BA:2264:C:H5'	2.15	0.47
36:BA:2777:G:C4'	36:BA:2778:A:H5'	2.44	0.47
37:BB:21:G:H2'	37:BB:22:U:O4'	2.15	0.47
37:BB:65:C:H2'	37:BB:109:C:N4	2.29	0.47
38:BC:14:VAL:HG21	38:BC:32:LEU:HD11	1.96	0.47
39:BD:79:VAL:HG12	39:BD:113:VAL:HA	1.97	0.47
40:BE:59:VAL:O	40:BE:62:PRO:HG2	2.15	0.47
40:BE:167:VAL:CG1	40:BE:189:PRO:HD3	2.45	0.47
41:BF:20:LEU:C	41:BF:23:ASP:OD2	2.57	0.47
42:BG:76:SER:OG	42:BG:83:ARG:HB3	2.15	0.47
43:BH:118:PRO:CG	43:BH:121:ILE:HD12	2.45	0.47
53:BU:27:LEU:C	53:BU:29:SER:H	2.21	0.47
53:BU:31:SER:C	53:BU:33:ARG:H	2.22	0.47
55:BW:10:VAL:O	55:BW:11:ARG:CB	2.63	0.47
58:BZ:99:TYR:CD2	58:BZ:99:TYR:N	2.83	0.47
1:AA:76:C:N4	1:AA:93:G:H1	2.13	0.47
1:AA:127:G:N2	17:AQ:61:GLU:OE1	2.46	0.47
1:AA:594:G:O2'	1:AA:595:G:H5'	2.14	0.47
1:AA:601:C:O2'	1:AA:602:A:H5'	2.14	0.47
1:AA:977:A:O2'	1:AA:978:A:H5'	2.12	0.47
1:AA:1278:U:H5"	1:AA:1279:A:O4'	2.15	0.47
1:AA:1503:A:C8	23:AX:15:A:C6	3.03	0.47
2:AB:72:GLY:CA	2:AB:165:VAL:HG22	2.45	0.47
2:AB:142:LEU:O	2:AB:146:GLN:HB2	2.15	0.47
4:AD:85:LYS:HD3	4:AD:92:VAL:HG11	1.96	0.47
4:AD:118:ARG:O	4:AD:119:GLN:C	2.58	0.47
4:AD:127:THR:N	4:AD:147:ALA:O	2.48	0.47
5:AE:8:GLU:CA	5:AE:34:VAL:HG23	2.45	0.47
7:AG:18:TYR:O	7:AG:20:ASP:N	2.48	0.47
8:AH:20:TYR:CE1	8:AH:76:PRO:HG2	2.49	0.47
8:AH:85:ARG:HG3	8:AH:85:ARG:HH11	1.80	0.47
10:AJ:96:ILE:HD13	10:AJ:96:ILE:N	2.16	0.47
11:AK:103:LEU:H	11:AK:103:LEU:HD22	1.79	0.47
12:AL:34:ARG:O	12:AL:61:THR:HG23	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:32:THR:HG22	25:AZ:44:VAL:HA	1.97	0.47
25:AZ:324:LYS:HE3	25:AZ:364:PRO:HB3	1.97	0.47
25:AZ:344:PHE:CE2	25:AZ:380:LEU:HD21	2.50	0.47
31:B5:33:CYS:HG	31:B5:49:CYS:HG	1.60	0.47
36:BA:74:A:O2'	36:BA:75:G:OP2	2.25	0.47
36:BA:479:A:O2'	36:BA:481:G:H5'	2.14	0.47
36:BA:1453:U:OP1	50:BR:77:ARG:HD3	2.14	0.47
36:BA:2275:C:O2	49:BQ:85:LYS:HD3	2.14	0.47
37:BB:91:C:O2'	37:BB:92:C:H5'	2.15	0.47
39:BD:16:MET:HG3	39:BD:206:LEU:O	2.15	0.47
40:BE:44:TYR:O	40:BE:45:THR:CB	2.62	0.47
40:BE:151:TYR:HB3	46:BN:79:PRO:HG3	1.96	0.47
41:BF:102:PRO:C	41:BF:104:LYS:N	2.71	0.47
43:BH:24:VAL:HG12	43:BH:25:LYS:N	2.29	0.47
43:BH:162:ILE:O	43:BH:162:ILE:HG23	2.15	0.47
43:BH:167:GLU:HG2	43:BH:168:PRO:CD	2.28	0.47
44:BJ:27:UNK:O	44:BJ:82:UNK:HA	2.15	0.47
48:BP:112:LEU:HD22	48:BP:112:LEU:C	2.40	0.47
48:BP:115:LEU:HD23	48:BP:115:LEU:H	1.79	0.47
49:BQ:63:LYS:NZ	58:BZ:175:VAL:HG21	2.29	0.47
50:BR:107:ASP:OD2	50:BR:107:ASP:C	2.56	0.47
51:BS:12:PHE:HD2	51:BS:12:PHE:N	2.13	0.47
51:BS:34:HIS:CB	51:BS:36:TYR:HE1	2.28	0.47
51:BS:85:VAL:H	51:BS:106:ARG:HA	1.80	0.47
54:BV:1:MET:SD	54:BV:43:GLU:HG2	2.54	0.47
56:BX:26:TYR:HD2	56:BX:92:LEU:CD1	2.28	0.47
58:BZ:19:ARG:HG3	58:BZ:20:ARG:N	2.29	0.47
1:AA:135:C:C2'	1:AA:136:C:H5'	2.45	0.47
1:AA:196:A:N3	1:AA:222:U:H1'	2.30	0.47
1:AA:601:C:H2'	1:AA:602:A:H8	1.80	0.47
1:AA:946:A:C2	1:AA:1236:A:C2	3.03	0.47
3:AC:32:LEU:HB3	3:AC:59:ARG:HH21	1.80	0.47
3:AC:59:ARG:HD3	3:AC:64:VAL:HG13	1.96	0.47
3:AC:159:GLY:HA2	3:AC:193:TYR:CD1	2.50	0.47
8:AH:102:ARG:N	8:AH:102:ARG:CD	2.78	0.47
10:AJ:87:THR:OG1	10:AJ:88:LEU:N	2.48	0.47
14:AN:41:ARG:NH2	14:AN:42:ILE:HD11	2.30	0.47
17:AQ:53:LEU:HD23	17:AQ:53:LEU:C	2.40	0.47
17:AQ:67:LYS:CA	17:AQ:70:ARG:NH1	2.75	0.47
18:AR:44:LEU:HD21	18:AR:79:LEU:HD22	1.97	0.47
20:AT:25:ARG:HH11	20:AT:25:ARG:CG	2.26	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:B1:20:ARG:HB3	27:B1:34:THR:HA	1.96	0.47
28:B2:41:ILE:HD11	28:B2:44:LEU:HD12	1.96	0.47
36:BA:342:G:H2'	36:BA:343:C:C6	2.50	0.47
36:BA:661:C:H4'	48:BP:18:ARG:HG2	1.96	0.47
36:BA:686:G:H21	36:BA:788:A:N6	2.12	0.47
36:BA:821:A:H5"	36:BA:822:U:H6	1.80	0.47
36:BA:1248:G:C8	41:BF:92:PRO:HD3	2.50	0.47
36:BA:1485:G:H2'	36:BA:1486:A:C8	2.50	0.47
36:BA:1502:C:O2	36:BA:1502:C:H2'	2.13	0.47
36:BA:1511:C:C5	36:BA:1512:U:H5	2.33	0.47
36:BA:1890:A:C2'	36:BA:1891:G:H5'	2.44	0.47
36:BA:2124:G:H4'	38:BC:174:PRO:HB3	1.96	0.47
36:BA:2231:C:H2'	36:BA:2232:U:H6	1.79	0.47
36:BA:2286:A:H4'	36:BA:2287:A:O4'	2.14	0.47
36:BA:2872:G:H2'	36:BA:2873:A:C8	2.50	0.47
37:BB:5:C:O2'	37:BB:27:C:O2	2.28	0.47
37:BB:98:G:C2'	37:BB:99:G:H5'	2.45	0.47
38:BC:78:ALA:HB3	38:BC:95:GLY:N	2.29	0.47
38:BC:148:ASN:HD22	38:BC:151:GLU:CD	2.23	0.47
41:BF:158:THR:HA	41:BF:198:ALA:HB2	1.97	0.47
43:BH:28:GLY:HA3	43:BH:79:VAL:HB	1.97	0.47
48:BP:83:VAL:CG2	48:BP:105:LEU:HD22	2.40	0.47
48:BP:111:ARG:NH1	48:BP:149:GLU:HG3	2.29	0.47
48:BP:126:VAL:HG22	48:BP:145:PRO:CG	2.45	0.47
51:BS:106:ARG:HD2	51:BS:106:ARG:C	2.40	0.47
52:BT:58:ASN:H	52:BT:58:ASN:HD22	1.63	0.47
54:BV:12:TYR:CE2	54:BV:22:VAL:HG12	2.50	0.47
54:BV:34:GLU:HG2	54:BV:36:PRO:HD3	1.95	0.47
57:BY:3:VAL:O	57:BY:3:VAL:HG12	2.15	0.47
57:BY:20:TYR:CE1	57:BY:42:VAL:HG22	2.50	0.47
58:BZ:24:LEU:HD12	58:BZ:41:LEU:HA	1.97	0.47
58:BZ:71:VAL:HG12	58:BZ:73:GLN:H	1.80	0.47
1:AA:390:C:H4'	16:AP:28:ARG:HH11	1.80	0.46
1:AA:585:G:H4'	12:AL:8:ASN:ND2	2.29	0.46
2:AB:51:LEU:CD2	2:AB:201:ILE:HD12	2.44	0.46
2:AB:114:ARG:O	2:AB:118:LEU:HD12	2.15	0.46
2:AB:115:LEU:HD13	2:AB:145:LEU:HD12	1.97	0.46
3:AC:8:ILE:O	3:AC:11:ARG:N	2.48	0.46
3:AC:148:GLY:HA3	3:AC:172:ARG:O	2.15	0.46
5:AE:20:GLN:NE2	5:AE:25:ARG:NH2	2.59	0.46
11:AK:89:ALA:C	11:AK:91:ARG:H	2.22	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AL:26:ALA:O	12:AL:27:LEU:O	2.32	0.46
12:AL:74:GLY:O	12:AL:102:ARG:NH2	2.47	0.46
14:AN:23:ARG:O	14:AN:24:CYS:C	2.56	0.46
18:AR:43:PHE:HD1	18:AR:66:LEU:HD11	1.80	0.46
32:B6:32:ASN:O	32:B6:33:LYS:CB	2.63	0.46
36:BA:222:A:H5"	36:BA:421:U:OP1	2.15	0.46
36:BA:1494:A:H2'	36:BA:1495:A:C5'	2.41	0.46
36:BA:1654:A:H2	40:BE:113:PHE:CD2	2.33	0.46
36:BA:1988:C:O2'	36:BA:1989:G:H5'	2.15	0.46
36:BA:2134:A:H2'	36:BA:2135:A:H8	1.80	0.46
36:BA:2679:A:O2'	36:BA:2680:C:H5'	2.16	0.46
38:BC:65:PRO:HG2	38:BC:187:ASP:O	2.15	0.46
38:BC:94:VAL:O	38:BC:95:GLY:C	2.57	0.46
38:BC:104:LEU:CD2	38:BC:127:LEU:HD21	2.45	0.46
38:BC:163:PHE:CE2	38:BC:192:PHE:HE1	2.33	0.46
39:BD:237:GLU:OE2	39:BD:237:GLU:HA	2.16	0.46
45:BK:123:UNK:C	45:BK:125:UNK:N	2.78	0.46
46:BN:10:GLU:CG	46:BN:11:PRO:HD2	2.45	0.46
47:BO:35:VAL:HG23	47:BO:65:THR:HG23	1.95	0.46
48:BP:21:ARG:O	48:BP:22:GLY:C	2.58	0.46
48:BP:24:GLY:HA3	48:BP:33:ARG:HH12	1.79	0.46
48:BP:111:ARG:H	48:BP:111:ARG:CD	2.28	0.46
52:BT:128:GLU:CD	52:BT:128:GLU:C	2.83	0.46
54:BV:95:LEU:C	54:BV:95:LEU:CD2	2.88	0.46
56:BX:18:TYR:O	56:BX:21:PHE:CD1	2.68	0.46
56:BX:27:THR:HG22	56:BX:80:ILE:CB	2.44	0.46
1:AA:284:G:H2'	1:AA:285:G:C8	2.50	0.46
1:AA:555:C:H2'	1:AA:556:C:H6	1.81	0.46
1:AA:1149:C:OP1	9:AI:9:ARG:NH1	2.48	0.46
2:AB:71:VAL:HG12	2:AB:170:GLU:HG2	1.97	0.46
2:AB:80:ILE:HG12	2:AB:208:ILE:HG23	1.97	0.46
2:AB:121:LEU:HA	2:AB:124:SER:HB3	1.97	0.46
3:AC:16:ARG:NH2	3:AC:183:ASP:HA	2.31	0.46
3:AC:23:TYR:CD2	3:AC:23:TYR:C	2.92	0.46
6:AF:22:GLU:C	6:AF:24:GLU:N	2.73	0.46
13:AM:29:ARG:O	13:AM:30:ALA:C	2.58	0.46
15:AO:26:GLU:O	15:AO:81:LEU:HD21	2.15	0.46
16:AP:50:LYS:O	16:AP:51:VAL:HG23	2.14	0.46
20:AT:50:GLU:C	20:AT:52:ALA:N	2.73	0.46
22:AV:14:A:N6	22:AV:21:A:H2	2.12	0.46
31:B5:18:ALA:O	31:B5:21:SER:HB3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:B7:46:VAL:HG12	33:B7:47:ARG:N	2.29	0.46
36:BA:604:G:O2'	36:BA:605:C:H5'	2.15	0.46
36:BA:973:A:H5'	36:BA:1188:U:H1'	1.97	0.46
36:BA:1434:A:O2'	36:BA:1435:G:H5'	2.15	0.46
36:BA:1831:G:H2'	36:BA:1832:C:H6	1.79	0.46
36:BA:1887:C:H2'	36:BA:1888:G:H5"	1.96	0.46
36:BA:2087:G:O2'	36:BA:2088:G:H5'	2.15	0.46
36:BA:2697:G:H2'	36:BA:2698:U:O4'	2.15	0.46
39:BD:21:PHE:HB3	39:BD:24:ILE:CG2	2.45	0.46
39:BD:79:VAL:HG21	39:BD:111:LEU:HD21	1.96	0.46
42:BG:85:GLY:O	42:BG:86:MET:CB	2.63	0.46
48:BP:45:LEU:HD22	48:BP:46:LYS:H	1.80	0.46
48:BP:83:VAL:HA	48:BP:105:LEU:HD22	1.96	0.46
52:BT:28:VAL:HG11	52:BT:46:GLU:OE1	2.15	0.46
53:BU:90:VAL:O	53:BU:92:ARG:N	2.48	0.46
53:BU:92:ARG:HD2	54:BV:11:GLN:CD	2.39	0.46
58:BZ:146:ILE:O	58:BZ:147:GLY:O	2.32	0.46
1:AA:186:C:H5'	20:AT:78:ALA:HB1	1.97	0.46
1:AA:556:C:O2'	1:AA:557:G:H5'	2.14	0.46
1:AA:1396:A:O4'	1:AA:1398:A:H1'	2.15	0.46
1:AA:1459:C:H2'	1:AA:1460:A:H8	1.80	0.46
1:AA:1521:G:H2'	1:AA:1522:U:H6	1.79	0.46
2:AB:111:ARG:HG2	2:AB:111:ARG:NH1	2.31	0.46
3:AC:52:LEU:HD23	3:AC:52:LEU:O	2.16	0.46
3:AC:179:ARG:O	3:AC:206:GLU:O	2.33	0.46
4:AD:83:SER:HA	4:AD:89:THR:HG21	1.97	0.46
4:AD:108:LEU:HG	4:AD:176:LEU:HD13	1.96	0.46
4:AD:170:VAL:HG11	4:AD:174:LEU:HB2	1.96	0.46
7:AG:86:GLN:NE2	22:AW:39:U:H5	2.13	0.46
9:AI:82:ALA:C	9:AI:84:ALA:N	2.73	0.46
12:AL:64:TYR:N	12:AL:64:TYR:CD1	2.83	0.46
19:AS:36:ARG:HB3	19:AS:51:VAL:HG13	1.97	0.46
22:AV:21:A:O2'	22:AV:22:G:H5"	2.16	0.46
22:AW:71:G:C2'	22:AW:72:C:H5'	2.45	0.46
26:B0:23:VAL:C	26:B0:24:LYS:HD3	2.39	0.46
28:B2:32:LEU:HD23	28:B2:32:LEU:O	2.14	0.46
31:B5:3:LYS:HD3	36:BA:747:U:OP1	2.15	0.46
34:B8:61:LEU:CD1	34:B8:62:LEU:N	2.75	0.46
36:BA:693:C:O2'	36:BA:694:U:H5'	2.15	0.46
36:BA:718:A:C2'	36:BA:719:C:H5'	2.44	0.46
36:BA:921:G:H4'	36:BA:2269:A:C5	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1075:C:OP1	49:BQ:59:ARG:NH2	2.49	0.46
36:BA:1178:C:H2'	36:BA:1179:C:C6	2.50	0.46
36:BA:1532:C:HO2'	36:BA:1533:G:H5'	1.79	0.46
36:BA:1754:C:N3	36:BA:2716:U:O2'	2.45	0.46
36:BA:1946:U:H2'	36:BA:1947:C:H6	1.78	0.46
36:BA:1967:C:C2'	36:BA:1968:G:H5'	2.46	0.46
36:BA:2691:C:H6	36:BA:2691:C:H5'	1.80	0.46
36:BA:2856:C:O2'	36:BA:2857:G:H5'	2.15	0.46
37:BB:13:A:H2'	37:BB:14:U:H5"	1.97	0.46
38:BC:192:PHE:C	38:BC:194:ARG:N	2.73	0.46
39:BD:273:ARG:O	39:BD:274:ARG:CG	2.64	0.46
41:BF:31:HIS:HB2	48:BP:13:ASN:OD1	2.14	0.46
49:BQ:21:THR:HG22	49:BQ:23:GLY:O	2.15	0.46
52:BT:31:SER:HB2	52:BT:32:TYR:CD2	2.51	0.46
52:BT:50:ILE:HG23	52:BT:99:LEU:O	2.16	0.46
53:BU:58:ARG:O	53:BU:62:ILE:HG13	2.15	0.46
53:BU:76:TYR:O	53:BU:80:ILE:HG12	2.14	0.46
55:BW:18:ARG:HH11	55:BW:18:ARG:HG3	1.80	0.46
56:BX:54:VAL:HG21	56:BX:81:VAL:HG12	1.97	0.46
57:BY:74:PRO:HG2	57:BY:80:GLY:O	2.14	0.46
1:AA:102:G:C4	1:AA:103:C:C5	3.04	0.46
1:AA:437:U:H2'	1:AA:438:G:C8	2.50	0.46
1:AA:457:C:C2	1:AA:458:C:C5	3.04	0.46
1:AA:782:A:H4'	1:AA:1514:C:O2'	2.15	0.46
1:AA:930:C:O2'	1:AA:931:C:H5'	2.15	0.46
1:AA:954:G:H4'	13:AM:120:LYS:HD2	1.97	0.46
1:AA:1153:C:HO2'	1:AA:1154:G:C5'	2.28	0.46
2:AB:83:MET:C	2:AB:85:ALA:H	2.23	0.46
3:AC:180:ALA:O	3:AC:181:ASN:CB	2.54	0.46
4:AD:126:ILE:HD12	4:AD:126:ILE:N	2.30	0.46
4:AD:173:TRP:CD2	4:AD:189:PRO:HB3	2.50	0.46
7:AG:86:GLN:NE2	22:AW:39:U:C5	2.84	0.46
7:AG:114:ARG:H	7:AG:114:ARG:HG2	1.51	0.46
8:AH:43:GLY:O	8:AH:64:LYS:NZ	2.37	0.46
9:AI:11:LYS:C	9:AI:13:ALA:H	2.24	0.46
9:AI:97:LYS:O	9:AI:98:PRO:C	2.59	0.46
13:AM:70:LEU:HD23	13:AM:70:LEU:C	2.39	0.46
14:AN:41:ARG:HH21	14:AN:42:ILE:HD11	1.80	0.46
15:AO:75:PRO:O	15:AO:79:ARG:HG3	2.15	0.46
23:AX:26:A:N3	23:AX:26:A:O2'	2.38	0.46
28:B2:37:PHE:C	28:B2:39:ALA:H	2.22	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:B2:47:ASN:ND2	36:BA:94(A):G:H21	2.14	0.46
36:BA:986:C:O2'	36:BA:987:G:H5'	2.15	0.46
36:BA:1270:C:H5"	36:BA:1271:G:H5'	1.98	0.46
36:BA:1536:C:N3	36:BA:1537:G:H1'	2.30	0.46
38:BC:14:VAL:CG1	38:BC:222:VAL:HG13	2.46	0.46
38:BC:75:LEU:HD11	38:BC:113:VAL:HG13	1.98	0.46
38:BC:149:ILE:CG2	38:BC:150:GLY:N	2.79	0.46
40:BE:55:ASN:O	40:BE:56:PRO:C	2.59	0.46
43:BH:33:LEU:HD21	43:BH:136:ILE:HG22	1.97	0.46
46:BN:24:GLY:C	46:BN:26:LEU:N	2.70	0.46
46:BN:94:HIS:N	46:BN:95:PRO:CD	2.78	0.46
48:BP:46:LYS:HG2	48:BP:52:GLU:OE2	2.16	0.46
48:BP:130:PHE:CB	48:BP:135:LEU:HD23	2.46	0.46
50:BR:7:GLY:O	50:BR:8:ARG:CB	2.59	0.46
51:BS:30:ARG:NH2	51:BS:62:LYS:CD	2.79	0.46
57:BY:27:VAL:C	57:BY:28:LYS:HG3	2.40	0.46
58:BZ:125:LEU:HD23	58:BZ:164:ALA:O	2.16	0.46
1:AA:155:C:O2'	1:AA:156:G:H5'	2.15	0.46
1:AA:186:C:C2	1:AA:187:C:H5	2.33	0.46
1:AA:349:A:O2'	1:AA:350:G:H5'	2.16	0.46
1:AA:625:G:H2'	1:AA:626:U:H6	1.80	0.46
1:AA:625:G:H4'	16:AP:16:HIS:CD2	2.50	0.46
1:AA:671:G:H2'	1:AA:672:U:C6	2.51	0.46
1:AA:684:A:N6	1:AA:685:G:C6	2.84	0.46
1:AA:1001(A):G:H8	1:AA:1002:G:C8	2.33	0.46
2:AB:179:LYS:O	2:AB:179:LYS:HG2	2.15	0.46
6:AF:19:LEU:HD23	6:AF:19:LEU:C	2.40	0.46
7:AG:16:LEU:HD23	7:AG:16:LEU:HA	1.80	0.46
8:AH:104:ARG:O	8:AH:105:ARG:C	2.59	0.46
9:AI:53:VAL:C	9:AI:55:ALA:N	2.73	0.46
9:AI:82:ALA:O	9:AI:84:ALA:N	2.49	0.46
9:AI:89:ASN:HB3	9:AI:92:TYR:CD1	2.50	0.46
9:AI:126:SER:O	9:AI:127:LYS:HB3	2.15	0.46
10:AJ:40:LEU:H	10:AJ:40:LEU:CD2	2.24	0.46
10:AJ:75:ILE:O	10:AJ:77:PRO:HD3	2.16	0.46
16:AP:4:ILE:HG23	16:AP:36:ILE:HD11	1.97	0.46
19:AS:40:ILE:CG2	19:AS:67:VAL:HA	2.45	0.46
19:AS:43:GLU:O	19:AS:43:GLU:HG2	2.14	0.46
25:AZ:19:HIS:CG	25:AZ:20:VAL:N	2.84	0.46
25:AZ:29:ALA:O	25:AZ:32:THR:HB	2.14	0.46
25:AZ:138:VAL:HG21	25:AZ:173:GLY:N	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:B0:12:ASN:C	26:B0:14:ARG:H	2.24	0.46
36:BA:92:A:H2'	36:BA:93:G:O4'	2.15	0.46
36:BA:483:A:H4'	57:BY:48:ALA:O	2.16	0.46
36:BA:654(S):G:H2'	36:BA:654(T):C:O4'	2.14	0.46
36:BA:832:G:H21	48:BP:53:GLY:CA	2.28	0.46
36:BA:948:G:O2'	36:BA:949:C:H5'	2.15	0.46
36:BA:1060:U:H1'	36:BA:1061:U:C5'	2.46	0.46
36:BA:1582:C:O2'	36:BA:1586:A:C8	2.66	0.46
36:BA:2131:G:H5"	36:BA:2132:U:C5'	2.45	0.46
36:BA:2283:C:H2'	36:BA:2284:C:C5'	2.43	0.46
36:BA:2488:A:O2'	36:BA:2489:G:H5'	2.16	0.46
36:BA:2529:G:H5"	36:BA:2530:A:H5"	1.98	0.46
36:BA:2572:A:N7	40:BE:144:ARG:HD3	2.30	0.46
36:BA:2836:U:C4	36:BA:2883:A:N6	2.83	0.46
36:BA:2876:G:OP1	52:BT:4:GLY:HA3	2.16	0.46
37:BB:32:C:O4'	37:BB:53:A:N1	2.48	0.46
38:BC:25:ALA:O	38:BC:29:VAL:HG22	2.14	0.46
38:BC:163:PHE:CD1	38:BC:171:ILE:HD11	2.50	0.46
38:BC:196:LEU:C	38:BC:198:ALA:N	2.72	0.46
39:BD:16:MET:CE	39:BD:208:LYS:HD3	2.46	0.46
39:BD:79:VAL:CG1	39:BD:113:VAL:HA	2.46	0.46
40:BE:76:ARG:O	40:BE:77:ILE:C	2.58	0.46
41:BF:156:LEU:HD21	41:BF:163:VAL:CG1	2.45	0.46
41:BF:157:VAL:HG23	41:BF:157:VAL:O	2.16	0.46
42:BG:91:ARG:HG3	42:BG:91:ARG:NH1	2.31	0.46
43:BH:83:TYR:O	43:BH:84:SER:C	2.58	0.46
43:BH:137:ASP:HB3	43:BH:140:LYS:HB2	1.97	0.46
48:BP:97:PRO:C	48:BP:99:LEU:H	2.23	0.46
51:BS:68:GLN:C	51:BS:70:GLY:N	2.74	0.46
54:BV:2:PHE:O	54:BV:3:ALA:HB2	2.15	0.46
54:BV:64:HIS:HA	54:BV:92:THR:HG22	1.97	0.46
58:BZ:29:TYR:HB3	58:BZ:34:ASN:HA	1.96	0.46
1:AA:427:U:OP1	4:AD:13:ARG:NH2	2.48	0.46
1:AA:921:U:O2	5:AE:19:MET:HB2	2.15	0.46
2:AB:43:ASP:O	2:AB:45:GLN:N	2.49	0.46
2:AB:60:ASP:O	2:AB:60:ASP:OD2	2.33	0.46
7:AG:50:ILE:HA	7:AG:125:MET:HE3	1.98	0.46
10:AJ:4:ILE:HA	10:AJ:99:LYS:O	2.16	0.46
11:AK:120:ARG:HG3	11:AK:120:ARG:NH1	2.28	0.46
13:AM:13:LYS:O	13:AM:14:ARG:C	2.59	0.46
14:AN:12:ARG:HB3	14:AN:12:ARG:HH11	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AS:35:SER:C	19:AS:37:ARG:H	2.23	0.46
22:AV:75:C:OP1	36:BA:2602:A:H5"	2.16	0.46
23:AX:26:A:H2'	23:AX:27:A:O4'	2.15	0.46
25:AZ:265:THR:CG2	25:AZ:266:VAL:H	2.25	0.46
26:B0:11:ARG:C	26:B0:14:ARG:HH22	2.22	0.46
32:B6:8:LYS:CG	32:B6:25:LYS:HD3	2.46	0.46
32:B6:26:ASN:ND2	32:B6:32:ASN:OD1	2.48	0.46
36:BA:622:G:H2'	36:BA:623:G:H8	1.81	0.46
36:BA:811:U:H6	48:BP:24:GLY:O	1.98	0.46
36:BA:1141:U:H6	46:BN:63:THR:HG21	1.81	0.46
36:BA:1368:G:O2'	36:BA:1369:G:H5'	2.16	0.46
36:BA:1385:G:O2'	36:BA:1396:U:H6	1.98	0.46
36:BA:1583:A:O2'	36:BA:1586:A:N1	2.43	0.46
36:BA:1889:A:N1	36:BA:2234:G:H1'	2.31	0.46
36:BA:2094:G:N2	36:BA:2196:C:H1'	2.31	0.46
36:BA:2107:C:H2'	36:BA:2108:C:H6	1.81	0.46
36:BA:2787:C:H1'	40:BE:61:ARG:HG3	1.98	0.46
38:BC:14:VAL:CG2	38:BC:28:LEU:HD21	2.45	0.46
38:BC:70:LYS:HA	38:BC:70:LYS:HE3	1.97	0.46
39:BD:58:HIS:HD2	39:BD:59:LYS:O	1.98	0.46
40:BE:198:VAL:CG1	40:BE:199:ARG:N	2.79	0.46
41:BF:181:LEU:CD2	41:BF:202:PHE:HD1	2.28	0.46
43:BH:38:SER:C	43:BH:40:GLU:H	2.23	0.46
47:BO:3:GLN:O	47:BO:21:CYS:HB3	2.16	0.46
47:BO:34:THR:HG23	47:BO:35:VAL:N	2.30	0.46
49:BQ:134:ARG:NH1	58:BZ:122:ARG:NH2	2.64	0.46
50:BR:69:ASP:O	50:BR:70:LEU:C	2.57	0.46
55:BW:79:GLY:N	55:BW:100:THR:O	2.46	0.46
57:BY:50:ARG:CG	57:BY:53:PRO:HA	2.45	0.46
1:AA:344:A:H4'	1:AA:345:C:OP2	2.15	0.46
1:AA:1130:A:C2	1:AA:1146:A:C4	3.04	0.46
3:AC:112:SER:HB3	3:AC:115:LEU:HD12	1.98	0.46
4:AD:4:TYR:C	4:AD:4:TYR:CD1	2.92	0.46
4:AD:122:ARG:HH11	4:AD:122:ARG:HA	1.79	0.46
5:AE:147:ASP:O	5:AE:151:LEU:HG	2.16	0.46
10:AJ:45:ARG:NE	14:AN:36:PHE:CD2	2.84	0.46
17:AQ:76:LEU:HD21	17:AQ:79:SER:HB2	1.98	0.46
25:AZ:98:GLN:O	25:AZ:241:ARG:NH2	2.49	0.46
31:B5:54:GLY:O	31:B5:55:ARG:C	2.57	0.46
34:B8:46:ARG:HG2	34:B8:46:ARG:HH11	1.80	0.46
34:B8:56:GLU:H	34:B8:56:GLU:CD	2.19	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:271(Q):G:O2'	36:BA:271(R):G:OP2	2.31	0.46
36:BA:1049:C:O2'	36:BA:1050:A:H5'	2.16	0.46
36:BA:1173:G:H5'	36:BA:1174:A:P	2.56	0.46
36:BA:1590:U:O2'	36:BA:1591:G:H5"	2.16	0.46
36:BA:1625:C:H2'	36:BA:1626:G:H5'	1.98	0.46
36:BA:2331:G:O2'	36:BA:2336:A:N1	2.43	0.46
36:BA:2461:C:H2'	36:BA:2462:U:C6	2.51	0.46
38:BC:21:THR:O	38:BC:25:ALA:CB	2.63	0.46
38:BC:74:VAL:HG21	38:BC:157:LYS:HG2	1.97	0.46
38:BC:110:PHE:O	38:BC:111:ASP:HB2	2.14	0.46
38:BC:120:MET:SD	38:BC:123:VAL:HG11	2.56	0.46
39:BD:35:LYS:HD2	39:BD:36:PRO:HA	1.97	0.46
39:BD:53:PHE:CE2	39:BD:220:HIS:ND1	2.83	0.46
43:BH:66:GLY:O	43:BH:67:LEU:C	2.58	0.46
43:BH:92:ILE:C	43:BH:94:TYR:H	2.23	0.46
47:BO:29:ASN:O	47:BO:30:ALA:C	2.55	0.46
48:BP:110:TYR:CD2	48:BP:111:ARG:HD3	2.51	0.46
52:BT:87:ASP:O	52:BT:87:ASP:OD2	2.33	0.46
52:BT:115:ARG:HG3	52:BT:115:ARG:NH1	2.31	0.46
53:BU:67:ALA:O	53:BU:71:GLN:HB2	2.16	0.46
57:BY:29:GLU:OE2	57:BY:38:ILE:HG21	2.15	0.46
57:BY:78:ALA:O	57:BY:79:CYS:HB3	2.16	0.46
1:AA:22:G:H2'	1:AA:23:C:H6	1.81	0.46
1:AA:35:G:H2'	1:AA:36:C:H6	1.80	0.46
1:AA:379:C:O2'	1:AA:380:G:H5'	2.16	0.46
1:AA:841:U:O2'	1:AA:848:C:H5'	2.16	0.46
1:AA:966:G:C4	22:AV:34:G:H4'	2.51	0.46
1:AA:981:U:O5'	1:AA:981:U:H6	1.99	0.46
1:AA:1158:C:O2	1:AA:1158:C:C2'	2.64	0.46
2:AB:136:VAL:O	2:AB:140:HIS:HB2	2.16	0.46
9:AI:73:GLN:O	9:AI:76:ALA:HB3	2.15	0.46
16:AP:42:ARG:O	16:AP:43:LYS:C	2.58	0.46
17:AQ:86:GLU:O	17:AQ:87:LYS:C	2.58	0.46
18:AR:40:LEU:O	18:AR:41:LYS:C	2.59	0.46
25:AZ:40:PRO:HG2	25:AZ:41:ASN:OD1	2.16	0.46
25:AZ:258:LEU:HD21	25:AZ:349:VAL:HG11	1.98	0.46
25:AZ:303:VAL:CG1	25:AZ:304:LEU:N	2.71	0.46
26:B0:37:LEU:N	26:B0:59:LEU:O	2.48	0.46
28:B2:63:VAL:C	28:B2:65:ASN:N	2.72	0.46
30:B4:35:VAL:HG12	30:B4:36:CYS:N	2.29	0.46
36:BA:272(D):G:H1	36:BA:364:C:N4	2.13	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:673:C:H6	36:BA:673:C:C5'	2.20	0.46
36:BA:947:G:H2'	36:BA:948:G:H8	1.81	0.46
36:BA:1062:G:C2	36:BA:1063:G:H1'	2.51	0.46
36:BA:1204:A:C2	36:BA:1241:A:N1	2.84	0.46
36:BA:1373:A:H2'	36:BA:1374:G:O4'	2.16	0.46
36:BA:1517:G:H5'	36:BA:1517:G:C8	2.51	0.46
36:BA:1543:C:C3'	36:BA:1544:A:C5'	2.87	0.46
36:BA:1820:U:C2	39:BD:202:LYS:HB3	2.51	0.46
36:BA:2287:A:C2	36:BA:2346:A:C2	3.04	0.46
39:BD:26:LYS:O	39:BD:27:THR:CG2	2.63	0.46
39:BD:30:GLU:HG3	39:BD:63:ARG:HH21	1.81	0.46
39:BD:224:ALA:O	39:BD:225:ALA:CB	2.63	0.46
39:BD:267:SER:C	39:BD:270:ILE:HD11	2.40	0.46
40:BE:44:TYR:CD2	40:BE:45:THR:O	2.69	0.46
41:BF:118:ALA:O	41:BF:121:GLY:N	2.36	0.46
41:BF:132:VAL:O	41:BF:134:GLY:N	2.48	0.46
42:BG:16:ARG:HE	42:BG:31:VAL:HG11	1.81	0.46
43:BH:23:ARG:O	43:BH:24:VAL:HG23	2.16	0.46
43:BH:42:ARG:HG2	43:BH:43:VAL:N	2.31	0.46
43:BH:85:LYS:CE	43:BH:133:VAL:H	2.29	0.46
46:BN:55:VAL:HG21	46:BN:127:ASP:N	2.31	0.46
48:BP:122:PRO:HB3	48:BP:141:ALA:HB3	1.98	0.46
48:BP:147:LEU:HG	48:BP:148:LEU:H	1.80	0.46
49:BQ:136:ALA:C	49:BQ:138:ASP:N	2.74	0.46
52:BT:13:ARG:HA	52:BT:13:ARG:NE	2.29	0.46
52:BT:85:LYS:O	52:BT:86:ILE:C	2.58	0.46
53:BU:95:LEU:HD12	54:BV:11:GLN:HG3	1.96	0.46
57:BY:95:LYS:HG3	57:BY:100:ALA:CA	2.35	0.46
58:BZ:8:TYR:O	58:BZ:9:TYR:C	2.59	0.46
1:AA:76:C:H42	1:AA:93:G:H1	1.63	0.46
1:AA:147:G:N3	1:AA:147:G:H2'	2.30	0.46
1:AA:262:A:C6	1:AA:263:A:C6	3.03	0.46
1:AA:390:C:H2'	1:AA:391:G:H8	1.79	0.46
1:AA:805:C:O2'	1:AA:806:C:H5'	2.15	0.46
1:AA:1286:A:O2'	1:AA:1287:A:P	2.74	0.46
2:AB:221:LEU:HD13	2:AB:221:LEU:O	2.15	0.46
3:AC:142:MET:HE2	3:AC:171:GLY:HA3	1.98	0.46
4:AD:157:LEU:HD12	4:AD:157:LEU:N	2.31	0.46
7:AG:45:ASP:O	7:AG:48:LYS:HB2	2.16	0.46
9:AI:65:VAL:HG22	9:AI:66:ARG:N	2.31	0.46
12:AL:87:GLY:HA2	12:AL:98:TYR:HA	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AM:32:GLU:O	13:AM:34:LEU:N	2.48	0.46
17:AQ:91:ARG:CB	17:AQ:91:ARG:NH1	2.79	0.46
18:AR:24:ALA:C	18:AR:26:LEU:H	2.23	0.46
19:AS:60:VAL:HG13	19:AS:60:VAL:O	2.15	0.46
23:AX:14:A:H2'	23:AX:15:A:O4'	2.16	0.46
25:AZ:38:GLU:O	25:AZ:38:GLU:CD	2.59	0.46
26:B0:20:ARG:H	26:B0:20:ARG:CD	2.27	0.46
26:B0:23:VAL:HG22	26:B0:38:VAL:HG22	1.98	0.46
30:B4:12:ALA:HB2	30:B4:29:PRO:HA	1.98	0.46
30:B4:28:LYS:HE2	30:B4:29:PRO:HD2	1.98	0.46
31:B5:40:LYS:HE2	31:B5:46:CYS:CB	2.46	0.46
32:B6:15:GLU:OE2	32:B6:18:ARG:NH2	2.49	0.46
34:B8:47:LYS:NZ	34:B8:47:LYS:CB	2.72	0.46
36:BA:69:C:O2	36:BA:69:C:H2'	2.16	0.46
36:BA:497:A:H2'	36:BA:498:G:C8	2.51	0.46
36:BA:673:C:H2'	36:BA:674:G:H5'	1.98	0.46
36:BA:733:G:N7	36:BA:761:A:C5	2.83	0.46
36:BA:943:U:OP2	48:BP:38:GLN:CG	2.64	0.46
36:BA:1109:C:C2'	36:BA:1110:G:H5'	2.46	0.46
36:BA:1742:G:N7	36:BA:1743:C:C4	2.84	0.46
36:BA:2312:U:H4'	42:BG:71:THR:HG22	1.98	0.46
37:BB:75:G:H5'	37:BB:76:G:OP2	2.16	0.46
38:BC:21:THR:O	38:BC:25:ALA:HB3	2.16	0.46
38:BC:72:VAL:HG11	38:BC:156:ILE:O	2.16	0.46
39:BD:132:PRO:O	39:BD:136:ILE:HD12	2.16	0.46
40:BE:93:VAL:C	40:BE:95:ILE:H	2.23	0.46
41:BF:152:GLU:OE1	41:BF:191:ARG:HD2	2.16	0.46
43:BH:41:MET:HA	43:BH:41:MET:HE3	1.98	0.46
46:BN:51:PHE:CE1	46:BN:119:ARG:HD2	2.51	0.46
46:BN:123:TYR:CD1	46:BN:123:TYR:N	2.84	0.46
48:BP:77:ARG:HH11	48:BP:77:ARG:CG	2.29	0.46
48:BP:97:PRO:HD3	48:BP:126:VAL:O	2.15	0.46
54:BV:70:ILE:HG22	54:BV:71:LEU:N	2.31	0.46
57:BY:38:ILE:CD1	57:BY:66:PRO:HG3	2.46	0.46
58:BZ:70:LEU:N	58:BZ:70:LEU:CD2	2.79	0.46
58:BZ:162:GLU:O	58:BZ:163:LEU:O	2.34	0.46
1:AA:274:A:O2'	1:AA:275:G:C8	2.64	0.46
1:AA:324:G:N2	1:AA:326:G:H3'	2.32	0.46
1:AA:911:U:H2'	1:AA:912:C:C6	2.51	0.46
1:AA:936:C:H2'	1:AA:937:A:O4'	2.16	0.46
1:AA:1195:C:H5"	1:AA:1196:U:OP2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:41:ILE:HG22	2:AB:41:ILE:O	2.15	0.46
5:AE:20:GLN:HE21	5:AE:25:ARG:NE	2.13	0.46
7:AG:79:ARG:HA	7:AG:84:ASN:HA	1.98	0.46
8:AH:17:THR:HB	8:AH:78:GLN:OE1	2.16	0.46
9:AI:82:ALA:C	9:AI:84:ALA:H	2.25	0.46
11:AK:13:GLN:HG2	11:AK:75:TYR:O	2.15	0.46
11:AK:69:ALA:O	11:AK:73:MET:HG3	2.15	0.46
13:AM:19:LEU:HB3	13:AM:25:ILE:HG21	1.98	0.46
13:AM:29:ARG:O	13:AM:32:GLU:N	2.48	0.46
17:AQ:13:ASP:C	17:AQ:15:MET:H	2.23	0.46
19:AS:46:GLY:N	19:AS:62:ILE:CG2	2.74	0.46
20:AT:29:LYS:O	20:AT:33:ILE:HG13	2.16	0.46
24:AY:7:G:H3'	24:AY:8:4SU:C5'	2.46	0.46
24:AY:28:C:O2'	24:AY:29:G:H5'	2.16	0.46
25:AZ:324:LYS:HE3	25:AZ:364:PRO:CB	2.46	0.46
34:B8:48:PHE:CZ	36:BA:650:C:OP1	2.69	0.46
35:B9:2:LYS:HZ1	36:BA:2526:G:C2'	2.29	0.46
36:BA:491:G:H2'	36:BA:492:A:H8	1.79	0.46
36:BA:510:C:H2'	36:BA:511:U:O4'	2.15	0.46
36:BA:615:G:H2'	36:BA:616:G:O4'	2.16	0.46
36:BA:738:G:C6	36:BA:739:G:C6	3.03	0.46
36:BA:880:G:H2'	36:BA:881:G:H8	1.81	0.46
36:BA:1375:C:O2'	36:BA:1376:C:H5'	2.16	0.46
36:BA:1398:C:H2'	36:BA:1399:C:C6	2.50	0.46
36:BA:1788:C:H2'	36:BA:1789:A:H8	1.81	0.46
36:BA:2223:G:H2'	36:BA:2224:G:C5'	2.45	0.46
36:BA:2641:G:H2'	36:BA:2642:G:O4'	2.16	0.46
36:BA:2870:C:H2'	36:BA:2871:C:H5'	1.97	0.46
37:BB:71:C:H42	37:BB:106:G:H1	1.64	0.46
38:BC:14:VAL:HG11	38:BC:222:VAL:HG13	1.98	0.46
40:BE:188:VAL:HG13	40:BE:188:VAL:O	2.16	0.46
41:BF:9:ILE:HG23	41:BF:13:SER:C	2.41	0.46
41:BF:139:PHE:HB2	41:BF:166:ALA:HB1	1.98	0.46
46:BN:57:ALA:C	46:BN:58:ASP:O	2.57	0.46
48:BP:25:SER:C	48:BP:27:HIS:N	2.74	0.46
48:BP:106:LEU:O	48:BP:107:LYS:CG	2.64	0.46
54:BV:37:VAL:O	54:BV:37:VAL:HG23	2.16	0.46
54:BV:40:LEU:HD13	54:BV:46:VAL:HA	1.96	0.46
57:BY:17:SER:OG	57:BY:18:GLY:N	2.43	0.46
58:BZ:8:TYR:HD2	58:BZ:38:TYR:OH	1.99	0.46
58:BZ:103:ARG:O	58:BZ:103:ARG:HG2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:198:G:O2'	1:AA:199:G:O5'	2.34	0.45
1:AA:358:U:H2'	1:AA:359:U:C6	2.51	0.45
1:AA:790:A:N1	1:AA:1497:G:H5"	2.31	0.45
1:AA:811:C:H4'	1:AA:900:A:N6	2.31	0.45
1:AA:1030:C:H2'	1:AA:1030(A):G:H5'	1.97	0.45
1:AA:1259:C:H6	1:AA:1259:C:O5'	1.99	0.45
1:AA:1343:G:H2'	1:AA:1344:C:C6	2.51	0.45
1:AA:1499:A:C1'	1:AA:1520:G:H5'	2.43	0.45
2:AB:69:LEU:HD23	2:AB:155:LEU:HG	1.97	0.45
2:AB:131:PRO:O	2:AB:135:GLN:HG3	2.15	0.45
6:AF:22:GLU:O	6:AF:24:GLU:N	2.49	0.45
11:AK:57:THR:HG23	11:AK:59:TYR:N	2.31	0.45
12:AL:50:SER:O	12:AL:51:ALA:HB2	2.15	0.45
20:AT:27:LYS:HD3	20:AT:27:LYS:O	2.16	0.45
22:AV:44:G:H2'	22:AV:44:G:N3	2.31	0.45
23:AX:26:A:O2'	23:AX:27:A:P	2.74	0.45
24:AY:5:G:O2'	24:AY:6:C:H5'	2.16	0.45
25:AZ:65:THR:HA	25:AZ:81:ASP:O	2.17	0.45
25:AZ:93:ILE:HG12	25:AZ:122:LEU:HD13	1.97	0.45
25:AZ:222:LEU:HB3	25:AZ:243:GLU:HB3	1.98	0.45
26:B0:43:THR:HG22	36:BA:2331:G:O2'	2.15	0.45
26:B0:56:ASP:O	26:B0:57:PHE:HB2	2.15	0.45
27:B1:58:ILE:HD11	27:B1:91:LYS:HB2	1.99	0.45
34:B8:12:LYS:O	48:BP:65:ARG:HB2	2.17	0.45
35:B9:2:LYS:HD3	35:B9:33:LYS:O	2.16	0.45
36:BA:196:A:O4'	48:BP:46:LYS:HE2	2.17	0.45
36:BA:299:A:N6	36:BA:339:U:H3	2.15	0.45
36:BA:729:G:C6	39:BD:208:LYS:HB2	2.51	0.45
36:BA:887:A:H2	36:BA:889:C:OP2	1.99	0.45
36:BA:1069:A:H1'	36:BA:1070:A:OP2	2.16	0.45
36:BA:1222:C:C3'	36:BA:1223:G:H5"	2.45	0.45
36:BA:1517:G:H8	36:BA:1517:G:C5'	2.29	0.45
36:BA:1717:G:H2'	36:BA:1718:G:H5"	1.98	0.45
36:BA:2579:C:O3'	40:BE:131:ALA:CB	2.63	0.45
37:BB:68:C:H2'	37:BB:69:G:H8	1.81	0.45
37:BB:78:A:C6	37:BB:100:A:C8	3.04	0.45
38:BC:99:ILE:CG2	38:BC:102:LYS:HD2	2.47	0.45
39:BD:224:ALA:HA	39:BD:233:HIS:O	2.16	0.45
40:BE:34:VAL:HG12	40:BE:48:GLN:O	2.16	0.45
41:BF:9:ILE:HG23	41:BF:13:SER:O	2.16	0.45
41:BF:89:VAL:HG12	41:BF:90:PHE:CD2	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BP:23:PRO:HD2	48:BP:33:ARG:HH21	1.80	0.45
55:BW:6:ILE:HG12	55:BW:104:THR:CG2	2.45	0.45
55:BW:89:ALA:O	55:BW:90:ARG:HB2	2.15	0.45
57:BY:86:ARG:HD2	57:BY:88:LYS:HE3	1.96	0.45
57:BY:88:LYS:HD2	57:BY:88:LYS:N	2.31	0.45
58:BZ:19:ARG:HA	58:BZ:23:LYS:O	2.16	0.45
1:AA:187:C:OP1	20:AT:82:SER:HB2	2.16	0.45
1:AA:194:C:O3'	20:AT:68:LYS:HD3	2.16	0.45
1:AA:338:A:H2'	1:AA:339:C:O4'	2.17	0.45
1:AA:575:G:H4'	1:AA:576:G:O5'	2.17	0.45
1:AA:662:G:H2'	1:AA:663:A:C8	2.51	0.45
1:AA:1018:C:H2'	1:AA:1019:C:C6	2.51	0.45
1:AA:1298:C:H4'	1:AA:1299:A:C4	2.51	0.45
3:AC:181:ASN:ND2	3:AC:204:LEU:HB2	2.31	0.45
4:AD:126:ILE:HG22	4:AD:127:THR:N	2.30	0.45
7:AG:23:VAL:CG1	7:AG:43:PHE:CE2	3.00	0.45
7:AG:119:ARG:O	7:AG:120:ILE:C	2.59	0.45
7:AG:144:MET:O	7:AG:148:ASN:ND2	2.49	0.45
10:AJ:28:ARG:HH12	10:AJ:33:GLN:CD	2.23	0.45
16:AP:39:TYR:CD2	16:AP:73:LEU:HD11	2.52	0.45
25:AZ:34:VAL:CG2	25:AZ:199:ILE:HG21	2.43	0.45
31:B5:12:SER:HB3	36:BA:2020:A:H5'	1.98	0.45
36:BA:83:G:H22	36:BA:102:G:C2'	2.24	0.45
36:BA:445:C:O3'	53:BU:3:ARG:HD3	2.17	0.45
36:BA:1056:G:C4	36:BA:1102:C:H5	2.34	0.45
36:BA:1210:A:H4'	36:BA:1211:U:O5'	2.17	0.45
36:BA:1537:G:H2'	36:BA:1538:G:H8	1.80	0.45
36:BA:2023:G:H4'	36:BA:2617:C:O3'	2.16	0.45
36:BA:2131:G:C4'	36:BA:2133:G:H21	2.28	0.45
36:BA:2691:C:C4	36:BA:2719:G:N2	2.85	0.45
38:BC:62:VAL:HG22	38:BC:63:SER:N	2.31	0.45
38:BC:155:GLU:HG3	38:BC:160:ARG:HD3	1.96	0.45
38:BC:163:PHE:CD2	38:BC:192:PHE:CE1	3.03	0.45
39:BD:142:VAL:HG22	39:BD:143:HIS:N	2.31	0.45
41:BF:132:VAL:CG2	41:BF:133:ASN:H	2.09	0.45
42:BG:7:LEU:HD22	42:BG:176:LEU:CD2	2.47	0.45
43:BH:20:ALA:CB	43:BH:21:PRO:CD	2.87	0.45
46:BN:67:LEU:O	46:BN:68:GLU:CB	2.64	0.45
46:BN:67:LEU:HD22	46:BN:88:GLU:HG2	1.97	0.45
46:BN:73:THR:HG23	46:BN:82:LEU:CD1	2.26	0.45
48:BP:104:GLY:C	48:BP:105:LEU:HD12	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BP:107:LYS:HE3	48:BP:107:LYS:HB2	1.76	0.45
48:BP:125:VAL:CG1	48:BP:138:LEU:HD21	2.46	0.45
52:BT:7:ILE:O	52:BT:11:GLU:OE2	2.33	0.45
57:BY:28:LYS:C	57:BY:38:ILE:HG22	2.42	0.45
58:BZ:69:THR:HG22	58:BZ:90:VAL:CA	2.31	0.45
58:BZ:99:TYR:HA	58:BZ:124:ILE:O	2.16	0.45
1:AA:333:G:H2'	1:AA:334:C:C6	2.51	0.45
1:AA:511:C:HO2'	1:AA:512:U:H6	1.62	0.45
1:AA:640:A:O2'	1:AA:641:U:H5'	2.17	0.45
1:AA:1004:A:N6	1:AA:1035:A:N7	2.64	0.45
1:AA:1134:G:C2	1:AA:1142:G:N1	2.83	0.45
1:AA:1486:G:H2'	1:AA:1487:G:O4'	2.15	0.45
2:AB:132:LYS:O	2:AB:136:VAL:HG23	2.16	0.45
2:AB:233:SER:O	2:AB:235:SER:N	2.50	0.45
3:AC:72:LYS:HD3	3:AC:75:VAL:HG21	1.96	0.45
4:AD:78:LEU:HD21	4:AD:96:LEU:HB3	1.97	0.45
5:AE:78:HIS:CD2	8:AH:107:LEU:HD12	2.51	0.45
6:AF:7:ASN:ND2	18:AR:34:TYR:OH	2.43	0.45
9:AI:4:TYR:CE2	9:AI:88:TYR:CB	3.00	0.45
9:AI:34:ASN:O	9:AI:38:GLN:HB2	2.16	0.45
9:AI:114:TYR:O	9:AI:114:TYR:HD2	2.00	0.45
15:AO:32:LEU:O	15:AO:35:ARG:N	2.49	0.45
18:AR:50:ILE:HD13	18:AR:70:ILE:HG21	1.97	0.45
25:AZ:281:ILE:HG12	25:AZ:284:ASP:OD1	2.15	0.45
25:AZ:340:PRO:O	25:AZ:350:THR:HG23	2.16	0.45
25:AZ:371:THR:CG2	25:AZ:372:VAL:H	2.27	0.45
26:B0:20:ARG:HH12	36:BA:2271:G:H4'	1.81	0.45
26:B0:56:ASP:OD1	26:B0:56:ASP:C	2.58	0.45
28:B2:24:LEU:HD23	28:B2:24:LEU:C	2.41	0.45
30:B4:14:ILE:HG13	30:B4:31:ILE:HB	1.99	0.45
32:B6:30:THR:O	32:B6:31:PRO:C	2.60	0.45
36:BA:99:U:C6	36:BA:102:G:C2	3.04	0.45
36:BA:471:A:C2'	36:BA:472:A:C5'	2.93	0.45
36:BA:483:A:H5"	57:BY:49:VAL:CG2	2.46	0.45
36:BA:673:C:C2'	36:BA:674:G:H5'	2.46	0.45
36:BA:925:C:C3'	36:BA:926:A:H5"	2.47	0.45
36:BA:1578:U:H2'	36:BA:1579:A:C5'	2.46	0.45
36:BA:1654:A:P	50:BR:3:HIS:HB2	2.56	0.45
36:BA:1999:C:O2'	36:BA:2000:G:H5'	2.17	0.45
37:BB:20:C:C3'	37:BB:21:G:H5"	2.47	0.45
38:BC:67:GLY:CA	38:BC:159:GLY:HA3	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:197:ILE:O	40:BE:197:ILE:HG13	2.17	0.45
41:BF:20:LEU:H	41:BF:24:LEU:HD21	1.82	0.45
42:BG:133:LEU:HD13	42:BG:135:LEU:CD1	2.47	0.45
47:BO:68:GLU:HB3	47:BO:78:ARG:HB2	1.98	0.45
48:BP:23:PRO:O	48:BP:33:ARG:CD	2.65	0.45
48:BP:30:THR:HG22	48:BP:31:ALA:H	1.81	0.45
48:BP:147:LEU:HG	48:BP:148:LEU:N	2.30	0.45
51:BS:89:ARG:CB	51:BS:92:TYR:HB3	2.46	0.45
52:BT:134:GLU:O	52:BT:135:ALA:CB	2.64	0.45
54:BV:18:LEU:CD2	54:BV:19:LYS:N	2.75	0.45
57:BY:7:VAL:HB	57:BY:8:LYS:H	1.53	0.45
57:BY:28:LYS:CA	57:BY:38:ILE:HG22	2.46	0.45
1:AA:436:C:H2'	1:AA:437:U:C6	2.51	0.45
1:AA:453:A:O2'	1:AA:454:C:C5'	2.65	0.45
1:AA:479:C:O2'	1:AA:480:U:H5'	2.16	0.45
1:AA:518:C:H2'	1:AA:530:G:C2	2.51	0.45
1:AA:849:C:H2'	1:AA:850:U:C6	2.51	0.45
1:AA:858:G:C5	1:AA:869:G:N7	2.83	0.45
1:AA:1063:C:H2'	1:AA:1064:G:C8	2.52	0.45
2:AB:138:LEU:O	2:AB:140:HIS:N	2.49	0.45
9:AI:29:ASN:OD1	9:AI:64:THR:HA	2.16	0.45
16:AP:53:VAL:CG2	16:AP:54:GLU:N	2.74	0.45
18:AR:25:THR:O	18:AR:25:THR:HG22	2.16	0.45
19:AS:52:TYR:CE2	19:AS:54:GLY:HA2	2.52	0.45
20:AT:100:ILE:N	20:AT:100:ILE:CD1	2.78	0.45
28:B2:37:PHE:C	28:B2:39:ALA:N	2.74	0.45
31:B5:50:GLY:HA3	31:B5:56:LYS:CB	2.45	0.45
32:B6:16:CYS:SG	32:B6:48:VAL:O	2.75	0.45
32:B6:17:LYS:CB	32:B6:18:ARG:HH12	2.29	0.45
35:B9:1:MET:SD	35:B9:1:MET:N	2.87	0.45
36:BA:297:C:N4	36:BA:298:G:C2	2.85	0.45
36:BA:491:G:H2'	36:BA:492:A:O4'	2.16	0.45
36:BA:1257:C:H4'	41:BF:83:PHE:CE2	2.52	0.45
36:BA:1403:C:H2'	36:BA:1404:C:O5'	2.16	0.45
36:BA:1658:C:H2'	36:BA:1659:U:H6	1.81	0.45
36:BA:2128:C:OP2	36:BA:2128:C:H6	1.99	0.45
36:BA:2396:G:O2'	36:BA:2397:G:H5'	2.16	0.45
36:BA:2508:G:O3'	36:BA:2555:U:H5'	2.16	0.45
37:BB:19:G:H2'	37:BB:19:G:N3	2.31	0.45
37:BB:86:G:H2'	37:BB:87:G:C8	2.49	0.45
39:BD:209:ALA:C	39:BD:210:GLY:O	2.53	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:34:VAL:O	40:BE:35:GLN:CB	2.62	0.45
40:BE:48:GLN:CD	40:BE:78:LEU:HD13	2.40	0.45
41:BF:206:ILE:HG22	41:BF:207:GLY:N	2.21	0.45
42:BG:16:ARG:HE	42:BG:31:VAL:CG1	2.30	0.45
42:BG:138:GLN:C	42:BG:140:ILE:H	2.24	0.45
43:BH:54:ARG:HD3	43:BH:56:SER:O	2.16	0.45
43:BH:103:LEU:HB2	43:BH:123:PHE:HD2	1.82	0.45
44:BJ:27:UNK:O	44:BJ:83:UNK:N	2.49	0.45
48:BP:6:LEU:H	48:BP:6:LEU:CD2	2.13	0.45
50:BR:33:ARG:O	50:BR:34:ILE:HG12	2.17	0.45
51:BS:54:LEU:HD22	51:BS:58:LEU:C	2.42	0.45
52:BT:33:LYS:HZ1	52:BT:43:GLN:HG2	1.81	0.45
52:BT:65:LYS:HE3	52:BT:66:VAL:N	2.07	0.45
53:BU:83:LEU:HD12	53:BU:83:LEU:N	2.31	0.45
55:BW:29:LEU:CD2	55:BW:33:ARG:HD2	2.46	0.45
58:BZ:35:ARG:HH11	58:BZ:35:ARG:HG3	1.81	0.45
58:BZ:99:TYR:N	58:BZ:99:TYR:HD2	2.14	0.45
58:BZ:119:GLU:CD	58:BZ:119:GLU:N	2.72	0.45
1:AA:62:U:O2'	1:AA:379:C:H1'	2.16	0.45
1:AA:226:G:O2'	1:AA:227:G:H5'	2.16	0.45
1:AA:404:U:H2'	1:AA:405:U:H6	1.79	0.45
1:AA:652:U:C2	1:AA:752:G:N2	2.84	0.45
1:AA:742:G:O2'	1:AA:743:U:H5'	2.17	0.45
1:AA:765:G:C6	1:AA:812:C:C2	3.05	0.45
1:AA:1050:G:O2'	1:AA:1051:C:O5'	2.34	0.45
1:AA:1245:A:H2'	1:AA:1246:C:O4'	2.17	0.45
7:AG:92:SER:HB3	7:AG:95:ARG:CB	2.47	0.45
7:AG:95:ARG:HH11	7:AG:95:ARG:HG3	1.82	0.45
8:AH:37:ARG:CZ	8:AH:41:ARG:HH22	2.29	0.45
9:AI:11:LYS:C	9:AI:13:ALA:N	2.74	0.45
11:AK:108:ILE:O	18:AR:87:ARG:N	2.46	0.45
11:AK:126:ARG:O	11:AK:127:LYS:C	2.60	0.45
17:AQ:34:LYS:HG2	17:AQ:35:VAL:N	2.31	0.45
18:AR:84:LYS:HZ3	18:AR:84:LYS:H	1.65	0.45
24:AY:62:U:H5'	24:AY:62:U:C6	2.42	0.45
26:B0:17:GLN:HB3	36:BA:2261:C:OP1	2.16	0.45
26:B0:45:PHE:CE2	26:B0:77:ARG:NH2	2.85	0.45
29:B3:3:ARG:HB2	29:B3:59:VAL:C	2.41	0.45
31:B5:4:HIS:CB	31:B5:5:PRO:CD	2.81	0.45
36:BA:29:U:H2'	36:BA:30:G:C8	2.52	0.45
36:BA:142:A:H5"	36:BA:142(A):C:H5	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:941:A:H4'	48:BP:35:HIS:HE1	1.78	0.45
36:BA:1139:G:H5"	46:BN:70:LYS:HZ1	1.78	0.45
36:BA:1141:U:H4'	36:BA:1142(A):A:C8	2.50	0.45
36:BA:1484:G:C3'	36:BA:1485:G:H5"	2.46	0.45
36:BA:2110:G:N2	36:BA:2178:C:H5	2.14	0.45
36:BA:2131:G:H4'	36:BA:2132:U:OP2	2.16	0.45
36:BA:2450:A:O2'	36:BA:2451:A:H5'	2.16	0.45
36:BA:2491:U:C5'	36:BA:2570:G:H5"	2.22	0.45
36:BA:2584:U:C2'	36:BA:2585:U:H5'	2.46	0.45
39:BD:197:GLY:O	39:BD:198:ASN:C	2.59	0.45
40:BE:35:GLN:O	40:BE:36:ARG:HD2	2.16	0.45
42:BG:111:LEU:HB3	42:BG:112:PRO:HD3	1.97	0.45
43:BH:76:VAL:O	43:BH:78:GLY:N	2.49	0.45
46:BN:1:MET:C	46:BN:2:LYS:HD2	2.42	0.45
46:BN:9:VAL:HG11	46:BN:39:ARG:NH1	2.32	0.45
46:BN:120:LEU:HD13	46:BN:122:VAL:HG23	1.97	0.45
48:BP:85:LEU:HA	48:BP:88:LEU:HB2	1.99	0.45
50:BR:72:ASP:OD1	50:BR:75:LEU:HB2	2.17	0.45
52:BT:68:TYR:O	52:BT:69:GLY:C	2.59	0.45
53:BU:97:ASP:O	53:BU:98:LEU:C	2.59	0.45
54:BV:40:LEU:N	54:BV:40:LEU:CD2	2.80	0.45
55:BW:74:ALA:HB2	55:BW:105:VAL:HG13	1.97	0.45
56:BX:5:TYR:HE2	56:BX:46:ALA:HA	1.81	0.45
58:BZ:44:PHE:CE1	58:BZ:48:PHE:CD1	3.05	0.45
1:AA:78:G:H2'	1:AA:79:G:C4'	2.47	0.45
1:AA:415:A:H2'	1:AA:416:G:H8	1.82	0.45
1:AA:1196:U:C5	23:AX:26:A:H1'	2.51	0.45
1:AA:1350:A:N7	9:AI:118:LYS:NZ	2.65	0.45
1:AA:1401:G:C2	1:AA:1402:C:H1'	2.52	0.45
1:AA:1442(B):A:C2	52:BT:118:ARG:CZ	3.00	0.45
2:AB:17:PHE:HD1	2:AB:44:LEU:HD11	1.82	0.45
3:AC:142:MET:C	3:AC:144:SER:N	2.73	0.45
9:AI:14:VAL:HG12	9:AI:15:ALA:N	2.31	0.45
10:AJ:29:ARG:HG2	10:AJ:29:ARG:O	2.16	0.45
12:AL:119:LYS:O	12:AL:120:TYR:CG	2.70	0.45
14:AN:59:ALA:O	14:AN:60:SER:HB3	2.16	0.45
15:AO:82:ILE:HD13	15:AO:82:ILE:O	2.17	0.45
16:AP:21:VAL:HG12	16:AP:34:GLU:O	2.17	0.45
19:AS:12:ASP:H	19:AS:38:SER:HB3	1.82	0.45
25:AZ:234:ARG:HA	25:AZ:234:ARG:NE	2.21	0.45
26:B0:7:LEU:HD22	49:BQ:85:LYS:CG	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:B0:52:GLY:N	26:B0:62:LEU:CD2	2.80	0.45
28:B2:8:LYS:O	28:B2:11:GLU:HB2	2.16	0.45
29:B3:23:LEU:HD21	29:B3:50:VAL:HG11	1.97	0.45
30:B4:20:ASN:ND2	30:B4:21:VAL:N	2.63	0.45
34:B8:52:LYS:H	34:B8:53:PRO:HD2	1.79	0.45
36:BA:225:A:H2'	36:BA:226:G:H5'	1.98	0.45
36:BA:483:A:H5"	57:BY:49:VAL:HG22	1.98	0.45
36:BA:1011:G:O2'	36:BA:1013:C:C5'	2.65	0.45
36:BA:1224:C:O2'	54:BV:85:LYS:HA	2.15	0.45
36:BA:1299:G:C5	36:BA:1639:U:C5	3.05	0.45
36:BA:1498:C:H2'	36:BA:1499:C:H5"	1.98	0.45
36:BA:2179:C:C5'	36:BA:2180:U:OP1	2.64	0.45
36:BA:2502:G:H5"	36:BA:2503:A:C5'	2.47	0.45
36:BA:2777:G:H5"	36:BA:2778:A:H5"	1.99	0.45
38:BC:54:SER:C	38:BC:56:GLN:H	2.25	0.45
39:BD:96:HIS:CE1	39:BD:102:LYS:HZ3	2.33	0.45
40:BE:1:MET:O	40:BE:2:LYS:C	2.60	0.45
40:BE:33:VAL:HG23	40:BE:47:VAL:HG13	1.98	0.45
40:BE:132:HIS:CD2	40:BE:135:HIS:NE2	2.84	0.45
41:BF:116:ASP:OD2	48:BP:5:ASP:HB2	2.16	0.45
48:BP:75:ILE:HD12	48:BP:75:ILE:N	2.17	0.45
49:BQ:21:THR:OG1	49:BQ:99:PRO:O	2.34	0.45
52:BT:50:ILE:H	52:BT:50:ILE:HD12	1.80	0.45
57:BY:17:SER:CB	57:BY:71:LYS:HB3	2.47	0.45
57:BY:27:VAL:HG12	57:BY:29:GLU:H	1.80	0.45
1:AA:80:G:C3'	1:AA:81:U:C5'	2.94	0.45
1:AA:1152:A:C6	1:AA:1153:C:N4	2.85	0.45
1:AA:1216:G:H2'	1:AA:1217:C:C6	2.51	0.45
1:AA:1270:C:C6	1:AA:1270:C:H3'	2.52	0.45
1:AA:1410:G:H2'	1:AA:1411:C:H6	1.82	0.45
1:AA:1496:C:H2'	1:AA:1497:G:O4'	2.17	0.45
2:AB:22:LYS:NZ	2:AB:40:HIS:CE1	2.84	0.45
5:AE:12:LEU:CD2	5:AE:12:LEU:C	2.90	0.45
7:AG:69:VAL:HG13	7:AG:100:ALA:HA	1.98	0.45
12:AL:87:GLY:HA2	12:AL:98:TYR:HD2	1.82	0.45
13:AM:96:LEU:HB3	13:AM:97:PRO:HD2	1.97	0.45
20:AT:10:LEU:HD12	20:AT:11:SER:N	2.32	0.45
22:AW:7:A:C5	22:AW:49:C:H5	2.34	0.45
22:AW:31:A:O2'	22:AW:32:U:H5'	2.16	0.45
22:AW:43:C:C3'	22:AW:44:G:O4'	2.64	0.45
25:AZ:96:ALA:O	25:AZ:98:GLN:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:216:ASP:C	25:AZ:216:ASP:OD1	2.59	0.45
26:B0:26:TYR:HA	26:B0:69:PHE:HE1	1.82	0.45
29:B3:5:LYS:HD2	29:B3:57:GLU:CB	2.44	0.45
32:B6:6:ARG:HB3	32:B6:6:ARG:CZ	2.42	0.45
32:B6:15:GLU:HG2	32:B6:15:GLU:O	2.17	0.45
36:BA:236:C:H2'	36:BA:237:C:H6	1.82	0.45
36:BA:271(H):G:H21	36:BA:271(I):G:H1'	1.82	0.45
36:BA:302:C:H2'	36:BA:303:U:C6	2.52	0.45
36:BA:654(S):G:H2'	36:BA:654(T):C:C1'	2.47	0.45
36:BA:911:A:N1	36:BA:2277:G:O2'	2.46	0.45
36:BA:943:U:OP2	48:BP:38:GLN:OE1	2.35	0.45
36:BA:944:G:H5'	36:BA:945:A:C5'	2.47	0.45
36:BA:1243:G:C3'	36:BA:1244:G:H5"	2.46	0.45
36:BA:2238:G:N3	36:BA:2238:G:H5'	2.31	0.45
37:BB:65:C:H2'	37:BB:109:C:H41	1.81	0.45
42:BG:9:ARG:HB3	42:BG:9:ARG:HH11	1.81	0.45
43:BH:30:LYS:HG2	43:BH:79:VAL:O	2.16	0.45
46:BN:18:ALA:C	46:BN:20:GLY:N	2.73	0.45
47:BO:76:ALA:HB3	52:BT:75:ILE:HB	1.97	0.45
48:BP:96:THR:HG22	48:BP:126:VAL:HG23	1.99	0.45
49:BQ:141:GLN:H	58:BZ:53:ILE:CD1	2.25	0.45
51:BS:52:SER:CB	51:BS:55:ALA:HB3	2.46	0.45
51:BS:64:GLU:HA	51:BS:67:ARG:HG3	1.98	0.45
51:BS:85:VAL:C	51:BS:106:ARG:CG	2.85	0.45
52:BT:39:ARG:H	52:BT:39:ARG:CD	2.16	0.45
53:BU:95:LEU:O	53:BU:98:LEU:HG	2.15	0.45
55:BW:52:GLU:N	55:BW:52:GLU:OE2	2.49	0.45
56:BX:14:SER:O	56:BX:17:ALA:HB3	2.17	0.45
57:BY:12:THR:HG22	57:BY:13:VAL:N	2.32	0.45
57:BY:50:ARG:HB3	57:BY:53:PRO:CG	2.43	0.45
58:BZ:96:VAL:HG22	58:BZ:97:GLU:N	2.30	0.45
58:BZ:129:SER:O	58:BZ:132:ASN:N	2.50	0.45
1:AA:376:G:H4'	16:AP:5:ARG:HH11	1.81	0.45
1:AA:624:C:H2'	1:AA:625:G:H8	1.81	0.45
1:AA:1216:G:P	14:AN:2:ALA:HB2	2.56	0.45
2:AB:97:TRP:CH2	2:AB:176:GLU:OE2	2.69	0.45
3:AC:65:ALA:O	3:AC:66:VAL:C	2.59	0.45
3:AC:78:GLY:HA3	3:AC:82:GLU:OE2	2.17	0.45
4:AD:12:CYS:SG	4:AD:19:LEU:O	2.74	0.45
4:AD:67:ILE:O	4:AD:67:ILE:CG2	2.65	0.45
10:AJ:85:LEU:O	10:AJ:87:THR:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AS:45:VAL:HG23	19:AS:45:VAL:O	2.15	0.45
24:AY:18:G:N2	24:AY:58:A:O4'	2.49	0.45
25:AZ:315:LYS:HG2	25:AZ:373:GLU:CG	2.34	0.45
25:AZ:324:LYS:CD	25:AZ:325:LYS:H	2.30	0.45
25:AZ:374:LEU:HD13	25:AZ:378:VAL:CG1	2.47	0.45
31:B5:57:VAL:HG12	31:B5:58:LEU:N	2.32	0.45
32:B6:26:ASN:ND2	32:B6:32:ASN:CG	2.75	0.45
32:B6:40:CYS:HA	32:B6:41:PRO:HD3	1.77	0.45
36:BA:271(L):U:H4'	36:BA:271(M):G:N7	2.31	0.45
36:BA:563:G:OP2	36:BA:572:A:H5'	2.17	0.45
36:BA:1053:C:O2'	36:BA:1054:A:H5'	2.17	0.45
36:BA:1268:A:C6	36:BA:2013:A:C8	3.05	0.45
36:BA:1296:G:H2'	36:BA:1297:C:H6	1.82	0.45
36:BA:1639:U:H2'	36:BA:1640:C:C5'	2.42	0.45
36:BA:1668:A:H4'	36:BA:1669:A:O5'	2.17	0.45
36:BA:2006:C:O2'	36:BA:2823:A:N3	2.44	0.45
36:BA:2106:G:O6	36:BA:2183:C:N3	2.50	0.45
36:BA:2665:A:H4'	36:BA:2665:A:OP1	2.17	0.45
38:BC:7:TYR:O	38:BC:10:LEU:HB2	2.16	0.45
38:BC:76:ALA:O	38:BC:94:VAL:HA	2.16	0.45
39:BD:257:LEU:C	39:BD:257:LEU:CD2	2.90	0.45
41:BF:20:LEU:H	41:BF:24:LEU:CD2	2.29	0.45
41:BF:119:ARG:HG2	41:BF:119:ARG:O	2.17	0.45
47:BO:11:ALA:O	47:BO:98:VAL:HG23	2.16	0.45
47:BO:67:LYS:HG3	47:BO:67:LYS:O	2.16	0.45
47:BO:87:ILE:HG22	47:BO:88:ASN:H	1.81	0.45
47:BO:107:ARG:O	47:BO:112:MET:CE	2.64	0.45
50:BR:97:VAL:HG13	50:BR:114:VAL:HG12	1.98	0.45
52:BT:82:LEU:O	52:BT:83:ILE:O	2.34	0.45
53:BU:59:ARG:O	53:BU:61:TRP:N	2.50	0.45
54:BV:17:GLY:O	54:BV:18:LEU:HD13	2.15	0.45
56:BX:10:ALA:O	56:BX:28:PHE:HB2	2.16	0.45
56:BX:54:VAL:C	56:BX:55:ASN:HD22	2.24	0.45
57:BY:96:ILE:HD12	57:BY:99:CYS:SG	2.57	0.45
1:AA:134:A:H1'	1:AA:325:A:C5	2.51	0.45
1:AA:346:G:N3	1:AA:346:G:C2'	2.80	0.45
1:AA:754:C:H3'	1:AA:754:C:O2	2.17	0.45
1:AA:849:C:H2'	1:AA:850:U:O4'	2.17	0.45
1:AA:992:U:O2'	1:AA:993:G:P	2.75	0.45
1:AA:1097:C:O2'	1:AA:1098:C:H5'	2.17	0.45
1:AA:1431:C:C2'	1:AA:1432:G:H5'	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:212:GLN:O	2:AB:216:SER:CB	2.64	0.45
4:AD:3:ARG:HG2	4:AD:118:ARG:NE	2.31	0.45
4:AD:170:VAL:HG12	4:AD:171:GLY:N	2.31	0.45
5:AE:41:VAL:HG13	5:AE:113:ALA:CA	2.46	0.45
8:AH:6:ILE:HD11	8:AH:31:PHE:CD2	2.52	0.45
10:AJ:16:LEU:CD1	10:AJ:70:ARG:CG	2.94	0.45
12:AL:91:LYS:O	12:AL:92:ASP:CB	2.55	0.45
13:AM:66:LEU:N	13:AM:66:LEU:CD1	2.77	0.45
15:AO:56:LEU:O	15:AO:60:VAL:HG23	2.17	0.45
16:AP:8:ARG:HB3	16:AP:28:ARG:HH22	1.81	0.45
17:AQ:78:GLU:HG3	17:AQ:78:GLU:O	2.17	0.45
22:AW:56:C:C5'	38:BC:132:GLY:HA3	2.47	0.45
25:AZ:282:ALA:C	25:AZ:284:ASP:H	2.24	0.45
28:B2:68:ARG:HA	28:B2:71:ASN:O	2.17	0.45
31:B5:57:VAL:HG12	31:B5:58:LEU:H	1.82	0.45
36:BA:36:G:O2'	36:BA:37:C:H5'	2.16	0.45
36:BA:768:G:H2'	36:BA:769:G:C8	2.52	0.45
36:BA:1331:A:H2'	36:BA:1332:G:H5"	1.98	0.45
36:BA:1336:A:O2'	36:BA:1337:G:H5'	2.17	0.45
36:BA:1486:A:C2	36:BA:1504:C:N3	2.85	0.45
36:BA:2533:A:H2'	36:BA:2534:A:H5'	1.99	0.45
40:BE:8:LYS:HD2	40:BE:188:VAL:HG13	1.98	0.45
40:BE:80:GLU:C	40:BE:81:ILE:HG12	2.41	0.45
42:BG:41:GLN:O	42:BG:43:LEU:N	2.49	0.45
42:BG:53:LEU:N	42:BG:53:LEU:HD22	2.32	0.45
42:BG:128:ARG:HA	42:BG:128:ARG:HD3	1.67	0.45
43:BH:150:ALA:O	43:BH:151:ILE:C	2.60	0.45
46:BN:101:HIS:C	46:BN:103:VAL:N	2.74	0.45
48:BP:16:ARG:C	48:BP:16:ARG:CD	2.88	0.45
51:BS:39:ILE:HD12	51:BS:73:LEU:HD21	1.98	0.45
52:BT:28:VAL:C	52:BT:29:ARG:HD3	2.42	0.45
52:BT:82:LEU:C	52:BT:83:ILE:O	2.60	0.45
58:BZ:5:LEU:O	58:BZ:59:LEU:HA	2.17	0.45
1:AA:425:G:O2'	1:AA:426:G:H5'	2.16	0.45
1:AA:738:C:OP1	6:AF:92:LYS:HE3	2.17	0.45
1:AA:1031:G:O2'	1:AA:1032:G:H5'	2.17	0.45
1:AA:1200:C:O2'	1:AA:1201:A:OP2	2.32	0.45
2:AB:54:THR:O	2:AB:57:PHE:HB3	2.17	0.45
2:AB:67:THR:HA	2:AB:90:MET:HE1	1.99	0.45
5:AE:36:ASP:O	5:AE:37:ARG:HB2	2.17	0.45
8:AH:33:GLU:HG2	8:AH:48:TYR:CZ	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AI:44:VAL:HB	9:AI:51:ARG:HH22	1.81	0.45
12:AL:67:THR:HG22	12:AL:96:VAL:HG13	1.98	0.45
13:AM:25:ILE:HD11	13:AM:60:VAL:CG1	2.46	0.45
15:AO:8:LYS:HE3	15:AO:31:LEU:HD11	1.98	0.45
19:AS:27:GLU:HB3	19:AS:28:LYS:H	1.59	0.45
22:AV:47:U:H3'	22:AV:48:C:H5'	1.99	0.45
25:AZ:68:VAL:CG2	25:AZ:79:HIS:HB3	2.22	0.45
25:AZ:113:MET:O	25:AZ:116:THR:HB	2.17	0.45
25:AZ:204:ASP:C	25:AZ:206:ILE:N	2.75	0.45
27:B1:80:LEU:CD2	27:B1:81:LYS:N	2.78	0.45
31:B5:6:VAL:CG2	31:B5:7:PRO:HD2	2.47	0.45
31:B5:12:SER:OG	31:B5:14:ALA:HB3	2.17	0.45
34:B8:38:GLY:O	34:B8:39:LYS:C	2.58	0.45
36:BA:21:A:O2'	36:BA:22:C:H5'	2.16	0.45
36:BA:187:G:N3	36:BA:1365:A:H2	2.15	0.45
36:BA:440:G:H2'	36:BA:441:U:C6	2.52	0.45
36:BA:449:A:O2'	53:BU:3:ARG:NE	2.49	0.45
36:BA:481:G:C2'	36:BA:482:A:OP2	2.65	0.45
36:BA:556:G:H2'	36:BA:557:U:H6	1.81	0.45
36:BA:654(N):G:O2'	36:BA:654(O):G:H5'	2.16	0.45
36:BA:1109:C:H2'	36:BA:1110:G:O4'	2.17	0.45
36:BA:1400:G:O2'	36:BA:1401:G:H5'	2.17	0.45
36:BA:1498:C:C2'	36:BA:1499:C:C5'	2.94	0.45
36:BA:2170:A:C5'	38:BC:133:PRO:HG2	2.44	0.45
38:BC:66:HIS:H	38:BC:188:ASN:ND2	2.15	0.45
39:BD:8:PRO:C	39:BD:10:THR:H	2.25	0.45
39:BD:120:GLY:O	39:BD:123:ALA:HB3	2.17	0.45
40:BE:145:LYS:HD3	40:BE:145:LYS:HA	1.73	0.45
41:BF:62:ARG:HH11	41:BF:62:ARG:CG	2.29	0.45
42:BG:78:SER:C	42:BG:80:PHE:H	2.24	0.45
46:BN:65:LYS:O	46:BN:69:GLN:HG3	2.16	0.45
47:BO:90:GLN:CD	47:BO:90:GLN:N	2.75	0.45
49:BQ:135:ASP:C	49:BQ:137:TYR:H	2.25	0.45
53:BU:42:ALA:O	53:BU:43:GLY:C	2.60	0.45
53:BU:115:ALA:C	53:BU:117:GLN:N	2.73	0.45
1:AA:22:G:H2'	1:AA:23:C:C6	2.52	0.44
1:AA:80:G:O2'	1:AA:81:U:H5'	2.17	0.44
1:AA:1020:U:O2'	1:AA:1021:G:H5'	2.18	0.44
1:AA:1128:C:C5	1:AA:1139:G:H2'	2.52	0.44
1:AA:1321:C:H5'	13:AM:87:TYR:CE2	2.52	0.44
4:AD:155:LEU:HB2	4:AD:158:ILE:CG1	2.46	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:3:ARG:HH11	6:AF:3:ARG:CG	2.28	0.44
9:AI:10:ARG:HD2	9:AI:75:ASP:HB2	1.99	0.44
12:AL:8:ASN:O	12:AL:12:ARG:HG3	2.17	0.44
19:AS:9:VAL:O	19:AS:11:VAL:HG12	2.17	0.44
20:AT:72:LEU:CD1	20:AT:80:ARG:HE	2.30	0.44
25:AZ:130:TYR:CD2	25:AZ:210:ILE:HA	2.52	0.44
32:B6:36:LEU:C	32:B6:36:LEU:HD23	2.42	0.44
34:B8:10:ALA:C	34:B8:12:LYS:H	2.25	0.44
36:BA:81:G:N2	57:BY:2:ARG:NH1	2.59	0.44
36:BA:811:U:H3'	48:BP:25:SER:HA	1.99	0.44
36:BA:981:A:H1'	36:BA:2037:G:H1'	1.99	0.44
36:BA:1090:U:H2'	36:BA:1091:G:O4'	2.18	0.44
36:BA:1121:C:H2'	36:BA:1122:G:O4'	2.17	0.44
36:BA:1144:G:H2'	36:BA:1145:C:C6	2.52	0.44
36:BA:1192:G:N7	48:BP:29:LYS:NZ	2.55	0.44
36:BA:1590:U:C2'	36:BA:1591:G:C5'	2.92	0.44
36:BA:2176:A:H1'	38:BC:44:HIS:CG	2.52	0.44
36:BA:2733:A:O2'	36:BA:2734:A:H5'	2.17	0.44
36:BA:2758:A:C2	36:BA:2759:G:H1'	2.52	0.44
37:BB:16:G:O2'	37:BB:17:C:O5'	2.35	0.44
37:BB:48:A:H2'	37:BB:49:C:C6	2.52	0.44
40:BE:35:GLN:CG	40:BE:36:ARG:N	2.73	0.44
41:BF:80:ALA:HB1	41:BF:81:PRO:HD2	1.98	0.44
41:BF:162:LEU:H	41:BF:162:LEU:CD1	2.30	0.44
47:BO:107:ARG:HH21	47:BO:115:VAL:CG1	2.26	0.44
51:BS:16:ASN:OD1	51:BS:17:ARG:N	2.50	0.44
52:BT:27:THR:O	52:BT:28:VAL:CG2	2.66	0.44
56:BX:18:TYR:O	56:BX:21:PHE:HD1	2.00	0.44
56:BX:26:TYR:CD2	56:BX:92:LEU:HD12	2.49	0.44
58:BZ:30:ASN:C	58:BZ:32:HIS:H	2.24	0.44
1:AA:278:G:OP2	17:AQ:41:LYS:NZ	2.51	0.44
1:AA:405:U:OP2	4:AD:3:ARG:HD2	2.17	0.44
1:AA:1503:A:C2	23:AX:16:A:C5	3.04	0.44
2:AB:67:THR:HG22	2:AB:90:MET:HE1	1.99	0.44
2:AB:79:ASP:HA	2:AB:82:ARG:HB2	1.98	0.44
2:AB:224:GLN:O	2:AB:226:ARG:N	2.50	0.44
3:AC:10:PHE:HD2	3:AC:11:ARG:NH1	2.16	0.44
3:AC:19:GLU:O	3:AC:56:ASP:HA	2.18	0.44
3:AC:122:GLU:O	3:AC:123:GLN:C	2.61	0.44
3:AC:134:ILE:CG2	3:AC:151:VAL:HB	2.47	0.44
3:AC:150:LYS:HE2	3:AC:152:ILE:HD11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:118:ARG:O	4:AD:121:VAL:N	2.51	0.44
9:AI:70:LYS:O	9:AI:73:GLN:HB2	2.17	0.44
9:AI:118:LYS:O	9:AI:119:ALA:HB3	2.17	0.44
11:AK:103:LEU:HD22	11:AK:103:LEU:N	2.33	0.44
12:AL:41:ARG:NH1	12:AL:57:LYS:NZ	2.65	0.44
25:AZ:221:PHE:CZ	25:AZ:247:VAL:HG11	2.52	0.44
25:AZ:341:GLN:NE2	25:AZ:390:GLU:HB2	2.30	0.44
25:AZ:363:MET:HB3	25:AZ:364:PRO:CD	2.43	0.44
31:B5:40:LYS:CE	31:B5:46:CYS:SG	3.05	0.44
32:B6:16:CYS:SG	32:B6:48:VAL:HG23	2.58	0.44
36:BA:478:A:C6	36:BA:480:A:C6	3.05	0.44
36:BA:654(E):G:H2'	36:BA:654(F):C:C6	2.52	0.44
36:BA:768:G:H2'	36:BA:769:G:H8	1.81	0.44
36:BA:812:C:H2'	36:BA:813:U:C6	2.47	0.44
36:BA:986:C:C2'	36:BA:987:G:H5'	2.46	0.44
36:BA:987:G:H2'	36:BA:988:A:O4'	2.16	0.44
36:BA:999:U:O2	36:BA:1157:G:C2	2.70	0.44
36:BA:1285:G:C6	36:BA:1329:U:C5	3.06	0.44
36:BA:2627:G:N3	36:BA:2781:A:H2	2.15	0.44
36:BA:2720:U:H5'	36:BA:2721:A:OP2	2.17	0.44
36:BA:2774:C:H2'	36:BA:2775:A:O4'	2.16	0.44
36:BA:2850:A:C2	50:BR:61:HIS:CD2	3.05	0.44
38:BC:40:THR:HG22	38:BC:41:VAL:N	2.32	0.44
38:BC:47:LEU:HB2	38:BC:169:GLY:O	2.18	0.44
38:BC:110:PHE:O	38:BC:111:ASP:CB	2.64	0.44
39:BD:25:THR:O	39:BD:26:LYS:C	2.61	0.44
39:BD:96:HIS:HE1	39:BD:102:LYS:HZ3	1.63	0.44
41:BF:7:TYR:HD2	41:BF:16:GLY:C	2.25	0.44
42:BG:111:LEU:HD21	42:BG:179:PRO:CG	2.48	0.44
42:BG:144:ILE:HG23	42:BG:144:ILE:O	2.16	0.44
43:BH:85:LYS:CD	43:BH:133:VAL:HB	2.47	0.44
46:BN:10:GLU:OE2	46:BN:11:PRO:HD2	2.17	0.44
46:BN:74:ARG:HH22	46:BN:85:ILE:HD11	1.83	0.44
49:BQ:67:ARG:HD3	49:BQ:102:VAL:CG1	2.47	0.44
49:BQ:108:GLY:HA3	58:BZ:116:VAL:HG13	1.97	0.44
52:BT:58:ASN:HD22	52:BT:58:ASN:N	2.15	0.44
53:BU:79:PHE:HE1	53:BU:83:LEU:HD21	1.83	0.44
55:BW:32:ALA:O	55:BW:33:ARG:C	2.58	0.44
58:BZ:130:PRO:CA	58:BZ:133:ILE:HD11	2.43	0.44
58:BZ:144:LEU:HD13	58:BZ:144:LEU:HA	1.83	0.44
58:BZ:166:SER:HB2	58:BZ:167:PRO:HA	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:105:G:N2	1:AA:379:C:O3'	2.50	0.44
1:AA:520:A:N1	1:AA:536:C:H1'	2.32	0.44
1:AA:1410:G:H2'	1:AA:1411:C:C6	2.52	0.44
2:AB:221:LEU:C	2:AB:221:LEU:CD1	2.90	0.44
4:AD:45:GLN:C	4:AD:46:LYS:HG3	2.42	0.44
5:AE:67:VAL:CG2	5:AE:140:ARG:HG3	2.47	0.44
7:AG:149:ARG:HG2	7:AG:149:ARG:NH1	2.31	0.44
8:AH:6:ILE:HD11	8:AH:31:PHE:HD2	1.82	0.44
9:AI:10:ARG:O	9:AI:11:LYS:CB	2.65	0.44
9:AI:43:ALA:C	9:AI:45:ALA:H	2.26	0.44
12:AL:110:VAL:H	12:AL:122:THR:HG22	1.82	0.44
20:AT:48:LYS:HB3	20:AT:51:GLU:HG2	1.99	0.44
22:AW:40:C:H2'	22:AW:41:C:C6	2.49	0.44
22:AW:54:U:C4	22:AW:55:U:C5	3.06	0.44
22:AW:56:C:C5'	38:BC:137:LEU:CB	2.95	0.44
25:AZ:15:GLY:HA3	25:AZ:99:MET:SD	2.57	0.44
25:AZ:241:ARG:HB3	25:AZ:241:ARG:NH1	2.29	0.44
25:AZ:252:GLU:HB3	25:AZ:307:PRO:HG2	2.00	0.44
26:B0:10:THR:CG2	36:BA:2277:G:OP2	2.66	0.44
26:B0:28:GLY:O	36:BA:923:C:O2'	2.36	0.44
29:B3:17:LYS:HG2	36:BA:969:U:P	2.57	0.44
36:BA:271(J):C:C2'	36:BA:271(K):U:H5"	2.47	0.44
36:BA:502:A:H2'	36:BA:503:A:H5'	1.98	0.44
36:BA:848:G:O2'	36:BA:849:A:H5'	2.17	0.44
36:BA:1217:C:C2	36:BA:1218:C:C5	3.05	0.44
36:BA:1252:G:N2	53:BU:37:GLU:OE2	2.42	0.44
36:BA:1285:G:O3'	50:BR:105:ARG:NH1	2.51	0.44
36:BA:1369:G:H1'	36:BA:1809:A:N1	2.33	0.44
36:BA:1551:C:O2'	36:BA:1552:G:H5'	2.16	0.44
36:BA:2447:G:O6	36:BA:2504:U:O4	2.35	0.44
36:BA:2450:A:C2'	36:BA:2451:A:H5'	2.48	0.44
36:BA:2791:C:H41	36:BA:2801(A):A:N6	2.15	0.44
37:BB:16:G:O2'	37:BB:17:C:H6	1.99	0.44
38:BC:67:GLY:HA2	38:BC:159:GLY:HA3	2.00	0.44
38:BC:210:ARG:HD3	38:BC:210:ARG:HA	1.74	0.44
40:BE:44:TYR:O	40:BE:45:THR:OG1	2.28	0.44
40:BE:103:ASP:OD1	40:BE:201:THR:HA	2.15	0.44
42:BG:21:ARG:CZ	42:BG:22:ARG:HA	2.47	0.44
42:BG:64:THR:HG1	42:BG:94:LEU:HD11	1.82	0.44
42:BG:96:ARG:O	42:BG:97:ASP:CB	2.62	0.44
42:BG:129:GLY:O	42:BG:130:ASN:CB	2.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BH:105:LEU:HD23	43:BH:105:LEU:N	2.28	0.44
50:BR:117:VAL:HG22	50:BR:118:GLU:N	2.28	0.44
54:BV:18:LEU:CD2	54:BV:19:LYS:H	2.30	0.44
54:BV:52:VAL:HG22	54:BV:52:VAL:O	2.16	0.44
55:BW:65:LEU:HD23	55:BW:68:ARG:CD	2.47	0.44
58:BZ:12:GLY:C	58:BZ:13:GLU:HG2	2.43	0.44
1:AA:55:A:C5	25:AZ:233:GLY:HA3	2.53	0.44
1:AA:499:A:C6	1:AA:547:A:C8	3.06	0.44
2:AB:97:TRP:HH2	2:AB:176:GLU:CD	2.26	0.44
3:AC:172:ARG:C	3:AC:173:VAL:HG23	2.42	0.44
4:AD:127:THR:HB	4:AD:147:ALA:O	2.18	0.44
5:AE:98:THR:HB	5:AE:117:ASP:HB3	1.99	0.44
7:AG:18:TYR:C	7:AG:20:ASP:N	2.73	0.44
7:AG:107:ALA:O	7:AG:108:ALA:C	2.61	0.44
9:AI:100:GLY:O	9:AI:103:THR:N	2.43	0.44
10:AJ:24:VAL:C	10:AJ:26:ALA:N	2.75	0.44
12:AL:31:PRO:HB2	12:AL:32:PHE:CD2	2.52	0.44
13:AM:73:GLU:O	13:AM:76:ALA:HB3	2.17	0.44
13:AM:81:LEU:HD22	13:AM:86:CYS:SG	2.58	0.44
13:AM:86:CYS:O	13:AM:87:TYR:C	2.60	0.44
13:AM:107:ALA:O	13:AM:111:LYS:HG3	2.17	0.44
15:AO:56:LEU:O	15:AO:56:LEU:HD12	2.17	0.44
22:AV:19:G:C2	22:AV:57:G:C2	3.06	0.44
25:AZ:171:ILE:CG2	25:AZ:172:ARG:N	2.81	0.44
25:AZ:317:GLU:HA	25:AZ:371:THR:HA	1.99	0.44
26:B0:10:THR:HG21	36:BA:2277:G:OP2	2.18	0.44
26:B0:24:LYS:O	26:B0:25:ARG:HD3	2.18	0.44
27:B1:30:VAL:HG23	27:B1:31:GLY:N	2.32	0.44
29:B3:27:GLY:O	29:B3:29:ARG:NH1	2.50	0.44
36:BA:18:C:O2'	53:BU:23:GLY:HA2	2.17	0.44
36:BA:381:G:O2'	36:BA:382:G:H5'	2.17	0.44
36:BA:1353:A:O4'	36:BA:1569:A:H2	1.99	0.44
36:BA:1504:C:O2'	36:BA:1505:C:C5'	2.66	0.44
36:BA:1678:G:H22	36:BA:1989:G:N2	2.00	0.44
36:BA:1991:U:C2'	36:BA:1992:G:H5"	2.43	0.44
36:BA:2197:U:O2'	36:BA:2198:A:H2'	2.18	0.44
36:BA:2572:A:N3	40:BE:144:ARG:NH1	2.65	0.44
36:BA:2580:U:H5"	40:BE:131:ALA:N	2.31	0.44
36:BA:2624:G:O2'	36:BA:2625:G:H5'	2.17	0.44
36:BA:2643:G:H2'	36:BA:2644:G:C8	2.52	0.44
37:BB:104:U:C2'	37:BB:105:A:H5'	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:99:ILE:HD12	38:BC:102:LYS:HZ2	1.82	0.44
40:BE:176:ILE:CG2	40:BE:178:GLU:HB3	2.48	0.44
42:BG:121:ASN:ND2	42:BG:123:ASN:H	2.16	0.44
42:BG:142:PRO:C	42:BG:143:GLU:HG2	2.39	0.44
46:BN:93:THR:O	46:BN:94:HIS:HB2	2.18	0.44
48:BP:107:LYS:O	48:BP:107:LYS:HG3	2.18	0.44
48:BP:136:GLU:C	48:BP:138:LEU:N	2.76	0.44
49:BQ:134:ARG:CZ	58:BZ:122:ARG:HH21	2.30	0.44
52:BT:106:SER:O	52:BT:107:ASP:HB3	2.17	0.44
53:BU:112:ARG:CZ	54:BV:46:VAL:HG21	2.47	0.44
54:BV:21:ARG:HB3	54:BV:91:TYR:CB	2.40	0.44
55:BW:6:ILE:HA	55:BW:104:THR:HA	1.99	0.44
55:BW:28:SER:O	55:BW:29:LEU:C	2.60	0.44
57:BY:15:VAL:C	57:BY:17:SER:H	2.25	0.44
57:BY:39:VAL:CG1	57:BY:40:GLU:H	2.28	0.44
1:AA:489:C:H2'	1:AA:490:G:H8	1.83	0.44
1:AA:495:A:N6	4:AD:119:GLN:HE22	2.16	0.44
1:AA:748:C:O2'	1:AA:749:C:P	2.76	0.44
1:AA:761:G:H2'	1:AA:762:C:C6	2.52	0.44
1:AA:939:G:H5"	7:AG:102:ARG:CZ	2.46	0.44
1:AA:1030:C:N4	1:AA:1032:G:C2	2.85	0.44
2:AB:7:VAL:HA	2:AB:11:LEU:CG	2.48	0.44
2:AB:58:ILE:O	2:AB:61:LEU:HB3	2.17	0.44
2:AB:67:THR:HG23	2:AB:90:MET:HE1	1.98	0.44
4:AD:102:ASP:O	4:AD:117:ALA:HB1	2.18	0.44
6:AF:22:GLU:C	6:AF:24:GLU:H	2.25	0.44
7:AG:15:ASP:HB3	7:AG:19:GLY:N	2.32	0.44
8:AH:28:ALA:HB2	8:AH:58:TYR:C	2.42	0.44
9:AI:99:LEU:HB3	9:AI:101:PHE:HD1	1.82	0.44
13:AM:59:TYR:O	13:AM:60:VAL:C	2.60	0.44
13:AM:81:LEU:O	13:AM:89:GLY:HA3	2.17	0.44
19:AS:11:VAL:HG13	19:AS:11:VAL:O	2.18	0.44
24:AY:2:G:P	25:AZ:90:LYS:HZ1	2.40	0.44
25:AZ:122:LEU:O	25:AZ:126:VAL:N	2.48	0.44
25:AZ:389:ARG:O	25:AZ:390:GLU:HB2	2.17	0.44
26:B0:41:ARG:HB3	26:B0:42:GLY:H	1.58	0.44
30:B4:9:LEU:O	30:B4:10:VAL:CB	2.66	0.44
30:B4:31:ILE:HG22	30:B4:31:ILE:O	2.18	0.44
32:B6:17:LYS:O	32:B6:18:ARG:HB3	2.17	0.44
32:B6:18:ARG:CG	32:B6:19:ARG:N	2.77	0.44
34:B8:33:ASN:OD1	34:B8:35:GLN:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B8:58:ILE:O	48:BP:49:ARG:HD2	2.18	0.44
36:BA:188:G:C2'	36:BA:189:G:H5'	2.47	0.44
36:BA:343:C:O2	36:BA:343:C:H2'	2.16	0.44
36:BA:572:A:H5"	54:BV:78:LYS:HZ1	1.82	0.44
36:BA:1170:G:N2	36:BA:1180:C:N3	2.66	0.44
36:BA:1448:G:H5'	36:BA:1449:A:OP1	2.17	0.44
36:BA:1551:C:C2'	36:BA:1552:G:H5'	2.48	0.44
36:BA:1651:G:H2'	36:BA:1652:A:O4'	2.17	0.44
36:BA:1658:C:H2'	36:BA:1659:U:C6	2.53	0.44
36:BA:1847:A:N3	36:BA:1847:A:H2'	2.32	0.44
36:BA:2243:U:H2'	36:BA:2244:U:H6	1.74	0.44
36:BA:2319:G:OP2	36:BA:2319:G:H4'	2.17	0.44
36:BA:2339:G:H2'	36:BA:2340:G:H8	1.83	0.44
36:BA:2820:A:N6	40:BE:192:ASN:HB3	2.32	0.44
37:BB:91:C:H5'	49:BQ:17:LEU:O	2.17	0.44
39:BD:21:PHE:O	39:BD:24:ILE:CG2	2.65	0.44
39:BD:213:ARG:HA	39:BD:213:ARG:HD2	1.63	0.44
40:BE:74:PRO:CG	40:BE:77:ILE:O	2.66	0.44
41:BF:82:ILE:O	41:BF:83:PHE:CB	2.66	0.44
41:BF:117:ARG:HD3	41:BF:117:ARG:HA	1.74	0.44
42:BG:43:LEU:CD1	42:BG:153:ARG:HG3	2.41	0.44
42:BG:87:PRO:O	42:BG:88:ILE:HG12	2.17	0.44
44:BJ:109:UNK:C	44:BJ:111:UNK:N	2.79	0.44
48:BP:46:LYS:CB	48:BP:52:GLU:HG2	2.47	0.44
53:BU:17:ILE:HA	53:BU:20:LEU:HB2	1.99	0.44
1:AA:116:A:O5'	1:AA:116:A:H8	2.00	0.44
1:AA:186:C:O4'	20:AT:81:LYS:HE2	2.17	0.44
1:AA:399:G:H2'	1:AA:400:C:C6	2.52	0.44
1:AA:921:U:H2'	1:AA:922:G:O4'	2.18	0.44
1:AA:966:G:H2'	1:AA:967:C:C6	2.53	0.44
1:AA:1125:U:O4	10:AJ:5:ARG:NE	2.31	0.44
1:AA:1332:A:O2'	1:AA:1333:A:H5'	2.17	0.44
3:AC:188:LEU:HD11	3:AC:195:VAL:CG1	2.47	0.44
8:AH:36:LEU:O	8:AH:39:LEU:HB2	2.18	0.44
12:AL:86:ARG:HB2	12:AL:101:VAL:CG2	2.47	0.44
13:AM:97:PRO:HB2	13:AM:101:GLN:HE21	1.82	0.44
22:AV:12:U:H3	22:AV:23:A:H61	1.64	0.44
25:AZ:158:LEU:HD13	25:AZ:168:VAL:HG21	1.99	0.44
32:B6:27:LYS:CG	32:B6:30:THR:OG1	2.65	0.44
36:BA:1403:C:C2'	36:BA:1404:C:O5'	2.66	0.44
36:BA:1569:A:H2'	36:BA:1570:A:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2157:G:O2'	36:BA:2158:A:H5'	2.18	0.44
36:BA:2556:C:H2'	36:BA:2557:G:O4'	2.16	0.44
36:BA:2801(A):A:C5'	36:BA:2802:G:H5'	2.48	0.44
38:BC:31:GLU:O	38:BC:32:LEU:HD23	2.18	0.44
39:BD:22:SER:O	39:BD:25:THR:OG1	2.20	0.44
39:BD:33:LEU:C	39:BD:36:PRO:HG3	2.43	0.44
41:BF:65:TRP:CZ3	41:BF:72:ARG:HB2	2.52	0.44
42:BG:19:LEU:O	42:BG:20:ILE:C	2.60	0.44
43:BH:154:PRO:O	43:BH:155:SER:HB3	2.18	0.44
46:BN:104:LYS:C	46:BN:106:MET:H	2.25	0.44
49:BQ:50:ALA:O	49:BQ:51:ARG:C	2.60	0.44
51:BS:25:ARG:HA	51:BS:86:ALA:O	2.18	0.44
52:BT:63:VAL:O	52:BT:73:GLU:HA	2.17	0.44
1:AA:312:C:H2'	1:AA:313:A:H8	1.79	0.44
1:AA:1230:C:H2'	1:AA:1231:G:H8	1.82	0.44
2:AB:20:GLU:HG2	2:AB:189:ASP:OD1	2.17	0.44
3:AC:13:GLY:HA3	14:AN:57:ARG:CZ	2.48	0.44
3:AC:43:LEU:O	3:AC:47:LEU:HB2	2.18	0.44
7:AG:50:ILE:HD12	7:AG:125:MET:HG2	1.99	0.44
7:AG:113:GLU:HG3	7:AG:119:ARG:HA	1.99	0.44
8:AH:65:TYR:CD1	8:AH:65:TYR:N	2.86	0.44
9:AI:4:TYR:CG	9:AI:88:TYR:HB2	2.52	0.44
11:AK:15:ALA:HB1	11:AK:78:GLN:CB	2.46	0.44
11:AK:69:ALA:CB	11:AK:103:LEU:HD21	2.43	0.44
13:AM:45:VAL:O	13:AM:45:VAL:HG12	2.17	0.44
19:AS:22:LEU:O	19:AS:22:LEU:HD13	2.17	0.44
21:AU:20:LYS:HE3	21:AU:21:TYR:CZ	2.53	0.44
24:AY:54:5MU:H71	24:AY:54:5MU:OP2	2.18	0.44
25:AZ:221:PHE:HE1	25:AZ:242:ILE:HG23	1.82	0.44
27:B1:19:GLN:O	27:B1:35:THR:HG22	2.16	0.44
29:B3:8:LEU:HD22	29:B3:31:LEU:CA	2.28	0.44
29:B3:52:HIS:CD2	37:BB:83:G:H4'	2.53	0.44
30:B4:12:ALA:HB1	30:B4:29:PRO:O	2.18	0.44
31:B5:33:CYS:HB3	31:B5:36:CYS:SG	2.58	0.44
32:B6:5:VAL:O	32:B6:6:ARG:CB	2.66	0.44
36:BA:271(L):U:C5'	36:BA:271(M):G:H5'	2.31	0.44
36:BA:626:U:C2	48:BP:105:LEU:HG	2.53	0.44
36:BA:676:A:H8	36:BA:2069:G:N2	2.02	0.44
36:BA:802:A:C5	36:BA:803:U:C4	3.05	0.44
36:BA:812:C:H5'	48:BP:25:SER:CB	2.43	0.44
36:BA:1494:A:N3	36:BA:1494:A:C3'	2.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1520:G:C2'	36:BA:1523:U:H5'	2.46	0.44
36:BA:1805:U:O2	39:BD:50:THR:HB	2.18	0.44
36:BA:1827:C:H2'	36:BA:1828:G:H5'	1.99	0.44
36:BA:1901:A:OP2	36:BA:1901:A:H4'	2.18	0.44
36:BA:2313:C:O2'	36:BA:2314:C:H5'	2.18	0.44
36:BA:2461:C:H2'	36:BA:2462:U:H6	1.82	0.44
36:BA:2464:C:O2'	36:BA:2465:C:O5'	2.36	0.44
39:BD:166:GLN:HA	39:BD:166:GLN:NE2	2.31	0.44
40:BE:33:VAL:O	40:BE:33:VAL:HG22	2.17	0.44
41:BF:3:GLU:O	41:BF:19:GLU:HG3	2.17	0.44
41:BF:4:VAL:HG13	41:BF:19:GLU:OE1	2.18	0.44
41:BF:20:LEU:O	41:BF:24:LEU:HD23	2.18	0.44
42:BG:82:LEU:C	42:BG:83:ARG:HG3	2.42	0.44
42:BG:140:ILE:HD12	42:BG:140:ILE:C	2.42	0.44
43:BH:17:VAL:O	43:BH:18:GLU:HG2	2.18	0.44
48:BP:33:ARG:O	48:BP:35:HIS:O	2.36	0.44
48:BP:102:ARG:HG2	48:BP:102:ARG:O	2.17	0.44
49:BQ:104:PHE:O	49:BQ:105:GLU:HB3	2.17	0.44
49:BQ:109:VAL:CG1	49:BQ:113:GLN:OE1	2.66	0.44
49:BQ:140:ALA:HB3	58:BZ:53:ILE:CD1	2.45	0.44
52:BT:28:VAL:HG12	52:BT:29:ARG:NH1	2.33	0.44
53:BU:31:SER:C	53:BU:33:ARG:N	2.75	0.44
56:BX:12:VAL:CB	56:BX:17:ALA:HB1	2.32	0.44
1:AA:68:G:H2'	1:AA:69:G:O4'	2.18	0.44
1:AA:664:G:N2	1:AA:741:G:H1	1.85	0.44
1:AA:828:A:H2'	1:AA:829:G:O4'	2.18	0.44
1:AA:833:U:H2'	1:AA:834:C:C6	2.53	0.44
1:AA:1242:C:O5'	1:AA:1242:C:H6	2.01	0.44
1:AA:1261:A:H2'	1:AA:1262:C:H5'	1.98	0.44
1:AA:1421:G:H2'	1:AA:1422:G:O4'	2.18	0.44
1:AA:1452:C:H4'	1:AA:1456:G:O5'	2.18	0.44
1:AA:1521:G:H2'	1:AA:1522:U:C6	2.53	0.44
2:AB:84:GLU:OE1	2:AB:216:SER:HA	2.18	0.44
3:AC:155:GLY:HA3	3:AC:196:LEU:HD13	1.99	0.44
3:AC:174:PRO:O	3:AC:175:LEU:C	2.59	0.44
7:AG:15:ASP:OD2	7:AG:44:TYR:OH	2.32	0.44
7:AG:108:ALA:CB	7:AG:120:ILE:HD13	2.48	0.44
9:AI:53:VAL:CG1	9:AI:95:LYS:HE3	2.39	0.44
9:AI:114:TYR:HE1	10:AJ:60:ARG:O	2.01	0.44
11:AK:38:ASN:N	11:AK:38:ASN:ND2	2.64	0.44
11:AK:72:ALA:O	11:AK:73:MET:C	2.61	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AL:55:VAL:HG22	12:AL:56:ALA:N	2.32	0.44
12:AL:89:ARG:HD3	12:AL:91:LYS:N	2.33	0.44
13:AM:39:ILE:CD1	13:AM:56:LEU:HB2	2.48	0.44
15:AO:44:LYS:HE3	15:AO:44:LYS:HB2	1.74	0.44
17:AQ:94:ASN:O	17:AQ:97:SER:OG	2.35	0.44
18:AR:69:THR:O	18:AR:72:ARG:HB2	2.17	0.44
19:AS:13:ASP:C	19:AS:15:LEU:N	2.72	0.44
20:AT:57:ARG:NH1	20:AT:57:ARG:HB2	2.32	0.44
25:AZ:24:LYS:NZ	25:AZ:24:LYS:CB	2.80	0.44
25:AZ:342:PHE:CD1	25:AZ:342:PHE:N	2.86	0.44
25:AZ:344:PHE:N	25:AZ:344:PHE:CD1	2.86	0.44
27:B1:50:ARG:NH2	36:BA:2200:C:OP2	2.50	0.44
28:B2:59:ARG:HA	28:B2:62:THR:HB	2.00	0.44
32:B6:22:ALA:HB2	32:B6:39:TYR:CE2	2.52	0.44
36:BA:45:C:H2'	36:BA:47:C:C6	2.53	0.44
36:BA:140:G:H1'	36:BA:141:A:H2	1.82	0.44
36:BA:755:C:H2'	36:BA:756:C:C6	2.53	0.44
36:BA:773:U:H4'	39:BD:47:GLY:CA	2.48	0.44
36:BA:1111:A:N3	36:BA:1111:A:H2'	2.33	0.44
36:BA:1382:G:H8	36:BA:1382:G:O5'	2.00	0.44
36:BA:1534:U:H2'	36:BA:1535:A:O4'	2.17	0.44
36:BA:1592:C:H2'	36:BA:1593:G:H8	1.82	0.44
36:BA:2638:G:P	40:BE:82:ARG:HH21	2.41	0.44
36:BA:2740:A:C6	36:BA:2741:A:C6	3.06	0.44
37:BB:77:U:O2'	37:BB:78:A:H5'	2.18	0.44
38:BC:115:ALA:HB3	38:BC:120:MET:HE3	1.99	0.44
38:BC:131:LEU:HD22	38:BC:136:LEU:CD1	2.42	0.44
40:BE:34:VAL:O	40:BE:34:VAL:HG13	2.17	0.44
40:BE:199:ARG:HG2	40:BE:200:GLU:CD	2.43	0.44
42:BG:161:THR:HG21	42:BG:172:LEU:HD13	2.00	0.44
43:BH:61:HIS:C	43:BH:63:SER:N	2.76	0.44
46:BN:61:ARG:HG3	46:BN:61:ARG:NH1	2.33	0.44
49:BQ:39:PRO:HG3	49:BQ:99:PRO:HD3	2.00	0.44
51:BS:54:LEU:O	51:BS:57:LYS:N	2.51	0.44
55:BW:43:GLY:O	55:BW:44:ALA:C	2.59	0.44
57:BY:19:LYS:HB2	57:BY:20:TYR:CD1	2.53	0.44
57:BY:50:ARG:CD	57:BY:53:PRO:HA	2.46	0.44
57:BY:59:GLY:O	57:BY:60:PHE:CD1	2.71	0.44
58:BZ:141:VAL:O	58:BZ:143:GLY:N	2.43	0.44
1:AA:538:G:OP2	12:AL:115:LYS:HG3	2.17	0.44
1:AA:598:U:H4'	8:AH:94:TYR:CD1	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:659:U:O2'	1:AA:660:G:H5'	2.18	0.44
1:AA:1047:G:O2'	1:AA:1048:G:H5'	2.18	0.44
1:AA:1057:G:H2'	1:AA:1058:G:O4'	2.18	0.44
1:AA:1318:A:O3'	19:AS:10:PHE:CD2	2.71	0.44
2:AB:163:PHE:HD2	2:AB:185:ILE:HB	1.83	0.44
3:AC:140:ARG:O	3:AC:141:VAL:C	2.60	0.44
5:AE:33:VAL:HG11	5:AE:109:ILE:HA	1.99	0.44
5:AE:37:ARG:O	5:AE:38:GLN:HG2	2.18	0.44
6:AF:50:TYR:HB2	6:AF:51:PRO:HD2	2.00	0.44
9:AI:53:VAL:C	9:AI:55:ALA:H	2.26	0.44
9:AI:99:LEU:CB	9:AI:101:PHE:CD1	3.01	0.44
9:AI:104:ARG:C	9:AI:104:ARG:CD	2.87	0.44
13:AM:33:ALA:O	13:AM:37:THR:HG23	2.17	0.44
22:AV:44:G:H2'	22:AV:45:U:H5'	2.00	0.44
25:AZ:70:TYR:CD1	25:AZ:70:TYR:O	2.71	0.44
25:AZ:259:ALA:HB1	25:AZ:260:PRO:CD	2.48	0.44
25:AZ:322:VAL:HA	25:AZ:396:GLY:HA2	1.99	0.44
28:B2:24:LEU:HD23	28:B2:24:LEU:O	2.17	0.44
30:B4:5:ILE:HD13	30:B4:5:ILE:N	2.28	0.44
34:B8:50:LEU:C	34:B8:52:LYS:N	2.75	0.44
36:BA:375:C:H2'	36:BA:376:C:C6	2.52	0.44
36:BA:569:U:H1'	36:BA:947:G:O4'	2.18	0.44
36:BA:614(A):U:C4'	36:BA:614(B):G:C5'	2.95	0.44
36:BA:983:A:H2'	36:BA:984:A:C8	2.53	0.44
36:BA:984:A:C5'	36:BA:985:C:H5	2.28	0.44
36:BA:1120:G:O2'	36:BA:1121:C:H5'	2.18	0.44
36:BA:1204:A:H1'	36:BA:1206:G:N7	2.33	0.44
36:BA:1242:A:N1	48:BP:8:PRO:CG	2.78	0.44
36:BA:1380:G:H2'	36:BA:1381:G:H8	1.83	0.44
36:BA:1701:A:H5'	36:BA:1702:G:OP2	2.18	0.44
36:BA:1754:C:H4'	52:BT:101:PHE:CD2	2.53	0.44
36:BA:2095:C:H2'	36:BA:2096:U:C6	2.52	0.44
36:BA:2168:G:H2'	36:BA:2169:A:H3'	1.99	0.44
36:BA:2681:C:O2	36:BA:2681:C:C2'	2.65	0.44
36:BA:2721:A:H2'	36:BA:2722:G:O4'	2.18	0.44
38:BC:212:VAL:HG12	38:BC:224:ILE:HD11	2.00	0.44
41:BF:158:THR:O	41:BF:158:THR:HG23	2.17	0.44
41:BF:202:PHE:C	41:BF:202:PHE:CD2	2.96	0.44
42:BG:172:LEU:HD23	42:BG:172:LEU:C	2.42	0.44
43:BH:53:GLU:HB3	43:BH:54:ARG:H	1.66	0.44
47:BO:47:ILE:HG23	47:BO:48:PRO:CD	2.43	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BV:29:PRO:HG2	54:BV:30:GLY:H	1.81	0.44
58:BZ:128:VAL:CG2	58:BZ:129:SER:H	2.24	0.44
1:AA:355:C:C2	1:AA:356:A:C8	3.06	0.43
1:AA:441:A:H3'	1:AA:442:C:C6	2.52	0.43
1:AA:594:G:H2'	1:AA:595:G:C5'	2.48	0.43
1:AA:633:G:C5'	1:AA:634:C:OP2	2.66	0.43
2:AB:162:ILE:HG22	2:AB:183:PRO:O	2.18	0.43
10:AJ:54:PHE:CE2	10:AJ:55:LYS:CD	2.98	0.43
11:AK:61:ALA:CB	11:AK:90:GLY:HA3	2.46	0.43
14:AN:15:LYS:HB3	14:AN:16:PHE:CE2	2.53	0.43
15:AO:22:THR:O	15:AO:27:VAL:HG11	2.18	0.43
15:AO:29:VAL:HG21	15:AO:67:LEU:HD23	1.99	0.43
16:AP:63:GLY:O	16:AP:64:ALA:C	2.61	0.43
19:AS:29:ARG:O	19:AS:30:LEU:C	2.61	0.43
19:AS:35:SER:C	19:AS:37:ARG:N	2.76	0.43
20:AT:48:LYS:O	20:AT:49:ALA:C	2.59	0.43
20:AT:100:ILE:C	20:AT:102:GLY:N	2.73	0.43
30:B4:27:THR:O	30:B4:28:LYS:HB3	2.17	0.43
32:B6:52:VAL:HG22	32:B6:53:LYS:N	2.30	0.43
35:B9:19:ARG:C	35:B9:21:GLY:N	2.74	0.43
36:BA:59:U:O2'	36:BA:73:A:H2'	2.17	0.43
36:BA:99:U:C3'	36:BA:100:G:H5'	2.48	0.43
36:BA:578:A:H5'	36:BA:1254:A:OP1	2.18	0.43
36:BA:589:C:O5'	36:BA:589:C:H6	2.01	0.43
36:BA:627:A:C5	36:BA:637:A:N7	2.85	0.43
36:BA:1221(A):C:O2'	36:BA:1222:C:H5'	2.18	0.43
36:BA:1253:A:H3'	36:BA:1254:A:H5'	2.00	0.43
36:BA:1528:A:C2	36:BA:1542:A:H2	2.36	0.43
36:BA:1649:G:O2'	36:BA:1650:G:H5'	2.18	0.43
36:BA:2115:G:C2'	36:BA:2116:G:H5"	2.48	0.43
36:BA:2206:G:H21	36:BA:2207:G:C5'	2.31	0.43
36:BA:2262:U:H2'	36:BA:2263:C:C6	2.52	0.43
36:BA:2745:C:H4'	43:BH:142:GLY:O	2.17	0.43
40:BE:38:THR:HG23	40:BE:39:PRO:HD2	1.99	0.43
41:BF:32:LEU:C	41:BF:32:LEU:CD2	2.91	0.43
42:BG:78:SER:C	42:BG:80:PHE:N	2.74	0.43
48:BP:7:ARG:CB	48:BP:8:PRO:CD	2.95	0.43
48:BP:39:LYS:CD	48:BP:40:SER:H	2.29	0.43
48:BP:64:LYS:O	48:BP:65:ARG:C	2.61	0.43
48:BP:85:LEU:N	48:BP:85:LEU:HD23	2.33	0.43
48:BP:97:PRO:O	48:BP:98:GLU:CB	2.57	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BQ:56:ARG:HG3	49:BQ:56:ARG:NH1	2.33	0.43
51:BS:105:ALA:C	51:BS:107:GLU:N	2.74	0.43
54:BV:4:ILE:HA	54:BV:12:TYR:O	2.18	0.43
57:BY:96:ILE:CD1	57:BY:99:CYS:SG	3.07	0.43
1:AA:67:C:O2'	1:AA:171:A:H1'	2.18	0.43
1:AA:106:C:O2'	1:AA:107:G:H5'	2.18	0.43
1:AA:455:C:O5'	1:AA:455:C:H6	2.01	0.43
1:AA:1073:U:O2'	1:AA:1074:G:H5'	2.17	0.43
1:AA:1260:C:OP1	1:AA:1284:C:H4'	2.17	0.43
1:AA:1264:C:H1'	1:AA:1272:G:N2	2.33	0.43
2:AB:115:LEU:O	2:AB:118:LEU:HB2	2.19	0.43
3:AC:13:GLY:HA3	14:AN:57:ARG:NH2	2.33	0.43
4:AD:46:LYS:O	4:AD:47:ARG:C	2.60	0.43
8:AH:97:VAL:HG13	8:AH:98:LYS:N	2.32	0.43
8:AH:111:ILE:HG22	8:AH:112:LEU:N	2.34	0.43
13:AM:79:LYS:O	13:AM:82:MET:SD	2.76	0.43
16:AP:82:GLN:O	16:AP:83:GLU:CB	2.65	0.43
19:AS:20:LEU:HA	19:AS:23:ASN:HB3	1.99	0.43
19:AS:79:THR:O	19:AS:80:TYR:CB	2.66	0.43
25:AZ:227:ASP:HB3	25:AZ:229:PHE:CE1	2.54	0.43
25:AZ:246:LYS:O	25:AZ:247:VAL:HG13	2.18	0.43
25:AZ:252:GLU:O	25:AZ:253:VAL:HG13	2.18	0.43
25:AZ:334:PHE:N	25:AZ:334:PHE:CD1	2.86	0.43
25:AZ:334:PHE:HE2	25:AZ:353:VAL:HG11	1.82	0.43
26:B0:69:PHE:CE2	26:B0:79:VAL:HG22	2.53	0.43
28:B2:47:ASN:O	28:B2:50:ILE:CD1	2.66	0.43
34:B8:32:LEU:HB3	34:B8:36:LYS:CE	2.48	0.43
34:B8:34:TRP:CA	36:BA:2420:C:OP1	2.67	0.43
36:BA:59:U:H3	36:BA:68:G:H1	1.66	0.43
36:BA:79:G:H2'	36:BA:80:G:H8	1.83	0.43
36:BA:191:A:H2'	36:BA:192:C:H6	1.83	0.43
36:BA:581:C:H2'	36:BA:582:G:C8	2.41	0.43
36:BA:870:A:C2	36:BA:871:U:H1'	2.53	0.43
36:BA:893:C:O2'	36:BA:894:C:H5'	2.18	0.43
36:BA:940:G:H2'	36:BA:941:A:O4'	2.18	0.43
36:BA:1024:G:H3'	36:BA:1025:G:C5'	2.25	0.43
36:BA:1958:C:O2'	36:BA:1959:G:H5'	2.18	0.43
36:BA:2199:A:N3	36:BA:2199:A:H2'	2.34	0.43
36:BA:2704:C:H2'	36:BA:2705:A:C8	2.53	0.43
37:BB:43:C:H3'	37:BB:44:G:C5'	2.48	0.43
40:BE:68:ALA:C	40:BE:70:ALA:N	2.75	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BF:117:ARG:HH21	41:BF:187:VAL:HA	1.82	0.43
41:BF:142:TRP:O	41:BF:145:GLU:HB2	2.17	0.43
42:BG:37:VAL:HG22	42:BG:159:VAL:HG23	1.99	0.43
51:BS:19:LYS:HB3	51:BS:20:ARG:NH2	2.33	0.43
51:BS:61:ASN:CG	51:BS:64:GLU:OE2	2.61	0.43
51:BS:98:VAL:CG1	51:BS:100:ALA:HB2	2.48	0.43
52:BT:32:TYR:CG	52:BT:81:PRO:HB3	2.53	0.43
58:BZ:128:VAL:CG2	58:BZ:129:SER:N	2.78	0.43
1:AA:156:G:C6	1:AA:166:G:O6	2.72	0.43
1:AA:411:A:OP2	4:AD:25:ARG:NH2	2.50	0.43
1:AA:599:C:O2'	1:AA:600:C:H5'	2.19	0.43
1:AA:1007:C:H42	1:AA:1022:G:H1	1.66	0.43
1:AA:1112:C:N3	3:AC:178:LEU:N	2.55	0.43
1:AA:1145:C:O2'	1:AA:1146:A:O5'	2.34	0.43
2:AB:181:PHE:O	2:AB:183:PRO:HD3	2.19	0.43
4:AD:199:ASN:OD1	4:AD:199:ASN:O	2.36	0.43
10:AJ:34:VAL:CG1	10:AJ:73:ASP:O	2.66	0.43
12:AL:7:ILE:HG22	12:AL:8:ASN:N	2.32	0.43
13:AM:23:TYR:CE1	13:AM:70:LEU:HD22	2.53	0.43
13:AM:108:ARG:HH11	13:AM:108:ARG:HG3	1.82	0.43
19:AS:70:LYS:O	19:AS:73:GLU:HB2	2.18	0.43
25:AZ:217:VAL:HG23	25:AZ:217:VAL:O	2.18	0.43
33:B7:16:HIS:ND1	36:BA:465:G:H4'	2.33	0.43
34:B8:52:LYS:O	34:B8:56:GLU:OE1	2.36	0.43
36:BA:49:A:H4'	36:BA:50:U:O5'	2.18	0.43
36:BA:60:G:C8	36:BA:63:U:C5	3.06	0.43
36:BA:519:U:H5"	55:BW:25:ARG:HH12	1.82	0.43
36:BA:586:A:H5'	41:BF:89:VAL:HG11	1.99	0.43
36:BA:910:A:C6	36:BA:911:A:C6	3.07	0.43
36:BA:1082:U:H5'	45:BK:116:UNK:O	2.18	0.43
36:BA:1352:U:O2'	36:BA:1353:A:H5'	2.19	0.43
36:BA:1426:G:H8	36:BA:1426:G:O5'	2.02	0.43
36:BA:1780:A:H5'	36:BA:1780:A:H8	1.82	0.43
36:BA:2510:C:O2'	36:BA:2511:U:H5'	2.18	0.43
36:BA:2727:G:O2'	47:BO:70:LYS:HE2	2.19	0.43
36:BA:2808:U:H2'	36:BA:2809:A:H5'	2.00	0.43
36:BA:2866:U:C5	36:BA:2868:A:H1'	2.52	0.43
37:BB:7:G:O5'	51:BS:29:PHE:HE1	2.01	0.43
37:BB:62:C:C2	37:BB:63:G:C8	3.05	0.43
38:BC:196:LEU:C	38:BC:198:ALA:H	2.26	0.43
39:BD:112:GLN:H	39:BD:115:GLN:NE2	2.15	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:8:LYS:HD2	40:BE:188:VAL:CG1	2.48	0.43
42:BG:47:LYS:NZ	42:BG:81:LYS:CB	2.81	0.43
42:BG:112:PRO:C	42:BG:114:ILE:N	2.75	0.43
42:BG:136:ARG:NH1	42:BG:136:ARG:HG2	2.33	0.43
47:BO:18:LYS:HB2	47:BO:45:GLU:HB3	2.00	0.43
48:BP:84:ASN:O	48:BP:87:ASP:N	2.47	0.43
51:BS:54:LEU:O	51:BS:54:LEU:HD13	2.19	0.43
55:BW:5:ALA:HB3	55:BW:105:VAL:H	1.83	0.43
55:BW:56:ALA:C	55:BW:58:ALA:N	2.76	0.43
57:BY:50:ARG:O	57:BY:52:SER:N	2.51	0.43
58:BZ:29:TYR:HE2	58:BZ:87:ASP:OD2	2.02	0.43
58:BZ:38:TYR:O	58:BZ:38:TYR:CG	2.71	0.43
1:AA:542:G:P	4:AD:10:ARG:HH22	2.40	0.43
1:AA:601:C:H2'	1:AA:602:A:C8	2.54	0.43
1:AA:1161:C:H2'	1:AA:1162:C:H6	1.84	0.43
1:AA:1270:C:C6	1:AA:1270:C:C3'	3.01	0.43
1:AA:1423:G:H2'	1:AA:1424:C:C6	2.53	0.43
2:AB:83:MET:C	2:AB:85:ALA:N	2.76	0.43
3:AC:70:VAL:O	3:AC:106:VAL:HG23	2.17	0.43
4:AD:159:ARG:HG3	4:AD:159:ARG:HH11	1.84	0.43
6:AF:86:ARG:O	6:AF:87:ARG:HG2	2.18	0.43
12:AL:41:ARG:NH2	12:AL:57:LYS:HZ3	2.14	0.43
12:AL:102:ARG:HD2	12:AL:102:ARG:HA	1.58	0.43
17:AQ:86:GLU:O	17:AQ:90:ILE:HG12	2.19	0.43
20:AT:55:ILE:O	20:AT:56:MET:C	2.62	0.43
22:AV:56:C:N3	42:BG:83:ARG:HD3	2.34	0.43
22:AV:75:C:OP1	36:BA:2602:A:C5'	2.65	0.43
25:AZ:33:PHE:O	25:AZ:36:ALA:HB3	2.19	0.43
25:AZ:171:ILE:HD13	25:AZ:202:LEU:CD1	2.48	0.43
25:AZ:194:GLU:HG3	25:AZ:195:TRP:H	1.84	0.43
26:B0:52:GLY:HA3	26:B0:60:PHE:CZ	2.53	0.43
29:B3:8:LEU:HD13	29:B3:29:ARG:O	2.17	0.43
31:B5:13:LYS:HZ1	36:BA:516:C:H5"	1.83	0.43
33:B7:40:TRP:CD2	36:BA:459:U:C5'	3.01	0.43
36:BA:289:A:H2'	36:BA:290:G:H8	1.81	0.43
36:BA:407:G:H2'	36:BA:408:G:C8	2.52	0.43
36:BA:753:C:O2'	36:BA:754:C:H5'	2.17	0.43
36:BA:782:A:N3	39:BD:226:MET:HG2	2.32	0.43
36:BA:986:C:H6	36:BA:986:C:O5'	2.00	0.43
36:BA:1223:G:H5'	36:BA:1223:G:C8	2.49	0.43
36:BA:1334:G:O2'	36:BA:1335:U:H5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1510:G:H2'	36:BA:1511:C:C6	2.54	0.43
36:BA:1747:G:H2'	36:BA:1747(A):G:H8	1.83	0.43
36:BA:2206:G:N3	36:BA:2207:G:H5'	2.33	0.43
36:BA:2747:G:O6	36:BA:2755:C:H5"	2.18	0.43
36:BA:2816:C:H2'	36:BA:2817:G:H8	1.82	0.43
40:BE:34:VAL:O	40:BE:34:VAL:HG22	2.18	0.43
41:BF:72:ARG:NH1	41:BF:72:ARG:HB3	2.33	0.43
43:BH:70:THR:C	43:BH:72:ILE:H	2.26	0.43
46:BN:14:VAL:HG12	46:BN:15:LEU:N	2.34	0.43
46:BN:30:ILE:HG22	46:BN:34:LEU:HD23	1.99	0.43
46:BN:31:ALA:HA	46:BN:34:LEU:HB2	2.00	0.43
46:BN:35:ARG:HH21	46:BN:42:TRP:HH2	1.66	0.43
48:BP:84:ASN:C	48:BP:86:LYS:N	2.71	0.43
51:BS:25:ARG:O	51:BS:39:ILE:HA	2.19	0.43
52:BT:10:VAL:C	52:BT:12:SER:N	2.74	0.43
54:BV:13:ARG:O	54:BV:13:ARG:HG2	2.17	0.43
54:BV:31:ALA:O	54:BV:60:GLU:HG3	2.18	0.43
56:BX:28:PHE:CZ	56:BX:81:VAL:HG21	2.53	0.43
56:BX:30:VAL:HG21	56:BX:39:ILE:HD11	2.00	0.43
56:BX:70:LEU:HD23	56:BX:71:GLY:N	2.34	0.43
58:BZ:108:PRO:HA	58:BZ:141:VAL:HG12	1.93	0.43
1:AA:1060:C:H4'	10:AJ:52:GLY:N	2.33	0.43
1:AA:1153:C:O2'	1:AA:1154:G:O5'	2.33	0.43
1:AA:1181:G:O2'	1:AA:1182:G:H5'	2.18	0.43
3:AC:164:ARG:NH2	3:AC:166:GLU:CD	2.76	0.43
5:AE:89:ILE:HG12	5:AE:90:VAL:N	2.34	0.43
6:AF:63:TYR:O	6:AF:64:GLN:CB	2.66	0.43
8:AH:75:ARG:HE	8:AH:75:ARG:HB2	1.56	0.43
17:AQ:66:SER:O	17:AQ:67:LYS:C	2.61	0.43
20:AT:19:SER:O	20:AT:20:LEU:C	2.62	0.43
24:AY:73:G:H2'	24:AY:74:C:C5'	2.49	0.43
24:AY:73:G:C6	24:AY:74:C:C2	3.07	0.43
24:AY:77:TRP:CE2	25:AZ:67:HIS:CD2	3.07	0.43
25:AZ:229:PHE:N	25:AZ:229:PHE:CD1	2.86	0.43
25:AZ:330:ARG:CG	25:AZ:395:VAL:HB	2.45	0.43
27:B1:48:LYS:HZ2	27:B1:61:ARG:HG2	1.84	0.43
36:BA:363:G:C4	36:BA:363(A):A:N7	2.87	0.43
36:BA:528:A:C2	36:BA:2043:C:C5'	3.00	0.43
36:BA:810:U:C4	48:BP:32:THR:HA	2.53	0.43
36:BA:1188:U:H2'	36:BA:1189:A:H5'	1.99	0.43
36:BA:1224:C:C5	36:BA:1225:G:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1479:G:H5'	36:BA:1558:A:C2	2.53	0.43
36:BA:1498:C:C2'	36:BA:1499:C:H5"	2.49	0.43
36:BA:1523:U:H2'	36:BA:1524:G:H8	1.83	0.43
36:BA:1643:G:C4	36:BA:1644:C:C6	3.06	0.43
36:BA:2620:C:H2'	36:BA:2621:A:O4'	2.17	0.43
36:BA:2796:U:C3'	36:BA:2799:C:H5'	2.49	0.43
38:BC:54:SER:C	38:BC:56:GLN:N	2.75	0.43
38:BC:131:LEU:HB3	38:BC:136:LEU:HB2	2.00	0.43
39:BD:63:ARG:HG3	39:BD:63:ARG:HH11	1.84	0.43
39:BD:175:LEU:HD12	39:BD:185:VAL:HG21	2.00	0.43
39:BD:182:LEU:HA	39:BD:182:LEU:HD23	1.73	0.43
40:BE:4:ILE:HD11	40:BE:28:ALA:HB1	2.01	0.43
40:BE:34:VAL:CG1	40:BE:48:GLN:HE21	2.32	0.43
40:BE:35:GLN:HG2	40:BE:36:ARG:O	2.18	0.43
41:BF:132:VAL:CG2	41:BF:162:LEU:HD23	2.40	0.43
42:BG:73:ALA:CB	42:BG:87:PRO:HG3	2.49	0.43
43:BH:19:VAL:HG12	43:BH:20:ALA:N	2.33	0.43
46:BN:55:VAL:HG22	46:BN:56:ASN:H	1.83	0.43
46:BN:57:ALA:O	46:BN:58:ASP:O	2.36	0.43
46:BN:68:GLU:HA	46:BN:86:PRO:HB2	2.01	0.43
51:BS:30:ARG:HH22	51:BS:62:LYS:HD3	1.80	0.43
54:BV:4:ILE:HB	54:BV:39:LEU:O	2.18	0.43
57:BY:17:SER:HB3	57:BY:71:LYS:HB3	1.99	0.43
57:BY:46:LYS:CG	57:BY:47:LYS:N	2.72	0.43
1:AA:346:G:O2'	1:AA:347:G:P	2.76	0.43
1:AA:431:A:H2'	1:AA:432:A:O4'	2.19	0.43
1:AA:630:G:H2'	1:AA:631:G:O4'	2.19	0.43
1:AA:633:G:H3'	1:AA:634:C:H6	1.83	0.43
1:AA:706:A:H1'	11:AK:29:ILE:HD11	2.00	0.43
1:AA:791:G:H2'	1:AA:792:A:H5'	2.00	0.43
1:AA:1003:G:N2	1:AA:1038:C:N3	2.66	0.43
1:AA:1152:A:H5'	10:AJ:70:ARG:HH21	1.83	0.43
1:AA:1174:G:O2'	1:AA:1175:G:H5'	2.18	0.43
1:AA:1321:C:OP2	1:AA:1322:C:H2'	2.18	0.43
1:AA:1406:U:C2'	1:AA:1407:C:H5'	2.49	0.43
2:AB:235:SER:O	2:AB:236:TYR:C	2.62	0.43
3:AC:83:ARG:O	3:AC:87:LEU:HG	2.18	0.43
5:AE:74:GLY:HA3	5:AE:116:THR:OG1	2.18	0.43
8:AH:36:LEU:O	8:AH:37:ARG:C	2.62	0.43
9:AI:42:ARG:O	9:AI:43:ALA:C	2.61	0.43
13:AM:77:ASN:O	13:AM:81:LEU:HG	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AO:4:THR:O	15:AO:5:LYS:C	2.61	0.43
15:AO:35:ARG:NH2	15:AO:59:MET:HE2	2.34	0.43
17:AQ:69:LYS:O	17:AQ:70:ARG:HD2	2.19	0.43
22:AW:72:C:H2'	22:AW:73:A:O4'	2.19	0.43
23:AX:26:A:C3'	23:AX:27:A:H5"	2.29	0.43
25:AZ:194:GLU:CG	25:AZ:195:TRP:N	2.78	0.43
30:B4:42:PHE:O	30:B4:42:PHE:CD2	2.71	0.43
33:B7:8:ASN:HD21	33:B7:10:ARG:N	2.16	0.43
34:B8:15:LYS:HD3	48:BP:65:ARG:HH22	1.84	0.43
36:BA:86:C:O2'	36:BA:104:U:H1'	2.19	0.43
36:BA:528:A:H8	36:BA:528:A:H3'	1.84	0.43
36:BA:532:A:N3	36:BA:532:A:H2'	2.33	0.43
36:BA:658:C:C2	36:BA:659:C:C5	3.07	0.43
36:BA:804:A:H2'	36:BA:806:C:C4	2.53	0.43
36:BA:889:C:O2'	36:BA:890:A:P	2.77	0.43
36:BA:910:A:H62	49:BQ:12:GLN:HA	1.83	0.43
36:BA:1056:G:C2	36:BA:1102:C:C5	3.05	0.43
36:BA:1060:U:C4	36:BA:1062:G:OP2	2.71	0.43
36:BA:1681:G:O2'	36:BA:1762:A:C2'	2.65	0.43
36:BA:2115:G:H2'	36:BA:2116:G:H5"	1.99	0.43
36:BA:2410:G:C2	36:BA:2411:A:H1'	2.53	0.43
36:BA:2514:U:H2'	36:BA:2515:C:C6	2.53	0.43
36:BA:2580:U:C5	36:BA:2581:G:C6	3.06	0.43
36:BA:2720:U:C2	36:BA:2721:A:C8	3.07	0.43
36:BA:2852:G:O2'	36:BA:2853:C:H5'	2.18	0.43
38:BC:6:ARG:O	38:BC:6:ARG:HG2	2.18	0.43
39:BD:39:LYS:HB2	39:BD:62:TYR:HB2	1.99	0.43
39:BD:227:ASN:HB3	39:BD:228:PRO:CD	2.49	0.43
40:BE:12:THR:HG23	40:BE:13:ARG:N	2.33	0.43
41:BF:57:VAL:C	41:BF:59:TYR:H	2.27	0.43
46:BN:58:ASP:HB3	46:BN:95:PRO:HB2	2.00	0.43
49:BQ:16:ARG:HH21	49:BQ:18:LYS:NZ	2.16	0.43
50:BR:84:ALA:HB3	50:BR:85:PRO:CD	2.41	0.43
52:BT:34:VAL:HG22	52:BT:39:ARG:HG3	2.01	0.43
52:BT:102:ILE:HD12	52:BT:110:ILE:CD1	2.46	0.43
53:BU:22:LYS:HD3	53:BU:22:LYS:HA	1.89	0.43
56:BX:21:PHE:HD2	56:BX:26:TYR:CE2	2.36	0.43
57:BY:38:ILE:O	57:BY:39:VAL:C	2.61	0.43
57:BY:85:VAL:CG1	57:BY:86:ARG:N	2.80	0.43
58:BZ:10:ARG:O	58:BZ:36:LYS:HG3	2.19	0.43
58:BZ:48:PHE:CE2	58:BZ:52:SER:O	2.71	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:189(A):C:O2'	1:AA:189(B):C:H5'	2.18	0.43
1:AA:621:A:O2'	1:AA:622:A:H5'	2.19	0.43
1:AA:653:A:P	8:AH:56:LYS:HZ1	2.42	0.43
1:AA:783:C:O2'	1:AA:784:C:H5'	2.19	0.43
1:AA:865:A:O2'	1:AA:866:C:H5'	2.18	0.43
1:AA:1202:G:H2'	1:AA:1203:C:C5'	2.46	0.43
2:AB:124:SER:OG	2:AB:125:PRO:HD2	2.18	0.43
2:AB:190:THR:O	2:AB:191:ASP:HB2	2.18	0.43
3:AC:84:ILE:O	3:AC:84:ILE:CG1	2.67	0.43
4:AD:52:SER:O	4:AD:55:ALA:N	2.51	0.43
6:AF:3:ARG:NH1	6:AF:38:GLU:OE1	2.51	0.43
6:AF:71:ARG:HH11	6:AF:71:ARG:HG3	1.84	0.43
9:AI:4:TYR:HA	9:AI:88:TYR:CD1	2.54	0.43
9:AI:43:ALA:C	9:AI:45:ALA:N	2.76	0.43
9:AI:69:GLY:O	9:AI:70:LYS:C	2.62	0.43
11:AK:29:ILE:O	11:AK:29:ILE:HG12	2.19	0.43
11:AK:47:VAL:C	11:AK:48:ILE:O	2.59	0.43
12:AL:102:ARG:HG3	12:AL:102:ARG:NH1	2.33	0.43
13:AM:44:ARG:C	13:AM:46:LYS:N	2.76	0.43
17:AQ:89:LEU:O	17:AQ:93:GLN:N	2.52	0.43
17:AQ:90:ILE:O	17:AQ:93:GLN:HB3	2.18	0.43
19:AS:9:VAL:CG1	19:AS:39:THR:HB	2.49	0.43
25:AZ:199:ILE:O	25:AZ:202:LEU:HB3	2.18	0.43
25:AZ:306:LYS:HG2	25:AZ:307:PRO:HD2	1.99	0.43
32:B6:27:LYS:HG3	32:B6:30:THR:CB	2.48	0.43
36:BA:323:G:C2	36:BA:333:G:H1'	2.54	0.43
36:BA:326:G:H2'	36:BA:327:G:O4'	2.19	0.43
36:BA:329:G:H1	57:BY:19:LYS:HE3	1.84	0.43
36:BA:555:U:O2'	36:BA:556:G:N7	2.50	0.43
36:BA:627:A:C6	36:BA:637:A:C8	3.07	0.43
36:BA:710:G:H2'	36:BA:711:G:H8	1.83	0.43
36:BA:781:A:H2	36:BA:1776:G:N3	2.15	0.43
36:BA:1058:G:N1	36:BA:1059:G:N7	2.66	0.43
36:BA:1337:G:C4	36:BA:1338:G:C8	3.06	0.43
36:BA:1349:A:N3	36:BA:1349:A:H5'	2.33	0.43
36:BA:1786:A:N1	36:BA:2606:C:O4'	2.52	0.43
36:BA:1999:C:H5"	36:BA:2723:C:O2'	2.19	0.43
36:BA:2101:G:H2'	36:BA:2102:U:C4'	2.49	0.43
36:BA:2125:G:N2	36:BA:2173:A:H61	2.15	0.43
36:BA:2170:A:H4'	38:BC:133:PRO:HB2	1.98	0.43
36:BA:2341:G:H2'	36:BA:2342:C:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2370:G:C6	36:BA:2371:G:C6	3.06	0.43
36:BA:2741:A:C2'	36:BA:2742:C:H5'	2.48	0.43
37:BB:53:A:N7	37:BB:54:G:N7	2.67	0.43
39:BD:32:SER:O	39:BD:36:PRO:CD	2.66	0.43
39:BD:85:ASP:OD1	39:BD:87:ASN:ND2	2.49	0.43
39:BD:197:GLY:C	39:BD:199:ALA:N	2.71	0.43
48:BP:115:LEU:N	48:BP:115:LEU:CD2	2.82	0.43
49:BQ:5:ARG:O	49:BQ:6:ARG:HG2	2.19	0.43
49:BQ:26:TYR:CD1	49:BQ:28:ALA:HB2	2.53	0.43
49:BQ:39:PRO:O	49:BQ:40:ALA:CB	2.65	0.43
49:BQ:78:PRO:HD2	49:BQ:81:VAL:HG11	2.00	0.43
52:BT:83:ILE:CD1	52:BT:84:GLN:HG2	2.49	0.43
52:BT:92:GLY:O	52:BT:94:ALA:N	2.52	0.43
53:BU:80:ILE:O	53:BU:80:ILE:HG22	2.19	0.43
54:BV:16:PRO:HA	54:BV:96:ILE:O	2.18	0.43
54:BV:78:LYS:C	54:BV:79:VAL:CG2	2.91	0.43
58:BZ:127:LYS:O	58:BZ:127:LYS:HG3	2.18	0.43
1:AA:174:C:O2'	1:AA:175:C:H5'	2.17	0.43
1:AA:512:U:H2'	1:AA:513:C:C6	2.54	0.43
1:AA:909:A:H2'	1:AA:910:C:O4'	2.19	0.43
1:AA:1106:G:O2'	1:AA:1107:C:H5'	2.19	0.43
2:AB:214:ILE:O	2:AB:218:ALA:CB	2.67	0.43
3:AC:145:GLY:O	3:AC:146:ALA:O	2.37	0.43
4:AD:15:GLU:OE1	4:AD:59:ARG:NE	2.52	0.43
4:AD:132:ARG:O	4:AD:132:ARG:HD2	2.18	0.43
6:AF:14:LEU:HD13	6:AF:18:GLN:CB	2.49	0.43
7:AG:111:ARG:NH1	7:AG:111:ARG:HG2	2.33	0.43
7:AG:120:ILE:HG22	7:AG:124:LEU:HD12	2.00	0.43
9:AI:46:ALA:HB2	9:AI:74:ILE:HG23	2.01	0.43
20:AT:69:GLY:O	20:AT:73:HIS:CD2	2.71	0.43
22:AW:43:C:H2'	22:AW:44:G:C1'	2.49	0.43
25:AZ:46:ASP:OD2	25:AZ:47:TYR:N	2.47	0.43
25:AZ:107:SER:OG	25:AZ:137:LYS:NZ	2.41	0.43
27:B1:3:LYS:HB3	27:B1:4:VAL:H	1.60	0.43
27:B1:89:GLU:O	27:B1:90:ILE:C	2.62	0.43
28:B2:31:GLU:CB	28:B2:53:LEU:HD11	2.49	0.43
29:B3:8:LEU:HD12	29:B3:28:LEU:HB2	2.00	0.43
34:B8:11:LYS:O	34:B8:11:LYS:HG2	2.19	0.43
34:B8:13:ARG:HD3	48:BP:61:ARG:O	2.19	0.43
36:BA:7:G:O2'	36:BA:8:A:H5'	2.19	0.43
36:BA:67:U:H2'	36:BA:68:G:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:301:G:C6	36:BA:317:G:C5	3.07	0.43
36:BA:962:G:O2'	36:BA:963:U:H5'	2.19	0.43
36:BA:1052:C:O2'	36:BA:1053:C:P	2.76	0.43
36:BA:1116:C:H2'	36:BA:1117:G:C8	2.46	0.43
36:BA:1471:A:H2'	36:BA:1472:A:C8	2.54	0.43
36:BA:1495:A:C4	36:BA:1496:A:H2	2.36	0.43
36:BA:1591:G:H5'	36:BA:1591:G:H8	1.84	0.43
36:BA:1934:C:O2'	36:BA:1935:G:H5'	2.19	0.43
36:BA:2674:G:H2'	36:BA:2675:A:H8	1.84	0.43
36:BA:2681:C:H5	36:BA:2725:A:H62	1.62	0.43
36:BA:2864:G:OP1	52:BT:119:LYS:HD2	2.19	0.43
38:BC:45:ALA:O	38:BC:46:LYS:C	2.62	0.43
39:BD:33:LEU:C	39:BD:33:LEU:CD2	2.91	0.43
40:BE:104:VAL:HG12	40:BE:105:THR:N	2.33	0.43
40:BE:119:ARG:NH1	40:BE:158:GLY:HA3	2.34	0.43
41:BF:3:GLU:O	41:BF:19:GLU:CB	2.66	0.43
42:BG:101:ILE:O	42:BG:104:GLU:HB3	2.18	0.43
43:BH:65:HIS:CE1	43:BH:69:ARG:NH1	2.87	0.43
43:BH:83:TYR:CD1	43:BH:84:SER:N	2.87	0.43
45:BK:48:UNK:O	45:BK:49:UNK:CB	2.66	0.43
46:BN:45:ASN:O	46:BN:45:ASN:CG	2.61	0.43
46:BN:108:PRO:HG2	46:BN:113:GLY:CA	2.48	0.43
47:BO:7:TYR:CE1	47:BO:20:MET:HB2	2.54	0.43
48:BP:65:ARG:O	48:BP:68:GLN:OE1	2.36	0.43
48:BP:102:ARG:O	48:BP:103:ALA:HB2	2.17	0.43
50:BR:44:LEU:HD13	50:BR:44:LEU:O	2.17	0.43
54:BV:55:ALA:HB1	54:BV:101:GLY:HA2	2.00	0.43
55:BW:50:VAL:O	55:BW:50:VAL:HG13	2.18	0.43
58:BZ:35:ARG:HA	58:BZ:35:ARG:CZ	2.48	0.43
1:AA:153:C:N4	1:AA:168:G:H1	2.17	0.43
1:AA:254:G:OP1	17:AQ:67:LYS:O	2.37	0.43
1:AA:402:G:O2'	1:AA:403:C:H5'	2.18	0.43
1:AA:498:U:O2'	1:AA:499:A:P	2.77	0.43
1:AA:1134:G:C2	1:AA:1142:G:C6	3.06	0.43
1:AA:1303:C:N4	1:AA:1304:G:C6	2.86	0.43
1:AA:1354:C:O2'	1:AA:1355:G:H5'	2.18	0.43
1:AA:1399:C:C2	1:AA:1502:A:N6	2.87	0.43
2:AB:7:VAL:HG13	2:AB:11:LEU:CD1	2.48	0.43
2:AB:220:ASP:OD1	2:AB:223:ILE:HD12	2.19	0.43
2:AB:224:GLN:C	2:AB:226:ARG:N	2.77	0.43
4:AD:104:VAL:HA	4:AD:107:ARG:HB2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:150:GLU:C	4:AD:152:SER:N	2.76	0.43
5:AE:28:PHE:CD1	5:AE:28:PHE:N	2.87	0.43
6:AF:35:ALA:HB1	6:AF:65:VAL:CG1	2.49	0.43
9:AI:11:LYS:O	9:AI:11:LYS:CG	2.66	0.43
9:AI:55:ALA:C	9:AI:57:GLY:N	2.76	0.43
9:AI:128:ARG:OXT	9:AI:128:ARG:HG2	2.19	0.43
10:AJ:9:ARG:HG2	10:AJ:69:ASN:OD1	2.19	0.43
20:AT:57:ARG:HH11	20:AT:103:GLY:N	2.16	0.43
22:AV:14:A:N6	22:AV:21:A:C2	2.87	0.43
22:AV:72:C:C3'	22:AV:73:A:C5'	2.96	0.43
22:AW:19:G:C6	36:BA:2169:A:O2'	2.62	0.43
25:AZ:248:LYS:O	25:AZ:267:VAL:HG21	2.19	0.43
26:B0:12:ASN:HA	26:B0:14:ARG:HH12	1.84	0.43
27:B1:14:VAL:O	27:B1:14:VAL:HG12	2.17	0.43
34:B8:13:ARG:NH1	48:BP:59:LEU:HG	2.33	0.43
35:B9:9:ARG:HD2	35:B9:16:VAL:CG2	2.49	0.43
36:BA:78:A:H2'	36:BA:79:G:C8	2.53	0.43
36:BA:252:G:O2'	36:BA:253:C:H5'	2.19	0.43
36:BA:272(I):U:O2'	36:BA:272(J):C:H5'	2.18	0.43
36:BA:324:A:N6	36:BA:338:G:O2'	2.52	0.43
36:BA:341:G:H2'	36:BA:342:G:H8	1.83	0.43
36:BA:536:A:OP1	53:BU:53:ARG:NH1	2.51	0.43
36:BA:600:G:H2'	36:BA:601:C:C6	2.54	0.43
36:BA:647:G:N2	36:BA:2350:C:H4'	2.33	0.43
36:BA:919:G:N2	36:BA:2269:A:OP2	2.51	0.43
36:BA:1248:G:P	41:BF:92:PRO:HG3	2.59	0.43
36:BA:1267:U:C5	36:BA:2012:G:N2	2.87	0.43
36:BA:1530:C:H6	36:BA:1530:C:O5'	2.02	0.43
36:BA:1598:C:C5'	56:BX:36:LYS:CD	2.97	0.43
36:BA:2275:C:O2	49:BQ:85:LYS:CD	2.67	0.43
36:BA:2889:C:H2'	36:BA:2891:G:O4'	2.19	0.43
37:BB:17:C:O2'	37:BB:18:G:H5'	2.18	0.43
39:BD:44:ASN:HD22	39:BD:45:ASN:N	2.17	0.43
39:BD:52:ARG:HH11	39:BD:52:ARG:HD3	1.71	0.43
39:BD:118:VAL:CG2	39:BD:119:ALA:H	2.30	0.43
40:BE:103:ASP:CG	40:BE:201:THR:HA	2.44	0.43
41:BF:64:ILE:HD12	41:BF:78:ILE:HG23	2.01	0.43
41:BF:129:PHE:C	41:BF:131:GLY:N	2.73	0.43
41:BF:157:VAL:HG21	41:BF:194:MET:HG2	2.00	0.43
41:BF:195:ASP:O	41:BF:199:TRP:HB2	2.18	0.43
42:BG:7:LEU:O	42:BG:11:TYR:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BG:47:LYS:HZ1	42:BG:81:LYS:CB	2.31	0.43
42:BG:105:LYS:HD2	42:BG:142:PRO:HG3	2.00	0.43
42:BG:159:VAL:O	42:BG:159:VAL:HG13	2.18	0.43
45:BK:24:UNK:O	45:BK:28:UNK:CB	2.67	0.43
46:BN:65:LYS:CB	46:BN:65:LYS:HZ2	2.31	0.43
47:BO:105:GLU:O	47:BO:109:LYS:CG	2.67	0.43
48:BP:50:ARG:CG	48:BP:51:PHE:N	2.79	0.43
51:BS:13:ARG:O	51:BS:15:ARG:N	2.52	0.43
53:BU:95:LEU:O	53:BU:97:ASP:N	2.52	0.43
54:BV:49:THR:O	54:BV:50:PRO:C	2.60	0.43
55:BW:17:VAL:O	55:BW:19:LEU:N	2.52	0.43
57:BY:32:PRO:O	57:BY:35:TYR:N	2.52	0.43
58:BZ:135:GLU:HB3	58:BZ:136:PHE:H	1.66	0.43
1:AA:66:G:C4’	1:AA:173:U:C5	2.98	0.43
1:AA:84:U:H2’	1:AA:88:A:H5’	2.00	0.43
1:AA:179:A:O2’	1:AA:180:U:H5’	2.18	0.43
1:AA:186:C:C2	1:AA:187:C:C5	3.07	0.43
1:AA:439:A:H2’	1:AA:441:A:O4’	2.18	0.43
1:AA:642:A:N3	8:AH:113:SER:OG	2.44	0.43
1:AA:1314:C:H2’	1:AA:1315:U:H6	1.84	0.43
2:AB:17:PHE:C	2:AB:18:GLY:O	2.61	0.43
2:AB:36:ARG:HH11	2:AB:36:ARG:HG3	1.84	0.43
2:AB:74:LYS:O	2:AB:76:GLN:N	2.52	0.43
16:AP:8:ARG:CB	16:AP:28:ARG:HH22	2.32	0.43
17:AQ:5:VAL:HA	17:AQ:59:ILE:O	2.19	0.43
22:AW:56:C:H2’	22:AW:57:G:C8	2.54	0.43
24:AY:54:5MU:H2’	24:AY:55:PSU:O4’	2.19	0.43
25:AZ:76:HIS:ND1	25:AZ:76:HIS:C	2.76	0.43
25:AZ:290:LEU:HD12	25:AZ:298:VAL:HG21	2.01	0.43
28:B2:29:LYS:O	28:B2:32:LEU:N	2.51	0.43
31:B5:19:ARG:C	31:B5:21:SER:H	2.26	0.43
33:B7:38:GLY:O	36:BA:458:G:C5’	2.58	0.43
36:BA:139:G:C6	36:BA:140:G:H2’	2.53	0.43
36:BA:191:A:O2’	36:BA:192:C:C5’	2.66	0.43
36:BA:272(I):U:C2’	36:BA:272(J):C:H5’	2.49	0.43
36:BA:736:C:O2’	36:BA:737:C:H5’	2.19	0.43
36:BA:1124:C:H2’	36:BA:1125:G:O4’	2.18	0.43
36:BA:1218:C:O2	36:BA:1218:C:H2’	2.17	0.43
36:BA:1331:A:O2’	36:BA:1332:G:H5”	2.19	0.43
36:BA:1429:G:H2’	36:BA:1430:C:H6	1.82	0.43
36:BA:1614:A:H2’	36:BA:1615:C:C5’	2.39	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1790:C:H2'	36:BA:1791:A:C5	2.54	0.43
36:BA:2175:C:O4'	38:BC:215:THR:HG21	2.19	0.43
36:BA:2552:U:H2'	36:BA:2554:U:H5"	2.01	0.43
36:BA:2645:G:H8	36:BA:2645:G:OP2	2.02	0.43
36:BA:2809:A:H2'	36:BA:2810:A:C8	2.53	0.43
36:BA:2840:C:H4'	50:BR:53:HIS:CD2	2.54	0.43
37:BB:107:G:O2'	37:BB:108:U:H5'	2.18	0.43
39:BD:75:ILE:HG21	39:BD:99:ASP:HB2	2.00	0.43
39:BD:158:ALA:O	39:BD:159:ALA:C	2.61	0.43
40:BE:119:ARG:HG3	40:BE:160:TYR:CD2	2.53	0.43
41:BF:130:ALA:HB3	41:BF:142:TRP:HD1	1.84	0.43
42:BG:88:ILE:HG22	42:BG:89:GLY:N	2.34	0.43
42:BG:111:LEU:HD21	42:BG:179:PRO:CD	2.49	0.43
49:BQ:32:TYR:N	49:BQ:32:TYR:CD1	2.86	0.43
55:BW:91:GLY:O	55:BW:92:ARG:O	2.36	0.43
58:BZ:38:TYR:O	58:BZ:38:TYR:CD1	2.72	0.43
58:BZ:153:SER:H	58:BZ:167:PRO:HB2	1.84	0.43
1:AA:256:U:H5'	17:AQ:17:LYS:NZ	2.34	0.42
1:AA:537:G:H2'	1:AA:538:G:H8	1.84	0.42
1:AA:666:G:H5'	1:AA:726:C:H1'	2.01	0.42
1:AA:1004:A:C5'	1:AA:1025:U:O4	2.66	0.42
1:AA:1006:C:H2'	1:AA:1007:C:C6	2.54	0.42
1:AA:1371:G:OP2	9:AI:11:LYS:HD2	2.19	0.42
1:AA:1497:G:C2'	1:AA:1498:U:H5'	2.49	0.42
4:AD:52:SER:O	4:AD:53:ASP:C	2.62	0.42
4:AD:121:VAL:O	4:AD:134:ASP:HA	2.18	0.42
5:AE:60:TYR:CZ	5:AE:64:ARG:NH2	2.86	0.42
5:AE:75:THR:HB	5:AE:117:ASP:O	2.19	0.42
5:AE:82:VAL:HG21	5:AE:138:ALA:CA	2.49	0.42
8:AH:77:GLU:OE2	8:AH:81:HIS:NE2	2.46	0.42
10:AJ:16:LEU:C	10:AJ:16:LEU:HD13	2.44	0.42
25:AZ:328:GLY:C	25:AZ:393:ARG:HH21	2.27	0.42
26:B0:14:ARG:NH1	26:B0:14:ARG:CG	2.81	0.42
27:B1:29:GLY:O	27:B1:30:VAL:CG2	2.65	0.42
34:B8:30:ARG:NH1	36:BA:2419:U:O4	2.51	0.42
36:BA:29:U:H2'	36:BA:30:G:H8	1.84	0.42
36:BA:578:A:OP1	36:BA:1255:U:O2'	2.31	0.42
36:BA:622:G:C2'	36:BA:623:G:H5'	2.48	0.42
36:BA:752:A:HO2'	36:BA:753:C:P	2.39	0.42
36:BA:847:U:OP2	36:BA:928:G:O6	2.36	0.42
36:BA:970:C:H2'	36:BA:971:C:H6	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1013:C:C2'	36:BA:1014:U:H5'	2.50	0.42
36:BA:1253:A:C3'	36:BA:1254:A:H5'	2.48	0.42
36:BA:1490:A:C2	39:BD:75:ILE:HD12	2.54	0.42
36:BA:1636:C:H2'	36:BA:1637:A:H8	1.83	0.42
36:BA:2124:G:N2	38:BC:217:THR:O	2.52	0.42
36:BA:2199:A:C5'	36:BA:2200:C:OP2	2.66	0.42
36:BA:2284:C:H2'	36:BA:2285:C:C6	2.48	0.42
36:BA:2478:A:C2'	36:BA:2479:G:H5'	2.49	0.42
36:BA:2726:U:H6	47:BO:67:LYS:NZ	2.17	0.42
36:BA:2768:C:O2'	36:BA:2769:C:H5'	2.19	0.42
36:BA:2854:G:O2'	36:BA:2855:C:H5'	2.18	0.42
38:BC:3:HIS:O	38:BC:8:ARG:HG3	2.18	0.42
38:BC:75:LEU:HD12	38:BC:75:LEU:C	2.44	0.42
38:BC:124:GLY:C	38:BC:128:GLY:HA3	2.44	0.42
38:BC:132:GLY:N	38:BC:133:PRO:HD3	2.33	0.42
39:BD:134:ARG:HG2	39:BD:187:GLY:C	2.44	0.42
42:BG:91:ARG:C	42:BG:91:ARG:CD	2.87	0.42
43:BH:18:GLU:CB	43:BH:25:LYS:HB2	2.48	0.42
46:BN:45:ASN:HD22	46:BN:45:ASN:N	2.15	0.42
50:BR:39:PRO:C	50:BR:41:ALA:N	2.75	0.42
51:BS:85:VAL:HG22	51:BS:106:ARG:HB2	1.99	0.42
52:BT:62:THR:HG22	52:BT:75:ILE:HG13	2.01	0.42
53:BU:66:ASN:O	53:BU:67:ALA:C	2.62	0.42
53:BU:95:LEU:HD12	54:BV:11:GLN:NE2	2.32	0.42
58:BZ:119:GLU:HG2	58:BZ:122:ARG:HH11	1.82	0.42
1:AA:17:U:H2'	1:AA:18:C:H6	1.80	0.42
1:AA:46:G:O2'	1:AA:365:U:H1'	2.19	0.42
1:AA:389:A:H2'	1:AA:389:A:N3	2.33	0.42
1:AA:625:G:H2'	1:AA:626:U:C6	2.53	0.42
1:AA:692:U:OP1	11:AK:124:LYS:HE2	2.19	0.42
1:AA:735:C:H2'	1:AA:736:C:C6	2.53	0.42
1:AA:866:C:H2'	1:AA:867:G:O4'	2.19	0.42
1:AA:949:A:C2	1:AA:1233:G:N3	2.88	0.42
1:AA:1070:U:H2'	1:AA:1071:C:C6	2.54	0.42
1:AA:1152:A:OP1	10:AJ:68:HIS:CD2	2.70	0.42
2:AB:17:PHE:H	2:AB:17:PHE:HD2	1.66	0.42
4:AD:175:SER:OG	4:AD:184:LYS:HB2	2.18	0.42
5:AE:71:LEU:HD13	5:AE:114:GLY:O	2.20	0.42
10:AJ:6:ILE:CD1	10:AJ:23:ILE:HG21	2.48	0.42
10:AJ:57:LYS:O	10:AJ:57:LYS:HD2	2.19	0.42
17:AQ:62:SER:HB2	17:AQ:72:ARG:HG3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AQ:70:ARG:C	17:AQ:71:PHE:CD2	2.97	0.42
18:AR:45:SER:OG	18:AR:46:GLU:N	2.49	0.42
19:AS:29:ARG:O	19:AS:31:ILE:N	2.53	0.42
20:AT:57:ARG:CZ	20:AT:102:GLY:HA3	2.50	0.42
22:AW:39:U:O2	22:AW:39:U:O4'	2.36	0.42
24:AY:4:G:C3'	24:AY:5:G:H5"	2.48	0.42
24:AY:77:TRP:NE1	25:AZ:67:HIS:CD2	2.87	0.42
25:AZ:27:LEU:O	25:AZ:31:LEU:HG	2.19	0.42
25:AZ:219:LYS:HB3	25:AZ:220:PRO:HD2	2.00	0.42
25:AZ:257:GLY:O	25:AZ:258:LEU:HB2	2.19	0.42
25:AZ:332:THR:HB	25:AZ:333:GLY:H	1.54	0.42
29:B3:31:LEU:O	29:B3:32:GLN:CB	2.66	0.42
32:B6:15:GLU:OE1	32:B6:18:ARG:CG	2.66	0.42
32:B6:25:LYS:HE2	34:B8:34:TRP:HE1	1.83	0.42
36:BA:402:A:C2'	36:BA:403:U:H5'	2.48	0.42
36:BA:692:C:C5'	39:BD:42:GLY:H	2.32	0.42
36:BA:747:U:O3'	55:BW:89:ALA:HB3	2.19	0.42
36:BA:909:A:H2'	36:BA:912:C:C5	2.53	0.42
36:BA:1152:C:H2'	36:BA:1153:C:H6	1.84	0.42
36:BA:1169:G:H2'	36:BA:1170:G:O4'	2.17	0.42
36:BA:1291:C:C2'	36:BA:1292:U:C5'	2.95	0.42
36:BA:1756:G:H4'	36:BA:1758:G:O4'	2.19	0.42
36:BA:2125:G:O4'	38:BC:217:THR:HG23	2.19	0.42
36:BA:2166:G:H2'	36:BA:2167:U:C6	2.54	0.42
36:BA:2167:U:N3	36:BA:2171:A:N6	2.64	0.42
36:BA:2787:C:H1'	40:BE:61:ARG:HD3	2.00	0.42
38:BC:87:GLU:C	38:BC:89:ALA:H	2.27	0.42
39:BD:108:PRO:HB3	39:BD:143:HIS:CE1	2.54	0.42
39:BD:118:VAL:CG2	39:BD:119:ALA:N	2.81	0.42
39:BD:261:LYS:HZ2	39:BD:263:ARG:CZ	2.30	0.42
40:BE:181:LEU:HD21	52:BT:7:ILE:HG23	2.02	0.42
41:BF:125:LEU:N	41:BF:125:LEU:CD2	2.80	0.42
42:BG:8:LYS:O	42:BG:11:TYR:HB3	2.19	0.42
42:BG:15:VAL:HG12	42:BG:19:LEU:HD11	2.01	0.42
42:BG:40:ASN:HB2	42:BG:91:ARG:HB2	2.00	0.42
42:BG:60:LEU:O	42:BG:60:LEU:HD13	2.20	0.42
51:BS:87:PHE:CD2	51:BS:88:ASP:N	2.83	0.42
52:BT:83:ILE:CG1	52:BT:84:GLN:HG2	2.48	0.42
52:BT:88:ILE:HG22	52:BT:89:VAL:HG23	1.99	0.42
52:BT:121:ILE:HG22	52:BT:122:ASP:N	2.34	0.42
54:BV:89:GLN:OE1	54:BV:89:GLN:HA	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:314:C:O2'	1:AA:315:A:H5'	2.19	0.42
1:AA:413:G:H1'	1:AA:428:G:N2	2.34	0.42
1:AA:731:G:H5'	1:AA:766:A:H4'	2.01	0.42
1:AA:858:G:N1	1:AA:869:G:C8	2.87	0.42
1:AA:1152:A:H2'	1:AA:1153:C:H6	1.83	0.42
1:AA:1216:G:OP2	14:AN:2:ALA:HB2	2.20	0.42
2:AB:59:GLU:CA	2:AB:221:LEU:HD11	2.48	0.42
2:AB:189:ASP:OD2	2:AB:189:ASP:C	2.62	0.42
2:AB:200:ILE:HG22	2:AB:202:PRO:HD3	2.00	0.42
3:AC:112:SER:OG	3:AC:115:LEU:HG	2.20	0.42
5:AE:24:ARG:HG2	5:AE:24:ARG:HH11	1.85	0.42
5:AE:63:ARG:O	5:AE:64:ARG:CB	2.67	0.42
8:AH:49:GLU:O	8:AH:49:GLU:HG3	2.18	0.42
10:AJ:27:ALA:HA	10:AJ:30:SER:OG	2.19	0.42
10:AJ:32:ALA:HB2	10:AJ:76:ASN:HB2	2.00	0.42
11:AK:25:TYR:CE1	11:AK:87:THR:HB	2.52	0.42
12:AL:82:VAL:O	12:AL:106:ASP:HB2	2.18	0.42
15:AO:59:MET:O	15:AO:60:VAL:C	2.62	0.42
15:AO:81:LEU:CD1	15:AO:81:LEU:C	2.92	0.42
19:AS:45:VAL:HA	19:AS:62:ILE:HG13	2.00	0.42
19:AS:61:TYR:O	19:AS:62:ILE:CB	2.66	0.42
20:AT:91:LEU:C	20:AT:93:GLU:H	2.27	0.42
25:AZ:93:ILE:CG1	25:AZ:122:LEU:HD13	2.50	0.42
25:AZ:171:ILE:HG12	25:AZ:202:LEU:HA	2.01	0.42
30:B4:18:CYS:SG	30:B4:19:GLY:N	2.93	0.42
32:B6:11:LEU:HA	32:B6:11:LEU:HD22	1.83	0.42
36:BA:210:C:H2'	36:BA:211:A:C8	2.54	0.42
36:BA:236:C:H2'	36:BA:237:C:C6	2.54	0.42
36:BA:286:C:H42	36:BA:355:G:H1	1.68	0.42
36:BA:636:G:O2'	36:BA:638:G:O2'	2.33	0.42
36:BA:955:C:N4	36:BA:956:G:C5	2.87	0.42
36:BA:1106:G:C2'	36:BA:1107:G:H5'	2.49	0.42
36:BA:1351:C:H2'	36:BA:1352:U:C6	2.54	0.42
36:BA:1615:C:H2'	36:BA:1617:C:C5	2.54	0.42
36:BA:2059:A:O3'	41:BF:69:HIS:HA	2.19	0.42
36:BA:2456:C:O2'	36:BA:2457:U:H5'	2.19	0.42
36:BA:2704:C:H2'	36:BA:2705:A:O4'	2.20	0.42
36:BA:2796:U:C2'	36:BA:2799:C:H5'	2.49	0.42
37:BB:104:U:O2'	58:BZ:72:ARG:HD2	2.19	0.42
40:BE:14:ILE:HG13	40:BE:21:VAL:HG23	2.00	0.42
41:BF:118:ALA:C	41:BF:120:GLU:H	2.27	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BG:76:SER:HB3	42:BG:83:ARG:CB	2.45	0.42
43:BH:49:VAL:C	43:BH:50:VAL:HG23	2.44	0.42
43:BH:135:GLY:HA3	43:BH:141:VAL:HG22	2.01	0.42
50:BR:12:ARG:HD3	50:BR:16:HIS:HD2	1.83	0.42
50:BR:111:LEU:N	50:BR:111:LEU:HD12	2.35	0.42
51:BS:54:LEU:O	51:BS:56:LEU:N	2.52	0.42
51:BS:77:ALA:C	51:BS:79:ALA:N	2.77	0.42
52:BT:121:ILE:O	52:BT:124:ASP:HB2	2.18	0.42
56:BX:52:VAL:CG2	56:BX:84:ALA:HA	2.49	0.42
58:BZ:7:ALA:HB3	58:BZ:61:LEU:CD2	2.49	0.42
58:BZ:102:LEU:HD21	58:BZ:124:ILE:CG1	2.50	0.42
1:AA:1032:G:H2'	1:AA:1033:G:H8	1.82	0.42
1:AA:1060:C:C5	3:AC:2:GLY:CA	3.02	0.42
1:AA:1313:U:C2	1:AA:1314:C:C5	3.07	0.42
2:AB:43:ASP:C	2:AB:45:GLN:N	2.75	0.42
3:AC:3:ASN:OD1	3:AC:3:ASN:N	2.52	0.42
3:AC:70:VAL:HG12	3:AC:72:LYS:N	2.33	0.42
3:AC:73:PRO:O	3:AC:76:VAL:HG22	2.20	0.42
7:AG:77:SER:HB2	7:AG:84:ASN:ND2	2.32	0.42
9:AI:9:ARG:HG3	9:AI:14:VAL:HG13	2.02	0.42
13:AM:44:ARG:C	13:AM:46:LYS:H	2.27	0.42
15:AO:70:LEU:HD12	15:AO:70:LEU:HA	1.82	0.42
19:AS:10:PHE:CE2	19:AS:37:ARG:O	2.72	0.42
20:AT:10:LEU:O	20:AT:13:LEU:CD2	2.68	0.42
20:AT:85:MET:C	20:AT:87:LYS:N	2.76	0.42
20:AT:86:ARG:O	20:AT:90:GLN:HG2	2.18	0.42
25:AZ:34:VAL:HG21	25:AZ:199:ILE:CG2	2.44	0.42
25:AZ:35:THR:HG22	25:AZ:203:LEU:HD13	2.00	0.42
25:AZ:195:TRP:O	25:AZ:198:LYS:HB2	2.20	0.42
26:B0:7:LEU:HD13	49:BQ:85:LYS:HG3	2.01	0.42
26:B0:27:GLU:CD	26:B0:27:GLU:H	2.26	0.42
29:B3:26:LEU:CD2	29:B3:43:ILE:HG23	2.49	0.42
32:B6:20:ASN:OD1	32:B6:21:TYR:N	2.52	0.42
32:B6:53:LYS:CG	32:B6:54:ILE:N	2.83	0.42
34:B8:30:ARG:CZ	36:BA:2419:U:O4	2.66	0.42
34:B8:33:ASN:HD22	36:BA:2419:U:H5"	1.81	0.42
36:BA:85:G:N2	36:BA:103:A:C2	2.85	0.42
36:BA:288:C:O2	36:BA:288:C:H2'	2.19	0.42
36:BA:443:A:N7	41:BF:45:ARG:HG2	2.34	0.42
36:BA:631:A:H5"	48:BP:65:ARG:HH11	1.80	0.42
36:BA:645:C:O2	36:BA:645:C:C2'	2.66	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1005:C:H2'	36:BA:1006:C:C6	2.55	0.42
36:BA:1431:U:H2'	36:BA:1432:C:O4'	2.19	0.42
36:BA:1445(A):C:H2'	36:BA:1446:C:H6	1.85	0.42
36:BA:1720:U:H2'	36:BA:1721:G:H5"	2.01	0.42
36:BA:2014:A:H2'	36:BA:2015:A:C8	2.54	0.42
36:BA:2111:C:H1'	36:BA:2118:U:H4'	2.00	0.42
36:BA:2476:A:O2'	36:BA:2477:C:H5"	2.18	0.42
36:BA:2894:G:H2'	36:BA:2894:G:N3	2.35	0.42
38:BC:116:THR:H	38:BC:119:VAL:CG2	2.31	0.42
38:BC:120:MET:HE2	38:BC:123:VAL:HG21	2.01	0.42
38:BC:161:ILE:HD13	38:BC:173:ALA:CB	2.40	0.42
39:BD:72:LYS:NZ	39:BD:75:ILE:HG13	2.33	0.42
39:BD:142:VAL:HG21	39:BD:191:ALA:CB	2.49	0.42
39:BD:182:LEU:HB2	39:BD:272:ALA:HB3	2.00	0.42
40:BE:49:LEU:HD22	40:BE:49:LEU:N	2.34	0.42
40:BE:154:LYS:O	40:BE:156:MET:HG3	2.20	0.42
41:BF:28:ILE:HD13	41:BF:28:ILE:H	1.83	0.42
41:BF:43:LYS:HA	41:BF:98:SER:HA	2.00	0.42
41:BF:65:TRP:CH2	41:BF:75:HIS:HD2	2.38	0.42
41:BF:107:LYS:O	41:BF:109:GLY:N	2.52	0.42
42:BG:42:GLY:C	42:BG:89:GLY:HA2	2.44	0.42
42:BG:61:ALA:HB2	42:BG:68:PRO:HD3	2.01	0.42
42:BG:81:LYS:HB3	42:BG:82:LEU:H	1.59	0.42
42:BG:109:VAL:HG21	42:BG:142:PRO:HB3	2.02	0.42
43:BH:17:VAL:CG1	43:BH:18:GLU:N	2.81	0.42
43:BH:50:VAL:CG1	43:BH:51:ARG:N	2.80	0.42
45:BK:5:UNK:O	45:BK:6:UNK:C	2.67	0.42
46:BN:48:MET:HE3	46:BN:48:MET:N	2.34	0.42
46:BN:48:MET:C	46:BN:48:MET:SD	3.02	0.42
48:BP:136:GLU:C	48:BP:139:LYS:H	2.27	0.42
50:BR:38:VAL:HB	50:BR:39:PRO:CD	2.36	0.42
51:BS:93:LYS:HA	51:BS:93:LYS:HD2	1.74	0.42
1:AA:143:A:H2	1:AA:220:G:H1	1.67	0.42
1:AA:291:C:O2'	1:AA:292:G:H5'	2.19	0.42
1:AA:356:A:C2	1:AA:368:U:O2	2.72	0.42
1:AA:728:A:H2'	1:AA:729:A:C8	2.54	0.42
1:AA:1228:C:H4'	13:AM:116:THR:HA	2.00	0.42
1:AA:1320:C:H41	19:AS:37:ARG:HB3	1.84	0.42
2:AB:19:HIS:O	2:AB:39:ILE:CG2	2.65	0.42
3:AC:36:ASP:OD2	3:AC:59:ARG:NH2	2.52	0.42
3:AC:188:LEU:CD1	3:AC:195:VAL:CG1	2.98	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:13:ILE:HA	5:AE:29:GLY:O	2.19	0.42
6:AF:48:LEU:HD13	6:AF:52:ILE:CD1	2.49	0.42
7:AG:18:TYR:CG	7:AG:59:LEU:HD13	2.55	0.42
8:AH:27:PRO:HG3	8:AH:58:TYR:CE2	2.54	0.42
10:AJ:44:VAL:HG12	10:AJ:45:ARG:N	2.34	0.42
10:AJ:83:GLU:C	10:AJ:85:LEU:N	2.77	0.42
13:AM:5:ALA:C	13:AM:6:GLY:O	2.62	0.42
15:AO:35:ARG:CZ	15:AO:59:MET:HE2	2.50	0.42
16:AP:8:ARG:HB2	16:AP:28:ARG:NH2	2.35	0.42
17:AQ:52:LYS:O	17:AQ:55:ASP:CG	2.62	0.42
17:AQ:52:LYS:O	17:AQ:55:ASP:OD1	2.37	0.42
20:AT:26:ASN:CB	20:AT:71:THR:OG1	2.65	0.42
20:AT:72:LEU:HD11	20:AT:80:ARG:HE	1.83	0.42
22:AW:34:G:O2'	22:AW:35:A:H5'	2.18	0.42
25:AZ:12:VAL:HG13	25:AZ:100:ASP:OD2	2.20	0.42
25:AZ:174:SER:OG	25:AZ:177:LEU:HB2	2.19	0.42
26:B0:32:ARG:O	26:B0:35:ASN:HB2	2.19	0.42
31:B5:19:ARG:C	31:B5:21:SER:N	2.78	0.42
36:BA:235:U:H2'	36:BA:236:C:H6	1.84	0.42
36:BA:284:U:O2'	36:BA:285:C:H5'	2.20	0.42
36:BA:527:C:N4	36:BA:2779:U:OP1	2.53	0.42
36:BA:631:A:OP1	48:BP:64:LYS:HE2	2.19	0.42
36:BA:857:C:C4	36:BA:858:U:C4	3.07	0.42
36:BA:1274:A:C2	36:BA:1302:A:C2	3.08	0.42
36:BA:1576:U:H2'	36:BA:1577:C:H6	1.84	0.42
36:BA:1644:C:O2	36:BA:1644:C:C2'	2.67	0.42
36:BA:1914:C:O2	36:BA:1914:C:O4'	2.36	0.42
36:BA:1963:U:O2	36:BA:1963:U:C2'	2.65	0.42
36:BA:2102:U:H2'	36:BA:2103:C:C1'	2.49	0.42
36:BA:2572:A:C8	40:BE:144:ARG:HB3	2.54	0.42
36:BA:2641:G:C8	36:BA:2641:G:C5'	2.96	0.42
36:BA:2679:A:H5'	40:BE:165:VAL:HG21	2.01	0.42
36:BA:2881:C:O2'	36:BA:2882:A:H5'	2.19	0.42
38:BC:49:ILE:HG21	38:BC:208:PHE:CE1	2.54	0.42
39:BD:109:ASP:OD2	39:BD:109:ASP:C	2.62	0.42
39:BD:117:VAL:HG21	39:BD:128:GLY:CA	2.50	0.42
40:BE:47:VAL:CG2	40:BE:85:ASN:HA	2.49	0.42
40:BE:132:HIS:CG	40:BE:135:HIS:CE1	3.07	0.42
40:BE:176:ILE:HG22	40:BE:178:GLU:CB	2.50	0.42
41:BF:176:LEU:HB3	41:BF:177:ALA:H	1.59	0.42
42:BG:99:MET:O	42:BG:103:LEU:HB2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BH:33:LEU:HD12	43:BH:75:ALA:CA	2.47	0.42
44:BJ:114:UNK:O	44:BJ:115:UNK:CB	2.67	0.42
46:BN:1:MET:SD	46:BN:2:LYS:N	2.93	0.42
46:BN:6:PRO:CB	46:BN:41:ASP:OD1	2.66	0.42
48:BP:25:SER:O	48:BP:27:HIS:N	2.51	0.42
48:BP:112:LEU:O	48:BP:127:ALA:HB1	2.20	0.42
49:BQ:58:PHE:O	49:BQ:58:PHE:CD1	2.73	0.42
49:BQ:101:ARG:HH11	49:BQ:101:ARG:CG	2.32	0.42
50:BR:67:LEU:O	50:BR:68:ARG:C	2.62	0.42
51:BS:48:LEU:CD1	51:BS:48:LEU:H	2.32	0.42
52:BT:28:VAL:HG12	52:BT:29:ARG:HD3	2.00	0.42
54:BV:3:ALA:O	54:BV:13:ARG:HA	2.20	0.42
55:BW:75:TYR:CD1	55:BW:75:TYR:N	2.88	0.42
58:BZ:30:ASN:HA	58:BZ:89:PHE:CE2	2.53	0.42
58:BZ:127:LYS:HB3	58:BZ:127:LYS:HZ3	1.82	0.42
1:AA:443:C:H2'	1:AA:444:C:C6	2.55	0.42
1:AA:823:G:H2'	1:AA:824:C:C6	2.55	0.42
1:AA:1030:C:N4	1:AA:1032:G:N2	2.67	0.42
1:AA:1055:A:H2'	3:AC:156:ARG:HD2	2.01	0.42
1:AA:1139:G:C5'	1:AA:1140:C:OP1	2.63	0.42
1:AA:1269:A:C2	1:AA:1313:U:H1'	2.55	0.42
2:AB:21:ARG:C	2:AB:22:LYS:HG2	2.44	0.42
2:AB:82:ARG:HG2	2:AB:82:ARG:HH11	1.83	0.42
2:AB:220:ASP:O	2:AB:221:LEU:C	2.63	0.42
4:AD:8:VAL:C	4:AD:10:ARG:N	2.76	0.42
9:AI:55:ALA:O	9:AI:56:LEU:C	2.62	0.42
11:AK:52:GLY:N	11:AK:55:LYS:CE	2.76	0.42
16:AP:45:THR:HG22	16:AP:47:ASP:CB	2.48	0.42
16:AP:73:LEU:O	16:AP:74:LEU:C	2.62	0.42
17:AQ:74:LEU:C	17:AQ:74:LEU:CD1	2.93	0.42
25:AZ:117:ARG:O	25:AZ:118:GLU:C	2.63	0.42
25:AZ:329:GLY:O	25:AZ:393:ARG:NE	2.53	0.42
25:AZ:344:PHE:HD2	25:AZ:384:LEU:HD23	1.84	0.42
27:B1:8:SER:HB3	27:B1:66:HIS:CD2	2.54	0.42
27:B1:48:LYS:HE3	27:B1:59:THR:CB	2.50	0.42
29:B3:54:VAL:CG1	29:B3:55:ARG:N	2.81	0.42
31:B5:20:ARG:O	31:B5:23:HIS:HB2	2.19	0.42
32:B6:10:LEU:CD1	34:B8:34:TRP:CD1	3.02	0.42
35:B9:30:PRO:C	35:B9:32:HIS:H	2.28	0.42
36:BA:259:G:N2	36:BA:621:A:C8	2.75	0.42
36:BA:438:G:H2'	36:BA:440:G:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:723:G:H2'	36:BA:724:U:O4'	2.20	0.42
36:BA:1304:C:O2'	36:BA:1305:C:H5'	2.19	0.42
36:BA:1495:A:N3	36:BA:1496:A:H2	2.13	0.42
36:BA:1816:G:N7	39:BD:62:TYR:CE1	2.88	0.42
36:BA:1818:U:H2'	39:BD:157:ARG:HG3	2.02	0.42
36:BA:1837:C:O2	36:BA:1927:A:H2	2.02	0.42
36:BA:1853:A:H2'	36:BA:1854:A:C8	2.55	0.42
36:BA:2163:C:OP1	36:BA:2172:U:H5	2.02	0.42
36:BA:2206:G:H3'	36:BA:2207:G:C5'	2.49	0.42
36:BA:2476:A:C2	36:BA:2477:C:C6	3.02	0.42
38:BC:64:LEU:HD22	38:BC:188:ASN:HB3	2.02	0.42
38:BC:86:ALA:O	38:BC:91:ALA:HB3	2.19	0.42
42:BG:133:LEU:HD12	42:BG:157:ILE:HB	2.00	0.42
48:BP:45:LEU:CD2	48:BP:46:LYS:H	2.32	0.42
48:BP:112:LEU:O	48:BP:112:LEU:HD13	2.19	0.42
52:BT:50:ILE:HD12	52:BT:50:ILE:N	2.35	0.42
54:BV:45:THR:C	54:BV:46:VAL:HG12	2.43	0.42
56:BX:10:ALA:O	56:BX:28:PHE:HB3	2.19	0.42
57:BY:20:TYR:HB3	57:BY:23:ARG:HG3	2.02	0.42
58:BZ:8:TYR:N	58:BZ:8:TYR:CD1	2.86	0.42
58:BZ:30:ASN:C	58:BZ:32:HIS:N	2.77	0.42
58:BZ:115:GLY:HA2	58:BZ:175:VAL:O	2.18	0.42
1:AA:93:G:H3'	1:AA:96:U:C5	2.54	0.42
1:AA:663:A:O2'	1:AA:664:G:H5'	2.19	0.42
1:AA:966:G:O2'	1:AA:967:C:H5'	2.20	0.42
1:AA:971:G:H5"	1:AA:972:C:H5"	2.01	0.42
1:AA:1002:G:H8	1:AA:1002:G:O5'	2.02	0.42
1:AA:1003:G:O2'	1:AA:1004:A:H4'	2.18	0.42
1:AA:1231:G:C6	1:AA:1232:U:C4	3.08	0.42
1:AA:1402:C:O2	1:AA:1500:A:N1	2.52	0.42
2:AB:69:LEU:HB2	2:AB:159:PRO:HG2	2.01	0.42
3:AC:82:GLU:HB2	3:AC:83:ARG:H	1.70	0.42
5:AE:147:ASP:CA	5:AE:150:ARG:NH1	2.82	0.42
6:AF:8:ILE:CD1	6:AF:26:ILE:HD13	2.48	0.42
9:AI:4:TYR:HD2	9:AI:85:LEU:HA	1.85	0.42
10:AJ:20:ALA:O	10:AJ:22:LYS:N	2.51	0.42
13:AM:65:LYS:O	13:AM:65:LYS:HG3	2.20	0.42
14:AN:15:LYS:HD3	14:AN:16:PHE:CE2	2.55	0.42
20:AT:81:LYS:C	20:AT:83:ARG:N	2.78	0.42
22:AV:12:U:H5"	36:BA:1908:C:O2'	2.20	0.42
25:AZ:302:GLN:HB3	25:AZ:302:GLN:HE21	1.69	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:342:PHE:O	25:AZ:348:ASP:HA	2.19	0.42
25:AZ:351:GLY:HA3	25:AZ:374:LEU:HD23	2.01	0.42
26:B0:27:GLU:OE1	36:BA:856:C:H1'	2.19	0.42
27:B1:23:LYS:CD	27:B1:28:GLY:HA3	2.49	0.42
33:B7:12:ARG:HG3	36:BA:686:G:O6	2.19	0.42
36:BA:323:G:O2'	36:BA:1205:U:N3	2.51	0.42
36:BA:486:C:H2'	36:BA:487:C:C6	2.50	0.42
36:BA:662:G:P	48:BP:18:ARG:HD2	2.60	0.42
36:BA:890:A:H2'	36:BA:892:G:O4'	2.20	0.42
36:BA:972:G:OP2	36:BA:974:G:H5"	2.20	0.42
36:BA:1042:G:N2	36:BA:1043:C:H1'	2.35	0.42
36:BA:1386:C:O2'	36:BA:1387:C:H5'	2.20	0.42
36:BA:1495:A:C2	36:BA:1496:A:C2	3.08	0.42
36:BA:1553:A:H2'	36:BA:1554:A:H5"	2.02	0.42
36:BA:1787:A:O4'	36:BA:2589:A:H4'	2.20	0.42
36:BA:2092:U:C5	36:BA:2226:C:OP2	2.73	0.42
36:BA:2443:C:O2'	36:BA:2444:G:H5'	2.20	0.42
36:BA:2453:A:O2'	36:BA:2454:G:H5'	2.20	0.42
36:BA:2484:G:O2'	36:BA:2485:G:H5'	2.20	0.42
36:BA:2568:C:O5'	36:BA:2568:C:H6	2.03	0.42
36:BA:2657:A:N3	36:BA:2657:A:H5'	2.35	0.42
36:BA:2712:U:HO2'	36:BA:2712(A):A:H3'	1.84	0.42
36:BA:2822:G:OP1	40:BE:159:HIS:NE2	2.52	0.42
37:BB:68:C:O2'	37:BB:69:G:H5'	2.19	0.42
39:BD:79:VAL:N	39:BD:115:GLN:O	2.52	0.42
40:BE:201:THR:OG1	40:BE:202:LYS:N	2.52	0.42
42:BG:40:ASN:OD1	42:BG:156:ASP:HB2	2.19	0.42
42:BG:167:GLU:O	42:BG:170:ARG:HB3	2.19	0.42
43:BH:76:VAL:HG12	43:BH:77:LYS:N	2.34	0.42
43:BH:143:GLN:CA	43:BH:143:GLN:NE2	2.78	0.42
44:BJ:48:UNK:O	44:BJ:49:UNK:CB	2.66	0.42
46:BN:65:LYS:HD3	46:BN:69:GLN:HE21	1.84	0.42
46:BN:137:LYS:HB3	46:BN:138:LEU:H	1.56	0.42
47:BO:67:LYS:O	47:BO:68:GLU:C	2.63	0.42
48:BP:39:LYS:CD	48:BP:40:SER:N	2.83	0.42
48:BP:121:LYS:HA	48:BP:122:PRO:HD3	1.91	0.42
49:BQ:108:GLY:HA3	58:BZ:116:VAL:HG11	2.01	0.42
52:BT:35:LYS:HZ1	52:BT:41:ARG:HD2	1.84	0.42
52:BT:62:THR:HA	52:BT:74:ARG:O	2.20	0.42
56:BX:64:LYS:HZ2	56:BX:73:ARG:HH21	1.63	0.42
58:BZ:18:LEU:H	58:BZ:18:LEU:CD2	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:81:U:C2	1:AA:83:U:H5	2.38	0.42
1:AA:192:U:O2'	20:AT:57:ARG:HG3	2.20	0.42
1:AA:264:U:H4'	17:AQ:63:ARG:HD3	2.01	0.42
1:AA:501:C:H1'	1:AA:549:C:H1'	2.02	0.42
1:AA:743:U:O2'	1:AA:744:C:H5'	2.20	0.42
1:AA:986:A:H2'	1:AA:987:G:O4'	2.19	0.42
1:AA:1222:G:C2'	1:AA:1223:C:H5'	2.49	0.42
1:AA:1269:A:H2	1:AA:1325:C:O2	2.01	0.42
1:AA:1443:G:C6	1:AA:1460:A:C2	3.07	0.42
2:AB:20:GLU:HG3	2:AB:190:THR:O	2.18	0.42
2:AB:208:ILE:O	2:AB:209:ARG:C	2.62	0.42
3:AC:53:ALA:O	3:AC:69:HIS:HB2	2.20	0.42
4:AD:50:ARG:HA	4:AD:51:PRO:HD3	1.87	0.42
5:AE:41:VAL:CG1	5:AE:113:ALA:HB2	2.49	0.42
5:AE:69:VAL:HA	5:AE:70:PRO:HD2	1.92	0.42
6:AF:89:MET:SD	18:AR:76:LEU:HD21	2.60	0.42
7:AG:113:GLU:HB2	7:AG:119:ARG:CG	2.47	0.42
10:AJ:24:VAL:CG2	10:AJ:37:PRO:HG3	2.42	0.42
10:AJ:55:LYS:HE3	10:AJ:55:LYS:CA	2.49	0.42
15:AO:36:ILE:HG23	15:AO:56:LEU:HD11	2.02	0.42
20:AT:74:LYS:HD3	20:AT:74:LYS:N	2.35	0.42
21:AU:24:ARG:O	21:AU:24:ARG:HG2	2.20	0.42
25:AZ:383:GLY:H	25:AZ:400:VAL:HB	1.85	0.42
26:B0:55:ARG:HE	26:B0:55:ARG:HB3	1.49	0.42
27:B1:86:SER:HB2	27:B1:89:GLU:HB2	2.01	0.42
29:B3:45:GLY:O	29:B3:48:GLU:N	2.52	0.42
34:B8:6:THR:HG22	34:B8:63:PRO:HD3	2.01	0.42
34:B8:53:PRO:C	34:B8:55:ALA:N	2.75	0.42
36:BA:21:A:C2	36:BA:22:C:C2	3.08	0.42
36:BA:144:C:H2'	36:BA:145:G:C8	2.54	0.42
36:BA:355:G:H2'	36:BA:356:G:C8	2.54	0.42
36:BA:996:A:N6	36:BA:1159:U:H3	2.17	0.42
36:BA:1266:G:O6	55:BW:13:SER:OG	2.23	0.42
36:BA:1336:A:H2'	36:BA:1337:G:C8	2.53	0.42
36:BA:1718:G:H5'	36:BA:1718:G:C8	2.51	0.42
36:BA:2192:G:H2'	36:BA:2193:G:H5'	2.02	0.42
36:BA:2346:A:H5'	36:BA:2383:G:O4'	2.20	0.42
36:BA:2375:G:N3	36:BA:2379:G:N1	2.67	0.42
36:BA:2642:G:O2'	36:BA:2643:G:H5'	2.20	0.42
36:BA:2739:U:O2	36:BA:2766:G:N2	2.52	0.42
38:BC:11:LEU:HD23	38:BC:220:PRO:CB	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:100:ILE:O	38:BC:100:ILE:HG22	2.19	0.42
38:BC:123:VAL:CG1	38:BC:124:GLY:N	2.82	0.42
39:BD:35:LYS:HB2	39:BD:63:ARG:CG	2.50	0.42
39:BD:35:LYS:HG2	39:BD:62:TYR:O	2.20	0.42
40:BE:167:VAL:O	40:BE:170:LEU:HD11	2.20	0.42
43:BH:101:ARG:HG2	43:BH:117:PRO:HG3	2.02	0.42
46:BN:2:LYS:HZ2	54:BV:12:TYR:HB3	1.84	0.42
46:BN:18:ALA:HB2	46:BN:26:LEU:HD13	2.02	0.42
47:BO:22:ILE:HD13	47:BO:22:ILE:HA	1.81	0.42
50:BR:29:LEU:HD23	50:BR:70:LEU:HD11	2.01	0.42
51:BS:99:LYS:C	51:BS:101:LEU:N	2.78	0.42
55:BW:47:VAL:HA	55:BW:50:VAL:HG12	2.02	0.42
56:BX:13:LEU:O	56:BX:14:SER:HB3	2.19	0.42
56:BX:14:SER:O	56:BX:15:GLU:C	2.63	0.42
56:BX:50:LYS:HG3	56:BX:51:VAL:N	2.34	0.42
57:BY:43:ASN:HB3	57:BY:64:GLU:CA	2.30	0.42
1:AA:32:A:H2'	1:AA:33:A:C8	2.55	0.42
1:AA:119:A:C4'	1:AA:120:A:O5'	2.66	0.42
1:AA:124:G:C6	1:AA:125:U:C4	3.08	0.42
1:AA:176:C:C4	1:AA:177:C:N4	2.88	0.42
1:AA:189(F):U:O2	17:AQ:63:ARG:NH2	2.53	0.42
1:AA:374:A:C6	1:AA:375:U:C4	3.07	0.42
1:AA:1530:G:H2'	1:AA:1531:A:C8	2.55	0.42
2:AB:185:ILE:HG23	2:AB:199:TYR:HB2	2.01	0.42
3:AC:172:ARG:C	3:AC:173:VAL:CG2	2.93	0.42
4:AD:65:ARG:NH1	4:AD:70:ILE:O	2.52	0.42
4:AD:91:SER:O	4:AD:93:PHE:N	2.53	0.42
6:AF:25:ILE:O	6:AF:25:ILE:CD1	2.66	0.42
6:AF:48:LEU:HD13	6:AF:52:ILE:HG13	2.01	0.42
7:AG:37:ASN:HD21	9:AI:41:VAL:H	1.67	0.42
7:AG:92:SER:HB3	7:AG:95:ARG:HB3	2.01	0.42
8:AH:114:THR:OG1	8:AH:117:GLY:O	2.35	0.42
9:AI:4:TYR:HA	9:AI:88:TYR:CE1	2.55	0.42
13:AM:39:ILE:HD11	13:AM:56:LEU:HB2	2.02	0.42
13:AM:82:MET:CB	13:AM:93:ARG:NH1	2.82	0.42
13:AM:83:ASP:OD2	13:AM:83:ASP:C	2.63	0.42
15:AO:23:GLY:O	15:AO:24:SER:CB	2.68	0.42
20:AT:48:LYS:HD2	20:AT:51:GLU:OE2	2.20	0.42
20:AT:82:SER:O	20:AT:86:ARG:HD3	2.20	0.42
20:AT:89:ARG:CB	20:AT:104:LEU:HD11	2.39	0.42
21:AU:3:LYS:HB3	21:AU:14:TRP:CD1	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:22:HIS:CD2	25:AZ:107:SER:HB3	2.55	0.42
25:AZ:67:HIS:ND1	25:AZ:80:VAL:HG22	2.35	0.42
26:B0:12:ASN:N	26:B0:12:ASN:OD1	2.53	0.42
26:B0:47:PRO:HB3	26:B0:51:VAL:O	2.20	0.42
27:B1:89:GLU:O	27:B1:92:LYS:HD2	2.19	0.42
27:B1:91:LYS:C	27:B1:93:GLU:N	2.77	0.42
29:B3:26:LEU:HB2	29:B3:28:LEU:CD2	2.46	0.42
34:B8:32:LEU:HD13	36:BA:2391:G:OP1	2.20	0.42
34:B8:46:ARG:HG2	34:B8:46:ARG:NH1	2.34	0.42
36:BA:363:G:H2'	36:BA:363(A):A:C8	2.55	0.42
36:BA:570:G:C5	36:BA:2030:A:C2	3.08	0.42
36:BA:756:C:O2'	36:BA:757:U:H5'	2.20	0.42
36:BA:764:A:OP1	39:BD:208:LYS:HE3	2.20	0.42
36:BA:1022:G:C5	36:BA:1140:C:C4	3.08	0.42
36:BA:1264:G:H8	36:BA:1264:G:O5'	2.02	0.42
36:BA:1278:A:O2'	36:BA:1279:G:H5'	2.20	0.42
36:BA:1800:C:P	39:BD:266:SER:HG	2.43	0.42
36:BA:2137:C:N4	36:BA:2154:G:H22	2.15	0.42
36:BA:2455:G:C2	36:BA:2498:C:N4	2.88	0.42
36:BA:2562:U:H2'	36:BA:2563:U:H5'	2.00	0.42
36:BA:2741:A:H2'	36:BA:2742:C:O4'	2.18	0.42
36:BA:2858:C:H5	36:BA:2859:G:C5	2.38	0.42
37:BB:39:A:C2	37:BB:44:G:N3	2.88	0.42
37:BB:81:G:H5'	37:BB:81:G:N3	2.35	0.42
38:BC:20:TYR:O	38:BC:225:ASN:N	2.53	0.42
39:BD:3:VAL:H	39:BD:20:ASP:HB2	1.85	0.42
42:BG:18:GLU:O	42:BG:22:ARG:N	2.44	0.42
42:BG:136:ARG:HG2	42:BG:136:ARG:HH11	1.85	0.42
48:BP:136:GLU:O	48:BP:139:LYS:N	2.51	0.42
50:BR:21:TYR:HB3	50:BR:47:PHE:CD2	2.55	0.42
51:BS:28:VAL:CG1	51:BS:29:PHE:N	2.81	0.42
52:BT:66:VAL:HA	52:BT:71:GLY:HA2	2.02	0.42
52:BT:125:ARG:NH1	52:BT:125:ARG:HG2	2.35	0.42
55:BW:40:ASN:C	55:BW:41:LYS:HG2	2.42	0.42
56:BX:47:PHE:C	56:BX:49:VAL:N	2.78	0.42
57:BY:46:LYS:H	57:BY:62:GLU:CG	2.33	0.42
58:BZ:77:ASP:OD2	58:BZ:79:ARG:O	2.38	0.42
1:AA:192:U:O2'	1:AA:193:C:H5'	2.19	0.42
1:AA:523:A:N1	12:AL:92:ASP:HB2	2.35	0.42
1:AA:1253:G:H1'	1:AA:1355:G:O2'	2.19	0.42
1:AA:1269:A:H2	1:AA:1313:U:C2	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1277:C:O2'	1:AA:1279:A:H1'	2.20	0.42
4:AD:9:CYS:HA	4:AD:12:CYS:HB2	2.01	0.42
8:AH:50:ARG:HA	8:AH:59:LEU:HD23	2.01	0.42
8:AH:103:VAL:CB	8:AH:109:ILE:H	2.33	0.42
9:AI:18:PHE:HB2	9:AI:62:TYR:HB3	2.02	0.42
11:AK:63:LEU:HD23	11:AK:63:LEU:N	2.35	0.42
12:AL:55:VAL:HG22	12:AL:56:ALA:H	1.83	0.42
13:AM:12:ASN:ND2	13:AM:12:ASN:N	2.61	0.42
13:AM:66:LEU:O	13:AM:70:LEU:CB	2.68	0.42
17:AQ:36:ILE:H	17:AQ:36:ILE:HG12	1.68	0.42
20:AT:17:ARG:O	20:AT:18:GLN:C	2.63	0.42
22:AV:21:A:H2'	22:AV:22:G:C5'	2.42	0.42
35:B9:4:ARG:HG2	35:B9:34:GLN:HE21	1.85	0.42
36:BA:194:G:H2'	36:BA:195:A:O4'	2.19	0.42
36:BA:309:G:H1'	36:BA:329:G:O2'	2.19	0.42
36:BA:392:C:O2'	36:BA:393:C:H5'	2.20	0.42
36:BA:454:A:H4'	36:BA:455:C:OP2	2.20	0.42
36:BA:483:A:H1'	57:BY:60:PHE:HZ	1.85	0.42
36:BA:577:G:C6	36:BA:578:A:C6	3.08	0.42
36:BA:654(Q):C:H2'	36:BA:654(R):C:C6	2.55	0.42
36:BA:860:U:O2	36:BA:860:U:O4'	2.38	0.42
36:BA:1680:U:O2	36:BA:1763:G:H3'	2.20	0.42
36:BA:1757:U:H2'	36:BA:1758:G:OP1	2.20	0.42
36:BA:1887:C:C2'	36:BA:1888:G:H5"	2.49	0.42
36:BA:2132:U:O4	38:BC:5:LYS:HE3	2.19	0.42
36:BA:2246:G:O2'	36:BA:2247:A:H5'	2.20	0.42
36:BA:2490:G:H4'	36:BA:2491:U:OP1	2.20	0.42
36:BA:2712:U:H5"	36:BA:2712:U:O2	2.19	0.42
36:BA:2718:G:C6	36:BA:2719:G:C5	3.07	0.42
36:BA:2801(A):A:H4'	36:BA:2802:G:H2'	2.02	0.42
36:BA:2840:C:O2'	36:BA:2841:C:H5'	2.19	0.42
37:BB:34:U:H5"	37:BB:35:U:OP1	2.19	0.42
37:BB:77:U:C2'	37:BB:78:A:H5'	2.50	0.42
37:BB:78:A:C2	37:BB:100:A:C4	3.07	0.42
37:BB:98:G:H2'	37:BB:99:G:C5'	2.50	0.42
38:BC:112:ALA:O	38:BC:113:VAL:HG23	2.20	0.42
38:BC:208:PHE:O	38:BC:209:LEU:HD23	2.20	0.42
39:BD:69:ARG:C	39:BD:71:ASP:H	2.27	0.42
40:BE:38:THR:C	40:BE:40:GLU:N	2.78	0.42
42:BG:34:LEU:C	42:BG:34:LEU:CD1	2.93	0.42
42:BG:138:GLN:CD	42:BG:152:LEU:HA	2.45	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BN:103:VAL:O	46:BN:106:MET:HB2	2.20	0.42
47:BO:104:ARG:NE	52:BT:33:LYS:HD2	2.35	0.42
52:BT:124:ASP:HB3	52:BT:125:ARG:NH1	2.33	0.42
53:BU:79:PHE:CE1	53:BU:83:LEU:CD2	3.02	0.42
53:BU:113:ALA:C	53:BU:115:ALA:N	2.75	0.42
55:BW:20:VAL:HG23	55:BW:47:VAL:HG21	2.01	0.42
55:BW:51:LEU:O	55:BW:54:ALA:HB3	2.19	0.42
1:AA:358:U:O4'	25:AZ:233:GLY:HA2	2.20	0.41
1:AA:393:A:H2'	1:AA:394:G:H5'	2.00	0.41
1:AA:498:U:O2'	1:AA:499:A:O5'	2.38	0.41
1:AA:748:C:H1'	1:AA:749:C:H5	1.85	0.41
1:AA:858:G:C8	1:AA:858:G:C4'	3.03	0.41
1:AA:1103:C:H2'	1:AA:1104:G:O4'	2.20	0.41
1:AA:1485:U:O2'	1:AA:1486:G:H5'	2.20	0.41
2:AB:209:ARG:HD3	2:AB:239:VAL:CG1	2.50	0.41
3:AC:76:VAL:CG2	3:AC:103:VAL:HG11	2.50	0.41
3:AC:139:GLN:O	3:AC:140:ARG:C	2.62	0.41
7:AG:7:ALA:O	7:AG:8:GLU:HB2	2.20	0.41
11:AK:13:GLN:HB3	11:AK:75:TYR:O	2.20	0.41
13:AM:89:GLY:O	13:AM:90:LEU:C	2.61	0.41
20:AT:82:SER:O	20:AT:86:ARG:HB3	2.19	0.41
22:AV:27:G:O2'	22:AV:28:G:H5'	2.20	0.41
25:AZ:89:ILE:HD13	25:AZ:389:ARG:HH12	1.84	0.41
25:AZ:289:LEU:HD12	25:AZ:289:LEU:HA	1.85	0.41
25:AZ:324:LYS:HD2	25:AZ:326:GLU:HG2	2.02	0.41
31:B5:7:PRO:HG2	36:BA:2016:U:O2	2.20	0.41
31:B5:12:SER:C	31:B5:14:ALA:N	2.76	0.41
33:B7:6:GLN:HA	33:B7:7:PRO:HD2	1.82	0.41
33:B7:30:VAL:CG1	36:BA:466:A:H5"	2.50	0.41
35:B9:12:ASP:C	35:B9:14:CYS:H	2.28	0.41
36:BA:85:G:H5"	36:BA:85:G:H8	1.84	0.41
36:BA:306:U:H2'	36:BA:307:G:O4'	2.21	0.41
36:BA:415:A:C2	36:BA:2409:G:N1	2.88	0.41
36:BA:968:G:H2'	36:BA:969:U:H6	1.84	0.41
36:BA:1137:G:O2'	36:BA:2039:C:H5"	2.20	0.41
36:BA:1332:G:N2	36:BA:1610:A:C8	2.88	0.41
36:BA:1464:C:O2'	36:BA:1528:A:H8	1.98	0.41
36:BA:1967:C:H2'	36:BA:1968:G:C5'	2.50	0.41
36:BA:1987:G:C8	36:BA:1987:G:H5"	2.55	0.41
36:BA:1996:C:H5	47:BO:32:TYR:OH	2.03	0.41
36:BA:2029:G:C4	36:BA:2031:A:OP2	2.73	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2103:C:H2'	36:BA:2104:G:C5'	2.50	0.41
36:BA:2312:U:H4'	42:BG:71:THR:CG2	2.50	0.41
36:BA:2455:G:H2'	36:BA:2456:C:C6	2.55	0.41
36:BA:2696:U:H2'	36:BA:2697:G:C8	2.55	0.41
37:BB:75:G:N3	58:BZ:85:HIS:HE1	2.18	0.41
38:BC:162:GLU:O	38:BC:173:ALA:HB2	2.20	0.41
38:BC:184:LYS:HE2	38:BC:184:LYS:H	1.81	0.41
39:BD:146:GLU:HG2	39:BD:152:GLY:C	2.45	0.41
40:BE:6:GLY:HA2	40:BE:51:PHE:CE2	2.53	0.41
40:BE:161:GLY:O	40:BE:162:ALA:C	2.63	0.41
41:BF:2:LYS:HG3	41:BF:25:PRO:HB2	2.02	0.41
41:BF:118:ALA:C	41:BF:120:GLU:N	2.77	0.41
41:BF:154:VAL:HG12	41:BF:155:LEU:N	2.34	0.41
41:BF:179:GLU:HB3	41:BF:205:ARG:NH2	2.34	0.41
46:BN:39:ARG:C	46:BN:41:ASP:N	2.78	0.41
46:BN:101:HIS:O	46:BN:102:ALA:C	2.63	0.41
48:BP:9:ASN:O	48:BP:10:PRO:C	2.62	0.41
48:BP:85:LEU:CD2	48:BP:116:GLY:HA3	2.50	0.41
50:BR:28:LEU:HD12	50:BR:114:VAL:CG2	2.47	0.41
52:BT:32:TYR:CG	52:BT:81:PRO:CB	3.03	0.41
52:BT:108:ARG:HA	52:BT:111:ARG:NH1	2.35	0.41
56:BX:52:VAL:HG23	56:BX:84:ALA:HA	2.02	0.41
57:BY:13:VAL:HG11	57:BY:28:LYS:HD3	2.01	0.41
58:BZ:24:LEU:HD23	58:BZ:24:LEU:C	2.45	0.41
58:BZ:28:MET:SD	58:BZ:33:LEU:HG	2.60	0.41
58:BZ:108:PRO:O	58:BZ:109:ALA:C	2.63	0.41
1:AA:389:A:C6	1:AA:390:C:H1'	2.54	0.41
1:AA:553:A:H2'	1:AA:554:C:C6	2.55	0.41
1:AA:955:U:H5'	13:AM:120:LYS:NZ	2.35	0.41
1:AA:1111:A:O2'	1:AA:1112:C:H5'	2.20	0.41
2:AB:91:PRO:HG2	2:AB:155:LEU:HD23	2.01	0.41
2:AB:103:THR:HA	2:AB:180:LEU:HD11	2.02	0.41
3:AC:31:HIS:O	3:AC:32:LEU:C	2.62	0.41
6:AF:96:PRO:HB3	18:AR:30:ASP:CG	2.45	0.41
8:AH:81:HIS:N	8:AH:138:TRP:O	2.52	0.41
17:AQ:6:LEU:HB3	17:AQ:23:VAL:HG11	2.02	0.41
17:AQ:59:ILE:HG22	17:AQ:60:ILE:N	2.35	0.41
19:AS:6:LYS:C	19:AS:7:LYS:HD3	2.44	0.41
20:AT:80:ARG:NH1	20:AT:80:ARG:HG2	2.36	0.41
22:AW:56:C:C2	22:AW:57:G:N7	2.88	0.41
25:AZ:129:PRO:C	25:AZ:130:TYR:HD1	2.28	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:352:VAL:HG12	25:AZ:353:VAL:H	1.84	0.41
27:B1:4:VAL:CG2	27:B1:11:ARG:HG2	2.49	0.41
27:B1:18:ILE:HD12	36:BA:380:U:H5'	2.02	0.41
29:B3:10:LYS:O	29:B3:11:SER:C	2.63	0.41
29:B3:13:ILE:HD11	36:BA:989:G:C8	2.55	0.41
32:B6:22:ALA:HB2	32:B6:39:TYR:CZ	2.55	0.41
32:B6:42:TRP:CD2	36:BA:2348:U:O2'	2.74	0.41
36:BA:201:C:C2'	36:BA:202:U:H5'	2.50	0.41
36:BA:385:C:O2'	36:BA:390:A:N1	2.52	0.41
36:BA:483:A:O3'	57:BY:49:VAL:HG22	2.20	0.41
36:BA:484:C:P	57:BY:49:VAL:HG13	2.59	0.41
36:BA:520:G:H2'	36:BA:521:G:C8	2.55	0.41
36:BA:676:A:N1	36:BA:802:A:N1	2.69	0.41
36:BA:807:U:H1'	36:BA:2445:G:OP1	2.20	0.41
36:BA:1028:A:N6	36:BA:1125:G:H2'	2.35	0.41
36:BA:1493:C:O2	36:BA:1493:C:C2'	2.68	0.41
36:BA:1518:U:H2'	36:BA:1519:G:O4'	2.19	0.41
36:BA:1539:G:C2'	36:BA:1540:U:H5'	2.50	0.41
36:BA:1987:G:H5"	36:BA:1987:G:H8	1.85	0.41
36:BA:2010:G:H5"	55:BW:42:ARG:HB2	2.02	0.41
36:BA:2284:C:C2	36:BA:2285:C:C5	3.08	0.41
36:BA:2304:G:H21	42:BG:156:ASP:CG	2.28	0.41
36:BA:2533:A:H2'	36:BA:2534:A:O4'	2.20	0.41
36:BA:2580:U:H4'	40:BE:130:GLY:CA	2.50	0.41
38:BC:7:TYR:CZ	38:BC:11:LEU:HD21	2.54	0.41
38:BC:68:LEU:HD23	38:BC:175:VAL:C	2.45	0.41
41:BF:148:LEU:HB3	41:BF:172:TRP:CZ3	2.53	0.41
42:BG:56:ALA:CA	42:BG:153:ARG:HH21	2.27	0.41
43:BH:106:THR:HG22	43:BH:112:PRO:CA	2.45	0.41
46:BN:18:ALA:HB3	46:BN:26:LEU:CD2	2.49	0.41
46:BN:26:LEU:HG	46:BN:30:ILE:CD1	2.49	0.41
46:BN:75:TYR:C	46:BN:76:SER:O	2.63	0.41
47:BO:104:ARG:NH1	52:BT:35:LYS:HD3	2.35	0.41
48:BP:83:VAL:HG12	48:BP:112:LEU:CD2	2.42	0.41
48:BP:114:ILE:CG2	48:BP:130:PHE:HD1	2.30	0.41
50:BR:104:ARG:HD3	50:BR:107:ASP:OD2	2.21	0.41
52:BT:28:VAL:O	52:BT:29:ARG:HB2	2.19	0.41
58:BZ:7:ALA:O	58:BZ:61:LEU:HA	2.19	0.41
1:AA:174:C:H2'	1:AA:175:C:C6	2.55	0.41
1:AA:321:A:O2'	1:AA:322:C:H5'	2.19	0.41
1:AA:375:U:C4	1:AA:376:G:N7	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:407:G:H2'	1:AA:408:A:H8	1.86	0.41
1:AA:452:A:H1'	1:AA:453:A:H5"	2.03	0.41
1:AA:633:G:H3'	1:AA:634:C:C6	2.54	0.41
1:AA:803:G:H2'	1:AA:804:U:O4'	2.20	0.41
1:AA:825:G:O2'	1:AA:826:C:H5'	2.20	0.41
1:AA:877:C:H5"	8:AH:88:LYS:HD3	2.03	0.41
1:AA:973:G:H3'	1:AA:974:A:H5"	2.02	0.41
1:AA:1015:A:H2'	1:AA:1016:A:O4'	2.20	0.41
1:AA:1163:C:H2'	1:AA:1164:G:H8	1.84	0.41
1:AA:1288:A:H1'	1:AA:1352:C:O2'	2.20	0.41
2:AB:60:ASP:C	2:AB:64:ARG:HH21	2.29	0.41
2:AB:82:ARG:O	2:AB:86:GLU:HG3	2.20	0.41
3:AC:154:SER:HB2	3:AC:165:THR:HB	2.02	0.41
4:AD:67:ILE:O	4:AD:67:ILE:HG22	2.21	0.41
4:AD:74:GLN:O	4:AD:78:LEU:HB2	2.20	0.41
5:AE:5:ASP:OD1	5:AE:5:ASP:O	2.36	0.41
5:AE:41:VAL:HG11	5:AE:113:ALA:HB2	2.03	0.41
6:AF:67:MET:HE1	6:AF:75:LEU:HD22	2.03	0.41
7:AG:63:LYS:HD2	7:AG:63:LYS:O	2.21	0.41
13:AM:2:ALA:O	13:AM:3:ARG:C	2.63	0.41
25:AZ:13:ASN:ND2	25:AZ:241:ARG:CG	2.82	0.41
25:AZ:140:MET:O	25:AZ:141:VAL:C	2.63	0.41
25:AZ:230:THR:HG1	25:AZ:295:ARG:HD2	1.83	0.41
26:B0:24:LYS:O	26:B0:25:ARG:CG	2.68	0.41
26:B0:50:ASN:ND2	26:B0:63:VAL:HG21	2.32	0.41
27:B1:30:VAL:O	36:BA:2395:C:O2'	2.37	0.41
32:B6:15:GLU:OE2	32:B6:41:PRO:HB2	2.15	0.41
36:BA:493:G:H2'	36:BA:494:G:O4'	2.19	0.41
36:BA:528:A:H3'	36:BA:528:A:C8	2.54	0.41
36:BA:848:G:O6	36:BA:928:G:H2'	2.20	0.41
36:BA:1168:G:O2'	36:BA:1169:G:H5'	2.20	0.41
36:BA:1259:G:H2'	36:BA:1260:G:C8	2.55	0.41
36:BA:1296:G:OP1	36:BA:2709:G:H4'	2.21	0.41
36:BA:1411:C:H2'	36:BA:1412:A:H8	1.85	0.41
36:BA:1670:C:OP2	36:BA:1671:U:O4	2.38	0.41
36:BA:2038:G:H2'	36:BA:2039:C:C6	2.55	0.41
36:BA:2146:C:H4'	36:BA:2147:G:C5	2.54	0.41
36:BA:2294:C:O2	36:BA:2294:C:H2'	2.20	0.41
36:BA:2809:A:H62	36:BA:2891:G:H2'	1.85	0.41
37:BB:15:A:H1'	37:BB:110:G:C4	2.55	0.41
37:BB:42:C:HO2'	37:BB:43:C:P	2.42	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:38:ASP:OD2	38:BC:177:LYS:HB3	2.20	0.41
38:BC:141:LYS:HB2	38:BC:141:LYS:HZ2	1.83	0.41
39:BD:165:ILE:HG23	39:BD:173:VAL:CG2	2.50	0.41
40:BE:199:ARG:HG2	40:BE:200:GLU:N	2.27	0.41
42:BG:6:ALA:HB3	42:BG:104:GLU:CD	2.46	0.41
42:BG:7:LEU:HD22	42:BG:176:LEU:HD23	2.02	0.41
43:BH:44:VAL:CG1	43:BH:45:VAL:N	2.82	0.41
46:BN:7:LYS:O	46:BN:8:GLN:O	2.38	0.41
47:BO:6:THR:HG22	47:BO:7:TYR:N	2.35	0.41
48:BP:95:VAL:HG23	48:BP:125:VAL:HA	2.02	0.41
48:BP:96:THR:HG22	48:BP:126:VAL:HB	2.02	0.41
49:BQ:20:ALA:O	49:BQ:21:THR:OG1	2.33	0.41
50:BR:67:LEU:CD1	50:BR:71:GLN:O	2.67	0.41
51:BS:22:GLY:O	51:BS:23:ARG:O	2.38	0.41
51:BS:28:VAL:CG1	51:BS:29:PHE:H	2.31	0.41
51:BS:56:LEU:C	51:BS:58:LEU:N	2.78	0.41
53:BU:110:VAL:O	53:BU:113:ALA:HB3	2.20	0.41
54:BV:7:THR:HG23	54:BV:7:THR:O	2.21	0.41
57:BY:12:THR:CG2	57:BY:13:VAL:N	2.83	0.41
57:BY:88:LYS:HZ1	57:BY:93:GLY:N	2.17	0.41
58:BZ:18:LEU:H	58:BZ:18:LEU:HD22	1.86	0.41
1:AA:341:C:O2'	1:AA:342:C:H5'	2.21	0.41
1:AA:663:A:H5'	1:AA:836:G:OP1	2.20	0.41
1:AA:707:C:H4'	11:AK:20:TYR:CD1	2.55	0.41
1:AA:771:G:H2'	1:AA:772:U:C6	2.56	0.41
1:AA:1054:C:OP2	1:AA:1197:G:OP2	2.37	0.41
1:AA:1129:C:OP1	1:AA:1130:A:H5"	2.21	0.41
4:AD:157:LEU:O	4:AD:158:ILE:C	2.63	0.41
5:AE:103:GLY:O	5:AE:104:ALA:C	2.63	0.41
7:AG:26:PHE:HB2	7:AG:62:PHE:HZ	1.86	0.41
7:AG:71:PRO:O	7:AG:91:VAL:CG1	2.67	0.41
8:AH:49:GLU:HG2	8:AH:62:TYR:HE2	1.85	0.41
9:AI:118:LYS:HB3	9:AI:118:LYS:HE2	1.67	0.41
10:AJ:48:THR:HG23	10:AJ:62:HIS:ND1	2.35	0.41
11:AK:46:GLY:O	11:AK:48:ILE:O	2.38	0.41
12:AL:71:PRO:HG3	12:AL:99:HIS:HD2	1.85	0.41
13:AM:89:GLY:C	13:AM:93:ARG:HD2	2.46	0.41
24:AY:10:G:C2	24:AY:26:A:H1'	2.55	0.41
25:AZ:14:VAL:HA	25:AZ:101:GLY:O	2.20	0.41
25:AZ:106:VAL:HG12	25:AZ:107:SER:N	2.34	0.41
25:AZ:133:VAL:CG1	25:AZ:134:PHE:N	2.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:221:PHE:CA	25:AZ:244:ARG:HG3	2.49	0.41
27:B1:19:GLN:OE1	27:B1:19:GLN:HA	2.20	0.41
28:B2:25:VAL:O	28:B2:27:GLU:N	2.54	0.41
33:B7:40:TRP:CD2	36:BA:459:U:H5"	2.56	0.41
36:BA:149:A:H2'	36:BA:150:C:O4'	2.19	0.41
36:BA:570:G:C6	36:BA:2030:A:C2	3.08	0.41
36:BA:744:G:H2'	36:BA:745:G:C5'	2.50	0.41
36:BA:848:G:C2	36:BA:933:A:H1'	2.55	0.41
36:BA:1112:G:O2'	36:BA:1113:U:H5'	2.21	0.41
36:BA:1113:U:H2'	36:BA:1114:G:C8	2.55	0.41
36:BA:1129:A:H4'	36:BA:2515:C:O2'	2.21	0.41
36:BA:1131:G:H21	46:BN:73:THR:CG2	2.29	0.41
36:BA:1144:G:O2'	36:BA:1145:C:H5'	2.21	0.41
36:BA:1331:A:O2'	36:BA:1332:G:H8	2.02	0.41
36:BA:1666:G:O2'	36:BA:1667:G:H5'	2.19	0.41
38:BC:64:LEU:HA	38:BC:65:PRO:HD3	1.92	0.41
38:BC:106:GLY:O	38:BC:107:TRP:HB2	2.19	0.41
38:BC:200:LYS:HE3	38:BC:208:PHE:HB2	2.01	0.41
39:BD:75:ILE:N	39:BD:75:ILE:CD1	2.80	0.41
40:BE:115:GLY:HA2	40:BE:157:ALA:CB	2.49	0.41
41:BF:34:TRP:CZ3	48:BP:12:ALA:HA	2.55	0.41
41:BF:123:LEU:HD12	41:BF:124:LEU:H	1.85	0.41
41:BF:164:ARG:HD3	41:BF:175:THR:OG1	2.20	0.41
43:BH:70:THR:C	43:BH:72:ILE:N	2.74	0.41
48:BP:23:PRO:HB2	48:BP:33:ARG:CG	2.37	0.41
48:BP:82:GLY:C	48:BP:115:LEU:HD21	2.45	0.41
48:BP:110:TYR:O	48:BP:111:ARG:C	2.63	0.41
48:BP:121:LYS:HB2	48:BP:123:LEU:HD22	2.00	0.41
49:BQ:120:ILE:O	49:BQ:121:ALA:C	2.63	0.41
51:BS:93:LYS:O	51:BS:94:TYR:C	2.63	0.41
54:BV:16:PRO:O	54:BV:96:ILE:O	2.38	0.41
57:BY:4:LYS:HG3	57:BY:5:MET:N	2.34	0.41
58:BZ:102:LEU:HD21	58:BZ:124:ILE:HG12	2.01	0.41
1:AA:142:G:N3	1:AA:196:A:H2	2.19	0.41
1:AA:445:G:H2'	1:AA:446:G:H8	1.86	0.41
1:AA:488:C:O2'	1:AA:489:C:H5'	2.20	0.41
1:AA:973:G:H1'	10:AJ:55:LYS:HZ3	1.86	0.41
1:AA:1318:A:C1'	19:AS:37:ARG:HH21	2.34	0.41
2:AB:108:ILE:C	2:AB:110:GLN:N	2.78	0.41
6:AF:74:ASP:HB3	6:AF:77:ARG:NH2	2.34	0.41
7:AG:111:ARG:HE	7:AG:123:GLU:HB2	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AH:18:ARG:HA	8:AH:18:ARG:HD3	1.69	0.41
8:AH:104:ARG:NH2	8:AH:138:TRP:CZ2	2.88	0.41
8:AH:116:LYS:HD3	8:AH:127:LEU:HD12	2.01	0.41
9:AI:8:GLY:HA2	9:AI:79:LEU:HD12	2.01	0.41
9:AI:97:LYS:HB3	9:AI:98:PRO:HD3	2.03	0.41
14:AN:23:ARG:NH1	14:AN:30:ALA:HB2	2.36	0.41
16:AP:35:LYS:HD3	16:AP:35:LYS:C	2.46	0.41
17:AQ:81:ARG:O	17:AQ:83:ASP:N	2.54	0.41
19:AS:9:VAL:C	19:AS:11:VAL:H	2.29	0.41
20:AT:50:GLU:CB	20:AT:100:ILE:HD13	2.48	0.41
25:AZ:142:ASP:C	25:AZ:144:PRO:HD3	2.45	0.41
25:AZ:319:SER:C	25:AZ:320:VAL:HG23	2.45	0.41
36:BA:45:C:OP2	36:BA:215:G:H2'	2.20	0.41
36:BA:407:G:C2	36:BA:408:G:C5	3.08	0.41
36:BA:699:A:H2'	36:BA:700:G:O4'	2.21	0.41
36:BA:828:U:H2'	36:BA:829:A:C8	2.55	0.41
36:BA:920:G:O2'	36:BA:921:G:H5'	2.20	0.41
36:BA:1458:C:H4'	36:BA:1459:G:O4'	2.21	0.41
36:BA:1771:C:O2'	36:BA:1786:A:H8	1.93	0.41
36:BA:2111:C:O2	36:BA:2111:C:H2'	2.20	0.41
36:BA:2136:C:H2'	36:BA:2137:C:H6	1.86	0.41
36:BA:2188:C:H2'	36:BA:2189:U:C6	2.56	0.41
36:BA:2521:C:O2'	36:BA:2564:A:N3	2.49	0.41
36:BA:2585:U:O2	36:BA:2585:U:O4'	2.38	0.41
36:BA:2761:G:H5'	36:BA:2761:G:H8	1.85	0.41
37:BB:39:A:C2	37:BB:44:G:C2	3.08	0.41
37:BB:92:C:H5"	58:BZ:79:ARG:HH12	1.85	0.41
37:BB:94:C:H2'	37:BB:95:C:C6	2.56	0.41
37:BB:100:A:C4	37:BB:101:G:C8	3.07	0.41
38:BC:34:THR:O	38:BC:35:ALA:HB2	2.20	0.41
38:BC:66:HIS:CE1	38:BC:184:LYS:HD3	2.55	0.41
38:BC:212:VAL:HG11	38:BC:224:ILE:HD11	2.02	0.41
39:BD:134:ARG:HG2	39:BD:187:GLY:O	2.21	0.41
40:BE:143:ASN:N	40:BE:143:ASN:ND2	2.69	0.41
41:BF:110:LEU:HD12	41:BF:206:ILE:CD1	2.51	0.41
41:BF:159:GLY:CA	41:BF:164:ARG:HH21	2.28	0.41
42:BG:107:LEU:HD21	42:BG:178:PHE:CD1	2.56	0.41
48:BP:110:TYR:CZ	48:BP:111:ARG:NE	2.89	0.41
49:BQ:7:MET:HE1	49:BQ:93:TYR:OH	2.20	0.41
51:BS:30:ARG:HH22	51:BS:62:LYS:HG2	1.83	0.41
53:BU:97:ASP:O	53:BU:100:VAL:N	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:77:G:H2'	1:AA:77:G:N3	2.36	0.41
1:AA:128:G:O2'	17:AQ:3:LYS:HE2	2.20	0.41
1:AA:528:C:H41	12:AL:49:ASN:ND2	2.18	0.41
1:AA:807:A:H2'	1:AA:808:C:C6	2.55	0.41
1:AA:1008:C:N4	1:AA:1021:G:H1	2.12	0.41
1:AA:1310:G:H2'	1:AA:1311:G:C8	2.55	0.41
1:AA:1431:C:H2'	1:AA:1432:G:H5'	2.02	0.41
1:AA:1456:G:H8	20:AT:58:LYS:HD3	1.85	0.41
2:AB:8:LYS:HE2	2:AB:217:ARG:HH22	1.86	0.41
2:AB:60:ASP:HB3	2:AB:64:ARG:NH2	2.32	0.41
2:AB:100:GLY:N	2:AB:176:GLU:OE2	2.47	0.41
2:AB:105:PHE:CE1	2:AB:155:LEU:HD12	2.55	0.41
2:AB:162:ILE:HG23	2:AB:184:VAL:HA	2.03	0.41
2:AB:203:GLY:O	2:AB:204:ASN:C	2.64	0.41
4:AD:31:CYS:C	4:AD:33:MET:N	2.78	0.41
8:AH:72:PRO:O	8:AH:73:ASP:C	2.61	0.41
9:AI:95:LYS:HD3	9:AI:96:LEU:HB2	2.02	0.41
12:AL:69:TYR:HB2	12:AL:90:VAL:HG21	2.02	0.41
12:AL:121:GLY:O	12:AL:122:THR:C	2.64	0.41
13:AM:54:VAL:O	13:AM:55:ARG:C	2.64	0.41
16:AP:21:VAL:C	16:AP:22:THR:HG22	2.46	0.41
19:AS:49:ILE:H	19:AS:49:ILE:CD1	2.15	0.41
20:AT:30:LYS:HZ3	20:AT:72:LEU:HD21	1.86	0.41
25:AZ:231:ILE:CG2	25:AZ:234:ARG:HG3	2.51	0.41
26:B0:56:ASP:OD1	26:B0:56:ASP:O	2.39	0.41
27:B1:14:VAL:HG13	27:B1:39:LYS:HG3	2.03	0.41
31:B5:47:PRO:C	31:B5:49:CYS:N	2.73	0.41
33:B7:35:ARG:O	33:B7:38:GLY:N	2.52	0.41
36:BA:74:A:C5'	36:BA:75:G:O4'	2.64	0.41
36:BA:123:G:H2'	36:BA:124:G:O4'	2.19	0.41
36:BA:687:C:H42	36:BA:787:U:H4'	1.85	0.41
36:BA:1301:A:O2'	36:BA:1302:A:P	2.78	0.41
36:BA:1313:U:H3'	36:BA:1314:C:H5'	2.03	0.41
36:BA:1478:G:HO2'	36:BA:1558:A:H2	1.69	0.41
36:BA:1541:G:O2'	36:BA:1542:A:H5"	2.21	0.41
36:BA:1602:U:H3'	36:BA:1603:A:H5'	2.01	0.41
36:BA:2006:C:H2'	36:BA:2007:C:H6	1.84	0.41
36:BA:2063:C:C4	36:BA:2064:C:C4	3.09	0.41
36:BA:2713:A:C3'	36:BA:2714:G:C5'	2.96	0.41
38:BC:10:LEU:CD2	38:BC:10:LEU:N	2.83	0.41
38:BC:163:PHE:CD2	38:BC:192:PHE:HE1	2.37	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BD:35:LYS:NZ	39:BD:36:PRO:HD3	2.36	0.41
39:BD:71:ASP:CB	39:BD:103:ARG:HH22	2.33	0.41
41:BF:18:ARG:O	41:BF:19:GLU:HB3	2.21	0.41
41:BF:139:PHE:CE2	41:BF:167:ALA:HB2	2.56	0.41
42:BG:95:ARG:O	42:BG:96:ARG:C	2.63	0.41
42:BG:110:ALA:HB1	42:BG:140:ILE:HD13	2.03	0.41
43:BH:43:VAL:HB	43:BH:46:GLU:OE2	2.20	0.41
43:BH:44:VAL:O	43:BH:45:VAL:C	2.63	0.41
43:BH:49:VAL:C	43:BH:50:VAL:CG2	2.94	0.41
43:BH:51:ARG:O	43:BH:52:VAL:CB	2.69	0.41
44:BJ:90:UNK:O	44:BJ:91:UNK:C	2.68	0.41
47:BO:107:ARG:C	47:BO:109:LYS:H	2.28	0.41
50:BR:9:LYS:O	50:BR:10:LEU:HD23	2.20	0.41
50:BR:116:LEU:O	50:BR:117:VAL:O	2.38	0.41
52:BT:45:PHE:CE2	52:BT:74:ARG:HB2	2.55	0.41
53:BU:93:LYS:H	53:BU:93:LYS:CD	2.28	0.41
55:BW:31:GLU:O	55:BW:32:ALA:C	2.62	0.41
58:BZ:163:LEU:HD23	58:BZ:163:LEU:O	2.20	0.41
1:AA:340:U:C2	1:AA:350:G:N2	2.88	0.41
1:AA:484:G:H4'	1:AA:485:G:O5'	2.21	0.41
1:AA:493:G:H8	1:AA:493:G:O5'	2.04	0.41
1:AA:975:A:H5'	1:AA:975:A:C8	2.55	0.41
1:AA:993:G:H4'	1:AA:994:A:OP2	2.20	0.41
1:AA:1152:A:H5'	10:AJ:70:ARG:HH22	1.82	0.41
1:AA:1283:G:O2'	1:AA:1284:C:OP2	2.39	0.41
1:AA:1368:G:O2'	1:AA:1369:C:H5'	2.20	0.41
7:AG:26:PHE:CB	7:AG:101:LEU:HD22	2.49	0.41
7:AG:113:GLU:HG2	7:AG:119:ARG:HG2	2.00	0.41
20:AT:36:LEU:HD22	20:AT:36:LEU:HA	1.93	0.41
22:AW:57:G:O2'	22:AW:58:A:H5'	2.20	0.41
24:AY:73:G:C2'	24:AY:74:C:H5'	2.50	0.41
25:AZ:355:LEU:HA	25:AZ:356:PRO:HD3	1.96	0.41
26:B0:31:VAL:O	26:B0:64:ASP:HA	2.20	0.41
28:B2:21:LEU:HD11	28:B2:63:VAL:CG1	2.49	0.41
31:B5:52:TYR:OH	36:BA:2884:U:H1'	2.21	0.41
32:B6:8:LYS:HD2	32:B6:8:LYS:HA	1.84	0.41
32:B6:27:LYS:O	32:B6:29:ASN:N	2.54	0.41
33:B7:29:LYS:O	33:B7:33:ARG:HB2	2.21	0.41
34:B8:27:THR:HG22	48:BP:62:LEU:CD2	2.51	0.41
34:B8:47:LYS:CB	34:B8:47:LYS:HZ3	2.34	0.41
36:BA:120:U:C2	36:BA:149:A:N6	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:121:G:C2	36:BA:131:G:C5	3.08	0.41
36:BA:482:A:H2'	36:BA:482:A:N3	2.36	0.41
36:BA:556:G:H2'	36:BA:557:U:C6	2.56	0.41
36:BA:1011:G:C6	36:BA:1151:G:C6	3.08	0.41
36:BA:1503:U:C4	36:BA:1504:C:N4	2.83	0.41
36:BA:1593:G:N3	36:BA:1593:G:H2'	2.35	0.41
36:BA:1676:A:N6	36:BA:1677:A:C6	2.89	0.41
36:BA:2165:G:H2'	36:BA:2166:G:C8	2.55	0.41
36:BA:2178:C:O2	36:BA:2178:C:O4'	2.37	0.41
36:BA:2267:A:H5"	36:BA:2268:A:C5'	2.50	0.41
38:BC:104:LEU:O	38:BC:105:ASP:HB3	2.21	0.41
38:BC:166:ASP:CG	38:BC:168:THR:H	2.28	0.41
39:BD:170:GLY:C	39:BD:172:TYR:N	2.79	0.41
41:BF:29:ASN:HD22	41:BF:32:LEU:CB	2.33	0.41
41:BF:31:HIS:O	41:BF:32:LEU:C	2.64	0.41
41:BF:117:ARG:NH2	41:BF:186:ILE:O	2.51	0.41
41:BF:160:ASN:HD21	41:BF:162:LEU:HB2	1.83	0.41
43:BH:158:HIS:O	43:BH:159:GLU:HB3	2.21	0.41
49:BQ:54:MET:CE	49:BQ:64:ILE:HG23	2.51	0.41
49:BQ:63:LYS:HZ3	58:BZ:175:VAL:HG11	1.86	0.41
51:BS:16:ASN:OD1	51:BS:16:ASN:C	2.64	0.41
51:BS:85:VAL:HB	51:BS:86:ALA:H	1.66	0.41
53:BU:27:LEU:C	53:BU:29:SER:N	2.78	0.41
53:BU:82:GLY:O	53:BU:84:LYS:N	2.54	0.41
54:BV:52:VAL:O	54:BV:53:GLU:C	2.64	0.41
57:BY:31:LEU:HD23	57:BY:36:ALA:O	2.21	0.41
58:BZ:38:TYR:CD1	58:BZ:38:TYR:C	2.98	0.41
58:BZ:62:PRO:C	58:BZ:64:GLY:H	2.28	0.41
58:BZ:119:GLU:CG	58:BZ:122:ARG:NH1	2.79	0.41
1:AA:226:G:C2'	1:AA:227:G:H5'	2.51	0.41
1:AA:723:U:O2	1:AA:723:U:C2'	2.65	0.41
1:AA:858:G:H8	1:AA:858:G:H5"	1.84	0.41
1:AA:1174:G:H2'	1:AA:1175:G:H8	1.86	0.41
1:AA:1307:U:O3'	13:AM:110:ARG:HD2	2.21	0.41
2:AB:16:HIS:HB3	2:AB:210:SER:CB	2.51	0.41
4:AD:57:ARG:HB3	4:AD:206:PHE:HB2	2.02	0.41
4:AD:170:VAL:O	4:AD:171:GLY:C	2.64	0.41
9:AI:46:ALA:C	9:AI:47:LEU:HD12	2.46	0.41
9:AI:70:LYS:O	9:AI:73:GLN:N	2.53	0.41
13:AM:49:THR:O	13:AM:51:ALA:N	2.53	0.41
13:AM:90:LEU:CA	13:AM:93:ARG:HB2	2.42	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AN:39:LEU:HD11	14:AN:47:LEU:HD12	2.02	0.41
17:AQ:24:GLU:HA	17:AQ:39:SER:HA	2.02	0.41
25:AZ:319:SER:H	25:AZ:401:THR:HB	1.86	0.41
25:AZ:342:PHE:H	25:AZ:342:PHE:HD1	1.69	0.41
29:B3:12:PRO:O	29:B3:15:TYR:HD1	2.04	0.41
31:B5:29:THR:HG21	36:BA:2814:C:HO2'	1.82	0.41
32:B6:17:LYS:CB	32:B6:18:ARG:NH1	2.84	0.41
32:B6:28:ARG:HG2	32:B6:28:ARG:NH1	2.35	0.41
35:B9:31:LYS:HE3	36:BA:2528:U:H5"	2.02	0.41
36:BA:272(I):U:C4	36:BA:363(B):G:C6	3.09	0.41
36:BA:353:G:N3	36:BA:353:G:H2'	2.36	0.41
36:BA:472:A:C2'	36:BA:473:G:H5'	2.49	0.41
36:BA:520:G:H2'	36:BA:521:G:H8	1.85	0.41
36:BA:588:U:OP2	36:BA:588:U:C6	2.74	0.41
36:BA:816:C:N3	36:BA:1192:G:N2	2.69	0.41
36:BA:882:G:H22	36:BA:894:C:H42	1.67	0.41
36:BA:890:A:C2'	36:BA:892:G:H5'	2.51	0.41
36:BA:1141:U:H6	46:BN:63:THR:CG2	2.33	0.41
36:BA:1209:G:H21	36:BA:1210:A:H62	1.67	0.41
36:BA:1375:C:H2'	36:BA:1376:C:H6	1.86	0.41
36:BA:1413:G:H2'	36:BA:1414:G:H8	1.86	0.41
36:BA:1947:C:H2'	36:BA:1948:G:H5'	2.02	0.41
36:BA:2155:G:C6	36:BA:2156:G:C2	3.09	0.41
36:BA:2177:C:H4'	38:BC:46:LYS:HD3	2.02	0.41
36:BA:2189:U:C3'	36:BA:2190:G:H4'	2.50	0.41
36:BA:2618:G:C6	36:BA:2619:C:C4	3.09	0.41
36:BA:2787:C:O2	36:BA:2787:C:C2'	2.69	0.41
37:BB:13:A:C2'	37:BB:14:U:H5"	2.51	0.41
38:BC:18:LYS:HE3	38:BC:20:TYR:OH	2.20	0.41
39:BD:35:LYS:C	39:BD:35:LYS:CD	2.83	0.41
40:BE:65:GLY:HA2	40:BE:70:ALA:HB1	2.02	0.41
41:BF:61:GLY:O	41:BF:62:ARG:C	2.63	0.41
43:BH:37:VAL:CG1	43:BH:38:SER:N	2.84	0.41
43:BH:54:ARG:HG2	43:BH:54:ARG:NH1	2.35	0.41
43:BH:158:HIS:CE1	43:BH:169:VAL:O	2.73	0.41
46:BN:56:ASN:N	46:BN:125:GLY:N	2.67	0.41
46:BN:86:PRO:HD2	46:BN:89:LYS:HG3	2.01	0.41
47:BO:14:THR:CG2	47:BO:94:ARG:HB2	2.50	0.41
47:BO:14:THR:HG22	47:BO:94:ARG:HB2	2.02	0.41
49:BQ:125:LEU:HD13	49:BQ:125:LEU:HA	1.88	0.41
49:BQ:141:GLN:C	58:BZ:53:ILE:HB	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BR:113:LEU:HD23	50:BR:114:VAL:N	2.35	0.41
51:BS:58:LEU:CD2	51:BS:65:VAL:HG13	2.46	0.41
51:BS:65:VAL:O	51:BS:69:VAL:N	2.47	0.41
52:BT:11:GLU:C	52:BT:13:ARG:N	2.79	0.41
52:BT:32:TYR:CB	52:BT:81:PRO:HB3	2.48	0.41
52:BT:40:THR:O	52:BT:41:ARG:O	2.38	0.41
54:BV:38:LEU:CD1	54:BV:57:VAL:HB	2.47	0.41
57:BY:35:TYR:CD2	57:BY:68:HIS:HE1	2.32	0.41
58:BZ:125:LEU:HB3	58:BZ:164:ALA:O	2.21	0.41
1:AA:78:G:H1	1:AA:91:C:H42	1.69	0.41
1:AA:346:G:O2'	1:AA:347:G:O5'	2.38	0.41
1:AA:407:G:H2'	1:AA:408:A:C8	2.56	0.41
1:AA:542:G:O2'	1:AA:543:C:H5'	2.21	0.41
1:AA:565:U:H3'	1:AA:566:G:H2'	2.03	0.41
1:AA:973:G:H2'	1:AA:974:A:OP1	2.21	0.41
1:AA:977:A:N6	1:AA:1224:G:O5'	2.54	0.41
1:AA:1127:G:O2'	1:AA:1128:C:H5'	2.21	0.41
1:AA:1213:A:C4	1:AA:1215:G:C8	3.09	0.41
1:AA:1261:A:C2'	1:AA:1262:C:H5'	2.51	0.41
1:AA:1266:G:C4	1:AA:1268:A:C2	3.08	0.41
1:AA:1326:C:H5"	21:AU:18:TYR:O	2.21	0.41
1:AA:1432:G:OP1	52:BT:108:ARG:HG2	2.21	0.41
2:AB:9:GLU:N	2:AB:9:GLU:CD	2.78	0.41
2:AB:28:PHE:O	2:AB:28:PHE:CD1	2.73	0.41
2:AB:61:LEU:CD1	2:AB:64:ARG:NH1	2.83	0.41
2:AB:68:ILE:HA	2:AB:161:ALA:O	2.21	0.41
3:AC:141:VAL:CG1	3:AC:149:ALA:HB2	2.50	0.41
5:AE:84:PHE:N	5:AE:87:SER:O	2.43	0.41
5:AE:90:VAL:O	5:AE:120:THR:HA	2.21	0.41
5:AE:92:LYS:HA	5:AE:93:PRO:HD3	1.92	0.41
5:AE:125:SER:O	5:AE:126:ARG:HG3	2.21	0.41
5:AE:144:THR:O	5:AE:145:LYS:C	2.64	0.41
7:AG:51:GLN:OE1	7:AG:51:GLN:HA	2.21	0.41
7:AG:93:PRO:O	7:AG:96:GLN:HB3	2.21	0.41
7:AG:108:ALA:N	7:AG:123:GLU:HG2	2.36	0.41
9:AI:16:ARG:NH2	9:AI:64:THR:HG21	2.35	0.41
9:AI:64:THR:O	9:AI:64:THR:HG22	2.21	0.41
9:AI:65:VAL:O	9:AI:66:ARG:HB2	2.21	0.41
9:AI:114:TYR:CD2	9:AI:114:TYR:C	2.98	0.41
11:AK:18:ARG:HB3	11:AK:33:THR:OG1	2.21	0.41
11:AK:124:LYS:CB	11:AK:124:LYS:NZ	2.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AL:126:LYS:HD2	12:AL:126:LYS:HA	1.86	0.41
13:AM:7:VAL:HG23	42:BG:115:ARG:HA	2.02	0.41
14:AN:3:ARG:O	14:AN:3:ARG:HG2	2.21	0.41
15:AO:29:VAL:HG21	15:AO:67:LEU:CD2	2.51	0.41
15:AO:82:ILE:C	15:AO:82:ILE:CD1	2.93	0.41
16:AP:8:ARG:NH2	16:AP:15:PRO:HG3	2.36	0.41
17:AQ:70:ARG:C	17:AQ:71:PHE:HD2	2.28	0.41
19:AS:36:ARG:HB3	19:AS:51:VAL:CG1	2.50	0.41
19:AS:46:GLY:O	19:AS:47:HIS:C	2.64	0.41
21:AU:8:THR:O	21:AU:9:ARG:C	2.62	0.41
22:AW:18:G:O4'	22:AW:58:A:C2	2.74	0.41
22:AW:37:A:H3'	22:AW:38:A:H8	1.85	0.41
24:AY:60:U:OP2	24:AY:60:U:H6	2.04	0.41
25:AZ:51:ASP:OD1	25:AZ:62:THR:HG23	2.21	0.41
25:AZ:88:TYR:N	25:AZ:88:TYR:CD1	2.88	0.41
25:AZ:136:ASN:O	25:AZ:137:LYS:CB	2.69	0.41
25:AZ:318:ALA:CA	25:AZ:401:THR:HG22	2.40	0.41
25:AZ:342:PHE:CB	25:AZ:344:PHE:CE1	3.04	0.41
25:AZ:388:ILE:HG22	25:AZ:395:VAL:HG22	2.03	0.41
26:B0:75:LEU:O	26:B0:75:LEU:HD23	2.20	0.41
31:B5:33:CYS:CB	31:B5:36:CYS:HG	2.32	0.41
32:B6:33:LYS:O	32:B6:34:LEU:CB	2.68	0.41
34:B8:59:LYS:HB2	34:B8:59:LYS:HE3	1.83	0.41
36:BA:217:G:H2'	36:BA:218:A:O4'	2.21	0.41
36:BA:449:A:O2'	53:BU:3:ARG:CD	2.69	0.41
36:BA:553:G:O2'	36:BA:554:U:H5'	2.20	0.41
36:BA:654(N):G:H2'	36:BA:654(O):G:C5'	2.51	0.41
36:BA:918:A:N3	37:BB:80:U:O2'	2.47	0.41
36:BA:1045:A:N3	36:BA:1047:G:C2	2.89	0.41
36:BA:1827:C:O2'	36:BA:1828:G:H5'	2.21	0.41
36:BA:2159:G:H2'	36:BA:2160:G:O4'	2.21	0.41
36:BA:2242:G:H2'	36:BA:2243:U:O5'	2.21	0.41
36:BA:2366:A:O2'	36:BA:2367:G:H5'	2.21	0.41
36:BA:2377:A:O2'	36:BA:2378:A:C5'	2.67	0.41
36:BA:2405:G:HO2'	36:BA:2406:U:P	2.43	0.41
36:BA:2519:U:H3'	36:BA:2519:U:OP1	2.21	0.41
36:BA:2525:G:O2'	36:BA:2526:G:H5'	2.21	0.41
36:BA:2880:C:C2	36:BA:2881:C:C5	3.09	0.41
38:BC:50:ASP:OD1	38:BC:52:ARG:NH1	2.54	0.41
38:BC:61:THR:HG23	38:BC:142:ALA:O	2.21	0.41
38:BC:178:ALA:C	38:BC:180:PHE:N	2.79	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:195:ALA:O	38:BC:199:HIS:ND1	2.54	0.41
39:BD:35:LYS:CG	39:BD:63:ARG:HG3	2.49	0.41
39:BD:73:VAL:HG12	39:BD:74:GLY:N	2.36	0.41
39:BD:88:ARG:CZ	39:BD:88:ARG:HB3	2.51	0.41
39:BD:97:TYR:HE1	39:BD:103:ARG:CG	2.34	0.41
40:BE:7:VAL:HG21	52:BT:1:MET:SD	2.61	0.41
41:BF:98:SER:O	41:BF:99:TYR:HB3	2.21	0.41
41:BF:132:VAL:C	41:BF:134:GLY:H	2.28	0.41
41:BF:164:ARG:CD	41:BF:175:THR:OG1	2.69	0.41
42:BG:9:ARG:C	42:BG:11:TYR:N	2.78	0.41
42:BG:99:MET:HE2	42:BG:99:MET:HB3	1.91	0.41
42:BG:100:TRP:O	42:BG:101:ILE:C	2.63	0.41
42:BG:113:ARG:O	42:BG:115:ARG:N	2.54	0.41
43:BH:81:GLU:HA	43:BH:83:TYR:CE2	2.56	0.41
43:BH:99:VAL:HG12	43:BH:100:GLY:N	2.35	0.41
44:BJ:23:UNK:HA	44:BJ:118:UNK:HA	2.03	0.41
46:BN:12:ARG:CG	46:BN:50:ASP:OD2	2.65	0.41
46:BN:33:LEU:C	46:BN:35:ARG:H	2.28	0.41
46:BN:45:ASN:O	46:BN:46:VAL:HB	2.21	0.41
46:BN:48:MET:HE3	46:BN:49:GLY:H	1.84	0.41
47:BO:23:ARG:HG3	47:BO:24:VAL:N	2.36	0.41
47:BO:104:ARG:CZ	47:BO:104:ARG:CB	2.99	0.41
48:BP:6:LEU:HG	48:BP:9:ASN:CB	2.51	0.41
48:BP:35:HIS:C	48:BP:36:LYS:HG2	2.45	0.41
50:BR:72:ASP:HB3	50:BR:75:LEU:CB	2.50	0.41
50:BR:110:PRO:C	50:BR:111:LEU:HD12	2.46	0.41
51:BS:65:VAL:C	51:BS:69:VAL:HG12	2.46	0.41
52:BT:22:PHE:HE2	52:BT:85:LYS:NZ	2.19	0.41
52:BT:28:VAL:CG1	52:BT:29:ARG:NH1	2.84	0.41
52:BT:49:VAL:HG13	52:BT:49:VAL:O	2.21	0.41
52:BT:99:LEU:HB2	52:BT:101:PHE:CE1	2.56	0.41
52:BT:113:LYS:HD3	52:BT:113:LYS:HA	1.95	0.41
54:BV:4:ILE:HG22	54:BV:39:LEU:HD23	2.03	0.41
54:BV:5:VAL:O	54:BV:11:GLN:HA	2.21	0.41
55:BW:21:VAL:C	55:BW:23:LEU:N	2.74	0.41
55:BW:84:ARG:HG2	55:BW:84:ARG:NH1	2.35	0.41
55:BW:103:ILE:H	55:BW:103:ILE:HG13	1.53	0.41
1:AA:101:A:H2	1:AA:152:A:O2'	2.03	0.41
1:AA:189(J):G:C2'	1:AA:189(K):U:H5'	2.51	0.41
1:AA:582:U:C2	1:AA:760:G:C6	3.09	0.41
1:AA:738:C:H2'	1:AA:739:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1004:A:C6	1:AA:1037:C:N4	2.89	0.41
1:AA:1240:U:C4'	7:AG:38:LEU:HD21	2.50	0.41
1:AA:1305:G:OP1	21:AU:2:GLY:N	2.54	0.41
3:AC:164:ARG:HE	3:AC:164:ARG:HB2	1.71	0.41
5:AE:6:PHE:O	5:AE:7:GLU:C	2.64	0.41
5:AE:45:PHE:CD2	5:AE:47:LYS:HD2	2.56	0.41
5:AE:61:TYR:O	5:AE:62:ALA:C	2.64	0.41
20:AT:45:GLN:HA	20:AT:91:LEU:HB3	2.03	0.41
20:AT:47:GLY:C	20:AT:49:ALA:H	2.24	0.41
22:AW:45:U:H3'	22:AW:45:U:H6	1.85	0.41
22:AW:71:G:O2'	22:AW:72:C:H5'	2.20	0.41
25:AZ:98:GLN:HB2	25:AZ:99:MET:H	1.68	0.41
25:AZ:202:LEU:O	25:AZ:205:ALA:HB3	2.21	0.41
25:AZ:222:LEU:HD12	25:AZ:303:VAL:HG11	2.02	0.41
25:AZ:366:ASP:CG	25:AZ:367:ASN:N	2.79	0.41
27:B1:7:ILE:HD12	27:B1:70:VAL:HG22	2.03	0.41
29:B3:6:VAL:HG23	29:B3:6:VAL:O	2.21	0.41
31:B5:10:LYS:HG3	36:BA:1263:U:O4'	2.20	0.41
31:B5:16:ARG:NH1	31:B5:17:ASP:OD1	2.54	0.41
33:B7:12:ARG:HG3	33:B7:12:ARG:NH1	2.36	0.41
34:B8:50:LEU:O	34:B8:52:LYS:N	2.49	0.41
36:BA:185:U:H2'	36:BA:186:G:C8	2.56	0.41
36:BA:311:A:H5'	36:BA:332:A:N3	2.35	0.41
36:BA:654(N):G:O6	36:BA:654(O):G:N2	2.54	0.41
36:BA:730:C:H2'	36:BA:731:C:H6	1.85	0.41
36:BA:1055:G:N2	36:BA:1085:A:N3	2.69	0.41
36:BA:1177:A:H5"	36:BA:1178:C:O5'	2.21	0.41
36:BA:1258:C:O2'	36:BA:1259:G:H5'	2.21	0.41
36:BA:1403:C:C5'	36:BA:1471:A:H1'	2.34	0.41
36:BA:1543:C:H3'	36:BA:1544:A:H5'	1.97	0.41
36:BA:1557:C:H5"	36:BA:1558:A:OP2	2.21	0.41
36:BA:1858:G:H1'	36:BA:1884:A:N6	2.36	0.41
36:BA:2033:A:O2'	36:BA:2034:U:OP1	2.37	0.41
36:BA:2171:A:O2'	36:BA:2172:U:C5	2.72	0.41
36:BA:2305:A:O2'	42:BG:136:ARG:HG2	2.20	0.41
36:BA:2346:A:H5'	36:BA:2383:G:C1'	2.51	0.41
36:BA:2478:A:H2'	36:BA:2479:G:C5'	2.51	0.41
38:BC:103:ILE:HG23	38:BC:107:TRP:CD1	2.56	0.41
38:BC:139:ASN:OD1	38:BC:140:PRO:HD2	2.21	0.41
40:BE:29:GLY:H	40:BE:51:PHE:HZ	1.69	0.41
40:BE:54:GLN:O	40:BE:55:ASN:HB2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:82:ARG:O	40:BE:84:PHE:N	2.54	0.41
40:BE:96:PHE:O	40:BE:175:VAL:HG11	2.20	0.41
41:BF:62:ARG:CG	41:BF:62:ARG:NH1	2.84	0.41
46:BN:2:LYS:NZ	54:BV:13:ARG:H	2.19	0.41
46:BN:22:THR:HA	46:BN:61:ARG:CB	2.50	0.41
46:BN:60:ILE:HD13	46:BN:99:LEU:CD2	2.38	0.41
49:BQ:12:GLN:HG2	49:BQ:73:PRO:HD2	2.03	0.41
51:BS:58:LEU:CG	51:BS:59:LYS:N	2.69	0.41
51:BS:89:ARG:HB3	51:BS:92:TYR:HB2	2.03	0.41
55:BW:91:GLY:C	55:BW:92:ARG:O	2.64	0.41
1:AA:348:G:C2'	1:AA:349:A:H5'	2.51	0.40
1:AA:490:G:O2'	1:AA:491:G:H5'	2.21	0.40
1:AA:738:C:P	6:AF:92:LYS:HE3	2.61	0.40
1:AA:963:G:N2	10:AJ:55:LYS:CD	2.71	0.40
1:AA:1054:C:OP1	1:AA:1197:G:OP1	2.39	0.40
1:AA:1342:C:O2'	9:AI:124:GLN:HG3	2.21	0.40
1:AA:1391:U:H2'	1:AA:1392:G:C8	2.57	0.40
2:AB:17:PHE:CD2	2:AB:17:PHE:C	2.98	0.40
2:AB:219:VAL:O	2:AB:223:ILE:HG13	2.21	0.40
7:AG:136:LYS:HB3	7:AG:136:LYS:HE3	1.92	0.40
9:AI:26:VAL:HG12	9:AI:28:VAL:HG23	2.03	0.40
9:AI:53:VAL:O	9:AI:55:ALA:N	2.53	0.40
9:AI:54:ASP:C	9:AI:56:LEU:N	2.77	0.40
10:AJ:14:LYS:HB2	10:AJ:14:LYS:HE3	1.71	0.40
12:AL:117:ARG:NH2	12:AL:124:LYS:HB2	2.37	0.40
13:AM:86:CYS:O	13:AM:89:GLY:N	2.54	0.40
13:AM:90:LEU:O	13:AM:91:ARG:CG	2.67	0.40
14:AN:12:ARG:HH11	14:AN:12:ARG:CB	2.33	0.40
14:AN:21:TYR:CD1	14:AN:21:TYR:N	2.88	0.40
15:AO:26:GLU:OE2	15:AO:77:ARG:HD2	2.21	0.40
15:AO:64:ARG:HH11	15:AO:64:ARG:HG3	1.86	0.40
22:AV:76:A:H5"	36:BA:2602:A:N7	2.36	0.40
23:AX:23:G:C5	24:AY:36:A:C2	3.09	0.40
25:AZ:31:LEU:O	25:AZ:35:THR:HG23	2.20	0.40
25:AZ:130:TYR:CD1	25:AZ:211:PRO:HD3	2.57	0.40
25:AZ:221:PHE:HA	25:AZ:244:ARG:HG3	2.03	0.40
27:B1:10:LYS:O	27:B1:44:PRO:HG3	2.20	0.40
35:B9:19:ARG:NH1	36:BA:2755:C:C5	2.89	0.40
36:BA:13:A:C6	36:BA:525:U:C2	3.09	0.40
36:BA:514:A:O2'	36:BA:515:A:H5'	2.21	0.40
36:BA:529:A:H4'	36:BA:530:G:O5'	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:565:C:H4'	36:BA:1253:A:N1	2.35	0.40
36:BA:582:G:H2'	36:BA:583:G:H8	1.86	0.40
36:BA:1022:G:OP2	46:BN:69:GLN:NE2	2.44	0.40
36:BA:1061:U:H4'	36:BA:1070:A:C4'	2.51	0.40
36:BA:1247:A:OP1	41:BF:95:ARG:NH2	2.48	0.40
36:BA:1511:C:C4	36:BA:1512:U:C5	3.09	0.40
36:BA:1697:G:C3'	36:BA:1698:A:H5"	2.40	0.40
36:BA:1790:C:H2'	36:BA:1791:A:C4	2.56	0.40
36:BA:2368:C:O2'	36:BA:2369:A:H5'	2.21	0.40
36:BA:2723:C:C5'	50:BR:2:ARG:HE	2.34	0.40
37:BB:66:A:C2	37:BB:109:C:C2	3.10	0.40
38:BC:124:GLY:HA2	38:BC:128:GLY:HA3	2.03	0.40
38:BC:189:ILE:HG22	38:BC:190:ARG:N	2.35	0.40
39:BD:43:ARG:HB2	39:BD:54:ARG:HB2	2.02	0.40
39:BD:73:VAL:O	39:BD:75:ILE:N	2.47	0.40
41:BF:8:GLN:HG3	41:BF:9:ILE:N	2.35	0.40
42:BG:178:PHE:CB	42:BG:180:PHE:CE1	3.04	0.40
43:BH:17:VAL:CG1	43:BH:18:GLU:H	2.28	0.40
43:BH:85:LYS:HD3	43:BH:133:VAL:H	1.86	0.40
46:BN:24:GLY:C	46:BN:26:LEU:H	2.29	0.40
48:BP:65:ARG:HB3	48:BP:68:GLN:NE2	2.36	0.40
48:BP:140:ALA:O	48:BP:141:ALA:HB3	2.21	0.40
50:BR:38:VAL:CB	50:BR:39:PRO:CD	2.97	0.40
51:BS:29:PHE:CE2	51:BS:31:SER:HB2	2.56	0.40
52:BT:19:LEU:HA	52:BT:20:PRO:HD3	1.80	0.40
52:BT:76:PHE:HA	52:BT:77:PRO:HD3	1.72	0.40
57:BY:27:VAL:HG12	57:BY:29:GLU:OE1	2.20	0.40
57:BY:31:LEU:HD22	57:BY:31:LEU:H	1.87	0.40
58:BZ:76:LEU:O	58:BZ:77:ASP:CB	2.64	0.40
1:AA:102:G:C5	1:AA:103:C:C5	3.09	0.40
1:AA:165:C:O2'	1:AA:166:G:H5'	2.21	0.40
1:AA:173:U:H5'	1:AA:197:A:C1'	2.48	0.40
1:AA:189(H):G:O2'	1:AA:189(I):G:C8	2.73	0.40
1:AA:1039:C:C6	1:AA:1040:U:C5	3.09	0.40
1:AA:1145:C:O2'	1:AA:1146:A:C8	2.71	0.40
1:AA:1188:A:H2'	1:AA:1189:C:H5'	2.02	0.40
1:AA:1202:G:H1'	14:AN:29:ARG:CD	2.51	0.40
1:AA:1415:G:C6	1:AA:1486:G:C5	3.09	0.40
2:AB:7:VAL:HA	2:AB:11:LEU:CD1	2.50	0.40
2:AB:30:ARG:HG3	2:AB:31:TYR:N	2.36	0.40
2:AB:30:ARG:CG	2:AB:31:TYR:N	2.84	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:58:ILE:O	2:AB:61:LEU:N	2.54	0.40
2:AB:224:GLN:O	2:AB:227:GLY:N	2.54	0.40
3:AC:40:ARG:O	3:AC:41:GLY:C	2.63	0.40
3:AC:174:PRO:HB2	3:AC:177:THR:HB	2.03	0.40
4:AD:12:CYS:O	4:AD:33:MET:CE	2.62	0.40
4:AD:59:ARG:NE	4:AD:59:ARG:HA	2.35	0.40
12:AL:10:LEU:O	12:AL:14:GLY:N	2.54	0.40
12:AL:64:TYR:HD1	12:AL:64:TYR:H	1.69	0.40
12:AL:124:LYS:HD2	12:AL:125:PRO:HD2	2.02	0.40
13:AM:83:ASP:C	13:AM:85:GLY:N	2.75	0.40
15:AO:27:VAL:O	15:AO:28:GLN:C	2.64	0.40
15:AO:39:LEU:CD2	15:AO:43:LEU:HG	2.51	0.40
15:AO:65:ARG:HG2	15:AO:65:ARG:NH1	2.36	0.40
17:AQ:99:SER:C	17:AQ:100:LYS:HG3	2.47	0.40
22:AV:18:G:C2	22:AV:58:A:C6	3.09	0.40
22:AW:9:A:N6	22:AW:23:A:C8	2.90	0.40
25:AZ:110:ASP:CG	25:AZ:113:MET:HE2	2.46	0.40
25:AZ:252:GLU:C	25:AZ:253:VAL:HG13	2.46	0.40
25:AZ:271:GLU:HA	25:AZ:277:LEU:H	1.86	0.40
25:AZ:294:SER:C	25:AZ:296:GLU:N	2.80	0.40
29:B3:15:TYR:HD2	29:B3:19:GLN:HE22	1.69	0.40
30:B4:35:VAL:CG1	30:B4:36:CYS:N	2.84	0.40
32:B6:20:ASN:CG	32:B6:21:TYR:H	2.29	0.40
36:BA:270:A:H2'	36:BA:271:A:C5'	2.51	0.40
36:BA:314:A:H2'	36:BA:315:G:H8	1.85	0.40
36:BA:585:G:H2'	36:BA:1251:C:H42	1.85	0.40
36:BA:645:C:O2	36:BA:645:C:C3'	2.69	0.40
36:BA:764:A:N1	36:BA:1789:A:O2'	2.48	0.40
36:BA:997:G:C2	36:BA:1159:U:O2	2.75	0.40
36:BA:1018:C:O2'	36:BA:1019:U:H5'	2.21	0.40
36:BA:1190:G:H5'	48:BP:35:HIS:H	1.86	0.40
36:BA:1309:G:O2'	36:BA:1310:G:H5'	2.22	0.40
36:BA:1389:G:H2'	36:BA:1390:U:H6	1.86	0.40
36:BA:2038:G:H2'	36:BA:2039:C:O4'	2.20	0.40
36:BA:2101:G:C2'	36:BA:2102:U:C5'	2.93	0.40
36:BA:2505:G:O6	36:BA:2576:G:H2'	2.21	0.40
36:BA:2592:G:H2'	36:BA:2593:U:O4'	2.21	0.40
36:BA:2661:G:C6	36:BA:2662:A:C2	3.09	0.40
36:BA:2810:A:C2'	40:BE:61:ARG:HH21	2.34	0.40
38:BC:137:LEU:HD13	38:BC:137:LEU:C	2.46	0.40
39:BD:74:GLY:O	39:BD:76:PRO:HD3	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BD:146:GLU:HG2	39:BD:153:ALA:N	2.36	0.40
40:BE:127:ASP:HA	40:BE:135:HIS:CD2	2.57	0.40
41:BF:93:LYS:O	41:BF:94:PRO:C	2.63	0.40
41:BF:192:LEU:HD23	41:BF:192:LEU:O	2.21	0.40
42:BG:47:LYS:NZ	42:BG:81:LYS:HG3	2.37	0.40
43:BH:84:SER:O	43:BH:85:LYS:HB3	2.20	0.40
43:BH:136:ILE:N	43:BH:136:ILE:CD1	2.84	0.40
46:BN:9:VAL:O	46:BN:10:GLU:C	2.63	0.40
48:BP:22:GLY:HA2	48:BP:23:PRO:HD3	1.86	0.40
52:BT:29:ARG:HG2	52:BT:86:ILE:HG22	2.03	0.40
52:BT:79:HIS:O	52:BT:80:SER:CB	2.69	0.40
52:BT:129:ARG:HG3	52:BT:129:ARG:NH1	2.37	0.40
53:BU:90:VAL:HG21	54:BV:47:VAL:HG23	2.02	0.40
55:BW:64:MET:HE2	55:BW:109:GLU:HG3	2.03	0.40
57:BY:50:ARG:HG3	57:BY:53:PRO:HA	2.03	0.40
57:BY:50:ARG:CB	57:BY:53:PRO:HG3	2.47	0.40
57:BY:73:ARG:HA	57:BY:74:PRO:HD2	1.91	0.40
1:AA:49:U:H5	1:AA:365:U:O4	2.05	0.40
1:AA:109:A:C6	1:AA:326:G:C5	3.09	0.40
1:AA:261:U:OP2	20:AT:79:ARG:NH2	2.53	0.40
1:AA:495:A:H4'	1:AA:496:A:O5'	2.21	0.40
1:AA:828:A:OP1	1:AA:828:A:H4'	2.21	0.40
1:AA:862:C:C2'	1:AA:863:U:H5'	2.51	0.40
1:AA:1058:G:H2'	1:AA:1059:C:C6	2.57	0.40
1:AA:1318:A:O2'	19:AS:10:PHE:HD2	2.04	0.40
2:AB:13:ALA:O	2:AB:14:GLY:C	2.64	0.40
4:AD:190:ASP:HB3	4:AD:193:ASP:OD2	2.21	0.40
7:AG:21:VAL:HG23	7:AG:22:LEU:N	2.35	0.40
7:AG:111:ARG:NH1	7:AG:113:GLU:OE2	2.54	0.40
17:AQ:16:GLN:HE21	17:AQ:16:GLN:HB2	1.63	0.40
24:AY:36:A:C4	24:AY:37:MIA:C8	3.04	0.40
27:B1:35:THR:HG21	36:BA:2080:G:OP1	2.21	0.40
28:B2:17:SER:CB	28:B2:18:PRO:CD	2.90	0.40
28:B2:29:LYS:O	28:B2:32:LEU:HB3	2.21	0.40
30:B4:15:ILE:HD13	30:B4:21:VAL:HG13	2.03	0.40
35:B9:16:VAL:HG11	36:BA:1032:A:O3'	2.21	0.40
35:B9:29:ASN:HD21	35:B9:32:HIS:CE1	2.40	0.40
36:BA:86:C:H1'	36:BA:103:A:H2	1.86	0.40
36:BA:139(A):G:N2	56:BX:44:GLU:OE1	2.52	0.40
36:BA:246:C:H5'	48:BP:71:VAL:HG23	2.03	0.40
36:BA:271(R):G:O2'	36:BA:271(S):G:H5'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:271(X):G:C2	36:BA:271(Y):U:O4	2.74	0.40
36:BA:321:G:N2	41:BF:165:ARG:HE	2.19	0.40
36:BA:718:A:H3'	36:BA:719:C:H6	1.86	0.40
36:BA:814:C:O2'	36:BA:815:C:H5'	2.21	0.40
36:BA:947:G:H2'	36:BA:948:G:C8	2.57	0.40
36:BA:1204:A:N1	36:BA:1241:A:C2	2.89	0.40
36:BA:1535:A:H8	36:BA:1535:A:O5'	2.03	0.40
36:BA:1542:A:C6	36:BA:1544:A:C8	3.09	0.40
36:BA:1638:C:H5"	36:BA:2710:C:O2'	2.20	0.40
36:BA:1682:G:H2'	36:BA:1683:C:H6	1.84	0.40
36:BA:1800:C:OP1	39:BD:264:LYS:HE2	2.22	0.40
36:BA:2001:A:H2'	36:BA:2002:G:C8	2.57	0.40
36:BA:2517:C:O2'	36:BA:2542:A:C2	2.65	0.40
36:BA:2870:C:C2'	36:BA:2871:C:H5'	2.51	0.40
38:BC:46:LYS:HD2	38:BC:47:LEU:N	2.37	0.40
42:BG:64:THR:HG23	42:BG:65:GLY:N	2.37	0.40
47:BO:71:ARG:HH12	52:BT:74:ARG:NH2	2.19	0.40
48:BP:57:THR:C	48:BP:59:LEU:N	2.79	0.40
48:BP:123:LEU:HD23	48:BP:123:LEU:N	2.35	0.40
49:BQ:65:PHE:CZ	58:BZ:118:GLN:OE1	2.75	0.40
50:BR:55:ALA:HB2	50:BR:79:LEU:HD13	2.02	0.40
50:BR:63:ARG:HA	50:BR:80:PHE:CE2	2.56	0.40
52:BT:50:ILE:HA	52:BT:99:LEU:HD11	2.03	0.40
57:BY:27:VAL:CG1	57:BY:29:GLU:OE1	2.69	0.40
57:BY:74:PRO:O	57:BY:79:CYS:O	2.38	0.40
58:BZ:62:PRO:C	58:BZ:64:GLY:N	2.79	0.40
58:BZ:63:ASP:C	58:BZ:65:GLN:N	2.78	0.40
1:AA:272:C:O2'	1:AA:273:A:H5'	2.22	0.40
1:AA:342:C:O2'	1:AA:343:U:H5'	2.20	0.40
1:AA:355:C:N3	1:AA:356:A:N7	2.69	0.40
1:AA:518:C:H2'	1:AA:530:G:N3	2.37	0.40
1:AA:636:U:O2'	1:AA:637:G:H5'	2.21	0.40
1:AA:956:U:O2	1:AA:1225:A:C2	2.74	0.40
1:AA:1190:G:OP1	3:AC:4:LYS:HA	2.21	0.40
2:AB:58:ILE:O	2:AB:59:GLU:C	2.64	0.40
2:AB:224:GLN:O	2:AB:225:ALA:C	2.63	0.40
8:AH:35:ILE:HG23	8:AH:111:ILE:HD13	2.03	0.40
10:AJ:40:LEU:HG	10:AJ:69:ASN:HB2	2.01	0.40
13:AM:27:LYS:HG3	13:AM:31:LYS:HE3	2.03	0.40
15:AO:82:ILE:CG2	15:AO:83:GLU:N	2.84	0.40
16:AP:6:LEU:HB3	16:AP:17:TYR:CD2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AP:21:VAL:HG13	16:AP:21:VAL:O	2.22	0.40
18:AR:50:ILE:CD1	18:AR:70:ILE:HG21	2.50	0.40
20:AT:30:LYS:NZ	20:AT:72:LEU:HD21	2.36	0.40
20:AT:49:ALA:O	20:AT:52:ALA:HB3	2.21	0.40
22:AV:59:U:O2'	22:AV:60:U:O5'	2.39	0.40
25:AZ:177:LEU:O	25:AZ:178:ALA:C	2.63	0.40
25:AZ:341:GLN:NE2	25:AZ:341:GLN:H	2.20	0.40
26:B0:7:LEU:O	26:B0:8:GLY:O	2.40	0.40
32:B6:53:LYS:CD	32:B6:54:ILE:N	2.81	0.40
34:B8:54:GLU:O	34:B8:58:ILE:HG12	2.22	0.40
35:B9:1:MET:CA	35:B9:4:ARG:NH2	2.71	0.40
36:BA:607:U:O2	36:BA:621:A:N1	2.55	0.40
36:BA:614(A):U:H4'	36:BA:614(B):G:OP1	2.21	0.40
36:BA:671:C:C5	48:BP:42:SER:HA	2.57	0.40
36:BA:673:C:C6	36:BA:673:C:C3'	3.04	0.40
36:BA:714:U:H2'	36:BA:716:A:OP2	2.21	0.40
36:BA:1151:G:H2'	36:BA:1152:C:H6	1.83	0.40
36:BA:1578:U:C2'	36:BA:1579:A:H5"	2.51	0.40
36:BA:1708:C:H2'	36:BA:1709:U:H6	1.87	0.40
36:BA:1748:G:H8	36:BA:1748:G:H5'	1.87	0.40
36:BA:1773:A:H2'	36:BA:1774:C:C5'	2.50	0.40
36:BA:2176:A:H2	38:BC:172:HIS:HE2	1.68	0.40
36:BA:2203:U:O2'	39:BD:151:LYS:HG2	2.21	0.40
36:BA:2400:G:N2	36:BA:2417:C:C2	2.90	0.40
36:BA:2839:G:H5"	50:BR:46:GLY:HA2	2.03	0.40
38:BC:171:ILE:HG12	38:BC:196:LEU:CD2	2.51	0.40
39:BD:226:MET:HB3	39:BD:230:ASP:CB	2.47	0.40
41:BF:47:GLY:O	41:BF:94:PRO:HA	2.22	0.40
46:BN:29:LYS:C	46:BN:31:ALA:N	2.78	0.40
46:BN:129:PRO:O	46:BN:130:HIS:CB	2.69	0.40
47:BO:35:VAL:CG2	47:BO:65:THR:HG23	2.50	0.40
49:BQ:26:TYR:HA	49:BQ:137:TYR:CD1	2.56	0.40
50:BR:45:ARG:O	50:BR:46:GLY:C	2.64	0.40
50:BR:60:LEU:O	50:BR:61:HIS:C	2.65	0.40
51:BS:15:ARG:CB	51:BS:15:ARG:NH1	2.80	0.40
51:BS:48:LEU:N	51:BS:48:LEU:HD12	2.36	0.40
51:BS:89:ARG:NH1	51:BS:91:PRO:O	2.55	0.40
52:BT:50:ILE:CD1	52:BT:64:ARG:HB2	2.50	0.40
54:BV:57:VAL:HG23	54:BV:98:GLU:O	2.21	0.40
55:BW:70:TYR:O	55:BW:72:LYS:N	2.54	0.40
55:BW:84:ARG:HD3	55:BW:84:ARG:HA	1.93	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BW:96:ILE:O	55:BW:96:ILE:CG2	2.69	0.40
57:BY:27:VAL:CG1	57:BY:28:LYS:N	2.84	0.40
57:BY:96:ILE:CD1	57:BY:99:CYS:HB3	2.51	0.40
58:BZ:46:LYS:O	58:BZ:50:GLN:HG3	2.21	0.40
58:BZ:66:SER:C	58:BZ:67:LEU:HD12	2.47	0.40
58:BZ:157:LEU:O	58:BZ:158:PRO:C	2.65	0.40
1:AA:368:U:C5	25:AZ:234:ARG:CZ	3.05	0.40
1:AA:495:A:O2'	1:AA:496:A:P	2.79	0.40
1:AA:590:C:OP1	8:AH:30:ARG:HB2	2.21	0.40
1:AA:621:A:C6	1:AA:622:A:C6	3.10	0.40
1:AA:787:A:N1	1:AA:795:C:N4	2.70	0.40
1:AA:982:U:O2'	1:AA:983:A:OP2	2.35	0.40
1:AA:1044:A:C5	1:AA:1045:C:H1'	2.57	0.40
1:AA:1191:A:H2'	1:AA:1192:C:C6	2.56	0.40
1:AA:1201:A:H4'	1:AA:1202:G:C5'	2.51	0.40
1:AA:1314:C:H2'	1:AA:1315:U:C6	2.56	0.40
2:AB:34:ALA:O	2:AB:41:ILE:HB	2.21	0.40
2:AB:50:GLU:O	2:AB:51:LEU:C	2.64	0.40
2:AB:116:GLU:O	2:AB:118:LEU:N	2.54	0.40
5:AE:83:GLU:HG2	5:AE:88:LYS:HG3	2.02	0.40
5:AE:149:GLU:C	5:AE:151:LEU:N	2.79	0.40
7:AG:66:VAL:HG12	7:AG:67:GLU:N	2.36	0.40
9:AI:28:VAL:O	9:AI:29:ASN:HB2	2.22	0.40
10:AJ:28:ARG:NH1	10:AJ:28:ARG:HG2	2.36	0.40
10:AJ:74:ILE:O	10:AJ:74:ILE:HG13	2.22	0.40
12:AL:102:ARG:CG	12:AL:102:ARG:NH1	2.81	0.40
13:AM:15:VAL:HG23	13:AM:16:ASP:H	1.84	0.40
14:AN:33:VAL:HA	14:AN:40:CYS:HA	2.03	0.40
15:AO:31:LEU:HD12	15:AO:31:LEU:HA	1.92	0.40
16:AP:80:PHE:CD1	16:AP:80:PHE:N	2.89	0.40
18:AR:88:LYS:C	18:AR:88:LYS:HD3	2.47	0.40
19:AS:9:VAL:HG12	19:AS:11:VAL:HG12	2.04	0.40
21:AU:3:LYS:HD3	21:AU:14:TRP:HD1	1.85	0.40
25:AZ:55:GLU:C	25:AZ:57:ARG:N	2.73	0.40
25:AZ:117:ARG:NH1	25:AZ:117:ARG:HB2	2.37	0.40
25:AZ:124:ARG:CD	25:AZ:161:TYR:O	2.70	0.40
30:B4:10:VAL:CG2	30:B4:11:PRO:CD	2.96	0.40
36:BA:139:G:N1	36:BA:143:G:N1	2.70	0.40
36:BA:203:C:C3'	36:BA:204:A:H5"	2.45	0.40
36:BA:300:A:H2'	36:BA:334:C:O2'	2.22	0.40
36:BA:503:A:C6	36:BA:506:G:C6	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:553:G:H2'	36:BA:554:U:O4'	2.21	0.40
36:BA:652:C:HO2'	36:BA:653:A:P	2.44	0.40
36:BA:903:C:H2'	36:BA:904:C:C6	2.57	0.40
36:BA:1339:G:N2	36:BA:1603:A:H1'	2.37	0.40
36:BA:1664:A:H1'	36:BA:2726:U:C5	2.56	0.40
36:BA:2048:G:N2	40:BE:113:PHE:CZ	2.88	0.40
36:BA:2206:G:N3	36:BA:2206:G:H3'	2.37	0.40
36:BA:2208:A:H1'	36:BA:2219:G:N7	2.36	0.40
36:BA:2392:A:C2	36:BA:2424:C:N4	2.87	0.40
36:BA:2531:A:H2'	36:BA:2532:G:H8	1.87	0.40
40:BE:132:HIS:CG	40:BE:135:HIS:HE1	2.39	0.40
40:BE:167:VAL:HG12	40:BE:189:PRO:CD	2.52	0.40
40:BE:199:ARG:HB2	40:BE:199:ARG:CZ	2.50	0.40
41:BF:84:VAL:CG1	41:BF:85:GLY:N	2.66	0.40
41:BF:121:GLY:C	41:BF:123:LEU:H	2.29	0.40
41:BF:132:VAL:C	41:BF:134:GLY:N	2.79	0.40
42:BG:63:ILE:HG22	42:BG:143:GLU:HG3	2.04	0.40
42:BG:95:ARG:HG2	42:BG:95:ARG:NH1	2.37	0.40
43:BH:85:LYS:HZ1	43:BH:132:ARG:HA	1.86	0.40
43:BH:139:GLN:C	43:BH:139:GLN:CD	2.89	0.40
46:BN:15:LEU:C	46:BN:15:LEU:HD13	2.47	0.40
47:BO:25:LEU:HB2	47:BO:38:VAL:O	2.22	0.40
52:BT:1:MET:HG3	52:BT:1:MET:O	2.21	0.40
57:BY:19:LYS:HB2	57:BY:20:TYR:CE1	2.56	0.40

All (2) 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)
1:AA:1267:C:O5'	36:BA:654(I):C:O4'[2_746]	1.83	0.37
1:AA:1266:G:O3'	36:BA:654(I):C:O4'[2_746]	2.16	0.04

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	232/256 (91%)	163 (70%)	41 (18%)	28 (12%)	0 1
3	AC	204/239 (85%)	155 (76%)	33 (16%)	16 (8%)	1 4
4	AD	206/209 (99%)	157 (76%)	34 (16%)	15 (7%)	1 5
5	AE	148/162 (91%)	125 (84%)	16 (11%)	7 (5%)	2 11
6	AF	99/101 (98%)	81 (82%)	11 (11%)	7 (7%)	1 5
7	AG	153/156 (98%)	118 (77%)	25 (16%)	10 (6%)	1 6
8	AH	136/138 (99%)	118 (87%)	16 (12%)	2 (2%)	8 32
9	AI	125/128 (98%)	83 (66%)	29 (23%)	13 (10%)	0 2
10	AJ	96/105 (91%)	67 (70%)	17 (18%)	12 (12%)	0 1
11	AK	117/129 (91%)	94 (80%)	19 (16%)	4 (3%)	3 16
12	AL	122/135 (90%)	89 (73%)	20 (16%)	13 (11%)	0 2
13	AM	122/126 (97%)	74 (61%)	27 (22%)	21 (17%)	0 0
14	AN	58/61 (95%)	37 (64%)	11 (19%)	10 (17%)	0 0
15	AO	86/89 (97%)	65 (76%)	17 (20%)	4 (5%)	2 11
16	AP	81/88 (92%)	62 (76%)	14 (17%)	5 (6%)	1 7
17	AQ	97/105 (92%)	74 (76%)	18 (19%)	5 (5%)	1 10
18	AR	68/88 (77%)	49 (72%)	14 (21%)	5 (7%)	1 5
19	AS	76/93 (82%)	41 (54%)	21 (28%)	14 (18%)	0 0
20	AT	97/106 (92%)	63 (65%)	26 (27%)	8 (8%)	0 4
21	AU	22/27 (82%)	17 (77%)	4 (18%)	1 (4%)	2 12
25	AZ	403/405 (100%)	285 (71%)	83 (21%)	35 (9%)	0 4
26	B0	82/85 (96%)	65 (79%)	12 (15%)	5 (6%)	1 7
27	B1	91/98 (93%)	73 (80%)	9 (10%)	9 (10%)	0 3
28	B2	69/72 (96%)	46 (67%)	15 (22%)	8 (12%)	0 1
29	B3	57/60 (95%)	40 (70%)	9 (16%)	8 (14%)	0 1
30	B4	42/71 (59%)	23 (55%)	11 (26%)	8 (19%)	0 0
31	B5	57/60 (95%)	42 (74%)	8 (14%)	7 (12%)	0 1
32	B6	48/54 (89%)	23 (48%)	12 (25%)	13 (27%)	0 0
33	B7	46/49 (94%)	39 (85%)	7 (15%)	0	100 100
34	B8	61/65 (94%)	34 (56%)	17 (28%)	10 (16%)	0 0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
35	B9	35/37 (95%)	21 (60%)	9 (26%)	5 (14%)	0 1
38	BC	226/229 (99%)	161 (71%)	46 (20%)	19 (8%)	0 4
39	BD	273/276 (99%)	219 (80%)	28 (10%)	26 (10%)	0 3
40	BE	202/206 (98%)	116 (57%)	53 (26%)	33 (16%)	0 0
41	BF	205/210 (98%)	144 (70%)	35 (17%)	26 (13%)	0 1
42	BG	179/182 (98%)	107 (60%)	47 (26%)	25 (14%)	0 1
43	BH	157/180 (87%)	96 (61%)	42 (27%)	19 (12%)	0 1
46	BN	136/140 (97%)	93 (68%)	21 (15%)	22 (16%)	0 0
47	BO	120/122 (98%)	97 (81%)	16 (13%)	7 (6%)	1 8
48	BP	144/150 (96%)	74 (51%)	36 (25%)	34 (24%)	0 0
49	BQ	139/141 (99%)	108 (78%)	24 (17%)	7 (5%)	1 11
50	BR	115/118 (98%)	72 (63%)	28 (24%)	15 (13%)	0 1
51	BS	96/112 (86%)	37 (38%)	37 (38%)	22 (23%)	0 0
52	BT	135/146 (92%)	85 (63%)	27 (20%)	23 (17%)	0 0
53	BU	115/118 (98%)	72 (63%)	34 (30%)	9 (8%)	1 4
54	BV	99/101 (98%)	69 (70%)	13 (13%)	17 (17%)	0 0
55	BW	111/113 (98%)	81 (73%)	21 (19%)	9 (8%)	1 4
56	BX	90/96 (94%)	67 (74%)	15 (17%)	8 (9%)	0 3
57	BY	98/110 (89%)	45 (46%)	26 (26%)	27 (28%)	0 0
58	BZ	174/206 (84%)	108 (62%)	39 (22%)	27 (16%)	0 0
All	All	6150/6553 (94%)	4274 (70%)	1193 (19%)	683 (11%)	0 2

All (683) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	AB	191	ASP
2	AB	194	PRO
2	AB	195	ASP
3	AC	146	ALA
4	AD	4	TYR
4	AD	24	GLU
4	AD	30	LYS
4	AD	44	GLY
4	AD	125	HIS
5	AE	64	ARG

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Mol	Chain	Res	Type
6	AF	64	GLN
7	AG	53	LYS
8	AH	109	ILE
9	AI	41	VAL
9	AI	58	ARG
9	AI	89	ASN
10	AJ	36	GLY
10	AJ	55	LYS
10	AJ	83	GLU
10	AJ	86	MET
12	AL	18	VAL
12	AL	27	LEU
12	AL	28	LYS
12	AL	47	LYS
12	AL	92	ASP
12	AL	122	THR
13	AM	12	ASN
13	AM	14	ARG
13	AM	53	VAL
13	AM	83	ASP
13	AM	91	ARG
13	AM	117	VAL
13	AM	124	PRO
14	AN	14	PRO
14	AN	15	LYS
14	AN	23	ARG
14	AN	56	VAL
14	AN	59	ALA
16	AP	17	TYR
16	AP	45	THR
17	AQ	27	PHE
19	AS	5	LEU
19	AS	10	PHE
19	AS	28	LYS
19	AS	61	TYR
19	AS	62	ILE
19	AS	80	TYR
20	AT	48	LYS
25	AZ	19	HIS
25	AZ	85	HIS
25	AZ	99	MET
25	AZ	141	VAL

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Mol	Chain	Res	Type
25	AZ	188	THR
25	AZ	194	GLU
25	AZ	213	PRO
25	AZ	220	PRO
25	AZ	276	THR
25	AZ	360	GLU
25	AZ	364	PRO
25	AZ	390	GLU
25	AZ	404	LEU
26	B0	43	THR
27	B1	83	GLU
27	B1	85	LEU
28	B2	17	SER
28	B2	18	PRO
28	B2	47	ASN
28	B2	48	HIS
29	B3	3	ARG
29	B3	13	ILE
30	B4	26	SER
31	B5	4	HIS
31	B5	24	ALA
31	B5	49	CYS
32	B6	17	LYS
32	B6	18	ARG
32	B6	20	ASN
32	B6	27	LYS
32	B6	28	ARG
32	B6	31	PRO
32	B6	33	LYS
32	B6	46	HIS
32	B6	52	VAL
34	B8	33	ASN
34	B8	34	TRP
34	B8	35	GLN
34	B8	46	ARG
35	B9	11	CYS
35	B9	36	GLN
38	BC	4	GLY
38	BC	78	ALA
38	BC	95	GLY
38	BC	109	ASP
38	BC	111	ASP

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Mol	Chain	Res	Type
38	BC	126	LYS
38	BC	149	ILE
38	BC	217	THR
39	BD	25	THR
39	BD	26	LYS
39	BD	27	THR
39	BD	36	PRO
39	BD	267	SER
40	BE	2	LYS
40	BE	4	ILE
40	BE	33	VAL
40	BE	35	GLN
40	BE	45	THR
40	BE	53	PRO
40	BE	66	HIS
40	BE	88	GLY
40	BE	90	THR
40	BE	178	GLU
40	BE	187	ALA
41	BF	10	PRO
41	BF	11	VAL
41	BF	14	PRO
41	BF	21	ALA
41	BF	84	VAL
41	BF	133	ASN
42	BG	3	LEU
42	BG	28	VAL
42	BG	79	ASN
42	BG	82	LEU
42	BG	84	LYS
42	BG	86	MET
42	BG	96	ARG
42	BG	126	ASP
42	BG	137	GLU
43	BH	41	MET
43	BH	84	SER
43	BH	92	ILE
43	BH	155	SER
43	BH	158	HIS
43	BH	159	GLU
46	BN	7	LYS
46	BN	8	GLN

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Mol	Chain	Res	Type
46	BN	45	ASN
46	BN	46	VAL
46	BN	58	ASP
46	BN	63	THR
46	BN	129	PRO
46	BN	130	HIS
47	BO	48	PRO
47	BO	68	GLU
48	BP	9	ASN
48	BP	17	LYS
48	BP	21	ARG
48	BP	30	THR
48	BP	31	ALA
48	BP	33	ARG
48	BP	36	LYS
48	BP	40	SER
48	BP	47	ASP
48	BP	65	ARG
48	BP	67	MET
48	BP	70	GLN
48	BP	71	VAL
48	BP	103	ALA
48	BP	106	LEU
48	BP	108	LYS
48	BP	111	ARG
49	BQ	135	ASP
50	BR	6	SER
50	BR	8	ARG
50	BR	9	LYS
50	BR	58	GLY
50	BR	117	VAL
51	BS	23	ARG
51	BS	39	ILE
51	BS	62	LYS
51	BS	94	TYR
51	BS	97	ARG
51	BS	98	VAL
51	BS	103	GLU
51	BS	105	ALA
52	BT	24	PRO
52	BT	27	THR
52	BT	28	VAL

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Mol	Chain	Res	Type
52	BT	32	TYR
52	BT	69	GLY
52	BT	80	SER
52	BT	83	ILE
52	BT	84	GLN
52	BT	88	ILE
52	BT	107	ASP
52	BT	135	ALA
53	BU	91	ASP
54	BV	16	PRO
54	BV	18	LEU
54	BV	24	LYS
54	BV	53	GLU
54	BV	97	LYS
55	BW	65	LEU
55	BW	92	ARG
56	BX	48	LYS
56	BX	87	GLN
57	BY	17	SER
57	BY	26	LYS
57	BY	46	LYS
57	BY	50	ARG
57	BY	53	PRO
57	BY	56	PRO
57	BY	57	GLN
57	BY	64	GLU
57	BY	65	ALA
57	BY	76	CYS
57	BY	77	PRO
57	BY	78	ALA
57	BY	79	CYS
57	BY	81	LYS
57	BY	82	PRO
58	BZ	34	ASN
58	BZ	38	TYR
58	BZ	77	ASP
58	BZ	141	VAL
58	BZ	163	LEU
58	BZ	177	PRO
2	AB	9	GLU
2	AB	14	GLY
2	AB	18	GLY

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Mol	Chain	Res	Type
2	AB	44	LEU
2	AB	75	LYS
2	AB	150	SER
2	AB	153	ARG
2	AB	204	ASN
2	AB	224	GLN
2	AB	234	PRO
2	AB	236	TYR
3	AC	81	GLY
3	AC	160	ALA
3	AC	204	LEU
4	AD	13	ARG
4	AD	92	VAL
5	AE	22	GLY
5	AE	126	ARG
5	AE	153	LYS
6	AF	37	VAL
6	AF	54	LYS
7	AG	147	ALA
9	AI	12	GLU
9	AI	70	LYS
9	AI	94	ALA
9	AI	119	ALA
10	AJ	30	SER
10	AJ	59	SER
10	AJ	84	GLN
11	AK	127	LYS
12	AL	72	GLY
12	AL	87	GLY
13	AM	5	ALA
13	AM	33	ALA
13	AM	60	VAL
13	AM	114	ARG
13	AM	120	LYS
14	AN	16	PHE
14	AN	20	ALA
15	AO	71	GLN
16	AP	28	ARG
16	AP	43	LYS
16	AP	49	LEU
17	AQ	78	GLU
17	AQ	82	MET

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Mol	Chain	Res	Type
18	AR	32	ARG
18	AR	47	THR
19	AS	9	VAL
19	AS	14	HIS
19	AS	17	GLU
19	AS	25	LYS
19	AS	30	LEU
20	AT	98	PRO
25	AZ	67	HIS
25	AZ	139	ASP
25	AZ	209	TYR
25	AZ	211	PRO
25	AZ	212	THR
25	AZ	260	PRO
26	B0	8	GLY
26	B0	42	GLY
29	B3	30	ARG
29	B3	57	GLU
30	B4	8	LYS
30	B4	43	TYR
31	B5	35	GLU
31	B5	48	GLU
31	B5	55	ARG
32	B6	16	CYS
32	B6	34	LEU
34	B8	31	HIS
34	B8	50	LEU
34	B8	61	LEU
35	B9	10	ILE
35	B9	33	LYS
38	BC	45	ALA
38	BC	59	ARG
38	BC	105	ASP
38	BC	202	GLU
38	BC	221	SER
39	BD	3	VAL
39	BD	41	GLY
39	BD	42	GLY
39	BD	127	VAL
39	BD	225	ALA
40	BE	69	LYS
40	BE	77	ILE

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Mol	Chain	Res	Type
40	BE	82	ARG
40	BE	83	ASP
40	BE	117	MET
41	BF	91	GLY
41	BF	134	GLY
42	BG	43	LEU
42	BG	87	PRO
42	BG	110	ALA
42	BG	129	GLY
42	BG	138	GLN
43	BH	45	VAL
43	BH	52	VAL
43	BH	160	LYS
46	BN	64	GLY
46	BN	76	SER
46	BN	102	ALA
46	BN	133	GLN
47	BO	5	GLN
47	BO	49	ARG
48	BP	11	GLY
48	BP	20	GLY
48	BP	32	THR
48	BP	39	LYS
48	BP	104	GLY
48	BP	110	TYR
49	BQ	2	LEU
49	BQ	21	THR
49	BQ	88	GLY
50	BR	4	LEU
50	BR	14	SER
50	BR	70	LEU
50	BR	82	GLU
50	BR	93	GLY
50	BR	103	ARG
50	BR	107	ASP
51	BS	14	VAL
51	BS	24	LEU
51	BS	50	SER
51	BS	90	GLY
51	BS	102	ALA
52	BT	4	GLY
52	BT	33	LYS

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Mol	Chain	Res	Type
52	BT	41	ARG
52	BT	129	ARG
53	BU	46	ALA
53	BU	58	ARG
53	BU	83	LEU
53	BU	90	VAL
53	BU	93	LYS
53	BU	102	GLU
54	BV	19	LYS
54	BV	40	LEU
54	BV	50	PRO
55	BW	11	ARG
55	BW	22	ASP
55	BW	63	ASP
55	BW	71	VAL
56	BX	19	ALA
56	BX	62	LYS
56	BX	93	GLU
57	BY	3	VAL
57	BY	7	VAL
57	BY	38	ILE
57	BY	39	VAL
57	BY	51	VAL
58	BZ	31	ARG
58	BZ	80	ARG
58	BZ	113	ALA
58	BZ	140	ASP
58	BZ	142	SER
58	BZ	147	GLY
58	BZ	150	LEU
58	BZ	152	ALA
2	AB	19	HIS
2	AB	130	ARG
2	AB	139	LYS
2	AB	190	THR
2	AB	225	ALA
2	AB	235	SER
2	AB	238	LEU
3	AC	4	LYS
3	AC	15	THR
3	AC	66	VAL
3	AC	129	ALA

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Mol	Chain	Res	Type
3	AC	181	ASN
4	AD	3	ARG
4	AD	14	ARG
4	AD	159	ARG
4	AD	172	PRO
5	AE	125	SER
6	AF	16	GLN
6	AF	23	LYS
7	AG	80	VAL
7	AG	100	ALA
8	AH	2	LEU
9	AI	44	VAL
9	AI	54	ASP
9	AI	82	ALA
9	AI	95	LYS
10	AJ	21	GLN
10	AJ	27	ALA
10	AJ	88	LEU
11	AK	50	TYR
11	AK	123	LYS
12	AL	29	GLY
12	AL	91	LYS
12	AL	115	LYS
13	AM	43	THR
13	AM	75	ALA
14	AN	22	THR
15	AO	25	THR
17	AQ	68	ARG
18	AR	45	SER
19	AS	72	GLY
20	AT	25	ARG
20	AT	49	ALA
25	AZ	40	PRO
25	AZ	43	GLU
25	AZ	66	ALA
25	AZ	97	ALA
25	AZ	130	TYR
25	AZ	142	ASP
25	AZ	186	PRO
25	AZ	332	THR
25	AZ	366	ASP
26	B0	75	LEU

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Mol	Chain	Res	Type
28	B2	26	ARG
28	B2	68	ARG
29	B3	51	ALA
30	B4	9	LEU
30	B4	20	ASN
31	B5	57	VAL
34	B8	37	SER
38	BC	68	LEU
39	BD	87	ASN
39	BD	196	VAL
39	BD	215	LEU
39	BD	273	ARG
40	BE	46	ALA
40	BE	56	PRO
40	BE	60	ASN
40	BE	71	GLY
41	BF	3	GLU
41	BF	24	LEU
41	BF	43	LYS
41	BF	58	ALA
41	BF	62	ARG
41	BF	98	SER
41	BF	171	PRO
42	BG	97	ASP
42	BG	112	PRO
42	BG	115	ARG
42	BG	127	GLY
42	BG	144	ILE
43	BH	69	ARG
43	BH	77	LYS
43	BH	151	ILE
46	BN	44	PRO
46	BN	59	LYS
46	BN	68	GLU
48	BP	6	LEU
48	BP	23	PRO
48	BP	25	SER
48	BP	34	GLY
48	BP	46	LYS
49	BQ	28	ALA
50	BR	45	ARG
51	BS	13	ARG

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Mol	Chain	Res	Type
51	BS	55	ALA
51	BS	57	LYS
52	BT	45	PHE
53	BU	60	LEU
54	BV	27	ALA
54	BV	36	PRO
54	BV	46	VAL
54	BV	48	GLY
57	BY	91	GLU
57	BY	99	CYS
58	BZ	63	ASP
58	BZ	78	LYS
58	BZ	151	HIS
58	BZ	166	SER
2	AB	78	GLN
2	AB	83	MET
3	AC	51	GLY
3	AC	206	GLU
4	AD	118	ARG
7	AG	8	GLU
7	AG	19	GLY
7	AG	52	GLU
9	AI	83	ARG
10	AJ	90	LEU
11	AK	48	ILE
13	AM	10	PRO
13	AM	42	ALA
14	AN	24	CYS
15	AO	70	LEU
19	AS	6	LYS
20	AT	71	THR
20	AT	74	LYS
20	AT	82	SER
20	AT	99	LEU
21	AU	24	ARG
25	AZ	38	GLU
25	AZ	367	ASN
26	B0	64	ASP
27	B1	52	ARG
27	B1	53	VAL
27	B1	91	LYS
27	B1	94	LEU

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Mol	Chain	Res	Type
28	B2	70	GLN
30	B4	28	LYS
32	B6	23	THR
32	B6	44	ARG
34	B8	49	VAL
35	B9	13	LYS
38	BC	97	GLU
39	BD	156	ALA
39	BD	211	ARG
39	BD	242	ARG
39	BD	244	ARG
40	BE	52	LEU
40	BE	54	GLN
40	BE	129	HIS
40	BE	185	LYS
41	BF	25	PRO
41	BF	164	ARG
41	BF	172	TRP
42	BG	143	GLU
46	BN	5	VAL
46	BN	40	PRO
46	BN	47	ALA
46	BN	57	ALA
47	BO	18	LYS
48	BP	12	ALA
48	BP	35	HIS
48	BP	132	LYS
50	BR	11	ASN
51	BS	18	ILE
51	BS	79	ALA
51	BS	88	ASP
52	BT	38	ASN
52	BT	39	ARG
52	BT	68	TYR
52	BT	91	ARG
55	BW	6	ILE
55	BW	35	ILE
56	BX	14	SER
56	BX	24	GLY
58	BZ	14	LYS
58	BZ	22	GLY
58	BZ	41	LEU

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Mol	Chain	Res	Type
2	AB	216	SER
3	AC	12	LEU
3	AC	55	VAL
4	AD	5	ILE
4	AD	102	ASP
5	AE	8	GLU
6	AF	51	PRO
9	AI	101	PHE
12	AL	94	PRO
13	AM	3	ARG
14	AN	60	SER
17	AQ	14	LYS
19	AS	63	THR
25	AZ	117	ARG
25	AZ	310	ILE
25	AZ	345	ARG
27	B1	66	HIS
27	B1	81	LYS
28	B2	58	ALA
29	B3	32	GLN
30	B4	10	VAL
38	BC	164	ARG
39	BD	9	TYR
39	BD	12	SER
39	BD	246	PRO
40	BE	29	GLY
40	BE	58	ARG
40	BE	72	VAL
41	BF	54	ARG
41	BF	82	ILE
41	BF	83	PHE
41	BF	96	ASP
41	BF	168	ARG
42	BG	19	LEU
42	BG	42	GLY
42	BG	74	LYS
43	BH	20	ALA
43	BH	76	VAL
47	BO	91	LEU
48	BP	10	PRO
48	BP	141	ALA
49	BQ	137	TYR

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Mol	Chain	Res	Type
50	BR	60	LEU
51	BS	61	ASN
51	BS	107	GLU
52	BT	26	ASP
52	BT	132	LYS
53	BU	92	ARG
54	BV	23	GLU
54	BV	79	VAL
55	BW	57	ASN
56	BX	4	ALA
57	BY	42	VAL
58	BZ	143	GLY
2	AB	15	VAL
2	AB	26	PRO
3	AC	154	SER
4	AD	23	GLY
5	AE	70	PRO
6	AF	40	VAL
7	AG	79	ARG
7	AG	81	GLY
13	AM	6	GLY
18	AR	41	LYS
18	AR	56	THR
25	AZ	245	GLY
39	BD	44	ASN
39	BD	245	PRO
39	BD	268	ARG
40	BE	43	GLY
40	BE	44	TYR
40	BE	55	ASN
40	BE	189	PRO
41	BF	7	TYR
41	BF	132	VAL
43	BH	15	VAL
43	BH	85	LYS
47	BO	35	VAL
52	BT	93	ARG
57	BY	37	VAL
57	BY	96	ILE
58	BZ	139	VAL
10	AJ	77	PRO
12	AL	71	PRO

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Mol	Chain	Res	Type
30	B4	19	GLY
38	BC	51	PRO
38	BC	224	ILE
40	BE	197	ILE
41	BF	159	GLY
43	BH	21	PRO
46	BN	108	PRO
46	BN	135	PRO
54	BV	47	VAL
58	BZ	12	GLY
58	BZ	37	VAL
58	BZ	53	ILE
3	AC	77	ILE
13	AM	4	ILE
13	AM	7	VAL
13	AM	74	VAL
25	AZ	164	PRO
29	B3	2	PRO
29	B3	16	PRO
34	B8	58	ILE
39	BD	24	ILE
42	BG	114	ILE
43	BH	55	PRO
46	BN	110	GLY
49	BQ	15	GLY
51	BS	85	VAL
54	BV	67	GLY
57	BY	31	LEU
57	BY	66	PRO
2	AB	93	VAL
3	AC	153	VAL
38	BC	161	ILE
39	BD	74	GLY
43	BH	43	VAL
54	BV	51	VAL
2	AB	227	GLY
15	AO	87	ILE
27	B1	30	VAL
40	BE	73	GLU
48	BP	146	VAL
7	AG	88	PRO
42	BG	111	LEU

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Mol	Chain	Res	Type
58	BZ	146	ILE

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	202/220 (92%)	168 (83%)	34 (17%)	2 10
3	AC	160/188 (85%)	137 (86%)	23 (14%)	3 14
4	AD	180/181 (99%)	160 (89%)	20 (11%)	6 24
5	AE	115/123 (94%)	94 (82%)	21 (18%)	2 8
6	AF	90/90 (100%)	80 (89%)	10 (11%)	6 24
7	AG	126/127 (99%)	117 (93%)	9 (7%)	13 41
8	AH	119/119 (100%)	104 (87%)	15 (13%)	4 19
9	AI	98/99 (99%)	86 (88%)	12 (12%)	5 20
10	AJ	88/92 (96%)	78 (89%)	10 (11%)	5 23
11	AK	90/99 (91%)	78 (87%)	12 (13%)	4 17
12	AL	104/111 (94%)	90 (86%)	14 (14%)	4 16
13	AM	99/101 (98%)	87 (88%)	12 (12%)	5 20
14	AN	49/50 (98%)	41 (84%)	8 (16%)	2 11
15	AO	79/80 (99%)	74 (94%)	5 (6%)	16 45
16	AP	72/74 (97%)	63 (88%)	9 (12%)	4 19
17	AQ	94/97 (97%)	87 (93%)	7 (7%)	13 40
18	AR	61/77 (79%)	55 (90%)	6 (10%)	7 29
19	AS	69/80 (86%)	55 (80%)	14 (20%)	1 5
20	AT	76/82 (93%)	65 (86%)	11 (14%)	3 14
21	AU	19/22 (86%)	18 (95%)	1 (5%)	20 51
25	AZ	339/339 (100%)	286 (84%)	53 (16%)	2 12
26	B0	66/67 (98%)	56 (85%)	10 (15%)	3 13
27	B1	78/83 (94%)	67 (86%)	11 (14%)	3 15

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
28	B2	66/67 (98%)	61 (92%)	5 (8%)	12 39
29	B3	51/52 (98%)	48 (94%)	3 (6%)	18 48
30	B4	39/63 (62%)	30 (77%)	9 (23%)	1 4
31	B5	51/52 (98%)	46 (90%)	5 (10%)	7 29
32	B6	49/52 (94%)	38 (78%)	11 (22%)	1 4
33	B7	41/42 (98%)	36 (88%)	5 (12%)	5 20
34	B8	53/55 (96%)	44 (83%)	9 (17%)	2 10
35	B9	34/34 (100%)	28 (82%)	6 (18%)	2 9
38	BC	180/181 (99%)	163 (91%)	17 (9%)	8 31
39	BD	217/218 (100%)	177 (82%)	40 (18%)	1 8
40	BE	165/166 (99%)	146 (88%)	19 (12%)	5 23
41	BF	165/166 (99%)	153 (93%)	12 (7%)	13 40
42	BG	155/156 (99%)	133 (86%)	22 (14%)	3 14
43	BH	132/148 (89%)	122 (92%)	10 (8%)	12 39
46	BN	117/119 (98%)	106 (91%)	11 (9%)	8 31
47	BO	100/100 (100%)	90 (90%)	10 (10%)	7 29
48	BP	112/116 (97%)	87 (78%)	25 (22%)	1 4
49	BQ	111/111 (100%)	97 (87%)	14 (13%)	4 19
50	BR	100/101 (99%)	82 (82%)	18 (18%)	2 8
51	BS	77/88 (88%)	65 (84%)	12 (16%)	2 12
52	BT	120/127 (94%)	93 (78%)	27 (22%)	1 4
53	BU	92/94 (98%)	80 (87%)	12 (13%)	4 18
54	BV	82/82 (100%)	72 (88%)	10 (12%)	5 20
55	BW	91/92 (99%)	80 (88%)	11 (12%)	5 20
56	BX	74/78 (95%)	67 (90%)	7 (10%)	8 30
57	BY	84/91 (92%)	68 (81%)	16 (19%)	1 7
58	BZ	155/179 (87%)	128 (83%)	27 (17%)	2 9
All	All	5186/5431 (96%)	4486 (86%)	700 (14%)	4 16

All (700) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	AB	16	HIS

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Mol	Chain	Res	Type
2	AB	17	PHE
2	AB	26	PRO
2	AB	36	ARG
2	AB	41	ILE
2	AB	42	ILE
2	AB	67	THR
2	AB	69	LEU
2	AB	79	ASP
2	AB	80	ILE
2	AB	83	MET
2	AB	93	VAL
2	AB	106	LYS
2	AB	111	ARG
2	AB	116	GLU
2	AB	140	HIS
2	AB	145	LEU
2	AB	146	GLN
2	AB	162	ILE
2	AB	172	ILE
2	AB	178	ARG
2	AB	179	LYS
2	AB	187	LEU
2	AB	189	ASP
2	AB	193	ASP
2	AB	196	LEU
2	AB	200	ILE
2	AB	204	ASN
2	AB	213	LEU
2	AB	217	ARG
2	AB	221	LEU
2	AB	222	ILE
2	AB	226	ARG
2	AB	238	LEU
3	AC	5	ILE
3	AC	14	ILE
3	AC	16	ARG
3	AC	21	ARG
3	AC	26	LYS
3	AC	37	GLN
3	AC	38	ARG
3	AC	47	LEU
3	AC	59	ARG

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Mol	Chain	Res	Type
3	AC	62	ASP
3	AC	64	VAL
3	AC	82	GLU
3	AC	85	ARG
3	AC	94	LEU
3	AC	107	GLN
3	AC	154	SER
3	AC	165	THR
3	AC	167	TRP
3	AC	178	LEU
3	AC	188	LEU
3	AC	191	THR
3	AC	192	THR
3	AC	207	VAL
4	AD	3	ARG
4	AD	8	VAL
4	AD	10	ARG
4	AD	15	GLU
4	AD	19	LEU
4	AD	24	GLU
4	AD	50	ARG
4	AD	58	LEU
4	AD	78	LEU
4	AD	108	LEU
4	AD	120	LEU
4	AD	122	ARG
4	AD	135	LEU
4	AD	150	GLU
4	AD	162	LEU
4	AD	181	MET
4	AD	190	ASP
4	AD	198	VAL
4	AD	201	GLN
4	AD	209	ARG
5	AE	10	MET
5	AE	12	LEU
5	AE	13	ILE
5	AE	20	GLN
5	AE	31	LEU
5	AE	32	VAL
5	AE	40	ARG
5	AE	41	VAL

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Mol	Chain	Res	Type
5	AE	52	PRO
5	AE	53	LEU
5	AE	73	ASN
5	AE	75	THR
5	AE	76	ILE
5	AE	79	GLU
5	AE	80	ILE
5	AE	91	LEU
5	AE	107	ARG
5	AE	128	PRO
5	AE	129	ILE
5	AE	140	ARG
5	AE	147	ASP
6	AF	14	LEU
6	AF	21	LEU
6	AF	25	ILE
6	AF	43	LEU
6	AF	47	ARG
6	AF	55	ASP
6	AF	57	GLN
6	AF	61	LEU
6	AF	69	GLU
6	AF	98	LEU
7	AG	22	LEU
7	AG	66	VAL
7	AG	78	ARG
7	AG	89	MET
7	AG	104	LEU
7	AG	113	GLU
7	AG	114	ARG
7	AG	124	LEU
7	AG	126	ASP
8	AH	1	MET
8	AH	2	LEU
8	AH	18	ARG
8	AH	22	GLU
8	AH	26	VAL
8	AH	27	PRO
8	AH	29	SER
8	AH	30	ARG
8	AH	39	LEU
8	AH	52	ASP

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Mol	Chain	Res	Type
8	AH	68	ARG
8	AH	85	ARG
8	AH	91	ARG
8	AH	109	ILE
8	AH	127	LEU
9	AI	3	GLN
9	AI	10	ARG
9	AI	53	VAL
9	AI	64	THR
9	AI	95	LYS
9	AI	98	PRO
9	AI	102	LEU
9	AI	104	ARG
9	AI	105	ASP
9	AI	114	TYR
9	AI	121	ARG
9	AI	128	ARG
10	AJ	17	ASP
10	AJ	40	LEU
10	AJ	49	VAL
10	AJ	50	ILE
10	AJ	55	LYS
10	AJ	57	LYS
10	AJ	59	SER
10	AJ	67	THR
10	AJ	78	ASN
10	AJ	96	ILE
11	AK	29	ILE
11	AK	31	THR
11	AK	51	LYS
11	AK	57	THR
11	AK	62	GLN
11	AK	63	LEU
11	AK	93	GLN
11	AK	96	ARG
11	AK	108	ILE
11	AK	114	VAL
11	AK	117	ASN
11	AK	124	LYS
12	AL	7	ILE
12	AL	27	LEU
12	AL	36	VAL

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Mol	Chain	Res	Type
12	AL	47	LYS
12	AL	48	PRO
12	AL	50	SER
12	AL	64	TYR
12	AL	67	THR
12	AL	83	VAL
12	AL	84	LEU
12	AL	85	ILE
12	AL	89	ARG
12	AL	102	ARG
12	AL	122	THR
13	AM	12	ASN
13	AM	23	TYR
13	AM	36	LYS
13	AM	66	LEU
13	AM	67	GLU
13	AM	73	GLU
13	AM	82	MET
13	AM	93	ARG
13	AM	101	GLN
13	AM	108	ARG
13	AM	115	LYS
13	AM	120	LYS
14	AN	4	LYS
14	AN	14	PRO
14	AN	17	LYS
14	AN	18	VAL
14	AN	23	ARG
14	AN	29	ARG
14	AN	41	ARG
14	AN	57	ARG
15	AO	10	LYS
15	AO	24	SER
15	AO	66	LEU
15	AO	81	LEU
15	AO	82	ILE
16	AP	1	MET
16	AP	2	VAL
16	AP	16	HIS
16	AP	22	THR
16	AP	27	LYS
16	AP	36	ILE

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Mol	Chain	Res	Type
16	AP	44	THR
16	AP	62	VAL
16	AP	69	THR
17	AQ	36	ILE
17	AQ	49	GLU
17	AQ	52	LYS
17	AQ	60	ILE
17	AQ	64	PRO
17	AQ	74	LEU
17	AQ	87	LYS
18	AR	31	LEU
18	AR	36	ASN
18	AR	38	GLU
18	AR	44	LEU
18	AR	84	LYS
18	AR	88	LYS
19	AS	5	LEU
19	AS	6	LYS
19	AS	7	LYS
19	AS	15	LEU
19	AS	27	GLU
19	AS	29	ARG
19	AS	37	ARG
19	AS	40	ILE
19	AS	41	VAL
19	AS	42	PRO
19	AS	44	MET
19	AS	49	ILE
19	AS	66	MET
19	AS	77	THR
20	AT	13	LEU
20	AT	23	ARG
20	AT	26	ASN
20	AT	27	LYS
20	AT	36	LEU
20	AT	41	ILE
20	AT	45	GLN
20	AT	62	LEU
20	AT	73	HIS
20	AT	93	GLU
20	AT	100	ILE
21	AU	12	LYS

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Mol	Chain	Res	Type
25	AZ	16	THR
25	AZ	20	VAL
25	AZ	24	LYS
25	AZ	26	THR
25	AZ	39	ASN
25	AZ	44	VAL
25	AZ	52	LYS
25	AZ	65	THR
25	AZ	78	SER
25	AZ	89	ILE
25	AZ	92	MET
25	AZ	107	SER
25	AZ	110	ASP
25	AZ	131	ILE
25	AZ	138	VAL
25	AZ	141	VAL
25	AZ	145	GLU
25	AZ	152	MET
25	AZ	182	MET
25	AZ	188	THR
25	AZ	198	LYS
25	AZ	203	LEU
25	AZ	208	GLU
25	AZ	210	ILE
25	AZ	212	THR
25	AZ	216	ASP
25	AZ	218	ASP
25	AZ	220	PRO
25	AZ	234	ARG
25	AZ	241	ARG
25	AZ	243	GLU
25	AZ	244	ARG
25	AZ	248	LYS
25	AZ	252	GLU
25	AZ	264	LYS
25	AZ	265	THR
25	AZ	268	THR
25	AZ	277	LEU
25	AZ	278	GLN
25	AZ	299	GLU
25	AZ	311	THR
25	AZ	317	GLU

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Mol	Chain	Res	Type
25	AZ	324	LYS
25	AZ	325	LYS
25	AZ	332	THR
25	AZ	341	GLN
25	AZ	355	LEU
25	AZ	356	PRO
25	AZ	364	PRO
25	AZ	372	VAL
25	AZ	378	VAL
25	AZ	403	ILE
25	AZ	404	LEU
26	B0	5	LYS
26	B0	14	ARG
26	B0	16	SER
26	B0	20	ARG
26	B0	26	TYR
26	B0	27	GLU
26	B0	30	VAL
26	B0	37	LEU
26	B0	62	LEU
26	B0	75	LEU
27	B1	3	LYS
27	B1	13	ILE
27	B1	27	GLU
27	B1	38	SER
27	B1	43	TYR
27	B1	49	VAL
27	B1	52	ARG
27	B1	56	GLN
27	B1	73	LEU
27	B1	83	GLU
27	B1	93	GLU
28	B2	3	LEU
28	B2	7	ARG
28	B2	33	MET
28	B2	49	LYS
28	B2	68	ARG
29	B3	28	LEU
29	B3	35	ARG
29	B3	56	VAL
30	B4	5	ILE
30	B4	6	HIS

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Mol	Chain	Res	Type
30	B4	9	LEU
30	B4	22	ILE
30	B4	27	THR
30	B4	28	LYS
30	B4	32	TYR
30	B4	34	GLU
30	B4	47	GLN
31	B5	3	LYS
31	B5	4	HIS
31	B5	21	SER
31	B5	26	THR
31	B5	43	HIS
32	B6	10	LEU
32	B6	11	LEU
32	B6	14	THR
32	B6	17	LYS
32	B6	18	ARG
32	B6	19	ARG
32	B6	31	PRO
32	B6	42	TRP
32	B6	45	LYS
32	B6	48	VAL
32	B6	53	LYS
33	B7	4	THR
33	B7	8	ASN
33	B7	19	ARG
33	B7	44	PRO
33	B7	47	ARG
34	B8	16	ILE
34	B8	30	ARG
34	B8	31	HIS
34	B8	32	LEU
34	B8	34	TRP
34	B8	41	ILE
34	B8	47	LYS
34	B8	61	LEU
34	B8	64	TYR
35	B9	1	MET
35	B9	2	LYS
35	B9	16	VAL
35	B9	18	ARG
35	B9	28	GLU

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Mol	Chain	Res	Type
35	B9	29	ASN
38	BC	28	LEU
38	BC	30	LYS
38	BC	38	ASP
38	BC	58	VAL
38	BC	70	LYS
38	BC	101	GLN
38	BC	104	LEU
38	BC	111	ASP
38	BC	134	ARG
38	BC	139	ASN
38	BC	141	LYS
38	BC	162	GLU
38	BC	182	PRO
38	BC	183	GLU
38	BC	184	LYS
38	BC	209	LEU
38	BC	215	THR
39	BD	5	LYS
39	BD	10	THR
39	BD	18	VAL
39	BD	24	ILE
39	BD	26	LYS
39	BD	27	THR
39	BD	35	LYS
39	BD	37	LEU
39	BD	46	GLN
39	BD	49	ILE
39	BD	61	LEU
39	BD	64	ILE
39	BD	65	ILE
39	BD	71	ASP
39	BD	75	ILE
39	BD	92	ILE
39	BD	94	LEU
39	BD	111	LEU
39	BD	117	VAL
39	BD	127	VAL
39	BD	131	LEU
39	BD	134	ARG
39	BD	136	ILE
39	BD	138	VAL

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Mol	Chain	Res	Type
39	BD	157	ARG
39	BD	166	GLN
39	BD	176	ARG
39	BD	188	GLU
39	BD	192	THR
39	BD	212	SER
39	BD	221	VAL
39	BD	229	VAL
39	BD	239	ARG
39	BD	254	THR
39	BD	257	LEU
39	BD	259	THR
39	BD	268	ARG
39	BD	270	ILE
39	BD	275	LYS
39	BD	276	LYS
40	BE	18	ASP
40	BE	21	VAL
40	BE	33	VAL
40	BE	53	PRO
40	BE	55	ASN
40	BE	57	LYS
40	BE	61	ARG
40	BE	67	PHE
40	BE	69	LYS
40	BE	78	LEU
40	BE	82	ARG
40	BE	94	GLU
40	BE	146	THR
40	BE	154	LYS
40	BE	169	ASN
40	BE	171	GLU
40	BE	175	VAL
40	BE	197	ILE
40	BE	203	LYS
41	BF	23	ASP
41	BF	28	ILE
41	BF	62	ARG
41	BF	65	TRP
41	BF	70	THR
41	BF	78	ILE
41	BF	122	LYS

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Mol	Chain	Res	Type
41	BF	125	LEU
41	BF	170	LEU
41	BF	172	TRP
41	BF	179	GLU
41	BF	192	LEU
42	BG	21	ARG
42	BG	22	ARG
42	BG	26	GLN
42	BG	33	ARG
42	BG	36	LYS
42	BG	39	ILE
42	BG	40	ASN
42	BG	52	ILE
42	BG	58	GLN
42	BG	67	LYS
42	BG	72	ARG
42	BG	80	PHE
42	BG	82	LEU
42	BG	84	LYS
42	BG	88	ILE
42	BG	104	GLU
42	BG	111	LEU
42	BG	125	PHE
42	BG	143	GLU
42	BG	146	TYR
42	BG	152	LEU
42	BG	164	GLU
43	BH	41	MET
43	BH	43	VAL
43	BH	53	GLU
43	BH	54	ARG
43	BH	85	LYS
43	BH	143	GLN
43	BH	153	LYS
43	BH	159	GLU
43	BH	167	GLU
43	BH	170	ARG
46	BN	19	GLU
46	BN	21	LYS
46	BN	34	LEU
46	BN	45	ASN
46	BN	48	MET

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Mol	Chain	Res	Type
46	BN	63	THR
46	BN	65	LYS
46	BN	76	SER
46	BN	99	LEU
46	BN	123	TYR
46	BN	127	ASP
47	BO	8	LEU
47	BO	9	GLU
47	BO	20	MET
47	BO	23	ARG
47	BO	34	THR
47	BO	40	VAL
47	BO	47	ILE
47	BO	48	PRO
47	BO	94	ARG
47	BO	98	VAL
48	BP	6	LEU
48	BP	16	ARG
48	BP	18	ARG
48	BP	19	VAL
48	BP	21	ARG
48	BP	32	THR
48	BP	35	HIS
48	BP	39	LYS
48	BP	42	SER
48	BP	45	LEU
48	BP	47	ASP
48	BP	48	PRO
48	BP	55	ARG
48	BP	57	THR
48	BP	61	ARG
48	BP	67	MET
48	BP	70	GLN
48	BP	75	ILE
48	BP	77	ARG
48	BP	85	LEU
48	BP	90	ARG
48	BP	91	PHE
48	BP	112	LEU
48	BP	123	LEU
48	BP	136	GLU
49	BQ	1	MET

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Mol	Chain	Res	Type
49	BQ	25	ASP
49	BQ	45	GLN
49	BQ	46	GLN
49	BQ	51	ARG
49	BQ	54	MET
49	BQ	55	VAL
49	BQ	58	PHE
49	BQ	60	ARG
49	BQ	74	TYR
49	BQ	81	VAL
49	BQ	89	ASN
49	BQ	110	THR
49	BQ	133	ARG
50	BR	2	ARG
50	BR	4	LEU
50	BR	21	TYR
50	BR	28	LEU
50	BR	29	LEU
50	BR	35	THR
50	BR	37	THR
50	BR	63	ARG
50	BR	67	LEU
50	BR	68	ARG
50	BR	75	LEU
50	BR	79	LEU
50	BR	82	GLU
50	BR	94	TYR
50	BR	97	VAL
50	BR	99	LYS
50	BR	100	LEU
50	BR	117	VAL
51	BS	11	LYS
51	BS	12	PHE
51	BS	15	ARG
51	BS	26	LEU
51	BS	29	PHE
51	BS	36	TYR
51	BS	46	VAL
51	BS	54	LEU
51	BS	67	ARG
51	BS	73	LEU
51	BS	97	ARG

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Mol	Chain	Res	Type
51	BS	106	ARG
52	BT	11	GLU
52	BT	13	ARG
52	BT	16	ARG
52	BT	24	PRO
52	BT	27	THR
52	BT	29	ARG
52	BT	32	TYR
52	BT	38	ASN
52	BT	41	ARG
52	BT	51	ARG
52	BT	58	ASN
52	BT	61	PHE
52	BT	65	LYS
52	BT	67	SER
52	BT	75	ILE
52	BT	78	LEU
52	BT	82	LEU
52	BT	83	ILE
52	BT	85	LYS
52	BT	90	GLN
52	BT	96	ARG
52	BT	99	LEU
52	BT	100	TYR
52	BT	105	LEU
52	BT	121	ILE
52	BT	124	ASP
52	BT	125	ARG
53	BU	9	VAL
53	BU	14	HIS
53	BU	20	LEU
53	BU	44	ASN
53	BU	66	ASN
53	BU	72	HIS
53	BU	74	LEU
53	BU	81	HIS
53	BU	102	GLU
53	BU	103	PRO
53	BU	108	GLU
53	BU	114	LYS
54	BV	16	PRO
54	BV	18	LEU

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Mol	Chain	Res	Type
54	BV	19	LYS
54	BV	21	ARG
54	BV	39	LEU
54	BV	51	VAL
54	BV	72	VAL
54	BV	89	GLN
54	BV	95	LEU
54	BV	99	ILE
55	BW	11	ARG
55	BW	29	LEU
55	BW	51	LEU
55	BW	52	GLU
55	BW	63	ASP
55	BW	71	VAL
55	BW	85	VAL
55	BW	88	ARG
55	BW	102	HIS
55	BW	103	ILE
55	BW	107	LEU
56	BX	9	LEU
56	BX	15	GLU
56	BX	28	PHE
56	BX	35	THR
56	BX	57	LEU
56	BX	66	LEU
56	BX	68	ARG
57	BY	2	ARG
57	BY	6	HIS
57	BY	7	VAL
57	BY	9	LYS
57	BY	13	VAL
57	BY	29	GLU
57	BY	38	ILE
57	BY	50	ARG
57	BY	53	PRO
57	BY	56	PRO
57	BY	57	GLN
57	BY	62	GLU
57	BY	68	HIS
57	BY	76	CYS
57	BY	77	PRO
57	BY	96	ILE

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Mol	Chain	Res	Type
58	BZ	3	TYR
58	BZ	6	LYS
58	BZ	11	GLU
58	BZ	20	ARG
58	BZ	24	LEU
58	BZ	28	MET
58	BZ	35	ARG
58	BZ	57	ILE
58	BZ	70	LEU
58	BZ	73	GLN
58	BZ	76	LEU
58	BZ	86	VAL
58	BZ	87	ASP
58	BZ	93	ASP
58	BZ	97	GLU
58	BZ	99	TYR
58	BZ	103	ARG
58	BZ	104	PHE
58	BZ	119	GLU
58	BZ	122	ARG
58	BZ	124	ILE
58	BZ	127	LYS
58	BZ	145	GLU
58	BZ	150	LEU
58	BZ	155	LEU
58	BZ	163	LEU
58	BZ	175	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (169) such sidechains are listed below:

Mol	Chain	Res	Type
2	AB	37	ASN
2	AB	45	GLN
2	AB	78	GLN
2	AB	146	GLN
2	AB	204	ASN
2	AB	212	GLN
2	AB	224	GLN
3	AC	6	HIS
3	AC	28	GLN
3	AC	98	ASN
3	AC	102	ASN

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Mol	Chain	Res	Type
3	AC	118	GLN
3	AC	170	GLN
3	AC	176	HIS
3	AC	181	ASN
4	AD	62	GLN
4	AD	74	GLN
4	AD	129	ASN
5	AE	20	GLN
5	AE	73	ASN
6	AF	7	ASN
6	AF	16	GLN
6	AF	27	GLN
6	AF	84	ASN
6	AF	100	ASN
7	AG	13	GLN
7	AG	37	ASN
7	AG	64	GLN
7	AG	86	GLN
7	AG	96	GLN
8	AH	82	HIS
9	AI	3	GLN
9	AI	73	GLN
9	AI	89	ASN
9	AI	124	GLN
10	AJ	56	HIS
10	AJ	68	HIS
10	AJ	76	ASN
10	AJ	78	ASN
10	AJ	84	GLN
11	AK	22	HIS
11	AK	26	ASN
11	AK	38	ASN
11	AK	99	GLN
11	AK	117	ASN
12	AL	8	ASN
12	AL	9	GLN
12	AL	49	ASN
12	AL	75	HIS
13	AM	12	ASN
13	AM	40	ASN
13	AM	92	HIS
13	AM	101	GLN

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Mol	Chain	Res	Type
15	AO	37	ASN
15	AO	46	HIS
15	AO	62	GLN
16	AP	16	HIS
16	AP	65	GLN
16	AP	76	GLN
17	AQ	16	GLN
17	AQ	26	GLN
19	AS	14	HIS
19	AS	23	ASN
19	AS	47	HIS
20	AT	16	HIS
20	AT	26	ASN
20	AT	42	GLN
25	AZ	19	HIS
25	AZ	39	ASN
25	AZ	64	ASN
25	AZ	67	HIS
25	AZ	98	GLN
25	AZ	115	GLN
25	AZ	159	ASN
25	AZ	183	HIS
25	AZ	193	ASN
25	AZ	341	GLN
25	AZ	367	ASN
26	B0	29	GLN
26	B0	35	ASN
26	B0	50	ASN
26	B0	70	GLN
27	B1	45	ASN
28	B2	43	GLN
28	B2	47	ASN
28	B2	65	ASN
29	B3	19	GLN
29	B3	32	GLN
29	B3	46	ASN
29	B3	52	HIS
30	B4	20	ASN
30	B4	40	HIS
30	B4	47	GLN
32	B6	26	ASN
33	B7	8	ASN

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Mol	Chain	Res	Type
35	B9	29	ASN
38	BC	57	ASN
38	BC	66	HIS
38	BC	188	ASN
38	BC	225	ASN
39	BD	58	HIS
39	BD	96	HIS
39	BD	115	GLN
39	BD	126	GLN
39	BD	166	GLN
39	BD	186	HIS
39	BD	198	ASN
40	BE	48	GLN
40	BE	54	GLN
40	BE	55	ASN
40	BE	121	ASN
40	BE	135	HIS
40	BE	143	ASN
40	BE	180	ASN
41	BF	29	ASN
41	BF	40	GLN
41	BF	69	HIS
41	BF	75	HIS
41	BF	133	ASN
41	BF	160	ASN
41	BF	203	GLN
42	BG	121	ASN
42	BG	123	ASN
43	BH	61	HIS
43	BH	74	ASN
43	BH	111	HIS
43	BH	143	GLN
43	BH	147	ASN
46	BN	45	ASN
46	BN	56	ASN
47	BO	89	ASN
48	BP	35	HIS
48	BP	70	GLN
48	BP	81	GLN
48	BP	84	ASN
48	BP	128	HIS
49	BQ	45	GLN

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Mol	Chain	Res	Type
50	BR	3	HIS
50	BR	13	HIS
50	BR	23	ASN
50	BR	50	HIS
50	BR	53	HIS
50	BR	61	HIS
50	BR	71	GLN
51	BS	95	HIS
52	BT	43	GLN
52	BT	58	ASN
52	BT	79	HIS
52	BT	123	GLN
53	BU	49	HIS
53	BU	66	ASN
53	BU	71	GLN
53	BU	94	ASN
53	BU	117	GLN
54	BV	11	GLN
54	BV	80	GLN
55	BW	57	ASN
55	BW	60	ASN
55	BW	111	HIS
56	BX	31	HIS
56	BX	41	ASN
56	BX	55	ASN
57	BY	6	HIS
57	BY	43	ASN
57	BY	68	HIS
58	BZ	55	HIS
58	BZ	85	HIS
58	BZ	118	GLN
58	BZ	151	HIS

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1503/1522 (98%)	249 (16%)	56 (3%)
22	AV	75/76 (98%)	22 (29%)	0
22	AW	75/76 (98%)	17 (22%)	0
23	AX	13/14 (92%)	3 (23%)	1 (7%)
24	AY	75/77 (97%)	23 (30%)	2 (2%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
36	BA	2900/2915 (99%)	550 (18%)	52 (1%)
37	BB	118/122 (96%)	24 (20%)	2 (1%)
All	All	4759/4802 (99%)	888 (18%)	113 (2%)

All (888) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	7	G
1	AA	9	G
1	AA	31	G
1	AA	32	A
1	AA	39	G
1	AA	47	C
1	AA	48	C
1	AA	51	A
1	AA	61	G
1	AA	65	U
1	AA	79	G
1	AA	80	G
1	AA	81	U
1	AA	82	U
1	AA	89	C
1	AA	90	U
1	AA	109	A
1	AA	110	C
1	AA	116	A
1	AA	120	A
1	AA	121	C
1	AA	122	G
1	AA	131	C
1	AA	144	G
1	AA	146	G
1	AA	147	G
1	AA	189(G)	G
1	AA	189(H)	G
1	AA	189(I)	G
1	AA	195	A
1	AA	197	A
1	AA	198	G
1	AA	199	G
1	AA	202	U
1	AA	203	U

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Mol	Chain	Res	Type
1	AA	216	G
1	AA	244	U
1	AA	247	G
1	AA	251	G
1	AA	252	U
1	AA	267	C
1	AA	274	A
1	AA	275	G
1	AA	289	G
1	AA	321	A
1	AA	328	C
1	AA	330	C
1	AA	332	G
1	AA	344	A
1	AA	345	C
1	AA	346	G
1	AA	347	G
1	AA	348	G
1	AA	352	C
1	AA	353	A
1	AA	354	G
1	AA	367	U
1	AA	368	U
1	AA	369	C
1	AA	370	C
1	AA	372	C
1	AA	373	A
1	AA	389	A
1	AA	397	A
1	AA	412	A
1	AA	413	G
1	AA	414	A
1	AA	421	U
1	AA	422	C
1	AA	428	G
1	AA	429	U
1	AA	430	A
1	AA	435	C
1	AA	439	A
1	AA	442	C
1	AA	452	A
1	AA	453	A

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Mol	Chain	Res	Type
1	AA	454	C
1	AA	461	A
1	AA	470	C
1	AA	484	G
1	AA	485	G
1	AA	495	A
1	AA	496	A
1	AA	498	U
1	AA	499	A
1	AA	508	C
1	AA	509	A
1	AA	518	C
1	AA	527	G
1	AA	531	U
1	AA	532	A
1	AA	533	A
1	AA	534	U
1	AA	535	A
1	AA	548	G
1	AA	559	A
1	AA	561	U
1	AA	562	C
1	AA	572	A
1	AA	573	A
1	AA	574	A
1	AA	576	G
1	AA	577	G
1	AA	632	A
1	AA	653	A
1	AA	665	A
1	AA	688	G
1	AA	701	C
1	AA	702	A
1	AA	721	G
1	AA	722	A
1	AA	723	U
1	AA	731	G
1	AA	734	G
1	AA	749	C
1	AA	755	G
1	AA	777	A
1	AA	792	A

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Mol	Chain	Res	Type
1	AA	793	U
1	AA	794	A
1	AA	816	A
1	AA	817	C
1	AA	827	U
1	AA	828	A
1	AA	839	U
1	AA	840	C
1	AA	841	U
1	AA	848	C
1	AA	858	G
1	AA	859	A
1	AA	872	A
1	AA	914	A
1	AA	927	G
1	AA	934	C
1	AA	935	A
1	AA	960	U
1	AA	962	C
1	AA	966	G
1	AA	967	C
1	AA	968	A
1	AA	969	A
1	AA	971	G
1	AA	974	A
1	AA	975	A
1	AA	976	G
1	AA	977	A
1	AA	978	A
1	AA	980	C
1	AA	981	U
1	AA	982	U
1	AA	983	A
1	AA	991	U
1	AA	992	U
1	AA	993	G
1	AA	996	A
1	AA	1004	A
1	AA	1026	G
1	AA	1030	C
1	AA	1050	G
1	AA	1051	C

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Mol	Chain	Res	Type
1	AA	1054	C
1	AA	1066	C
1	AA	1087	G
1	AA	1094	G
1	AA	1095	U
1	AA	1101	A
1	AA	1102	A
1	AA	1117	G
1	AA	1124	G
1	AA	1125	U
1	AA	1126	U
1	AA	1127	G
1	AA	1129	C
1	AA	1130	A
1	AA	1131	G
1	AA	1137	C
1	AA	1138	G
1	AA	1139	G
1	AA	1140	C
1	AA	1141	C
1	AA	1145	C
1	AA	1152	A
1	AA	1154	G
1	AA	1158	C
1	AA	1159	U
1	AA	1184	G
1	AA	1190	G
1	AA	1191	A
1	AA	1196	U
1	AA	1197	G
1	AA	1199	U
1	AA	1200	C
1	AA	1201	A
1	AA	1212	U
1	AA	1213	A
1	AA	1238	A
1	AA	1240	U
1	AA	1256	A
1	AA	1257	U
1	AA	1267	C
1	AA	1268	A
1	AA	1273	G

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Mol	Chain	Res	Type
1	AA	1281	U
1	AA	1284	C
1	AA	1285	A
1	AA	1286	A
1	AA	1287	A
1	AA	1299	A
1	AA	1300	G
1	AA	1302	U
1	AA	1303	C
1	AA	1305	G
1	AA	1317	C
1	AA	1320	C
1	AA	1321	C
1	AA	1322	C
1	AA	1327	C
1	AA	1331	G
1	AA	1335	C
1	AA	1346	A
1	AA	1347	G
1	AA	1353	G
1	AA	1363	C
1	AA	1364	U
1	AA	1379	G
1	AA	1387	G
1	AA	1394	A
1	AA	1397	C
1	AA	1398	A
1	AA	1400	C
1	AA	1419	G
1	AA	1422	G
1	AA	1442(A)	G
1	AA	1442(B)	A
1	AA	1452	C
1	AA	1456	G
1	AA	1487	G
1	AA	1492	A
1	AA	1499	A
1	AA	1503	A
1	AA	1504	G
1	AA	1505	G
1	AA	1506	U
1	AA	1517	G

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Mol	Chain	Res	Type
1	AA	1519	A
1	AA	1520	G
1	AA	1529	G
1	AA	1530	G
22	AV	4	C
22	AV	5	G
22	AV	7	A
22	AV	8	U
22	AV	17	C
22	AV	18	G
22	AV	19	G
22	AV	20	U
22	AV	22	G
22	AV	37	A
22	AV	44	G
22	AV	45	U
22	AV	46	G
22	AV	47	U
22	AV	48	C
22	AV	60	U
22	AV	61	C
22	AV	62	C
22	AV	69	G
22	AV	73	A
22	AV	75	C
22	AV	76	A
22	AW	6	G
22	AW	9	A
22	AW	18	G
22	AW	19	G
22	AW	20	U
22	AW	21	A
22	AW	34	G
22	AW	39	U
22	AW	43	C
22	AW	44	G
22	AW	45	U
22	AW	47	U
22	AW	48	C
22	AW	50	U
22	AW	59	U
22	AW	61	C

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Mol	Chain	Res	Type
22	AW	65	G
23	AX	17	U
23	AX	26	A
23	AX	27	A
24	AY	5	G
24	AY	8	4SU
24	AY	9	A
24	AY	10	G
24	AY	16	H2U
24	AY	17	H2U
24	AY	18	G
24	AY	19	G
24	AY	20	H2U
24	AY	21	A
24	AY	22	G
24	AY	36	A
24	AY	37	MIA
24	AY	44	G
24	AY	45	U
24	AY	46	7MG
24	AY	58	A
24	AY	59	G
24	AY	61	C
24	AY	62	U
24	AY	73	G
24	AY	75	C
24	AY	76	A
36	BA	10	G
36	BA	15	G
36	BA	45	C
36	BA	50	U
36	BA	71	A
36	BA	72	U
36	BA	74	A
36	BA	75	G
36	BA	84	A
36	BA	85	G
36	BA	88	G
36	BA	90	U
36	BA	92	A
36	BA	94	C
36	BA	95	G

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Mol	Chain	Res	Type
36	BA	100	G
36	BA	102	G
36	BA	118	A
36	BA	119	A
36	BA	120	U
36	BA	129	C
36	BA	139(A)	G
36	BA	141	A
36	BA	146	G
36	BA	149	A
36	BA	155	U
36	BA	156	U
36	BA	181	A
36	BA	196	A
36	BA	197	A
36	BA	198	C
36	BA	199	A
36	BA	204	A
36	BA	205	G
36	BA	221	A
36	BA	222	A
36	BA	228	A
36	BA	229	A
36	BA	233	A
36	BA	245	G
36	BA	248	G
36	BA	252	G
36	BA	267	C
36	BA	271(I)	G
36	BA	271(K)	U
36	BA	271(L)	U
36	BA	271(M)	G
36	BA	271(O)	C
36	BA	271(P)	C
36	BA	271(R)	G
36	BA	271(Y)	U
36	BA	272(A)	U
36	BA	272(B)	G
36	BA	272(I)	U
36	BA	276	A
36	BA	284	U
36	BA	288	C

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Mol	Chain	Res	Type
36	BA	294	A
36	BA	311	A
36	BA	329	G
36	BA	330	A
36	BA	332	A
36	BA	333	G
36	BA	343	C
36	BA	349	G
36	BA	352	G
36	BA	353	G
36	BA	356	G
36	BA	358	U
36	BA	362	U
36	BA	363	G
36	BA	363(E)	U
36	BA	363(F)	A
36	BA	386	G
36	BA	387	U
36	BA	388	G
36	BA	405	U
36	BA	406	G
36	BA	411	G
36	BA	428	A
36	BA	444	C
36	BA	448	U
36	BA	451	C
36	BA	456	C
36	BA	457	A
36	BA	470	A
36	BA	472	A
36	BA	473	G
36	BA	481	G
36	BA	482	A
36	BA	494	G
36	BA	505	A
36	BA	508	G
36	BA	509	C
36	BA	512	G
36	BA	528	A
36	BA	530	G
36	BA	531	C
36	BA	532	A

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Mol	Chain	Res	Type
36	BA	533	G
36	BA	537	C
36	BA	563	G
36	BA	573	G
36	BA	575	A
36	BA	586	A
36	BA	588	U
36	BA	603	A
36	BA	604	G
36	BA	607	U
36	BA	613	G
36	BA	614(B)	G
36	BA	614(C)	A
36	BA	615	G
36	BA	622	G
36	BA	627	A
36	BA	629	G
36	BA	637	A
36	BA	645	C
36	BA	646	A
36	BA	651	G
36	BA	653	A
36	BA	654	A
36	BA	654(D)	G
36	BA	654(J)	A
36	BA	654(K)	C
36	BA	654(L)	G
36	BA	654(M)	C
36	BA	656	G
36	BA	669	G
36	BA	670	A
36	BA	673	C
36	BA	686	G
36	BA	708	C
36	BA	722	A
36	BA	730	C
36	BA	753	C
36	BA	761	A
36	BA	764	A
36	BA	765	G
36	BA	776	G
36	BA	782	A

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Mol	Chain	Res	Type
36	BA	784	A
36	BA	785	G
36	BA	790	C
36	BA	791	C
36	BA	792	G
36	BA	805	G
36	BA	812	C
36	BA	819	A
36	BA	827	U
36	BA	828	U
36	BA	830	G
36	BA	848	G
36	BA	856	C
36	BA	857	C
36	BA	859	G
36	BA	866	A
36	BA	878	A
36	BA	885	C
36	BA	890	A
36	BA	896	A
36	BA	897	C
36	BA	910	A
36	BA	917	A
36	BA	926	A
36	BA	932	G
36	BA	941	A
36	BA	945	A
36	BA	946	G
36	BA	958	U
36	BA	959	A
36	BA	961	C
36	BA	964	C
36	BA	965	C
36	BA	973	A
36	BA	974	G
36	BA	975	C
36	BA	983	A
36	BA	991	C
36	BA	996	A
36	BA	1005	C
36	BA	1011	G
36	BA	1012	U

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Mol	Chain	Res	Type
36	BA	1013	C
36	BA	1022	G
36	BA	1025	G
36	BA	1026	U
36	BA	1039	G
36	BA	1045	A
36	BA	1046	A
36	BA	1047	G
36	BA	1048	A
36	BA	1051	G
36	BA	1053	C
36	BA	1059	G
36	BA	1061	U
36	BA	1062	G
36	BA	1065	U
36	BA	1067	A
36	BA	1068	G
36	BA	1069	A
36	BA	1070	A
36	BA	1071	G
36	BA	1072	C
36	BA	1073	A
36	BA	1075	C
36	BA	1079	C
36	BA	1087	G
36	BA	1088	A
36	BA	1090	U
36	BA	1103	A
36	BA	1107	G
36	BA	1108	U
36	BA	1111	A
36	BA	1112	G
36	BA	1114	G
36	BA	1130	U
36	BA	1135	C
36	BA	1136	G
36	BA	1142	U
36	BA	1142(A)	A
36	BA	1143	A
36	BA	1155	A
36	BA	1167	U
36	BA	1171	G

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Mol	Chain	Res	Type
36	BA	1174	A
36	BA	1175	U
36	BA	1176	G
36	BA	1178	C
36	BA	1195	G
36	BA	1204	A
36	BA	1205	U
36	BA	1210	A
36	BA	1211	U
36	BA	1212	G
36	BA	1221	C
36	BA	1223	G
36	BA	1244	G
36	BA	1247	A
36	BA	1248	G
36	BA	1253	A
36	BA	1256	G
36	BA	1265	A
36	BA	1271	G
36	BA	1272	A
36	BA	1273	U
36	BA	1292	U
36	BA	1300	U
36	BA	1301	A
36	BA	1302	A
36	BA	1314	C
36	BA	1319	G
36	BA	1321	A
36	BA	1332	G
36	BA	1349	A
36	BA	1359	A
36	BA	1360	A
36	BA	1365	A
36	BA	1379	A
36	BA	1380	G
36	BA	1384	A
36	BA	1385	G
36	BA	1386	C
36	BA	1396	U
36	BA	1404	C
36	BA	1407	C
36	BA	1416	G

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Mol	Chain	Res	Type
36	BA	1419	A
36	BA	1420	U
36	BA	1421	G
36	BA	1427	A
36	BA	1428	C
36	BA	1437	C
36	BA	1445	A
36	BA	1449	A
36	BA	1450	G
36	BA	1452	A
36	BA	1455	G
36	BA	1460	A
36	BA	1461	G
36	BA	1467	C
36	BA	1471	A
36	BA	1475	G
36	BA	1478	G
36	BA	1482	G
36	BA	1485	G
36	BA	1490	A
36	BA	1493	C
36	BA	1494	A
36	BA	1495	A
36	BA	1496	A
36	BA	1497	U
36	BA	1499	C
36	BA	1502	C
36	BA	1505	C
36	BA	1509	C
36	BA	1509(A)	A
36	BA	1517	G
36	BA	1528(A)	A
36	BA	1537	G
36	BA	1541	G
36	BA	1542	A
36	BA	1544	A
36	BA	1554	A
36	BA	1558	A
36	BA	1559	G
36	BA	1569	A
36	BA	1575	C
36	BA	1578	U

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Mol	Chain	Res	Type
36	BA	1579	A
36	BA	1580	A
36	BA	1584	C
36	BA	1586	A
36	BA	1588	C
36	BA	1591	G
36	BA	1598	C
36	BA	1603	A
36	BA	1608	A
36	BA	1610	A
36	BA	1615	C
36	BA	1616	A
36	BA	1617	C
36	BA	1618	A
36	BA	1640	C
36	BA	1648	C
36	BA	1653	G
36	BA	1654	A
36	BA	1666	G
36	BA	1674	G
36	BA	1696	G
36	BA	1698	A
36	BA	1718	G
36	BA	1721	G
36	BA	1722	A
36	BA	1739	U
36	BA	1740	G
36	BA	1742	G
36	BA	1744	C
36	BA	1748	G
36	BA	1756	G
36	BA	1763	G
36	BA	1764	G
36	BA	1773	A
36	BA	1780	A
36	BA	1781	C
36	BA	1791	A
36	BA	1799	G
36	BA	1800	C
36	BA	1801	G
36	BA	1816	G
36	BA	1820	U

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Mol	Chain	Res	Type
36	BA	1835	G
36	BA	1847	A
36	BA	1853	A
36	BA	1858	G
36	BA	1866	C
36	BA	1878	G
36	BA	1881	C
36	BA	1882	C
36	BA	1885	A
36	BA	1888	G
36	BA	1889	A
36	BA	1900	A
36	BA	1903	G
36	BA	1906	G
36	BA	1912	A
36	BA	1913	A
36	BA	1929	G
36	BA	1936	A
36	BA	1937	A
36	BA	1938	A
36	BA	1948	G
36	BA	1955	U
36	BA	1963	U
36	BA	1967	C
36	BA	1970	A
36	BA	1971	A
36	BA	1972	A
36	BA	1982	C
36	BA	1987	G
36	BA	1992	G
36	BA	1993	U
36	BA	1997	G
36	BA	2023	G
36	BA	2031	A
36	BA	2033	A
36	BA	2034	U
36	BA	2036	C
36	BA	2043	C
36	BA	2055	C
36	BA	2056	G
36	BA	2060	A
36	BA	2061	G

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Mol	Chain	Res	Type
36	BA	2062	A
36	BA	2069	G
36	BA	2093	G
36	BA	2096	U
36	BA	2100	G
36	BA	2102	U
36	BA	2103	C
36	BA	2104	G
36	BA	2105	C
36	BA	2107	C
36	BA	2108	C
36	BA	2109	U
36	BA	2111	C
36	BA	2112	G
36	BA	2113	U
36	BA	2115	G
36	BA	2116	G
36	BA	2117	A
36	BA	2118	U
36	BA	2127	G
36	BA	2129	C
36	BA	2131	G
36	BA	2132	U
36	BA	2133	G
36	BA	2146	C
36	BA	2147	G
36	BA	2157	G
36	BA	2159	G
36	BA	2160	G
36	BA	2169	A
36	BA	2172	U
36	BA	2173	A
36	BA	2174	C
36	BA	2178	C
36	BA	2179	C
36	BA	2180	U
36	BA	2185	C
36	BA	2186	G
36	BA	2187	G
36	BA	2189	U
36	BA	2190	G
36	BA	2193	G

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Mol	Chain	Res	Type
36	BA	2198	A
36	BA	2199	A
36	BA	2200	C
36	BA	2207	G
36	BA	2208	A
36	BA	2218	U
36	BA	2219	G
36	BA	2221	G
36	BA	2225	A
36	BA	2238	G
36	BA	2239	G
36	BA	2268	A
36	BA	2275	C
36	BA	2279	G
36	BA	2283	C
36	BA	2287	A
36	BA	2288	A
36	BA	2305	A
36	BA	2307	G
36	BA	2308	G
36	BA	2309	A
36	BA	2311	A
36	BA	2313	C
36	BA	2319	G
36	BA	2320	A
36	BA	2327	A
36	BA	2336	A
36	BA	2343	C
36	BA	2345	G
36	BA	2347	C
36	BA	2361	A
36	BA	2383	G
36	BA	2385	C
36	BA	2392	A
36	BA	2399	G
36	BA	2402	C
36	BA	2406	U
36	BA	2423	U
36	BA	2424	C
36	BA	2425	A
36	BA	2429	G
36	BA	2430	A

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Mol	Chain	Res	Type
36	BA	2439	A
36	BA	2441	C
36	BA	2448	A
36	BA	2465	C
36	BA	2469	A
36	BA	2470	G
36	BA	2476	A
36	BA	2477	C
36	BA	2478	A
36	BA	2482	G
36	BA	2484	G
36	BA	2494	G
36	BA	2502	G
36	BA	2505	G
36	BA	2518	A
36	BA	2524	G
36	BA	2529	G
36	BA	2543	G
36	BA	2554	U
36	BA	2566	A
36	BA	2567	G
36	BA	2573	C
36	BA	2578	G
36	BA	2602	A
36	BA	2610	C
36	BA	2611	U
36	BA	2612	C
36	BA	2615	U
36	BA	2630	G
36	BA	2641	G
36	BA	2646	C
36	BA	2654	A
36	BA	2657	A
36	BA	2673	G
36	BA	2690	C
36	BA	2691	C
36	BA	2712	U
36	BA	2712(A)	A
36	BA	2713	A
36	BA	2720	U
36	BA	2726	U
36	BA	2750	A

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Mol	Chain	Res	Type
36	BA	2751	G
36	BA	2752	C
36	BA	2757	A
36	BA	2759	G
36	BA	2761	G
36	BA	2762	G
36	BA	2763	G
36	BA	2765	A
36	BA	2766	G
36	BA	2778	A
36	BA	2779	U
36	BA	2780	G
36	BA	2781	A
36	BA	2787	C
36	BA	2789	C
36	BA	2790	A
36	BA	2791	C
36	BA	2794	C
36	BA	2801	A
36	BA	2802	G
36	BA	2803	C
36	BA	2808	U
36	BA	2818	G
36	BA	2820	A
36	BA	2821	A
36	BA	2823	A
36	BA	2830	G
36	BA	2833	G
36	BA	2834	G
36	BA	2849	U
36	BA	2872	G
37	BB	2	C
37	BB	8	U
37	BB	13	A
37	BB	15	A
37	BB	16	G
37	BB	17	C
37	BB	21	G
37	BB	25	A
37	BB	27	C
37	BB	35	U
37	BB	40	U

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Mol	Chain	Res	Type
37	BB	41	U
37	BB	42	C
37	BB	43	C
37	BB	45	A
37	BB	53	A
37	BB	57	A
37	BB	68	C
37	BB	73	A
37	BB	75	G
37	BB	81	G
37	BB	82	G
37	BB	88	C
37	BB	110	G

All (113) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	AA	30	U
1	AA	60	A
1	AA	79	G
1	AA	109	A
1	AA	115	G
1	AA	119	A
1	AA	197	A
1	AA	202	U
1	AA	243	A
1	AA	250	A
1	AA	251	G
1	AA	266	G
1	AA	274	A
1	AA	344	A
1	AA	347	G
1	AA	351	G
1	AA	353	A
1	AA	368	U
1	AA	369	C
1	AA	388	G
1	AA	412	A
1	AA	428	G
1	AA	429	U
1	AA	484	G
1	AA	495	A

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Mol	Chain	Res	Type
1	AA	508	C
1	AA	534	U
1	AA	547	A
1	AA	560	U
1	AA	573	A
1	AA	575	G
1	AA	687	A
1	AA	748	C
1	AA	792	A
1	AA	966	G
1	AA	968	A
1	AA	980	C
1	AA	982	U
1	AA	992	U
1	AA	1049	U
1	AA	1050	G
1	AA	1053	G
1	AA	1101	A
1	AA	1124	G
1	AA	1139	G
1	AA	1157	A
1	AA	1200	C
1	AA	1239	A
1	AA	1267	C
1	AA	1269	A
1	AA	1285	A
1	AA	1319	A
1	AA	1399	C
1	AA	1452	C
1	AA	1498	U
1	AA	1504	G
23	AX	26	A
24	AY	18	G
24	AY	75	C
36	BA	49	A
36	BA	71	A
36	BA	74	A
36	BA	197	A
36	BA	221	A
36	BA	331	A
36	BA	332	A
36	BA	387	U

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Mol	Chain	Res	Type
36	BA	472	A
36	BA	481	G
36	BA	587	C
36	BA	603	A
36	BA	614(C)	A
36	BA	654(I)	C
36	BA	654(K)	C
36	BA	669	G
36	BA	752	A
36	BA	764	A
36	BA	790	C
36	BA	856	C
36	BA	1052	C
36	BA	1060	U
36	BA	1068	G
36	BA	1069	A
36	BA	1210	A
36	BA	1300	U
36	BA	1301	A
36	BA	1378	A
36	BA	1395	A
36	BA	1427	A
36	BA	1541	G
36	BA	1558	A
36	BA	1653	G
36	BA	1799	G
36	BA	1819	A
36	BA	1912	A
36	BA	1970	A
36	BA	1992	G
36	BA	2033	A
36	BA	2110	G
36	BA	2126	A
36	BA	2131	G
36	BA	2179	C
36	BA	2282	G
36	BA	2422	A
36	BA	2439	A
36	BA	2481	G
36	BA	2610	C
36	BA	2689	U
36	BA	2750	A

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Mol	Chain	Res	Type
36	BA	2756	U
36	BA	2762	G
37	BB	34	U
37	BB	56	G

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

9 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	4SU	AY	8	24	18,21,22	0.43	0	25,30,33	0.87	2 (8%)
24	7MG	AY	46	24	23,26,27	2.57	3 (13%)	27,39,42	1.76	3 (11%)
24	OMC	AY	32	24	19,22,23	0.34	0	25,31,34	0.65	1 (4%)
24	MIA	AY	37	24	28,31,32	0.83	2 (7%)	38,44,47	0.99	1 (2%)
24	H2U	AY	16	24	18,21,22	0.84	0	19,30,33	1.72	4 (21%)
24	PSU	AY	55	24	18,21,22	0.93	2 (11%)	21,30,33	1.92	5 (23%)
24	H2U	AY	20	24	18,21,22	0.90	0	19,30,33	1.81	5 (26%)
24	H2U	AY	17	24	18,21,22	0.94	1 (5%)	19,30,33	1.56	3 (15%)
24	5MU	AY	54	24	19,22,23	0.40	0	27,32,35	0.43	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	4SU	AY	8	24	-	0/7/25/26	0/2/2/2
24	7MG	AY	46	24	-	5/7/37/38	0/3/3/3
24	OMC	AY	32	24	-	0/9/27/28	0/2/2/2
24	MIA	AY	37	24	-	3/15/33/34	0/3/3/3
24	H2U	AY	16	24	-	1/7/38/39	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	PSU	AY	55	24	-	2/7/25/26	0/2/2/2
24	H2U	AY	20	24	-	4/7/38/39	0/2/2/2
24	H2U	AY	17	24	-	3/7/38/39	0/2/2/2
24	5MU	AY	54	24	-	0/7/25/26	0/2/2/2

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	AY	46	7MG	C8-N9	-11.62	1.38	1.45
24	AY	46	7MG	C5-N7	3.11	1.39	1.35
24	AY	55	PSU	C6-C5	2.66	1.38	1.35
24	AY	37	MIA	C12-N6	-2.36	1.40	1.45
24	AY	46	7MG	C8-N7	-2.36	1.30	1.42
24	AY	17	H2U	C2-N1	2.32	1.38	1.35
24	AY	55	PSU	C6-N1	2.30	1.40	1.36
24	AY	37	MIA	C2-S10	2.05	1.77	1.75

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	AY	46	7MG	N9-C8-N7	6.96	113.23	103.37
24	AY	37	MIA	C11-S10-C2	4.91	105.94	102.25
24	AY	55	PSU	N1-C2-N3	4.64	120.06	115.17
24	AY	16	H2U	N3-C2-N1	4.56	121.23	116.65
24	AY	46	7MG	C4-C5-N7	4.54	110.74	105.38
24	AY	20	H2U	N3-C2-N1	4.37	121.04	116.65
24	AY	17	H2U	N3-C2-N1	4.29	120.96	116.65
24	AY	55	PSU	C4-N3-C2	-3.98	120.89	126.37
24	AY	16	H2U	C5-C4-N3	3.82	120.75	116.69
24	AY	17	H2U	C5-C4-N3	3.82	120.75	116.69
24	AY	20	H2U	C5-C4-N3	3.68	120.60	116.69
24	AY	20	H2U	O4'-C1'-N1	3.31	113.81	109.30
24	AY	55	PSU	O3'-C3'-C2'	3.09	121.72	111.82
24	AY	55	PSU	O2-C2-N1	-2.73	119.97	122.79
24	AY	16	H2U	O2-C2-N1	-2.54	120.04	123.10
24	AY	8	4SU	C5-C4-S4	-2.53	121.42	124.31
24	AY	55	PSU	O3'-C3'-C4'	2.50	118.26	111.08
24	AY	8	4SU	S4-C4-N3	2.42	122.73	120.20
24	AY	32	OMC	CM2-O2'-C2'	-2.36	108.41	114.47
24	AY	20	H2U	O4'-C1'-C2'	-2.32	101.66	106.62
24	AY	16	H2U	O4'-C1'-N1	2.21	112.31	109.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	AY	20	H2U	O2-C2-N1	-2.15	120.52	123.10
24	AY	17	H2U	O2-C2-N1	-2.14	120.53	123.10
24	AY	46	7MG	C6-C5-C4	-2.10	118.71	122.40

There are no chirality outliers.

All (18) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
24	AY	17	H2U	O4'-C1'-N1-C6
24	AY	20	H2U	O4'-C1'-N1-C6
24	AY	37	MIA	C5-C6-N6-C12
24	AY	20	H2U	O4'-C1'-N1-C2
24	AY	46	7MG	O4'-C4'-C5'-O5'
24	AY	37	MIA	N1-C6-N6-C12
24	AY	46	7MG	C2'-C1'-N9-C8
24	AY	20	H2U	O4'-C4'-C5'-O5'
24	AY	46	7MG	C3'-C4'-C5'-O5'
24	AY	16	H2U	C4'-C5'-O5'-P
24	AY	17	H2U	C4'-C5'-O5'-P
24	AY	55	PSU	O4'-C1'-C5-C4
24	AY	20	H2U	C3'-C4'-C5'-O5'
24	AY	37	MIA	N6-C12-C13-C14
24	AY	17	H2U	O4'-C1'-N1-C2
24	AY	55	PSU	O4'-C1'-C5-C6
24	AY	46	7MG	O4'-C1'-N9-C8
24	AY	46	7MG	C4'-C5'-O5'-P

There are no ring outliers.

7 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
24	AY	8	4SU	3	0
24	AY	37	MIA	2	0
24	AY	16	H2U	1	0
24	AY	55	PSU	1	0
24	AY	20	H2U	3	0
24	AY	17	H2U	1	0
24	AY	54	5MU	2	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 7 ligands modelled in this entry, 5 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
61	GCP	AZ	501	62	32,34,34	1.68	6 (18%)	49,54,54	1.26	7 (14%)
59	PAR	AA	1601	-	44,45,45	1.39	6 (13%)	63,67,67	1.24	5 (7%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
61	GCP	AZ	501	62	-	11/19/38/38	0/3/3/3
59	PAR	AA	1601	-	-	5/18/94/94	0/4/4/4

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
61	AZ	501	GCP	PA-O3A	-4.19	1.55	1.59
61	AZ	501	GCP	PG-O2G	-4.05	1.45	1.55
61	AZ	501	GCP	C5-N7	-3.68	1.31	1.39
59	AA	1601	PAR	C52-C42	3.47	1.59	1.52
61	AZ	501	GCP	C6-N1	3.28	1.45	1.38
59	AA	1601	PAR	O54-C14	2.91	1.49	1.41
61	AZ	501	GCP	C4-N3	2.72	1.40	1.34
61	AZ	501	GCP	PG-O3G	-2.51	1.49	1.55
59	AA	1601	PAR	O54-C54	2.36	1.50	1.44
59	AA	1601	PAR	O51-C11	2.23	1.47	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
59	AA	1601	PAR	C14-C24	2.06	1.56	1.52
59	AA	1601	PAR	C11-C21	2.02	1.56	1.52

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
59	AA	1601	PAR	O33-C14-C24	5.11	116.45	108.08
59	AA	1601	PAR	O54-C54-C64	3.73	113.23	106.07
59	AA	1601	PAR	C14-O54-C54	3.57	120.69	113.72
61	AZ	501	GCP	C2-N1-C6	-3.25	119.21	125.11
61	AZ	501	GCP	O3G-PG-O2G	3.01	116.55	107.96
61	AZ	501	GCP	O2G-PG-O1G	-2.56	105.75	112.39
61	AZ	501	GCP	O3G-PG-O1G	-2.40	106.17	112.39
59	AA	1601	PAR	O11-C11-C21	2.35	111.93	108.08
61	AZ	501	GCP	O2'-C2'-C3'	2.25	119.03	111.82
61	AZ	501	GCP	N1-C2-N3	2.23	127.40	123.32
59	AA	1601	PAR	C22-C32-C42	2.14	114.75	109.50
61	AZ	501	GCP	C6-C5-C4	-2.12	115.64	118.83

There are no chirality outliers.

All (16) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
59	AA	1601	PAR	C44-C54-C64-N64
59	AA	1601	PAR	O54-C54-C64-N64
61	AZ	501	GCP	PB-C3B-PG-O1G
61	AZ	501	GCP	PB-C3B-PG-O2G
61	AZ	501	GCP	PG-C3B-PB-O1B
61	AZ	501	GCP	PG-C3B-PB-O2B
61	AZ	501	GCP	PG-C3B-PB-O3A
61	AZ	501	GCP	C5'-O5'-PA-O3A
61	AZ	501	GCP	C5'-O5'-PA-O1A
61	AZ	501	GCP	C5'-O5'-PA-O2A
61	AZ	501	GCP	O4'-C4'-C5'-O5'
61	AZ	501	GCP	C3'-C4'-C5'-O5'
59	AA	1601	PAR	C33-C43-C53-O53
61	AZ	501	GCP	PB-C3B-PG-O3G
59	AA	1601	PAR	C43-C33-O33-C14
59	AA	1601	PAR	O54-C14-O33-C33

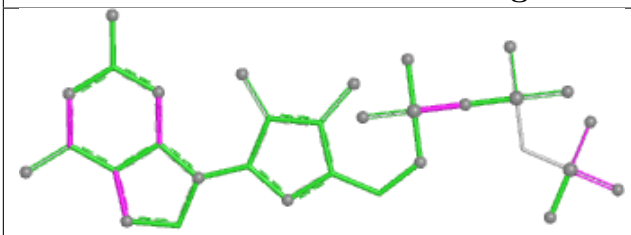
There are no ring outliers.

2 monomers are involved in 7 short contacts:

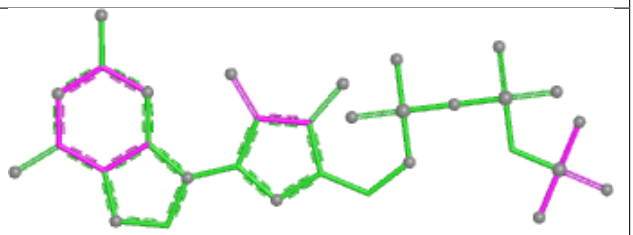
Mol	Chain	Res	Type	Clashes	Symm-Clashes
61	AZ	501	GCP	5	0
59	AA	1601	PAR	2	0

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.

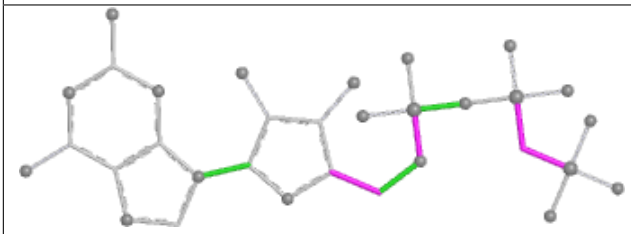
Ligand GCP AZ 501



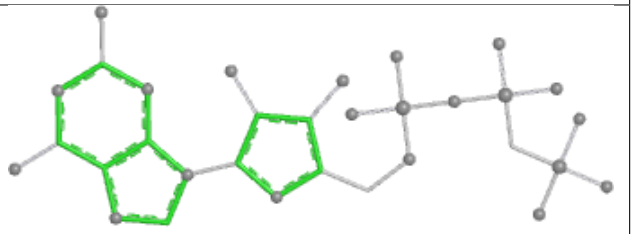
Bond lengths



Bond angles

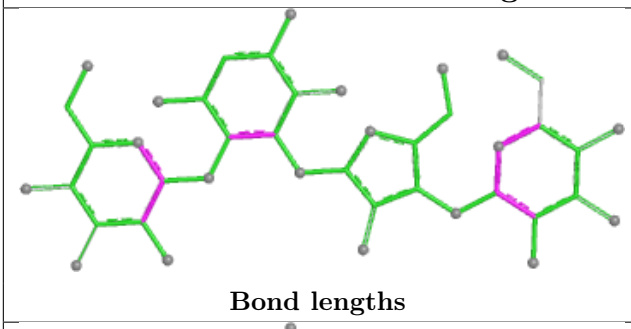


Torsions

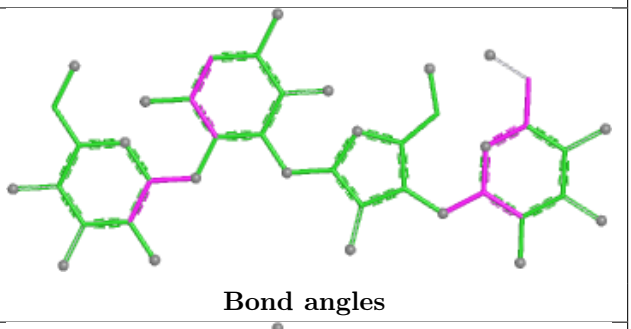


Rings

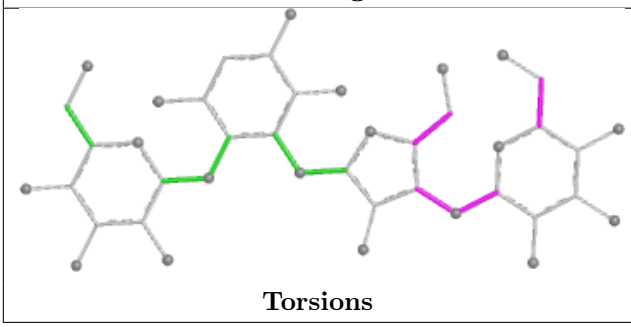
Ligand PAR AA 1601



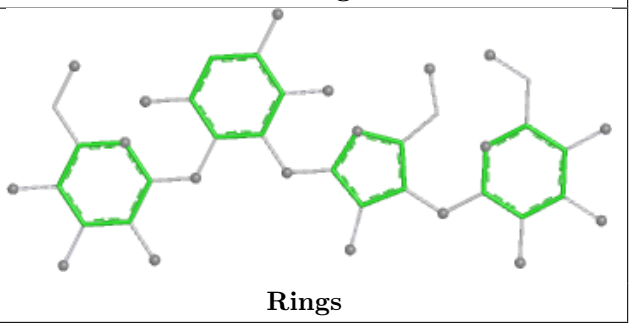
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

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	1504/1522 (98%)	0.11	75 (4%) 34 18	24, 58, 149, 200	0
2	AB	234/256 (91%)	0.58	16 (6%) 23 12	35, 74, 133, 147	0
3	AC	206/239 (86%)	0.04	3 (1%) 72 52	34, 57, 91, 103	0
4	AD	208/209 (99%)	0.42	9 (4%) 40 22	44, 68, 96, 102	0
5	AE	150/162 (92%)	0.03	3 (2%) 65 44	33, 52, 82, 102	0
6	AF	101/101 (100%)	0.29	0 100 100	52, 74, 89, 100	0
7	AG	155/156 (99%)	0.33	7 (4%) 38 20	46, 71, 96, 119	0
8	AH	138/138 (100%)	-0.01	3 (2%) 62 41	38, 58, 78, 87	0
9	AI	127/128 (99%)	0.56	6 (4%) 36 19	41, 74, 103, 112	0
10	AJ	98/105 (93%)	0.92	11 (11%) 10 5	35, 75, 111, 117	0
11	AK	119/129 (92%)	0.22	1 (0%) 82 65	39, 59, 95, 117	0
12	AL	124/135 (91%)	0.18	6 (4%) 35 19	36, 48, 77, 112	0
13	AM	124/126 (98%)	0.93	15 (12%) 8 5	50, 80, 107, 132	0
14	AN	60/61 (98%)	0.18	1 (1%) 69 48	32, 48, 76, 83	0
15	AO	88/89 (98%)	0.23	0 100 100	42, 64, 89, 93	0
16	AP	83/88 (94%)	0.35	1 (1%) 76 58	50, 65, 85, 114	0
17	AQ	99/105 (94%)	0.32	5 (5%) 33 18	45, 70, 95, 97	0
18	AR	70/88 (79%)	0.22	1 (1%) 73 53	46, 65, 97, 111	0
19	AS	78/93 (83%)	0.99	10 (12%) 7 4	58, 84, 115, 123	0
20	AT	99/106 (93%)	0.84	8 (8%) 18 10	56, 86, 128, 131	0
21	AU	24/27 (88%)	0.71	3 (12%) 8 5	52, 64, 79, 91	0
22	AV	76/76 (100%)	1.06	12 (15%) 5 2	35, 127, 168, 176	0
22	AW	76/76 (100%)	2.17	45 (59%) 0 0	60, 175, 200, 200	0
23	AX	14/14 (100%)	0.84	5 (35%) 1 0	34, 57, 98, 114	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
24	AY	68/77 (88%)	1.50	17 (25%) 2 1	47, 110, 160, 196	0
25	AZ	405/405 (100%)	0.77	30 (7%) 20 11	57, 100, 135, 143	0
26	B0	84/85 (98%)	0.84	13 (15%) 5 2	59, 75, 116, 136	0
27	B1	93/98 (94%)	0.59	5 (5%) 31 17	44, 65, 106, 114	0
28	B2	71/72 (98%)	1.04	6 (8%) 16 9	75, 108, 124, 146	0
29	B3	59/60 (98%)	0.90	4 (6%) 23 12	72, 93, 110, 135	0
30	B4	44/71 (61%)	1.67	14 (31%) 1 0	103, 134, 142, 149	0
31	B5	59/60 (98%)	1.38	13 (22%) 2 1	57, 89, 151, 155	0
32	B6	50/54 (92%)	1.67	17 (34%) 1 0	52, 81, 99, 108	0
33	B7	48/49 (97%)	0.49	2 (4%) 40 22	49, 59, 99, 117	0
34	B8	63/65 (96%)	1.24	10 (15%) 5 2	53, 73, 91, 106	0
35	B9	37/37 (100%)	1.28	7 (18%) 3 1	61, 82, 96, 97	0
36	BA	2901/2915 (99%)	0.61	277 (9%) 14 7	28, 76, 190, 200	0
37	BB	119/122 (97%)	1.14	20 (16%) 4 2	74, 103, 134, 150	0
38	BC	228/229 (99%)	2.02	99 (43%) 0 0	125, 160, 177, 186	0
39	BD	275/276 (99%)	0.00	9 (3%) 49 29	24, 45, 71, 93	0
40	BE	204/206 (99%)	0.83	21 (10%) 12 6	50, 77, 128, 135	0
41	BF	207/210 (98%)	0.99	23 (11%) 10 5	47, 97, 149, 155	0
42	BG	181/182 (99%)	1.01	25 (13%) 6 4	79, 101, 126, 137	0
43	BH	159/180 (88%)	1.65	52 (32%) 1 0	80, 119, 144, 150	0
44	BJ	0/130	-	-	-	-
45	BK	0/140	-	-	-	-
46	BN	138/140 (98%)	0.94	15 (10%) 10 5	68, 93, 127, 132	0
47	BO	122/122 (100%)	-0.00	0 100 100	42, 59, 72, 83	0
48	BP	146/150 (97%)	1.38	31 (21%) 2 1	55, 90, 121, 146	0
49	BQ	141/141 (100%)	0.69	11 (7%) 19 10	50, 68, 100, 134	0
50	BR	117/118 (99%)	0.88	11 (9%) 14 8	58, 81, 100, 105	0
51	BS	98/112 (87%)	1.54	32 (32%) 1 0	70, 93, 121, 126	0
52	BT	137/146 (93%)	0.87	16 (11%) 9 5	54, 80, 139, 161	0
53	BU	117/118 (99%)	1.13	19 (16%) 4 2	68, 88, 113, 120	0
54	BV	101/101 (100%)	1.41	22 (21%) 2 1	67, 117, 132, 137	0
55	BW	113/113 (100%)	0.79	5 (4%) 39 21	65, 88, 115, 135	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
56	BX	92/96 (95%)	1.06	11 (11%) 9 5	65, 85, 101, 107	0
57	BY	100/110 (90%)	1.87	40 (40%) 1 0	94, 125, 149, 158	0
58	BZ	176/206 (85%)	1.30	31 (17%) 4 2	69, 102, 125, 134	0
All	All	11008/11625 (94%)	0.66	1154 (10%) 11 6	24, 77, 158, 200	0

All (1154) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
49	BQ	140	ALA	10.3
31	B5	2	ALA	8.0
36	BA	654(L)	G	8.0
32	B6	42	TRP	7.9
36	BA	271(N)	U	7.8
38	BC	127	LEU	7.8
36	BA	654(M)	C	7.4
49	BQ	141	GLN	7.1
48	BP	51	PHE	6.8
36	BA	2125	G	6.7
36	BA	654(J)	A	6.7
38	BC	107	TRP	6.6
38	BC	131	LEU	6.4
35	B9	1	MET	6.3
34	B8	64	TYR	6.3
10	AJ	36	GLY	6.3
54	BV	36	PRO	6.2
38	BC	103	ILE	6.2
26	B0	4	LYS	6.1
38	BC	113	VAL	5.9
36	BA	1074	G	5.7
22	AW	18	G	5.7
36	BA	271(L)	U	5.7
36	BA	2172	U	5.7
36	BA	654(P)	C	5.7
36	BA	2402	C	5.6
50	BR	3	HIS	5.6
1	AA	1129	C	5.6
22	AW	7	A	5.6
22	AW	34	G	5.6
14	AN	2	ALA	5.6
58	BZ	114	GLY	5.6
1	AA	81	U	5.5

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Mol	Chain	Res	Type	RSRZ
36	BA	2126	A	5.5
36	BA	271(M)	G	5.5
36	BA	1073	A	5.5
43	BH	157	TYR	5.4
9	AI	87	GLN	5.4
51	BS	87	PHE	5.3
36	BA	654(Q)	C	5.3
36	BA	2173	A	5.3
38	BC	163	PHE	5.2
36	BA	654(H)	G	5.2
36	BA	2789	C	5.1
38	BC	130	ILE	5.1
38	BC	29	VAL	5.1
43	BH	82	GLY	5.1
26	B0	2	ALA	5.1
43	BH	83	TYR	5.0
57	BY	28	LYS	5.0
38	BC	220	PRO	5.0
38	BC	109	ASP	4.9
36	BA	2119	A	4.9
26	B0	5	LYS	4.8
36	BA	2171	A	4.8
1	AA	470	C	4.8
36	BA	1541	G	4.8
36	BA	2894	G	4.8
51	BS	108	GLY	4.7
35	B9	34	GLN	4.7
13	AM	124	PRO	4.7
36	BA	2110	G	4.7
22	AW	17	C	4.7
4	AD	31	CYS	4.7
36	BA	654(N)	G	4.7
13	AM	123	ALA	4.7
10	AJ	80	LYS	4.7
38	BC	123	VAL	4.7
50	BR	4	LEU	4.6
30	B4	42	PHE	4.6
34	B8	48	PHE	4.6
38	BC	2	LYS	4.6
38	BC	173	ALA	4.6
34	B8	19	SER	4.5
36	BA	1104	C	4.5

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Mol	Chain	Res	Type	RSRZ
57	BY	2	ARG	4.5
36	BA	2161	C	4.5
22	AW	50	U	4.5
38	BC	171	ILE	4.5
1	AA	1267	C	4.4
54	BV	25	LEU	4.4
36	BA	2191	G	4.4
36	BA	2892	A	4.4
48	BP	15	ARG	4.4
38	BC	62	VAL	4.4
38	BC	110	PHE	4.4
35	B9	20	HIS	4.4
40	BE	75	VAL	4.4
1	AA	1268	A	4.3
58	BZ	121	HIS	4.3
38	BC	43	VAL	4.3
57	BY	32	PRO	4.3
56	BX	4	ALA	4.3
39	BD	244	ARG	4.3
36	BA	2162	G	4.3
37	BB	119	G	4.3
36	BA	654(K)	C	4.2
40	BE	64	LYS	4.2
31	B5	58	LEU	4.2
36	BA	1088	A	4.2
1	AA	79	G	4.2
38	BC	224	ILE	4.2
38	BC	175	VAL	4.1
50	BR	10	LEU	4.1
38	BC	178	ALA	4.1
22	AW	48	C	4.1
36	BA	1075	C	4.1
10	AJ	83	GLU	4.1
1	AA	1036	G	4.1
42	BG	46	ALA	4.1
52	BT	1	MET	4.1
48	BP	27	HIS	4.1
43	BH	85	LYS	4.1
50	BR	2	ARG	4.1
53	BU	91	ASP	4.0
36	BA	2602	A	4.0
19	AS	80	TYR	4.0

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Mol	Chain	Res	Type	RSRZ
38	BC	104	LEU	4.0
53	BU	9	VAL	4.0
25	AZ	21	ASP	4.0
1	AA	1130	A	4.0
37	BB	88	C	4.0
27	B1	95	LEU	4.0
1	AA	1126	U	4.0
36	BA	1097	U	4.0
57	BY	3	VAL	4.0
22	AW	21	A	4.0
38	BC	3	HIS	3.9
25	AZ	137	LYS	3.9
1	AA	1127	G	3.9
36	BA	654(O)	G	3.9
36	BA	2318	G	3.9
38	BC	174	PRO	3.9
26	B0	3	HIS	3.9
36	BA	2109	U	3.9
38	BC	111	ASP	3.9
19	AS	10	PHE	3.9
22	AW	49	C	3.9
25	AZ	56	GLU	3.9
1	AA	1269	A	3.9
36	BA	1494	A	3.9
52	BT	6	LEU	3.9
52	BT	3	ARG	3.8
31	B5	54	GLY	3.8
36	BA	1098	A	3.8
7	AG	156	TRP	3.8
30	B4	5	ILE	3.8
38	BC	161	ILE	3.8
57	BY	82	PRO	3.8
22	AW	20	U	3.8
41	BF	25	PRO	3.8
54	BV	20	LEU	3.8
46	BN	42	TRP	3.8
25	AZ	334	PHE	3.8
40	BE	67	PHE	3.8
51	BS	89	ARG	3.8
7	AG	2	ALA	3.8
19	AS	41	VAL	3.8
22	AW	55	U	3.8

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Mol	Chain	Res	Type	RSRZ
36	BA	1762	A	3.8
36	BA	654(I)	C	3.7
36	BA	2174	C	3.7
48	BP	70	GLN	3.7
2	AB	19	HIS	3.7
46	BN	46	VAL	3.7
36	BA	1051	G	3.7
36	BA	1068	G	3.7
38	BC	136	LEU	3.7
43	BH	66	GLY	3.7
41	BF	6	VAL	3.7
57	BY	60	PHE	3.7
10	AJ	55	LYS	3.7
36	BA	2123	G	3.7
48	BP	119	GLU	3.7
24	AY	44	G	3.7
53	BU	60	LEU	3.7
57	BY	48	ALA	3.7
46	BN	53	VAL	3.7
56	BX	3	THR	3.7
36	BA	1116	C	3.7
10	AJ	82	ILE	3.7
38	BC	99	ILE	3.7
38	BC	126	LYS	3.7
43	BH	100	GLY	3.7
36	BA	1055	G	3.6
36	BA	1091	G	3.6
36	BA	1528	A	3.6
57	BY	21	LYS	3.6
36	BA	1072	C	3.6
38	BC	192	PHE	3.6
13	AM	125	ARG	3.6
51	BS	30	ARG	3.6
36	BA	2150	U	3.6
36	BA	2112	G	3.6
22	AW	36	A	3.6
36	BA	2310	A	3.6
36	BA	2177	C	3.6
22	AV	45	U	3.6
52	BT	92	GLY	3.6
36	BA	2190	G	3.6
36	BA	1050	A	3.6

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Mol	Chain	Res	Type	RSRZ
36	BA	654(T)	C	3.6
20	AT	11	SER	3.6
22	AV	19	G	3.5
22	AW	65	G	3.5
36	BA	2111	C	3.5
38	BC	25	ALA	3.5
39	BD	38	LYS	3.5
40	BE	132	HIS	3.5
38	BC	41	VAL	3.5
42	BG	3	LEU	3.5
36	BA	1056	G	3.5
22	AW	11	C	3.5
36	BA	2103	C	3.5
48	BP	33	ARG	3.5
36	BA	1033	U	3.5
13	AM	7	VAL	3.5
38	BC	36	LYS	3.5
38	BC	133	PRO	3.5
36	BA	2117	A	3.5
1	AA	91	C	3.5
34	B8	35	GLN	3.5
41	BF	24	LEU	3.5
36	BA	1094	U	3.5
36	BA	1847	A	3.5
43	BH	134	SER	3.5
22	AW	56	C	3.5
22	AW	6	G	3.5
36	BA	275	G	3.5
1	AA	180	U	3.5
32	B6	47	THR	3.4
48	BP	28	GLY	3.4
49	BQ	139	GLU	3.4
9	AI	4	TYR	3.4
36	BA	2630	G	3.4
25	AZ	355	LEU	3.4
27	B1	85	LEU	3.4
42	BG	82	LEU	3.4
23	AX	27	A	3.4
43	BH	35	VAL	3.4
22	AW	62	C	3.4
36	BA	2145	C	3.4
36	BA	2179	C	3.4

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Mol	Chain	Res	Type	RSRZ
24	AY	59	G	3.4
36	BA	508	G	3.4
2	AB	227	GLY	3.4
24	AY	1	A	3.4
36	BA	1095	A	3.4
38	BC	189	ILE	3.4
53	BU	80	ILE	3.4
13	AM	117	VAL	3.4
1	AA	1131	G	3.4
1	AA	1190	G	3.4
31	B5	51	TYR	3.4
37	BB	118	G	3.4
38	BC	22	ILE	3.4
38	BC	216	THR	3.4
34	B8	33	ASN	3.3
1	AA	1125	U	3.3
1	AA	1137	C	3.3
36	BA	885	C	3.3
36	BA	2189	U	3.3
51	BS	88	ASP	3.3
41	BF	30	PRO	3.3
52	BT	27	THR	3.3
36	BA	614(B)	G	3.3
58	BZ	104	PHE	3.3
58	BZ	7	ALA	3.3
36	BA	654(F)	C	3.3
30	B4	40	HIS	3.3
36	BA	2120	G	3.3
4	AD	26	CYS	3.3
1	AA	1086	U	3.3
36	BA	1026	U	3.3
50	BR	105	ARG	3.3
22	AW	61	C	3.3
51	BS	12	PHE	3.3
2	AB	230	VAL	3.3
58	BZ	84	GLU	3.3
38	BC	106	GLY	3.3
9	AI	126	SER	3.3
1	AA	80	G	3.3
40	BE	69	LYS	3.3
24	AY	21	A	3.3
36	BA	1103	A	3.3

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Mol	Chain	Res	Type	RSRZ
32	B6	21	TYR	3.2
58	BZ	165	VAL	3.2
35	B9	37	GLY	3.2
36	BA	1099	G	3.2
36	BA	1332	G	3.2
36	BA	2127	G	3.2
36	BA	2168	G	3.2
54	BV	23	GLU	3.2
43	BH	115	VAL	3.2
29	B3	1	MET	3.2
40	BE	76	ARG	3.2
49	BQ	10	ARG	3.2
36	BA	2149	G	3.2
9	AI	128	ARG	3.2
41	BF	26	ALA	3.2
38	BC	162	GLU	3.2
25	AZ	141	VAL	3.2
38	BC	112	ALA	3.2
12	AL	28	LYS	3.2
34	B8	34	TRP	3.2
36	BA	530	G	3.2
36	BA	932	G	3.2
41	BF	85	GLY	3.2
43	BH	79	VAL	3.2
43	BH	169	VAL	3.2
38	BC	108	MET	3.2
38	BC	193	ILE	3.2
54	BV	21	ARG	3.2
24	AY	58	A	3.1
36	BA	1495	A	3.1
36	BA	2176	A	3.1
36	BA	298	G	3.1
36	BA	1052	C	3.1
48	BP	69	GLY	3.1
54	BV	35	LEU	3.1
36	BA	2506	U	3.1
36	BA	761	A	3.1
36	BA	1542	A	3.1
30	B4	47	GLN	3.1
1	AA	92	C	3.1
25	AZ	347	THR	3.1
36	BA	1064	C	3.1

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Mol	Chain	Res	Type	RSRZ
36	BA	2188	C	3.1
38	BC	63	SER	3.1
36	BA	654(E)	G	3.1
36	BA	1183	G	3.1
58	BZ	123	ASP	3.1
46	BN	138	LEU	3.1
42	BG	129	GLY	3.1
21	AU	24	ARG	3.1
22	AV	74	C	3.1
36	BA	2140	C	3.1
57	BY	71	LYS	3.1
36	BA	352	G	3.1
51	BS	82	ILE	3.1
38	BC	9	ALA	3.1
1	AA	173	U	3.1
22	AW	12	U	3.1
57	BY	59	GLY	3.1
57	BY	83	THR	3.1
10	AJ	29	ARG	3.1
2	AB	136	VAL	3.1
42	BG	88	ILE	3.1
10	AJ	88	LEU	3.0
34	B8	32	LEU	3.0
49	BQ	136	ALA	3.0
24	AY	19	G	3.0
36	BA	2157	G	3.0
22	AW	8	U	3.0
36	BA	1090	U	3.0
37	BB	1	U	3.0
53	BU	90	VAL	3.0
38	BC	218	MET	3.0
1	AA	197	A	3.0
36	BA	2170	A	3.0
5	AE	124	GLY	3.0
36	BA	2146	C	3.0
36	BA	2175	C	3.0
57	BY	10	GLY	3.0
32	B6	41	PRO	3.0
1	AA	1026	G	3.0
36	BA	2115	G	3.0
32	B6	39	TYR	3.0
51	BS	16	ASN	3.0

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Mol	Chain	Res	Type	RSRZ
1	AA	143	A	3.0
10	AJ	100	THR	3.0
28	B2	50	ILE	3.0
38	BC	134	ARG	3.0
2	AB	16	HIS	3.0
4	AD	160	GLN	3.0
36	BA	1087	G	3.0
36	BA	2187	G	3.0
39	BD	40	THR	3.0
53	BU	28	ARG	3.0
40	BE	204	ALA	3.0
12	AL	47	LYS	3.0
36	BA	1053	C	3.0
36	BA	1092	C	3.0
51	BS	33	LYS	3.0
48	BP	35	HIS	3.0
57	BY	98	VAL	3.0
1	AA	164	U	3.0
9	AI	66	ARG	2.9
24	AY	18	G	2.9
37	BB	113	G	2.9
11	AK	127	LYS	2.9
31	B5	3	LYS	2.9
38	BC	122	ALA	2.9
51	BS	53	SER	2.9
31	B5	60	VAL	2.9
54	BV	22	VAL	2.9
25	AZ	143	ASP	2.9
1	AA	723	U	2.9
1	AA	839	U	2.9
19	AS	81	ARG	2.9
42	BG	53	LEU	2.9
29	B3	34	GLU	2.9
42	BG	35	GLU	2.9
20	AT	106	ALA	2.9
51	BS	27	SER	2.9
51	BS	92	TYR	2.9
40	BE	59	VAL	2.9
22	AW	46	G	2.9
22	AW	52	G	2.9
24	AY	22	G	2.9
36	BA	2780	G	2.9

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Mol	Chain	Res	Type	RSRZ
25	AZ	339	ARG	2.9
36	BA	887	A	2.9
38	BC	70	LYS	2.9
10	AJ	32	ALA	2.9
36	BA	654(B)	C	2.9
43	BH	53	GLU	2.9
9	AI	88	TYR	2.9
10	AJ	59	SER	2.9
41	BF	1	MET	2.9
57	BY	57	GLN	2.9
13	AM	122	LYS	2.9
1	AA	98	G	2.9
32	B6	43	CYS	2.9
34	B8	51	ALA	2.9
36	BA	2166	G	2.9
36	BA	2893	G	2.9
43	BH	114	VAL	2.9
26	B0	6	GLY	2.9
30	B4	45	GLY	2.9
36	BA	1076	C	2.9
36	BA	2129	C	2.9
52	BT	32	TYR	2.9
42	BG	98	ARG	2.9
13	AM	27	LYS	2.9
38	BC	1	PRO	2.9
46	BN	108	PRO	2.9
53	BU	2	PRO	2.9
57	BY	92	ASN	2.9
43	BH	166	GLY	2.9
1	AA	1002	G	2.9
22	AW	10	G	2.9
22	AW	35	A	2.9
36	BA	1106	G	2.9
38	BC	185	LEU	2.9
54	BV	19	LYS	2.9
32	B6	46	HIS	2.8
3	AC	162	GLN	2.8
22	AW	13	C	2.8
36	BA	2791	C	2.8
28	B2	52	ASP	2.8
55	BW	5	ALA	2.8
58	BZ	131	ARG	2.8

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Mol	Chain	Res	Type	RSRZ
38	BC	28	LEU	2.8
8	AH	1	MET	2.8
38	BC	100	ILE	2.8
1	AA	461	A	2.8
23	AX	14	A	2.8
22	AW	53	G	2.8
36	BA	1093	G	2.8
36	BA	2802	G	2.8
37	BB	31	C	2.8
53	BU	58	ARG	2.8
58	BZ	162	GLU	2.8
42	BG	133	LEU	2.8
58	BZ	144	LEU	2.8
51	BS	84	GLN	2.8
10	AJ	73	ASP	2.8
23	AX	26	A	2.8
36	BA	1535	A	2.8
22	AW	51	U	2.8
1	AA	1039	C	2.8
36	BA	271(Q)	G	2.8
36	BA	2128	C	2.8
36	BA	2151	G	2.8
2	AB	7	VAL	2.8
56	BX	64	LYS	2.8
13	AM	8	GLU	2.8
57	BY	90	LEU	2.8
30	B4	32	TYR	2.8
40	BE	66	HIS	2.8
36	BA	889	C	2.8
38	BC	35	ALA	2.8
51	BS	55	ALA	2.8
53	BU	117	GLN	2.8
57	BY	4	LYS	2.8
1	AA	1139	G	2.8
25	AZ	368	VAL	2.8
37	BB	89	G	2.8
43	BH	84	SER	2.8
30	B4	44	THR	2.8
43	BH	81	GLU	2.8
56	BX	15	GLU	2.8
46	BN	48	MET	2.7
48	BP	82	GLY	2.7

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Mol	Chain	Res	Type	RSRZ
58	BZ	115	GLY	2.7
38	BC	26	ALA	2.7
46	BN	18	ALA	2.7
24	AY	60	U	2.7
36	BA	895	U	2.7
36	BA	1067	A	2.7
36	BA	2750	A	2.7
57	BY	49	VAL	2.7
38	BC	196	LEU	2.7
13	AM	69	GLU	2.7
38	BC	77	ILE	2.7
36	BA	2148	G	2.7
37	BB	67	G	2.7
48	BP	9	ASN	2.7
51	BS	14	VAL	2.7
36	BA	2895	U	2.7
43	BH	124	GLU	2.7
22	AW	37	A	2.7
36	BA	1046	A	2.7
38	BC	144	THR	2.7
43	BH	108	GLY	2.7
57	BY	58	GLY	2.7
32	B6	37	ARG	2.7
55	BW	49	LYS	2.7
2	AB	239	VAL	2.7
42	BG	106	LEU	2.7
36	BA	361	G	2.7
36	BA	654(D)	G	2.7
36	BA	2186	G	2.7
42	BG	142	PRO	2.7
35	B9	17	ILE	2.7
38	BC	37	PHE	2.7
43	BH	159	GLU	2.7
48	BP	65	ARG	2.7
48	BP	107	LYS	2.7
51	BS	99	LYS	2.7
36	BA	606	U	2.7
36	BA	1069	A	2.7
5	AE	5	ASP	2.7
43	BH	43	VAL	2.7
32	B6	20	ASN	2.7
36	BA	2788	C	2.7

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Mol	Chain	Res	Type	RSRZ
38	BC	65	PRO	2.7
38	BC	226	PRO	2.7
26	B0	19	LYS	2.7
51	BS	93	LYS	2.7
57	BY	79	CYS	2.7
25	AZ	35	THR	2.7
1	AA	97	G	2.7
36	BA	1059	G	2.7
12	AL	26	ALA	2.7
40	BE	68	ALA	2.7
30	B4	43	TYR	2.7
38	BC	10	LEU	2.7
57	BY	27	VAL	2.7
57	BY	37	VAL	2.7
36	BA	330	A	2.6
36	BA	654	A	2.6
2	AB	96	ARG	2.6
32	B6	45	LYS	2.6
41	BF	2	LYS	2.6
3	AC	81	GLY	2.6
48	BP	43	GLY	2.6
50	BR	6	SER	2.6
51	BS	26	LEU	2.6
58	BZ	113	ALA	2.6
58	BZ	175	VAL	2.6
22	AW	19	G	2.6
30	B4	41	PRO	2.6
36	BA	1047	G	2.6
36	BA	1071	G	2.6
36	BA	1216	G	2.6
39	BD	275	LYS	2.6
48	BP	41	ARG	2.6
49	BQ	1	MET	2.6
36	BA	2118	U	2.6
48	BP	26	GLY	2.6
54	BV	17	GLY	2.6
22	AW	9	A	2.6
36	BA	1086	A	2.6
38	BC	32	LEU	2.6
38	BC	45	ALA	2.6
42	BG	111	LEU	2.6
1	AA	1038	C	2.6

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Mol	Chain	Res	Type	RSRZ
36	BA	2803	C	2.6
31	B5	4	HIS	2.6
41	BF	28	ILE	2.6
57	BY	47	LYS	2.6
46	BN	8	GLN	2.6
7	AG	82	GLY	2.6
51	BS	81	GLY	2.6
1	AA	96	U	2.6
36	BA	30	G	2.6
36	BA	1041	G	2.6
36	BA	2124	G	2.6
3	AC	207	VAL	2.6
25	AZ	387	ALA	2.6
41	BF	132	VAL	2.6
4	AD	9	CYS	2.6
21	AU	6	ARG	2.6
36	BA	505	A	2.6
36	BA	653	A	2.6
13	AM	84	ILE	2.6
38	BC	181	PRO	2.6
42	BG	2	PRO	2.6
36	BA	271(J)	C	2.6
36	BA	2178	C	2.6
4	AD	19	LEU	2.6
34	B8	62	LEU	2.6
51	BS	107	GLU	2.6
36	BA	1175	U	2.6
1	AA	78	G	2.6
1	AA	460	G	2.6
24	AY	73	G	2.6
36	BA	654(A)	G	2.6
36	BA	1110	G	2.6
36	BA	2165	G	2.6
30	B4	4	GLY	2.6
38	BC	135	GLY	2.6
41	BF	123	LEU	2.6
54	BV	18	LEU	2.6
1	AA	163	C	2.6
32	B6	24	GLU	2.6
36	BA	271(P)	C	2.6
36	BA	1080	C	2.6
31	B5	24	ALA	2.6

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Mol	Chain	Res	Type	RSRZ
46	BN	109	LYS	2.6
1	AA	65	U	2.5
22	AW	16	U	2.5
38	BC	219	GLY	2.5
38	BC	64	LEU	2.5
8	AH	98	LYS	2.5
34	B8	30	ARG	2.5
36	BA	10	G	2.5
36	BA	1162	G	2.5
36	BA	1450	G	2.5
54	BV	37	VAL	2.5
56	BX	62	LYS	2.5
7	AG	83	ALA	2.5
40	BE	131	ALA	2.5
1	AA	1029	C	2.5
36	BA	271(O)	C	2.5
36	BA	884	C	2.5
31	B5	5	PRO	2.5
22	AW	60	U	2.5
23	AX	17	U	2.5
26	B0	7	LEU	2.5
38	BC	75	LEU	2.5
52	BT	105	LEU	2.5
58	BZ	153	SER	2.5
36	BA	1061	U	2.5
17	AQ	4	LYS	2.5
39	BD	276	LYS	2.5
42	BG	84	LYS	2.5
52	BT	91	ARG	2.5
42	BG	159	VAL	2.5
30	B4	27	THR	2.5
42	BG	80	PHE	2.5
43	BH	123	PHE	2.5
36	BA	896	A	2.5
36	BA	1054	A	2.5
36	BA	1089	G	2.5
36	BA	1114	G	2.5
36	BA	1538	G	2.5
36	BA	2379	G	2.5
38	BC	44	HIS	2.5
43	BH	112	PRO	2.5
58	BZ	167	PRO	2.5

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Mol	Chain	Res	Type	RSRZ
22	AW	25	C	2.5
36	BA	574	C	2.5
36	BA	1102	C	2.5
39	BD	273	ARG	2.5
43	BH	59	ARG	2.5
48	BP	36	LYS	2.5
56	BX	53	LYS	2.5
57	BY	17	SER	2.5
57	BY	45	VAL	2.5
25	AZ	58	ALA	2.5
41	BF	22	ALA	2.5
56	BX	42	ALA	2.5
2	AB	21	ARG	2.5
41	BF	43	LYS	2.5
54	BV	24	LYS	2.5
36	BA	1057	A	2.5
36	BA	2629	A	2.5
51	BS	98	VAL	2.5
1	AA	181	G	2.5
36	BA	2131	G	2.5
36	BA	2159	G	2.5
36	BA	2795	G	2.5
37	BB	24	G	2.5
58	BZ	149	SER	2.5
1	AA	1270	C	2.5
19	AS	43	GLU	2.5
40	BE	73	GLU	2.5
40	BE	77	ILE	2.5
36	BA	1008	C	2.5
36	BA	1408	C	2.5
42	BG	116	ASP	2.5
33	B7	23	ARG	2.5
46	BN	83	LYS	2.5
38	BC	182	PRO	2.5
40	BE	151	TYR	2.5
53	BU	14	HIS	2.5
58	BZ	3	TYR	2.5
38	BC	14	VAL	2.5
43	BH	45	VAL	2.5
50	BR	24	GLN	2.5
38	BC	125	SER	2.4
54	BV	70	ILE	2.4

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Mol	Chain	Res	Type	RSRZ
57	BY	44	ILE	2.4
5	AE	10	MET	2.4
36	BA	92	A	2.4
42	BG	128	ARG	2.4
53	BU	25	TRP	2.4
1	AA	77	G	2.4
1	AA	1003	G	2.4
1	AA	1024	G	2.4
22	AV	44	G	2.4
22	AV	61	C	2.4
22	AW	24	G	2.4
36	BA	360	G	2.4
40	BE	63	LEU	2.4
57	BY	56	PRO	2.4
13	AM	87	TYR	2.4
22	AW	54	U	2.4
22	AW	59	U	2.4
43	BH	158	HIS	2.4
43	BH	26	VAL	2.4
43	BH	93	GLY	2.4
46	BN	5	VAL	2.4
55	BW	50	VAL	2.4
25	AZ	299	GLU	2.4
43	BH	51	ARG	2.4
50	BR	9	LYS	2.4
53	BU	16	LYS	2.4
36	BA	1085	A	2.4
36	BA	2801	A	2.4
38	BC	222	VAL	2.4
40	BE	65	GLY	2.4
48	BP	110	TYR	2.4
51	BS	90	GLY	2.4
58	BZ	139	VAL	2.4
25	AZ	109	ALA	2.4
36	BA	1100	C	2.4
36	BA	1217	C	2.4
37	BB	68	C	2.4
1	AA	93	G	2.4
22	AW	32	U	2.4
22	AW	45	U	2.4
36	BA	1115	G	2.4
36	BA	1525	G	2.4

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Mol	Chain	Res	Type	RSRZ
36	BA	2102	U	2.4
41	BF	40	GLN	2.4
54	BV	75	PHE	2.4
19	AS	4	SER	2.4
19	AS	5	LEU	2.4
32	B6	34	LEU	2.4
43	BH	17	VAL	2.4
31	B5	52	TYR	2.4
38	BC	146	GLY	2.4
38	BC	176	GLY	2.4
51	BS	104	GLY	2.4
36	BA	2062	A	2.4
2	AB	22	LYS	2.4
52	BT	90	GLN	2.4
53	BU	13	LYS	2.4
36	BA	894	C	2.4
36	BA	1049	C	2.4
36	BA	1181	C	2.4
36	BA	2477	C	2.4
1	AA	145	G	2.4
1	AA	1001(A)	G	2.4
41	BF	199	TRP	2.4
48	BP	116	GLY	2.4
43	BH	156	ALA	2.4
13	AM	121	LYS	2.4
40	BE	58	ARG	2.4
28	B2	44	LEU	2.4
43	BH	33	LEU	2.4
36	BA	2158	A	2.4
36	BA	2790	A	2.4
37	BB	66	A	2.4
42	BG	48	GLU	2.4
58	BZ	169	GLU	2.4
51	BS	31	SER	2.4
1	AA	1212	U	2.4
22	AW	47	U	2.4
24	AY	45	U	2.4
24	AY	48	U	2.4
36	BA	2130	U	2.4
1	AA	1027	C	2.3
36	BA	2108	C	2.3
41	BF	207	GLY	2.3

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Mol	Chain	Res	Type	RSRZ
54	BV	8	GLY	2.3
26	B0	85	ALA	2.3
31	B5	56	LYS	2.3
38	BC	78	ALA	2.3
43	BH	170	ARG	2.3
49	BQ	135	ASP	2.3
1	AA	200	G	2.3
22	AV	1	G	2.3
36	BA	2104	G	2.3
36	BA	2307	G	2.3
25	AZ	335	PHE	2.3
43	BH	71	LEU	2.3
39	BD	30	GLU	2.3
43	BH	86	GLU	2.3
38	BC	72	VAL	2.3
43	BH	168	PRO	2.3
22	AW	14	A	2.3
22	AW	64	A	2.3
36	BA	6	A	2.3
36	BA	1070	A	2.3
20	AT	100	ILE	2.3
25	AZ	108	ALA	2.3
25	AZ	310	ILE	2.3
43	BH	162	ILE	2.3
36	BA	2113	U	2.3
46	BN	4	TYR	2.3
1	AA	169	C	2.3
36	BA	886	C	2.3
36	BA	1531	C	2.3
36	BA	2306	C	2.3
57	BY	67	LEU	2.3
38	BC	97	GLU	2.3
1	AA	1312	G	2.3
36	BA	2192	G	2.3
52	BT	89	VAL	2.3
20	AT	14	LYS	2.3
43	BH	160	LYS	2.3
49	BQ	18	LYS	2.3
57	BY	77	PRO	2.3
25	AZ	63	ILE	2.3
25	AZ	319	SER	2.3
26	B0	76	GLY	2.3

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Mol	Chain	Res	Type	RSRZ
41	BF	131	GLY	2.3
55	BW	95	ILE	2.3
40	BE	146	THR	2.3
48	BP	120	ALA	2.3
49	BQ	89	ASN	2.3
36	BA	1182	A	2.3
36	BA	271(K)	U	2.3
7	AG	8	GLU	2.3
1	AA	840	C	2.3
36	BA	888	C	2.3
36	BA	1079	C	2.3
36	BA	2185	C	2.3
53	BU	11	ARG	2.3
43	BH	12	PRO	2.3
43	BH	161	GLY	2.3
38	BC	211	SER	2.3
36	BA	344	G	2.3
36	BA	883	G	2.3
36	BA	2101	G	2.3
36	BA	2155	G	2.3
38	BC	165	ASN	2.3
38	BC	188	ASN	2.3
52	BT	33	LYS	2.3
1	AA	1531	A	2.3
4	AD	81	GLU	2.3
12	AL	16	GLU	2.3
22	AW	38	A	2.3
24	AY	52	A	2.3
25	AZ	145	GLU	2.3
36	BA	528	A	2.3
36	BA	1496	A	2.3
42	BG	164	GLU	2.3
48	BP	7	ARG	2.3
51	BS	20	ARG	2.3
40	BE	86	PRO	2.3
4	AD	23	GLY	2.3
57	BY	18	GLY	2.3
1	AA	89	C	2.3
22	AW	40	C	2.3
2	AB	17	PHE	2.3
29	B3	17	LYS	2.3
50	BR	74	LYS	2.3

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Mol	Chain	Res	Type	RSRZ
2	AB	195	ASP	2.3
43	BH	44	VAL	2.3
25	AZ	55	GLU	2.2
1	AA	1456	G	2.2
24	AY	57	G	2.2
36	BA	317	G	2.2
36	BA	654(C)	G	2.2
36	BA	1215	G	2.2
37	BB	16	G	2.2
25	AZ	328	GLY	2.2
38	BC	120	MET	2.2
38	BC	124	GLY	2.2
48	BP	48	PRO	2.2
46	BN	92	ALA	2.2
1	AA	82	U	2.2
19	AS	20	LEU	2.2
22	AV	60	U	2.2
36	BA	2218	U	2.2
36	BA	2542	A	2.2
57	BY	35	TYR	2.2
20	AT	25	ARG	2.2
37	BB	17	C	2.2
41	BF	11	VAL	2.2
58	BZ	161	VAL	2.2
2	AB	231	GLU	2.2
4	AD	190	ASP	2.2
38	BC	105	ASP	2.2
52	BT	11	GLU	2.2
38	BC	156	ILE	2.2
52	BT	88	ILE	2.2
25	AZ	48	GLY	2.2
32	B6	31	PRO	2.2
38	BC	4	GLY	2.2
38	BC	191	ALA	2.2
40	BE	88	GLY	2.2
48	BP	72	PRO	2.2
57	BY	66	PRO	2.2
26	B0	84	LEU	2.2
22	AW	22	G	2.2
36	BA	544	G	2.2
36	BA	1888	G	2.2
36	BA	614(A)	U	2.2

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Mol	Chain	Res	Type	RSRZ
36	BA	1101	U	2.2
36	BA	2144	U	2.2
36	BA	2808	U	2.2
53	BU	59	ARG	2.2
20	AT	37	SER	2.2
36	BA	1096	A	2.2
38	BC	221	SER	2.2
33	B7	36	GLN	2.2
35	B9	36	GLN	2.2
38	BC	39	GLU	2.2
43	BH	18	GLU	2.2
43	BH	34	GLU	2.2
1	AA	701	C	2.2
1	AA	849	C	2.2
36	BA	2105	C	2.2
37	BB	30	C	2.2
38	BC	195	ALA	2.2
41	BF	12	LEU	2.2
54	BV	40	LEU	2.2
58	BZ	154	ASP	2.2
12	AL	25	PRO	2.2
54	BV	42	GLY	2.2
58	BZ	160	GLY	2.2
13	AM	31	LYS	2.2
48	BP	14	LYS	2.2
48	BP	39	LYS	2.2
53	BU	85	LYS	2.2
56	BX	63	LYS	2.2
41	BF	7	TYR	2.2
19	AS	11	VAL	2.2
25	AZ	320	VAL	2.2
48	BP	19	VAL	2.2
17	AQ	99	SER	2.2
58	BZ	142	SER	2.2
2	AB	127	ILE	2.2
1	AA	266	G	2.2
1	AA	977	A	2.2
22	AW	44	G	2.2
36	BA	229	A	2.2
36	BA	945	A	2.2
36	BA	1042	G	2.2
36	BA	1510	G	2.2

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Mol	Chain	Res	Type	RSRZ
36	BA	2153	G	2.2
36	BA	2891	G	2.2
37	BB	81	G	2.2
42	BG	4	ASP	2.2
54	BV	74	LYS	2.2
22	AV	72	C	2.2
36	BA	1543	C	2.2
36	BA	2799	C	2.2
36	BA	2896	C	2.2
32	B6	52	VAL	2.2
25	AZ	336	SER	2.2
20	AT	84	LEU	2.2
48	BP	6	LEU	2.2
27	B1	75	GLU	2.2
49	BQ	28	ALA	2.2
54	BV	31	ALA	2.2
1	AA	850	U	2.2
13	AM	10	PRO	2.2
17	AQ	47	PRO	2.2
25	AZ	144	PRO	2.2
26	B0	13	GLY	2.2
38	BC	60	GLY	2.2
41	BF	205	ARG	2.2
1	AA	162	A	2.2
36	BA	276	A	2.2
36	BA	1084	A	2.2
36	BA	1214	A	2.2
1	AA	1133	G	2.2
1	AA	1331	G	2.2
23	AX	18	G	2.2
24	AY	53	G	2.2
36	BA	274	G	2.2
36	BA	2160	G	2.2
55	BW	111	HIS	2.2
30	B4	24	THR	2.1
57	BY	42	VAL	2.1
58	BZ	111	VAL	2.1
36	BA	292	C	2.1
36	BA	645	C	2.1
58	BZ	146	ILE	2.1
41	BF	140	LEU	2.1
51	BS	48	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
2	AB	235	SER	2.1
17	AQ	100	LYS	2.1
31	B5	8	LYS	2.1
52	BT	8	LYS	2.1
54	BV	85	LYS	2.1
43	BH	47	GLU	2.1
40	BE	56	PRO	2.1
42	BG	112	PRO	2.1
51	BS	61	ASN	2.1
51	BS	91	PRO	2.1
54	BV	101	GLY	2.1
29	B3	46	ASN	2.1
1	AA	1281	U	2.1
36	BA	90	U	2.1
36	BA	362	U	2.1
36	BA	1083	U	2.1
36	BA	1108	U	2.1
46	BN	63	THR	2.1
36	BA	1210	A	2.1
36	BA	2208	A	2.1
38	BC	47	LEU	2.1
43	BH	87	LEU	2.1
53	BU	84	LYS	2.1
1	AA	1177	G	2.1
1	AA	1266	G	2.1
22	AW	15	G	2.1
36	BA	512	G	2.1
36	BA	2147	G	2.1
36	BA	2156	G	2.1
37	BB	19	G	2.1
28	B2	72	ALA	2.1
38	BC	33	ALA	2.1
58	BZ	164	ALA	2.1
16	AP	83	GLU	2.1
38	BC	228	SER	2.1
36	BA	271(Z)	C	2.1
36	BA	1333	C	2.1
36	BA	1536	C	2.1
43	BH	55	PRO	2.1
52	BT	104	ASN	2.1
25	AZ	349	VAL	2.1
30	B4	35	VAL	2.1

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Mol	Chain	Res	Type	RSRZ
31	B5	57	VAL	2.1
57	BY	72	VAL	2.1
1	AA	84	U	2.1
32	B6	54	ILE	2.1
38	BC	30	LYS	2.1
42	BG	75	LYS	2.1
43	BH	153	LYS	2.1
46	BN	7	LYS	2.1
51	BS	101	LEU	2.1
56	BX	72	LYS	2.1
57	BY	75	ILE	2.1
17	AQ	95	TYR	2.1
26	B0	11	ARG	2.1
22	AV	73	A	2.1
49	BQ	62	GLY	2.1
56	BX	90	GLU	2.1
1	AA	64	G	2.1
22	AV	18	G	2.1
22	AV	71	G	2.1
36	BA	353	G	2.1
36	BA	880	G	2.1
36	BA	1235	G	2.1
36	BA	2116	G	2.1
43	BH	50	VAL	2.1
43	BH	113	VAL	2.1
22	AV	75	C	2.1
18	AR	19	LYS	2.1
43	BH	89	ILE	2.1
7	AG	94	ARG	2.1
13	AM	49	THR	2.1
38	BC	210	ARG	2.1
43	BH	122	THR	2.1
48	BP	21	ARG	2.1
25	AZ	354	GLN	2.1
28	B2	38	GLN	2.1
2	AB	18	GLY	2.1
27	B1	84	GLY	2.1
57	BY	22	GLY	2.1
57	BY	80	GLY	2.1
38	BC	16	PRO	2.1
58	BZ	83	PRO	2.1
1	AA	1256	A	2.1

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Mol	Chain	Res	Type	RSRZ
32	B6	32	ASN	2.1
35	B9	33	LYS	2.1
36	BA	1610	A	2.1
50	BR	99	LYS	2.1
57	BY	34	LYS	2.1
27	B1	50	ARG	2.1
28	B2	32	LEU	2.1
38	BC	68	LEU	2.1
54	BV	99	ILE	2.1
58	BZ	76	LEU	2.1
48	BP	5	ASP	2.1
4	AD	12	CYS	2.1
19	AS	61	TYR	2.1
51	BS	36	TYR	2.1
53	BU	78	THR	2.1
57	BY	99	CYS	2.1
7	AG	7	ALA	2.1
12	AL	128	ALA	2.1
24	AY	56	C	2.1
37	BB	6	C	2.1
36	BA	1044	G	2.1
36	BA	1062	G	2.1
36	BA	1591	G	2.1
37	BB	18	G	2.1
37	BB	76	G	2.1
26	B0	17	GLN	2.1
58	BZ	110	GLY	2.1
20	AT	98	PRO	2.1
36	BA	504	U	2.0
36	BA	2796	U	2.0
39	BD	35	LYS	2.0
51	BS	11	LYS	2.0
58	BZ	71	VAL	2.0
8	AH	2	LEU	2.0
51	BS	80	LEU	2.0
52	BT	79	HIS	2.0
36	BA	294	A	2.0
38	BC	93	TYR	2.0
42	BG	110	ALA	2.0
53	BU	96	ALA	2.0
43	BH	78	GLY	2.0
25	AZ	54	PRO	2.0

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Mol	Chain	Res	Type	RSRZ
1	AA	76	C	2.0
21	AU	25	LYS	2.0
37	BB	2	C	2.0
42	BG	67	LYS	2.0
48	BP	52	GLU	2.0
24	AY	28	C	2.0
1	AA	146	G	2.0
36	BA	102	G	2.0
36	BA	1151	G	2.0
36	BA	2141	G	2.0
36	BA	2634	G	2.0
1	AA	1135	U	2.0
43	BH	41	MET	2.0
50	BR	11	ASN	2.0
30	B4	6	HIS	2.0
48	BP	12	ALA	2.0
38	BC	143	GLY	2.0
39	BD	36	PRO	2.0
58	BZ	73	GLN	2.0
36	BA	1174	A	2.0
32	B6	28	ARG	2.0
57	BY	39	VAL	2.0
41	BF	156	LEU	2.0
56	BX	13	LEU	2.0
36	BA	654(G)	C	2.0
36	BA	1043	C	2.0
36	BA	2139	C	2.0
36	BA	2143	C	2.0
36	BA	2164	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	PSU	AY	55	20/21	0.42	0.16	154,158,159,160	0
24	H2U	AY	20	20/21	0.53	0.21	185,187,191,191	0
24	H2U	AY	16	20/21	0.55	0.18	171,185,187,190	0
24	H2U	AY	17	20/21	0.55	0.25	191,199,200,200	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
24	5MU	AY	54	21/22	0.62	0.19	145,152,154,155	0
24	4SU	AY	8	20/21	0.79	0.19	104,105,107,108	0
24	7MG	AY	46	24/25	0.84	0.17	112,114,120,121	0
24	OMC	AY	32	21/22	0.90	0.15	76,80,87,88	0
24	MIA	AY	37	29/30	0.92	0.16	48,63,74,86	0

6.3 Carbohydrates (i)

There are no oligosaccharides in this entry.

6.4 Ligands (i)

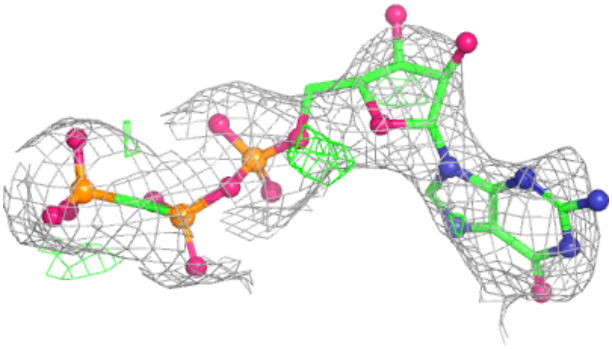
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

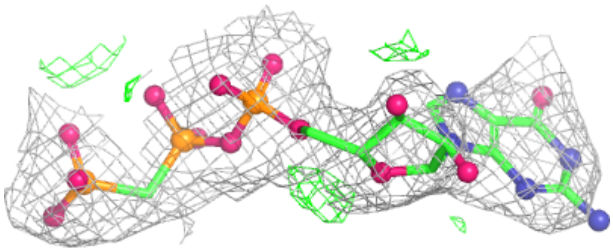
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
62	MG	AZ	502	1/1	0.85	0.15	55,55,55,55	0
61	GCP	AZ	501	32/32	0.91	0.15	89,110,116,117	0
59	PAR	AA	1601	42/42	0.93	0.13	33,42,58,62	0
60	ZN	AD	301	1/1	0.97	0.20	58,58,58,58	0
60	ZN	B4	101	1/1	0.97	0.07	132,132,132,132	0
60	ZN	AN	101	1/1	1.00	0.04	45,45,45,45	0
60	ZN	B9	101	1/1	1.00	0.04	92,92,92,92	0

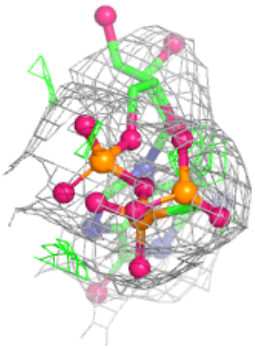
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around GCP AZ 501:

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

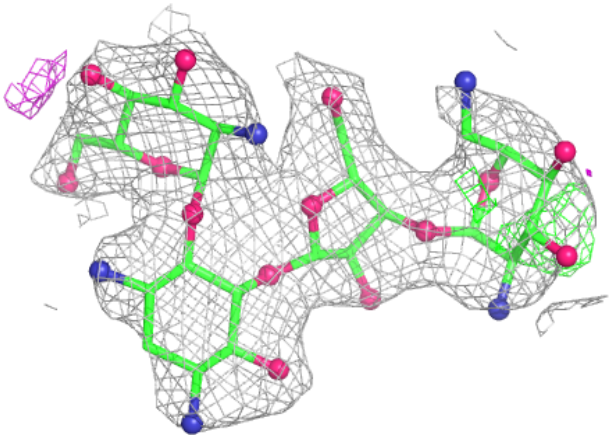


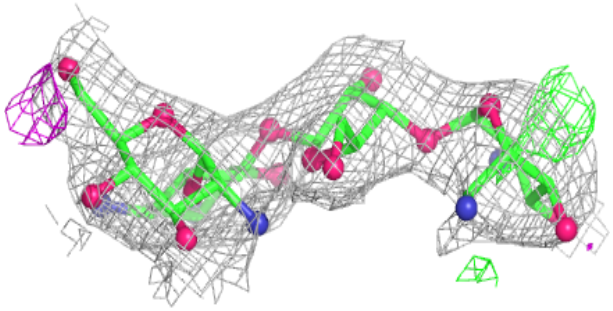


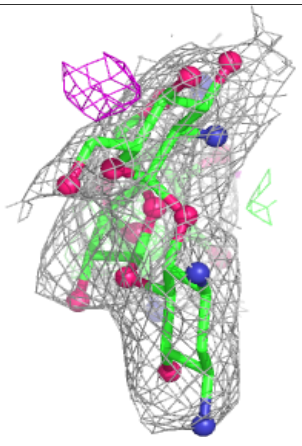


Electron density around PAR AA 1601:

$2mF_o$-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.