



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 18, 2026 – 11:05 AM UTC

PDB ID : 4P6F / pdb_00004p6f
Title : Crystal structure of the peptolide 12C bound to bacterial ribosome
Authors : Fagan, C.E.; Dunham, C.M.
Deposited on : 2014-03-24
Resolution : 3.60 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

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

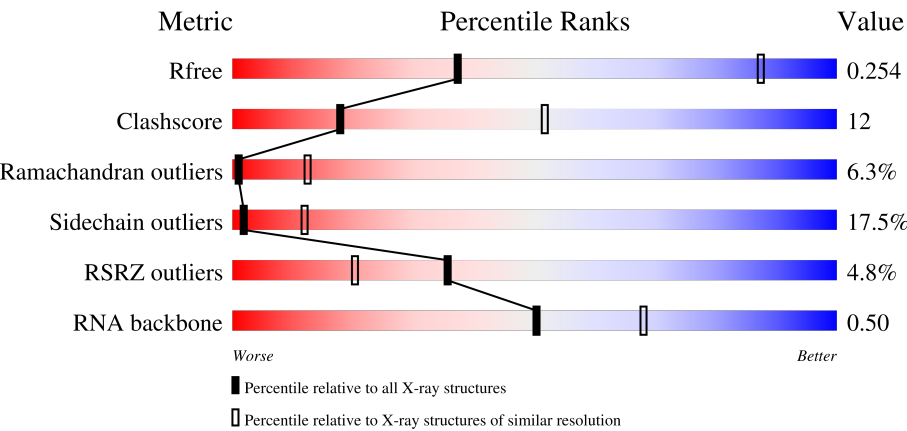
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.60 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	1747 (3.70-3.50)
Clashscore	190562	1827 (3.70-3.50)
Ramachandran outliers	187476	1773 (3.70-3.50)
Sidechain outliers	187428	1772 (3.70-3.50)
RSRZ outliers	180081	1745 (3.70-3.50)
RNA backbone	3983	1014 (4.14-3.06)

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 $\leq 5\%$. 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	QA	1522	2% 53% 36% 9%
1	XA	1522	2% 56% 34% 9%
2	QB	256	5% 46% 38% 8% 7%
2	XB	256	4% 44% 39% 9% 7%

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Mol	Chain	Length	Quality of chain
3	QC	239	
3	XC	239	
4	QD	209	
4	XD	209	
5	QE	162	
5	XE	162	
6	QF	101	
6	XF	101	
7	QG	156	
7	XG	156	
8	QH	138	
8	XH	138	
9	QI	128	
9	XI	128	
10	QJ	105	
10	XJ	105	
11	QK	129	
11	XK	129	
12	QL	132	
12	XL	132	
13	QM	126	
13	XM	126	
14	QN	61	
14	XN	61	
15	QO	89	

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Mol	Chain	Length	Quality of chain
15	XO	89	% 66% 24% 9% .
16	QP	88	10% 66% 24% 6% 5%
16	XP	88	5% 56% 38% .. 5%
17	QQ	105	7% 58% 35% .. 5%
17	XQ	105	6% 72% 19% . 5%
18	QR	88	55% 19% 5% . 20%
18	XR	88	% 40% 33% 7% 20%
19	QS	93	11% 37% 34% 17% . 10%
19	XS	93	4% 28% 43% 17% . 10%
20	QT	106	8% 58% 28% 7% 7%
20	XT	106	16% 46% 36% 11% 7%
21	QU	27	19% 48% 44% 7%
21	XU	27	37% 74% 19% 7%
22	QV	77	57% 31% 12%
22	XV	77	% 57% 32% 10%
23	QW	76	% 49% 41% 11%
23	QY	76	% 16% 7% 78%
23	XW	76	5% 46% 38% 16%
23	XY	76	14% 7% . 78%
24	QX	24	17% 42% 58%
24	XX	24	12% 38% . 58%
25	RA	2915	2% 58% 32% 9% .
25	YA	2915	% 58% 32% 9% .
26	RB	122	7% 53% 37% 8% .
26	YB	122	2% 62% 27% 9% .

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Mol	Chain	Length	Quality of chain
27	RD	276	
27	YD	276	
28	RE	206	
28	YE	206	
29	RF	210	
29	YF	210	
30	RG	182	
30	YG	182	
31	RH	180	
31	YH	180	
32	RI	148	
32	YI	148	
33	RN	140	
33	YN	140	
34	RO	122	
34	YO	122	
35	RP	150	
35	YP	150	
36	RQ	141	
36	YQ	141	
37	RR	118	
37	YR	118	
38	RS	112	
38	YS	112	
39	RT	146	

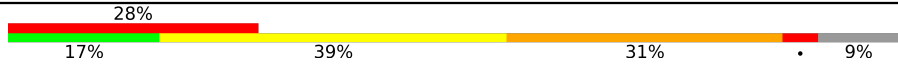
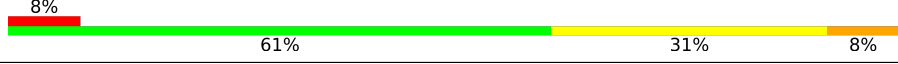
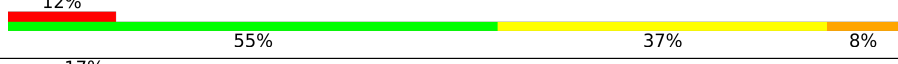
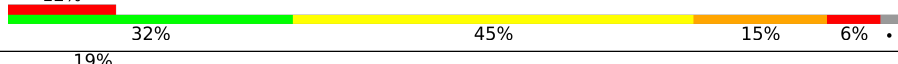
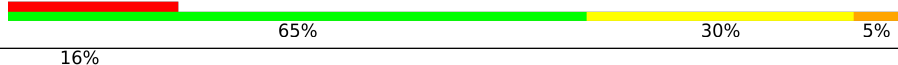
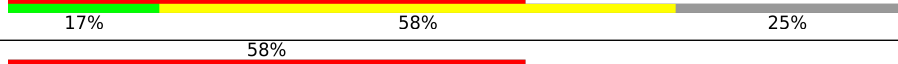
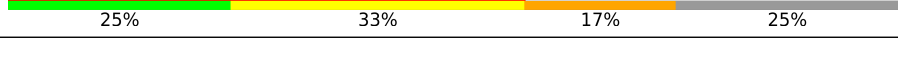
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Mol	Chain	Length	Quality of chain
39	YT	146	
40	RU	118	
40	YU	118	
41	RV	101	
41	YV	101	
42	RW	113	
42	YW	113	
43	RX	96	
43	YX	96	
44	RY	110	
44	YY	110	
45	RZ	206	
45	YZ	206	
46	R0	85	
46	Y0	85	
47	R1	98	
47	Y1	98	
48	R2	72	
48	Y2	72	
49	R3	60	
49	Y3	60	
50	R4	71	
50	Y4	71	
51	R5	60	
51	Y5	60	

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Mol	Chain	Length	Quality of chain
52	R6	54	
52	Y6	54	
53	R7	49	
53	Y7	49	
54	R8	65	
54	Y8	65	
55	R9	37	
55	Y9	37	
56	Z7	12	
56	Z8	12	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
57	MG	QA	1625	-	-	-	X
57	MG	R5	101	-	-	-	X
57	MG	RA	3044	-	-	-	X
57	MG	RA	3091	-	-	-	X
57	MG	RA	3161	-	-	-	X
57	MG	RA	3206	-	-	-	X
57	MG	RA	3225	-	-	-	X
57	MG	RA	3230	-	-	-	X
57	MG	XA	1621	-	-	-	X
57	MG	Y5	101	-	-	-	X
57	MG	YA	3006	-	-	-	X
57	MG	YA	3024	-	-	-	X
57	MG	YA	3044	-	-	-	X
57	MG	YA	3053	-	-	-	X
57	MG	YA	3080	-	-	-	X
57	MG	YA	3149	-	-	-	X
57	MG	YA	3194	-	-	-	X
57	MG	YA	3204	-	-	-	X
57	MG	YA	3210	-	-	-	X
57	MG	YA	3227	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
57	MG	YB	202	-	-	-	X

2 Entry composition

There are 59 unique types of molecules in this entry. The entry contains 295487 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 ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	QA	1500	Total	C	N	O	P	0	0	0
			32247	14353	5981	10414	1499			
1	XA	1500	Total	C	N	O	P	0	0	0
			32249	14354	5984	10412	1499			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	QB	237	Total	C	N	O	S	0	0	0
			1924	1228	344	347	5			
2	XB	237	Total	C	N	O	S	0	0	0
			1924	1228	344	347	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	QC	205	Total	C	N	O	S	0	0	0
			1605	1011	313	280	1			
3	XC	205	Total	C	N	O	S	0	0	0
			1605	1011	313	280	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	QD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			
4	XD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	QE	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			
5	XE	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	QG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			
7	XG	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	QH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			
8	XH	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	QI	127	Total	C	N	O		0	0	0
			1010	639	197	174				
9	XI	127	Total	C	N	O		0	0	0
			1010	639	197	174				

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	QJ	99	Total	C	N	O	S	0	0	0
			801	504	157	139	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	XJ	99	Total	C	N	O	S	0	0	0
			801	504	157	139	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	QK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			
11	XK	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	QL	125	Total	C	N	O	S	0	0	0
			975	614	196	164	1			
12	XL	125	Total	C	N	O	S	0	0	0
			975	614	196	164	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	QM	121	Total	C	N	O	S	0	0	0
			964	597	199	166	2			
13	XM	121	Total	C	N	O	S	0	0	0
			964	597	199	166	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	QN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
14	XN	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	QO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
15	XO	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	QP	84	Total	C	N	O	S	0	0	0
			705	446	140	118	1			
16	XP	84	Total	C	N	O	S	0	0	0
			705	446	140	118	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	QQ	100	Total	C	N	O	S	0	0	0
			834	534	155	143	2			
17	XQ	100	Total	C	N	O	S	0	0	0
			834	534	155	143	2			

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	QR	70	Total	C	N	O	0	0	0
			574	367	112	95			
18	XR	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	QS	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			
19	XS	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	QT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			
20	XT	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	QU	25	Total	C	N	O	0	0	0
			217	134	52	31			
21	XU	25	Total	C	N	O	0	0	0
			217	134	52	31			

- Molecule 22 is a RNA chain called tRNA-fMet.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	QV	77	Total	C	N	O	P	0	0	0
			1644	732	297	538	77			
22	XV	77	Total	C	N	O	P	0	0	0
			1644	732	297	538	77			

- Molecule 23 is a RNA chain called E-Site tRNA-Phe or A-Site tRNA-Phe.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	QW	76	Total	C	N	O	P	0	0	0
			1619	723	290	531	75			
23	QY	17	Total	C	N	O	P	0	0	0
			364	163	68	116	17			
23	XW	76	Total	C	N	O	P	0	0	0
			1619	723	290	531	75			
23	XY	17	Total	C	N	O	P	0	0	0
			364	163	68	116	17			

- Molecule 24 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	QX	10	Total	C	N	O	P	0	0	0
			210	96	39	66	9			
24	XX	10	Total	C	N	O	P	0	0	0
			210	96	39	66	9			

- Molecule 25 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	RA	2882	Total	C	N	O	P	0	0	0
			62071	27627	11611	19952	2881			
25	YA	2883	Total	C	N	O	P	0	0	0
			62091	27636	11613	19960	2882			

- Molecule 26 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	RB	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			
26	YB	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			

- Molecule 27 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	RD	272	Total	C	N	O	S	0	0	0
			2115	1335	420	357	3			
27	YD	272	Total	C	N	O	S	0	0	0
			2115	1335	420	357	3			

- Molecule 28 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	RE	205	Total	C	N	O	S	0	0	0
			1568	991	300	271	6			
28	YE	205	Total	C	N	O	S	0	0	0
			1568	991	300	271	6			

- Molecule 29 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	RF	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			
29	YF	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			

- Molecule 30 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	RG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			
30	YG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			

- Molecule 31 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	RH	170	Total	C	N	O	S	0	0	0
			1307	829	245	232	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	YH	170	Total	C	N	O	S	0	0	0
			1307	829	245	232	1			

- Molecule 32 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	RI	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			
32	YI	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	RP	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	3			
35	YP	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	3			

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	RR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			
37	YR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
38	RS	111	Total	C	N	O	0	0	0
			882	556	176	150			
38	YS	111	Total	C	N	O	0	0	0
			882	556	176	150			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	RT	137	Total	C	N	O	S	0	0	0
			1141	710	234	196	1			
39	YT	137	Total	C	N	O	S	0	0	0
			1141	710	234	196	1			

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	RX	92	Total	C	N	O	S	0	0	0
			725	471	131	123				
43	YX	92	Total	C	N	O	S	0	0	0
			725	471	131	123				

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	RY	102	Total	C	N	O	S	0	0	0
			785	505	150	125	5			
44	YY	102	Total	C	N	O	S	0	0	0
			785	505	150	125	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	RZ	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			
45	YZ	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	R0	82	Total	C	N	O	S	0	0	0
			648	401	138	108	1			
46	Y0	82	Total	C	N	O	S	0	0	0
			648	401	138	108	1			

- Molecule 47 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	R1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	Y1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			

- Molecule 48 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	R2	69	Total	C	N	O	S	0	0	0
			581	358	118	104	1			
48	Y2	69	Total	C	N	O	S	0	0	0
			581	358	118	104	1			

- Molecule 49 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
49	R3	59	Total	C	N	O	0	0	0
			469	298	90	81			
49	Y3	59	Total	C	N	O	0	0	0
			469	298	90	81			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	R4	71	Total	C	N	O	S	0	0	0
			581	364	108	104	5			
50	Y4	71	Total	C	N	O	S	0	0	0
			581	364	108	104	5			

- Molecule 51 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	R5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			
51	Y5	57	Total	C	N	O	S	0	0	0
			442	278	88	71	5			

- Molecule 52 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	R6	49	Total	C	N	O	S	0	0	0
			424	264	87	69	4			
52	Y6	49	Total	C	N	O	S	0	0	0
			424	264	87	69	4			

- Molecule 53 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	R7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			
53	Y7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			

- Molecule 54 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	R8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			
54	Y8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 55 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	R9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
55	Y9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 56 is a protein called T17-GLY-GLY-PRO-LYS-LYS-LYS-LYS-LYS-VAL-GLY-GLY.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
56	Z7	9	Total	C	N	O	0	0	0
			116	78	18	20			
56	Z8	9	Total	C	N	O	0	0	0
			116	78	18	20			

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QA	67	Total	Mg	0	0
			67	67		
57	QF	1	Total	Mg	0	0
			1	1		
57	QH	1	Total	Mg	0	0
			1	1		
57	QV	2	Total	Mg	0	0
			2	2		

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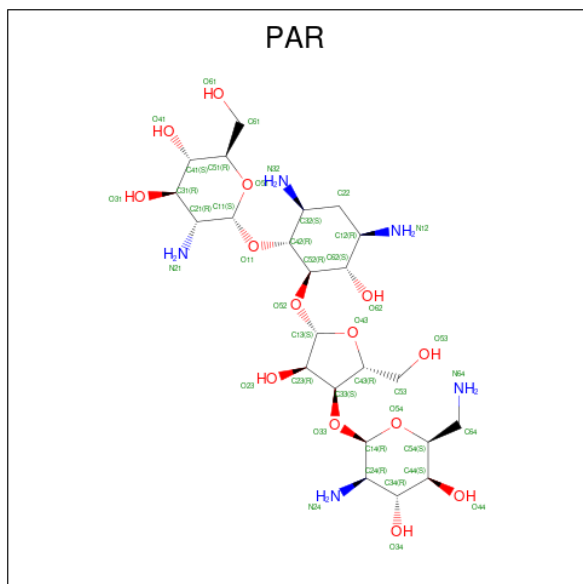
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QY	1	Total 1	Mg 1	0	0
57	RA	246	Total 246	Mg 246	0	0
57	RB	2	Total 2	Mg 2	0	0
57	RD	1	Total 1	Mg 1	0	0
57	RE	1	Total 1	Mg 1	0	0
57	RP	4	Total 4	Mg 4	0	0
57	R0	1	Total 1	Mg 1	0	0
57	R5	1	Total 1	Mg 1	0	0
57	XA	71	Total 71	Mg 71	0	0
57	XB	1	Total 1	Mg 1	0	0
57	XM	1	Total 1	Mg 1	0	0
57	XV	3	Total 3	Mg 3	0	0
57	XX	1	Total 1	Mg 1	0	0
57	XY	1	Total 1	Mg 1	0	0
57	YA	278	Total 278	Mg 278	0	0
57	YB	5	Total 5	Mg 5	0	0
57	YD	1	Total 1	Mg 1	0	0
57	YE	2	Total 2	Mg 2	0	0
57	YP	1	Total 1	Mg 1	0	0
57	YX	1	Total 1	Mg 1	0	0
57	Y5	1	Total 1	Mg 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	Y7	1	Total	Mg	0	0
			1	1		

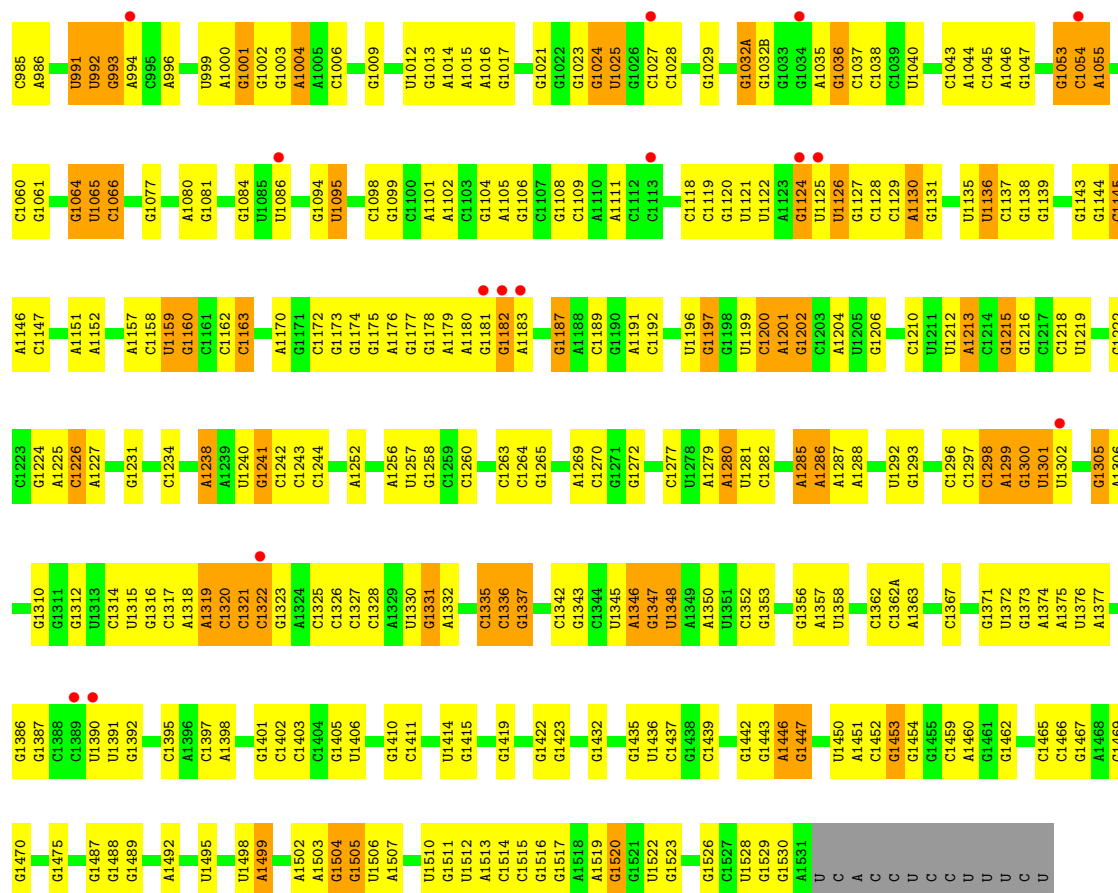
- Molecule 58 is PAROMOMYCIN (CCD ID: PAR) (formula: $C_{23}H_{45}N_5O_{14}$).



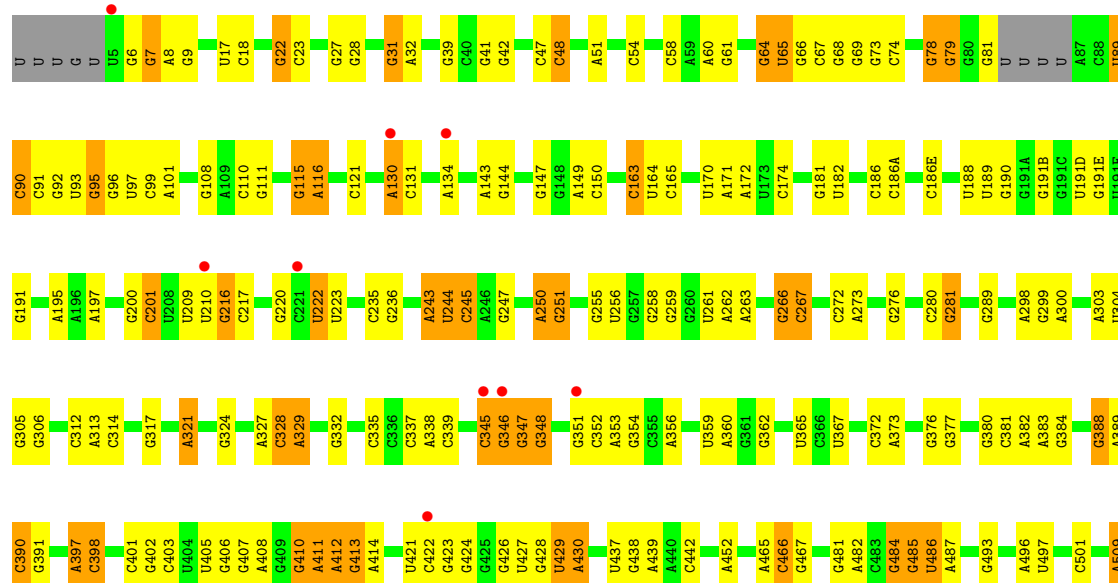
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
58	QA	1	Total	C	N	O	0	0
			42	23	5	14		
58	XA	1	Total	C	N	O	0	0
			42	23	5	14		

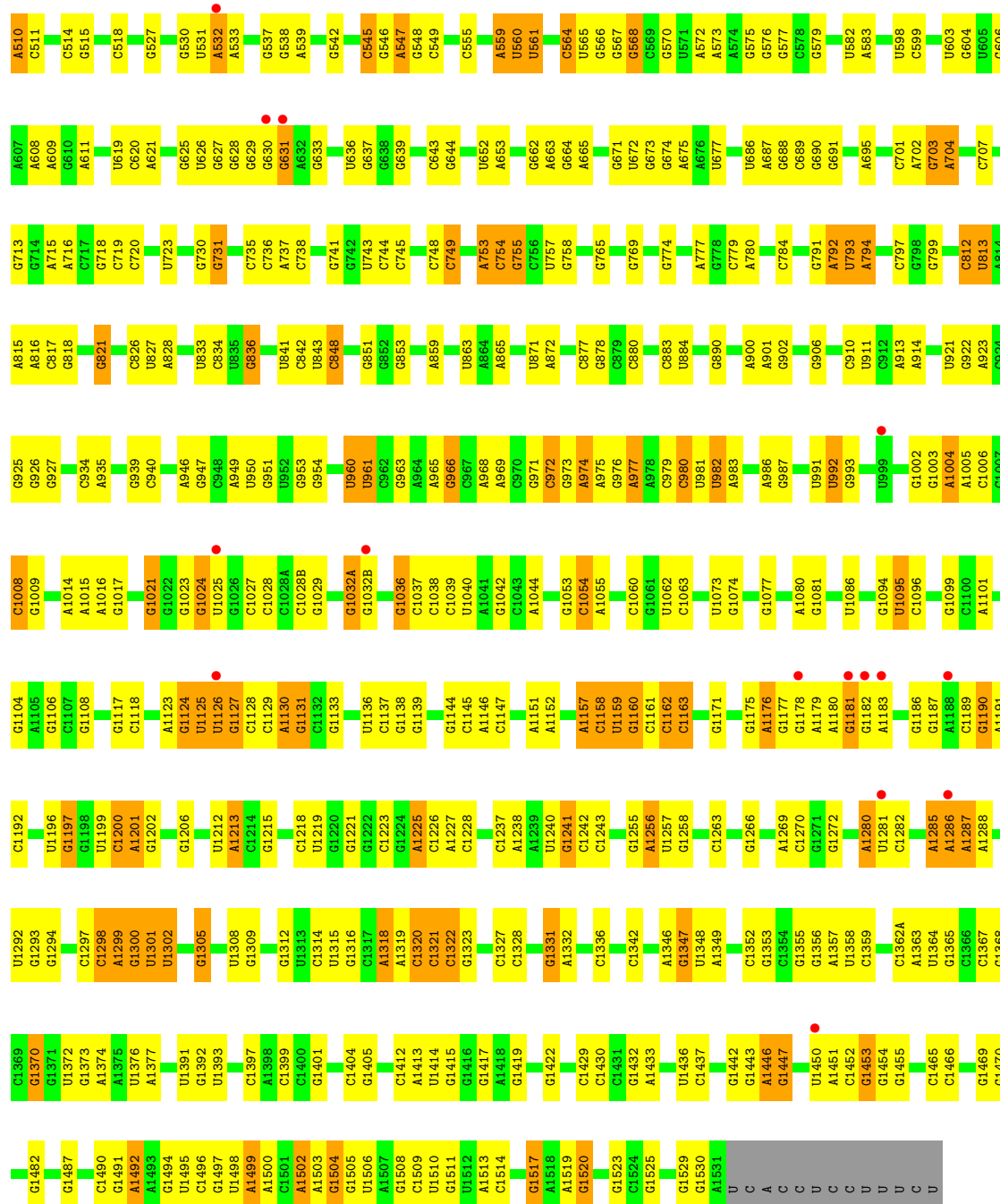
- Molecule 59 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
59	QD	1	Total	Zn	0	0
			1	1		
59	QN	1	Total	Zn	0	0
			1	1		
59	R5	1	Total	Zn	0	0
			1	1		
59	XD	1	Total	Zn	0	0
			1	1		
59	XN	1	Total	Zn	0	0
			1	1		
59	Y9	1	Total	Zn	0	0
			1	1		

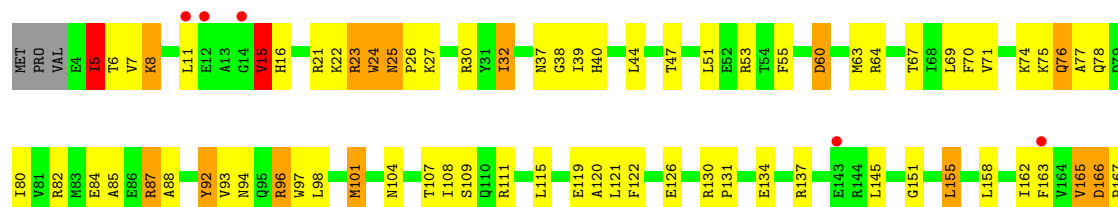


• Molecule 1: 16S ribosomal RNA

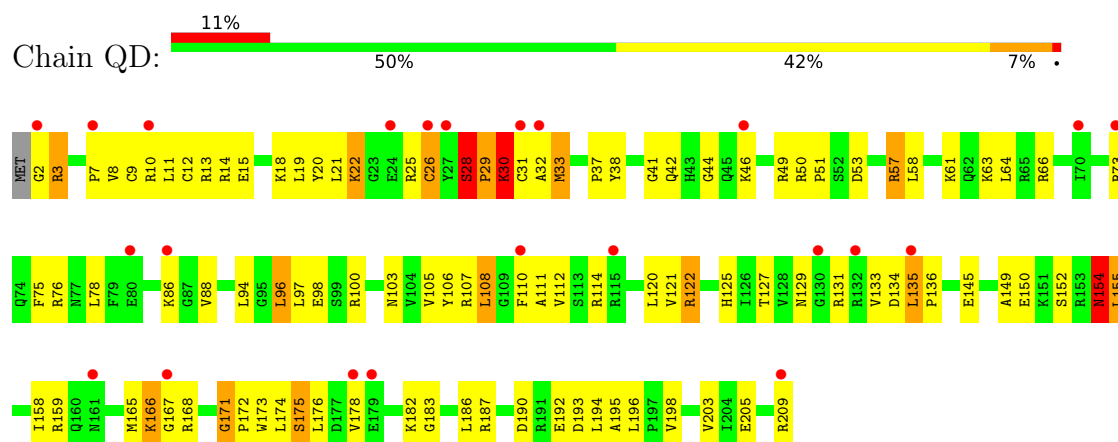




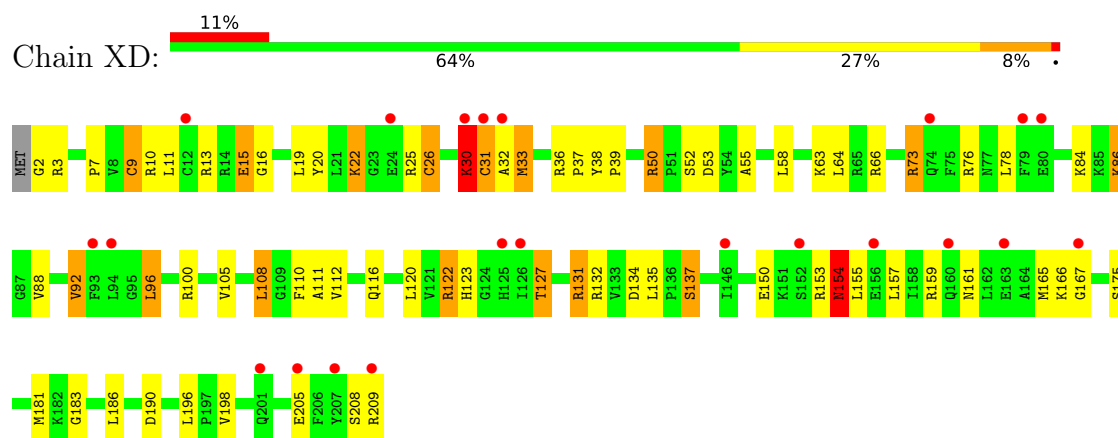
• Molecule 2: 30S ribosomal protein S2



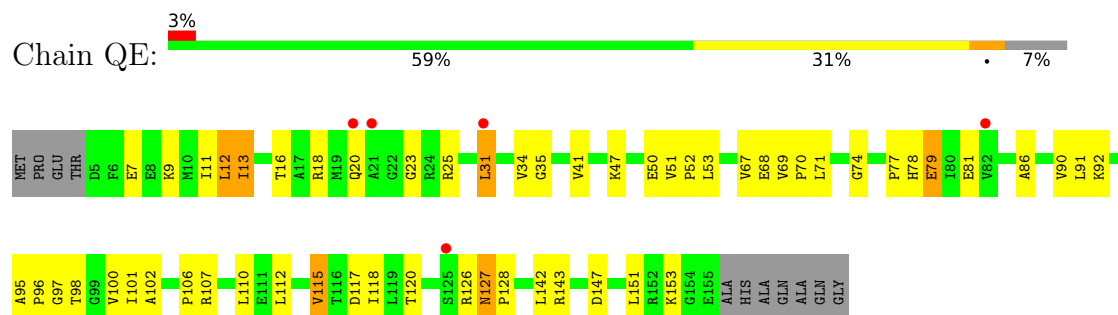
- Molecule 4: 30S ribosomal protein S4



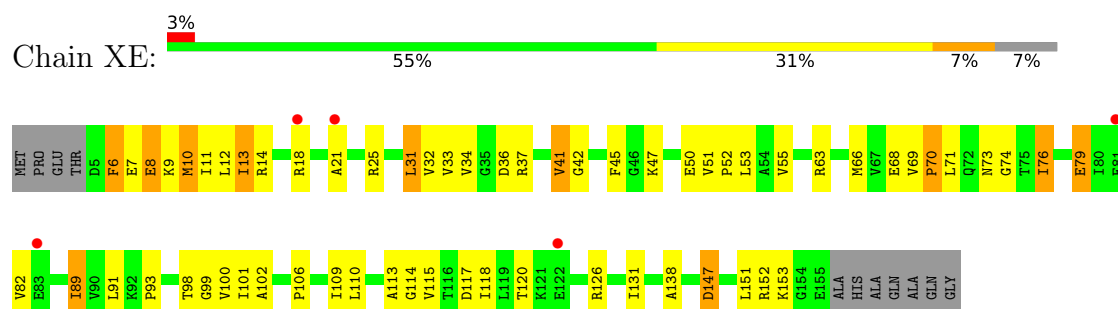
- Molecule 4: 30S ribosomal protein S4



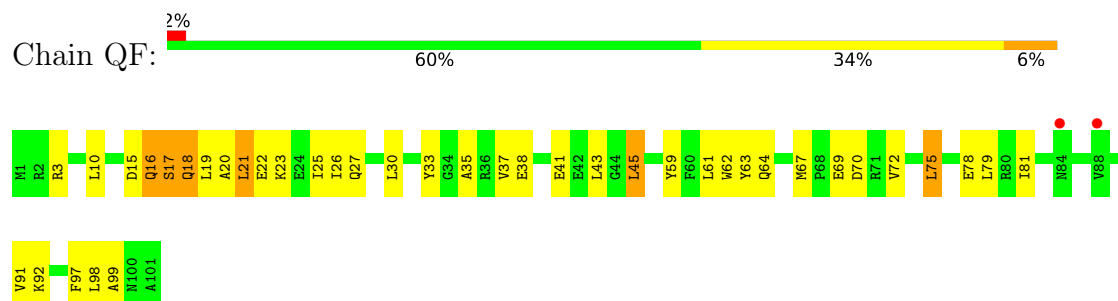
- Molecule 5: 30S ribosomal protein S5



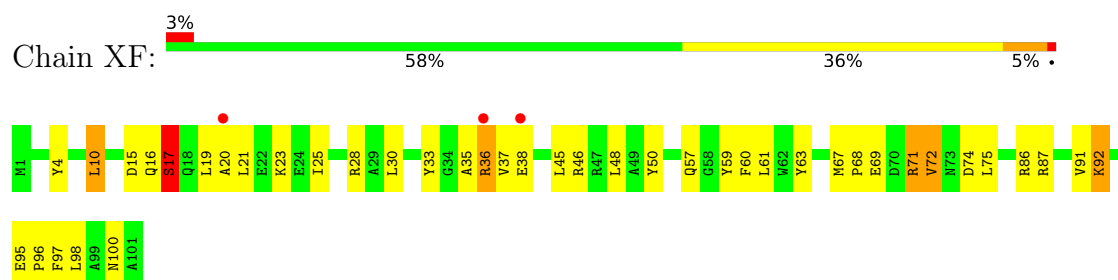
- Molecule 5: 30S ribosomal protein S5



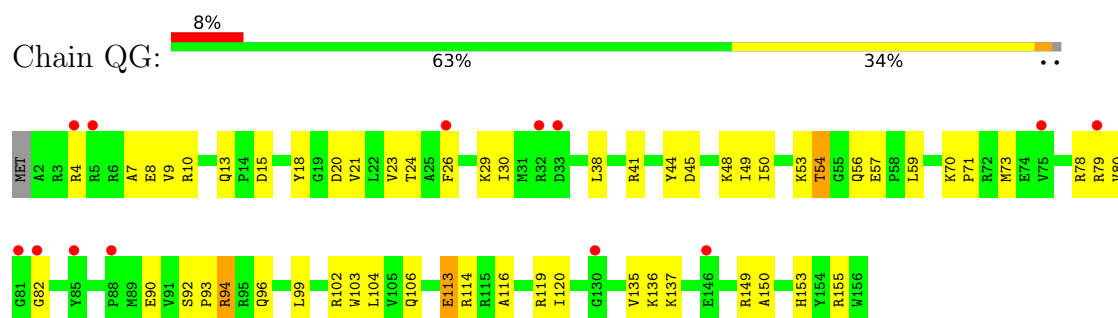
- Molecule 6: 30S ribosomal protein S6



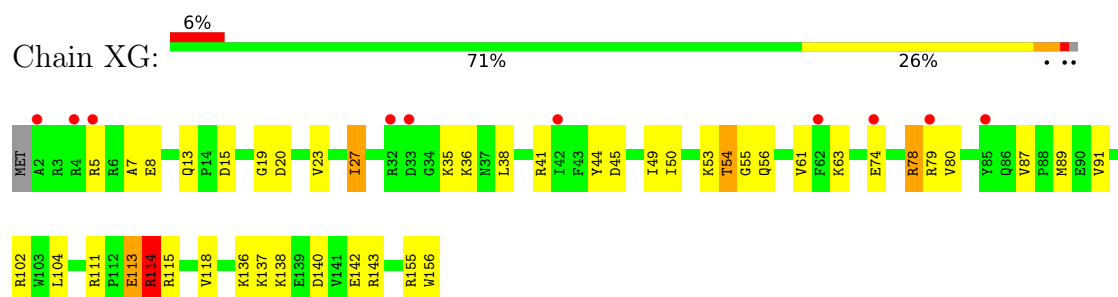
- Molecule 6: 30S ribosomal protein S6



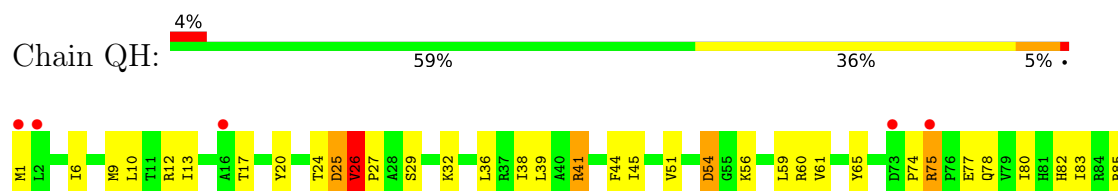
- Molecule 7: 30S ribosomal protein S7

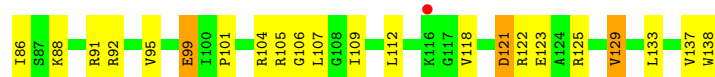


- Molecule 7: 30S ribosomal protein S7

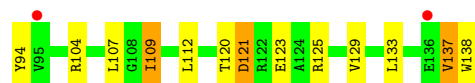
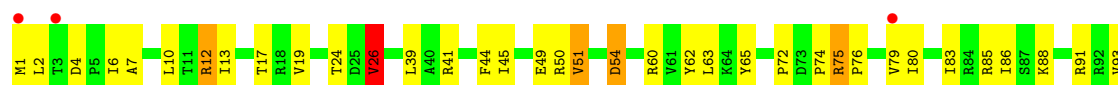


- Molecule 8: 30S ribosomal protein S8





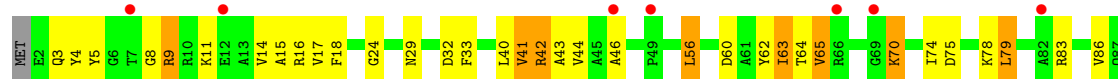
- Molecule 8: 30S ribosomal protein S8



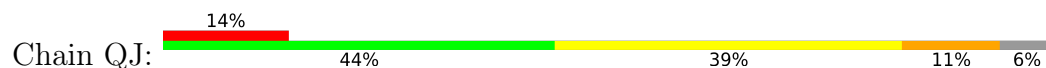
- Molecule 9: 30S ribosomal protein S9



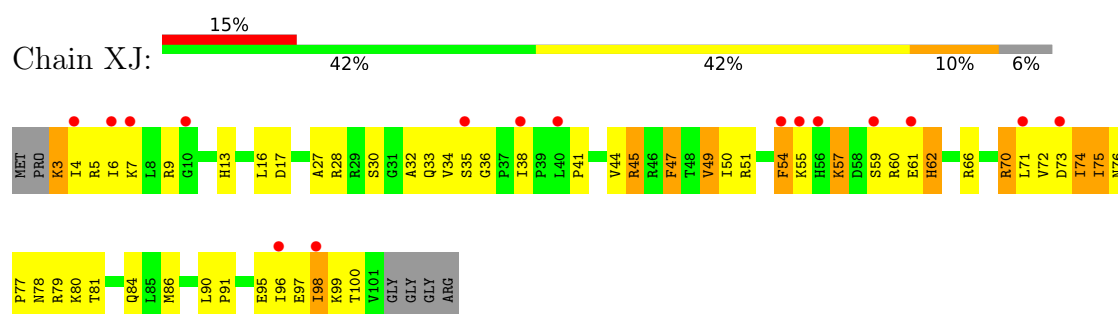
- Molecule 9: 30S ribosomal protein S9



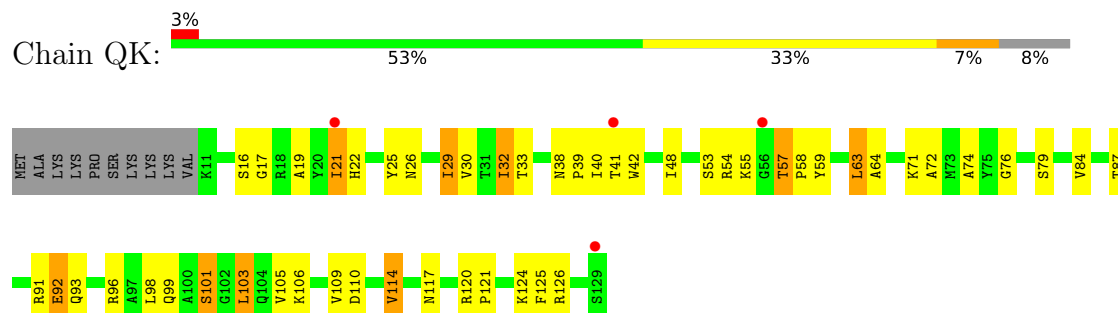
- Molecule 10: 30S ribosomal protein S10



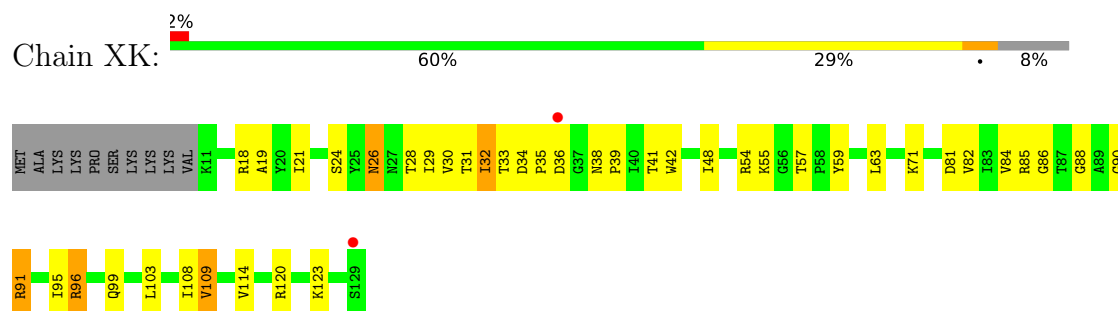
- Molecule 10: 30S ribosomal protein S10



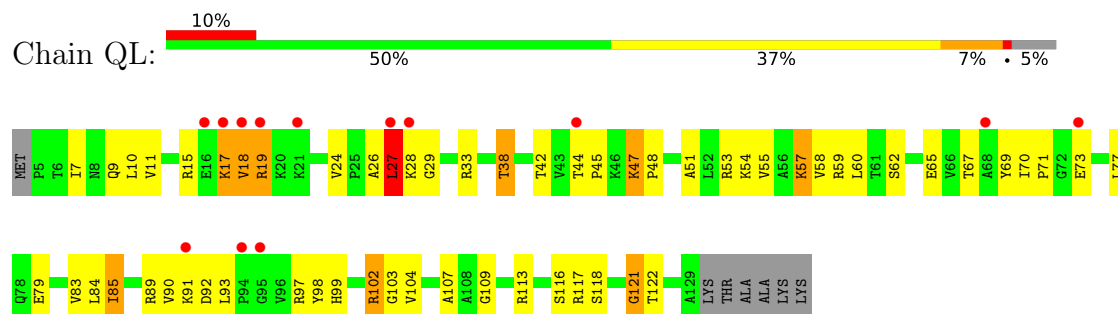
- Molecule 11: 30S ribosomal protein S11



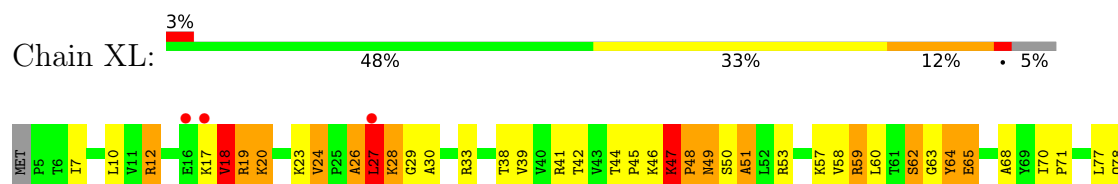
- Molecule 11: 30S ribosomal protein S11



- Molecule 12: 30S ribosomal protein S12

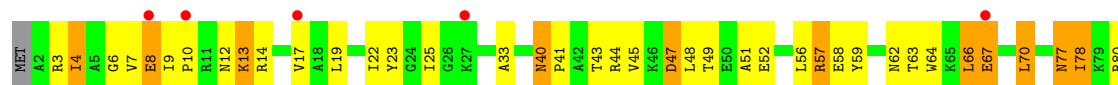


- Molecule 12: 30S ribosomal protein S12

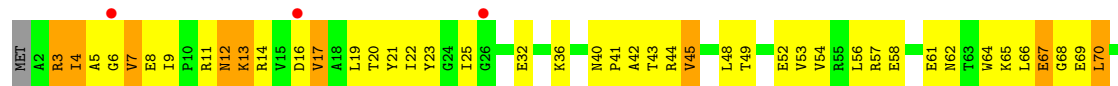




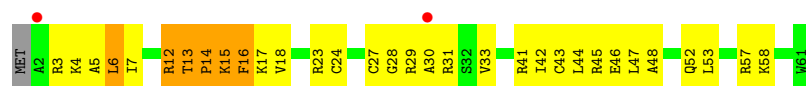
- Molecule 13: 30S ribosomal protein S13



- Molecule 13: 30S ribosomal protein S13



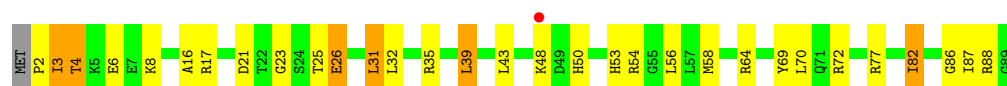
- Molecule 14: 30S ribosomal protein S14 type Z



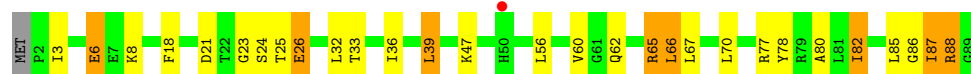
- Molecule 14: 30S ribosomal protein S14 type Z



- Molecule 15: 30S ribosomal protein S15



- Molecule 15: 30S ribosomal protein S15

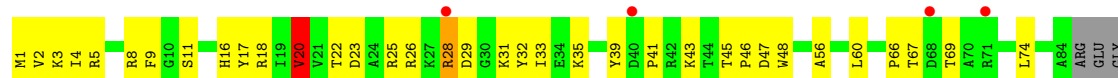


• Molecule 16: 30S ribosomal protein S16



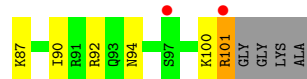
ALA

• Molecule 16: 30S ribosomal protein S16

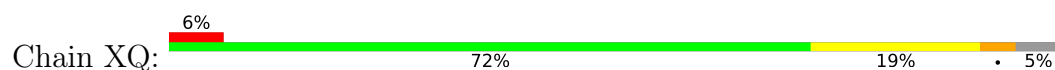


ALA

• Molecule 17: 30S ribosomal protein S17



• Molecule 17: 30S ribosomal protein S17

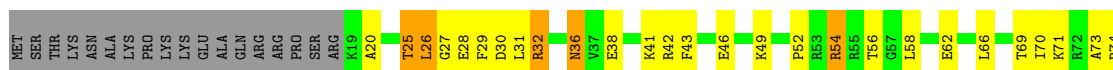
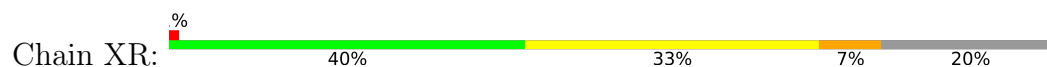


• Molecule 18: 30S ribosomal protein S18

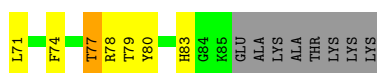
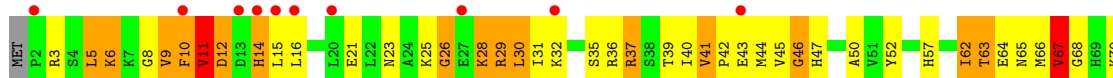




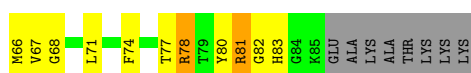
- Molecule 18: 30S ribosomal protein S18



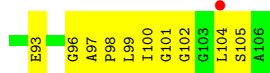
- Molecule 19: 30S ribosomal protein S19



- Molecule 19: 30S ribosomal protein S19

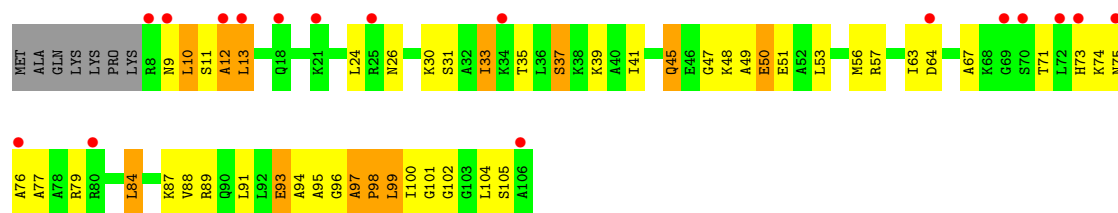


- Molecule 20: 30S ribosomal protein S20

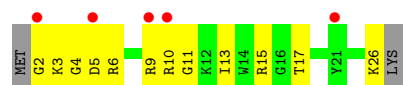


- Molecule 20: 30S ribosomal protein S20

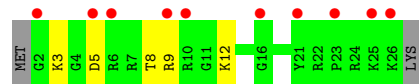
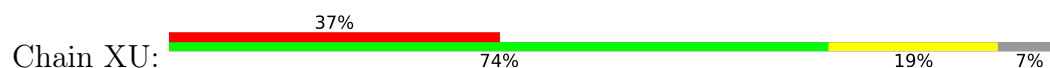




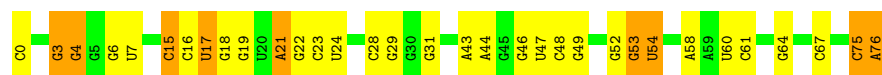
- Molecule 21: 30S ribosomal protein Thx



- Molecule 21: 30S ribosomal protein Thx



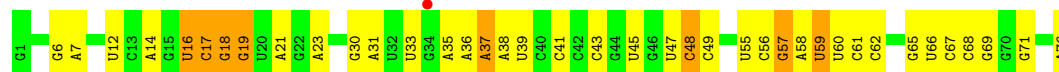
- Molecule 22: tRNA-fMet



- Molecule 22: tRNA-fMet



- Molecule 23: E-Site tRNA-Phe or A-Site tRNA-Phe

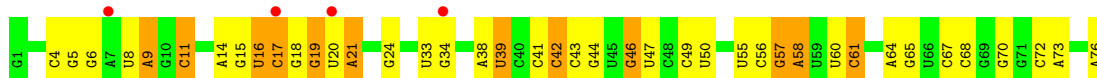


- Molecule 23: E-Site tRNA-Phe or A-Site tRNA-Phe

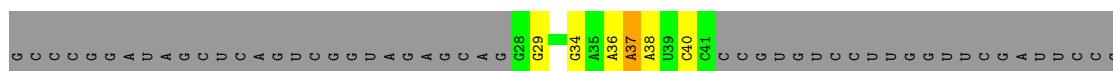




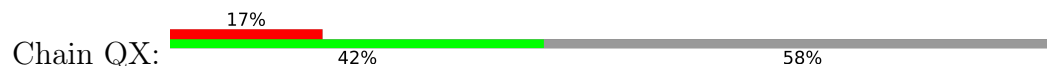
- Molecule 23: E-Site tRNA-Phe or A-Site tRNA-Phe



- Molecule 23: E-Site tRNA-Phe or A-Site tRNA-Phe



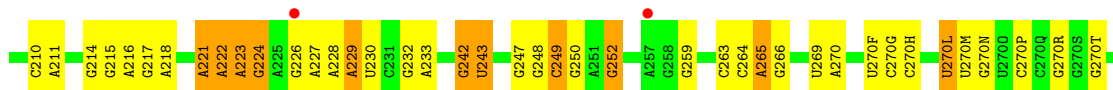
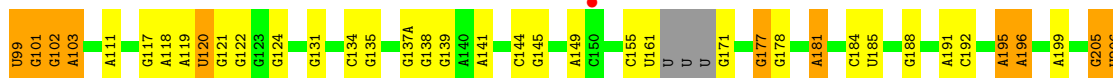
- Molecule 24: mRNA

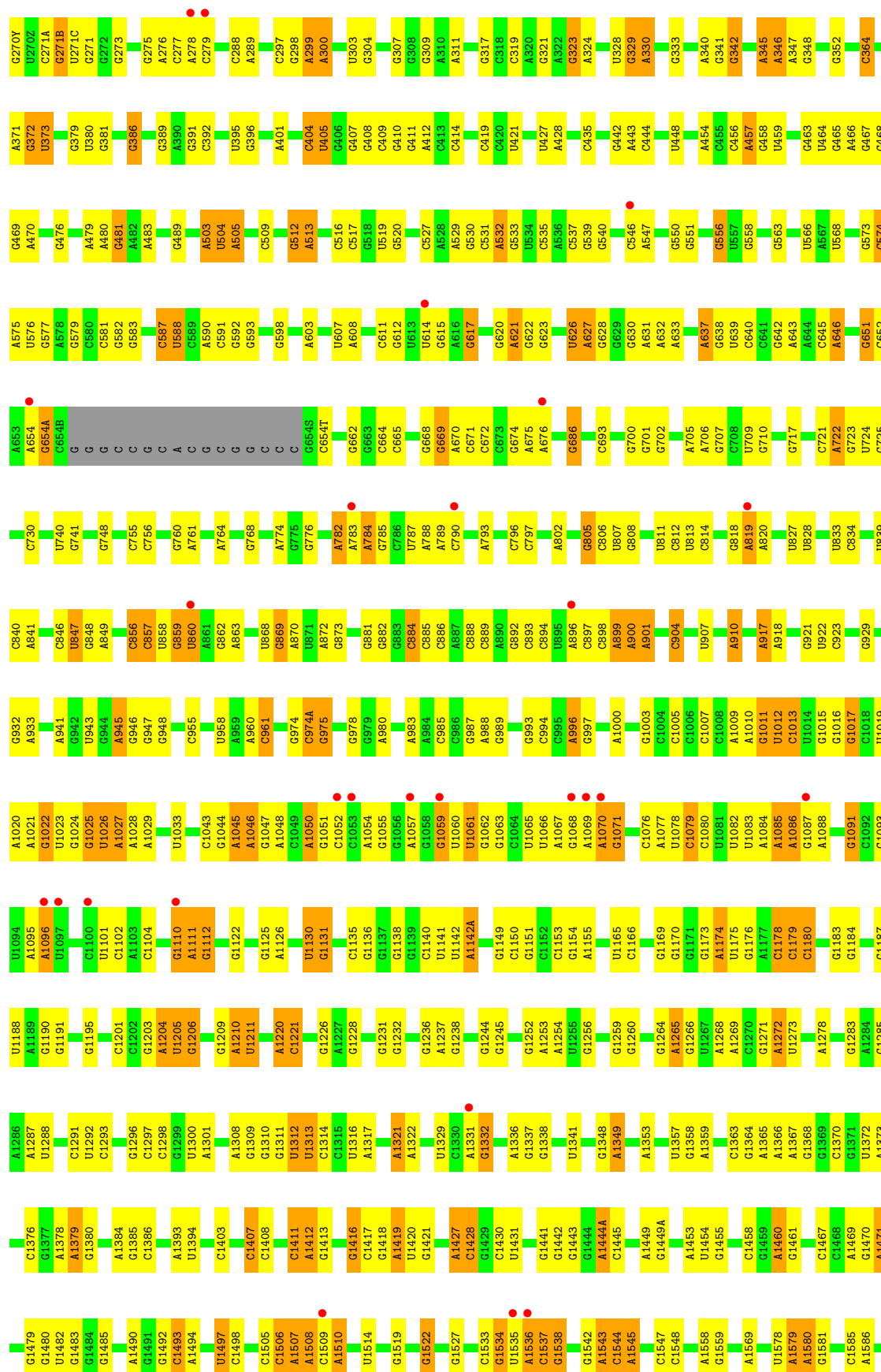


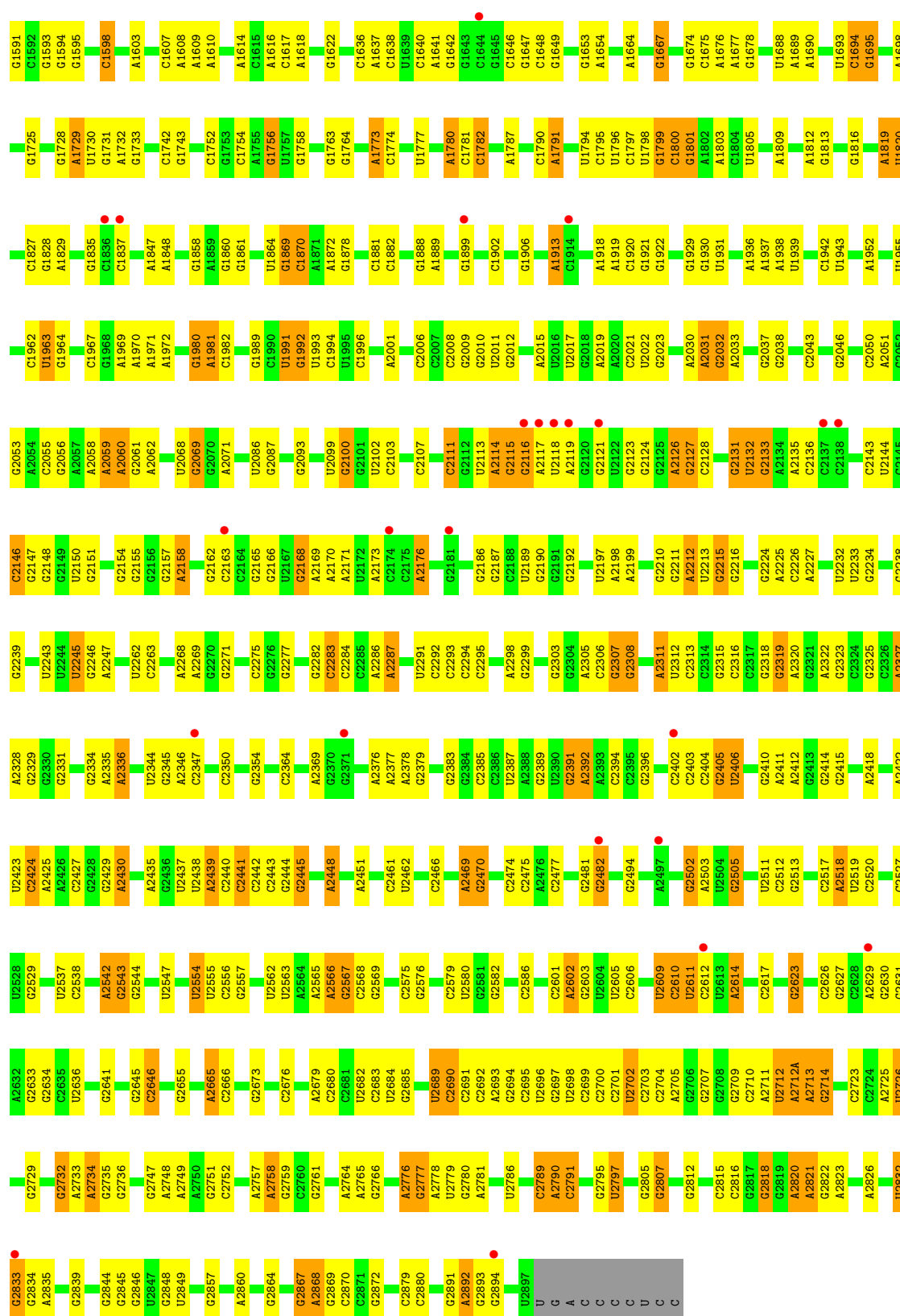
- Molecule 24: mRNA



- Molecule 25: 23S ribosomal RNA





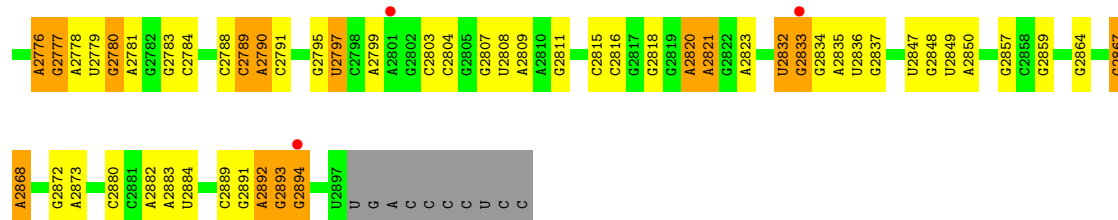


• Molecule 25: 23S ribosomal RNA

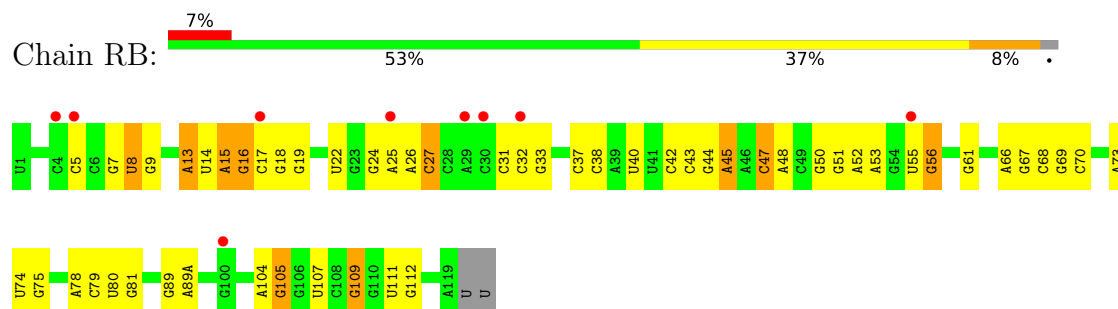
Chain YA: 58% 32% 9%

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U1240		A1070	C897	G806	C691	U626	C531	A415	G307	U243	A126	U
G1248	G1149	C1071	C898	C807	G704	A627	A532	C416	A311	G247	A127	C
A1253	G1153	A1072	A899	G808	G705	G628	U607	C419	A322	G248	C128	A6
A1254	G1154	A1073	A900	C809	G715	G629	U634	U427	A323	G249	G131	U9
U1255	G1155	C995	A901	C812	A716	A631	A536	A428	G323	G250	G137A	G10
G1256	A996	A996	U907	G813	G717	A632	C537	U434	G325	G252	G138	G11
	A1000	A1000	U907	C814	A722	A633	G540	U435	U328	G253	G139	
G1264	G1169	G1003	A910	C817	G723	G636	C546	C435	G329	C263	G16	G15
A1265	G1170	C1004	A911	G818	U724	A637	C547	U448	A330	C264	G17	G16
G1266	G1171	G1005	C914	A819	G725	G638	A548	G442	A331	C265	G18	G17
G1270	G1173	G1006	C915	U826	G726	U639	A549	A443	A332	G266	C18	G18
G1271	A1174	C1007	G916	U827	G729	C640	G550	C444	U342	U269	G26	G26
U1272	U1175	U1011	A917	U828	C730	A643	G551	U447	G340	U270F	G27	G27
A1273	A1085	G1012	A918	U829	C731	A644	G552	U448	U161	C270G	A28	A28
U1274	G1176	U1013	A919	G831	C732	C645	U553	A449	U162			
A1274	C1178	C1013	C923	G832	G733	A646	U553	G450	U			
A1278	C1179	U1014	C923	U833	A734		G563	C453	U			
	C1180	G1015	G929	C834	U740		U566	C457	G352			
A1287	G1183	U1019	G932	U839	G741	G651	U566	A458	A357	G270J	G17	G17
G1291	G1186	A1020	A933	C840	G746	A652	G573	G459	A358	C270K	G178	C46
U1292	G1187	A1021	A933	A841	U747	A653	C574	A458	U358	U270L	A181	A49
G1296	U1188	U1022	G938	G842		A654	A575	G468	U358	U270M	U185	G55
U1300	U1189	G1023	U941	G843	A751	G654A	U576	G469	U358	U270N	G188	A56
A1301	G1190	U1024	A941	C844	A752	G	A577	A470	U358	U270O	G188	C57
G1309	G1195	A1027	U943	C845	C753	G	A577	A471	U358	U270P	G188	C57
G1310	C1201	A1028	G944	U847	C754	C	G580	A479	U358	U270Q	A195	G58
G1311	G1202	U1029	A945	G848	C755	G	C581	A480	U358	U270R	A196	U67
U1316	G1203	U1033	G946	A849	C756	C	G582	A481	U358	U270S		
A1317	U1204	U1034	G954	G855	A764	A	G583	A482	U358	U270T		
	U1205	U1035	C955	C856	G771	G	C587	A483	U358	U270U		
G1321	G1206	G1036	G956	C857		G	U588	A484	U358	U270V		
U1329	G1209	A1045	A957	U858	A774	G	G596	G496	U358	U270W		
A1331	U1210	A1046	U958	G859	G774	C	U597	A497	U358	U270X		
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G1337	G1224	A1054	U969	G867	A784		U606	G506	U358			
G1338	C1225	G1055	G974	G874	G785		U607	A507	U358			
U1341	G1226	G1056	G974	G875	C786		G609A	G508	U358			
A1342	A1227	A1057	C974A	A788	U787			C509	U358			
G1343	G1231	G1058	G975	A789	A789		U614	G512	U358			
G1344	G1232	U1060	G979	G881	C790		G615	A513	U358			
G1348	U1233	U1061	A981	G882	G791		A616	A514	U358			
A1349	G1234	G1062	A981	G883	G792		G617	A515	U358			
	G1235	G1063	C982	C886	A793		A674	G516	U358			
U1352	G1236	U1066	A983	A887	C796		A676	C517	U358			
A1353	U1237	A1067	G987	C888	C797		A621	G518	U358			
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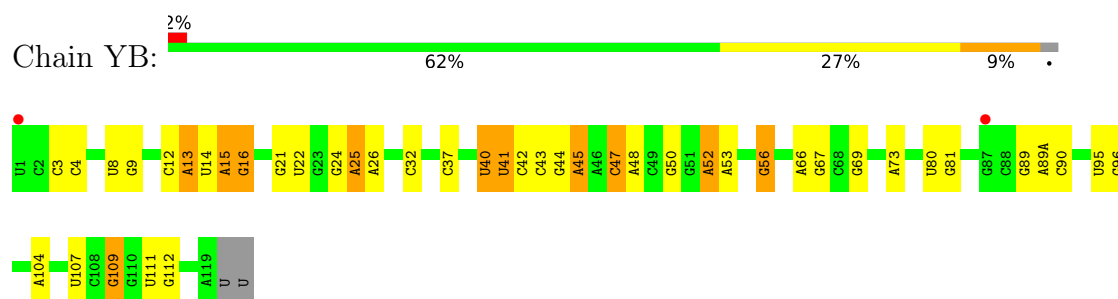
WORLDWIDE
PDB
PROTEIN DATA BANK



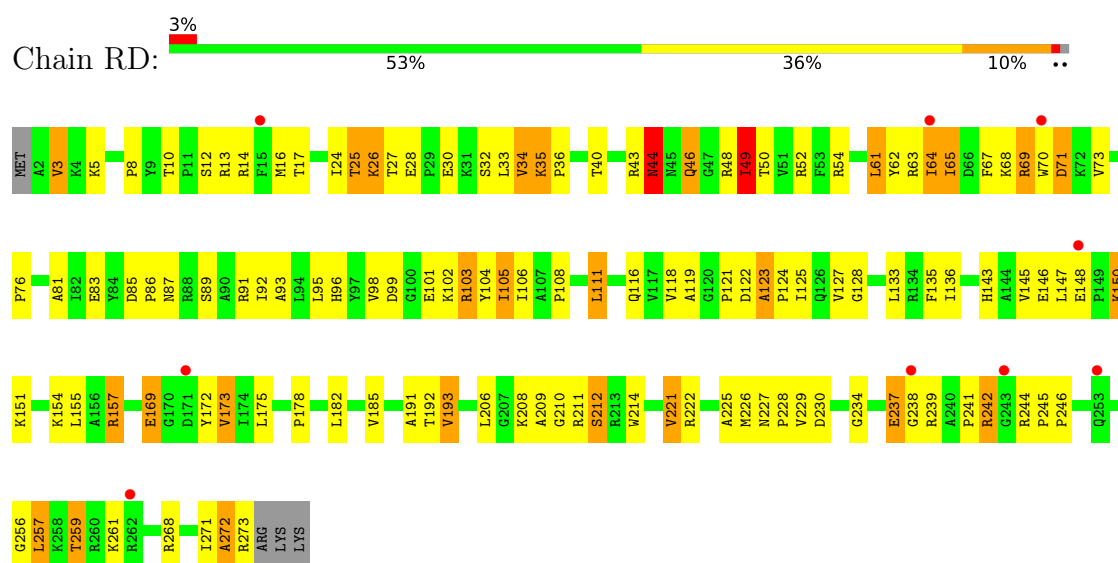
• Molecule 26: 5S ribosomal RNA



• Molecule 26: 5S ribosomal RNA

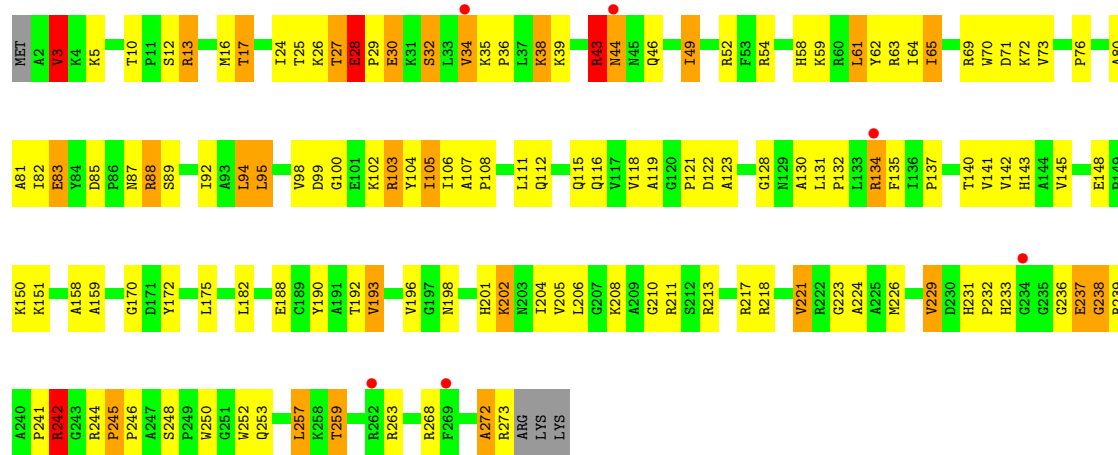


• Molecule 27: 50S ribosomal protein L2

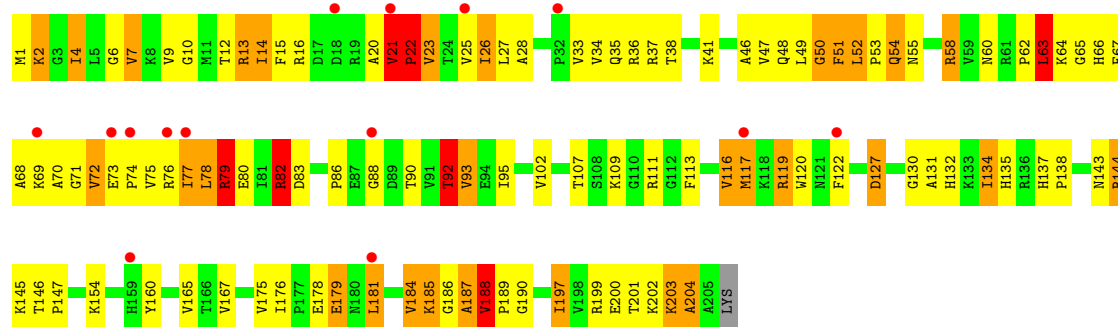


• Molecule 27: 50S ribosomal protein L2

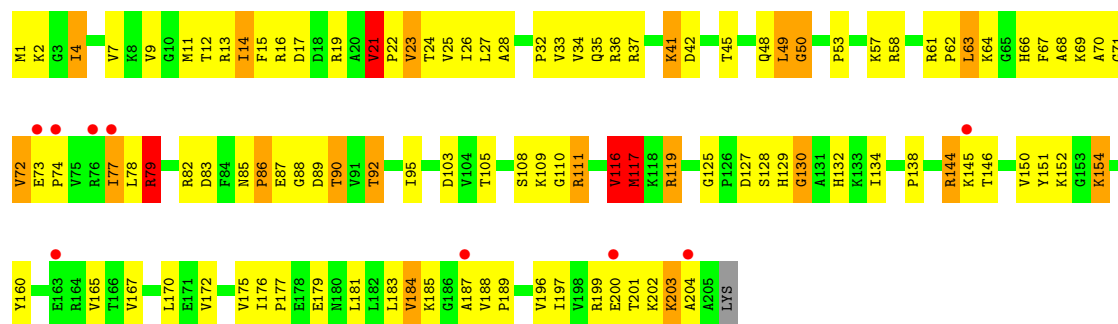




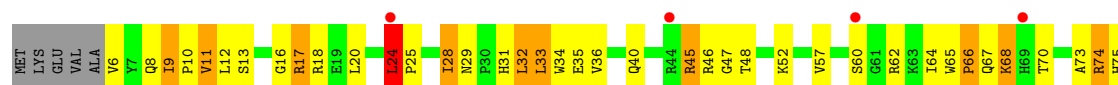
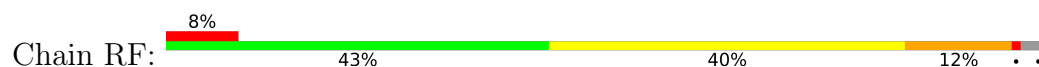
• Molecule 28: 50S ribosomal protein L3

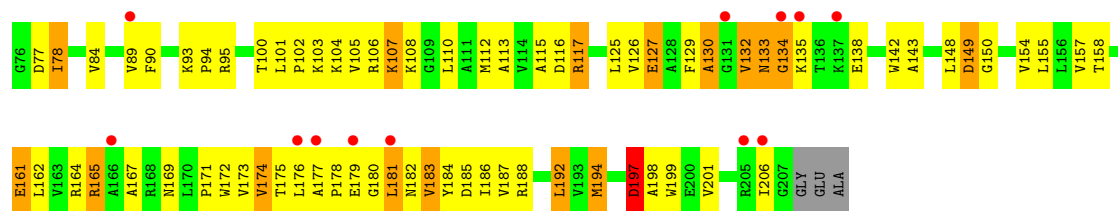


• Molecule 28: 50S ribosomal protein L3

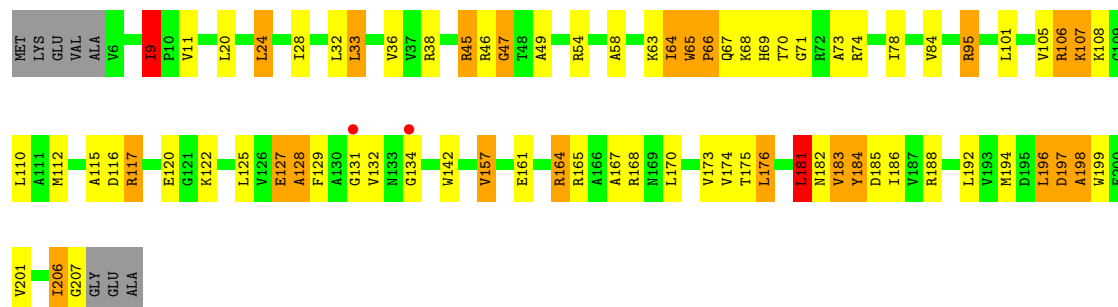


• Molecule 29: 50S ribosomal protein L4

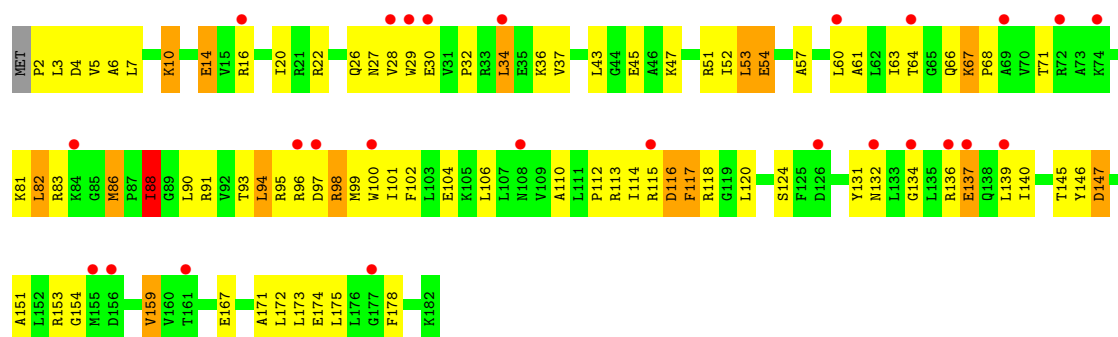




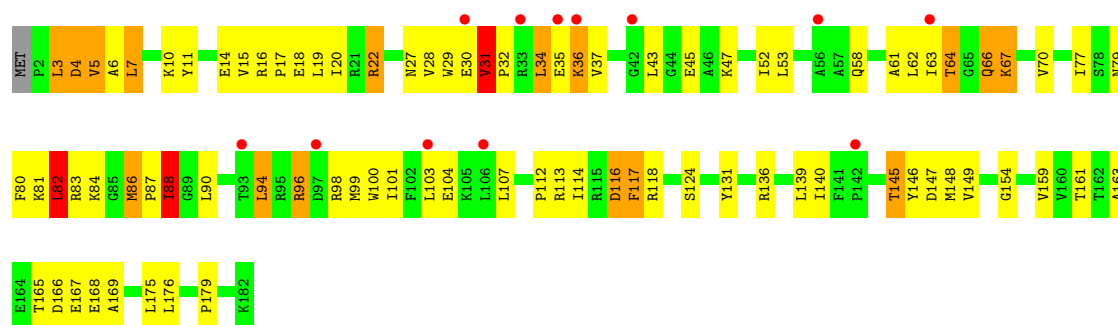
• Molecule 29: 50S ribosomal protein L4



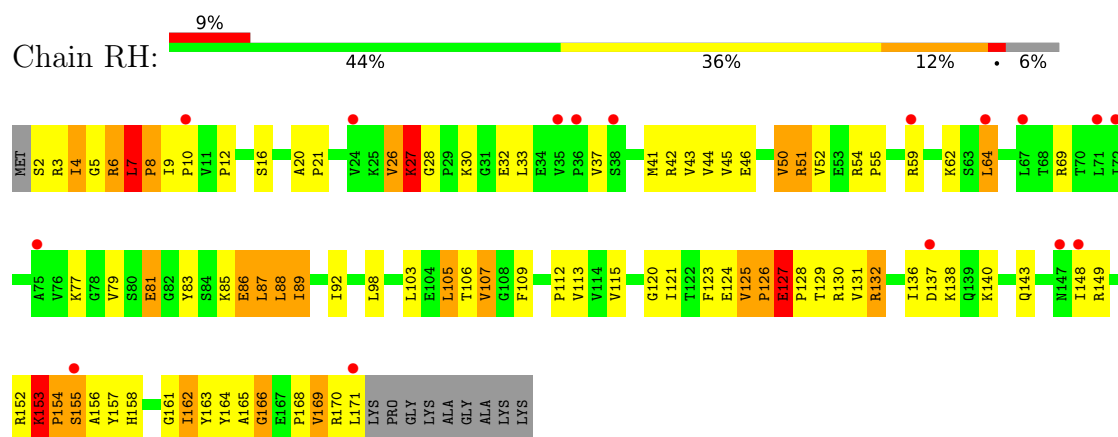
• Molecule 30: 50S ribosomal protein L5



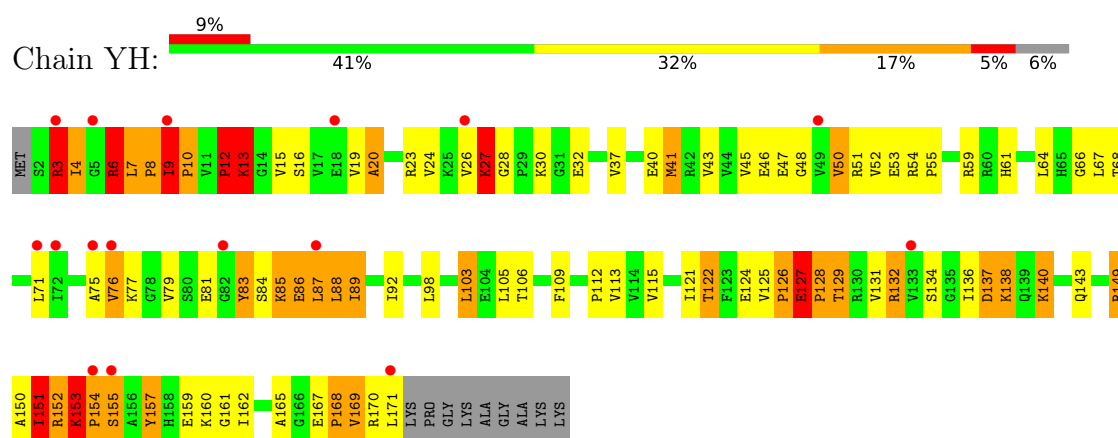
• Molecule 30: 50S ribosomal protein L5



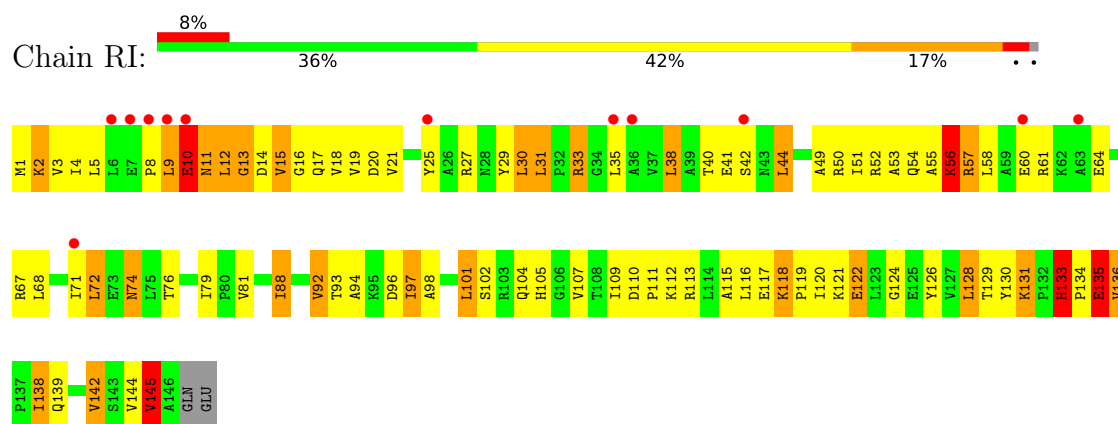
• Molecule 31: 50S ribosomal protein L6



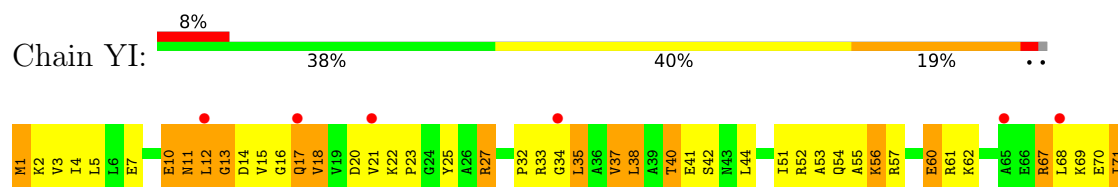
• Molecule 31: 50S ribosomal protein L6

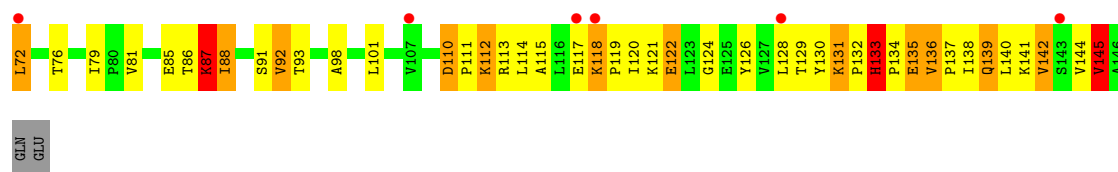


• Molecule 32: 50S ribosomal protein L9

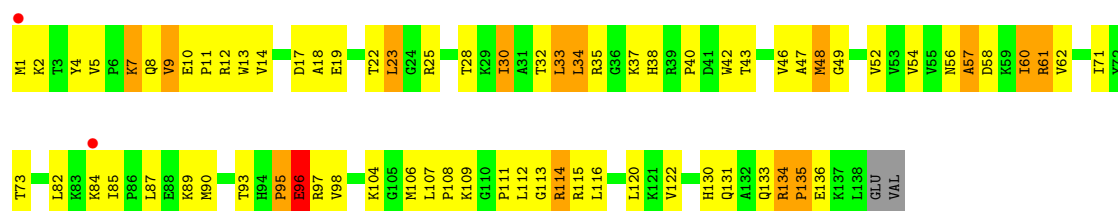


• Molecule 32: 50S ribosomal protein L9

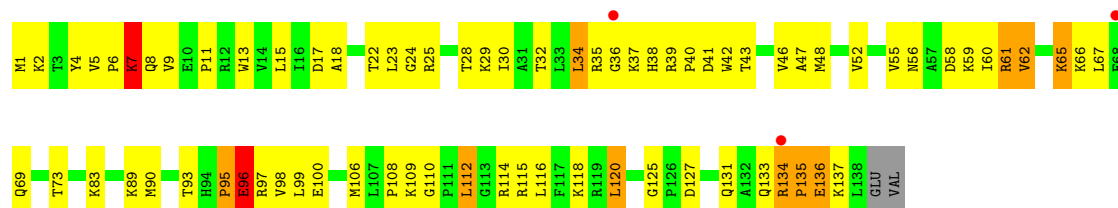




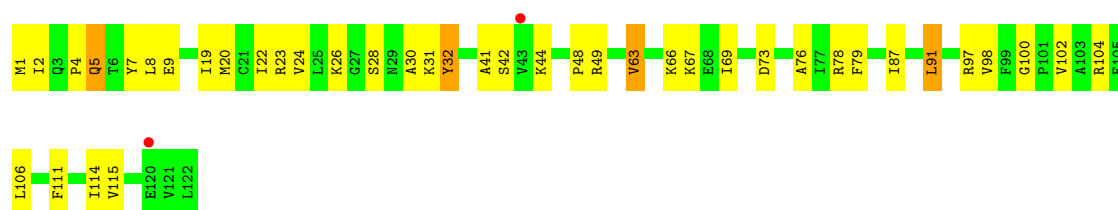
- Molecule 33: 50S ribosomal protein L13



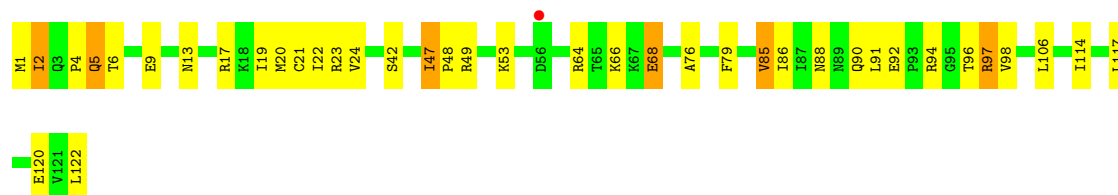
- Molecule 33: 50S ribosomal protein L13



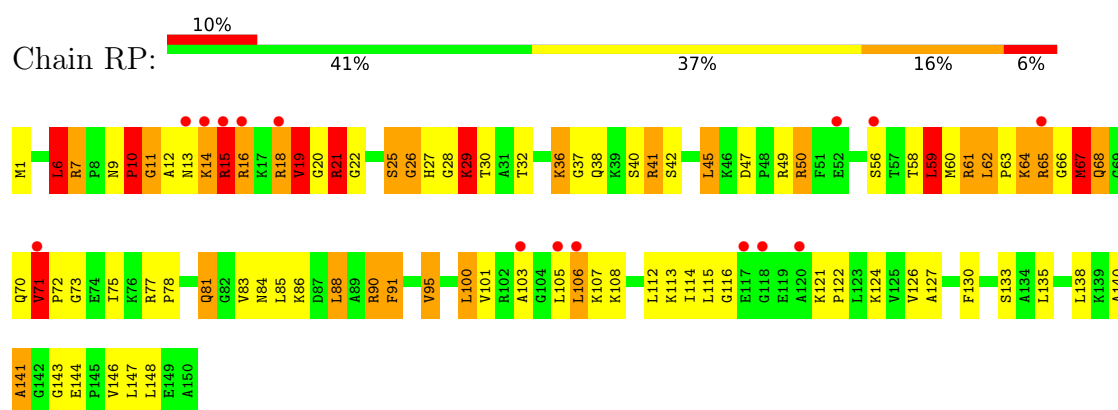
- Molecule 34: 50S ribosomal protein L14



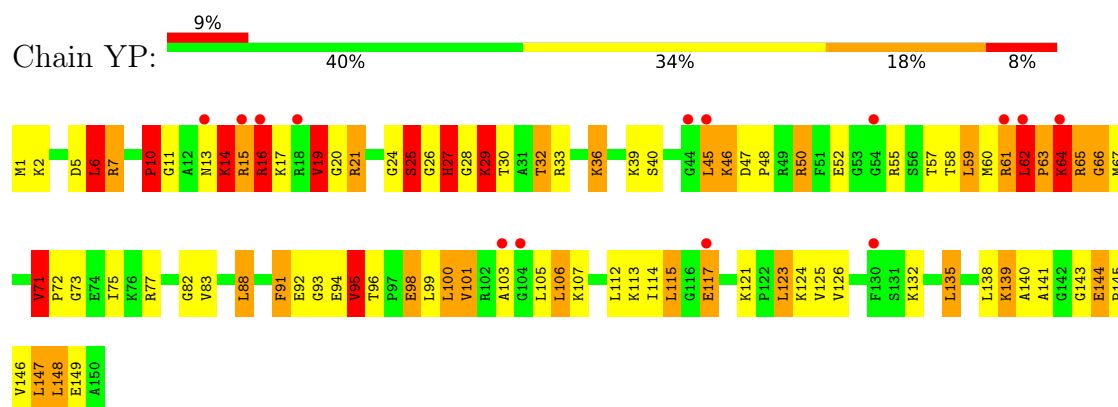
- Molecule 34: 50S ribosomal protein L14



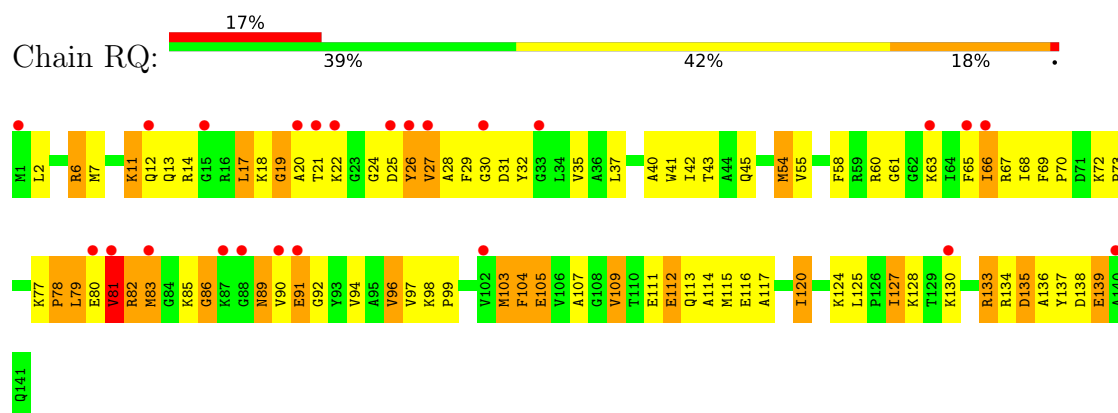
- Molecule 35: 50S ribosomal protein L15



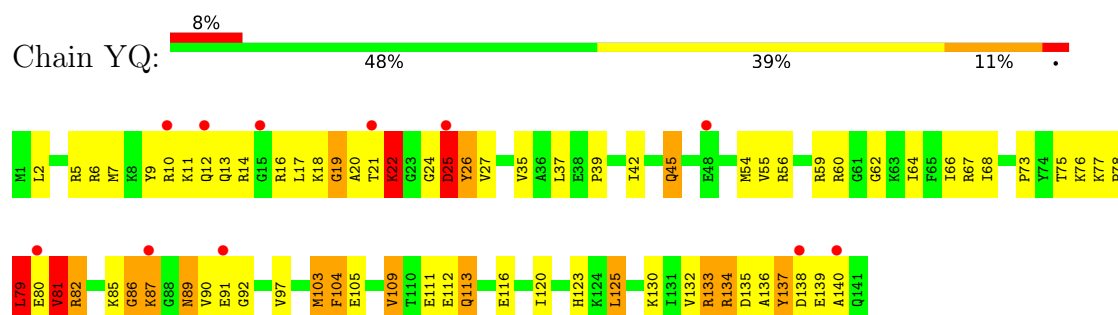
• Molecule 35: 50S ribosomal protein L15



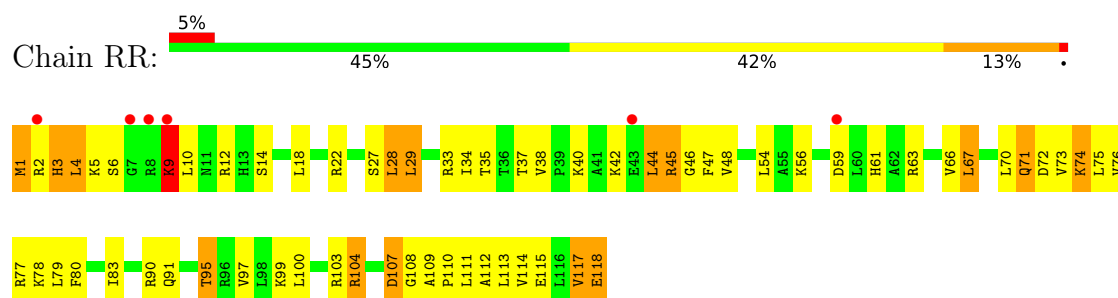
• Molecule 36: 50S ribosomal protein L16



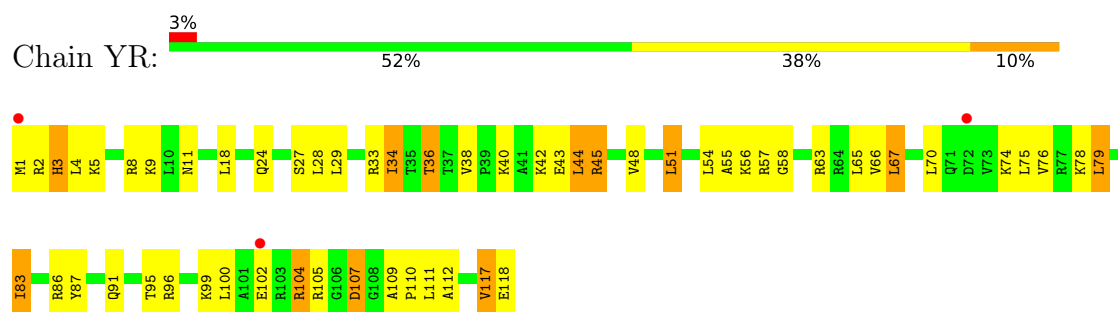
• Molecule 36: 50S ribosomal protein L16



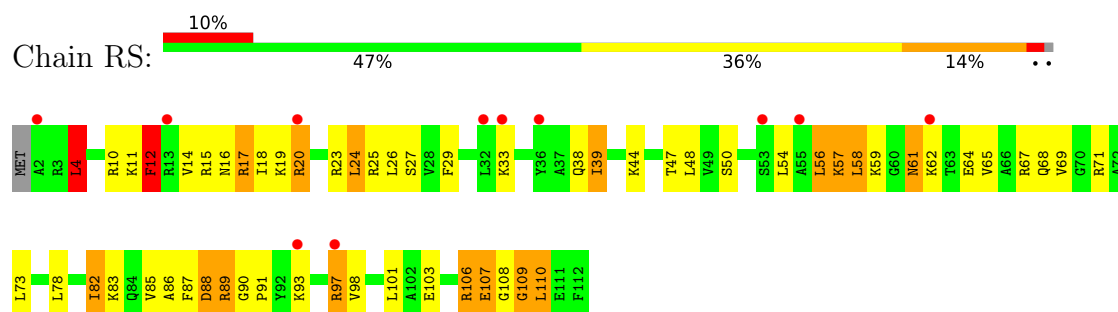
- Molecule 37: 50S ribosomal protein L17



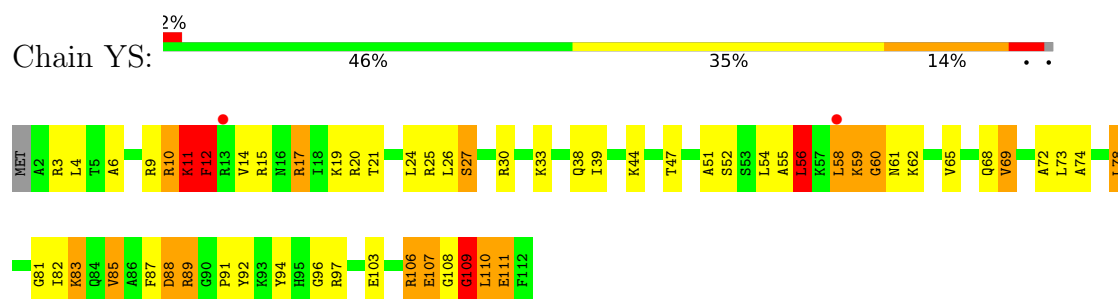
- Molecule 37: 50S ribosomal protein L17



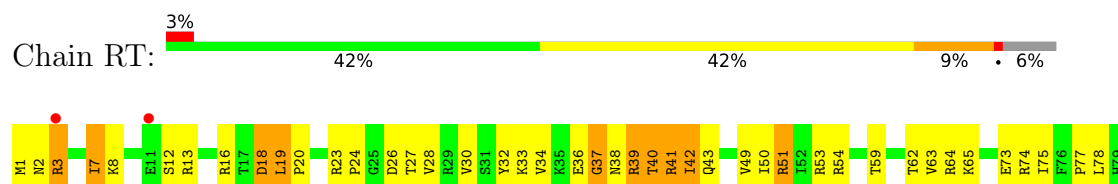
- Molecule 38: 50S ribosomal protein L18



- Molecule 38: 50S ribosomal protein L18

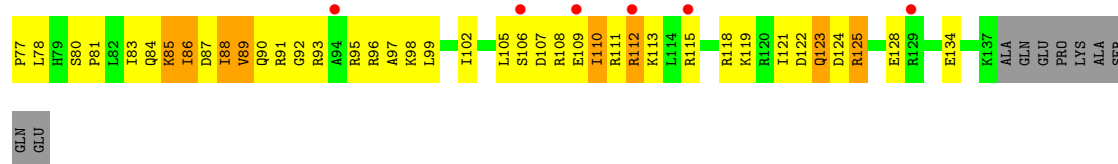


- Molecule 39: 50S ribosomal protein L19

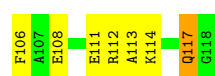
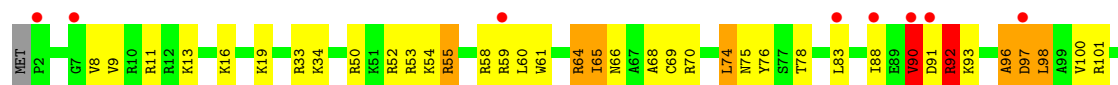




• Molecule 39: 50S ribosomal protein L19



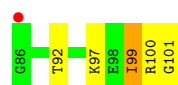
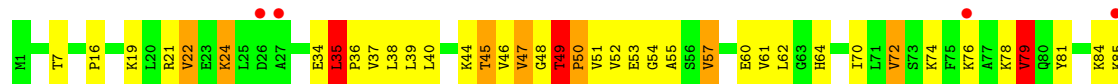
• Molecule 40: 50S ribosomal protein L20



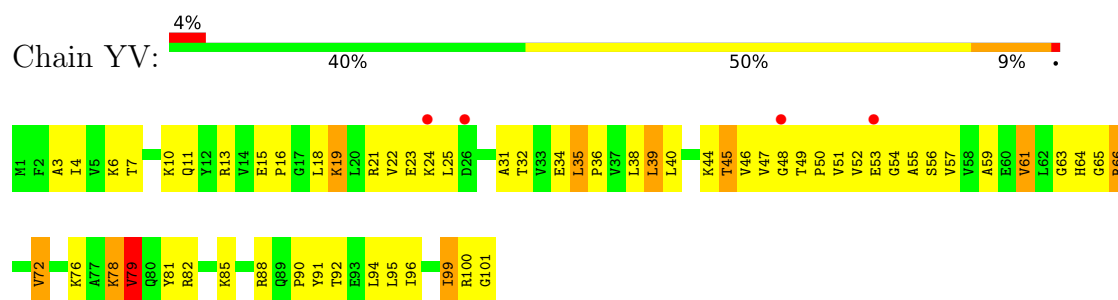
• Molecule 40: 50S ribosomal protein L20



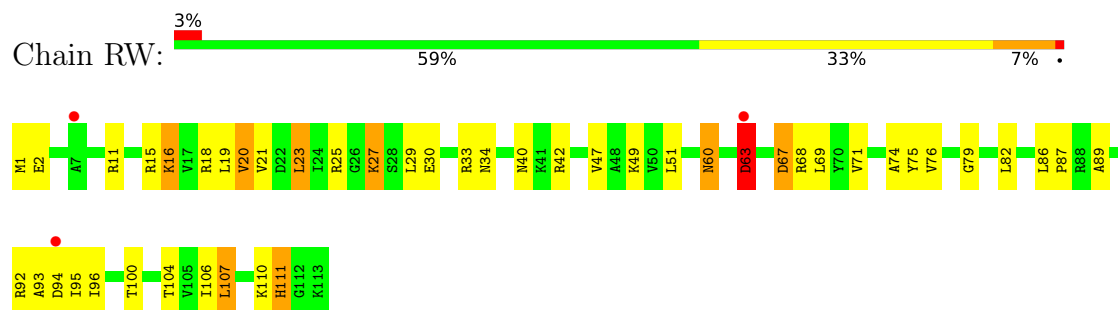
• Molecule 41: 50S ribosomal protein L21



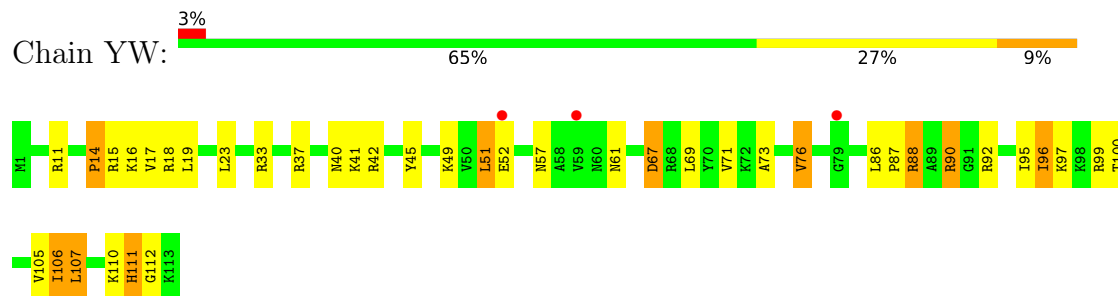
• Molecule 41: 50S ribosomal protein L21



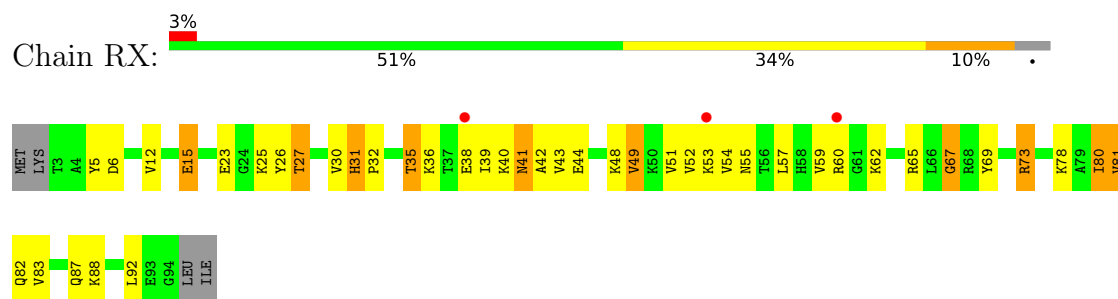
- Molecule 42: 50S ribosomal protein L22



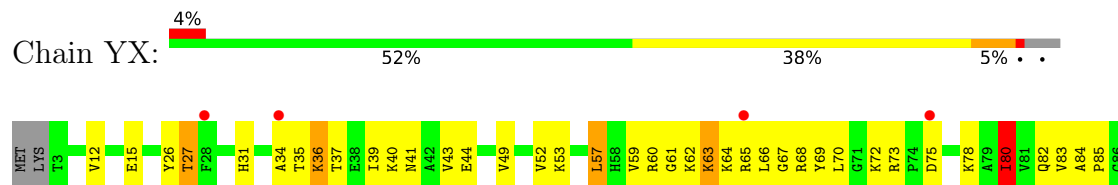
- Molecule 42: 50S ribosomal protein L22



- Molecule 43: 50S ribosomal protein L23

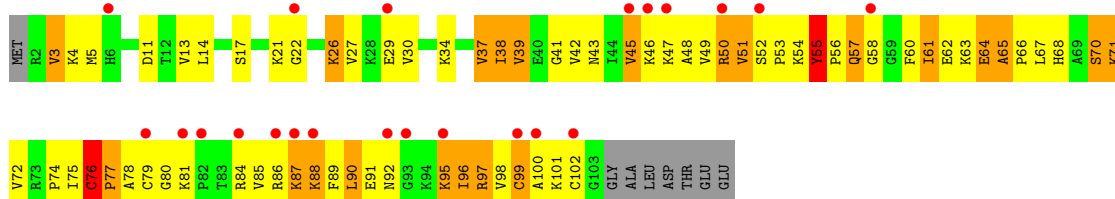


- Molecule 43: 50S ribosomal protein L23

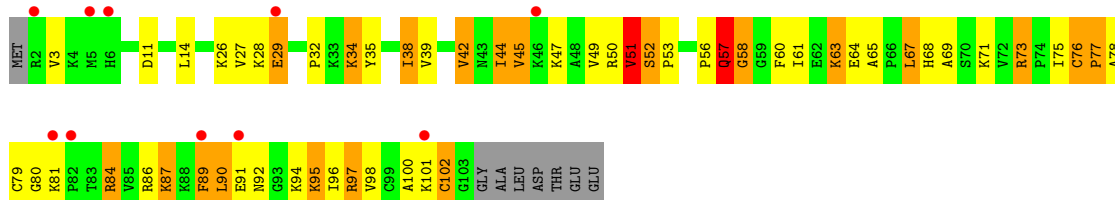




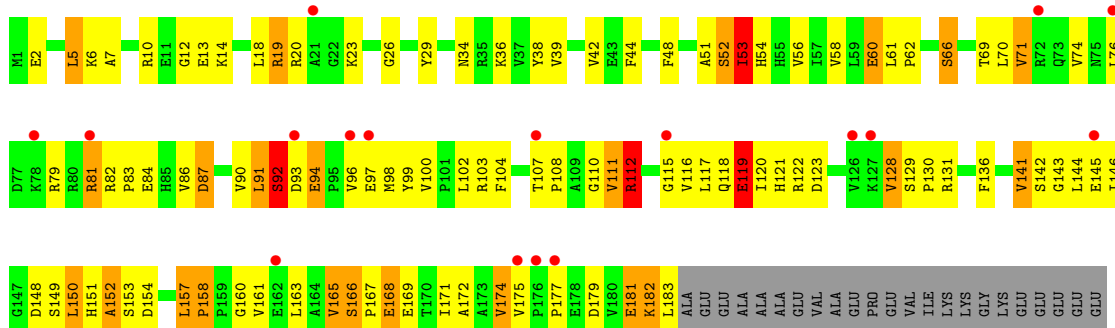
- Molecule 44: 50S ribosomal protein L24



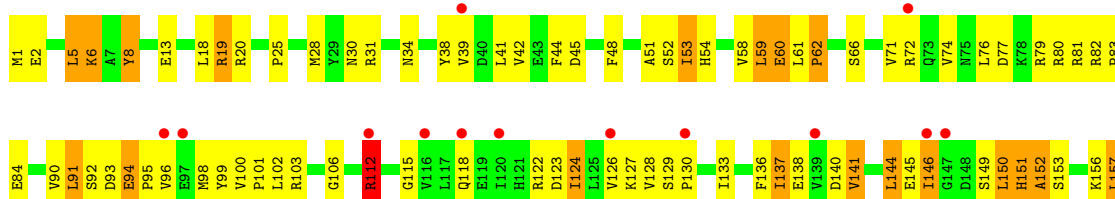
- Molecule 44: 50S ribosomal protein L24



- Molecule 45: 50S ribosomal protein L25



- Molecule 45: 50S ribosomal protein L25





- Molecule 46: 50S ribosomal protein L27



- Molecule 46: 50S ribosomal protein L27



- Molecule 47: 50S ribosomal protein L28



- Molecule 47: 50S ribosomal protein L28

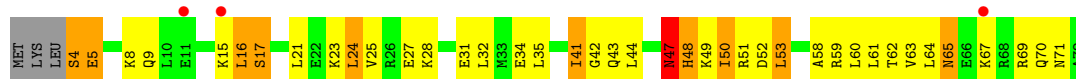


- Molecule 48: 50S ribosomal protein L29



- Molecule 48: 50S ribosomal protein L29

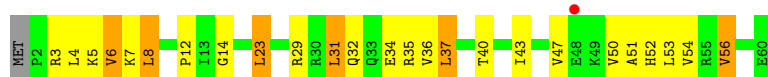




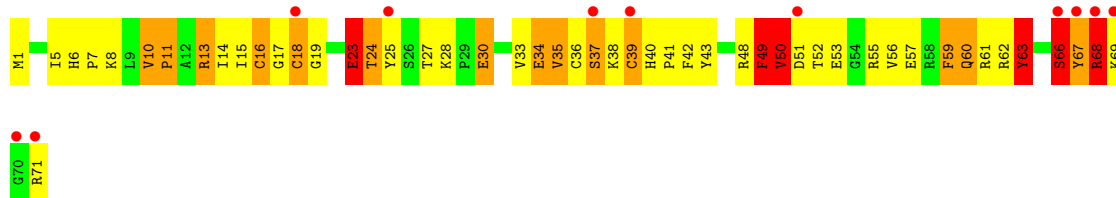
- Molecule 49: 50S ribosomal protein L30



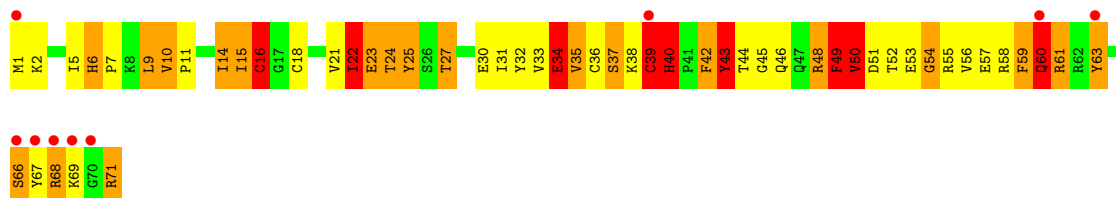
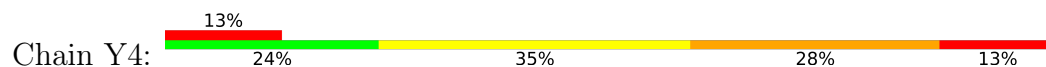
- Molecule 49: 50S ribosomal protein L30



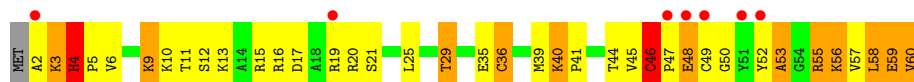
- Molecule 50: 50S ribosomal protein L31



- Molecule 50: 50S ribosomal protein L31



- Molecule 51: 50S ribosomal protein L32

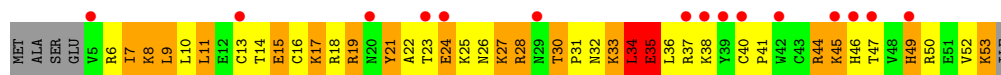
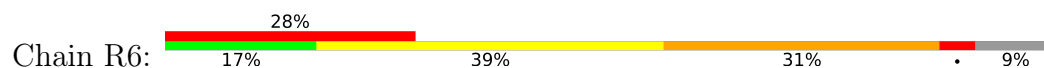


- Molecule 51: 50S ribosomal protein L32

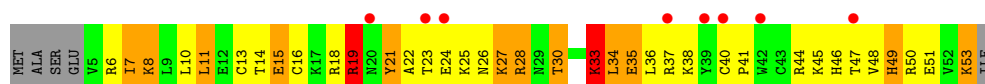
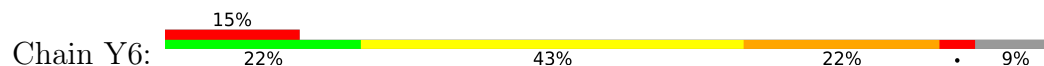




- Molecule 52: 50S ribosomal protein L33



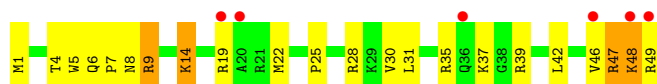
- Molecule 52: 50S ribosomal protein L33



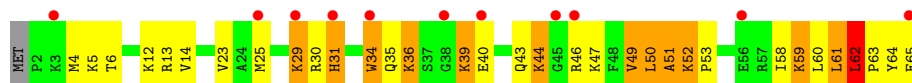
- Molecule 53: 50S ribosomal protein L34



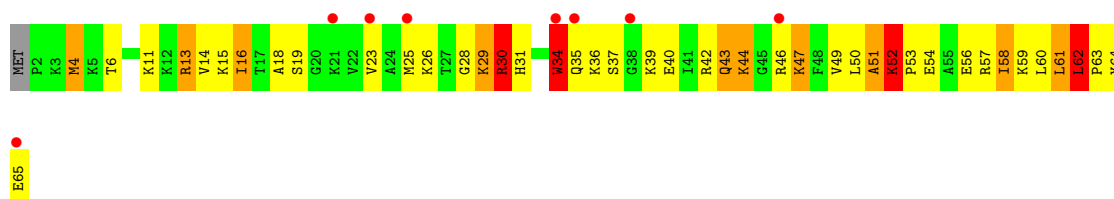
- Molecule 53: 50S ribosomal protein L34



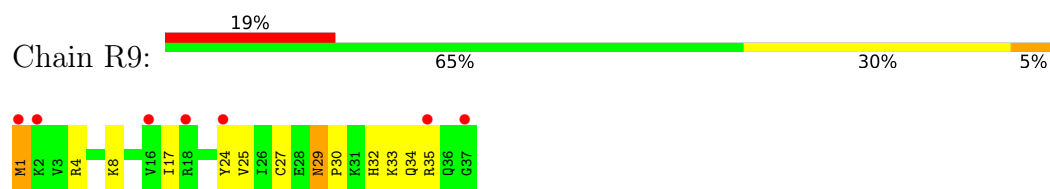
- Molecule 54: 50S ribosomal protein L35



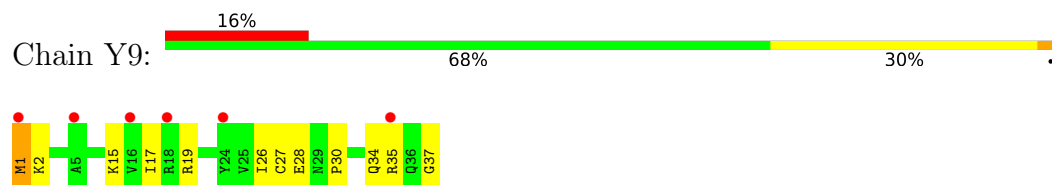
- Molecule 54: 50S ribosomal protein L35



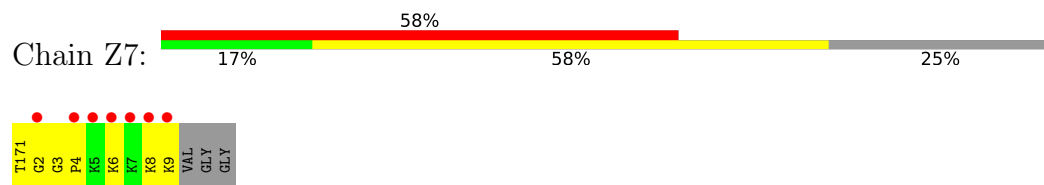
- Molecule 55: 50S ribosomal protein L36



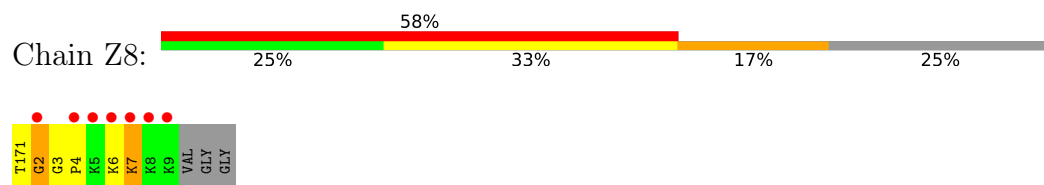
- Molecule 55: 50S ribosomal protein L36



- Molecule 56: T17-GLY-GLY-PRO-LYS-LYS-LYS-LYS-LYS-VAL-GLY-GLY



- Molecule 56: T17-GLY-GLY-PRO-LYS-LYS-LYS-LYS-LYS-VAL-GLY-GLY



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	209.24Å 443.46Å 618.62Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.79 – 3.60 49.79 – 3.61	Depositor EDS
% Data completeness (in resolution range)	98.1 (49.79-3.60) 97.8 (49.79-3.61)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.74 (at 3.66Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.3_1479)	Depositor
R, R_{free}	0.222 , 0.254 0.225 , 0.254	Depositor DCC
R_{free} test set	28952 reflections (4.54%)	wwPDB-VP
Wilson B-factor (Å ²)	104.1	Xtriage
Anisotropy	0.244	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 88.9	EDS
L-test for twinning ²	$\langle L \rangle = 0.33$, $\langle L^2 \rangle = 0.17$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	295487	wwPDB-VP
Average B, all atoms (Å ²)	109.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.67% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ 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, T17, MG, PAR

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	QA	0.12	0/36098	0.31	0/56341
1	XA	0.13	0/36101	0.31	0/56346
2	QB	0.40	0/1959	0.86	4/2642 (0.2%)
2	XB	0.40	0/1959	0.89	4/2642 (0.2%)
3	QC	0.44	0/1629	0.86	0/2195
3	XC	0.48	0/1629	0.85	0/2195
4	QD	0.55	1/1733 (0.1%)	0.94	3/2318 (0.1%)
4	XD	0.50	0/1733	0.97	5/2318 (0.2%)
5	QE	0.46	0/1171	0.95	6/1576 (0.4%)
5	XE	0.52	0/1171	0.95	0/1576
6	QF	0.47	0/856	0.81	0/1154
6	XF	0.52	0/856	0.94	2/1154 (0.2%)
7	QG	0.43	0/1276	0.85	0/1709
7	XG	0.46	0/1276	0.88	2/1709 (0.1%)
8	QH	0.43	0/1136	0.93	4/1527 (0.3%)
8	XH	0.47	0/1136	0.93	4/1527 (0.3%)
9	QI	0.41	0/1029	0.90	1/1379 (0.1%)
9	XI	0.43	0/1029	0.89	2/1379 (0.1%)
10	QJ	0.43	0/814	0.92	2/1095 (0.2%)
10	XJ	0.48	0/814	1.00	3/1095 (0.3%)
11	QK	0.49	0/900	0.91	1/1213 (0.1%)
11	XK	0.51	0/900	0.93	0/1213
12	QL	0.47	0/991	0.96	1/1327 (0.1%)
12	XL	0.63	2/991 (0.2%)	1.14	9/1327 (0.7%)
13	QM	0.42	0/974	0.98	2/1303 (0.2%)
13	XM	0.47	0/974	0.97	1/1303 (0.1%)
14	QN	0.47	0/501	0.89	0/664
14	XN	0.56	0/501	1.04	3/664 (0.5%)
15	QO	0.45	0/745	0.80	0/992
15	XO	0.50	0/745	0.89	0/992
16	QP	0.47	0/721	0.94	2/970 (0.2%)
16	XP	0.47	0/721	0.88	1/970 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
17	QQ	0.42	0/847	0.85	0/1131
17	XQ	0.42	0/847	0.83	0/1131
18	QR	0.44	0/579	0.89	0/768
18	XR	0.47	0/579	0.85	1/768 (0.1%)
19	QS	0.45	0/689	0.99	3/926 (0.3%)
19	XS	0.47	0/689	1.01	6/926 (0.6%)
20	QT	0.46	0/765	0.96	2/1007 (0.2%)
20	XT	0.43	0/765	0.97	3/1007 (0.3%)
21	QU	0.37	0/221	0.79	0/288
21	XU	0.38	0/221	0.82	0/288
22	QV	0.11	0/1836	0.26	0/2859
22	XV	0.12	0/1836	0.27	0/2859
23	QW	0.10	0/1809	0.23	0/2819
23	QY	0.09	0/406	0.23	0/628
23	XW	0.11	0/1809	0.25	0/2819
23	XY	0.10	0/406	0.22	0/628
24	QX	0.10	0/235	0.20	0/364
24	XX	0.10	0/235	0.20	0/364
25	RA	0.13	0/69521	0.31	0/108529
25	YA	0.15	0/69543	0.32	0/108563
26	RB	0.13	0/2878	0.29	0/4490
26	YB	0.15	0/2878	0.33	0/4490
27	RD	0.64	0/2165	1.08	8/2919 (0.3%)
27	YD	0.72	0/2165	1.12	13/2919 (0.4%)
28	RE	0.58	1/1601 (0.1%)	1.08	8/2160 (0.4%)
28	YE	0.62	2/1601 (0.1%)	1.10	12/2160 (0.6%)
29	RF	0.56	2/1620 (0.1%)	0.96	4/2194 (0.2%)
29	YF	0.60	0/1620	1.08	9/2194 (0.4%)
30	RG	0.41	0/1499	0.91	0/2016
30	YG	0.50	0/1499	0.91	2/2016 (0.1%)
31	RH	0.45	2/1332 (0.2%)	1.09	10/1802 (0.6%)
31	YH	0.63	4/1332 (0.3%)	1.13	11/1802 (0.6%)
32	RI	0.59	1/1151 (0.1%)	1.12	6/1558 (0.4%)
32	YI	0.58	1/1151 (0.1%)	0.98	5/1558 (0.3%)
33	RN	0.52	0/1131	1.01	2/1525 (0.1%)
33	YN	0.56	0/1131	0.94	1/1525 (0.1%)
34	RO	0.55	0/943	0.98	3/1269 (0.2%)
34	YO	0.60	0/943	0.97	0/1269
35	RP	0.63	1/1162 (0.1%)	1.19	11/1544 (0.7%)
35	YP	0.72	3/1162 (0.3%)	1.26	11/1544 (0.7%)
36	RQ	0.59	0/1143	1.03	3/1527 (0.2%)
36	YQ	0.71	0/1143	1.11	7/1527 (0.5%)
37	RR	0.54	0/982	0.99	1/1312 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
37	YR	0.56	0/982	1.04	3/1312 (0.2%)
38	RS	0.43	0/892	0.88	0/1187
38	YS	0.50	0/892	0.99	1/1187 (0.1%)
39	RT	0.53	0/1155	0.98	3/1542 (0.2%)
39	YT	0.58	0/1155	1.05	7/1542 (0.5%)
40	RU	0.53	0/982	1.04	6/1306 (0.5%)
40	YU	0.62	0/982	1.05	3/1306 (0.2%)
41	RV	0.47	0/790	0.97	5/1057 (0.5%)
41	YV	0.58	0/790	1.01	2/1057 (0.2%)
42	RW	0.64	0/911	0.98	0/1220
42	YW	0.60	0/911	1.01	0/1220
43	RX	0.59	0/739	0.96	4/993 (0.4%)
43	YX	0.61	0/739	1.00	1/993 (0.1%)
44	RY	0.54	0/798	1.07	6/1064 (0.6%)
44	YY	0.59	0/798	1.09	5/1064 (0.5%)
45	RZ	0.46	0/1493	1.02	9/2026 (0.4%)
45	YZ	0.58	3/1493 (0.2%)	1.04	6/2026 (0.3%)
46	R0	0.55	0/657	0.98	3/874 (0.3%)
46	Y0	0.61	0/657	0.98	1/874 (0.1%)
47	R1	0.55	0/770	0.97	0/1022
47	Y1	0.58	0/770	0.96	1/1022 (0.1%)
48	R2	0.46	0/583	1.01	1/771 (0.1%)
48	Y2	0.60	0/583	1.05	1/771 (0.1%)
49	R3	0.46	0/474	0.91	0/635
49	Y3	0.53	0/474	0.86	0/635
50	R4	0.46	0/594	1.18	8/795 (1.0%)
50	Y4	0.48	0/594	1.16	6/795 (0.8%)
51	R5	0.64	0/473	1.25	6/639 (0.9%)
51	Y5	0.86	5/456 (1.1%)	1.31	8/617 (1.3%)
52	R6	0.53	0/431	1.01	2/575 (0.3%)
52	Y6	0.56	0/431	1.00	2/575 (0.3%)
53	R7	0.63	0/438	1.05	2/575 (0.3%)
53	Y7	0.69	0/438	1.02	3/575 (0.5%)
54	R8	0.69	0/525	1.17	4/691 (0.6%)
54	Y8	0.75	0/525	1.15	5/691 (0.7%)
55	R9	0.34	0/310	0.81	0/407
55	Y9	0.46	0/310	0.80	0/407
56	Z7	0.21	0/56	0.60	0/70
56	Z8	0.23	0/56	0.72	0/70
All	All	0.31	28/320246 (0.0%)	0.58	318/478995 (0.1%)

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

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

Mol	Chain	#Chirality outliers	#Planarity outliers
12	QL	0	1
12	XL	0	1
29	YF	0	1
31	RH	0	1
31	YH	0	1
38	YS	0	1
45	YZ	0	1
48	Y2	0	1
50	R4	0	1
54	R8	0	2
54	Y8	0	2
All	All	0	13

All (28) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	YI	54	GLN	C-N	-8.57	1.22	1.33
4	QD	166	LYS	CA-C	-8.45	1.42	1.52
35	YP	62	LEU	C-N	7.08	1.40	1.33
45	YZ	157	LEU	C-N	6.47	1.41	1.33
31	YH	9	ILE	C-N	6.36	1.41	1.33
35	YP	63	PRO	N-CD	6.23	1.56	1.47
51	Y5	4	HIS	C-N	5.93	1.41	1.33
28	YE	21	VAL	C-N	5.86	1.41	1.33
29	RF	24	LEU	C-N	5.78	1.41	1.33
45	YZ	159	PRO	N-CD	5.67	1.55	1.47
35	RP	10	PRO	N-CD	5.65	1.55	1.47
12	XL	47	LYS	C-N	5.62	1.41	1.33
51	Y5	5	PRO	N-CD	5.59	1.55	1.47
35	YP	10	PRO	N-CD	5.48	1.55	1.47
28	YE	22	PRO	N-CD	5.42	1.55	1.47
45	YZ	158	PRO	N-CD	5.41	1.55	1.47
51	Y5	47	PRO	N-CD	5.38	1.55	1.47
31	YH	154	PRO	N-CD	5.36	1.55	1.47
32	RI	74	ASN	N-CA	-5.35	1.39	1.46
51	Y5	6	VAL	C-N	5.33	1.40	1.33
31	RH	127	GLU	C-N	5.20	1.41	1.34
31	RH	128	PRO	N-CD	5.17	1.54	1.47
12	XL	48	PRO	N-CD	5.17	1.54	1.47
29	RF	25	PRO	N-CD	5.16	1.54	1.47
51	Y5	7	PRO	N-CD	5.16	1.54	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
28	RE	22	PRO	N-CD	5.15	1.55	1.47
31	YH	12	PRO	N-CD	5.07	1.54	1.47
31	YH	10	PRO	N-CD	5.01	1.54	1.47

All (318) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	RH	125	VAL	C-N-CD	-17.76	81.53	120.60
35	YP	59	LEU	N-CA-C	-10.54	99.95	112.92
50	R4	39	CYS	N-CA-C	-10.34	100.08	111.36
33	RN	114	ARG	N-CA-C	-9.79	97.91	110.53
50	Y4	39	CYS	N-CA-C	-9.43	101.32	112.92
35	RP	19	VAL	N-CA-C	9.23	118.97	107.70
40	YU	96	ALA	N-CA-C	-9.08	98.83	112.54
35	RP	25	SER	N-CA-C	-8.95	101.31	113.30
32	RI	74	ASN	N-CA-C	8.91	124.54	112.68
19	QS	6	LYS	N-CA-C	-8.86	102.88	114.31
29	YF	9	ILE	N-CA-C	8.75	115.52	107.56
35	RP	59	LEU	N-CA-C	-8.66	100.83	112.26
35	RP	22	GLY	N-CA-C	8.31	122.29	112.23
28	RE	21	VAL	C-N-CD	8.26	138.78	120.60
7	XG	114	ARG	N-CA-C	8.09	120.17	111.36
19	QS	8	GLY	N-CA-C	8.03	119.57	111.21
50	Y4	63	TYR	N-CA-C	-7.89	103.80	113.50
28	RE	188	VAL	N-CA-C	7.83	115.36	108.63
11	QK	40	ILE	N-CA-C	-7.71	105.66	111.90
37	YR	9	LYS	N-CA-C	-7.66	98.14	110.32
31	YH	157	TYR	N-CA-C	-7.61	103.82	113.72
28	YE	58	ARG	N-CA-C	-7.60	104.03	113.38
4	XD	31	CYS	N-CA-C	-7.51	104.16	112.72
53	Y7	6	GLN	CA-C-N	7.51	127.55	119.89
53	Y7	6	GLN	C-N-CA	7.51	127.55	119.89
48	Y2	5	GLU	N-CA-C	-7.50	102.02	112.45
51	R5	4	HIS	CA-C-N	-7.49	112.27	119.76
51	R5	4	HIS	C-N-CA	-7.49	112.27	119.76
40	YU	92	ARG	N-CA-C	-7.43	101.71	111.74
45	RZ	100	VAL	CA-C-N	7.39	127.44	119.90
45	RZ	100	VAL	C-N-CA	7.39	127.44	119.90
12	XL	119	LYS	N-CA-C	-7.39	100.08	110.50
28	YE	125	GLY	CA-C-N	7.35	127.33	119.76
28	YE	125	GLY	C-N-CA	7.35	127.33	119.76
27	RD	244	ARG	CA-C-N	-7.34	112.82	120.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
27	RD	244	ARG	C-N-CA	-7.34	112.82	120.38
31	YH	127	GLU	CA-C-N	-7.34	110.67	119.84
31	YH	127	GLU	C-N-CA	-7.34	110.67	119.84
6	XF	15	ASP	N-CA-C	-7.32	99.69	110.52
32	RI	135	GLU	N-CA-C	7.21	117.79	108.34
32	YI	133	HIS	CA-C-N	-7.19	112.35	119.76
32	YI	133	HIS	C-N-CA	-7.19	112.35	119.76
27	RD	272	ALA	N-CA-C	7.17	118.13	108.23
36	YQ	113	GLN	N-CA-C	-7.15	105.17	114.04
34	RO	100	GLY	CA-C-N	7.15	127.11	120.03
34	RO	100	GLY	C-N-CA	7.15	127.11	120.03
12	XL	48	PRO	CA-C-O	-7.15	112.73	121.31
31	YH	9	ILE	CA-C-N	-7.14	113.31	120.31
31	YH	9	ILE	C-N-CA	-7.14	113.31	120.31
12	XL	47	LYS	CA-C-N	-7.13	112.63	119.76
12	XL	47	LYS	C-N-CA	-7.13	112.63	119.76
12	XL	47	LYS	N-CA-C	7.12	125.56	109.81
51	R5	46	CYS	N-CA-C	-7.08	99.29	109.48
53	R7	6	GLN	CA-C-N	7.07	127.11	119.90
53	R7	6	GLN	C-N-CA	7.07	127.11	119.90
33	RN	85	ILE	N-CA-C	7.00	115.71	107.73
16	XP	20	VAL	N-CA-C	6.91	118.30	108.42
28	RE	58	ARG	N-CA-C	-6.85	104.12	113.30
5	QE	23	GLY	N-CA-C	6.82	120.66	110.97
50	Y4	59	PHE	N-CA-C	-6.79	103.64	112.68
40	RU	76	TYR	N-CA-C	-6.79	103.96	111.36
31	YH	7	LEU	CA-C-N	-6.79	111.35	119.84
31	YH	7	LEU	C-N-CA	-6.79	111.35	119.84
51	Y5	4	HIS	CA-C-N	-6.77	112.99	119.76
51	Y5	4	HIS	C-N-CA	-6.77	112.99	119.76
28	RE	132	HIS	N-CA-C	6.75	119.45	111.02
40	RU	96	ALA	N-CA-C	-6.74	103.37	112.26
45	RZ	157	LEU	CA-C-N	6.71	127.29	120.38
45	RZ	157	LEU	C-N-CA	6.71	127.29	120.38
45	YZ	157	LEU	CA-C-N	-6.68	113.50	120.38
45	YZ	157	LEU	C-N-CA	-6.68	113.50	120.38
40	RU	97	ASP	N-CA-C	-6.68	103.64	112.72
20	QT	12	ALA	N-CA-C	-6.67	102.47	112.54
28	YE	116	VAL	N-CA-C	-6.67	100.02	109.63
46	R0	17	GLN	N-CA-C	6.66	119.75	108.90
54	Y8	28	GLY	N-CA-C	-6.64	103.42	112.52
29	RF	24	LEU	CA-C-N	-6.64	112.92	119.76

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	RF	24	LEU	C-N-CA	-6.64	112.92	119.76
35	YP	25	SER	N-CA-C	-6.62	96.71	110.80
28	YE	21	VAL	CA-C-N	-6.61	113.18	119.85
28	YE	21	VAL	C-N-CA	-6.61	113.18	119.85
20	XT	12	ALA	N-CA-C	-6.59	104.87	113.17
50	Y4	40	HIS	CA-C-N	-6.57	113.01	119.78
50	Y4	40	HIS	C-N-CA	-6.57	113.01	119.78
19	QS	67	VAL	N-CA-C	6.53	117.31	110.72
50	Y4	45	GLY	N-CA-C	-6.49	106.28	115.30
2	QB	166	ASP	CA-C-N	6.48	126.11	119.56
2	QB	166	ASP	C-N-CA	6.48	126.11	119.56
31	RH	162	ILE	N-CA-C	6.46	113.13	106.21
29	YF	24	LEU	CA-C-N	6.46	126.49	119.90
29	YF	24	LEU	C-N-CA	6.46	126.49	119.90
36	YQ	26	TYR	N-CA-C	6.44	123.37	113.19
35	RP	64	LYS	N-CA-C	-6.42	105.46	113.55
40	YU	97	ASP	N-CA-C	-6.42	105.43	113.20
39	YT	111	ARG	N-CA-C	-6.40	102.54	110.41
16	QP	71	ARG	N-CA-C	-6.39	104.40	111.36
51	Y5	6	VAL	CA-C-N	-6.39	113.09	119.99
51	Y5	6	VAL	C-N-CA	-6.39	113.09	119.99
51	R5	45	VAL	O-C-N	6.38	129.99	122.66
29	RF	75	HIS	N-CA-C	6.32	117.77	108.86
44	RY	65	ALA	CA-C-N	6.31	126.33	119.89
44	RY	65	ALA	C-N-CA	6.31	126.33	119.89
50	R4	10	VAL	CA-C-N	6.31	127.73	119.84
50	R4	10	VAL	C-N-CA	6.31	127.73	119.84
52	R6	24	GLU	N-CA-C	6.29	116.31	108.19
41	YV	35	LEU	CA-C-N	6.24	127.64	119.84
41	YV	35	LEU	C-N-CA	6.24	127.64	119.84
40	RU	9	VAL	N-CA-C	6.22	116.39	110.42
40	RU	92	ARG	N-CA-C	-6.19	104.32	112.24
35	YP	71	VAL	CA-C-N	-6.16	113.28	119.56
35	YP	71	VAL	C-N-CA	-6.16	113.28	119.56
43	YX	80	ILE	CB-CA-C	6.16	118.99	110.99
32	RI	133	HIS	CA-C-N	-6.15	113.62	119.90
32	RI	133	HIS	C-N-CA	-6.15	113.62	119.90
40	RU	74	LEU	N-CA-C	6.14	116.34	108.24
39	YT	57	PHE	N-CA-C	-6.13	102.87	110.41
51	R5	48	GLU	N-CA-C	6.12	117.75	111.14
29	YF	9	ILE	CA-C-N	6.12	126.60	119.99
29	YF	9	ILE	C-N-CA	6.12	126.60	119.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
27	YD	245	PRO	CA-C-N	6.12	126.47	119.93
27	YD	245	PRO	C-N-CA	6.12	126.47	119.93
32	RI	79	ILE	N-CA-C	6.11	114.61	107.77
43	RX	31	HIS	CA-C-N	6.10	125.99	119.28
43	RX	31	HIS	C-N-CA	6.10	125.99	119.28
39	YT	14	TYR	N-CA-C	-6.10	105.89	113.15
51	Y5	5	PRO	N-CA-C	6.09	120.75	111.19
2	XB	25	ASN	CA-C-N	6.08	127.45	119.84
2	XB	25	ASN	C-N-CA	6.08	127.45	119.84
50	R4	67	TYR	N-CA-C	6.08	114.59	108.75
27	RD	49	ILE	N-CA-CB	6.08	117.16	110.53
35	YP	10	PRO	N-CA-C	6.07	124.98	112.47
46	R0	60	PHE	N-CA-C	6.05	118.38	109.24
27	YD	28	GLU	CA-C-N	-6.05	113.44	119.92
27	YD	28	GLU	C-N-CA	-6.05	113.44	119.92
45	RZ	14	LYS	CA-C-N	6.05	126.49	119.47
45	RZ	14	LYS	C-N-CA	6.05	126.49	119.47
28	YE	85	ASN	CA-C-N	6.05	127.40	119.84
28	YE	85	ASN	C-N-CA	6.05	127.40	119.84
52	R6	28	ARG	N-CA-C	6.05	118.37	109.24
35	RP	10	PRO	N-CA-C	6.03	124.90	112.47
54	R8	64	TYR	CB-CA-C	-6.02	109.61	116.54
37	RR	9	LYS	N-CA-C	-5.99	100.78	109.59
50	R4	59	PHE	N-CA-C	-5.98	106.01	113.55
35	YP	64	LYS	N-CA-C	-5.98	106.32	113.97
44	YY	11	ASP	N-CA-C	5.97	118.01	110.24
39	YT	89	VAL	N-CA-C	-5.96	106.93	113.43
45	RZ	112	ARG	CB-CA-C	-5.95	109.72	116.63
35	YP	10	PRO	CA-N-CD	-5.94	103.68	112.00
39	RT	19	LEU	CA-C-N	5.94	125.84	119.85
39	RT	19	LEU	C-N-CA	5.94	125.84	119.85
12	XL	26	ALA	N-CA-C	-5.92	106.30	112.93
41	RV	35	LEU	CA-C-N	5.92	127.24	119.84
41	RV	35	LEU	C-N-CA	5.92	127.24	119.84
29	YF	157	VAL	N-CA-C	5.89	114.84	106.53
14	XN	13	THR	CA-C-N	5.89	127.20	119.84
14	XN	13	THR	C-N-CA	5.89	127.20	119.84
30	YG	31	VAL	CA-C-N	5.87	127.17	119.84
30	YG	31	VAL	C-N-CA	5.87	127.17	119.84
41	RV	49	THR	CA-C-N	-5.86	112.51	119.84
41	RV	49	THR	C-N-CA	-5.86	112.51	119.84
51	Y5	46	CYS	CA-C-N	-5.85	112.72	120.96

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
51	Y5	46	CYS	C-N-CA	-5.85	112.72	120.96
5	QE	127	ASN	CA-C-N	5.82	125.96	119.32
5	QE	127	ASN	C-N-CA	5.82	125.96	119.32
10	XJ	75	ILE	N-CA-C	5.82	116.00	110.53
19	XS	41	VAL	CA-C-N	5.82	140.96	127.00
19	XS	41	VAL	C-N-CA	5.82	140.96	127.00
27	RD	13	ARG	N-CA-C	-5.81	106.23	113.38
28	YE	185	LYS	N-CA-C	5.80	117.25	110.41
44	YY	89	PHE	N-CA-C	-5.79	104.39	113.02
4	QD	28	SER	CA-C-N	-5.77	112.62	119.84
4	QD	28	SER	C-N-CA	-5.77	112.62	119.84
4	XD	39	PRO	CA-C-N	5.74	125.72	120.03
4	XD	39	PRO	C-N-CA	5.74	125.72	120.03
27	YD	229	VAL	CB-CA-C	-5.73	100.84	111.79
43	RX	6	ASP	N-CA-C	-5.70	106.36	113.55
50	R4	63	TYR	N-CA-C	-5.70	105.82	112.89
51	Y5	27	PRO	O-C-N	5.70	123.93	121.31
27	RD	44	ASN	N-CA-C	5.69	116.79	108.14
28	YE	130	GLY	N-CA-C	5.69	119.52	112.64
45	YZ	115	GLY	N-CA-C	-5.68	99.71	113.18
54	Y8	61	LEU	N-CA-C	-5.66	101.25	110.20
46	Y0	55	ARG	N-CA-C	5.66	118.22	111.71
10	QJ	52	GLY	CA-C-N	5.66	125.02	118.85
10	QJ	52	GLY	C-N-CA	5.66	125.02	118.85
8	XH	75	ARG	CA-C-N	5.65	126.90	119.84
8	XH	75	ARG	C-N-CA	5.65	126.90	119.84
29	RF	64	ILE	N-CA-C	5.64	115.83	110.53
50	R4	8	LYS	N-CA-C	5.63	117.87	111.11
27	YD	196	VAL	N-CA-C	5.63	116.28	110.82
10	XJ	28	ARG	N-CA-C	-5.63	106.37	113.18
31	RH	157	TYR	N-CA-C	-5.62	106.01	112.92
54	Y8	54	GLU	N-CA-C	-5.62	105.16	111.28
29	YF	95	ARG	N-CA-C	5.61	117.38	108.79
8	XH	26	VAL	CA-C-N	5.61	126.85	119.84
8	XH	26	VAL	C-N-CA	5.61	126.85	119.84
9	XI	63	ILE	N-CA-C	5.60	116.12	107.78
54	R8	36	LYS	N-CA-C	-5.60	102.20	110.48
14	XN	47	LEU	N-CA-C	5.60	117.38	111.28
36	RQ	77	LYS	C-N-CD	-5.59	102.08	125.00
27	YD	223	GLY	N-CA-C	-5.59	106.02	112.73
18	XR	25	THR	N-CA-C	-5.58	106.47	113.72
28	RE	22	PRO	CA-N-CD	-5.56	103.71	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	RH	20	ALA	CA-C-N	5.56	126.79	119.84
31	RH	20	ALA	C-N-CA	5.56	126.79	119.84
46	R0	11	ARG	N-CA-C	-5.55	106.55	113.38
44	RY	76	CYS	CA-C-N	5.55	126.78	119.84
44	RY	76	CYS	C-N-CA	5.55	126.78	119.84
52	Y6	24	GLU	N-CA-C	5.55	115.44	108.45
32	YI	14	ASP	N-CA-C	5.54	117.52	108.55
9	QI	86	VAL	N-CA-C	-5.51	107.37	112.83
33	YN	24	GLY	N-CA-C	-5.48	106.03	113.37
54	R8	61	LEU	N-CA-C	-5.48	101.75	109.96
35	YP	19	VAL	N-CA-C	5.46	120.70	109.34
32	YI	60	GLU	N-CA-C	-5.45	106.31	113.12
2	QB	25	ASN	CA-C-N	5.42	126.62	119.84
2	QB	25	ASN	C-N-CA	5.42	126.62	119.84
19	XS	58	VAL	N-CA-C	5.41	113.78	107.89
27	YD	13	ARG	N-CA-C	-5.41	106.66	113.20
12	XL	60	LEU	N-CA-C	5.41	117.74	109.95
39	YT	16	ARG	N-CA-C	-5.40	102.20	110.14
38	YS	62	LYS	N-CA-C	5.40	117.86	111.33
27	YD	107	ALA	CA-C-N	5.39	125.37	120.03
27	YD	107	ALA	C-N-CA	5.39	125.37	120.03
45	YZ	112	ARG	N-CA-C	-5.39	103.36	110.43
34	RO	32	TYR	N-CA-C	5.39	117.38	109.24
27	YD	83	GLU	N-CA-C	5.39	118.06	109.81
54	R8	50	LEU	N-CA-C	5.38	117.18	108.41
29	YF	184	TYR	N-CA-C	-5.37	105.32	111.07
36	RQ	120	ILE	CB-CA-C	-5.36	105.02	112.04
12	XL	24	VAL	CA-C-N	-5.35	113.15	119.84
12	XL	24	VAL	C-N-CA	-5.35	113.15	119.84
35	RP	42	SER	N-CA-C	5.33	116.78	110.97
32	RI	56	LYS	N-CA-C	5.33	116.89	111.14
31	RH	7	LEU	CA-C-N	-5.32	113.19	119.84
31	RH	7	LEU	C-N-CA	-5.32	113.19	119.84
45	YZ	100	VAL	CA-C-N	5.31	126.47	119.84
45	YZ	100	VAL	C-N-CA	5.31	126.47	119.84
31	YH	153	LYS	CA-C-N	-5.30	113.21	119.84
31	YH	153	LYS	C-N-CA	-5.30	113.21	119.84
37	YR	58	GLY	N-CA-C	5.29	122.40	115.36
39	RT	13	ARG	N-CA-C	-5.29	106.41	112.92
54	Y8	62	LEU	CA-C-N	-5.29	113.47	118.97
54	Y8	62	LEU	C-N-CA	-5.29	113.47	118.97
29	YF	71	GLY	N-CA-C	-5.28	108.35	115.21

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	XS	34	TRP	N-CA-C	-5.26	106.88	113.72
28	RE	51	PHE	N-CA-C	5.26	116.50	108.30
35	YP	62	LEU	CA-C-N	-5.26	112.73	120.46
35	YP	62	LEU	C-N-CA	-5.26	112.73	120.46
20	QT	33	ILE	CB-CA-C	-5.26	105.15	111.88
12	QL	26	ALA	N-CA-C	-5.25	107.05	112.93
31	RH	127	GLU	CA-C-N	-5.25	113.22	119.05
31	RH	127	GLU	C-N-CA	-5.25	113.22	119.05
27	RD	157	ARG	N-CA-C	-5.25	106.78	114.39
35	RP	10	PRO	CA-N-CD	-5.24	104.66	112.00
39	YT	13	ARG	N-CA-C	-5.24	99.64	110.80
5	QE	95	ALA	CA-C-N	5.23	126.38	119.84
5	QE	95	ALA	C-N-CA	5.23	126.38	119.84
28	YE	21	VAL	N-CA-C	5.23	113.83	107.61
19	XS	36	ARG	N-CA-C	-5.22	106.93	113.72
7	XG	27	ILE	N-CA-C	-5.22	105.62	110.53
37	YR	43	GLU	N-CA-C	-5.22	107.08	113.50
28	RE	23	VAL	N-CA-C	5.20	117.33	108.86
36	RQ	89	ASN	N-CA-C	-5.19	107.00	113.38
8	QH	26	VAL	CA-C-N	5.18	126.32	119.84
8	QH	26	VAL	C-N-CA	5.18	126.32	119.84
19	XS	41	VAL	C-N-CD	-5.18	109.20	120.60
48	R2	5	GLU	N-CA-C	-5.18	105.71	112.23
32	YI	135	GLU	N-CA-C	5.18	117.73	109.65
36	YQ	125	LEU	CA-C-N	5.17	126.31	119.84
36	YQ	125	LEU	C-N-CA	5.17	126.31	119.84
31	RH	6	ARG	N-CA-C	-5.16	108.73	114.62
6	XF	17	SER	N-CA-C	5.16	116.72	111.14
43	RX	5	TYR	N-CA-C	-5.16	107.15	112.93
4	XD	31	CYS	CA-C-N	5.16	131.40	121.54
4	XD	31	CYS	C-N-CA	5.16	131.40	121.54
28	YE	132	HIS	N-CA-C	5.15	121.78	110.80
27	RD	256	GLY	N-CA-C	5.15	119.81	113.79
20	XT	9	ASN	N-CA-C	5.15	118.10	110.48
31	YH	20	ALA	N-CA-C	-5.14	104.14	110.31
44	YY	76	CYS	CA-C-N	5.14	126.27	119.84
44	YY	76	CYS	C-N-CA	5.14	126.27	119.84
39	YT	108	ARG	N-CA-C	-5.13	107.15	113.41
2	XB	166	ASP	CA-C-N	5.13	124.85	119.82
2	XB	166	ASP	C-N-CA	5.13	124.85	119.82
51	R5	46	CYS	CA-C-O	5.13	124.57	119.75
4	QD	29	PRO	CA-N-CD	-5.12	104.84	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	Y7	30	VAL	CB-CA-C	-5.12	105.33	111.88
44	YY	60	PHE	N-CA-C	5.11	116.96	109.24
44	RY	55	TYR	CA-C-N	5.11	126.23	119.84
44	RY	55	TYR	C-N-CA	5.11	126.23	119.84
13	XM	117	VAL	N-CA-C	5.10	117.07	108.81
16	QP	39	TYR	N-CA-C	5.09	116.34	107.93
27	YD	43	ARG	N-CA-C	5.09	119.36	113.20
35	RP	26	GLY	N-CA-C	-5.09	101.19	112.17
13	QM	40	ASN	CA-C-N	5.08	124.69	119.05
13	QM	40	ASN	C-N-CA	5.08	124.69	119.05
52	Y6	28	ARG	N-CA-C	5.08	117.10	109.23
47	Y1	70	VAL	CB-CA-C	-5.07	105.48	111.97
20	XT	33	ILE	CB-CA-C	-5.06	105.49	111.97
8	QH	75	ARG	CA-C-N	5.06	125.78	120.11
8	QH	75	ARG	C-N-CA	5.06	125.78	120.11
36	YQ	25	ASP	N-CA-C	5.06	121.57	110.80
50	R4	49	PHE	N-CA-C	5.05	121.57	110.80
36	YQ	89	ASN	N-CA-C	-5.05	106.89	113.16
27	YD	272	ALA	N-CA-C	5.05	121.55	110.80
35	YP	95	VAL	N-CA-C	5.04	119.83	109.34
45	RZ	129	SER	CA-C-N	5.03	126.13	119.84
45	RZ	129	SER	C-N-CA	5.03	126.13	119.84
10	XJ	54	PHE	CB-CA-C	-5.03	108.11	114.40
28	RE	102	VAL	N-CA-C	5.03	116.14	108.80
35	RP	71	VAL	CA-C-N	-5.01	113.88	119.19
35	RP	71	VAL	C-N-CA	-5.01	113.88	119.19
9	XI	42	ARG	N-CA-C	-5.01	108.19	114.56
5	QE	67	VAL	N-CA-C	5.01	114.79	107.88
41	RV	70	ILE	CB-CA-C	-5.01	104.03	110.84
31	YH	6	ARG	N-CA-C	-5.01	107.24	113.55
36	YQ	22	LYS	N-CA-C	5.01	121.47	110.80

There are no chirality outliers.

All (13) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
12	QL	47	LYS	Peptide
50	R4	38	LYS	Peptide
54	R8	30	ARG	Peptide
54	R8	35	GLN	Peptide
31	RH	153	LYS	Peptide
12	XL	12	ARG	Sidechain

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Mol	Chain	Res	Type	Group
48	Y2	17	SER	Peptide
54	Y8	30	ARG	Peptide
54	Y8	51	ALA	Peptide
29	YF	47	GLY	Peptide
31	YH	127	GLU	Peptide
38	YS	109	GLY	Peptide
45	YZ	181	GLU	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	QA	32247	0	16278	481	0
1	XA	32249	0	16279	432	0
2	QB	1924	0	1975	66	0
2	XB	1924	0	1975	89	0
3	QC	1605	0	1668	51	0
3	XC	1605	0	1668	57	0
4	QD	1703	0	1763	97	0
4	XD	1703	0	1765	54	1
5	QE	1155	0	1213	28	0
5	XE	1155	0	1213	41	0
6	QF	843	0	857	29	0
6	XF	843	0	857	41	0
7	QG	1257	0	1296	46	0
7	XG	1257	0	1296	24	0
8	QH	1116	0	1175	39	0
8	XH	1116	0	1177	28	0
9	QI	1010	0	1037	38	0
9	XI	1010	0	1037	49	0
10	QJ	801	0	849	51	0
10	XJ	801	0	849	42	0
11	QK	885	0	904	40	0
11	XK	885	0	904	38	0
12	QL	975	0	1062	41	0
12	XL	975	0	1062	51	0
13	QM	964	0	1034	64	0
13	XM	964	0	1034	62	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
14	QN	492	0	529	25	0
14	XN	492	0	529	18	0
15	QO	734	0	771	21	0
15	XO	734	0	771	18	0
16	QP	705	0	725	16	0
16	XP	705	0	725	26	0
17	QQ	834	0	904	23	0
17	XQ	834	0	904	14	0
18	QR	574	0	644	10	0
18	XR	574	0	644	25	0
19	QS	674	0	699	76	0
19	XS	674	0	699	74	0
20	QT	763	0	861	20	0
20	XT	763	0	861	36	0
21	QU	217	0	234	11	0
21	XU	217	0	234	3	0
22	QV	1644	0	835	16	0
22	XV	1644	0	836	18	0
23	QW	1619	0	822	25	0
23	QY	364	0	186	2	0
23	XW	1619	0	822	30	0
23	XY	364	0	186	2	0
24	QX	210	0	109	0	0
24	XX	210	0	109	1	0
25	RA	62071	0	31284	768	1
25	YA	62091	0	31294	733	0
26	RB	2573	0	1306	42	0
26	YB	2573	0	1306	34	0
27	RD	2115	0	2195	98	0
27	YD	2115	0	2195	149	0
28	RE	1568	0	1634	94	0
28	YE	1568	0	1634	76	0
29	RF	1585	0	1632	90	0
29	YF	1585	0	1632	65	0
30	RG	1474	0	1535	67	0
30	YG	1474	0	1535	67	0
31	RH	1307	0	1382	74	0
31	YH	1307	0	1382	93	0
32	RI	1136	0	1223	76	0
32	YI	1136	0	1223	53	0
33	RN	1104	0	1180	46	0
33	YN	1104	0	1180	53	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
34	RO	933	0	996	27	0
34	YO	933	0	996	24	0
35	RP	1145	0	1226	84	0
35	YP	1145	0	1228	94	0
36	RQ	1122	0	1179	62	0
36	YQ	1122	0	1178	54	0
37	RR	968	0	1033	50	0
37	YR	968	0	1033	35	0
38	RS	882	0	943	41	0
38	YS	882	0	943	47	0
39	RT	1141	0	1202	66	0
39	YT	1141	0	1202	52	0
40	RU	964	0	1022	32	0
40	YU	964	0	1022	54	0
41	RV	779	0	852	20	0
41	YV	779	0	852	45	0
42	RW	900	0	964	25	0
42	YW	900	0	964	28	0
43	RX	725	0	778	32	0
43	YX	725	0	778	24	0
44	RY	785	0	878	49	0
44	YY	785	0	878	40	0
45	RZ	1461	0	1493	68	0
45	YZ	1461	0	1493	82	0
46	R0	648	0	672	22	0
46	Y0	648	0	672	31	0
47	R1	763	0	848	29	0
47	Y1	763	0	848	29	0
48	R2	581	0	629	15	0
48	Y2	581	0	629	23	0
49	R3	469	0	518	7	0
49	Y3	469	0	518	15	0
50	R4	581	0	574	78	0
50	Y4	581	0	574	101	0
51	R5	459	0	476	69	0
51	Y5	442	0	465	35	0
52	R6	424	0	450	26	0
52	Y6	424	0	450	32	0
53	R7	430	0	480	22	0
53	Y7	430	0	480	16	0
54	R8	517	0	582	31	0
54	Y8	517	0	582	42	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
55	R9	307	0	338	8	0
55	Y9	307	0	336	9	0
56	Z7	116	0	134	13	0
56	Z8	116	0	133	5	0
57	QA	67	0	0	0	0
57	QF	1	0	0	0	0
57	QH	1	0	0	0	0
57	QV	2	0	0	0	0
57	QY	1	0	0	0	0
57	R0	1	0	0	0	0
57	R5	1	0	0	0	0
57	RA	246	0	0	0	0
57	RB	2	0	0	0	0
57	RD	1	0	0	0	0
57	RE	1	0	0	0	0
57	RP	4	0	0	0	0
57	XA	71	0	0	0	0
57	XB	1	0	0	0	0
57	XM	1	0	0	0	0
57	XV	3	0	0	0	0
57	XX	1	0	0	0	0
57	XY	1	0	0	0	0
57	Y5	1	0	0	0	0
57	Y7	1	0	0	0	0
57	YA	278	0	0	0	0
57	YB	5	0	0	0	0
57	YD	1	0	0	0	0
57	YE	2	0	0	0	0
57	YP	1	0	0	0	0
57	YX	1	0	0	0	0
58	QA	42	0	45	1	0
58	XA	42	0	45	4	0
59	QD	1	0	0	0	0
59	QN	1	0	0	0	0
59	R5	1	0	0	0	0
59	XD	1	0	0	0	0
59	XN	1	0	0	0	0
59	Y9	1	0	0	0	0
All	All	295487	0	200229	6033	1

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 12.

All (6033) 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:YQ:134:ARG:CZ	45:YZ:122:ARG:HH21	1.34	1.39
28:YE:14:ILE:HG22	28:YE:21:VAL:CG2	1.56	1.35
27:YD:121:PRO:HB3	27:YD:135:PHE:CE2	1.64	1.31
28:YE:14:ILE:CG2	28:YE:21:VAL:HG23	1.62	1.29
31:RH:125:VAL:HG12	31:RH:126:PRO:CD	1.64	1.25
45:YZ:93:ASP:O	45:YZ:94:GLU:HG2	1.10	1.24
28:RE:21:VAL:HG23	28:RE:22:PRO:CB	1.69	1.22
27:YD:121:PRO:CB	27:YD:135:PHE:HE2	1.55	1.18
4:QD:167:GLY:HA3	27:YD:135:PHE:HE1	1.10	1.17
13:QM:80:ARG:HD3	50:R4:71:ARG:NH2	1.59	1.17
51:Y5:46:CYS:SG	51:Y5:50:GLY:HA3	1.84	1.16
31:RH:125:VAL:CG1	31:RH:126:PRO:HD3	1.75	1.16
19:XS:42:PRO:HB3	50:Y4:60:GLN:OE1	1.49	1.13
4:XD:22:LYS:HD3	4:XD:26:CYS:SG	1.89	1.12
4:QD:166:LYS:HG3	4:QD:178:VAL:HG11	1.32	1.10
25:RA:1169:G:H1	25:RA:1180:C:N4	1.48	1.09
28:RE:21:VAL:HG23	28:RE:22:PRO:HB3	1.18	1.09
27:YD:121:PRO:CB	27:YD:135:PHE:CE2	2.34	1.09
36:YQ:134:ARG:CZ	45:YZ:122:ARG:NH2	2.16	1.09
32:YI:53:ALA:O	32:YI:57:ARG:HG3	1.52	1.08
25:YA:1169:G:H1	25:YA:1180:C:N4	1.52	1.07
31:YH:10:PRO:HG2	31:YH:50:VAL:HG13	1.32	1.06
4:QD:167:GLY:HA3	27:YD:135:PHE:CE1	1.90	1.05
4:QD:167:GLY:CA	27:YD:135:PHE:CE1	2.39	1.05
45:YZ:93:ASP:O	45:YZ:94:GLU:CG	2.03	1.05
28:RE:21:VAL:CG2	28:RE:22:PRO:HB3	1.87	1.05
51:R5:50:GLY:HA3	51:R5:56:LYS:HB3	1.38	1.04
51:Y5:46:CYS:SG	51:Y5:50:GLY:CA	2.44	1.04
53:R7:9:ARG:HH21	53:R7:48:LYS:HD2	1.16	1.04
45:YZ:91:LEU:HG	45:YZ:130:PRO:HB3	1.41	1.03
25:YA:1359:A:N6	25:YA:1372:U:N3	2.07	1.02
32:RI:52:ARG:O	32:RI:56:LYS:N	1.91	1.02
28:YE:24:THR:HG21	28:YE:188:VAL:HG11	1.37	1.02
4:QD:28:SER:HB3	4:QD:29:PRO:HD3	1.39	1.00
19:QS:67:VAL:HB	50:R4:59:PHE:CE2	1.96	1.00
19:QS:67:VAL:HG12	50:R4:59:PHE:CE1	1.96	0.99
31:RH:125:VAL:HG12	31:RH:126:PRO:HD3	1.01	0.99
31:YH:10:PRO:CG	31:YH:50:VAL:HG13	1.91	0.99
25:RA:1542:G:H3'	25:RA:1543:A:C5'	1.92	0.99
6:XF:100:ASN:O	18:XR:28:GLU:HG2	1.61	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2099:U:H3	25:YA:2190:G:H1	1.05	0.98
25:YA:2287:A:H62	25:YA:2344:U:H3	1.04	0.98
4:XD:22:LYS:CD	4:XD:26:CYS:SG	2.52	0.98
28:YE:14:ILE:CG2	28:YE:21:VAL:CG2	2.29	0.98
51:R5:58:LEU:HD13	51:R5:60:VAL:HG12	1.41	0.97
13:XM:54:VAL:HG23	50:Y4:32:TYR:OH	1.64	0.97
4:QD:9:CYS:SG	4:QD:22:LYS:CE	2.52	0.97
13:QM:7:VAL:HG21	30:RG:113:ARG:O	1.63	0.97
25:YA:2701:C:H3'	25:YA:2702:U:H5''	1.43	0.97
38:YS:59:LYS:HD3	38:YS:60:GLY:N	1.80	0.97
25:RA:1542:G:H3'	25:RA:1543:A:H5'	1.43	0.96
13:QM:80:ARG:HE	50:R4:71:ARG:HH12	1.08	0.96
25:RA:2053:G:O6	25:RA:2614:A:H2	1.49	0.96
1:XA:963:G:H1	1:XA:972:C:H42	1.09	0.96
28:YE:24:THR:HG21	28:YE:188:VAL:CG1	1.97	0.95
4:QD:167:GLY:HA2	27:YD:135:PHE:CZ	2.01	0.95
28:RE:20:ALA:O	28:RE:21:VAL:HG13	1.65	0.95
28:RE:13:ARG:HB2	28:RE:21:VAL:HG12	1.47	0.95
4:QD:9:CYS:SG	4:QD:22:LYS:HE3	2.07	0.95
19:QS:67:VAL:HB	50:R4:59:PHE:CZ	2.01	0.94
29:YF:68:LYS:HG2	29:YF:69:HIS:CE1	2.02	0.94
27:YD:121:PRO:CA	27:YD:135:PHE:CE2	2.50	0.94
25:YA:896:A:H1'	45:YZ:176:PRO:HB3	1.50	0.94
29:YF:68:LYS:HG2	29:YF:69:HIS:ND1	1.83	0.94
19:QS:70:LYS:CE	50:R4:68:ARG:HH21	1.79	0.94
45:YZ:95:PRO:HG2	45:YZ:127:LYS:HD3	1.48	0.94
12:XL:48:PRO:O	12:XL:49:ASN:ND2	2.00	0.93
19:QS:70:LYS:HE2	50:R4:68:ARG:NH2	1.83	0.93
25:YA:1533:C:H42	25:YA:1538:G:H1	1.01	0.93
2:QB:185:ILE:HG22	2:QB:199:TYR:HB2	1.48	0.93
27:YD:121:PRO:HA	27:YD:135:PHE:CE2	2.03	0.93
1:QA:1002:G:H1	1:QA:1038:C:H42	1.00	0.93
32:RI:57:ARG:O	32:RI:61:ARG:HG2	1.67	0.93
51:R5:55:ARG:NH1	51:R5:57:VAL:HA	1.83	0.93
25:RA:2308:G:H1	25:RA:2311:A:H2	1.15	0.93
28:RE:21:VAL:HG23	28:RE:22:PRO:CA	1.99	0.92
32:RI:52:ARG:HB2	32:RI:56:LYS:HB2	1.48	0.92
1:XA:954:G:H21	1:XA:1227:A:H62	1.01	0.92
27:YD:121:PRO:CA	27:YD:135:PHE:HE2	1.82	0.92
26:RB:38:C:H42	26:RB:44:G:H1	1.17	0.92
27:YD:121:PRO:HA	27:YD:135:PHE:CD2	2.05	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RI:52:ARG:O	32:RI:56:LYS:HB3	1.69	0.92
1:XA:963:G:N2	1:XA:972:C:N3	2.18	0.91
38:YS:59:LYS:HD3	38:YS:60:GLY:H	1.34	0.91
35:RP:58:THR:O	35:RP:61:ARG:NE	2.03	0.91
31:RH:125:VAL:HG12	31:RH:126:PRO:CG	1.98	0.91
19:XS:67:VAL:HG21	50:Y4:60:GLN:HE22	1.32	0.91
25:YA:49:A:N7	25:YA:120:U:C4	2.38	0.91
32:YI:52:ARG:O	32:YI:56:LYS:HB3	1.71	0.91
25:YA:993:G:OP1	40:YU:50:ARG:NH2	2.04	0.91
25:RA:1043:C:H42	25:RA:1112:G:H1	0.97	0.91
13:QM:80:ARG:HD3	50:R4:71:ARG:HH22	1.33	0.90
51:R5:40:LYS:NZ	51:R5:46:CYS:SG	2.45	0.90
25:YA:1338:G:N7	43:YX:62:LYS:NZ	2.20	0.90
4:QD:28:SER:HB3	4:QD:29:PRO:CD	1.96	0.90
45:YZ:151:HIS:HB3	45:YZ:170:THR:HA	1.54	0.90
25:RA:2580:U:H4'	28:RE:130:GLY:HA3	1.54	0.90
36:RQ:81:VAL:O	36:RQ:82:ARG:NE	2.05	0.89
1:XA:954:G:N2	1:XA:1227:A:H62	1.70	0.89
25:YA:1359:A:N6	25:YA:1372:U:H3	1.71	0.89
25:RA:2839:G:H5'	37:RR:46:GLY:HA2	1.54	0.89
32:RI:54:GLN:O	32:RI:58:LEU:HB2	1.73	0.89
28:YE:50:GLY:HA2	28:YE:77:ILE:HA	1.53	0.89
19:QS:70:LYS:NZ	50:R4:68:ARG:HH21	1.70	0.89
36:YQ:134:ARG:NH1	45:YZ:122:ARG:HH21	1.69	0.89
19:QS:70:LYS:HE2	50:R4:68:ARG:HH21	1.34	0.89
25:YA:1138:G:H21	33:YN:106:MET:HE3	1.36	0.89
1:QA:49:U:C4	1:QA:365:U:O4	2.26	0.88
39:RT:26:ASP:HB3	39:RT:92:GLY:H	1.36	0.88
45:YZ:54:HIS:O	45:YZ:98:MET:HE1	1.71	0.88
51:R5:49:CYS:O	51:R5:56:LYS:HD2	1.73	0.88
25:RA:2287:A:N6	25:RA:2344:U:H3	1.71	0.88
44:YY:79:CYS:SG	44:YY:80:GLY:N	2.45	0.88
13:XM:68:GLY:HA3	30:YG:116:ASP:OD1	1.73	0.88
25:RA:2701:C:H3'	25:RA:2702:U:H5''	1.52	0.88
1:QA:963:G:H1	1:QA:972:C:H42	1.22	0.88
51:R5:55:ARG:HG3	51:R5:57:VAL:H	1.37	0.88
1:XA:1008:C:H42	1:XA:1021:G:H1	1.17	0.88
31:YH:152:ARG:HG3	31:YH:153:LYS:HD2	1.53	0.88
29:RF:6:VAL:HB	29:RF:24:LEU:HB2	1.57	0.87
31:YH:10:PRO:HD3	31:YH:50:VAL:O	1.73	0.87
28:RE:13:ARG:HB2	28:RE:21:VAL:CG1	2.03	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YH:109:PHE:CZ	31:YH:152:ARG:HD3	2.09	0.87
35:RP:64:LYS:O	35:RP:66:GLY:N	2.07	0.87
51:R5:49:CYS:O	51:R5:56:LYS:CD	2.22	0.87
25:YA:847:U:O4	25:YA:933:A:N1	2.08	0.87
44:YY:76:CYS:HB3	44:YY:96:ILE:HD13	1.57	0.87
28:RE:20:ALA:C	28:RE:21:VAL:HG13	1.97	0.87
1:QA:49:U:C5	1:QA:365:U:O4	2.27	0.87
56:Z8:1:T17:H10	56:Z8:1:T17:H55	1.54	0.87
25:RA:1543:A:H1'	25:RA:1545:A:O4'	1.75	0.87
3:QC:79:ARG:HD2	11:XK:99:GLN:NE2	1.88	0.87
13:XM:54:VAL:CG2	50:Y4:32:TYR:OH	2.23	0.87
25:YA:1533:C:N4	25:YA:1538:G:H1	1.73	0.86
25:RA:2287:A:H62	25:RA:2344:U:H3	0.90	0.86
35:RP:19:VAL:HG13	35:RP:21:ARG:H	1.40	0.86
25:RA:1169:G:N2	25:RA:1180:C:N3	2.23	0.86
7:XG:89:MET:HE1	7:XG:156:TRP:H	1.40	0.86
25:RA:847:U:O4	25:RA:933:A:N1	2.08	0.86
1:QA:1316:G:H22	1:QA:1319:A:H5''	1.41	0.86
1:XA:1298:C:OP2	7:XG:114:ARG:NH2	2.07	0.86
4:XD:9:CYS:SG	4:XD:22:LYS:CE	2.63	0.86
45:RZ:111:VAL:HG22	45:RZ:112:ARG:H	1.39	0.86
51:R5:50:GLY:HA3	51:R5:56:LYS:CB	2.06	0.86
1:XA:963:G:H1	1:XA:972:C:N4	1.73	0.86
4:XD:157:LEU:O	4:XD:161:ASN:ND2	2.07	0.86
27:RD:43:ARG:NH1	27:RD:44:ASN:OD1	2.09	0.85
1:QA:410:G:H3'	4:QD:25:ARG:HH21	1.41	0.85
5:QE:50:GLU:HB3	5:QE:53:LEU:HD13	1.59	0.85
32:RI:53:ALA:O	32:RI:57:ARG:HG3	1.77	0.85
25:RA:806:C:OP2	35:RP:41:ARG:NH1	2.09	0.85
42:YW:18:ARG:HG3	42:YW:76:VAL:HG13	1.58	0.85
44:RY:79:CYS:SG	44:RY:80:GLY:N	2.45	0.84
4:QD:195:ALA:HB3	6:XF:16:GLN:O	1.76	0.84
4:QD:30:LYS:C	4:QD:32:ALA:H	1.83	0.84
25:RA:1043:C:N3	25:RA:1112:G:N2	2.25	0.84
26:RB:33:G:H5'	30:RG:2:PRO:HG3	1.59	0.84
19:XS:42:PRO:CB	50:Y4:60:GLN:OE1	2.26	0.84
35:YP:58:THR:O	35:YP:61:ARG:NE	2.09	0.84
25:RA:49:A:N7	25:RA:120:U:C4	2.45	0.84
19:QS:9:VAL:CG1	50:R4:66:SER:O	2.24	0.84
19:XS:65:ASN:HA	50:Y4:55:ARG:HD2	1.60	0.84
39:YT:26:ASP:HB3	39:YT:92:GLY:H	1.42	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RI:52:ARG:HB2	32:RI:56:LYS:CB	2.08	0.84
1:QA:1002:G:H1	1:QA:1038:C:N4	1.75	0.84
19:XS:68:GLY:N	50:Y4:59:PHE:CE1	2.46	0.84
25:RA:1043:C:N4	25:RA:1112:G:H1	1.74	0.84
56:Z7:1:T17:H66	56:Z7:2:GLY:H	1.41	0.84
33:YN:4:TYR:O	40:YU:64:ARG:NH1	2.10	0.84
25:YA:67:U:H3	25:YA:74:A:H2	1.25	0.84
25:YA:631:A:OP2	54:Y8:46:ARG:NH2	2.11	0.83
2:QB:80:ILE:HD11	2:QB:208:ILE:HG23	1.58	0.83
45:YZ:145:GLU:HG3	45:YZ:146:ILE:HG12	1.59	0.83
6:QF:17:SER:O	6:QF:20:ALA:N	2.11	0.83
25:YA:2098:U:H3	25:YA:2191:G:H1	1.26	0.83
25:RA:1359:A:N1	25:RA:1372:U:O4	2.11	0.83
25:YA:483:A:H4'	44:YY:49:VAL:HA	1.59	0.83
31:YH:12:PRO:HD3	31:YH:48:GLY:O	1.77	0.83
30:YG:27:ASN:HB3	30:YG:30:GLU:HG3	1.60	0.83
35:YP:19:VAL:HG13	35:YP:21:ARG:H	1.41	0.83
4:XD:9:CYS:SG	4:XD:22:LYS:NZ	2.52	0.83
25:RA:857:C:H4'	46:R0:23:VAL:HG21	1.59	0.83
40:YU:90:VAL:O	40:YU:92:ARG:N	2.11	0.82
25:RA:530:G:O2'	25:RA:532:A:N7	2.12	0.82
32:RI:55:ALA:O	32:RI:58:LEU:HB3	1.78	0.82
19:XS:5:LEU:HG	50:Y4:66:SER:CB	2.09	0.82
25:YA:1021:A:H61	25:YA:1142(A):A:H61	1.22	0.82
4:QD:195:ALA:CB	6:XF:20:ALA:HB2	2.09	0.82
51:R5:4:HIS:HB3	51:R5:5:PRO:HD3	1.62	0.82
4:XD:9:CYS:SG	4:XD:22:LYS:HE2	2.19	0.82
6:QF:17:SER:O	6:QF:19:LEU:N	2.12	0.82
25:YA:620:G:H4'	25:YA:621:A:H5''	1.60	0.82
25:YA:2015:A:H1'	51:Y5:2:ALA:HA	1.60	0.82
51:R5:16:ARG:NH1	51:R5:17:ASP:OD1	2.13	0.82
1:XA:31:G:O2'	1:XA:48:C:N4	2.11	0.82
42:YW:90:ARG:HH11	42:YW:90:ARG:HG3	1.45	0.82
29:RF:197:ASP:O	29:RF:199:TRP:N	2.12	0.82
25:YA:2753:A:O2'	55:Y9:15:LYS:NZ	2.12	0.82
44:RY:29:GLU:HB3	44:RY:38:ILE:HG12	1.62	0.82
28:RE:22:PRO:HD2	28:RE:185:LYS:HD2	1.61	0.81
4:QD:167:GLY:CA	27:YD:135:PHE:HE1	1.83	0.81
25:RA:2308:G:N1	25:RA:2311:A:C2	2.47	0.81
47:Y1:7:ILE:HD12	47:Y1:62:VAL:HG11	1.62	0.81
19:QS:68:GLY:HA3	50:R4:68:ARG:HB2	1.62	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2068:U:H3	25:RA:2430:A:H2	1.28	0.81
28:RE:15:PHE:CD1	28:RE:20:ALA:HB2	2.14	0.81
25:YA:265:A:N6	25:YA:427:U:O2'	2.13	0.81
25:YA:1664:A:H61	25:YA:1996:C:H42	1.29	0.81
51:Y5:16:ARG:NH1	51:Y5:17:ASP:OD1	2.13	0.81
35:RP:62:LEU:HD21	54:R8:25:MET:HB2	1.61	0.81
33:YN:4:TYR:OH	33:YN:7:LYS:NZ	2.14	0.81
29:RF:103:LYS:HA	29:RF:106:ARG:HG3	1.63	0.81
1:XA:1002:G:H1	1:XA:1038:C:H42	1.27	0.81
48:Y2:47:ASN:O	48:Y2:49:LYS:N	2.12	0.81
19:QS:70:LYS:CE	50:R4:68:ARG:NH2	2.43	0.81
13:QM:14:ARG:H	13:QM:44:ARG:HD3	1.45	0.81
48:R2:47:ASN:O	48:R2:49:LYS:N	2.13	0.81
2:XB:69:LEU:HB3	2:XB:162:ILE:HG22	1.61	0.81
28:RE:201:THR:HG22	28:RE:203:LYS:H	1.45	0.81
39:RT:24:PRO:HA	39:RT:49:VAL:HG13	1.61	0.80
25:RA:676:A:H8	25:RA:2069:G:H21	1.29	0.80
31:YH:10:PRO:CD	31:YH:50:VAL:O	2.29	0.80
27:YD:248:SER:HG	27:YD:252:TRP:CD1	1.98	0.80
25:RA:273:G:H1	25:RA:364:C:H42	1.27	0.80
45:RZ:108:PRO:HA	45:RZ:142:SER:HA	1.60	0.80
25:YA:956:G:H5''	36:YQ:77:LYS:HE2	1.64	0.80
25:YA:1824:G:OP1	27:YD:52:ARG:NH1	2.14	0.80
32:YI:92:VAL:HG13	32:YI:120:ILE:HG23	1.64	0.80
28:RE:50:GLY:HA2	28:RE:77:ILE:HA	1.64	0.80
33:RN:42:TRP:O	40:RU:64:ARG:NH2	2.15	0.80
32:YI:130:TYR:HB3	32:YI:136:VAL:HG13	1.62	0.80
25:RA:847:U:C4	25:RA:933:A:N1	2.50	0.80
25:RA:958:U:OP2	36:RQ:14:ARG:NH1	2.13	0.80
25:RA:270(R):G:N3	47:R1:78:LYS:NZ	2.30	0.80
44:YY:76:CYS:SG	44:YY:77:PRO:HD2	2.22	0.80
13:QM:3:ARG:HA	13:QM:9:ILE:HG21	1.62	0.80
25:RA:768:G:O2'	25:RA:1379:A:N6	2.14	0.80
25:YA:1359:A:N6	25:YA:1372:U:C4	2.50	0.80
25:RA:2445:G:OP1	29:RF:74:ARG:NH2	2.15	0.80
13:XM:65:LYS:HD3	13:XM:69:GLU:HG3	1.63	0.79
25:YA:2580:U:H4'	28:YE:130:GLY:HA3	1.65	0.79
56:Z8:1:T17:H66	56:Z8:2:GLY:H	1.46	0.79
1:XA:1108:G:H5'	3:XC:176:HIS:HD1	1.47	0.79
3:XC:32:LEU:HD13	3:XC:59:ARG:HD3	1.64	0.79
25:YA:1169:G:N2	25:YA:1180:C:N3	2.30	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:YX:67:GLY:O	43:YX:69:TYR:N	2.15	0.79
31:YH:10:PRO:CD	31:YH:50:VAL:HG13	2.13	0.79
45:YZ:182:LYS:HG3	45:YZ:183:LEU:HD23	1.62	0.79
37:RR:104:ARG:HD2	37:RR:111:LEU:HD21	1.63	0.79
1:QA:346:G:OP1	39:RT:41:ARG:NH2	2.15	0.79
11:QK:21:ILE:HB	11:QK:84:VAL:HG12	1.65	0.79
2:XB:77:ALA:HB2	2:XB:211:ILE:HD13	1.64	0.79
25:YA:780:G:H21	25:YA:783:A:H62	1.30	0.79
1:QA:1392:G:H21	1:QA:1502:A:H8	1.29	0.79
15:QO:26:GLU:OE2	15:QO:77:ARG:NH1	2.16	0.79
20:XT:33:ILE:O	20:XT:37:SER:OG	2.00	0.79
35:YP:62:LEU:HD23	35:YP:62:LEU:H	1.46	0.79
6:QF:15:ASP:OD1	6:QF:17:SER:HB2	1.83	0.79
19:QS:67:VAL:HG12	50:R4:59:PHE:CD1	2.15	0.79
25:RA:978:G:H1	25:RA:985:C:H42	1.28	0.79
45:YZ:144:LEU:HD11	45:YZ:149:SER:HA	1.63	0.79
25:RA:270(T):G:H5''	47:R1:97:LEU:HD22	1.65	0.78
1:XA:664:G:H22	1:XA:741:G:H1	1.31	0.78
8:QH:91:ARG:HB2	12:QL:7:ILE:HG13	1.65	0.78
25:RA:1048:A:H2	25:RA:1112:G:H21	1.32	0.78
45:RZ:108:PRO:HG2	45:RZ:110:GLY:O	1.84	0.78
3:XC:59:ARG:HH12	3:XC:97:LYS:HE3	1.48	0.78
6:XF:50:TYR:OH	18:XR:74:ARG:O	2.00	0.78
13:QM:8:GLU:OE2	30:RG:115:ARG:HD3	1.84	0.78
35:RP:126:VAL:HG12	35:RP:147:LEU:HD21	1.63	0.78
33:RN:95:PRO:O	33:RN:97:ARG:N	2.15	0.78
19:XS:5:LEU:CG	50:Y4:66:SER:HB2	2.14	0.78
51:R5:56:LYS:HE2	51:R5:58:LEU:CD2	2.14	0.78
12:XL:50:SER:O	12:XL:51:ALA:HB2	1.82	0.78
27:YD:121:PRO:HB3	27:YD:135:PHE:CZ	2.19	0.78
50:Y4:1:MET:SD	50:Y4:6:HIS:NE2	2.56	0.78
20:QT:100:ILE:HG13	20:QT:102:GLY:H	1.48	0.78
25:YA:847:U:C4	25:YA:933:A:N1	2.51	0.78
4:QD:167:GLY:HA2	27:YD:135:PHE:CE1	2.16	0.78
10:QJ:50:ILE:HA	10:QJ:60:ARG:HG2	1.66	0.78
27:RD:69:ARG:NH2	27:RD:128:GLY:O	2.17	0.78
27:YD:35:LYS:HZ1	27:YD:104:TYR:HB2	1.48	0.78
27:YD:248:SER:CB	27:YD:252:TRP:CE2	2.66	0.78
31:YH:10:PRO:HG2	31:YH:50:VAL:CG1	2.13	0.78
25:RA:1359:A:C6	25:RA:1372:U:O4	2.37	0.78
13:XM:14:ARG:H	13:XM:44:ARG:HD3	1.49	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RI:4:ILE:HD11	32:RI:44:LEU:HD12	1.66	0.77
19:XS:5:LEU:HG	50:Y4:66:SER:HB3	1.66	0.77
25:RA:2308:G:N1	25:RA:2311:A:H2	1.82	0.77
3:XC:20:SER:HB2	3:XC:40:ARG:HH22	1.50	0.77
34:YO:88:ASN:HD21	34:YO:92:GLU:HB2	1.47	0.77
25:RA:590:A:OP1	29:RF:95:ARG:NH1	2.17	0.77
25:RA:1311:G:N2	25:RA:1603:A:H62	1.83	0.77
56:Z7:1:T17:H55	56:Z7:1:T17:H10	1.65	0.77
1:XA:1298:C:H2'	7:XG:114:ARG:HH12	1.47	0.77
27:YD:69:ARG:NH2	27:YD:128:GLY:O	2.17	0.77
25:RA:1138:G:H21	33:RN:106:MET:HE3	1.47	0.77
51:Y5:38:ALA:HB3	51:Y5:40:LYS:HE3	1.67	0.77
25:RA:2807:G:N1	25:RA:2893:G:O6	2.17	0.77
29:RF:66:PRO:O	29:RF:68:LYS:N	2.18	0.77
33:YN:95:PRO:O	33:YN:97:ARG:N	2.18	0.77
25:RA:1021:A:H61	25:RA:1142(A):A:H61	1.29	0.77
39:RT:41:ARG:NH1	39:RT:41:ARG:HB2	1.99	0.77
45:YZ:93:ASP:C	45:YZ:94:GLU:HG2	2.10	0.77
1:QA:1502:A:H2	1:QA:1505:G:H1	1.33	0.77
51:R5:35:GLU:HB3	51:R5:49:CYS:SG	2.25	0.77
1:XA:261:U:OP2	20:XT:79:ARG:NH2	2.17	0.77
25:YA:2068:U:H3	25:YA:2430:A:H2	1.32	0.77
35:YP:47:ASP:OD2	35:YP:50:ARG:NH2	2.17	0.77
1:QA:1243:C:OP2	21:QU:10:ARG:NH2	2.18	0.77
25:RA:873:G:H1	25:RA:904:C:H42	1.31	0.77
31:RH:125:VAL:CG1	31:RH:126:PRO:CG	2.63	0.77
1:XA:1368:G:OP1	9:XI:111:ARG:NH2	2.17	0.76
42:YW:90:ARG:HG3	42:YW:90:ARG:NH1	2.00	0.76
25:YA:2287:A:N6	25:YA:2344:U:H3	1.82	0.76
13:QM:80:ARG:CD	50:R4:71:ARG:HH22	1.99	0.76
25:YA:49:A:N7	25:YA:120:U:O4	2.18	0.76
25:YA:242:G:H5''	54:Y8:62:LEU:HD13	1.67	0.76
31:YH:41:MET:HE1	31:YH:64:LEU:HB3	1.66	0.76
19:QS:67:VAL:CG1	50:R4:59:PHE:CE1	2.68	0.76
28:RE:9:VAL:HB	28:RE:25:VAL:HG23	1.66	0.76
36:RQ:81:VAL:C	36:RQ:82:ARG:HG2	2.10	0.76
37:RR:3:HIS:O	37:RR:5:LYS:N	2.19	0.76
23:QW:12:U:H3	23:QW:23:A:H61	1.33	0.76
26:RB:40:U:O2	26:RB:45:A:N6	2.19	0.76
1:XA:1305:G:H22	1:XA:1331:G:H2'	1.51	0.76
1:QA:31:G:O2'	1:QA:48:C:N4	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:RX:60:ARG:NH1	53:R7:47:ARG:HH22	1.83	0.76
1:XA:880:C:OP1	12:XL:12:ARG:NH1	2.18	0.76
1:XA:963:G:N3	10:XJ:55:LYS:NZ	2.27	0.76
16:XP:45:THR:HG22	16:XP:47:ASP:H	1.51	0.76
13:QM:80:ARG:NE	50:R4:71:ARG:HH12	1.83	0.76
19:XS:9:VAL:HG13	50:Y4:66:SER:O	1.86	0.76
29:YF:197:ASP:O	29:YF:199:TRP:N	2.19	0.76
37:YR:74:LYS:O	37:YR:76:VAL:N	2.18	0.76
38:RS:62:LYS:HB3	38:RS:97:ARG:HD3	1.67	0.76
1:XA:1130:A:O2'	9:XI:3:GLN:NE2	2.17	0.76
28:RE:15:PHE:CE1	28:RE:20:ALA:HB2	2.21	0.75
25:YA:1169:G:H1	25:YA:1180:C:H42	0.77	0.75
25:YA:1607:C:N4	25:YA:1622:G:OP2	2.19	0.75
1:QA:1055:A:N7	1:QA:1200:C:N4	2.34	0.75
25:YA:1309:G:H4'	53:Y7:7:PRO:HB2	1.68	0.75
44:RY:95:LYS:HB3	44:RY:100:ALA:HA	1.68	0.75
19:XS:5:LEU:HD11	50:Y4:67:TYR:N	2.00	0.75
19:QS:67:VAL:CB	50:R4:59:PHE:CZ	2.68	0.75
51:R5:55:ARG:HH11	51:R5:57:VAL:HA	1.49	0.75
1:XA:439:A:OP2	1:XA:493:G:N1	2.19	0.75
25:YA:2051:A:C2	25:YA:2052:G:O6	2.40	0.75
4:XD:33:MET:HE2	4:XD:37:PRO:HA	1.68	0.75
25:RA:1071:G:O6	25:RA:1091:G:O6	2.03	0.75
44:RY:87:LYS:HD3	44:RY:92:ASN:HB3	1.69	0.75
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.69	0.75
37:RR:74:LYS:O	37:RR:76:VAL:N	2.18	0.75
25:YA:67:U:N3	25:YA:74:A:C2	2.53	0.75
39:YT:27:THR:HG23	39:YT:90:GLN:HB3	1.67	0.75
39:YT:57:PHE:O	39:YT:58:ASN:ND2	2.20	0.75
40:YU:92:ARG:O	40:YU:94:ASN:N	2.20	0.75
1:XA:1128:C:N3	1:XA:1144:G:N2	2.35	0.75
35:RP:14:LYS:O	35:RP:16:ARG:N	2.20	0.75
44:RY:86:ARG:HB2	44:RY:95:LYS:HD2	1.69	0.75
52:R6:41:PRO:HG2	52:R6:45:LYS:H	1.52	0.75
1:XA:971:G:N2	1:XA:1363:A:OP2	2.20	0.75
19:XS:3:ARG:HB3	50:Y4:67:TYR:CD2	2.22	0.75
25:YA:888:C:H3'	25:YA:889:C:H4'	1.69	0.75
25:RA:155:C:H42	25:RA:171:G:H1	1.35	0.74
51:R5:58:LEU:N	51:R5:58:LEU:HD12	2.02	0.74
33:YN:13:TRP:HB2	33:YN:133:GLN:HG3	1.69	0.74
1:QA:345:C:OP1	39:RT:41:ARG:NH1	2.20	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RR:56:LYS:NZ	37:RR:90:ARG:O	2.20	0.74
1:XA:1129:C:N4	1:XA:1133:G:O6	2.19	0.74
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.20	0.74
41:YV:24:LYS:HA	41:YV:92:THR:HG23	1.68	0.74
8:QH:29:SER:HB3	8:QH:32:LYS:HG3	1.69	0.74
25:RA:674:G:H1'	29:RF:74:ARG:HD3	1.69	0.74
30:RG:34:LEU:HB2	30:RG:172:LEU:HD21	1.68	0.74
13:XM:3:ARG:HH22	30:YG:139:LEU:HD13	1.50	0.74
45:RZ:60:GLU:HA	45:RZ:66:SER:HA	1.68	0.74
38:YS:78:LEU:HD21	38:YS:108:GLY:HA3	1.68	0.74
5:QE:7:GLU:HG2	5:QE:112:LEU:HD22	1.69	0.74
11:XK:54:ARG:NH2	23:XW:39:U:O3'	2.20	0.74
39:YT:51:ARG:HG2	39:YT:98:LYS:HG3	1.70	0.74
45:YZ:30:ASN:HD22	45:YZ:90:VAL:HB	1.51	0.74
25:RA:631:A:OP2	54:R8:46:ARG:NH2	2.19	0.74
1:XA:1422:G:H5''	34:YO:48:PRO:HB3	1.69	0.74
28:YE:24:THR:CG2	28:YE:188:VAL:HG11	2.16	0.74
29:RF:6:VAL:HB	29:RF:24:LEU:CB	2.18	0.74
45:YZ:54:HIS:O	45:YZ:98:MET:CE	2.35	0.74
14:QN:24:CYS:CB	14:QN:27:CYS:SG	2.74	0.74
13:XM:62:ASN:HA	50:Y4:49:PHE:CD2	2.23	0.74
30:YG:161:THR:HG22	30:YG:163:ALA:H	1.53	0.74
1:QA:658:G:OP1	15:QO:8:LYS:NZ	2.20	0.74
5:QE:100:VAL:O	5:QE:107:ARG:NH2	2.20	0.74
28:RE:62:PRO:O	28:RE:64:LYS:N	2.20	0.74
31:YH:15:VAL:HG21	31:YH:76:VAL:HG13	1.68	0.74
38:YS:56:LEU:HB3	38:YS:58:LEU:HD22	1.69	0.74
19:QS:67:VAL:CG1	50:R4:59:PHE:CD1	2.71	0.74
45:YZ:95:PRO:CG	45:YZ:127:LYS:HD3	2.18	0.74
19:XS:5:LEU:HD11	50:Y4:66:SER:CA	2.18	0.73
19:XS:68:GLY:HA3	50:Y4:59:PHE:HE1	1.52	0.73
25:YA:630:G:OP1	54:Y8:46:ARG:NH1	2.21	0.73
1:QA:686:U:H1'	11:QK:42:TRP:HE1	1.51	0.73
1:QA:963:G:N3	10:QJ:55:LYS:NZ	2.32	0.73
4:QD:175:SER:HB3	4:QD:186:LEU:HD21	1.69	0.73
25:RA:1693:U:O2'	27:RD:14:ARG:NH2	2.21	0.73
53:R7:9:ARG:NH2	53:R7:48:LYS:HB2	2.03	0.73
19:XS:68:GLY:CA	50:Y4:59:PHE:HE1	2.01	0.73
43:YX:27:THR:HB	43:YX:80:ILE:HB	1.69	0.73
1:QA:1086:U:H3	1:QA:1099:G:H22	1.35	0.73
50:Y4:9:LEU:H	50:Y4:27:THR:HG23	1.53	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:677:U:H3	1:QA:713:G:H22	1.36	0.73
19:QS:70:LYS:NZ	50:R4:68:ARG:NH2	2.37	0.73
32:RI:52:ARG:C	32:RI:56:LYS:HB3	2.12	0.73
25:YA:2030:A:H4'	25:YA:2031:A:H8	1.52	0.73
35:YP:14:LYS:O	35:YP:16:ARG:N	2.22	0.73
13:XM:3:ARG:HG2	50:Y4:34:GLU:HG2	1.70	0.73
25:YA:483:A:H5'	44:YY:49:VAL:HG22	1.69	0.73
25:YA:676:A:H8	25:YA:2069:G:H21	1.33	0.73
45:YZ:158:PRO:O	45:YZ:160:GLY:N	2.22	0.73
3:QC:58:GLU:HB2	3:QC:65:ALA:HB3	1.70	0.73
4:XD:7:PRO:HB2	4:XD:10:ARG:HD2	1.69	0.73
13:XM:11:ARG:HH21	30:YG:146:TYR:HD2	1.35	0.73
31:YH:86:GLU:HG3	31:YH:165:ALA:H	1.53	0.73
35:YP:64:LYS:C	35:YP:66:GLY:H	1.95	0.73
4:QD:30:LYS:HD3	4:QD:30:LYS:N	2.03	0.73
56:Z7:1:T17:H62	56:Z7:3:GLY:H	1.54	0.73
36:YQ:24:GLY:O	36:YQ:26:TYR:N	2.19	0.73
25:RA:1443:G:H1	25:RA:1548:C:H42	1.35	0.73
53:R7:9:ARG:NH2	53:R7:48:LYS:HD2	1.98	0.73
36:YQ:111:GLU:OE1	36:YQ:133:ARG:NH2	2.22	0.73
25:RA:1071:G:N1	25:RA:1091:G:N7	2.33	0.73
45:RZ:111:VAL:HG22	45:RZ:112:ARG:N	2.03	0.73
36:YQ:104:PHE:HE2	36:YQ:125:LEU:HD11	1.54	0.73
1:QA:261:U:OP2	20:QT:79:ARG:NH2	2.22	0.72
13:QM:80:ARG:HD3	50:R4:71:ARG:CZ	2.19	0.72
25:RA:392:C:H5''	25:RA:409:C:H5''	1.70	0.72
25:RA:1019:U:H3	25:RA:1142(A):A:H62	1.37	0.72
25:RA:1310:G:OP2	53:R7:9:ARG:NH1	2.22	0.72
25:RA:1607:C:N4	25:RA:1622:G:OP2	2.22	0.72
45:RZ:110:GLY:HA2	45:RZ:111:VAL:C	2.14	0.72
1:XA:973:G:OP1	10:XJ:57:LYS:NZ	2.22	0.72
25:YA:587:C:OP2	35:YP:21:ARG:NH2	2.21	0.72
25:YA:1509:C:H3'	25:YA:1510:A:H5''	1.71	0.72
7:QG:9:VAL:HG13	7:QG:94:ARG:HH21	1.54	0.72
25:RA:1411:C:H42	25:RA:1591:G:H1	1.34	0.72
25:RA:882:G:H1	25:RA:894:C:H42	1.35	0.72
32:RI:5:LEU:HD11	32:RI:19:VAL:HG12	1.70	0.72
25:YA:2701:C:H3'	25:YA:2702:U:C5'	2.19	0.72
50:Y4:48:ARG:HH12	50:Y4:52:THR:HG22	1.54	0.72
3:QC:20:SER:HB2	3:QC:40:ARG:HH22	1.54	0.72
25:RA:2502:G:H5''	25:RA:2503:A:H5''	1.70	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1086:U:H3	1:XA:1099:G:H22	1.36	0.72
32:YI:144:VAL:HG13	32:YI:145:VAL:HG13	1.70	0.72
47:R1:7:ILE:HG12	47:R1:91:LYS:HZ1	1.55	0.72
30:YG:64:THR:HG23	30:YG:66:GLN:H	1.55	0.72
25:RA:884:C:O2	25:RA:892:G:N1	2.23	0.72
28:RE:20:ALA:C	28:RE:21:VAL:CG1	2.62	0.72
29:YF:192:LEU:HD21	29:YF:194:MET:HE3	1.72	0.72
44:YY:51:VAL:HG13	44:YY:52:SER:H	1.54	0.72
6:QF:15:ASP:OD2	6:QF:18:GLN:CD	2.33	0.72
17:QQ:4:LYS:HE3	17:QQ:6:LEU:HD21	1.72	0.72
31:RH:125:VAL:CG1	31:RH:126:PRO:HG3	2.20	0.72
32:RI:93:THR:HG22	32:RI:119:PRO:HB3	1.72	0.72
25:YA:1190:G:OP1	35:YP:30:THR:OG1	2.06	0.72
30:YG:6:ALA:H	50:Y4:23:GLU:HG2	1.54	0.72
1:XA:243:A:H4'	1:XA:244:U:H3'	1.70	0.72
27:YD:35:LYS:HD2	27:YD:104:TYR:CE1	2.25	0.72
45:YZ:91:LEU:CD1	45:YZ:96:VAL:HG21	2.20	0.72
31:RH:125:VAL:HG12	31:RH:126:PRO:HG3	1.70	0.72
19:XS:5:LEU:HD11	50:Y4:66:SER:HB2	1.71	0.72
31:YH:129:THR:O	31:YH:129:THR:OG1	2.08	0.72
34:YO:47:ILE:HG13	34:YO:48:PRO:HD2	1.72	0.72
45:YZ:96:VAL:HG12	45:YZ:128:VAL:O	1.89	0.72
48:Y2:42:GLY:O	48:Y2:44:LEU:N	2.20	0.72
46:R0:68:GLU:OE1	46:R0:82:ARG:NH1	2.23	0.71
1:XA:564:C:O2'	8:XH:91:ARG:NH2	2.23	0.71
12:QL:7:ILE:HG21	17:QQ:34:LYS:HB2	1.71	0.71
45:YZ:103:ARG:HB2	45:YZ:138:GLU:HG2	1.72	0.71
25:RA:987:G:O2'	25:RA:1000:A:N3	2.20	0.71
45:RZ:166:SER:HB2	45:RZ:168:GLU:N	2.05	0.71
51:R5:56:LYS:O	51:R5:57:VAL:HG12	1.89	0.71
9:XI:114:TYR:HE2	10:XJ:60:ARG:H	1.38	0.71
31:YH:153:LYS:HG2	31:YH:162:ILE:HG13	1.72	0.71
4:QD:159:ARG:NH2	25:YA:2197:U:OP1	2.22	0.71
19:QS:67:VAL:N	50:R4:59:PHE:CZ	2.59	0.71
28:YE:170:LEU:HD21	28:YE:187:ALA:HB3	1.72	0.71
29:RF:24:LEU:HG	29:RF:115:ALA:HB2	1.72	0.71
52:R6:17:LYS:HB3	52:R6:44:ARG:HH22	1.55	0.71
5:XE:10:MET:HB3	5:XE:32:VAL:HG22	1.70	0.71
38:YS:24:LEU:HB2	38:YS:85:VAL:HG12	1.70	0.71
45:YZ:102:LEU:HG	45:YZ:123:ASP:HA	1.72	0.71
10:QJ:61:GLU:OE2	14:QN:45:ARG:NH1	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RP:38:GLN:HG2	35:RP:45:LEU:HD12	1.72	0.71
49:R3:8:LEU:HD13	49:R3:31:LEU:HD23	1.71	0.71
25:YA:2315:G:OP1	30:YG:36:LYS:NZ	2.24	0.71
51:R5:52:TYR:O	51:R5:53:ALA:CB	2.37	0.71
8:XH:10:LEU:HD22	8:XH:83:ILE:HD11	1.72	0.71
33:YN:89:LYS:O	33:YN:93:THR:HG22	1.90	0.71
39:YT:77:PRO:HB2	39:YT:80:SER:HB2	1.72	0.71
2:QB:115:LEU:HB2	2:QB:145:LEU:HD12	1.73	0.71
30:RG:61:ALA:HB2	30:RG:68:PRO:HD3	1.72	0.71
20:XT:45:GLN:HB2	20:XT:91:LEU:HD13	1.73	0.71
25:YA:1310:G:OP2	53:Y7:9:ARG:NH1	2.24	0.71
38:YS:106:ARG:HA	38:YS:110:LEU:HD21	1.73	0.71
44:YY:42:VAL:HG12	44:YY:65:ALA:HB3	1.71	0.71
25:RA:1045:A:C8	25:RA:1111:A:N6	2.59	0.71
1:XA:953:G:H5'	1:XA:965:A:H61	1.55	0.71
25:YA:602:G:HO2'	25:YA:604:G:HO2'	1.34	0.71
34:YO:2:ILE:HD12	34:YO:6:THR:HG21	1.72	0.71
23:XW:8:U:O2'	23:XW:21:A:N1	2.23	0.70
44:YY:29:GLU:HB3	44:YY:38:ILE:HG23	1.70	0.70
48:R2:29:LYS:HE3	48:R2:57:ILE:HG21	1.73	0.70
54:Y8:58:ILE:HD13	54:Y8:61:LEU:HD21	1.73	0.70
1:QA:1204:A:OP1	14:QN:3:ARG:NH2	2.24	0.70
4:QD:195:ALA:HB2	6:XF:20:ALA:HB2	1.73	0.70
31:RH:106:THR:HG22	31:RH:112:PRO:HB3	1.72	0.70
32:RI:98:ALA:HB2	32:RI:111:PRO:HB3	1.72	0.70
1:XA:954:G:H21	1:XA:1227:A:N6	1.84	0.70
10:XJ:50:ILE:HA	10:XJ:60:ARG:HG2	1.72	0.70
25:YA:2287:A:N6	25:YA:2344:U:N3	2.37	0.70
27:YD:43:ARG:HB3	27:YD:54:ARG:HB2	1.74	0.70
30:YG:47:LYS:HD3	30:YG:81:LYS:HB2	1.73	0.70
13:QM:59:TYR:O	13:QM:63:THR:OG1	2.07	0.70
25:RA:1543:A:H1'	25:RA:1545:A:C4'	2.21	0.70
42:RW:29:LEU:HD22	42:RW:69:LEU:HD11	1.72	0.70
35:YP:62:LEU:HD23	35:YP:62:LEU:N	2.05	0.70
42:YW:17:VAL:HG12	42:YW:76:VAL:HG11	1.72	0.70
3:QC:79:ARG:HH21	11:XK:96:ARG:HG3	1.55	0.70
13:QM:7:VAL:CG2	30:RG:113:ARG:O	2.37	0.70
19:QS:40:ILE:HD11	19:QS:62:ILE:HD12	1.74	0.70
19:QS:41:VAL:HB	19:QS:42:PRO:HA	1.74	0.70
10:XJ:61:GLU:OE2	14:YN:45:ARG:NH1	2.25	0.70
13:XM:80:ARG:HE	50:Y4:71:ARG:HH22	1.39	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:XR:58:LEU:HD23	18:XR:62:GLU:HB3	1.74	0.70
19:XS:5:LEU:HD12	50:Y4:66:SER:HA	1.73	0.70
25:RA:1061:U:H5'	25:RA:1070:A:H1'	1.74	0.70
19:XS:5:LEU:CD1	50:Y4:66:SER:HA	2.22	0.70
25:YA:498:G:N3	44:YY:47:LYS:NZ	2.37	0.70
25:YA:1667:G:O2'	25:YA:1991:U:O4	2.09	0.70
29:YF:185:ASP:HA	29:YF:188:ARG:HD3	1.72	0.70
39:RT:18:ASP:OD1	39:RT:18:ASP:N	2.20	0.70
1:QA:259:G:H1	1:QA:267:C:H42	1.38	0.70
1:QA:589:C:H42	1:QA:650:G:H1	1.40	0.70
25:RA:1543:A:O2'	25:RA:1544:C:H3'	1.90	0.70
32:RI:52:ARG:O	32:RI:56:LYS:CB	2.39	0.70
1:XA:1200:C:O2'	1:XA:1201:A:OP2	2.10	0.70
13:XM:7:VAL:HG13	13:XM:8:GLU:OE2	1.92	0.70
14:XN:48:ALA:HB2	14:XN:53:LEU:HD12	1.74	0.70
25:YA:250:G:OP2	54:Y8:13:ARG:NH2	2.25	0.70
25:YA:2245:U:H5'	25:YA:2246:G:H5'	1.73	0.70
1:QA:953:G:H5'	1:QA:965:A:H61	1.55	0.70
31:RH:125:VAL:CG1	31:RH:126:PRO:CD	2.48	0.70
2:XB:185:ILE:HG22	2:XB:199:TYR:HB2	1.74	0.70
10:QJ:48:THR:HA	10:QJ:62:HIS:HB3	1.72	0.69
25:RA:265:A:N6	25:RA:427:U:O2'	2.25	0.69
25:RA:2404:C:O3'	35:RP:77:ARG:NH2	2.24	0.69
28:RE:119:ARG:HB3	28:RE:120:TRP:CD1	2.27	0.69
19:XS:5:LEU:CD1	50:Y4:66:SER:CA	2.70	0.69
1:QA:1263:C:H42	1:QA:1272:G:H1	1.40	0.69
27:RD:93:ALA:HB3	27:RD:105:ILE:HG22	1.74	0.69
50:R4:18:CYS:SG	50:R4:19:GLY:N	2.65	0.69
4:XD:105:VAL:HG13	4:XD:110:PHE:HB2	1.74	0.69
45:YZ:80:ARG:HH21	45:YZ:82:ARG:HH22	1.40	0.69
25:YA:270(T):G:H5''	47:Y1:97:LEU:HD22	1.73	0.69
25:YA:1045:A:C6	25:YA:1111:A:N7	2.59	0.69
25:YA:1899:G:H21	25:YA:1902:C:N4	1.89	0.69
26:RB:38:C:N4	26:RB:44:G:H1	1.90	0.69
1:XA:1008:C:N4	1:XA:1021:G:H1	1.87	0.69
29:YF:182:ASN:ND2	29:YF:185:ASP:OD2	2.19	0.69
1:XA:1054:C:OP2	1:XA:1197:G:OP2	2.10	0.69
20:XT:100:ILE:HG13	20:XT:102:GLY:H	1.56	0.69
25:YA:372:G:N2	25:YA:401:A:OP2	2.22	0.69
25:YA:482:A:H4'	44:YY:47:LYS:HD2	1.73	0.69
27:YD:182:LEU:H	27:YD:272:ALA:HB3	1.56	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:YZ:95:PRO:HB2	45:YZ:127:LYS:HG2	1.73	0.69
13:XM:53:VAL:HG12	13:XM:57:ARG:HH12	1.57	0.69
19:XS:10:PHE:HB2	19:XS:39:THR:H	1.54	0.69
50:Y4:56:VAL:HA	50:Y4:60:GLN:HB2	1.73	0.69
7:QG:153:HIS:CE1	11:QK:57:THR:HG23	2.28	0.69
19:XS:5:LEU:CG	50:Y4:66:SER:CB	2.70	0.69
27:YD:71:ASP:HB2	27:YD:103:ARG:HH22	1.58	0.69
27:YD:248:SER:OG	27:YD:252:TRP:CE2	2.46	0.69
51:Y5:46:CYS:SG	51:Y5:50:GLY:HA2	2.33	0.69
52:Y6:11:LEU:HD11	52:Y6:51:GLU:HG3	1.75	0.69
1:QA:49:U:O4	1:QA:365:U:O4	2.10	0.69
13:QM:80:ARG:CB	50:R4:71:ARG:HH22	2.06	0.69
36:RQ:37:LEU:HD21	36:RQ:130:LYS:HE3	1.74	0.69
50:R4:7:PRO:HB2	50:R4:27:THR:HG21	1.74	0.69
51:R5:41:PRO:O	51:R5:44:THR:OG1	2.10	0.69
1:XA:674:G:H2'	1:XA:675:A:H8	1.57	0.69
13:XM:93:ARG:NH1	25:YA:888:C:OP1	2.25	0.69
25:YA:956:G:OP2	36:YQ:14:ARG:NH2	2.24	0.69
29:YF:184:TYR:O	29:YF:188:ARG:HG3	1.93	0.69
31:RH:86:GLU:HG3	31:RH:165:ALA:H	1.56	0.69
1:XA:27:G:H4'	4:XD:209:ARG:HG3	1.75	0.69
25:YA:1980:G:O2'	25:YA:1982:C:OP2	2.09	0.69
29:YF:110:LEU:HD11	29:YF:181:LEU:HD13	1.74	0.69
1:QA:954:G:H21	1:QA:1227:A:H62	1.40	0.69
13:QM:57:ARG:NH2	50:R4:34:GLU:HA	2.08	0.69
25:RA:2857:G:N2	25:RA:2860:A:OP2	2.22	0.69
1:XA:1128:C:N4	1:XA:1144:G:H1	1.91	0.69
6:XF:68:PRO:HG2	6:XF:71:ARG:HG3	1.75	0.69
27:YD:248:SER:OG	27:YD:252:TRP:NE1	2.25	0.69
28:YE:128:SER:OG	28:YE:129:HIS:N	2.24	0.69
13:QM:8:GLU:OE1	30:RG:115:ARG:CZ	2.41	0.68
19:QS:9:VAL:HG13	50:R4:66:SER:O	1.94	0.68
25:RA:1045:A:C6	25:RA:1111:A:N7	2.61	0.68
25:RA:2287:A:N6	25:RA:2344:U:N3	2.35	0.68
28:RE:2:LYS:HD3	28:RE:95:ILE:HG22	1.75	0.68
42:RW:29:LEU:HG	42:RW:33:ARG:HD2	1.74	0.68
45:YZ:141:VAL:HG23	45:YZ:144:LEU:HB2	1.74	0.68
27:RD:25:THR:O	27:RD:27:THR:N	2.26	0.68
19:XS:3:ARG:HB3	50:Y4:67:TYR:HD2	1.56	0.68
29:YF:157:VAL:HB	29:YF:194:MET:HB3	1.76	0.68
1:QA:439:A:OP2	1:QA:493:G:N1	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:R5:55:ARG:HG3	51:R5:57:VAL:N	2.09	0.68
14:YN:13:THR:N	14:YN:14:PRO:HD2	2.08	0.68
27:YD:25:THR:O	27:YD:27:THR:N	2.26	0.68
39:YT:123:GLN:O	39:YT:125:ARG:N	2.26	0.68
1:QA:501:C:OP1	12:QL:117:ARG:NH2	2.24	0.68
5:QE:79:GLU:OE2	8:QH:104:ARG:HA	1.94	0.68
25:RA:273:G:H1	25:RA:364:C:N4	1.90	0.68
30:RG:66:GLN:NE2	30:RG:93:THR:O	2.26	0.68
1:XA:501:C:OP1	12:XL:117:ARG:NH2	2.27	0.68
1:XA:992:U:H3	1:XA:1044:A:H62	1.41	0.68
25:YA:910:A:H62	36:YQ:12:GLN:HA	1.57	0.68
25:YA:1728:G:N1	25:YA:1730:U:OP2	2.27	0.68
25:YA:2123:G:H1	25:YA:2175:C:H42	1.42	0.68
47:Y1:73:LEU:HD13	47:Y1:90:ILE:HG22	1.76	0.68
3:QC:3:ASN:N	3:QC:3:ASN:OD1	2.27	0.68
23:QW:7:A:H61	23:QW:66:U:H3	1.42	0.68
30:RG:47:LYS:HD3	30:RG:81:LYS:HB2	1.76	0.68
1:XA:707:C:OP1	11:XK:85:ARG:NH1	2.26	0.68
25:YA:2576:G:O2'	25:YA:2579:C:OP2	2.12	0.68
25:RA:242:G:H5''	54:R8:62:LEU:HD13	1.74	0.68
25:RA:2131:G:H4'	25:RA:2132:U:H4'	1.74	0.68
37:RR:38:VAL:HG22	37:RR:112:ALA:HB2	1.75	0.68
2:XB:235:SER:OG	2:XB:236:TYR:N	2.25	0.68
25:RA:654(A):G:H1	25:RA:654(T):C:N4	1.91	0.68
25:RA:978:G:H1	25:RA:985:C:N4	1.92	0.68
25:RA:1689:A:H62	25:RA:1698:A:H2	1.42	0.68
1:XA:438:G:H4'	4:XD:123:HIS:CD2	2.29	0.68
1:XA:1028(B):C:N4	1:XA:1032(A):G:H1	1.91	0.68
2:XB:178:ARG:HG3	8:XH:72:PRO:HA	1.75	0.68
28:YE:95:ILE:H	28:YE:95:ILE:HD12	1.59	0.68
25:YA:2306:C:H3'	25:YA:2307:G:H5''	1.75	0.68
27:YD:142:VAL:HG23	27:YD:193:VAL:HA	1.75	0.68
31:YH:15:VAL:HG11	31:YH:79:VAL:HG23	1.75	0.68
33:YN:133:GLN:HB2	33:YN:135:PRO:HD3	1.76	0.68
36:YQ:37:LEU:HD21	36:YQ:130:LYS:HE3	1.74	0.68
1:QA:542:G:OP1	4:QD:10:ARG:NH2	2.27	0.68
2:QB:27:LYS:HD2	2:QB:193:ASP:HB2	1.75	0.68
36:RQ:12:GLN:HG2	36:RQ:73:PRO:HD2	1.75	0.68
5:QE:11:ILE:HG13	5:QE:31:LEU:HB3	1.76	0.68
25:RA:2392:A:H1'	35:RP:60:MET:HE3	1.75	0.68
25:YA:573:G:OP2	41:YV:78:LYS:NZ	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YP:39:LYS:HG3	35:YP:45:LEU:HD22	1.75	0.68
11:QK:58:PRO:HB2	11:QK:93:GLN:HG3	1.75	0.67
30:RG:83:ARG:H	30:RG:86:MET:HG3	1.59	0.67
1:XA:347:G:H1'	1:XA:348:G:H5''	1.76	0.67
25:YA:1509:C:N3	25:YA:1511:A:N6	2.41	0.67
26:YB:24:G:O6	26:YB:56:G:O2'	2.09	0.67
16:QP:4:ILE:HG12	16:QP:21:VAL:HG12	1.75	0.67
25:RA:2115:G:N2	25:RA:2165:G:N7	2.36	0.67
13:XM:61:GLU:O	50:Y4:49:PHE:CE2	2.47	0.67
25:YA:1021:A:OP2	33:YN:65:LYS:NZ	2.27	0.67
1:QA:1346:A:H5''	9:QL:120:ARG:HH12	1.58	0.67
25:RA:587:C:OP2	35:RP:21:ARG:NH2	2.28	0.67
31:RH:127:GLU:HB2	31:RH:130:ARG:HB3	1.76	0.67
31:RH:152:ARG:HG3	31:RH:153:LYS:HD2	1.77	0.67
36:YQ:134:ARG:NH1	45:YZ:122:ARG:NH2	2.34	0.67
54:Y8:29:LYS:O	54:Y8:31:HIS:N	2.27	0.67
19:QS:29:ARG:HD3	19:QS:30:LEU:HD13	1.77	0.67
51:R5:35:GLU:CB	51:R5:49:CYS:SG	2.82	0.67
25:YA:1479:G:N7	25:YA:1510:A:N6	2.41	0.67
25:RA:1187:G:H5''	41:RV:81:TYR:CE1	2.29	0.67
51:R5:58:LEU:C	51:R5:60:VAL:H	2.01	0.67
5:XE:31:LEU:HD23	5:XE:45:PHE:CD1	2.30	0.67
19:XS:5:LEU:CD1	50:Y4:66:SER:HB2	2.24	0.67
25:YA:67:U:N3	25:YA:74:A:H2	1.92	0.67
25:YA:2308:G:H1	25:YA:2311:A:H2	1.38	0.67
28:YE:1:MET:N	28:YE:83:ASP:O	2.28	0.67
31:YH:137:ASP:OD1	31:YH:138:LYS:N	2.27	0.67
41:RV:72:VAL:HG13	41:RV:85:LYS:HB3	1.75	0.67
19:XS:40:ILE:HG12	19:XS:41:VAL:HG13	1.76	0.67
25:YA:2168:G:N2	25:YA:2170:A:N7	2.42	0.67
36:YQ:89:ASN:O	36:YQ:92:GLY:N	2.18	0.67
25:RA:807:U:H2'	25:RA:808:G:H8	1.60	0.67
25:RA:2168:G:N2	25:RA:2170:A:N7	2.38	0.67
27:RD:182:LEU:H	27:RD:272:ALA:HB3	1.59	0.67
23:XW:49:C:N4	23:XW:65:G:H1	1.93	0.67
25:YA:443:A:H3'	29:YF:45:ARG:HH12	1.60	0.67
25:YA:1490:A:O2'	27:YD:99:ASP:OD1	2.12	0.67
27:YD:35:LYS:HG2	27:YD:64:ILE:H	1.59	0.67
27:YD:221:VAL:HG22	27:YD:226:MET:HE3	1.77	0.67
51:Y5:39:MET:O	51:Y5:40:LYS:HG3	1.94	0.67
1:QA:78:G:O6	1:QA:91:C:N4	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:857:C:OP2	46:R0:77:ARG:NH2	2.23	0.67
39:RT:84:GLN:HG2	39:RT:85:LYS:HG2	1.76	0.67
2:XB:174:VAL:HG13	2:XB:184:VAL:HG11	1.75	0.67
8:XH:120:THR:H	8:XH:123:GLU:HB2	1.59	0.67
26:YB:44:G:H1'	26:YB:47:C:N4	2.09	0.67
39:YT:16:ARG:NH2	39:YT:83:ILE:O	2.27	0.67
6:QF:17:SER:O	6:QF:18:GLN:C	2.34	0.67
25:RA:49:A:N7	25:RA:120:U:C5	2.63	0.67
25:RA:598:G:H5'	35:RP:11:GLY:HA3	1.77	0.67
28:RE:21:VAL:HG23	28:RE:22:PRO:N	2.05	0.67
29:RF:143:ALA:HB1	29:RF:148:LEU:HB2	1.75	0.67
1:XA:255:G:C6	1:XA:256:U:C4	2.82	0.67
1:XA:542:G:OP1	4:XD:10:ARG:NH2	2.28	0.67
2:XB:168:THR:HB	2:XB:192:SER:HB2	1.77	0.67
19:XS:5:LEU:HD11	50:Y4:66:SER:C	2.19	0.67
27:YD:248:SER:HG	27:YD:252:TRP:CG	2.13	0.67
32:YI:5:LEU:HD21	32:YI:12:LEU:HB3	1.76	0.67
37:YR:78:LYS:HE2	37:YR:83:ILE:HD11	1.77	0.67
41:YV:52:VAL:HG21	41:YV:55:ALA:HB3	1.76	0.67
1:QA:1347:G:N2	1:QA:1374:A:OP2	2.26	0.67
13:QM:57:ARG:HH21	50:R4:34:GLU:HA	1.58	0.67
25:RA:2392:A:C8	35:RP:60:MET:HG2	2.30	0.67
27:RD:49:ILE:HD11	27:RD:52:ARG:HA	1.77	0.67
39:RT:36:GLU:HG3	39:RT:41:ARG:HD3	1.77	0.67
23:XW:38:A:H3'	23:XW:39:U:H5''	1.77	0.67
25:YA:1057:A:H62	25:YA:1086:A:H2'	1.59	0.67
25:YA:2849:U:H5	39:YT:93:ARG:HH12	1.42	0.67
4:QD:30:LYS:C	4:QD:32:ALA:N	2.52	0.66
32:RI:3:VAL:HG12	32:RI:38:LEU:HA	1.77	0.66
36:RQ:30:GLY:HA2	36:RQ:107:ALA:HB2	1.78	0.66
25:YA:2444:G:OP2	29:YF:68:LYS:HE3	1.94	0.66
25:RA:654(A):G:N2	25:RA:654(T):C:N3	2.44	0.66
32:YI:4:ILE:HG12	32:YI:18:VAL:HG22	1.76	0.66
4:QD:154:ASN:OD1	4:QD:154:ASN:N	2.26	0.66
32:RI:4:ILE:HG12	32:RI:18:VAL:HG22	1.78	0.66
51:R5:58:LEU:HD13	51:R5:60:VAL:CG1	2.24	0.66
55:R9:27:CYS:SG	55:R9:29:ASN:ND2	2.69	0.66
1:XA:1028(B):C:H42	1:XA:1032(A):G:H1	1.43	0.66
25:YA:581:C:H2'	25:YA:582:G:H8	1.60	0.66
25:RA:270(R):G:OP1	32:RI:42:SER:OG	2.12	0.66
51:R5:46:CYS:SG	51:R5:49:CYS:N	2.61	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:R5:56:LYS:HE2	51:R5:58:LEU:HD21	1.78	0.66
1:XA:1004:A:H1'	1:XA:1036:G:H22	1.59	0.66
5:XE:37:ARG:HA	5:XE:114:GLY:H	1.59	0.66
10:XJ:7:LYS:HB2	10:XJ:97:GLU:HB2	1.76	0.66
26:YB:13:A:N1	26:YB:69:G:O2'	2.28	0.66
31:YH:86:GLU:HG3	31:YH:165:ALA:N	2.10	0.66
38:YS:83:LYS:C	38:YS:109:GLY:HA3	2.21	0.66
1:QA:1054:C:OP2	1:QA:1197:G:OP2	2.14	0.66
25:RA:2392:A:H8	35:RP:60:MET:HG2	1.59	0.66
26:RB:24:G:O6	26:RB:56:G:O2'	2.12	0.66
30:RG:6:ALA:H	50:R4:23:GLU:HG2	1.60	0.66
1:XA:1053:G:H5'	1:XA:1054:C:H5'	1.77	0.66
13:XM:105:THR:O	13:XM:107:ALA:N	2.29	0.66
25:YA:674:G:H1'	29:YF:74:ARG:HD3	1.77	0.66
42:YW:45:TYR:CZ	42:YW:49:LYS:HD2	2.30	0.66
44:YY:49:VAL:O	44:YY:51:VAL:N	2.29	0.66
1:QA:8:A:N6	4:QD:205:GLU:O	2.28	0.66
3:QC:70:VAL:HG12	3:QC:72:LYS:H	1.60	0.66
47:R1:7:ILE:HG12	47:R1:91:LYS:NZ	2.11	0.66
25:YA:1407:C:H42	25:YA:1595:G:H1	1.43	0.66
36:YQ:137:TYR:CE1	45:YZ:83:PRO:HG3	2.31	0.66
44:YY:97:ARG:HE	44:YY:98:VAL:HB	1.61	0.66
13:QM:80:ARG:HE	50:R4:71:ARG:NH1	1.87	0.66
19:QS:39:THR:HG22	19:QS:40:ILE:H	1.61	0.66
25:RA:372:G:N2	25:RA:401:A:OP2	2.23	0.66
25:RA:2298:A:H62	25:RA:2318:G:H8	1.44	0.66
28:RE:63:LEU:HD13	28:RE:65:GLY:H	1.60	0.66
25:YA:2343:C:O2'	25:YA:2373:G:O2'	2.14	0.66
1:QA:1002:G:H2'	1:QA:1003:G:C8	2.30	0.66
29:RF:149:ASP:OD1	29:RF:149:ASP:N	2.27	0.66
25:YA:2470:G:H5'	36:YQ:56:ARG:HH22	1.61	0.66
35:YP:64:LYS:C	35:YP:66:GLY:N	2.48	0.66
45:YZ:60:GLU:HA	45:YZ:66:SER:HA	1.77	0.66
45:YZ:182:LYS:HG3	45:YZ:183:LEU:HA	1.78	0.66
1:QA:1055:A:O2'	3:QC:161:GLU:OE2	2.12	0.66
25:YA:780:G:N2	25:YA:783:A:H62	1.94	0.66
25:YA:1013:C:H42	25:YA:1149:G:H1	1.43	0.66
33:YN:35:ARG:O	33:YN:37:LYS:N	2.29	0.66
35:YP:105:LEU:O	35:YP:106:LEU:HB2	1.95	0.66
38:YS:55:ALA:O	38:YS:56:LEU:HB2	1.96	0.66
45:YZ:128:VAL:HB	45:YZ:161:VAL:HG13	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1175:G:H2'	1:QA:1176:A:C8	2.30	0.66
36:RQ:135:ASP:OD1	36:RQ:135:ASP:N	2.23	0.66
44:RY:49:VAL:O	44:RY:51:VAL:N	2.29	0.66
45:RZ:19:ARG:NH1	45:RZ:84:GLU:O	2.28	0.66
19:XS:50:ALA:HB1	19:XS:57:HIS:HB3	1.77	0.66
25:YA:2848:G:O2'	25:YA:2867:G:N2	2.28	0.66
41:YV:21:ARG:HD2	41:YV:91:TYR:CD1	2.31	0.66
39:RT:102:ILE:HB	39:RT:110:ILE:HD13	1.78	0.65
25:YA:2051:A:H2	25:YA:2052:G:O6	1.76	0.65
31:YH:153:LYS:HB3	31:YH:162:ILE:H	1.61	0.65
33:YN:1:MET:HE1	40:YU:95:LEU:HD21	1.76	0.65
39:YT:16:ARG:HD3	39:YT:19:LEU:HD11	1.77	0.65
25:RA:1359:A:N1	25:RA:1372:U:C4	2.64	0.65
25:RA:2747:G:H21	25:RA:2757:A:H62	1.43	0.65
43:RX:60:ARG:HH12	53:R7:47:ARG:HH22	1.40	0.65
50:R4:1:MET:SD	50:R4:6:HIS:NE2	2.69	0.65
51:R5:58:LEU:HD12	51:R5:58:LEU:H	1.59	0.65
53:R7:9:ARG:HH21	53:R7:48:LYS:CD	1.99	0.65
1:XA:555:C:OP2	12:XL:20:LYS:NZ	2.29	0.65
1:XA:1305:G:N2	1:XA:1331:G:H2'	2.11	0.65
25:YA:2646:C:OP2	25:YA:2732:G:O2'	2.15	0.65
31:YH:10:PRO:HD2	31:YH:50:VAL:HG13	1.78	0.65
47:Y1:29:GLY:O	47:Y1:31:GLY:N	2.30	0.65
1:QA:1296:C:OP1	13:QM:44:ARG:NH2	2.29	0.65
25:RA:483:A:H4'	44:RY:49:VAL:HA	1.78	0.65
27:RD:27:THR:HG21	27:RD:81:ALA:HB1	1.78	0.65
27:RD:108:PRO:HG2	27:RD:111:LEU:HG	1.78	0.65
31:RH:89:ILE:CD1	31:RH:129:THR:HB	2.27	0.65
31:RH:125:VAL:CB	31:RH:126:PRO:HD3	2.16	0.65
25:YA:443:A:H3'	29:YF:45:ARG:NH1	2.11	0.65
25:YA:1568:G:H4'	27:YD:59:LYS:HB3	1.78	0.65
1:QA:191:G:H1'	20:QT:105:SER:HB3	1.77	0.65
1:QA:1298:C:OP2	7:QG:114:ARG:NH2	2.30	0.65
35:RP:59:LEU:HA	35:RP:61:ARG:NE	2.12	0.65
52:R6:11:LEU:HD23	52:R6:26:ASN:HB3	1.78	0.65
25:YA:1077:A:H5'	25:YA:1078:U:H5''	1.77	0.65
25:YA:2023:G:H5'	25:YA:2617:C:H4'	1.78	0.65
35:YP:61:ARG:HD3	54:Y8:13:ARG:HD2	1.77	0.65
40:YU:8:VAL:HG23	40:YU:11:ARG:HH21	1.62	0.65
45:RZ:150:LEU:HD21	45:RZ:172:ALA:HB3	1.77	0.65
1:XA:1525:G:OP1	11:XK:120:ARG:NH2	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:793:A:OP2	25:YA:2071:A:O2'	2.15	0.65
2:QB:82:ARG:HA	2:QB:92:TYR:CE2	2.31	0.65
25:RA:224:G:O6	25:RA:419:C:O2'	2.15	0.65
44:RY:38:ILE:HG22	44:RY:66:PRO:HA	1.79	0.65
25:YA:1754:C:OP1	39:YT:96:ARG:NH1	2.29	0.65
48:Y2:50:ILE:HD12	48:Y2:51:ARG:H	1.62	0.65
51:R5:49:CYS:O	51:R5:56:LYS:HD3	1.96	0.65
25:YA:2502:G:H5''	25:YA:2503:A:H5''	1.79	0.65
31:YH:20:ALA:HB3	31:YH:23:ARG:HG2	1.77	0.65
25:RA:27:G:N2	25:RA:513:A:OP2	2.29	0.65
25:RA:504:U:H5''	25:RA:505:A:H5'	1.78	0.65
28:RE:14:ILE:O	28:RE:21:VAL:N	2.28	0.65
35:RP:71:VAL:HG13	35:RP:72:PRO:HD3	1.78	0.65
1:XA:191:G:O2'	20:XT:101:GLY:O	2.15	0.65
1:XA:1002:G:H2'	1:XA:1003:G:H8	1.61	0.65
20:XT:97:ALA:O	20:XT:99:LEU:N	2.30	0.65
25:YA:128:C:H4'	53:Y7:49:ARG:HH12	1.61	0.65
46:Y0:10:THR:HG22	46:Y0:12:ASN:H	1.62	0.65
3:QC:9:GLY:HA2	3:QC:12:LEU:HD23	1.78	0.65
16:QP:53:VAL:HG12	16:QP:79:VAL:HG22	1.77	0.65
35:RP:47:ASP:OD2	35:RP:50:ARG:NH2	2.30	0.65
1:XA:1014:A:H4'	19:XS:14:HIS:CD2	2.31	0.65
11:XK:21:ILE:HB	11:XK:84:VAL:HG12	1.78	0.65
32:YI:40:THR:O	32:YI:44:LEU:HB2	1.97	0.65
51:Y5:56:LYS:H	51:Y5:56:LYS:HD2	1.60	0.65
13:QM:3:ARG:HD2	13:QM:9:ILE:HG12	1.79	0.65
25:RA:819:A:OP2	25:RA:1187:G:N2	2.24	0.65
25:RA:2701:C:H3'	25:RA:2702:U:C5'	2.23	0.65
29:RF:31:HIS:HB2	35:RP:9:ASN:OD1	1.96	0.65
2:XB:178:ARG:NH1	2:XB:196:LEU:O	2.29	0.65
25:YA:855:G:O2'	46:Y0:27:GLU:OE2	2.10	0.65
27:YD:30:GLU:HG3	27:YD:63:ARG:NH2	2.12	0.65
27:YD:80:ALA:HB3	27:YD:94:LEU:HD13	1.79	0.65
51:Y5:4:HIS:HB3	51:Y5:5:PRO:HD3	1.79	0.65
34:RO:4:PRO:O	34:RO:5:GLN:HB2	1.96	0.64
51:R5:50:GLY:CA	51:R5:56:LYS:HB3	2.22	0.64
1:XA:1405:G:OP2	58:XA:1672:PAR:O34	2.15	0.64
3:XC:122:GLU:OE1	3:XC:126:ARG:NH2	2.29	0.64
4:XD:9:CYS:SG	4:XD:31:CYS:O	2.54	0.64
25:YA:607:U:H3	25:YA:621:A:H2	1.42	0.64
25:YA:2404:C:O3'	35:YP:77:ARG:NH2	2.29	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YF:107:LYS:HD2	29:YF:207:GLY:H	1.62	0.64
19:QS:28:LYS:HB2	19:QS:47:HIS:CE1	2.32	0.64
19:QS:67:VAL:HG11	50:R4:59:PHE:O	1.98	0.64
25:RA:2693:A:H2'	25:RA:2694:G:H8	1.62	0.64
27:RD:35:LYS:HG2	27:RD:64:ILE:N	2.12	0.64
35:RP:85:LEU:HA	35:RP:88:LEU:HD22	1.79	0.64
25:YA:819:A:OP2	25:YA:1187:G:N2	2.23	0.64
27:YD:44:ASN:HB3	27:YD:49:ILE:HA	1.78	0.64
1:QA:1227:A:OP1	19:QS:80:TYR:OH	2.12	0.64
25:RA:489:G:N7	42:RW:49:LYS:NZ	2.46	0.64
25:RA:622:G:OP2	35:RP:108:LYS:NZ	2.29	0.64
25:RA:2683:C:OP1	39:RT:53:ARG:NH2	2.30	0.64
13:XM:3:ARG:HB3	50:Y4:34:GLU:HB3	1.79	0.64
25:YA:1055:G:H1	25:YA:1104:C:H42	1.44	0.64
5:QE:11:ILE:HD11	5:QE:31:LEU:HD12	1.80	0.64
10:QJ:53:PRO:HA	14:QN:42:ILE:HD12	1.79	0.64
13:QM:121:LYS:NZ	23:QY:40:C:O2'	2.29	0.64
27:RD:8:PRO:HB3	27:RD:14:ARG:HB2	1.79	0.64
27:RD:65:ILE:HD11	27:RD:67:PHE:CE2	2.31	0.64
28:RE:21:VAL:CB	28:RE:22:PRO:HA	2.28	0.64
51:R5:58:LEU:O	51:R5:60:VAL:N	2.31	0.64
1:XA:1321:C:H3'	1:XA:1322:C:H5''	1.80	0.64
23:XW:50:U:O4	23:XW:64:A:N1	2.30	0.64
36:YQ:78:PRO:O	36:YQ:79:LEU:HB2	1.97	0.64
1:QA:664:G:H22	1:QA:741:G:H1	1.45	0.64
25:RA:141:A:H8	25:RA:1595:G:H21	1.46	0.64
15:XO:26:GLU:OE2	15:XO:77:ARG:NH1	2.31	0.64
38:YS:58:LEU:H	38:YS:58:LEU:CD2	2.10	0.64
25:RA:2114:A:N6	25:RA:2119:A:N7	2.46	0.64
36:RQ:17:LEU:HD21	36:RQ:41:TRP:CD1	2.33	0.64
40:RU:90:VAL:O	40:RU:92:ARG:N	2.30	0.64
25:YA:690:G:O2'	27:YD:43:ARG:NH2	2.30	0.64
40:YU:88:ILE:HG22	40:YU:90:VAL:HG23	1.79	0.64
25:RA:2636:U:OP1	28:RE:79:ARG:HA	1.97	0.64
27:RD:35:LYS:HG2	27:RD:64:ILE:H	1.63	0.64
13:XM:54:VAL:HG23	50:Y4:32:TYR:HH	1.59	0.64
45:YZ:91:LEU:HD11	45:YZ:96:VAL:HG21	1.79	0.64
1:QA:963:G:H1	1:QA:972:C:N4	1.92	0.64
2:QB:5:ILE:HG21	2:QB:221:LEU:HD23	1.78	0.64
4:QD:194:LEU:CD1	6:XF:17:SER:OG	2.46	0.64
25:RA:1543:A:C2	25:RA:1545:A:C8	2.86	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2100:G:H1	25:RA:2189:U:H3	1.44	0.64
25:RA:2547:U:O2	34:RO:23:ARG:NH2	2.31	0.64
29:RF:192:LEU:HD22	29:RF:194:MET:HG2	1.80	0.64
26:YB:52:A:H62	38:YS:33:LYS:HG3	1.63	0.64
37:YR:51:LEU:HD13	37:YR:66:VAL:HG13	1.79	0.64
39:YT:36:GLU:HG3	39:YT:41:ARG:HE	1.62	0.64
1:QA:963:G:N2	1:QA:972:C:N3	2.40	0.64
1:QA:1128:C:OP1	9:QI:66:ARG:NH2	2.26	0.64
10:QJ:77:PRO:O	10:QJ:79:ARG:NH1	2.30	0.64
19:QS:64:GLU:CD	50:R4:55:ARG:HH12	2.06	0.64
25:RA:517:C:OP1	51:R5:16:ARG:NH2	2.31	0.64
31:RH:88:LEU:HD11	31:RH:165:ALA:HB2	1.80	0.64
35:RP:10:PRO:O	35:RP:12:ALA:N	2.30	0.64
36:RQ:83:MET:HB2	46:R0:7:LEU:HD12	1.78	0.64
50:R4:48:ARG:O	50:R4:50:VAL:N	2.31	0.64
1:XA:1352:C:H42	1:XA:1370:G:H1	1.46	0.64
3:XC:11:ARG:O	3:XC:13:GLY:N	2.30	0.64
3:XC:19:GLU:O	3:XC:40:ARG:NH2	2.30	0.64
5:XE:98:THR:HB	5:XE:117:ASP:HB3	1.79	0.64
8:XH:7:ALA:HB2	8:XH:85:ARG:HD3	1.80	0.64
19:XS:5:LEU:HD11	50:Y4:66:SER:CB	2.27	0.64
25:YA:581:C:H2'	25:YA:582:G:C8	2.33	0.64
25:YA:2111:C:N3	25:YA:2118:U:O2'	2.30	0.64
25:YA:2406:U:N3	35:YP:73:GLY:O	2.24	0.64
10:QJ:4:ILE:HB	10:QJ:74:ILE:HG13	1.80	0.63
25:RA:1059:G:O6	25:RA:1079:C:N4	2.30	0.63
38:RS:26:LEU:HB3	38:RS:87:PHE:HA	1.81	0.63
43:RX:43:VAL:HG13	43:RX:51:VAL:HG21	1.79	0.63
1:XA:186(E):C:H42	1:XA:191(B):G:H1	1.45	0.63
30:YG:112:PRO:HB3	50:Y4:37:SER:HB2	1.80	0.63
6:QF:15:ASP:OD2	6:QF:18:GLN:OE1	2.16	0.63
25:RA:1266:G:O2'	25:RA:2012:G:O6	2.14	0.63
25:RA:2848:G:O2'	25:RA:2867:G:N2	2.31	0.63
37:RR:104:ARG:HD3	37:RR:109:ALA:HB3	1.79	0.63
1:XA:1321:C:H5''	1:XA:1322:C:H5''	1.79	0.63
5:XE:147:ASP:O	5:XE:151:LEU:HG	1.97	0.63
48:Y2:41:ILE:HD11	48:Y2:44:LEU:HG	1.80	0.63
51:Y5:48:GLU:O	51:Y5:58:LEU:HA	1.97	0.63
1:QA:1224:G:C6	1:QA:1322:C:H1'	2.33	0.63
19:XS:5:LEU:CD1	50:Y4:66:SER:CB	2.76	0.63
25:YA:2335:A:O2'	25:YA:2336:A:O5'	2.15	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:35:LYS:HG2	27:YD:64:ILE:N	2.13	0.63
54:Y8:16:ILE:HD13	54:Y8:57:ARG:HG2	1.80	0.63
25:RA:2053:G:O6	25:RA:2614:A:C2	2.41	0.63
28:RE:21:VAL:CG2	28:RE:22:PRO:CA	2.76	0.63
5:XE:152:ARG:NH2	8:XH:107:LEU:O	2.31	0.63
19:XS:67:VAL:HG21	50:Y4:60:GLN:NE2	2.11	0.63
44:YY:91:GLU:HG3	44:YY:92:ASN:H	1.63	0.63
50:Y4:48:ARG:O	50:Y4:50:VAL:N	2.31	0.63
1:QA:243:A:H4'	1:QA:244:U:O5'	1.98	0.63
25:RA:2849:U:OP1	39:RT:95:ARG:NH1	2.30	0.63
45:RZ:165:VAL:HG11	45:RZ:169:GLU:HB2	1.80	0.63
47:R1:29:GLY:O	47:R1:31:GLY:N	2.29	0.63
2:XB:187:LEU:HA	2:XB:201:ILE:HB	1.79	0.63
13:XM:3:ARG:NH2	30:YG:139:LEU:HD13	2.12	0.63
25:YA:224:G:O6	25:YA:419:C:O2'	2.17	0.63
25:YA:2126:A:N6	25:YA:2163:C:O2'	2.31	0.63
25:YA:2726:U:H4'	34:YO:1:MET:HE1	1.80	0.63
27:YD:25:THR:HG23	27:YD:27:THR:HB	1.80	0.63
31:YH:12:PRO:O	31:YH:13:LYS:HB2	1.97	0.63
35:YP:13:ASN:O	35:YP:15:ARG:N	2.32	0.63
1:QA:1080:A:H5''	5:QE:16:THR:HG21	1.81	0.63
19:QS:42:PRO:HD3	50:R4:63:TYR:CZ	2.33	0.63
25:RA:309:G:N3	25:RA:329:G:O2'	2.31	0.63
25:RA:2511:U:O4	25:RA:2575:C:N3	2.32	0.63
37:RR:33:ARG:HG3	37:RR:115:GLU:HB3	1.79	0.63
40:RU:66:ASN:O	40:RU:70:ARG:HB2	1.98	0.63
48:R2:65:ASN:HB3	48:R2:69:ARG:HH22	1.61	0.63
1:XA:1028(B):C:N3	1:XA:1032(A):G:N2	2.45	0.63
2:XB:79:ASP:HA	2:XB:82:ARG:HB2	1.81	0.63
13:XM:91:ARG:HB2	13:XM:98:VAL:HG13	1.80	0.63
25:YA:1918:A:O2'	25:YA:1920:C:N4	2.32	0.63
25:YA:2415:G:H4'	35:YP:67:MET:N	2.14	0.63
25:RA:2224:G:OP1	27:RD:268:ARG:HD3	1.98	0.63
35:RP:95:VAL:HG13	35:RP:100:LEU:HD21	1.79	0.63
13:XM:23:TYR:HB3	13:XM:67:GLU:HA	1.81	0.63
31:YH:83:TYR:CZ	31:YH:138:LYS:HD2	2.34	0.63
31:YH:153:LYS:HG3	31:YH:161:GLY:HA2	1.80	0.63
32:YI:56:LYS:HG3	32:YI:57:ARG:N	2.13	0.63
53:Y7:9:ARG:HH21	53:Y7:48:LYS:HD2	1.63	0.63
1:QA:1002:G:H2'	1:QA:1003:G:H8	1.61	0.63
3:QC:79:ARG:CD	11:XK:99:GLN:NE2	2.60	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:166:LYS:CG	4:QD:178:VAL:HG11	2.20	0.63
25:RA:74:A:H4'	25:RA:75:G:O5'	1.98	0.63
25:RA:84:A:N1	25:RA:98:G:O2'	2.31	0.63
25:RA:288:C:H2'	25:RA:289:A:H8	1.64	0.63
25:RA:2233:U:H2'	25:RA:2234:G:C8	2.33	0.63
33:RN:133:GLN:HB2	33:RN:135:PRO:HD3	1.79	0.63
38:RS:15:ARG:HH11	38:RS:25:ARG:HH21	1.44	0.63
1:XA:1106:G:H5''	3:XC:172:ARG:HG2	1.79	0.63
1:XA:1298:C:H2'	7:XG:114:ARG:NH1	2.14	0.63
9:XI:24:GLY:N	9:XI:60:ASP:OD1	2.29	0.63
25:YA:2394:C:OP1	35:YP:63:PRO:HD2	1.99	0.63
34:YO:13:ASN:ND2	34:YO:96:THR:O	2.30	0.63
40:YU:83:LEU:HD12	40:YU:113:ALA:HB2	1.79	0.63
42:YW:41:LYS:HE3	51:Y5:25:LEU:HD21	1.80	0.63
50:Y4:23:GLU:O	50:Y4:25:TYR:N	2.31	0.63
52:Y6:41:PRO:HG2	52:Y6:45:LYS:H	1.63	0.63
1:QA:937:A:N6	1:QA:1345:U:O4	2.30	0.63
1:QA:1446:A:O2'	1:QA:1447:G:O5'	2.16	0.63
2:QB:24:TRP:H	2:QB:24:TRP:HD1	1.46	0.63
8:QH:10:LEU:HD22	8:QH:83:ILE:HD11	1.80	0.63
25:RA:2818:G:OP2	37:RR:42:LYS:NZ	2.31	0.63
33:RN:13:TRP:HB2	33:RN:133:GLN:HG3	1.81	0.63
44:RY:51:VAL:HG13	44:RY:52:SER:H	1.64	0.63
25:YA:2310:A:N6	30:YG:79:ASN:HB2	2.13	0.63
1:QA:789:U:H1'	1:QA:792:A:H2	1.64	0.62
7:QG:155:ARG:HD3	7:QG:155:ARG:H	1.64	0.62
11:QK:98:LEU:O	11:QK:101:SER:OG	2.14	0.62
25:RA:249:C:O2	54:R8:12:LYS:NZ	2.32	0.62
1:XA:1023:G:H3'	1:XA:1024:G:H5''	1.79	0.62
1:XA:1446:A:O2'	1:XA:1447:G:O5'	2.17	0.62
1:QA:1064:G:O2'	1:QA:1065:U:O5'	2.17	0.62
4:QD:7:PRO:HB2	4:QD:10:ARG:HD2	1.81	0.62
19:QS:40:ILE:HG23	19:QS:41:VAL:HG22	1.79	0.62
25:RA:259:G:HO2'	25:RA:621:A:HO2'	1.47	0.62
25:RA:1311:G:H21	25:RA:1603:A:H62	1.45	0.62
25:RA:2306:C:H3'	25:RA:2307:G:H5''	1.79	0.62
28:RE:15:PHE:CE1	28:RE:20:ALA:CB	2.82	0.62
1:XA:1200:C:H4'	1:XA:1201:A:H5'	1.80	0.62
10:XJ:32:ALA:HB3	10:XJ:76:ASN:HB2	1.79	0.62
25:YA:2789:C:H1'	25:YA:2892:A:H2	1.64	0.62
31:YH:26:VAL:HG11	31:YH:75:ALA:HB1	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1135:U:H4'	1:QA:1136:U:H5	1.64	0.62
25:RA:27:G:H1'	25:RA:513:A:N6	2.14	0.62
25:RA:2576:G:O2'	25:RA:2579:C:OP2	2.16	0.62
37:RR:33:ARG:HH12	51:R5:57:VAL:CG2	2.12	0.62
48:R2:4:SER:OG	48:R2:5:GLU:OE2	2.16	0.62
1:XA:1455:G:H5''	20:XT:31:SER:HB2	1.81	0.62
2:XB:92:TYR:CE1	2:XB:151:GLY:HA3	2.34	0.62
2:XB:212:GLN:NE2	2:XB:235:SER:HB2	2.15	0.62
25:YA:1296:G:OP1	25:YA:2709:G:O2'	2.13	0.62
25:YA:1833:U:O2'	25:YA:1969:A:N1	2.29	0.62
32:YI:124:GLY:H	32:YI:142:VAL:HG23	1.63	0.62
39:YT:1:MET:O	39:YT:3:ARG:N	2.29	0.62
28:RE:119:ARG:HG2	28:RE:160:TYR:HB2	1.81	0.62
29:RF:12:LEU:HD12	29:RF:17:ARG:HG2	1.80	0.62
7:XG:111:ARG:NH1	7:XG:113:GLU:OE2	2.31	0.62
13:XM:68:GLY:HA3	30:YG:116:ASP:CG	2.25	0.62
19:XS:13:ASP:OD1	19:XS:13:ASP:N	2.32	0.62
27:YD:248:SER:CB	27:YD:252:TRP:CZ2	2.83	0.62
29:YF:46:ARG:HH11	29:YF:46:ARG:HG2	1.65	0.62
30:YG:3:LEU:HD12	30:YG:4:ASP:H	1.64	0.62
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.33	0.62
43:RX:53:LYS:HB2	43:RX:82:GLN:HB3	1.80	0.62
10:XJ:5:ARG:HH21	10:XJ:99:LYS:HD2	1.63	0.62
1:QA:1163:C:H42	1:QA:1173:G:H1	1.47	0.62
19:QS:68:GLY:N	50:R4:59:PHE:CE1	2.67	0.62
19:QS:68:GLY:CA	50:R4:68:ARG:HB2	2.28	0.62
25:RA:2816:C:O3'	37:RR:99:LYS:NZ	2.33	0.62
2:XB:54:THR:HG21	2:XB:201:ILE:HD11	1.82	0.62
28:YE:23:VAL:HG12	28:YE:184:VAL:O	2.00	0.62
1:QA:532:A:H2	1:QA:1206:G:H21	1.46	0.62
2:QB:24:TRP:H	2:QB:24:TRP:CD1	2.15	0.62
5:QE:143:ARG:HH21	8:QH:77:GLU:CD	2.07	0.62
8:QH:6:ILE:HB	8:QH:85:ARG:NH1	2.15	0.62
11:QK:121:PRO:HD2	11:QK:126:ARG:HD3	1.80	0.62
25:RA:996:A:H4'	40:RU:92:ARG:HE	1.64	0.62
25:RA:2111:C:N3	25:RA:2118:U:O2'	2.31	0.62
25:RA:2133:G:H1'	25:RA:2158:A:H61	1.64	0.62
26:RB:44:G:O2'	26:RB:47:C:N4	2.31	0.62
2:XB:12:GLU:O	2:XB:16:HIS:ND1	2.22	0.62
13:XM:7:VAL:O	13:XM:7:VAL:HG22	2.00	0.62
25:YA:263:C:H2'	25:YA:264:C:O4'	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YI:81:VAL:HG21	32:YI:88:ILE:HD12	1.80	0.62
1:QA:27:G:H4'	4:QD:209:ARG:HG3	1.79	0.62
1:QA:448:A:OP2	1:QA:485:G:N2	2.30	0.62
3:QC:79:ARG:HH21	11:XK:96:ARG:CG	2.12	0.62
7:QG:149:ARG:HD3	11:QK:59:TYR:OH	1.99	0.62
39:RT:54:ARG:HA	39:RT:59:THR:HG23	1.82	0.62
25:YA:1728:G:H8	25:YA:1732:A:H62	1.48	0.62
25:YA:1754:C:P	39:YT:96:ARG:HH12	2.21	0.62
22:QV:53:G:H4'	22:QV:54:U:OP1	1.99	0.62
25:RA:221:A:H4'	25:RA:222:A:O5'	1.98	0.62
27:RD:35:LYS:HD2	27:RD:104:TYR:CD1	2.35	0.62
25:YA:1798:U:C5'	27:YD:259:THR:HG22	2.29	0.62
46:Y0:27:GLU:HG3	46:Y0:68:GLU:HA	1.82	0.62
50:Y4:37:SER:HB3	50:Y4:42:PHE:CD1	2.35	0.62
54:Y8:23:VAL:HG11	54:Y8:46:ARG:HD3	1.81	0.62
25:RA:630:G:N2	25:RA:633:A:OP2	2.32	0.61
1:XA:1500:A:H5''	1:XA:1508:G:H5''	1.81	0.61
4:XD:111:ALA:HB2	4:XD:120:LEU:HD12	1.82	0.61
5:XE:42:GLY:HA3	5:XE:66:MET:HG2	1.82	0.61
20:XT:100:ILE:HG13	20:XT:102:GLY:N	2.15	0.61
27:YD:248:SER:HB3	27:YD:252:TRP:CE2	2.34	0.61
40:YU:92:ARG:HD2	41:YV:11:GLN:HB2	1.82	0.61
28:RE:67:PHE:O	28:RE:69:LYS:N	2.32	0.61
32:RI:57:ARG:HA	32:RI:60:GLU:HB3	1.81	0.61
32:RI:104:GLN:O	32:RI:105:HIS:ND1	2.33	0.61
35:RP:58:THR:C	35:RP:61:ARG:HE	2.06	0.61
1:XA:560:U:O2'	1:XA:561:U:OP2	2.14	0.61
12:QL:57:LYS:HG2	12:QL:67:THR:HG22	1.81	0.61
25:RA:1272:A:OP2	25:RA:1647:G:OP1	2.18	0.61
9:XI:29:ASN:OD1	9:XI:65:VAL:N	2.29	0.61
25:YA:2030:A:H4'	25:YA:2031:A:C8	2.36	0.61
1:QA:1077:G:N2	1:QA:1080:A:OP2	2.29	0.61
10:QJ:40:LEU:HB2	10:QJ:69:ASN:HB3	1.82	0.61
14:QN:13:THR:N	14:QN:14:PRO:HD2	2.15	0.61
25:RA:2011:U:OP2	42:RW:16:LYS:NZ	2.30	0.61
28:RE:51:PHE:CD2	28:RE:52:LEU:HG	2.34	0.61
29:RF:28:ILE:HG22	29:RF:112:MET:HB3	1.80	0.61
19:XS:5:LEU:HD21	50:Y4:66:SER:HB2	1.82	0.61
1:QA:754:C:H5'	15:QO:72:ARG:HH22	1.65	0.61
1:QA:973:G:OP1	10:QJ:57:LYS:NZ	2.34	0.61
1:QA:1432:G:OP1	39:RT:107:ASP:HB2	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:14:ILE:O	3:QC:16:ARG:N	2.33	0.61
4:QD:167:GLY:CA	27:YD:135:PHE:CZ	2.71	0.61
11:QK:22:HIS:HB3	11:QK:29:ILE:HG23	1.83	0.61
25:RA:884:C:N3	25:RA:892:G:O6	2.33	0.61
25:RA:2405:G:O2'	25:RA:2411:A:N6	2.33	0.61
45:RZ:166:SER:HB2	45:RZ:168:GLU:H	1.64	0.61
47:R1:53:VAL:HG22	47:R1:74:VAL:HG13	1.83	0.61
55:R9:25:VAL:HB	55:R9:34:GLN:HB2	1.81	0.61
1:XA:745:C:OP1	1:XA:851:G:O2'	2.18	0.61
2:XB:67:THR:HG21	2:XB:155:LEU:HG	1.81	0.61
25:YA:392:C:H5''	25:YA:409:C:H5''	1.81	0.61
25:YA:2015:A:N3	51:Y5:2:ALA:N	2.48	0.61
1:QA:890:G:O2'	1:QA:906:G:O6	2.16	0.61
21:QU:6:ARG:HE	21:QU:15:ARG:NH2	1.99	0.61
25:RA:997:G:OP1	40:RU:93:LYS:HD3	2.00	0.61
19:XS:68:GLY:N	50:Y4:59:PHE:CZ	2.67	0.61
25:RA:2444:G:OP2	29:RF:68:LYS:HE3	2.00	0.61
32:RI:5:LEU:HD13	32:RI:17:GLN:HB3	1.81	0.61
35:RP:84:ASN:HB3	35:RP:86:LYS:HG2	1.83	0.61
36:RQ:65:PHE:O	36:RQ:67:ARG:N	2.34	0.61
15:XO:87:ILE:HG22	15:XO:88:ARG:H	1.64	0.61
25:YA:1045:A:C8	25:YA:1111:A:N6	2.68	0.61
25:YA:2099:U:O4	25:YA:2190:G:O6	2.18	0.61
36:YQ:134:ARG:NE	45:YZ:122:ARG:NH2	2.49	0.61
1:QA:110:C:O2'	16:QP:25:ARG:O	2.17	0.61
2:QB:178:ARG:HH21	8:QH:74:PRO:HG3	1.66	0.61
4:QD:105:VAL:HG13	4:QD:110:PHE:HB2	1.83	0.61
15:QO:82:ILE:O	15:QO:86:GLY:N	2.33	0.61
32:RI:52:ARG:C	32:RI:56:LYS:H	2.03	0.61
1:XA:949:A:N7	13:XM:106:ASN:ND2	2.48	0.61
1:QA:1292:U:OP1	7:QG:41:ARG:NH2	2.33	0.61
14:QN:6:LEU:HD23	14:QN:23:ARG:HH22	1.64	0.61
42:RW:25:ARG:NH2	42:RW:74:ALA:O	2.33	0.61
8:XH:4:ASP:OD2	8:XH:85:ARG:NH1	2.34	0.61
25:YA:573:G:N1	25:YA:2031:A:OP2	2.20	0.61
29:YF:197:ASP:OD1	29:YF:197:ASP:N	2.33	0.61
31:YH:113:VAL:HG11	31:YH:151:ILE:HD12	1.83	0.61
47:Y1:83:GLU:O	47:Y1:85:LEU:N	2.34	0.61
1:QA:501:C:H2'	1:QA:502:G:C8	2.35	0.61
25:RA:468:G:H4'	29:RF:62:ARG:HH12	1.65	0.61
25:RA:856:C:O2'	25:RA:857:C:OP1	2.16	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1798:U:H5'	27:RD:259:THR:HG22	1.83	0.61
31:RH:8:PRO:HG2	31:RH:69:ARG:HE	1.66	0.61
25:YA:2864:G:OP1	39:YT:119:LYS:HD2	2.01	0.61
27:YD:108:PRO:HB3	27:YD:143:HIS:CE1	2.35	0.61
40:YU:52:ARG:HA	40:YU:55:ARG:HG3	1.83	0.61
25:RA:910:A:C5	36:RQ:13:GLN:HG3	2.36	0.60
25:RA:994:C:OP2	40:RU:54:LYS:NZ	2.34	0.60
25:RA:2712:U:HO2'	25:RA:2712(A):A:H8	1.47	0.60
37:RR:70:LEU:O	37:RR:72:ASP:N	2.31	0.60
1:XA:842:C:O2'	1:XA:848:C:N4	2.34	0.60
1:XA:1414:U:H2'	1:XA:1415:G:H8	1.65	0.60
25:YA:2692:C:O2	25:YA:2847:U:O2'	2.18	0.60
27:YD:72:LYS:NZ	27:YD:99:ASP:OD2	2.33	0.60
45:YZ:58:VAL:O	45:YZ:60:GLU:N	2.34	0.60
13:QM:7:VAL:HB	30:RG:115:ARG:NH1	2.16	0.60
39:RT:77:PRO:HB2	39:RT:80:SER:HB2	1.83	0.60
40:RU:90:VAL:HG11	41:RV:40:LEU:HD12	1.82	0.60
12:XL:50:SER:O	12:XL:51:ALA:CB	2.49	0.60
36:YQ:35:VAL:HG13	36:YQ:130:LYS:HB3	1.83	0.60
3:QC:8:ILE:HG23	3:QC:16:ARG:HG2	1.83	0.60
3:QC:11:ARG:O	3:QC:13:GLY:N	2.34	0.60
25:RA:155:C:N4	25:RA:171:G:H1	1.99	0.60
25:RA:873:G:H1	25:RA:904:C:N4	1.98	0.60
25:RA:1296:G:OP1	25:RA:2709:G:O2'	2.11	0.60
27:RD:44:ASN:HB3	27:RD:49:ILE:HA	1.83	0.60
1:XA:1299:A:H2'	1:XA:1301:U:H1'	1.82	0.60
25:YA:2469:A:O2'	36:YQ:56:ARG:HG2	2.01	0.60
27:YD:248:SER:HG	27:YD:252:TRP:NE1	1.98	0.60
31:YH:150:ALA:O	31:YH:152:ARG:N	2.34	0.60
25:RA:1782:C:H1'	25:RA:2609:U:H5''	1.82	0.60
25:RA:2443:C:H2'	25:RA:2444:G:H8	1.66	0.60
1:XA:1308:U:OP2	13:XM:99:ARG:HD2	2.02	0.60
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.36	0.60
17:XQ:11:VAL:HG12	17:XQ:85:VAL:HG13	1.83	0.60
25:YA:1203:G:H3'	25:YA:1204:A:H5''	1.83	0.60
25:YA:1652:A:OP1	37:YR:8:ARG:NH1	2.33	0.60
35:YP:95:VAL:HG13	35:YP:100:LEU:HD21	1.83	0.60
51:Y5:16:ARG:HG2	51:Y5:16:ARG:HH11	1.66	0.60
23:QW:48:C:H2'	23:QW:59:U:H4'	1.83	0.60
25:RA:252:G:OP2	35:RP:50:ARG:NH1	2.33	0.60
25:RA:993:G:OP1	40:RU:50:ARG:NH2	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:RD:70:TRP:CH2	27:RD:150:LYS:HA	2.36	0.60
38:RS:88:ASP:O	38:RS:89:ARG:HB3	2.02	0.60
51:R5:57:VAL:O	51:R5:57:VAL:HG13	2.01	0.60
1:XA:1243:C:H42	1:XA:1294:G:H1	1.49	0.60
25:YA:2131:G:H4'	25:YA:2132:U:H4'	1.84	0.60
27:YD:35:LYS:HD2	27:YD:104:TYR:CD1	2.35	0.60
28:YE:9:VAL:HB	28:YE:25:VAL:HG23	1.83	0.60
9:QI:13:ALA:HB2	9:QI:68:GLY:HA3	1.82	0.60
1:XA:1266:G:N2	1:XA:1269:A:OP2	2.31	0.60
1:XA:1314:C:OP1	19:XS:6:LYS:HE3	2.00	0.60
25:YA:252:G:OP2	35:YP:50:ARG:NH1	2.35	0.60
28:YE:25:VAL:HG12	28:YE:183:LEU:HG	1.84	0.60
39:YT:84:GLN:OE1	39:YT:85:LYS:NZ	2.34	0.60
1:QA:864:A:H5'	5:QE:86:ALA:HB2	1.83	0.60
15:QO:39:LEU:HD13	15:QO:56:LEU:HB2	1.83	0.60
25:RA:1169:G:H1	25:RA:1180:C:H42	0.70	0.60
50:R4:23:GLU:O	50:R4:25:TYR:N	2.33	0.60
25:YA:530:G:O2'	25:YA:532:A:N7	2.35	0.60
30:YG:28:VAL:HG23	30:YG:29:TRP:CD1	2.36	0.60
31:YH:4:ILE:HB	31:YH:6:ARG:HG2	1.82	0.60
31:YH:152:ARG:CG	31:YH:153:LYS:HD2	2.28	0.60
34:YO:96:THR:O	34:YO:97:ARG:HB3	2.01	0.60
54:Y8:50:LEU:HD12	54:Y8:51:ALA:H	1.67	0.60
55:Y9:35:ARG:HH21	55:Y9:37:GLY:HA3	1.67	0.60
1:QA:1106:G:H5''	3:QC:172:ARG:HG2	1.84	0.60
1:QA:1305:G:H22	1:QA:1331:G:H2'	1.66	0.60
2:QB:15:VAL:H	2:QB:16:HIS:CE1	2.20	0.60
1:XA:674:G:H2'	1:XA:675:A:C8	2.36	0.60
13:XM:3:ARG:HA	13:XM:9:ILE:HG21	1.83	0.60
23:XW:49:C:H42	23:XW:65:G:H1	1.47	0.60
25:YA:2377:A:H2'	25:YA:2378:A:C8	2.37	0.60
32:YI:21:VAL:HG21	32:YI:25:TYR:HD2	1.66	0.60
12:QL:84:LEU:HD22	12:QL:104:VAL:HG11	1.84	0.60
19:QS:67:VAL:CA	50:R4:59:PHE:CZ	2.85	0.60
44:RY:87:LYS:O	44:RY:88:LYS:NZ	2.33	0.60
51:R5:16:ARG:HH11	51:R5:16:ARG:HG2	1.66	0.60
1:XA:826:C:H2'	1:XA:827:U:O2	2.01	0.60
1:XA:1002:G:H1	1:XA:1038:C:N4	1.98	0.60
1:QA:344:A:O2'	1:QA:346:G:O6	2.18	0.60
4:QD:194:LEU:HD11	6:XF:17:SER:OG	2.02	0.60
7:QG:26:PHE:O	7:QG:30:ILE:HG12	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:149:ARG:NE	11:QK:59:TYR:CE1	2.70	0.60
9:QI:9:ARG:HB3	9:QI:14:VAL:HG13	1.84	0.60
10:QJ:42:THR:HG23	10:QJ:68:HIS:HA	1.83	0.60
25:RA:49:A:N7	25:RA:120:U:O4	2.33	0.60
26:RB:31:C:H42	26:RB:51:G:H1	1.50	0.60
30:RG:114:ILE:HD13	30:RG:140:ILE:HG21	1.83	0.60
31:RH:154:PRO:HD3	31:RH:162:ILE:N	2.16	0.60
25:YA:137(A):G:H1'	43:YX:41:ASN:ND2	2.16	0.60
1:QA:1446:A:H4'	39:RT:125:ARG:HH22	1.67	0.59
3:QC:79:ARG:HD2	11:XK:99:GLN:CD	2.27	0.59
39:RT:105:LEU:O	39:RT:107:ASP:N	2.35	0.59
45:RZ:144:LEU:HG	45:RZ:150:LEU:HD12	1.84	0.59
28:YE:14:ILE:HG22	28:YE:21:VAL:HG23	0.69	0.59
37:YR:42:LYS:HA	37:YR:45:ARG:HD2	1.84	0.59
31:RH:89:ILE:HD13	31:RH:129:THR:HB	1.83	0.59
2:XB:235:SER:O	2:XB:237:ALA:N	2.36	0.59
4:QD:195:ALA:CB	6:XF:20:ALA:CB	2.81	0.59
30:RG:64:THR:HG23	30:RG:66:GLN:H	1.66	0.59
38:RS:38:GLN:OE1	38:RS:47:THR:OG1	2.18	0.59
54:R8:29:LYS:HB2	54:R8:44:LYS:HG2	1.84	0.59
1:XA:380:G:N2	1:XA:383:A:OP2	2.32	0.59
2:XB:92:TYR:HE1	2:XB:151:GLY:HA3	1.65	0.59
25:YA:2298:A:H62	25:YA:2318:G:H8	1.50	0.59
26:YB:40:U:O2'	26:YB:45:A:N6	2.32	0.59
31:YH:98:LEU:HD22	31:YH:125:VAL:HB	1.83	0.59
32:YI:129:THR:HG22	32:YI:137:PRO:HB3	1.84	0.59
42:YW:86:LEU:HD12	42:YW:87:PRO:HD2	1.83	0.59
42:YW:90:ARG:HH11	42:YW:90:ARG:CG	2.14	0.59
1:QA:1061:G:OP1	10:QJ:59:SER:OG	2.21	0.59
45:RZ:52:SER:O	45:RZ:52:SER:OG	2.12	0.59
45:RZ:87:ASP:OD1	45:RZ:87:ASP:N	2.34	0.59
1:XA:570:G:O6	1:XA:865:A:N6	2.36	0.59
1:XA:1432:G:OP1	39:YT:107:ASP:HB2	2.03	0.59
1:XA:1450:U:O2'	1:XA:1451:A:N7	2.34	0.59
26:YB:44:G:H1'	26:YB:47:C:H42	1.67	0.59
35:YP:62:LEU:HB2	54:Y8:30:ARG:NH1	2.17	0.59
37:YR:33:ARG:NH2	51:Y5:55:ARG:HG2	2.17	0.59
1:QA:1352:C:OP1	21:QU:3:LYS:NZ	2.29	0.59
25:RA:1291:C:H5'	25:RA:1536:A:H5'	1.85	0.59
30:RG:67:LYS:HE2	50:R4:6:HIS:CE1	2.38	0.59
28:YE:36:ARG:HH21	28:YE:88:GLY:HA2	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:Y3:6:VAL:HG13	49:Y3:56:VAL:HG13	1.84	0.59
53:Y7:35:ARG:HG3	53:Y7:42:LEU:HD11	1.85	0.59
1:QA:1172:C:H2'	1:QA:1173:G:C8	2.38	0.59
3:QC:50:ALA:HB2	3:QC:75:VAL:HB	1.85	0.59
13:QM:8:GLU:OE1	30:RG:115:ARG:NE	2.35	0.59
25:RA:83:G:N2	25:RA:103:A:OP2	2.31	0.59
25:RA:1026:U:H4'	25:RA:1027:A:OP1	2.02	0.59
42:RW:86:LEU:HD12	42:RW:87:PRO:HD2	1.85	0.59
25:YA:49:A:N7	25:YA:120:U:C5	2.70	0.59
25:YA:855:G:H1	25:YA:922:U:H3	1.51	0.59
25:YA:2126:A:H4'	25:YA:2127:G:O5'	2.03	0.59
13:QM:49:THR:HB	13:QM:52:GLU:HG3	1.85	0.59
25:RA:577:G:O2'	25:RA:1254:A:OP1	2.18	0.59
28:RE:21:VAL:HB	28:RE:22:PRO:HA	1.85	0.59
1:XA:67:C:H2'	1:XA:68:G:C8	2.38	0.59
1:XA:1178:G:N2	1:XA:1181:G:N7	2.49	0.59
13:XM:121:LYS:NZ	23:XY:40:C:O3'	2.35	0.59
25:YA:27:G:H1'	25:YA:513:A:N6	2.17	0.59
25:YA:1341:U:OP2	25:YA:1394:U:O2'	2.19	0.59
42:YW:111:HIS:CD2	42:YW:112:GLY:H	2.20	0.59
56:Z8:1:T17:H66	56:Z8:2:GLY:N	2.17	0.59
1:QA:1023:G:H3'	1:QA:1024:G:H5''	1.83	0.59
25:RA:630:G:OP1	54:R8:46:ARG:NH1	2.35	0.59
31:RH:121:ILE:HG13	31:RH:140:LYS:HD2	1.84	0.59
52:R6:52:VAL:HG22	52:R6:53:LYS:HG3	1.84	0.59
1:XA:427:U:OP1	4:XD:13:ARG:NH2	2.35	0.59
1:XA:690:G:H22	11:XK:55:LYS:NZ	2.01	0.59
6:XF:61:LEU:HB3	6:XF:63:TYR:HE1	1.66	0.59
20:XT:10:LEU:HG	20:XT:12:ALA:H	1.67	0.59
32:YI:67:ARG:HH21	32:YI:68:LEU:HB2	1.68	0.59
35:YP:26:GLY:O	35:YP:28:GLY:N	2.35	0.59
4:QD:166:LYS:HG3	4:QD:178:VAL:CG1	2.20	0.59
7:QG:73:MET:HG2	7:QG:90:GLU:HA	1.83	0.59
16:QP:21:VAL:O	16:QP:33:ILE:HG12	2.02	0.59
25:RA:1359:A:N6	25:RA:1372:U:C5	2.70	0.59
25:RA:1636:C:H2'	25:RA:1637:A:C8	2.38	0.59
25:RA:2010:G:H5''	42:RW:42:ARG:HB2	1.85	0.59
26:RB:50:G:H5''	38:RS:61:ASN:HD21	1.67	0.59
31:RH:105:LEU:HD13	31:RH:105:LEU:H	1.68	0.59
36:RQ:109:VAL:HG12	36:RQ:114:ALA:HB2	1.84	0.59
53:R7:22:MET:HE2	53:R7:31:LEU:HD12	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1128:C:H5'	9:XI:16:ARG:HH22	1.67	0.59
10:XJ:76:ASN:O	10:XJ:78:ASN:ND2	2.36	0.59
23:XW:11:C:H42	23:XW:24:G:H1	1.49	0.59
26:YB:44:G:OP1	50:Y4:1:MET:N	2.36	0.59
31:YH:6:ARG:NH2	31:YH:54:ARG:HH22	2.01	0.59
4:QD:64:LEU:HB2	4:QD:198:VAL:HG11	1.83	0.59
7:QG:149:ARG:HD3	11:QK:59:TYR:CZ	2.38	0.59
19:QS:68:GLY:HA3	50:R4:69:LYS:H	1.66	0.59
27:RD:85:ASP:HB2	27:RD:92:ILE:HD13	1.84	0.59
47:R1:92:LYS:HG3	47:R1:96:LYS:HB2	1.84	0.59
50:R4:16:CYS:SG	50:R4:17:GLY:N	2.75	0.59
5:XE:45:PHE:CE2	5:XE:47:LYS:HD2	2.38	0.59
25:YA:2392:A:H1'	35:YP:60:MET:HE3	1.85	0.59
25:YA:2636:U:OP1	28:YE:79:ARG:HA	2.03	0.59
35:YP:147:LEU:O	35:YP:148:LEU:HB2	2.02	0.59
38:YS:26:LEU:HB3	38:YS:87:PHE:HA	1.85	0.59
1:QA:56:U:H2'	1:QA:57:G:C8	2.38	0.58
1:QA:359:U:P	32:YI:87:LYS:HE2	2.42	0.58
25:RA:617:G:OP1	29:RF:40:GLN:NE2	2.26	0.58
1:XA:890:G:O2'	1:XA:906:G:O6	2.19	0.58
1:XA:1443:G:H5''	1:XA:1446:A:H2	1.67	0.58
3:XC:14:ILE:HG12	3:XC:15:THR:H	1.67	0.58
12:XL:38:THR:HG23	12:XL:57:LYS:HB3	1.84	0.58
14:YN:23:ARG:HD2	14:YN:28:GLY:O	2.03	0.58
27:YD:28:GLU:OE1	27:YD:29:PRO:HD2	2.03	0.58
30:YG:136:ARG:O	30:YG:154:GLY:HA2	2.02	0.58
31:YH:15:VAL:HG12	31:YH:28:GLY:HA3	1.83	0.58
33:YN:40:PRO:HB3	40:YU:68:ALA:HB2	1.85	0.58
8:QH:121:ASP:N	8:QH:121:ASP:OD1	2.34	0.58
25:RA:259:G:H21	25:RA:621:A:H8	1.51	0.58
25:RA:1918:A:O2'	25:RA:1920:C:N4	2.36	0.58
27:RD:71:ASP:OD2	27:RD:103:ARG:NH2	2.36	0.58
30:RG:112:PRO:HB3	50:R4:37:SER:HB2	1.85	0.58
45:RZ:158:PRO:HG2	45:RZ:161:VAL:HG21	1.85	0.58
4:XD:20:TYR:HA	4:XD:26:CYS:SG	2.43	0.58
25:YA:2581:G:N2	25:YA:2581:G:OP2	2.36	0.58
37:YR:67:LEU:HD13	37:YR:76:VAL:HG21	1.84	0.58
38:YS:106:ARG:HA	38:YS:110:LEU:HD11	1.86	0.58
43:YX:61:GLY:N	43:YX:75:ASP:OD1	2.36	0.58
1:QA:119:A:H4'	1:QA:120:A:O5'	2.02	0.58
4:QD:111:ALA:HB2	4:QD:120:LEU:HD12	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:102:G:H4'	25:RA:103:A:O5'	2.03	0.58
27:RD:44:ASN:CB	27:RD:49:ILE:HA	2.33	0.58
32:RI:55:ALA:HA	32:RI:58:LEU:CB	2.32	0.58
12:XL:47:LYS:HB3	12:XL:48:PRO:CD	2.33	0.58
35:YP:58:THR:HG22	35:YP:61:ARG:HG3	1.85	0.58
41:YV:44:LYS:O	41:YV:46:VAL:N	2.36	0.58
10:QJ:49:VAL:HG13	14:QN:41:ARG:HB2	1.86	0.58
25:RA:1309:G:H4'	53:R7:7:PRO:HB2	1.85	0.58
28:RE:13:ARG:HH11	28:RE:21:VAL:HG11	1.68	0.58
32:RI:110:ASP:N	32:RI:130:TYR:OH	2.30	0.58
45:RZ:110:GLY:HA2	45:RZ:112:ARG:HB2	1.84	0.58
2:XB:72:GLY:HA2	2:XB:165:VAL:HG22	1.85	0.58
13:XM:13:LYS:HA	13:XM:44:ARG:HD2	1.83	0.58
47:Y1:51:VAL:HG11	47:Y1:74:VAL:HG21	1.84	0.58
1:QA:352:C:O2'	1:QA:354:G:OP1	2.16	0.58
25:RA:1226:G:H4'	41:RV:84:LYS:HG2	1.84	0.58
25:RA:1579:A:H2'	25:RA:1580:A:C8	2.38	0.58
25:RA:1899:G:H21	25:RA:1902:C:N4	2.01	0.58
25:RA:2680:C:H5'	28:RE:189:PRO:HA	1.84	0.58
27:RD:182:LEU:N	27:RD:272:ALA:HB3	2.17	0.58
1:XA:1129:C:H4'	1:XA:1130:A:H5'	1.84	0.58
6:XF:36:ARG:NH1	6:XF:38:GLU:OE2	2.37	0.58
9:XI:43:ALA:HA	9:XI:74:ILE:HD13	1.85	0.58
20:XT:63:ILE:HG22	20:XT:77:ALA:HB1	1.86	0.58
25:YA:1664:A:H61	25:YA:1996:C:N4	1.98	0.58
25:YA:2292:C:P	38:YS:17:ARG:HH22	2.26	0.58
50:Y4:42:PHE:O	50:Y4:44:THR:N	2.36	0.58
51:Y5:4:HIS:HB3	51:Y5:5:PRO:CD	2.33	0.58
4:QD:29:PRO:HD2	4:QD:30:LYS:HD3	1.84	0.58
12:QL:53:ARG:HD3	12:QL:93:LEU:HD21	1.86	0.58
13:QM:80:ARG:NE	50:R4:71:ARG:NH1	2.48	0.58
30:RG:136:ARG:O	30:RG:154:GLY:HA2	2.03	0.58
1:XA:266:G:O2'	1:XA:267:C:OP2	2.16	0.58
4:XD:22:LYS:HD2	4:XD:26:CYS:SG	2.44	0.58
26:YB:15:A:H5'	26:YB:16:G:C8	2.39	0.58
29:YF:127:GLU:O	29:YF:129:PHE:N	2.32	0.58
45:YZ:5:LEU:HD11	45:YZ:39:VAL:HB	1.85	0.58
2:QB:77:ALA:HB2	2:QB:211:ILE:HD13	1.86	0.58
25:RA:2126:A:H4'	25:RA:2127:G:O5'	2.04	0.58
25:RA:2611:U:O2	51:R5:3:LYS:HE3	2.02	0.58
27:RD:35:LYS:HD2	27:RD:104:TYR:CE1	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:87:LEU:HD22	31:RH:162:ILE:HG22	1.85	0.58
36:RQ:78:PRO:O	46:R0:5:LYS:HE2	2.03	0.58
1:XA:243:A:H4'	1:XA:244:U:O5'	2.03	0.58
1:XA:753:A:H4'	1:XA:754:C:O5'	2.03	0.58
2:XB:15:VAL:H	2:XB:16:HIS:CE1	2.22	0.58
2:XB:96:ARG:H	2:XB:96:ARG:HD2	1.68	0.58
8:XH:39:LEU:HB3	8:XH:45:ILE:HG12	1.86	0.58
30:YG:67:LYS:HZ3	50:Y4:6:HIS:CD2	2.22	0.58
45:YZ:146:ILE:HG22	45:YZ:176:PRO:HD3	1.84	0.58
1:QA:427:U:OP1	4:QD:13:ARG:NH2	2.36	0.58
1:QA:1495:U:O2'	25:RA:1919:A:N1	2.32	0.58
25:RA:654(A):G:H1	25:RA:654(T):C:H42	1.49	0.58
26:RB:55:U:HO2'	30:RG:29:TRP:CD1	2.21	0.58
27:RD:24:ILE:HD11	27:RD:91:ARG:HD2	1.84	0.58
32:RI:5:LEU:H	32:RI:5:LEU:HD12	1.69	0.58
2:XB:93:VAL:HG11	2:XB:97:TRP:HD1	1.68	0.58
3:XC:95:THR:HG22	3:XC:97:LYS:HG3	1.83	0.58
20:XT:56:MET:HG3	20:XT:88:VAL:HG21	1.86	0.58
34:YO:64:ARG:HG2	34:YO:79:PHE:CG	2.38	0.58
1:QA:382:A:H2'	1:QA:383:A:C8	2.39	0.58
25:RA:1266:G:O5'	42:RW:15:ARG:NH2	2.37	0.58
35:RP:47:ASP:OD2	35:RP:49:ARG:NH1	2.37	0.58
4:XD:13:ARG:HA	4:XD:33:MET:HE3	1.84	0.58
19:XS:5:LEU:CD2	50:Y4:66:SER:HB2	2.33	0.58
25:YA:1068:G:O2'	25:YA:1096:A:N3	2.37	0.58
1:QA:181:G:O2'	1:QA:182:U:O5'	2.20	0.58
14:QN:24:CYS:HB3	14:QN:27:CYS:SG	2.40	0.58
33:RN:54:VAL:HB	33:RN:122:VAL:HG22	1.85	0.58
1:XA:1108:G:H5'	3:XC:176:HIS:ND1	2.18	0.58
17:XQ:55:ASP:HA	17:XQ:79:SER:HA	1.85	0.58
32:YI:56:LYS:HE3	32:YI:57:ARG:HA	1.84	0.58
37:YR:27:SER:HB3	37:YR:34:ILE:HD11	1.84	0.58
1:QA:927:G:H1	1:QA:1390:U:H3	1.52	0.57
13:QM:58:GLU:O	13:QM:62:ASN:ND2	2.31	0.57
25:RA:65:C:O2'	25:RA:456:C:N3	2.33	0.57
25:RA:414:C:O2	25:RA:1864:U:O2'	2.21	0.57
26:RB:44:G:OP1	50:R4:1:MET:N	2.35	0.57
28:RE:131:ALA:HB1	28:RE:135:HIS:HE1	1.69	0.57
33:RN:13:TRP:O	33:RN:135:PRO:HD2	2.03	0.57
36:RQ:135:ASP:OD2	45:RZ:81:ARG:NH1	2.37	0.57
44:RY:95:LYS:NZ	44:RY:99:CYS:O	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:673:G:H5''	6:XF:87:ARG:NH1	2.19	0.57
1:XA:1280:A:H1'	10:XJ:41:PRO:HG3	1.86	0.57
5:XE:91:LEU:HD12	5:XE:120:THR:HG22	1.85	0.57
19:XS:39:THR:HG21	50:Y4:68:ARG:HG2	1.84	0.57
19:XS:80:TYR:O	19:XS:82:GLY:N	2.36	0.57
25:YA:125:G:H5''	53:Y7:19:ARG:HD3	1.86	0.57
25:YA:221:A:H4'	25:YA:222:A:O5'	2.04	0.57
29:YF:28:ILE:HG22	29:YF:112:MET:HB3	1.85	0.57
30:YG:67:LYS:HE2	50:Y4:6:HIS:CE1	2.38	0.57
30:YG:98:ARG:NH1	50:Y4:1:MET:SD	2.77	0.57
37:YR:117:VAL:HG22	37:YR:118:GLU:H	1.68	0.57
39:YT:24:PRO:HA	39:YT:49:VAL:HG13	1.85	0.57
1:QA:559:A:H4'	1:QA:560:U:H3'	1.85	0.57
3:QC:134:ILE:HG23	3:QC:151:VAL:HB	1.85	0.57
7:QG:26:PHE:CE2	7:QG:30:ILE:HD11	2.38	0.57
30:RG:68:PRO:HB2	30:RG:90:LEU:HD12	1.86	0.57
42:RW:71:VAL:HA	42:RW:107:LEU:HD12	1.86	0.57
1:XA:1077:G:N2	1:XA:1080:A:OP2	2.34	0.57
3:XC:70:VAL:HG21	3:XC:76:VAL:HG11	1.85	0.57
25:YA:630:G:OP2	54:Y8:15:LYS:NZ	2.37	0.57
25:YA:1403:C:H5''	25:YA:1471:A:H1'	1.85	0.57
28:YE:35:GLN:HB3	28:YE:48:GLN:HB2	1.86	0.57
37:YR:24:GLN:OE1	37:YR:36:THR:HG21	2.04	0.57
38:YS:10:ARG:NH2	38:YS:91:PRO:O	2.36	0.57
42:YW:73:ALA:HB3	42:YW:106:ILE:HD13	1.84	0.57
1:QA:1002:G:N2	1:QA:1038:C:N3	2.46	0.57
25:RA:1490:A:O2'	27:RD:99:ASP:OD1	2.21	0.57
1:XA:1327:C:OP2	21:XU:12:LYS:NZ	2.36	0.57
1:XA:1453:G:H8	20:XT:39:LYS:HE2	1.69	0.57
25:YA:1899:G:H21	25:YA:1902:C:H41	1.51	0.57
29:YF:116:ASP:OD2	35:YP:1:MET:N	2.26	0.57
40:YU:92:ARG:HD3	40:YU:94:ASN:HB3	1.85	0.57
46:Y0:50:ASN:HB3	46:Y0:63:VAL:HG22	1.86	0.57
1:QA:953:G:N7	13:QM:104:ARG:NH2	2.52	0.57
3:QC:134:ILE:HG22	3:QC:168:ALA:HB3	1.86	0.57
7:QG:79:ARG:HH12	7:QG:82:GLY:HA2	1.69	0.57
31:RH:152:ARG:HH21	31:RH:153:LYS:HZ1	1.51	0.57
31:RH:153:LYS:HB3	31:RH:154:PRO:CD	2.34	0.57
36:RQ:81:VAL:HG23	46:R0:7:LEU:CD1	2.34	0.57
46:R0:18:ALA:O	46:R0:20:ARG:NH1	2.36	0.57
1:XA:559:A:OP1	5:XE:126:ARG:NH2	2.36	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:686:U:H1'	11:XK:42:TRP:HE1	1.68	0.57
11:XK:21:ILE:HG13	11:XK:30:VAL:HG12	1.86	0.57
11:XK:54:ARG:NH2	23:XW:39:U:O2'	2.38	0.57
25:YA:247:G:H4'	25:YA:386:G:C5	2.39	0.57
36:YQ:116:GLU:O	36:YQ:120:ILE:HG12	2.05	0.57
1:QA:564:C:P	12:QL:15:ARG:HH21	2.26	0.57
13:QM:14:ARG:N	13:QM:44:ARG:HD3	2.17	0.57
25:RA:330:A:H2	25:RA:1210:A:H2'	1.70	0.57
1:XA:538:G:H5''	12:XL:114:LYS:HB2	1.87	0.57
4:XD:154:ASN:OD1	4:XD:154:ASN:N	2.37	0.57
22:XV:0:C:O2'	46:Y0:6:GLY:O	2.21	0.57
25:YA:1428:C:N4	25:YA:1570:A:OP2	2.36	0.57
25:YA:2133:G:H1'	25:YA:2158:A:H61	1.70	0.57
35:YP:135:LEU:O	35:YP:139:LYS:HB2	2.04	0.57
36:YQ:66:ILE:HA	36:YQ:104:PHE:HA	1.85	0.57
1:QA:1376:U:P	7:QG:94:ARG:HH12	2.28	0.57
19:QS:67:VAL:HB	50:R4:59:PHE:CD2	2.38	0.57
25:RA:307:G:N2	25:RA:309:G:H3'	2.20	0.57
25:RA:2442:C:OP1	56:Z7:6:LYS:NZ	2.38	0.57
27:RD:145:VAL:HG13	27:RD:191:ALA:HB2	1.87	0.57
44:RY:76:CYS:SG	44:RY:77:PRO:HD2	2.45	0.57
1:XA:74:C:H42	1:XA:96:G:H1	1.51	0.57
1:XA:1349:A:OP2	9:XI:118:LYS:NZ	2.29	0.57
4:XD:9:CYS:HB3	4:XD:32:ALA:HB2	1.87	0.57
19:XS:32:LYS:HA	19:XS:50:ALA:HB3	1.86	0.57
25:YA:138:G:N2	43:YX:44:GLU:OE2	2.29	0.57
27:YD:65:ILE:H	27:YD:65:ILE:HD13	1.68	0.57
28:YE:11:MET:HG2	28:YE:24:THR:OG1	2.04	0.57
45:YZ:91:LEU:HG	45:YZ:130:PRO:CB	2.26	0.57
7:QG:15:ASP:OD1	7:QG:44:TYR:OH	2.22	0.57
12:QL:10:LEU:HB3	17:QQ:32:TYR:CE2	2.40	0.57
25:RA:1378:A:OP1	53:R7:10:ARG:NH2	2.37	0.57
30:RG:83:ARG:HG3	30:RG:86:MET:HE3	1.86	0.57
54:R8:36:LYS:HB3	54:R8:40:GLU:HG2	1.85	0.57
2:XB:96:ARG:HD3	2:XB:148:TYR:HE1	1.70	0.57
30:YG:98:ARG:HH12	50:Y4:1:MET:HB3	1.69	0.57
31:YH:149:ARG:HG3	31:YH:162:ILE:O	2.05	0.57
38:YS:52:SER:O	38:YS:55:ALA:O	2.21	0.57
1:QA:816:A:OP1	1:QA:1526:G:O2'	2.20	0.57
1:QA:1163:C:N4	1:QA:1173:G:H1	2.02	0.57
25:RA:137(A):G:H1'	43:RX:41:ASN:ND2	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RI:55:ALA:C	32:RI:58:LEU:HB3	2.30	0.57
25:RA:1045:A:C4	25:RA:1111:A:N6	2.73	0.57
25:RA:1341:U:OP2	25:RA:1394:U:O2'	2.19	0.57
25:RA:1936:A:OP2	25:RA:1962:C:N4	2.37	0.57
25:RA:2735:G:H2'	25:RA:2736:G:H8	1.67	0.57
27:RD:241:PRO:O	27:RD:242:ARG:HB2	2.04	0.57
30:RG:22:ARG:HH21	30:RG:171:ALA:HB1	1.69	0.57
1:XA:437:U:H2'	1:XA:438:G:O4'	2.04	0.57
16:XP:20:VAL:HG23	16:XP:35:LYS:HA	1.86	0.57
25:YA:1534:G:N2	25:YA:1537:C:O2	2.38	0.57
27:YD:71:ASP:CB	27:YD:103:ARG:HH22	2.18	0.57
1:QA:765:G:N2	1:QA:813:U:OP2	2.38	0.57
1:QA:1286:A:H5''	21:QU:26:LYS:HD2	1.85	0.57
2:QB:51:LEU:HD23	2:QB:201:ILE:HD12	1.86	0.57
6:QF:3:ARG:NH1	6:QF:38:GLU:OE2	2.37	0.57
13:QM:23:TYR:HB3	13:QM:67:GLU:HG2	1.87	0.57
19:QS:67:VAL:CB	50:R4:59:PHE:CE1	2.88	0.57
25:RA:247:G:H4'	25:RA:386:G:C5	2.40	0.57
27:RD:44:ASN:HB2	27:RD:48:ARG:O	2.05	0.57
37:RR:117:VAL:O	37:RR:118:GLU:HB2	2.05	0.57
39:RT:41:ARG:HB2	39:RT:41:ARG:CZ	2.34	0.57
1:XA:1126:U:H5	1:XA:1127:G:C4	2.22	0.57
25:YA:857:C:OP2	46:Y0:77:ARG:NH2	2.37	0.57
25:YA:1094:U:O2'	25:YA:1096:A:OP1	2.19	0.57
34:YO:85:VAL:HG11	34:YO:114:ILE:HD11	1.87	0.57
1:QA:973:G:O6	1:QA:974:A:N6	2.38	0.56
13:QM:3:ARG:NH2	30:RG:113:ARG:HH21	2.03	0.56
25:RA:2335:A:O2'	25:RA:2336:A:O5'	2.23	0.56
41:RV:52:VAL:HG21	41:RV:55:ALA:HB3	1.87	0.56
1:XA:1002:G:H2'	1:XA:1003:G:C8	2.40	0.56
9:XI:15:ALA:HB2	9:XI:65:VAL:HG23	1.86	0.56
25:YA:2632:A:HO2'	25:YA:2811:G:HO2'	1.51	0.56
26:YB:12:C:H2'	46:Y0:73:GLY:HA3	1.87	0.56
29:YF:107:LYS:HD2	29:YF:206:ILE:HA	1.86	0.56
32:YI:33:ARG:HB3	32:YI:35:LEU:HG	1.86	0.56
36:YQ:85:LYS:O	36:YQ:87:LYS:N	2.38	0.56
45:YZ:77:ASP:OD2	45:YZ:80:ARG:HD3	2.05	0.56
25:RA:1454:U:OP1	37:RR:77:ARG:NH1	2.34	0.56
27:RD:108:PRO:HB3	27:RD:143:HIS:CE1	2.40	0.56
27:RD:148:GLU:HB2	27:RD:151:LYS:HD2	1.87	0.56
44:RY:81:LYS:HZ3	44:RY:98:VAL:HG11	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1342:C:H4'	9:XI:125:TYR:HB3	1.87	0.56
10:XJ:50:ILE:HD11	10:XJ:57:LYS:HD3	1.85	0.56
25:YA:1664:A:N6	25:YA:1996:C:H42	2.00	0.56
50:Y4:71:ARG:HB2	50:Y4:71:ARG:HH11	1.68	0.56
1:QA:501:C:H2'	1:QA:502:G:H8	1.69	0.56
3:QC:73:PRO:HG3	3:QC:105:GLU:HG3	1.88	0.56
12:QL:117:ARG:HB3	12:QL:122:THR:HB	1.86	0.56
19:QS:64:GLU:HG3	50:R4:55:ARG:HH12	1.70	0.56
25:RA:1316:U:H2'	25:RA:1317:A:C8	2.41	0.56
28:RE:13:ARG:CB	28:RE:21:VAL:CG1	2.83	0.56
29:RF:11:VAL:HG12	29:RF:12:LEU:H	1.69	0.56
32:RI:116:LEU:O	32:RI:118:LYS:N	2.38	0.56
36:RQ:24:GLY:O	36:RQ:26:TYR:N	2.36	0.56
36:RQ:32:TYR:HE1	36:RQ:133:ARG:HG3	1.69	0.56
1:XA:953:G:N7	13:XM:104:ARG:NH2	2.52	0.56
19:XS:5:LEU:HD11	50:Y4:67:TYR:H	1.69	0.56
25:YA:1204:A:H1'	25:YA:1206:G:C8	2.40	0.56
25:YA:1798:U:H5''	27:YD:259:THR:HG22	1.87	0.56
25:YA:1991:U:H2'	25:YA:1992:G:H5''	1.87	0.56
26:YB:50:G:OP1	38:YS:61:ASN:ND2	2.38	0.56
27:YD:248:SER:OG	27:YD:252:TRP:CD1	2.57	0.56
30:YG:81:LYS:O	30:YG:82:LEU:HB2	2.04	0.56
35:YP:101:VAL:HG23	35:YP:106:LEU:HB3	1.88	0.56
39:YT:60:THR:HG22	39:YT:77:PRO:HA	1.86	0.56
41:YV:59:ALA:HB2	41:YV:96:ILE:HD13	1.88	0.56
42:YW:71:VAL:HA	42:YW:107:LEU:HD12	1.87	0.56
45:YZ:19:ARG:NH1	45:YZ:84:GLU:O	2.35	0.56
4:QD:195:ALA:CB	6:XF:16:GLN:O	2.51	0.56
19:QS:41:VAL:HB	19:QS:42:PRO:CA	2.35	0.56
25:RA:443:A:N7	29:RF:45:ARG:HD2	2.20	0.56
25:RA:443:A:C5	29:RF:45:ARG:HD2	2.41	0.56
25:RA:1337:G:OP2	43:RX:73:ARG:NH2	2.38	0.56
28:RE:15:PHE:CD1	28:RE:20:ALA:CB	2.87	0.56
35:RP:106:LEU:O	35:RP:107:LYS:HB2	2.05	0.56
36:RQ:43:THR:HA	36:RQ:94:VAL:HG12	1.88	0.56
38:RS:106:ARG:HA	38:RS:110:LEU:HD11	1.87	0.56
51:R5:58:LEU:C	51:R5:60:VAL:N	2.62	0.56
1:XA:403:C:OP1	4:XD:137:SER:OG	2.24	0.56
1:XA:627:G:H2'	1:XA:628:G:H8	1.70	0.56
27:YD:121:PRO:HA	27:YD:135:PHE:HD2	1.62	0.56
32:YI:79:ILE:HB	32:YI:142:VAL:HA	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:YZ:152:ALA:HB2	45:YZ:168:GLU:HA	1.87	0.56
1:QA:613:C:H42	1:QA:627:G:H1	1.53	0.56
1:QA:1004:A:O5'	1:QA:1025:U:N3	2.38	0.56
4:QD:195:ALA:HB2	6:XF:20:ALA:CB	2.35	0.56
17:QQ:90:ILE:O	17:QQ:94:ASN:ND2	2.38	0.56
25:RA:2212:A:H1'	25:RA:2215:G:C5	2.40	0.56
28:RE:10:GLY:HA3	39:RT:8:LYS:HD2	1.85	0.56
36:RQ:66:ILE:HA	36:RQ:104:PHE:HA	1.87	0.56
37:RR:67:LEU:HD13	37:RR:76:VAL:HG21	1.86	0.56
39:RT:111:ARG:C	39:RT:113:LYS:H	2.12	0.56
41:RV:44:LYS:HE2	41:RV:45:THR:H	1.70	0.56
1:XA:235:C:H2'	1:XA:236:G:H8	1.70	0.56
1:XA:720:C:H5''	18:XR:52:PRO:HA	1.88	0.56
36:YQ:20:ALA:HB3	45:YZ:79:ARG:CZ	2.35	0.56
1:QA:6:G:H4'	1:QA:298:A:H4'	1.87	0.56
1:QA:376:G:H5''	16:QP:5:ARG:HD2	1.87	0.56
1:QA:942:G:N2	9:QI:124:GLN:OE1	2.31	0.56
25:RA:1012:U:O2'	25:RA:1013:C:OP2	2.19	0.56
25:RA:2019:A:OP2	51:R5:9:LYS:NZ	2.39	0.56
28:RE:4:ILE:HD12	28:RE:28:ALA:HB1	1.88	0.56
31:RH:86:GLU:H	31:RH:86:GLU:CD	2.12	0.56
35:RP:68:GLN:HG2	54:R8:12:LYS:HD3	1.88	0.56
1:XA:971:G:H5''	1:XA:972:C:H5''	1.88	0.56
25:YA:2689:U:OP2	25:YA:2719:G:N2	2.33	0.56
26:YB:24:G:H1'	26:YB:26:A:H62	1.70	0.56
31:YH:153:LYS:HA	31:YH:153:LYS:NZ	2.21	0.56
41:YV:66:ARG:HH11	41:YV:88:ARG:HD3	1.71	0.56
51:Y5:33:CYS:SG	51:Y5:34:PRO:HD2	2.45	0.56
9:QI:95:LYS:HZ1	9:QI:96:LEU:HD13	1.71	0.56
23:QW:18:G:H22	23:QW:55:U:H1'	1.71	0.56
32:RI:8:PRO:HD3	32:RI:15:VAL:HG13	1.87	0.56
51:R5:50:GLY:HA3	51:R5:56:LYS:CG	2.35	0.56
25:YA:910:A:N3	25:YA:2264:C:O2'	2.39	0.56
25:YA:1266:G:O5'	42:YW:15:ARG:NH2	2.38	0.56
25:YA:2820:A:C8	28:YE:109:LYS:HE2	2.40	0.56
31:YH:92:ILE:H	31:YH:92:ILE:HD12	1.71	0.56
52:Y6:25:LYS:HE2	52:Y6:27:LYS:HE3	1.87	0.56
2:QB:82:ARG:HA	2:QB:92:TYR:HE2	1.71	0.56
8:QH:106:GLY:O	8:QH:122:ARG:NH2	2.36	0.56
10:QJ:5:ARG:HG3	10:QJ:71:LEU:HD11	1.87	0.56
12:QL:45:PRO:HB3	12:QL:92:ASP:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:27:G:O2'	25:RA:28:A:O5'	2.23	0.56
31:RH:89:ILE:O	31:RH:89:ILE:HG12	2.04	0.56
32:RI:29:TYR:HD2	32:RI:30:LEU:HD23	1.71	0.56
1:XA:1347:G:N2	1:XA:1374:A:OP2	2.34	0.56
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.40	0.56
2:XB:84:GLU:HB3	2:XB:219:VAL:HG21	1.86	0.56
3:XC:174:PRO:HD2	3:XC:182:ILE:HD11	1.88	0.56
7:XG:54:THR:O	7:XG:56:GLN:N	2.39	0.56
16:XP:20:VAL:HG21	16:XP:32:TYR:CD2	2.40	0.56
25:YA:2109:U:H3	25:YA:2180:U:H3	1.54	0.56
34:YO:97:ARG:HA	34:YO:117:LEU:HD22	1.88	0.56
25:RA:242:G:C8	54:R8:5:LYS:HG2	2.40	0.56
25:RA:2690:C:OP2	37:RR:14:SER:HB3	2.06	0.56
1:XA:911:U:OP2	12:XL:97:ARG:NH2	2.27	0.56
1:XA:1128:C:N4	1:XA:1144:G:N1	2.54	0.56
2:XB:21:ARG:O	2:XB:23:ARG:HD3	2.05	0.56
4:XD:122:ARG:NH1	4:XD:134:ASP:O	2.39	0.56
25:YA:2849:U:OP2	39:YT:95:ARG:NH1	2.39	0.56
27:YD:43:ARG:NH1	27:YD:44:ASN:OD1	2.39	0.56
31:YH:10:PRO:HD2	31:YH:50:VAL:CG1	2.35	0.56
33:YN:56:ASN:N	33:YN:125:GLY:O	2.22	0.56
44:YY:95:LYS:HB3	44:YY:100:ALA:HA	1.87	0.56
1:QA:620:C:C2	4:QD:135:LEU:HG	2.40	0.56
1:QA:974:A:H1'	14:QN:31:ARG:HE	1.70	0.56
4:QD:165:MET:SD	4:QD:168:ARG:HD2	2.46	0.56
25:RA:793:A:OP2	25:RA:2071:A:O2'	2.22	0.56
25:RA:1509:C:H3'	25:RA:1510:A:H5''	1.88	0.56
25:RA:1754:C:OP1	39:RT:96:ARG:NH1	2.34	0.56
32:RI:41:GLU:HA	32:RI:44:LEU:HB2	1.87	0.56
34:RO:1:MET:HE3	34:RO:67:LYS:HG2	1.88	0.56
43:RX:31:HIS:CD2	43:RX:32:PRO:HD2	2.41	0.56
45:RZ:182:LYS:H	45:RZ:182:LYS:HD3	1.70	0.56
51:R5:55:ARG:HH12	51:R5:57:VAL:HA	1.69	0.56
1:XA:250:A:H4'	1:XA:251:G:O5'	2.04	0.56
3:XC:130:VAL:O	3:XC:134:ILE:HG12	2.06	0.56
4:XD:11:LEU:HD13	4:XD:66:ARG:HG2	1.87	0.56
25:YA:2335:A:O2'	25:YA:2336:A:H2'	2.05	0.56
25:YA:2340:G:H2'	25:YA:2341:G:H8	1.70	0.56
12:QL:89:ARG:HB3	12:QL:97:ARG:HA	1.88	0.55
29:RF:24:LEU:CD2	29:RF:115:ALA:HA	2.36	0.55
35:RP:121:LYS:HD3	35:RP:122:PRO:HD2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:RT:26:ASP:O	39:RT:49:VAL:HG12	2.07	0.55
51:R5:52:TYR:O	51:R5:53:ALA:HB2	2.06	0.55
52:R6:36:LEU:HB2	52:R6:50:ARG:HA	1.89	0.55
1:XA:1175:G:H2'	1:XA:1176:A:C8	2.41	0.55
3:XC:9:GLY:HA2	3:XC:12:LEU:HD23	1.88	0.55
25:YA:1266:G:O2'	25:YA:2012:G:O6	2.16	0.55
33:YN:40:PRO:O	40:YU:64:ARG:HD2	2.06	0.55
38:YS:58:LEU:H	38:YS:58:LEU:HD23	1.70	0.55
1:QA:401:C:O2'	1:QA:621:A:N3	2.39	0.55
4:QD:187:ARG:NH2	4:QD:193:ASP:OD2	2.38	0.55
6:QF:69:GLU:CD	6:QF:69:GLU:H	2.15	0.55
23:QW:12:U:H3	23:QW:23:A:N6	2.02	0.55
25:RA:2404:C:H1'	35:RP:67:MET:HE1	1.88	0.55
29:RF:110:LEU:HD11	29:RF:181:LEU:HD12	1.88	0.55
32:RI:92:VAL:HG13	32:RI:120:ILE:HG23	1.88	0.55
45:RZ:111:VAL:HG13	45:RZ:112:ARG:N	2.19	0.55
50:R4:24:THR:OG1	50:R4:25:TYR:N	2.38	0.55
1:XA:486:U:H2'	1:XA:487:A:H8	1.70	0.55
2:XB:158:LEU:HD13	2:XB:182:ILE:HD11	1.89	0.55
39:YT:29:ARG:HB2	39:YT:46:GLU:HG3	1.88	0.55
1:QA:411:A:H62	1:QA:413:G:H21	1.53	0.55
2:QB:5:ILE:HD12	2:QB:224:GLN:HG2	1.88	0.55
2:QB:71:VAL:HG12	2:QB:93:VAL:HB	1.88	0.55
10:QJ:16:LEU:HD23	10:QJ:94:VAL:HG13	1.89	0.55
19:QS:64:GLU:HG3	50:R4:55:ARG:NH1	2.21	0.55
25:RA:1417:C:H2'	25:RA:1418:G:O4'	2.05	0.55
28:RE:63:LEU:CD1	28:RE:65:GLY:H	2.20	0.55
33:RN:42:TRP:HA	33:RN:48:MET:HE1	1.88	0.55
47:R1:53:VAL:HG11	47:R1:90:ILE:HD11	1.88	0.55
1:XA:664:G:N2	1:XA:741:G:H1	2.03	0.55
10:XJ:34:VAL:HG22	10:XJ:74:ILE:HG22	1.89	0.55
15:XO:18:PHE:CE1	15:XO:21:ASP:HB2	2.41	0.55
27:YD:232:PRO:HB3	27:YD:244:ARG:NH1	2.21	0.55
35:YP:52:GLU:HG3	35:YP:57:THR:HG22	1.88	0.55
36:YQ:20:ALA:HB3	45:YZ:79:ARG:NH2	2.21	0.55
39:YT:39:ARG:HG2	39:YT:40:THR:H	1.72	0.55
41:YV:38:LEU:H	41:YV:51:VAL:HG13	1.70	0.55
1:QA:1118:C:H1'	1:QA:1179:A:C4	2.41	0.55
10:QJ:78:ASN:O	10:QJ:81:THR:OG1	2.24	0.55
13:QM:80:ARG:CD	50:R4:71:ARG:NH2	2.48	0.55
32:RI:21:VAL:HG21	32:RI:25:TYR:HD2	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RI:52:ARG:O	32:RI:56:LYS:CA	2.55	0.55
34:RO:78:ARG:HH21	39:RT:103:ARG:NH2	2.03	0.55
41:RV:7:THR:HG23	41:RV:22:VAL:HG11	1.88	0.55
42:RW:86:LEU:HD22	42:RW:96:ILE:HD11	1.88	0.55
25:YA:922:U:H2'	25:YA:923:C:C6	2.42	0.55
29:YF:101:LEU:O	29:YF:106:ARG:NH1	2.40	0.55
31:YH:121:ILE:HG12	31:YH:140:LYS:HD2	1.89	0.55
54:Y8:50:LEU:HD12	54:Y8:51:ALA:N	2.21	0.55
1:QA:437:U:H2'	1:QA:438:G:O4'	2.06	0.55
2:QB:101:MET:HE2	2:QB:108:ILE:HG21	1.88	0.55
4:QD:195:ALA:HB3	6:XF:20:ALA:HB2	1.87	0.55
8:QH:86:ILE:HG13	8:QH:133:LEU:HD22	1.89	0.55
25:RA:181:A:H1'	25:RA:435:C:H5'	1.88	0.55
25:RA:2015:A:H1'	51:R5:2:ALA:HA	1.87	0.55
29:RF:101:LEU:O	29:RF:106:ARG:NH1	2.40	0.55
31:RH:41:MET:HE1	31:RH:64:LEU:HD22	1.88	0.55
32:RI:94:ALA:H	32:RI:116:LEU:HD13	1.71	0.55
44:RY:81:LYS:HB2	44:RY:96:ILE:HG22	1.89	0.55
44:RY:95:LYS:CB	44:RY:100:ALA:HA	2.36	0.55
51:R5:4:HIS:HB3	51:R5:5:PRO:CD	2.32	0.55
1:XA:1226:C:O2'	13:XM:103:THR:O	2.23	0.55
5:XE:37:ARG:HA	5:XE:114:GLY:N	2.21	0.55
20:XT:49:ALA:HB1	20:XT:99:LEU:HB2	1.89	0.55
25:YA:1138:G:N2	33:YN:106:MET:HE3	2.14	0.55
25:YA:1416:G:H2'	25:YA:1417:C:C6	2.42	0.55
25:YA:2096:U:H3	25:YA:2193:G:H1	1.54	0.55
25:YA:2688:U:H5	25:YA:2720:U:OP2	1.89	0.55
1:QA:1453:G:H8	20:QT:39:LYS:HZ1	1.55	0.55
4:QD:30:LYS:O	4:QD:30:LYS:HG2	2.07	0.55
9:QI:77:ILE:O	9:QI:81:ILE:HG12	2.06	0.55
19:QS:70:LYS:HZ1	50:R4:68:ARG:NH2	2.04	0.55
25:RA:535:C:O3'	40:RU:53:ARG:NH1	2.39	0.55
25:RA:1045:A:N9	25:RA:1111:A:N6	2.55	0.55
25:RA:1141:U:H1'	25:RA:1142(A):A:C6	2.42	0.55
27:RD:35:LYS:NZ	27:RD:104:TYR:HB2	2.21	0.55
44:RY:96:ILE:HG12	44:RY:101:LYS:HB2	1.88	0.55
50:R4:16:CYS:SG	50:R4:36:CYS:N	2.79	0.55
2:XB:82:ARG:NH1	2:XB:86:GLU:OE2	2.40	0.55
4:XD:31:CYS:O	4:XD:31:CYS:SG	2.65	0.55
13:XM:68:GLY:C	30:YG:116:ASP:OD2	2.49	0.55
25:YA:273(C):C:H42	25:YA:363(C):G:H1	1.52	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1826:G:OP1	27:YD:224:ALA:N	2.39	0.55
28:YE:14:ILE:CG2	28:YE:21:VAL:HG21	2.34	0.55
28:YE:63:LEU:HD12	28:YE:64:LYS:N	2.22	0.55
32:YI:129:THR:HA	32:YI:137:PRO:HA	1.88	0.55
39:YT:3:ARG:HG3	39:YT:7:ILE:HG12	1.88	0.55
1:QA:1047:G:H1	1:QA:1210:C:H42	1.55	0.55
25:RA:1316:U:H2'	25:RA:1317:A:H8	1.71	0.55
25:RA:2805:G:H2'	25:RA:2807:G:C8	2.41	0.55
40:RU:52:ARG:HA	40:RU:55:ARG:HG3	1.87	0.55
44:RY:37:VAL:HG21	44:RY:72:VAL:HG21	1.88	0.55
1:XA:362:G:N2	1:XA:365:U:OP2	2.39	0.55
1:XA:1128:C:C2	1:XA:1144:G:N2	2.74	0.55
1:XA:1414:U:H2'	1:XA:1415:G:C8	2.42	0.55
25:YA:458:G:O2'	25:YA:469:G:O6	2.19	0.55
25:YA:574:C:N3	28:YE:145:LYS:NZ	2.50	0.55
25:YA:1220:A:OP2	40:YU:19:LYS:NZ	2.33	0.55
25:YA:2438:U:O3'	25:YA:2439:A:H3'	2.07	0.55
25:YA:2757:A:OP1	55:Y9:19:ARG:HA	2.06	0.55
29:YF:68:LYS:O	29:YF:69:HIS:HB2	2.07	0.55
31:YH:157:TYR:HA	31:YH:171:LEU:O	2.06	0.55
52:Y6:28:ARG:HB3	52:Y6:30:THR:H	1.71	0.55
1:QA:1159:U:O2'	1:QA:1160:G:N7	2.39	0.55
13:QM:7:VAL:HB	30:RG:115:ARG:HH12	1.71	0.55
19:QS:42:PRO:CD	50:R4:63:TYR:CE1	2.89	0.55
25:RA:807:U:H2'	25:RA:808:G:C8	2.41	0.55
36:RQ:30:GLY:CA	36:RQ:107:ALA:HB2	2.37	0.55
1:XA:410:G:H4'	1:XA:411:A:OP1	2.07	0.55
1:XA:1226:C:O2'	13:XM:111:LYS:NZ	2.40	0.55
5:XE:50:GLU:HB3	5:XE:53:LEU:HD13	1.88	0.55
8:XH:86:ILE:HG22	8:XH:93:VAL:HG21	1.89	0.55
9:XI:16:ARG:HB2	9:XI:64:THR:HB	1.89	0.55
25:YA:1062:G:H2'	25:YA:1063:G:C8	2.42	0.55
41:YV:61:VAL:HG23	41:YV:63:GLY:H	1.71	0.55
46:Y0:27:GLU:HB2	46:Y0:69:PHE:HD1	1.72	0.55
1:QA:115:G:H4'	1:QA:116:A:O5'	2.07	0.55
1:QA:1162:C:H2'	1:QA:1163:C:O4'	2.07	0.55
1:QA:1405:G:OP2	58:QA:1667:PAR:O34	2.25	0.55
31:RH:109:PHE:HZ	31:RH:152:ARG:HG2	1.72	0.55
11:XK:34:ASP:OD1	11:XK:38:ASN:N	2.39	0.55
23:XW:20:U:H2'	23:XW:21:A:H4'	1.88	0.55
25:YA:1178:C:H2'	25:YA:1179:C:C6	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1359:A:H61	25:YA:1372:U:H3	1.39	0.55
25:YA:2031:A:N3	25:YA:2455:G:O2'	2.39	0.55
32:YL:3:VAL:HG12	32:YL:38:LEU:HA	1.87	0.55
35:YP:71:VAL:HG13	35:YP:72:PRO:HD3	1.88	0.55
39:YT:26:ASP:O	39:YT:49:VAL:HG12	2.07	0.55
41:YV:34:GLU:O	41:YV:36:PRO:HD3	2.06	0.55
42:YW:14:PRO:O	42:YW:17:VAL:N	2.40	0.55
1:QA:976:G:OP2	1:QA:1358:U:O2'	2.25	0.55
10:QJ:8:LEU:HB3	10:QJ:16:LEU:HD21	1.87	0.55
14:QN:48:ALA:HB2	14:QN:53:LEU:HD12	1.89	0.55
25:RA:1689:A:H2'	25:RA:1690:A:H8	1.72	0.55
29:RF:24:LEU:HG	29:RF:115:ALA:CB	2.37	0.55
31:RH:124:GLU:HB3	31:RH:132:ARG:HG3	1.89	0.55
39:RT:1:MET:O	39:RT:3:ARG:N	2.40	0.55
8:XH:54:ASP:N	8:XH:54:ASP:OD1	2.39	0.55
12:XL:70:ILE:HG12	12:XL:100:ILE:HD12	1.88	0.55
39:YT:62:THR:HG22	39:YT:75:ILE:HG12	1.89	0.55
54:Y8:60:LEU:HB3	54:Y8:63:PRO:HG2	1.89	0.55
5:QE:78:HIS:CE1	5:QE:142:LEU:HD23	2.42	0.54
10:QJ:13:HIS:CE1	10:QJ:14:LYS:HE3	2.42	0.54
14:QN:24:CYS:HB3	14:QN:28:GLY:H	1.71	0.54
25:RA:1021:A:N6	25:RA:1142(A):A:H61	2.02	0.54
25:RA:1359:A:N6	25:RA:1372:U:C4	2.75	0.54
25:RA:2335:A:O2'	25:RA:2336:A:H2'	2.07	0.54
29:RF:184:TYR:CE2	29:RF:188:ARG:HD2	2.42	0.54
36:RQ:31:ASP:O	36:RQ:134:ARG:HB2	2.07	0.54
48:R2:42:GLY:O	48:R2:44:LEU:N	2.35	0.54
4:XD:92:VAL:O	4:XD:96:LEU:HD22	2.07	0.54
5:XE:100:VAL:HG22	5:XE:118:ILE:HG22	1.89	0.54
10:XJ:33:GLN:HB2	10:XJ:75:ILE:HD11	1.88	0.54
23:XW:16:U:H3'	23:XW:17:C:H5'	1.89	0.54
45:YZ:48:PHE:CE1	45:YZ:52:SER:HA	2.42	0.54
1:QA:1321:C:H3'	1:QA:1322:C:H5''	1.88	0.54
5:QE:7:GLU:N	5:QE:35:GLY:O	2.36	0.54
25:RA:1085:A:O2'	25:RA:1086:A:OP1	2.24	0.54
26:RB:38:C:N3	26:RB:44:G:N2	2.42	0.54
33:RN:30:ILE:HG22	33:RN:34:LEU:HD22	1.88	0.54
43:RX:25:LYS:HD3	43:RX:80:ILE:HD11	1.89	0.54
54:R8:29:LYS:HD3	54:R8:44:LYS:HB2	1.88	0.54
1:XA:963:G:N2	1:XA:972:C:C2	2.70	0.54
25:YA:34:C:H41	25:YA:447:A:H61	1.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:270(R):G:H2'	25:YA:270(S):G:H8	1.73	0.54
25:YA:764:A:N3	27:YD:213:ARG:NH1	2.55	0.54
25:YA:898:C:H2'	25:YA:899:A:H5'	1.88	0.54
25:YA:1187:G:H5''	41:YV:81:TYR:CE1	2.43	0.54
25:YA:2346:A:H8	54:Y8:35:GLN:NE2	2.05	0.54
27:YD:12:SER:O	27:YD:16:MET:HB2	2.08	0.54
33:YN:39:ARG:HD3	33:YN:48:MET:HE2	1.87	0.54
33:YN:42:TRP:O	40:YU:64:ARG:NH2	2.41	0.54
45:YZ:5:LEU:HD21	45:YZ:44:PHE:HA	1.89	0.54
6:QF:17:SER:C	6:QF:19:LEU:N	2.64	0.54
9:QI:26:VAL:HG22	9:QI:61:ALA:HB3	1.89	0.54
22:QV:21:A:H61	22:QV:46:G:H2'	1.73	0.54
25:RA:686:G:H21	25:RA:788:A:H61	1.54	0.54
33:RN:40:PRO:HB3	40:RU:68:ALA:HB2	1.89	0.54
36:RQ:54:MET:HG3	36:RQ:117:ALA:HB1	1.89	0.54
51:R5:55:ARG:HH11	51:R5:57:VAL:CA	2.20	0.54
1:XA:1151:A:H2'	1:XA:1152:A:C8	2.43	0.54
3:XC:150:LYS:HE2	3:XC:152:ILE:HD11	1.88	0.54
12:XL:115:LYS:O	12:XL:117:ARG:N	2.35	0.54
13:XM:22:ILE:HD12	13:XM:25:ILE:HD12	1.89	0.54
25:YA:587:C:H4'	25:YA:588:U:O5'	2.07	0.54
37:YR:55:ALA:HB2	37:YR:79:LEU:HD13	1.89	0.54
37:YR:56:LYS:NZ	37:YR:87:TYR:O	2.40	0.54
4:QD:149:ALA:HB3	4:QD:152:SER:HB2	1.89	0.54
25:RA:307:G:H21	25:RA:330:A:H62	1.55	0.54
25:RA:442:G:H1'	29:RF:48:THR:HG21	1.89	0.54
27:RD:35:LYS:HZ1	27:RD:104:TYR:HB2	1.71	0.54
28:RE:35:GLN:HE21	28:RE:37:ARG:CZ	2.21	0.54
32:RI:113:ARG:HG3	32:RI:131:LYS:NZ	2.23	0.54
45:RZ:146:ILE:HA	45:RZ:174:VAL:HB	1.90	0.54
1:XA:910:C:P	12:XL:97:ARG:HH22	2.31	0.54
1:XA:973:G:H3'	1:XA:974:A:H5''	1.88	0.54
18:XR:31:LEU:HD23	18:XR:31:LEU:H	1.73	0.54
25:YA:27:G:N2	25:YA:513:A:OP2	2.40	0.54
25:YA:900:A:H3'	25:YA:901:A:H8	1.73	0.54
25:YA:2349:G:OP2	54:Y8:42:ARG:HD3	2.08	0.54
35:YP:64:LYS:O	35:YP:66:GLY:N	2.41	0.54
36:YQ:109:VAL:HG13	36:YQ:113:GLN:HB3	1.89	0.54
51:Y5:55:ARG:HG3	51:Y5:57:VAL:H	1.73	0.54
1:QA:1126:U:H1'	1:QA:1280:A:N7	2.23	0.54
30:RG:16:ARG:NH2	30:RG:28:VAL:O	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RI:93:THR:O	32:RI:97:ILE:HG12	2.06	0.54
1:XA:1095:U:P	1:XA:1108:G:H1	2.30	0.54
5:XE:12:LEU:HD21	5:XE:14:ARG:HD3	1.89	0.54
9:XI:40:LEU:C	9:XI:42:ARG:H	2.15	0.54
10:XJ:9:ARG:HB2	10:XJ:95:GLU:HB3	1.88	0.54
25:YA:84:A:N1	25:YA:98:G:O2'	2.39	0.54
25:YA:1798:U:H5'	27:YD:259:THR:HG22	1.90	0.54
48:Y2:35:LEU:HD12	48:Y2:53:LEU:HD12	1.89	0.54
1:QA:983:A:N1	1:QA:1222:G:N2	2.56	0.54
9:QI:121:ARG:NH1	9:QI:122:ALA:O	2.40	0.54
10:QJ:22:LYS:HZ1	10:QJ:23:ILE:HG12	1.73	0.54
25:RA:642:G:H21	25:RA:646:A:H2	1.55	0.54
25:RA:693:C:O2'	25:RA:1353:A:N3	2.41	0.54
25:RA:2292:C:OP1	38:RS:17:ARG:NH2	2.40	0.54
37:RR:103:ARG:NH1	37:RR:108:GLY:O	2.41	0.54
40:RU:112:ARG:NH2	41:RV:47:VAL:HG13	2.23	0.54
43:RX:83:VAL:CG1	43:RX:87:GLN:HB2	2.38	0.54
45:RZ:53:ILE:H	45:RZ:71:VAL:HG13	1.72	0.54
47:R1:58:ILE:HD11	47:R1:86:SER:HB2	1.88	0.54
48:R2:50:ILE:HD12	48:R2:51:ARG:H	1.73	0.54
3:XC:150:LYS:HB3	3:XC:201:TYR:HB2	1.90	0.54
7:XG:49:ILE:O	7:XG:53:LYS:HB3	2.07	0.54
13:XM:20:THR:C	13:XM:22:ILE:H	2.16	0.54
25:YA:99:U:H4'	25:YA:101:G:H5''	1.89	0.54
25:YA:2573:C:OP1	25:YA:2574:G:OP1	2.25	0.54
26:YB:43:C:H5'	50:Y4:1:MET:HA	1.89	0.54
33:YN:35:ARG:HB2	33:YN:42:TRP:CH2	2.42	0.54
46:Y0:20:ARG:O	46:Y0:24:LYS:NZ	2.39	0.54
25:RA:78:A:H2'	25:RA:79:G:H8	1.73	0.54
25:RA:1453:A:N6	25:RA:2702:U:H1'	2.23	0.54
25:RA:2068:U:N3	25:RA:2430:A:H2	2.04	0.54
26:RB:44:G:H1'	26:RB:47:C:H42	1.71	0.54
26:RB:52:A:N6	38:RS:33:LYS:HG3	2.23	0.54
35:RP:38:GLN:HG2	35:RP:45:LEU:CD1	2.36	0.54
39:RT:111:ARG:O	39:RT:112:ARG:HG3	2.08	0.54
1:XA:299:G:H2'	1:XA:300:A:C8	2.43	0.54
7:XG:20:ASP:HB3	7:XG:23:VAL:HG23	1.89	0.54
25:YA:444:C:H4'	29:YF:49:ALA:HB2	1.89	0.54
25:YA:2061:G:OP1	29:YF:68:LYS:NZ	2.41	0.54
40:YU:76:TYR:CZ	40:YU:80:ILE:HG13	2.43	0.54
50:Y4:55:ARG:HG3	50:Y4:59:PHE:HD2	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1499:A:OP1	1:QA:1505:G:OP2	2.26	0.54
25:RA:1359:A:C6	25:RA:1372:U:C4	2.96	0.54
35:RP:14:LYS:O	35:RP:16:ARG:HG2	2.08	0.54
52:R6:15:GLU:CD	52:R6:41:PRO:HB3	2.32	0.54
13:XM:3:ARG:HA	13:XM:9:ILE:CG2	2.37	0.54
25:YA:1790:C:H2'	25:YA:1791:A:C5	2.42	0.54
30:YG:15:VAL:HG21	30:YG:176:LEU:HD23	1.90	0.54
1:QA:1305:G:N2	1:QA:1331:G:H2'	2.22	0.54
1:QA:1436:U:H2'	1:QA:1437:C:O4'	2.07	0.54
13:QM:22:ILE:HB	13:QM:25:ILE:HD12	1.89	0.54
23:QW:68:C:H2'	23:QW:69:G:H8	1.71	0.54
25:RA:2469:A:H5''	25:RA:2470:G:C8	2.43	0.54
25:RA:2543:G:H21	25:RA:2646:C:H5''	1.73	0.54
27:RD:228:PRO:HD3	27:RD:234:GLY:C	2.33	0.54
45:RZ:82:ARG:HG3	45:RZ:83:PRO:HD2	1.90	0.54
3:XC:15:THR:HG23	3:XC:181:ASN:HD22	1.73	0.54
16:XP:43:LYS:HG2	16:XP:48:TRP:CE3	2.42	0.54
23:XW:49:C:N3	23:XW:65:G:N2	2.55	0.54
27:YD:170:GLY:C	27:YD:172:TYR:H	2.16	0.54
28:YE:111:ARG:HD2	28:YE:160:TYR:CD2	2.42	0.54
31:YH:12:PRO:CD	31:YH:48:GLY:O	2.55	0.54
45:YZ:149:SER:HB2	45:YZ:172:ALA:O	2.07	0.54
1:QA:412:A:H4'	1:QA:413:G:O5'	2.08	0.54
2:QB:204:ASN:HD22	2:QB:206:ASP:H	1.56	0.54
2:QB:235:SER:O	2:QB:237:ALA:N	2.41	0.54
13:QM:80:ARG:HB2	50:R4:71:ARG:HH22	1.72	0.54
19:QS:10:PHE:HE1	19:QS:16:LEU:HD22	1.73	0.54
25:RA:288:C:H2'	25:RA:289:A:C8	2.42	0.54
25:RA:574:C:N3	28:RE:145:LYS:NZ	2.55	0.54
25:RA:947:G:H2'	25:RA:948:G:C8	2.42	0.54
25:RA:1268:A:H2'	25:RA:1269:A:O4'	2.07	0.54
25:RA:2441:C:OP2	25:RA:2586:C:O2'	2.25	0.54
25:RA:2725:A:O2'	25:RA:2726:U:H5''	2.08	0.54
25:RA:2786:U:O2'	28:RE:62:PRO:O	2.23	0.54
28:RE:111:ARG:HG3	28:RE:160:TYR:CD2	2.43	0.54
32:RI:33:ARG:HB3	32:RI:35:LEU:HD23	1.90	0.54
37:RR:45:ARG:HA	37:RR:95:THR:HG21	1.90	0.54
39:RT:37:GLY:O	39:RT:39:ARG:N	2.34	0.54
17:XQ:4:LYS:HE3	17:XQ:6:LEU:HD21	1.90	0.54
25:YA:528:A:C2	25:YA:2042:A:H2'	2.42	0.54
27:YD:70:TRP:CH2	27:YD:150:LYS:HA	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YI:79:ILE:N	32:YI:141:LYS:O	2.40	0.54
45:YZ:82:ARG:HG3	45:YZ:83:PRO:HD2	1.90	0.54
3:QC:84:ILE:HD11	3:QC:88:ARG:HH21	1.73	0.53
19:QS:64:GLU:CG	50:R4:55:ARG:HH12	2.21	0.53
25:RA:551:G:H5'	25:RA:1220:A:H1'	1.89	0.53
25:RA:1754:C:H5''	39:RT:113:LYS:HE3	1.90	0.53
27:RD:44:ASN:HD22	27:RD:44:ASN:N	2.06	0.53
45:RZ:76:LEU:HD23	45:RZ:76:LEU:H	1.73	0.53
50:R4:56:VAL:HA	50:R4:60:GLN:HB2	1.89	0.53
1:XA:255:G:O6	1:XA:266:G:O6	2.26	0.53
1:XA:407:G:H2'	1:XA:408:A:H8	1.74	0.53
1:XA:1376:U:H2'	1:XA:1377:A:C8	2.43	0.53
10:XJ:32:ALA:H	10:XJ:78:ASN:HD21	1.56	0.53
25:YA:2015:A:H1'	51:Y5:2:ALA:CA	2.37	0.53
25:YA:2680:C:H5'	28:YE:189:PRO:HA	1.90	0.53
25:YA:2849:U:P	39:YT:95:ARG:HH12	2.31	0.53
27:YD:43:ARG:CB	27:YD:54:ARG:HB2	2.38	0.53
28:YE:78:LEU:HG	28:YE:79:ARG:NE	2.23	0.53
1:QA:1175:G:H2'	1:QA:1176:A:H8	1.74	0.53
1:QA:1318:A:H4'	19:QS:11:VAL:HG11	1.89	0.53
2:QB:84:GLU:HB3	2:QB:219:VAL:HG21	1.89	0.53
10:QJ:80:LYS:HG2	1:XA:1162:C:O2'	2.08	0.53
12:QL:55:VAL:HG12	12:QL:69:TYR:HA	1.90	0.53
25:RA:519:U:H2'	25:RA:520:G:H8	1.73	0.53
25:RA:882:G:H1	25:RA:894:C:N4	2.02	0.53
25:RA:974(A):C:H4'	25:RA:975:G:O5'	2.08	0.53
25:RA:2126:A:N6	25:RA:2163:C:O2'	2.42	0.53
28:RE:21:VAL:CG2	28:RE:22:PRO:CB	2.58	0.53
45:RZ:152:ALA:O	45:RZ:154:ASP:N	2.40	0.53
2:XB:82:ARG:HA	2:XB:92:TYR:CE2	2.43	0.53
3:XC:14:ILE:O	3:XC:16:ARG:N	2.35	0.53
11:XK:84:VAL:HG11	11:XK:95:ILE:HD11	1.90	0.53
19:XS:64:GLU:CG	50:Y4:55:ARG:HH12	2.21	0.53
23:XW:76:A:N6	25:YA:2422:A:O4'	2.41	0.53
32:YI:62:LYS:HE3	32:YI:134:PRO:HG2	1.90	0.53
33:YN:6:PRO:HG3	33:YN:41:ASP:HB2	1.89	0.53
48:Y2:15:LYS:H	48:Y2:67:LYS:HE2	1.73	0.53
1:QA:1004:A:P	1:QA:1025:U:H3	2.30	0.53
25:RA:1149:G:H2'	25:RA:1150:C:C6	2.43	0.53
25:RA:2844:G:H3'	25:RA:2845:G:H8	1.74	0.53
29:RF:32:LEU:O	29:RF:36:VAL:HG23	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:149:ARG:HE	31:RH:154:PRO:HG2	1.72	0.53
35:RP:61:ARG:HD2	54:R8:13:ARG:HD2	1.90	0.53
38:RS:106:ARG:HA	38:RS:110:LEU:HD21	1.90	0.53
39:RT:33:LYS:HD2	39:RT:82:LEU:HA	1.89	0.53
45:RZ:58:VAL:O	45:RZ:60:GLU:N	2.39	0.53
1:XA:131:C:O2'	1:XA:262:A:N3	2.35	0.53
2:XB:162:ILE:O	2:XB:185:ILE:HG12	2.08	0.53
10:XJ:4:ILE:HG12	10:XJ:100:THR:HG22	1.89	0.53
25:YA:1641:A:H2'	25:YA:1642:G:O4'	2.08	0.53
27:YD:244:ARG:HB2	27:YD:245:PRO:HD2	1.90	0.53
33:YN:30:ILE:HG23	33:YN:52:VAL:HG11	1.91	0.53
35:YP:62:LEU:HB2	54:Y8:30:ARG:HH11	1.71	0.53
35:YP:88:LEU:HD12	35:YP:95:VAL:HG11	1.90	0.53
41:YV:66:ARG:NH1	41:YV:88:ARG:HD3	2.23	0.53
1:QA:1367:C:H4'	10:QJ:48:THR:HG21	1.90	0.53
3:QC:35:GLU:HG2	3:QC:59:ARG:NH2	2.23	0.53
25:RA:1411:C:N4	25:RA:1591:G:H1	2.04	0.53
25:RA:1419:A:H61	25:RA:1494:A:H61	1.55	0.53
36:RQ:32:TYR:CE1	36:RQ:133:ARG:HG3	2.43	0.53
41:RV:99:ILE:O	41:RV:101:GLY:N	2.41	0.53
45:RZ:166:SER:H	45:RZ:167:PRO:HA	1.74	0.53
9:XI:111:ARG:NE	9:XI:112:LYS:O	2.38	0.53
19:XS:36:ARG:NH1	19:XS:52:TYR:O	2.42	0.53
22:XV:28:C:H2'	22:XV:29:G:H8	1.72	0.53
25:YA:2286:A:H4'	25:YA:2287:A:O4'	2.09	0.53
25:YA:2304:G:H22	25:YA:2312:U:H3	1.57	0.53
27:YD:30:GLU:HG3	27:YD:63:ARG:HH21	1.72	0.53
38:YS:58:LEU:HD23	38:YS:58:LEU:O	2.08	0.53
39:YT:51:ARG:CG	39:YT:98:LYS:HG3	2.38	0.53
39:YT:112:ARG:O	39:YT:112:ARG:NE	2.39	0.53
1:QA:957:U:H4'	19:QS:79:THR:HB	1.89	0.53
1:QA:1128:C:H4'	9:QI:16:ARG:HH12	1.74	0.53
4:QD:78:LEU:HD22	4:QD:96:LEU:HB3	1.89	0.53
8:QH:51:VAL:HG11	8:QH:60:ARG:HG3	1.90	0.53
25:RA:49:A:C8	25:RA:120:U:C5	2.97	0.53
34:RO:2:ILE:HD13	34:RO:8:LEU:HD11	1.90	0.53
2:XB:60:ASP:O	2:XB:64:ARG:HG2	2.09	0.53
25:YA:1826:G:H4'	27:YD:242:ARG:CZ	2.39	0.53
25:YA:2114:A:N6	25:YA:2119:A:N7	2.56	0.53
36:YQ:12:GLN:HG2	36:YQ:73:PRO:HD2	1.90	0.53
51:Y5:40:LYS:NZ	51:Y5:46:CYS:SG	2.81	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2627:G:O2'	25:RA:2781:A:N1	2.39	0.53
45:RZ:5:LEU:HD11	45:RZ:39:VAL:HB	1.91	0.53
48:R2:65:ASN:HB3	48:R2:69:ARG:NH2	2.24	0.53
8:XH:121:ASP:HB2	8:XH:125:ARG:NH2	2.24	0.53
25:YA:673:C:OP1	29:YF:54:ARG:NH1	2.37	0.53
27:YD:206:LEU:O	27:YD:211:ARG:HD3	2.09	0.53
32:YI:93:THR:HG22	32:YI:119:PRO:HB3	1.91	0.53
39:YT:105:LEU:O	39:YT:107:ASP:N	2.42	0.53
55:Y9:27:CYS:SG	55:Y9:28:GLU:N	2.82	0.53
1:QA:51:A:N7	1:QA:114:U:O2'	2.40	0.53
1:QA:673:G:H2'	1:QA:674:G:C8	2.43	0.53
1:QA:1014:A:H4'	19:QS:14:HIS:CD2	2.44	0.53
9:QI:71:SER:HA	9:QI:74:ILE:HD12	1.90	0.53
25:RA:1798:U:C5'	27:RD:259:THR:HG22	2.38	0.53
25:RA:1799:G:H4'	25:RA:1800:C:O5'	2.08	0.53
1:XA:17:U:H2'	1:XA:18:C:C6	2.44	0.53
20:XT:47:GLY:O	20:XT:49:ALA:N	2.41	0.53
20:XT:95:ALA:O	20:XT:97:ALA:N	2.42	0.53
25:YA:28:A:N6	25:YA:512:G:H1'	2.23	0.53
25:YA:862:G:H2'	25:YA:863:A:O4'	2.08	0.53
33:YN:13:TRP:O	33:YN:135:PRO:HD2	2.08	0.53
33:YN:96:GLU:HG2	33:YN:97:ARG:N	2.23	0.53
35:YP:92:GLU:HA	35:YP:123:LEU:HD23	1.89	0.53
39:YT:16:ARG:HE	39:YT:19:LEU:HD21	1.73	0.53
40:YU:102:GLU:OE1	41:YV:13:ARG:NH2	2.41	0.53
1:QA:411:A:C5	1:QA:413:G:H1'	2.44	0.53
1:QA:1147:C:HO2'	9:QI:5:TYR:HH	1.56	0.53
1:QA:1263:C:N4	1:QA:1272:G:H1	2.07	0.53
1:QA:1310:G:OP1	13:QM:77:ASN:ND2	2.42	0.53
4:QD:194:LEU:HD12	4:QD:195:ALA:H	1.73	0.53
6:QF:10:LEU:HD13	6:QF:61:LEU:HD13	1.90	0.53
19:QS:15:LEU:HD12	19:QS:44:MET:HE1	1.90	0.53
25:RA:1861:G:H1	25:RA:1881:C:H42	1.54	0.53
28:RE:203:LYS:HE3	28:RE:204:ALA:HB2	1.90	0.53
29:RF:135:LYS:HB3	29:RF:138:GLU:HG3	1.90	0.53
32:RI:88:ILE:O	32:RI:121:LYS:NZ	2.40	0.53
35:RP:113:LYS:HG2	35:RP:115:LEU:HD23	1.90	0.53
36:RQ:97:VAL:HG11	36:RQ:103:MET:HE3	1.90	0.53
44:RY:98:VAL:HG13	44:RY:99:CYS:SG	2.48	0.53
48:R2:10:LEU:O	48:R2:13:ALA:N	2.40	0.53
25:YA:918:A:N3	26:YB:80:U:O2'	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1790:C:H5''	25:YA:1791:A:OP1	2.08	0.53
25:YA:2496:C:P	36:YQ:81:VAL:HG12	2.48	0.53
52:Y6:25:LYS:HZ2	54:Y8:34:TRP:HZ2	1.56	0.53
1:QA:259:G:H1	1:QA:267:C:N4	2.07	0.53
1:QA:1095:U:P	1:QA:1108:G:H1	2.31	0.53
15:QO:6:GLU:OE2	15:QO:6:GLU:N	2.35	0.53
25:RA:1050:A:H2'	25:RA:1051:G:O4'	2.09	0.53
25:RA:1358:G:N1	25:RA:1372:U:OP2	2.25	0.53
25:RA:2505:G:P	56:Z7:1:T17:H47	2.49	0.53
27:RD:206:LEU:O	27:RD:211:ARG:NH1	2.38	0.53
28:RE:1:MET:N	28:RE:83:ASP:O	2.41	0.53
29:RF:157:VAL:HB	29:RF:194:MET:HB3	1.91	0.53
1:XA:486:U:H2'	1:XA:487:A:C8	2.44	0.53
6:XF:97:PHE:CD1	18:XR:31:LEU:HD21	2.43	0.53
12:XL:7:ILE:HD13	12:XL:10:LEU:HD12	1.90	0.53
25:YA:27:G:N2	25:YA:512:G:H2'	2.24	0.53
25:YA:2154:G:H2'	25:YA:2155:G:H8	1.73	0.53
25:YA:2392:A:C8	35:YP:60:MET:HG2	2.44	0.53
27:YD:85:ASP:OD2	27:YD:88:ARG:HD2	2.08	0.53
30:YG:179:PRO:HG3	50:Y4:38:LYS:NZ	2.24	0.53
38:YS:10:ARG:O	38:YS:12:PHE:N	2.42	0.53
52:Y6:26:ASN:ND2	52:Y6:35:GLU:OE2	2.42	0.53
1:QA:1105:A:H2'	1:QA:1106:G:H8	1.74	0.53
25:RA:1165:U:H2'	25:RA:1166:C:C6	2.44	0.53
25:RA:2482:G:O6	36:RQ:124:LYS:NZ	2.42	0.53
28:RE:21:VAL:CB	28:RE:22:PRO:CA	2.87	0.53
42:RW:110:LYS:HG3	42:RW:111:HIS:ND1	2.23	0.53
47:R1:80:LEU:HD23	47:R1:80:LEU:H	1.74	0.53
1:XA:390:C:H2'	1:XA:391:G:C8	2.43	0.53
1:XA:410:G:H2'	1:XA:429:U:C5	2.45	0.53
1:XA:977:A:O2'	1:XA:979:C:OP2	2.22	0.53
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.44	0.53
1:XA:1314:C:OP2	19:XS:4:SER:OG	2.26	0.53
18:XR:25:THR:HB	18:XR:26:LEU:HD23	1.91	0.53
19:XS:31:ILE:HG23	19:XS:49:ILE:HA	1.91	0.53
25:YA:996:A:OP2	40:YU:92:ARG:NH2	2.42	0.53
31:YH:149:ARG:NH1	31:YH:167:GLU:OE1	2.42	0.53
1:QA:346:G:H1'	1:QA:347:G:H5'	1.90	0.52
1:QA:1189:C:OP1	10:QJ:51:ARG:NH2	2.41	0.52
13:QM:66:LEU:HA	13:QM:70:LEU:HB2	1.91	0.52
31:RH:10:PRO:HD2	31:RH:50:VAL:HG13	1.89	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RI:144:VAL:HG22	32:RI:145:VAL:H	1.73	0.52
2:XB:44:LEU:H	2:XB:44:LEU:HD12	1.74	0.52
23:XW:50:U:H3	23:XW:64:A:H2	1.54	0.52
25:YA:287:C:H2'	25:YA:288:C:C6	2.43	0.52
25:YA:605:C:O2	25:YA:657:U:O2'	2.27	0.52
25:YA:1209:G:H21	25:YA:1210:A:H62	1.56	0.52
25:YA:2062:A:H1'	56:Z8:7:LYS:HB2	1.91	0.52
1:QA:1316:G:H5''	14:QN:17:LYS:HE3	1.91	0.52
4:QD:98:GLU:OE2	4:QD:107:ARG:NE	2.43	0.52
19:QS:44:MET:O	19:QS:46:GLY:N	2.40	0.52
25:RA:347:A:H2'	25:RA:348:G:H8	1.73	0.52
25:RA:2022:U:OP2	51:R5:15:ARG:NH2	2.42	0.52
25:RA:2503:A:O2'	25:RA:2505:G:OP2	2.24	0.52
25:RA:2815:C:H5'	51:R5:29:THR:HG21	1.91	0.52
29:RF:134:GLY:HA3	29:RF:165:ARG:NH1	2.25	0.52
31:RH:46:GLU:OE2	31:RH:51:ARG:NH1	2.42	0.52
6:XF:97:PHE:O	18:XR:30:ASP:OD1	2.27	0.52
7:XG:15:ASP:HB3	7:XG:19:GLY:H	1.74	0.52
25:YA:1359:A:N6	25:YA:1373:A:C5	2.77	0.52
27:YD:132:PRO:HD3	27:YD:190:TYR:CZ	2.44	0.52
44:YY:35:TYR:CE2	44:YY:69:ALA:HB3	2.44	0.52
1:QA:1422:G:H5''	34:RO:48:PRO:HB3	1.90	0.52
7:QG:153:HIS:HE1	11:QK:57:THR:HG23	1.75	0.52
25:RA:443:A:H3'	29:RF:45:ARG:NH1	2.23	0.52
26:RB:52:A:H62	38:RS:33:LYS:HG3	1.73	0.52
27:RD:133:LEU:HB3	27:RD:173:VAL:HG11	1.91	0.52
30:RG:82:LEU:HA	30:RG:86:MET:SD	2.48	0.52
41:RV:60:GLU:HB2	41:RV:97:LYS:HE3	1.91	0.52
1:XA:67:C:H2'	1:XA:68:G:H8	1.75	0.52
1:XA:1191:A:H5''	3:XC:4:LYS:HZ2	1.74	0.52
3:XC:40:ARG:O	3:XC:44:GLU:HB2	2.09	0.52
25:YA:2683:C:OP1	39:YT:53:ARG:NH2	2.38	0.52
26:YB:104:A:H5'	45:YZ:72:ARG:HD3	1.90	0.52
30:YG:96:ARG:O	30:YG:98:ARG:N	2.42	0.52
33:YN:110:GLY:O	33:YN:114:ARG:HG3	2.09	0.52
52:Y6:40:CYS:HB2	52:Y6:45:LYS:HD3	1.90	0.52
1:QA:690:G:H22	11:QK:55:LYS:NZ	2.08	0.52
25:RA:2308:G:O6	25:RA:2311:A:N1	2.42	0.52
27:RD:35:LYS:NZ	27:RD:64:ILE:O	2.41	0.52
31:RH:86:GLU:HG3	31:RH:165:ALA:N	2.25	0.52
32:RI:11:ASN:O	32:RI:12:LEU:HB2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1446:A:H5'	39:YT:122:ASP:OD1	2.10	0.52
1:XA:1491:G:N7	58:XA:1672:PAR:O53	2.41	0.52
3:XC:189:ALA:HB3	3:XC:196:LEU:HB2	1.91	0.52
20:XT:53:LEU:O	20:XT:57:ARG:NH1	2.42	0.52
25:YA:551:G:H5'	25:YA:1220:A:H1'	1.91	0.52
25:YA:1407:C:N4	25:YA:1595:G:H1	2.08	0.52
25:YA:1426:G:OP2	25:YA:1427:A:O2'	2.28	0.52
25:YA:1649:G:O2'	37:YR:107:ASP:OD2	2.20	0.52
35:YP:64:LYS:HB2	54:Y8:25:MET:HG3	1.90	0.52
1:QA:103:C:P	20:QT:17:ARG:HH21	2.33	0.52
1:QA:1128:C:H4'	9:QI:16:ARG:HH22	1.73	0.52
25:RA:637:A:O5'	35:RP:116:GLY:HA2	2.08	0.52
25:RA:1357:U:H2'	25:RA:1358:G:O4'	2.09	0.52
25:RA:1869:G:H5'	25:RA:1870:C:OP2	2.09	0.52
25:RA:2438:U:O3'	25:RA:2439:A:H3'	2.09	0.52
36:RQ:81:VAL:HG23	46:R0:7:LEU:HD11	1.91	0.52
36:RQ:136:ALA:C	36:RQ:138:ASP:H	2.18	0.52
37:RR:59:ASP:OD2	37:RR:61:HIS:HB3	2.08	0.52
51:R5:55:ARG:HH11	51:R5:55:ARG:CG	2.22	0.52
25:YA:828:U:H4'	25:YA:831:G:N1	2.24	0.52
38:YS:6:ALA:O	38:YS:10:ARG:HD3	2.09	0.52
50:Y4:54:GLY:O	50:Y4:59:PHE:HB2	2.09	0.52
54:Y8:11:LYS:NZ	54:Y8:63:PRO:HG3	2.24	0.52
2:QB:134:GLU:HA	2:QB:137:ARG:HB3	1.92	0.52
25:RA:345:A:H2'	25:RA:347:A:H62	1.74	0.52
25:RA:1311:G:H21	25:RA:1603:A:N6	2.06	0.52
25:RA:2693:A:H2'	25:RA:2694:G:C8	2.44	0.52
27:RD:108:PRO:HB3	27:RD:143:HIS:HE1	1.73	0.52
13:XM:11:ARG:NH2	30:YG:146:TYR:CD2	2.67	0.52
29:YF:24:LEU:HD23	29:YF:115:ALA:HA	1.91	0.52
35:YP:20:GLY:HA2	35:YP:27:HIS:O	2.10	0.52
52:Y6:13:CYS:O	52:Y6:21:TYR:HA	2.09	0.52
1:QA:662:G:H2'	1:QA:663:A:C8	2.45	0.52
1:QA:1126:U:H5	1:QA:1127:G:C4	2.27	0.52
8:QH:77:GLU:HG2	8:QH:78:GLN:H	1.74	0.52
25:RA:608:A:OP1	29:RF:100:THR:OG1	2.27	0.52
25:RA:631:A:OP1	35:RP:64:LYS:HE2	2.10	0.52
25:RA:1980:G:H4'	25:RA:1981:A:OP2	2.09	0.52
25:RA:2232:U:P	47:R1:40:ARG:HH12	2.33	0.52
27:RD:206:LEU:HD22	27:RD:211:ARG:HG2	1.92	0.52
32:RI:13:GLY:HA3	32:RI:17:GLN:CD	2.33	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:407:G:H2'	1:XA:408:A:C8	2.45	0.52
2:XB:35:GLU:O	2:XB:36:ARG:HD3	2.10	0.52
10:XJ:78:ASN:O	10:XJ:81:THR:OG1	2.25	0.52
25:YA:414:C:O2	25:YA:1864:U:O2'	2.25	0.52
25:YA:958:U:OP2	36:YQ:14:ARG:NH1	2.42	0.52
25:YA:2022:U:O2'	25:YA:2617:C:H5'	2.08	0.52
29:YF:63:LYS:HE2	29:YF:67:GLN:HB2	1.91	0.52
30:YG:88:ILE:O	30:YG:88:ILE:HD13	2.09	0.52
49:Y3:40:THR:HB	49:Y3:43:ILE:HG12	1.92	0.52
51:Y5:40:LYS:NZ	51:Y5:46:CYS:HB2	2.24	0.52
1:QA:971:G:N2	1:QA:1363:A:OP2	2.28	0.52
19:QS:42:PRO:HD3	50:R4:63:TYR:CE1	2.44	0.52
23:QW:33:U:H2'	23:QW:35:A:OP2	2.09	0.52
25:RA:38:A:H2'	25:RA:39:C:C6	2.45	0.52
25:RA:1244:G:H4'	35:RP:7:ARG:HB2	1.92	0.52
25:RA:2146:C:H4'	25:RA:2147:G:C8	2.44	0.52
29:RF:150:GLY:HA2	29:RF:172:TRP:CE3	2.44	0.52
14:XN:43:CYS:HA	14:XN:46:GLU:HG3	1.92	0.52
16:XP:8:ARG:O	16:XP:9:PHE:HD1	1.93	0.52
22:XV:29:G:H1	22:XV:41:C:H42	1.57	0.52
25:YA:1316:U:H2'	25:YA:1317:A:C8	2.44	0.52
11:QK:32:ILE:HG13	11:QK:72:ALA:HB2	1.92	0.52
18:QR:32:ARG:HA	18:QR:69:THR:HG21	1.91	0.52
19:QS:9:VAL:HG11	50:R4:66:SER:O	2.09	0.52
25:RA:25:U:H5'	42:RW:79:GLY:HA2	1.91	0.52
25:RA:1007:C:H5''	33:RN:35:ARG:NH1	2.25	0.52
25:RA:1264:G:H3'	25:RA:1265:A:H5''	1.90	0.52
25:RA:1689:A:H2'	25:RA:1690:A:C8	2.44	0.52
25:RA:2776:A:H4'	25:RA:2777:G:O5'	2.09	0.52
32:RI:133:HIS:HB2	32:RI:134:PRO:HD2	1.92	0.52
37:RR:33:ARG:HD3	37:RR:113:LEU:HG	1.92	0.52
44:RY:84:ARG:O	44:RY:95:LYS:HD3	2.09	0.52
45:RZ:111:VAL:CG2	45:RZ:112:ARG:H	2.12	0.52
47:R1:2:SER:HB2	47:R1:4:VAL:HG12	1.92	0.52
1:XA:833:U:H3	1:XA:853:G:H1	1.58	0.52
5:XE:13:ILE:HD11	5:XE:55:VAL:HG22	1.91	0.52
7:XG:78:ARG:HG3	7:XG:79:ARG:N	2.25	0.52
25:YA:2334:G:H5'	38:YS:9:ARG:HG2	1.91	0.52
25:YA:2815:C:H5'	51:Y5:29:THR:HG21	1.92	0.52
31:YH:152:ARG:HG3	31:YH:153:LYS:N	2.25	0.52
47:Y1:83:GLU:HG2	47:Y1:84:GLY:N	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Y2:58:ALA:O	48:Y2:62:THR:HG23	2.10	0.52
52:Y6:7:ILE:HG13	52:Y6:8:LYS:H	1.75	0.52
25:RA:818:G:N1	25:RA:1188:U:OP2	2.28	0.52
25:RA:2046:G:H5'	51:R5:19:ARG:HB2	1.91	0.52
42:RW:60:ASN:HD22	42:RW:60:ASN:H	1.56	0.52
44:RY:87:LYS:HA	44:RY:92:ASN:HB3	1.91	0.52
45:RZ:5:LEU:HD21	45:RZ:44:PHE:HA	1.92	0.52
1:XA:89:U:O2'	1:XA:90:C:OP1	2.27	0.52
1:XA:115:G:H4'	1:XA:116:A:O5'	2.09	0.52
1:XA:335:C:O2'	1:XA:1433:A:N3	2.39	0.52
1:XA:1443:G:H5'	1:XA:1446:A:OP2	2.10	0.52
2:XB:29:ALA:O	2:XB:32:ILE:HG22	2.10	0.52
4:XD:108:LEU:HB3	4:XD:110:PHE:CE1	2.45	0.52
19:XS:19:VAL:HG11	19:XS:44:MET:HG2	1.91	0.52
25:YA:49:A:C8	25:YA:120:U:C5	2.98	0.52
25:YA:1071:G:O6	25:YA:1091:G:O6	2.28	0.52
25:YA:1533:C:N3	25:YA:1538:G:N2	2.46	0.52
29:YF:182:ASN:HD21	29:YF:185:ASP:CG	2.14	0.52
35:YP:62:LEU:N	35:YP:62:LEU:CD2	2.72	0.52
1:QA:359:U:H2'	1:QA:360:A:C8	2.44	0.51
1:QA:1151:A:H2'	1:QA:1152:A:C8	2.45	0.51
20:QT:14:LYS:HA	20:QT:17:ARG:HG3	1.91	0.51
25:RA:177:G:H3'	25:RA:178:G:H8	1.74	0.51
25:RA:1363:C:O2'	25:RA:1809:A:N3	2.37	0.51
25:RA:1543:A:C1'	25:RA:1545:A:O4'	2.53	0.51
25:RA:1598:C:H5'	43:RX:36:LYS:HB2	1.91	0.51
25:RA:1942:C:OP2	25:RA:1943:U:O2'	2.24	0.51
25:RA:1952:A:OP1	34:RO:42:SER:OG	2.25	0.51
25:RA:2123:G:H2'	25:RA:2124:G:H8	1.74	0.51
26:RB:74:U:H1'	45:RZ:34:ASN:HD21	1.74	0.51
26:RB:111:U:H2'	26:RB:112:G:H8	1.75	0.51
41:RV:34:GLU:O	41:RV:36:PRO:HD3	2.10	0.51
1:XA:1256:A:OP2	3:XC:26:LYS:NZ	2.34	0.51
3:XC:47:LEU:HD11	3:XC:76:VAL:HB	1.91	0.51
4:XD:13:ARG:HD2	4:XD:38:TYR:O	2.10	0.51
13:XM:14:ARG:N	13:XM:44:ARG:HD3	2.20	0.51
20:XT:26:ASN:HB2	20:XT:71:THR:HG23	1.92	0.51
23:XW:18:G:H1	23:XW:55:U:H1'	1.74	0.51
25:YA:443:A:H5''	25:YA:444:C:OP1	2.10	0.51
25:YA:874:G:H5''	45:YZ:175:VAL:HG11	1.92	0.51
27:YD:248:SER:HB3	27:YD:252:TRP:CZ2	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YG:77:ILE:HD13	30:YG:82:LEU:HD12	1.92	0.51
31:YH:88:LEU:H	31:YH:88:LEU:HD22	1.75	0.51
39:YT:88:ILE:HD12	39:YT:90:GLN:N	2.25	0.51
1:QA:49:U:O4	1:QA:365:U:C4	2.63	0.51
12:QL:54:LYS:H	12:QL:54:LYS:HD2	1.74	0.51
23:QW:49:C:H42	23:QW:65:G:H1	1.58	0.51
25:RA:1899:G:H21	25:RA:1902:C:H41	1.57	0.51
27:RD:12:SER:HB2	27:RD:208:LYS:HB3	1.92	0.51
29:RF:47:GLY:HA3	29:RF:95:ARG:O	2.10	0.51
29:RF:150:GLY:HA2	29:RF:172:TRP:CD2	2.45	0.51
1:XA:188:U:H2'	1:XA:189:U:H5''	1.92	0.51
2:XB:170:GLU:O	2:XB:174:VAL:HG23	2.11	0.51
9:XI:70:LYS:O	9:XI:74:ILE:HG13	2.10	0.51
12:XL:77:LEU:HD21	12:XL:107:ALA:HA	1.92	0.51
25:YA:771:G:OP1	53:Y7:14:LYS:HE3	2.10	0.51
27:YD:250:TRP:HE3	27:YD:252:TRP:HE1	1.58	0.51
31:YH:26:VAL:HG13	31:YH:27:LYS:H	1.76	0.51
40:YU:107:ALA:O	40:YU:110:VAL:HB	2.10	0.51
42:YW:40:ASN:O	42:YW:41:LYS:HG2	2.10	0.51
54:Y8:51:ALA:N	54:Y8:53:PRO:HD2	2.24	0.51
3:QC:37:GLN:NE2	14:QN:52:GLN:OE1	2.32	0.51
4:QD:12:CYS:HA	4:QD:19:LEU:HD23	1.92	0.51
5:QE:91:LEU:HD12	5:QE:120:THR:HG22	1.93	0.51
11:QK:96:ARG:HA	11:QK:99:GLN:HE21	1.76	0.51
25:RA:2126:A:H2	25:RA:2162:G:H21	1.59	0.51
31:RH:153:LYS:HG2	31:RH:162:ILE:HG13	1.92	0.51
43:RX:35:THR:HG23	43:RX:38:GLU:HG2	1.92	0.51
44:RY:74:PRO:O	44:RY:80:GLY:HA2	2.10	0.51
1:XA:643:C:H2'	1:XA:644:G:H8	1.75	0.51
1:XA:1376:U:H2'	1:XA:1377:A:H8	1.74	0.51
17:XQ:100:LYS:O	17:XQ:101:ARG:NE	2.42	0.51
20:XT:89:ARG:HH21	20:XT:104:LEU:HD11	1.76	0.51
25:YA:2224:G:OP1	27:YD:268:ARG:HD3	2.11	0.51
27:YD:148:GLU:HB2	27:YD:151:LYS:HD2	1.92	0.51
32:YI:110:ASP:N	32:YI:130:TYR:OH	2.43	0.51
33:YN:38:HIS:O	40:YU:67:ALA:HB1	2.10	0.51
37:YR:83:ILE:HG22	37:YR:87:TYR:HE2	1.76	0.51
41:YV:25:LEU:H	41:YV:92:THR:HG21	1.74	0.51
45:YZ:124:ILE:HG22	45:YZ:126:VAL:HG13	1.92	0.51
47:Y1:70:VAL:O	47:Y1:74:VAL:HG23	2.10	0.51
51:Y5:56:LYS:HD3	51:Y5:58:LEU:HD23	1.90	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1305:G:H1'	1:QA:1332:A:N6	2.25	0.51
22:QV:23:C:H2'	22:QV:24:U:C6	2.45	0.51
25:RA:347:A:H2'	25:RA:348:G:C8	2.45	0.51
25:RA:806:C:P	35:RP:41:ARG:HH11	2.31	0.51
27:RD:43:ARG:HH11	27:RD:44:ASN:CG	2.16	0.51
1:XA:429:U:H1'	1:XA:430:A:H5''	1.92	0.51
1:XA:1312:G:OP1	50:Y4:58:ARG:NH1	2.44	0.51
1:XA:1443:G:H5''	1:XA:1446:A:C2	2.45	0.51
2:XB:21:ARG:HB2	2:XB:39:ILE:HA	1.91	0.51
23:XW:67:C:H2'	23:XW:68:C:C6	2.45	0.51
25:YA:1093:G:H5'	31:YH:170:ARG:NH1	2.26	0.51
25:YA:1680:U:O2'	25:YA:1763:G:N7	2.39	0.51
25:YA:1972:A:H2'	25:YA:1973:G:H8	1.74	0.51
25:YA:2250:G:C4	36:YQ:82:ARG:HG3	2.46	0.51
25:YA:2298:A:H2'	25:YA:2299:G:O4'	2.11	0.51
25:YA:2469:A:H5''	25:YA:2470:G:C8	2.46	0.51
30:YG:16:ARG:O	30:YG:20:ILE:HG12	2.10	0.51
32:YI:41:GLU:HG2	32:YI:42:SER:N	2.24	0.51
35:YP:96:THR:HG22	35:YP:126:VAL:HB	1.93	0.51
41:YV:65:GLY:HA3	41:YV:91:TYR:CZ	2.46	0.51
48:Y2:24:LEU:HD13	48:Y2:60:LEU:HD11	1.92	0.51
51:Y5:42:PRO:HB2	51:Y5:43:HIS:ND1	2.25	0.51
1:QA:539:A:H2'	1:QA:540:G:C8	2.46	0.51
1:QA:947:G:O3'	13:QM:109:THR:OG1	2.28	0.51
1:QA:963:G:H21	10:QJ:55:LYS:HE2	1.75	0.51
4:QD:61:LYS:HB2	4:QD:203:VAL:HG13	1.93	0.51
10:QJ:31:GLY:HA3	10:QJ:78:ASN:ND2	2.26	0.51
25:RA:2418:A:OP2	54:R8:29:LYS:HE2	2.11	0.51
26:RB:50:G:H5''	38:RS:61:ASN:ND2	2.26	0.51
40:RU:90:VAL:HG22	41:RV:39:LEU:HB3	1.93	0.51
53:R7:22:MET:HE2	53:R7:31:LEU:CD1	2.40	0.51
1:XA:1130:A:N6	1:XA:1131:G:O6	2.43	0.51
1:XA:1151:A:H2'	1:XA:1152:A:H8	1.75	0.51
5:XE:102:ALA:HB1	5:XE:106:PRO:HG2	1.93	0.51
9:XI:11:LYS:H	9:XI:104:ARG:HH21	1.58	0.51
25:YA:2011:U:OP1	42:YW:42:ARG:NH1	2.44	0.51
29:YF:127:GLU:OE1	29:YF:196:LEU:HB2	2.11	0.51
48:Y2:65:ASN:HB3	48:Y2:69:ARG:NH2	2.26	0.51
1:QA:833:U:H3	1:QA:853:G:H1	1.56	0.51
1:QA:1043:C:H2'	1:QA:1044:A:H8	1.76	0.51
1:QA:1326:C:OP1	21:QU:17:THR:OG1	2.17	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:391:G:O2'	25:RA:410:G:OP1	2.26	0.51
28:RE:23:VAL:HA	28:RE:184:VAL:O	2.11	0.51
32:RI:104:GLN:C	32:RI:105:HIS:HD1	2.18	0.51
43:RX:59:VAL:HG21	43:RX:78:LYS:HE3	1.91	0.51
1:XA:812:C:H4'	1:XA:813:U:H5'	1.93	0.51
1:XA:971:G:H22	1:XA:1363:A:H5'	1.75	0.51
19:XS:15:LEU:O	19:XS:19:VAL:N	2.36	0.51
25:YA:2377:A:O2'	38:YS:111:GLU:O	2.18	0.51
28:YE:62:PRO:O	28:YE:64:LYS:N	2.43	0.51
38:YS:11:LYS:HB2	38:YS:91:PRO:HB3	1.93	0.51
39:YT:109:GLU:O	39:YT:113:LYS:HB2	2.11	0.51
40:YU:47:TYR:HA	40:YU:50:ARG:NH2	2.26	0.51
42:YW:106:ILE:O	42:YW:106:ILE:HG12	2.07	0.51
51:Y5:45:VAL:HG11	51:Y5:57:VAL:HG12	1.93	0.51
1:QA:390:C:H2'	1:QA:391:G:C8	2.46	0.51
1:QA:718:G:H5'	11:QK:117:ASN:ND2	2.24	0.51
11:QK:33:THR:HG22	11:QK:39:PRO:HA	1.92	0.51
21:QU:6:ARG:HE	21:QU:15:ARG:HH21	1.58	0.51
25:RA:2121:G:O6	25:RA:2176:A:N6	2.43	0.51
26:RB:15:A:H5'	26:RB:16:G:C8	2.45	0.51
28:RE:134:ILE:HA	28:RE:137:HIS:CD2	2.45	0.51
29:RF:185:ASP:HA	29:RF:188:ARG:HD3	1.93	0.51
32:RI:52:ARG:CB	32:RI:56:LYS:HB2	2.32	0.51
1:XA:337:C:H2'	1:XA:338:A:C8	2.46	0.51
1:XA:484:G:H4'	1:XA:485:G:O5'	2.11	0.51
1:XA:719:C:H1'	18:XR:49:LYS:HB3	1.91	0.51
1:XA:1226:C:H4'	1:XA:1227:A:OP1	2.11	0.51
7:XG:155:ARG:NH2	7:XG:155:ARG:O	2.43	0.51
11:XK:41:THR:HG21	11:XK:71:LYS:HB3	1.93	0.51
25:YA:142:G:H1'	43:YX:37:THR:HG21	1.93	0.51
25:YA:1820:U:C2	27:YD:202:LYS:HB3	2.46	0.51
26:YB:44:G:H5''	26:YB:45:A:OP1	2.11	0.51
31:YH:6:ARG:NE	31:YH:54:ARG:HH12	2.09	0.51
32:YI:11:ASN:O	32:YI:12:LEU:HB2	2.11	0.51
36:YQ:134:ARG:NH2	45:YZ:122:ARG:HH21	1.98	0.51
40:YU:92:ARG:NH1	41:YV:11:GLN:O	2.44	0.51
12:QL:69:TYR:CG	12:QL:90:VAL:HG21	2.46	0.51
25:RA:67:U:H3	25:RA:74:A:H2	1.54	0.51
25:RA:1403:C:H5''	25:RA:1471:A:H1'	1.92	0.51
25:RA:1543:A:H2	25:RA:1545:A:C5	2.29	0.51
26:RB:16:G:H1	26:RB:68:C:H42	1.59	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RF:20:LEU:HD23	29:RF:125:LEU:HD12	1.93	0.51
30:RG:88:ILE:O	30:RG:88:ILE:HD13	2.10	0.51
31:RH:127:GLU:CB	31:RH:130:ARG:HB3	2.40	0.51
38:RS:56:LEU:HD23	38:RS:58:LEU:HD22	1.92	0.51
39:RT:28:VAL:HG23	39:RT:88:ILE:HA	1.92	0.51
1:XA:606:G:H1	1:XA:631:G:H5''	1.76	0.51
6:XF:86:ARG:O	6:XF:87:ARG:HG2	2.11	0.51
20:XT:10:LEU:O	20:XT:13:LEU:HG	2.11	0.51
25:YA:16:G:H5''	51:Y5:17:ASP:HB2	1.92	0.51
25:YA:2850:A:N7	25:YA:2868:A:O2'	2.37	0.51
37:YR:104:ARG:HD3	37:YR:111:LEU:HD21	1.92	0.51
49:Y3:43:ILE:O	49:Y3:47:VAL:HG23	2.10	0.51
8:QH:20:TYR:HE2	8:QH:75:ARG:HD2	1.76	0.51
32:RI:55:ALA:HA	32:RI:58:LEU:HB3	1.93	0.51
42:RW:67:ASP:OD1	42:RW:67:ASP:N	2.33	0.51
43:RX:40:LYS:HG3	43:RX:51:VAL:HB	1.92	0.51
53:R7:9:ARG:HH21	53:R7:48:LYS:HB2	1.76	0.51
1:XA:359:U:H2'	1:XA:360:A:C8	2.46	0.51
6:XF:4:TYR:HD1	6:XF:92:LYS:HA	1.76	0.51
13:XM:36:LYS:C	13:XM:36:LYS:HD3	2.36	0.51
13:XM:62:ASN:HA	50:Y4:49:PHE:CE2	2.45	0.51
15:XO:33:THR:HG21	15:XO:85:LEU:HD22	1.93	0.51
19:XS:26:GLY:O	19:XS:28:LYS:N	2.43	0.51
22:XV:15:C:O2'	22:XV:61:C:OP1	2.28	0.51
25:YA:2115:G:N2	25:YA:2165:G:N7	2.49	0.51
25:YA:2347:C:H2'	25:YA:2348:U:C6	2.46	0.51
31:YH:89:ILE:O	31:YH:89:ILE:HG12	2.10	0.51
36:YQ:2:LEU:HD23	36:YQ:2:LEU:H	1.76	0.51
44:YY:81:LYS:HG2	44:YY:97:ARG:HD3	1.93	0.51
54:Y8:23:VAL:CG1	54:Y8:46:ARG:HD3	2.40	0.51
1:QA:1152:A:OP1	10:QJ:68:HIS:NE2	2.43	0.51
4:QD:167:GLY:HA2	27:YD:135:PHE:HZ	1.71	0.51
12:QL:38:THR:HG23	12:QL:57:LYS:HB3	1.93	0.51
25:RA:1009:A:OP2	25:RA:1010:A:OP2	2.28	0.51
25:RA:1203:G:O6	25:RA:1204:A:N6	2.44	0.51
25:RA:2443:C:H2'	25:RA:2444:G:C8	2.44	0.51
25:RA:2832:U:H4'	25:RA:2833:G:H5''	1.92	0.51
36:RQ:20:ALA:HB3	45:RZ:79:ARG:NH1	2.26	0.51
1:XA:1104:G:O5'	2:XB:111:ARG:HD2	2.11	0.51
1:XA:1404:C:H2'	1:XA:1405:G:C8	2.46	0.51
1:XA:1492:A:OP1	12:XL:47:LYS:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:XV:8:G:O2'	22:XV:9:G:N7	2.43	0.51
25:YA:625:G:O6	35:YP:107:LYS:HE2	2.11	0.51
25:YA:639:U:H2'	25:YA:640:C:C6	2.46	0.51
27:YD:35:LYS:HE3	27:YD:63:ARG:C	2.36	0.51
54:Y8:58:ILE:HA	54:Y8:61:LEU:HD21	1.92	0.51
1:QA:7:G:H5'	1:QA:298:A:O4'	2.11	0.50
1:QA:446:G:H1	1:QA:488:C:H42	1.59	0.50
9:QI:8:GLY:HA2	9:QI:79:LEU:HD12	1.92	0.50
16:QP:3:LYS:HG3	16:QP:24:ALA:HB2	1.92	0.50
25:RA:111:A:H4'	48:R2:69:ARG:NH2	2.26	0.50
25:RA:458:G:O2'	25:RA:469:G:O6	2.19	0.50
25:RA:1443:G:H1	25:RA:1548:C:N4	2.04	0.50
28:RE:176:ILE:HG23	28:RE:178:GLU:OE2	2.11	0.50
35:RP:14:LYS:O	35:RP:14:LYS:HD3	2.11	0.50
39:RT:19:LEU:HD22	39:RT:86:ILE:HG22	1.93	0.50
39:RT:118:ARG:HH21	39:RT:121:ILE:HG21	1.76	0.50
44:RY:97:ARG:HH21	44:RY:98:VAL:HB	1.77	0.50
51:R5:3:LYS:HA	51:R5:3:LYS:NZ	2.27	0.50
51:R5:35:GLU:HB2	51:R5:49:CYS:SG	2.51	0.50
1:XA:792:A:O2'	1:XA:794:A:N7	2.41	0.50
1:XA:812:C:H1'	1:XA:813:U:OP2	2.10	0.50
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.93	0.50
2:XB:9:GLU:HB3	2:XB:48:MET:SD	2.50	0.50
4:XD:78:LEU:HD22	4:XD:96:LEU:HB3	1.92	0.50
25:YA:1210:A:H5''	25:YA:1212:G:O4'	2.11	0.50
28:YE:111:ARG:HA	37:YR:1:MET:CG	2.40	0.50
36:YQ:66:ILE:O	36:YQ:104:PHE:N	2.39	0.50
42:YW:57:ASN:O	42:YW:61:ASN:HB2	2.10	0.50
9:QI:118:LYS:O	9:QI:120:ARG:N	2.40	0.50
13:QM:33:ALA:HA	13:QM:59:TYR:HE2	1.76	0.50
25:RA:94:G:H21	48:R2:47:ASN:HD22	1.59	0.50
33:RN:46:VAL:HG13	33:RN:48:MET:HG3	1.93	0.50
36:RQ:17:LEU:HD23	36:RQ:96:VAL:HG23	1.92	0.50
54:R8:50:LEU:C	54:R8:53:PRO:HD2	2.36	0.50
2:XB:73:THR:OG1	2:XB:170:GLU:OE2	2.23	0.50
3:XC:138:VAL:HG22	3:XC:151:VAL:HG23	1.93	0.50
4:XD:30:LYS:C	4:XD:32:ALA:H	2.18	0.50
50:Y4:10:VAL:HG22	50:Y4:11:PRO:HD2	1.93	0.50
1:QA:752:G:H1'	1:QA:754:C:H41	1.75	0.50
13:QM:40:ASN:HD22	13:QM:43:THR:HG23	1.76	0.50
25:RA:259:G:O2'	25:RA:621:A:O2'	2.24	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:620:G:H4'	25:RA:621:A:H5''	1.94	0.50
25:RA:1427:A:H4'	25:RA:1428:C:O5'	2.10	0.50
25:RA:2777:G:OP2	25:RA:2781:A:O2'	2.23	0.50
31:RH:132:ARG:HH11	31:RH:132:ARG:HB2	1.76	0.50
2:XB:80:ILE:HD11	2:XB:208:ILE:HG23	1.93	0.50
25:YA:2610:C:H4'	25:YA:2611:U:OP2	2.10	0.50
36:YQ:89:ASN:O	36:YQ:91:GLU:N	2.44	0.50
38:YS:30:ARG:HG3	38:YS:97:ARG:NH2	2.26	0.50
1:QA:20:U:H2'	1:QA:21:G:C8	2.46	0.50
1:QA:362:G:N2	1:QA:365:U:OP2	2.44	0.50
1:QA:963:G:H21	10:QJ:55:LYS:CE	2.25	0.50
10:QJ:51:ARG:NH2	14:QN:58:LYS:HZ1	2.10	0.50
23:QW:16:U:H3'	23:QW:17:C:H5'	1.93	0.50
28:RE:6:GLY:HA2	28:RE:51:PHE:CZ	2.46	0.50
36:RQ:89:ASN:O	36:RQ:92:GLY:N	2.42	0.50
53:R7:5:TRP:NE1	53:R7:7:PRO:HG3	2.26	0.50
1:XA:703:G:H4'	1:XA:704:A:O5'	2.10	0.50
2:XB:189:ASP:HB3	2:XB:203:GLY:O	2.12	0.50
3:XC:54:ARG:HD3	3:XC:56:ASP:OD1	2.10	0.50
19:XS:4:SER:O	19:XS:5:LEU:HD13	2.11	0.50
27:YD:35:LYS:HZ2	27:YD:64:ILE:C	2.14	0.50
29:YF:129:PHE:C	29:YF:131:GLY:H	2.18	0.50
30:YG:5:VAL:HG11	30:YG:100:TRP:HB3	1.93	0.50
31:YH:10:PRO:CG	31:YH:50:VAL:CG1	2.76	0.50
35:YP:138:LEU:C	35:YP:140:ALA:H	2.18	0.50
41:YV:52:VAL:HG23	41:YV:55:ALA:H	1.76	0.50
1:QA:368:U:OP1	32:YI:91:SER:OG	2.30	0.50
1:QA:413:G:H8	1:QA:413:G:OP2	1.95	0.50
1:QA:1064:G:HO2'	1:QA:1065:U:P	2.35	0.50
7:QG:116:ALA:O	7:QG:120:ILE:HG12	2.11	0.50
10:QJ:47:PHE:CE1	10:QJ:63:PHE:HB2	2.47	0.50
25:RA:1205:U:C4	29:RF:171:PRO:HA	2.46	0.50
25:RA:2789:C:H1'	25:RA:2892:A:H2	1.75	0.50
35:RP:62:LEU:CD2	54:R8:25:MET:HB2	2.37	0.50
37:RR:33:ARG:NH1	51:R5:57:VAL:CG2	2.75	0.50
39:RT:111:ARG:O	39:RT:113:LYS:N	2.42	0.50
42:RW:60:ASN:HD22	42:RW:60:ASN:N	2.09	0.50
1:XA:280:C:H3'	1:XA:281:G:H5'	1.94	0.50
1:XA:677:U:H3	1:XA:713:G:H22	1.59	0.50
2:XB:111:ARG:HH21	2:XB:114:ARG:HG2	1.76	0.50
19:XS:40:ILE:HG23	19:XS:67:VAL:O	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:XV:14:G:H22	22:XV:48:C:H42	1.60	0.50
25:YA:470:A:H2'	25:YA:471:A:O4'	2.11	0.50
25:YA:747:U:OP2	51:Y5:3:LYS:HD2	2.12	0.50
25:YA:1061:U:H3'	25:YA:1062:G:H5''	1.93	0.50
25:YA:1264:G:H3'	25:YA:1265:A:H5''	1.94	0.50
29:YF:167:ALA:HB1	29:YF:173:VAL:HG11	1.93	0.50
32:YI:13:GLY:HA3	32:YI:17:GLN:OE1	2.12	0.50
34:YO:120:GLU:HG2	34:YO:122:LEU:HG	1.94	0.50
35:YP:64:LYS:CB	54:Y8:25:MET:HG3	2.42	0.50
9:QI:95:LYS:NZ	9:QI:96:LEU:HD13	2.26	0.50
25:RA:407:G:H2'	25:RA:408:G:C8	2.46	0.50
25:RA:1140:C:OP1	33:RN:23:LEU:HB3	2.10	0.50
29:RF:172:TRP:CD1	29:RF:172:TRP:H	2.29	0.50
39:RT:39:ARG:HG2	39:RT:40:THR:H	1.76	0.50
45:RZ:91:LEU:HD11	45:RZ:96:VAL:HG21	1.92	0.50
47:R1:62:VAL:HG23	47:R1:63:ALA:O	2.11	0.50
1:XA:96:G:H2'	1:XA:97:U:O4'	2.12	0.50
1:XA:339:C:OP2	34:YO:97:ARG:NH1	2.45	0.50
1:XA:1241:G:H2'	1:XA:1242:C:C6	2.46	0.50
1:XA:1525:G:P	11:XK:120:ARG:HH22	2.35	0.50
2:XB:21:ARG:O	2:XB:23:ARG:N	2.44	0.50
22:XV:19:G:H5'	22:XV:20:U:C5	2.46	0.50
29:YF:65:TRP:O	29:YF:67:GLN:N	2.43	0.50
31:YH:84:SER:O	31:YH:85:LYS:HB2	2.11	0.50
35:YP:36:LYS:HB3	35:YP:40:SER:HB3	1.94	0.50
36:YQ:68:ILE:HD13	36:YQ:103:MET:HE2	1.93	0.50
2:QB:231:GLU:HG3	2:QB:233:SER:H	1.77	0.50
9:QI:53:VAL:HB	9:QI:95:LYS:HE3	1.93	0.50
13:QM:40:ASN:ND2	13:QM:43:THR:HG23	2.27	0.50
25:RA:270(L):U:H2'	32:RI:50:ARG:HD2	1.94	0.50
25:RA:760:G:H2'	25:RA:761:A:O4'	2.12	0.50
25:RA:1542:G:C3'	25:RA:1543:A:C5'	2.76	0.50
25:RA:2277:G:OP2	46:R0:10:THR:HG21	2.11	0.50
25:RA:2306:C:H2'	25:RA:2307:G:N2	2.26	0.50
25:RA:2713:A:OP1	37:RR:14:SER:OG	2.30	0.50
29:RF:16:GLY:O	29:RF:18:ARG:N	2.45	0.50
32:RI:29:TYR:O	32:RI:33:ARG:HB2	2.12	0.50
33:RN:7:LYS:H	33:RN:7:LYS:HZ3	1.58	0.50
35:RP:26:GLY:O	35:RP:28:GLY:N	2.45	0.50
54:R8:23:VAL:HG11	54:R8:46:ARG:HD3	1.92	0.50
1:XA:7:G:H5'	1:XA:298:A:O4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:582:U:H2'	1:XA:583:A:C8	2.47	0.50
1:XA:1024:G:OP1	1:XA:1024:G:H4'	2.12	0.50
2:XB:114:ARG:O	2:XB:117:GLU:HB2	2.11	0.50
2:XB:162:ILE:HD11	2:XB:184:VAL:HG22	1.94	0.50
4:XD:108:LEU:HD21	4:XD:183:GLY:HA3	1.93	0.50
4:XD:112:VAL:HG12	4:XD:116:GLN:OE1	2.12	0.50
5:XE:76:ILE:HG13	5:XE:93:PRO:HB3	1.94	0.50
11:XK:86:GLY:O	11:XK:91:ARG:HD3	2.11	0.50
25:YA:1278:A:H4'	37:YR:34:ILE:HD12	1.94	0.50
11:QK:17:GLY:N	11:QK:79:SER:O	2.44	0.50
25:RA:270(H):C:H42	25:RA:270(R):G:H1	1.60	0.50
25:RA:1790:C:H5''	25:RA:1791:A:OP1	2.11	0.50
25:RA:2103:C:H42	25:RA:2186:G:H1	1.59	0.50
27:RD:62:TYR:CE2	27:RD:64:ILE:HA	2.46	0.50
36:RQ:134:ARG:NH2	45:RZ:122:ARG:HD2	2.27	0.50
1:XA:1147:C:HO2'	9:XI:5:TYR:HH	1.58	0.50
2:XB:32:ILE:HD11	2:XB:40:HIS:HB3	1.94	0.50
15:XO:6:GLU:H	15:XO:6:GLU:CD	2.15	0.50
25:YA:299:A:N1	25:YA:322:A:O2'	2.41	0.50
25:YA:1109:C:O2'	25:YA:1110:G:OP1	2.30	0.50
25:YA:2319:G:N7	38:YS:3:ARG:HB3	2.27	0.50
31:YH:4:ILE:HG13	31:YH:6:ARG:NE	2.26	0.50
41:YV:61:VAL:HA	41:YV:94:LEU:HD23	1.93	0.50
52:Y6:47:THR:HG22	52:Y6:48:VAL:HG12	1.94	0.50
1:QA:485:G:H1'	1:QA:486:U:H5	1.77	0.50
1:QA:757:U:O2'	1:QA:879:C:O2	2.29	0.50
4:QD:33:MET:CE	4:QD:37:PRO:HA	2.41	0.50
4:QD:194:LEU:HD12	6:XF:17:SER:OG	2.12	0.50
13:QM:92:HIS:HD2	13:QM:110:ARG:HH21	1.58	0.50
23:QW:19:G:P	23:QW:60:U:H3	2.33	0.50
25:RA:1153:C:H2'	25:RA:1154:G:O4'	2.12	0.50
33:RN:34:LEU:O	33:RN:49:GLY:HA3	2.12	0.50
36:RQ:20:ALA:HB1	36:RQ:99:PRO:HD2	1.94	0.50
38:RS:67:ARG:O	38:RS:71:ARG:HG3	2.12	0.50
39:RT:42:ILE:HD12	39:RT:42:ILE:H	1.77	0.50
13:XM:49:THR:HB	13:XM:52:GLU:H	1.77	0.50
20:XT:64:ASP:HA	20:XT:67:ALA:HB3	1.93	0.50
25:YA:1069:A:H4'	25:YA:1070:A:H5''	1.93	0.50
25:YA:1803:A:H4'	27:YD:259:THR:HG23	1.93	0.50
25:YA:2071:A:H2'	25:YA:2072:G:H8	1.76	0.50
29:YF:108:LYS:O	29:YF:112:MET:HG3	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:YN:58:ASP:OD1	33:YN:58:ASP:N	2.45	0.50
36:YQ:66:ILE:HG13	36:YQ:67:ARG:N	2.27	0.50
43:YX:60:ARG:HH22	53:Y7:47:ARG:HH12	1.60	0.50
1:QA:56:U:H2'	1:QA:57:G:H8	1.76	0.49
1:QA:164:U:H2'	1:QA:165:C:C6	2.47	0.49
3:QC:79:ARG:HD2	11:XK:99:GLN:HE22	1.71	0.49
12:QL:24:VAL:HG13	12:QL:98:TYR:HE1	1.76	0.49
25:RA:321:G:OP1	29:RF:135:LYS:NZ	2.36	0.49
25:RA:654(A):G:N2	25:RA:654(T):C:C2	2.79	0.49
25:RA:2030:A:H4'	25:RA:2031:A:C8	2.47	0.49
25:RA:2287:A:N6	25:RA:2344:U:C2	2.80	0.49
25:RA:2566:A:H4'	25:RA:2567:G:O5'	2.12	0.49
26:RB:5:C:O2'	26:RB:27:C:O2	2.30	0.49
29:RF:9:ILE:HD11	29:RF:125:LEU:HG	1.94	0.49
36:RQ:111:GLU:C	36:RQ:113:GLN:H	2.19	0.49
37:RR:33:ARG:HH12	51:R5:57:VAL:HG23	1.75	0.49
37:RR:44:LEU:HD22	37:RR:48:VAL:HG23	1.94	0.49
39:RT:34:VAL:HG12	39:RT:36:GLU:HG2	1.94	0.49
39:RT:41:ARG:NH1	39:RT:41:ARG:CB	2.73	0.49
1:XA:1016:A:H2'	1:XA:1017:G:O4'	2.12	0.49
15:XO:67:LEU:HB3	15:XO:78:TYR:HE1	1.77	0.49
23:XW:57:G:H2'	23:XW:58:A:H5'	1.94	0.49
25:YA:1012:U:O4	33:YN:25:ARG:HA	2.12	0.49
25:YA:1689:A:H62	25:YA:1698:A:H2	1.58	0.49
25:YA:2340:G:H2'	25:YA:2341:G:C8	2.47	0.49
25:YA:2884:U:C2	51:Y5:51:TYR:HE1	2.30	0.49
28:YE:103:ASP:OD1	28:YE:201:THR:HG23	2.12	0.49
40:YU:83:LEU:HG	40:YU:88:ILE:HG13	1.93	0.49
44:YY:97:ARG:HH21	44:YY:98:VAL:HB	1.76	0.49
54:Y8:25:MET:O	54:Y8:47:LYS:NZ	2.44	0.49
1:QA:589:C:N4	1:QA:650:G:H1	2.06	0.49
1:QA:1065:U:O2'	1:QA:1066:C:OP2	2.24	0.49
1:QA:1218:C:H2'	1:QA:1219:U:C6	2.47	0.49
2:QB:162:ILE:HD11	2:QB:184:VAL:HG22	1.93	0.49
2:QB:235:SER:OG	2:QB:236:TYR:N	2.46	0.49
3:QC:157:ILE:HD11	3:QC:166:GLU:HB2	1.94	0.49
8:QH:9:MET:HG3	8:QH:26:VAL:HG21	1.94	0.49
9:QI:46:ALA:HB2	9:QI:74:ILE:HG23	1.94	0.49
25:RA:2601:C:H2'	25:RA:2603:G:C8	2.47	0.49
31:RH:155:SER:OG	31:RH:156:ALA:N	2.45	0.49
36:RQ:11:LYS:HE2	36:RQ:86:GLY:O	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RQ:69:PHE:CD1	36:RQ:70:PRO:HD2	2.46	0.49
38:RS:15:ARG:NH1	38:RS:25:ARG:HH21	2.11	0.49
43:RX:26:TYR:HB3	43:RX:92:LEU:HD12	1.93	0.49
1:XA:1301:U:H3'	1:XA:1302:U:H5'	1.94	0.49
11:XK:82:VAL:HB	11:XK:108:ILE:HG12	1.94	0.49
19:XS:41:VAL:HB	19:XS:42:PRO:CA	2.42	0.49
25:YA:278:A:H2'	25:YA:279:C:C6	2.47	0.49
28:YE:35:GLN:HG2	28:YE:37:ARG:HE	1.77	0.49
33:YN:7:LYS:N	33:YN:7:LYS:HD2	2.27	0.49
35:YP:126:VAL:HG13	35:YP:145:PRO:HB2	1.94	0.49
46:Y0:70:GLN:OE1	46:Y0:72:ARG:HD3	2.12	0.49
53:Y7:5:TRP:NE1	53:Y7:7:PRO:HG3	2.27	0.49
1:QA:946:A:H61	1:QA:1234:C:H42	1.60	0.49
1:QA:1201:A:O2'	1:QA:1202:G:O5'	2.29	0.49
2:QB:96:ARG:H	2:QB:96:ARG:HD2	1.76	0.49
3:QC:14:ILE:HG12	3:QC:15:THR:N	2.27	0.49
14:QN:15:LYS:HD2	14:QN:16:PHE:CE2	2.47	0.49
14:QN:24:CYS:HB3	14:QN:29:ARG:H	1.78	0.49
20:QT:79:ARG:O	20:QT:83:ARG:HG3	2.12	0.49
25:RA:796:C:H2'	25:RA:797:C:C6	2.47	0.49
25:RA:1441:G:H2'	25:RA:1442:G:H8	1.77	0.49
26:RB:78:A:H2'	26:RB:79:C:O4'	2.12	0.49
27:RD:175:LEU:HD12	27:RD:185:VAL:HG21	1.93	0.49
32:RI:5:LEU:HD23	32:RI:9:LEU:HD11	1.94	0.49
43:RX:27:THR:HB	43:RX:80:ILE:HB	1.93	0.49
12:XL:62:SER:HB2	12:XL:64:TYR:HD1	1.76	0.49
12:XL:71:PRO:O	12:XL:102:ARG:HD3	2.12	0.49
14:XN:23:ARG:NH1	14:XN:30:ALA:HB2	2.27	0.49
25:YA:102:G:H4'	25:YA:103:A:O5'	2.11	0.49
25:YA:2795:G:H3'	25:YA:2797:U:C5'	2.42	0.49
28:YE:73:GLU:HG3	28:YE:74:PRO:HD2	1.92	0.49
1:QA:692:U:OP1	11:QK:124:LYS:NZ	2.39	0.49
1:QA:1288:A:N1	1:QA:1371:G:H1'	2.27	0.49
3:QC:14:ILE:HG12	3:QC:15:THR:H	1.76	0.49
3:QC:73:PRO:O	3:QC:76:VAL:HG22	2.12	0.49
4:QD:29:PRO:O	4:QD:30:LYS:HB3	2.11	0.49
18:QR:26:LEU:HD22	18:QR:42:ARG:HD2	1.94	0.49
19:QS:68:GLY:N	50:R4:59:PHE:HE1	2.08	0.49
25:RA:229:A:H4'	25:RA:229:A:OP1	2.12	0.49
25:RA:1791:A:H5'	27:RD:206:LEU:HD12	1.95	0.49
25:RA:2377:A:H2'	25:RA:2378:A:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RG:60:LEU:O	30:RG:64:THR:HG22	2.11	0.49
30:RG:115:ARG:NH2	30:RG:137:GLU:OE1	2.46	0.49
32:RI:2:LYS:HA	32:RI:20:ASP:HA	1.95	0.49
43:RX:40:LYS:O	43:RX:42:ALA:N	2.45	0.49
45:RZ:102:LEU:HB3	45:RZ:104:PHE:HE1	1.78	0.49
25:YA:340:A:H2'	25:YA:341:G:O4'	2.12	0.49
25:YA:1081:U:H3'	25:YA:1082:U:H4'	1.94	0.49
26:YB:41:U:C4	30:YG:70:VAL:HG23	2.48	0.49
40:YU:61:TRP:CD2	40:YU:94:ASN:HA	2.47	0.49
50:Y4:15:ILE:H	50:Y4:15:ILE:HD13	1.76	0.49
4:QD:129:ASN:HA	4:QD:145:GLU:HB2	1.94	0.49
7:QG:20:ASP:HB3	7:QG:23:VAL:HG23	1.94	0.49
13:QM:3:ARG:CZ	30:RG:113:ARG:HH21	2.26	0.49
25:RA:404:C:H1'	25:RA:405:U:OP2	2.13	0.49
25:RA:813:U:H2'	25:RA:814:C:C6	2.48	0.49
25:RA:1805:U:O2	27:RD:50:THR:HB	2.12	0.49
25:RA:2415:G:H4'	35:RP:67:MET:N	2.28	0.49
27:RD:35:LYS:HZ1	27:RD:65:ILE:HA	1.76	0.49
29:RF:132:VAL:HG23	29:RF:133:ASN:OD1	2.12	0.49
33:RN:134:ARG:N	33:RN:135:PRO:HD3	2.28	0.49
51:R5:40:LYS:HE2	51:R5:47:PRO:HD2	1.92	0.49
53:R7:31:LEU:HD22	53:R7:42:LEU:HD13	1.95	0.49
16:XP:28:ARG:NH1	16:XP:29:ASP:OD2	2.45	0.49
25:YA:888:C:H3'	25:YA:889:C:C4'	2.40	0.49
25:YA:1348:G:H2'	25:YA:1349:A:H5''	1.94	0.49
27:YD:76:PRO:HG2	27:YD:98:VAL:HG21	1.93	0.49
33:YN:17:ASP:O	33:YN:56:ASN:HB2	2.12	0.49
33:YN:34:LEU:HD21	33:YN:120:LEU:HB2	1.94	0.49
43:YX:53:LYS:HB3	43:YX:82:GLN:HB3	1.93	0.49
45:YZ:54:HIS:C	45:YZ:98:MET:HE1	2.36	0.49
52:Y6:41:PRO:HD2	52:Y6:46:HIS:N	2.28	0.49
1:QA:255:G:H1'	17:QQ:16:GLN:NE2	2.28	0.49
1:QA:1104:G:H4'	2:QB:111:ARG:NH1	2.28	0.49
2:QB:204:ASN:ND2	2:QB:206:ASP:O	2.45	0.49
6:QF:97:PHE:O	18:QR:31:LEU:HD23	2.12	0.49
17:QQ:18:THR:HG23	17:QQ:69:LYS:HE3	1.94	0.49
19:QS:41:VAL:HA	19:QS:44:MET:HG3	1.93	0.49
25:RA:807:U:O2'	25:RA:2060:A:N1	2.46	0.49
25:RA:2008:C:H2'	25:RA:2009:G:H8	1.78	0.49
25:RA:2505:G:OP1	56:Z7:1:T17:H47	2.13	0.49
30:RG:110:ALA:HB1	30:RG:140:ILE:HD12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:RT:16:ARG:HD3	39:RT:19:LEU:HD11	1.93	0.49
40:RU:92:ARG:O	40:RU:92:ARG:HG2	2.13	0.49
1:XA:1186:G:H21	14:XN:61:TRP:C	2.21	0.49
2:XB:12:GLU:C	2:XB:14:GLY:H	2.21	0.49
13:XM:14:ARG:HG2	13:XM:17:VAL:HG23	1.94	0.49
25:YA:691:C:O4'	27:YD:43:ARG:NH2	2.46	0.49
25:YA:807:U:H2'	25:YA:808:G:C8	2.47	0.49
25:YA:1858:G:O2'	25:YA:1884:A:N6	2.44	0.49
27:YD:27:THR:HG21	27:YD:83:GLU:HG2	1.94	0.49
30:YG:179:PRO:HG3	50:Y4:38:LYS:HZ1	1.76	0.49
40:YU:95:LEU:HD22	41:YV:4:ILE:HD12	1.93	0.49
43:YX:57:LEU:HD11	43:YX:78:LYS:HD2	1.94	0.49
1:QA:570:G:O6	1:QA:865:A:N6	2.44	0.49
1:QA:1152:A:H5''	10:QJ:13:HIS:CD2	2.48	0.49
1:QA:1213:A:C6	1:QA:1215:G:H1'	2.48	0.49
3:QC:47:LEU:HD23	3:QC:68:VAL:HG11	1.94	0.49
8:QH:95:VAL:HB	8:QH:99:GLU:O	2.13	0.49
25:RA:1994:C:P	28:RE:127:ASP:HB2	2.52	0.49
25:RA:2527:C:H5''	55:R9:30:PRO:HB2	1.94	0.49
25:RA:2790:A:H2'	25:RA:2791:C:H5''	1.95	0.49
25:RA:2795:G:H3'	25:RA:2797:U:C5'	2.43	0.49
44:RY:47:LYS:HG2	44:RY:60:PHE:HD1	1.76	0.49
49:R3:6:VAL:HG13	49:R3:56:VAL:HG13	1.93	0.49
52:R6:14:THR:O	52:R6:49:HIS:HA	2.12	0.49
1:XA:1159:U:O2'	1:XA:1160:G:N7	2.44	0.49
2:XB:24:TRP:CZ3	2:XB:26:PRO:HA	2.48	0.49
25:YA:583:G:OP2	40:YU:10:ARG:HD2	2.13	0.49
25:YA:2071:A:H2'	25:YA:2072:G:C8	2.48	0.49
25:YA:2232:U:P	47:Y1:40:ARG:HH12	2.35	0.49
28:YE:179:GLU:HB3	28:YE:181:LEU:HD23	1.94	0.49
30:YG:94:LEU:HD12	30:YG:99:MET:HA	1.95	0.49
50:Y4:35:VAL:C	50:Y4:37:SER:H	2.20	0.49
52:Y6:15:GLU:CD	52:Y6:41:PRO:HB3	2.37	0.49
1:QA:191:G:O2'	20:QT:101:GLY:O	2.30	0.49
1:QA:1015:A:H2'	1:QA:1016:A:C8	2.48	0.49
2:QB:178:ARG:NH2	8:QH:74:PRO:HG3	2.28	0.49
4:QD:195:ALA:O	6:XF:16:GLN:CB	2.61	0.49
13:QM:23:TYR:HE1	13:QM:70:LEU:HD12	1.77	0.49
22:QV:76:A:O2'	25:RA:2451:A:O2'	2.21	0.49
25:RA:192:C:O2'	25:RA:802:A:N3	2.42	0.49
25:RA:900:A:H3'	25:RA:901:A:H8	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1231:G:H2'	25:RA:1232:G:C8	2.47	0.49
25:RA:1533:C:H42	25:RA:1538:G:H1	1.60	0.49
26:RB:15:A:OP1	26:RB:107:U:O2'	2.28	0.49
28:RE:70:ALA:O	28:RE:72:VAL:N	2.46	0.49
29:RF:178:PRO:HG2	29:RF:179:GLU:OE2	2.13	0.49
52:R6:25:LYS:HE2	52:R6:27:LYS:HD3	1.94	0.49
1:XA:267:C:OP1	17:XQ:67:LYS:HB2	2.13	0.49
1:XA:690:G:H2'	1:XA:691:G:O4'	2.12	0.49
1:XA:923:A:OP1	5:XE:21:ALA:HB2	2.13	0.49
3:XC:148:GLY:HA3	3:XC:172:ARG:O	2.12	0.49
10:XJ:49:VAL:HG22	14:XN:41:ARG:HB2	1.94	0.49
13:XM:81:LEU:HD13	13:XM:88:ARG:HD2	1.94	0.49
20:XT:89:ARG:NH2	20:XT:104:LEU:HD11	2.27	0.49
25:YA:943:U:OP2	35:YP:36:LYS:NZ	2.42	0.49
31:YH:98:LEU:HD13	31:YH:125:VAL:HB	1.94	0.49
1:QA:148:G:H1	1:QA:174:C:H42	1.61	0.49
1:QA:1004:A:H1'	1:QA:1036:G:N2	2.27	0.49
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.47	0.49
2:QB:21:ARG:O	2:QB:23:ARG:N	2.46	0.49
4:QD:166:LYS:HD3	27:YD:188:GLU:OE2	2.12	0.49
15:QO:87:ILE:HG22	15:QO:88:ARG:H	1.78	0.49
25:RA:1209:G:O2'	25:RA:1237:A:N1	2.33	0.49
25:RA:2364:C:OP1	46:R0:55:ARG:NH1	2.46	0.49
29:RF:24:LEU:HD23	29:RF:115:ALA:HA	1.95	0.49
31:RH:4:ILE:HG13	31:RH:6:ARG:NE	2.28	0.49
36:RQ:89:ASN:O	36:RQ:91:GLU:N	2.45	0.49
46:R0:32:ARG:H	46:R0:35:ASN:ND2	2.11	0.49
1:XA:200:G:H1	1:XA:217:C:H42	1.60	0.49
1:XA:737:A:H2'	1:XA:738:C:C6	2.47	0.49
25:YA:573:G:O2'	25:YA:574:C:H3'	2.13	0.49
25:YA:1754:C:P	39:YT:96:ARG:NH1	2.86	0.49
28:YE:24:THR:HG22	28:YE:24:THR:O	2.13	0.49
44:YY:86:ARG:HB2	44:YY:95:LYS:HD2	1.94	0.49
52:Y6:21:TYR:HE2	52:Y6:53:LYS:HE3	1.77	0.49
1:QA:64:G:H4'	1:QA:65:U:H5'	1.95	0.49
1:QA:769:G:H4'	1:QA:1513:A:H4'	1.95	0.49
1:QA:950:U:H2'	1:QA:951:G:C8	2.48	0.49
1:QA:1466:C:H2'	1:QA:1467:G:O4'	2.12	0.49
10:QJ:24:VAL:HG21	10:QJ:37:PRO:HD3	1.95	0.49
12:QL:58:VAL:O	12:QL:65:GLU:HA	2.13	0.49
19:QS:77:THR:HG22	19:QS:78:ARG:HD3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2466:C:OP1	55:R9:4:ARG:HB2	2.13	0.49
30:RG:54:GLU:HA	30:RG:57:ALA:HB3	1.94	0.49
32:RI:133:HIS:HB2	32:RI:134:PRO:CD	2.43	0.49
2:XB:47:THR:HA	2:XB:202:PRO:HG2	1.95	0.49
5:XE:31:LEU:HD23	5:XE:45:PHE:HD1	1.78	0.49
6:XF:10:LEU:HD22	6:XF:61:LEU:HD11	1.94	0.49
6:XF:19:LEU:HD21	6:XF:59:TYR:CE1	2.47	0.49
6:XF:97:PHE:HD1	18:XR:31:LEU:HD21	1.78	0.49
10:XJ:35:SER:OG	10:XJ:73:ASP:HB2	2.13	0.49
25:YA:1311:G:N2	25:YA:1603:A:H62	2.11	0.49
25:YA:1384:A:N3	25:YA:1405:U:H1'	2.27	0.49
25:YA:1427:A:H4'	25:YA:1428:C:O5'	2.12	0.49
25:YA:2344:U:OP1	52:Y6:38:LYS:HD3	2.13	0.49
27:YD:35:LYS:NZ	27:YD:104:TYR:HB2	2.26	0.49
29:YF:185:ASP:OD1	29:YF:188:ARG:NH1	2.35	0.49
32:YI:76:THR:OG1	32:YI:139:GLN:OE1	2.31	0.49
34:YO:4:PRO:O	34:YO:5:GLN:HB2	2.11	0.49
40:YU:98:LEU:O	40:YU:102:GLU:N	2.37	0.49
46:Y0:53:MET:HA	46:Y0:58:THR:O	2.13	0.49
52:Y6:41:PRO:O	52:Y6:45:LYS:HE3	2.12	0.49
1:QA:474:G:H5'	16:QP:81:ARG:HG3	1.94	0.48
1:QA:1159:U:C6	1:QA:1182:G:H1'	2.47	0.48
21:QU:5:ASP:O	21:QU:11:GLY:HA3	2.13	0.48
23:QW:7:A:N6	23:QW:66:U:H3	2.10	0.48
25:RA:1204:A:H1'	25:RA:1206:G:C8	2.48	0.48
25:RA:2037:G:H2'	25:RA:2038:G:C8	2.48	0.48
44:RY:47:LYS:HG2	44:RY:60:PHE:CD1	2.48	0.48
1:XA:539:A:OP1	12:XL:114:LYS:NZ	2.37	0.48
1:XA:779:C:H2'	1:XA:780:A:O4'	2.13	0.48
1:XA:950:U:H2'	1:XA:951:G:H8	1.78	0.48
1:XA:973:G:H3'	1:XA:974:A:C5'	2.42	0.48
1:XA:1129:C:H4'	1:XA:1130:A:H8	1.77	0.48
1:XA:1495:U:H2'	1:XA:1496:C:C6	2.48	0.48
3:XC:79:ARG:HH12	3:XC:82:GLU:HG3	1.78	0.48
5:XE:10:MET:SD	5:XE:13:ILE:HD13	2.53	0.48
5:XE:33:VAL:HG11	5:XE:109:ILE:HA	1.95	0.48
25:YA:654(A):G:H8	25:YA:654(A):G:OP2	1.96	0.48
25:YA:1045:A:O2'	25:YA:1046:A:OP2	2.28	0.48
25:YA:2776:A:H4'	25:YA:2777:G:O5'	2.12	0.48
27:YD:61:LEU:O	27:YD:63:ARG:NH1	2.45	0.48
29:YF:176:LEU:HD21	29:YF:181:LEU:HA	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YH:55:PRO:HG2	31:YH:61:HIS:CE1	2.48	0.48
36:YQ:104:PHE:CE2	36:YQ:125:LEU:HD11	2.41	0.48
1:QA:35:G:O2'	12:QL:118:SER:O	2.31	0.48
1:QA:510:A:OP2	4:QD:49:ARG:NH2	2.45	0.48
1:QA:675:A:O2'	11:QK:114:VAL:O	2.30	0.48
15:QO:16:ALA:HB1	15:QO:21:ASP:HB3	1.94	0.48
25:RA:103:A:O5'	25:RA:103:A:H8	1.96	0.48
25:RA:783:A:H2'	25:RA:784:A:H4'	1.94	0.48
25:RA:1412:A:H2'	25:RA:1413:G:O4'	2.13	0.48
25:RA:1803:A:O2'	27:RD:259:THR:HG21	2.14	0.48
25:RA:2119:A:N6	25:RA:2170:A:N7	2.61	0.48
29:RF:155:LEU:HD12	29:RF:174:VAL:HG22	1.94	0.48
3:XC:134:ILE:HG23	3:XC:151:VAL:HB	1.94	0.48
11:XK:59:TYR:CZ	11:XK:63:LEU:HD11	2.48	0.48
16:XP:26:ARG:HH21	16:XP:31:LYS:HB3	1.77	0.48
25:YA:671:C:H2'	25:YA:672:C:H6	1.78	0.48
25:YA:954:G:H5''	36:YQ:13:GLN:HB3	1.94	0.48
25:YA:2227:A:H5''	27:YD:263:ARG:NH1	2.29	0.48
25:YA:2693:A:H2'	25:YA:2694:G:H8	1.78	0.48
27:YD:35:LYS:HD3	27:YD:63:ARG:CB	2.43	0.48
30:YG:166:ASP:HA	30:YG:169:ALA:HB3	1.95	0.48
34:YO:76:ALA:HB3	39:YT:75:ILE:HD12	1.95	0.48
39:YT:107:ASP:H	39:YT:110:ILE:HG22	1.78	0.48
42:YW:51:LEU:HD23	42:YW:105:VAL:HG11	1.94	0.48
45:YZ:166:SER:HB2	45:YZ:167:PRO:C	2.39	0.48
47:Y1:41:ARG:HH11	47:Y1:41:ARG:HG3	1.78	0.48
1:QA:1392:G:N2	1:QA:1502:A:H8	2.05	0.48
2:QB:80:ILE:HG21	2:QB:212:GLN:HA	1.95	0.48
7:QG:57:GLU:OE1	7:QG:57:GLU:N	2.41	0.48
7:QG:155:ARG:O	7:QG:155:ARG:NH2	2.46	0.48
12:QL:38:THR:O	12:QL:79:GLU:HG3	2.14	0.48
25:RA:686:G:N2	25:RA:788:A:H61	2.11	0.48
25:RA:1190:G:H5'	35:RP:32:THR:HA	1.95	0.48
25:RA:1777:U:H3	25:RA:1787:A:H61	1.61	0.48
28:RE:181:LEU:HD21	39:RT:7:ILE:HG23	1.95	0.48
31:RH:41:MET:HG3	31:RH:54:ARG:HA	1.96	0.48
35:RP:37:GLY:O	35:RP:40:SER:OG	2.27	0.48
37:RR:2:ARG:HA	37:RR:5:LYS:HE3	1.95	0.48
43:RX:39:ILE:O	43:RX:43:VAL:HG12	2.13	0.48
1:XA:1359:C:OP2	14:XN:35:ARG:NH1	2.46	0.48
2:XB:37:ASN:C	2:XB:39:ILE:H	2.20	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:XL:62:SER:C	12:XL:64:TYR:H	2.21	0.48
25:YA:220:G:O2'	25:YA:233:A:N3	2.42	0.48
25:YA:1026:U:H1'	25:YA:1027:A:O5'	2.12	0.48
25:YA:1085:A:O2'	25:YA:1086:A:OP1	2.27	0.48
25:YA:1408:C:H2'	25:YA:1409:C:C6	2.48	0.48
25:YA:2641:G:P	33:YN:83:LYS:HE3	2.53	0.48
28:YE:111:ARG:HG2	37:YR:1:MET:SD	2.53	0.48
31:YH:137:ASP:HB3	31:YH:140:LYS:HB3	1.94	0.48
35:YP:82:GLY:HA2	35:YP:113:LYS:O	2.12	0.48
35:YP:135:LEU:HD13	35:YP:139:LYS:HE2	1.94	0.48
1:QA:715:A:H2'	1:QA:716:A:C8	2.49	0.48
1:QA:753:A:H4'	1:QA:754:C:O5'	2.12	0.48
10:QJ:32:ALA:HB3	10:QJ:76:ASN:HB2	1.95	0.48
13:QM:49:THR:HG22	13:QM:51:ALA:H	1.79	0.48
25:RA:78:A:H2'	25:RA:79:G:C8	2.48	0.48
25:RA:263:C:H2'	25:RA:264:C:O4'	2.13	0.48
25:RA:626:U:H5''	25:RA:627:A:H5'	1.94	0.48
37:RR:97:VAL:HG22	37:RR:114:VAL:CG2	2.43	0.48
47:R1:53:VAL:HB	47:R1:58:ILE:HD12	1.94	0.48
3:XC:7:PRO:O	3:XC:11:ARG:HG2	2.13	0.48
11:XK:18:ARG:NH2	11:XK:35:PRO:O	2.45	0.48
20:XT:93:GLU:OE1	20:XT:94:ALA:N	2.46	0.48
25:YA:469:G:O6	53:Y7:37:LYS:NZ	2.38	0.48
35:YP:46:LYS:HE3	35:YP:46:LYS:HB3	1.54	0.48
41:YV:15:GLU:O	41:YV:18:LEU:HB2	2.14	0.48
1:QA:266:G:O2'	1:QA:267:C:OP2	2.32	0.48
1:QA:1336:C:O2'	1:QA:1337:G:O5'	2.30	0.48
1:QA:1465:C:H2'	1:QA:1466:C:O4'	2.14	0.48
3:QC:150:LYS:HG3	3:QC:169:ALA:HB2	1.96	0.48
16:QP:43:LYS:HA	16:QP:48:TRP:HB3	1.95	0.48
25:RA:372:G:H1'	25:RA:373:U:H5	1.78	0.48
25:RA:1062:G:H2'	25:RA:1063:G:C8	2.48	0.48
25:RA:2563:U:H1'	25:RA:2566:A:N6	2.29	0.48
33:RN:4:TYR:O	40:RU:64:ARG:NH1	2.46	0.48
35:RP:58:THR:O	35:RP:61:ARG:CZ	2.61	0.48
44:RY:81:LYS:NZ	44:RY:98:VAL:HG11	2.28	0.48
1:XA:170:U:H2'	1:XA:171:A:H8	1.79	0.48
1:XA:191(D):U:H2'	1:XA:191(E):G:C8	2.48	0.48
3:XC:130:VAL:HG21	3:XC:157:ILE:HG23	1.94	0.48
5:XE:50:GLU:HG3	5:XE:52:PRO:HD2	1.95	0.48
5:XE:110:LEU:HD13	5:XE:118:ILE:HG21	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:XF:35:ALA:HA	6:XF:67:MET:HB3	1.94	0.48
9:XI:9:ARG:HB2	9:XI:14:VAL:HA	1.96	0.48
25:YA:278:A:O2'	25:YA:279:C:O4'	2.20	0.48
25:YA:2712:U:O2'	25:YA:2712(A):A:H8	1.96	0.48
25:YA:2756:U:OP2	55:Y9:19:ARG:NH2	2.46	0.48
26:YB:12:C:C2'	46:Y0:73:GLY:HA3	2.43	0.48
35:YP:5:ASP:O	35:YP:6:LEU:O	2.31	0.48
39:YT:102:ILE:HB	39:YT:110:ILE:HD13	1.95	0.48
40:YU:60:LEU:HD22	40:YU:60:LEU:O	2.14	0.48
43:YX:63:LYS:O	43:YX:64:LYS:HD2	2.14	0.48
4:QD:100:ARG:NH2	4:QD:136:PRO:O	2.46	0.48
7:QG:149:ARG:CD	11:QK:59:TYR:CZ	2.97	0.48
9:QI:17:VAL:HG11	9:QI:81:ILE:HA	1.95	0.48
11:QK:48:ILE:HD11	11:QK:64:ALA:HA	1.95	0.48
25:RA:297:C:H2'	25:RA:298:G:O4'	2.13	0.48
25:RA:643:A:N1	25:RA:2369:A:O2'	2.45	0.48
25:RA:858:U:O2	25:RA:2268:A:H2'	2.13	0.48
35:RP:59:LEU:HA	35:RP:61:ARG:HE	1.76	0.48
49:R3:4:LEU:O	49:R3:36:VAL:HA	2.13	0.48
1:XA:537:G:H5''	12:XL:113:ARG:NH1	2.29	0.48
2:XB:101:MET:HA	2:XB:108:ILE:HG13	1.95	0.48
5:XE:6:PHE:CE1	5:XE:36:ASP:HB3	2.48	0.48
6:XF:36:ARG:CZ	6:XF:38:GLU:HG2	2.44	0.48
13:XM:11:ARG:NH2	30:YG:146:TYR:HD2	2.08	0.48
15:XO:70:LEU:HD11	15:XO:77:ARG:HG3	1.96	0.48
25:YA:468:G:N7	53:Y7:39:ARG:NH2	2.59	0.48
25:YA:676:A:N1	25:YA:802:A:N1	2.61	0.48
25:YA:1819:A:H4'	25:YA:1820:U:O5'	2.13	0.48
25:YA:2081:C:H2'	25:YA:2082:A:H8	1.79	0.48
35:YP:52:GLU:O	35:YP:55:ARG:HG2	2.14	0.48
51:Y5:41:PRO:O	51:Y5:44:THR:OG1	2.32	0.48
1:QA:238:G:OP1	17:QQ:25:ARG:NH2	2.46	0.48
1:QA:1201:A:HO2'	1:QA:1202:G:P	2.37	0.48
11:QK:54:ARG:NH1	23:QW:39:U:O2'	2.41	0.48
20:QT:12:ALA:O	20:QT:15:ARG:HB2	2.14	0.48
25:RA:223:A:N1	25:RA:407:G:O2'	2.42	0.48
25:RA:2734:A:H5'	25:RA:2735:G:OP2	2.14	0.48
29:RF:178:PRO:HB2	29:RF:201:VAL:HG11	1.94	0.48
30:RG:81:LYS:O	30:RG:82:LEU:HB2	2.12	0.48
35:RP:36:LYS:HB3	35:RP:40:SER:HB3	1.95	0.48
38:RS:64:GLU:O	38:RS:68:GLN:HG3	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:411:A:N9	1:XA:413:G:H1'	2.28	0.48
12:XL:47:LYS:HB3	12:XL:48:PRO:HD2	1.96	0.48
25:YA:874:G:H4'	45:YZ:118:GLN:OE1	2.13	0.48
25:YA:1045:A:C5	25:YA:1111:A:N7	2.81	0.48
26:YB:37:C:N3	26:YB:48:A:O2'	2.41	0.48
35:YP:14:LYS:O	35:YP:16:ARG:HG2	2.13	0.48
36:YQ:45:GLN:H	36:YQ:45:GLN:CD	2.22	0.48
40:YU:90:VAL:HG22	41:YV:39:LEU:HB3	1.96	0.48
40:YU:97:ASP:OD2	40:YU:101:ARG:NH1	2.46	0.48
47:Y1:25:LYS:C	47:Y1:27:GLU:H	2.22	0.48
52:Y6:27:LYS:NZ	52:Y6:27:LYS:HB2	2.28	0.48
1:QA:745:C:OP1	1:QA:851:G:O2'	2.31	0.48
1:QA:877:C:H5''	8:QH:88:LYS:HD3	1.95	0.48
1:QA:1310:G:OP2	13:QM:88:ARG:NH2	2.46	0.48
2:QB:163:PHE:HD1	2:QB:185:ILE:HG13	1.78	0.48
4:QD:106:TYR:HE1	4:QD:112:VAL:O	1.97	0.48
9:QI:40:LEU:O	9:QI:42:ARG:N	2.46	0.48
25:RA:340:A:H2'	25:RA:341:G:O4'	2.13	0.48
25:RA:2186:G:H2'	25:RA:2187:G:H8	1.79	0.48
27:RD:25:THR:O	27:RD:27:THR:HG22	2.14	0.48
29:RF:102:PRO:HB2	29:RF:105:VAL:HG23	1.95	0.48
29:RF:197:ASP:N	29:RF:197:ASP:OD1	2.46	0.48
30:RG:82:LEU:HD21	30:RG:88:ILE:HG13	1.96	0.48
31:RH:86:GLU:OE1	31:RH:86:GLU:N	2.43	0.48
37:RR:33:ARG:NH1	51:R5:57:VAL:HG21	2.29	0.48
44:RY:51:VAL:O	44:RY:56:PRO:HA	2.14	0.48
1:XA:662:G:H2'	1:XA:663:A:C8	2.48	0.48
16:XP:22:THR:HA	16:XP:33:ILE:HG12	1.96	0.48
20:XT:98:PRO:C	20:XT:100:ILE:H	2.21	0.48
25:YA:28:A:H61	25:YA:512:G:H1'	1.78	0.48
25:YA:207:A:H2'	25:YA:208:C:O4'	2.14	0.48
25:YA:270(T):G:OP1	47:Y1:97:LEU:HD13	2.13	0.48
25:YA:1101:U:H2'	25:YA:1102:C:C6	2.49	0.48
25:YA:1287:A:N7	37:YR:107:ASP:HB2	2.28	0.48
25:YA:1508:A:O2'	25:YA:1509:C:O4'	2.25	0.48
25:YA:1537:C:H2'	25:YA:1538:G:C8	2.48	0.48
25:YA:2212:A:H1'	25:YA:2215:G:C5	2.48	0.48
38:YS:58:LEU:HD12	38:YS:68:GLN:OE1	2.14	0.48
41:YV:76:LYS:HB2	41:YV:81:TYR:HB3	1.95	0.48
42:YW:67:ASP:N	42:YW:67:ASP:OD1	2.46	0.48
1:QA:703:G:H4'	1:QA:704:A:O5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1032(A):G:H2'	1:QA:1032(B):G:C8	2.49	0.48
1:QA:1124:G:H3'	1:QA:1145:C:N4	2.29	0.48
7:QG:113:GLU:HG3	7:QG:119:ARG:HG2	1.94	0.48
13:QM:57:ARG:HB2	13:QM:57:ARG:HH11	1.79	0.48
22:QV:15:C:H5''	22:QV:16:C:H5	1.79	0.48
25:RA:2344:U:OP1	52:R6:38:LYS:HD3	2.13	0.48
26:RB:13:A:N1	26:RB:69:G:O2'	2.36	0.48
33:RN:7:LYS:H	33:RN:7:LYS:HD2	1.79	0.48
50:R4:23:GLU:HG3	50:R4:25:TYR:CE2	2.49	0.48
52:R6:18:ARG:HB2	52:R6:44:ARG:HH12	1.77	0.48
54:R8:51:ALA:N	54:R8:53:PRO:HD2	2.29	0.48
1:XA:143:A:H2	1:XA:220:G:H1	1.62	0.48
1:XA:164:U:H2'	1:XA:165:C:C6	2.49	0.48
1:XA:390:C:O3'	16:XP:28:ARG:NH2	2.46	0.48
1:XA:1060:C:C5	3:XC:2:GLY:HA2	2.49	0.48
1:XA:1157:A:H1'	1:XA:1158:C:C4	2.49	0.48
1:XA:1502:A:H2'	1:XA:1504:G:N7	2.29	0.48
2:XB:204:ASN:ND2	2:XB:206:ASP:H	2.12	0.48
9:XI:91:ASP:C	9:XI:93:ARG:H	2.21	0.48
9:XI:114:TYR:N	9:XI:114:TYR:CD1	2.81	0.48
19:XS:39:THR:HG22	19:XS:40:ILE:H	1.78	0.48
20:XT:98:PRO:O	20:XT:100:ILE:N	2.46	0.48
25:YA:1019:U:HO2'	25:YA:1021:A:H2	1.60	0.48
38:YS:74:ALA:HB1	38:YS:107:GLU:HB3	1.96	0.48
44:YY:44:ILE:HG13	44:YY:45:VAL:N	2.28	0.48
50:Y4:43:TYR:CD1	50:Y4:43:TYR:C	2.92	0.48
1:QA:134:A:H61	16:QP:25:ARG:NH1	2.12	0.48
1:QA:692:U:N3	1:QA:695:A:OP2	2.39	0.48
1:QA:757:U:H2'	1:QA:758:G:O4'	2.13	0.48
12:QL:17:LYS:HG2	12:QL:19:ARG:HG2	1.94	0.48
19:QS:26:GLY:O	19:QS:28:LYS:N	2.41	0.48
23:QW:30:G:H2'	23:QW:31:A:H8	1.77	0.48
25:RA:709:U:H3	25:RA:722:A:H61	1.60	0.48
25:RA:898:C:H2'	25:RA:899:A:H5'	1.95	0.48
29:RF:183:VAL:O	29:RF:187:VAL:HG23	2.13	0.48
45:RZ:52:SER:O	45:RZ:54:HIS:N	2.46	0.48
45:RZ:91:LEU:CD1	45:RZ:96:VAL:HG21	2.43	0.48
12:XL:27:LEU:O	12:XL:29:GLY:N	2.46	0.48
25:YA:270(F):U:H2'	25:YA:270(G):C:C6	2.49	0.48
25:YA:450:G:O6	25:YA:453:C:OP1	2.32	0.48
25:YA:817:C:H2'	25:YA:818:G:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2146:C:H4'	25:YA:2147:G:C8	2.49	0.48
25:YA:2780:G:OP2	33:YN:118:LYS:HE2	2.14	0.48
40:YU:92:ARG:CZ	41:YV:11:GLN:H	2.26	0.48
44:YY:35:TYR:CD2	44:YY:69:ALA:HB3	2.49	0.48
45:YZ:52:SER:C	45:YZ:54:HIS:H	2.22	0.48
5:QE:69:VAL:O	5:QE:71:LEU:N	2.47	0.47
10:QJ:78:ASN:O	10:QJ:82:ILE:HG12	2.14	0.47
19:QS:68:GLY:O	50:R4:68:ARG:HD3	2.14	0.47
25:RA:724:U:H2'	25:RA:725:G:O4'	2.13	0.47
25:RA:848:G:H2'	25:RA:849:A:C8	2.49	0.47
25:RA:870:A:OP1	36:RQ:6:ARG:NE	2.47	0.47
25:RA:2050:C:N4	25:RA:2051:A:N1	2.62	0.47
25:RA:2283:C:H2'	25:RA:2284:C:O4'	2.13	0.47
25:RA:2331:G:O2'	46:R0:43:THR:HG22	2.14	0.47
26:RB:104:A:H2'	26:RB:105:G:O4'	2.14	0.47
27:RD:35:LYS:HE3	27:RD:64:ILE:C	2.39	0.47
29:RF:167:ALA:HB1	29:RF:173:VAL:HG11	1.95	0.47
31:RH:154:PRO:HD3	31:RH:162:ILE:H	1.77	0.47
35:RP:61:ARG:CD	54:R8:13:ARG:HD2	2.44	0.47
39:RT:41:ARG:CB	39:RT:41:ARG:HH11	2.27	0.47
43:RX:83:VAL:HG11	43:RX:87:GLN:HB2	1.96	0.47
1:XA:509:A:H2'	1:XA:510:A:C8	2.49	0.47
19:XS:4:SER:N	50:Y4:67:TYR:CE2	2.82	0.47
25:YA:729:G:C6	27:YD:208:LYS:HB2	2.49	0.47
25:YA:1053:C:H42	25:YA:1106:G:H1	1.60	0.47
25:YA:1357:U:H2'	25:YA:1358:G:O4'	2.13	0.47
25:YA:1910:G:H1	25:YA:1920:C:H42	1.62	0.47
25:YA:2291:U:H2'	25:YA:2292:C:C6	2.48	0.47
25:YA:2777:G:OP2	25:YA:2781:A:O2'	2.20	0.47
27:YD:28:GLU:HB2	27:YD:29:PRO:CD	2.44	0.47
29:YF:36:VAL:HG11	29:YF:183:VAL:HG11	1.95	0.47
32:YI:69:LYS:HG3	32:YI:136:VAL:HB	1.96	0.47
33:YN:134:ARG:N	33:YN:135:PRO:HD3	2.29	0.47
35:YP:98:GLU:HA	35:YP:101:VAL:HB	1.96	0.47
38:YS:65:VAL:O	38:YS:69:VAL:HG12	2.14	0.47
41:YV:44:LYS:O	41:YV:46:VAL:HG12	2.13	0.47
1:QA:143:A:H2	1:QA:220:G:H1	1.62	0.47
1:QA:1391:U:H2'	1:QA:1392:G:C8	2.48	0.47
2:QB:85:ALA:HB3	2:QB:92:TYR:HD2	1.79	0.47
2:QB:97:TRP:CH2	2:QB:173:ALA:HA	2.49	0.47
8:QH:82:HIS:HD1	8:QH:138:TRP:NE1	2.11	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:QT:75:ASN:OD1	20:QT:75:ASN:N	2.40	0.47
23:QW:38:A:H2'	23:QW:39:U:H5'	1.96	0.47
25:RA:297:C:H5''	44:RY:85:VAL:HG21	1.95	0.47
26:RB:43:C:H5'	50:R4:1:MET:HA	1.95	0.47
30:RG:145:THR:O	30:RG:147:ASP:N	2.47	0.47
32:RI:49:ALA:O	32:RI:52:ARG:HG2	2.14	0.47
32:RI:128:LEU:HA	32:RI:128:LEU:HD13	1.56	0.47
35:RP:127:ALA:HB3	35:RP:130:PHE:CZ	2.49	0.47
38:RS:88:ASP:CG	38:RS:89:ARG:H	2.21	0.47
48:R2:41:ILE:HD11	48:R2:44:LEU:HD12	1.96	0.47
1:XA:405:U:O4	4:XD:2:GLY:N	2.47	0.47
3:XC:70:VAL:HG12	3:XC:72:LYS:H	1.79	0.47
5:XE:8:GLU:OE2	5:XE:63:ARG:NH2	2.46	0.47
8:XH:49:GLU:HG2	8:XH:62:TYR:HE2	1.78	0.47
10:XJ:38:ILE:HD11	10:XJ:71:LEU:HD23	1.96	0.47
18:XR:36:ASN:O	18:XR:36:ASN:ND2	2.41	0.47
22:XV:5:G:H1	22:XV:67:C:H42	1.62	0.47
25:YA:99:U:H1'	25:YA:101:G:OP2	2.14	0.47
25:YA:807:U:H2'	25:YA:808:G:H8	1.78	0.47
25:YA:1013:C:N4	25:YA:1149:G:H1	2.11	0.47
25:YA:1103:A:H5'	25:YA:1104:C:H5	1.79	0.47
25:YA:2511:U:O4	25:YA:2575:C:N3	2.46	0.47
31:YH:6:ARG:HA	31:YH:66:GLY:HA2	1.95	0.47
1:QA:784:C:H4'	25:RA:1837:C:OP1	2.14	0.47
2:QB:70:PHE:O	2:QB:93:VAL:N	2.48	0.47
4:QD:12:CYS:HA	4:QD:19:LEU:CD2	2.45	0.47
6:QF:41:GLU:HB2	6:QF:62:TRP:CE3	2.50	0.47
12:QL:102:ARG:HE	12:QL:102:ARG:HB3	1.39	0.47
17:QQ:100:LYS:O	17:QQ:101:ARG:NE	2.47	0.47
20:QT:30:LYS:O	20:QT:33:ILE:HB	2.14	0.47
25:RA:99:U:H4'	25:RA:101:G:O5'	2.14	0.47
25:RA:1754:C:P	39:RT:96:ARG:HH12	2.37	0.47
25:RA:2328:A:H2'	25:RA:2329:G:C8	2.49	0.47
30:RG:95:ARG:C	30:RG:99:MET:HG2	2.38	0.47
39:RT:64:ARG:HD2	39:RT:73:GLU:OE1	2.14	0.47
47:R1:91:LYS:O	47:R1:94:LEU:N	2.36	0.47
55:R9:27:CYS:SG	55:R9:32:HIS:HB2	2.55	0.47
1:XA:539:A:OP2	12:XL:115:LYS:HE3	2.13	0.47
1:XA:1308:U:H2'	1:XA:1309:G:H8	1.77	0.47
2:XB:84:GLU:OE1	2:XB:87:ARG:NH2	2.43	0.47
3:XC:34:LEU:HD23	3:XC:38:ARG:HG3	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:81:GLY:O	3:XC:85:ARG:HB2	2.14	0.47
4:XD:15:GLU:HG2	4:XD:63:LYS:HB2	1.97	0.47
6:XF:69:GLU:O	6:XF:72:VAL:HG12	2.14	0.47
9:XI:121:ARG:NH1	9:XI:122:ALA:O	2.47	0.47
18:XR:66:LEU:O	18:XR:70:ILE:HG13	2.14	0.47
25:YA:72:U:N3	48:Y2:62:THR:HG22	2.30	0.47
25:YA:2210:G:H5'	25:YA:2211:G:C5	2.49	0.47
25:YA:2590:A:OP2	27:YD:238:GLY:HA2	2.15	0.47
36:YQ:21:THR:HB	36:YQ:22:LYS:H	1.40	0.47
47:Y1:91:LYS:HB3	47:Y1:92:LYS:H	1.44	0.47
1:QA:321:A:N6	1:QA:329:A:OP2	2.48	0.47
1:QA:1213:A:N1	1:QA:1215:G:H1'	2.30	0.47
1:QA:1226:C:H2'	13:QM:103:THR:HB	1.95	0.47
4:QD:26:CYS:HA	4:QD:31:CYS:HA	1.96	0.47
17:QQ:76:LEU:HD21	17:QQ:79:SER:HB2	1.97	0.47
22:QV:58:A:O2'	22:QV:60:U:OP2	2.22	0.47
25:RA:205:G:H1'	25:RA:206:U:OP2	2.14	0.47
25:RA:611:C:H2'	25:RA:612:G:H8	1.80	0.47
25:RA:1028:A:N6	25:RA:1125:G:H2'	2.29	0.47
25:RA:1794:U:H2'	25:RA:1795:C:C6	2.49	0.47
25:RA:1952:A:C2	34:RO:22:ILE:HG23	2.50	0.47
28:RE:21:VAL:CG2	28:RE:22:PRO:N	2.74	0.47
29:RF:6:VAL:CG1	29:RF:24:LEU:HD23	2.43	0.47
30:RG:3:LEU:HD11	50:R4:25:TYR:CE1	2.48	0.47
32:RI:55:ALA:HA	32:RI:58:LEU:HB2	1.94	0.47
40:RU:97:ASP:OD2	40:RU:101:ARG:NH1	2.48	0.47
51:R5:56:LYS:HB2	51:R5:58:LEU:HG	1.96	0.47
1:XA:532:A:H2	1:XA:1206:G:H21	1.63	0.47
1:XA:627:G:H2'	1:XA:628:G:C8	2.50	0.47
1:XA:695:A:H61	1:XA:797:C:H1'	1.78	0.47
1:XA:963:G:H21	10:XJ:55:LYS:CE	2.27	0.47
3:XC:22:TRP:CD1	3:XC:59:ARG:HD2	2.49	0.47
3:XC:79:ARG:NH1	3:XC:82:GLU:HG3	2.29	0.47
9:XI:126:SER:O	9:XI:128:ARG:N	2.43	0.47
22:XV:15:C:H5''	22:XV:16:C:H5	1.79	0.47
25:YA:242:G:H4'	25:YA:243:U:O5'	2.14	0.47
25:YA:740:U:H5''	25:YA:1784:A:H3'	1.95	0.47
25:YA:764:A:H5'	27:YD:210:GLY:HA2	1.95	0.47
25:YA:2789:C:H1'	25:YA:2892:A:C2	2.46	0.47
27:YD:71:ASP:HB2	27:YD:103:ARG:NH2	2.27	0.47
31:YH:154:PRO:O	31:YH:155:SER:OG	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YP:5:ASP:O	35:YP:6:LEU:C	2.57	0.47
35:YP:144:GLU:OE1	35:YP:144:GLU:N	2.40	0.47
48:Y2:59:ARG:O	48:Y2:63:VAL:HG23	2.15	0.47
54:Y8:36:LYS:HB3	54:Y8:40:GLU:HG2	1.95	0.47
1:QA:377:G:H1	1:QA:386:C:H42	1.61	0.47
1:QA:1321:C:H5'	1:QA:1322:C:H5'	1.97	0.47
1:QA:1443:G:H5'	1:QA:1446:A:OP2	2.15	0.47
1:QA:1513:A:H2'	1:QA:1514:C:C6	2.50	0.47
2:QB:25:ASN:O	2:QB:27:LYS:N	2.47	0.47
2:QB:211:ILE:O	2:QB:215:LEU:HB2	2.14	0.47
12:QL:51:ALA:HB3	12:QL:53:ARG:HE	1.80	0.47
14:QN:41:ARG:CZ	14:QN:42:ILE:HD11	2.44	0.47
22:QV:16:C:N4	22:QV:17:U:O4	2.48	0.47
25:RA:581:C:H2'	25:RA:582:G:H8	1.78	0.47
25:RA:662:G:H5'	35:RP:15:ARG:HA	1.95	0.47
25:RA:686:G:H8	53:R7:6:GLN:O	1.97	0.47
25:RA:2058:A:C2	56:Z7:1:T17:O48	2.66	0.47
25:RA:2327:A:H2'	25:RA:2328:A:C8	2.49	0.47
25:RA:2823:A:OP1	28:RE:113:PHE:HB2	2.15	0.47
28:RE:37:ARG:NE	28:RE:37:ARG:HA	2.29	0.47
36:RQ:63:LYS:HG2	36:RQ:65:PHE:CE1	2.50	0.47
36:RQ:81:VAL:C	36:RQ:82:ARG:CG	2.85	0.47
44:RY:21:LYS:HG3	44:RY:22:GLY:N	2.30	0.47
1:XA:619:U:H3	4:XD:135:LEU:HD23	1.80	0.47
15:XO:66:LEU:HD12	15:XO:66:LEU:HA	1.67	0.47
20:XT:35:THR:O	20:XT:39:LYS:HG3	2.14	0.47
25:YA:2154:G:H2'	25:YA:2155:G:C8	2.48	0.47
31:YH:153:LYS:HB3	31:YH:154:PRO:HD3	1.96	0.47
42:YW:110:LYS:HG3	42:YW:111:HIS:H	1.80	0.47
50:Y4:55:ARG:C	50:Y4:59:PHE:HB3	2.39	0.47
1:QA:1414:U:H2'	1:QA:1415:G:H8	1.80	0.47
9:QL:28:VAL:HG22	9:QL:63:ILE:HB	1.95	0.47
12:QL:27:LEU:O	12:QL:29:GLY:N	2.47	0.47
25:RA:706:A:H2'	25:RA:707:G:O4'	2.14	0.47
25:RA:1407:C:H42	25:RA:1595:G:H1	1.62	0.47
25:RA:1667:G:O2'	25:RA:1991:U:O4	2.32	0.47
25:RA:2747:G:N2	25:RA:2757:A:H62	2.11	0.47
32:RI:98:ALA:HA	32:RI:109:ILE:HD11	1.97	0.47
42:RW:63:ASP:OD1	42:RW:63:ASP:N	2.48	0.47
1:XA:1237:C:O2'	1:XA:1300:G:N2	2.44	0.47
1:XA:1305:G:H1'	1:XA:1332:A:N6	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1469:G:H2'	1:XA:1470:G:C8	2.50	0.47
2:XB:93:VAL:HG11	2:XB:97:TRP:CD1	2.50	0.47
9:XI:4:TYR:CZ	9:XI:88:TYR:HB2	2.49	0.47
10:XJ:47:PHE:HB3	14:XI:34:TYR:CE2	2.50	0.47
12:XL:24:VAL:HG12	12:XL:24:VAL:O	2.14	0.47
13:XM:53:VAL:HG12	13:XM:57:ARG:NH1	2.27	0.47
25:YA:137(A):G:H1'	43:YX:41:ASN:HD22	1.76	0.47
25:YA:479:A:N3	25:YA:481:G:H5''	2.30	0.47
25:YA:2182:G:H2'	25:YA:2183:C:C6	2.50	0.47
25:YA:2287:A:N6	25:YA:2344:U:C2	2.83	0.47
25:YA:2732:G:H3'	25:YA:2733:A:O4'	2.14	0.47
29:YF:164:ARG:HG3	29:YF:175:THR:OG1	2.15	0.47
39:YT:11:GLU:OE1	39:YT:11:GLU:N	2.43	0.47
39:YT:58:ASN:C	39:YT:58:ASN:HD22	2.23	0.47
44:YY:73:ARG:HE	44:YY:73:ARG:HB3	1.47	0.47
45:YZ:182:LYS:CG	45:YZ:183:LEU:HA	2.44	0.47
46:Y0:19:LYS:HA	46:Y0:19:LYS:HD3	1.66	0.47
47:Y1:53:VAL:HG22	47:Y1:74:VAL:HG13	1.96	0.47
1:QA:265:G:H2'	1:QA:266:G:H5''	1.97	0.47
1:QA:273:A:H1'	17:QQ:16:GLN:OE1	2.15	0.47
1:QA:713:G:H2'	1:QA:714:G:C8	2.49	0.47
1:QA:1084:G:H5'	1:QA:1102:A:OP2	2.14	0.47
1:QA:1126:U:H1'	1:QA:1280:A:C5	2.49	0.47
1:QA:1128:C:C4'	9:QI:16:ARG:HH22	2.28	0.47
4:QD:29:PRO:C	4:QD:30:LYS:HD3	2.39	0.47
4:QD:30:LYS:N	4:QD:30:LYS:CD	2.77	0.47
4:QD:165:MET:O	4:QD:166:LYS:C	2.54	0.47
6:QF:61:LEU:HB3	6:QF:63:TYR:HE1	1.80	0.47
12:QL:17:LYS:HG3	12:QL:18:VAL:N	2.30	0.47
13:QM:78:ILE:HG23	13:QM:92:HIS:ND1	2.29	0.47
19:QS:67:VAL:N	50:R4:59:PHE:HZ	2.08	0.47
22:QV:21:A:N6	22:QV:46:G:H2'	2.30	0.47
25:RA:576:U:OP1	25:RA:2503:A:OP1	2.33	0.47
25:RA:740:U:H2'	25:RA:741:G:C8	2.50	0.47
25:RA:764:A:H5'	27:RD:210:GLY:HA2	1.95	0.47
25:RA:1780:A:O2'	25:RA:1781:C:O2	2.31	0.47
25:RA:2086:U:H2'	25:RA:2087:G:C8	2.49	0.47
25:RA:2512:C:H2'	25:RA:2513:G:O4'	2.14	0.47
25:RA:2698:U:H2'	25:RA:2699:C:C6	2.49	0.47
25:RA:2849:U:H4'	25:RA:2868:A:C2	2.50	0.47
28:RE:73:GLU:HG3	28:RE:74:PRO:HD2	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:152:ARG:HG3	31:RH:153:LYS:CD	2.44	0.47
32:RI:88:ILE:HG12	32:RI:122:GLU:H	1.80	0.47
37:RR:1:MET:HB3	37:RR:2:ARG:H	1.35	0.47
39:RT:123:GLN:O	39:RT:125:ARG:N	2.48	0.47
45:RZ:141:VAL:HA	45:RZ:144:LEU:HD23	1.96	0.47
1:XA:28:G:H1	1:XA:555:C:H42	1.61	0.47
1:XA:244:U:H4'	1:XA:245:C:O5'	2.14	0.47
1:XA:327:A:O2'	1:XA:328:C:O4'	2.29	0.47
1:XA:345:C:H4'	1:XA:346:G:O5'	2.15	0.47
1:XA:377:G:P	16:XP:5:ARG:HH11	2.37	0.47
1:XA:1308:U:H2'	1:XA:1309:G:C8	2.49	0.47
1:XA:1352:C:OP1	21:XU:3:LYS:NZ	2.42	0.47
2:XB:18:GLY:H	2:XB:42:ILE:HG22	1.80	0.47
9:XI:114:TYR:HD2	10:XJ:60:ARG:HB2	1.79	0.47
11:XK:48:ILE:HG13	11:XK:63:LEU:HB2	1.97	0.47
19:XS:68:GLY:CA	50:Y4:59:PHE:CE1	2.86	0.47
23:XW:39:U:H4'	23:XW:39:U:OP1	2.14	0.47
25:YA:26:G:H1'	25:YA:515:A:H61	1.79	0.47
25:YA:372:G:H1'	25:YA:373:U:H5	1.80	0.47
25:YA:1454:U:H5'	37:YR:63:ARG:HE	1.79	0.47
25:YA:2308:G:N1	25:YA:2311:A:C2	2.61	0.47
25:YA:2372:G:O2'	52:Y6:46:HIS:NE2	2.27	0.47
25:YA:2867:G:O2'	25:YA:2868:A:P	2.73	0.47
27:YD:16:MET:HE3	27:YD:211:ARG:HD2	1.95	0.47
27:YD:237:GLU:O	27:YD:239:ARG:N	2.47	0.47
29:YF:129:PHE:HA	29:YF:142:TRP:NE1	2.29	0.47
30:YG:28:VAL:O	30:YG:31:VAL:HG13	2.14	0.47
30:YG:34:LEU:HD22	30:YG:35:GLU:N	2.30	0.47
30:YG:113:ARG:HG2	50:Y4:34:GLU:OE2	2.14	0.47
33:YN:30:ILE:HG22	33:YN:34:LEU:HD22	1.96	0.47
1:QA:34:C:H2'	1:QA:35:G:C8	2.50	0.47
1:QA:736:C:H2'	1:QA:737:A:C8	2.49	0.47
1:QA:919:A:O2'	1:QA:1080:A:N1	2.45	0.47
1:QA:1301:U:O2	1:QA:1301:U:H2'	2.13	0.47
1:QA:1515:C:H2'	1:QA:1516:G:C8	2.50	0.47
2:QB:8:LYS:H	2:QB:8:LYS:HD3	1.79	0.47
7:QG:99:LEU:HD22	7:QG:103:TRP:CZ2	2.49	0.47
25:RA:389:G:N1	35:RP:70:GLN:HB3	2.30	0.47
25:RA:628:G:O2'	25:RA:651:G:O2'	2.17	0.47
25:RA:1142(A):A:H4'	33:RN:25:ARG:HH22	1.80	0.47
25:RA:1292:U:H2'	25:RA:1293:C:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1348:G:H2'	25:RA:1349:A:H5''	1.97	0.47
25:RA:2116:G:H1	25:RA:2162:G:P	2.38	0.47
25:RA:2150:U:H2'	25:RA:2151:G:C8	2.50	0.47
25:RA:2689:U:H4'	25:RA:2690:C:O5'	2.13	0.47
28:RE:95:ILE:HD12	28:RE:95:ILE:H	1.80	0.47
29:RF:62:ARG:HB3	29:RF:62:ARG:CZ	2.45	0.47
29:RF:133:ASN:HA	29:RF:162:LEU:HD22	1.96	0.47
31:RH:27:LYS:HA	31:RH:32:GLU:HA	1.96	0.47
44:RY:76:CYS:HB2	44:RY:101:LYS:HG3	1.96	0.47
1:XA:900:A:H2'	1:XA:901:A:C8	2.49	0.47
12:XL:46:LYS:CG	12:XL:47:LYS:H	2.27	0.47
17:XQ:67:LYS:O	17:XQ:68:ARG:HB3	2.15	0.47
23:XW:21:A:N6	23:XW:46:G:N3	2.63	0.47
25:YA:443:A:N7	29:YF:45:ARG:HD2	2.30	0.47
25:YA:587:C:N3	35:YP:33:ARG:NH1	2.62	0.47
25:YA:896:A:H61	45:YZ:112:ARG:NH1	2.12	0.47
25:YA:1316:U:H2'	25:YA:1317:A:H8	1.79	0.47
30:YG:114:ILE:HD13	30:YG:140:ILE:HG21	1.96	0.47
31:YH:4:ILE:HB	31:YH:6:ARG:CG	2.43	0.47
31:YH:4:ILE:HG13	31:YH:6:ARG:CZ	2.44	0.47
31:YH:122:THR:HG22	31:YH:134:SER:HB2	1.96	0.47
35:YP:19:VAL:HG13	35:YP:21:ARG:N	2.20	0.47
36:YQ:81:VAL:O	36:YQ:82:ARG:NE	2.48	0.47
1:QA:671:G:H1	1:QA:735:C:H42	1.62	0.47
1:QA:1200:C:H4'	1:QA:1201:A:H5'	1.96	0.47
1:QA:1443:G:N2	39:RT:119:LYS:HB2	2.30	0.47
7:QG:18:TYR:HD2	7:QG:59:LEU:HD22	1.79	0.47
19:QS:15:LEU:H	19:QS:15:LEU:HD23	1.79	0.47
23:QW:30:G:H2'	23:QW:31:A:C8	2.49	0.47
25:RA:389:G:H1	35:RP:70:GLN:HB3	1.79	0.47
25:RA:709:U:H2'	25:RA:710:G:C8	2.50	0.47
25:RA:1338:G:O2'	25:RA:1393:A:N1	2.47	0.47
25:RA:2735:G:H2'	25:RA:2736:G:C8	2.48	0.47
26:RB:8:U:O3'	38:RS:25:ARG:NH2	2.47	0.47
38:RS:56:LEU:O	38:RS:58:LEU:N	2.48	0.47
41:RV:24:LYS:HG3	41:RV:92:THR:HG23	1.97	0.47
43:RX:49:VAL:HG13	43:RX:83:VAL:HG13	1.96	0.47
47:R1:76:ARG:H	47:R1:76:ARG:HD2	1.80	0.47
9:XI:128:ARG:NH1	22:XV:33:U:OP2	2.28	0.47
17:XQ:63:ARG:HG2	17:XQ:64:PRO:HD2	1.97	0.47
23:XW:16:U:C5	23:XW:18:G:H3'	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:577:G:O2'	25:YA:1254:A:OP1	2.29	0.47
25:YA:1360:A:C6	25:YA:1372:U:C4	3.03	0.47
25:YA:1697:G:H5''	25:YA:1698:A:H3'	1.96	0.47
29:YF:9:ILE:HG23	29:YF:20:LEU:O	2.15	0.47
38:YS:52:SER:HB2	38:YS:55:ALA:H	1.80	0.47
1:QA:452:A:O2'	1:QA:453:A:O4'	2.30	0.47
1:QA:962:C:H42	1:QA:974:A:H61	1.62	0.47
2:QB:32:ILE:HD13	2:QB:40:HIS:HB3	1.95	0.47
5:QE:9:LYS:HB3	5:QE:112:LEU:HD11	1.97	0.47
10:QJ:81:THR:C	10:QJ:83:GLU:H	2.23	0.47
19:QS:35:SER:O	19:QS:71:LEU:HD12	2.15	0.47
25:RA:117:G:OP2	25:RA:119:A:O2'	2.22	0.47
25:RA:1359:A:C6	25:RA:1373:A:C5	3.03	0.47
25:RA:2378:A:O5'	25:RA:2378:A:H8	1.99	0.47
25:RA:2387:U:O2'	46:R0:19:LYS:NZ	2.48	0.47
25:RA:2610:C:H4'	25:RA:2611:U:OP2	2.14	0.47
25:RA:2645:G:C3'	25:RA:2646:C:H5'	2.45	0.47
25:RA:2867:G:O2'	25:RA:2868:A:P	2.73	0.47
27:RD:34:VAL:C	27:RD:35:LYS:HG3	2.40	0.47
27:RD:118:VAL:HG22	27:RD:119:ALA:N	2.29	0.47
27:RD:211:ARG:HD2	27:RD:214:TRP:CZ3	2.50	0.47
32:RI:9:LEU:O	32:RI:10:GLU:HG3	2.15	0.47
38:RS:48:LEU:HD23	38:RS:82:ILE:HD11	1.96	0.47
51:R5:52:TYR:O	51:R5:53:ALA:HB3	2.14	0.47
1:XA:210:U:O2'	1:XA:216:G:N7	2.45	0.47
1:XA:1126:U:H1'	1:XA:1280:A:C5	2.50	0.47
25:YA:270(R):G:H2'	25:YA:270(S):G:C8	2.50	0.47
25:YA:1472:A:H2'	25:YA:1473:G:O4'	2.15	0.47
25:YA:2243:U:H2'	25:YA:2244:U:C6	2.50	0.47
25:YA:2401:U:H2'	25:YA:2402:C:H5''	1.97	0.47
27:YD:17:THR:CG2	27:YD:205:VAL:H	2.28	0.47
28:YE:116:VAL:HG11	28:YE:138:PRO:HB3	1.97	0.47
28:YE:150:VAL:HG13	28:YE:154:LYS:HG3	1.96	0.47
30:YG:11:TYR:HA	30:YG:15:VAL:HB	1.95	0.47
30:YG:67:LYS:HZ3	50:Y4:1:MET:HB2	1.81	0.47
32:YI:144:VAL:HG22	32:YI:145:VAL:H	1.80	0.47
35:YP:29:LYS:HD2	35:YP:30:THR:HG23	1.97	0.47
50:Y4:38:LYS:HD3	50:Y4:42:PHE:HE1	1.80	0.47
54:Y8:60:LEU:C	54:Y8:63:PRO:HD2	2.40	0.47
1:QA:606:G:H22	1:QA:631:G:H5'	1.80	0.46
1:QA:953:G:C5'	1:QA:965:A:H61	2.27	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1350:A:OP2	9:QI:118:LYS:NZ	2.47	0.46
3:QC:82:GLU:O	3:QC:86:VAL:HG13	2.14	0.46
10:QJ:84:GLN:H	10:QJ:84:GLN:HG3	1.49	0.46
18:QR:53:ARG:HE	18:QR:59:SER:C	2.22	0.46
25:RA:50:U:H3'	25:RA:51:G:H5'	1.97	0.46
25:RA:639:U:H2'	25:RA:640:C:C6	2.49	0.46
25:RA:1287:A:N7	37:RR:107:ASP:HB2	2.30	0.46
25:RA:1796:U:H2'	25:RA:1797:C:C6	2.50	0.46
25:RA:2562:U:O2'	34:RO:23:ARG:NH1	2.44	0.46
26:RB:16:G:H1	26:RB:68:C:N4	2.13	0.46
27:RD:12:SER:O	27:RD:16:MET:HB2	2.14	0.46
35:RP:83:VAL:HG12	35:RP:114:ILE:HA	1.97	0.46
39:RT:20:PRO:HD2	39:RT:86:ILE:HG23	1.97	0.46
54:R8:29:LYS:HD3	54:R8:44:LYS:CB	2.45	0.46
1:XA:93:U:H2'	1:XA:95:G:O4'	2.15	0.46
1:XA:565:U:H5''	1:XA:566:G:H2'	1.97	0.46
1:XA:735:C:H5'	18:XR:71:LYS:HD3	1.96	0.46
1:XA:1125:U:OP2	1:XA:1145:C:N4	2.48	0.46
1:XA:1315:U:H2'	1:XA:1316:G:O4'	2.15	0.46
2:XB:201:ILE:HG21	2:XB:214:ILE:HG21	1.95	0.46
3:XC:14:ILE:HG12	3:XC:15:THR:N	2.30	0.46
5:XE:89:ILE:HG12	5:XE:91:LEU:HD13	1.97	0.46
12:XL:47:LYS:CB	12:XL:48:PRO:CD	2.92	0.46
19:XS:33:THR:OG1	19:XS:34:TRP:N	2.49	0.46
19:XS:41:VAL:HA	19:XS:44:MET:HG3	1.97	0.46
25:YA:2527:C:H5''	55:Y9:30:PRO:HB2	1.96	0.46
29:YF:108:LYS:NZ	29:YF:108:LYS:HB3	2.31	0.46
29:YF:127:GLU:C	29:YF:129:PHE:H	2.22	0.46
35:YP:88:LEU:HB2	35:YP:91:PHE:HE1	1.80	0.46
38:YS:27:SER:HA	38:YS:88:ASP:HB2	1.96	0.46
44:YY:87:LYS:HD3	44:YY:92:ASN:HB3	1.98	0.46
49:Y3:23:LEU:HD13	49:Y3:50:VAL:HG11	1.96	0.46
1:QA:318:G:H2'	1:QA:319:G:H8	1.78	0.46
1:QA:1306:A:N6	1:QA:1331:G:H1'	2.31	0.46
7:QG:78:ARG:HG3	7:QG:79:ARG:N	2.30	0.46
11:QK:16:SER:OG	11:QK:106:LYS:NZ	2.48	0.46
13:QM:3:ARG:HH21	30:RG:139:LEU:HD13	1.79	0.46
25:RA:2294:C:H2'	25:RA:2295:C:C6	2.50	0.46
25:RA:2444:G:P	29:RF:68:LYS:HE3	2.55	0.46
28:RE:186:GLY:O	28:RE:188:VAL:N	2.48	0.46
29:RF:6:VAL:HG11	29:RF:24:LEU:HD23	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:153:LYS:HB3	31:RH:162:ILE:H	1.80	0.46
32:RI:40:THR:O	32:RI:44:LEU:N	2.44	0.46
39:RT:16:ARG:HE	39:RT:19:LEU:HD21	1.80	0.46
40:RU:8:VAL:HG23	40:RU:11:ARG:HH21	1.80	0.46
42:RW:23:LEU:O	42:RW:27:LYS:HD2	2.14	0.46
44:RY:89:PHE:O	44:RY:90:LEU:HD13	2.15	0.46
4:XD:63:LYS:HD2	4:XD:198:VAL:HG22	1.97	0.46
23:XY:37:A:H3'	23:XY:38:A:H8	1.80	0.46
25:YA:957:A:N1	25:YA:2458:G:H4'	2.30	0.46
25:YA:1035:U:H2'	25:YA:1036:G:C8	2.50	0.46
25:YA:1270:C:H5''	25:YA:1271:G:H5'	1.97	0.46
25:YA:1434:A:H61	25:YA:1558:A:H62	1.62	0.46
25:YA:1639:U:H2'	25:YA:1640:C:H5''	1.96	0.46
25:YA:1796:U:H2'	25:YA:1797:C:C6	2.49	0.46
25:YA:2277:G:OP2	46:Y0:10:THR:HG21	2.15	0.46
25:YA:2543:G:H2'	25:YA:2544:G:C8	2.49	0.46
25:YA:2728:U:H2'	25:YA:2729:G:C8	2.51	0.46
29:YF:127:GLU:OE2	29:YF:128:ALA:N	2.47	0.46
32:YI:68:LEU:HA	32:YI:71:ILE:HG22	1.97	0.46
35:YP:96:THR:O	35:YP:99:LEU:HB3	2.15	0.46
1:QA:224:C:H2'	1:QA:225:C:C6	2.51	0.46
1:QA:403:C:H2'	1:QA:404:U:H6	1.81	0.46
1:QA:932:C:H4'	7:QG:4:ARG:NH2	2.30	0.46
1:QA:1376:U:H2'	1:QA:1377:A:C8	2.50	0.46
25:RA:222:A:H3'	25:RA:421:U:H5''	1.96	0.46
25:RA:1007:C:OP1	33:RN:37:LYS:NZ	2.41	0.46
25:RA:1278:A:H4'	37:RR:34:ILE:HD12	1.96	0.46
25:RA:1801:G:OP2	27:RD:154:LYS:HE2	2.16	0.46
25:RA:2271:G:OP1	46:R0:18:ALA:HB1	2.15	0.46
25:RA:2680:C:OP2	28:RE:111:ARG:NH2	2.48	0.46
25:RA:2758:A:H2'	25:RA:2759:G:O4'	2.15	0.46
27:RD:70:TRP:CD2	27:RD:150:LYS:HD2	2.49	0.46
30:RG:22:ARG:HH22	30:RG:175:LEU:HD21	1.80	0.46
38:RS:78:LEU:HD11	38:RS:107:GLU:O	2.15	0.46
47:R1:89:GLU:HA	47:R1:93:GLU:HB2	1.96	0.46
52:R6:13:CYS:HB2	52:R6:22:ALA:HB3	1.98	0.46
1:XA:1314:C:N4	19:XS:2:PRO:O	2.48	0.46
3:XC:178:LEU:HD13	3:XC:178:LEU:HA	1.84	0.46
19:XS:41:VAL:HG23	19:XS:67:VAL:HG13	1.98	0.46
25:YA:407:G:H2'	25:YA:408:G:H8	1.80	0.46
25:YA:483:A:H3'	25:YA:484:C:H6	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1087:G:C5	25:YA:1089:G:H1'	2.50	0.46
27:YD:94:LEU:HD22	27:YD:95:LEU:N	2.31	0.46
33:YN:114:ARG:O	33:YN:115:ARG:HB3	2.15	0.46
36:YQ:85:LYS:O	36:YQ:86:GLY:C	2.58	0.46
46:Y0:17:GLN:O	46:Y0:19:LYS:HE3	2.14	0.46
1:QA:22:G:H2'	1:QA:23:C:C6	2.50	0.46
1:QA:405:U:O4	4:QD:2:GLY:N	2.49	0.46
2:QB:166:ASP:OD2	2:QB:169:LYS:HB2	2.15	0.46
19:QS:63:THR:HG23	19:QS:65:ASN:OD1	2.15	0.46
25:RA:1936:A:H61	25:RA:1963:U:H3	1.63	0.46
25:RA:2623:G:OP1	25:RA:2826:A:O2'	2.22	0.46
34:RO:76:ALA:HB3	39:RT:75:ILE:HB	1.97	0.46
1:XA:673:G:H2'	1:XA:674:G:C8	2.50	0.46
1:XA:689:C:H3'	1:XA:690:G:H21	1.80	0.46
1:XA:1269:A:N1	1:XA:1312:G:O2'	2.43	0.46
7:XG:74:GLU:HG2	7:XG:91:VAL:HG22	1.98	0.46
7:XG:115:ARG:HB2	7:XG:118:VAL:HG22	1.97	0.46
9:XI:18:PHE:HB2	9:XI:62:TYR:HB3	1.97	0.46
9:XI:83:ARG:O	9:XI:86:VAL:HG12	2.15	0.46
19:XS:41:VAL:HB	19:XS:42:PRO:HA	1.96	0.46
20:XT:75:ASN:OD1	20:XT:75:ASN:N	2.40	0.46
25:YA:1055:G:H1	25:YA:1104:C:N4	2.11	0.46
25:YA:2334:G:C6	46:Y0:75:LEU:HD21	2.51	0.46
26:YB:89(A):A:C5	26:YB:90:C:H1'	2.51	0.46
27:YD:25:THR:CG2	27:YD:82:ILE:H	2.27	0.46
27:YD:206:LEU:HA	27:YD:206:LEU:HD23	1.51	0.46
28:YE:176:ILE:HB	28:YE:181:LEU:HB2	1.97	0.46
35:YP:121:LYS:HB2	35:YP:121:LYS:HE2	1.74	0.46
48:Y2:47:ASN:HB2	48:Y2:48:HIS:H	1.50	0.46
49:Y3:8:LEU:HD22	49:Y3:31:LEU:HD22	1.96	0.46
1:QA:381:C:H2'	1:QA:382:A:O4'	2.14	0.46
1:QA:1225:A:H5''	1:QA:1226:C:OP2	2.16	0.46
1:QA:1298:C:H4'	1:QA:1299:A:C8	2.50	0.46
25:RA:122:G:OP1	25:RA:149:A:O2'	2.25	0.46
25:RA:581:C:H2'	25:RA:582:G:C8	2.50	0.46
25:RA:1678:G:N2	25:RA:1989:G:H22	2.13	0.46
29:RF:126:VAL:HG11	29:RF:142:TRP:HH2	1.80	0.46
35:RP:124:LYS:HA	35:RP:143:GLY:O	2.16	0.46
43:RX:55:ASN:HB2	43:RX:80:ILE:HG23	1.97	0.46
45:RZ:157:LEU:HA	45:RZ:158:PRO:HD2	1.70	0.46
51:R5:56:LYS:HE2	51:R5:58:LEU:HD23	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:954:G:N2	1:XA:1227:A:N6	2.52	0.46
1:XA:1495:U:H2'	1:XA:1496:C:H6	1.81	0.46
16:XP:1:MET:O	16:XP:3:LYS:HG3	2.15	0.46
25:YA:304:G:H2'	25:YA:305:U:C6	2.51	0.46
25:YA:1113:U:H2'	25:YA:1114:G:C8	2.50	0.46
25:YA:1579:A:H2'	25:YA:1580:A:C8	2.50	0.46
25:YA:2324:C:H5''	25:YA:2325:G:H5'	1.97	0.46
28:YE:36:ARG:NH2	28:YE:88:GLY:HA2	2.29	0.46
31:YH:16:SER:O	31:YH:26:VAL:O	2.33	0.46
40:YU:75:ASN:HB3	40:YU:78:THR:H	1.81	0.46
50:Y4:55:ARG:HG3	50:Y4:59:PHE:CD2	2.49	0.46
1:QA:64:G:H4'	1:QA:65:U:C5'	2.46	0.46
1:QA:411:A:C4	1:QA:413:G:H1'	2.50	0.46
6:QF:10:LEU:N	6:QF:59:TYR:O	2.46	0.46
16:QP:3:LYS:O	16:QP:21:VAL:HA	2.15	0.46
17:QQ:74:LEU:HB3	17:QQ:75:ARG:H	1.63	0.46
19:QS:5:LEU:HG	50:R4:66:SER:HB3	1.98	0.46
20:QT:33:ILE:HD13	20:QT:62:LEU:HB3	1.97	0.46
25:RA:407:G:H2'	25:RA:408:G:H8	1.81	0.46
25:RA:593:G:H1	25:RA:664:C:H42	1.63	0.46
25:RA:2611:U:H5'	56:Z7:1:T17:H23	1.97	0.46
25:RA:2676:C:O2	25:RA:2732:G:N2	2.48	0.46
30:RG:98:ARG:O	30:RG:101:ILE:HG13	2.16	0.46
32:RI:113:ARG:HG3	32:RI:131:LYS:HZ2	1.80	0.46
38:RS:61:ASN:O	38:RS:65:VAL:HG23	2.14	0.46
1:XA:901:A:O5'	1:XA:901:A:H8	1.98	0.46
2:XB:163:PHE:CD1	2:XB:185:ILE:HG13	2.50	0.46
3:XC:78:GLY:HA3	3:XC:83:ARG:HB3	1.98	0.46
6:XF:100:ASN:HB2	18:XR:27:GLY:O	2.14	0.46
9:XI:46:ALA:HA	9:XI:78:LYS:HB2	1.98	0.46
10:XJ:62:HIS:H	10:XJ:62:HIS:CD2	2.33	0.46
12:XL:7:ILE:HD13	12:XL:7:ILE:HA	1.82	0.46
12:XL:45:PRO:HG3	12:XL:53:ARG:HD3	1.96	0.46
12:XL:62:SER:O	12:XL:64:TYR:N	2.48	0.46
25:YA:195:A:H5''	25:YA:196:A:O5'	2.16	0.46
27:YD:35:LYS:HB3	27:YD:63:ARG:HA	1.98	0.46
27:YD:118:VAL:HG22	27:YD:119:ALA:N	2.31	0.46
31:YH:152:ARG:HG3	31:YH:153:LYS:CD	2.35	0.46
32:YI:3:VAL:O	32:YI:18:VAL:HA	2.15	0.46
1:QA:701:C:H1'	1:QA:703:G:N1	2.30	0.46
1:QA:751:U:H2'	1:QA:752:G:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1402:C:H2'	1:QA:1403:C:O4'	2.16	0.46
12:QL:54:LYS:HD2	12:QL:54:LYS:N	2.30	0.46
25:RA:922:U:H2'	25:RA:923:C:C6	2.51	0.46
25:RA:1416:G:H2'	25:RA:1417:C:C6	2.51	0.46
25:RA:1791:A:N6	25:RA:1828:G:O2'	2.36	0.46
25:RA:1819:A:H2'	27:RD:178:PRO:HB2	1.98	0.46
27:RD:35:LYS:HE3	27:RD:63:ARG:C	2.41	0.46
32:RI:29:TYR:CD2	32:RI:30:LEU:HD23	2.51	0.46
38:RS:83:LYS:O	38:RS:109:GLY:HA3	2.15	0.46
42:RW:86:LEU:O	42:RW:94:ASP:N	2.44	0.46
43:RX:40:LYS:C	43:RX:42:ALA:H	2.23	0.46
44:RY:17:SER:OG	44:RY:71:LYS:HD2	2.16	0.46
45:RZ:53:ILE:HG22	45:RZ:71:VAL:HG22	1.98	0.46
1:XA:603:U:H2'	1:XA:604:G:H8	1.81	0.46
1:XA:686:U:O2'	11:XK:42:TRP:NE1	2.47	0.46
1:XA:1015:A:H2'	1:XA:1016:A:C8	2.51	0.46
1:XA:1158:C:H4'	2:XB:133:LYS:NZ	2.30	0.46
2:XB:204:ASN:HD22	2:XB:205:ASP:N	2.13	0.46
11:XK:88:GLY:C	11:XK:90:GLY:H	2.23	0.46
15:XO:56:LEU:O	15:XO:60:VAL:HG23	2.16	0.46
23:XW:33:U:O2'	23:XW:34:G:H5''	2.15	0.46
25:YA:137(A):G:H2'	25:YA:139:G:N7	2.31	0.46
25:YA:1154:G:OP2	40:YU:58:ARG:NH1	2.48	0.46
25:YA:1203:G:O6	25:YA:1204:A:N6	2.48	0.46
25:YA:2882:A:OP1	37:YR:96:ARG:NH1	2.48	0.46
30:YG:34:LEU:HD12	30:YG:100:TRP:CH2	2.50	0.46
36:YQ:136:ALA:O	36:YQ:138:ASP:N	2.40	0.46
37:YR:109:ALA:HA	37:YR:110:PRO:HD2	1.77	0.46
47:Y1:96:LYS:H	47:Y1:97:LEU:HD12	1.81	0.46
50:Y4:2:LYS:HA	50:Y4:2:LYS:HD2	1.67	0.46
1:QA:137:C:O4'	16:QP:63:GLY:HA2	2.16	0.46
1:QA:243:A:H4'	1:QA:244:U:H3'	1.98	0.46
1:QA:1109:C:OP2	3:QC:176:HIS:ND1	2.46	0.46
1:QA:1330:U:H4'	13:QM:23:TYR:CE2	2.50	0.46
1:QA:1423:G:OP1	34:RO:49:ARG:NH2	2.49	0.46
2:QB:165:VAL:HG23	2:QB:166:ASP:H	1.81	0.46
4:QD:8:VAL:HG13	4:QD:21:LEU:HD12	1.97	0.46
4:QD:75:PHE:HE1	4:QD:97:LEU:HD11	1.81	0.46
4:QD:195:ALA:HB3	6:XF:20:ALA:CB	2.44	0.46
11:QK:54:ARG:NH2	23:QW:39:U:O3'	2.48	0.46
20:QT:29:LYS:O	20:QT:33:ILE:HG12	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:QV:3:G:HO2'	22:QV:4:G:H8	1.62	0.46
25:RA:811:U:OP2	35:RP:29:LYS:N	2.42	0.46
25:RA:2696:U:H2'	25:RA:2697:G:C8	2.50	0.46
31:RH:87:LEU:HA	31:RH:163:TYR:O	2.16	0.46
32:RI:76:THR:OG1	32:RI:139:GLN:OE1	2.34	0.46
52:R6:33:LYS:HG3	52:R6:34:LEU:HD13	1.98	0.46
54:R8:39:LYS:O	54:R8:43:GLN:HB2	2.15	0.46
56:Z7:3:GLY:HA3	56:Z7:4:PRO:HA	1.77	0.46
1:XA:412:A:H4'	1:XA:413:G:O5'	2.14	0.46
1:XA:792:A:H4'	1:XA:793:U:O5'	2.15	0.46
1:XA:982:U:H5''	14:XN:6:LEU:HD21	1.97	0.46
1:XA:1129:C:H5'	1:XA:1130:A:OP1	2.16	0.46
1:XA:1367:C:OP1	9:XI:115:GLY:N	2.40	0.46
2:XB:114:ARG:O	2:XB:118:LEU:HG	2.16	0.46
6:XF:48:LEU:HG	6:XF:57:GLN:HA	1.98	0.46
7:XG:50:ILE:HG21	7:XG:61:VAL:HG21	1.98	0.46
16:XP:8:ARG:C	16:XP:9:PHE:HD1	2.24	0.46
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.97	0.46
25:YA:661:C:H5''	35:YP:15:ARG:NH2	2.30	0.46
25:YA:1059:G:H3'	25:YA:1060:U:H5''	1.97	0.46
25:YA:2197:U:H1'	25:YA:2198:A:C8	2.50	0.46
25:YA:2331:G:H4'	46:Y0:43:THR:H	1.80	0.46
25:YA:2790:A:O2'	25:YA:2893:G:N3	2.48	0.46
27:YD:121:PRO:CA	27:YD:135:PHE:CD2	2.81	0.46
31:YH:167:GLU:HA	31:YH:168:PRO:HD3	1.79	0.46
35:YP:135:LEU:HD23	35:YP:135:LEU:HA	1.74	0.46
1:QA:544:G:OP2	4:QD:66:ARG:NH2	2.49	0.46
1:QA:579:G:H5'	1:QA:728:A:H1'	1.98	0.46
7:QG:20:ASP:OD1	7:QG:21:VAL:N	2.48	0.46
7:QG:150:ALA:O	11:QK:57:THR:HG21	2.16	0.46
22:QV:6:G:O2'	22:QV:49:G:H5'	2.16	0.46
25:RA:503:A:H4'	25:RA:504:U:O5'	2.16	0.46
25:RA:1593:G:H2'	25:RA:1594:G:C8	2.51	0.46
25:RA:1773:A:H2'	25:RA:1774:C:O4'	2.16	0.46
25:RA:1812:A:H2'	25:RA:1813:G:C8	2.51	0.46
25:RA:2154:G:H2'	25:RA:2155:G:H8	1.79	0.46
25:RA:2751:G:N7	31:RH:2:SER:HB3	2.31	0.46
31:RH:85:LYS:HD2	31:RH:85:LYS:HA	1.85	0.46
31:RH:115:VAL:HG11	31:RH:148:ILE:HD11	1.98	0.46
32:RI:112:LYS:H	32:RI:112:LYS:HG2	1.50	0.46
36:RQ:2:LEU:H	36:RQ:2:LEU:HD23	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:RZ:23:LYS:HB3	45:RZ:38:TYR:CD1	2.51	0.46
51:R5:56:LYS:CE	51:R5:58:LEU:HD23	2.46	0.46
55:R9:8:LYS:O	55:R9:34:GLN:NE2	2.49	0.46
1:XA:1213:A:C6	1:XA:1215:G:H1'	2.51	0.46
1:XA:1292:U:H2'	1:XA:1293:G:C8	2.51	0.46
1:XA:1318:A:H4'	19:XS:11:VAL:HG11	1.98	0.46
5:XE:41:VAL:HG13	5:XE:113:ALA:HB2	1.97	0.46
9:XI:18:PHE:HD2	9:XI:62:TYR:HD2	1.62	0.46
19:XS:4:SER:N	50:Y4:67:TYR:HE2	2.13	0.46
20:XT:26:ASN:O	20:XT:30:LYS:HB2	2.16	0.46
25:YA:578:A:OP1	25:YA:1255:U:O2'	2.21	0.46
25:YA:740:U:H2'	25:YA:741:G:C8	2.51	0.46
25:YA:1266:G:OP2	51:Y5:19:ARG:NH1	2.49	0.46
25:YA:2023:G:H4'	25:YA:2617:C:O3'	2.16	0.46
25:YA:2699:C:H2'	25:YA:2700:C:O4'	2.16	0.46
25:YA:2836:U:H2'	25:YA:2837:G:C8	2.51	0.46
29:YF:129:PHE:O	29:YF:142:TRP:CD1	2.69	0.46
31:YH:15:VAL:CG1	31:YH:79:VAL:HG23	2.44	0.46
35:YP:63:PRO:CA	54:Y8:13:ARG:HB3	2.46	0.46
36:YQ:135:ASP:N	36:YQ:135:ASP:OD1	2.48	0.46
42:YW:110:LYS:HG3	42:YW:111:HIS:ND1	2.31	0.46
44:YY:84:ARG:HB3	44:YY:95:LYS:HD3	1.97	0.46
47:Y1:80:LEU:HB2	47:Y1:81:LYS:H	1.61	0.46
1:QA:67:C:H2'	1:QA:68:G:C8	2.51	0.46
1:QA:1014:A:H4'	19:QS:14:HIS:NE2	2.31	0.46
1:QA:1238:A:OP1	1:QA:1335:C:O2'	2.22	0.46
1:QA:1410:G:H2'	1:QA:1411:C:C6	2.51	0.46
4:QD:15:GLU:HG2	4:QD:63:LYS:HG3	1.97	0.46
4:QD:18:LYS:HD3	4:QD:20:TYR:CZ	2.51	0.46
13:QM:89:GLY:O	13:QM:92:HIS:HB2	2.15	0.46
20:QT:89:ARG:NH2	20:QT:105:SER:O	2.37	0.46
23:QY:38:A:H5'	25:RA:1913:A:C6	2.51	0.46
25:RA:1045:A:O2'	25:RA:1046:A:OP2	2.31	0.46
25:RA:1047:G:H2'	25:RA:1110:G:N1	2.31	0.46
25:RA:2567:G:H2'	25:RA:2568:C:C6	2.51	0.46
27:RD:68:LYS:HD2	27:RD:70:TRP:CZ2	2.51	0.46
28:RE:63:LEU:HD12	28:RE:64:LYS:N	2.30	0.46
31:RH:103:LEU:HD13	31:RH:131:VAL:HG11	1.97	0.46
34:RO:31:LYS:HB3	34:RO:32:TYR:CD2	2.51	0.46
35:RP:6:LEU:HB3	35:RP:7:ARG:H	1.55	0.46
36:RQ:104:PHE:HE2	36:RQ:125:LEU:HD11	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:RS:24:LEU:HB2	38:RS:85:VAL:HG12	1.97	0.46
40:RU:69:CYS:HB3	40:RU:106:PHE:HZ	1.81	0.46
41:RV:51:VAL:HG12	41:RV:53:GLU:H	1.80	0.46
47:R1:73:LEU:HB3	47:R1:90:ILE:HG23	1.97	0.46
1:XA:1451:A:H2'	1:XA:1451:A:N3	2.31	0.46
12:XL:92:ASP:O	12:XL:94:PRO:HD3	2.16	0.46
18:XR:73:ALA:HB3	18:XR:79:LEU:HD12	1.98	0.46
22:XV:2:C:H2'	22:XV:3:G:H5'	1.98	0.46
25:YA:755:C:H2'	25:YA:756:C:C6	2.51	0.46
25:YA:2599:G:OP2	27:YD:236:GLY:HA2	2.15	0.46
26:YB:111:U:H2'	26:YB:112:G:H8	1.80	0.46
28:YE:70:ALA:O	28:YE:72:VAL:N	2.49	0.46
31:YH:103:LEU:HD23	31:YH:115:VAL:HB	1.97	0.46
41:YV:19:LYS:HA	41:YV:94:LEU:O	2.15	0.46
1:QA:1001:G:H2'	1:QA:1002:G:O4'	2.16	0.45
1:QA:1012:U:H2'	1:QA:1013:G:C8	2.51	0.45
4:QD:53:ASP:O	4:QD:57:ARG:HD2	2.16	0.45
4:QD:121:VAL:O	4:QD:134:ASP:HA	2.16	0.45
8:QH:20:TYR:HA	8:QH:65:TYR:CZ	2.51	0.45
13:QM:84:ILE:HD12	13:QM:84:ILE:HA	1.75	0.45
25:RA:1203:G:H3'	25:RA:1204:A:H5''	1.98	0.45
25:RA:1336:A:H2'	25:RA:1337:G:C8	2.51	0.45
25:RA:2019:A:H4'	40:RU:34:LYS:HD2	1.99	0.45
25:RA:2645:G:H3'	25:RA:2646:C:H5'	1.97	0.45
26:RB:15:A:H1'	26:RB:109:G:N9	2.31	0.45
31:RH:120:GLY:HA3	31:RH:140:LYS:NZ	2.31	0.45
33:RN:57:ALA:C	33:RN:60:ILE:HD11	2.40	0.45
35:RP:101:VAL:HG23	35:RP:107:LYS:H	1.81	0.45
36:RQ:29:PHE:N	36:RQ:105:GLU:OE2	2.40	0.45
37:RR:37:THR:OG1	37:RR:40:LYS:HG3	2.17	0.45
52:R6:44:ARG:O	52:R6:45:LYS:HB2	2.16	0.45
1:XA:8:A:N6	4:XD:205:GLU:O	2.48	0.45
1:XA:110:C:O2'	16:XP:25:ARG:O	2.32	0.45
1:XA:599:C:H42	1:XA:639:G:H1	1.64	0.45
1:XA:1117:G:H5''	9:XI:104:ARG:NH1	2.31	0.45
2:XB:70:PHE:O	2:XB:93:VAL:N	2.34	0.45
13:XM:58:GLU:O	13:XM:62:ASN:ND2	2.33	0.45
25:YA:229:A:OP1	25:YA:229:A:H4'	2.16	0.45
25:YA:755:C:H2'	25:YA:756:C:H6	1.81	0.45
25:YA:2867:G:O2'	25:YA:2868:A:C8	2.69	0.45
27:YD:10:THR:OG1	27:YD:13:ARG:HB2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:130:ALA:C	27:YD:131:LEU:HD12	2.42	0.45
27:YD:252:TRP:CD1	27:YD:252:TRP:H	2.33	0.45
28:YE:108:SER:HB3	28:YE:165:VAL:HG21	1.99	0.45
31:YH:106:THR:HG22	31:YH:112:PRO:HB3	1.97	0.45
35:YP:58:THR:O	35:YP:61:ARG:CZ	2.65	0.45
44:YY:51:VAL:HG13	44:YY:52:SER:N	2.28	0.45
47:Y1:83:GLU:C	47:Y1:85:LEU:H	2.24	0.45
52:Y6:33:LYS:HE2	52:Y6:33:LYS:HB2	1.76	0.45
1:QA:407:G:OP1	4:QD:3:ARG:NH1	2.49	0.45
1:QA:743:U:H2'	1:QA:744:C:C6	2.50	0.45
1:QA:1342:C:H2'	1:QA:1343:G:C8	2.51	0.45
3:QC:19:GLU:HA	3:QC:54:ARG:HH12	1.81	0.45
9:QI:45:ALA:O	9:QI:48:GLU:HG2	2.15	0.45
9:QI:126:SER:O	9:QI:128:ARG:N	2.45	0.45
10:QJ:31:GLY:HA3	10:QJ:78:ASN:CG	2.41	0.45
19:QS:32:LYS:HA	19:QS:50:ALA:HB3	1.98	0.45
25:RA:622:G:H2'	25:RA:623:G:H8	1.81	0.45
25:RA:1228:G:OP1	40:RU:13:LYS:HG2	2.15	0.45
35:RP:77:ARG:HB2	35:RP:78:PRO:HD2	1.98	0.45
39:RT:26:ASP:HB2	39:RT:90:GLN:O	2.16	0.45
51:R5:39:MET:HE3	51:R5:39:MET:HB3	1.88	0.45
1:XA:1346:A:H1'	1:XA:1348:U:C6	2.52	0.45
2:XB:55:PHE:HD1	2:XB:58:ILE:HG13	1.81	0.45
19:XS:47:HIS:O	19:XS:62:ILE:HG12	2.17	0.45
25:YA:2788:C:O2'	25:YA:2809:A:N3	2.40	0.45
27:YD:102:LYS:C	27:YD:103:ARG:HG2	2.40	0.45
27:YD:137:PRO:O	27:YD:140:THR:HG23	2.16	0.45
29:YF:11:VAL:HA	29:YF:125:LEU:O	2.16	0.45
30:YG:6:ALA:N	50:Y4:23:GLU:HG2	2.28	0.45
37:YR:24:GLN:HE21	37:YR:44:LEU:HG	1.81	0.45
37:YR:78:LYS:O	37:YR:83:ILE:HG12	2.16	0.45
38:YS:58:LEU:CD2	38:YS:58:LEU:N	2.73	0.45
47:Y1:58:ILE:HD12	47:Y1:58:ILE:N	2.30	0.45
47:Y1:91:LYS:HA	47:Y1:91:LYS:HE3	1.98	0.45
48:Y2:4:SER:OG	48:Y2:5:GLU:OE1	2.23	0.45
1:QA:1129:C:H4'	1:QA:1130:A:H5'	1.98	0.45
6:QF:99:ALA:HB1	18:QR:23:LYS:NZ	2.31	0.45
12:QL:113:ARG:HH21	12:QL:116:SER:HB2	1.81	0.45
25:RA:468:G:H5''	29:RF:60:SER:HB2	1.98	0.45
25:RA:1469:A:H2'	25:RA:1470:G:O4'	2.16	0.45
25:RA:2116:G:N1	25:RA:2162:G:OP1	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2543:G:H2'	25:RA:2544:G:C8	2.51	0.45
27:RD:121:PRO:HB3	27:RD:135:PHE:CE2	2.52	0.45
37:RR:33:ARG:HG2	37:RR:34:ILE:N	2.30	0.45
37:RR:70:LEU:C	37:RR:72:ASP:H	2.21	0.45
43:RX:67:GLY:C	43:RX:69:TYR:H	2.23	0.45
1:XA:69:G:H2'	1:XA:73:G:C8	2.51	0.45
1:XA:222:U:H2'	1:XA:223:U:C6	2.52	0.45
1:XA:411:A:C4	1:XA:413:G:H1'	2.51	0.45
1:XA:736:C:H2'	1:XA:737:A:C8	2.52	0.45
1:XA:1036:G:H5'	1:XA:1037:C:OP2	2.16	0.45
2:XB:217:ARG:HE	2:XB:217:ARG:HB2	1.54	0.45
3:XC:48:TYR:OH	3:XC:122:GLU:OE2	2.22	0.45
8:XH:86:ILE:HG13	8:XH:133:LEU:HD22	1.98	0.45
9:XI:114:TYR:N	9:XI:114:TYR:HD1	2.14	0.45
12:XL:44:THR:HA	12:XL:45:PRO:HD3	1.68	0.45
25:YA:83:G:N2	25:YA:103:A:OP2	2.45	0.45
25:YA:844:C:H2'	25:YA:845:G:O4'	2.16	0.45
25:YA:2159:G:H2'	25:YA:2160:G:H8	1.81	0.45
31:YH:86:GLU:O	31:YH:87:LEU:HB2	2.16	0.45
31:YH:109:PHE:CE1	31:YH:152:ARG:HD3	2.51	0.45
32:YI:51:ILE:O	32:YI:55:ALA:N	2.31	0.45
32:YI:131:LYS:HB3	32:YI:132:PRO:HA	1.98	0.45
35:YP:27:HIS:ND1	35:YP:27:HIS:N	2.64	0.45
35:YP:101:VAL:C	35:YP:103:ALA:H	2.23	0.45
37:YR:51:LEU:HD12	37:YR:70:LEU:HG	1.97	0.45
40:YU:66:ASN:O	40:YU:70:ARG:HB2	2.17	0.45
40:YU:68:ALA:O	40:YU:71:GLN:HB2	2.16	0.45
44:YY:87:LYS:HA	44:YY:92:ASN:HB3	1.98	0.45
53:Y7:22:MET:HE2	53:Y7:31:LEU:CD1	2.46	0.45
1:QA:1375:A:H4'	7:QG:29:LYS:HE3	1.97	0.45
2:QB:120:ALA:C	2:QB:122:PHE:H	2.23	0.45
3:QC:23:TYR:CD1	10:QJ:10:GLY:HA2	2.51	0.45
4:QD:103:ASN:OD1	4:QD:114:ARG:NE	2.49	0.45
19:QS:67:VAL:HG21	50:R4:60:GLN:OE1	2.16	0.45
20:QT:26:ASN:HB2	20:QT:71:THR:HG23	1.97	0.45
25:RA:898:C:C2'	25:RA:899:A:H5'	2.47	0.45
25:RA:1210:A:H4'	25:RA:1211:U:O5'	2.16	0.45
25:RA:1220:A:H5'	25:RA:1221:C:OP2	2.16	0.45
25:RA:1527:G:H2'	25:RA:1543:A:N1	2.30	0.45
25:RA:2307:G:H1'	25:RA:2308:G:C2	2.52	0.45
25:RA:2695:C:H2'	25:RA:2696:U:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:RD:30:GLU:HG3	27:RD:63:ARG:CZ	2.47	0.45
27:RD:118:VAL:HG22	27:RD:119:ALA:H	1.82	0.45
31:RH:170:ARG:HB3	31:RH:171:LEU:H	1.52	0.45
37:RR:103:ARG:NH1	42:RW:40:ASN:OD1	2.50	0.45
38:RS:16:ASN:HA	38:RS:19:LYS:HD3	1.99	0.45
1:XA:337:C:H2'	1:XA:338:A:H8	1.80	0.45
1:XA:620:C:H2'	1:XA:621:A:O4'	2.17	0.45
1:XA:1032(A):G:H2'	1:XA:1032(B):G:C8	2.51	0.45
1:XA:1316:G:N1	1:XA:1319:A:OP2	2.48	0.45
2:XB:140:HIS:HA	2:XB:143:GLU:OE1	2.17	0.45
7:XG:45:ASP:O	7:XG:49:ILE:HG12	2.17	0.45
19:XS:63:THR:HG23	19:XS:66:MET:HG2	1.99	0.45
25:YA:1454:U:H5'	37:YR:63:ARG:NE	2.32	0.45
25:YA:1678:G:N2	25:YA:1989:G:H22	2.14	0.45
25:YA:1782:C:O2	25:YA:2608:G:O2'	2.32	0.45
25:YA:2591:C:H2'	25:YA:2592:G:C8	2.51	0.45
28:YE:116:VAL:O	28:YE:117:MET:HB3	2.16	0.45
35:YP:124:LYS:HA	35:YP:143:GLY:O	2.16	0.45
40:YU:58:ARG:HA	40:YU:61:TRP:CE3	2.52	0.45
1:QA:939:G:H5''	7:QG:102:ARG:NH2	2.32	0.45
1:QA:1172:C:H2'	1:QA:1173:G:H8	1.79	0.45
1:QA:1227:A:OP2	13:QM:111:LYS:HE3	2.16	0.45
1:QA:1298:C:H4'	1:QA:1299:A:C4	2.51	0.45
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.51	0.45
1:QA:1443:G:N2	25:RA:2864:G:OP1	2.43	0.45
8:QH:104:ARG:O	8:QH:107:LEU:HB2	2.16	0.45
23:QW:76:A:N6	25:RA:2422:A:O4'	2.49	0.45
25:RA:443:A:H3'	29:RF:45:ARG:HH12	1.82	0.45
25:RA:989:G:OP2	49:R3:11:SER:OG	2.27	0.45
25:RA:1101:U:H2'	25:RA:1102:C:C6	2.52	0.45
25:RA:1860:G:H2'	25:RA:1861:G:C8	2.52	0.45
25:RA:2245:U:C5'	25:RA:2246:G:H5'	2.46	0.45
25:RA:2291:U:H2'	25:RA:2292:C:C6	2.52	0.45
25:RA:2469:A:H5''	25:RA:2470:G:H8	1.81	0.45
31:RH:153:LYS:HG3	31:RH:161:GLY:HA2	1.97	0.45
34:RO:48:PRO:O	34:RO:49:ARG:HG2	2.17	0.45
35:RP:88:LEU:HD12	35:RP:95:VAL:HG11	1.99	0.45
45:RZ:110:GLY:CA	45:RZ:111:VAL:C	2.87	0.45
45:RZ:118:GLN:O	45:RZ:120:ILE:N	2.46	0.45
52:R6:26:ASN:ND2	52:R6:35:GLU:OE2	2.49	0.45
1:XA:64:G:H5''	1:XA:65:U:OP1	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:255:G:C6	1:XA:256:U:O4	2.69	0.45
1:XA:1118:C:P	9:XI:104:ARG:HH11	2.39	0.45
1:XA:1285:A:H4'	1:XA:1286:A:O5'	2.16	0.45
7:XG:15:ASP:OD1	7:XG:44:TYR:OH	2.35	0.45
25:YA:306:U:H2'	25:YA:307:G:O4'	2.17	0.45
25:YA:807:U:O2'	25:YA:2060:A:N1	2.46	0.45
25:YA:1020:A:N1	25:YA:1141:U:H2'	2.32	0.45
25:YA:1113:U:H2'	25:YA:1114:G:H8	1.81	0.45
25:YA:1533:C:H2'	25:YA:1534:G:N7	2.31	0.45
25:YA:2086:U:H2'	25:YA:2087:G:C8	2.51	0.45
25:YA:2537:U:H2'	25:YA:2538:C:C6	2.51	0.45
31:YH:153:LYS:HA	31:YH:153:LYS:HZ2	1.79	0.45
32:YI:56:LYS:HZ1	32:YI:60:GLU:HG2	1.81	0.45
41:YV:36:PRO:HA	41:YV:56:SER:OG	2.16	0.45
44:YY:56:PRO:O	44:YY:58:GLY:N	2.49	0.45
48:Y2:24:LEU:HA	48:Y2:24:LEU:HD23	1.67	0.45
1:QA:129(A):G:N2	1:QA:188:U:O2'	2.50	0.45
1:QA:518:C:H2'	1:QA:530:G:N3	2.32	0.45
1:QA:565:U:H5''	1:QA:566:G:H2'	1.98	0.45
1:QA:946:A:N6	1:QA:1234:C:H42	2.14	0.45
1:QA:1252:A:H61	1:QA:1285:A:H61	1.64	0.45
6:QF:45:LEU:HD12	6:QF:59:TYR:HD2	1.82	0.45
15:QO:4:THR:HB	15:QO:6:GLU:CD	2.41	0.45
25:RA:195:A:H5''	25:RA:196:A:O5'	2.16	0.45
25:RA:627:A:H4'	25:RA:628:G:H5'	1.99	0.45
25:RA:774:A:H2	25:RA:787:U:O2'	2.00	0.45
25:RA:1220:A:OP2	40:RU:19:LYS:NZ	2.35	0.45
25:RA:1637:A:H4'	25:RA:2711:A:O2'	2.17	0.45
25:RA:2692:C:H2'	25:RA:2693:A:H8	1.82	0.45
28:RE:111:ARG:HA	37:RR:1:MET:SD	2.57	0.45
30:RG:106:LEU:HA	30:RG:110:ALA:HB3	1.98	0.45
33:RN:19:GLU:HB2	33:RN:56:ASN:HD22	1.80	0.45
35:RP:18:ARG:HD2	35:RP:27:HIS:HD2	1.81	0.45
37:RR:42:LYS:HA	37:RR:45:ARG:HD2	1.98	0.45
38:RS:10:ARG:O	38:RS:14:VAL:HG12	2.17	0.45
38:RS:83:LYS:C	38:RS:109:GLY:HA3	2.42	0.45
1:XA:276:G:OP1	17:XQ:12:SER:OG	2.23	0.45
1:XA:485:G:O2'	1:XA:486:U:O5'	2.34	0.45
1:XA:1152:A:H5''	10:XJ:13:HIS:CD2	2.52	0.45
1:XA:1321:C:C3'	1:XA:1322:C:H5''	2.45	0.45
1:XA:1513:A:H2'	1:XA:1514:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:120:ALA:C	2:XB:122:PHE:H	2.24	0.45
3:XC:153:VAL:HG22	3:XC:198:VAL:HG22	1.98	0.45
5:XE:99:GLY:N	5:XE:117:ASP:OD1	2.47	0.45
8:XH:75:ARG:HA	8:XH:76:PRO:HD2	1.71	0.45
15:XO:32:LEU:HD11	15:XO:62:GLN:HG2	1.99	0.45
17:XQ:43:LEU:HD12	17:XQ:68:ARG:HG2	1.97	0.45
19:XS:68:GLY:H	50:Y4:59:PHE:HZ	1.60	0.45
25:YA:651:G:H4'	54:Y8:18:ALA:HB3	1.99	0.45
25:YA:848:G:H2'	25:YA:849:A:C8	2.52	0.45
25:YA:942:G:O2'	25:YA:1189:A:N3	2.49	0.45
25:YA:1045:A:N3	25:YA:1047:G:N2	2.65	0.45
25:YA:1061:U:H5'	25:YA:1070:A:O2'	2.16	0.45
25:YA:1069:A:H2'	25:YA:1073:A:N7	2.31	0.45
25:YA:1142(A):A:H4'	33:YN:25:ARG:HH22	1.80	0.45
25:YA:2022:U:O2'	25:YA:2616:C:O2'	2.22	0.45
25:YA:2693:A:H2'	25:YA:2694:G:C8	2.51	0.45
39:YT:6:LEU:HA	39:YT:9:LEU:HB2	1.99	0.45
41:YV:19:LYS:HG3	41:YV:95:LEU:HD23	1.98	0.45
44:YY:94:LYS:HD2	44:YY:101:LYS:HZ3	1.82	0.45
44:YY:101:LYS:HG2	44:YY:102:CYS:H	1.81	0.45
46:Y0:23:VAL:HA	46:Y0:38:VAL:HA	1.99	0.45
1:QA:481:G:O2'	1:QA:482:A:O5'	2.35	0.45
2:QB:76:GLN:O	2:QB:208:ILE:HG12	2.17	0.45
11:QK:41:THR:HG21	11:QK:71:LYS:HB2	1.99	0.45
12:QL:109:GLY:HA3	12:QL:121:GLY:O	2.17	0.45
13:QM:3:ARG:HB3	50:R4:34:GLU:HB3	1.98	0.45
25:RA:307:G:N2	25:RA:330:A:H62	2.14	0.45
25:RA:479:A:N3	25:RA:481:G:H5''	2.32	0.45
25:RA:1012:U:O4	33:RN:25:ARG:HA	2.16	0.45
25:RA:2022:U:O2'	25:RA:2617:C:H5'	2.16	0.45
26:RB:89(A):A:H8	26:RB:89(A):A:O5'	2.00	0.45
27:RD:76:PRO:HB2	27:RD:116:GLN:OE1	2.17	0.45
30:RG:10:LYS:O	30:RG:14:GLU:HB3	2.17	0.45
32:RI:101:LEU:HD22	32:RI:107:VAL:HB	1.98	0.45
37:RR:78:LYS:HE2	37:RR:83:ILE:HD11	1.98	0.45
44:RY:68:HIS:CE1	44:RY:70:SER:HB3	2.52	0.45
44:RY:90:LEU:HB2	44:RY:91:GLU:H	1.63	0.45
50:R4:10:VAL:HA	50:R4:11:PRO:HD2	1.75	0.45
1:XA:217:C:O2'	1:XA:466:C:N4	2.49	0.45
1:XA:863:U:O2'	1:XA:865:A:N7	2.45	0.45
1:XA:1223:C:P	19:XS:78:ARG:HH12	2.39	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1443:G:N2	25:YA:2864:G:OP1	2.37	0.45
1:XA:1446:A:HO2'	1:XA:1447:G:P	2.39	0.45
1:XA:1446:A:C6	39:YT:118:ARG:HD2	2.52	0.45
25:YA:122:G:OP1	25:YA:149:A:O2'	2.27	0.45
25:YA:407:G:H2'	25:YA:408:G:C8	2.52	0.45
25:YA:2123:G:H1	25:YA:2175:C:N4	2.11	0.45
27:YD:44:ASN:ND2	27:YD:44:ASN:N	2.64	0.45
30:YG:146:TYR:O	30:YG:149:VAL:HG22	2.16	0.45
44:YY:89:PHE:C	44:YY:90:LEU:HD13	2.42	0.45
48:Y2:21:LEU:O	48:Y2:25:VAL:HG23	2.17	0.45
52:Y6:28:ARG:HB3	52:Y6:30:THR:C	2.41	0.45
54:Y8:4:MET:HB2	54:Y8:4:MET:HE3	1.54	0.45
1:QA:244:U:H4'	1:QA:245:C:O5'	2.16	0.45
1:QA:696:A:H2'	1:QA:697:U:C6	2.52	0.45
1:QA:1016:A:H2'	1:QA:1017:G:O4'	2.17	0.45
1:QA:1504:G:OP1	1:QA:1507:A:H4'	2.17	0.45
7:QG:49:ILE:O	7:QG:53:LYS:HB3	2.16	0.45
7:QG:113:GLU:CG	7:QG:119:ARG:HG2	2.47	0.45
25:RA:57:C:H2'	25:RA:58:G:O4'	2.17	0.45
25:RA:345:A:H5''	25:RA:346:A:OP1	2.17	0.45
25:RA:463:G:N2	25:RA:466:A:OP2	2.48	0.45
25:RA:805:G:OP2	35:RP:41:ARG:HG2	2.17	0.45
25:RA:1029:A:OP1	36:RQ:128:LYS:HE3	2.17	0.45
25:RA:1827:C:OP2	27:RD:222:ARG:NH1	2.44	0.45
25:RA:2308:G:C6	25:RA:2311:A:N1	2.85	0.45
28:RE:46:ALA:HB2	28:RE:82:ARG:HA	1.98	0.45
31:RH:125:VAL:HG13	31:RH:126:PRO:HB3	1.99	0.45
40:RU:66:ASN:CG	40:RU:70:ARG:HH21	2.21	0.45
45:RZ:53:ILE:H	45:RZ:71:VAL:CG1	2.30	0.45
48:R2:41:ILE:HD11	48:R2:44:LEU:HB2	1.98	0.45
1:XA:1192:C:O2	5:XE:25:ARG:NH2	2.34	0.45
2:XB:115:LEU:HD13	2:XB:145:LEU:HB3	1.98	0.45
4:XD:86:LYS:HD2	4:XD:86:LYS:H	1.82	0.45
13:XM:65:LYS:O	13:XM:70:LEU:HD23	2.17	0.45
16:XP:17:TYR:CE2	16:XP:41:PRO:HG3	2.52	0.45
23:XW:19:G:H22	23:XW:56:C:H42	1.65	0.45
25:YA:27:G:H22	25:YA:512:G:H2'	1.80	0.45
25:YA:286:C:H2'	25:YA:287:C:C6	2.52	0.45
25:YA:874:G:H2'	25:YA:875:G:H8	1.81	0.45
25:YA:1028:A:N6	25:YA:1125:G:H2'	2.32	0.45
25:YA:2636:U:OP2	28:YE:79:ARG:NH1	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YB:12:C:O2	46:Y0:74:ARG:HD2	2.17	0.45
27:YD:237:GLU:O	27:YD:238:GLY:C	2.59	0.45
28:YE:67:PHE:O	28:YE:69:LYS:N	2.49	0.45
31:YH:85:LYS:HD2	31:YH:85:LYS:HA	1.89	0.45
39:YT:102:ILE:HA	39:YT:105:LEU:CD2	2.47	0.45
47:Y1:79:GLY:N	47:Y1:80:LEU:HD23	2.32	0.45
50:Y4:16:CYS:HB3	50:Y4:33:VAL:HB	1.98	0.45
50:Y4:22:ILE:HG22	50:Y4:23:GLU:H	1.82	0.45
1:QA:64:G:H4'	1:QA:65:U:O5'	2.16	0.45
1:QA:1060:C:O2'	10:QJ:56:HIS:ND1	2.46	0.45
4:QD:167:GLY:C	27:YD:135:PHE:CE1	2.95	0.45
7:QG:45:ASP:O	7:QG:49:ILE:HG12	2.16	0.45
8:QH:92:ARG:HD3	8:QH:92:ARG:HA	1.77	0.45
11:QK:91:ARG:NH1	11:QK:110:ASP:OD2	2.47	0.45
12:QL:71:PRO:HG3	12:QL:99:HIS:HD2	1.82	0.45
25:RA:856:C:HO2'	25:RA:857:C:P	2.39	0.45
29:RF:45:ARG:HH11	29:RF:45:ARG:CG	2.29	0.45
34:RO:22:ILE:HG12	34:RO:41:ALA:HA	1.98	0.45
45:RZ:181:GLU:HB3	45:RZ:182:LYS:HD3	1.98	0.45
51:R5:58:LEU:N	51:R5:58:LEU:CD1	2.73	0.45
52:R6:34:LEU:HD13	52:R6:34:LEU:H	1.82	0.45
1:XA:304:U:H2'	1:XA:305:G:C8	2.52	0.45
13:XM:115:LYS:HE3	13:XM:115:LYS:HB2	1.75	0.45
19:XS:66:MET:HB2	19:XS:74:PHE:CZ	2.52	0.45
20:XT:87:LYS:HD2	20:XT:87:LYS:HA	1.74	0.45
25:YA:548:A:O5'	25:YA:548:A:H8	2.00	0.45
25:YA:1021:A:H61	25:YA:1142(A):A:N6	2.01	0.45
25:YA:1231:G:H2'	25:YA:1232:G:H8	1.82	0.45
25:YA:1380:G:O2'	25:YA:1569:A:N6	2.50	0.45
25:YA:1500:G:O2'	27:YD:100:GLY:O	2.24	0.45
25:YA:1534:G:H2'	25:YA:1534:G:N3	2.32	0.45
31:YH:45:VAL:HG13	31:YH:45:VAL:O	2.17	0.45
32:YI:88:ILE:HG12	32:YI:122:GLU:N	2.31	0.45
32:YI:120:ILE:HD11	32:YI:126:TYR:CZ	2.52	0.45
43:YX:60:ARG:HH22	53:Y7:47:ARG:NH1	2.14	0.45
45:YZ:136:PHE:C	45:YZ:137:ILE:HG12	2.41	0.45
1:QA:299:G:H2'	1:QA:300:A:C8	2.52	0.45
1:QA:429:U:H1'	1:QA:430:A:H5''	1.98	0.45
1:QA:880:C:OP2	12:QL:9:GLN:HG3	2.17	0.45
1:QA:892:A:O2'	1:QA:1415:G:H4'	2.17	0.45
1:QA:1176:A:H2'	1:QA:1177:G:H5'	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1348:U:H4'	9:QI:120:ARG:HD2	1.98	0.45
8:QH:6:ILE:HB	8:QH:85:ARG:HH11	1.82	0.45
8:QH:6:ILE:O	8:QH:10:LEU:HG	2.17	0.45
12:QL:11:VAL:HG13	17:QQ:29:HIS:HD2	1.82	0.45
13:QM:92:HIS:CD2	13:QM:110:ARG:HH21	2.35	0.45
25:RA:270:A:OP2	25:RA:270(Y):G:N1	2.38	0.45
25:RA:2311:A:C8	30:RG:88:ILE:HD11	2.52	0.45
26:RB:31:C:N4	26:RB:51:G:H1	2.15	0.45
27:RD:85:ASP:HA	27:RD:86:PRO:HD2	1.72	0.45
28:RE:107:THR:O	28:RE:190:GLY:HA2	2.17	0.45
29:RF:161:GLU:OE2	29:RF:164:ARG:NH1	2.50	0.45
30:RG:102:PHE:O	30:RG:106:LEU:N	2.50	0.45
31:RH:52:VAL:HG21	31:RH:69:ARG:HA	1.98	0.45
35:RP:64:LYS:HB2	54:R8:25:MET:HG3	1.98	0.45
36:RQ:7:MET:HE2	36:RQ:7:MET:HB3	1.90	0.45
51:R5:36:CYS:SG	51:R5:48:GLU:HB3	2.57	0.45
1:XA:1005:A:HO2'	1:XA:1037:C:HO2'	1.62	0.45
1:XA:1318:A:H4'	19:XS:11:VAL:CG1	2.47	0.45
9:XI:111:ARG:HH22	10:XJ:62:HIS:CE1	2.35	0.45
19:XS:24:ALA:O	19:XS:25:LYS:HB3	2.17	0.45
20:XT:33:ILE:HG23	20:XT:63:ILE:HG12	1.99	0.45
25:YA:2025:C:H2'	25:YA:2026:C:C6	2.52	0.45
25:YA:2284:C:H41	52:Y6:25:LYS:NZ	2.15	0.45
25:YA:2346:A:H8	54:Y8:35:GLN:HE21	1.64	0.45
25:YA:2395:C:O2'	47:Y1:30:VAL:HG12	2.17	0.45
25:YA:2630:G:O4'	25:YA:2894:G:H1'	2.17	0.45
25:YA:2689:U:H4'	25:YA:2690:C:O5'	2.15	0.45
26:YB:50:G:H5''	38:YS:61:ASN:ND2	2.32	0.45
31:YH:3:ARG:HA	31:YH:3:ARG:NE	2.32	0.45
31:YH:153:LYS:CB	31:YH:154:PRO:HD3	2.47	0.45
35:YP:126:VAL:HG12	35:YP:147:LEU:HD22	1.99	0.45
42:YW:97:LYS:HE2	42:YW:99:ARG:NH2	2.32	0.45
45:YZ:82:ARG:HG3	45:YZ:83:PRO:CD	2.47	0.45
45:YZ:94:GLU:HB2	45:YZ:95:PRO:HA	1.99	0.45
50:Y4:43:TYR:C	50:Y4:43:TYR:HD1	2.25	0.45
1:QA:224:C:H2'	1:QA:225:C:H6	1.82	0.44
1:QA:318:G:H2'	1:QA:319:G:C8	2.52	0.44
1:QA:584:G:H2'	1:QA:585:G:H8	1.82	0.44
2:QB:51:LEU:HD22	2:QB:55:PHE:HE2	1.82	0.44
6:QF:41:GLU:HB3	6:QF:62:TRP:HB3	1.99	0.44
10:QJ:40:LEU:HB2	10:QJ:69:ASN:CB	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:QS:10:PHE:HB2	19:QS:39:THR:H	1.82	0.44
25:RA:2712:U:OP1	25:RA:2714:G:H4'	2.17	0.44
27:RD:105:ILE:HD12	27:RD:105:ILE:HA	1.63	0.44
34:RO:111:PHE:HB3	34:RO:114:ILE:HG13	1.98	0.44
37:RR:28:LEU:HD12	37:RR:48:VAL:HG11	1.99	0.44
37:RR:29:LEU:HD12	37:RR:29:LEU:HA	1.74	0.44
43:RX:15:GLU:H	43:RX:15:GLU:CD	2.25	0.44
44:RY:42:VAL:HG12	44:RY:65:ALA:HB3	1.99	0.44
47:R1:83:GLU:OE2	47:R1:83:GLU:N	2.49	0.44
1:XA:312:C:H2'	1:XA:313:A:C8	2.52	0.44
1:XA:1226:C:OP2	13:XM:103:THR:OG1	2.24	0.44
1:XA:1517:G:H1'	25:YA:1919:A:O3'	2.17	0.44
2:XB:33:TYR:HB2	2:XB:43:ASP:HB2	1.98	0.44
8:XH:65:TYR:HA	8:XH:79:VAL:HG23	1.98	0.44
10:XJ:61:GLU:OE1	14:XN:58:LYS:HE2	2.17	0.44
11:XK:28:THR:OG1	11:XK:90:GLY:HA3	2.17	0.44
25:YA:270(J):G:H2'	25:YA:270(K):C:O4'	2.18	0.44
25:YA:1984:G:H2'	25:YA:1985:G:H8	1.82	0.44
27:YD:39:LYS:HB2	27:YD:62:TYR:HB2	1.98	0.44
28:YE:167:VAL:HG21	28:YE:187:ALA:CB	2.47	0.44
34:YO:68:GLU:H	34:YO:68:GLU:CD	2.24	0.44
34:YO:86:ILE:HG22	34:YO:94:ARG:HD3	1.99	0.44
35:YP:61:ARG:CD	54:Y8:13:ARG:HD2	2.46	0.44
36:YQ:97:VAL:HG11	36:YQ:103:MET:HE3	1.98	0.44
47:Y1:53:VAL:HB	47:Y1:58:ILE:HD13	1.98	0.44
1:QA:620:C:H2'	1:QA:621:A:O4'	2.18	0.44
1:QA:992:U:H1'	1:QA:993:G:OP2	2.17	0.44
1:QA:1105:A:H2'	1:QA:1106:G:C8	2.51	0.44
1:QA:1152:A:H5''	10:QJ:13:HIS:HD2	1.82	0.44
1:QA:1222:G:OP1	19:QS:77:THR:HG21	2.17	0.44
1:QA:1336:C:H1'	1:QA:1337:G:C2	2.53	0.44
2:QB:30:ARG:HH21	2:QB:194:PRO:HG2	1.81	0.44
2:QB:163:PHE:HA	2:QB:185:ILE:HG13	1.99	0.44
6:QF:23:LYS:O	6:QF:27:GLN:HG2	2.17	0.44
19:QS:66:MET:HB2	19:QS:74:PHE:CZ	2.51	0.44
25:RA:77:C:H5''	48:R2:10:LEU:HD11	1.97	0.44
25:RA:188:G:H5'	47:R1:14:VAL:HG21	1.99	0.44
25:RA:1337:G:H2'	25:RA:1338:G:H8	1.81	0.44
25:RA:1664:A:H61	25:RA:1996:C:H42	1.65	0.44
25:RA:2392:A:OP2	54:R8:31:HIS:HD2	1.99	0.44
31:RH:109:PHE:CZ	31:RH:152:ARG:HG2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:RN:114:ARG:O	33:RN:115:ARG:HB3	2.17	0.44
34:RO:87:ILE:HD12	34:RO:91:LEU:HD12	1.99	0.44
36:RQ:12:GLN:HE21	36:RQ:72:LYS:HD3	1.82	0.44
54:R8:60:LEU:C	54:R8:63:PRO:HD2	2.42	0.44
1:XA:547:A:OP1	4:XD:73:ARG:NH2	2.49	0.44
5:XE:110:LEU:HD13	5:XE:118:ILE:HD13	1.98	0.44
9:XI:95:LYS:HZ3	9:XI:96:LEU:HD13	1.83	0.44
10:XJ:16:LEU:HD11	10:XJ:70:ARG:HB2	1.99	0.44
12:XL:46:LYS:CG	12:XL:47:LYS:N	2.80	0.44
13:XM:5:ALA:O	13:XM:7:VAL:N	2.49	0.44
21:XU:5:ASP:HB3	21:XU:8:THR:OG1	2.17	0.44
23:XW:11:C:N4	23:XW:24:G:H1	2.15	0.44
25:YA:833:U:H2'	25:YA:834:C:C6	2.52	0.44
25:YA:841:A:H2'	25:YA:842:G:C8	2.52	0.44
25:YA:1717:G:H1	25:YA:1742:C:H42	1.65	0.44
42:YW:33:ARG:NH2	42:YW:52:GLU:OE1	2.50	0.44
43:YX:35:THR:O	43:YX:39:ILE:HG13	2.16	0.44
45:YZ:19:ARG:NH1	45:YZ:84:GLU:HB2	2.32	0.44
48:Y2:41:ILE:HD11	48:Y2:44:LEU:CG	2.48	0.44
1:QA:20:U:O2	1:QA:916:G:C2	2.70	0.44
1:QA:1053:G:O6	1:QA:1199:U:H2'	2.17	0.44
1:QA:1372:U:H2'	1:QA:1373:G:O4'	2.18	0.44
25:RA:300:A:H1'	25:RA:319:C:H1'	1.99	0.44
25:RA:512:G:H4'	25:RA:513:A:O5'	2.18	0.44
25:RA:550:G:O2'	25:RA:1220:A:N3	2.46	0.44
25:RA:994:C:O2'	25:RA:996:A:OP1	2.34	0.44
25:RA:2537:U:H2'	25:RA:2538:C:C6	2.53	0.44
32:RI:14:ASP:OD1	32:RI:14:ASP:N	2.50	0.44
33:RN:116:LEU:HD23	33:RN:116:LEU:HA	1.78	0.44
52:R6:32:ASN:N	52:R6:32:ASN:OD1	2.49	0.44
1:XA:1499:A:H1'	1:XA:1520:G:H5'	1.99	0.44
4:XD:25:ARG:NH1	4:XD:30:LYS:HG3	2.32	0.44
7:XG:87:VAL:HG11	7:XG:155:ARG:HA	1.99	0.44
7:XG:138:LYS:HE2	7:XG:142:GLU:OE2	2.17	0.44
8:XH:51:VAL:HG11	8:XH:60:ARG:HG3	1.99	0.44
8:XH:83:ILE:HB	8:XH:137:VAL:HG13	1.99	0.44
25:YA:279:C:H42	25:YA:361:G:H1	1.65	0.44
25:YA:517:C:OP1	51:Y5:16:ARG:NH2	2.49	0.44
25:YA:858:U:H1'	25:YA:2268:A:H2'	2.00	0.44
25:YA:1165:U:H2'	25:YA:1166:C:C6	2.53	0.44
25:YA:1697:G:OP2	25:YA:1698:A:O2'	2.23	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2356:C:H2'	25:YA:2357:U:O4'	2.18	0.44
25:YA:2470:G:H5'	36:YQ:56:ARG:NH2	2.30	0.44
25:YA:2784:C:O2'	28:YE:37:ARG:NH1	2.50	0.44
26:YB:15:A:H5'	26:YB:16:G:H8	1.82	0.44
30:YG:114:ILE:HB	30:YG:117:PHE:HB2	1.99	0.44
31:YH:52:VAL:HG21	31:YH:68:THR:HG22	2.00	0.44
33:YN:62:VAL:HG12	33:YN:66:LYS:HD2	1.98	0.44
34:YO:17:ARG:NH2	34:YO:47:ILE:HD13	2.33	0.44
40:YU:66:ASN:HB2	40:YU:76:TYR:HB2	1.99	0.44
40:YU:104:GLN:OE1	40:YU:105:VAL:HG23	2.18	0.44
41:YV:99:ILE:HD13	41:YV:99:ILE:H	1.82	0.44
1:QA:601:C:H2'	1:QA:602:A:C8	2.53	0.44
1:QA:974:A:H1'	14:QN:31:ARG:NE	2.31	0.44
1:QA:1191:A:P	3:QC:3:ASN:HD22	2.41	0.44
1:QA:1305:G:H5'	21:QU:4:GLY:HA3	1.99	0.44
1:QA:1439:C:H42	1:QA:1462:G:H1	1.63	0.44
10:QJ:33:GLN:O	10:QJ:75:ILE:HG12	2.17	0.44
20:QT:16:HIS:O	20:QT:19:SER:HB3	2.17	0.44
25:RA:144:C:H2'	25:RA:145:G:H8	1.82	0.44
25:RA:631:A:N3	25:RA:2415:G:O2'	2.47	0.44
25:RA:1537:C:H2'	25:RA:1538:G:C8	2.52	0.44
27:RD:49:ILE:CD1	27:RD:52:ARG:HA	2.47	0.44
30:RG:51:ARG:O	30:RG:53:LEU:N	2.48	0.44
30:RG:57:ALA:HB1	30:RG:68:PRO:HG2	1.99	0.44
35:RP:140:ALA:O	35:RP:141:ALA:HB2	2.17	0.44
39:RT:36:GLU:HG3	39:RT:41:ARG:CD	2.45	0.44
40:RU:65:ILE:HG12	40:RU:96:ALA:CB	2.47	0.44
43:RX:53:LYS:NZ	43:RX:55:ASN:HD21	2.15	0.44
45:RZ:103:ARG:HD3	45:RZ:136:PHE:CD2	2.53	0.44
4:XD:50:ARG:H	4:XD:50:ARG:HG3	1.63	0.44
12:XL:24:VAL:O	12:XL:26:ALA:N	2.47	0.44
20:XT:87:LYS:O	20:XT:91:LEU:HG	2.17	0.44
22:XV:53:G:H4'	22:XV:54:U:OP1	2.17	0.44
25:YA:1087:G:C4	25:YA:1089:G:H1'	2.52	0.44
25:YA:1981:A:H5''	25:YA:1982:C:OP2	2.17	0.44
25:YA:2293:C:OP1	38:YS:89:ARG:NH1	2.51	0.44
25:YA:2712:U:HO2'	25:YA:2712(A):A:P	2.39	0.44
27:YD:248:SER:HB2	27:YD:252:TRP:CZ2	2.51	0.44
29:YF:63:LYS:HE3	29:YF:65:TRP:O	2.18	0.44
33:YN:134:ARG:O	33:YN:136:GLU:N	2.50	0.44
4:QD:150:GLU:OE1	4:QD:150:GLU:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:QE:97:GLY:N	5:QE:117:ASP:OD2	2.40	0.44
16:QP:23:ASP:O	16:QP:26:ARG:HB2	2.17	0.44
25:RA:768:G:HO2'	25:RA:1379:A:N6	2.11	0.44
25:RA:2820:A:O2'	25:RA:2821:A:OP1	2.34	0.44
25:RA:2821:A:OP2	25:RA:2822:G:OP2	2.36	0.44
26:RB:24:G:H1'	26:RB:27:C:N4	2.33	0.44
30:RG:37:VAL:O	30:RG:94:LEU:HG	2.17	0.44
38:RS:11:LYS:HG3	38:RS:91:PRO:HD3	1.98	0.44
41:RV:16:PRO:HB3	41:RV:97:LYS:O	2.17	0.44
51:R5:55:ARG:NH1	51:R5:55:ARG:HG2	2.33	0.44
1:XA:97:U:H2'	1:XA:99:C:C6	2.52	0.44
1:XA:321:A:N6	1:XA:329:A:OP2	2.50	0.44
1:XA:963:G:H21	10:XJ:55:LYS:HD3	1.81	0.44
1:XA:1004:A:H1'	1:XA:1036:G:N2	2.28	0.44
1:XA:1221:G:O3'	19:XS:77:THR:HG21	2.16	0.44
1:XA:1417:G:C6	1:XA:1482:G:C6	3.06	0.44
15:XO:32:LEU:O	15:XO:36:ILE:HG13	2.18	0.44
23:XW:9:A:O4'	23:XW:46:G:N2	2.51	0.44
25:YA:1021:A:N6	25:YA:1142(A):A:H61	2.03	0.44
25:YA:1434:A:H61	25:YA:1558:A:N6	2.15	0.44
25:YA:1543:A:O2'	25:YA:1544:C:OP2	2.31	0.44
25:YA:2667:C:H1'	31:YH:109:PHE:HD1	1.82	0.44
29:YF:47:GLY:HA3	29:YF:95:ARG:O	2.18	0.44
39:YT:42:ILE:HG21	39:YT:84:GLN:NE2	2.32	0.44
39:YT:61:PHE:CE1	39:YT:76:PHE:HB2	2.53	0.44
40:YU:88:ILE:H	40:YU:88:ILE:HG12	1.49	0.44
44:YY:51:VAL:O	44:YY:56:PRO:HA	2.18	0.44
45:YZ:19:ARG:HD3	45:YZ:25:PRO:HD2	1.99	0.44
52:Y6:34:LEU:HD13	52:Y6:34:LEU:H	1.82	0.44
52:Y6:41:PRO:HD2	52:Y6:46:HIS:H	1.81	0.44
1:QA:966:G:O2'	9:QI:127:LYS:O	2.35	0.44
1:QA:1111:A:N1	3:QC:177:THR:OG1	2.43	0.44
1:QA:1277:C:O2'	1:QA:1279:A:H8	2.01	0.44
20:QT:87:LYS:HD2	20:QT:87:LYS:HA	1.68	0.44
22:QV:15:C:O2'	22:QV:61:C:OP1	2.36	0.44
25:RA:748:G:C8	42:RW:89:ALA:HB1	2.53	0.44
25:RA:1007:C:H5''	33:RN:35:ARG:HH11	1.81	0.44
25:RA:1085:A:HO2'	25:RA:1086:A:P	2.40	0.44
25:RA:1534:G:N3	25:RA:1534:G:H2'	2.32	0.44
27:RD:34:VAL:HG22	27:RD:35:LYS:HG3	2.00	0.44
27:RD:70:TRP:HZ3	27:RD:146:GLU:OE2	2.01	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:93:VAL:C	28:RE:95:ILE:H	2.25	0.44
29:RF:117:ARG:HH12	35:RP:1:MET:N	2.16	0.44
32:RI:93:THR:H	32:RI:96:ASP:HB2	1.82	0.44
34:RO:22:ILE:HD13	34:RO:22:ILE:HA	1.77	0.44
41:RV:49:THR:HB	41:RV:50:PRO:HD2	1.99	0.44
48:R2:49:LYS:O	48:R2:53:LEU:HB2	2.18	0.44
1:XA:485:G:H1'	1:XA:486:U:H5	1.83	0.44
1:XA:582:U:H2'	1:XA:583:A:H8	1.81	0.44
1:XA:636:U:H2'	1:XA:637:G:H8	1.82	0.44
1:XA:701:C:O2	1:XA:703:G:N1	2.50	0.44
1:XA:1190:G:OP1	3:XC:4:LYS:HA	2.17	0.44
3:XC:47:LEU:HA	3:XC:47:LEU:HD12	1.83	0.44
3:XC:82:GLU:O	3:XC:86:VAL:HG13	2.17	0.44
12:XL:78:GLN:HB3	12:XL:79:GLU:H	1.67	0.44
15:XO:26:GLU:H	15:XO:26:GLU:HG2	1.54	0.44
18:XR:52:PRO:HB2	18:XR:54:ARG:HG2	2.00	0.44
25:YA:653:A:H4'	25:YA:654:A:OP2	2.18	0.44
25:YA:839:U:H2'	25:YA:840:C:C6	2.53	0.44
25:YA:1332:G:H8	25:YA:1332:G:H2'	1.67	0.44
25:YA:1535:U:H5''	25:YA:1537:C:C4	2.52	0.44
25:YA:2756:U:H1'	25:YA:2757:A:H5''	2.00	0.44
25:YA:2811:G:H1	25:YA:2889:C:H42	1.65	0.44
25:YA:2848:G:HO2'	25:YA:2867:G:H22	1.63	0.44
26:YB:3:C:H2'	26:YB:4:C:C6	2.52	0.44
27:YD:85:ASP:HB2	27:YD:92:ILE:HD13	1.99	0.44
28:YE:64:LYS:C	28:YE:66:HIS:H	2.24	0.44
30:YG:47:LYS:HE3	30:YG:47:LYS:HB2	1.73	0.44
30:YG:98:ARG:O	30:YG:101:ILE:HG13	2.17	0.44
31:YH:124:GLU:HB3	31:YH:132:ARG:HG3	1.99	0.44
41:YV:15:GLU:HG3	41:YV:16:PRO:HD2	1.99	0.44
43:YX:70:LEU:HD23	43:YX:70:LEU:H	1.83	0.44
45:YZ:80:ARG:NH2	45:YZ:82:ARG:HH22	2.12	0.44
48:Y2:17:SER:CB	48:Y2:67:LYS:HE3	2.47	0.44
52:Y6:7:ILE:HD12	52:Y6:7:ILE:HA	1.85	0.44
1:QA:297:G:N2	1:QA:300:A:OP2	2.48	0.44
1:QA:484:G:H4'	1:QA:485:G:O5'	2.16	0.44
1:QA:1244:C:H42	1:QA:1293:G:H1	1.65	0.44
3:QC:70:VAL:HG21	3:QC:76:VAL:HG11	2.00	0.44
7:QG:113:GLU:H	7:QG:113:GLU:HG2	1.39	0.44
10:QJ:47:PHE:HE1	10:QJ:63:PHE:HB2	1.83	0.44
10:QJ:51:ARG:NE	10:QJ:60:ARG:O	2.45	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:QO:50:HIS:O	15:QO:53:HIS:HB3	2.17	0.44
22:QV:43:A:H2'	22:QV:44:A:C8	2.53	0.44
25:RA:124:G:OP1	25:RA:1376:C:O2'	2.31	0.44
25:RA:271(B):G:H2'	25:RA:421:U:OP2	2.17	0.44
25:RA:2563:U:H4'	34:RO:28:SER:HA	2.00	0.44
29:RF:9:ILE:HA	29:RF:10:PRO:HD3	1.89	0.44
30:RG:171:ALA:O	30:RG:175:LEU:HG	2.18	0.44
31:RH:28:GLY:HA3	31:RH:79:VAL:HB	2.00	0.44
32:RI:72:LEU:C	32:RI:74:ASN:N	2.76	0.44
36:RQ:112:GLU:CD	36:RQ:112:GLU:H	2.25	0.44
38:RS:19:LYS:O	38:RS:20:ARG:HB3	2.17	0.44
41:RV:35:LEU:CD2	41:RV:57:VAL:HG22	2.47	0.44
45:RZ:102:LEU:HB3	45:RZ:104:PHE:CE1	2.52	0.44
45:RZ:148:ASP:OD1	45:RZ:149:SER:N	2.50	0.44
46:R0:50:ASN:C	46:R0:62:LEU:HD12	2.42	0.44
55:R9:24:TYR:CE2	55:R9:35:ARG:HG3	2.53	0.44
1:XA:64:G:N2	1:XA:68:G:O6	2.42	0.44
1:XA:1399:C:C2	1:XA:1401:G:C5	3.06	0.44
2:XB:195:ASP:O	8:XH:74:PRO:HG3	2.18	0.44
4:XD:153:ARG:NH1	4:XD:181:MET:HB2	2.32	0.44
6:XF:33:TYR:HB2	6:XF:75:LEU:HD12	1.99	0.44
12:XL:42:THR:HA	12:XL:53:ARG:O	2.18	0.44
15:XO:77:ARG:HA	15:XO:80:ALA:HB3	1.99	0.44
15:XO:82:ILE:O	15:XO:86:GLY:N	2.51	0.44
16:XP:18:ARG:NH1	16:XP:32:TYR:OH	2.50	0.44
19:XS:81:ARG:HE	19:XS:81:ARG:HB2	1.36	0.44
25:YA:627:A:H4'	25:YA:628:G:H5'	1.99	0.44
25:YA:1183:G:H4'	49:Y3:29:ARG:HH22	1.82	0.44
25:YA:1608:A:H1'	25:YA:1610:A:OP2	2.17	0.44
25:YA:1914:C:H2'	25:YA:1915:U:O4'	2.18	0.44
25:YA:2347:C:H2'	25:YA:2348:U:H6	1.83	0.44
26:YB:24:G:H5''	26:YB:25:A:OP1	2.17	0.44
32:YI:88:ILE:HG12	32:YI:122:GLU:H	1.83	0.44
39:YT:48:ILE:HD12	39:YT:48:ILE:H	1.83	0.44
45:YZ:52:SER:O	45:YZ:54:HIS:N	2.50	0.44
1:QA:584:G:H2'	1:QA:585:G:C8	2.53	0.44
1:QA:991:U:O2	1:QA:993:G:H8	2.01	0.44
2:QB:71:VAL:HA	2:QB:93:VAL:HB	2.00	0.44
7:QG:116:ALA:HA	7:QG:119:ARG:HE	1.83	0.44
11:QK:92:GLU:HB3	11:QK:96:ARG:NH1	2.33	0.44
23:QW:19:G:H22	23:QW:56:C:N4	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:558:G:OP1	33:RN:111:PRO:HD2	2.18	0.44
25:RA:1331:A:O2'	25:RA:1332:G:H8	2.00	0.44
25:RA:1543:A:H2	25:RA:1545:A:N7	2.16	0.44
25:RA:2396:G:O5'	47:R1:25:LYS:HE2	2.18	0.44
30:RG:95:ARG:O	30:RG:99:MET:HG2	2.18	0.44
31:RH:123:PHE:O	31:RH:125:VAL:HG23	2.18	0.44
37:RR:54:LEU:HD23	37:RR:66:VAL:HG23	1.98	0.44
39:RT:107:ASP:O	39:RT:111:ARG:NH1	2.51	0.44
42:RW:1:MET:HE3	42:RW:2:GLU:H	1.82	0.44
43:RX:57:LEU:HD11	43:RX:78:LYS:HD2	1.99	0.44
43:RX:87:GLN:O	43:RX:88:LYS:HG3	2.18	0.44
51:R5:16:ARG:HD2	51:R5:20:ARG:NH1	2.33	0.44
51:R5:59:GLU:H	51:R5:59:GLU:HG2	1.64	0.44
1:XA:690:G:H22	11:XK:55:LYS:HZ1	1.66	0.44
1:XA:939:G:H5''	7:XG:102:ARG:NH2	2.32	0.44
1:XA:1124:G:H3'	1:XA:1145:C:H41	1.83	0.44
4:XD:33:MET:HE2	4:XD:37:PRO:CA	2.44	0.44
12:XL:39:VAL:HG12	12:XL:41:ARG:HG3	2.00	0.44
19:XS:64:GLU:HG3	50:Y4:55:ARG:HH12	1.81	0.44
25:YA:18:C:O2'	25:YA:553:U:OP1	2.35	0.44
25:YA:2619:C:H5''	28:YE:152:LYS:HA	1.99	0.44
26:YB:80:U:O2'	26:YB:81:G:H5'	2.18	0.44
28:YE:37:ARG:O	28:YE:45:THR:HA	2.18	0.44
46:Y0:43:THR:O	46:Y0:43:THR:HG23	2.17	0.44
48:Y2:31:GLU:HB2	48:Y2:53:LEU:HD11	2.00	0.44
54:Y8:49:VAL:HG23	54:Y8:53:PRO:HB3	2.00	0.44
1:QA:17:U:H2'	1:QA:18:C:C6	2.53	0.44
1:QA:97:U:H2'	1:QA:99:C:C6	2.53	0.44
1:QA:280:C:H3'	1:QA:281:G:H5'	1.99	0.44
1:QA:489:C:H2'	1:QA:490:G:H8	1.83	0.44
1:QA:738:C:OP2	6:QF:92:LYS:NZ	2.50	0.44
1:QA:900:A:H2'	1:QA:901:A:C8	2.53	0.44
1:QA:936:C:H2'	1:QA:937:A:O4'	2.18	0.44
1:QA:1015:A:H1'	1:QA:1219:U:H5'	2.00	0.44
1:QA:1231:G:O3'	9:QI:126:SER:OG	2.22	0.44
2:QB:228:GLY:O	2:QB:230:VAL:N	2.50	0.44
4:QD:125:HIS:CE1	4:QD:152:SER:HG	2.35	0.44
12:QL:44:THR:HA	12:QL:45:PRO:HD3	1.74	0.44
15:QO:39:LEU:HA	15:QO:39:LEU:HD23	1.68	0.44
25:RA:134:C:H2'	25:RA:135:G:C8	2.53	0.44
25:RA:191:A:H2'	25:RA:192:C:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:859:G:O2'	25:RA:860:U:O2	2.20	0.44
25:RA:1178:C:H2'	25:RA:1179:C:C6	2.53	0.44
25:RA:2556:C:H2'	25:RA:2557:G:O4'	2.17	0.44
27:RD:30:GLU:CD	27:RD:63:ARG:HH21	2.26	0.44
27:RD:65:ILE:HD13	27:RD:65:ILE:H	1.82	0.44
28:RE:143:ASN:HD22	28:RE:147:PRO:HD3	1.83	0.44
32:RI:64:GLU:O	32:RI:67:ARG:NH2	2.51	0.44
37:RR:27:SER:HB3	37:RR:34:ILE:HD11	2.00	0.44
45:RZ:29:TYR:CE2	45:RZ:87:ASP:HB3	2.53	0.44
52:R6:40:CYS:HA	52:R6:41:PRO:HD2	1.85	0.44
1:XA:130:A:N3	1:XA:263:A:O2'	2.43	0.44
1:XA:606:G:N2	1:XA:631:G:H8	2.16	0.44
1:XA:791:G:H2'	1:XA:792:A:H5'	2.00	0.44
13:XM:23:TYR:HE2	13:XM:70:LEU:HD12	1.83	0.44
13:XM:80:ARG:NE	50:Y4:71:ARG:HH22	2.12	0.44
25:YA:414:C:H2'	25:YA:415:A:C8	2.53	0.44
25:YA:2114:A:H3'	25:YA:2114:A:N3	2.32	0.44
28:YE:105:THR:OG1	28:YE:199:ARG:NH1	2.50	0.44
29:YF:184:TYR:CE2	29:YF:188:ARG:HD2	2.52	0.44
31:YH:4:ILE:H	31:YH:4:ILE:HG12	1.59	0.44
45:YZ:54:HIS:C	45:YZ:98:MET:CE	2.90	0.44
47:Y1:70:VAL:O	47:Y1:73:LEU:HB2	2.18	0.44
49:Y3:31:LEU:O	49:Y3:32:GLN:HB2	2.17	0.44
50:Y4:48:ARG:CZ	50:Y4:51:ASP:HA	2.47	0.44
50:Y4:60:GLN:HB3	50:Y4:61:ARG:H	1.55	0.44
1:QA:838:G:C6	1:QA:842:C:H1'	2.53	0.43
1:QA:1347:G:HO2'	1:QA:1348:U:P	2.41	0.43
2:QB:37:ASN:C	2:QB:39:ILE:H	2.26	0.43
2:QB:74:LYS:O	2:QB:78:GLN:HG3	2.18	0.43
17:QQ:60:ILE:HB	17:QQ:74:LEU:HD23	2.00	0.43
25:RA:210:C:H2'	25:RA:211:A:C8	2.53	0.43
25:RA:1363:C:H2'	25:RA:1364:G:H8	1.83	0.43
25:RA:1543:A:N3	25:RA:1545:A:O4'	2.51	0.43
25:RA:1543:A:HO2'	25:RA:1544:C:H3'	1.81	0.43
28:RE:119:ARG:HD3	28:RE:160:TYR:HB2	2.00	0.43
28:RE:178:GLU:H	28:RE:178:GLU:CD	2.26	0.43
37:RR:1:MET:HE2	37:RR:1:MET:HB2	1.53	0.43
44:RY:81:LYS:HB2	44:RY:96:ILE:CG2	2.48	0.43
52:R6:41:PRO:HD2	52:R6:46:HIS:H	1.83	0.43
1:XA:793:U:H3'	1:XA:794:A:H5''	1.99	0.43
1:XA:1147:C:O2	9:XI:16:ARG:NH1	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:108:ASN:HB3	3:XC:111:LEU:HD12	2.00	0.43
11:XK:19:ALA:HB2	11:XK:32:ILE:HG22	2.00	0.43
15:XO:39:LEU:HD13	15:XO:56:LEU:HB2	2.00	0.43
16:XP:4:ILE:HB	16:XP:66:PRO:HB3	2.00	0.43
16:XP:39:TYR:CZ	16:XP:41:PRO:HB3	2.53	0.43
25:YA:1050:A:H8	25:YA:2751:G:O2'	2.01	0.43
25:YA:2271:G:OP1	46:Y0:18:ALA:HB1	2.17	0.43
25:YA:2556:C:H2'	25:YA:2557:G:O4'	2.17	0.43
25:YA:2566:A:H4'	25:YA:2567:G:O5'	2.18	0.43
26:YB:41:U:O4	30:YG:70:VAL:HG23	2.17	0.43
27:YD:61:LEU:HD13	27:YD:61:LEU:HA	1.92	0.43
27:YD:250:TRP:HE3	27:YD:252:TRP:NE1	2.16	0.43
29:YF:66:PRO:O	29:YF:68:LYS:N	2.51	0.43
30:YG:10:LYS:HE2	30:YG:175:LEU:O	2.18	0.43
30:YG:67:LYS:O	30:YG:67:LYS:HD2	2.17	0.43
31:YH:15:VAL:HG23	31:YH:15:VAL:O	2.17	0.43
37:YR:38:VAL:HG22	37:YR:112:ALA:HB2	1.99	0.43
55:Y9:1:MET:O	55:Y9:34:GLN:HG2	2.18	0.43
1:QA:952:U:H2'	1:QA:953:G:H8	1.82	0.43
1:QA:1124:G:H5''	1:QA:1145:C:H41	1.81	0.43
1:QA:1200:C:O2'	1:QA:1201:A:OP2	2.29	0.43
1:QA:1317:C:N3	19:QS:37:ARG:NH2	2.66	0.43
1:QA:1488:G:H2'	1:QA:1489:G:H8	1.81	0.43
3:QC:81:GLY:O	3:QC:85:ARG:HB2	2.18	0.43
7:QG:9:VAL:HG13	7:QG:94:ARG:NH2	2.27	0.43
9:QI:16:ARG:O	9:QI:63:ILE:HA	2.17	0.43
12:QL:70:ILE:HD13	12:QL:77:LEU:HD12	1.99	0.43
15:QO:17:ARG:HD3	15:QO:26:GLU:HG3	1.99	0.43
25:RA:582:G:H2'	25:RA:583:G:C8	2.53	0.43
25:RA:1497:U:H5''	25:RA:1498:C:H5	1.83	0.43
25:RA:2102:U:H2'	25:RA:2103:C:C6	2.54	0.43
25:RA:2293:C:H5''	38:RS:89:ARG:HH12	1.84	0.43
25:RA:2303:G:O2'	30:RG:132:ASN:HB2	2.17	0.43
25:RA:2406:U:N3	35:RP:73:GLY:O	2.48	0.43
27:RD:70:TRP:CD1	27:RD:70:TRP:C	2.96	0.43
28:RE:36:ARG:HH21	28:RE:88:GLY:HA2	1.84	0.43
34:RO:106:LEU:HD23	34:RO:106:LEU:HA	1.81	0.43
36:RQ:79:LEU:HD22	36:RQ:79:LEU:HA	1.82	0.43
36:RQ:136:ALA:O	36:RQ:138:ASP:N	2.46	0.43
43:RX:67:GLY:O	43:RX:69:TYR:N	2.43	0.43
47:R1:49:VAL:HG11	47:R1:70:VAL:HG11	1.98	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:R6:28:ARG:HG3	52:R6:31:PRO:HD2	2.00	0.43
1:XA:501:C:H1'	1:XA:549:C:H1'	2.00	0.43
1:XA:1062:U:H2'	1:XA:1063:C:C6	2.53	0.43
4:XD:100:ARG:NH1	4:XD:137:SER:HB3	2.33	0.43
4:XD:112:VAL:N	4:XD:116:GLN:OE1	2.38	0.43
9:XI:118:LYS:O	9:XI:119:ALA:HB3	2.18	0.43
13:XM:14:ARG:H	13:XM:44:ARG:CD	2.25	0.43
35:YP:126:VAL:HG12	35:YP:147:LEU:CD2	2.48	0.43
37:YR:34:ILE:HA	37:YR:34:ILE:HD13	1.71	0.43
39:YT:35:LYS:H	39:YT:35:LYS:HD2	1.83	0.43
41:YV:52:VAL:O	41:YV:54:GLY:N	2.51	0.43
42:YW:14:PRO:C	42:YW:18:ARG:HD2	2.43	0.43
47:Y1:83:GLU:C	47:Y1:85:LEU:N	2.76	0.43
1:QA:585:G:O3'	17:QQ:34:LYS:NZ	2.51	0.43
1:QA:1395:C:O2'	1:QA:1401:G:O2'	2.30	0.43
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.52	0.43
5:QE:100:VAL:HG22	5:QE:118:ILE:HG22	1.99	0.43
20:QT:64:ASP:CG	20:QT:81:LYS:HZ2	2.26	0.43
25:RA:270(F):U:H2'	25:RA:270(G):C:C6	2.53	0.43
25:RA:2226:C:H2'	25:RA:2227:A:O4'	2.18	0.43
25:RA:2232:U:OP2	47:R1:40:ARG:NH1	2.42	0.43
25:RA:2306:C:H2'	25:RA:2307:G:H21	1.83	0.43
27:RD:145:VAL:HG11	27:RD:175:LEU:HD11	2.00	0.43
32:RI:124:GLY:O	32:RI:142:VAL:HG23	2.18	0.43
36:RQ:115:MET:HE2	36:RQ:115:MET:HB3	1.88	0.43
44:RY:97:ARG:HE	44:RY:98:VAL:HB	1.83	0.43
56:Z7:1:T17:H66	56:Z7:2:GLY:N	2.21	0.43
1:XA:1292:U:OP1	7:XG:41:ARG:NH2	2.51	0.43
1:XA:1523:G:OP1	11:XK:123:LYS:NZ	2.42	0.43
3:XC:72:LYS:HB3	3:XC:75:VAL:HG23	2.00	0.43
10:XJ:32:ALA:H	10:XJ:78:ASN:ND2	2.16	0.43
14:XN:29:ARG:HD3	14:XN:40:CYS:HB2	1.99	0.43
15:XO:56:LEU:HD21	25:YA:715:G:C4	2.53	0.43
25:YA:242:G:H3'	54:Y8:6:THR:HG23	1.99	0.43
25:YA:898:C:C2'	25:YA:899:A:H5'	2.48	0.43
25:YA:2328:A:H2'	25:YA:2329:G:C8	2.53	0.43
31:YH:67:LEU:O	31:YH:71:LEU:HB2	2.17	0.43
32:YI:130:TYR:N	32:YI:136:VAL:O	2.51	0.43
35:YP:57:THR:C	35:YP:59:LEU:H	2.26	0.43
37:YR:70:LEU:HD23	37:YR:70:LEU:HA	1.84	0.43
4:QD:171:GLY:HA2	4:QD:172:PRO:HD3	1.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:QI:116:LYS:HE2	9:QI:122:ALA:HB2	2.01	0.43
11:QK:19:ALA:HB2	11:QK:32:ILE:HG22	2.00	0.43
11:QK:38:ASN:HA	11:QK:39:PRO:HD3	1.88	0.43
17:QQ:63:ARG:HG2	17:QQ:64:PRO:HD2	2.00	0.43
18:QR:37:VAL:HG22	18:QR:78:LEU:HB3	2.00	0.43
22:QV:28:C:H2'	22:QV:29:G:H8	1.83	0.43
25:RA:476:G:H1'	25:RA:480:A:N6	2.34	0.43
25:RA:556:G:H8	25:RA:556:G:O5'	2.00	0.43
25:RA:974(A):C:H4'	25:RA:975:G:C5'	2.49	0.43
26:RB:75:G:H4'	45:RZ:36:LYS:HG2	2.00	0.43
33:RN:33:LEU:HA	33:RN:38:HIS:CE1	2.54	0.43
33:RN:58:ASP:HB3	33:RN:95:PRO:HB3	2.00	0.43
34:RO:20:MET:HE3	34:RO:44:LYS:HE3	2.01	0.43
44:RY:42:VAL:O	44:RY:65:ALA:N	2.45	0.43
56:Z7:8:LYS:HG3	56:Z7:9:LYS:H	1.83	0.43
1:XA:186(E):C:N4	1:XA:191(B):G:H1	2.12	0.43
1:XA:877:C:H5''	8:XH:88:LYS:HD3	2.00	0.43
1:XA:960:U:H4'	1:XA:961:U:C5'	2.48	0.43
2:XB:215:LEU:HD22	2:XB:215:LEU:HA	1.73	0.43
10:XJ:54:PHE:CZ	10:XJ:55:LYS:HE3	2.54	0.43
15:XO:25:THR:HG21	15:XO:70:LEU:HB2	2.01	0.43
22:XV:28:C:H2'	22:XV:29:G:C8	2.53	0.43
25:YA:651:G:OP1	54:Y8:19:SER:N	2.47	0.43
25:YA:1173:G:H4'	25:YA:1174:A:N7	2.33	0.43
25:YA:1694:C:H4'	25:YA:1695:G:O5'	2.18	0.43
27:YD:92:ILE:HD12	27:YD:104:TYR:CD2	2.54	0.43
28:YE:87:GLU:O	28:YE:89:ASP:N	2.50	0.43
29:YF:33:LEU:HD12	29:YF:33:LEU:HA	1.87	0.43
29:YF:64:ILE:HG23	29:YF:65:TRP:CD1	2.53	0.43
34:YO:88:ASN:OD1	34:YO:90:GLN:HB2	2.19	0.43
35:YP:83:VAL:O	35:YP:114:ILE:HA	2.19	0.43
43:YX:72:LYS:HG2	43:YX:73:ARG:O	2.18	0.43
48:Y2:15:LYS:H	48:Y2:67:LYS:CE	2.32	0.43
1:QA:452:A:O2'	1:QA:453:A:O5'	2.36	0.43
1:QA:767:A:H2'	1:QA:768:A:O4'	2.18	0.43
1:QA:1299:A:C6	1:QA:1301:U:C2	3.06	0.43
25:RA:134:C:H2'	25:RA:135:G:H8	1.82	0.43
25:RA:1337:G:H2'	25:RA:1338:G:C8	2.53	0.43
36:RQ:116:GLU:O	36:RQ:120:ILE:HG12	2.17	0.43
39:RT:1:MET:O	39:RT:3:ARG:HG2	2.19	0.43
44:RY:47:LYS:O	44:RY:49:VAL:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:743:U:H2'	1:XA:744:C:C6	2.54	0.43
1:XA:757:U:H2'	1:XA:758:G:O4'	2.18	0.43
1:XA:977:A:O2'	1:XA:981:U:N3	2.47	0.43
2:XB:80:ILE:HG21	2:XB:212:GLN:HA	2.00	0.43
22:XV:76:A:O2'	25:YA:2451:A:O2'	2.19	0.43
25:YA:826:U:OP1	25:YA:2429:G:OP1	2.36	0.43
25:YA:1223:C:OP2	41:YV:88:ARG:NH1	2.51	0.43
25:YA:1530:G:O6	25:YA:1542:G:N2	2.52	0.43
25:YA:1680:U:O2	25:YA:1763:G:H3'	2.18	0.43
26:YB:15:A:H1'	26:YB:109:G:C4	2.53	0.43
30:YG:83:ARG:HG3	30:YG:86:MET:HE3	1.99	0.43
32:YI:110:ASP:HB3	32:YI:112:LYS:N	2.33	0.43
33:YN:112:LEU:O	33:YN:112:LEU:HG	2.17	0.43
34:YO:64:ARG:HG2	34:YO:79:PHE:CD1	2.54	0.43
37:YR:91:GLN:H	37:YR:91:GLN:CD	2.26	0.43
41:YV:81:TYR:C	41:YV:82:ARG:HD2	2.43	0.43
45:YZ:5:LEU:HB3	45:YZ:59:LEU:HA	2.00	0.43
49:Y3:51:ALA:HA	49:Y3:54:VAL:HG12	2.00	0.43
8:QH:105:ARG:HA	8:QH:105:ARG:HD3	1.78	0.43
16:QP:20:VAL:HG21	16:QP:32:TYR:CE2	2.54	0.43
25:RA:443:A:H1'	25:RA:1201:C:O4'	2.17	0.43
25:RA:1228:G:OP2	40:RU:16:LYS:NZ	2.48	0.43
25:RA:1638:C:H5''	25:RA:2710:C:O2'	2.19	0.43
35:RP:90:ARG:HB3	35:RP:91:PHE:H	1.68	0.43
43:RX:40:LYS:C	43:RX:42:ALA:N	2.76	0.43
9:XI:8:GLY:HA2	9:XI:79:LEU:HD12	2.01	0.43
10:XJ:44:VAL:HG13	10:XJ:66:ARG:HG2	1.99	0.43
12:XL:58:VAL:O	12:XL:65:GLU:HA	2.18	0.43
13:XM:7:VAL:HA	50:Y4:34:GLU:OE1	2.19	0.43
14:XN:27:CYS:SG	14:XN:29:ARG:HB2	2.58	0.43
16:XP:45:THR:HG22	16:XP:47:ASP:N	2.26	0.43
25:YA:67:U:C2	25:YA:74:A:H2	2.35	0.43
25:YA:391:G:O2'	25:YA:410:G:OP1	2.30	0.43
25:YA:582:G:H2'	25:YA:583:G:C8	2.54	0.43
25:YA:1028:A:N3	25:YA:2486:G:O2'	2.46	0.43
25:YA:1054:A:H5'	25:YA:1055:G:OP2	2.18	0.43
25:YA:1359:A:N6	25:YA:1373:A:C4	2.87	0.43
25:YA:1870:C:H2'	25:YA:1871:A:O4'	2.18	0.43
25:YA:1903:G:OP2	27:YD:241:PRO:HB2	2.19	0.43
25:YA:1910:G:H1	25:YA:1920:C:N4	2.15	0.43
25:YA:1916:A:H2'	25:YA:1917:U:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2308:G:H22	25:YA:2311:A:H2	1.66	0.43
27:YD:132:PRO:HG3	27:YD:190:TYR:CE1	2.54	0.43
35:YP:126:VAL:HG22	35:YP:145:PRO:HG2	2.00	0.43
37:YR:33:ARG:HH21	51:Y5:55:ARG:HG2	1.82	0.43
44:YY:67:LEU:HD12	44:YY:67:LEU:HA	1.78	0.43
44:YY:80:GLY:O	44:YY:81:LYS:HG3	2.18	0.43
45:YZ:52:SER:O	45:YZ:52:SER:OG	2.30	0.43
47:Y1:94:LEU:HD23	47:Y1:94:LEU:HA	1.82	0.43
53:Y7:47:ARG:HB2	53:Y7:48:LYS:H	1.59	0.43
1:QA:157:G:H1	1:QA:164:U:H3	1.66	0.43
1:QA:842:C:O2'	1:QA:848:C:N4	2.51	0.43
1:QA:857:C:H2'	1:QA:858:G:O4'	2.19	0.43
1:QA:1321:C:H4'	13:QM:87:TYR:CZ	2.54	0.43
1:QA:1511:G:H2'	1:QA:1512:U:O4'	2.19	0.43
4:QD:133:VAL:HG12	4:QD:135:LEU:H	1.83	0.43
6:QF:99:ALA:HB1	18:QR:23:LYS:HZ2	1.83	0.43
8:QH:13:ILE:O	8:QH:17:THR:HG23	2.19	0.43
9:QI:112:LYS:HD3	9:QI:113:LYS:O	2.18	0.43
11:QK:53:SER:C	11:QK:55:LYS:H	2.27	0.43
14:QN:47:LEU:HD23	14:QN:47:LEU:HA	1.74	0.43
25:RA:519:U:H2'	25:RA:520:G:C8	2.54	0.43
25:RA:1101:U:H2'	25:RA:1102:C:H6	1.83	0.43
25:RA:1291:C:H2'	25:RA:1292:U:C6	2.52	0.43
25:RA:1728:G:H5'	25:RA:1729:A:OP2	2.18	0.43
25:RA:2170:A:H2'	25:RA:2171:A:O4'	2.18	0.43
28:RE:14:ILE:H	28:RE:21:VAL:HA	1.84	0.43
28:RE:179:GLU:HB3	28:RE:181:LEU:HD22	1.99	0.43
35:RP:65:ARG:O	35:RP:68:GLN:NE2	2.50	0.43
42:RW:20:VAL:HG22	42:RW:47:VAL:HG21	2.00	0.43
44:RY:46:LYS:HB2	44:RY:61:ILE:HG22	1.99	0.43
44:RY:55:TYR:CD1	44:RY:55:TYR:N	2.87	0.43
54:R8:58:ILE:HA	54:R8:61:LEU:HD21	2.01	0.43
1:XA:22:G:H2'	1:XA:23:C:C6	2.53	0.43
2:XB:100:GLY:N	2:XB:176:GLU:OE2	2.47	0.43
4:XD:196:LEU:O	4:XD:198:VAL:N	2.51	0.43
17:XQ:62:SER:HB3	17:XQ:72:ARG:HE	1.84	0.43
22:XV:2:C:C2'	22:XV:3:G:H5'	2.48	0.43
25:YA:226:G:H2'	25:YA:227:A:C8	2.54	0.43
25:YA:265:A:O2'	25:YA:266:G:H4'	2.18	0.43
25:YA:273(C):C:N4	25:YA:363(C):G:H1	2.15	0.43
25:YA:363(A):A:H2'	25:YA:363(B):G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1952:A:C5	34:YO:22:ILE:HD12	2.54	0.43
25:YA:2615:U:C2	51:Y5:7:PRO:HA	2.52	0.43
28:YE:14:ILE:HG23	28:YE:15:PHE:N	2.34	0.43
28:YE:119:ARG:HG2	28:YE:160:TYR:HB2	2.00	0.43
28:YE:177:PRO:C	28:YE:179:GLU:H	2.26	0.43
31:YH:152:ARG:O	31:YH:153:LYS:HB2	2.19	0.43
36:YQ:137:TYR:OH	45:YZ:45:ASP:OD1	2.26	0.43
38:YS:39:ILE:HD12	38:YS:85:VAL:HG11	2.00	0.43
41:YV:55:ALA:HB2	41:YV:101:GLY:HA2	2.00	0.43
1:QA:601:C:H2'	1:QA:602:A:H8	1.83	0.43
2:QB:8:LYS:HE3	2:QB:11:LEU:HB3	2.01	0.43
2:QB:167:PRO:HG3	2:QB:188:ALA:HB2	2.01	0.43
12:QL:85:ILE:HD12	12:QL:85:ILE:HA	1.75	0.43
13:QM:44:ARG:HB2	13:QM:47:ASP:OD2	2.19	0.43
17:QQ:45:HIS:NE2	17:QQ:47:PRO:HG3	2.34	0.43
23:QW:16:U:H5'	23:QW:17:C:OP2	2.18	0.43
25:RA:631:A:H2'	25:RA:632:A:O4'	2.18	0.43
25:RA:671:C:H2'	25:RA:672:C:C6	2.54	0.43
25:RA:1308:A:H2'	25:RA:1309:G:O4'	2.17	0.43
25:RA:2376:A:H2'	25:RA:2377:A:O4'	2.18	0.43
29:RF:9:ILE:HG23	29:RF:20:LEU:O	2.18	0.43
35:RP:18:ARG:HD2	35:RP:27:HIS:CD2	2.54	0.43
36:RQ:20:ALA:HA	36:RQ:98:LYS:HB3	2.00	0.43
39:RT:1:MET:HE2	39:RT:1:MET:HB2	1.90	0.43
39:RT:19:LEU:HA	39:RT:20:PRO:HD3	1.86	0.43
1:XA:134:A:H61	16:XP:25:ARG:NH1	2.17	0.43
1:XA:603:U:H2'	1:XA:604:G:C8	2.54	0.43
1:XA:636:U:H2'	1:XA:637:G:C8	2.54	0.43
1:XA:672:U:H2'	1:XA:673:G:C8	2.54	0.43
1:XA:1298:C:H4'	1:XA:1299:A:N9	2.34	0.43
1:XA:1301:U:O2	1:XA:1301:U:H2'	2.18	0.43
1:XA:1373:G:O3'	7:XG:36:LYS:NZ	2.51	0.43
1:XA:1392:G:H2'	1:XA:1393:U:C6	2.53	0.43
1:XA:1436:U:H2'	1:XA:1437:C:O4'	2.18	0.43
2:XB:7:VAL:HG21	2:XB:217:ARG:NH1	2.34	0.43
2:XB:212:GLN:NE2	2:XB:216:SER:HB2	2.34	0.43
5:XE:42:GLY:CA	5:XE:66:MET:HG2	2.48	0.43
5:XE:69:VAL:O	5:XE:71:LEU:N	2.51	0.43
7:XG:140:ASP:HA	7:XG:143:ARG:NH1	2.34	0.43
12:XL:59:ARG:NH1	12:XL:65:GLU:OE2	2.51	0.43
12:XL:110:VAL:CG2	12:XL:120:TYR:HB3	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14: XN:6: LEU:HD23	14: XN:23: ARG:HH22	1.83	0.43
25: YA:1190: G:H5'	35: YP:32: THR:HA	2.01	0.43
25: YA:1231: G:H2'	25: YA:1232: G:C8	2.54	0.43
25: YA:1607: C:H5''	25: YA:1608: A:H5'	2.01	0.43
25: YA:1799: G:H4'	25: YA:1800: C:O5'	2.18	0.43
25: YA:2780: G:P	33: YN:118: LYS:HE2	2.58	0.43
26: YB:12: C:O2'	46: Y0:74: ARG:HG3	2.19	0.43
28: YE:4: ILE:HD12	28: YE:28: ALA:HB1	2.01	0.43
30: YG:31: VAL:HA	30: YG:32: PRO:HD3	1.83	0.43
30: YG:145: THR:O	30: YG:147: ASP:N	2.44	0.43
35: YP:15: ARG:O	35: YP:17: LYS:HG3	2.19	0.43
35: YP:30: THR:O	35: YP:33: ARG:HB2	2.18	0.43
41: YV:52: VAL:C	41: YV:54: GLY:H	2.26	0.43
44: YY:87: LYS:HB2	44: YY:87: LYS:NZ	2.34	0.43
50: Y4:6: HIS:HA	50: Y4:7: PRO:HD2	1.82	0.43
1: QA:24: U:H2'	1: QA:25: C:H6	1.84	0.43
1: QA:383: A:O5'	1: QA:383: A:H8	2.02	0.43
1: QA:1179: A:H2'	1: QA:1180: A:O4'	2.19	0.43
1: QA:1346: A:H2'	7: QG:10: ARG:HH22	1.83	0.43
1: QA:1488: G:H2'	1: QA:1489: G:C8	2.53	0.43
4: QD:155: LEU:O	4: QD:159: ARG:HG2	2.19	0.43
5: QE:18: ARG:HE	5: QE:18: ARG:HB3	1.52	0.43
8: QH:101: PRO:HG2	8: QH:133: LEU:HD11	2.01	0.43
9: QI:17: VAL:HG11	9: QI:81: ILE:HD13	2.00	0.43
25: RA:242: G:H3'	54: R8:6: THR:HG23	2.01	0.43
25: RA:1245: G:OP1	35: RP:13: ASN:ND2	2.50	0.43
25: RA:1444(A): A:H4'	25: RA:1460: A:O2'	2.18	0.43
25: RA:1492: G:H3'	25: RA:1493: C:H5'	2.01	0.43
25: RA:2058: A:H8	25: RA:2058: A:O5'	2.02	0.43
25: RA:2336: A:H61	46: R0:43: THR:CG2	2.32	0.43
25: RA:2517: C:C2	25: RA:2542: A:N6	2.87	0.43
25: RA:2563: U:H2'	25: RA:2565: A:OP2	2.19	0.43
25: RA:2749: A:H4'	31: RH:62: LYS:HB3	2.01	0.43
32: RI:68: LEU:HA	32: RI:71: ILE:HG22	2.00	0.43
36: RQ:104: PHE:CE2	36: RQ:125: LEU:HD11	2.53	0.43
39: RT:107: ASP:O	39: RT:110: ILE:HG22	2.19	0.43
2: XB:98: LEU:HG	2: XB:101: MET:HE3	2.01	0.43
2: XB:172: ILE:O	2: XB:175: ARG:HB3	2.18	0.43
3: XC:149: ALA:HA	3: XC:201: TYR:O	2.18	0.43
5: XE:9: LYS:HB2	5: XE:9: LYS:HE3	1.89	0.43
6: XF:30: LEU:HB3	6: XF:35: ALA:HB3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:4:ILE:HG22	13:XM:5:ALA:N	2.34	0.43
19:XS:68:GLY:HA3	50:Y4:59:PHE:CE1	2.43	0.43
23:XW:60:U:O2'	23:XW:61:C:H5'	2.19	0.43
25:YA:118:A:N3	25:YA:178:G:H1'	2.34	0.43
25:YA:242:G:H1'	25:YA:243:U:OP2	2.18	0.43
25:YA:363(B):G:H2'	25:YA:363(C):G:C8	2.54	0.43
25:YA:507:A:H5''	25:YA:508:G:H5'	2.01	0.43
25:YA:579:G:O2'	25:YA:2019:A:OP1	2.29	0.43
25:YA:746:A:C6	25:YA:2611:U:H5''	2.54	0.43
25:YA:857:C:H1'	46:Y0:26:TYR:CE1	2.54	0.43
25:YA:2371:G:O2'	52:Y6:45:LYS:HB3	2.19	0.43
28:YE:201:THR:HG22	28:YE:203:LYS:H	1.83	0.43
30:YG:103:LEU:HA	30:YG:103:LEU:HD23	1.83	0.43
32:YI:32:PRO:C	32:YI:34:GLY:H	2.26	0.43
35:YP:113:LYS:HG2	35:YP:115:LEU:HD23	2.01	0.43
39:YT:80:SER:HA	39:YT:81:PRO:HD3	1.89	0.43
43:YX:53:LYS:H	43:YX:82:GLN:HB3	1.83	0.43
48:Y2:17:SER:HB3	48:Y2:67:LYS:HE3	2.00	0.43
48:Y2:61:LEU:HD23	48:Y2:61:LEU:HA	1.85	0.43
52:Y6:28:ARG:HH21	52:Y6:30:THR:HG23	1.84	0.43
1:QA:398:C:H2'	1:QA:399:G:H8	1.84	0.43
1:QA:579:G:H2'	1:QA:580:U:C6	2.54	0.43
1:QA:999:U:H2'	1:QA:1000:A:C8	2.54	0.43
3:QC:11:ARG:HB3	3:QC:15:THR:HB	2.01	0.43
4:QD:125:HIS:HD1	4:QD:152:SER:HG	1.56	0.43
13:QM:3:ARG:NH2	30:RG:139:LEU:HD13	2.34	0.43
25:RA:395:U:H2'	25:RA:396:G:C8	2.53	0.43
25:RA:2059:A:H5'	25:RA:2060:A:OP2	2.19	0.43
25:RA:2684:U:OP1	39:RT:53:ARG:HD3	2.19	0.43
25:RA:2849:U:O4	39:RT:23:ARG:NH2	2.40	0.43
28:RE:48:GLN:OE1	28:RE:64:LYS:NZ	2.52	0.43
28:RE:116:VAL:HG11	28:RE:138:PRO:HB3	2.01	0.43
29:RF:34:TRP:CE3	29:RF:35:GLU:HG2	2.54	0.43
29:RF:180:GLY:O	29:RF:181:LEU:C	2.61	0.43
31:RH:124:GLU:HB3	31:RH:132:ARG:CG	2.48	0.43
32:RI:31:LEU:HD11	32:RI:38:LEU:HG	2.00	0.43
34:RO:104:ARG:HD3	39:RT:36:GLU:OE2	2.19	0.43
38:RS:12:PHE:HD1	38:RS:12:PHE:HA	1.72	0.43
44:RY:54:LYS:HB3	44:RY:55:TYR:CD1	2.53	0.43
45:RZ:48:PHE:CE1	45:RZ:52:SER:HA	2.54	0.43
52:R6:7:ILE:HG13	52:R6:8:LYS:H	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1316:G:H4'	14:XN:18:VAL:HG11	2.00	0.43
1:XA:1429:C:H2'	1:XA:1430:C:H6	1.83	0.43
1:XA:1494:G:N7	58:XA:1672:PAR:N32	2.66	0.43
6:XF:16:GLN:HA	6:XF:19:LEU:CB	2.49	0.43
8:XH:13:ILE:O	8:XH:17:THR:HG23	2.19	0.43
18:XR:56:THR:HB	18:XR:58:LEU:HD12	2.01	0.43
23:XW:72:C:H2'	23:XW:73:A:O4'	2.19	0.43
25:YA:630:G:N2	25:YA:633:A:OP2	2.45	0.43
25:YA:751:A:H5'	42:YW:90:ARG:HA	1.99	0.43
25:YA:897:C:H4'	45:YZ:182:LYS:HD2	2.01	0.43
25:YA:1342:A:OP1	43:YX:36:LYS:NZ	2.52	0.43
25:YA:1373:A:C6	25:YA:1374:G:C4	3.07	0.43
25:YA:1952:A:N3	25:YA:2560:C:O2'	2.49	0.43
27:YD:134:ARG:HD3	27:YD:135:PHE:CE1	2.54	0.43
28:YE:36:ARG:HH21	28:YE:88:GLY:CA	2.32	0.43
28:YE:111:ARG:HD2	28:YE:160:TYR:CE2	2.54	0.43
38:YS:30:ARG:NH2	38:YS:92:TYR:CD1	2.87	0.43
38:YS:83:LYS:HZ1	38:YS:109:GLY:HA2	1.83	0.43
47:Y1:58:ILE:HG23	47:Y1:87:PRO:HG3	2.01	0.43
49:Y3:7:LYS:HE2	49:Y3:32:GLN:O	2.19	0.43
50:Y4:14:ILE:HG13	50:Y4:31:ILE:HB	1.99	0.43
52:Y6:41:PRO:HG2	52:Y6:45:LYS:N	2.29	0.43
1:QA:384:G:H2'	1:QA:385:C:C6	2.54	0.42
1:QA:580:U:H2'	1:QA:581:G:O4'	2.18	0.42
1:QA:612:C:O2	1:QA:629:G:N2	2.52	0.42
1:QA:901:A:H8	1:QA:901:A:O5'	2.02	0.42
4:QD:158:ILE:HD13	4:QD:158:ILE:HA	1.82	0.42
6:QF:62:TRP:CH2	6:QF:64:GLN:HB2	2.54	0.42
7:QG:102:ARG:HG2	7:QG:106:GLN:OE1	2.19	0.42
8:QH:25:ASP:N	8:QH:25:ASP:OD1	2.50	0.42
13:QM:4:ILE:H	13:QM:9:ILE:HG22	1.84	0.42
18:QR:53:ARG:HH21	18:QR:60:ALA:N	2.17	0.42
23:QW:37:A:H2'	23:QW:38:A:O4'	2.19	0.42
25:RA:1005:C:O2'	33:RN:28:THR:HG21	2.18	0.42
25:RA:1022:G:H22	25:RA:1142(A):A:H2	1.66	0.42
25:RA:2626:C:H2'	25:RA:2627:G:O4'	2.19	0.42
25:RA:2869:G:H2'	25:RA:2870:C:O4'	2.18	0.42
27:RD:169:GLU:N	27:RD:172:TYR:O	2.52	0.42
28:RE:117:MET:HB2	28:RE:122:PHE:O	2.18	0.42
29:RF:29:ASN:O	29:RF:112:MET:HE1	2.18	0.42
33:RN:61:ARG:HA	33:RN:61:ARG:HE	1.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:RU:69:CYS:HB3	40:RU:106:PHE:CZ	2.54	0.42
41:RV:64:HIS:CG	41:RV:92:THR:HG22	2.52	0.42
45:RZ:111:VAL:HG13	45:RZ:112:ARG:H	1.83	0.42
45:RZ:115:GLY:HA2	45:RZ:175:VAL:O	2.19	0.42
46:R0:51:VAL:N	46:R0:62:LEU:HD12	2.33	0.42
52:R6:8:LYS:O	52:R6:27:LYS:HA	2.18	0.42
52:R6:17:LYS:HB3	52:R6:44:ARG:NH2	2.30	0.42
1:XA:377:G:OP1	16:XP:5:ARG:NH1	2.47	0.42
1:XA:755:G:OP2	15:XO:65:ARG:HG2	2.19	0.42
1:XA:1490:C:H2'	1:XA:1491:G:H8	1.84	0.42
2:XB:9:GLU:H	2:XB:9:GLU:CD	2.27	0.42
2:XB:19:HIS:HD2	2:XB:20:GLU:CD	2.27	0.42
7:XG:38:LEU:HD12	7:XG:38:LEU:O	2.20	0.42
25:YA:277:C:H3'	25:YA:278:A:C5'	2.49	0.42
25:YA:443:A:H1'	25:YA:1201:C:O4'	2.19	0.42
25:YA:512:G:OP1	25:YA:1234:U:O2'	2.33	0.42
25:YA:1291:C:H2'	25:YA:1292:U:C6	2.54	0.42
25:YA:1354:A:OP1	27:YD:38:LYS:HE2	2.18	0.42
25:YA:1794:U:H2'	25:YA:1795:C:C6	2.53	0.42
25:YA:2364:C:H2'	25:YA:2365:G:O4'	2.18	0.42
25:YA:2477:C:H3'	55:Y9:1:MET:HE3	1.99	0.42
25:YA:2564:A:C2	25:YA:2647:U:H4'	2.53	0.42
25:YA:2783:G:H2'	25:YA:2784:C:C6	2.54	0.42
26:YB:81:G:O6	26:YB:95:U:C2	2.72	0.42
27:YD:248:SER:HB3	27:YD:252:TRP:CD2	2.54	0.42
31:YH:126:PRO:HB2	31:YH:127:GLU:H	1.59	0.42
33:YN:134:ARG:H	33:YN:135:PRO:HD3	1.83	0.42
34:YO:88:ASN:ND2	34:YO:92:GLU:HB2	2.23	0.42
41:YV:64:HIS:ND1	41:YV:92:THR:HG22	2.34	0.42
1:QA:701:C:H1'	1:QA:703:G:C6	2.54	0.42
1:QA:986:A:N3	19:QS:52:TYR:OH	2.46	0.42
1:QA:1192:C:O2	5:QE:25:ARG:NH2	2.50	0.42
4:QD:108:LEU:HD21	4:QD:183:GLY:HA3	2.01	0.42
9:QI:48:GLU:N	9:QI:49:PRO:HD2	2.34	0.42
15:QO:25:THR:HG21	15:QO:70:LEU:HB2	2.00	0.42
18:QR:29:PHE:N	18:QR:29:PHE:CD1	2.87	0.42
19:QS:41:VAL:HG12	19:QS:44:MET:HB2	2.02	0.42
25:RA:622:G:H2'	25:RA:623:G:C8	2.54	0.42
25:RA:994:C:OP1	40:RU:53:ARG:NH2	2.52	0.42
25:RA:1126:A:H8	25:RA:1126:A:OP1	2.03	0.42
25:RA:1756:G:H4'	25:RA:1758:G:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2319:G:O6	38:RS:4:LEU:HB2	2.19	0.42
25:RA:2695:C:H2'	25:RA:2696:U:H6	1.84	0.42
27:RD:28:GLU:H	27:RD:28:GLU:CD	2.27	0.42
28:RE:22:PRO:HD2	28:RE:22:PRO:O	2.19	0.42
31:RH:153:LYS:HD2	31:RH:153:LYS:N	2.33	0.42
33:RN:89:LYS:O	33:RN:93:THR:HG22	2.19	0.42
33:RN:96:GLU:HB2	33:RN:122:VAL:HG12	2.00	0.42
34:RO:104:ARG:HH22	39:RT:43:GLN:CD	2.26	0.42
35:RP:100:LEU:HA	35:RP:100:LEU:HD22	1.77	0.42
45:RZ:69:THR:HG22	45:RZ:90:VAL:HA	1.99	0.42
45:RZ:119:GLU:H	45:RZ:119:GLU:CD	2.25	0.42
1:XA:397:A:H5'	1:XA:398:C:OP1	2.19	0.42
1:XA:769:G:H4'	1:XA:1513:A:H4'	2.00	0.42
1:XA:1352:C:N4	1:XA:1370:G:H1	2.13	0.42
2:XB:68:ILE:HB	2:XB:70:PHE:HE1	1.84	0.42
6:XF:100:ASN:ND2	18:XR:26:LEU:O	2.51	0.42
10:XJ:6:ILE:HG22	10:XJ:98:ILE:HG23	2.02	0.42
12:XL:28:LYS:HB3	12:XL:30:ALA:HB2	2.01	0.42
25:YA:278:A:H4'	25:YA:279:C:OP1	2.19	0.42
25:YA:323:G:H1'	25:YA:1205:U:O2	2.19	0.42
25:YA:372:G:O2'	25:YA:373:U:P	2.77	0.42
25:YA:643:A:N1	25:YA:2369:A:O2'	2.48	0.42
25:YA:845:G:H8	25:YA:845:G:OP2	2.02	0.42
25:YA:1063:G:H22	25:YA:1076:C:H1'	1.84	0.42
25:YA:2336:A:H61	46:Y0:43:THR:HG21	1.84	0.42
25:YA:2448:A:OP2	25:YA:2499:C:OP2	2.36	0.42
28:YE:188:VAL:O	28:YE:188:VAL:HG13	2.18	0.42
35:YP:125:VAL:CG1	35:YP:138:LEU:HD21	2.49	0.42
45:YZ:8:TYR:HA	45:YZ:62:PRO:HD3	2.00	0.42
48:Y2:8:LYS:HB2	48:Y2:8:LYS:HE3	1.83	0.42
1:QA:24:U:H2'	1:QA:25:C:C6	2.54	0.42
1:QA:296:U:H2'	1:QA:297:G:C8	2.54	0.42
1:QA:542:G:H5'	4:QD:41:GLY:HA3	2.00	0.42
1:QA:1226:C:H4'	19:QS:80:TYR:OH	2.20	0.42
1:QA:1367:C:H5'	10:QJ:60:ARG:NH2	2.35	0.42
1:QA:1499:A:H1'	1:QA:1520:G:H5'	2.01	0.42
2:QB:130:ARG:HA	2:QB:131:PRO:HD3	1.81	0.42
7:QG:153:HIS:HB3	11:QK:58:PRO:HG2	2.01	0.42
11:QK:120:ARG:HA	11:QK:121:PRO:HD3	1.87	0.42
12:QL:27:LEU:C	12:QL:29:GLY:H	2.28	0.42
17:QQ:29:HIS:CG	17:QQ:30:PRO:HD2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:177:G:H3'	25:RA:178:G:C8	2.52	0.42
25:RA:1184:G:OP1	49:R3:29:ARG:NH1	2.51	0.42
25:RA:1188:U:H4'	41:RV:79:VAL:HG22	2.00	0.42
25:RA:1508:A:O2'	25:RA:1509:C:O4'	2.36	0.42
25:RA:2017:U:O2	51:R5:10:LYS:HB2	2.19	0.42
25:RA:2679:A:H4'	28:RE:165:VAL:HG11	2.01	0.42
25:RA:2820:A:C6	37:RR:4:LEU:HD11	2.54	0.42
26:RB:37:C:N3	26:RB:48:A:O2'	2.47	0.42
27:RD:123:ALA:HA	27:RD:124:PRO:HD2	1.77	0.42
32:RI:52:ARG:CB	32:RI:56:LYS:CB	2.88	0.42
32:RI:88:ILE:HG12	32:RI:88:ILE:H	1.65	0.42
37:RR:113:LEU:HD12	37:RR:113:LEU:HA	1.88	0.42
38:RS:93:LYS:HE3	38:RS:93:LYS:HB2	1.65	0.42
40:RU:83:LEU:HD12	40:RU:113:ALA:HB2	2.01	0.42
6:XF:95:GLU:HA	6:XF:96:PRO:HD3	1.87	0.42
8:XH:104:ARG:HD2	8:XH:138:TRP:CD2	2.53	0.42
25:YA:71:A:H62	25:YA:114:U:H1'	1.84	0.42
25:YA:305:U:H2'	25:YA:306:U:C6	2.54	0.42
25:YA:740:U:H2'	25:YA:741:G:H8	1.84	0.42
25:YA:1567:A:H5'	27:YD:58:HIS:CG	2.54	0.42
25:YA:2205:C:O2'	25:YA:2227:A:N1	2.48	0.42
25:YA:2392:A:H2	25:YA:2424:C:H42	1.68	0.42
25:YA:2629:A:O2'	25:YA:2630:G:H5''	2.19	0.42
28:YE:201:THR:HG22	28:YE:203:LYS:N	2.34	0.42
30:YG:64:THR:CG2	30:YG:66:GLN:H	2.28	0.42
31:YH:126:PRO:HG2	31:YH:128:PRO:HA	2.00	0.42
33:YN:96:GLU:HG2	33:YN:97:ARG:H	1.84	0.42
35:YP:39:LYS:HG3	35:YP:45:LEU:CD2	2.45	0.42
35:YP:48:PRO:C	35:YP:50:ARG:H	2.27	0.42
39:YT:45:PHE:CE1	39:YT:65:LYS:HE3	2.55	0.42
45:YZ:6:LYS:HB2	45:YZ:6:LYS:HE3	1.88	0.42
49:Y3:4:LEU:HD22	49:Y3:56:VAL:HG12	2.01	0.42
53:Y7:25:PRO:HA	53:Y7:28:ARG:CZ	2.49	0.42
1:QA:812:C:H1'	1:QA:813:U:OP2	2.19	0.42
1:QA:1306:A:H1'	1:QA:1332:A:C2	2.55	0.42
2:QB:21:ARG:HG3	2:QB:38:GLY:O	2.19	0.42
2:QB:44:LEU:H	2:QB:44:LEU:HD12	1.83	0.42
2:QB:217:ARG:HE	2:QB:217:ARG:HB2	1.29	0.42
3:QC:59:ARG:HH12	3:QC:97:LYS:HE3	1.84	0.42
3:QC:148:GLY:HA3	3:QC:172:ARG:O	2.18	0.42
4:QD:11:LEU:HD22	4:QD:66:ARG:HD3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:120:LEU:HD23	4:QD:120:LEU:HA	1.86	0.42
6:QF:15:ASP:OD2	6:QF:18:GLN:CG	2.66	0.42
10:QJ:54:PHE:HB3	10:QJ:55:LYS:H	1.69	0.42
10:QJ:79:ARG:HD3	10:QJ:79:ARG:HA	1.78	0.42
14:QN:41:ARG:NH2	14:QN:42:ILE:HD11	2.35	0.42
19:QS:10:PHE:CG	19:QS:11:VAL:N	2.88	0.42
23:QW:67:C:H2'	23:QW:68:C:C6	2.54	0.42
25:RA:459:U:H4'	53:R7:40:TRP:CZ3	2.55	0.42
25:RA:464:U:H2'	25:RA:465:G:O4'	2.19	0.42
25:RA:581:C:OP1	40:RU:33:ARG:HG3	2.20	0.42
25:RA:987:G:H2'	25:RA:988:A:O4'	2.20	0.42
25:RA:1543:A:H2	25:RA:1545:A:C8	2.35	0.42
25:RA:1819:A:H4'	25:RA:1820:U:O5'	2.18	0.42
25:RA:2119:A:C2	25:RA:2171:A:H1'	2.55	0.42
25:RA:2630:G:H2'	25:RA:2631:G:C8	2.55	0.42
25:RA:2633:G:H2'	25:RA:2634:G:O4'	2.18	0.42
25:RA:2723:C:OP2	28:RE:109:LYS:NZ	2.52	0.42
27:RD:33:LEU:HB3	27:RD:34:VAL:H	1.64	0.42
28:RE:9:VAL:HG23	28:RE:26:ILE:HA	2.00	0.42
29:RF:78:ILE:H	29:RF:78:ILE:HG13	1.66	0.42
31:RH:16:SER:OG	31:RH:26:VAL:O	2.30	0.42
33:RN:30:ILE:HG23	33:RN:52:VAL:HG11	1.99	0.42
38:RS:39:ILE:HD11	38:RS:73:LEU:HD11	2.00	0.42
45:RZ:181:GLU:HB3	45:RZ:182:LYS:H	1.61	0.42
1:XA:258:G:H2'	1:XA:259:G:H8	1.84	0.42
1:XA:598:U:H4'	8:XH:94:TYR:CD2	2.55	0.42
1:XA:690:G:H22	11:XK:55:LYS:HZ2	1.67	0.42
1:XA:1255:G:OP1	10:XJ:45:ARG:NH2	2.52	0.42
4:XD:16:GLY:HA2	4:XD:33:MET:HE1	2.00	0.42
12:XL:27:LEU:C	12:XL:29:GLY:H	2.28	0.42
19:XS:64:GLU:HG3	50:Y4:55:ARG:NH1	2.34	0.42
25:YA:94:G:H2'	25:YA:95:G:O4'	2.19	0.42
25:YA:434:U:H1'	25:YA:435:C:H5	1.84	0.42
25:YA:2563:U:H1'	25:YA:2566:A:N6	2.34	0.42
25:YA:2655:G:O2'	25:YA:2656:U:P	2.77	0.42
25:YA:2712:U:O2'	25:YA:2712(A):A:C8	2.73	0.42
26:YB:14:U:O3'	26:YB:107:U:O2'	2.35	0.42
27:YD:36:PRO:CB	27:YD:61:LEU:HB3	2.50	0.42
30:YG:16:ARG:N	30:YG:17:PRO:HD2	2.34	0.42
31:YH:15:VAL:HG11	31:YH:79:VAL:CG2	2.45	0.42
31:YH:159:GLU:O	31:YH:160:LYS:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YP:1:MET:HB3	35:YP:2:LYS:H	1.61	0.42
36:YQ:39:PRO:HA	36:YQ:97:VAL:O	2.20	0.42
38:YS:81:GLY:O	38:YS:83:LYS:N	2.53	0.42
42:YW:86:LEU:HD22	42:YW:96:ILE:HD12	2.01	0.42
49:Y3:8:LEU:HB3	49:Y3:31:LEU:HA	2.01	0.42
50:Y4:38:LYS:C	50:Y4:40:HIS:H	2.23	0.42
54:Y8:52:LYS:N	54:Y8:53:PRO:HD2	2.33	0.42
1:QA:464:G:C6	1:QA:466:C:H5'	2.54	0.42
1:QA:514:C:H2'	1:QA:515:G:C8	2.54	0.42
1:QA:707:C:H2'	1:QA:708:C:C6	2.55	0.42
1:QA:1162:C:H42	1:QA:1174:G:H1	1.68	0.42
1:QA:1170:A:H8	1:QA:1170:A:O5'	2.02	0.42
1:QA:1292:U:H2'	1:QA:1293:G:C8	2.54	0.42
2:QB:92:TYR:CD1	2:QB:151:GLY:HA3	2.55	0.42
6:QF:22:GLU:O	6:QF:26:ILE:HG13	2.19	0.42
11:QK:41:THR:HG22	11:QK:42:TRP:N	2.34	0.42
15:QO:48:LYS:HD3	15:QO:48:LYS:HA	1.76	0.42
25:RA:139:G:N2	25:RA:141:A:N1	2.64	0.42
25:RA:323:G:C2	25:RA:333:G:H1'	2.54	0.42
25:RA:323:G:H2'	29:RF:169:ASN:ND2	2.35	0.42
25:RA:884:C:N3	25:RA:892:G:C6	2.87	0.42
25:RA:1283:G:O2'	25:RA:1285:G:N7	2.50	0.42
25:RA:1470:G:N2	25:RA:1522:G:OP2	2.52	0.42
25:RA:1641:A:H2'	25:RA:1642:G:O4'	2.20	0.42
25:RA:1860:G:H2'	25:RA:1861:G:H8	1.84	0.42
25:RA:2282:G:H4'	25:RA:2389:G:O2'	2.20	0.42
30:RG:97:ASP:HA	30:RG:100:TRP:HD1	1.85	0.42
30:RG:159:VAL:HG21	30:RG:173:LEU:HD11	2.00	0.42
31:RH:6:ARG:HG3	31:RH:7:LEU:HG	2.01	0.42
39:RT:26:ASP:HB3	39:RT:92:GLY:N	2.18	0.42
40:RU:75:ASN:HB2	40:RU:78:THR:H	1.85	0.42
44:RY:50:ARG:H	44:RY:50:ARG:HG2	1.67	0.42
45:RZ:169:GLU:O	45:RZ:171:ILE:HG23	2.19	0.42
1:XA:58:C:O2'	1:XA:388:G:N7	2.42	0.42
1:XA:272:C:H2'	1:XA:273:A:C8	2.55	0.42
1:XA:514:C:H2'	1:XA:515:G:C8	2.54	0.42
1:XA:626:U:H2'	1:XA:627:G:C8	2.55	0.42
2:XB:7:VAL:HG11	2:XB:217:ARG:CZ	2.49	0.42
5:XE:131:ILE:HD13	5:XE:131:ILE:HA	1.85	0.42
9:XI:32:ASP:OD1	9:XI:33:PHE:N	2.53	0.42
13:XM:117:VAL:O	13:XM:118:ALA:C	2.62	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:XR:43:PHE:CE1	18:XR:58:LEU:HD11	2.54	0.42
20:XT:50:GLU:HG3	20:XT:51:GLU:N	2.33	0.42
25:YA:566:U:OP1	35:YP:29:LYS:NZ	2.47	0.42
25:YA:637:A:H2'	35:YP:117:GLU:CD	2.44	0.42
25:YA:911:A:H2'	36:YQ:9:TYR:OH	2.20	0.42
25:YA:1179:C:H2'	25:YA:1180:C:O4'	2.20	0.42
25:YA:1274:A:N1	25:YA:1644:C:O2'	2.44	0.42
25:YA:1497:U:H5''	25:YA:1498:C:H5	1.83	0.42
25:YA:1803:A:O2'	27:YD:259:THR:HG21	2.18	0.42
25:YA:2052:G:C4	25:YA:2053:G:C8	3.07	0.42
25:YA:2647:U:H2'	25:YA:2648:C:C6	2.55	0.42
27:YD:25:THR:HG22	27:YD:82:ILE:H	1.84	0.42
27:YD:35:LYS:HE3	27:YD:64:ILE:N	2.35	0.42
28:YE:57:LYS:HD2	28:YE:57:LYS:HA	1.87	0.42
29:YF:45:ARG:HH11	29:YF:45:ARG:CG	2.33	0.42
30:YG:99:MET:HB2	30:YG:99:MET:HE3	1.66	0.42
52:Y6:15:GLU:HG2	52:Y6:49:HIS:NE2	2.34	0.42
54:Y8:43:GLN:C	54:Y8:44:LYS:HD2	2.44	0.42
1:QA:836:G:C6	1:QA:851:G:C6	3.08	0.42
1:QA:1386:G:H2'	1:QA:1387:G:H8	1.83	0.42
3:QC:112:SER:O	3:QC:116:VAL:HG23	2.20	0.42
5:QE:47:LYS:HE2	5:QE:47:LYS:HB2	1.82	0.42
12:QL:38:THR:HG21	12:QL:65:GLU:OE2	2.19	0.42
25:RA:247:G:H4'	25:RA:386:G:C4	2.54	0.42
25:RA:456:C:O2'	25:RA:457:A:H5'	2.19	0.42
25:RA:579:G:O2'	25:RA:2019:A:OP1	2.29	0.42
25:RA:918:A:N3	26:RB:80:U:O2'	2.41	0.42
25:RA:1016:G:H2'	25:RA:1017:G:O4'	2.19	0.42
25:RA:1794:U:H2'	25:RA:1795:C:H6	1.83	0.42
25:RA:2422:A:H2'	25:RA:2424:C:C6	2.55	0.42
25:RA:2517:C:O3'	25:RA:2518:A:H3'	2.19	0.42
30:RG:173:LEU:O	30:RG:178:PHE:HB2	2.20	0.42
33:RN:17:ASP:C	33:RN:19:GLU:H	2.28	0.42
33:RN:56:ASN:C	33:RN:58:ASP:H	2.27	0.42
37:RR:63:ARG:HA	37:RR:80:PHE:CZ	2.54	0.42
43:RX:44:GLU:O	43:RX:48:LYS:N	2.52	0.42
43:RX:60:ARG:HH12	53:R7:47:ARG:NH2	2.12	0.42
45:RZ:103:ARG:HD3	45:RZ:136:PHE:CG	2.54	0.42
54:R8:4:MET:SD	54:R8:61:LEU:HD12	2.59	0.42
54:R8:59:LYS:HB2	54:R8:59:LYS:NZ	2.35	0.42
1:XA:718:G:N2	18:XR:82:THR:HG23	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1225:A:N3	1:XA:1225:A:H2'	2.35	0.42
1:XA:1446:A:O2'	1:XA:1447:G:P	2.78	0.42
2:XB:212:GLN:CD	2:XB:235:SER:HB2	2.44	0.42
3:XC:32:LEU:HD22	3:XC:59:ARG:NH1	2.34	0.42
3:XC:91:LEU:O	3:XC:95:THR:OG1	2.19	0.42
25:YA:71:A:N6	25:YA:114:U:H1'	2.34	0.42
25:YA:127:A:H5''	25:YA:128:C:C6	2.54	0.42
25:YA:787:U:H5''	25:YA:788:A:H5'	2.02	0.42
25:YA:1747:G:H2'	25:YA:1748:G:H8	1.84	0.42
25:YA:1838:C:H4'	25:YA:1839:G:H8	1.84	0.42
25:YA:2667:C:H1'	31:YH:109:PHE:CD1	2.55	0.42
25:YA:2816:C:O2	25:YA:2883:A:O2'	2.36	0.42
38:YS:83:LYS:NZ	38:YS:109:GLY:HA2	2.33	0.42
38:YS:106:ARG:HA	38:YS:110:LEU:CD2	2.47	0.42
41:YV:65:GLY:O	41:YV:90:PRO:HA	2.20	0.42
43:YX:87:GLN:C	43:YX:88:LYS:HG3	2.42	0.42
46:Y0:53:MET:CB	46:Y0:59:LEU:HD23	2.50	0.42
52:Y6:14:THR:HG21	52:Y6:19:ARG:HH21	1.85	0.42
1:QA:630:G:O3'	1:QA:631:G:H4'	2.19	0.42
1:QA:648:A:H2'	1:QA:649:G:C8	2.55	0.42
1:QA:662:G:H2'	1:QA:663:A:H8	1.84	0.42
1:QA:728:A:H2'	1:QA:729:A:C8	2.55	0.42
1:QA:828:A:H2'	1:QA:829:G:O4'	2.20	0.42
1:QA:1036:G:H5'	1:QA:1037:C:OP2	2.18	0.42
1:QA:1264:C:H2'	1:QA:1265:G:C8	2.54	0.42
2:QB:27:LYS:HD2	2:QB:193:ASP:CB	2.46	0.42
5:QE:79:GLU:HB3	5:QE:92:LYS:HA	2.02	0.42
10:QJ:22:LYS:HB3	10:QJ:22:LYS:HE3	1.68	0.42
10:QJ:76:ASN:HA	10:QJ:77:PRO:HD2	1.85	0.42
15:QO:43:LEU:HA	15:QO:43:LEU:HD23	1.74	0.42
17:QQ:10:VAL:HG13	17:QQ:19:VAL:HB	2.01	0.42
25:RA:184:C:H2'	25:RA:185:U:C6	2.55	0.42
25:RA:1803:A:H4'	27:RD:259:THR:HG23	2.01	0.42
25:RA:2021:C:OP1	51:R5:12:SER:OG	2.37	0.42
25:RA:2437:U:H2'	25:RA:2438:U:C6	2.55	0.42
25:RA:2729:G:H1'	28:RE:187:ALA:HB2	2.01	0.42
26:RB:52:A:O2'	26:RB:53:A:N7	2.51	0.42
27:RD:96:HIS:NE2	27:RD:102:LYS:HE2	2.34	0.42
28:RE:78:LEU:HG	28:RE:79:ARG:NE	2.35	0.42
29:RF:182:ASN:O	29:RF:186:ILE:HG12	2.20	0.42
30:RG:151:ALA:HB3	30:RG:153:ARG:NH1	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:RN:35:ARG:HB2	33:RN:42:TRP:CZ3	2.55	0.42
44:RY:79:CYS:HG	44:RY:80:GLY:N	2.16	0.42
48:R2:70:GLN:O	48:R2:71:ASN:HB2	2.19	0.42
50:R4:14:ILE:HG22	50:R4:24:THR:HG22	2.01	0.42
52:R6:28:ARG:HB3	52:R6:30:THR:H	1.84	0.42
53:R7:47:ARG:HB2	53:R7:48:LYS:H	1.68	0.42
1:XA:426:G:OP1	4:XD:36:ARG:NH1	2.45	0.42
1:XA:1286:A:H2'	1:XA:1287:A:H4'	2.01	0.42
1:XA:1399:C:C2	1:XA:1502:A:N6	2.88	0.42
2:XB:223:ILE:HA	2:XB:226:ARG:HB3	2.02	0.42
7:XG:15:ASP:O	7:XG:19:GLY:HA2	2.20	0.42
8:XH:121:ASP:OD1	8:XH:121:ASP:N	2.47	0.42
13:XM:80:ARG:HE	50:Y4:71:ARG:NH2	2.10	0.42
25:YA:328:U:H4'	44:YY:68:HIS:CD2	2.55	0.42
25:YA:704:G:H2'	25:YA:726:G:H22	1.85	0.42
25:YA:994:C:OP1	40:YU:53:ARG:NH2	2.52	0.42
25:YA:1265:A:H8	25:YA:1265:A:OP1	2.01	0.42
25:YA:2124:G:H2'	25:YA:2125:G:O4'	2.19	0.42
25:YA:2378:A:H8	25:YA:2378:A:O5'	2.01	0.42
25:YA:2821:A:OP1	28:YE:110:GLY:N	2.40	0.42
27:YD:25:THR:HG21	27:YD:81:ALA:HA	2.02	0.42
27:YD:231:HIS:C	27:YD:233:HIS:H	2.28	0.42
29:YF:196:LEU:C	29:YF:197:ASP:O	2.61	0.42
33:YN:46:VAL:HG13	33:YN:48:MET:HG3	2.02	0.42
34:YO:21:CYS:O	34:YO:22:ILE:HD13	2.20	0.42
35:YP:36:LYS:HB3	35:YP:40:SER:CB	2.49	0.42
38:YS:60:GLY:O	38:YS:61:ASN:HB3	2.18	0.42
39:YT:26:ASP:HB2	39:YT:91:ARG:HA	2.00	0.42
44:YY:51:VAL:HG23	44:YY:57:GLN:N	2.35	0.42
46:Y0:27:GLU:HB2	46:Y0:69:PHE:CD1	2.53	0.42
1:QA:389:A:H2'	1:QA:390:C:O4'	2.20	0.42
1:QA:518:C:H5'	1:QA:530:G:O4'	2.20	0.42
1:QA:939:G:H2'	1:QA:940:C:C6	2.55	0.42
1:QA:1216:G:H5''	14:QN:5:ALA:HB2	2.02	0.42
1:QA:1320:C:N4	19:QS:36:ARG:HG3	2.35	0.42
2:QB:60:ASP:O	2:QB:64:ARG:HG2	2.19	0.42
2:QB:219:VAL:O	2:QB:223:ILE:HG13	2.19	0.42
3:QC:56:ASP:O	3:QC:66:VAL:HA	2.20	0.42
3:QC:134:ILE:HD11	3:QC:153:VAL:HG21	2.02	0.42
4:QD:195:ALA:O	6:XF:16:GLN:C	2.63	0.42
13:QM:80:ARG:HB2	50:R4:71:ARG:NH2	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:QO:87:ILE:HG22	15:QO:88:ARG:N	2.35	0.42
22:QV:28:C:H2'	22:QV:29:G:C8	2.54	0.42
23:QW:57:G:H2'	23:QW:58:A:H5'	2.01	0.42
25:RA:467:G:OP1	53:R7:33:ARG:NH1	2.51	0.42
25:RA:590:A:H2'	25:RA:591:C:C6	2.55	0.42
25:RA:1051:G:H2'	25:RA:1052:C:O4'	2.19	0.42
25:RA:1479:G:H2'	25:RA:1480:G:O4'	2.20	0.42
25:RA:1991:U:H2'	25:RA:1992:G:H5''	2.01	0.42
25:RA:2391:G:C6	25:RA:2427:C:H1'	2.55	0.42
25:RA:2392:A:H2	25:RA:2424:C:H42	1.65	0.42
26:RB:17:C:H2'	26:RB:18:G:O4'	2.19	0.42
27:RD:245:PRO:HA	27:RD:246:PRO:HD3	1.95	0.42
28:RE:21:VAL:HG23	28:RE:22:PRO:CG	2.41	0.42
29:RF:28:ILE:H	29:RF:28:ILE:HG13	1.68	0.42
31:RH:105:LEU:HD22	31:RH:113:VAL:HB	2.01	0.42
31:RH:164:TYR:O	31:RH:166:GLY:N	2.52	0.42
38:RS:14:VAL:HG11	38:RS:90:GLY:O	2.19	0.42
42:RW:34:ASN:ND2	51:R5:39:MET:HG3	2.35	0.42
42:RW:75:TYR:CZ	42:RW:104:THR:HG21	2.55	0.42
47:R1:90:ILE:O	47:R1:94:LEU:HB2	2.20	0.42
52:R6:45:LYS:HD3	52:R6:45:LYS:HA	1.75	0.42
1:XA:163:C:H2'	1:XA:164:U:C6	2.55	0.42
1:XA:530:G:O6	24:XX:21:C:H1'	2.20	0.42
1:XA:836:G:C6	1:XA:851:G:C6	3.08	0.42
1:XA:1189:C:OP1	10:XJ:51:ARG:NH2	2.47	0.42
1:XA:1429:C:H2'	1:XA:1430:C:C6	2.55	0.42
1:XA:1465:C:H2'	1:XA:1466:C:O4'	2.20	0.42
2:XB:113:HIS:O	2:XB:116:GLU:HB2	2.20	0.42
9:XI:4:TYR:CE1	9:XI:88:TYR:HB2	2.55	0.42
11:XK:24:SER:C	11:XK:26:ASN:H	2.28	0.42
13:XM:40:ASN:ND2	13:XM:43:THR:HG23	2.34	0.42
25:YA:247:G:H4'	25:YA:386:G:C4	2.55	0.42
25:YA:671:C:H2'	25:YA:672:C:C6	2.53	0.42
25:YA:964:C:O2'	25:YA:2273:A:N3	2.48	0.42
25:YA:2168:G:H2'	25:YA:2168:G:N3	2.34	0.42
25:YA:2378:A:C5	25:YA:2379:G:H1'	2.55	0.42
25:YA:2467:C:H4'	36:YQ:123:HIS:CD2	2.54	0.42
25:YA:2698:U:H2'	25:YA:2699:C:C6	2.55	0.42
35:YP:29:LYS:HD2	35:YP:30:THR:CG2	2.50	0.42
40:YU:92:ARG:C	40:YU:94:ASN:N	2.78	0.42
45:YZ:54:HIS:ND1	45:YZ:99:TYR:O	2.47	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:YZ:182:LYS:HE3	45:YZ:182:LYS:HB2	1.69	0.42
51:Y5:31:VAL:HG13	51:Y5:42:PRO:HG3	2.01	0.42
1:QA:328:C:H4'	1:QA:329:A:O5'	2.20	0.42
1:QA:596:C:H2'	1:QA:597:G:H8	1.84	0.42
1:QA:1285:A:H1'	1:QA:1286:A:OP2	2.20	0.42
1:QA:1314:C:H2'	1:QA:1315:U:C6	2.55	0.42
2:QB:88:ALA:HB2	2:QB:219:VAL:HG13	2.02	0.42
4:QD:122:ARG:O	4:QD:122:ARG:HD3	2.20	0.42
6:QF:15:ASP:O	6:QF:17:SER:N	2.53	0.42
7:QG:13:GLN:O	7:QG:24:THR:HG21	2.20	0.42
8:QH:54:ASP:O	8:QH:56:LYS:HG3	2.20	0.42
11:QK:48:ILE:HG23	11:QK:63:LEU:HD22	2.01	0.42
12:QL:11:VAL:HG11	17:QQ:36:ILE:HG21	2.00	0.42
25:RA:921:G:H4'	25:RA:2269:A:C5	2.55	0.42
25:RA:1268:A:OP1	25:RA:2006:C:OP1	2.37	0.42
25:RA:1321:A:H2'	25:RA:1322:A:O4'	2.19	0.42
25:RA:2215:G:H2'	25:RA:2216:G:H8	1.85	0.42
25:RA:2415:G:H5'	35:RP:67:MET:H	1.85	0.42
27:RD:35:LYS:HB3	27:RD:36:PRO:HA	2.01	0.42
29:RF:184:TYR:O	29:RF:188:ARG:HG3	2.19	0.42
30:RG:47:LYS:HD3	30:RG:81:LYS:CB	2.49	0.42
30:RG:116:ASP:OD1	30:RG:116:ASP:N	2.53	0.42
31:RH:4:ILE:HB	31:RH:6:ARG:HG2	2.01	0.42
36:RQ:18:LYS:HB3	36:RQ:19:GLY:H	1.50	0.42
38:RS:78:LEU:HD23	38:RS:78:LEU:HA	1.86	0.42
45:RZ:94:GLU:HB2	45:RZ:130:PRO:HD2	2.02	0.42
49:R3:35:ARG:HB3	49:R3:37:LEU:HD21	2.01	0.42
1:XA:201:C:H42	1:XA:216:G:H1	1.66	0.42
1:XA:784:C:H4'	25:YA:1837:C:OP1	2.20	0.42
1:XA:880:C:H5''	12:XL:12:ARG:HH12	1.85	0.42
1:XA:921:U:H2'	1:XA:922:G:O4'	2.20	0.42
1:XA:1319:A:H5'	1:XA:1320:C:OP1	2.20	0.42
1:XA:1412:C:H2'	1:XA:1413:A:C8	2.55	0.42
2:XB:19:HIS:CE1	2:XB:206:ASP:HB2	2.54	0.42
3:XC:85:ARG:HD2	3:XC:85:ARG:HA	1.83	0.42
9:XI:125:TYR:HD1	9:XI:126:SER:H	1.68	0.42
12:XL:46:LYS:HG2	12:XL:47:LYS:N	2.35	0.42
13:XM:3:ARG:HG3	13:XM:9:ILE:HG21	2.01	0.42
19:XS:78:ARG:H	19:XS:78:ARG:HG2	1.56	0.42
25:YA:307:G:H21	25:YA:330:A:N6	2.17	0.42
25:YA:483:A:H3'	25:YA:484:C:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:814:C:O2'	25:YA:1225:C:N3	2.50	0.42
25:YA:958:U:O2	26:YB:89(A):A:H4'	2.20	0.42
25:YA:1094:U:O2	25:YA:1096:A:H5'	2.20	0.42
25:YA:1224:G:N2	25:YA:1227:A:OP2	2.32	0.42
25:YA:1794:U:H2'	25:YA:1795:C:H6	1.85	0.42
25:YA:2389:G:H5''	25:YA:2390:U:O4'	2.19	0.42
25:YA:2393:A:H5'	35:YP:62:LEU:HB3	2.01	0.42
25:YA:2695:C:H2'	25:YA:2696:U:C6	2.55	0.42
25:YA:2788:C:OP1	28:YE:61:ARG:NH1	2.53	0.42
27:YD:34:VAL:HG22	27:YD:35:LYS:HG3	2.00	0.42
27:YD:135:PHE:N	27:YD:135:PHE:CD1	2.85	0.42
30:YG:62:LEU:HD23	30:YG:148:MET:HE1	2.01	0.42
35:YP:62:LEU:HD12	54:Y8:30:ARG:NH1	2.35	0.42
38:YS:38:GLN:HG3	38:YS:47:THR:HG21	2.02	0.42
44:YY:63:LYS:HA	44:YY:63:LYS:HD2	1.86	0.42
51:Y5:56:LYS:H	51:Y5:56:LYS:CD	2.30	0.42
54:Y8:44:LYS:HD2	54:Y8:44:LYS:N	2.34	0.42
1:QA:9:G:H5''	5:QE:126:ARG:HE	1.84	0.42
1:QA:1024:G:OP1	1:QA:1024:G:H4'	2.20	0.42
1:QA:1347:G:O2'	1:QA:1348:U:P	2.78	0.42
2:QB:98:LEU:HD12	2:QB:101:MET:HE3	2.01	0.42
2:QB:184:VAL:N	2:QB:198:ASP:OD2	2.44	0.42
3:QC:36:ASP:HA	3:QC:39:ILE:HD12	2.02	0.42
3:QC:42:LEU:HD12	3:QC:42:LEU:HA	1.79	0.42
4:QD:167:GLY:O	27:YD:135:PHE:CE1	2.73	0.42
8:QH:12:ARG:NH1	8:QH:27:PRO:HD2	2.35	0.42
8:QH:20:TYR:CE2	8:QH:75:ARG:HD2	2.54	0.42
15:QO:31:LEU:O	15:QO:35:ARG:HG3	2.20	0.42
18:QR:56:THR:HB	18:QR:58:LEU:CD1	2.50	0.42
19:QS:50:ALA:HB1	19:QS:57:HIS:HB3	2.02	0.42
25:RA:242:G:H1'	25:RA:243:U:OP2	2.20	0.42
25:RA:675:A:N3	25:RA:2443:C:O2'	2.45	0.42
25:RA:833:U:H2'	25:RA:834:C:C6	2.55	0.42
25:RA:2143:C:H2'	25:RA:2144:U:O4'	2.20	0.42
25:RA:2246:G:H2'	25:RA:2247:A:C8	2.55	0.42
25:RA:2469:A:OP1	25:RA:2469:A:H4'	2.20	0.42
25:RA:2477:C:H2'	55:R9:1:MET:HG3	2.02	0.42
25:RA:2704:C:H2'	25:RA:2705:A:O4'	2.19	0.42
26:RB:14:U:H4'	26:RB:70:C:O2	2.20	0.42
29:RF:127:GLU:C	29:RF:129:PHE:H	2.27	0.42
30:RG:6:ALA:N	50:R4:23:GLU:HG2	2.31	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:10:PRO:HD2	31:RH:50:VAL:O	2.20	0.42
35:RP:63:PRO:HA	54:R8:13:ARG:HB3	2.02	0.42
39:RT:51:ARG:HG3	39:RT:98:LYS:HG3	2.02	0.42
40:RU:58:ARG:NH1	40:RU:93:LYS:HE2	2.35	0.42
45:RZ:143:GLY:C	45:RZ:144:LEU:HD22	2.44	0.42
47:R1:85:LEU:HA	47:R1:87:PRO:HD2	2.01	0.42
51:R5:55:ARG:NH1	51:R5:55:ARG:CG	2.79	0.42
1:XA:715:A:H2'	1:XA:716:A:C8	2.55	0.42
1:XA:1179:A:H2'	1:XA:1180:A:O4'	2.19	0.42
1:XA:1298:C:H4'	1:XA:1299:A:O4'	2.20	0.42
11:XK:109:VAL:HG11	18:XR:84:LYS:HD3	2.02	0.42
25:YA:987:G:O2'	25:YA:1000:A:N3	2.42	0.42
25:YA:1239:G:H2'	25:YA:1240:U:O4'	2.20	0.42
25:YA:1598:C:H5'	43:YX:36:LYS:CB	2.48	0.42
25:YA:1972:A:H2'	25:YA:1973:G:C8	2.55	0.42
25:YA:2655:G:O2'	25:YA:2656:U:OP2	2.38	0.42
27:YD:89:SER:O	27:YD:198:ASN:ND2	2.52	0.42
27:YD:221:VAL:HG22	27:YD:226:MET:CE	2.49	0.42
27:YD:245:PRO:HA	27:YD:246:PRO:HD3	1.87	0.42
32:YL:98:ALA:HB2	32:YL:111:PRO:HB3	2.01	0.42
33:YN:35:ARG:HB2	33:YN:42:TRP:CZ3	2.55	0.42
33:YN:59:LYS:HE3	33:YN:61:ARG:HH22	1.84	0.42
36:YQ:76:LYS:HG3	36:YQ:77:LYS:N	2.35	0.42
43:YX:84:ALA:HB1	43:YX:85:PRO:HD2	2.02	0.42
44:YY:96:ILE:HG13	44:YY:98:VAL:H	1.85	0.42
45:YZ:1:MET:HG2	45:YZ:2:GLU:H	1.85	0.42
46:Y0:53:MET:HB3	46:Y0:59:LEU:HD23	2.01	0.42
49:Y3:35:ARG:HB3	49:Y3:37:LEU:HD21	2.01	0.42
50:Y4:16:CYS:SG	50:Y4:36:CYS:HB3	2.59	0.42
50:Y4:37:SER:HB3	50:Y4:42:PHE:HB3	2.00	0.42
50:Y4:39:CYS:O	50:Y4:40:HIS:HB2	2.20	0.42
54:Y8:26:LYS:HB3	54:Y8:44:LYS:HG3	2.01	0.42
1:QA:222:U:H2'	1:QA:223:U:C6	2.55	0.41
1:QA:1240:U:OP1	7:QG:119:ARG:NH2	2.53	0.41
2:QB:69:LEU:O	2:QB:162:ILE:HA	2.19	0.41
14:QN:23:ARG:NH1	14:QN:30:ALA:HB2	2.35	0.41
21:QU:2:GLY:O	21:QU:5:ASP:N	2.47	0.41
25:RA:611:C:H2'	25:RA:612:G:C8	2.55	0.41
25:RA:784:A:O4'	27:RD:227:ASN:ND2	2.53	0.41
25:RA:1510:A:N3	25:RA:1510:A:H2'	2.35	0.41
25:RA:2001:A:OP1	37:RR:9:LYS:NZ	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2245:U:H5'	25:RA:2246:G:H5'	2.02	0.41
25:RA:2286:A:H4'	25:RA:2287:A:O4'	2.19	0.41
25:RA:2313:C:H5''	30:RG:91:ARG:HD3	2.01	0.41
25:RA:2405:G:H1'	25:RA:2412:A:N6	2.35	0.41
25:RA:2461:C:H2'	25:RA:2462:U:C6	2.54	0.41
25:RA:2699:C:H2'	25:RA:2700:C:O4'	2.20	0.41
27:RD:61:LEU:HA	27:RD:61:LEU:HD12	1.77	0.41
27:RD:101:GLU:OE1	27:RD:103:ARG:NH1	2.53	0.41
28:RE:188:VAL:HG23	28:RE:189:PRO:HD2	2.01	0.41
29:RF:93:LYS:HB3	29:RF:94:PRO:HD2	2.01	0.41
29:RF:129:PHE:O	29:RF:130:ALA:HB3	2.20	0.41
31:RH:125:VAL:HG13	31:RH:126:PRO:HG3	2.01	0.41
34:RO:7:TYR:CE1	34:RO:20:MET:HB2	2.55	0.41
35:RP:47:ASP:CG	35:RP:49:ARG:HH11	2.28	0.41
49:R3:7:LYS:HA	49:R3:33:GLN:O	2.20	0.41
50:R4:35:VAL:C	50:R4:37:SER:H	2.27	0.41
50:R4:55:ARG:O	50:R4:59:PHE:HB3	2.20	0.41
4:XD:127:THR:HA	4:XD:132:ARG:HA	2.02	0.41
4:XD:131:ARG:H	4:XD:131:ARG:HG2	1.67	0.41
9:XI:128:ARG:NH2	22:XV:35:A:OP2	2.53	0.41
12:XL:62:SER:HB2	12:XL:64:TYR:CD1	2.55	0.41
13:XM:16:ASP:HB3	13:XM:41:PRO:HB3	2.02	0.41
13:XM:121:LYS:HA	13:XM:121:LYS:HD3	1.91	0.41
16:XP:23:ASP:O	16:XP:26:ARG:HB2	2.20	0.41
23:XW:49:C:C2	23:XW:65:G:N2	2.87	0.41
25:YA:899:A:O2'	25:YA:900:A:O4'	2.34	0.41
25:YA:1336:A:H2'	25:YA:1337:G:C8	2.55	0.41
25:YA:1499:C:H2'	25:YA:1500:G:H8	1.84	0.41
25:YA:1614:A:N6	42:YW:88:ARG:H	2.18	0.41
25:YA:2610:C:H4'	25:YA:2611:U:H5'	2.02	0.41
25:YA:2832:U:H4'	25:YA:2833:G:C5'	2.49	0.41
27:YD:232:PRO:HB3	27:YD:244:ARG:CZ	2.50	0.41
28:YE:167:VAL:HG21	28:YE:187:ALA:HB1	2.01	0.41
30:YG:86:MET:HA	30:YG:87:PRO:HD2	1.95	0.41
30:YG:165:THR:OG1	30:YG:168:GLU:HG3	2.20	0.41
31:YH:30:LYS:HE2	31:YH:81:GLU:H	1.85	0.41
33:YN:7:LYS:HD2	33:YN:7:LYS:H	1.84	0.41
33:YN:137:LYS:HD2	33:YN:137:LYS:HA	1.77	0.41
36:YQ:54:MET:HB3	36:YQ:64:ILE:HD13	2.01	0.41
37:YR:3:HIS:O	37:YR:5:LYS:N	2.53	0.41
45:YZ:157:LEU:HD22	45:YZ:161:VAL:HB	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:Y4:24:THR:OG1	50:Y4:25:TYR:N	2.53	0.41
50:Y4:68:ARG:HB2	50:Y4:69:LYS:H	1.51	0.41
1:QA:514:C:H2'	1:QA:515:G:H8	1.85	0.41
1:QA:826:C:H2'	1:QA:827:U:O2	2.20	0.41
1:QA:992:U:O2	1:QA:993:G:N2	2.53	0.41
2:QB:104:ASN:OD1	2:QB:107:THR:OG1	2.30	0.41
8:QH:36:LEU:HD12	8:QH:59:LEU:HD13	2.02	0.41
8:QH:38:ILE:HD12	8:QH:118:VAL:HG12	2.02	0.41
8:QH:59:LEU:O	8:QH:61:VAL:HG23	2.21	0.41
20:QT:84:LEU:HD23	20:QT:84:LEU:HA	1.86	0.41
22:QV:0:C:O2'	46:R0:6:GLY:O	2.33	0.41
25:RA:1309:G:P	53:R7:9:ARG:HD3	2.60	0.41
25:RA:1694:C:H4'	25:RA:1695:G:O5'	2.19	0.41
25:RA:2305:A:O5'	30:RG:134:GLY:HA3	2.19	0.41
26:RB:7:G:H5'	38:RS:29:PHE:CE2	2.55	0.41
27:RD:43:ARG:HB2	27:RD:54:ARG:HB2	2.02	0.41
28:RE:76:ARG:N	28:RE:76:ARG:HD2	2.35	0.41
29:RF:46:ARG:HG2	29:RF:46:ARG:HH11	1.84	0.41
32:RI:135:GLU:HB2	32:RI:136:VAL:H	1.77	0.41
33:RN:10:GLU:HA	33:RN:11:PRO:HD3	1.65	0.41
36:RQ:17:LEU:HD21	36:RQ:41:TRP:HD1	1.84	0.41
36:RQ:68:ILE:HD13	36:RQ:103:MET:HG2	2.02	0.41
46:R0:23:VAL:HA	46:R0:38:VAL:HG22	2.00	0.41
54:R8:23:VAL:CG1	54:R8:46:ARG:HD3	2.49	0.41
1:XA:41:G:H2'	1:XA:42:G:C8	2.55	0.41
1:XA:608:A:H2'	1:XA:609:A:O4'	2.20	0.41
1:XA:966:G:O2'	9:XI:127:LYS:O	2.38	0.41
1:XA:1327:C:H2'	1:XA:1328:C:C6	2.55	0.41
2:XB:24:TRP:CD1	2:XB:24:TRP:H	2.38	0.41
4:XD:120:LEU:HD23	4:XD:120:LEU:HA	1.88	0.41
10:XJ:3:LYS:HB2	10:XJ:75:ILE:O	2.19	0.41
13:XM:12:ASN:N	13:XM:45:VAL:HG13	2.35	0.41
13:XM:20:THR:O	13:XM:22:ILE:N	2.52	0.41
16:XP:17:TYR:HE2	16:XP:41:PRO:HG3	1.85	0.41
16:XP:56:ALA:HB1	16:XP:74:LEU:HD13	2.02	0.41
18:XR:38:GLU:O	18:XR:42:ARG:NH1	2.53	0.41
25:YA:1188:U:H4'	41:YV:79:VAL:HG22	2.01	0.41
25:YA:2059:A:H5'	25:YA:2060:A:OP2	2.20	0.41
25:YA:2619:C:H4'	28:YE:151:TYR:O	2.20	0.41
25:YA:2745:C:C4	25:YA:2746:U:C4	3.08	0.41
26:YB:95:U:H2'	26:YB:96:G:C8	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:34:VAL:C	27:YD:35:LYS:HG3	2.43	0.41
28:YE:87:GLU:C	28:YE:89:ASP:H	2.28	0.41
29:YF:107:LYS:CD	29:YF:207:GLY:H	2.30	0.41
31:YH:86:GLU:CD	31:YH:86:GLU:H	2.27	0.41
33:YN:29:LYS:H	33:YN:29:LYS:HG2	1.53	0.41
33:YN:65:LYS:O	33:YN:69:GLN:HG2	2.20	0.41
35:YP:82:GLY:HA3	35:YP:115:LEU:HD21	2.01	0.41
37:YR:2:ARG:HG2	37:YR:5:LYS:NZ	2.35	0.41
38:YS:51:ALA:HB1	38:YS:69:VAL:HG23	2.02	0.41
40:YU:30:LYS:HA	40:YU:30:LYS:HD3	1.90	0.41
40:YU:109:LEU:HD23	40:YU:109:LEU:HA	1.89	0.41
43:YX:26:TYR:HB3	43:YX:92:LEU:HD12	2.02	0.41
46:Y0:36:ILE:HD11	46:Y0:39:ARG:HG2	2.02	0.41
46:Y0:41:ARG:NE	46:Y0:41:ARG:HA	2.34	0.41
47:Y1:76:ARG:H	47:Y1:76:ARG:HD2	1.84	0.41
50:Y4:15:ILE:C	50:Y4:16:CYS:SG	3.02	0.41
1:QA:414:A:OP2	1:QA:428:G:N2	2.33	0.41
1:QA:996:A:N1	1:QA:1045:C:O2'	2.42	0.41
1:QA:1241:G:H2'	1:QA:1242:C:C6	2.55	0.41
2:QB:208:ILE:HA	2:QB:211:ILE:HD12	2.02	0.41
2:QB:210:SER:O	2:QB:214:ILE:HG12	2.21	0.41
4:QD:173:TRP:CD1	4:QD:174:LEU:HG	2.55	0.41
8:QH:51:VAL:HG21	8:QH:60:ARG:HG2	2.02	0.41
12:QL:103:GLY:N	12:QL:107:ALA:O	2.49	0.41
17:QQ:83:ASP:O	17:QQ:87:LYS:HG2	2.20	0.41
22:QV:75:C:OP1	25:RA:2602:A:OP1	2.38	0.41
25:RA:1366:A:H2'	25:RA:1367:A:O4'	2.19	0.41
25:RA:1506:C:H3'	25:RA:1507:A:H5''	2.02	0.41
25:RA:1543:A:N3	25:RA:1545:A:N9	2.68	0.41
29:RF:177:ALA:HB1	29:RF:178:PRO:HD2	2.03	0.41
35:RP:20:GLY:HA2	35:RP:27:HIS:O	2.19	0.41
35:RP:81:GLN:HG2	35:RP:106:LEU:HD23	2.02	0.41
36:RQ:125:LEU:C	36:RQ:127:ILE:H	2.28	0.41
37:RR:22:ARG:HA	37:RR:47:PHE:HE2	1.86	0.41
37:RR:109:ALA:HA	37:RR:110:PRO:HD2	1.95	0.41
38:RS:108:GLY:O	38:RS:110:LEU:HG	2.20	0.41
41:RV:76:LYS:HB2	41:RV:81:TYR:HB3	2.01	0.41
45:RZ:110:GLY:HA2	45:RZ:111:VAL:O	2.19	0.41
53:R7:1:MET:SD	53:R7:3:ARG:NH2	2.93	0.41
1:XA:191:G:C4	20:XT:105:SER:HB3	2.55	0.41
1:XA:381:C:H2'	1:XA:382:A:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:485:G:O2'	1:XA:486:U:P	2.79	0.41
1:XA:878:G:P	8:XH:88:LYS:HD2	2.59	0.41
1:XA:883:C:N4	1:XA:884:U:O4	2.54	0.41
1:XA:925:G:H1'	1:XA:1502:A:C4	2.55	0.41
1:XA:980:C:H3'	1:XA:981:U:H6	1.85	0.41
1:XA:1391:U:H2'	1:XA:1392:G:C8	2.55	0.41
6:XF:97:PHE:N	18:XR:30:ASP:OD1	2.54	0.41
25:YA:1825:A:OP1	27:YD:231:HIS:NE2	2.53	0.41
25:YA:2081:C:H2'	25:YA:2082:A:C8	2.55	0.41
25:YA:2267:A:H5''	25:YA:2268:A:H5'	2.02	0.41
25:YA:2593:U:H2'	25:YA:2594:C:C6	2.55	0.41
25:YA:2857:G:N2	25:YA:2859:G:H3'	2.36	0.41
27:YD:105:ILE:HD12	27:YD:105:ILE:HA	1.55	0.41
28:YE:134:ILE:C	28:YE:134:ILE:HD12	2.46	0.41
29:YF:117:ARG:HD2	29:YF:120:GLU:OE2	2.20	0.41
31:YH:8:PRO:HB2	31:YH:9:ILE:H	1.71	0.41
31:YH:41:MET:HE2	31:YH:41:MET:HB2	1.57	0.41
32:YI:67:ARG:NH2	32:YI:68:LEU:HB2	2.33	0.41
32:YI:133:HIS:HB2	32:YI:134:PRO:CD	2.50	0.41
33:YN:18:ALA:HB3	33:YN:55:VAL:O	2.19	0.41
41:YV:72:VAL:HG13	41:YV:85:LYS:HG2	2.01	0.41
44:YY:84:ARG:O	44:YY:95:LYS:HD3	2.20	0.41
45:YZ:150:LEU:HD22	45:YZ:171:ILE:HB	2.02	0.41
47:Y1:89:GLU:HA	47:Y1:93:GLU:HB2	2.02	0.41
1:QA:156:G:H2'	1:QA:157:G:H8	1.85	0.41
1:QA:300:A:H8	1:QA:300:A:O5'	2.03	0.41
1:QA:973:G:H3'	1:QA:974:A:H5''	2.02	0.41
1:QA:1298:C:H41	7:QG:114:ARG:HB3	1.85	0.41
1:QA:1367:C:OP2	9:QI:112:LYS:NZ	2.51	0.41
8:QH:54:ASP:OD1	8:QH:54:ASP:N	2.53	0.41
11:QK:99:GLN:HG2	11:QK:105:VAL:HG21	2.03	0.41
13:QM:40:ASN:O	13:QM:43:THR:OG1	2.29	0.41
14:QN:4:LYS:O	14:QN:7:ILE:HG12	2.20	0.41
16:QP:53:VAL:O	16:QP:57:ARG:HG2	2.21	0.41
25:RA:464:U:C2	25:RA:788:A:C6	3.09	0.41
25:RA:669:G:H2'	25:RA:669:G:N3	2.36	0.41
25:RA:839:U:H1'	25:RA:1191:G:H1'	2.02	0.41
25:RA:847:U:O4	25:RA:933:A:C6	2.70	0.41
25:RA:1259:G:H2'	25:RA:1260:G:C8	2.55	0.41
25:RA:2298:A:H2'	25:RA:2299:G:O4'	2.21	0.41
25:RA:2702:U:O2	25:RA:2702:U:H2'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:RD:221:VAL:HG22	27:RD:226:MET:HE3	2.03	0.41
29:RF:113:ALA:HB1	29:RF:186:ILE:HG21	2.02	0.41
29:RF:164:ARG:HG3	29:RF:175:THR:OG1	2.20	0.41
30:RG:6:ALA:HB3	30:RG:104:GLU:OE2	2.20	0.41
31:RH:41:MET:HE2	31:RH:41:MET:HB2	1.93	0.41
36:RQ:58:PHE:HD1	36:RQ:61:GLY:HA3	1.85	0.41
38:RS:14:VAL:HG21	38:RS:89:ARG:HG2	2.02	0.41
44:RY:88:LYS:NZ	44:RY:88:LYS:HA	2.35	0.41
51:R5:3:LYS:HE2	56:Z7:1:T17:H1	2.03	0.41
1:XA:149:A:H2'	1:XA:150:C:C6	2.55	0.41
1:XA:303:A:H2'	1:XA:304:U:O4'	2.21	0.41
1:XA:411:A:C8	1:XA:413:G:H1'	2.55	0.41
1:XA:1161:C:H2'	1:XA:1162:C:C6	2.56	0.41
1:XA:1358:U:OP1	14:XN:35:ARG:HG3	2.20	0.41
3:XC:150:LYS:HE3	3:XC:167:TRP:HE1	1.84	0.41
5:XE:69:VAL:HA	5:XE:70:PRO:HD2	1.76	0.41
8:XH:104:ARG:HD2	8:XH:138:TRP:CG	2.56	0.41
9:XI:40:LEU:O	9:XI:42:ARG:N	2.48	0.41
9:XI:125:TYR:HD1	9:XI:126:SER:N	2.18	0.41
11:XK:18:ARG:HA	11:XK:81:ASP:H	1.86	0.41
19:XS:40:ILE:CG1	19:XS:41:VAL:HG13	2.47	0.41
20:XT:53:LEU:HD12	20:XT:100:ILE:HG23	2.02	0.41
25:YA:270(V):G:H2'	25:YA:270(W):G:H8	1.84	0.41
25:YA:636:G:OP1	35:YP:132:LYS:HB2	2.20	0.41
25:YA:724:U:H2'	25:YA:725:G:O4'	2.20	0.41
25:YA:1153:C:H2'	25:YA:1154:G:O4'	2.20	0.41
25:YA:2849:U:H5	39:YT:93:ARG:NH1	2.14	0.41
36:YQ:19:GLY:O	36:YQ:21:THR:OG1	2.23	0.41
38:YS:56:LEU:HD12	38:YS:56:LEU:HA	1.76	0.41
41:YV:22:VAL:HG12	41:YV:23:GLU:H	1.85	0.41
41:YV:38:LEU:O	41:YV:51:VAL:HA	2.20	0.41
46:Y0:72:ARG:HB2	46:Y0:75:LEU:HB2	2.02	0.41
1:QA:105:G:H2'	1:QA:106:C:C6	2.55	0.41
1:QA:162:A:C5	1:QA:163:C:H1'	2.55	0.41
1:QA:181:G:O2'	1:QA:182:U:P	2.79	0.41
1:QA:779:C:H2'	1:QA:780:A:O4'	2.21	0.41
1:QA:838:G:C5	1:QA:842:C:H1'	2.54	0.41
1:QA:859:A:H2'	1:QA:860:A:O4'	2.20	0.41
1:QA:1119:C:H2'	1:QA:1120:G:C8	2.56	0.41
1:QA:1130:A:O2'	9:QI:3:GLN:NE2	2.41	0.41
1:QA:1151:A:H2'	1:QA:1152:A:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:189:ALA:O	3:QC:190:ARG:C	2.62	0.41
14:QN:29:ARG:HG2	14:QN:31:ARG:O	2.20	0.41
19:QS:28:LYS:HA	19:QS:47:HIS:HE1	1.86	0.41
20:QT:89:ARG:HH21	20:QT:104:LEU:HG	1.85	0.41
25:RA:27:G:HO2'	25:RA:28:A:P	2.42	0.41
25:RA:592:G:H1	25:RA:665:C:H42	1.68	0.41
25:RA:1130:U:O2'	25:RA:1131:G:P	2.79	0.41
25:RA:1204:A:H1'	25:RA:1206:G:C4	2.55	0.41
25:RA:1297:C:H2'	25:RA:1298:C:H6	1.85	0.41
25:RA:1812:A:H2'	25:RA:1813:G:H8	1.84	0.41
25:RA:2150:U:H2'	25:RA:2151:G:H8	1.84	0.41
25:RA:2415:G:C5'	35:RP:67:MET:H	2.34	0.41
25:RA:2554:U:H2'	25:RA:2555:U:C6	2.55	0.41
25:RA:2665:A:H2'	25:RA:2666:C:O4'	2.21	0.41
25:RA:2712:U:O2'	25:RA:2712(A):A:C8	2.72	0.41
27:RD:257:LEU:HD23	27:RD:257:LEU:HA	1.90	0.41
29:RF:178:PRO:HB2	29:RF:201:VAL:CG1	2.51	0.41
30:RG:27:ASN:HB3	30:RG:30:GLU:HG3	2.01	0.41
30:RG:98:ARG:HE	30:RG:98:ARG:HB2	1.38	0.41
30:RG:124:SER:HB2	30:RG:131:TYR:CE1	2.56	0.41
36:RQ:40:ALA:O	36:RQ:42:ILE:HD12	2.21	0.41
44:RY:84:ARG:HD3	44:RY:86:ARG:NH1	2.35	0.41
45:RZ:99:TYR:HB3	45:RZ:123:ASP:HB2	2.03	0.41
52:R6:13:CYS:O	52:R6:21:TYR:HA	2.20	0.41
1:XA:765:G:N2	1:XA:813:U:OP2	2.54	0.41
1:XA:815:A:N7	1:XA:1509:C:O2'	2.51	0.41
2:XB:80:ILE:HD11	2:XB:208:ILE:HG12	2.02	0.41
9:XI:46:ALA:HB2	9:XI:74:ILE:HG23	2.02	0.41
18:XR:85:LEU:HD23	18:XR:88:LYS:HD2	2.03	0.41
25:YA:185:U:H4'	25:YA:218:A:H4'	2.01	0.41
25:YA:752:A:H4'	25:YA:753:C:H5'	2.03	0.41
25:YA:1007:C:H4'	33:YN:108:PRO:HD3	2.02	0.41
25:YA:1541:U:H2'	25:YA:1542:G:O4'	2.20	0.41
25:YA:1588:C:H2'	25:YA:1589:C:H6	1.85	0.41
25:YA:1667:G:OP2	25:YA:1667:G:H8	2.03	0.41
27:YD:70:TRP:CD1	27:YD:70:TRP:C	2.97	0.41
28:YE:181:LEU:HD13	28:YE:181:LEU:HA	1.85	0.41
30:YG:166:ASP:OD1	30:YG:166:ASP:N	2.54	0.41
38:YS:88:ASP:O	38:YS:89:ARG:HB3	2.21	0.41
40:YU:69:CYS:HB3	40:YU:106:PHE:CZ	2.56	0.41
41:YV:72:VAL:CG1	41:YV:85:LYS:HG2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:Y4:48:ARG:NH1	50:Y4:52:THR:H	2.19	0.41
1:QA:74:C:H42	1:QA:96:G:H1	1.69	0.41
1:QA:662:G:O2'	1:QA:836:G:OP1	2.35	0.41
1:QA:1227:A:O3'	13:QM:115:LYS:HE3	2.20	0.41
1:QA:1459:C:H2'	1:QA:1460:A:C8	2.55	0.41
2:QB:47:THR:HA	2:QB:202:PRO:HG2	2.00	0.41
3:QC:122:GLU:HA	3:QC:125:GLU:OE1	2.21	0.41
7:QG:45:ASP:O	7:QG:48:LYS:HB3	2.21	0.41
12:QL:11:VAL:HG13	17:QQ:29:HIS:CD2	2.55	0.41
13:QM:91:ARG:HB2	13:QM:98:VAL:HG13	2.03	0.41
23:QW:35:A:N6	23:QW:36:A:N1	2.68	0.41
25:RA:512:G:H1'	25:RA:513:A:OP2	2.18	0.41
25:RA:705:A:H2'	25:RA:706:A:O4'	2.20	0.41
25:RA:820:A:H1'	25:RA:943:U:H1'	2.02	0.41
25:RA:1636:C:H2'	25:RA:1637:A:H8	1.82	0.41
25:RA:1921:G:H2'	25:RA:1922:G:H8	1.86	0.41
33:RN:47:ALA:HB2	33:RN:112:LEU:HD11	2.02	0.41
43:RX:51:VAL:HG13	43:RX:81:VAL:HG23	2.03	0.41
44:RY:54:LYS:HB3	44:RY:55:TYR:CE1	2.55	0.41
1:XA:564:C:H5'	17:XQ:32:TYR:CE1	2.56	0.41
1:XA:748:C:H1'	1:XA:749:C:H5	1.86	0.41
5:XE:79:GLU:H	5:XE:79:GLU:HG3	1.45	0.41
8:XH:44:PHE:HE2	8:XH:109:ILE:CG2	2.34	0.41
11:XK:48:ILE:HD13	11:XK:48:ILE:HA	1.83	0.41
25:YA:1103:A:H5'	25:YA:1104:C:C5	2.55	0.41
25:YA:1759:A:H1'	25:YA:2711:A:C2	2.55	0.41
27:YD:158:ALA:O	27:YD:159:ALA:C	2.64	0.41
28:YE:25:VAL:HG11	39:YT:11:GLU:HG2	2.01	0.41
28:YE:144:ARG:HB3	28:YE:145:LYS:H	1.45	0.41
29:YF:125:LEU:HA	29:YF:194:MET:O	2.20	0.41
31:YH:19:VAL:HG22	31:YH:24:VAL:HG12	2.03	0.41
32:YI:57:ARG:O	32:YI:61:ARG:HG2	2.20	0.41
45:YZ:106:GLY:O	45:YZ:141:VAL:HG13	2.20	0.41
53:Y7:47:ARG:HB2	53:Y7:47:ARG:HE	1.58	0.41
55:Y9:2:LYS:HA	55:Y9:2:LYS:HD2	1.86	0.41
1:QA:357:G:O3'	32:YI:121:LYS:NZ	2.53	0.41
1:QA:1043:C:H2'	1:QA:1044:A:C8	2.56	0.41
1:QA:1053:G:N7	1:QA:1200:C:H5''	2.36	0.41
1:QA:1327:C:H2'	1:QA:1328:C:C6	2.56	0.41
1:QA:1450:U:O2'	1:QA:1451:A:N7	2.53	0.41
1:QA:1522:U:H2'	1:QA:1523:G:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:QE:110:LEU:HD13	5:QE:118:ILE:HG12	2.01	0.41
9:QI:40:LEU:HD11	9:QI:70:LYS:HG2	2.02	0.41
16:QP:20:VAL:HG21	16:QP:32:TYR:CD2	2.56	0.41
19:QS:67:VAL:HB	50:R4:59:PHE:CE1	2.45	0.41
25:RA:299:A:N3	25:RA:319:C:O2'	2.54	0.41
25:RA:709:U:H2'	25:RA:710:G:H8	1.86	0.41
25:RA:868:U:H2'	25:RA:869:G:O4'	2.20	0.41
25:RA:945:A:C4	25:RA:2448:A:C2	3.08	0.41
25:RA:947:G:H2'	25:RA:948:G:H8	1.85	0.41
25:RA:1259:G:H2'	25:RA:1260:G:H8	1.86	0.41
28:RE:92:THR:HB	28:RE:93:VAL:H	1.55	0.41
29:RF:179:GLU:CD	29:RF:179:GLU:H	2.27	0.41
30:RG:47:LYS:HB2	30:RG:47:LYS:HE3	1.81	0.41
37:RR:10:LEU:O	37:RR:12:ARG:HG3	2.21	0.41
40:RU:61:TRP:O	40:RU:65:ILE:HG13	2.21	0.41
1:XA:324:G:N1	1:XA:327:A:OP2	2.54	0.41
3:XC:119:ARG:HH21	3:XC:140:ARG:CZ	2.34	0.41
4:XD:52:SER:O	4:XD:55:ALA:HB3	2.21	0.41
6:XF:25:ILE:HD13	6:XF:28:ARG:NH1	2.36	0.41
6:XF:46:ARG:HB3	6:XF:60:PHE:CE1	2.55	0.41
10:XJ:3:LYS:HD2	10:XJ:77:PRO:HD3	2.01	0.41
17:XQ:59:ILE:HB	17:XQ:71:PHE:HB3	2.03	0.41
17:XQ:62:SER:CB	17:XQ:72:ARG:HE	2.33	0.41
20:XT:39:LYS:HG3	20:XT:39:LYS:H	1.63	0.41
25:YA:658:C:H2'	25:YA:659:C:C6	2.56	0.41
25:YA:979:G:H2'	25:YA:982:C:N4	2.36	0.41
25:YA:1506:C:H3'	25:YA:1507:A:H5''	2.01	0.41
25:YA:1773:A:H2'	25:YA:1774:C:O4'	2.19	0.41
25:YA:1929:G:H4'	25:YA:1930:G:OP1	2.21	0.41
25:YA:2455:G:H2'	25:YA:2456:C:C6	2.55	0.41
26:YB:40:U:H3	26:YB:43:C:H5''	1.86	0.41
29:YF:9:ILE:HD11	29:YF:125:LEU:HG	2.03	0.41
38:YS:107:GLU:N	38:YS:110:LEU:HD11	2.36	0.41
40:YU:98:LEU:HD23	40:YU:99:ALA:N	2.36	0.41
44:YY:32:PRO:C	44:YY:34:LYS:H	2.29	0.41
45:YZ:5:LEU:HB3	45:YZ:6:LYS:H	1.65	0.41
1:QA:179:A:H2'	1:QA:180:U:C6	2.55	0.41
1:QA:661:G:H1	1:QA:744:C:H42	1.68	0.41
1:QA:1120:G:H2'	1:QA:1121:U:C6	2.55	0.41
1:QA:1269:A:N1	1:QA:1312:G:O2'	2.50	0.41
1:QA:1475:G:H4'	25:RA:1689:A:H4'	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:38:TYR:HB2	4:QD:44:GLY:O	2.21	0.41
5:QE:12:LEU:O	5:QE:13:ILE:HD12	2.21	0.41
7:QG:70:LYS:HA	7:QG:71:PRO:HD2	1.89	0.41
7:QG:93:PRO:O	7:QG:96:GLN:HB2	2.21	0.41
12:QL:27:LEU:C	12:QL:29:GLY:N	2.78	0.41
19:QS:23:ASN:C	19:QS:25:LYS:H	2.29	0.41
19:QS:36:ARG:HA	19:QS:71:LEU:HB2	2.02	0.41
25:RA:48:G:H22	25:RA:177:G:H5''	1.84	0.41
25:RA:210:C:H4'	25:RA:1367:A:H1'	2.02	0.41
25:RA:588:U:H1'	29:RF:90:PHE:CG	2.56	0.41
25:RA:782:A:O2'	27:RD:225:ALA:HB1	2.20	0.41
25:RA:848:G:O6	25:RA:929:G:H2'	2.21	0.41
25:RA:859:G:N2	25:RA:917:A:OP2	2.49	0.41
25:RA:862:G:H2'	25:RA:863:A:O4'	2.21	0.41
26:RB:5:C:OP1	26:RB:61:G:O2'	2.33	0.41
27:RD:127:VAL:HA	27:RD:193:VAL:HG22	2.02	0.41
28:RE:20:ALA:O	28:RE:21:VAL:CG1	2.51	0.41
28:RE:35:GLN:HB3	28:RE:48:GLN:HB2	2.02	0.41
31:RH:4:ILE:O	31:RH:6:ARG:N	2.51	0.41
31:RH:33:LEU:HD11	31:RH:136:ILE:O	2.20	0.41
32:RI:14:ASP:O	32:RI:16:GLY:N	2.54	0.41
33:RN:57:ALA:O	33:RN:60:ILE:HD11	2.21	0.41
33:RN:71:ILE:HG21	33:RN:84:LYS:HB3	2.02	0.41
39:RT:91:ARG:HB2	39:RT:121:ILE:HG13	2.03	0.41
51:R5:56:LYS:CE	51:R5:58:LEU:CD2	2.92	0.41
1:XA:1287:A:H2'	1:XA:1288:A:C8	2.55	0.41
1:XA:1372:U:H2'	1:XA:1373:G:O4'	2.21	0.41
3:XC:42:LEU:HD12	3:XC:42:LEU:HA	1.87	0.41
12:XL:68:ALA:HB2	12:XL:85:ILE:HD11	2.03	0.41
14:XN:51:GLY:O	14:XN:53:LEU:N	2.53	0.41
25:YA:76:C:H1'	48:Y2:62:THR:HG21	2.02	0.41
25:YA:273:G:H1	25:YA:364:C:H42	1.67	0.41
25:YA:732:C:H2'	25:YA:733:G:O4'	2.21	0.41
25:YA:1093:G:H4'	31:YH:170:ARG:NH2	2.35	0.41
25:YA:1364:G:N2	25:YA:1367:A:OP2	2.33	0.41
25:YA:1997:G:H5'	28:YE:117:MET:HE3	2.01	0.41
25:YA:2301:C:H2'	25:YA:2302:G:C8	2.56	0.41
27:YD:36:PRO:HB3	27:YD:61:LEU:HB3	2.03	0.41
28:YE:41:LYS:HA	28:YE:41:LYS:HE2	2.02	0.41
28:YE:86:PRO:HB2	28:YE:87:GLU:H	1.67	0.41
29:YF:68:LYS:O	29:YF:69:HIS:CB	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YG:103:LEU:O	30:YG:107:LEU:HG	2.21	0.41
30:YG:146:TYR:C	30:YG:148:MET:H	2.29	0.41
35:YP:59:LEU:HA	35:YP:61:ARG:NH2	2.36	0.41
37:YR:44:LEU:HD22	37:YR:48:VAL:HG23	2.02	0.41
40:YU:8:VAL:O	40:YU:12:ARG:HG3	2.20	0.41
40:YU:17:ILE:HG23	40:YU:39:LEU:HD12	2.02	0.41
45:YZ:5:LEU:HD22	45:YZ:5:LEU:HA	1.86	0.41
45:YZ:136:PHE:CD1	45:YZ:138:GLU:HG3	2.56	0.41
52:Y6:36:LEU:HD13	52:Y6:50:ARG:CZ	2.51	0.41
1:QA:149:A:H4'	1:QA:1450:U:C4	2.55	0.41
1:QA:618:C:H5'	1:QA:619:U:H5''	2.03	0.41
1:QA:1095:U:OP1	1:QA:1108:G:N2	2.54	0.41
1:QA:1314:C:P	19:QS:6:LYS:HD2	2.61	0.41
3:QC:79:ARG:CD	11:XK:99:GLN:CD	2.93	0.41
3:QC:83:ARG:O	3:QC:86:VAL:HG22	2.21	0.41
5:QE:127:ASN:HA	5:QE:128:PRO:HD3	1.89	0.41
5:QE:147:ASP:O	5:QE:151:LEU:HG	2.21	0.41
6:QF:30:LEU:HD23	6:QF:75:LEU:HD11	2.02	0.41
8:QH:44:PHE:HD1	8:QH:80:ILE:HG12	1.86	0.41
11:QK:25:TYR:CZ	11:QK:87:THR:HB	2.55	0.41
15:QO:2:PRO:HB2	15:QO:3:ILE:H	1.56	0.41
17:QQ:92:ARG:HD3	17:QQ:92:ARG:HA	1.91	0.41
21:QU:10:ARG:HA	21:QU:13:ILE:HB	2.01	0.41
25:RA:217:G:H2'	25:RA:218:A:O4'	2.21	0.41
25:RA:328:U:H4'	44:RY:68:HIS:CD2	2.56	0.41
25:RA:566:U:OP1	35:RP:29:LYS:HE2	2.21	0.41
25:RA:755:C:H2'	25:RA:756:C:C6	2.56	0.41
25:RA:797:C:OP2	29:RF:62:ARG:HB2	2.21	0.41
25:RA:840:C:H2'	25:RA:841:A:C8	2.56	0.41
25:RA:1070:A:N7	25:RA:1096:A:H2'	2.36	0.41
25:RA:1091:G:N2	25:RA:1101:U:H1'	2.36	0.41
25:RA:1338:G:O6	43:RX:62:LYS:NZ	2.30	0.41
25:RA:1752:C:H42	25:RA:1756:G:H1	1.69	0.41
25:RA:2414:G:H21	35:RP:67:MET:CE	2.33	0.41
25:RA:2611:U:C4	56:Z7:1:T17:H31	2.56	0.41
25:RA:2697:G:H2'	25:RA:2698:U:O4'	2.21	0.41
26:RB:13:A:H2'	26:RB:14:U:H5''	2.02	0.41
26:RB:79:C:H2'	26:RB:80:U:O4'	2.20	0.41
27:RD:111:LEU:HD23	27:RD:111:LEU:HA	1.78	0.41
27:RD:150:LYS:N	27:RD:150:LYS:HD3	2.36	0.41
27:RD:226:MET:HB3	27:RD:230:ASP:HB2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:144:ARG:HB3	28:RE:145:LYS:H	1.47	0.41
31:RH:125:VAL:HG13	31:RH:126:PRO:CG	2.46	0.41
32:RI:12:LEU:HG	32:RI:19:VAL:HG11	2.03	0.41
33:RN:9:VAL:HG21	33:RN:48:MET:HB3	2.02	0.41
33:RN:73:THR:HB	33:RN:82:LEU:HD11	2.02	0.41
34:RO:26:LYS:HB2	34:RO:30:ALA:HB2	2.02	0.41
34:RO:73:ASP:OD2	39:RT:32:TYR:OH	2.28	0.41
35:RP:62:LEU:HD13	35:RP:62:LEU:N	2.36	0.41
36:RQ:66:ILE:HG13	36:RQ:67:ARG:N	2.36	0.41
38:RS:62:LYS:HB3	38:RS:97:ARG:CD	2.44	0.41
45:RZ:52:SER:C	45:RZ:54:HIS:H	2.29	0.41
45:RZ:74:VAL:HG22	45:RZ:86:VAL:HG22	2.03	0.41
45:RZ:97:GLU:O	45:RZ:98:MET:HB3	2.21	0.41
46:R0:12:ASN:HB3	46:R0:13:GLY:H	1.67	0.41
47:R1:58:ILE:CD1	47:R1:86:SER:HB2	2.50	0.41
50:R4:39:CYS:HB2	50:R4:41:PRO:HD2	2.02	0.41
53:R7:31:LEU:HD23	53:R7:31:LEU:HA	1.86	0.41
1:XA:110:C:H2'	1:XA:111:G:O4'	2.21	0.41
1:XA:186:C:H2'	1:XA:186(A):C:C6	2.56	0.41
1:XA:567:G:C2	1:XA:568:G:H1'	2.56	0.41
1:XA:946:A:H2'	1:XA:947:G:C8	2.56	0.41
1:XA:1095:U:H2'	1:XA:1096:C:C6	2.56	0.41
1:XA:1355:G:H2'	1:XA:1356:G:C8	2.55	0.41
2:XB:48:MET:HE2	2:XB:48:MET:HB3	1.94	0.41
2:XB:118:LEU:CB	2:XB:142:LEU:HD12	2.50	0.41
2:XB:166:ASP:HB3	2:XB:169:LYS:HB2	2.02	0.41
3:XC:138:VAL:HG13	3:XC:149:ALA:HB3	2.02	0.41
4:XD:64:LEU:HD13	4:XD:198:VAL:HG11	2.03	0.41
5:XE:68:GLU:O	5:XE:68:GLU:HG3	2.21	0.41
5:XE:82:VAL:HB	5:XE:138:ALA:HB2	2.03	0.41
8:XH:12:ARG:HD3	8:XH:26:VAL:HB	2.03	0.41
9:XI:79:LEU:O	9:XI:83:ARG:HG2	2.19	0.41
9:XI:95:LYS:NZ	9:XI:96:LEU:HD13	2.36	0.41
10:XJ:54:PHE:CD2	10:XJ:55:LYS:HG3	2.56	0.41
20:XT:11:SER:HA	20:XT:13:LEU:HD12	2.01	0.41
22:XV:1:G:H4'	46:Y0:7:LEU:O	2.20	0.41
23:XW:4:C:H2'	23:XW:5:G:C8	2.55	0.41
23:XW:8:U:H5'	23:XW:49:C:OP2	2.21	0.41
23:XW:18:G:N1	23:XW:55:U:H1'	2.36	0.41
25:YA:83:G:H21	25:YA:103:A:H62	1.69	0.41
25:YA:774:A:H2	25:YA:787:U:O2'	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:814:C:H41	35:YP:25:SER:HA	1.84	0.41
25:YA:848:G:O6	25:YA:929:G:H2'	2.20	0.41
25:YA:968:G:H2'	25:YA:969:U:O4'	2.21	0.41
25:YA:1007:C:OP1	33:YN:35:ARG:NH1	2.52	0.41
25:YA:1026:U:H4'	25:YA:1027:A:OP1	2.21	0.41
25:YA:1029:A:O5'	25:YA:1029:A:H8	2.04	0.41
25:YA:1270:C:O2'	25:YA:1648:C:OP2	2.31	0.41
25:YA:1344:G:H4'	25:YA:1384:A:C5	2.55	0.41
25:YA:1359:A:N7	25:YA:1373:A:C6	2.89	0.41
25:YA:1385:G:H1'	25:YA:1386:C:C6	2.56	0.41
25:YA:1657:C:H2'	25:YA:1658:C:C6	2.55	0.41
25:YA:1810:A:O5'	25:YA:1810:A:H8	2.04	0.41
25:YA:1952:A:OP1	34:YO:42:SER:OG	2.29	0.41
27:YD:3:VAL:HG13	27:YD:17:THR:HG23	2.03	0.41
27:YD:145:VAL:HG11	27:YD:175:LEU:HD11	2.02	0.41
30:YG:18:GLU:OE1	30:YG:22:ARG:NH1	2.49	0.41
30:YG:61:ALA:HA	30:YG:64:THR:HG22	2.02	0.41
30:YG:124:SER:HB2	30:YG:131:TYR:CE1	2.56	0.41
31:YH:4:ILE:C	31:YH:6:ARG:H	2.29	0.41
32:YI:21:VAL:HG22	32:YI:22:LYS:H	1.85	0.41
32:YI:37:VAL:HG12	32:YI:38:LEU:H	1.84	0.41
33:YN:96:GLU:O	33:YN:100:GLU:HG3	2.20	0.41
35:YP:1:MET:HB3	35:YP:1:MET:HE2	1.70	0.41
36:YQ:16:ARG:HB3	36:YQ:17:LEU:H	1.76	0.41
36:YQ:80:GLU:HB2	36:YQ:81:VAL:H	1.69	0.41
40:YU:92:ARG:HD2	40:YU:95:LEU:HD12	2.02	0.41
40:YU:92:ARG:NH2	41:YV:11:GLN:H	2.18	0.41
43:YX:31:HIS:HB3	43:YX:34:ALA:HB2	2.03	0.41
44:YY:67:LEU:O	44:YY:68:HIS:C	2.62	0.41
45:YZ:8:TYR:HD2	45:YZ:38:TYR:CZ	2.39	0.41
45:YZ:182:LYS:CB	45:YZ:183:LEU:HA	2.51	0.41
50:Y4:43:TYR:O	50:Y4:46:GLN:HA	2.20	0.41
54:Y8:37:SER:O	54:Y8:40:GLU:HB3	2.21	0.41
1:QA:34:C:H2'	1:QA:35:G:H8	1.86	0.41
1:QA:1035:A:N6	1:QA:1036:G:N3	2.69	0.41
1:QA:1143:G:H2'	1:QA:1144:G:C8	2.55	0.41
4:QD:63:LYS:HE3	4:QD:63:LYS:HB2	1.77	0.41
7:QG:150:ALA:O	11:QK:57:THR:CG2	2.69	0.41
8:QH:41:ARG:NH2	8:QH:123:GLU:OE2	2.54	0.41
15:QO:32:LEU:HA	15:QO:32:LEU:HD23	1.76	0.41
25:RA:242:G:H4'	25:RA:243:U:O5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:700:G:H2'	25:RA:701:G:O4'	2.21	0.41
25:RA:1179:C:H2'	25:RA:1180:C:O4'	2.20	0.41
25:RA:2168:G:OP2	25:RA:2168:G:H8	2.04	0.41
25:RA:2422:A:N7	54:R8:31:HIS:NE2	2.56	0.41
25:RA:2692:C:H2'	25:RA:2693:A:C8	2.55	0.41
29:RF:33:LEU:HD12	29:RF:33:LEU:HA	1.83	0.41
30:RG:131:TYR:O	30:RG:159:VAL:HG13	2.21	0.41
31:RH:107:VAL:HB	31:RH:153:LYS:HE3	2.03	0.41
32:RI:120:ILE:HD11	32:RI:126:TYR:OH	2.20	0.41
40:RU:83:LEU:HG	40:RU:88:ILE:HB	2.03	0.41
45:RZ:128:VAL:HG23	45:RZ:160:GLY:C	2.46	0.41
50:R4:23:GLU:HG3	50:R4:25:TYR:HE2	1.85	0.41
52:R6:24:GLU:HB3	52:R6:25:LYS:H	1.74	0.41
1:XA:1073:U:H2'	1:XA:1074:G:C8	2.56	0.41
10:XJ:76:ASN:HA	10:XJ:77:PRO:HD2	1.96	0.41
11:XK:38:ASN:HA	11:XK:39:PRO:HD3	1.75	0.41
20:XT:74:LYS:C	20:XT:76:ALA:H	2.29	0.41
25:YA:596:G:H2'	25:YA:597:U:O4'	2.21	0.41
25:YA:1061:U:H4'	25:YA:1070:A:H1'	2.01	0.41
25:YA:1578:U:C2'	25:YA:1579:A:H5'	2.51	0.41
25:YA:2098:U:O2	25:YA:2191:G:N2	2.45	0.41
25:YA:2185:C:H2'	25:YA:2186:G:C8	2.56	0.41
25:YA:2712:U:O2'	25:YA:2712(A):A:P	2.79	0.41
27:YD:32:SER:C	27:YD:35:LYS:O	2.64	0.41
27:YD:62:TYR:HA	27:YD:87:ASN:OD1	2.21	0.41
27:YD:201:HIS:O	27:YD:204:ILE:HG12	2.21	0.41
28:YE:32:PRO:HA	28:YE:90:THR:HA	2.03	0.41
30:YG:7:LEU:HD12	30:YG:104:GLU:HA	2.03	0.41
31:YH:125:VAL:HG22	31:YH:131:VAL:HG13	2.02	0.41
31:YH:152:ARG:NE	31:YH:153:LYS:NZ	2.68	0.41
32:YI:115:ALA:HB3	32:YI:128:LEU:HD12	2.02	0.41
33:YN:7:LYS:NZ	33:YN:7:LYS:H	2.18	0.41
35:YP:106:LEU:O	35:YP:107:LYS:HB2	2.20	0.41
50:Y4:48:ARG:HH12	50:Y4:52:THR:H	1.68	0.41
54:Y8:42:ARG:C	54:Y8:44:LYS:H	2.28	0.41
56:Z8:3:GLY:HA3	56:Z8:4:PRO:HA	1.77	0.41
1:QA:452:A:HO2'	1:QA:453:A:C4'	2.33	0.40
1:QA:452:A:H2'	1:QA:453:A:C8	2.56	0.40
1:QA:754:C:H1'	15:QO:69:TYR:CD2	2.57	0.40
1:QA:922:G:H4'	5:QE:20:GLN:HA	2.03	0.40
1:QA:977:A:O2'	1:QA:979:C:OP2	2.31	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:985:C:H2'	1:QA:986:A:H8	1.84	0.40
1:QA:1098:C:H2'	1:QA:1099:G:O4'	2.20	0.40
1:QA:1122:U:H3	1:QA:1151:A:H2	1.66	0.40
1:QA:1199:U:H4'	10:QJ:54:PHE:CZ	2.56	0.40
4:QD:166:LYS:HB3	27:YD:134:ARG:NH1	2.35	0.40
7:QG:54:THR:O	7:QG:56:GLN:N	2.52	0.40
8:QH:83:ILE:HB	8:QH:137:VAL:HG13	2.03	0.40
11:QK:124:LYS:C	11:QK:126:ARG:H	2.29	0.40
12:QL:27:LEU:HG	12:QL:62:SER:HB3	2.02	0.40
19:QS:5:LEU:HD12	19:QS:5:LEU:HA	1.93	0.40
23:QW:61:C:H2'	23:QW:62:C:C6	2.56	0.40
25:RA:1024:G:C6	25:RA:1025:G:C6	3.09	0.40
25:RA:1676:A:H2'	25:RA:1677:A:O4'	2.21	0.40
25:RA:2032:G:H1'	28:RE:145:LYS:HD3	2.03	0.40
25:RA:2315:G:H2'	25:RA:2316:C:C6	2.56	0.40
25:RA:2322:A:H2'	25:RA:2323:G:O4'	2.21	0.40
25:RA:2845:G:O2'	25:RA:2846:G:H5'	2.21	0.40
28:RE:184:VAL:HB	28:RE:185:LYS:H	1.64	0.40
29:RF:107:LYS:HE3	29:RF:206:ILE:HD12	2.03	0.40
30:RG:117:PHE:HE1	30:RG:120:LEU:HD23	1.86	0.40
33:RN:104:LYS:C	33:RN:106:MET:H	2.28	0.40
34:RO:63:VAL:HB	34:RO:106:LEU:HD11	2.02	0.40
35:RP:64:LYS:C	35:RP:66:GLY:N	2.77	0.40
39:RT:51:ARG:CG	39:RT:98:LYS:HG3	2.51	0.40
39:RT:109:GLU:O	39:RT:113:LYS:HB2	2.21	0.40
46:R0:72:ARG:HB2	46:R0:75:LEU:HB2	2.03	0.40
50:R4:13:ARG:O	50:R4:30:GLU:HA	2.21	0.40
1:XA:78:G:O2'	1:XA:79:G:OP1	2.31	0.40
1:XA:235:C:H2'	1:XA:236:G:C8	2.54	0.40
1:XA:312:C:H2'	1:XA:313:A:H8	1.86	0.40
1:XA:537:G:H2'	1:XA:538:G:C8	2.56	0.40
1:XA:672:U:H2'	1:XA:673:G:H8	1.85	0.40
1:XA:730:G:C5	1:XA:731:G:H1'	2.56	0.40
1:XA:833:U:H2'	1:XA:834:C:C6	2.56	0.40
1:XA:1053:G:C6	1:XA:1199:U:C2	3.09	0.40
1:XA:1162:C:H2'	1:XA:1163:C:C6	2.57	0.40
1:XA:1228:C:P	13:XM:108:ARG:HH22	2.44	0.40
58:XA:1672:PAR:H642	58:XA:1672:PAR:H34	1.92	0.40
2:XB:126:GLU:O	2:XB:129:GLU:HB2	2.20	0.40
8:XH:6:ILE:HB	8:XH:85:ARG:NH1	2.36	0.40
10:XJ:6:ILE:O	10:XJ:71:LEU:HD12	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:XK:19:ALA:CB	11:XK:32:ILE:HG22	2.51	0.40
25:YA:218:A:C2	25:YA:235:U:H4'	2.57	0.40
25:YA:324:A:H2'	25:YA:325:G:O4'	2.21	0.40
25:YA:796:C:H2'	25:YA:797:C:C6	2.56	0.40
25:YA:874:G:H2'	25:YA:875:G:C8	2.56	0.40
25:YA:1341:U:O4'	43:YX:57:LEU:HD23	2.21	0.40
25:YA:1520:U:H2'	25:YA:1521:G:O4'	2.21	0.40
25:YA:1651:G:N7	37:YR:11:ASN:ND2	2.60	0.40
25:YA:2803:C:H2'	25:YA:2804:C:C6	2.56	0.40
25:YA:2867:G:O2'	25:YA:2868:A:H8	2.03	0.40
28:YE:95:ILE:H	28:YE:95:ILE:CD1	2.31	0.40
32:YI:23:PRO:O	32:YI:27:ARG:HG2	2.21	0.40
34:YO:4:PRO:O	34:YO:5:GLN:CB	2.69	0.40
35:YP:29:LYS:HB3	35:YP:30:THR:H	1.59	0.40
36:YQ:7:MET:HE2	36:YQ:7:MET:HB3	1.89	0.40
38:YS:19:LYS:C	38:YS:21:THR:H	2.29	0.40
40:YU:96:ALA:HA	40:YU:98:LEU:HD23	2.03	0.40
45:YZ:28:MET:O	45:YZ:34:ASN:HA	2.22	0.40
52:Y6:11:LEU:HD13	52:Y6:11:LEU:HA	1.86	0.40
1:QA:10:A:H2'	1:QA:11:G:H8	1.86	0.40
1:QA:109:A:C6	1:QA:326:G:C6	3.09	0.40
1:QA:271:C:H2'	1:QA:272:C:C6	2.56	0.40
1:QA:509:A:O2'	1:QA:510:A:OP1	2.35	0.40
1:QA:664:G:N2	1:QA:741:G:H1	2.15	0.40
1:QA:1367:C:H5'	10:QJ:60:ARG:CZ	2.51	0.40
6:QF:35:ALA:HA	6:QF:67:MET:HB3	2.02	0.40
6:QF:79:LEU:HD23	6:QF:79:LEU:HA	1.93	0.40
10:QJ:51:ARG:HG3	10:QJ:60:ARG:C	2.45	0.40
11:QK:74:ALA:C	11:QK:76:GLY:H	2.30	0.40
25:RA:1614:A:H62	42:RW:93:ALA:HB2	1.85	0.40
25:RA:1649:G:O2'	37:RR:107:ASP:OD2	2.32	0.40
25:RA:2685:G:P	39:RT:51:ARG:HH22	2.44	0.40
28:RE:55:ASN:HD22	28:RE:58:ARG:HB2	1.87	0.40
28:RE:197:ILE:HD11	28:RE:199:ARG:CZ	2.50	0.40
31:RH:98:LEU:HB2	31:RH:125:VAL:HB	2.03	0.40
32:RI:30:LEU:HD22	32:RI:35:LEU:HD11	2.02	0.40
35:RP:114:ILE:HD11	35:RP:130:PHE:CD2	2.57	0.40
36:RQ:58:PHE:CD1	36:RQ:61:GLY:HA3	2.56	0.40
45:RZ:48:PHE:HE1	45:RZ:71:VAL:HG21	1.87	0.40
2:XB:19:HIS:NE2	2:XB:206:ASP:HB2	2.36	0.40
25:YA:196:A:O2'	25:YA:805:G:O6	2.34	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:271:G:H2'	25:YA:272:G:H8	1.86	0.40
25:YA:1797:C:H4'	27:YD:257:LEU:O	2.21	0.40
25:YA:1826:G:H4'	27:YD:242:ARG:NH2	2.36	0.40
25:YA:1843:C:H5'	27:YD:253:GLN:OE1	2.21	0.40
25:YA:1869:G:H5'	25:YA:1870:C:OP2	2.20	0.40
25:YA:2334:G:H4'	25:YA:2335:A:OP2	2.21	0.40
25:YA:2633:G:H2'	25:YA:2634:G:O4'	2.21	0.40
29:YF:28:ILE:H	29:YF:28:ILE:HG13	1.68	0.40
29:YF:67:GLN:O	29:YF:67:GLN:HG3	2.21	0.40
31:YH:15:VAL:HG21	31:YH:76:VAL:CG1	2.44	0.40
51:Y5:33:CYS:HG	51:Y5:36:CYS:HG	1.62	0.40
52:Y6:13:CYS:HB2	52:Y6:22:ALA:HB3	2.03	0.40
1:QA:337:C:H2'	1:QA:338:A:C8	2.57	0.40
1:QA:1325:C:OP2	21:QU:6:ARG:NH2	2.49	0.40
6:QF:33:TYR:CE1	6:QF:78:GLU:HG2	2.56	0.40
10:QJ:4:ILE:HA	10:QJ:100:THR:HG22	2.02	0.40
25:RA:303:U:H2'	25:RA:304:G:C8	2.56	0.40
25:RA:341:G:H2'	25:RA:342:G:O4'	2.21	0.40
25:RA:722:A:H3'	25:RA:723:G:H8	1.87	0.40
25:RA:960:A:H5''	25:RA:961:C:OP1	2.22	0.40
25:RA:1430:C:H2'	25:RA:1431:U:C6	2.57	0.40
25:RA:2262:U:H2'	25:RA:2263:C:C6	2.56	0.40
27:RD:26:LYS:H	27:RD:26:LYS:HD2	1.87	0.40
28:RE:7:VAL:HG11	39:RT:1:MET:HE3	2.03	0.40
31:RH:103:LEU:HG	31:RH:105:LEU:HD12	2.02	0.40
35:RP:62:LEU:O	54:R8:13:ARG:HB2	2.22	0.40
38:RS:23:ARG:HB2	38:RS:86:ALA:HB2	2.03	0.40
45:RZ:92:SER:HB3	45:RZ:93:ASP:H	1.66	0.40
51:R5:58:LEU:H	51:R5:58:LEU:CD1	2.22	0.40
54:R8:49:VAL:HG23	54:R8:53:PRO:HB3	2.04	0.40
1:XA:376:G:OP1	16:XP:5:ARG:HB2	2.21	0.40
1:XA:401:C:H2'	1:XA:402:G:C8	2.56	0.40
1:XA:514:C:H2'	1:XA:515:G:H8	1.87	0.40
1:XA:625:G:H4'	16:XP:16:HIS:CD2	2.56	0.40
1:XA:986:A:H2'	1:XA:987:G:O4'	2.21	0.40
4:XD:186:LEU:HD23	4:XD:186:LEU:HA	1.95	0.40
5:XE:51:VAL:HB	5:XE:52:PRO:HD3	2.04	0.40
10:XJ:77:PRO:O	10:XJ:79:ARG:NH1	2.54	0.40
12:XL:90:VAL:O	12:XL:92:ASP:N	2.54	0.40
16:XP:60:LEU:HD23	16:XP:60:LEU:HA	1.80	0.40
19:XS:36:ARG:HA	19:XS:71:LEU:HB2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:XV:14:G:N2	22:XV:48:C:H42	2.19	0.40
25:YA:357:A:H2'	25:YA:358:U:C6	2.57	0.40
25:YA:1688:U:O2	25:YA:1700:A:H5''	2.21	0.40
25:YA:1754:C:H2'	25:YA:1755:A:O4'	2.21	0.40
25:YA:1930:G:H2'	25:YA:1968:G:N1	2.36	0.40
28:YE:49:LEU:HD12	28:YE:49:LEU:HA	1.72	0.40
29:YF:64:ILE:HA	29:YF:64:ILE:HD12	1.80	0.40
32:YI:38:LEU:H	32:YI:38:LEU:HD12	1.86	0.40
33:YN:65:LYS:H	33:YN:65:LYS:HG2	1.60	0.40
38:YS:69:VAL:HA	38:YS:72:ALA:HB3	2.03	0.40
40:YU:19:LYS:O	40:YU:22:LYS:HB2	2.21	0.40
45:YZ:96:VAL:CG1	45:YZ:128:VAL:O	2.66	0.40
50:Y4:14:ILE:O	50:Y4:14:ILE:HG23	2.21	0.40
1:QA:298:A:H2'	1:QA:299:G:O4'	2.22	0.40
1:QA:422:C:O2'	1:QA:423:G:H5''	2.22	0.40
1:QA:766:A:H2'	1:QA:767:A:O4'	2.21	0.40
1:QA:976:G:N2	1:QA:1362:C:H2'	2.36	0.40
1:QA:985:C:H2'	1:QA:986:A:C8	2.57	0.40
1:QA:1187:G:OP1	9:QI:113:LYS:NZ	2.53	0.40
1:QA:1300:G:N1	1:QA:1335:C:O4'	2.55	0.40
3:QC:71:ALA:HB2	3:QC:109:PRO:HB3	2.04	0.40
4:QD:176:LEU:HD12	4:QD:182:LYS:O	2.21	0.40
8:QH:91:ARG:CB	12:QL:7:ILE:HG13	2.44	0.40
10:QJ:61:GLU:OE1	14:QN:58:LYS:HE2	2.21	0.40
13:QM:4:ILE:H	13:QM:9:ILE:CG2	2.35	0.40
13:QM:40:ASN:HA	13:QM:41:PRO:HD3	1.89	0.40
15:QO:54:ARG:HG2	15:QO:58:MET:HE2	2.03	0.40
23:QW:16:U:H3'	23:QW:17:C:C5'	2.51	0.40
25:RA:121:G:H4'	25:RA:149:A:H5'	2.03	0.40
25:RA:516:C:OP1	51:R5:13:LYS:NZ	2.54	0.40
25:RA:1011:G:C2	25:RA:1013:C:C2	3.10	0.40
25:RA:1061:U:H3'	25:RA:1062:G:H5''	2.02	0.40
25:RA:1174:A:H2'	25:RA:1174:A:N3	2.35	0.40
25:RA:1312:U:H1'	25:RA:1313:U:OP2	2.22	0.40
25:RA:2060:A:O3'	29:RF:68:LYS:NZ	2.54	0.40
25:RA:2605:U:H2'	25:RA:2606:C:C6	2.56	0.40
26:RB:38:C:O2	26:RB:48:A:H1'	2.22	0.40
27:RD:35:LYS:HB3	27:RD:63:ARG:HA	2.04	0.40
27:RD:96:HIS:CD2	27:RD:102:LYS:HG2	2.56	0.40
28:RE:26:ILE:O	28:RE:26:ILE:HG12	2.18	0.40
28:RE:36:ARG:HB3	28:RE:36:ARG:HH11	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RF:29:ASN:HB3	29:RF:32:LEU:HD23	2.04	0.40
29:RF:116:ASP:OD2	35:RP:1:MET:N	2.54	0.40
29:RF:181:LEU:HD22	29:RF:181:LEU:HA	1.79	0.40
31:RH:30:LYS:HD2	31:RH:81:GLU:H	1.86	0.40
32:RI:138:ILE:HG12	32:RI:139:GLN:N	2.37	0.40
33:RN:108:PRO:O	33:RN:113:GLY:HA3	2.21	0.40
36:RQ:72:LYS:HB3	36:RQ:94:VAL:O	2.22	0.40
39:RT:120:ARG:HA	39:RT:123:GLN:NE2	2.37	0.40
44:RY:11:ASP:O	44:RY:26:LYS:HG3	2.21	0.40
44:RY:64:GLU:H	44:RY:64:GLU:HG2	1.64	0.40
47:R1:87:PRO:O	47:R1:91:LYS:HB2	2.21	0.40
47:R1:95:LEU:HD23	47:R1:95:LEU:HA	1.94	0.40
1:XA:1347:G:H22	1:XA:1374:A:P	2.43	0.40
2:XB:15:VAL:C	2:XB:16:HIS:CG	2.99	0.40
4:XD:165:MET:O	4:XD:167:GLY:N	2.54	0.40
5:XE:34:VAL:HG11	5:XE:63:ARG:HG2	2.03	0.40
5:XE:89:ILE:HG12	5:XE:91:LEU:CD1	2.52	0.40
6:XF:16:GLN:HA	6:XF:19:LEU:HB2	2.03	0.40
12:XL:68:ALA:HB1	12:XL:100:ILE:HG13	2.03	0.40
19:XS:15:LEU:HA	19:XS:18:LYS:HB3	2.04	0.40
25:YA:900:A:H3'	25:YA:901:A:C8	2.54	0.40
25:YA:1186:G:H2'	25:YA:1187:G:O4'	2.20	0.40
25:YA:1329:U:H5''	25:YA:1330:C:H5	1.86	0.40
25:YA:2010:G:H5''	42:YW:42:ARG:HB2	2.03	0.40
25:YA:2579:C:H2'	25:YA:2580:U:O4'	2.21	0.40
25:YA:2776:A:OP1	25:YA:2776:A:H3'	2.21	0.40
29:YF:125:LEU:HD21	29:YF:199:TRP:CE3	2.57	0.40
29:YF:168:ARG:HG3	29:YF:175:THR:HG21	2.02	0.40
31:YH:46:GLU:OE1	31:YH:51:ARG:NH1	2.54	0.40
40:YU:61:TRP:O	40:YU:65:ILE:HG13	2.22	0.40
41:YV:21:ARG:HD2	41:YV:91:TYR:CE1	2.56	0.40
49:Y3:12:PRO:O	49:Y3:14:GLY:N	2.55	0.40
52:Y6:28:ARG:HA	52:Y6:28:ARG:HD2	1.86	0.40
1:QA:148:G:H2'	1:QA:149:A:C8	2.55	0.40
1:QA:181:G:HO2'	1:QA:182:U:P	2.45	0.40
1:QA:376:G:H5''	16:QP:5:ARG:HB2	2.02	0.40
1:QA:410:G:H4'	1:QA:411:A:OP1	2.21	0.40
1:QA:486:U:H2'	1:QA:487:A:H8	1.87	0.40
1:QA:1469:G:H2'	1:QA:1470:G:C8	2.57	0.40
3:QC:7:PRO:O	3:QC:11:ARG:NH1	2.54	0.40
4:QD:46:LYS:HD3	4:QD:46:LYS:HA	1.78	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:195:ALA:O	6:XF:16:GLN:HB3	2.22	0.40
5:QE:50:GLU:HG3	5:QE:52:PRO:HD2	2.04	0.40
6:QF:21:LEU:O	6:QF:25:ILE:HG12	2.20	0.40
9:QI:40:LEU:C	9:QI:42:ARG:H	2.30	0.40
25:RA:71:A:H5''	25:RA:72:U:O5'	2.21	0.40
25:RA:196:A:O2'	25:RA:805:G:O6	2.32	0.40
25:RA:379:G:N2	47:R1:42:GLN:OE1	2.48	0.40
25:RA:380:U:H2'	25:RA:381:G:C8	2.56	0.40
25:RA:955:C:OP2	36:RQ:14:ARG:HD2	2.21	0.40
25:RA:2123:G:H2'	25:RA:2124:G:C8	2.54	0.40
25:RA:2308:G:C2	25:RA:2311:A:H2	2.37	0.40
27:RD:44:ASN:HB2	27:RD:49:ILE:HA	2.02	0.40
27:RD:209:ALA:O	27:RD:212:SER:HB2	2.22	0.40
33:RN:17:ASP:O	33:RN:19:GLU:N	2.54	0.40
34:RO:66:LYS:HA	34:RO:79:PHE:O	2.22	0.40
35:RP:25:SER:OG	35:RP:26:GLY:O	2.38	0.40
39:RT:26:ASP:CB	39:RT:91:ARG:HA	2.52	0.40
45:RZ:10:ARG:HH21	45:RZ:26:GLY:H	1.69	0.40
46:R0:68:GLU:HG2	46:R0:80:HIS:HB2	2.04	0.40
51:R5:46:CYS:HA	51:R5:47:PRO:HD2	1.86	0.40
1:XA:545:C:H2'	1:XA:546:G:O4'	2.21	0.40
1:XA:575:G:O2'	1:XA:821:G:H5'	2.22	0.40
1:XA:611:A:H61	1:XA:629:G:H1	1.68	0.40
3:XC:20:SER:HB2	3:XC:40:ARG:NH2	2.28	0.40
3:XC:56:ASP:HB2	3:XC:67:THR:HB	2.03	0.40
9:XI:5:TYR:HA	9:XI:17:VAL:O	2.21	0.40
9:XI:75:ASP:HA	9:XI:78:LYS:HB3	2.04	0.40
11:XK:18:ARG:HB3	11:XK:33:THR:OG1	2.21	0.40
12:XL:18:VAL:HG23	12:XL:19:ARG:H	1.86	0.40
12:XL:38:THR:CG2	12:XL:57:LYS:HB3	2.49	0.40
12:XL:85:ILE:HD12	12:XL:85:ILE:HA	1.74	0.40
23:XW:41:C:H2'	23:XW:42:C:O4'	2.21	0.40
25:YA:57:C:H2'	25:YA:58:G:O4'	2.21	0.40
25:YA:535:C:O3'	40:YU:53:ARG:NH1	2.54	0.40
25:YA:1417:C:H2'	25:YA:1418:G:O4'	2.21	0.40
25:YA:1782:C:H1'	25:YA:2609:U:H5''	2.03	0.40
25:YA:1932:A:H2'	25:YA:1933:G:O4'	2.21	0.40
25:YA:2577:A:H2'	25:YA:2614:A:N6	2.36	0.40
27:YD:150:LYS:HA	27:YD:150:LYS:HD3	1.94	0.40
29:YF:122:LYS:HD3	29:YF:122:LYS:HA	1.86	0.40
29:YF:198:ALA:HA	29:YF:201:VAL:HG12	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YI:1:MET:HE3	32:YI:27:ARG:NH2	2.36	0.40
39:YT:19:LEU:HA	39:YT:20:PRO:HD3	1.91	0.40
40:YU:17:ILE:HD13	40:YU:17:ILE:HA	1.92	0.40
41:YV:3:ALA:HA	41:YV:40:LEU:O	2.21	0.40
47:Y1:87:PRO:O	47:Y1:91:LYS:HB2	2.20	0.40
49:Y3:5:LYS:HE3	49:Y3:34:GLU:OE2	2.22	0.40
49:Y3:52:HIS:CD2	49:Y3:53:LEU:HG	2.57	0.40

All (1) 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)
25:RA:2197:U:OP1	4:XD:159:ARG:NH2[4_555]	2.05	0.15

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	QB	235/256 (92%)	173 (74%)	45 (19%)	17 (7%)	1	10
2	XB	235/256 (92%)	177 (75%)	43 (18%)	15 (6%)	1	12
3	QC	203/239 (85%)	163 (80%)	34 (17%)	6 (3%)	3	25
3	XC	203/239 (85%)	171 (84%)	29 (14%)	3 (2%)	8	37
4	QD	206/209 (99%)	177 (86%)	22 (11%)	7 (3%)	3	23
4	XD	206/209 (99%)	178 (86%)	23 (11%)	5 (2%)	4	29
5	QE	149/162 (92%)	136 (91%)	8 (5%)	5 (3%)	3	23
5	XE	149/162 (92%)	133 (89%)	13 (9%)	3 (2%)	6	32
6	QF	99/101 (98%)	93 (94%)	3 (3%)	3 (3%)	3	25
6	XF	99/101 (98%)	94 (95%)	5 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	QG	153/156 (98%)	135 (88%)	16 (10%)	2 (1%)	9	39
7	XG	153/156 (98%)	138 (90%)	13 (8%)	2 (1%)	9	39
8	QH	136/138 (99%)	121 (89%)	14 (10%)	1 (1%)	18	51
8	XH	136/138 (99%)	120 (88%)	12 (9%)	4 (3%)	3	26
9	QI	125/128 (98%)	103 (82%)	17 (14%)	5 (4%)	2	20
9	XI	125/128 (98%)	97 (78%)	24 (19%)	4 (3%)	3	24
10	QJ	97/105 (92%)	75 (77%)	19 (20%)	3 (3%)	3	25
10	XJ	97/105 (92%)	78 (80%)	14 (14%)	5 (5%)	1	15
11	QK	117/129 (91%)	100 (86%)	14 (12%)	3 (3%)	4	27
11	XK	117/129 (91%)	100 (86%)	15 (13%)	2 (2%)	7	35
12	QL	123/132 (93%)	98 (80%)	18 (15%)	7 (6%)	1	13
12	XL	123/132 (93%)	97 (79%)	14 (11%)	12 (10%)	0	6
13	QM	119/126 (94%)	95 (80%)	15 (13%)	9 (8%)	1	9
13	XM	119/126 (94%)	94 (79%)	15 (13%)	10 (8%)	0	7
14	QN	58/61 (95%)	49 (84%)	5 (9%)	4 (7%)	1	11
14	XN	58/61 (95%)	46 (79%)	6 (10%)	6 (10%)	0	5
15	QO	86/89 (97%)	80 (93%)	5 (6%)	1 (1%)	10	41
15	XO	86/89 (97%)	80 (93%)	4 (5%)	2 (2%)	5	30
16	QP	82/88 (93%)	73 (89%)	8 (10%)	1 (1%)	10	41
16	XP	82/88 (93%)	71 (87%)	10 (12%)	1 (1%)	10	41
17	QQ	98/105 (93%)	91 (93%)	5 (5%)	2 (2%)	6	32
17	XQ	98/105 (93%)	88 (90%)	10 (10%)	0	100	100
18	QR	68/88 (77%)	56 (82%)	9 (13%)	3 (4%)	2	18
18	XR	68/88 (77%)	61 (90%)	6 (9%)	1 (2%)	8	37
19	QS	82/93 (88%)	55 (67%)	16 (20%)	11 (13%)	0	3
19	XS	82/93 (88%)	54 (66%)	17 (21%)	11 (13%)	0	3
20	QT	97/106 (92%)	76 (78%)	15 (16%)	6 (6%)	1	12
20	XT	97/106 (92%)	75 (77%)	16 (16%)	6 (6%)	1	12
21	QU	23/27 (85%)	19 (83%)	3 (13%)	1 (4%)	2	18
21	XU	23/27 (85%)	18 (78%)	4 (17%)	1 (4%)	2	18
27	RD	270/276 (98%)	226 (84%)	32 (12%)	12 (4%)	2	18

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
27	YD	270/276 (98%)	228 (84%)	33 (12%)	9 (3%)	3	24
28	RE	203/206 (98%)	148 (73%)	35 (17%)	20 (10%)	0	6
28	YE	203/206 (98%)	144 (71%)	42 (21%)	17 (8%)	0	7
29	RF	200/210 (95%)	170 (85%)	18 (9%)	12 (6%)	1	13
29	YF	200/210 (95%)	168 (84%)	24 (12%)	8 (4%)	2	20
30	RG	179/182 (98%)	139 (78%)	26 (14%)	14 (8%)	1	8
30	YG	179/182 (98%)	142 (79%)	25 (14%)	12 (7%)	1	11
31	RH	168/180 (93%)	116 (69%)	33 (20%)	19 (11%)	0	4
31	YH	168/180 (93%)	124 (74%)	23 (14%)	21 (12%)	0	4
32	RI	144/148 (97%)	104 (72%)	27 (19%)	13 (9%)	0	6
32	YI	144/148 (97%)	107 (74%)	20 (14%)	17 (12%)	0	4
33	RN	136/140 (97%)	104 (76%)	20 (15%)	12 (9%)	0	7
33	YN	136/140 (97%)	105 (77%)	17 (12%)	14 (10%)	0	5
34	RO	120/122 (98%)	109 (91%)	9 (8%)	2 (2%)	7	35
34	YO	120/122 (98%)	108 (90%)	10 (8%)	2 (2%)	7	35
35	RP	148/150 (99%)	106 (72%)	28 (19%)	14 (10%)	0	6
35	YP	148/150 (99%)	108 (73%)	22 (15%)	18 (12%)	0	4
36	RQ	139/141 (99%)	99 (71%)	22 (16%)	18 (13%)	0	3
36	YQ	139/141 (99%)	98 (70%)	22 (16%)	19 (14%)	0	3
37	RR	116/118 (98%)	106 (91%)	5 (4%)	5 (4%)	2	18
37	YR	116/118 (98%)	99 (85%)	11 (10%)	6 (5%)	1	15
38	RS	109/112 (97%)	76 (70%)	22 (20%)	11 (10%)	0	5
38	YS	109/112 (97%)	79 (72%)	17 (16%)	13 (12%)	0	4
39	RT	135/146 (92%)	107 (79%)	16 (12%)	12 (9%)	0	7
39	YT	135/146 (92%)	108 (80%)	17 (13%)	10 (7%)	1	9
40	RU	115/118 (98%)	102 (89%)	9 (8%)	4 (4%)	3	23
40	YU	115/118 (98%)	102 (89%)	9 (8%)	4 (4%)	3	23
41	RV	99/101 (98%)	82 (83%)	11 (11%)	6 (6%)	1	13
41	YV	99/101 (98%)	79 (80%)	12 (12%)	8 (8%)	1	8
42	RW	111/113 (98%)	99 (89%)	8 (7%)	4 (4%)	2	22
42	YW	111/113 (98%)	100 (90%)	9 (8%)	2 (2%)	6	34

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
43	RX	90/96 (94%)	77 (86%)	11 (12%)	2 (2%)	5	30
43	YX	90/96 (94%)	82 (91%)	6 (7%)	2 (2%)	5	30
44	RY	100/110 (91%)	71 (71%)	13 (13%)	16 (16%)	0	2
44	YY	100/110 (91%)	70 (70%)	18 (18%)	12 (12%)	0	4
45	RZ	181/206 (88%)	126 (70%)	34 (19%)	21 (12%)	0	4
45	YZ	181/206 (88%)	125 (69%)	38 (21%)	18 (10%)	0	6
46	R0	80/85 (94%)	65 (81%)	14 (18%)	1 (1%)	9	39
46	Y0	80/85 (94%)	73 (91%)	7 (9%)	0	100	100
47	R1	95/98 (97%)	76 (80%)	10 (10%)	9 (10%)	0	6
47	Y1	95/98 (97%)	72 (76%)	17 (18%)	6 (6%)	1	12
48	R2	67/72 (93%)	53 (79%)	9 (13%)	5 (8%)	1	9
48	Y2	67/72 (93%)	55 (82%)	6 (9%)	6 (9%)	0	6
49	R3	57/60 (95%)	52 (91%)	3 (5%)	2 (4%)	3	23
49	Y3	57/60 (95%)	52 (91%)	4 (7%)	1 (2%)	6	34
50	R4	69/71 (97%)	35 (51%)	18 (26%)	16 (23%)	0	0
50	Y4	69/71 (97%)	35 (51%)	15 (22%)	19 (28%)	0	0
51	R5	57/60 (95%)	47 (82%)	7 (12%)	3 (5%)	1	14
51	Y5	55/60 (92%)	45 (82%)	9 (16%)	1 (2%)	6	34
52	R6	47/54 (87%)	23 (49%)	13 (28%)	11 (23%)	0	0
52	Y6	47/54 (87%)	22 (47%)	17 (36%)	8 (17%)	0	2
53	R7	47/49 (96%)	45 (96%)	1 (2%)	1 (2%)	5	31
53	Y7	47/49 (96%)	43 (92%)	3 (6%)	1 (2%)	5	31
54	R8	62/65 (95%)	51 (82%)	6 (10%)	5 (8%)	1	8
54	Y8	62/65 (95%)	48 (77%)	10 (16%)	4 (6%)	1	12
55	R9	35/37 (95%)	35 (100%)	0	0	100	100
55	Y9	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
56	Z7	7/12 (58%)	5 (71%)	2 (29%)	0	100	100
56	Z8	7/12 (58%)	3 (43%)	3 (43%)	1 (14%)	0	3
All	All	11482/12152 (94%)	9247 (80%)	1516 (13%)	719 (6%)	1	12

All (719) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	QB	236	TYR
3	QC	12	LEU
3	QC	190	ARG
4	QD	28	SER
6	QF	16	GLN
6	QF	17	SER
6	QF	18	GLN
13	QM	67	GLU
13	QM	106	ASN
13	QM	118	ALA
14	QN	16	PHE
19	QS	12	ASP
19	QS	45	VAL
20	QT	49	ALA
27	RD	26	LYS
27	RD	122	ASP
27	RD	242	ARG
28	RE	53	PRO
28	RE	63	LEU
28	RE	68	ALA
28	RE	71	GLY
28	RE	93	VAL
31	RH	12	PRO
31	RH	86	GLU
31	RH	126	PRO
31	RH	154	PRO
31	RH	168	PRO
31	RH	169	VAL
32	RI	115	ALA
32	RI	133	HIS
33	RN	9	VAL
33	RN	22	THR
33	RN	96	GLU
33	RN	131	GLN
34	RO	5	GLN
35	RP	6	LEU
35	RP	10	PRO
35	RP	11	GLY
35	RP	15	ARG
35	RP	65	ARG
35	RP	95	VAL
35	RP	141	ALA
35	RP	148	LEU

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Mol	Chain	Res	Type
36	RQ	22	LYS
36	RQ	66	ILE
36	RQ	78	PRO
36	RQ	90	VAL
36	RQ	139	GLU
37	RR	3	HIS
37	RR	4	LEU
38	RS	57	LYS
38	RS	88	ASP
38	RS	89	ARG
39	RT	2	ASN
39	RT	3	ARG
39	RT	106	SER
39	RT	112	ARG
39	RT	124	ASP
40	RU	91	ASP
41	RV	48	GLY
41	RV	50	PRO
41	RV	100	ARG
42	RW	111	HIS
44	RY	3	VAL
44	RY	50	ARG
44	RY	57	GLN
44	RY	77	PRO
44	RY	78	ALA
45	RZ	13	GLU
45	RZ	111	VAL
48	R2	47	ASN
48	R2	48	HIS
48	R2	70	GLN
48	R2	71	ASN
50	R4	16	CYS
50	R4	18	CYS
50	R4	40	HIS
50	R4	43	TYR
50	R4	49	PHE
50	R4	50	VAL
50	R4	53	GLU
51	R5	4	HIS
51	R5	53	ALA
52	R6	15	GLU
54	R8	34	TRP

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Mol	Chain	Res	Type
54	R8	52	LYS
54	R8	62	LEU
2	XB	230	VAL
2	XB	236	TYR
3	XC	12	LEU
3	XC	79	ARG
4	XD	154	ASN
11	XK	91	ARG
12	XL	47	LYS
12	XL	49	ASN
12	XL	51	ALA
12	XL	64	TYR
13	XM	67	GLU
13	XM	106	ASN
13	XM	118	ALA
14	XN	14	PRO
14	XN	16	PHE
14	XN	52	GLN
19	XS	3	ARG
19	XS	12	ASP
20	XT	48	LYS
20	XT	96	GLY
27	YD	26	LYS
27	YD	28	GLU
27	YD	122	ASP
27	YD	123	ALA
28	YE	2	LYS
28	YE	19	ARG
28	YE	53	PRO
28	YE	63	LEU
28	YE	71	GLY
29	YF	73	ALA
29	YF	134	GLY
30	YG	96	ARG
31	YH	3	ARG
31	YH	12	PRO
31	YH	86	GLU
31	YH	126	PRO
31	YH	127	GLU
31	YH	128	PRO
31	YH	153	LYS
31	YH	155	SER

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Mol	Chain	Res	Type
31	YH	168	PRO
31	YH	169	VAL
32	YI	133	HIS
32	YI	145	VAL
33	YN	9	VAL
33	YN	22	THR
33	YN	36	GLY
35	YP	6	LEU
35	YP	10	PRO
35	YP	14	LYS
35	YP	15	ARG
35	YP	25	SER
35	YP	27	HIS
35	YP	95	VAL
35	YP	106	LEU
35	YP	148	LEU
36	YQ	18	LYS
36	YQ	22	LYS
36	YQ	25	ASP
36	YQ	79	LEU
36	YQ	86	GLY
36	YQ	90	VAL
36	YQ	134	ARG
37	YR	3	HIS
38	YS	82	ILE
38	YS	88	ASP
38	YS	107	GLU
39	YT	2	ASN
39	YT	123	GLN
39	YT	124	ASP
40	YU	90	VAL
40	YU	91	ASP
40	YU	93	LYS
41	YV	45	THR
43	YX	68	ARG
44	YY	50	ARG
44	YY	57	GLN
44	YY	77	PRO
44	YY	78	ALA
45	YZ	6	LYS
45	YZ	53	ILE
45	YZ	146	ILE

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Mol	Chain	Res	Type
45	YZ	152	ALA
45	YZ	159	PRO
47	Y1	30	VAL
47	Y1	84	GLY
47	Y1	91	LYS
47	Y1	95	LEU
48	Y2	16	LEU
48	Y2	43	GLN
48	Y2	47	ASN
48	Y2	48	HIS
50	Y4	24	THR
50	Y4	40	HIS
50	Y4	49	PHE
51	Y5	4	HIS
52	Y6	15	GLU
53	Y7	48	LYS
54	Y8	52	LYS
54	Y8	62	LEU
2	QB	15	VAL
2	QB	96	ARG
2	QB	229	VAL
2	QB	230	VAL
2	QB	237	ALA
3	QC	79	ARG
4	QD	51	PRO
4	QD	154	ASN
5	QE	115	VAL
8	QH	129	VAL
9	QI	41	VAL
9	QI	117	HIS
11	QK	101	SER
12	QL	47	LYS
12	QL	91	LYS
13	QM	12	ASN
14	QN	12	ARG
17	QQ	74	LEU
17	QQ	81	ARG
19	QS	3	ARG
19	QS	11	VAL
19	QS	26	GLY
19	QS	31	ILE
19	QS	41	VAL

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Mol	Chain	Res	Type
27	RD	32	SER
28	RE	50	GLY
28	RE	60	ASN
28	RE	66	HIS
28	RE	72	VAL
28	RE	90	THR
28	RE	92	THR
28	RE	187	ALA
29	RF	17	ARG
29	RF	67	GLN
29	RF	73	ALA
29	RF	89	VAL
29	RF	134	GLY
29	RF	198	ALA
30	RG	4	ASP
30	RG	5	VAL
30	RG	14	GLU
30	RG	96	ARG
30	RG	137	GLU
30	RG	146	TYR
31	RH	137	ASP
31	RH	153	LYS
31	RH	155	SER
32	RI	10	GLU
32	RI	11	ASN
32	RI	102	SER
32	RI	117	GLU
32	RI	145	VAL
35	RP	90	ARG
35	RP	103	ALA
35	RP	106	LEU
36	RQ	6	ARG
36	RQ	25	ASP
36	RQ	27	VAL
36	RQ	133	ARG
37	RR	107	ASP
38	RS	4	LEU
38	RS	107	GLU
39	RT	37	GLY
40	RU	90	VAL
41	RV	49	THR
41	RV	79	VAL

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Mol	Chain	Res	Type
43	RX	41	ASN
44	RY	45	VAL
44	RY	48	ALA
44	RY	63	LYS
45	RZ	6	LYS
45	RZ	53	ILE
45	RZ	92	SER
45	RZ	153	SER
45	RZ	177	PRO
45	RZ	179	ASP
47	R1	30	VAL
47	R1	80	LEU
47	R1	84	GLY
47	R1	91	LYS
47	R1	95	LEU
48	R2	43	GLN
49	R3	26	LEU
50	R4	24	THR
50	R4	30	GLU
50	R4	51	ASP
50	R4	66	SER
51	R5	59	GLU
52	R6	7	ILE
52	R6	45	LYS
2	XB	15	VAL
4	XD	30	LYS
4	XD	166	LYS
5	XE	115	VAL
7	XG	55	GLY
8	XH	50	ARG
9	XI	41	VAL
9	XI	127	LYS
10	XJ	30	SER
10	XJ	86	MET
12	XL	63	GLY
12	XL	91	LYS
12	XL	115	LYS
13	XM	6	GLY
13	XM	21	TYR
19	XS	41	VAL
19	XS	45	VAL
20	XT	99	LEU

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Mol	Chain	Res	Type
27	YD	238	GLY
27	YD	242	ARG
28	YE	7	VAL
28	YE	204	ALA
29	YF	128	ALA
29	YF	132	VAL
29	YF	181	LEU
30	YG	4	ASP
30	YG	36	LYS
31	YH	13	LYS
31	YH	27	LYS
31	YH	50	VAL
31	YH	85	LYS
33	YN	23	LEU
33	YN	96	GLU
34	YO	5	GLN
35	YP	65	ARG
35	YP	66	GLY
35	YP	93	GLY
35	YP	141	ALA
36	YQ	6	ARG
36	YQ	60	ARG
36	YQ	137	TYR
37	YR	4	LEU
37	YR	45	ARG
37	YR	107	ASP
38	YS	12	PHE
38	YS	56	LEU
38	YS	109	GLY
39	YT	13	ARG
39	YT	39	ARG
39	YT	106	SER
41	YV	31	ALA
41	YV	48	GLY
41	YV	79	VAL
42	YW	111	HIS
44	YY	58	GLY
44	YY	102	CYS
45	YZ	13	GLU
45	YZ	81	ARG
48	Y2	70	GLN
48	Y2	71	ASN

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Mol	Chain	Res	Type
50	Y4	5	ILE
50	Y4	18	CYS
50	Y4	22	ILE
50	Y4	37	SER
50	Y4	43	TYR
50	Y4	50	VAL
52	Y6	7	ILE
52	Y6	16	CYS
52	Y6	33	LYS
2	QB	26	PRO
2	QB	87	ARG
2	QB	204	ASN
2	QB	207	ALA
3	QC	4	LYS
3	QC	51	GLY
4	QD	155	LEU
5	QE	77	PRO
10	QJ	30	SER
11	QK	103	LEU
11	QK	125	PHE
12	QL	28	LYS
13	QM	120	LYS
14	QN	14	PRO
15	QO	23	GLY
19	QS	9	VAL
19	QS	14	HIS
19	QS	28	LYS
20	QT	96	GLY
27	RD	46	GLN
27	RD	239	ARG
28	RE	79	ARG
28	RE	204	ALA
29	RF	133	ASN
30	RG	32	PRO
30	RG	116	ASP
31	RH	5	GLY
31	RH	8	PRO
31	RH	27	LYS
31	RH	55	PRO
31	RH	87	LEU
31	RH	138	LYS
32	RI	15	VAL

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Mol	Chain	Res	Type
32	RI	118	LYS
33	RN	8	GLN
33	RN	23	LEU
33	RN	95	PRO
33	RN	130	HIS
34	RO	97	ARG
35	RP	29	LYS
35	RP	67	MET
36	RQ	11	LYS
36	RQ	19	GLY
36	RQ	137	TYR
37	RR	74	LYS
38	RS	12	PHE
38	RS	61	ASN
39	RT	12	SER
39	RT	97	ALA
40	RU	117	GLN
44	RY	58	GLY
45	RZ	7	ALA
45	RZ	66	SER
45	RZ	116	VAL
45	RZ	119	GLU
45	RZ	152	ALA
47	R1	76	ARG
49	R3	27	GLY
52	R6	33	LYS
52	R6	35	GLU
52	R6	49	HIS
54	R8	31	HIS
54	R8	51	ALA
2	XB	13	ALA
2	XB	22	LYS
2	XB	24	TRP
2	XB	135	GLN
2	XB	207	ALA
4	XD	73	ARG
4	XD	155	LEU
7	XG	7	ALA
8	XH	2	LEU
9	XI	56	LEU
9	XI	95	LYS
10	XJ	59	SER

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Mol	Chain	Res	Type
11	XK	103	LEU
13	XM	4	ILE
13	XM	12	ASN
13	XM	42	ALA
19	XS	27	GLU
19	XS	28	LYS
27	YD	32	SER
28	YE	50	GLY
28	YE	79	ARG
28	YE	90	THR
28	YE	92	THR
28	YE	117	MET
28	YE	184	VAL
29	YF	198	ALA
31	YH	87	LEU
31	YH	137	ASP
31	YH	138	LYS
31	YH	151	ILE
32	YI	11	ASN
32	YI	12	LEU
32	YI	72	LEU
32	YI	113	ARG
32	YI	122	GLU
33	YN	7	LYS
33	YN	131	GLN
35	YP	16	ARG
35	YP	29	LYS
36	YQ	19	GLY
36	YQ	105	GLU
36	YQ	133	ARG
37	YR	86	ARG
38	YS	4	LEU
38	YS	11	LYS
38	YS	60	GLY
39	YT	97	ALA
41	YV	49	THR
41	YV	53	GLU
41	YV	100	ARG
44	YY	42	VAL
44	YY	63	LYS
45	YZ	59	LEU
45	YZ	92	SER

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Mol	Chain	Res	Type
45	YZ	160	GLY
45	YZ	166	SER
49	Y3	3	ARG
50	Y4	23	GLU
50	Y4	30	GLU
50	Y4	34	GLU
50	Y4	66	SER
52	Y6	19	ARG
52	Y6	49	HIS
54	Y8	30	ARG
54	Y8	34	TRP
56	Z8	2	GLY
2	QB	22	LYS
2	QB	126	GLU
2	QB	209	ARG
4	QD	171	GLY
9	QI	56	LEU
12	QL	27	LEU
12	QL	48	PRO
13	QM	6	GLY
13	QM	13	LYS
18	QR	20	ALA
18	QR	54	ARG
20	QT	71	THR
21	QU	9	ARG
27	RD	3	VAL
27	RD	123	ALA
27	RD	237	GLU
28	RE	78	LEU
29	RF	66	PRO
29	RF	197	ASP
30	RG	36	LYS
30	RG	86	MET
31	RH	92	ILE
32	RI	122	GLU
35	RP	21	ARG
36	RQ	21	THR
36	RQ	28	ALA
36	RQ	86	GLY
36	RQ	104	PHE
36	RQ	105	GLU
37	RR	71	GLN

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Mol	Chain	Res	Type
38	RS	109	GLY
39	RT	38	ASN
39	RT	39	ARG
40	RU	98	LEU
42	RW	18	ARG
42	RW	63	ASP
42	RW	68	ARG
43	RX	67	GLY
44	RY	4	LYS
44	RY	53	PRO
44	RY	99	CYS
45	RZ	165	VAL
52	R6	16	CYS
53	R7	48	LYS
2	XB	19	HIS
2	XB	101	MET
2	XB	155	LEU
5	XE	70	PRO
8	XH	129	VAL
12	XL	19	ARG
12	XL	28	LYS
14	XN	15	LYS
14	XN	32	SER
15	XO	88	ARG
18	XR	20	ALA
19	XS	9	VAL
20	XT	84	LEU
20	XT	98	PRO
21	XU	9	ARG
30	YG	14	GLU
30	YG	82	LEU
30	YG	86	MET
30	YG	116	ASP
31	YH	8	PRO
31	YH	83	TYR
32	YI	10	GLU
32	YI	87	LYS
32	YI	114	LEU
33	YN	11	PRO
33	YN	28	THR
33	YN	47	ALA
36	YQ	104	PHE

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Mol	Chain	Res	Type
36	YQ	140	ALA
38	YS	89	ARG
38	YS	96	GLY
39	YT	17	THR
43	YX	40	LYS
44	YY	51	VAL
44	YY	53	PRO
50	Y4	9	LEU
50	Y4	16	CYS
50	Y4	25	TYR
50	Y4	54	GLY
52	Y6	35	GLU
2	QB	234	PRO
4	QD	30	LYS
4	QD	42	GLN
5	QE	70	PRO
5	QE	96	PRO
7	QG	7	ALA
9	QI	121	ARG
12	QL	19	ARG
12	QL	121	GLY
13	QM	4	ILE
18	QR	26	LEU
20	QT	73	HIS
20	QT	97	ALA
27	RD	238	GLY
28	RE	21	VAL
28	RE	54	GLN
29	RF	8	GLN
30	RG	82	LEU
31	RH	21	PRO
31	RH	83	TYR
32	RI	12	LEU
32	RI	30	LEU
33	RN	18	ALA
33	RN	57	ALA
33	RN	135	PRO
38	RS	97	ARG
38	RS	110	LEU
44	RY	5	MET
44	RY	39	VAL
44	RY	41	GLY

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Mol	Chain	Res	Type
44	RY	62	GLU
45	RZ	12	GLY
45	RZ	51	ALA
45	RZ	61	LEU
45	RZ	158	PRO
45	RZ	181	GLU
46	R0	18	ALA
47	R1	74	VAL
47	R1	82	LEU
50	R4	5	ILE
50	R4	23	GLU
50	R4	28	LYS
50	R4	68	ARG
52	R6	9	LEU
52	R6	19	ARG
2	XB	121	LEU
3	XC	181	ASN
10	XJ	27	ALA
12	XL	27	LEU
12	XL	65	GLU
13	XM	101	GLN
15	XO	23	GLY
20	XT	97	ALA
27	YD	3	VAL
27	YD	46	GLN
28	YE	68	ALA
28	YE	82	ARG
28	YE	86	PRO
30	YG	5	VAL
30	YG	53	LEU
30	YG	117	PHE
32	YI	18	VAL
32	YI	71	ILE
32	YI	117	GLU
32	YI	118	LYS
33	YN	95	PRO
33	YN	134	ARG
33	YN	135	PRO
35	YP	11	GLY
35	YP	24	GLY
36	YQ	11	LYS
36	YQ	27	VAL

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Mol	Chain	Res	Type
38	YS	94	TYR
38	YS	110	LEU
39	YT	86	ILE
40	YU	117	GLN
41	YV	50	PRO
44	YY	3	VAL
44	YY	39	VAL
45	YZ	51	ALA
45	YZ	61	LEU
45	YZ	62	PRO
45	YZ	168	GLU
45	YZ	181	GLU
47	Y1	74	VAL
50	Y4	14	ILE
52	Y6	21	TYR
2	QB	155	LEU
10	QJ	82	ILE
13	QM	10	PRO
14	QN	15	LYS
20	QT	98	PRO
27	RD	125	ILE
28	RE	82	ARG
29	RF	130	ALA
30	RG	52	ILE
30	RG	88	ILE
30	RG	117	PHE
38	RS	82	ILE
39	RT	40	THR
45	RZ	62	PRO
45	RZ	166	SER
47	R1	55	GLY
50	R4	11	PRO
52	R6	21	TYR
52	R6	34	LEU
2	XB	26	PRO
2	XB	126	GLU
2	XB	237	ALA
10	XJ	91	PRO
13	XM	7	VAL
14	XN	60	SER
19	XS	7	LYS
28	YE	72	VAL

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Mol	Chain	Res	Type
29	YF	58	ALA
33	YN	127	ASP
34	YO	97	ARG
35	YP	7	ARG
36	YQ	62	GLY
47	Y1	55	GLY
50	Y4	60	GLN
2	QB	5	ILE
16	QP	46	PRO
28	RE	86	PRO
31	RH	166	GLY
36	RQ	81	VAL
5	XE	74	GLY
12	XL	18	VAL
32	YI	15	VAL
36	YQ	81	VAL
3	QC	81	GLY
5	QE	74	GLY
19	QS	46	GLY
27	RD	35	LYS
32	RI	13	GLY
19	XS	26	GLY
19	XS	46	GLY
29	YF	66	PRO
32	YI	16	GLY
39	YT	37	GLY
42	YW	14	PRO
45	YZ	101	PRO
7	QG	50	ILE
9	QI	89	ASN
10	QJ	37	PRO
33	RN	134	ARG
39	RT	86	ILE
8	XH	51	VAL
16	XP	46	PRO
19	XS	31	ILE
32	YI	13	GLY
29	RF	132	VAL
41	RV	54	GLY
30	YG	52	ILE
30	YG	88	ILE
31	YH	7	LEU

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Mol	Chain	Res	Type
37	YR	117	VAL
2	QB	227	GLY
45	YZ	94	GLU
28	RE	22	PRO

5.3.2 Protein sidechains ⓘ

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	QB	205/220 (93%)	169 (82%)	36 (18%)	2	12
2	XB	205/220 (93%)	181 (88%)	24 (12%)	5	25
3	QC	159/188 (85%)	147 (92%)	12 (8%)	12	39
3	XC	159/188 (85%)	146 (92%)	13 (8%)	10	36
4	QD	180/181 (99%)	155 (86%)	25 (14%)	3	19
4	XD	180/181 (99%)	153 (85%)	27 (15%)	3	17
5	QE	116/123 (94%)	102 (88%)	14 (12%)	5	23
5	XE	116/123 (94%)	100 (86%)	16 (14%)	3	20
6	QF	90/90 (100%)	79 (88%)	11 (12%)	5	23
6	XF	90/90 (100%)	77 (86%)	13 (14%)	3	18
7	QG	126/127 (99%)	115 (91%)	11 (9%)	9	34
7	XG	126/127 (99%)	112 (89%)	14 (11%)	6	27
8	QH	119/119 (100%)	105 (88%)	14 (12%)	5	24
8	XH	119/119 (100%)	106 (89%)	13 (11%)	6	27
9	QI	98/99 (99%)	80 (82%)	18 (18%)	1	10
9	XI	98/99 (99%)	77 (79%)	21 (21%)	1	7
10	QJ	89/92 (97%)	75 (84%)	14 (16%)	2	15
10	XJ	89/92 (97%)	74 (83%)	15 (17%)	2	13
11	QK	90/99 (91%)	79 (88%)	11 (12%)	5	23
11	XK	90/99 (91%)	81 (90%)	9 (10%)	7	30

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
12	QL	104/109 (95%)	91 (88%)	13 (12%)	4	22
12	XL	104/109 (95%)	89 (86%)	15 (14%)	3	18
13	QM	97/101 (96%)	73 (75%)	24 (25%)	1	4
13	XM	97/101 (96%)	79 (81%)	18 (19%)	1	10
14	QN	49/50 (98%)	40 (82%)	9 (18%)	1	10
14	XN	49/50 (98%)	42 (86%)	7 (14%)	3	19
15	QO	79/80 (99%)	72 (91%)	7 (9%)	9	33
15	XO	79/80 (99%)	68 (86%)	11 (14%)	3	19
16	QP	72/74 (97%)	62 (86%)	10 (14%)	3	19
16	XP	72/74 (97%)	66 (92%)	6 (8%)	10	35
17	QQ	95/97 (98%)	86 (90%)	9 (10%)	8	32
17	XQ	95/97 (98%)	88 (93%)	7 (7%)	13	39
18	QR	61/77 (79%)	50 (82%)	11 (18%)	2	11
18	XR	61/77 (79%)	50 (82%)	11 (18%)	2	11
19	QS	73/80 (91%)	59 (81%)	14 (19%)	1	9
19	XS	73/80 (91%)	56 (77%)	17 (23%)	1	5
20	QT	76/82 (93%)	66 (87%)	10 (13%)	4	21
20	XT	76/82 (93%)	66 (87%)	10 (13%)	4	21
21	QU	20/22 (91%)	20 (100%)	0	100	100
21	XU	20/22 (91%)	20 (100%)	0	100	100
27	RD	214/218 (98%)	171 (80%)	43 (20%)	1	8
27	YD	214/218 (98%)	175 (82%)	39 (18%)	2	11
28	RE	165/166 (99%)	121 (73%)	44 (27%)	0	3
28	YE	165/166 (99%)	132 (80%)	33 (20%)	1	8
29	RF	161/166 (97%)	127 (79%)	34 (21%)	1	7
29	YF	161/166 (97%)	134 (83%)	27 (17%)	2	13
30	RG	155/156 (99%)	135 (87%)	20 (13%)	4	22
30	YG	155/156 (99%)	131 (84%)	24 (16%)	2	16
31	RH	142/148 (96%)	115 (81%)	27 (19%)	1	9
31	YH	142/148 (96%)	111 (78%)	31 (22%)	1	7
32	RI	122/124 (98%)	96 (79%)	26 (21%)	1	7

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
32	YI	122/124 (98%)	90 (74%)	32 (26%)	0	4
33	RN	117/119 (98%)	94 (80%)	23 (20%)	1	8
33	YN	117/119 (98%)	94 (80%)	23 (20%)	1	8
34	RO	100/100 (100%)	91 (91%)	9 (9%)	9	33
34	YO	100/100 (100%)	85 (85%)	15 (15%)	3	17
35	RP	116/116 (100%)	83 (72%)	33 (28%)	0	3
35	YP	116/116 (100%)	80 (69%)	36 (31%)	0	2
36	RQ	111/111 (100%)	89 (80%)	22 (20%)	1	8
36	YQ	111/111 (100%)	94 (85%)	17 (15%)	3	16
37	RR	101/101 (100%)	81 (80%)	20 (20%)	1	8
37	YR	101/101 (100%)	80 (79%)	21 (21%)	1	7
38	RS	87/88 (99%)	67 (77%)	20 (23%)	1	6
38	YS	87/88 (99%)	65 (75%)	22 (25%)	0	4
39	RT	120/127 (94%)	101 (84%)	19 (16%)	2	15
39	YT	120/127 (94%)	93 (78%)	27 (22%)	1	6
40	RU	93/94 (99%)	79 (85%)	14 (15%)	3	17
40	YU	93/94 (99%)	79 (85%)	14 (15%)	3	17
41	RV	82/82 (100%)	63 (77%)	19 (23%)	1	5
41	YV	82/82 (100%)	66 (80%)	16 (20%)	1	9
42	RW	92/92 (100%)	73 (79%)	19 (21%)	1	7
42	YW	92/92 (100%)	75 (82%)	17 (18%)	1	10
43	RX	74/78 (95%)	61 (82%)	13 (18%)	2	12
43	YX	74/78 (95%)	59 (80%)	15 (20%)	1	8
44	RY	85/91 (93%)	56 (66%)	29 (34%)	0	1
44	YY	85/91 (93%)	62 (73%)	23 (27%)	0	3
45	RZ	162/179 (90%)	129 (80%)	33 (20%)	1	8
45	YZ	162/179 (90%)	131 (81%)	31 (19%)	1	9
46	R0	65/67 (97%)	58 (89%)	7 (11%)	6	28
46	Y0	65/67 (97%)	57 (88%)	8 (12%)	4	23
47	R1	82/83 (99%)	74 (90%)	8 (10%)	7	31
47	Y1	82/83 (99%)	69 (84%)	13 (16%)	2	15

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
48	R2	64/67 (96%)	49 (77%)	15 (23%)	1	5
48	Y2	64/67 (96%)	48 (75%)	16 (25%)	0	4
49	R3	51/52 (98%)	43 (84%)	8 (16%)	2	15
49	Y3	51/52 (98%)	44 (86%)	7 (14%)	3	20
50	R4	63/63 (100%)	44 (70%)	19 (30%)	0	2
50	Y4	63/63 (100%)	41 (65%)	22 (35%)	0	1
51	R5	51/52 (98%)	36 (71%)	15 (29%)	0	2
51	Y5	49/52 (94%)	36 (74%)	13 (26%)	0	3
52	R6	48/52 (92%)	32 (67%)	16 (33%)	0	2
52	Y6	48/52 (92%)	34 (71%)	14 (29%)	0	2
53	R7	42/42 (100%)	35 (83%)	7 (17%)	2	14
53	Y7	42/42 (100%)	35 (83%)	7 (17%)	2	14
54	R8	54/55 (98%)	43 (80%)	11 (20%)	1	8
54	Y8	54/55 (98%)	37 (68%)	17 (32%)	0	2
55	R9	34/34 (100%)	30 (88%)	4 (12%)	5	24
55	Y9	34/34 (100%)	31 (91%)	3 (9%)	9	33
56	Z7	5/7 (71%)	5 (100%)	0	100	100
56	Z8	5/7 (71%)	3 (60%)	2 (40%)	0	0
All	All	9710/10080 (96%)	8008 (82%)	1702 (18%)	2	12

All (1702) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	5	ILE
2	QB	6	THR
2	QB	7	VAL
2	QB	8	LYS
2	QB	15	VAL
2	QB	23	ARG
2	QB	24	TRP
2	QB	32	ILE
2	QB	53	ARG
2	QB	60	ASP
2	QB	63	MET
2	QB	67	THR
2	QB	75	LYS

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Mol	Chain	Res	Type
2	QB	76	GLN
2	QB	87	ARG
2	QB	92	TYR
2	QB	94	ASN
2	QB	101	MET
2	QB	109	SER
2	QB	119	GLU
2	QB	121	LEU
2	QB	155	LEU
2	QB	158	LEU
2	QB	165	VAL
2	QB	168	THR
2	QB	170	GLU
2	QB	172	ILE
2	QB	175	ARG
2	QB	187	LEU
2	QB	196	LEU
2	QB	204	ASN
2	QB	213	LEU
2	QB	215	LEU
2	QB	217	ARG
2	QB	221	LEU
2	QB	239	VAL
3	QC	3	ASN
3	QC	5	ILE
3	QC	12	LEU
3	QC	16	ARG
3	QC	21	ARG
3	QC	45	LYS
3	QC	76	VAL
3	QC	94	LEU
3	QC	154	SER
3	QC	165	THR
3	QC	178	LEU
3	QC	206	GLU
4	QD	3	ARG
4	QD	14	ARG
4	QD	22	LYS
4	QD	26	CYS
4	QD	30	LYS
4	QD	33	MET
4	QD	50	ARG

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Mol	Chain	Res	Type
4	QD	57	ARG
4	QD	58	LEU
4	QD	73	ARG
4	QD	76	ARG
4	QD	86	LYS
4	QD	88	VAL
4	QD	94	LEU
4	QD	96	LEU
4	QD	108	LEU
4	QD	122	ARG
4	QD	127	THR
4	QD	131	ARG
4	QD	135	LEU
4	QD	154	ASN
4	QD	175	SER
4	QD	190	ASP
4	QD	192	GLU
4	QD	196	LEU
5	QE	12	LEU
5	QE	13	ILE
5	QE	31	LEU
5	QE	34	VAL
5	QE	41	VAL
5	QE	51	VAL
5	QE	68	GLU
5	QE	79	GLU
5	QE	81	GLU
5	QE	90	VAL
5	QE	98	THR
5	QE	101	ILE
5	QE	115	VAL
5	QE	153	LYS
6	QF	16	GLN
6	QF	21	LEU
6	QF	37	VAL
6	QF	43	LEU
6	QF	45	LEU
6	QF	70	ASP
6	QF	72	VAL
6	QF	75	LEU
6	QF	81	ILE
6	QF	91	VAL

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Mol	Chain	Res	Type
6	QF	98	LEU
7	QG	8	GLU
7	QG	38	LEU
7	QG	54	THR
7	QG	80	VAL
7	QG	92	SER
7	QG	94	ARG
7	QG	104	LEU
7	QG	113	GLU
7	QG	135	VAL
7	QG	136	LYS
7	QG	137	LYS
8	QH	1	MET
8	QH	24	THR
8	QH	25	ASP
8	QH	26	VAL
8	QH	39	LEU
8	QH	41	ARG
8	QH	45	ILE
8	QH	54	ASP
8	QH	99	GLU
8	QH	109	ILE
8	QH	112	LEU
8	QH	121	ASP
8	QH	125	ARG
8	QH	129	VAL
9	QI	7	THR
9	QI	9	ARG
9	QI	10	ARG
9	QI	11	LYS
9	QI	23	ASN
9	QI	41	VAL
9	QI	47	LEU
9	QI	56	LEU
9	QI	64	THR
9	QI	65	VAL
9	QI	75	ASP
9	QI	86	VAL
9	QI	95	LYS
9	QI	104	ARG
9	QI	105	ASP
9	QI	114	TYR

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Mol	Chain	Res	Type
9	QI	118	LYS
9	QI	128	ARG
10	QJ	3	LYS
10	QJ	16	LEU
10	QJ	22	LYS
10	QJ	47	PHE
10	QJ	48	THR
10	QJ	54	PHE
10	QJ	57	LYS
10	QJ	58	ASP
10	QJ	62	HIS
10	QJ	74	ILE
10	QJ	80	LYS
10	QJ	84	GLN
10	QJ	92	THR
10	QJ	96	ILE
11	QK	21	ILE
11	QK	26	ASN
11	QK	29	ILE
11	QK	30	VAL
11	QK	32	ILE
11	QK	57	THR
11	QK	63	LEU
11	QK	92	GLU
11	QK	103	LEU
11	QK	109	VAL
11	QK	114	VAL
12	QL	17	LYS
12	QL	18	VAL
12	QL	27	LEU
12	QL	33	ARG
12	QL	38	THR
12	QL	42	THR
12	QL	57	LYS
12	QL	59	ARG
12	QL	60	LEU
12	QL	73	GLU
12	QL	83	VAL
12	QL	85	ILE
12	QL	102	ARG
13	QM	8	GLU
13	QM	13	LYS

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Mol	Chain	Res	Type
13	QM	17	VAL
13	QM	19	LEU
13	QM	45	VAL
13	QM	47	ASP
13	QM	48	LEU
13	QM	56	LEU
13	QM	57	ARG
13	QM	64	TRP
13	QM	66	LEU
13	QM	70	LEU
13	QM	77	ASN
13	QM	78	ILE
13	QM	84	ILE
13	QM	88	ARG
13	QM	90	LEU
13	QM	98	VAL
13	QM	108	ARG
13	QM	111	LYS
13	QM	114	ARG
13	QM	115	LYS
13	QM	117	VAL
13	QM	122	LYS
14	QN	6	LEU
14	QN	12	ARG
14	QN	13	THR
14	QN	18	VAL
14	QN	33	VAL
14	QN	43	CYS
14	QN	44	LEU
14	QN	46	GLU
14	QN	57	ARG
15	QO	3	ILE
15	QO	4	THR
15	QO	26	GLU
15	QO	31	LEU
15	QO	39	LEU
15	QO	64	ARG
15	QO	82	ILE
16	QP	2	VAL
16	QP	20	VAL
16	QP	26	ARG
16	QP	28	ARG

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Mol	Chain	Res	Type
16	QP	33	ILE
16	QP	53	VAL
16	QP	67	THR
16	QP	69	THR
16	QP	71	ARG
16	QP	74	LEU
17	QQ	37	LYS
17	QQ	38	ARG
17	QQ	43	LEU
17	QQ	52	LYS
17	QQ	59	ILE
17	QQ	62	SER
17	QQ	68	ARG
17	QQ	74	LEU
17	QQ	101	ARG
18	QR	26	LEU
18	QR	29	PHE
18	QR	31	LEU
18	QR	32	ARG
18	QR	36	ASN
18	QR	46	GLU
18	QR	54	ARG
18	QR	76	LEU
18	QR	82	THR
18	QR	83	GLU
18	QR	86	VAL
19	QS	5	LEU
19	QS	10	PHE
19	QS	11	VAL
19	QS	12	ASP
19	QS	21	GLU
19	QS	29	ARG
19	QS	30	LEU
19	QS	37	ARG
19	QS	43	GLU
19	QS	62	ILE
19	QS	63	THR
19	QS	67	VAL
19	QS	77	THR
19	QS	83	HIS
20	QT	17	ARG
20	QT	24	LEU

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Mol	Chain	Res	Type
20	QT	41	ILE
20	QT	45	GLN
20	QT	72	LEU
20	QT	73	HIS
20	QT	75	ASN
20	QT	84	LEU
20	QT	93	GLU
20	QT	99	LEU
27	RD	3	VAL
27	RD	5	LYS
27	RD	10	THR
27	RD	17	THR
27	RD	25	THR
27	RD	34	VAL
27	RD	40	THR
27	RD	44	ASN
27	RD	46	GLN
27	RD	49	ILE
27	RD	61	LEU
27	RD	64	ILE
27	RD	65	ILE
27	RD	69	ARG
27	RD	71	ASP
27	RD	73	VAL
27	RD	83	GLU
27	RD	87	ASN
27	RD	89	SER
27	RD	95	LEU
27	RD	98	VAL
27	RD	103	ARG
27	RD	105	ILE
27	RD	106	ILE
27	RD	111	LEU
27	RD	136	ILE
27	RD	147	LEU
27	RD	150	LYS
27	RD	155	LEU
27	RD	157	ARG
27	RD	169	GLU
27	RD	173	VAL
27	RD	192	THR
27	RD	193	VAL

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Mol	Chain	Res	Type
27	RD	212	SER
27	RD	221	VAL
27	RD	229	VAL
27	RD	237	GLU
27	RD	257	LEU
27	RD	259	THR
27	RD	261	LYS
27	RD	271	ILE
27	RD	273	ARG
28	RE	2	LYS
28	RE	4	ILE
28	RE	7	VAL
28	RE	12	THR
28	RE	13	ARG
28	RE	14	ILE
28	RE	16	ARG
28	RE	21	VAL
28	RE	26	ILE
28	RE	27	LEU
28	RE	33	VAL
28	RE	34	VAL
28	RE	38	THR
28	RE	41	LYS
28	RE	47	VAL
28	RE	49	LEU
28	RE	52	LEU
28	RE	54	GLN
28	RE	63	LEU
28	RE	75	VAL
28	RE	77	ILE
28	RE	79	ARG
28	RE	80	GLU
28	RE	82	ARG
28	RE	92	THR
28	RE	116	VAL
28	RE	117	MET
28	RE	119	ARG
28	RE	127	ASP
28	RE	134	ILE
28	RE	144	ARG
28	RE	146	THR
28	RE	154	LYS

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Mol	Chain	Res	Type
28	RE	167	VAL
28	RE	175	VAL
28	RE	179	GLU
28	RE	181	LEU
28	RE	184	VAL
28	RE	185	LYS
28	RE	188	VAL
28	RE	197	ILE
28	RE	200	GLU
28	RE	202	LYS
28	RE	203	LYS
29	RF	9	ILE
29	RF	11	VAL
29	RF	13	SER
29	RF	24	LEU
29	RF	28	ILE
29	RF	32	LEU
29	RF	33	LEU
29	RF	45	ARG
29	RF	52	LYS
29	RF	57	VAL
29	RF	65	TRP
29	RF	68	LYS
29	RF	70	THR
29	RF	74	ARG
29	RF	77	ASP
29	RF	78	ILE
29	RF	84	VAL
29	RF	104	LYS
29	RF	107	LYS
29	RF	108	LYS
29	RF	117	ARG
29	RF	127	GLU
29	RF	149	ASP
29	RF	154	VAL
29	RF	158	THR
29	RF	161	GLU
29	RF	165	ARG
29	RF	174	VAL
29	RF	176	LEU
29	RF	181	LEU
29	RF	183	VAL

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Mol	Chain	Res	Type
29	RF	192	LEU
29	RF	194	MET
29	RF	197	ASP
30	RG	7	LEU
30	RG	10	LYS
30	RG	20	ILE
30	RG	26	GLN
30	RG	34	LEU
30	RG	43	LEU
30	RG	45	GLU
30	RG	53	LEU
30	RG	54	GLU
30	RG	63	ILE
30	RG	67	LYS
30	RG	71	THR
30	RG	88	ILE
30	RG	94	LEU
30	RG	98	ARG
30	RG	118	ARG
30	RG	147	ASP
30	RG	159	VAL
30	RG	167	GLU
30	RG	174	GLU
31	RH	3	ARG
31	RH	4	ILE
31	RH	7	LEU
31	RH	9	ILE
31	RH	26	VAL
31	RH	27	LYS
31	RH	37	VAL
31	RH	42	ARG
31	RH	43	VAL
31	RH	44	VAL
31	RH	45	VAL
31	RH	50	VAL
31	RH	51	ARG
31	RH	59	ARG
31	RH	64	LEU
31	RH	77	LYS
31	RH	81	GLU
31	RH	88	LEU
31	RH	89	ILE

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Mol	Chain	Res	Type
31	RH	105	LEU
31	RH	107	VAL
31	RH	127	GLU
31	RH	132	ARG
31	RH	143	GLN
31	RH	153	LYS
31	RH	158	HIS
31	RH	169	VAL
32	RI	1	MET
32	RI	2	LYS
32	RI	9	LEU
32	RI	10	GLU
32	RI	27	ARG
32	RI	31	LEU
32	RI	33	ARG
32	RI	38	LEU
32	RI	44	LEU
32	RI	51	ILE
32	RI	56	LYS
32	RI	57	ARG
32	RI	72	LEU
32	RI	81	VAL
32	RI	88	ILE
32	RI	92	VAL
32	RI	97	ILE
32	RI	101	LEU
32	RI	128	LEU
32	RI	129	THR
32	RI	131	LYS
32	RI	135	GLU
32	RI	136	VAL
32	RI	138	ILE
32	RI	142	VAL
32	RI	145	VAL
33	RN	1	MET
33	RN	2	LYS
33	RN	5	VAL
33	RN	7	LYS
33	RN	12	ARG
33	RN	14	VAL
33	RN	30	ILE
33	RN	32	THR

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Mol	Chain	Res	Type
33	RN	33	LEU
33	RN	34	LEU
33	RN	43	THR
33	RN	48	MET
33	RN	60	ILE
33	RN	61	ARG
33	RN	62	VAL
33	RN	87	LEU
33	RN	90	MET
33	RN	96	GLU
33	RN	98	VAL
33	RN	107	LEU
33	RN	109	LYS
33	RN	120	LEU
33	RN	136	GLU
34	RO	9	GLU
34	RO	19	ILE
34	RO	24	VAL
34	RO	63	VAL
34	RO	69	ILE
34	RO	91	LEU
34	RO	98	VAL
34	RO	102	VAL
34	RO	115	VAL
35	RP	6	LEU
35	RP	7	ARG
35	RP	14	LYS
35	RP	15	ARG
35	RP	16	ARG
35	RP	18	ARG
35	RP	19	VAL
35	RP	21	ARG
35	RP	29	LYS
35	RP	30	THR
35	RP	36	LYS
35	RP	41	ARG
35	RP	45	LEU
35	RP	50	ARG
35	RP	56	SER
35	RP	59	LEU
35	RP	61	ARG
35	RP	62	LEU

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Mol	Chain	Res	Type
35	RP	67	MET
35	RP	68	GLN
35	RP	71	VAL
35	RP	75	ILE
35	RP	81	GLN
35	RP	88	LEU
35	RP	91	PHE
35	RP	100	LEU
35	RP	105	LEU
35	RP	112	LEU
35	RP	133	SER
35	RP	135	LEU
35	RP	138	LEU
35	RP	144	GLU
35	RP	146	VAL
36	RQ	17	LEU
36	RQ	26	TYR
36	RQ	27	VAL
36	RQ	35	VAL
36	RQ	45	GLN
36	RQ	54	MET
36	RQ	55	VAL
36	RQ	60	ARG
36	RQ	79	LEU
36	RQ	80	GLU
36	RQ	81	VAL
36	RQ	82	ARG
36	RQ	83	MET
36	RQ	85	LYS
36	RQ	91	GLU
36	RQ	96	VAL
36	RQ	103	MET
36	RQ	109	VAL
36	RQ	112	GLU
36	RQ	127	ILE
36	RQ	135	ASP
36	RQ	139	GLU
37	RR	1	MET
37	RR	6	SER
37	RR	9	LYS
37	RR	18	LEU
37	RR	28	LEU

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Mol	Chain	Res	Type
37	RR	29	LEU
37	RR	35	THR
37	RR	44	LEU
37	RR	45	ARG
37	RR	67	LEU
37	RR	71	GLN
37	RR	73	VAL
37	RR	75	LEU
37	RR	79	LEU
37	RR	91	GLN
37	RR	95	THR
37	RR	100	LEU
37	RR	104	ARG
37	RR	117	VAL
37	RR	118	GLU
38	RS	4	LEU
38	RS	12	PHE
38	RS	17	ARG
38	RS	18	ILE
38	RS	20	ARG
38	RS	24	LEU
38	RS	27	SER
38	RS	39	ILE
38	RS	44	LYS
38	RS	50	SER
38	RS	54	LEU
38	RS	56	LEU
38	RS	57	LYS
38	RS	58	LEU
38	RS	59	LYS
38	RS	69	VAL
38	RS	98	VAL
38	RS	101	LEU
38	RS	103	GLU
38	RS	106	ARG
39	RT	7	ILE
39	RT	18	ASP
39	RT	27	THR
39	RT	30	VAL
39	RT	41	ARG
39	RT	42	ILE
39	RT	50	ILE

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Mol	Chain	Res	Type
39	RT	51	ARG
39	RT	62	THR
39	RT	63	VAL
39	RT	65	LYS
39	RT	74	ARG
39	RT	78	LEU
39	RT	88	ILE
39	RT	89	VAL
39	RT	99	LEU
39	RT	112	ARG
39	RT	125	ARG
39	RT	128	GLU
40	RU	55	ARG
40	RU	59	ARG
40	RU	60	LEU
40	RU	64	ARG
40	RU	65	ILE
40	RU	74	LEU
40	RU	90	VAL
40	RU	92	ARG
40	RU	98	LEU
40	RU	100	VAL
40	RU	108	GLU
40	RU	111	GLU
40	RU	114	LYS
40	RU	117	GLN
41	RV	19	LYS
41	RV	21	ARG
41	RV	22	VAL
41	RV	24	LYS
41	RV	35	LEU
41	RV	37	VAL
41	RV	38	LEU
41	RV	45	THR
41	RV	46	VAL
41	RV	47	VAL
41	RV	49	THR
41	RV	57	VAL
41	RV	61	VAL
41	RV	62	LEU
41	RV	72	VAL
41	RV	74	LYS

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Mol	Chain	Res	Type
41	RV	78	LYS
41	RV	79	VAL
41	RV	99	ILE
42	RW	11	ARG
42	RW	16	LYS
42	RW	19	LEU
42	RW	20	VAL
42	RW	21	VAL
42	RW	23	LEU
42	RW	27	LYS
42	RW	30	GLU
42	RW	51	LEU
42	RW	60	ASN
42	RW	63	ASP
42	RW	67	ASP
42	RW	76	VAL
42	RW	82	LEU
42	RW	92	ARG
42	RW	95	ILE
42	RW	100	THR
42	RW	106	ILE
42	RW	107	LEU
43	RX	12	VAL
43	RX	15	GLU
43	RX	23	GLU
43	RX	27	THR
43	RX	30	VAL
43	RX	35	THR
43	RX	49	VAL
43	RX	52	VAL
43	RX	54	VAL
43	RX	65	ARG
43	RX	73	ARG
43	RX	80	ILE
43	RX	81	VAL
44	RY	3	VAL
44	RY	13	VAL
44	RY	14	LEU
44	RY	26	LYS
44	RY	27	VAL
44	RY	30	VAL
44	RY	34	LYS

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Mol	Chain	Res	Type
44	RY	37	VAL
44	RY	38	ILE
44	RY	39	VAL
44	RY	43	ASN
44	RY	45	VAL
44	RY	51	VAL
44	RY	55	TYR
44	RY	57	GLN
44	RY	61	ILE
44	RY	64	GLU
44	RY	67	LEU
44	RY	70	SER
44	RY	71	LYS
44	RY	75	ILE
44	RY	76	CYS
44	RY	87	LYS
44	RY	88	LYS
44	RY	90	LEU
44	RY	95	LYS
44	RY	96	ILE
44	RY	97	ARG
44	RY	102	CYS
45	RZ	2	GLU
45	RZ	5	LEU
45	RZ	18	LEU
45	RZ	19	ARG
45	RZ	20	ARG
45	RZ	42	VAL
45	RZ	52	SER
45	RZ	53	ILE
45	RZ	56	VAL
45	RZ	60	GLU
45	RZ	70	LEU
45	RZ	71	VAL
45	RZ	81	ARG
45	RZ	87	ASP
45	RZ	91	LEU
45	RZ	92	SER
45	RZ	94	GLU
45	RZ	107	THR
45	RZ	112	ARG
45	RZ	117	LEU

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Mol	Chain	Res	Type
45	RZ	119	GLU
45	RZ	121	HIS
45	RZ	128	VAL
45	RZ	131	ARG
45	RZ	141	VAL
45	RZ	145	GLU
45	RZ	150	LEU
45	RZ	151	HIS
45	RZ	163	LEU
45	RZ	168	GLU
45	RZ	174	VAL
45	RZ	182	LYS
45	RZ	183	LEU
46	R0	5	LYS
46	R0	7	LEU
46	R0	10	THR
46	R0	36	ILE
46	R0	53	MET
46	R0	66	VAL
46	R0	74	ARG
47	R1	7	ILE
47	R1	21	ARG
47	R1	41	ARG
47	R1	51	VAL
47	R1	62	VAL
47	R1	80	LEU
47	R1	90	ILE
47	R1	91	LYS
48	R2	5	GLU
48	R2	17	SER
48	R2	22	GLU
48	R2	23	LYS
48	R2	24	LEU
48	R2	27	GLU
48	R2	32	LEU
48	R2	41	ILE
48	R2	47	ASN
48	R2	50	ILE
48	R2	53	LEU
48	R2	62	THR
48	R2	63	VAL
48	R2	65	ASN

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Mol	Chain	Res	Type
48	R2	71	ASN
49	R3	6	VAL
49	R3	8	LEU
49	R3	18	ASP
49	R3	32	GLN
49	R3	40	THR
49	R3	48	GLU
49	R3	56	VAL
49	R3	59	VAL
50	R4	13	ARG
50	R4	15	ILE
50	R4	23	GLU
50	R4	33	VAL
50	R4	34	GLU
50	R4	35	VAL
50	R4	37	SER
50	R4	42	PHE
50	R4	49	PHE
50	R4	50	VAL
50	R4	52	THR
50	R4	57	GLU
50	R4	60	GLN
50	R4	61	ARG
50	R4	62	ARG
50	R4	63	TYR
50	R4	66	SER
50	R4	67	TYR
50	R4	68	ARG
51	R5	3	LYS
51	R5	4	HIS
51	R5	6	VAL
51	R5	9	LYS
51	R5	11	THR
51	R5	21	SER
51	R5	25	LEU
51	R5	29	THR
51	R5	36	CYS
51	R5	40	LYS
51	R5	46	CYS
51	R5	55	ARG
51	R5	56	LYS
51	R5	58	LEU

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Mol	Chain	Res	Type
51	R5	60	VAL
52	R6	6	ARG
52	R6	8	LYS
52	R6	9	LEU
52	R6	10	LEU
52	R6	11	LEU
52	R6	17	LYS
52	R6	19	ARG
52	R6	23	THR
52	R6	27	LYS
52	R6	30	THR
52	R6	34	LEU
52	R6	35	GLU
52	R6	37	ARG
52	R6	44	ARG
52	R6	47	THR
52	R6	53	LYS
53	R7	1	MET
53	R7	2	LYS
53	R7	4	THR
53	R7	9	ARG
53	R7	14	LYS
53	R7	43	THR
53	R7	46	VAL
54	R8	14	VAL
54	R8	29	LYS
54	R8	34	TRP
54	R8	39	LYS
54	R8	44	LYS
54	R8	47	LYS
54	R8	49	VAL
54	R8	52	LYS
54	R8	59	LYS
54	R8	62	LEU
54	R8	65	GLU
55	R9	1	MET
55	R9	17	ILE
55	R9	29	ASN
55	R9	33	LYS
2	XB	5	ILE
2	XB	7	VAL
2	XB	8	LYS

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Mol	Chain	Res	Type
2	XB	15	VAL
2	XB	23	ARG
2	XB	36	ARG
2	XB	67	THR
2	XB	68	ILE
2	XB	71	VAL
2	XB	75	LYS
2	XB	92	TYR
2	XB	136	VAL
2	XB	145	LEU
2	XB	155	LEU
2	XB	172	ILE
2	XB	175	ARG
2	XB	178	ARG
2	XB	187	LEU
2	XB	195	ASP
2	XB	196	LEU
2	XB	200	ILE
2	XB	215	LEU
2	XB	223	ILE
2	XB	235	SER
3	XC	3	ASN
3	XC	5	ILE
3	XC	12	LEU
3	XC	14	ILE
3	XC	15	THR
3	XC	21	ARG
3	XC	27	LYS
3	XC	47	LEU
3	XC	56	ASP
3	XC	76	VAL
3	XC	95	THR
3	XC	178	LEU
3	XC	192	THR
4	XD	3	ARG
4	XD	9	CYS
4	XD	15	GLU
4	XD	19	LEU
4	XD	22	LYS
4	XD	26	CYS
4	XD	30	LYS
4	XD	33	MET

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Mol	Chain	Res	Type
4	XD	50	ARG
4	XD	53	ASP
4	XD	58	LEU
4	XD	76	ARG
4	XD	84	LYS
4	XD	86	LYS
4	XD	88	VAL
4	XD	92	VAL
4	XD	96	LEU
4	XD	108	LEU
4	XD	122	ARG
4	XD	127	THR
4	XD	131	ARG
4	XD	137	SER
4	XD	150	GLU
4	XD	154	ASN
4	XD	175	SER
4	XD	190	ASP
4	XD	208	SER
5	XE	6	PHE
5	XE	7	GLU
5	XE	8	GLU
5	XE	10	MET
5	XE	11	ILE
5	XE	13	ILE
5	XE	18	ARG
5	XE	31	LEU
5	XE	41	VAL
5	XE	73	ASN
5	XE	76	ILE
5	XE	79	GLU
5	XE	89	ILE
5	XE	101	ILE
5	XE	147	ASP
5	XE	153	LYS
6	XF	10	LEU
6	XF	17	SER
6	XF	21	LEU
6	XF	23	LYS
6	XF	36	ARG
6	XF	37	VAL
6	XF	45	LEU

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Mol	Chain	Res	Type
6	XF	71	ARG
6	XF	72	VAL
6	XF	74	ASP
6	XF	91	VAL
6	XF	92	LYS
6	XF	98	LEU
7	XG	5	ARG
7	XG	8	GLU
7	XG	13	GLN
7	XG	27	ILE
7	XG	35	LYS
7	XG	54	THR
7	XG	63	LYS
7	XG	78	ARG
7	XG	80	VAL
7	XG	104	LEU
7	XG	113	GLU
7	XG	114	ARG
7	XG	136	LYS
7	XG	137	LYS
8	XH	1	MET
8	XH	12	ARG
8	XH	19	VAL
8	XH	24	THR
8	XH	26	VAL
8	XH	41	ARG
8	XH	54	ASP
8	XH	63	LEU
8	XH	80	ILE
8	XH	109	ILE
8	XH	112	LEU
8	XH	121	ASP
8	XH	137	VAL
9	XI	9	ARG
9	XI	41	VAL
9	XI	44	VAL
9	XI	56	LEU
9	XI	63	ILE
9	XI	65	VAL
9	XI	70	LYS
9	XI	79	LEU
9	XI	95	LYS

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Mol	Chain	Res	Type
9	XI	96	LEU
9	XI	99	LEU
9	XI	102	LEU
9	XI	104	ARG
9	XI	105	ASP
9	XI	108	VAL
9	XI	111	ARG
9	XI	112	LYS
9	XI	114	TYR
9	XI	118	LYS
9	XI	124	GLN
9	XI	128	ARG
10	XJ	3	LYS
10	XJ	17	ASP
10	XJ	45	ARG
10	XJ	47	PHE
10	XJ	49	VAL
10	XJ	57	LYS
10	XJ	62	HIS
10	XJ	70	ARG
10	XJ	72	VAL
10	XJ	74	ILE
10	XJ	80	LYS
10	XJ	84	GLN
10	XJ	90	LEU
10	XJ	96	ILE
10	XJ	98	ILE
11	XK	26	ASN
11	XK	29	ILE
11	XK	31	THR
11	XK	32	ILE
11	XK	36	ASP
11	XK	57	THR
11	XK	96	ARG
11	XK	109	VAL
11	XK	114	VAL
12	XL	17	LYS
12	XL	18	VAL
12	XL	20	LYS
12	XL	23	LYS
12	XL	27	LEU
12	XL	33	ARG

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Mol	Chain	Res	Type
12	XL	47	LYS
12	XL	59	ARG
12	XL	62	SER
12	XL	81	SER
12	XL	83	VAL
12	XL	89	ARG
12	XL	91	LYS
12	XL	102	ARG
12	XL	126	LYS
13	XM	3	ARG
13	XM	13	LYS
13	XM	17	VAL
13	XM	19	LEU
13	XM	32	GLU
13	XM	45	VAL
13	XM	48	LEU
13	XM	56	LEU
13	XM	64	TRP
13	XM	66	LEU
13	XM	70	LEU
13	XM	84	ILE
13	XM	88	ARG
13	XM	98	VAL
13	XM	114	ARG
13	XM	115	LYS
13	XM	117	VAL
13	XM	122	LYS
14	XN	6	LEU
14	XN	12	ARG
14	XN	32	SER
14	XN	33	VAL
14	XN	40	CYS
14	XN	41	ARG
14	XN	44	LEU
15	XO	3	ILE
15	XO	6	GLU
15	XO	8	LYS
15	XO	24	SER
15	XO	26	GLU
15	XO	39	LEU
15	XO	47	LYS
15	XO	65	ARG

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Mol	Chain	Res	Type
15	XO	66	LEU
15	XO	82	ILE
15	XO	87	ILE
16	XP	2	VAL
16	XP	11	SER
16	XP	20	VAL
16	XP	28	ARG
16	XP	67	THR
16	XP	69	THR
17	XQ	9	VAL
17	XQ	52	LYS
17	XQ	59	ILE
17	XQ	62	SER
17	XQ	68	ARG
17	XQ	74	LEU
17	XQ	101	ARG
18	XR	26	LEU
18	XR	29	PHE
18	XR	32	ARG
18	XR	36	ASN
18	XR	41	LYS
18	XR	46	GLU
18	XR	54	ARG
18	XR	76	LEU
18	XR	82	THR
18	XR	83	GLU
18	XR	86	VAL
19	XS	5	LEU
19	XS	10	PHE
19	XS	11	VAL
19	XS	12	ASP
19	XS	13	ASP
19	XS	21	GLU
19	XS	22	LEU
19	XS	29	ARG
19	XS	30	LEU
19	XS	31	ILE
19	XS	37	ARG
19	XS	44	MET
19	XS	58	VAL
19	XS	63	THR
19	XS	78	ARG

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Mol	Chain	Res	Type
19	XS	81	ARG
19	XS	83	HIS
20	XT	10	LEU
20	XT	13	LEU
20	XT	24	LEU
20	XT	37	SER
20	XT	41	ILE
20	XT	45	GLN
20	XT	50	GLU
20	XT	73	HIS
20	XT	84	LEU
20	XT	93	GLU
27	YD	3	VAL
27	YD	5	LYS
27	YD	17	THR
27	YD	24	ILE
27	YD	27	THR
27	YD	28	GLU
27	YD	30	GLU
27	YD	34	VAL
27	YD	38	LYS
27	YD	43	ARG
27	YD	44	ASN
27	YD	49	ILE
27	YD	61	LEU
27	YD	65	ILE
27	YD	73	VAL
27	YD	88	ARG
27	YD	94	LEU
27	YD	95	LEU
27	YD	103	ARG
27	YD	105	ILE
27	YD	106	ILE
27	YD	111	LEU
27	YD	112	GLN
27	YD	115	GLN
27	YD	116	GLN
27	YD	134	ARG
27	YD	141	VAL
27	YD	192	THR
27	YD	193	VAL
27	YD	202	LYS

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Mol	Chain	Res	Type
27	YD	217	ARG
27	YD	218	ARG
27	YD	221	VAL
27	YD	229	VAL
27	YD	237	GLU
27	YD	242	ARG
27	YD	257	LEU
27	YD	259	THR
27	YD	273	ARG
28	YE	4	ILE
28	YE	12	THR
28	YE	13	ARG
28	YE	14	ILE
28	YE	16	ARG
28	YE	17	ASP
28	YE	21	VAL
28	YE	23	VAL
28	YE	26	ILE
28	YE	27	LEU
28	YE	33	VAL
28	YE	34	VAL
28	YE	41	LYS
28	YE	42	ASP
28	YE	49	LEU
28	YE	77	ILE
28	YE	79	ARG
28	YE	92	THR
28	YE	111	ARG
28	YE	116	VAL
28	YE	117	MET
28	YE	119	ARG
28	YE	127	ASP
28	YE	144	ARG
28	YE	146	THR
28	YE	154	LYS
28	YE	172	VAL
28	YE	175	VAL
28	YE	196	VAL
28	YE	197	ILE
28	YE	200	GLU
28	YE	202	LYS
28	YE	203	LYS

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Mol	Chain	Res	Type
29	YF	9	ILE
29	YF	32	LEU
29	YF	33	LEU
29	YF	38	ARG
29	YF	45	ARG
29	YF	64	ILE
29	YF	65	TRP
29	YF	70	THR
29	YF	78	ILE
29	YF	84	VAL
29	YF	105	VAL
29	YF	106	ARG
29	YF	107	LYS
29	YF	117	ARG
29	YF	127	GLU
29	YF	161	GLU
29	YF	164	ARG
29	YF	165	ARG
29	YF	170	LEU
29	YF	174	VAL
29	YF	176	LEU
29	YF	181	LEU
29	YF	183	VAL
29	YF	186	ILE
29	YF	196	LEU
29	YF	197	ASP
29	YF	206	ILE
30	YG	3	LEU
30	YG	7	LEU
30	YG	19	LEU
30	YG	22	ARG
30	YG	31	VAL
30	YG	34	LEU
30	YG	37	VAL
30	YG	43	LEU
30	YG	45	GLU
30	YG	58	GLN
30	YG	63	ILE
30	YG	64	THR
30	YG	66	GLN
30	YG	67	LYS
30	YG	80	PHE

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Mol	Chain	Res	Type
30	YG	82	LEU
30	YG	84	LYS
30	YG	88	ILE
30	YG	90	LEU
30	YG	94	LEU
30	YG	118	ARG
30	YG	145	THR
30	YG	159	VAL
30	YG	167	GLU
31	YH	3	ARG
31	YH	4	ILE
31	YH	6	ARG
31	YH	9	ILE
31	YH	13	LYS
31	YH	27	LYS
31	YH	32	GLU
31	YH	37	VAL
31	YH	40	GLU
31	YH	41	MET
31	YH	43	VAL
31	YH	47	GLU
31	YH	53	GLU
31	YH	59	ARG
31	YH	76	VAL
31	YH	77	LYS
31	YH	88	LEU
31	YH	89	ILE
31	YH	103	LEU
31	YH	105	LEU
31	YH	122	THR
31	YH	129	THR
31	YH	132	ARG
31	YH	136	ILE
31	YH	140	LYS
31	YH	143	GLN
31	YH	149	ARG
31	YH	151	ILE
31	YH	152	ARG
31	YH	153	LYS
31	YH	169	VAL
32	YI	1	MET
32	YI	2	LYS

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Mol	Chain	Res	Type
32	YI	7	GLU
32	YI	10	GLU
32	YI	17	GLN
32	YI	20	ASP
32	YI	27	ARG
32	YI	35	LEU
32	YI	37	VAL
32	YI	38	LEU
32	YI	40	THR
32	YI	56	LYS
32	YI	67	ARG
32	YI	70	GLU
32	YI	72	LEU
32	YI	85	GLU
32	YI	86	THR
32	YI	87	LYS
32	YI	88	ILE
32	YI	92	VAL
32	YI	101	LEU
32	YI	110	ASP
32	YI	112	LYS
32	YI	118	LYS
32	YI	131	LYS
32	YI	135	GLU
32	YI	136	VAL
32	YI	138	ILE
32	YI	139	GLN
32	YI	140	LEU
32	YI	142	VAL
32	YI	145	VAL
33	YN	2	LYS
33	YN	5	VAL
33	YN	7	LYS
33	YN	8	GLN
33	YN	15	LEU
33	YN	32	THR
33	YN	34	LEU
33	YN	43	THR
33	YN	60	ILE
33	YN	61	ARG
33	YN	62	VAL
33	YN	65	LYS

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Mol	Chain	Res	Type
33	YN	67	LEU
33	YN	73	THR
33	YN	90	MET
33	YN	96	GLU
33	YN	98	VAL
33	YN	99	LEU
33	YN	109	LYS
33	YN	112	LEU
33	YN	116	LEU
33	YN	120	LEU
33	YN	136	GLU
34	YO	2	ILE
34	YO	9	GLU
34	YO	19	ILE
34	YO	20	MET
34	YO	23	ARG
34	YO	24	VAL
34	YO	47	ILE
34	YO	49	ARG
34	YO	53	LYS
34	YO	66	LYS
34	YO	68	GLU
34	YO	85	VAL
34	YO	91	LEU
34	YO	98	VAL
34	YO	106	LEU
35	YP	6	LEU
35	YP	7	ARG
35	YP	10	PRO
35	YP	14	LYS
35	YP	16	ARG
35	YP	19	VAL
35	YP	21	ARG
35	YP	27	HIS
35	YP	29	LYS
35	YP	32	THR
35	YP	36	LYS
35	YP	45	LEU
35	YP	46	LYS
35	YP	50	ARG
35	YP	61	ARG
35	YP	62	LEU

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Mol	Chain	Res	Type
35	YP	64	LYS
35	YP	65	ARG
35	YP	71	VAL
35	YP	75	ILE
35	YP	88	LEU
35	YP	91	PHE
35	YP	94	GLU
35	YP	98	GLU
35	YP	100	LEU
35	YP	101	VAL
35	YP	112	LEU
35	YP	115	LEU
35	YP	117	GLU
35	YP	123	LEU
35	YP	135	LEU
35	YP	139	LYS
35	YP	144	GLU
35	YP	146	VAL
35	YP	147	LEU
35	YP	149	GLU
36	YQ	5	ARG
36	YQ	10	ARG
36	YQ	25	ASP
36	YQ	42	ILE
36	YQ	45	GLN
36	YQ	55	VAL
36	YQ	59	ARG
36	YQ	75	THR
36	YQ	79	LEU
36	YQ	81	VAL
36	YQ	82	ARG
36	YQ	87	LYS
36	YQ	103	MET
36	YQ	109	VAL
36	YQ	112	GLU
36	YQ	132	VAL
36	YQ	139	GLU
37	YR	18	LEU
37	YR	28	LEU
37	YR	29	LEU
37	YR	34	ILE
37	YR	36	THR

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Mol	Chain	Res	Type
37	YR	40	LYS
37	YR	44	LEU
37	YR	51	LEU
37	YR	54	LEU
37	YR	57	ARG
37	YR	65	LEU
37	YR	67	LEU
37	YR	75	LEU
37	YR	79	LEU
37	YR	83	ILE
37	YR	95	THR
37	YR	99	LYS
37	YR	100	LEU
37	YR	102	GLU
37	YR	104	ARG
37	YR	105	ARG
38	YS	10	ARG
38	YS	11	LYS
38	YS	12	PHE
38	YS	14	VAL
38	YS	15	ARG
38	YS	17	ARG
38	YS	20	ARG
38	YS	25	ARG
38	YS	27	SER
38	YS	44	LYS
38	YS	54	LEU
38	YS	56	LEU
38	YS	58	LEU
38	YS	59	LYS
38	YS	69	VAL
38	YS	73	LEU
38	YS	78	LEU
38	YS	83	LYS
38	YS	85	VAL
38	YS	103	GLU
38	YS	106	ARG
38	YS	111	GLU
39	YT	15	VAL
39	YT	17	THR
39	YT	23	ARG
39	YT	27	THR

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Mol	Chain	Res	Type
39	YT	28	VAL
39	YT	40	THR
39	YT	41	ARG
39	YT	42	ILE
39	YT	50	ILE
39	YT	58	ASN
39	YT	65	LYS
39	YT	66	VAL
39	YT	74	ARG
39	YT	78	LEU
39	YT	85	LYS
39	YT	86	ILE
39	YT	87	ASP
39	YT	88	ILE
39	YT	89	VAL
39	YT	99	LEU
39	YT	110	ILE
39	YT	112	ARG
39	YT	115	ARG
39	YT	121	ILE
39	YT	125	ARG
39	YT	128	GLU
39	YT	134	GLU
40	YU	5	LYS
40	YU	11	ARG
40	YU	27	LEU
40	YU	51	LYS
40	YU	52	ARG
40	YU	60	LEU
40	YU	64	ARG
40	YU	74	LEU
40	YU	88	ILE
40	YU	91	ASP
40	YU	98	LEU
40	YU	104	GLN
40	YU	108	GLU
40	YU	111	GLU
41	YV	6	LYS
41	YV	7	THR
41	YV	10	LYS
41	YV	19	LYS
41	YV	32	THR

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Mol	Chain	Res	Type
41	YV	35	LEU
41	YV	39	LEU
41	YV	45	THR
41	YV	47	VAL
41	YV	57	VAL
41	YV	61	VAL
41	YV	66	ARG
41	YV	72	VAL
41	YV	78	LYS
41	YV	79	VAL
41	YV	99	ILE
42	YW	11	ARG
42	YW	16	LYS
42	YW	19	LEU
42	YW	23	LEU
42	YW	37	ARG
42	YW	51	LEU
42	YW	67	ASP
42	YW	69	LEU
42	YW	76	VAL
42	YW	88	ARG
42	YW	90	ARG
42	YW	92	ARG
42	YW	95	ILE
42	YW	96	ILE
42	YW	100	THR
42	YW	106	ILE
42	YW	107	LEU
43	YX	12	VAL
43	YX	15	GLU
43	YX	27	THR
43	YX	36	LYS
43	YX	43	VAL
43	YX	49	VAL
43	YX	52	VAL
43	YX	57	LEU
43	YX	59	VAL
43	YX	63	LYS
43	YX	65	ARG
43	YX	66	LEU
43	YX	80	ILE
43	YX	83	VAL

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Mol	Chain	Res	Type
43	YX	88	LYS
44	YY	14	LEU
44	YY	26	LYS
44	YY	27	VAL
44	YY	28	LYS
44	YY	29	GLU
44	YY	34	LYS
44	YY	38	ILE
44	YY	44	ILE
44	YY	45	VAL
44	YY	51	VAL
44	YY	52	SER
44	YY	57	GLN
44	YY	61	ILE
44	YY	64	GLU
44	YY	67	LEU
44	YY	71	LYS
44	YY	73	ARG
44	YY	75	ILE
44	YY	84	ARG
44	YY	87	LYS
44	YY	90	LEU
44	YY	95	LYS
44	YY	97	ARG
45	YZ	5	LEU
45	YZ	8	TYR
45	YZ	18	LEU
45	YZ	19	ARG
45	YZ	20	ARG
45	YZ	31	ARG
45	YZ	41	LEU
45	YZ	42	VAL
45	YZ	53	ILE
45	YZ	60	GLU
45	YZ	71	VAL
45	YZ	74	VAL
45	YZ	76	LEU
45	YZ	91	LEU
45	YZ	112	ARG
45	YZ	124	ILE
45	YZ	129	SER
45	YZ	133	ILE

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Mol	Chain	Res	Type
45	YZ	137	ILE
45	YZ	140	ASP
45	YZ	141	VAL
45	YZ	144	LEU
45	YZ	150	LEU
45	YZ	151	HIS
45	YZ	153	SER
45	YZ	156	LYS
45	YZ	163	LEU
45	YZ	166	SER
45	YZ	178	GLU
45	YZ	180	VAL
45	YZ	182	LYS
46	Y0	9	SER
46	Y0	10	THR
46	Y0	11	ARG
46	Y0	36	ILE
46	Y0	41	ARG
46	Y0	64	ASP
46	Y0	66	VAL
46	Y0	74	ARG
47	Y1	21	ARG
47	Y1	30	VAL
47	Y1	46	LEU
47	Y1	50	ARG
47	Y1	51	VAL
47	Y1	56	GLN
47	Y1	62	VAL
47	Y1	67	ILE
47	Y1	78	LYS
47	Y1	80	LEU
47	Y1	82	LEU
47	Y1	83	GLU
47	Y1	91	LYS
48	Y2	4	SER
48	Y2	9	GLN
48	Y2	16	LEU
48	Y2	23	LYS
48	Y2	24	LEU
48	Y2	27	GLU
48	Y2	28	LYS
48	Y2	32	LEU

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Mol	Chain	Res	Type
48	Y2	34	GLU
48	Y2	41	ILE
48	Y2	47	ASN
48	Y2	50	ILE
48	Y2	52	ASP
48	Y2	53	LEU
48	Y2	64	LEU
48	Y2	65	ASN
49	Y3	6	VAL
49	Y3	8	LEU
49	Y3	23	LEU
49	Y3	31	LEU
49	Y3	36	VAL
49	Y3	37	LEU
49	Y3	56	VAL
50	Y4	6	HIS
50	Y4	10	VAL
50	Y4	15	ILE
50	Y4	16	CYS
50	Y4	21	VAL
50	Y4	22	ILE
50	Y4	27	THR
50	Y4	34	GLU
50	Y4	35	VAL
50	Y4	39	CYS
50	Y4	42	PHE
50	Y4	43	TYR
50	Y4	48	ARG
50	Y4	49	PHE
50	Y4	50	VAL
50	Y4	53	GLU
50	Y4	57	GLU
50	Y4	60	GLN
50	Y4	61	ARG
50	Y4	63	TYR
50	Y4	68	ARG
50	Y4	71	ARG
51	Y5	3	LYS
51	Y5	4	HIS
51	Y5	6	VAL
51	Y5	11	THR
51	Y5	29	THR

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Mol	Chain	Res	Type
51	Y5	36	CYS
51	Y5	37	LYS
51	Y5	40	LYS
51	Y5	48	GLU
51	Y5	51	TYR
51	Y5	52	TYR
51	Y5	56	LYS
51	Y5	58	LEU
52	Y6	6	ARG
52	Y6	8	LYS
52	Y6	10	LEU
52	Y6	11	LEU
52	Y6	18	ARG
52	Y6	19	ARG
52	Y6	23	THR
52	Y6	27	LYS
52	Y6	30	THR
52	Y6	33	LYS
52	Y6	34	LEU
52	Y6	37	ARG
52	Y6	44	ARG
52	Y6	53	LYS
53	Y7	1	MET
53	Y7	4	THR
53	Y7	8	ASN
53	Y7	9	ARG
53	Y7	14	LYS
53	Y7	46	VAL
53	Y7	47	ARG
54	Y8	4	MET
54	Y8	13	ARG
54	Y8	14	VAL
54	Y8	16	ILE
54	Y8	29	LYS
54	Y8	30	ARG
54	Y8	34	TRP
54	Y8	39	LYS
54	Y8	43	GLN
54	Y8	44	LYS
54	Y8	47	LYS
54	Y8	52	LYS
54	Y8	56	GLU

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Mol	Chain	Res	Type
54	Y8	58	ILE
54	Y8	59	LYS
54	Y8	64	TYR
54	Y8	65	GLU
55	Y9	1	MET
55	Y9	17	ILE
55	Y9	26	ILE
56	Z8	6	LYS
56	Z8	7	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (68) such sidechains are listed below:

Mol	Chain	Res	Type
2	QB	19	HIS
2	QB	94	ASN
2	QB	204	ASN
2	QB	212	GLN
3	QC	139	GLN
7	QG	11	GLN
7	QG	64	GLN
7	QG	97	GLN
10	QJ	13	HIS
10	QJ	78	ASN
11	QK	93	GLN
11	QK	116	HIS
13	QM	92	HIS
13	QM	106	ASN
15	QO	9	GLN
17	QQ	16	GLN
19	QS	47	HIS
19	QS	57	HIS
19	QS	83	HIS
20	QT	90	GLN
28	RE	55	ASN
30	RG	123	ASN
32	RI	11	ASN
33	RN	130	HIS
34	RO	89	ASN
35	RP	81	GLN
36	RQ	13	GLN
37	RR	31	HIS
38	RS	68	GLN

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Mol	Chain	Res	Type
38	RS	95	HIS
39	RT	79	HIS
39	RT	84	GLN
40	RU	72	HIS
43	RX	55	ASN
44	RY	57	GLN
45	RZ	118	GLN
48	R2	43	GLN
51	R5	22	HIS
51	R5	23	HIS
54	R8	33	ASN
55	R9	29	ASN
55	R9	32	HIS
2	XB	204	ASN
2	XB	212	GLN
3	XC	3	ASN
3	XC	102	ASN
3	XC	181	ASN
4	XD	42	GLN
5	XE	141	GLN
6	XF	73	ASN
7	XG	106	GLN
10	XJ	76	ASN
10	XJ	78	ASN
16	XP	13	HIS
27	YD	96	HIS
27	YD	164	GLN
33	YN	69	GLN
33	YN	133	GLN
34	YO	90	GLN
35	YP	84	ASN
36	YQ	57	HIS
37	YR	71	GLN
39	YT	58	ASN
42	YW	40	ASN
42	YW	60	ASN
44	YY	57	GLN
45	YZ	73	GLN
55	Y9	29	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1499/1522 (98%)	267 (17%)	43 (2%)
1	XA	1498/1522 (98%)	277 (18%)	38 (2%)
22	QV	76/77 (98%)	19 (25%)	1 (1%)
22	XV	76/77 (98%)	17 (22%)	1 (1%)
23	QW	75/76 (98%)	16 (21%)	0
23	QY	15/76 (19%)	3 (20%)	0
23	XW	75/76 (98%)	19 (25%)	0
23	XY	15/76 (19%)	4 (26%)	0
24	QX	9/24 (37%)	0	0
24	XX	9/24 (37%)	0	0
25	RA	2879/2915 (98%)	567 (19%)	57 (1%)
25	YA	2880/2915 (98%)	563 (19%)	57 (1%)
26	RB	119/122 (97%)	21 (17%)	1 (0%)
26	YB	119/122 (97%)	21 (17%)	1 (0%)
All	All	9344/9624 (97%)	1794 (19%)	199 (2%)

All (1794) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	6	G
1	QA	7	G
1	QA	22	G
1	QA	32	A
1	QA	39	G
1	QA	47	C
1	QA	48	C
1	QA	51	A
1	QA	64	G
1	QA	65	U
1	QA	66	G
1	QA	76	G
1	QA	79	G
1	QA	80	G
1	QA	90	C
1	QA	91	C
1	QA	95	G
1	QA	101	A
1	QA	116	A
1	QA	120	A
1	QA	121	C
1	QA	129(A)	G
1	QA	144	G
1	QA	146	G

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Mol	Chain	Res	Type
1	QA	147	G
1	QA	163	C
1	QA	169	C
1	QA	171	A
1	QA	173	U
1	QA	174	C
1	QA	182	U
1	QA	190	G
1	QA	191(A)	G
1	QA	195	A
1	QA	197	A
1	QA	209	U
1	QA	210	U
1	QA	216	G
1	QA	244	U
1	QA	245	C
1	QA	247	G
1	QA	251	G
1	QA	267	C
1	QA	270	A
1	QA	281	G
1	QA	289	G
1	QA	321	A
1	QA	328	C
1	QA	329	A
1	QA	332	G
1	QA	344	A
1	QA	346	G
1	QA	347	G
1	QA	351	G
1	QA	352	C
1	QA	353	A
1	QA	354	G
1	QA	356	A
1	QA	367	U
1	QA	372	C
1	QA	373	A
1	QA	390	C
1	QA	397	A
1	QA	398	C
1	QA	406	G
1	QA	411	A

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Mol	Chain	Res	Type
1	QA	412	A
1	QA	413	G
1	QA	414	A
1	QA	421	U
1	QA	422	C
1	QA	423	G
1	QA	424	G
1	QA	429	U
1	QA	430	A
1	QA	442	C
1	QA	452	A
1	QA	465	A
1	QA	466	C
1	QA	482	A
1	QA	485	G
1	QA	486	U
1	QA	496	A
1	QA	497	U
1	QA	505	G
1	QA	509	A
1	QA	510	A
1	QA	511	C
1	QA	518	C
1	QA	527	G
1	QA	531	U
1	QA	532	A
1	QA	533	A
1	QA	534	U
1	QA	545	C
1	QA	547	A
1	QA	559	A
1	QA	561	U
1	QA	562	C
1	QA	564	C
1	QA	566	G
1	QA	568	G
1	QA	572	A
1	QA	573	A
1	QA	576	G
1	QA	577	G
1	QA	596	C
1	QA	618	C

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Mol	Chain	Res	Type
1	QA	630	G
1	QA	631	G
1	QA	632	A
1	QA	653	A
1	QA	665	A
1	QA	666	G
1	QA	688	G
1	QA	701	C
1	QA	702	A
1	QA	703	G
1	QA	704	A
1	QA	723	U
1	QA	731	G
1	QA	748	C
1	QA	754	C
1	QA	755	G
1	QA	777	A
1	QA	786	G
1	QA	792	A
1	QA	793	U
1	QA	794	A
1	QA	813	U
1	QA	817	C
1	QA	819	A
1	QA	821	G
1	QA	828	A
1	QA	841	U
1	QA	843	U
1	QA	848	C
1	QA	859	A
1	QA	871	U
1	QA	872	A
1	QA	902	G
1	QA	914	A
1	QA	927	G
1	QA	934	C
1	QA	935	A
1	QA	960	U
1	QA	961	U
1	QA	968	A
1	QA	969	A
1	QA	971	G

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Mol	Chain	Res	Type
1	QA	974	A
1	QA	975	A
1	QA	976	G
1	QA	977	A
1	QA	980	C
1	QA	983	A
1	QA	991	U
1	QA	992	U
1	QA	993	G
1	QA	994	A
1	QA	1001	G
1	QA	1004	A
1	QA	1006	C
1	QA	1009	G
1	QA	1021	G
1	QA	1024	G
1	QA	1025	U
1	QA	1028	C
1	QA	1029	G
1	QA	1032(A)	G
1	QA	1036	G
1	QA	1040	U
1	QA	1046	A
1	QA	1053	G
1	QA	1054	C
1	QA	1055	A
1	QA	1064	G
1	QA	1065	U
1	QA	1066	C
1	QA	1081	G
1	QA	1094	G
1	QA	1095	U
1	QA	1101	A
1	QA	1124	G
1	QA	1125	U
1	QA	1126	U
1	QA	1130	A
1	QA	1131	G
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G

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Mol	Chain	Res	Type
1	QA	1145	C
1	QA	1146	A
1	QA	1157	A
1	QA	1158	C
1	QA	1159	U
1	QA	1160	G
1	QA	1163	C
1	QA	1178	G
1	QA	1181	G
1	QA	1182	G
1	QA	1183	A
1	QA	1187	G
1	QA	1196	U
1	QA	1197	G
1	QA	1200	C
1	QA	1201	A
1	QA	1202	G
1	QA	1212	U
1	QA	1213	A
1	QA	1215	G
1	QA	1226	C
1	QA	1238	A
1	QA	1241	G
1	QA	1256	A
1	QA	1257	U
1	QA	1258	G
1	QA	1260	C
1	QA	1270	C
1	QA	1280	A
1	QA	1281	U
1	QA	1282	C
1	QA	1286	A
1	QA	1287	A
1	QA	1297	C
1	QA	1298	C
1	QA	1299	A
1	QA	1300	G
1	QA	1301	U
1	QA	1302	U
1	QA	1305	G
1	QA	1319	A
1	QA	1320	C

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Mol	Chain	Res	Type
1	QA	1321	C
1	QA	1322	C
1	QA	1323	G
1	QA	1331	G
1	QA	1335	C
1	QA	1336	C
1	QA	1337	G
1	QA	1346	A
1	QA	1347	G
1	QA	1348	U
1	QA	1353	G
1	QA	1362(A)	C
1	QA	1397	C
1	QA	1398	A
1	QA	1406	U
1	QA	1419	G
1	QA	1442	G
1	QA	1446	A
1	QA	1447	G
1	QA	1452	C
1	QA	1453	G
1	QA	1454	G
1	QA	1487	G
1	QA	1492	A
1	QA	1499	A
1	QA	1504	G
1	QA	1505	G
1	QA	1506	U
1	QA	1517	G
1	QA	1519	A
1	QA	1520	G
1	QA	1529	G
1	QA	1530	G
22	QV	3	G
22	QV	4	G
22	QV	7	U
22	QV	15	C
22	QV	17	U
22	QV	18	G
22	QV	19	G
22	QV	21	A
22	QV	22	G

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Mol	Chain	Res	Type
22	QV	31	G
22	QV	47	U
22	QV	48	C
22	QV	52	G
22	QV	53	G
22	QV	54	U
22	QV	64	G
22	QV	67	C
22	QV	75	C
22	QV	76	A
23	QW	6	G
23	QW	14	A
23	QW	16	U
23	QW	17	C
23	QW	18	G
23	QW	19	G
23	QW	21	A
23	QW	37	A
23	QW	41	C
23	QW	43	C
23	QW	45	U
23	QW	47	U
23	QW	48	C
23	QW	57	G
23	QW	59	U
23	QW	71	G
23	QY	29	G
23	QY	36	A
23	QY	37	A
25	RA	9	U
25	RA	15	G
25	RA	28	A
25	RA	34	C
25	RA	35	G
25	RA	46	C
25	RA	51	G
25	RA	55	G
25	RA	72	U
25	RA	74	A
25	RA	75	G
25	RA	96	G
25	RA	101	G

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Mol	Chain	Res	Type
25	RA	102	G
25	RA	103	A
25	RA	118	A
25	RA	120	U
25	RA	131	G
25	RA	138	G
25	RA	161	U
25	RA	177	G
25	RA	181	A
25	RA	196	A
25	RA	199	A
25	RA	206	U
25	RA	214	G
25	RA	215	G
25	RA	216	A
25	RA	221	A
25	RA	222	A
25	RA	223	A
25	RA	224	G
25	RA	226	G
25	RA	228	A
25	RA	229	A
25	RA	230	U
25	RA	232	G
25	RA	233	A
25	RA	242	G
25	RA	243	U
25	RA	248	G
25	RA	249	C
25	RA	250	G
25	RA	252	G
25	RA	265	A
25	RA	266	G
25	RA	269	U
25	RA	270(L)	U
25	RA	270(M)	U
25	RA	270(N)	G
25	RA	270(P)	C
25	RA	271(A)	C
25	RA	271(B)	G
25	RA	271(C)	U
25	RA	271	G

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Mol	Chain	Res	Type
25	RA	275	G
25	RA	276	A
25	RA	277	C
25	RA	278	A
25	RA	279	C
25	RA	299	A
25	RA	300	A
25	RA	311	A
25	RA	317	G
25	RA	323	G
25	RA	324	A
25	RA	329	G
25	RA	330	A
25	RA	342	G
25	RA	346	A
25	RA	352	G
25	RA	364	C
25	RA	371	A
25	RA	372	G
25	RA	373	U
25	RA	386	G
25	RA	404	C
25	RA	405	U
25	RA	411	G
25	RA	412	A
25	RA	428	A
25	RA	444	C
25	RA	448	U
25	RA	454	A
25	RA	457	A
25	RA	470	A
25	RA	481	G
25	RA	504	U
25	RA	505	A
25	RA	509	C
25	RA	513	A
25	RA	527	C
25	RA	529	A
25	RA	531	C
25	RA	532	A
25	RA	533	G
25	RA	537	C

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Mol	Chain	Res	Type
25	RA	539	G
25	RA	540	G
25	RA	546	C
25	RA	547	A
25	RA	556	G
25	RA	563	G
25	RA	568	U
25	RA	573	G
25	RA	574	C
25	RA	575	A
25	RA	588	U
25	RA	603	A
25	RA	607	U
25	RA	614	U
25	RA	615	G
25	RA	617	G
25	RA	621	A
25	RA	626	U
25	RA	627	A
25	RA	637	A
25	RA	638	G
25	RA	645	C
25	RA	646	A
25	RA	651	G
25	RA	652	C
25	RA	654	A
25	RA	654(A)	G
25	RA	668	G
25	RA	669	G
25	RA	670	A
25	RA	686	G
25	RA	702	G
25	RA	717	G
25	RA	721	C
25	RA	722	A
25	RA	730	C
25	RA	776	G
25	RA	782	A
25	RA	784	A
25	RA	785	G
25	RA	789	A
25	RA	790	C

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Mol	Chain	Res	Type
25	RA	805	G
25	RA	812	C
25	RA	819	A
25	RA	827	U
25	RA	828	U
25	RA	846	C
25	RA	847	U
25	RA	856	C
25	RA	857	C
25	RA	859	G
25	RA	860	U
25	RA	869	G
25	RA	872	A
25	RA	881	G
25	RA	884	C
25	RA	885	C
25	RA	886	C
25	RA	888	C
25	RA	889	C
25	RA	893	C
25	RA	896	A
25	RA	897	C
25	RA	899	A
25	RA	900	A
25	RA	901	A
25	RA	904	C
25	RA	907	U
25	RA	910	A
25	RA	917	A
25	RA	932	G
25	RA	941	A
25	RA	945	A
25	RA	946	G
25	RA	961	C
25	RA	974	G
25	RA	974(A)	C
25	RA	975	G
25	RA	980	A
25	RA	983	A
25	RA	996	A
25	RA	1003	G
25	RA	1011	G

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Mol	Chain	Res	Type
25	RA	1012	U
25	RA	1013	C
25	RA	1015	G
25	RA	1017	G
25	RA	1020	A
25	RA	1023	U
25	RA	1025	G
25	RA	1026	U
25	RA	1027	A
25	RA	1033	U
25	RA	1044	G
25	RA	1045	A
25	RA	1046	A
25	RA	1050	A
25	RA	1054	A
25	RA	1055	G
25	RA	1057	A
25	RA	1059	G
25	RA	1060	U
25	RA	1061	U
25	RA	1065	U
25	RA	1066	U
25	RA	1067	A
25	RA	1068	G
25	RA	1069	A
25	RA	1070	A
25	RA	1071	G
25	RA	1076	C
25	RA	1077	A
25	RA	1078	U
25	RA	1079	C
25	RA	1080	C
25	RA	1082	U
25	RA	1083	U
25	RA	1084	A
25	RA	1085	A
25	RA	1086	A
25	RA	1087	G
25	RA	1088	A
25	RA	1091	G
25	RA	1093	G
25	RA	1095	A

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Mol	Chain	Res	Type
25	RA	1096	A
25	RA	1104	C
25	RA	1110	G
25	RA	1111	A
25	RA	1112	G
25	RA	1122	G
25	RA	1130	U
25	RA	1131	G
25	RA	1135	C
25	RA	1136	G
25	RA	1142	U
25	RA	1142(A)	A
25	RA	1151	G
25	RA	1155	A
25	RA	1170	G
25	RA	1173	G
25	RA	1174	A
25	RA	1175	U
25	RA	1176	G
25	RA	1178	C
25	RA	1179	C
25	RA	1180	C
25	RA	1183	G
25	RA	1195	G
25	RA	1204	A
25	RA	1205	U
25	RA	1206	G
25	RA	1210	A
25	RA	1211	U
25	RA	1220	A
25	RA	1221	C
25	RA	1236	G
25	RA	1238	G
25	RA	1252	G
25	RA	1253	A
25	RA	1256	G
25	RA	1265	A
25	RA	1271	G
25	RA	1272	A
25	RA	1273	U
25	RA	1288	U
25	RA	1300	U

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Mol	Chain	Res	Type
25	RA	1301	A
25	RA	1312	U
25	RA	1313	U
25	RA	1314	C
25	RA	1321	A
25	RA	1329	U
25	RA	1332	G
25	RA	1349	A
25	RA	1365	A
25	RA	1368	G
25	RA	1370	C
25	RA	1379	A
25	RA	1380	G
25	RA	1384	A
25	RA	1385	G
25	RA	1386	C
25	RA	1407	C
25	RA	1408	C
25	RA	1411	C
25	RA	1412	A
25	RA	1416	G
25	RA	1419	A
25	RA	1420	U
25	RA	1421	G
25	RA	1428	C
25	RA	1444(A)	A
25	RA	1445	C
25	RA	1449	A
25	RA	1449(A)	G
25	RA	1455	G
25	RA	1458	C
25	RA	1460	A
25	RA	1461	G
25	RA	1467	C
25	RA	1471	A
25	RA	1482	U
25	RA	1483	G
25	RA	1485	G
25	RA	1493	C
25	RA	1497	U
25	RA	1505	C
25	RA	1506	C

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Mol	Chain	Res	Type
25	RA	1507	A
25	RA	1508	A
25	RA	1510	A
25	RA	1514	U
25	RA	1519	G
25	RA	1522	G
25	RA	1534	G
25	RA	1535	U
25	RA	1536	A
25	RA	1537	C
25	RA	1538	G
25	RA	1543	A
25	RA	1544	C
25	RA	1545	A
25	RA	1547	C
25	RA	1558	A
25	RA	1559	G
25	RA	1569	A
25	RA	1578	U
25	RA	1579	A
25	RA	1580	A
25	RA	1581	G
25	RA	1585	C
25	RA	1586	A
25	RA	1598	C
25	RA	1608	A
25	RA	1609	A
25	RA	1610	A
25	RA	1616	A
25	RA	1617	C
25	RA	1618	A
25	RA	1640	C
25	RA	1646	C
25	RA	1648	C
25	RA	1654	A
25	RA	1667	G
25	RA	1674	G
25	RA	1675	C
25	RA	1688	U
25	RA	1695	G
25	RA	1725	G
25	RA	1729	A

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Mol	Chain	Res	Type
25	RA	1730	U
25	RA	1731	G
25	RA	1732	A
25	RA	1733	G
25	RA	1742	C
25	RA	1743	G
25	RA	1756	G
25	RA	1763	G
25	RA	1764	G
25	RA	1773	A
25	RA	1780	A
25	RA	1782	C
25	RA	1791	A
25	RA	1799	G
25	RA	1800	C
25	RA	1801	G
25	RA	1816	G
25	RA	1820	U
25	RA	1829	A
25	RA	1835	G
25	RA	1847	A
25	RA	1848	A
25	RA	1858	G
25	RA	1869	G
25	RA	1870	C
25	RA	1872	A
25	RA	1878	G
25	RA	1882	C
25	RA	1888	G
25	RA	1889	A
25	RA	1906	G
25	RA	1913	A
25	RA	1929	G
25	RA	1930	G
25	RA	1931	U
25	RA	1937	A
25	RA	1938	A
25	RA	1939	U
25	RA	1955	U
25	RA	1963	U
25	RA	1964	G
25	RA	1967	C

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Mol	Chain	Res	Type
25	RA	1969	A
25	RA	1970	A
25	RA	1971	A
25	RA	1972	A
25	RA	1981	A
25	RA	1982	C
25	RA	1991	U
25	RA	1992	G
25	RA	1993	U
25	RA	2023	G
25	RA	2031	A
25	RA	2032	G
25	RA	2033	A
25	RA	2043	C
25	RA	2055	C
25	RA	2056	G
25	RA	2059	A
25	RA	2060	A
25	RA	2061	G
25	RA	2062	A
25	RA	2069	G
25	RA	2093	G
25	RA	2099	U
25	RA	2100	G
25	RA	2107	C
25	RA	2111	C
25	RA	2113	U
25	RA	2114	A
25	RA	2115	G
25	RA	2116	G
25	RA	2117	A
25	RA	2126	A
25	RA	2127	G
25	RA	2128	C
25	RA	2131	G
25	RA	2132	U
25	RA	2133	G
25	RA	2135	A
25	RA	2136	C
25	RA	2146	C
25	RA	2148	G
25	RA	2157	G

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Mol	Chain	Res	Type
25	RA	2158	A
25	RA	2166	G
25	RA	2168	G
25	RA	2169	A
25	RA	2173	A
25	RA	2176	A
25	RA	2190	G
25	RA	2192	G
25	RA	2198	A
25	RA	2199	A
25	RA	2210	G
25	RA	2211	G
25	RA	2212	A
25	RA	2213	U
25	RA	2215	G
25	RA	2225	A
25	RA	2238	G
25	RA	2239	G
25	RA	2243	U
25	RA	2245	U
25	RA	2275	C
25	RA	2283	C
25	RA	2287	A
25	RA	2307	G
25	RA	2308	G
25	RA	2311	A
25	RA	2312	U
25	RA	2319	G
25	RA	2320	A
25	RA	2325	G
25	RA	2327	A
25	RA	2334	G
25	RA	2336	A
25	RA	2345	G
25	RA	2346	A
25	RA	2347	C
25	RA	2350	C
25	RA	2354	G
25	RA	2379	G
25	RA	2383	G
25	RA	2385	C
25	RA	2391	G

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Mol	Chain	Res	Type
25	RA	2392	A
25	RA	2394	C
25	RA	2402	C
25	RA	2403	C
25	RA	2406	U
25	RA	2410	G
25	RA	2423	U
25	RA	2424	C
25	RA	2425	A
25	RA	2429	G
25	RA	2430	A
25	RA	2435	A
25	RA	2439	A
25	RA	2440	C
25	RA	2441	C
25	RA	2445	G
25	RA	2448	A
25	RA	2469	A
25	RA	2470	G
25	RA	2474	C
25	RA	2475	C
25	RA	2482	G
25	RA	2494	G
25	RA	2502	G
25	RA	2505	G
25	RA	2519	U
25	RA	2520	C
25	RA	2529	G
25	RA	2542	A
25	RA	2543	G
25	RA	2554	U
25	RA	2567	G
25	RA	2569	G
25	RA	2582	G
25	RA	2602	A
25	RA	2609	U
25	RA	2611	U
25	RA	2612	C
25	RA	2614	A
25	RA	2623	G
25	RA	2629	A
25	RA	2641	G

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Mol	Chain	Res	Type
25	RA	2646	C
25	RA	2655	G
25	RA	2665	A
25	RA	2673	G
25	RA	2682	U
25	RA	2689	U
25	RA	2690	C
25	RA	2691	C
25	RA	2702	U
25	RA	2703	C
25	RA	2707	G
25	RA	2712	U
25	RA	2712(A)	A
25	RA	2713	A
25	RA	2714	G
25	RA	2726	U
25	RA	2732	G
25	RA	2733	A
25	RA	2734	A
25	RA	2748	A
25	RA	2752	C
25	RA	2758	A
25	RA	2761	G
25	RA	2764	A
25	RA	2765	A
25	RA	2766	G
25	RA	2777	G
25	RA	2778	A
25	RA	2779	U
25	RA	2780	G
25	RA	2789	C
25	RA	2790	A
25	RA	2791	C
25	RA	2797	U
25	RA	2807	G
25	RA	2812	G
25	RA	2818	G
25	RA	2820	A
25	RA	2821	A
25	RA	2833	G
25	RA	2834	G
25	RA	2835	A

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Mol	Chain	Res	Type
25	RA	2867	G
25	RA	2868	A
25	RA	2872	G
25	RA	2879	C
25	RA	2880	C
25	RA	2891	G
25	RA	2892	A
25	RA	2894	G
26	RB	8	U
26	RB	9	G
26	RB	13	A
26	RB	15	A
26	RB	16	G
26	RB	19	G
26	RB	22	U
26	RB	25	A
26	RB	26	A
26	RB	27	C
26	RB	32	C
26	RB	42	C
26	RB	45	A
26	RB	47	C
26	RB	56	G
26	RB	67	G
26	RB	73	A
26	RB	81	G
26	RB	89	G
26	RB	105	G
26	RB	109	G
1	XA	6	G
1	XA	7	G
1	XA	9	G
1	XA	22	G
1	XA	32	A
1	XA	39	G
1	XA	47	C
1	XA	48	C
1	XA	51	A
1	XA	54	C
1	XA	61	G
1	XA	64	G
1	XA	65	U

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Mol	Chain	Res	Type
1	XA	66	G
1	XA	78	G
1	XA	79	G
1	XA	81	G
1	XA	89	U
1	XA	90	C
1	XA	91	C
1	XA	92	G
1	XA	95	G
1	XA	101	A
1	XA	108	G
1	XA	116	A
1	XA	121	C
1	XA	130	A
1	XA	144	G
1	XA	147	G
1	XA	163	C
1	XA	172	A
1	XA	174	C
1	XA	182	U
1	XA	190	G
1	XA	195	A
1	XA	197	A
1	XA	201	C
1	XA	209	U
1	XA	216	G
1	XA	222	U
1	XA	244	U
1	XA	245	C
1	XA	247	G
1	XA	251	G
1	XA	267	C
1	XA	281	G
1	XA	289	G
1	XA	306	G
1	XA	314	C
1	XA	317	G
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	332	G
1	XA	345	C

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Mol	Chain	Res	Type
1	XA	346	G
1	XA	347	G
1	XA	348	G
1	XA	351	G
1	XA	352	C
1	XA	353	A
1	XA	354	G
1	XA	356	A
1	XA	367	U
1	XA	372	C
1	XA	373	A
1	XA	384	G
1	XA	388	G
1	XA	389	A
1	XA	390	C
1	XA	397	A
1	XA	398	C
1	XA	406	G
1	XA	411	A
1	XA	412	A
1	XA	413	G
1	XA	414	A
1	XA	421	U
1	XA	422	C
1	XA	423	G
1	XA	424	G
1	XA	429	U
1	XA	430	A
1	XA	442	C
1	XA	452	A
1	XA	465	A
1	XA	466	C
1	XA	467	G
1	XA	482	A
1	XA	485	G
1	XA	486	U
1	XA	496	A
1	XA	497	U
1	XA	509	A
1	XA	510	A
1	XA	511	C
1	XA	518	C

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Mol	Chain	Res	Type
1	XA	527	G
1	XA	531	U
1	XA	532	A
1	XA	533	A
1	XA	545	C
1	XA	547	A
1	XA	548	G
1	XA	559	A
1	XA	561	U
1	XA	564	C
1	XA	568	G
1	XA	572	A
1	XA	573	A
1	XA	576	G
1	XA	577	G
1	XA	579	G
1	XA	630	G
1	XA	631	G
1	XA	633	G
1	XA	652	U
1	XA	653	A
1	XA	665	A
1	XA	671	G
1	XA	688	G
1	XA	702	A
1	XA	704	A
1	XA	723	U
1	XA	731	G
1	XA	749	C
1	XA	753	A
1	XA	754	C
1	XA	755	G
1	XA	774	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	799	G
1	XA	813	U
1	XA	816	A
1	XA	817	C
1	XA	818	G

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Mol	Chain	Res	Type
1	XA	821	G
1	XA	828	A
1	XA	836	G
1	XA	841	U
1	XA	843	U
1	XA	848	C
1	XA	859	A
1	XA	871	U
1	XA	872	A
1	XA	902	G
1	XA	914	A
1	XA	926	G
1	XA	927	G
1	XA	934	C
1	XA	935	A
1	XA	940	C
1	XA	960	U
1	XA	961	U
1	XA	966	G
1	XA	968	A
1	XA	969	A
1	XA	972	C
1	XA	974	A
1	XA	975	A
1	XA	976	G
1	XA	977	A
1	XA	980	C
1	XA	982	U
1	XA	983	A
1	XA	991	U
1	XA	992	U
1	XA	993	G
1	XA	1004	A
1	XA	1006	C
1	XA	1008	C
1	XA	1009	G
1	XA	1021	G
1	XA	1024	G
1	XA	1025	U
1	XA	1028	C
1	XA	1029	G
1	XA	1032(A)	G

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Mol	Chain	Res	Type
1	XA	1036	G
1	XA	1039	C
1	XA	1040	U
1	XA	1042	G
1	XA	1054	C
1	XA	1055	A
1	XA	1081	G
1	XA	1094	G
1	XA	1095	U
1	XA	1101	A
1	XA	1124	G
1	XA	1125	U
1	XA	1126	U
1	XA	1127	G
1	XA	1130	A
1	XA	1131	G
1	XA	1136	U
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1146	A
1	XA	1157	A
1	XA	1158	C
1	XA	1159	U
1	XA	1160	G
1	XA	1162	C
1	XA	1163	C
1	XA	1171	G
1	XA	1176	A
1	XA	1177	G
1	XA	1181	G
1	XA	1182	G
1	XA	1183	A
1	XA	1187	G
1	XA	1190	G
1	XA	1196	U
1	XA	1197	G
1	XA	1201	A
1	XA	1202	G
1	XA	1212	U
1	XA	1213	A
1	XA	1225	A

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Mol	Chain	Res	Type
1	XA	1238	A
1	XA	1240	U
1	XA	1241	G
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1263	C
1	XA	1270	C
1	XA	1272	G
1	XA	1280	A
1	XA	1281	U
1	XA	1282	C
1	XA	1286	A
1	XA	1287	A
1	XA	1298	C
1	XA	1299	A
1	XA	1300	G
1	XA	1301	U
1	XA	1302	U
1	XA	1305	G
1	XA	1318	A
1	XA	1320	C
1	XA	1321	C
1	XA	1322	C
1	XA	1323	G
1	XA	1331	G
1	XA	1336	C
1	XA	1347	G
1	XA	1353	G
1	XA	1362(A)	C
1	XA	1364	U
1	XA	1365	G
1	XA	1370	G
1	XA	1397	C
1	XA	1419	G
1	XA	1442	G
1	XA	1446	A
1	XA	1447	G
1	XA	1452	C
1	XA	1453	G
1	XA	1454	G
1	XA	1487	G

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Mol	Chain	Res	Type
1	XA	1492	A
1	XA	1497	G
1	XA	1499	A
1	XA	1502	A
1	XA	1504	G
1	XA	1505	G
1	XA	1506	U
1	XA	1517	G
1	XA	1519	A
1	XA	1520	G
1	XA	1529	G
1	XA	1530	G
22	XV	3	G
22	XV	4	G
22	XV	6	G
22	XV	13	A
22	XV	15	C
22	XV	17	U
22	XV	18	G
22	XV	19	G
22	XV	21	A
22	XV	47	U
22	XV	48	C
22	XV	49	G
22	XV	52	G
22	XV	54	U
22	XV	64	G
22	XV	67	C
22	XV	76	A
23	XW	6	G
23	XW	9	A
23	XW	11	C
23	XW	14	A
23	XW	15	G
23	XW	16	U
23	XW	17	C
23	XW	19	G
23	XW	21	A
23	XW	39	U
23	XW	42	C
23	XW	43	C
23	XW	44	G

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Mol	Chain	Res	Type
23	XW	46	G
23	XW	47	U
23	XW	57	G
23	XW	58	A
23	XW	61	C
23	XW	70	G
23	XY	29	G
23	XY	34	G
23	XY	36	A
23	XY	37	A
25	YA	9	U
25	YA	15	G
25	YA	34	C
25	YA	35	G
25	YA	46	C
25	YA	55	G
25	YA	72	U
25	YA	74	A
25	YA	75	G
25	YA	96	G
25	YA	101	G
25	YA	102	G
25	YA	103	A
25	YA	118	A
25	YA	120	U
25	YA	125	G
25	YA	131	G
25	YA	161	U
25	YA	162	U
25	YA	181	A
25	YA	188	G
25	YA	196	A
25	YA	199	A
25	YA	214	G
25	YA	215	G
25	YA	216	A
25	YA	221	A
25	YA	222	A
25	YA	223	A
25	YA	225	A
25	YA	228	A
25	YA	229	A

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Mol	Chain	Res	Type
25	YA	230	U
25	YA	232	G
25	YA	242	G
25	YA	243	U
25	YA	248	G
25	YA	252	G
25	YA	265	A
25	YA	266	G
25	YA	269	U
25	YA	270(L)	U
25	YA	270(M)	U
25	YA	270(N)	G
25	YA	270(P)	C
25	YA	271(B)	G
25	YA	271(C)	U
25	YA	271	G
25	YA	274	G
25	YA	275	G
25	YA	276	A
25	YA	278	A
25	YA	279	C
25	YA	299	A
25	YA	300	A
25	YA	311	A
25	YA	323	G
25	YA	324	A
25	YA	329	G
25	YA	330	A
25	YA	332	A
25	YA	342	G
25	YA	345	A
25	YA	352	G
25	YA	363	G
25	YA	364	C
25	YA	371	A
25	YA	372	G
25	YA	373	U
25	YA	386	G
25	YA	387	U
25	YA	395	U
25	YA	405	U
25	YA	406	G

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Mol	Chain	Res	Type
25	YA	411	G
25	YA	412	A
25	YA	428	A
25	YA	442	G
25	YA	443	A
25	YA	444	C
25	YA	448	U
25	YA	457	A
25	YA	470	A
25	YA	481	G
25	YA	496	G
25	YA	504	U
25	YA	505	A
25	YA	509	C
25	YA	512	G
25	YA	518	G
25	YA	529	A
25	YA	531	C
25	YA	532	A
25	YA	533	G
25	YA	537	C
25	YA	539	G
25	YA	540	G
25	YA	546	C
25	YA	547	A
25	YA	549	G
25	YA	563	G
25	YA	573	G
25	YA	575	A
25	YA	588	U
25	YA	603	A
25	YA	607	U
25	YA	609(A)	G
25	YA	614	U
25	YA	615	G
25	YA	616	A
25	YA	617	G
25	YA	620	G
25	YA	622	G
25	YA	627	A
25	YA	637	A
25	YA	638	G

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Mol	Chain	Res	Type
25	YA	645	C
25	YA	646	A
25	YA	651	G
25	YA	654	A
25	YA	654(A)	G
25	YA	654(B)	C
25	YA	686	G
25	YA	717	G
25	YA	722	A
25	YA	726	G
25	YA	730	C
25	YA	734	A
25	YA	746	A
25	YA	747	U
25	YA	753	C
25	YA	782	A
25	YA	784	A
25	YA	785	G
25	YA	788	A
25	YA	790	C
25	YA	792	G
25	YA	805	G
25	YA	812	C
25	YA	819	A
25	YA	827	U
25	YA	828	U
25	YA	847	U
25	YA	856	C
25	YA	857	C
25	YA	859	G
25	YA	860	U
25	YA	866	A
25	YA	881	G
25	YA	882	G
25	YA	884	C
25	YA	885	C
25	YA	886	C
25	YA	888	C
25	YA	889	C
25	YA	896	A
25	YA	897	C
25	YA	899	A

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Mol	Chain	Res	Type
25	YA	900	A
25	YA	901	A
25	YA	907	U
25	YA	910	A
25	YA	914	C
25	YA	915	C
25	YA	917	A
25	YA	932	G
25	YA	938	G
25	YA	941	A
25	YA	945	A
25	YA	946	G
25	YA	961	C
25	YA	974	G
25	YA	974(A)	C
25	YA	975	G
25	YA	980	A
25	YA	983	A
25	YA	990	A
25	YA	991	C
25	YA	996	A
25	YA	1003	G
25	YA	1005	C
25	YA	1011	G
25	YA	1012	U
25	YA	1013	C
25	YA	1015	G
25	YA	1022	G
25	YA	1023	U
25	YA	1025	G
25	YA	1026	U
25	YA	1027	A
25	YA	1033	U
25	YA	1045	A
25	YA	1046	A
25	YA	1050	A
25	YA	1054	A
25	YA	1055	G
25	YA	1059	G
25	YA	1060	U
25	YA	1061	U
25	YA	1066	U

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Mol	Chain	Res	Type
25	YA	1067	A
25	YA	1068	G
25	YA	1070	A
25	YA	1071	G
25	YA	1076	C
25	YA	1077	A
25	YA	1078	U
25	YA	1079	C
25	YA	1082	U
25	YA	1083	U
25	YA	1084	A
25	YA	1085	A
25	YA	1086	A
25	YA	1088	A
25	YA	1089	G
25	YA	1095	A
25	YA	1096	A
25	YA	1097	U
25	YA	1099	G
25	YA	1103	A
25	YA	1104	C
25	YA	1110	G
25	YA	1111	A
25	YA	1122	G
25	YA	1131	G
25	YA	1135	C
25	YA	1136	G
25	YA	1139	G
25	YA	1142	U
25	YA	1142(A)	A
25	YA	1170	G
25	YA	1173	G
25	YA	1174	A
25	YA	1175	U
25	YA	1176	G
25	YA	1178	C
25	YA	1179	C
25	YA	1180	C
25	YA	1195	G
25	YA	1204	A
25	YA	1205	U
25	YA	1210	A

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Mol	Chain	Res	Type
25	YA	1211	U
25	YA	1220	A
25	YA	1236	G
25	YA	1238	G
25	YA	1248	G
25	YA	1253	A
25	YA	1256	G
25	YA	1265	A
25	YA	1271	G
25	YA	1272	A
25	YA	1273	U
25	YA	1300	U
25	YA	1301	A
25	YA	1321	A
25	YA	1329	U
25	YA	1349	A
25	YA	1352	U
25	YA	1365	A
25	YA	1368	G
25	YA	1370	C
25	YA	1379	A
25	YA	1384	A
25	YA	1385	G
25	YA	1386	C
25	YA	1391	U
25	YA	1407	C
25	YA	1411	C
25	YA	1416	G
25	YA	1419	A
25	YA	1420	U
25	YA	1421	G
25	YA	1428	C
25	YA	1444(A)	A
25	YA	1445	C
25	YA	1449	A
25	YA	1449(A)	G
25	YA	1455	G
25	YA	1458	C
25	YA	1460	A
25	YA	1461	G
25	YA	1467	C
25	YA	1471	A

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Mol	Chain	Res	Type
25	YA	1482	U
25	YA	1483	G
25	YA	1493	C
25	YA	1497	U
25	YA	1506	C
25	YA	1507	A
25	YA	1508	A
25	YA	1510	A
25	YA	1511	A
25	YA	1514	U
25	YA	1522	G
25	YA	1534	G
25	YA	1535	U
25	YA	1536	A
25	YA	1537	C
25	YA	1543	A
25	YA	1544	C
25	YA	1545	A
25	YA	1547	C
25	YA	1554	A
25	YA	1558	A
25	YA	1559	G
25	YA	1566	A
25	YA	1569	A
25	YA	1578	U
25	YA	1579	A
25	YA	1580	A
25	YA	1585	C
25	YA	1586	A
25	YA	1592	C
25	YA	1598	C
25	YA	1599	C
25	YA	1608	A
25	YA	1609	A
25	YA	1616	A
25	YA	1617	C
25	YA	1618	A
25	YA	1640	C
25	YA	1646	C
25	YA	1648	C
25	YA	1654	A
25	YA	1660	C

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Mol	Chain	Res	Type
25	YA	1664	A
25	YA	1668	A
25	YA	1674	G
25	YA	1695	G
25	YA	1698	A
25	YA	1699	G
25	YA	1700	A
25	YA	1703	G
25	YA	1725	G
25	YA	1728	G
25	YA	1729	A
25	YA	1731	G
25	YA	1733	G
25	YA	1742	C
25	YA	1743	G
25	YA	1750	G
25	YA	1754	C
25	YA	1756	G
25	YA	1762	A
25	YA	1763	G
25	YA	1764	G
25	YA	1773	A
25	YA	1776	G
25	YA	1780	A
25	YA	1781	C
25	YA	1787	A
25	YA	1791	A
25	YA	1799	G
25	YA	1800	C
25	YA	1801	G
25	YA	1816	G
25	YA	1820	U
25	YA	1829	A
25	YA	1835	G
25	YA	1847	A
25	YA	1850	G
25	YA	1858	G
25	YA	1869	G
25	YA	1870	C
25	YA	1872	A
25	YA	1878	G
25	YA	1882	C

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Mol	Chain	Res	Type
25	YA	1888	G
25	YA	1889	A
25	YA	1896	G
25	YA	1903	G
25	YA	1919	A
25	YA	1930	G
25	YA	1931	U
25	YA	1937	A
25	YA	1939	U
25	YA	1955	U
25	YA	1956	U
25	YA	1963	U
25	YA	1964	G
25	YA	1967	C
25	YA	1969	A
25	YA	1971	A
25	YA	1972	A
25	YA	1981	A
25	YA	1982	C
25	YA	1991	U
25	YA	1992	G
25	YA	1993	U
25	YA	2020	A
25	YA	2023	G
25	YA	2031	A
25	YA	2033	A
25	YA	2039	C
25	YA	2043	C
25	YA	2049	G
25	YA	2052	G
25	YA	2055	C
25	YA	2056	G
25	YA	2059	A
25	YA	2060	A
25	YA	2061	G
25	YA	2062	A
25	YA	2063	C
25	YA	2069	G
25	YA	2093	G
25	YA	2099	U
25	YA	2100	G
25	YA	2111	C

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Mol	Chain	Res	Type
25	YA	2112	G
25	YA	2113	U
25	YA	2114	A
25	YA	2115	G
25	YA	2116	G
25	YA	2117	A
25	YA	2119	A
25	YA	2120	G
25	YA	2126	A
25	YA	2127	G
25	YA	2128	C
25	YA	2131	G
25	YA	2132	U
25	YA	2133	G
25	YA	2136	C
25	YA	2146	C
25	YA	2148	G
25	YA	2158	A
25	YA	2166	G
25	YA	2168	G
25	YA	2173	A
25	YA	2176	A
25	YA	2178	C
25	YA	2190	G
25	YA	2192	G
25	YA	2198	A
25	YA	2210	G
25	YA	2211	G
25	YA	2212	A
25	YA	2213	U
25	YA	2215	G
25	YA	2225	A
25	YA	2238	G
25	YA	2239	G
25	YA	2243	U
25	YA	2246	G
25	YA	2275	C
25	YA	2280	G
25	YA	2283	C
25	YA	2287	A
25	YA	2288	A
25	YA	2305	A

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Mol	Chain	Res	Type
25	YA	2307	G
25	YA	2308	G
25	YA	2311	A
25	YA	2319	G
25	YA	2320	A
25	YA	2325	G
25	YA	2334	G
25	YA	2336	A
25	YA	2342	C
25	YA	2346	A
25	YA	2347	C
25	YA	2350	C
25	YA	2377	A
25	YA	2383	G
25	YA	2385	C
25	YA	2392	A
25	YA	2402	C
25	YA	2403	C
25	YA	2406	U
25	YA	2410	G
25	YA	2423	U
25	YA	2425	A
25	YA	2429	G
25	YA	2430	A
25	YA	2434	A
25	YA	2435	A
25	YA	2439	A
25	YA	2440	C
25	YA	2441	C
25	YA	2448	A
25	YA	2450	A
25	YA	2469	A
25	YA	2470	G
25	YA	2471	C
25	YA	2474	C
25	YA	2475	C
25	YA	2476	A
25	YA	2484	G
25	YA	2494	G
25	YA	2498	C
25	YA	2502	G
25	YA	2505	G

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Mol	Chain	Res	Type
25	YA	2518	A
25	YA	2524	G
25	YA	2529	G
25	YA	2542	A
25	YA	2543	G
25	YA	2554	U
25	YA	2562	U
25	YA	2566	A
25	YA	2567	G
25	YA	2586	C
25	YA	2602	A
25	YA	2609	U
25	YA	2611	U
25	YA	2612	C
25	YA	2621	A
25	YA	2629	A
25	YA	2632	A
25	YA	2655	G
25	YA	2656	U
25	YA	2665	A
25	YA	2673	G
25	YA	2682	U
25	YA	2689	U
25	YA	2690	C
25	YA	2702	U
25	YA	2703	C
25	YA	2712	U
25	YA	2712(A)	A
25	YA	2713	A
25	YA	2714	G
25	YA	2720	U
25	YA	2726	U
25	YA	2733	A
25	YA	2744	G
25	YA	2748	A
25	YA	2752	C
25	YA	2757	A
25	YA	2758	A
25	YA	2761	G
25	YA	2764	A
25	YA	2765	A
25	YA	2766	G

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Mol	Chain	Res	Type
25	YA	2777	G
25	YA	2778	A
25	YA	2779	U
25	YA	2780	G
25	YA	2789	C
25	YA	2790	A
25	YA	2791	C
25	YA	2797	U
25	YA	2799	A
25	YA	2807	G
25	YA	2808	U
25	YA	2818	G
25	YA	2820	A
25	YA	2821	A
25	YA	2823	A
25	YA	2833	G
25	YA	2834	G
25	YA	2835	A
25	YA	2867	G
25	YA	2868	A
25	YA	2872	G
25	YA	2873	A
25	YA	2880	C
25	YA	2891	G
25	YA	2892	A
25	YA	2893	G
25	YA	2894	G
26	YB	8	U
26	YB	9	G
26	YB	13	A
26	YB	15	A
26	YB	16	G
26	YB	21	G
26	YB	22	U
26	YB	25	A
26	YB	32	C
26	YB	40	U
26	YB	41	U
26	YB	42	C
26	YB	45	A
26	YB	47	C
26	YB	52	A

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Mol	Chain	Res	Type
26	YB	53	A
26	YB	56	G
26	YB	67	G
26	YB	73	A
26	YB	89	G
26	YB	109	G

All (199) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	QA	5	U
1	QA	31	G
1	QA	64	G
1	QA	115	G
1	QA	119	A
1	QA	181	G
1	QA	243	A
1	QA	244	U
1	QA	250	A
1	QA	266	G
1	QA	328	C
1	QA	410	G
1	QA	412	A
1	QA	429	U
1	QA	481	G
1	QA	484	G
1	QA	485	G
1	QA	509	A
1	QA	533	A
1	QA	687	A
1	QA	701	C
1	QA	703	G
1	QA	753	A
1	QA	792	A
1	QA	812	C
1	QA	913	A
1	QA	934	C
1	QA	960	U
1	QA	992	U
1	QA	1027	C
1	QA	1064	G
1	QA	1065	U

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Mol	Chain	Res	Type
1	QA	1200	C
1	QA	1201	A
1	QA	1285	A
1	QA	1297	C
1	QA	1336	C
1	QA	1346	A
1	QA	1347	G
1	QA	1446	A
1	QA	1498	U
1	QA	1503	A
1	QA	1528	U
22	QV	53	G
25	RA	27	G
25	RA	74	A
25	RA	99	U
25	RA	102	G
25	RA	195	A
25	RA	205	G
25	RA	221	A
25	RA	222	A
25	RA	227	A
25	RA	229	A
25	RA	242	G
25	RA	271(B)	G
25	RA	271(C)	U
25	RA	345	A
25	RA	372	G
25	RA	404	C
25	RA	503	A
25	RA	512	G
25	RA	587	C
25	RA	637	A
25	RA	846	C
25	RA	856	C
25	RA	859	G
25	RA	974(A)	C
25	RA	1012	U
25	RA	1022	G
25	RA	1026	U
25	RA	1045	A
25	RA	1078	U
25	RA	1085	A

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Mol	Chain	Res	Type
25	RA	1130	U
25	RA	1178	C
25	RA	1204	A
25	RA	1210	A
25	RA	1312	U
25	RA	1427	A
25	RA	1558	A
25	RA	1653	G
25	RA	1694	C
25	RA	1799	G
25	RA	1819	A
25	RA	1930	G
25	RA	1980	G
25	RA	1992	G
25	RA	2060	A
25	RA	2126	A
25	RA	2405	G
25	RA	2439	A
25	RA	2481	G
25	RA	2518	A
25	RA	2566	A
25	RA	2610	C
25	RA	2689	U
25	RA	2712	U
25	RA	2776	A
25	RA	2832	U
25	RA	2867	G
26	RB	66	A
1	XA	31	G
1	XA	60	A
1	XA	64	G
1	XA	78	G
1	XA	89	U
1	XA	115	G
1	XA	181	G
1	XA	243	A
1	XA	244	U
1	XA	250	A
1	XA	266	G
1	XA	328	C
1	XA	345	C
1	XA	410	G

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Mol	Chain	Res	Type
1	XA	412	A
1	XA	428	G
1	XA	429	U
1	XA	481	G
1	XA	484	G
1	XA	485	G
1	XA	509	A
1	XA	532	A
1	XA	560	U
1	XA	687	A
1	XA	703	G
1	XA	753	A
1	XA	812	C
1	XA	913	A
1	XA	991	U
1	XA	992	U
1	XA	1027	C
1	XA	1126	U
1	XA	1200	C
1	XA	1285	A
1	XA	1297	C
1	XA	1446	A
1	XA	1498	U
1	XA	1503	A
22	XV	53	G
25	YA	99	U
25	YA	102	G
25	YA	195	A
25	YA	221	A
25	YA	222	A
25	YA	229	A
25	YA	242	G
25	YA	271(B)	G
25	YA	278	A
25	YA	372	G
25	YA	404	C
25	YA	503	A
25	YA	508	G
25	YA	587	C
25	YA	637	A
25	YA	653	A
25	YA	654	A

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Mol	Chain	Res	Type
25	YA	752	A
25	YA	846	C
25	YA	856	C
25	YA	859	G
25	YA	896	A
25	YA	974(A)	C
25	YA	1012	U
25	YA	1022	G
25	YA	1026	U
25	YA	1045	A
25	YA	1078	U
25	YA	1085	A
25	YA	1109	C
25	YA	1130	U
25	YA	1178	C
25	YA	1210	A
25	YA	1427	A
25	YA	1558	A
25	YA	1653	G
25	YA	1694	C
25	YA	1698	A
25	YA	1799	G
25	YA	1819	A
25	YA	1929	G
25	YA	1930	G
25	YA	1955	U
25	YA	1992	G
25	YA	2126	A
25	YA	2439	A
25	YA	2566	A
25	YA	2610	C
25	YA	2655	G
25	YA	2681	C
25	YA	2689	U
25	YA	2712	U
25	YA	2719	G
25	YA	2756	U
25	YA	2776	A
25	YA	2832	U
25	YA	2867	G
26	YB	66	A

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 704 ligands modelled in this entry, 702 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$
58	PAR	XA	1672	-	44,45,45	1.35	6 (13%)	63,67,67	1.23	5 (7%)
58	PAR	QA	1667	-	44,45,45	1.37	6 (13%)	63,67,67	1.10	4 (6%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
58	PAR	XA	1672	-	-	4/18/94/94	0/4/4/4
58	PAR	QA	1667	-	-	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)
58	QA	1667	PAR	C52-C42	3.15	1.58	1.52
58	XA	1672	PAR	C52-C42	3.07	1.58	1.52
58	XA	1672	PAR	O54-C14	2.98	1.49	1.41
58	QA	1667	PAR	O54-C14	2.91	1.49	1.41
58	XA	1672	PAR	C11-C21	2.79	1.57	1.52
58	QA	1667	PAR	C11-C21	2.72	1.57	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	QA	1667	PAR	O51-C11	2.53	1.48	1.41
58	XA	1672	PAR	O51-C11	2.52	1.48	1.41
58	XA	1672	PAR	C14-C24	2.31	1.56	1.52
58	QA	1667	PAR	C31-C21	2.29	1.56	1.53
58	QA	1667	PAR	C14-C24	2.18	1.56	1.52
58	XA	1672	PAR	C31-C21	2.12	1.56	1.53

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
58	XA	1672	PAR	C14-O54-C54	4.10	121.73	113.72
58	QA	1667	PAR	C14-O54-C54	4.04	121.62	113.72
58	QA	1667	PAR	O33-C14-C24	3.76	114.23	108.08
58	XA	1672	PAR	O33-C14-C24	3.52	113.83	108.08
58	XA	1672	PAR	O54-C54-C64	3.24	112.29	106.07
58	QA	1667	PAR	O54-C54-C64	3.06	111.95	106.07
58	XA	1672	PAR	C11-O51-C51	2.43	118.46	113.72
58	XA	1672	PAR	O11-C11-C21	2.07	111.47	108.08
58	QA	1667	PAR	C11-O51-C51	2.03	117.67	113.72

There are no chirality outliers.

All (9) torsion outliers are listed below:

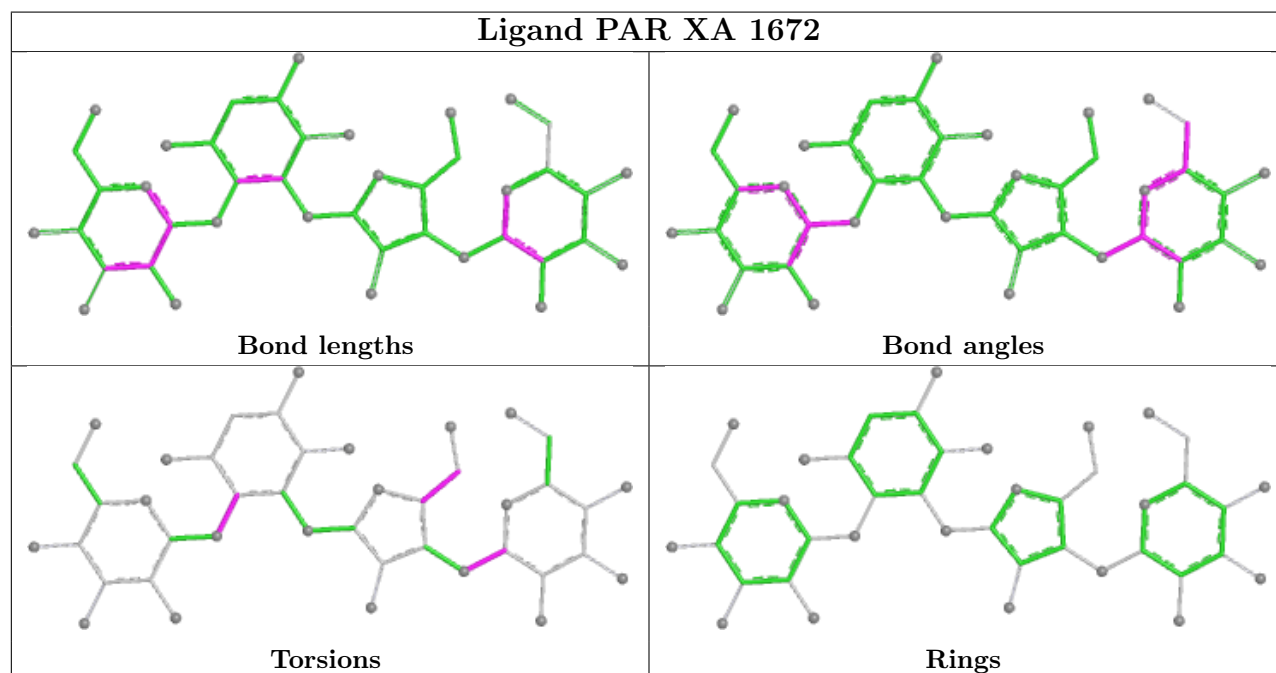
Mol	Chain	Res	Type	Atoms
58	XA	1672	PAR	O43-C43-C53-O53
58	XA	1672	PAR	C33-C43-C53-O53
58	QA	1667	PAR	C33-C43-C53-O53
58	QA	1667	PAR	O43-C43-C53-O53
58	QA	1667	PAR	C41-C51-C61-O61
58	QA	1667	PAR	O51-C51-C61-O61
58	XA	1672	PAR	C52-C42-O11-C11
58	XA	1672	PAR	C24-C14-O33-C33
58	QA	1667	PAR	C52-C42-O11-C11

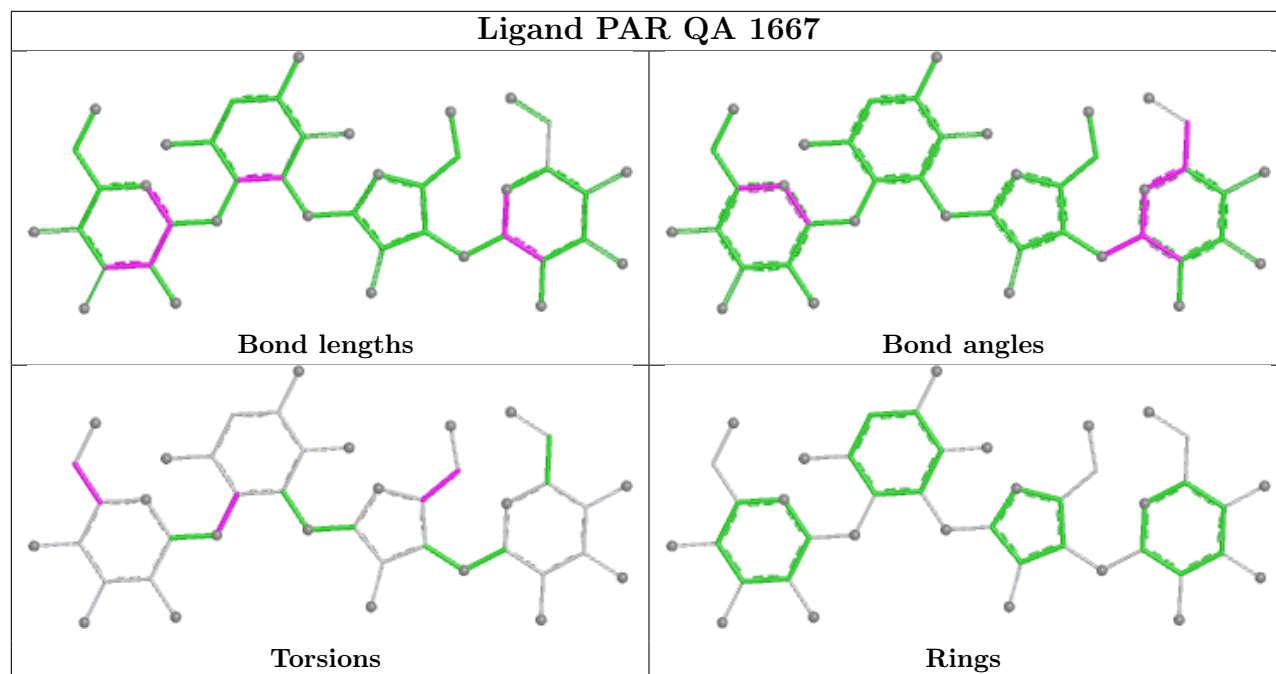
There are no ring outliers.

2 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
58	XA	1672	PAR	4	0
58	QA	1667	PAR	1	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 than 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.





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

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, 95th 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	QA	1500/1522 (98%)	0.12	30 (2%) 65 38	68, 102, 211, 576	0
1	XA	1500/1522 (98%)	0.07	24 (1%) 70 43	57, 88, 196, 440	0
2	QB	237/256 (92%)	0.44	12 (5%) 33 19	106, 186, 344, 418	0
2	XB	237/256 (92%)	0.39	10 (4%) 40 22	88, 156, 283, 529	0
3	QC	205/239 (85%)	0.32	9 (4%) 39 22	103, 172, 294, 429	0
3	XC	205/239 (85%)	0.18	6 (2%) 53 30	80, 124, 195, 316	0
4	QD	208/209 (99%)	0.66	23 (11%) 10 8	85, 114, 192, 458	0
4	XD	208/209 (99%)	0.63	22 (10%) 11 9	71, 109, 190, 368	0
5	QE	151/162 (93%)	0.28	5 (3%) 49 28	90, 128, 201, 260	0
5	XE	151/162 (93%)	0.19	5 (3%) 49 28	72, 101, 185, 236	0
6	QF	101/101 (100%)	0.27	2 (1%) 65 38	80, 109, 175, 310	0
6	XF	101/101 (100%)	0.30	3 (2%) 52 30	73, 107, 161, 559	0
7	QG	155/156 (99%)	0.38	13 (8%) 17 12	83, 150, 262, 534	0
7	XG	155/156 (99%)	0.44	10 (6%) 25 16	76, 129, 209, 334	0
8	QH	138/138 (100%)	0.38	6 (4%) 40 22	92, 133, 195, 285	0
8	XH	138/138 (100%)	0.23	5 (3%) 46 26	80, 113, 165, 331	0
9	QI	127/128 (99%)	0.83	15 (11%) 9 8	96, 189, 303, 476	0
9	XI	127/128 (99%)	0.80	16 (12%) 8 7	76, 153, 232, 396	0
10	QJ	99/105 (94%)	1.12	15 (15%) 5 5	107, 196, 431, 583	0
10	XJ	99/105 (94%)	0.89	16 (16%) 4 5	85, 164, 316, 369	0
11	QK	119/129 (92%)	0.29	4 (3%) 48 27	77, 112, 201, 335	0
11	XK	119/129 (92%)	0.22	2 (1%) 69 41	67, 105, 181, 251	0
12	QL	125/132 (94%)	0.47	13 (10%) 11 9	79, 101, 176, 309	0
12	XL	125/132 (94%)	0.35	4 (3%) 50 29	55, 78, 146, 341	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2		OWAB(Å ²)	Q<0.9
13	QM	121/126 (96%)	0.53	11 (9%)	15 11	101, 160, 265, 447	0
13	XM	121/126 (96%)	0.55	8 (6%)	24 15	78, 126, 200, 488	0
14	QN	60/61 (98%)	0.61	2 (3%)	49 28	117, 157, 211, 250	0
14	XN	60/61 (98%)	0.60	3 (5%)	34 19	89, 106, 151, 194	0
15	QO	88/89 (98%)	0.24	1 (1%)	78 52	77, 113, 167, 241	0
15	XO	88/89 (98%)	0.28	1 (1%)	78 52	69, 101, 153, 171	0
16	QP	84/88 (95%)	0.68	9 (10%)	11 9	85, 102, 164, 241	0
16	XP	84/88 (95%)	0.57	4 (4%)	35 20	87, 111, 187, 400	0
17	QQ	100/105 (95%)	0.51	7 (7%)	22 15	82, 107, 157, 336	0
17	XQ	100/105 (95%)	0.54	6 (6%)	27 17	71, 105, 171, 330	0
18	QR	70/88 (79%)	0.09	0	100 100	83, 114, 185, 205	0
18	XR	70/88 (79%)	0.19	1 (1%)	73 46	77, 112, 187, 227	0
19	QS	84/93 (90%)	0.56	10 (11%)	9 8	109, 181, 257, 381	0
19	XS	84/93 (90%)	0.55	4 (4%)	35 20	80, 133, 207, 286	0
20	QT	99/106 (93%)	0.61	8 (8%)	18 12	87, 122, 208, 237	0
20	XT	99/106 (93%)	0.89	17 (17%)	4 4	87, 136, 211, 236	0
21	QU	25/27 (92%)	1.26	5 (20%)	3 3	112, 155, 238, 264	0
21	XU	25/27 (92%)	1.91	10 (40%)	1 1	102, 128, 202, 210	0
22	QV	77/77 (100%)	0.14	0	100 100	91, 114, 175, 228	0
22	XV	77/77 (100%)	0.19	1 (1%)	75 48	70, 91, 164, 210	0
23	QW	76/76 (100%)	0.61	1 (1%)	75 48	91, 205, 292, 361	0
23	QY	17/76 (22%)	0.55	1 (5%)	28 17	120, 132, 201, 212	0
23	XW	76/76 (100%)	0.77	4 (5%)	32 19	88, 196, 373, 402	0
23	XY	17/76 (22%)	0.16	0	100 100	94, 101, 177, 187	0
24	QX	10/24 (41%)	1.38	4 (40%)	1 1	102, 106, 257, 377	0
24	XX	10/24 (41%)	1.34	3 (30%)	1 1	94, 99, 237, 284	0
25	RA	2882/2915 (98%)	0.05	59 (2%)	65 38	53, 82, 254, 563	0
25	YA	2883/2915 (98%)	-0.04	31 (1%)	78 52	39, 64, 217, 437	0
26	RB	120/122 (98%)	0.56	9 (7%)	20 14	119, 162, 204, 242	0
26	YB	120/122 (98%)	0.11	2 (1%)	69 41	71, 106, 119, 200	0
27	RD	272/276 (98%)	0.29	9 (3%)	49 28	54, 74, 127, 183	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å ²)	Q<0.9
27	YD	272/276 (98%)	0.27	6 (2%)	62	36	40, 66, 120, 213	0
28	RE	205/206 (99%)	0.51	14 (6%)	23	15	55, 94, 188, 447	0
28	YE	205/206 (99%)	0.28	9 (4%)	39	22	43, 78, 167, 453	0
29	RF	202/210 (96%)	0.50	16 (7%)	18	13	54, 110, 191, 469	0
29	YF	202/210 (96%)	0.12	2 (0%)	79	54	39, 71, 138, 248	0
30	RG	181/182 (99%)	0.92	26 (14%)	6	6	122, 192, 303, 490	0
30	YG	181/182 (99%)	0.53	12 (6%)	24	15	82, 117, 183, 391	0
31	RH	170/180 (94%)	0.72	16 (9%)	14	10	113, 199, 359, 517	0
31	YH	170/180 (94%)	0.70	16 (9%)	14	10	65, 114, 180, 363	0
32	RI	146/148 (98%)	0.72	12 (8%)	17	12	73, 155, 265, 529	0
32	YI	146/148 (98%)	0.66	12 (8%)	17	12	62, 143, 271, 559	0
33	RN	138/140 (98%)	0.26	2 (1%)	73	46	64, 110, 186, 302	0
33	YN	138/140 (98%)	0.15	3 (2%)	62	36	49, 78, 167, 266	0
34	RO	122/122 (100%)	0.16	2 (1%)	70	43	63, 94, 139, 155	0
34	YO	122/122 (100%)	0.09	1 (0%)	82	58	51, 68, 115, 146	0
35	RP	150/150 (100%)	0.62	15 (10%)	12	10	61, 122, 202, 369	0
35	YP	150/150 (100%)	0.57	14 (9%)	14	10	42, 81, 157, 361	0
36	RQ	141/141 (100%)	0.96	24 (17%)	4	4	80, 122, 205, 332	0
36	YQ	141/141 (100%)	0.49	11 (7%)	19	13	56, 73, 148, 430	0
37	RR	118/118 (100%)	0.33	6 (5%)	33	19	61, 86, 134, 160	0
37	YR	118/118 (100%)	0.34	3 (2%)	58	34	51, 71, 120, 207	0
38	RS	111/112 (99%)	0.70	11 (9%)	13	10	109, 160, 253, 420	0
38	YS	111/112 (99%)	0.37	2 (1%)	67	40	73, 102, 175, 285	0
39	RT	137/146 (93%)	0.27	5 (3%)	46	26	70, 107, 263, 350	0
39	YT	137/146 (93%)	0.35	8 (5%)	29	17	60, 84, 192, 451	0
40	RU	117/118 (99%)	0.48	8 (6%)	23	15	62, 106, 174, 287	0
40	YU	117/118 (99%)	0.36	6 (5%)	33	19	47, 71, 134, 425	0
41	RV	101/101 (100%)	0.47	5 (4%)	34	19	64, 129, 225, 419	0
41	YV	101/101 (100%)	0.31	4 (3%)	42	24	46, 89, 172, 424	0
42	RW	113/113 (100%)	0.09	3 (2%)	56	32	55, 75, 154, 298	0
42	YW	113/113 (100%)	0.22	3 (2%)	56	32	42, 67, 139, 206	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
43	RX	92/96 (95%)	0.32	3 (3%) 49 28	67, 95, 161, 200	0
43	YX	92/96 (95%)	0.39	4 (4%) 40 22	50, 72, 129, 260	0
44	RY	102/110 (92%)	1.15	22 (21%) 2 3	79, 132, 238, 489	0
44	YY	102/110 (92%)	0.67	10 (9%) 13 10	63, 103, 175, 385	0
45	RZ	183/206 (88%)	0.76	17 (9%) 14 10	123, 195, 338, 497	0
45	YZ	183/206 (88%)	0.73	18 (9%) 13 10	76, 148, 434, 554	0
46	R0	82/85 (96%)	0.55	5 (6%) 27 16	69, 114, 152, 188	0
46	Y0	82/85 (96%)	0.25	2 (2%) 59 34	47, 70, 126, 171	0
47	R1	97/98 (98%)	0.86	11 (11%) 10 8	58, 95, 208, 261	0
47	Y1	97/98 (98%)	0.52	7 (7%) 21 14	45, 72, 181, 340	0
48	R2	69/72 (95%)	0.85	9 (13%) 7 6	80, 129, 215, 245	0
48	Y2	69/72 (95%)	0.57	3 (4%) 40 22	60, 88, 176, 274	0
49	R3	59/60 (98%)	0.36	2 (3%) 48 27	82, 121, 199, 517	0
49	Y3	59/60 (98%)	0.24	1 (1%) 69 41	55, 76, 140, 319	0
50	R4	71/71 (100%)	0.96	11 (15%) 5 5	132, 252, 520, 577	0
50	Y4	71/71 (100%)	1.06	9 (12%) 8 7	103, 196, 455, 567	0
51	R5	59/60 (98%)	0.59	7 (11%) 9 8	46, 95, 288, 394	0
51	Y5	57/60 (95%)	0.81	6 (10%) 11 9	23, 73, 267, 342	0
52	R6	49/54 (90%)	1.53	15 (30%) 1 1	88, 156, 225, 300	0
52	Y6	49/54 (90%)	1.15	8 (16%) 4 5	53, 118, 199, 327	0
53	R7	49/49 (100%)	0.47	4 (8%) 17 12	38, 65, 157, 188	0
53	Y7	49/49 (100%)	0.66	6 (12%) 8 7	26, 48, 108, 212	0
54	R8	64/65 (98%)	0.86	11 (17%) 4 4	53, 93, 152, 285	0
54	Y8	64/65 (98%)	0.80	8 (12%) 8 7	29, 61, 107, 272	0
55	R9	37/37 (100%)	1.26	7 (18%) 3 3	92, 141, 227, 400	0
55	Y9	37/37 (100%)	1.07	6 (16%) 4 5	45, 101, 162, 378	0
56	Z7	8/12 (66%)	3.53	7 (87%) 0 0	115, 174, 254, 280	0
56	Z8	8/12 (66%)	2.54	7 (87%) 0 0	124, 137, 204, 234	0
All	All	21045/21776 (96%)	0.31	1004 (4%) 35 20	23, 99, 241, 583	0

All (1004) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
52	R6	42	TRP	8.5
25	YA	1536	A	8.4
36	RQ	25	ASP	8.0
35	YP	13	ASN	7.5
9	QI	106	ALA	7.2
7	XG	32	ARG	6.7
50	Y4	60	GLN	6.6
45	RZ	176	PRO	6.6
38	RS	32	LEU	6.6
32	YI	107	VAL	6.5
48	R2	52	ASP	6.2
36	YQ	80	GLU	6.2
47	R1	28	GLY	6.1
4	XD	24	GLU	6.0
52	R6	24	GLU	5.9
39	YT	112	ARG	5.9
20	XT	72	LEU	5.8
48	R2	66	GLU	5.7
50	R4	69	LYS	5.6
53	Y7	49	ARG	5.6
52	Y6	42	TRP	5.6
31	YH	154	PRO	5.6
24	QX	13	A	5.6
10	QJ	58	ASP	5.5
7	XG	4	ARG	5.5
3	QC	161	GLU	5.4
32	RI	10	GLU	5.4
10	QJ	83	GLU	5.3
39	RT	112	ARG	5.3
4	QD	130	GLY	5.3
16	QP	76	GLN	5.3
45	YZ	120	ILE	5.3
51	R5	51	TYR	5.3
10	QJ	74	ILE	5.3
56	Z7	5	LYS	5.2
45	RZ	78	LYS	5.2
30	RG	28	VAL	5.2
21	XU	6	ARG	5.2
48	Y2	11	GLU	5.1
13	QM	102	ARG	5.1
11	XK	129	SER	5.1
53	R7	48	LYS	5.1
45	YZ	97	GLU	5.0

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Mol	Chain	Res	Type	RSRZ
7	XG	5	ARG	5.0
40	RU	90	VAL	5.0
17	QQ	101	ARG	5.0
50	Y4	63	TYR	5.0
45	RZ	76	LEU	4.9
50	Y4	69	LYS	4.8
53	R7	45	ALA	4.8
8	QH	1	MET	4.8
25	RA	2174	C	4.8
55	R9	1	MET	4.8
55	R9	37	GLY	4.7
52	R6	39	TYR	4.7
56	Z7	6	LYS	4.6
9	QI	105	ASP	4.6
9	XI	119	ALA	4.6
44	YY	91	GLU	4.6
36	RQ	63	LYS	4.6
28	YE	204	ALA	4.6
10	QJ	7	LYS	4.6
31	RH	72	ILE	4.6
35	RP	105	LEU	4.5
45	YZ	173	ALA	4.5
17	XQ	101	ARG	4.5
56	Z7	4	PRO	4.4
31	YH	18	GLU	4.4
20	XT	12	ALA	4.4
30	RG	84	LYS	4.4
30	RG	96	ARG	4.4
9	QI	115	GLY	4.4
37	RR	8	ARG	4.4
10	QJ	73	ASP	4.3
29	RF	179	GLU	4.3
50	Y4	68	ARG	4.3
9	XI	106	ALA	4.3
53	Y7	36	GLN	4.2
4	QD	209	ARG	4.2
1	XA	221	C	4.2
23	XW	20	U	4.2
44	RY	52	SER	4.2
51	Y5	2	ALA	4.2
10	QJ	5	ARG	4.2
31	RH	137	ASP	4.2

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Mol	Chain	Res	Type	RSRZ
44	RY	92	ASN	4.2
36	RQ	80	GLU	4.2
36	YQ	15	GLY	4.2
7	QG	32	ARG	4.2
10	QJ	4	ILE	4.2
1	XA	345	C	4.1
28	RE	18	ASP	4.1
35	RP	14	LYS	4.1
21	QU	10	ARG	4.1
44	RY	82	PRO	4.1
3	QC	158	GLY	4.1
37	RR	7	GLY	4.1
31	YH	155	SER	4.1
44	RY	58	GLY	4.1
28	YE	74	PRO	4.0
54	Y8	65	GLU	4.0
28	YE	187	ALA	4.0
44	RY	45	VAL	4.0
4	XD	79	PHE	4.0
32	RI	7	GLU	4.0
14	XN	2	ALA	4.0
35	RP	118	GLY	3.9
20	QT	104	LEU	3.9
27	YD	234	GLY	3.9
25	RA	2894	G	3.9
14	QN	2	ALA	3.9
4	QD	24	GLU	3.8
2	XB	217	ARG	3.8
2	XB	27	LYS	3.8
13	QM	8	GLU	3.8
9	QI	117	HIS	3.8
44	YY	29	GLU	3.8
10	XJ	98	ILE	3.8
11	QK	56	GLY	3.8
37	RR	59	ASP	3.8
36	YQ	91	GLU	3.8
51	R5	47	PRO	3.8
35	YP	61	ARG	3.7
20	XT	21	LYS	3.7
29	RF	137	LYS	3.7
56	Z8	6	LYS	3.7
10	QJ	98	ILE	3.7

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Mol	Chain	Res	Type	RSRZ
44	YY	6	HIS	3.7
38	RS	97	ARG	3.7
36	YQ	21	THR	3.7
53	Y7	48	LYS	3.7
39	YT	129	ARG	3.7
38	RS	33	LYS	3.7
35	YP	15	ARG	3.7
44	RY	87	LYS	3.7
44	RY	86	ARG	3.7
44	YY	81	LYS	3.7
3	QC	87	LEU	3.7
51	Y5	13	LYS	3.6
14	XN	28	GLY	3.6
21	XU	2	GLY	3.6
4	XD	31	CYS	3.6
46	R0	55	ARG	3.6
50	Y4	66	SER	3.6
2	QB	193	ASP	3.6
52	R6	23	THR	3.6
1	QA	454	C	3.6
30	RG	34	LEU	3.6
10	XJ	6	ILE	3.6
36	YQ	140	ALA	3.6
44	RY	88	LYS	3.6
25	YA	1097	U	3.6
13	XM	102	ARG	3.6
21	QU	9	ARG	3.6
29	RF	131	GLY	3.6
32	YI	21	VAL	3.6
45	RZ	126	VAL	3.6
25	YA	11	G	3.6
21	XU	23	PRO	3.6
54	R8	29	LYS	3.6
13	XM	100	GLY	3.5
16	QP	48	TRP	3.5
26	YB	87	G	3.5
32	RI	8	PRO	3.5
37	RR	43	GLU	3.5
24	QX	14	A	3.5
16	QP	68	ASP	3.5
21	XU	26	LYS	3.5
44	RY	22	GLY	3.5

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Mol	Chain	Res	Type	RSRZ
55	Y9	1	MET	3.5
35	RP	52	GLU	3.4
50	R4	66	SER	3.4
7	QG	82	GLY	3.4
40	RU	91	ASP	3.4
40	YU	91	ASP	3.4
30	RG	74	LYS	3.4
33	YN	68	GLU	3.4
47	R1	26	ARG	3.4
25	YA	2119	A	3.4
45	YZ	130	PRO	3.4
29	RF	166	ALA	3.4
36	RQ	140	ALA	3.4
52	R6	5	VAL	3.4
32	YI	117	GLU	3.4
31	RH	148	ILE	3.4
40	YU	96	ALA	3.4
52	Y6	24	GLU	3.3
20	XT	18	GLN	3.3
45	YZ	96	VAL	3.3
52	Y6	39	TYR	3.3
3	XC	161	GLU	3.3
9	XI	110	GLU	3.3
4	XD	30	LYS	3.3
30	RG	132	ASN	3.3
54	Y8	46	ARG	3.3
29	YF	131	GLY	3.3
14	QN	30	ALA	3.3
3	QC	103	VAL	3.3
10	XJ	59	SER	3.3
30	RG	136	ARG	3.3
9	XI	102	LEU	3.3
4	QD	86	LYS	3.3
44	RY	95	LYS	3.3
19	QS	16	LEU	3.3
8	QH	116	LYS	3.3
13	QM	27	LYS	3.3
27	RD	262	ARG	3.3
38	YS	13	ARG	3.3
4	XD	12	CYS	3.3
32	YI	12	LEU	3.2
28	RE	21	VAL	3.2

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Mol	Chain	Res	Type	RSRZ
27	YD	44	ASN	3.2
30	RG	64	THR	3.2
56	Z7	7	LYS	3.2
3	XC	193	TYR	3.2
9	QI	124	GLN	3.2
24	XX	14	A	3.2
47	R1	93	GLU	3.2
4	XD	209	ARG	3.2
20	XT	73	HIS	3.2
35	YP	16	ARG	3.2
54	Y8	23	VAL	3.2
2	XB	214	ILE	3.2
21	XU	10	ARG	3.2
31	RH	155	SER	3.2
1	QA	994	A	3.2
25	RA	1096	A	3.2
25	YA	1096	A	3.2
10	XJ	71	LEU	3.2
20	XT	69	GLY	3.2
32	RI	6	LEU	3.2
50	R4	68	ARG	3.2
17	QQ	97	SER	3.2
2	XB	152	PHE	3.2
25	YA	1537	C	3.2
20	XT	70	SER	3.2
52	R6	46	HIS	3.2
7	QG	5	ARG	3.2
53	R7	14	LYS	3.2
13	QM	17	VAL	3.2
36	RQ	102	VAL	3.2
20	XT	13	LEU	3.2
35	RP	106	LEU	3.2
25	YA	2440	C	3.1
47	Y1	31	GLY	3.1
30	YG	93	THR	3.1
56	Z7	8	LYS	3.1
41	RV	26	ASP	3.1
47	R1	27	GLU	3.1
25	RA	75	G	3.1
51	Y5	54	GLY	3.1
44	RY	81	LYS	3.1
9	XI	12	GLU	3.1

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Mol	Chain	Res	Type	RSRZ
28	YE	200	GLU	3.1
53	R7	49	ARG	3.1
52	R6	45	LYS	3.1
32	RI	25	TYR	3.1
45	RZ	175	VAL	3.1
6	XF	38	GLU	3.1
23	QW	34	G	3.1
25	YA	2112	G	3.1
40	YU	97	ASP	3.1
56	Z7	2	GLY	3.1
46	Y0	2	ALA	3.1
4	XD	80	GLU	3.1
4	XD	156	GLU	3.1
13	QM	100	GLY	3.1
7	XG	42	ILE	3.1
54	R8	56	GLU	3.1
9	XI	105	ASP	3.1
16	XP	68	ASP	3.1
19	QS	15	LEU	3.1
31	RH	171	LEU	3.1
25	RA	1053	C	3.1
29	RF	134	GLY	3.1
9	QI	28	VAL	3.0
17	XQ	99	SER	3.0
3	QC	149	ALA	3.0
35	YP	130	PHE	3.0
1	QA	1390	U	3.0
6	XF	36	ARG	3.0
45	YZ	176	PRO	3.0
10	QJ	12	ASP	3.0
4	QD	167	GLY	3.0
40	RU	88	ILE	3.0
6	QF	84	ASN	3.0
21	XU	5	ASP	3.0
35	YP	104	GLY	3.0
30	YG	63	ILE	3.0
45	YZ	118	GLN	3.0
35	RP	56	SER	3.0
48	Y2	67	LYS	3.0
31	YH	71	LEU	3.0
36	RQ	26	TYR	3.0
17	XQ	96	GLU	3.0

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Mol	Chain	Res	Type	RSRZ
25	RA	2116	G	3.0
30	RG	156	ASP	3.0
27	YD	134	ARG	3.0
48	R2	51	ARG	3.0
3	QC	167	TRP	3.0
4	QD	179	GLU	3.0
35	YP	64	LYS	3.0
36	RQ	87	LYS	3.0
9	QI	103	THR	3.0
2	QB	196	LEU	3.0
19	XS	16	LEU	3.0
1	XA	1182	G	3.0
25	RA	2833	G	3.0
25	YA	1084	A	3.0
36	RQ	12	GLN	3.0
36	RQ	27	VAL	3.0
46	R0	3	HIS	2.9
2	QB	215	LEU	2.9
47	R1	95	LEU	2.9
1	QA	1183	A	2.9
4	QD	115	ARG	2.9
23	XW	7	A	2.9
25	RA	2138	C	2.9
2	XB	196	LEU	2.9
31	RH	64	LEU	2.9
21	XU	21	TYR	2.9
40	RU	7	GLY	2.9
55	R9	16	VAL	2.9
1	QA	1124	G	2.9
1	XA	631	G	2.9
1	QA	466	C	2.9
31	YH	75	ALA	2.9
12	XL	17	LYS	2.9
31	YH	72	ILE	2.9
42	RW	94	ASP	2.9
5	XE	122	GLU	2.9
28	RE	73	GLU	2.9
39	RT	11	GLU	2.9
56	Z8	2	GLY	2.9
12	QL	21	LYS	2.9
36	RQ	21	THR	2.9
1	XA	532	A	2.9

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Mol	Chain	Res	Type	RSRZ
25	RA	896	A	2.9
25	YA	2117	A	2.9
4	XD	94	LEU	2.9
50	Y4	67	TYR	2.9
25	RA	1068	G	2.9
25	RA	1097	U	2.9
3	XC	194	GLY	2.9
25	YA	2116	G	2.9
38	RS	93	LYS	2.9
10	QJ	46	ARG	2.9
30	RG	72	ARG	2.9
30	RG	108	ASN	2.9
36	RQ	66	ILE	2.8
1	QA	631	G	2.8
25	RA	11	G	2.8
31	RH	36	PRO	2.8
47	R1	48	LYS	2.8
56	Z8	8	LYS	2.8
56	Z8	9	LYS	2.8
4	QD	178	VAL	2.8
12	XL	16	GLU	2.8
45	RZ	107	THR	2.8
28	RE	117	MET	2.8
26	RB	29	A	2.8
35	RP	18	ARG	2.8
51	Y5	45	VAL	2.8
1	QA	1302	U	2.8
15	QO	48	LYS	2.8
1	QA	485	G	2.8
28	YE	76	ARG	2.8
2	XB	187	LEU	2.8
13	QM	67	GLU	2.8
35	RP	13	ASN	2.8
25	YA	2171	A	2.8
46	Y0	3	HIS	2.8
30	YG	33	ARG	2.8
47	Y1	98	LEU	2.8
26	RB	4	C	2.8
36	RQ	81	VAL	2.8
39	YT	11	GLU	2.8
4	XD	32	ALA	2.8
52	Y6	23	THR	2.8

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Mol	Chain	Res	Type	RSRZ
4	QD	46	LYS	2.8
1	XA	630	G	2.8
20	XT	8	ARG	2.8
25	YA	1176	G	2.8
39	YT	115	ARG	2.8
30	RG	139	LEU	2.8
28	RE	69	LYS	2.7
38	RS	62	LYS	2.7
43	RX	53	LYS	2.7
9	XI	69	GLY	2.7
47	R1	55	GLY	2.7
8	QH	2	LEU	2.7
24	XX	13	A	2.7
4	QD	110	PHE	2.7
13	XM	6	GLY	2.7
46	R0	2	ALA	2.7
20	QT	9	ASN	2.7
25	RA	2402	C	2.7
15	XO	50	HIS	2.7
28	RE	25	VAL	2.7
7	QG	88	PRO	2.7
1	QA	1182	G	2.7
1	XA	1286	A	2.7
25	RA	2629	A	2.7
48	R2	61	LEU	2.7
5	QE	21	ALA	2.7
2	QB	143	GLU	2.7
47	R1	89	GLU	2.7
25	RA	860	U	2.7
10	QJ	55	LYS	2.7
28	YE	145	LYS	2.7
56	Z7	9	LYS	2.7
45	YZ	126	VAL	2.7
41	RV	27	ALA	2.7
44	RY	102	CYS	2.7
47	Y1	27	GLU	2.7
41	RV	85	LYS	2.7
44	YY	46	LYS	2.7
47	Y1	88	LYS	2.7
25	YA	1103	A	2.7
7	QG	26	PHE	2.7
1	XA	1126	U	2.7

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Mol	Chain	Res	Type	RSRZ
7	QG	33	ASP	2.7
38	RS	13	ARG	2.7
38	RS	2	ALA	2.7
41	RV	86	GLY	2.7
50	R4	39	CYS	2.7
36	RQ	65	PHE	2.7
2	QB	197	VAL	2.6
45	YZ	116	VAL	2.6
44	RY	84	ARG	2.6
36	YQ	25	ASP	2.6
12	QL	16	GLU	2.6
1	QA	1086	U	2.6
36	RQ	83	MET	2.6
4	QD	135	LEU	2.6
52	Y6	40	CYS	2.6
16	XP	28	ARG	2.6
40	RU	59	ARG	2.6
45	RZ	72	ARG	2.6
16	QP	15	PRO	2.6
30	YG	36	LYS	2.6
54	Y8	34	TRP	2.6
56	Z8	5	LYS	2.6
30	RG	30	GLU	2.6
37	YR	102	GLU	2.6
54	R8	25	MET	2.6
52	R6	37	ARG	2.6
1	XA	1450	U	2.6
13	XM	122	LYS	2.6
25	YA	1535	U	2.6
26	YB	1	U	2.6
41	YV	24	LYS	2.6
39	YT	94	ALA	2.6
48	R2	46	GLN	2.6
2	QB	163	PHE	2.6
25	YA	2125	G	2.6
25	YA	2127	G	2.6
4	QD	161	ASN	2.6
5	QE	20	GLN	2.6
28	RE	74	PRO	2.6
50	Y4	39	CYS	2.6
46	R0	53	MET	2.6
19	QS	10	PHE	2.6

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Mol	Chain	Res	Type	RSRZ
25	RA	2119	A	2.6
25	YA	2126	A	2.6
25	YA	2801	A	2.6
43	RX	38	GLU	2.6
10	XJ	96	ILE	2.6
32	YI	143	SER	2.6
35	RP	16	ARG	2.6
48	R2	63	VAL	2.6
10	XJ	7	LYS	2.6
32	YI	118	LYS	2.6
54	R8	3	LYS	2.6
32	YI	68	LEU	2.6
51	R5	2	ALA	2.6
1	QA	570	G	2.6
10	QJ	47	PHE	2.6
16	QP	17	TYR	2.6
1	QA	1389	C	2.6
10	XJ	73	ASP	2.6
36	YQ	10	ARG	2.6
45	RZ	93	ASP	2.6
47	R1	92	LYS	2.6
3	XC	189	ALA	2.6
24	XX	15	A	2.6
7	XG	62	PHE	2.6
4	QD	80	GLU	2.5
17	QQ	58	GLU	2.5
20	XT	80	ARG	2.5
30	RG	137	GLU	2.5
29	RF	177	ALA	2.5
30	YG	56	ALA	2.5
56	Z8	4	PRO	2.5
21	QU	2	GLY	2.5
25	RA	1836	C	2.5
26	RB	17	C	2.5
4	XD	152	SER	2.5
7	QG	146	GLU	2.5
34	RO	120	GLU	2.5
54	R8	65	GLU	2.5
35	YP	62	LEU	2.5
37	YR	72	ASP	2.5
39	YT	2	ASN	2.5
9	XI	104	ARG	2.5

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Mol	Chain	Res	Type	RSRZ
8	XH	136	GLU	2.5
45	RZ	145	GLU	2.5
44	RY	79	CYS	2.5
52	R6	40	CYS	2.5
1	XA	1181	G	2.5
25	RA	1059	G	2.5
25	RA	2121	G	2.5
28	RE	122	PHE	2.5
12	QL	94	PRO	2.5
10	XJ	55	LYS	2.5
12	QL	91	LYS	2.5
25	RA	12	U	2.5
25	RA	257	A	2.5
5	XE	18	ARG	2.5
7	QG	79	ARG	2.5
35	RP	65	ARG	2.5
39	RT	3	ARG	2.5
10	QJ	40	LEU	2.5
10	XJ	40	LEU	2.5
16	QP	29	ASP	2.5
42	RW	7	ALA	2.5
45	RZ	127	LYS	2.5
44	RY	93	GLY	2.5
9	XI	128	ARG	2.5
21	XU	9	ARG	2.5
8	XH	95	VAL	2.5
37	YR	1	MET	2.5
2	QB	12	GLU	2.5
44	RY	29	GLU	2.5
1	QA	977	A	2.5
18	XR	88	LYS	2.5
25	RA	1057	A	2.5
25	RA	1536	A	2.5
25	YA	2733	A	2.5
31	YH	9	ILE	2.5
4	QD	31	CYS	2.5
4	QD	73	ARG	2.5
38	RS	20	ARG	2.5
51	R5	19	ARG	2.5
45	YZ	174	VAL	2.5
45	YZ	175	VAL	2.5
31	YH	171	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
33	YN	134	ARG	2.4
35	YP	18	ARG	2.4
36	RQ	15	GLY	2.4
23	QY	75	C	2.4
25	RA	2612	C	2.4
25	RA	2118	U	2.4
25	RA	1899	G	2.4
44	RY	46	LYS	2.4
4	QD	70	ILE	2.4
4	QD	32	ALA	2.4
12	QL	68	ALA	2.4
12	XL	27	LEU	2.4
9	QI	66	ARG	2.4
55	R9	18	ARG	2.4
27	RD	238	GLY	2.4
16	QP	11	SER	2.4
39	YT	106	SER	2.4
10	QJ	57	LYS	2.4
44	RY	6	HIS	2.4
1	XA	210	U	2.4
4	XD	160	GLN	2.4
4	XD	201	GLN	2.4
26	RB	32	C	2.4
32	YI	65	ALA	2.4
39	RT	115	ARG	2.4
50	R4	70	GLY	2.4
1	QA	1181	G	2.4
1	XA	346	G	2.4
39	RT	106	SER	2.4
52	Y6	47	THR	2.4
34	RO	43	VAL	2.4
30	RG	126	ASP	2.4
45	RZ	97	GLU	2.4
20	XT	25	ARG	2.4
20	XT	106	ALA	2.4
29	RF	205	ARG	2.4
55	Y9	35	ARG	2.4
21	XU	25	LYS	2.4
31	RH	24	VAL	2.4
31	YH	76	VAL	2.4
25	RA	614	U	2.4
5	QE	31	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
38	YS	58	LEU	2.4
25	RA	2347	C	2.4
1	XA	130	A	2.4
25	RA	1070	A	2.4
44	RY	100	ALA	2.4
50	R4	18	CYS	2.4
25	RA	2482	G	2.4
7	QG	81	GLY	2.4
13	XM	26	GLY	2.4
19	QS	2	PRO	2.4
20	XT	9	ASN	2.4
40	YU	23	GLY	2.4
41	YV	48	GLY	2.4
29	RF	60	SER	2.4
6	QF	88	VAL	2.4
32	YI	72	LEU	2.4
11	XK	36	ASP	2.4
35	RP	15	ARG	2.4
43	YX	65	ARG	2.4
50	Y4	1	MET	2.4
45	YZ	181	GLU	2.4
1	XA	1281	U	2.3
4	QD	7	PRO	2.3
28	RE	32	PRO	2.3
1	QA	701	C	2.3
2	XB	201	ILE	2.3
10	QJ	59	SER	2.3
31	YH	5	GLY	2.3
25	RA	1052	C	2.3
25	RA	2117	A	2.3
25	RA	2163	C	2.3
38	RS	53	SER	2.3
5	QE	82	VAL	2.3
42	YW	59	VAL	2.3
45	YZ	139	VAL	2.3
54	R8	46	ARG	2.3
55	R9	24	TYR	2.3
7	XG	2	ALA	2.3
9	XI	46	ALA	2.3
25	RA	226	G	2.3
51	Y5	18	ALA	2.3
4	XD	126	ILE	2.3

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Mol	Chain	Res	Type	RSRZ
13	QM	10	PRO	2.3
31	RH	10	PRO	2.3
32	RI	71	ILE	2.3
30	RG	161	THR	2.3
31	YH	133	VAL	2.3
7	QG	4	ARG	2.3
33	RN	1	MET	2.3
45	YZ	112	ARG	2.3
17	QQ	4	LYS	2.3
48	R2	8	LYS	2.3
1	QA	1027	C	2.3
19	QS	43	GLU	2.3
39	YT	109	GLU	2.3
47	Y1	89	GLU	2.3
29	RF	181	LEU	2.3
30	YG	103	LEU	2.3
30	RG	177	GLY	2.3
45	RZ	96	VAL	2.3
29	RF	44	ARG	2.3
52	Y6	37	ARG	2.3
25	RA	2181	G	2.3
17	XQ	93	GLN	2.3
32	RI	35	LEU	2.3
20	XT	64	ASP	2.3
54	R8	40	GLU	2.3
31	YH	82	GLY	2.3
35	YP	54	GLY	2.3
4	XD	125	HIS	2.3
29	RF	89	VAL	2.3
31	RH	35	VAL	2.3
1	QA	702	A	2.3
1	XA	1183	A	2.3
7	XG	79	ARG	2.3
9	XI	97	LYS	2.3
13	XM	108	ARG	2.3
25	RA	654	A	2.3
25	RA	2497	A	2.3
26	RB	25	A	2.3
27	YD	262	ARG	2.3
30	RG	16	ARG	2.3
52	R6	38	LYS	2.3
25	RA	1837	C	2.3

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Mol	Chain	Res	Type	RSRZ
20	QT	72	LEU	2.3
9	XI	82	ALA	2.3
45	YZ	146	ILE	2.3
35	RP	117	GLU	2.3
51	R5	48	GLU	2.3
4	QD	2	GLY	2.3
10	XJ	10	GLY	2.3
12	QL	95	GLY	2.3
27	RD	171	ASP	2.3
36	YQ	138	ASP	2.3
45	RZ	177	PRO	2.3
47	R1	31	GLY	2.3
13	QM	122	LYS	2.3
13	XM	121	LYS	2.3
36	RQ	1	MET	2.3
50	R4	71	ARG	2.3
1	QA	289	G	2.3
23	XW	34	G	2.3
25	YA	1426	G	2.3
31	RH	67	LEU	2.3
50	R4	67	TYR	2.3
25	YA	783	A	2.3
25	YA	1510	A	2.3
28	YE	73	GLU	2.3
30	YG	30	GLU	2.3
32	RI	60	GLU	2.3
2	QB	14	GLY	2.3
2	QB	217	ARG	2.3
2	XB	195	ASP	2.3
23	XW	17	C	2.3
25	YA	2108	C	2.3
33	RN	84	LYS	2.3
55	Y9	16	VAL	2.3
16	XP	71	ARG	2.3
54	R8	34	TRP	2.2
14	XN	7	ILE	2.2
8	QH	16	ALA	2.2
11	QK	129	SER	2.2
9	QI	10	ARG	2.2
12	QL	18	VAL	2.2
27	RD	243	GLY	2.2
30	RG	115	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
36	RQ	90	VAL	2.2
9	QI	54	ASP	2.2
28	RE	159	HIS	2.2
54	R8	31	HIS	2.2
2	QB	211	ILE	2.2
16	QP	9	PHE	2.2
24	QX	15	A	2.2
25	RA	278	A	2.2
25	YA	2114	A	2.2
43	YX	34	ALA	2.2
32	YI	17	GLN	2.2
44	RY	47	LYS	2.2
51	R5	52	TYR	2.2
54	Y8	35	GLN	2.2
4	QD	132	ARG	2.2
4	XD	163	GLU	2.2
5	XE	81	GLU	2.2
7	QG	130	GLY	2.2
9	QI	9	ARG	2.2
12	QL	27	LEU	2.2
51	R5	49	CYS	2.2
16	XP	40	ASP	2.2
30	RG	97	ASP	2.2
31	RH	147	ASN	2.2
27	RD	70	TRP	2.2
49	R3	25	ALA	2.2
36	YQ	12	GLN	2.2
55	Y9	24	TYR	2.2
25	YA	2894	G	2.2
9	QI	102	LEU	2.2
29	RF	176	LEU	2.2
31	YH	3	ARG	2.2
10	XJ	61	GLU	2.2
1	QA	313	A	2.2
1	XA	1188	A	2.2
9	XI	49	PRO	2.2
17	XQ	33	GLY	2.2
28	YE	163	GLU	2.2
19	XS	42	PRO	2.2
30	YG	42	GLY	2.2
36	RQ	88	GLY	2.2
25	YA	529	A	2.2

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Mol	Chain	Res	Type	RSRZ
10	XJ	4	ILE	2.2
12	QL	44	THR	2.2
28	YE	77	ILE	2.2
1	QA	1322	C	2.2
1	XA	422	C	2.2
25	RA	279	C	2.2
25	RA	1509	C	2.2
52	R6	20	ASN	2.2
17	XQ	4	LYS	2.2
54	Y8	21	LYS	2.2
30	RG	69	ALA	2.2
4	XD	74	GLN	2.2
8	XH	1	MET	2.2
27	RD	253	GLN	2.2
21	QU	21	TYR	2.2
17	QQ	24	GLU	2.2
10	XJ	38	ILE	2.2
25	RA	1535	U	2.2
10	XJ	56	HIS	2.2
21	QU	5	ASP	2.2
44	RY	99	CYS	2.2
52	R6	13	CYS	2.2
44	YY	5	MET	2.2
25	YA	1888	G	2.2
25	YA	2833	G	2.2
26	RB	100	G	2.2
10	XJ	35	SER	2.2
28	RE	181	LEU	2.2
29	RF	24	LEU	2.2
45	YZ	72	ARG	2.2
4	QD	27	TYR	2.2
27	YD	34	VAL	2.2
31	YH	26	VAL	2.2
4	XD	167	GLY	2.2
4	XD	205	GLU	2.2
21	XU	16	GLY	2.2
25	RA	1644	C	2.2
28	RE	77	ILE	2.2
27	RD	148	GLU	2.2
32	YI	34	GLY	2.2
36	RQ	33	GLY	2.2
54	R8	38	GLY	2.2

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Mol	Chain	Res	Type	RSRZ
12	QL	17	LYS	2.2
20	XT	34	LYS	2.2
55	R9	2	LYS	2.2
48	R2	71	ASN	2.2
20	QT	66	ALA	2.1
30	RG	60	LEU	2.2
32	RI	63	ALA	2.1
4	QD	10	ARG	2.1
7	XG	33	ASP	2.1
8	QH	73	ASP	2.1
34	YO	56	ASP	2.1
50	R4	37	SER	2.1
55	Y9	18	ARG	2.1
12	QL	28	LYS	2.1
35	YP	44	GLY	2.1
36	RQ	30	GLY	2.1
1	QA	974	A	2.1
1	QA	703	G	2.1
1	QA	1034	G	2.1
30	YG	106	LEU	2.1
48	R2	10	LEU	2.1
20	QT	40	ALA	2.1
36	RQ	20	ALA	2.1
43	RX	60	ARG	2.1
44	YY	2	ARG	2.1
5	QE	125	SER	2.1
20	QT	82	SER	2.1
19	QS	14	HIS	2.1
20	QT	73	HIS	2.1
25	RA	790	C	2.1
25	YA	416	C	2.1
26	RB	30	C	2.1
31	RH	38	SER	2.1
8	XH	79	VAL	2.1
11	QK	21	ILE	2.1
40	YU	56	ASP	2.1
41	YV	26	ASP	2.1
50	R4	51	ASP	2.1
19	XS	11	VAL	2.1
53	Y7	46	VAL	2.1
4	XD	207	TYR	2.1
7	QG	85	TYR	2.1

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Mol	Chain	Res	Type	RSRZ
9	QI	127	LYS	2.1
20	QT	68	LYS	2.1
27	RD	15	PHE	2.1
50	R4	25	TYR	2.1
33	YN	36	GLY	2.1
42	YW	79	GLY	2.1
45	RZ	115	GLY	2.1
12	QL	73	GLU	2.1
49	Y3	48	GLU	2.1
3	XC	192	THR	2.1
1	QA	1125	U	2.1
31	YH	87	LEU	2.1
9	QI	104	ARG	2.1
28	RE	76	ARG	2.1
52	R6	29	ASN	2.1
29	RF	206	ILE	2.1
17	QQ	37	LYS	2.1
35	RP	71	VAL	2.1
1	QA	383	A	2.1
1	XA	134	A	2.1
19	QS	13	ASP	2.1
30	YG	97	ASP	2.1
42	RW	63	ASP	2.1
56	Z8	7	LYS	2.1
25	RA	6	A	2.1
25	RA	1331	A	2.1
7	XG	85	TYR	2.1
5	XE	83	GLU	2.1
19	QS	27	GLU	2.1
36	RQ	91	GLU	2.1
1	QA	190	G	2.1
1	XA	1178	G	2.1
25	RA	2371	G	2.1
25	RA	150	C	2.1
25	RA	1100	C	2.1
25	RA	1914	C	2.1
8	QH	75	ARG	2.1
9	XI	66	ARG	2.1
55	R9	35	ARG	2.1
2	QB	186	ALA	2.1
6	XF	20	ALA	2.1
38	RS	55	ALA	2.1

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Mol	Chain	Res	Type	RSRZ
53	Y7	20	ALA	2.1
4	XD	146	ILE	2.1
19	QS	32	LYS	2.1
36	RQ	22	LYS	2.1
1	XA	999	U	2.1
1	XA	1025	U	2.1
3	QC	68	VAL	2.1
40	YU	90	VAL	2.1
2	QB	11	LEU	2.1
29	YF	134	GLY	2.1
30	RG	29	TRP	2.1
31	RH	71	LEU	2.1
32	YI	128	LEU	2.1
30	RG	155	MET	2.1
9	QI	110	GLU	2.1
11	QK	41	THR	2.1
36	YQ	48	GLU	2.1
44	RY	50	ARG	2.1
45	RZ	81	ARG	2.1
5	XE	21	ALA	2.1
25	RA	819	A	2.1
27	RD	64	ILE	2.1
37	RR	9	LYS	2.1
2	XB	163	PHE	2.1
13	QM	101	GLN	2.1
27	YD	269	PHE	2.1
7	QG	75	VAL	2.1
47	R1	14	VAL	2.1
32	RI	9	LEU	2.1
35	YP	45	LEU	2.1
25	RA	87	C	2.1
52	R6	49	HIS	2.1
1	XA	1032(B)	G	2.1
25	RA	1110	G	2.1
25	YA	2151	G	2.1
30	RG	134	GLY	2.1
38	RS	36	TYR	2.1
43	YX	75	ASP	2.1
45	YZ	147	GLY	2.1
54	R8	45	GLY	2.1
54	Y8	25	MET	2.1
54	Y8	38	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
40	RU	2	PRO	2.1
44	YY	82	PRO	2.1
7	XG	74	GLU	2.1
9	XI	7	THR	2.1
41	YV	53	GLU	2.1
42	YW	52	GLU	2.1
17	QQ	65	ILE	2.1
36	RQ	130	LYS	2.1
47	Y1	48	LYS	2.1
4	XD	93	PHE	2.1
19	QS	20	LEU	2.1
2	XB	26	PRO	2.0
24	QX	22	A	2.0
25	RA	676	A	2.0
50	Y4	70	GLY	2.0
30	RG	100	TRP	2.0
30	YG	142	PRO	2.0
12	XL	89	ARG	2.0
13	XM	16	ASP	2.0
40	RU	97	ASP	2.0
29	RF	135	LYS	2.0
30	YG	35	GLU	2.0
53	Y7	19	ARG	2.0
3	XC	8	ILE	2.0
36	YQ	87	LYS	2.0
41	RV	76	LYS	2.0
44	YY	101	LYS	2.0
31	RH	75	ALA	2.0
32	RI	42	SER	2.0
55	Y9	5	ALA	2.0
10	XJ	54	PHE	2.0
43	YX	28	PHE	2.0
44	YY	89	PHE	2.0
1	QA	930	C	2.0
1	QA	1054	C	2.0
1	QA	1113	C	2.0
4	QD	26	CYS	2.0
22	XV	0	C	2.0
25	RA	546	C	2.0
25	RA	2137	C	2.0
26	RB	5	C	2.0
31	YH	49	VAL	2.0

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Mol	Chain	Res	Type	RSRZ
1	XA	351	G	2.0
25	RA	1087	G	2.0
1	XA	5	U	2.0
26	RB	55	U	2.0
3	QC	155	GLY	2.0
16	QP	27	LYS	2.0
29	RF	69	HIS	2.0
52	R6	47	THR	2.0
3	QC	166	GLU	2.0
35	YP	117	GLU	2.0
35	YP	103	ALA	2.0
45	RZ	21	ALA	2.0
47	Y1	82	LEU	2.0
25	RA	783	A	2.0
25	RA	1069	A	2.0
45	YZ	39	VAL	2.0
13	QM	106	ASN	2.0
20	XT	75	ASN	2.0
52	Y6	20	ASN	2.0
9	XI	127	LYS	2.0
12	QL	19	ARG	2.0
13	QM	121	LYS	2.0
28	RE	88	GLY	2.0
31	RH	59	ARG	2.0
37	RR	2	ARG	2.0
46	R0	41	ARG	2.0
48	Y2	15	LYS	2.0
8	XH	3	THR	2.0
40	RU	83	LEU	2.0
45	RZ	162	GLU	2.0
49	R3	48	GLU	2.0
19	XS	12	ASP	2.0
20	XT	76	ALA	2.0
32	RI	36	ALA	2.0
35	RP	103	ALA	2.0
35	RP	120	ALA	2.0
51	Y5	53	ALA	2.0

6.2 Non-standard residues in protein, DNA, RNA chains

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

6.4 Ligands ⓘ

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
57	MG	RA	3206	1/1	-0.09	0.46	140,140,140,140	0
57	MG	RA	3219	1/1	-0.06	0.27	138,138,138,138	0
57	MG	XA	1650	1/1	0.28	0.17	60,60,60,60	0
57	MG	XA	1634	1/1	0.32	0.27	98,98,98,98	0
57	MG	RA	3215	1/1	0.32	0.23	68,68,68,68	0
57	MG	YA	3165	1/1	0.32	0.27	77,77,77,77	0
57	MG	R5	101	1/1	0.37	0.83	291,291,291,291	0
57	MG	RA	3208	1/1	0.38	0.28	74,74,74,74	0
57	MG	XA	1608	1/1	0.39	0.12	119,119,119,119	0
57	MG	RA	3007	1/1	0.40	0.37	59,59,59,59	0
57	MG	QA	1664	1/1	0.46	0.26	78,78,78,78	0
57	MG	YA	3179	1/1	0.46	0.19	44,44,44,44	0
57	MG	R0	101	1/1	0.49	0.20	78,78,78,78	0
57	MG	QA	1660	1/1	0.50	0.18	193,193,193,193	0
57	MG	YA	3169	1/1	0.50	0.24	93,93,93,93	0
57	MG	XA	1629	1/1	0.50	0.15	104,104,104,104	0
57	MG	YA	3228	1/1	0.50	0.10	59,59,59,59	0
57	MG	RA	3091	1/1	0.51	0.55	73,73,73,73	0
57	MG	YA	3158	1/1	0.51	0.29	69,69,69,69	0
57	MG	QA	1614	1/1	0.51	0.39	76,76,76,76	0
57	MG	XA	1614	1/1	0.52	0.36	153,153,153,153	0
57	MG	RA	3139	1/1	0.52	0.16	70,70,70,70	0
57	MG	RA	3189	1/1	0.52	0.13	96,96,96,96	0
57	MG	QA	1640	1/1	0.52	0.26	78,78,78,78	0
57	MG	YA	3141	1/1	0.52	0.15	69,69,69,69	0
57	MG	RD	301	1/1	0.53	0.28	91,91,91,91	0
57	MG	YA	3203	1/1	0.54	0.31	139,139,139,139	0
57	MG	RA	3161	1/1	0.54	0.64	76,76,76,76	0
57	MG	YA	3135	1/1	0.55	0.34	65,65,65,65	0
57	MG	RA	3159	1/1	0.55	0.26	72,72,72,72	0
57	MG	RA	3240	1/1	0.56	0.34	70,70,70,70	0
57	MG	RA	3245	1/1	0.56	0.31	128,128,128,128	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	XA	1664	1/1	0.57	0.11	51,51,51,51	0
57	MG	YA	3188	1/1	0.57	0.25	39,39,39,39	0
57	MG	YA	3149	1/1	0.58	0.77	106,106,106,106	0
57	MG	RA	3190	1/1	0.59	0.22	107,107,107,107	0
57	MG	RA	3217	1/1	0.60	0.36	133,133,133,133	0
57	MG	QA	1609	1/1	0.60	0.31	154,154,154,154	0
57	MG	RA	3225	1/1	0.60	0.73	161,161,161,161	0
57	MG	RA	3165	1/1	0.60	0.37	82,82,82,82	0
57	MG	RA	3171	1/1	0.60	0.17	85,85,85,85	0
57	MG	QA	1649	1/1	0.60	0.24	104,104,104,104	0
57	MG	RA	3196	1/1	0.61	0.19	108,108,108,108	0
57	MG	QA	1631	1/1	0.61	0.27	72,72,72,72	0
57	MG	XA	1663	1/1	0.61	0.22	75,75,75,75	0
57	MG	RA	3220	1/1	0.61	0.27	83,83,83,83	0
57	MG	RA	3136	1/1	0.61	0.37	105,105,105,105	0
57	MG	QA	1623	1/1	0.61	0.25	79,79,79,79	0
57	MG	RA	3216	1/1	0.61	0.38	110,110,110,110	0
57	MG	RA	3118	1/1	0.62	0.32	44,44,44,44	0
57	MG	RA	3128	1/1	0.62	0.37	91,91,91,91	0
57	MG	YA	3152	1/1	0.62	0.27	57,57,57,57	0
57	MG	QA	1628	1/1	0.62	0.33	103,103,103,103	0
57	MG	RA	3101	1/1	0.62	0.18	56,56,56,56	0
57	MG	YA	3186	1/1	0.63	0.22	64,64,64,64	0
57	MG	YA	3125	1/1	0.63	0.24	60,60,60,60	0
57	MG	RA	3009	1/1	0.63	0.18	68,68,68,68	0
57	MG	QA	1665	1/1	0.63	0.38	82,82,82,82	0
57	MG	QH	201	1/1	0.64	0.09	105,105,105,105	0
57	MG	YA	3155	1/1	0.64	0.21	44,44,44,44	0
57	MG	RA	3144	1/1	0.64	0.35	70,70,70,70	0
57	MG	RA	3193	1/1	0.64	0.28	87,87,87,87	0
57	MG	XM	201	1/1	0.64	0.10	173,173,173,173	0
57	MG	YA	3084	1/1	0.65	0.27	71,71,71,71	0
57	MG	RA	3214	1/1	0.65	0.17	119,119,119,119	0
57	MG	RA	3201	1/1	0.65	0.37	128,128,128,128	0
57	MG	RA	3152	1/1	0.65	0.16	50,50,50,50	0
57	MG	YA	3227	1/1	0.65	0.50	121,121,121,121	0
57	MG	RA	3197	1/1	0.65	0.36	84,84,84,84	0
57	MG	YA	3254	1/1	0.65	0.26	61,61,61,61	0
57	MG	Y5	101	1/1	0.65	0.75	162,162,162,162	0
57	MG	RA	3086	1/1	0.66	0.38	53,53,53,53	0
57	MG	QA	1603	1/1	0.66	0.25	66,66,66,66	0
57	MG	RA	3243	1/1	0.66	0.40	32,32,32,32	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	QA	1658	1/1	0.66	0.28	71,71,71,71	0
57	MG	YA	3194	1/1	0.66	0.41	49,49,49,49	0
57	MG	XA	1624	1/1	0.67	0.30	42,42,42,42	0
57	MG	XA	1628	1/1	0.67	0.14	41,41,41,41	0
57	MG	YA	3133	1/1	0.67	0.20	50,50,50,50	0
57	MG	RA	3212	1/1	0.67	0.15	89,89,89,89	0
57	MG	RA	3119	1/1	0.67	0.32	76,76,76,76	0
57	MG	XA	1641	1/1	0.68	0.34	74,74,74,74	0
57	MG	RA	3067	1/1	0.68	0.28	85,85,85,85	0
57	MG	XA	1669	1/1	0.68	0.17	155,155,155,155	0
57	MG	XA	1662	1/1	0.68	0.14	61,61,61,61	0
57	MG	YA	3080	1/1	0.68	0.68	53,53,53,53	0
57	MG	XX	101	1/1	0.69	0.12	64,64,64,64	0
57	MG	RA	3188	1/1	0.69	0.39	103,103,103,103	0
57	MG	RA	3002	1/1	0.69	0.27	70,70,70,70	0
57	MG	YA	3147	1/1	0.69	0.22	75,75,75,75	0
57	MG	YA	3094	1/1	0.69	0.26	60,60,60,60	0
57	MG	RA	3164	1/1	0.69	0.12	82,82,82,82	0
57	MG	YA	3187	1/1	0.69	0.23	73,73,73,73	0
57	MG	QA	1615	1/1	0.70	0.27	88,88,88,88	0
57	MG	YA	3201	1/1	0.70	0.24	61,61,61,61	0
57	MG	QA	1644	1/1	0.70	0.18	114,114,114,114	0
57	MG	QA	1638	1/1	0.70	0.28	63,63,63,63	0
57	MG	QA	1650	1/1	0.70	0.30	91,91,91,91	0
57	MG	QA	1655	1/1	0.70	0.26	74,74,74,74	0
57	MG	XA	1659	1/1	0.70	0.32	102,102,102,102	0
57	MG	XA	1651	1/1	0.71	0.11	111,111,111,111	0
57	MG	RA	3218	1/1	0.71	0.18	132,132,132,132	0
57	MG	YA	3045	1/1	0.71	0.22	47,47,47,47	0
57	MG	QA	1629	1/1	0.71	0.21	85,85,85,85	0
57	MG	RA	3244	1/1	0.71	0.30	35,35,35,35	0
57	MG	RA	3158	1/1	0.71	0.17	56,56,56,56	0
57	MG	QA	1625	1/1	0.71	0.48	92,92,92,92	0
57	MG	XA	1601	1/1	0.72	0.34	29,29,29,29	0
57	MG	QA	1619	1/1	0.72	0.18	68,68,68,68	0
57	MG	YA	3003	1/1	0.72	0.25	42,42,42,42	0
57	MG	YA	3044	1/1	0.72	0.42	33,33,33,33	0
57	MG	QA	1618	1/1	0.72	0.18	47,47,47,47	0
57	MG	RA	3089	1/1	0.73	0.28	114,114,114,114	0
57	MG	XA	1660	1/1	0.73	0.17	77,77,77,77	0
57	MG	YA	3204	1/1	0.73	0.58	182,182,182,182	0
57	MG	RA	3242	1/1	0.73	0.31	67,67,67,67	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	RA	3010	1/1	0.73	0.31	89,89,89,89	0
57	MG	YA	3190	1/1	0.73	0.27	51,51,51,51	0
57	MG	XA	1652	1/1	0.73	0.40	104,104,104,104	0
57	MG	RA	3155	1/1	0.74	0.34	71,71,71,71	0
57	MG	YA	3156	1/1	0.74	0.18	58,58,58,58	0
57	MG	RA	3156	1/1	0.74	0.15	48,48,48,48	0
57	MG	YA	3004	1/1	0.74	0.26	50,50,50,50	0
57	MG	YA	3030	1/1	0.74	0.31	36,36,36,36	0
57	MG	YA	3210	1/1	0.74	0.42	135,135,135,135	0
57	MG	QA	1647	1/1	0.74	0.21	67,67,67,67	0
57	MG	RA	3203	1/1	0.74	0.28	74,74,74,74	0
57	MG	XA	1653	1/1	0.74	0.16	83,83,83,83	0
57	MG	RA	3066	1/1	0.74	0.15	37,37,37,37	0
57	MG	YA	3118	1/1	0.75	0.33	35,35,35,35	0
57	MG	YA	3185	1/1	0.75	0.12	61,61,61,61	0
57	MG	RA	3186	1/1	0.75	0.23	72,72,72,72	0
57	MG	YA	3024	1/1	0.75	0.48	33,33,33,33	0
57	MG	XA	1619	1/1	0.75	0.20	46,46,46,46	0
57	MG	XA	1621	1/1	0.75	0.41	46,46,46,46	0
57	MG	YA	3191	1/1	0.75	0.19	39,39,39,39	0
57	MG	YA	3144	1/1	0.75	0.36	62,62,62,62	0
57	MG	RA	3044	1/1	0.75	0.51	75,75,75,75	0
57	MG	YA	3053	1/1	0.75	0.46	51,51,51,51	0
57	MG	YA	3072	1/1	0.75	0.21	30,30,30,30	0
57	MG	RA	3082	1/1	0.75	0.24	61,61,61,61	0
57	MG	YA	3217	1/1	0.75	0.12	76,76,76,76	0
57	MG	QA	1666	1/1	0.75	0.25	57,57,57,57	0
57	MG	RA	3176	1/1	0.75	0.10	25,25,25,25	0
57	MG	YA	3104	1/1	0.75	0.14	39,39,39,39	0
57	MG	YA	3113	1/1	0.75	0.23	50,50,50,50	0
57	MG	YA	3138	1/1	0.76	0.32	34,34,34,34	0
57	MG	YA	3215	1/1	0.76	0.21	61,61,61,61	0
57	MG	YA	3164	1/1	0.76	0.30	72,72,72,72	0
57	MG	RA	3175	1/1	0.76	0.29	57,57,57,57	0
57	MG	YA	3054	1/1	0.76	0.31	65,65,65,65	0
57	MG	RA	3157	1/1	0.76	0.21	54,54,54,54	0
57	MG	YA	3208	1/1	0.76	0.23	51,51,51,51	0
57	MG	RA	3230	1/1	0.77	0.47	92,92,92,92	0
57	MG	YA	3198	1/1	0.77	0.18	86,86,86,86	0
57	MG	YA	3167	1/1	0.77	0.09	69,69,69,69	0
57	MG	RA	3046	1/1	0.77	0.32	35,35,35,35	0
57	MG	YA	3178	1/1	0.77	0.33	64,64,64,64	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	RA	3112	1/1	0.77	0.23	78,78,78,78	0
57	MG	YA	3180	1/1	0.77	0.21	79,79,79,79	0
57	MG	YA	3068	1/1	0.77	0.35	42,42,42,42	0
57	MG	YA	3018	1/1	0.77	0.29	48,48,48,48	0
57	MG	RA	3121	1/1	0.77	0.23	69,69,69,69	0
57	MG	YA	3157	1/1	0.77	0.13	42,42,42,42	0
57	MG	RA	3223	1/1	0.77	0.15	113,113,113,113	0
57	MG	RA	3122	1/1	0.77	0.38	45,45,45,45	0
57	MG	YA	3184	1/1	0.78	0.15	37,37,37,37	0
57	MG	YA	3137	1/1	0.78	0.17	27,27,27,27	0
57	MG	YA	3075	1/1	0.78	0.21	42,42,42,42	0
57	MG	YA	3006	1/1	0.78	0.60	59,59,59,59	0
57	MG	YA	3150	1/1	0.78	0.18	114,114,114,114	0
57	MG	RA	3075	1/1	0.79	0.31	46,46,46,46	0
57	MG	YA	3088	1/1	0.79	0.24	26,26,26,26	0
57	MG	YA	3140	1/1	0.79	0.14	33,33,33,33	0
57	MG	XA	1631	1/1	0.79	0.21	68,68,68,68	0
57	MG	RA	3099	1/1	0.79	0.17	48,48,48,48	0
57	MG	XA	1658	1/1	0.79	0.28	101,101,101,101	0
57	MG	RA	3180	1/1	0.79	0.20	86,86,86,86	0
57	MG	RA	3229	1/1	0.79	0.24	88,88,88,88	0
57	MG	YA	3039	1/1	0.79	0.24	59,59,59,59	0
57	MG	YA	3264	1/1	0.79	0.34	75,75,75,75	0
57	MG	YB	202	1/1	0.79	0.49	70,70,70,70	0
57	MG	YA	3040	1/1	0.79	0.27	28,28,28,28	0
57	MG	YA	3130	1/1	0.80	0.09	84,84,84,84	0
57	MG	RA	3130	1/1	0.80	0.11	64,64,64,64	0
57	MG	XA	1633	1/1	0.80	0.22	47,47,47,47	0
57	MG	QA	1620	1/1	0.80	0.14	80,80,80,80	0
57	MG	RA	3226	1/1	0.80	0.19	63,63,63,63	0
57	MG	RA	3095	1/1	0.80	0.25	34,34,34,34	0
57	MG	YA	3161	1/1	0.80	0.24	43,43,43,43	0
57	MG	RA	3210	1/1	0.80	0.16	74,74,74,74	0
57	MG	YA	3115	1/1	0.80	0.39	64,64,64,64	0
57	MG	YA	3145	1/1	0.80	0.10	35,35,35,35	0
57	MG	YA	3277	1/1	0.80	0.28	42,42,42,42	0
57	MG	RA	3117	1/1	0.80	0.36	84,84,84,84	0
57	MG	RA	3019	1/1	0.80	0.31	61,61,61,61	0
57	MG	XA	1639	1/1	0.81	0.07	71,71,71,71	0
57	MG	YA	3087	1/1	0.81	0.36	29,29,29,29	0
57	MG	YA	3034	1/1	0.81	0.39	27,27,27,27	0
57	MG	YA	3170	1/1	0.81	0.29	38,38,38,38	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	YA	3037	1/1	0.81	0.28	50,50,50,50	0
57	MG	RA	3084	1/1	0.81	0.35	28,28,28,28	0
57	MG	XA	1668	1/1	0.81	0.09	136,136,136,136	0
57	MG	RA	3008	1/1	0.81	0.25	62,62,62,62	0
57	MG	RA	3198	1/1	0.81	0.12	49,49,49,49	0
57	MG	XA	1626	1/1	0.81	0.26	59,59,59,59	0
57	MG	YA	3235	1/1	0.81	0.15	63,63,63,63	0
57	MG	YA	3248	1/1	0.81	0.20	27,27,27,27	0
57	MG	RA	3080	1/1	0.81	0.17	75,75,75,75	0
57	MG	RA	3104	1/1	0.81	0.18	42,42,42,42	0
57	MG	RA	3070	1/1	0.81	0.25	58,58,58,58	0
57	MG	RA	3092	1/1	0.81	0.28	71,71,71,71	0
57	MG	RA	3132	1/1	0.81	0.14	66,66,66,66	0
57	MG	YA	3195	1/1	0.82	0.23	88,88,88,88	0
57	MG	YA	3071	1/1	0.82	0.08	37,37,37,37	0
57	MG	XA	1635	1/1	0.82	0.41	74,74,74,74	0
57	MG	RA	3148	1/1	0.82	0.21	90,90,90,90	0
57	MG	RA	3151	1/1	0.82	0.20	69,69,69,69	0
57	MG	RA	3025	1/1	0.82	0.13	34,34,34,34	0
57	MG	YA	3176	1/1	0.82	0.44	106,106,106,106	0
57	MG	YA	3211	1/1	0.82	0.31	72,72,72,72	0
57	MG	YA	3086	1/1	0.82	0.32	28,28,28,28	0
57	MG	RA	3061	1/1	0.82	0.11	64,64,64,64	0
57	MG	RA	3026	1/1	0.82	0.32	33,33,33,33	0
57	MG	RA	3138	1/1	0.82	0.43	95,95,95,95	0
57	MG	XA	1657	1/1	0.82	0.21	65,65,65,65	0
57	MG	QA	1607	1/1	0.82	0.22	124,124,124,124	0
57	MG	YA	3251	1/1	0.82	0.57	52,52,52,52	0
57	MG	RA	3182	1/1	0.82	0.16	92,92,92,92	0
57	MG	YA	3055	1/1	0.82	0.29	43,43,43,43	0
57	MG	YA	3060	1/1	0.82	0.20	35,35,35,35	0
57	MG	YA	3062	1/1	0.82	0.24	51,51,51,51	0
57	MG	YE	302	1/1	0.82	0.16	31,31,31,31	0
57	MG	RA	3129	1/1	0.82	0.39	45,45,45,45	0
57	MG	RA	3097	1/1	0.83	0.29	44,44,44,44	0
57	MG	RA	3169	1/1	0.83	0.08	47,47,47,47	0
57	MG	QA	1656	1/1	0.83	0.08	87,87,87,87	0
57	MG	QA	1642	1/1	0.83	0.17	56,56,56,56	0
57	MG	RA	3024	1/1	0.83	0.17	28,28,28,28	0
57	MG	YA	3183	1/1	0.83	0.28	67,67,67,67	0
57	MG	YA	3016	1/1	0.83	0.16	31,31,31,31	0
57	MG	YA	3222	1/1	0.83	0.21	71,71,71,71	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	YA	3223	1/1	0.83	0.17	59,59,59,59	0
57	MG	RA	3177	1/1	0.83	0.25	72,72,72,72	0
57	MG	QA	1633	1/1	0.83	0.10	143,143,143,143	0
57	MG	YA	3120	1/1	0.83	0.22	54,54,54,54	0
57	MG	YA	3236	1/1	0.83	0.30	52,52,52,52	0
57	MG	YA	3237	1/1	0.83	0.21	52,52,52,52	0
57	MG	RA	3147	1/1	0.83	0.16	120,120,120,120	0
57	MG	RA	3115	1/1	0.83	0.29	82,82,82,82	0
57	MG	QA	1661	1/1	0.83	0.14	126,126,126,126	0
57	MG	YA	3078	1/1	0.83	0.28	51,51,51,51	0
57	MG	XA	1671	1/1	0.83	0.17	76,76,76,76	0
57	MG	YB	201	1/1	0.83	0.08	57,57,57,57	0
57	MG	YA	3081	1/1	0.83	0.35	31,31,31,31	0
57	MG	XB	301	1/1	0.83	0.25	87,87,87,87	0
57	MG	YA	3202	1/1	0.83	0.35	54,54,54,54	0
57	MG	RA	3033	1/1	0.84	0.42	49,49,49,49	0
57	MG	YA	3206	1/1	0.84	0.18	88,88,88,88	0
57	MG	XA	1643	1/1	0.84	0.14	56,56,56,56	0
57	MG	XA	1649	1/1	0.84	0.14	61,61,61,61	0
57	MG	YA	3173	1/1	0.84	0.14	37,37,37,37	0
57	MG	RA	3168	1/1	0.84	0.16	44,44,44,44	0
57	MG	RA	3232	1/1	0.84	0.17	40,40,40,40	0
57	MG	YA	3218	1/1	0.84	0.11	58,58,58,58	0
57	MG	QV	102	1/1	0.84	0.15	69,69,69,69	0
57	MG	YA	3014	1/1	0.84	0.33	29,29,29,29	0
57	MG	XA	1622	1/1	0.84	0.15	49,49,49,49	0
57	MG	RA	3078	1/1	0.84	0.41	54,54,54,54	0
57	MG	YA	3229	1/1	0.84	0.09	36,36,36,36	0
57	MG	QA	1632	1/1	0.84	0.07	69,69,69,69	0
57	MG	RA	3050	1/1	0.84	0.23	46,46,46,46	0
57	MG	RA	3143	1/1	0.84	0.16	69,69,69,69	0
57	MG	XA	1661	1/1	0.84	0.38	75,75,75,75	0
57	MG	XA	1630	1/1	0.84	0.14	33,33,33,33	0
57	MG	QA	1613	1/1	0.84	0.47	57,57,57,57	0
57	MG	QF	201	1/1	0.84	0.26	166,166,166,166	0
57	MG	YA	3269	1/1	0.84	0.27	69,69,69,69	0
57	MG	XA	1667	1/1	0.84	0.31	75,75,75,75	0
57	MG	RA	3162	1/1	0.84	0.10	72,72,72,72	0
57	MG	QA	1624	1/1	0.84	0.34	68,68,68,68	0
57	MG	XA	1607	1/1	0.84	0.19	53,53,53,53	0
57	MG	YA	3166	1/1	0.84	0.42	74,74,74,74	0
57	MG	YA	3123	1/1	0.85	0.21	51,51,51,51	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	YA	3074	1/1	0.85	0.13	33,33,33,33	0
57	MG	RA	3004	1/1	0.85	0.15	39,39,39,39	0
57	MG	QA	1662	1/1	0.85	0.06	100,100,100,100	0
57	MG	YA	3163	1/1	0.85	0.13	48,48,48,48	0
57	MG	RA	3200	1/1	0.85	0.08	76,76,76,76	0
57	MG	RA	3054	1/1	0.85	0.13	85,85,85,85	0
57	MG	QA	1641	1/1	0.85	0.12	76,76,76,76	0
57	MG	YA	3012	1/1	0.85	0.36	36,36,36,36	0
57	MG	YA	3244	1/1	0.85	0.33	75,75,75,75	0
57	MG	RA	3241	1/1	0.85	0.21	46,46,46,46	0
57	MG	QA	1652	1/1	0.85	0.15	77,77,77,77	0
57	MG	QA	1657	1/1	0.85	0.22	112,112,112,112	0
57	MG	YA	3257	1/1	0.85	0.43	42,42,42,42	0
57	MG	YA	3174	1/1	0.85	0.17	53,53,53,53	0
57	MG	XA	1670	1/1	0.85	0.09	47,47,47,47	0
57	MG	YA	3065	1/1	0.85	0.34	53,53,53,53	0
57	MG	RA	3042	1/1	0.85	0.26	53,53,53,53	0
57	MG	YA	3032	1/1	0.85	0.35	28,28,28,28	0
57	MG	YD	301	1/1	0.85	0.10	42,42,42,42	0
57	MG	YA	3153	1/1	0.85	0.38	63,63,63,63	0
57	MG	RA	3011	1/1	0.85	0.35	52,52,52,52	0
59	ZN	R5	102	1/1	0.85	0.10	306,306,306,306	0
57	MG	YA	3122	1/1	0.86	0.32	30,30,30,30	0
57	MG	YA	3225	1/1	0.86	0.20	67,67,67,67	0
57	MG	RA	3205	1/1	0.86	0.08	40,40,40,40	0
57	MG	YA	3124	1/1	0.86	0.25	84,84,84,84	0
57	MG	RA	3127	1/1	0.86	0.15	74,74,74,74	0
57	MG	RA	3221	1/1	0.86	0.17	50,50,50,50	0
57	MG	YA	3082	1/1	0.86	0.17	44,44,44,44	0
57	MG	YA	3083	1/1	0.86	0.30	50,50,50,50	0
57	MG	YA	3241	1/1	0.86	0.23	54,54,54,54	0
57	MG	RA	3096	1/1	0.86	0.26	36,36,36,36	0
57	MG	YA	3200	1/1	0.86	0.32	58,58,58,58	0
57	MG	YA	3085	1/1	0.86	0.22	44,44,44,44	0
57	MG	RA	3053	1/1	0.86	0.17	33,33,33,33	0
57	MG	RA	3160	1/1	0.86	0.19	39,39,39,39	0
57	MG	YA	3263	1/1	0.86	0.23	60,60,60,60	0
57	MG	YA	3142	1/1	0.86	0.29	50,50,50,50	0
57	MG	RA	3079	1/1	0.86	0.20	48,48,48,48	0
57	MG	YA	3270	1/1	0.86	0.52	57,57,57,57	0
57	MG	RA	3062	1/1	0.86	0.44	28,28,28,28	0
57	MG	QA	1634	1/1	0.86	0.40	53,53,53,53	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	RA	3235	1/1	0.86	0.22	59,59,59,59	0
57	MG	YB	204	1/1	0.86	0.34	37,37,37,37	0
57	MG	XV	102	1/1	0.86	0.15	61,61,61,61	0
57	MG	YA	3116	1/1	0.86	0.49	89,89,89,89	0
57	MG	RA	3076	1/1	0.86	0.15	28,28,28,28	0
57	MG	RA	3126	1/1	0.86	0.17	58,58,58,58	0
57	MG	YA	3002	1/1	0.87	0.28	37,37,37,37	0
57	MG	YA	3052	1/1	0.87	0.21	41,41,41,41	0
57	MG	QA	1643	1/1	0.87	0.28	67,67,67,67	0
57	MG	YA	3181	1/1	0.87	0.16	32,32,32,32	0
57	MG	XA	1612	1/1	0.87	0.17	37,37,37,37	0
57	MG	XA	1636	1/1	0.87	0.24	36,36,36,36	0
57	MG	YA	3148	1/1	0.87	0.33	28,28,28,28	0
57	MG	YA	3101	1/1	0.87	0.21	30,30,30,30	0
57	MG	YA	3058	1/1	0.87	0.23	31,31,31,31	0
57	MG	YA	3108	1/1	0.87	0.33	33,33,33,33	0
57	MG	YA	3240	1/1	0.87	0.45	52,52,52,52	0
57	MG	YA	3011	1/1	0.87	0.28	29,29,29,29	0
57	MG	RA	3035	1/1	0.87	0.24	43,43,43,43	0
57	MG	RA	3041	1/1	0.87	0.18	32,32,32,32	0
57	MG	XA	1665	1/1	0.87	0.12	74,74,74,74	0
57	MG	RA	3116	1/1	0.87	0.20	30,30,30,30	0
57	MG	YA	3199	1/1	0.87	0.14	54,54,54,54	0
57	MG	RA	3068	1/1	0.87	0.27	45,45,45,45	0
57	MG	YA	3025	1/1	0.87	0.28	31,31,31,31	0
57	MG	YA	3265	1/1	0.87	0.23	41,41,41,41	0
57	MG	RA	3153	1/1	0.87	0.26	79,79,79,79	0
57	MG	YA	3077	1/1	0.87	0.26	32,32,32,32	0
57	MG	YA	3128	1/1	0.87	0.11	52,52,52,52	0
57	MG	QA	1621	1/1	0.87	0.10	51,51,51,51	0
57	MG	RE	301	1/1	0.87	0.23	58,58,58,58	0
57	MG	RA	3057	1/1	0.87	0.57	133,133,133,133	0
57	MG	RA	3100	1/1	0.87	0.20	43,43,43,43	0
57	MG	YA	3213	1/1	0.87	0.12	54,54,54,54	0
57	MG	QA	1616	1/1	0.87	0.21	81,81,81,81	0
57	MG	RA	3123	1/1	0.87	0.19	55,55,55,55	0
57	MG	YA	3107	1/1	0.88	0.23	26,26,26,26	0
57	MG	RA	3125	1/1	0.88	0.16	48,48,48,48	0
57	MG	YA	3111	1/1	0.88	0.20	63,63,63,63	0
57	MG	XA	1648	1/1	0.88	0.08	75,75,75,75	0
57	MG	RA	3224	1/1	0.88	0.18	91,91,91,91	0
57	MG	YA	3216	1/1	0.88	0.20	72,72,72,72	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	YA	3001	1/1	0.88	0.31	38,38,38,38	0
57	MG	QA	1646	1/1	0.88	0.07	65,65,65,65	0
57	MG	YA	3168	1/1	0.88	0.08	69,69,69,69	0
57	MG	RA	3111	1/1	0.88	0.13	48,48,48,48	0
57	MG	RA	3018	1/1	0.88	0.22	32,32,32,32	0
57	MG	YA	3064	1/1	0.88	0.14	29,29,29,29	0
57	MG	XA	1615	1/1	0.88	0.31	29,29,29,29	0
57	MG	RA	3093	1/1	0.88	0.26	34,34,34,34	0
57	MG	YA	3177	1/1	0.88	0.31	51,51,51,51	0
57	MG	RA	3043	1/1	0.88	0.20	47,47,47,47	0
57	MG	QA	1602	1/1	0.88	0.26	39,39,39,39	0
57	MG	YA	3131	1/1	0.88	0.32	55,55,55,55	0
57	MG	YA	3132	1/1	0.88	0.18	56,56,56,56	0
57	MG	RA	3239	1/1	0.88	0.39	90,90,90,90	0
57	MG	RA	3134	1/1	0.88	0.25	31,31,31,31	0
57	MG	RA	3135	1/1	0.88	0.17	53,53,53,53	0
57	MG	RA	3073	1/1	0.88	0.13	70,70,70,70	0
57	MG	YA	3256	1/1	0.88	0.65	128,128,128,128	0
57	MG	YA	3027	1/1	0.88	0.16	38,38,38,38	0
57	MG	YA	3259	1/1	0.88	0.32	40,40,40,40	0
57	MG	QA	1630	1/1	0.88	0.12	101,101,101,101	0
57	MG	RA	3087	1/1	0.88	0.15	54,54,54,54	0
57	MG	RA	3191	1/1	0.88	0.09	34,34,34,34	0
57	MG	RB	201	1/1	0.88	0.07	79,79,79,79	0
57	MG	RA	3048	1/1	0.88	0.21	47,47,47,47	0
57	MG	RA	3195	1/1	0.88	0.14	102,102,102,102	0
57	MG	RA	3103	1/1	0.88	0.15	41,41,41,41	0
57	MG	RA	3146	1/1	0.88	0.57	137,137,137,137	0
57	MG	YA	3089	1/1	0.88	0.20	53,53,53,53	0
57	MG	YA	3046	1/1	0.88	0.31	38,38,38,38	0
57	MG	YA	3047	1/1	0.88	0.25	26,26,26,26	0
57	MG	YA	3048	1/1	0.88	0.37	58,58,58,58	0
57	MG	YA	3106	1/1	0.88	0.18	42,42,42,42	0
57	MG	RA	3199	1/1	0.89	0.21	56,56,56,56	0
57	MG	RA	3029	1/1	0.89	0.28	35,35,35,35	0
57	MG	YA	3231	1/1	0.89	0.10	79,79,79,79	0
57	MG	XA	1656	1/1	0.89	0.35	89,89,89,89	0
57	MG	RA	3163	1/1	0.89	0.21	38,38,38,38	0
57	MG	QA	1645	1/1	0.89	0.21	55,55,55,55	0
57	MG	YA	3239	1/1	0.89	0.21	85,85,85,85	0
57	MG	QA	1651	1/1	0.89	0.19	49,49,49,49	0
57	MG	YA	3028	1/1	0.89	0.17	25,25,25,25	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	YA	3029	1/1	0.89	0.41	39,39,39,39	0
57	MG	YA	3246	1/1	0.89	0.31	32,32,32,32	0
57	MG	RA	3060	1/1	0.89	0.18	44,44,44,44	0
57	MG	RA	3140	1/1	0.89	0.21	74,74,74,74	0
57	MG	YA	3033	1/1	0.89	0.30	28,28,28,28	0
57	MG	YA	3205	1/1	0.89	0.24	78,78,78,78	0
57	MG	YA	3067	1/1	0.89	0.14	37,37,37,37	0
57	MG	YA	3143	1/1	0.89	0.35	60,60,60,60	0
57	MG	RA	3012	1/1	0.89	0.24	45,45,45,45	0
57	MG	YA	3036	1/1	0.89	0.22	38,38,38,38	0
57	MG	RA	3074	1/1	0.89	0.17	51,51,51,51	0
57	MG	YA	3038	1/1	0.89	0.15	50,50,50,50	0
57	MG	RA	3120	1/1	0.89	0.25	49,49,49,49	0
57	MG	RA	3109	1/1	0.89	0.14	51,51,51,51	0
57	MG	YA	3041	1/1	0.89	0.20	35,35,35,35	0
57	MG	YA	3219	1/1	0.89	0.19	105,105,105,105	0
57	MG	YA	3220	1/1	0.89	0.21	45,45,45,45	0
57	MG	YA	3121	1/1	0.89	0.23	32,32,32,32	0
57	MG	YA	3010	1/1	0.89	0.29	33,33,33,33	0
57	MG	RA	3231	1/1	0.89	0.21	29,29,29,29	0
57	MG	QA	1626	1/1	0.89	0.11	156,156,156,156	0
57	MG	RA	3172	1/1	0.90	0.10	43,43,43,43	0
57	MG	QA	1617	1/1	0.90	0.20	48,48,48,48	0
57	MG	RA	3028	1/1	0.90	0.20	39,39,39,39	0
57	MG	RA	3108	1/1	0.90	0.13	43,43,43,43	0
57	MG	QA	1639	1/1	0.90	0.16	49,49,49,49	0
57	MG	RA	3181	1/1	0.90	0.07	49,49,49,49	0
57	MG	YA	3008	1/1	0.90	0.26	48,48,48,48	0
57	MG	YA	3009	1/1	0.90	0.27	25,25,25,25	0
57	MG	YA	3093	1/1	0.90	0.22	24,24,24,24	0
57	MG	YA	3146	1/1	0.90	0.17	48,48,48,48	0
57	MG	RA	3032	1/1	0.90	0.20	29,29,29,29	0
57	MG	RA	3183	1/1	0.90	0.05	67,67,67,67	0
57	MG	RA	3246	1/1	0.90	0.36	198,198,198,198	0
57	MG	YA	3243	1/1	0.90	0.11	60,60,60,60	0
57	MG	RA	3185	1/1	0.90	0.25	48,48,48,48	0
57	MG	RB	202	1/1	0.90	0.07	100,100,100,100	0
57	MG	YA	3017	1/1	0.90	0.22	31,31,31,31	0
57	MG	YA	3249	1/1	0.90	0.26	27,27,27,27	0
57	MG	QA	1653	1/1	0.90	0.10	79,79,79,79	0
57	MG	YA	3021	1/1	0.90	0.23	24,24,24,24	0
57	MG	RA	3016	1/1	0.90	0.21	39,39,39,39	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	RP	202	1/1	0.90	0.38	64,64,64,64	0
57	MG	YA	3026	1/1	0.90	0.54	30,30,30,30	0
57	MG	YA	3260	1/1	0.90	0.30	67,67,67,67	0
57	MG	YA	3119	1/1	0.90	0.18	52,52,52,52	0
57	MG	RA	3049	1/1	0.90	0.29	49,49,49,49	0
57	MG	RA	3088	1/1	0.90	0.24	59,59,59,59	0
57	MG	XA	1638	1/1	0.90	0.07	59,59,59,59	0
57	MG	RA	3211	1/1	0.90	0.32	67,67,67,67	0
57	MG	YA	3272	1/1	0.90	0.36	78,78,78,78	0
57	MG	YA	3073	1/1	0.90	0.42	37,37,37,37	0
57	MG	YA	3214	1/1	0.90	0.46	244,244,244,244	0
57	MG	YA	3031	1/1	0.90	0.41	37,37,37,37	0
57	MG	XA	1604	1/1	0.90	0.56	64,64,64,64	0
57	MG	XA	1605	1/1	0.90	0.38	45,45,45,45	0
57	MG	RA	3064	1/1	0.90	0.21	48,48,48,48	0
57	MG	YA	3035	1/1	0.90	0.26	42,42,42,42	0
57	MG	RA	3213	1/1	0.90	0.35	62,62,62,62	0
57	MG	RA	3034	1/1	0.91	0.30	42,42,42,42	0
57	MG	YA	3171	1/1	0.91	0.28	33,33,33,33	0
57	MG	RA	3102	1/1	0.91	0.14	30,30,30,30	0
57	MG	RA	3071	1/1	0.91	0.07	51,51,51,51	0
57	MG	QA	1612	1/1	0.91	0.30	44,44,44,44	0
57	MG	RA	3020	1/1	0.91	0.28	33,33,33,33	0
57	MG	RA	3022	1/1	0.91	0.22	30,30,30,30	0
57	MG	YA	3212	1/1	0.91	0.07	38,38,38,38	0
57	MG	XA	1618	1/1	0.91	0.34	37,37,37,37	0
57	MG	YA	3252	1/1	0.91	0.15	42,42,42,42	0
57	MG	RA	3001	1/1	0.91	0.15	44,44,44,44	0
57	MG	YA	3049	1/1	0.91	0.35	27,27,27,27	0
57	MG	RA	3065	1/1	0.91	0.21	29,29,29,29	0
57	MG	RA	3113	1/1	0.91	0.26	34,34,34,34	0
57	MG	RA	3154	1/1	0.91	0.16	42,42,42,42	0
57	MG	YA	3261	1/1	0.91	0.42	70,70,70,70	0
57	MG	YA	3262	1/1	0.91	0.34	63,63,63,63	0
57	MG	RA	3094	1/1	0.91	0.27	28,28,28,28	0
57	MG	YA	3127	1/1	0.91	0.31	39,39,39,39	0
57	MG	YA	3221	1/1	0.91	0.15	40,40,40,40	0
57	MG	XA	1627	1/1	0.91	0.30	43,43,43,43	0
57	MG	YA	3129	1/1	0.91	0.13	59,59,59,59	0
57	MG	QA	1622	1/1	0.91	0.15	103,103,103,103	0
57	MG	RA	3055	1/1	0.91	0.30	34,34,34,34	0
57	MG	RA	3056	1/1	0.91	0.18	38,38,38,38	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	RA	3137	1/1	0.91	0.20	42,42,42,42	0
57	MG	YB	203	1/1	0.91	0.09	91,91,91,91	0
57	MG	RA	3184	1/1	0.91	0.19	48,48,48,48	0
57	MG	YA	3233	1/1	0.91	0.38	58,58,58,58	0
57	MG	RA	3083	1/1	0.91	0.17	50,50,50,50	0
57	MG	YA	3070	1/1	0.91	0.13	50,50,50,50	0
57	MG	RA	3069	1/1	0.91	0.26	49,49,49,49	0
57	MG	RA	3170	1/1	0.92	0.11	55,55,55,55	0
57	MG	RA	3166	1/1	0.92	0.27	59,59,59,59	0
57	MG	YA	3096	1/1	0.92	0.30	53,53,53,53	0
57	MG	YA	3100	1/1	0.92	0.23	40,40,40,40	0
57	MG	RA	3167	1/1	0.92	0.11	54,54,54,54	0
57	MG	YA	3102	1/1	0.92	0.10	27,27,27,27	0
57	MG	YA	3159	1/1	0.92	0.18	34,34,34,34	0
57	MG	RA	3036	1/1	0.92	0.21	29,29,29,29	0
57	MG	XA	1611	1/1	0.92	0.16	28,28,28,28	0
57	MG	YA	3134	1/1	0.92	0.17	39,39,39,39	0
57	MG	XV	101	1/1	0.92	0.14	49,49,49,49	0
57	MG	RP	201	1/1	0.92	0.15	166,166,166,166	0
57	MG	YA	3079	1/1	0.92	0.18	26,26,26,26	0
57	MG	RA	3222	1/1	0.92	0.12	49,49,49,49	0
57	MG	QA	1637	1/1	0.92	0.12	53,53,53,53	0
57	MG	YA	3023	1/1	0.92	0.14	39,39,39,39	0
57	MG	YA	3271	1/1	0.92	0.49	84,84,84,84	0
57	MG	YA	3117	1/1	0.92	0.11	39,39,39,39	0
57	MG	RA	3234	1/1	0.92	0.17	48,48,48,48	0
57	MG	YA	3278	1/1	0.92	0.16	85,85,85,85	0
57	MG	XA	1632	1/1	0.92	0.22	41,41,41,41	0
57	MG	XA	1666	1/1	0.92	0.27	55,55,55,55	0
57	MG	YA	3207	1/1	0.92	0.26	116,116,116,116	0
57	MG	YA	3042	1/1	0.92	0.25	45,45,45,45	0
57	MG	YB	205	1/1	0.92	0.26	231,231,231,231	0
57	MG	YA	3209	1/1	0.92	0.13	52,52,52,52	0
57	MG	RA	3202	1/1	0.92	0.31	32,32,32,32	0
57	MG	YA	3069	1/1	0.92	0.25	29,29,29,29	0
58	PAR	QA	1667	42/42	0.92	0.11	72,72,72,72	0
57	MG	XA	1620	1/1	0.92	0.09	83,83,83,83	0
57	MG	XA	1654	1/1	0.93	0.12	39,39,39,39	0
57	MG	RA	3031	1/1	0.93	0.31	52,52,52,52	0
57	MG	XA	1625	1/1	0.93	0.07	53,53,53,53	0
57	MG	RA	3059	1/1	0.93	0.25	30,30,30,30	0
57	MG	RA	3228	1/1	0.93	0.31	25,25,25,25	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	RA	3015	1/1	0.93	0.29	26,26,26,26	0
57	MG	QA	1606	1/1	0.93	0.18	57,57,57,57	0
57	MG	RA	3047	1/1	0.93	0.16	26,26,26,26	0
57	MG	RA	3063	1/1	0.93	0.54	43,43,43,43	0
57	MG	XA	1603	1/1	0.93	0.39	43,43,43,43	0
57	MG	RA	3017	1/1	0.93	0.16	52,52,52,52	0
57	MG	YA	3050	1/1	0.93	0.25	25,25,25,25	0
57	MG	YA	3051	1/1	0.93	0.20	26,26,26,26	0
57	MG	QA	1627	1/1	0.93	0.05	33,33,33,33	0
57	MG	RA	3237	1/1	0.93	0.23	29,29,29,29	0
57	MG	RA	3194	1/1	0.93	0.26	51,51,51,51	0
57	MG	XA	1637	1/1	0.93	0.19	59,59,59,59	0
57	MG	QY	101	1/1	0.93	0.13	83,83,83,83	0
57	MG	YA	3095	1/1	0.93	0.15	49,49,49,49	0
57	MG	YA	3059	1/1	0.93	0.22	45,45,45,45	0
57	MG	YA	3099	1/1	0.93	0.23	32,32,32,32	0
57	MG	YA	3139	1/1	0.93	0.27	57,57,57,57	0
57	MG	YA	3268	1/1	0.93	0.26	66,66,66,66	0
57	MG	RA	3098	1/1	0.93	0.21	65,65,65,65	0
57	MG	RA	3038	1/1	0.93	0.15	29,29,29,29	0
57	MG	RA	3039	1/1	0.93	0.30	36,36,36,36	0
57	MG	YA	3182	1/1	0.93	0.08	53,53,53,53	0
57	MG	YA	3276	1/1	0.93	0.17	37,37,37,37	0
57	MG	XA	1644	1/1	0.93	0.20	60,60,60,60	0
57	MG	XA	1616	1/1	0.93	0.22	25,25,25,25	0
57	MG	YA	3224	1/1	0.93	0.06	44,44,44,44	0
57	MG	RA	3179	1/1	0.93	0.40	113,113,113,113	0
57	MG	RA	3085	1/1	0.93	0.19	55,55,55,55	0
57	MG	YA	3110	1/1	0.93	0.20	45,45,45,45	0
57	MG	QA	1611	1/1	0.93	0.20	28,28,28,28	0
57	MG	RA	3030	1/1	0.93	0.13	35,35,35,35	0
57	MG	YA	3232	1/1	0.93	0.17	28,28,28,28	0
57	MG	RA	3124	1/1	0.93	0.16	61,61,61,61	0
57	MG	YA	3234	1/1	0.93	0.22	147,147,147,147	0
57	MG	YA	3192	1/1	0.93	0.10	57,57,57,57	0
57	MG	YA	3092	1/1	0.94	0.10	25,25,25,25	0
57	MG	YA	3151	1/1	0.94	0.09	28,28,28,28	0
57	MG	YA	3019	1/1	0.94	0.28	25,25,25,25	0
57	MG	RA	3110	1/1	0.94	0.20	50,50,50,50	0
57	MG	RA	3072	1/1	0.94	0.20	54,54,54,54	0
57	MG	QA	1663	1/1	0.94	0.05	40,40,40,40	0
57	MG	RA	3013	1/1	0.94	0.23	27,27,27,27	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	XY	101	1/1	0.94	0.14	74,74,74,74	0
57	MG	RA	3192	1/1	0.94	0.34	250,250,250,250	0
57	MG	RA	3207	1/1	0.94	0.24	156,156,156,156	0
57	MG	YA	3103	1/1	0.94	0.23	31,31,31,31	0
57	MG	YA	3196	1/1	0.94	0.06	34,34,34,34	0
57	MG	RA	3114	1/1	0.94	0.08	37,37,37,37	0
57	MG	QA	1648	1/1	0.94	0.07	93,93,93,93	0
57	MG	XA	1623	1/1	0.94	0.07	42,42,42,42	0
57	MG	YA	3136	1/1	0.94	0.19	39,39,39,39	0
57	MG	RA	3090	1/1	0.94	0.12	40,40,40,40	0
57	MG	YA	3273	1/1	0.94	0.36	55,55,55,55	0
57	MG	YA	3274	1/1	0.94	0.37	57,57,57,57	0
57	MG	YA	3109	1/1	0.94	0.10	30,30,30,30	0
57	MG	RA	3150	1/1	0.94	0.10	42,42,42,42	0
57	MG	XA	1645	1/1	0.94	0.05	25,25,25,25	0
57	MG	XA	1606	1/1	0.94	0.40	76,76,76,76	0
57	MG	YA	3114	1/1	0.94	0.20	27,27,27,27	0
57	MG	QA	1604	1/1	0.94	0.16	30,30,30,30	0
57	MG	QA	1659	1/1	0.94	0.11	70,70,70,70	0
57	MG	YA	3242	1/1	0.94	0.29	46,46,46,46	0
57	MG	RA	3174	1/1	0.94	0.12	36,36,36,36	0
57	MG	YA	3063	1/1	0.94	0.16	27,27,27,27	0
57	MG	RA	3187	1/1	0.94	0.21	49,49,49,49	0
57	MG	XA	1613	1/1	0.94	0.09	50,50,50,50	0
58	PAR	XA	1672	42/42	0.94	0.12	66,66,66,66	0
57	MG	YA	3066	1/1	0.94	0.39	42,42,42,42	0
57	MG	RA	3141	1/1	0.95	0.26	45,45,45,45	0
57	MG	YA	3258	1/1	0.95	0.37	68,68,68,68	0
57	MG	RA	3142	1/1	0.95	0.06	38,38,38,38	0
57	MG	YA	3076	1/1	0.95	0.28	25,25,25,25	0
57	MG	RA	3021	1/1	0.95	0.15	29,29,29,29	0
57	MG	RA	3045	1/1	0.95	0.08	27,27,27,27	0
57	MG	RA	3145	1/1	0.95	0.11	43,43,43,43	0
57	MG	XA	1617	1/1	0.95	0.14	40,40,40,40	0
57	MG	RA	3233	1/1	0.95	0.20	33,33,33,33	0
57	MG	YA	3230	1/1	0.95	0.20	45,45,45,45	0
57	MG	YA	3056	1/1	0.95	0.14	33,33,33,33	0
57	MG	YA	3112	1/1	0.95	0.09	47,47,47,47	0
57	MG	YA	3007	1/1	0.95	0.20	40,40,40,40	0
57	MG	RA	3040	1/1	0.95	0.08	35,35,35,35	0
57	MG	RA	3027	1/1	0.95	0.15	29,29,29,29	0
57	MG	RA	3077	1/1	0.95	0.10	52,52,52,52	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	YA	3275	1/1	0.95	0.36	35,35,35,35	0
57	MG	XA	1642	1/1	0.95	0.15	41,41,41,41	0
57	MG	RA	3238	1/1	0.95	0.19	51,51,51,51	0
57	MG	XA	1602	1/1	0.95	0.10	36,36,36,36	0
57	MG	YA	3090	1/1	0.95	0.14	30,30,30,30	0
57	MG	RA	3037	1/1	0.95	0.15	32,32,32,32	0
57	MG	XA	1647	1/1	0.95	0.09	49,49,49,49	0
57	MG	RA	3178	1/1	0.95	0.22	99,99,99,99	0
57	MG	QA	1668	1/1	0.95	0.05	101,101,101,101	0
57	MG	RA	3105	1/1	0.95	0.16	43,43,43,43	0
57	MG	YE	301	1/1	0.95	0.11	47,47,47,47	0
57	MG	YA	3126	1/1	0.95	0.19	46,46,46,46	0
57	MG	YX	101	1/1	0.95	0.15	196,196,196,196	0
57	MG	YA	3154	1/1	0.95	0.14	40,40,40,40	0
57	MG	RA	3107	1/1	0.95	0.17	45,45,45,45	0
57	MG	RA	3058	1/1	0.95	0.20	49,49,49,49	0
57	MG	RA	3227	1/1	0.95	0.35	40,40,40,40	0
57	MG	QA	1601	1/1	0.96	0.19	36,36,36,36	0
57	MG	XA	1610	1/1	0.96	0.18	32,32,32,32	0
57	MG	QA	1610	1/1	0.96	0.07	34,34,34,34	0
57	MG	YA	3189	1/1	0.96	0.06	49,49,49,49	0
57	MG	YA	3105	1/1	0.96	0.29	31,31,31,31	0
57	MG	YA	3172	1/1	0.96	0.05	62,62,62,62	0
57	MG	QA	1635	1/1	0.96	0.06	58,58,58,58	0
57	MG	YA	3193	1/1	0.96	0.26	230,230,230,230	0
57	MG	YA	3061	1/1	0.96	0.12	26,26,26,26	0
57	MG	YA	3020	1/1	0.96	0.35	34,34,34,34	0
57	MG	RA	3149	1/1	0.96	0.09	29,29,29,29	0
57	MG	YA	3022	1/1	0.96	0.32	45,45,45,45	0
57	MG	XV	103	1/1	0.96	0.37	54,54,54,54	0
57	MG	RA	3131	1/1	0.96	0.10	57,57,57,57	0
57	MG	RA	3003	1/1	0.96	0.32	28,28,28,28	0
57	MG	YA	3266	1/1	0.96	0.18	64,64,64,64	0
57	MG	YA	3098	1/1	0.96	0.30	29,29,29,29	0
57	MG	XA	1640	1/1	0.96	0.52	43,43,43,43	0
57	MG	RA	3133	1/1	0.96	0.16	118,118,118,118	0
57	MG	YA	3015	1/1	0.96	0.21	29,29,29,29	0
57	MG	YA	3253	1/1	0.97	0.57	55,55,55,55	0
57	MG	YA	3091	1/1	0.97	0.09	37,37,37,37	0
57	MG	RA	3006	1/1	0.97	0.33	25,25,25,25	0
57	MG	RP	204	1/1	0.97	0.21	183,183,183,183	0
57	MG	XA	1655	1/1	0.97	0.31	53,53,53,53	0

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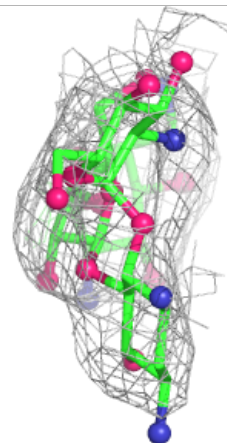
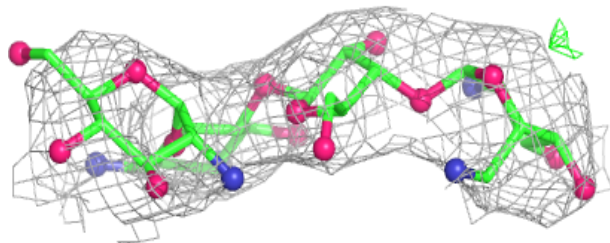
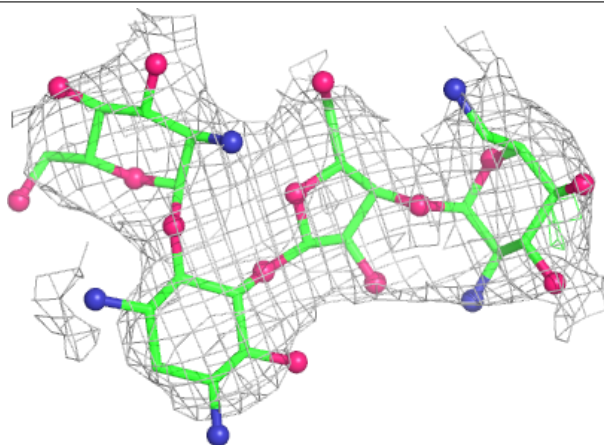
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
57	MG	YA	3238	1/1	0.97	0.09	36,36,36,36	0
57	MG	YA	3043	1/1	0.97	0.33	27,27,27,27	0
57	MG	RA	3173	1/1	0.97	0.13	38,38,38,38	0
57	MG	YA	3197	1/1	0.97	0.05	42,42,42,42	0
57	MG	YA	3226	1/1	0.97	0.16	74,74,74,74	0
57	MG	YA	3097	1/1	0.97	0.10	29,29,29,29	0
57	MG	RA	3236	1/1	0.97	0.33	46,46,46,46	0
57	MG	QA	1654	1/1	0.97	0.04	45,45,45,45	0
57	MG	YA	3267	1/1	0.97	0.41	59,59,59,59	0
57	MG	YP	201	1/1	0.97	0.20	380,380,380,380	0
57	MG	XA	1609	1/1	0.97	0.15	35,35,35,35	0
57	MG	YA	3175	1/1	0.97	0.24	38,38,38,38	0
57	MG	Y7	101	1/1	0.97	0.17	40,40,40,40	0
57	MG	YA	3250	1/1	0.97	0.52	52,52,52,52	0
57	MG	RA	3081	1/1	0.97	0.09	28,28,28,28	0
59	ZN	QN	101	1/1	0.97	0.03	127,127,127,127	0
57	MG	QA	1608	1/1	0.97	0.06	36,36,36,36	0
57	MG	RA	3005	1/1	0.98	0.36	31,31,31,31	0
57	MG	RA	3106	1/1	0.98	0.10	32,32,32,32	0
57	MG	YA	3160	1/1	0.98	0.11	89,89,89,89	0
57	MG	RP	203	1/1	0.98	0.17	381,381,381,381	0
57	MG	YA	3162	1/1	0.98	0.07	35,35,35,35	0
57	MG	QA	1605	1/1	0.98	0.39	44,44,44,44	0
57	MG	RA	3204	1/1	0.98	0.13	167,167,167,167	0
57	MG	YA	3245	1/1	0.98	0.19	25,25,25,25	0
57	MG	RA	3051	1/1	0.98	0.14	27,27,27,27	0
57	MG	YA	3247	1/1	0.98	0.33	29,29,29,29	0
57	MG	YA	3013	1/1	0.98	0.31	28,28,28,28	0
57	MG	RA	3052	1/1	0.98	0.24	27,27,27,27	0
57	MG	QV	101	1/1	0.98	0.04	48,48,48,48	0
57	MG	RA	3014	1/1	0.98	0.07	64,64,64,64	0
57	MG	RA	3209	1/1	0.98	0.04	57,57,57,57	0
57	MG	YA	3057	1/1	0.98	0.28	33,33,33,33	0
57	MG	YA	3005	1/1	0.98	0.10	26,26,26,26	0
57	MG	YA	3255	1/1	0.98	0.39	34,34,34,34	0
57	MG	RA	3023	1/1	0.98	0.06	32,32,32,32	0
59	ZN	Y9	300	1/1	0.98	0.04	101,101,101,101	0
57	MG	QA	1636	1/1	0.99	0.04	44,44,44,44	0
57	MG	XA	1646	1/1	0.99	0.05	49,49,49,49	0
59	ZN	XD	301	1/1	0.99	0.20	52,52,52,52	0
59	ZN	XN	101	1/1	0.99	0.03	76,76,76,76	0
59	ZN	QD	301	1/1	0.99	0.10	59,59,59,59	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.

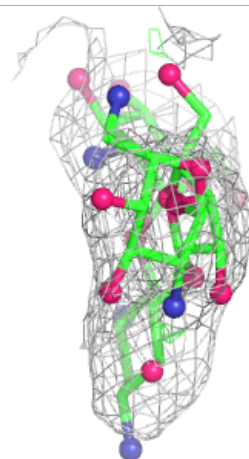
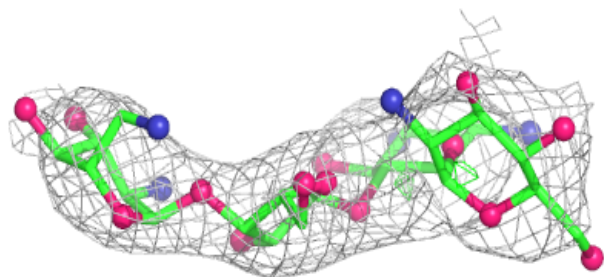
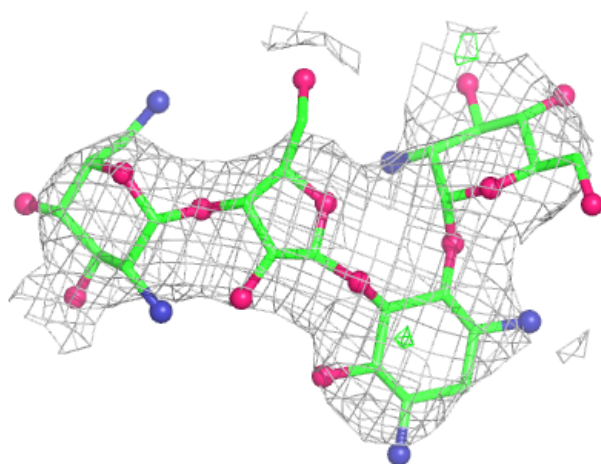
Electron density around PAR QA 1667:

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



Electron density around PAR XA 1672:

$2mF_o-DF_c$ (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.