Full wwPDB X-ray Structure Validation Report (i)

Apr 25, 2026 – 11:37 PM EDT

PDB ID	:	4TUB / pdb_00004tub
Title	:	Crystal structure of tRNA-Thr bound to Codon ACC-C on the Ribosome
Authors	:	Fagan, C.E.; Dunham, C.M.
Deposited on	:	2014-06-24
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 (i) 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 (i)) were used in the production of this report:

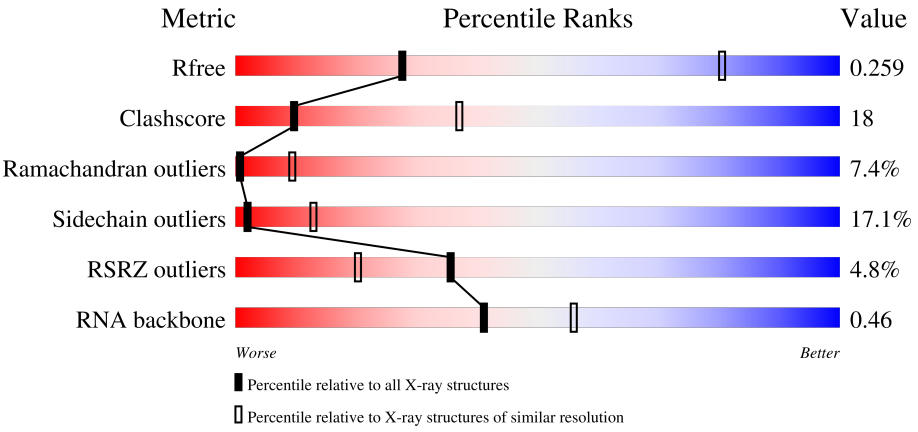
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal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

1 Overall quality at a glance

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

The reported resolution of this entry is 3.60 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 <=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% 51% 39% 9%
1	XA	1522	% 51% 38% 9%
2	QB	256	3% 46% 38% 8% 7%
2	XB	256	% 43% 39% 9% 7%

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Mol	Chain	Length	Quality of chain
3	QC	239	4% 54% 29% 14%
3	XC	239	2% 55% 26% 14%
4	QD	209	11% 49% 42% 6%
4	XD	209	8% 66% 26% 6%
5	QE	162	7% 58% 30% 5% 7%
5	XE	162	% 54% 31% 7% 7%
6	QF	101	% 67% 31%
6	XF	101	61% 34% 5%
7	QG	156	4% 65% 33%
7	XG	156	% 69% 27%
8	QH	138	6% 57% 38%
8	XH	138	5% 64% 30% 6%
9	QI	128	20% 52% 41% 7%
9	XI	128	14% 55% 32% 12%
10	QJ	105	10% 43% 41% 10% 6%
10	XJ	105	9% 40% 42% 12% 6%
11	QK	129	5% 54% 31% 7% 8%
11	XK	129	2% 60% 29% 8%
12	QL	132	11% 27% 45% 20% 5%
12	XL	132	13% 29% 43% 20% 5%
13	QM	126	10% 50% 33% 12%
13	XM	126	6% 51% 34% 10%
14	QN	61	25% 39% 44% 15%
14	XN	61	18% 49% 39% 10%
15	QO	89	67% 25% 7%

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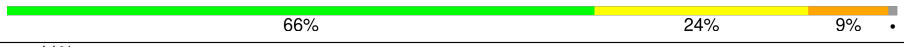
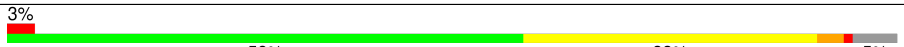
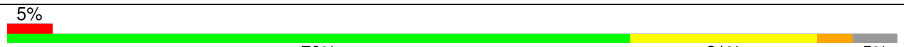
Mol	Chain	Length	Quality of chain
15	XO	89	
16	QP	88	
16	XP	88	
17	QQ	105	
17	XQ	105	
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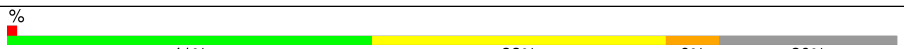
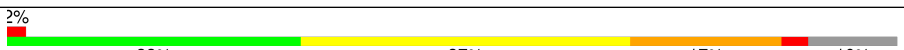
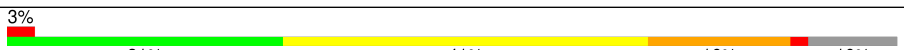
18	XR	88	
19	QS	93	
19	XS	93	
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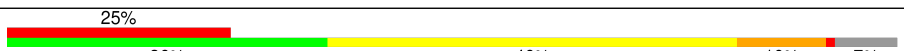
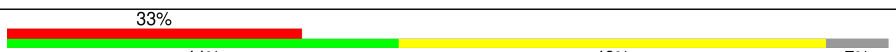
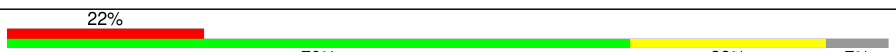
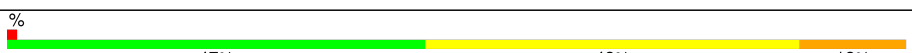
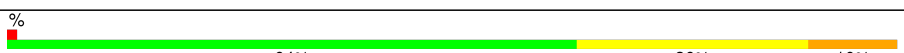
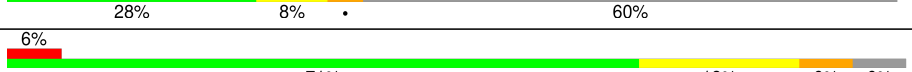
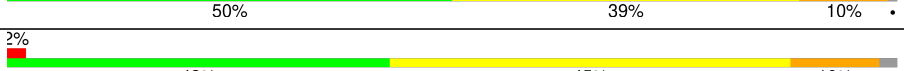
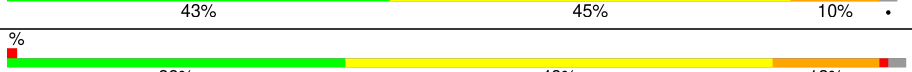
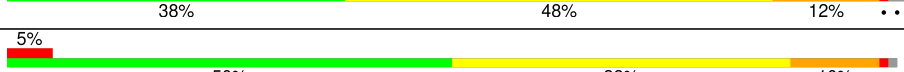
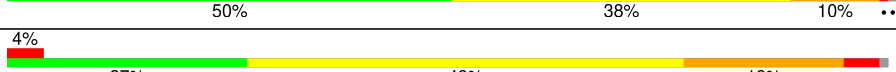
20	XT	106	
21	QU	27	
21	XU	27	
22	QV	77	
22	XV	77	
23	QX	25	
23	XX	25	
24	QY	17	
24	XY	17	
25	RA	2915	
25	YA	2915	
26	RB	122	
26	YB	122	
27	RD	276	
27	YD	276	

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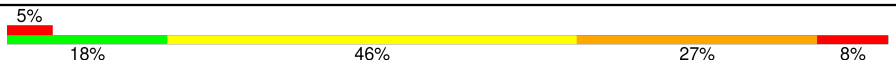
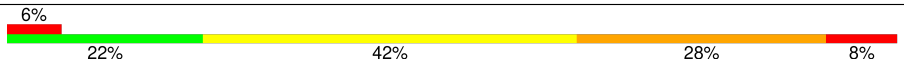
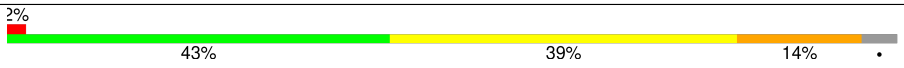
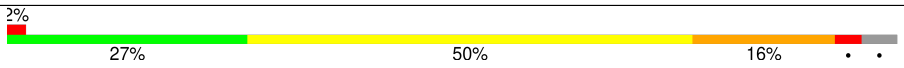
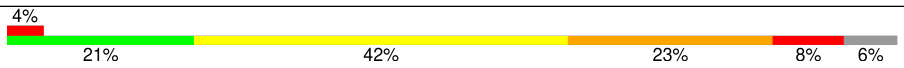
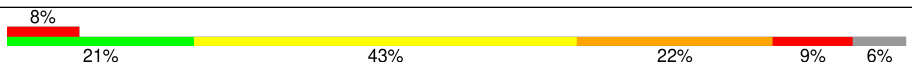
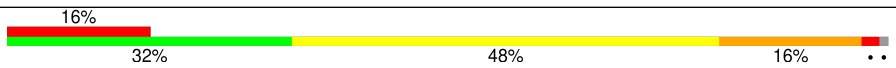
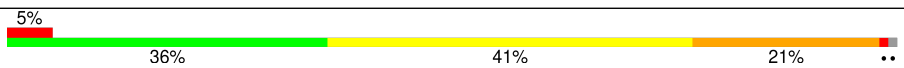
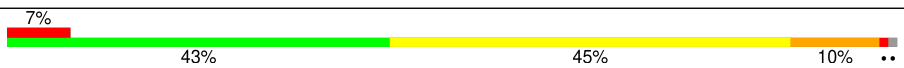
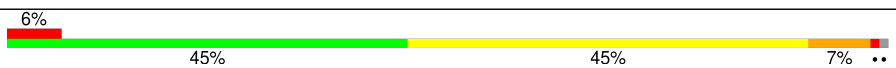
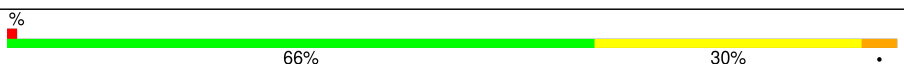
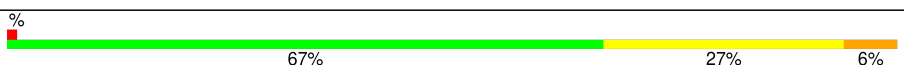
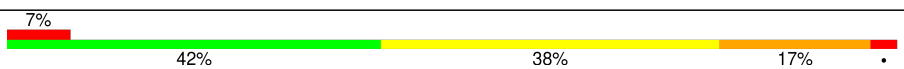
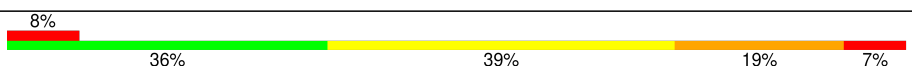
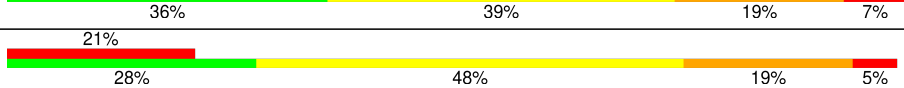
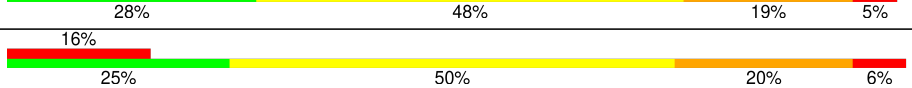
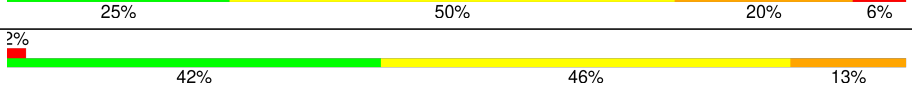
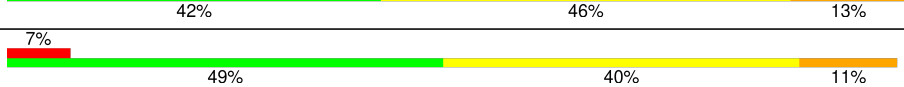
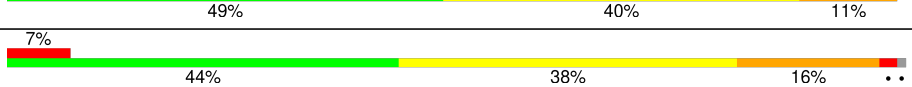
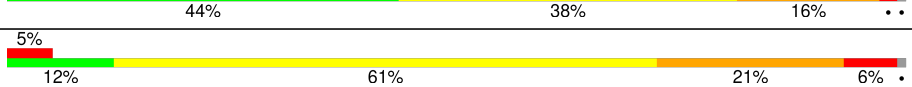
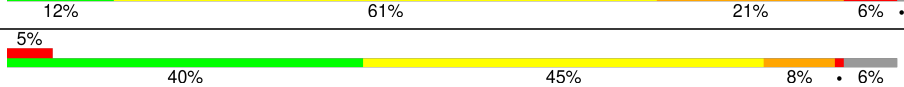
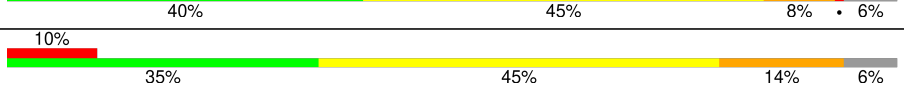
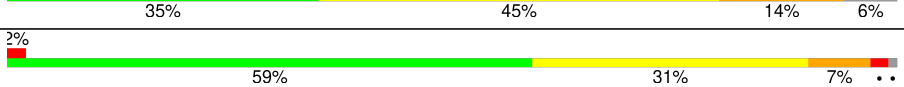
Mol	Chain	Length	Quality of chain
28	RE	206	
28	YE	206	
29	RF	210	
29	YF	210	
30	RG	182	
30	YG	182	
31	RH	180	
31	YH	180	
32	RI	148	
32	YI	148	
33	RN	140	
33	YN	140	
34	RO	122	
34	YO	122	
35	RP	150	
35	YP	150	
36	RQ	141	
36	YQ	141	
37	RR	118	
37	YR	118	
38	RS	112	
38	YS	112	
39	RT	146	
39	YT	146	
40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

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Mol	Chain	Length	Quality of chain
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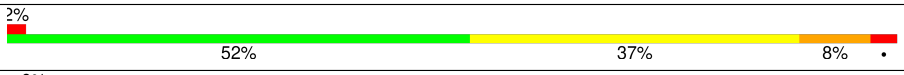
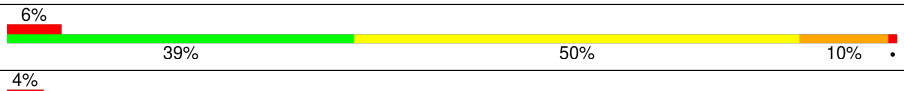
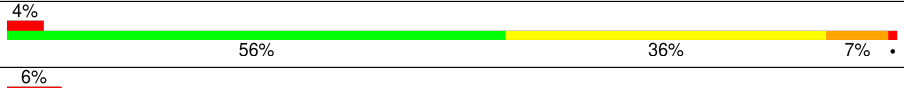
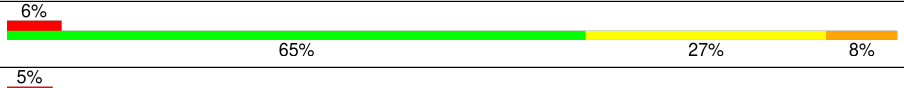
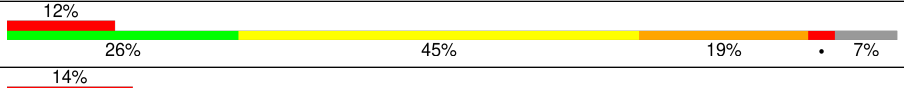
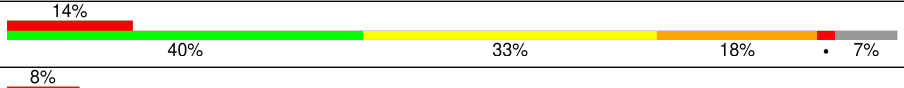
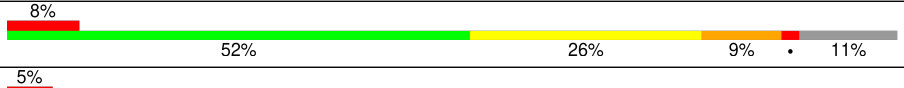
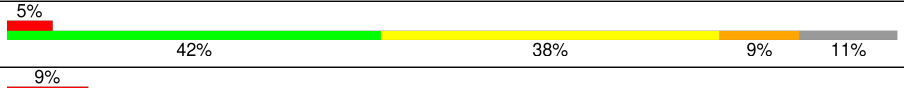
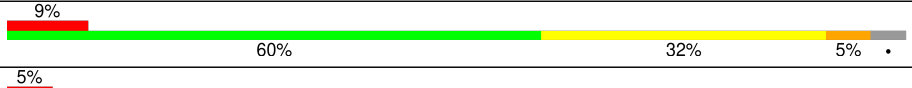
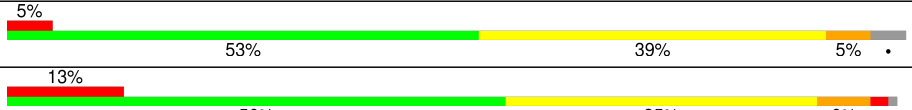
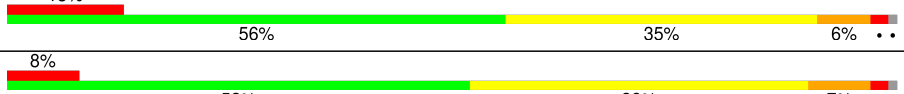
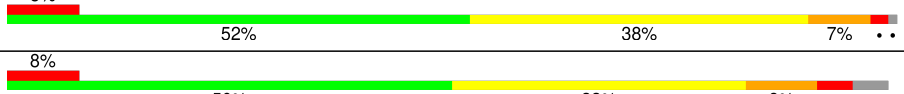
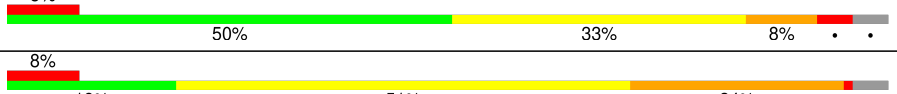
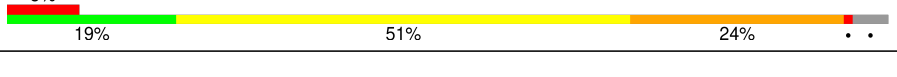
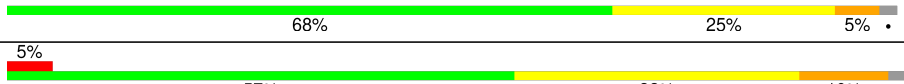
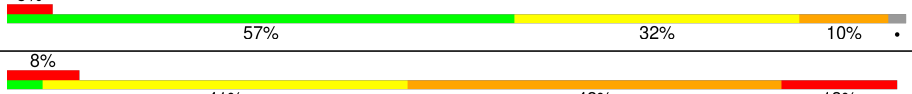
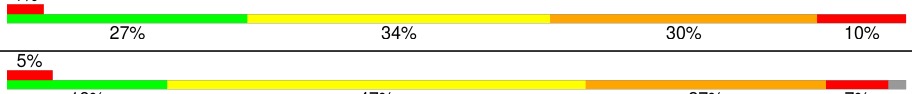
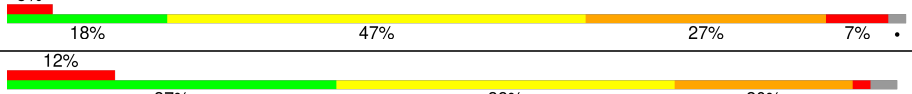
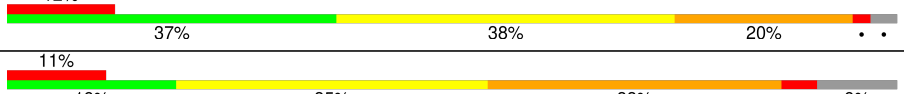
41	RV	101	
41	YV	101	
42	RW	113	
42	YW	113	
43	RX	96	
43	YX	96	
44	RY	110	
44	YY	110	
45	RZ	206	
45	YZ	206	
46	R0	85	
46	Y0	85	
47	R1	98	
47	Y1	98	
48	R2	72	
48	Y2	72	
49	R3	60	
49	Y3	60	
50	R4	71	
50	Y4	71	
51	R5	60	
51	Y5	60	
52	R6	54	
52	Y6	54	

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Mol	Chain	Length	Quality of chain
53	R7	49	8% 63% 31% 6%
53	Y7	49	8% 53% 39% 8%
54	R8	65	18% 15% 48% 26% 9%
54	Y8	65	17% 15% 45% 29% 9%
55	R9	37	46% 59% 32% 8%
55	Y9	37	62% 59% 35% 5%
56	Z5	3	67% 33%
56	Z6	3	67% 33%

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	R5	101	-	-	-	X
57	MG	RA	3256	-	-	-	X
57	MG	YA	3194	-	-	-	X

2 Entry composition

There are 59 unique types of molecules in this entry. The entry contains 292320 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
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 P-site tRNA f-Met.

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 messenger RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	QX	9	Total	C	N	O	P	0	0	0
			191	86	36	60	9			
23	XX	10	Total	C	N	O	P	0	0	0
			213	96	41	66	10			

- Molecule 24 is a RNA chain called A-site tRNA Thr.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	QY	16	Total	C	N	O	P	0	0	0
			344	153	62	113	16			
24	XY	16	Total	C	N	O	P	0	0	0
			344	153	62	113	16			

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

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	2882	Total	C	N	O	P	0	0	0
			62071	27627	11611	19952	2881			

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

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

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
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			
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			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
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	0	0	0
			725	471	131	123			
43	YX	92	Total	C	N	O	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
			647	401	137	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			
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	58	Total	C	N	O	S	0	0	0
			454	285	89	75	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 RNA chain called CC-Puro.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	Z5	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			
56	Z6	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QA	80	Total	Mg	0	0
			80	80		
57	QE	1	Total	Mg	0	0
			1	1		
57	QF	1	Total	Mg	0	0
			1	1		
57	QM	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	QX	2	Total Mg 2 2	0	0
57	QY	1	Total Mg 1 1	0	0
57	RA	326	Total Mg 326 326	0	0
57	RB	5	Total Mg 5 5	0	0
57	RE	2	Total Mg 2 2	0	0
57	RF	1	Total Mg 1 1	0	0
57	RP	1	Total Mg 1 1	0	0
57	RR	1	Total Mg 1 1	0	0
57	R0	1	Total Mg 1 1	0	0
57	R5	1	Total Mg 1 1	0	0
57	XA	110	Total Mg 110 110	0	0
57	XB	1	Total Mg 1 1	0	0
57	XD	1	Total Mg 1 1	0	0
57	XF	1	Total Mg 1 1	0	0
57	XV	2	Total Mg 2 2	0	0
57	XX	1	Total Mg 1 1	0	0
57	YA	356	Total Mg 356 356	0	0
57	YB	4	Total Mg 4 4	0	0
57	YD	1	Total Mg 1 1	0	0
57	YE	2	Total Mg 2 2	0	0
57	YP	3	Total Mg 3 3	0	0

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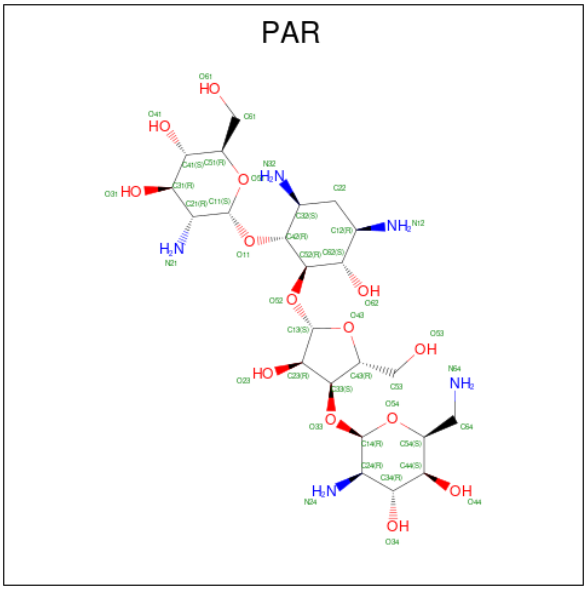
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	YQ	1	Total Mg 1 1	0	0
57	YU	1	Total Mg 1 1	0	0
57	YY	1	Total Mg 1 1	0	0
57	Y0	3	Total Mg 3 3	0	0
57	Y1	1	Total Mg 1 1	0	0
57	Y3	1	Total Mg 1 1	0	0
57	Y5	1	Total Mg 1 1	0	0
57	Y7	1	Total Mg 1 1	0	0

- 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 42 23 5 14	0	0
58	XA	1	Total C N O 42 23 5 14	0	0

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

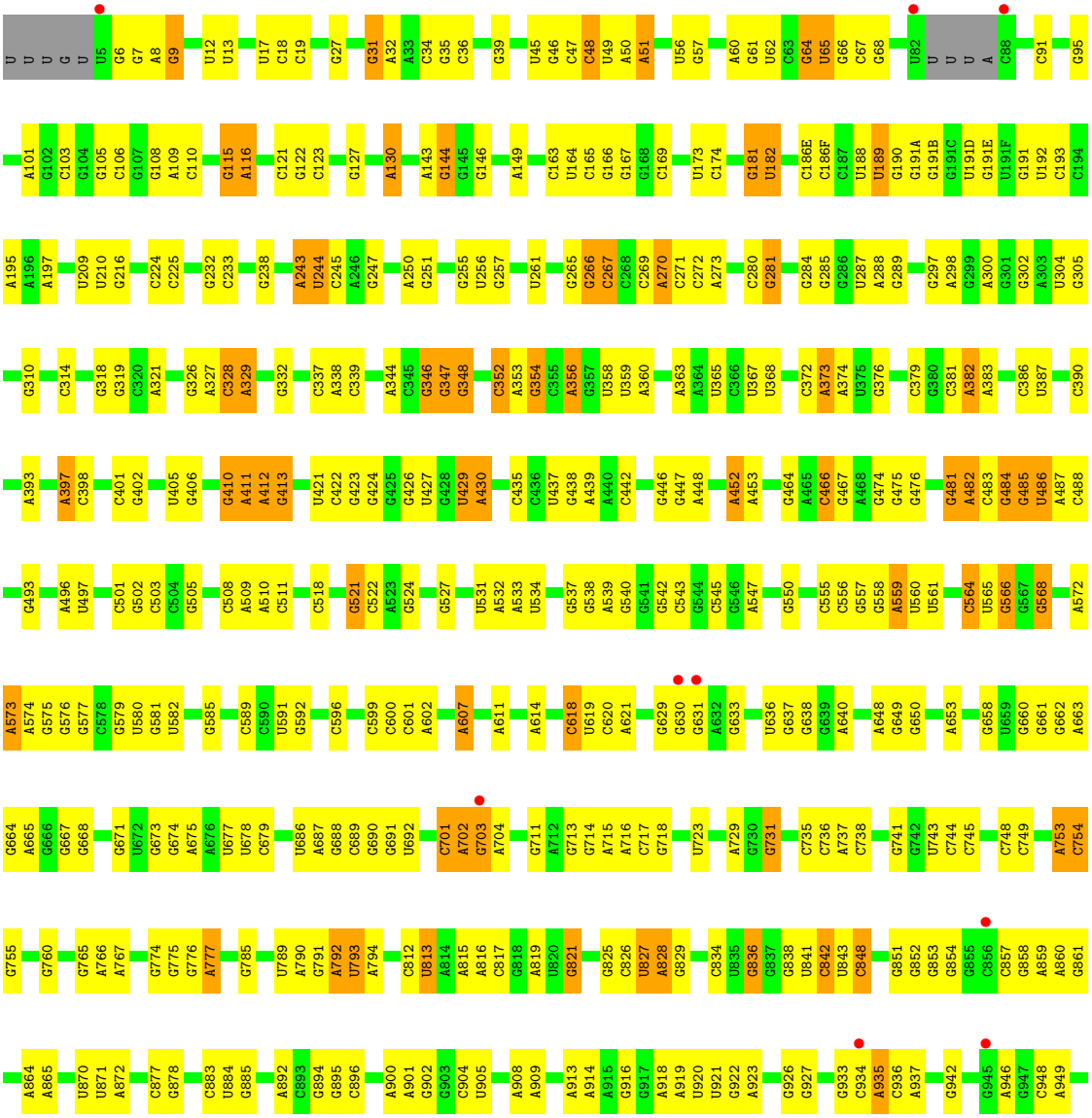
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
59	QD	1	Total Zn 1 1	0	0
59	QN	1	Total Zn 1 1	0	0
59	XD	1	Total Zn 1 1	0	0
59	XN	1	Total Zn 1 1	0	0

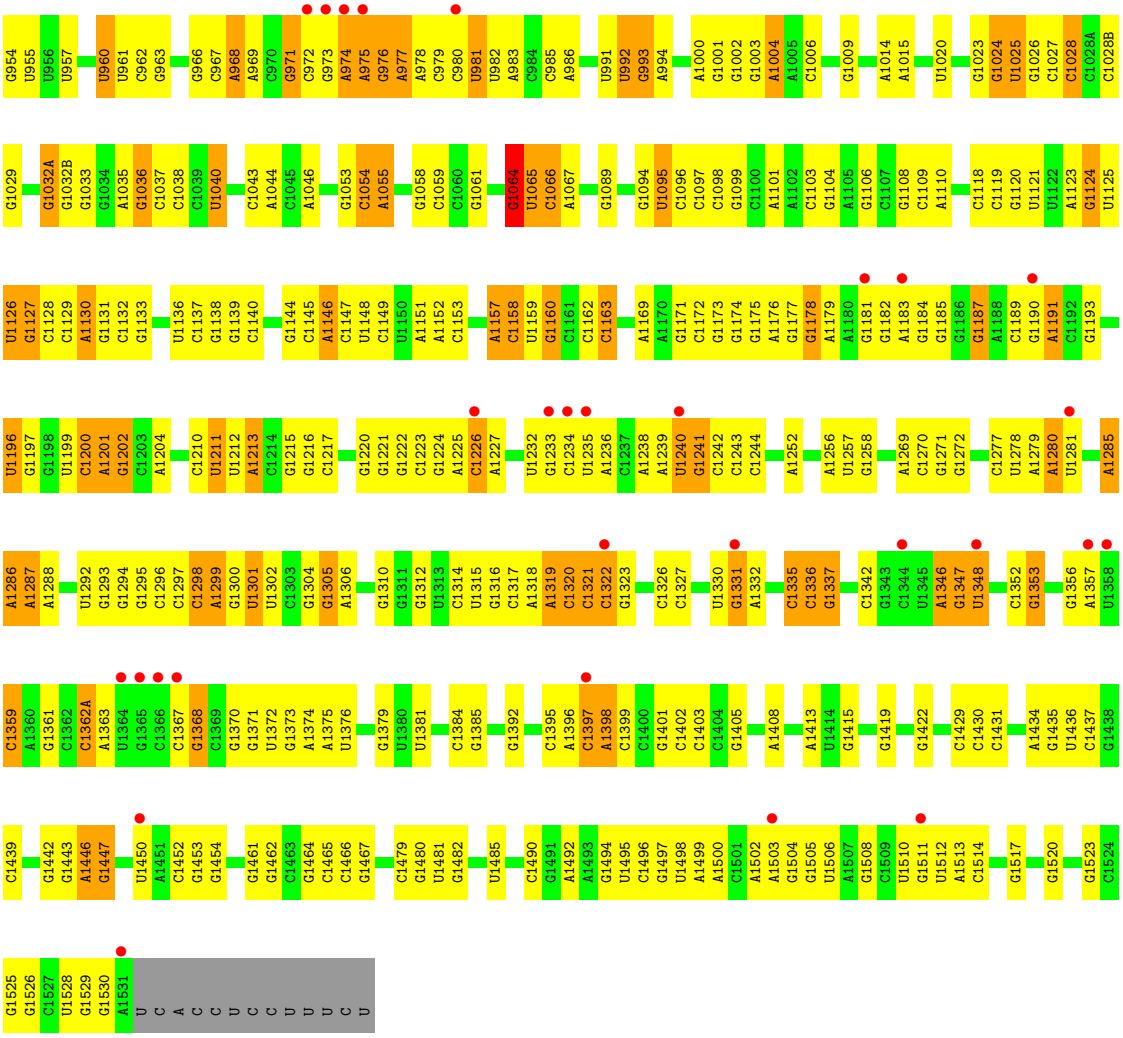
3 Residue-property plots (i)

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

- Molecule 1: 16S rRNA

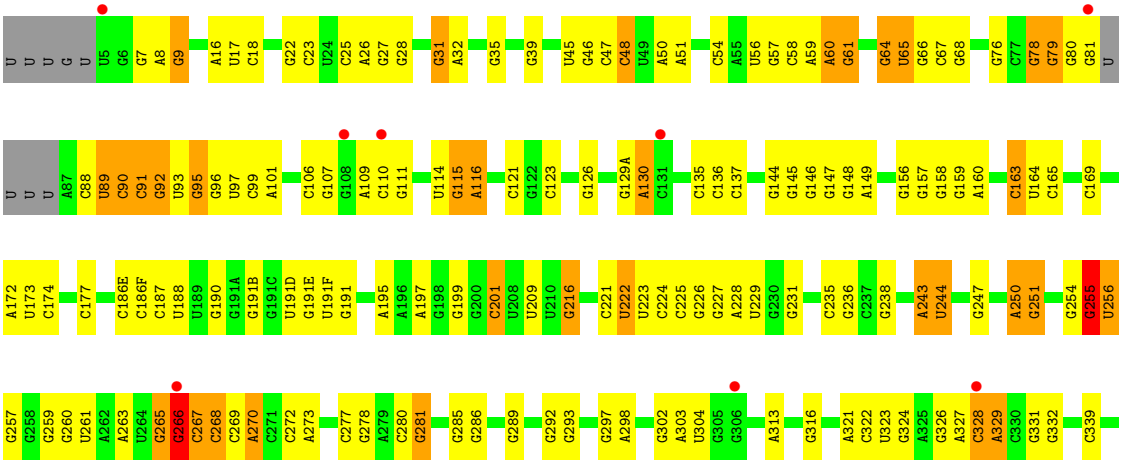
Chain QA:

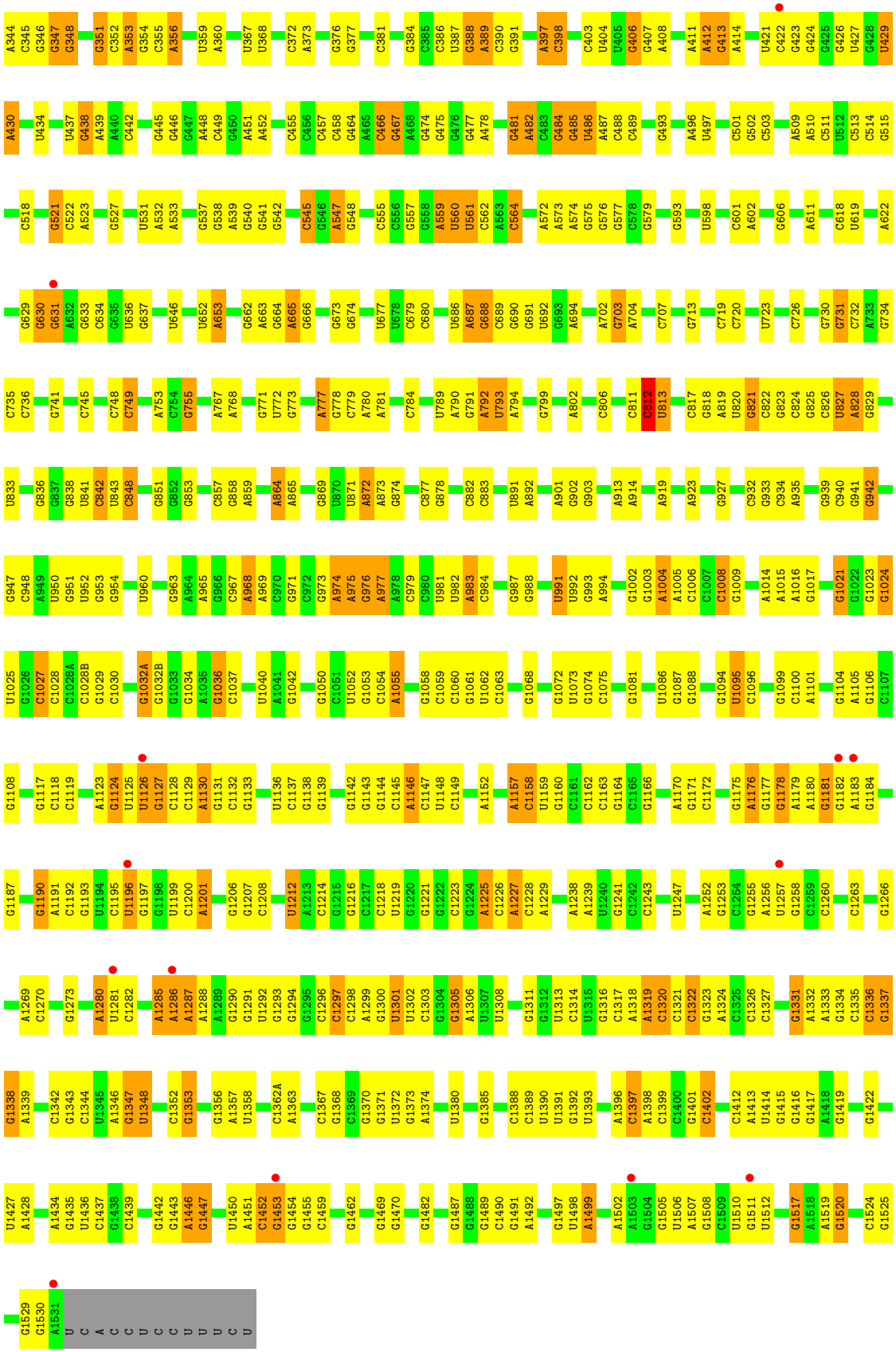




• Molecule 1: 16S rRNA

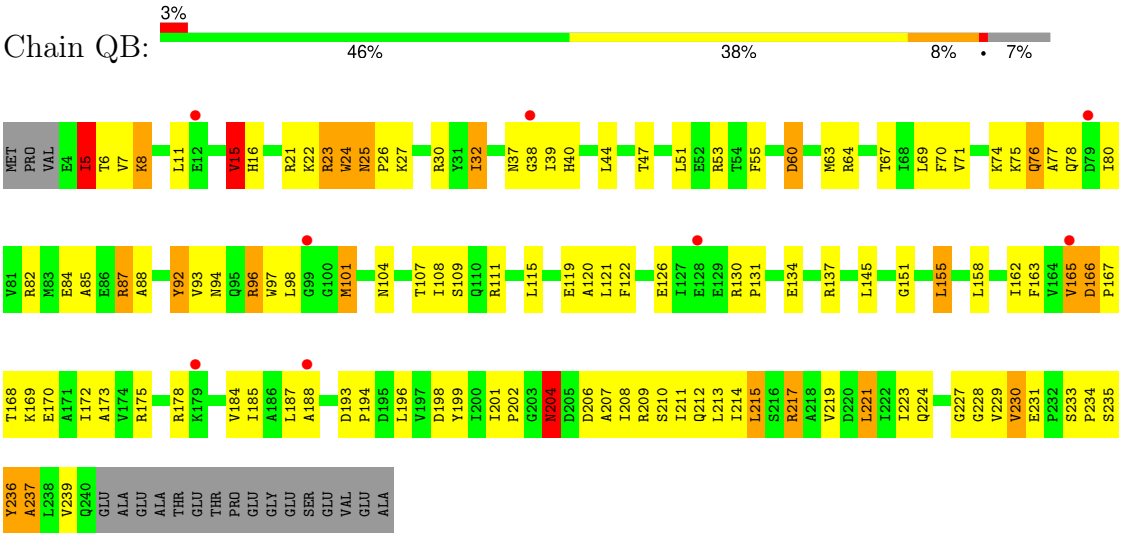
Chain XA:





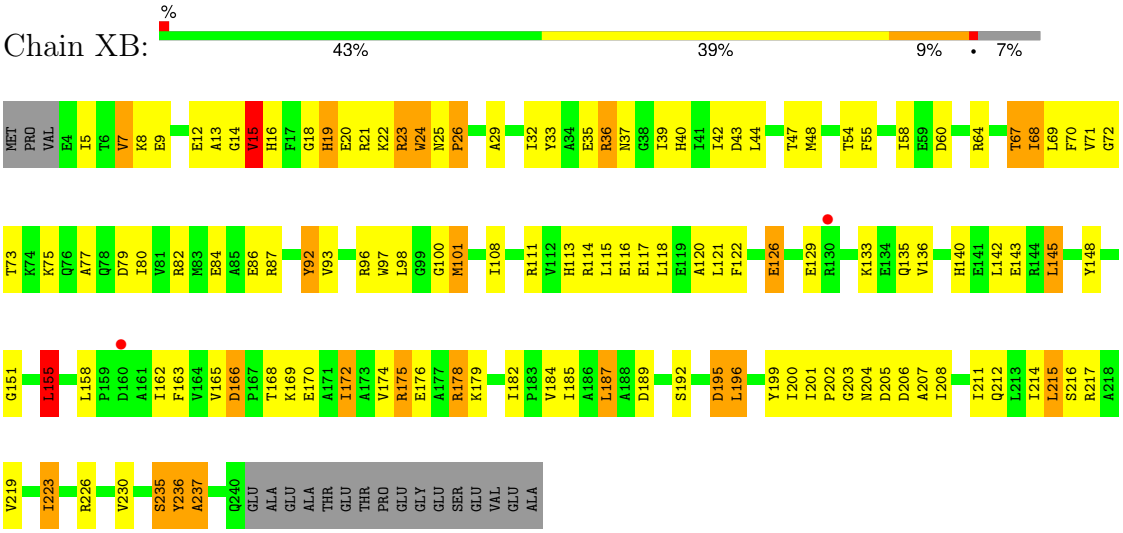
• Molecule 2: 30S ribosomal protein S2

Chain QB:



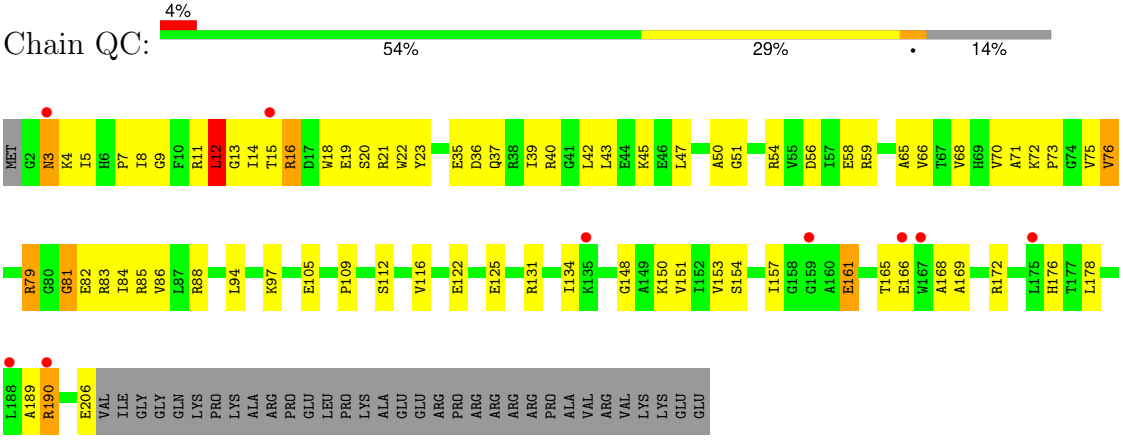
• Molecule 2: 30S ribosomal protein S2

Chain XB:



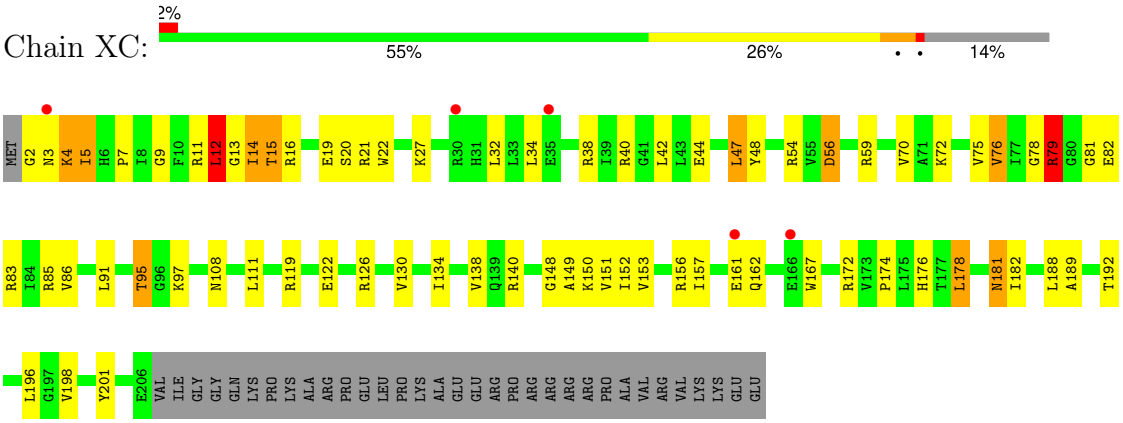
• Molecule 3: 30S ribosomal protein S3

Chain QC:



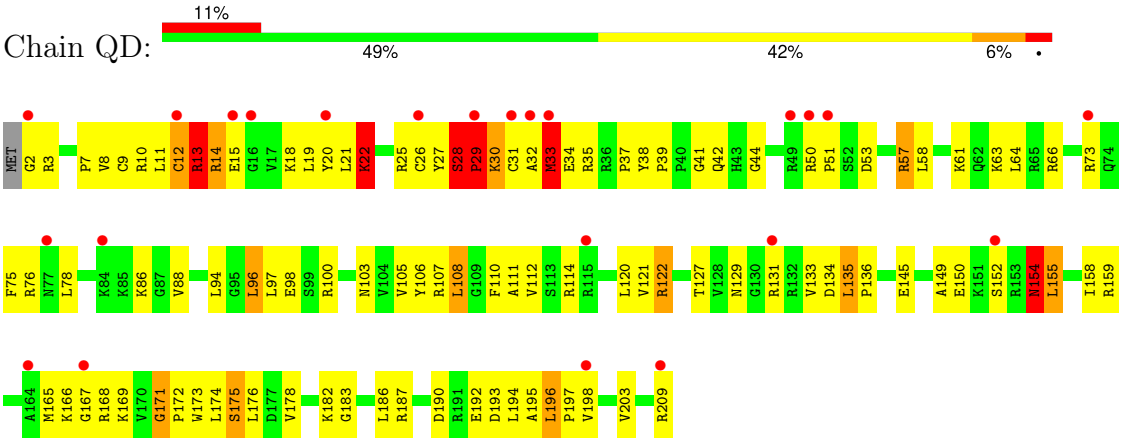
• Molecule 3: 30S ribosomal protein S3

Chain XC:



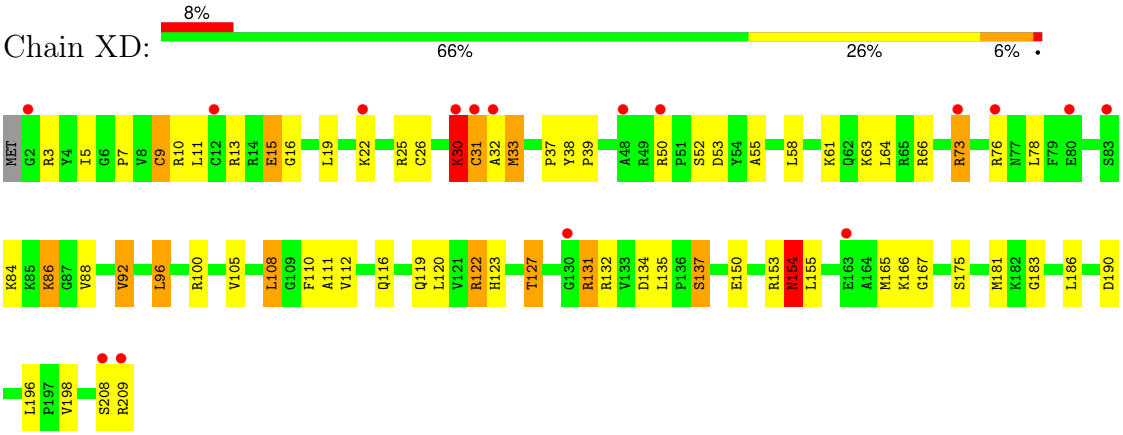
• Molecule 4: 30S ribosomal protein S4

Chain QD:



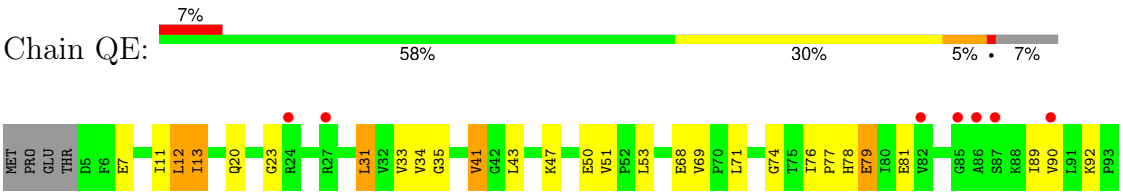
• Molecule 4: 30S ribosomal protein S4

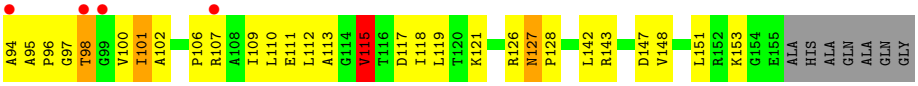
Chain XD:



• Molecule 5: 30S ribosomal protein S5

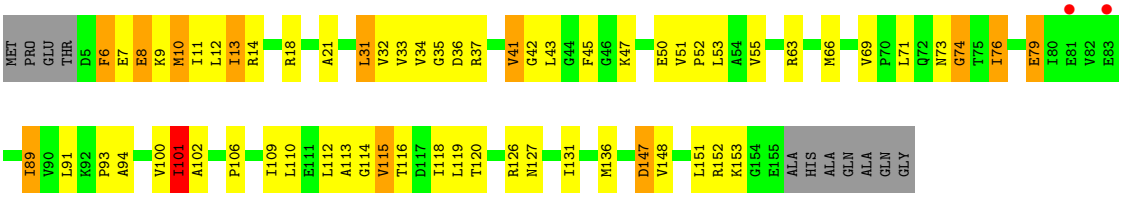
Chain QE:





• Molecule 5: 30S ribosomal protein S5

Chain XE:

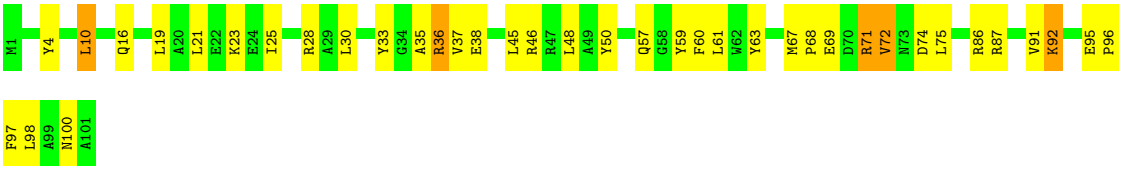


• Molecule 6: 30S ribosomal protein S6

Chain QF:

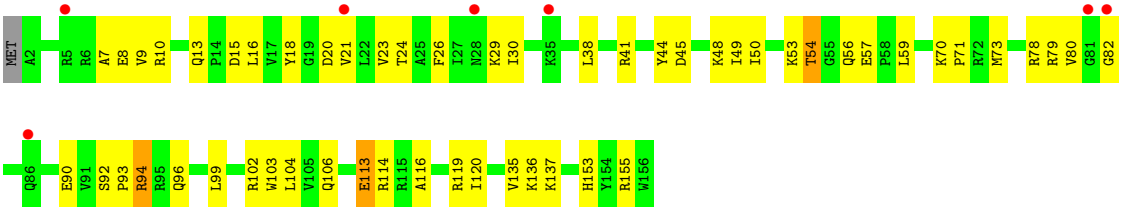
• Molecule 6: 30S ribosomal protein S6

Chain XF:



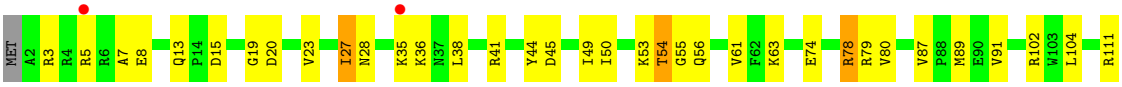
• Molecule 7: 30S ribosomal protein S7

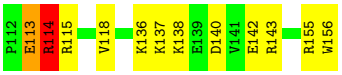
Chain QG:



• Molecule 7: 30S ribosomal protein S7

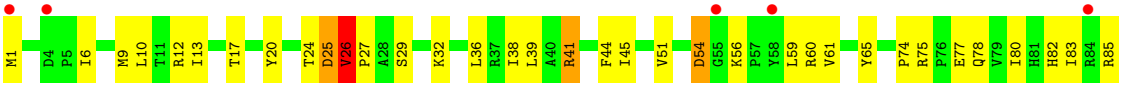
Chain XG:

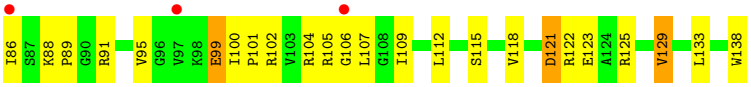




• Molecule 8: 30S ribosomal protein S8

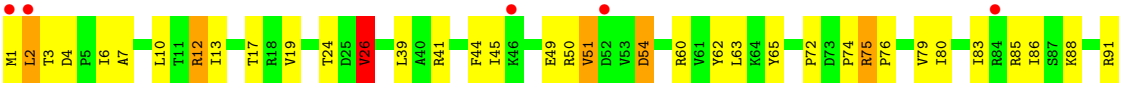
Chain QH:

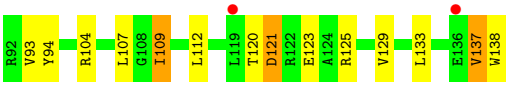




• Molecule 8: 30S ribosomal protein S8

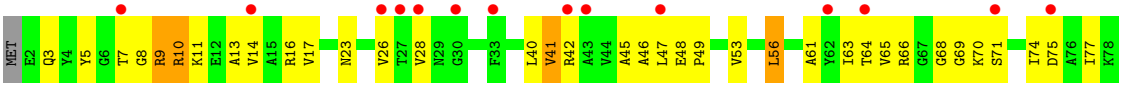
Chain XH:

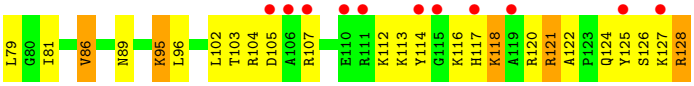




• Molecule 9: 30S ribosomal protein S9

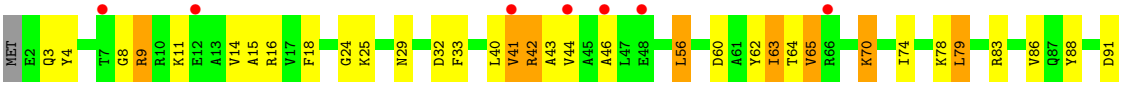
Chain QI:

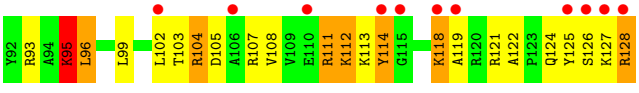




• Molecule 9: 30S ribosomal protein S9

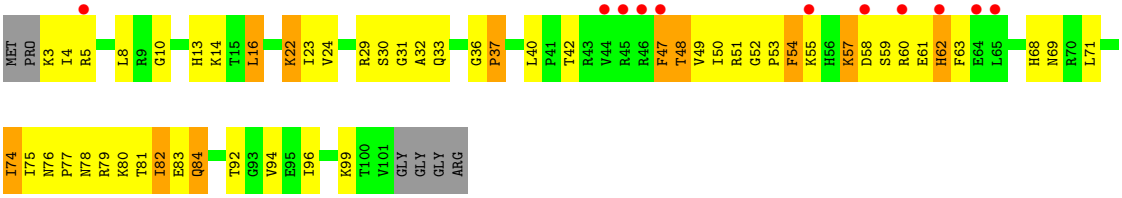
Chain XI:





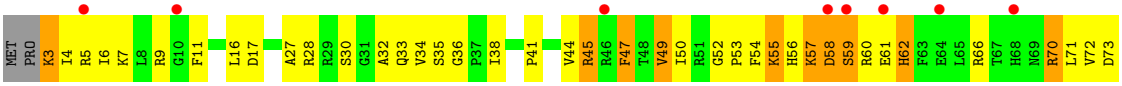
• Molecule 10: 30S ribosomal protein S10

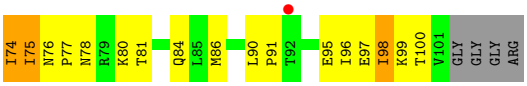
Chain QJ:



• Molecule 10: 30S ribosomal protein S10

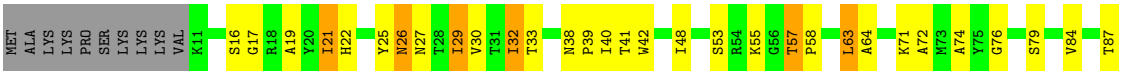
Chain XJ:

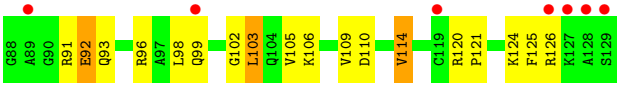




• Molecule 11: 30S ribosomal protein S11

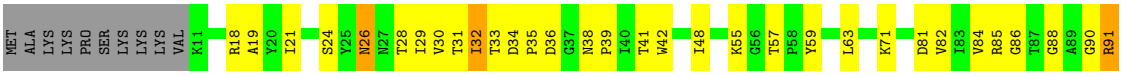
Chain QK:





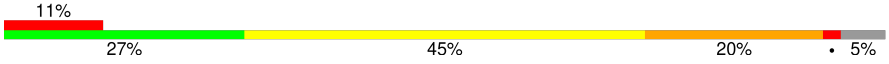
• Molecule 11: 30S ribosomal protein S11

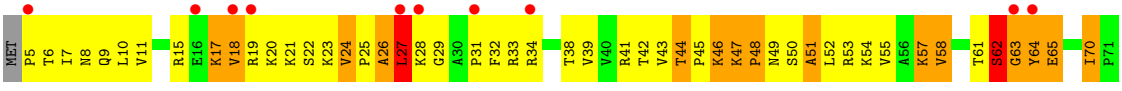
Chain XK:

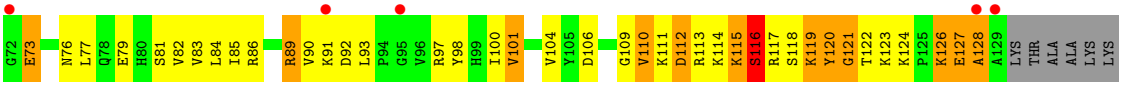


• Molecule 12: 30S ribosomal protein S12

Chain QL:

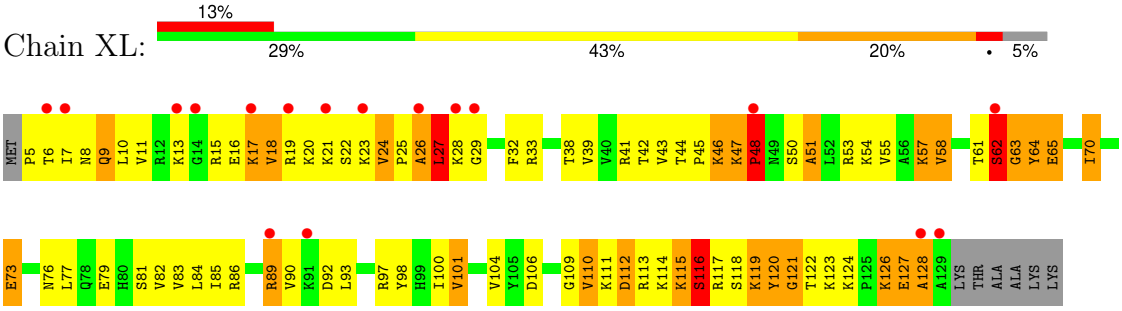






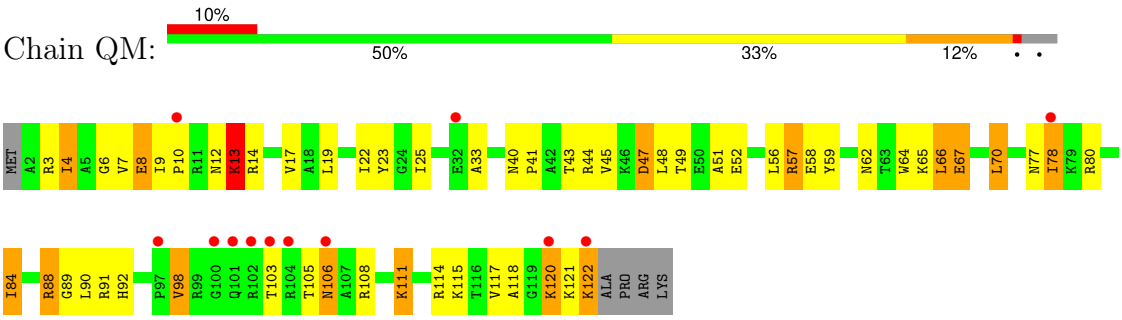
• Molecule 12: 30S ribosomal protein S12

Chain XL:



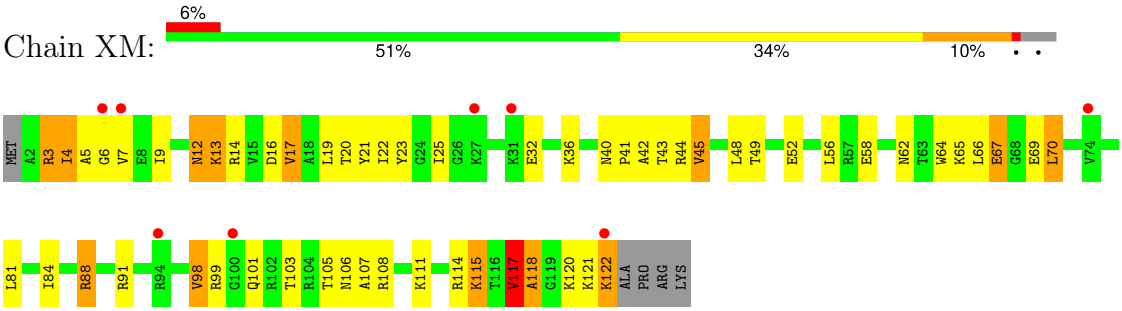
• Molecule 13: 30S ribosomal protein S13

Chain QM:



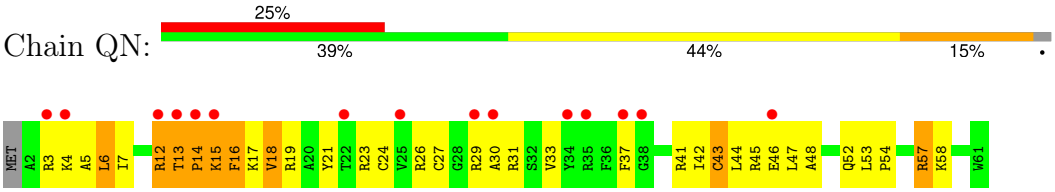
• Molecule 13: 30S ribosomal protein S13

Chain XM:



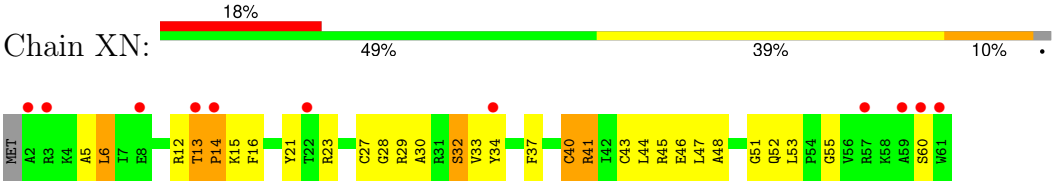
• Molecule 14: 30S ribosomal protein S14 type Z

Chain QN:



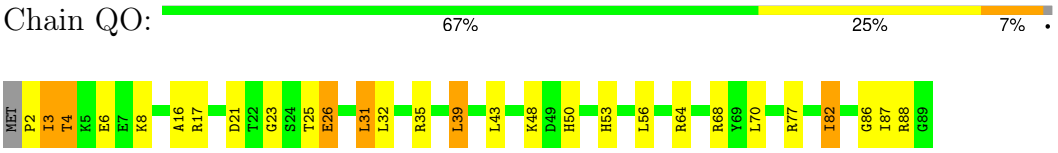
• Molecule 14: 30S ribosomal protein S14 type Z

Chain XN:



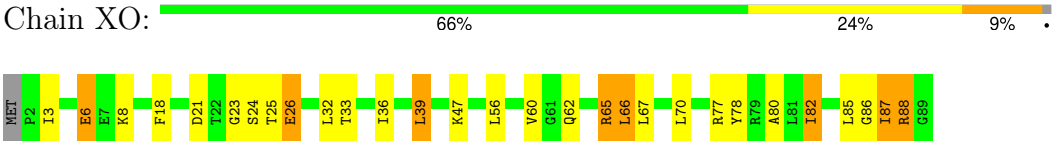
• Molecule 15: 30S ribosomal protein S15

Chain QO:



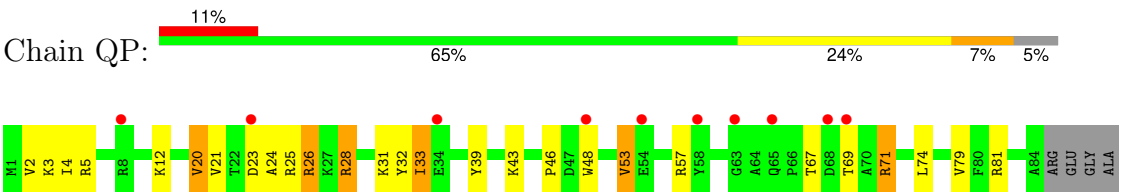
• Molecule 15: 30S ribosomal protein S15

Chain XO:



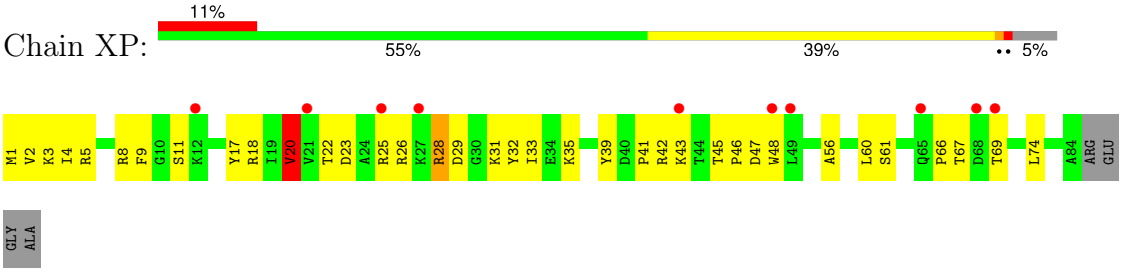
• Molecule 16: 30S ribosomal protein S16

Chain QP:



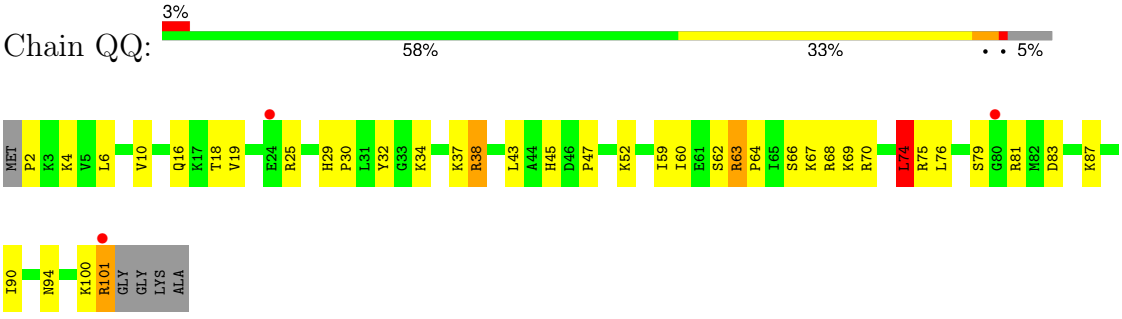
• Molecule 16: 30S ribosomal protein S16

Chain XP:



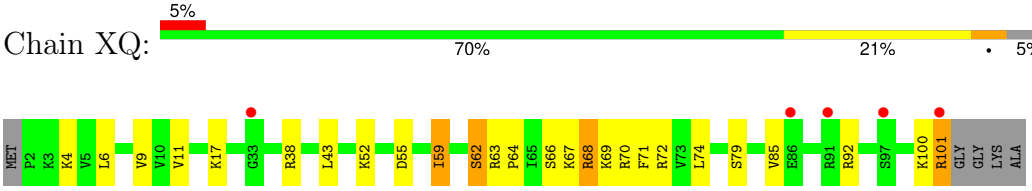
• Molecule 17: 30S ribosomal protein S17

Chain QQ:



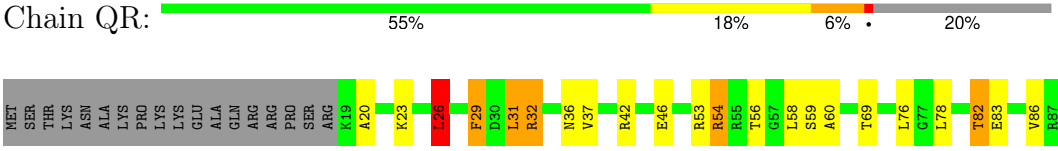
• Molecule 17: 30S ribosomal protein S17

Chain XQ:



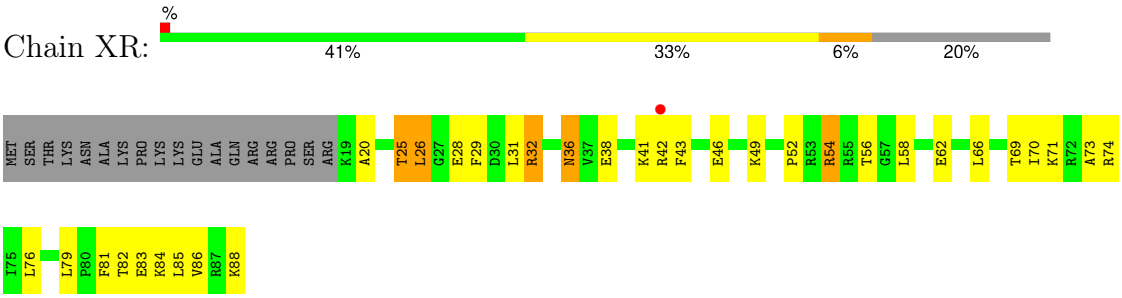
• Molecule 18: 30S ribosomal protein S18

Chain QR:



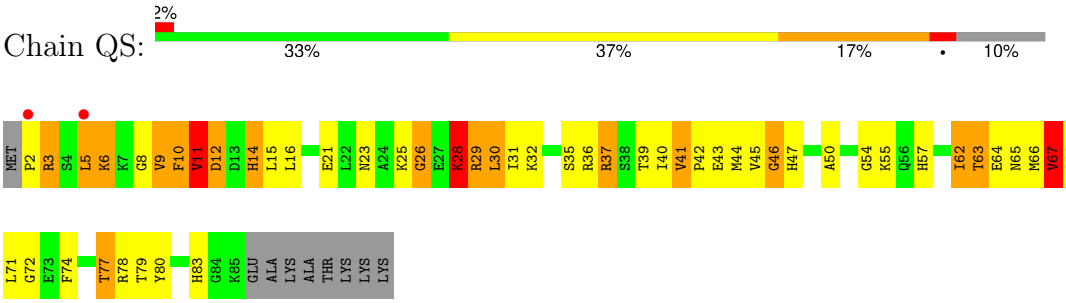
• Molecule 18: 30S ribosomal protein S18

Chain XR:



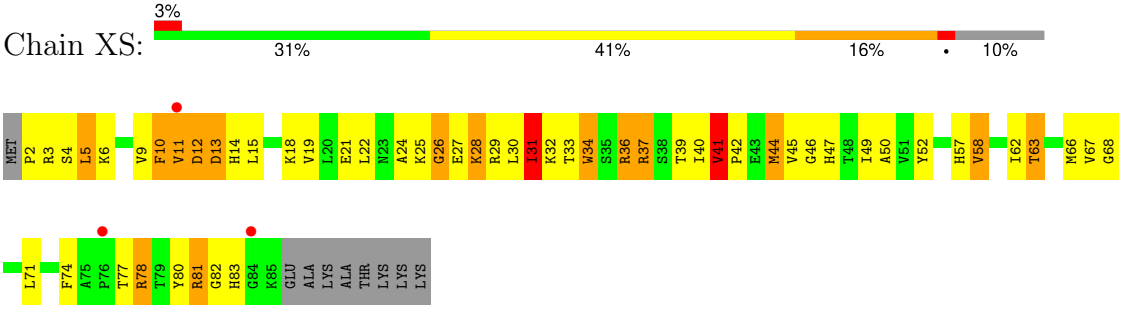
• Molecule 19: 30S ribosomal protein S19

Chain QS:



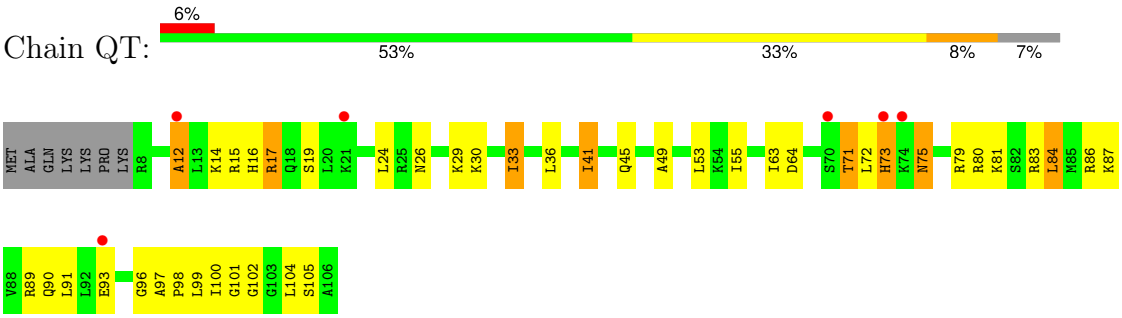
• Molecule 19: 30S ribosomal protein S19

Chain XS:



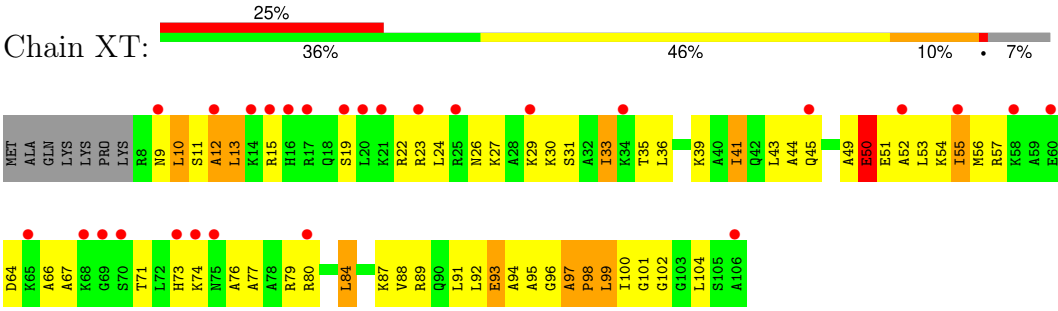
• Molecule 20: 30S ribosomal protein S20

Chain QT:



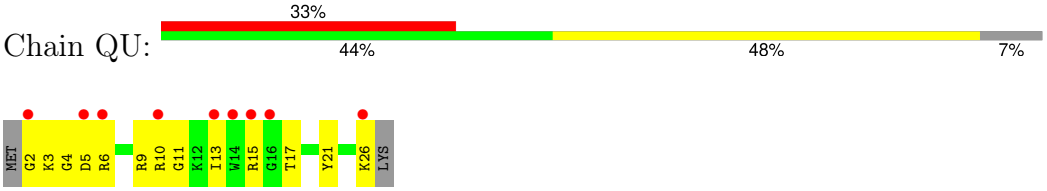
• Molecule 20: 30S ribosomal protein S20

Chain XT:



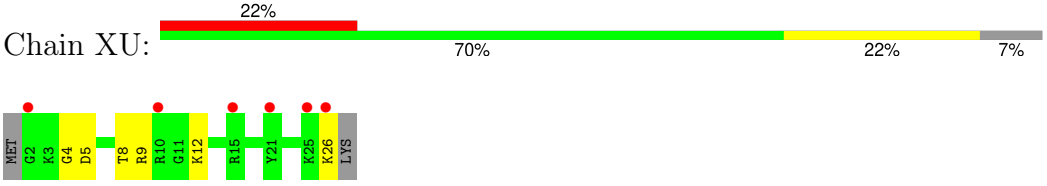
• Molecule 21: 30S ribosomal protein Thx

Chain QU:



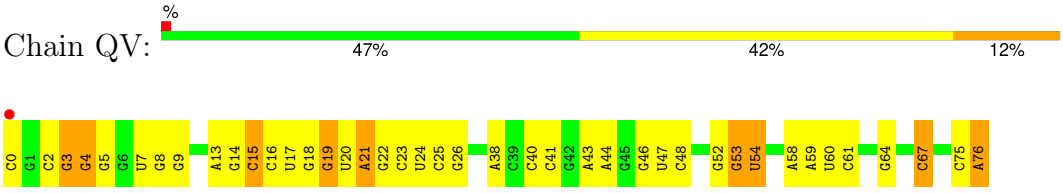
• Molecule 21: 30S ribosomal protein Thx

Chain XU:



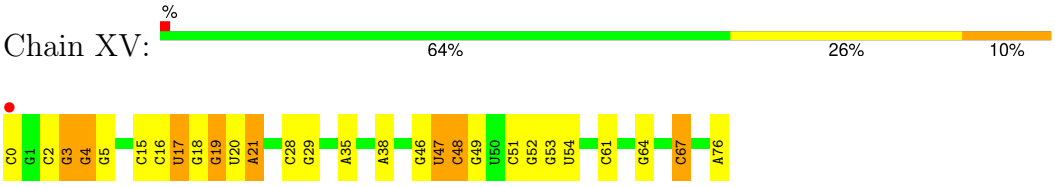
• Molecule 22: P-site tRNA f-Met

Chain QV:



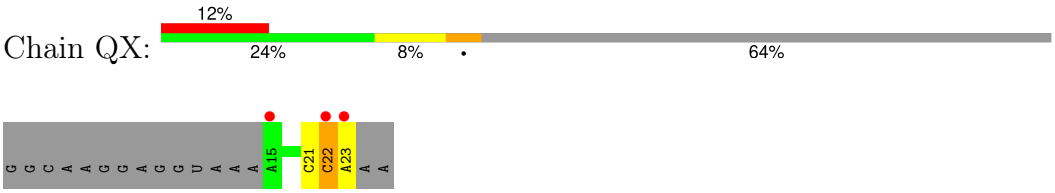
• Molecule 22: P-site tRNA f-Met

Chain XV:



• Molecule 23: messenger RNA

Chain QX:

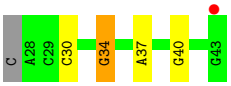


• Molecule 23: messenger RNA

Chain XX:

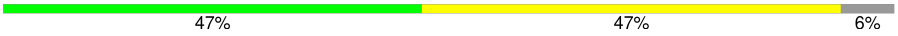
• Molecule 24: A-site tRNA Thr

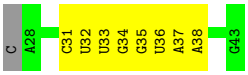
Chain QY:



• Molecule 24: A-site tRNA Thr

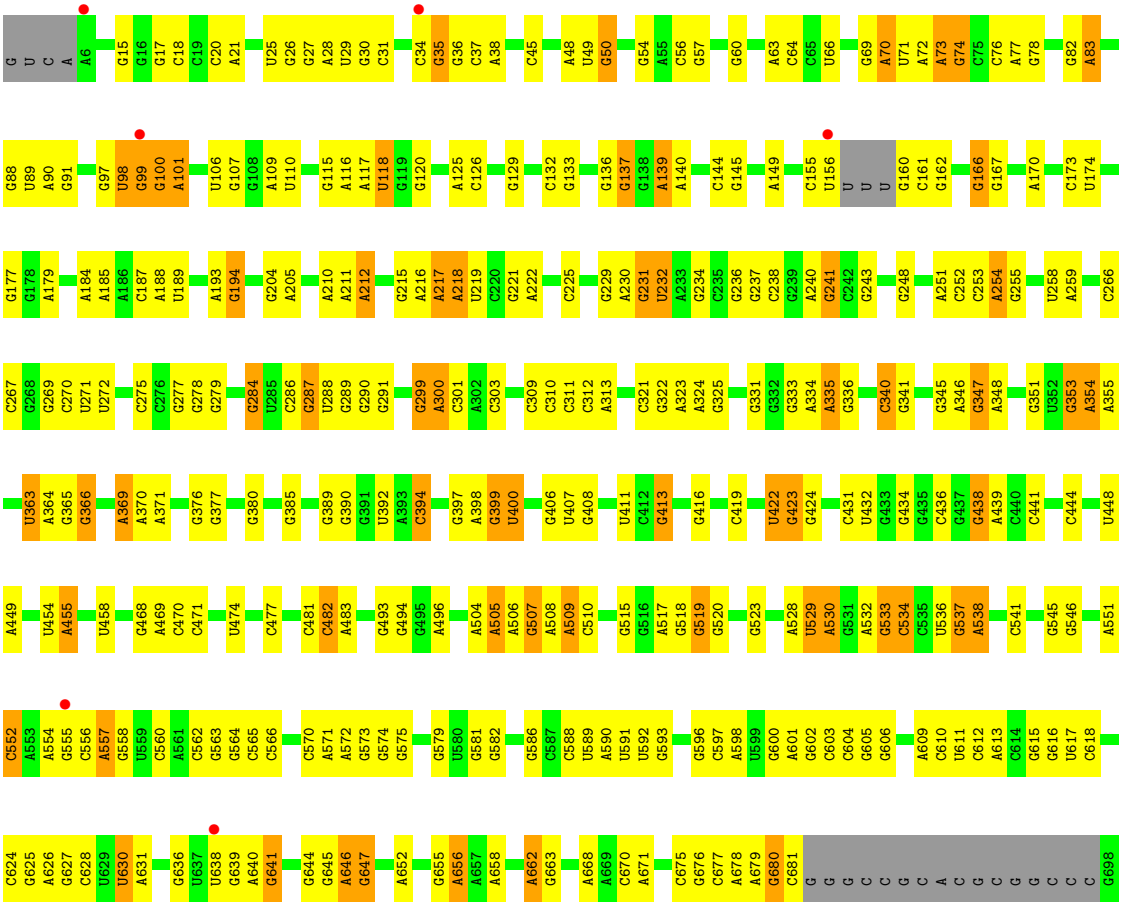
Chain XY:

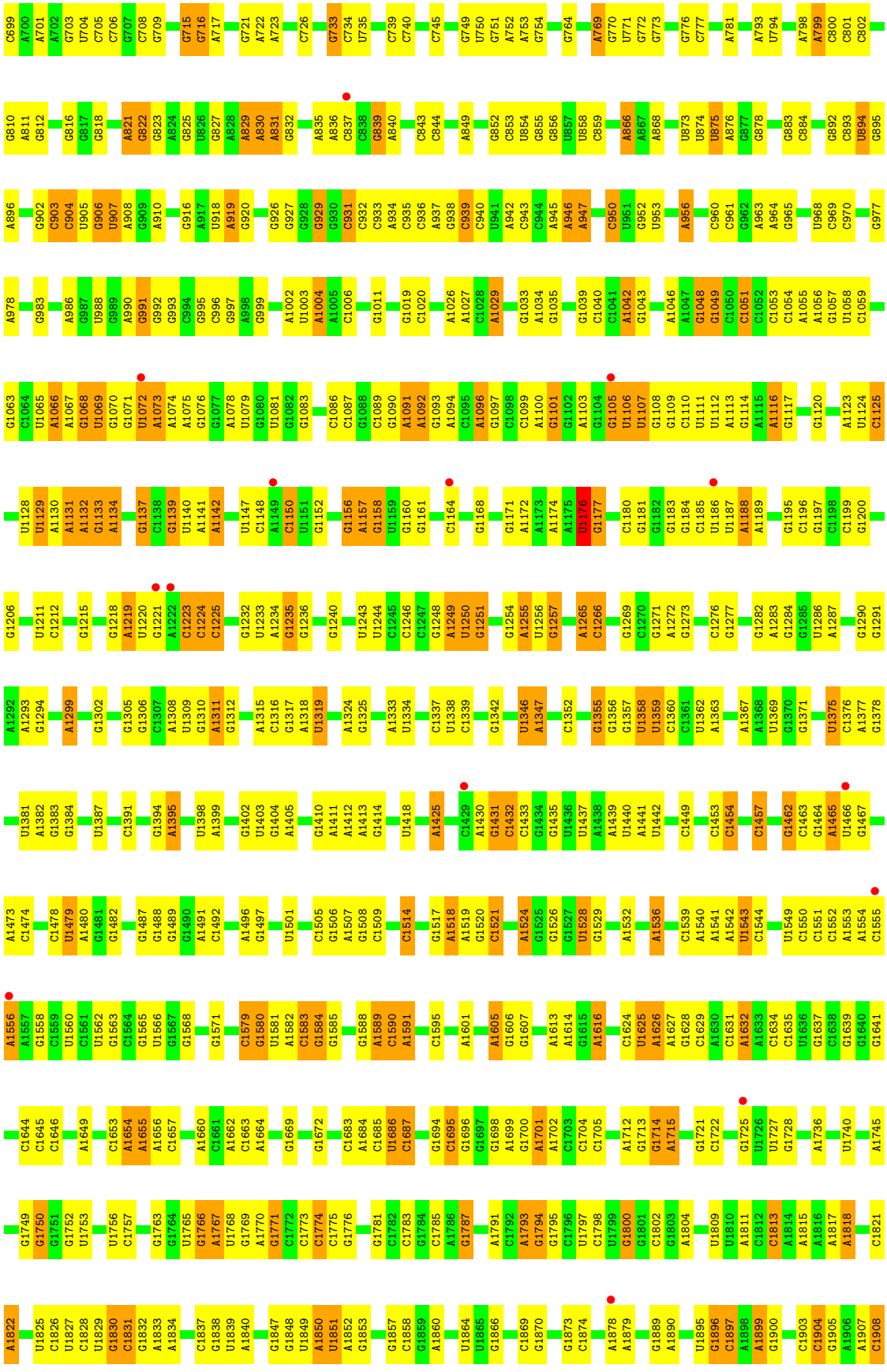




• Molecule 25: 23S rRNA

Chain RA:

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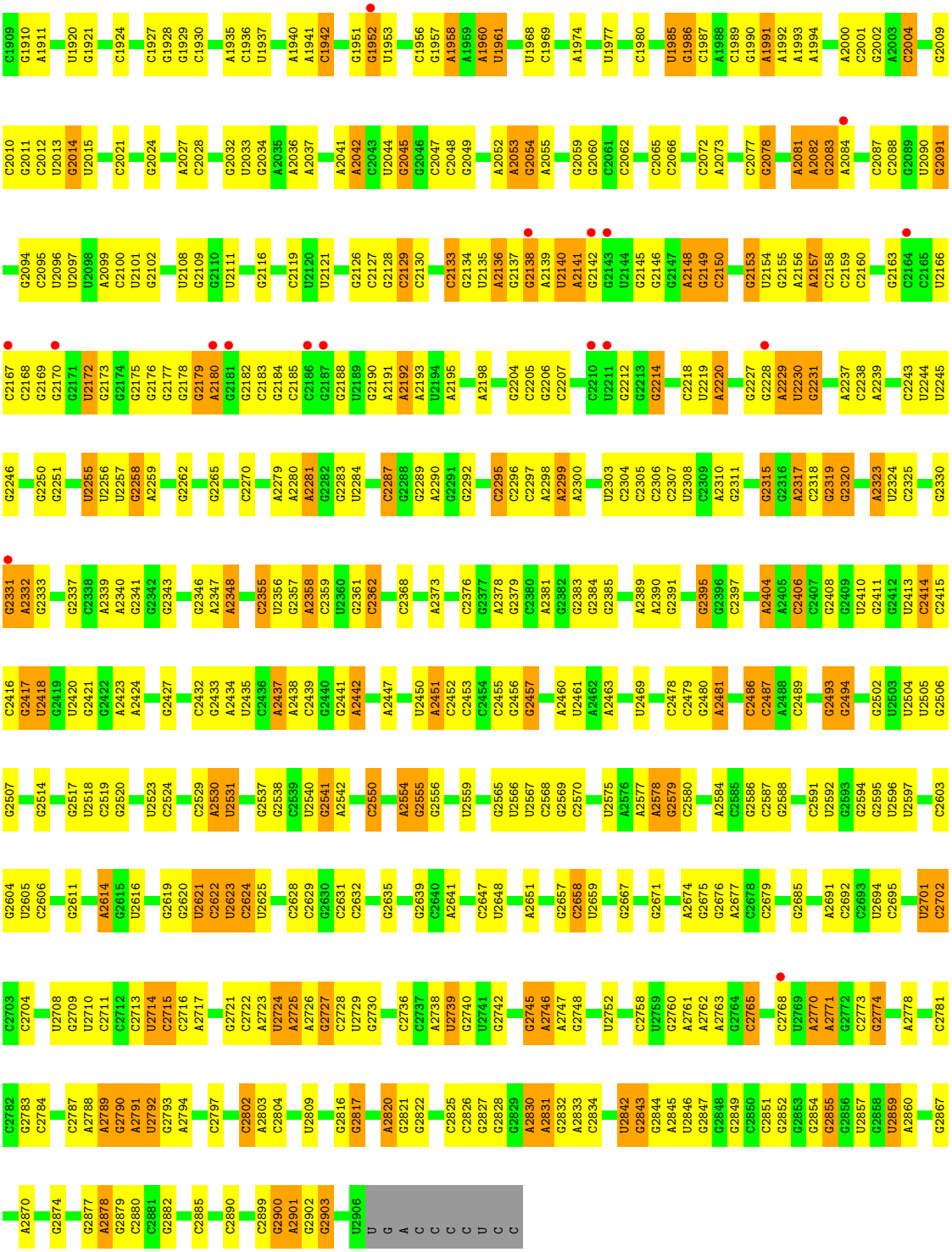
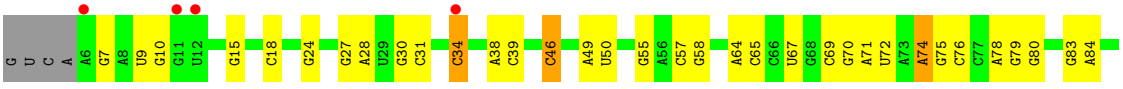
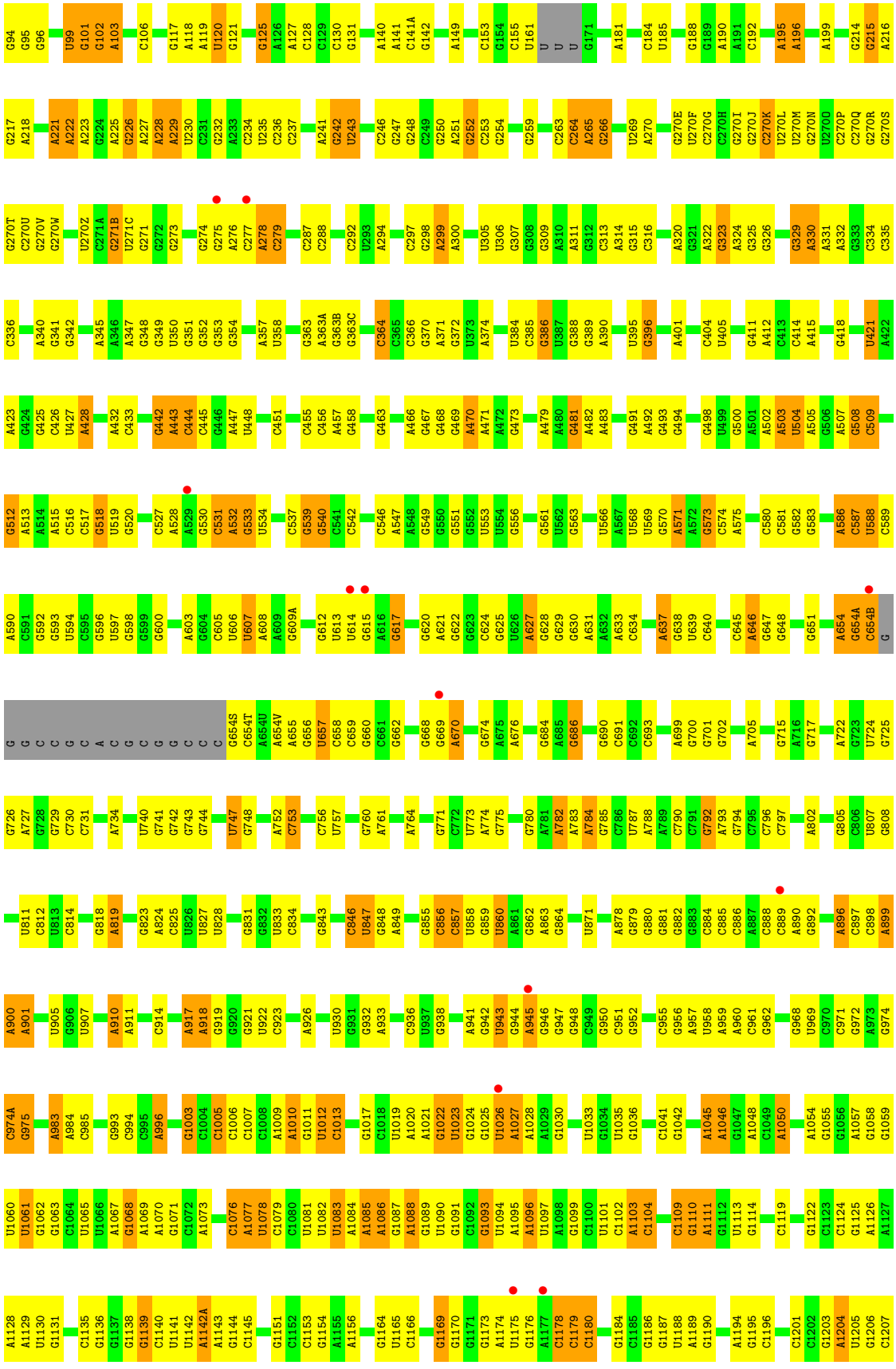


• Molecule 25: 23S rRNA

Chain YA:

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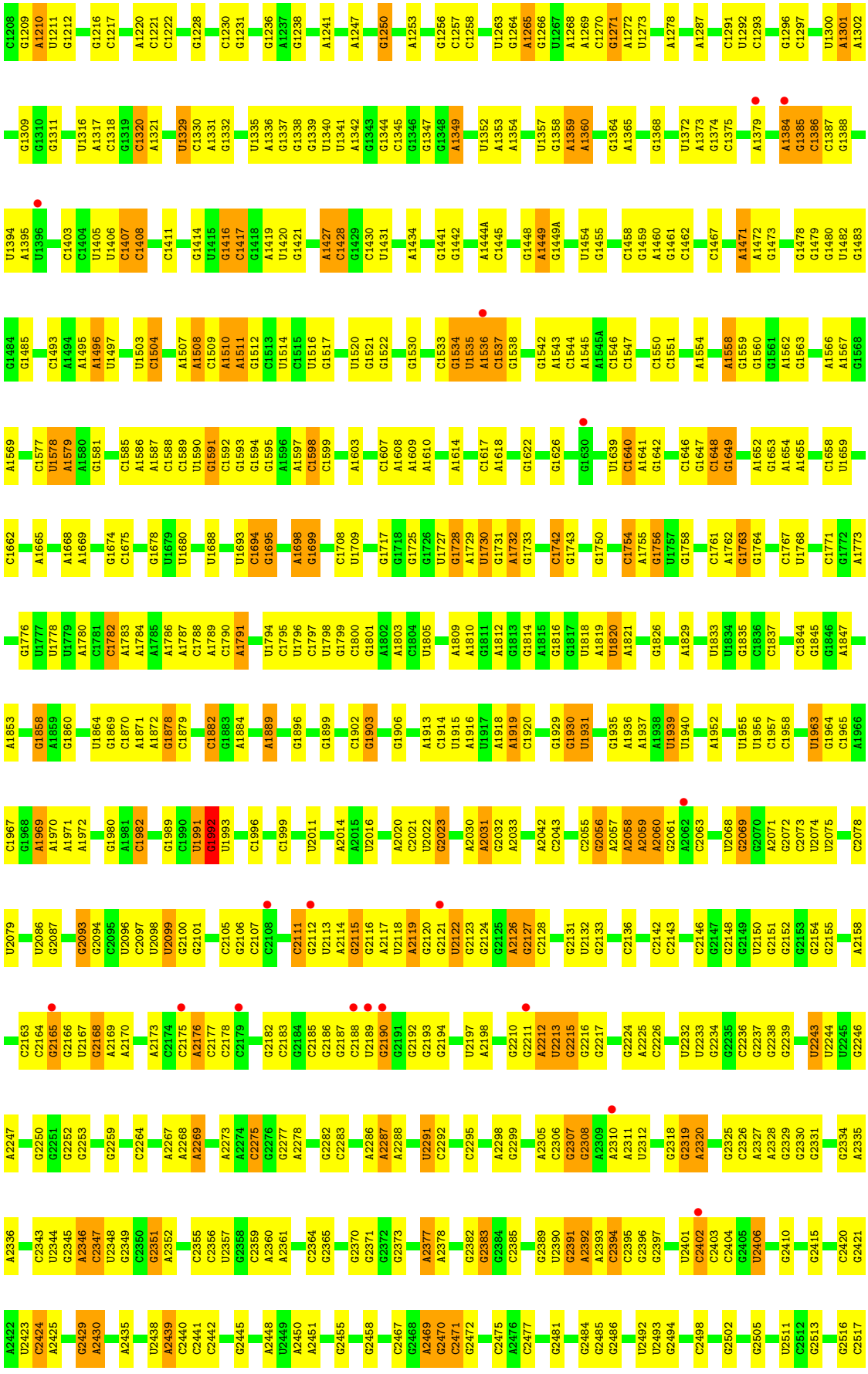
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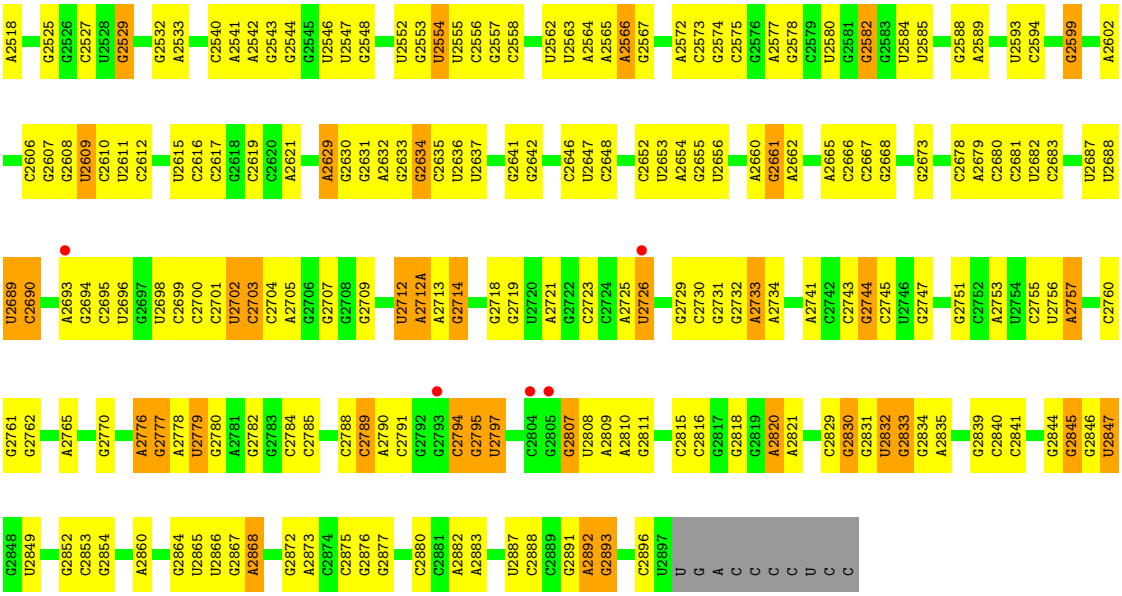
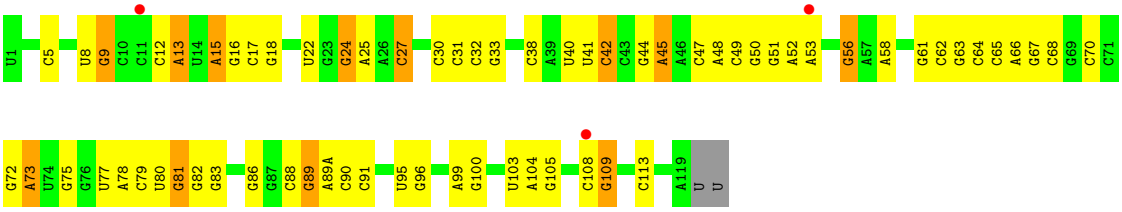


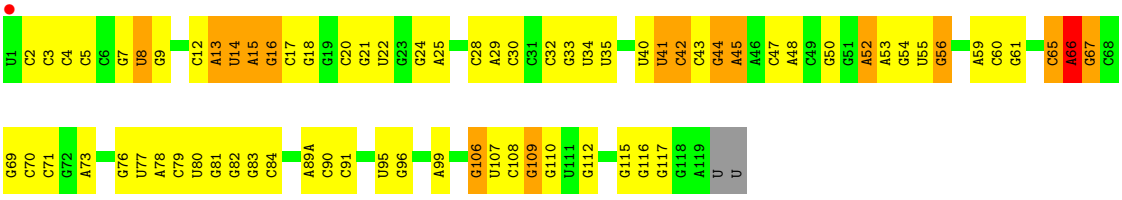
• Molecule 26: 5S rRNA

Chain RB:



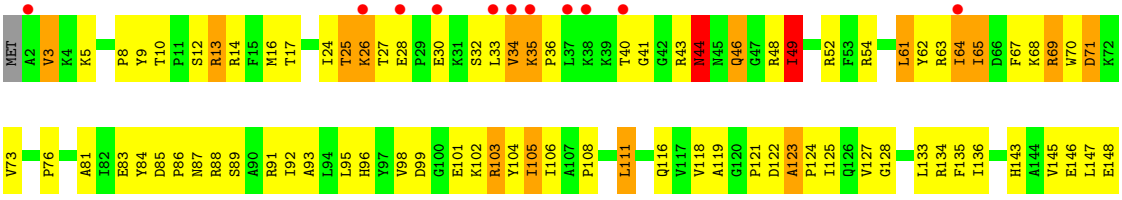
• Molecule 26: 5S rRNA

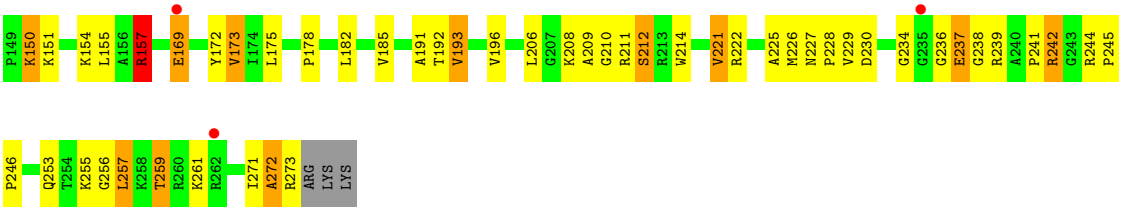
Chain YB:



• Molecule 27: 50S ribosomal protein L2

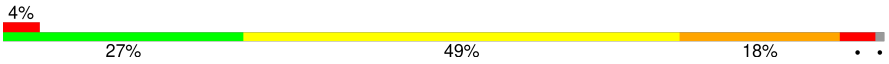
Chain RD:

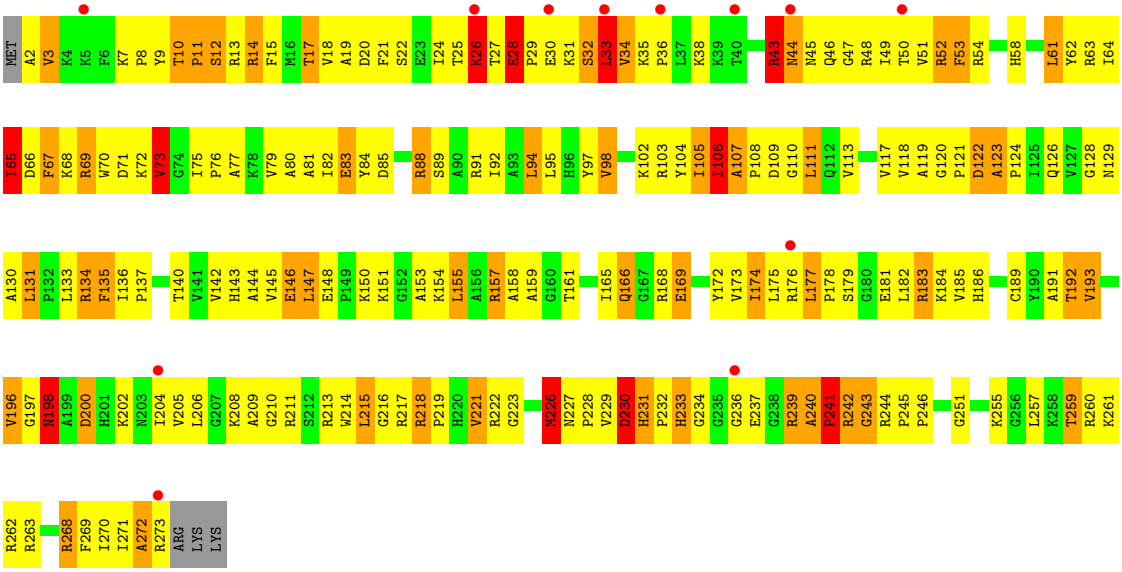




• Molecule 27: 50S ribosomal protein L2

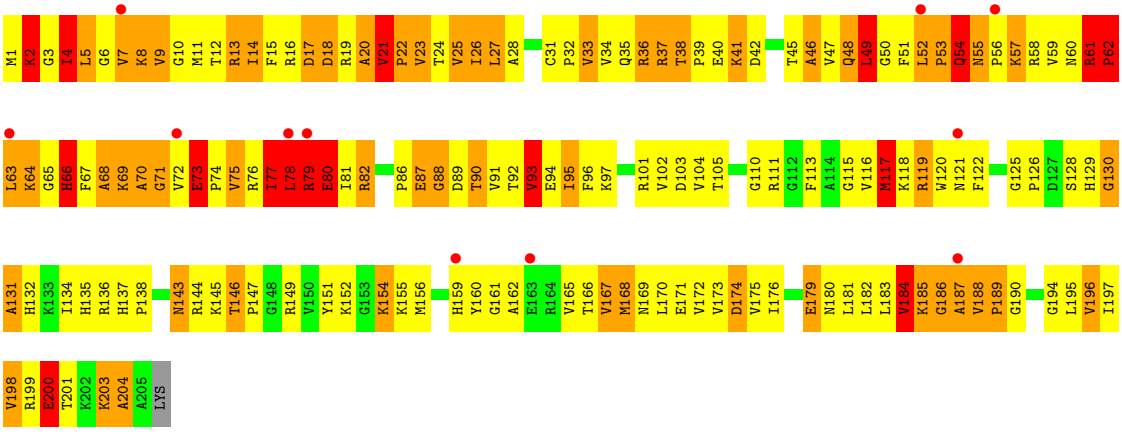
Chain YD:





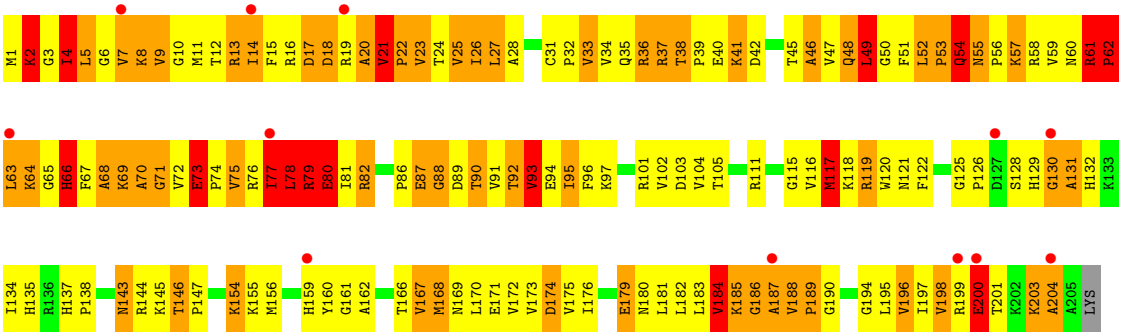
• Molecule 28: 50S ribosomal protein L3

Chain RE:



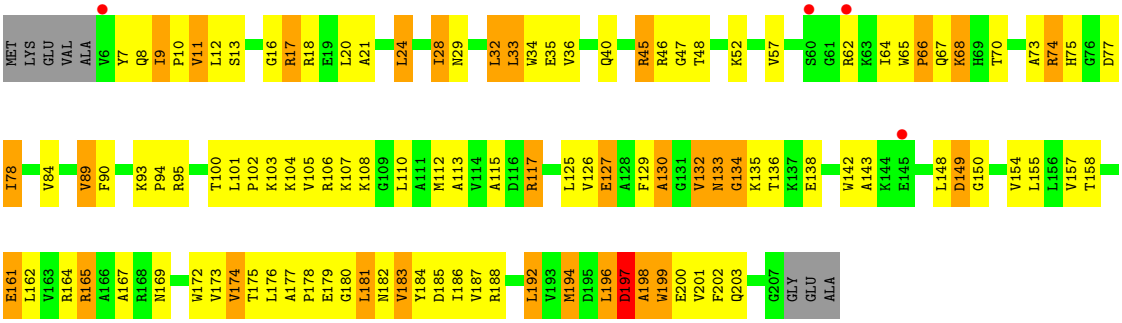
• Molecule 28: 50S ribosomal protein L3

Chain YE:



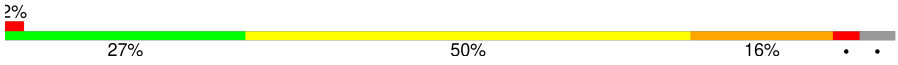
• Molecule 29: 50S ribosomal protein L4

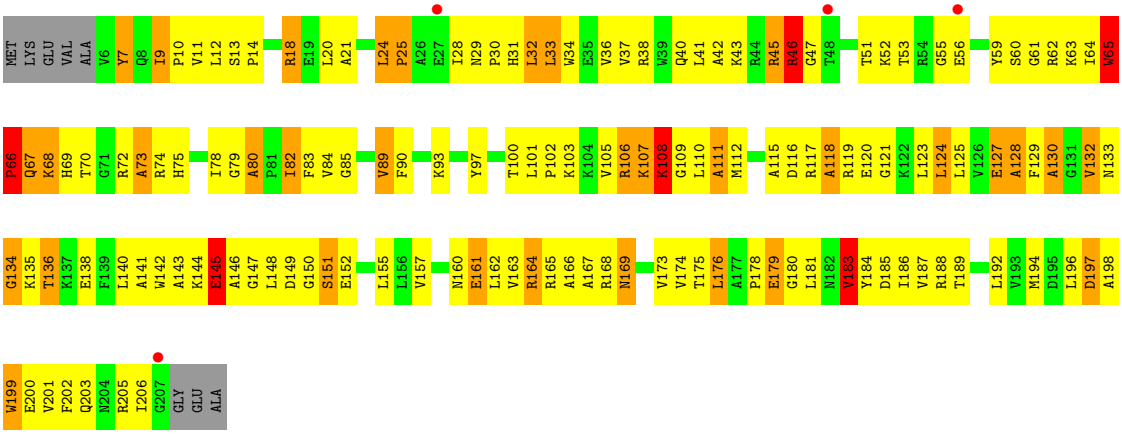
Chain RF:



• Molecule 29: 50S ribosomal protein L4

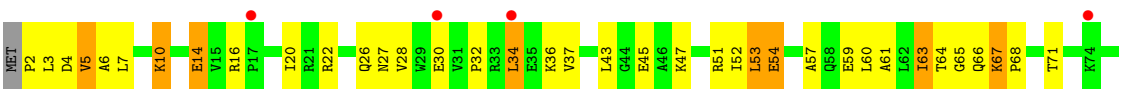
Chain YF:

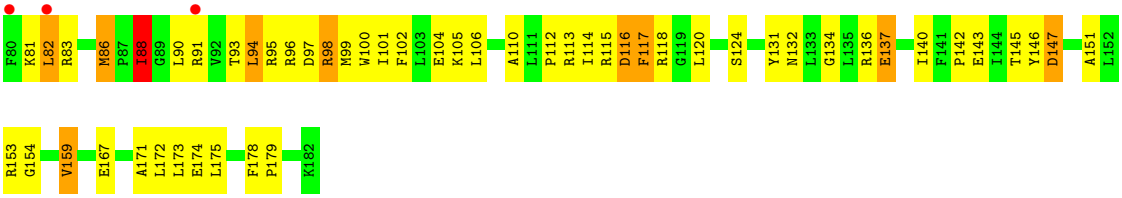




• Molecule 30: 50S ribosomal protein L5

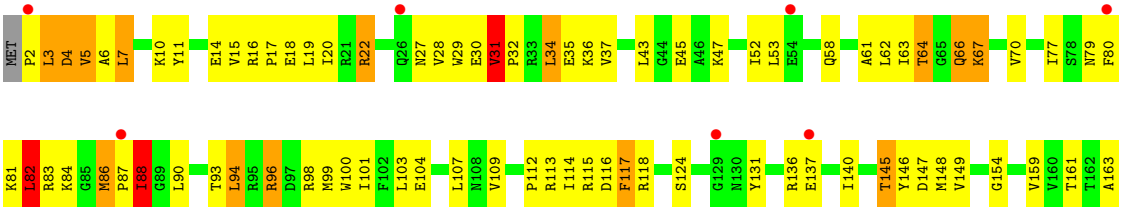
Chain RG:





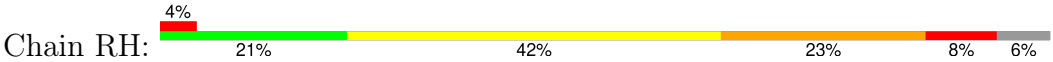
• Molecule 30: 50S ribosomal protein L5

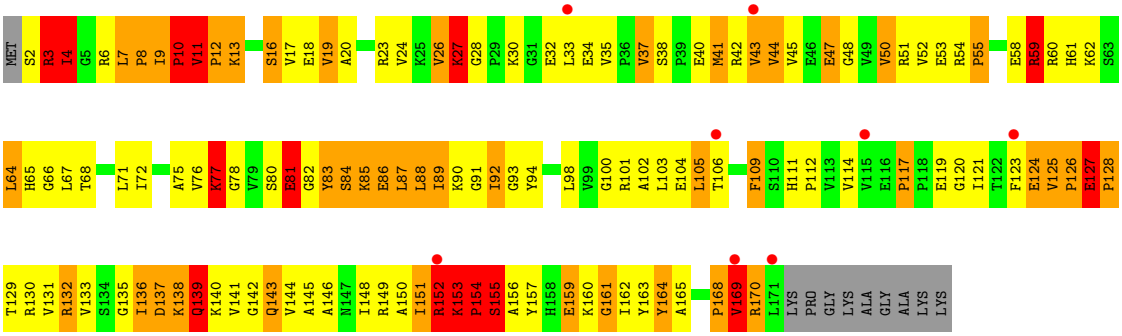
Chain YG:



• Molecule 31: 50S ribosomal protein L6

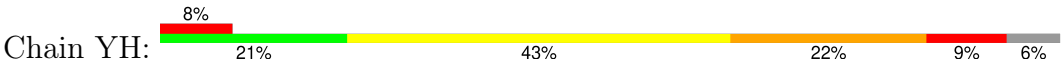
Chain RH:

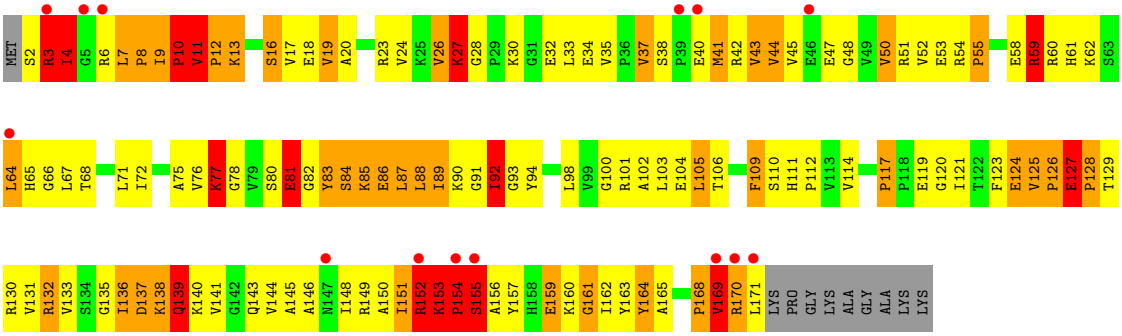




• Molecule 31: 50S ribosomal protein L6

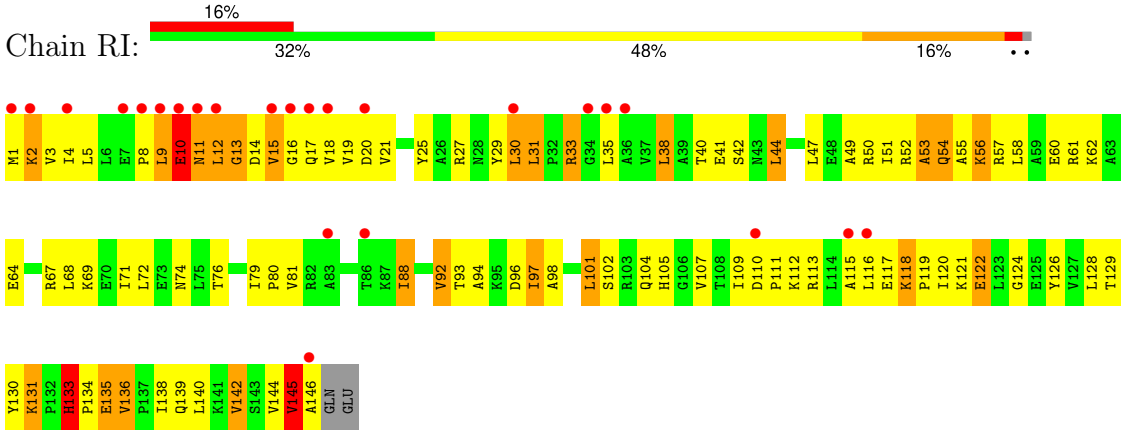
Chain YH:





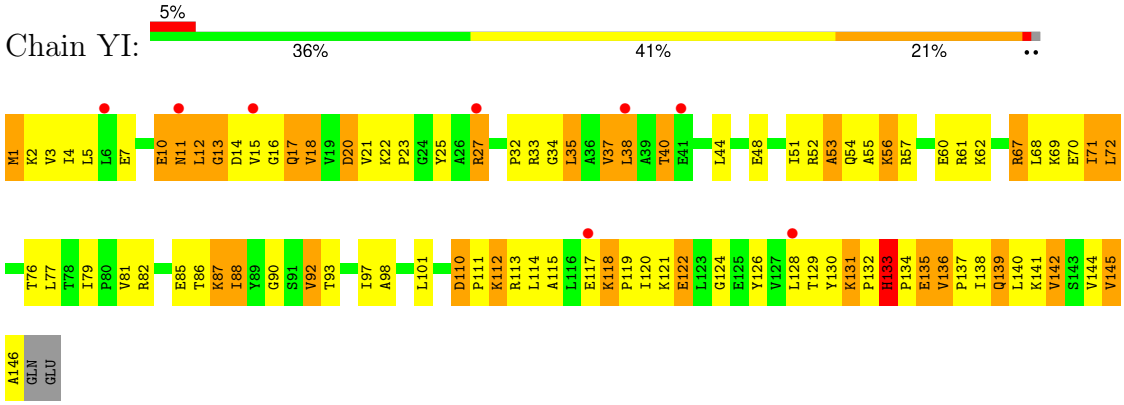
• Molecule 32: 50S ribosomal protein L9

Chain RI:



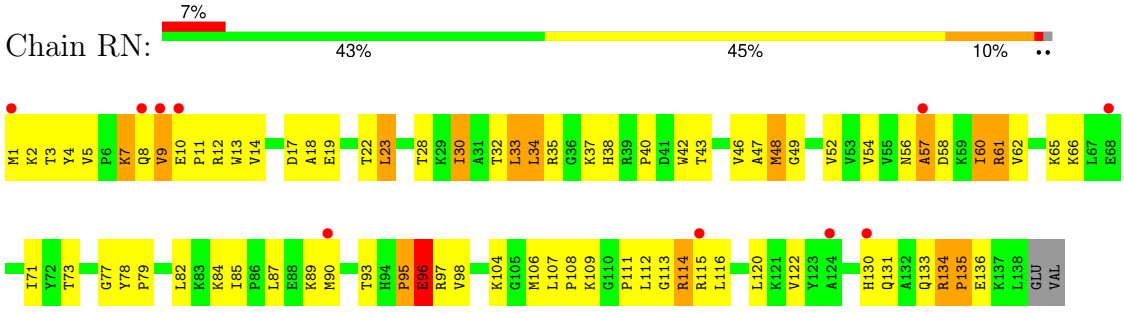
• Molecule 32: 50S ribosomal protein L9

Chain YI:



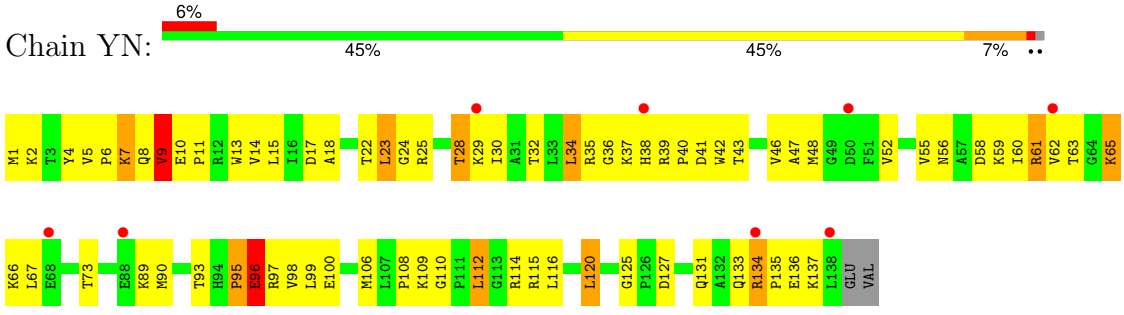
• Molecule 33: 50S ribosomal protein L13

Chain RN:



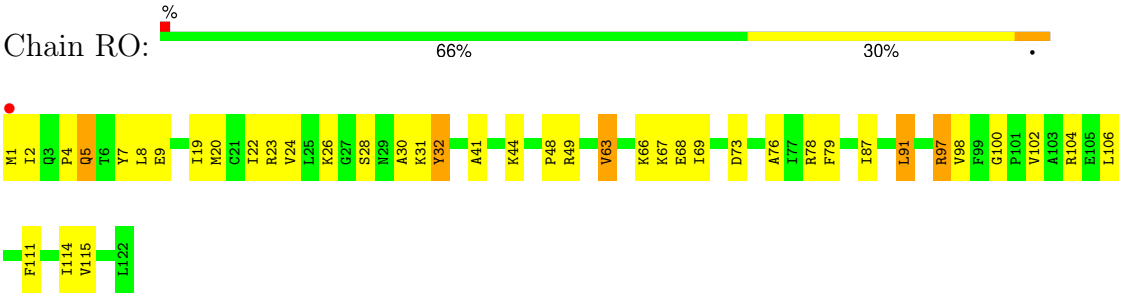
• Molecule 33: 50S ribosomal protein L13

Chain YN:



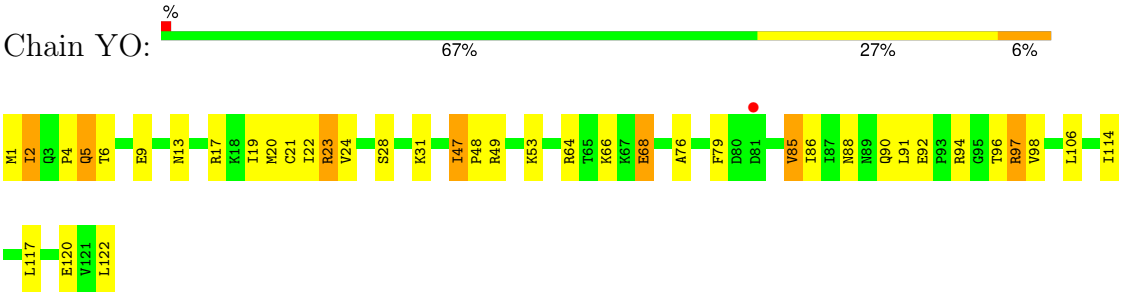
• Molecule 34: 50S ribosomal protein L14

Chain RO:



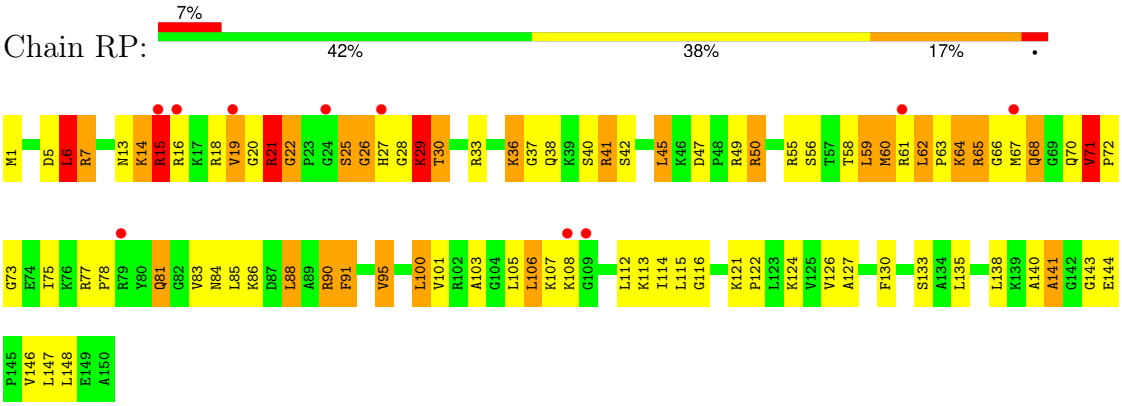
• Molecule 34: 50S ribosomal protein L14

Chain YO:



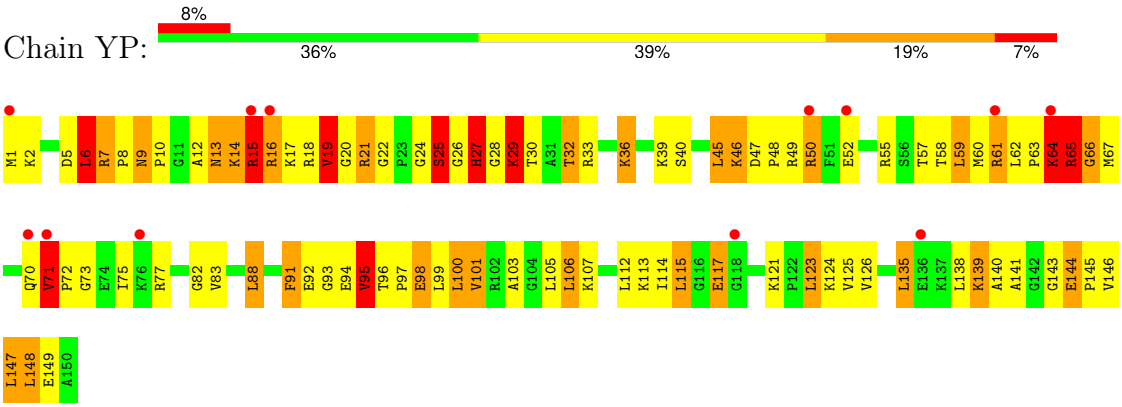
• Molecule 35: 50S ribosomal protein L15

Chain RP:



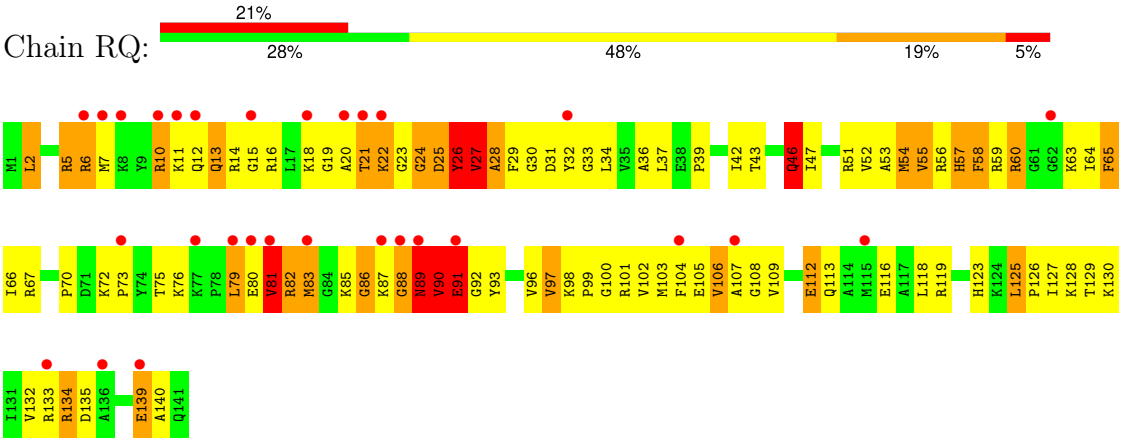
• Molecule 35: 50S ribosomal protein L15

Chain YP:



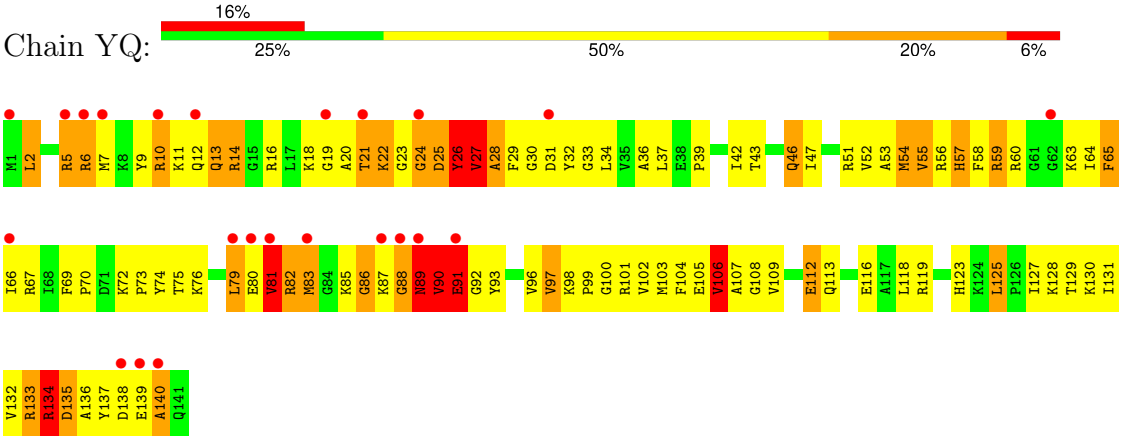
• Molecule 36: 50S ribosomal protein L16

Chain RQ:



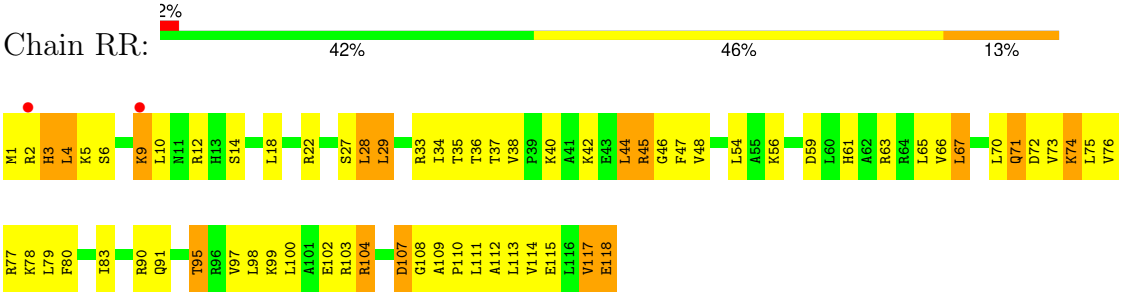
• Molecule 36: 50S ribosomal protein L16

Chain YQ:



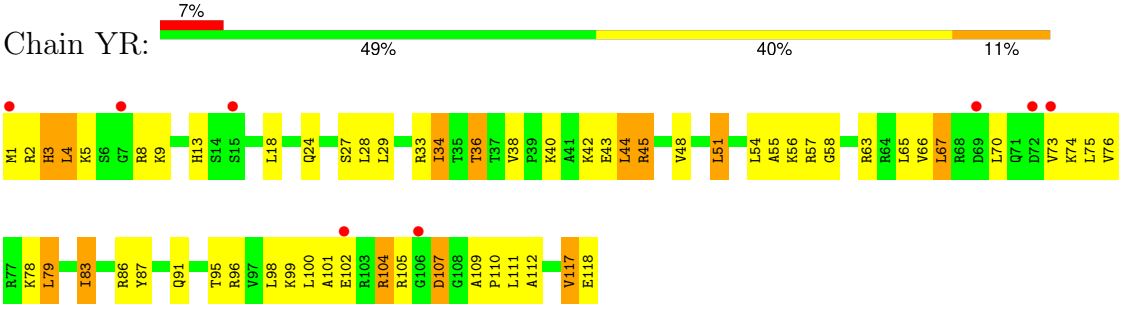
• Molecule 37: 50S ribosomal protein L17

Chain RR:



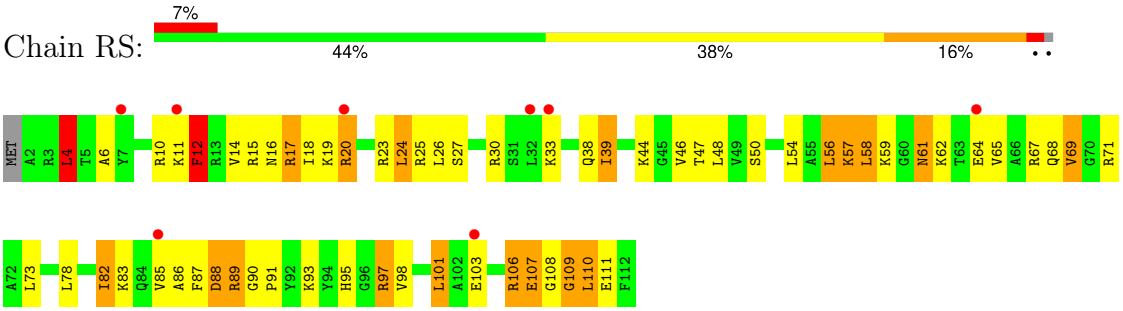
• Molecule 37: 50S ribosomal protein L17

Chain YR:



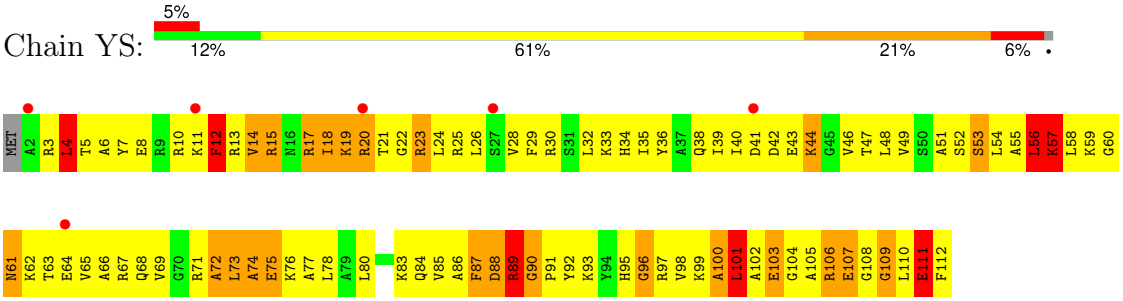
• Molecule 38: 50S ribosomal protein L18

Chain RS:



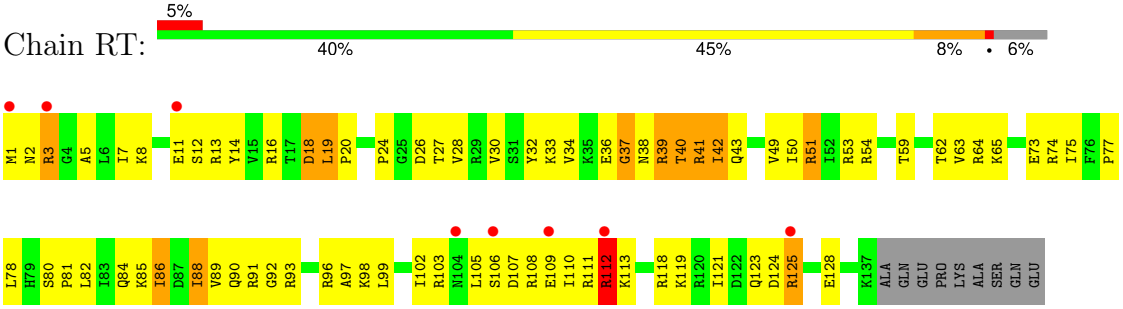
• Molecule 38: 50S ribosomal protein L18

Chain YS:



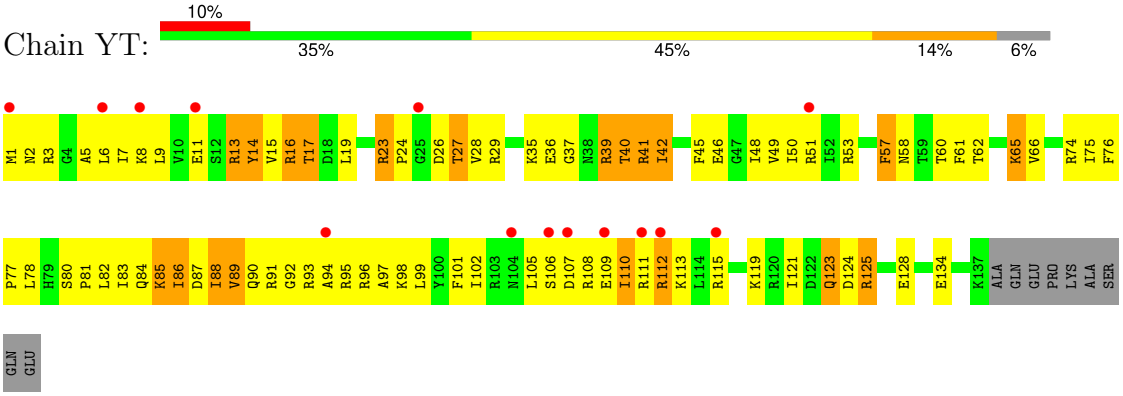
• Molecule 39: 50S ribosomal protein L19

Chain RT:



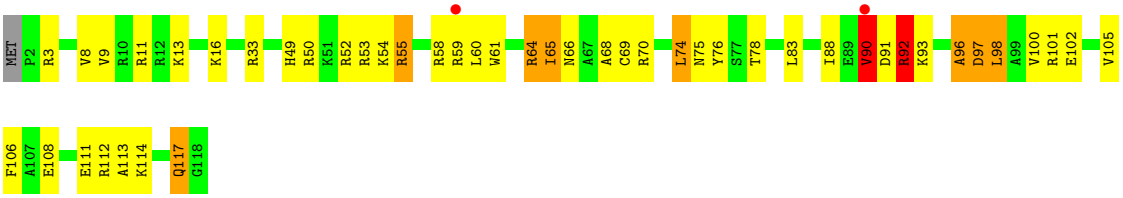
• Molecule 39: 50S ribosomal protein L19

Chain YT:



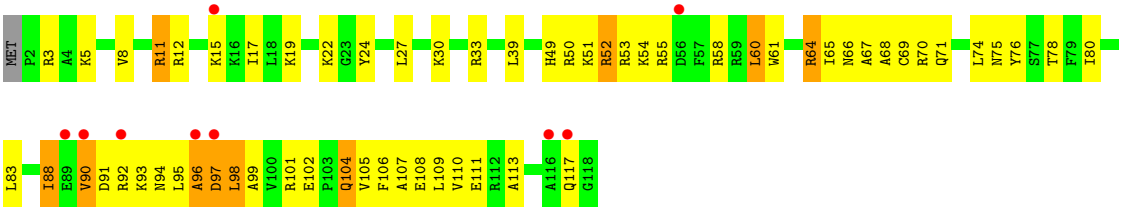
• Molecule 40: 50S ribosomal protein L20

Chain RU:



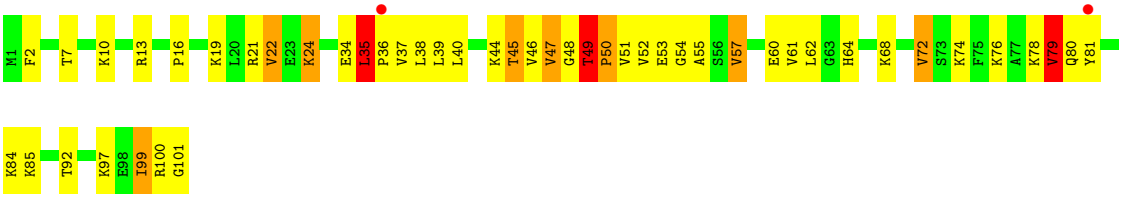
• Molecule 40: 50S ribosomal protein L20

Chain YU:



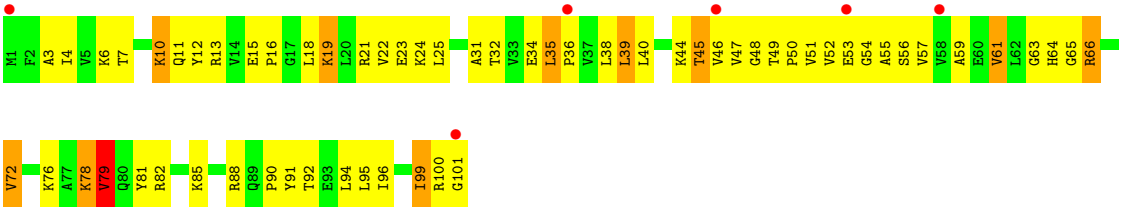
• Molecule 41: 50S ribosomal protein L21

Chain RV:



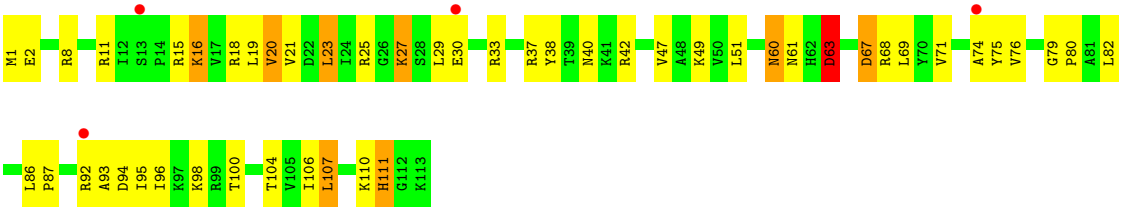
• Molecule 41: 50S ribosomal protein L21

Chain YV:



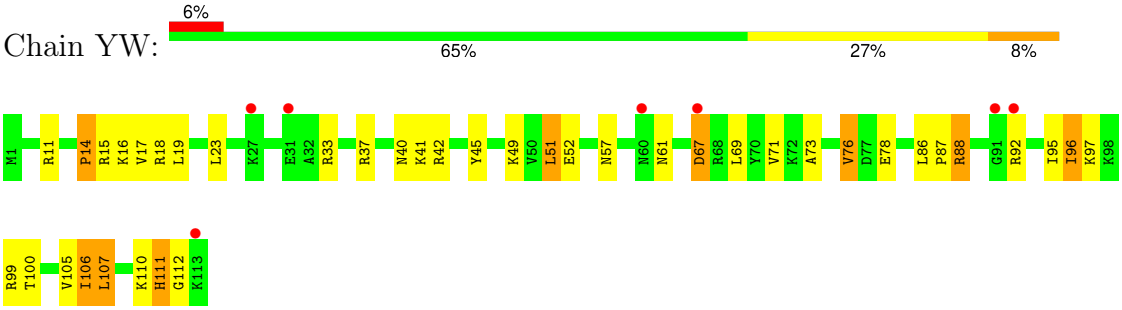
• Molecule 42: 50S ribosomal protein L22

Chain RW:



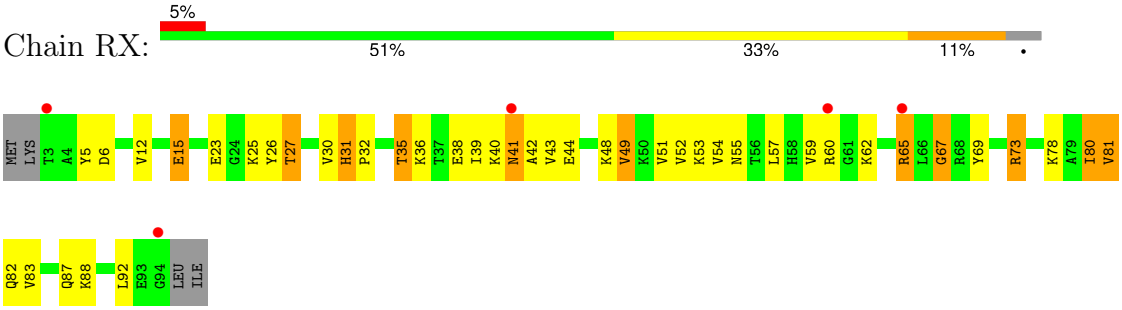
• Molecule 42: 50S ribosomal protein L22

Chain YW:



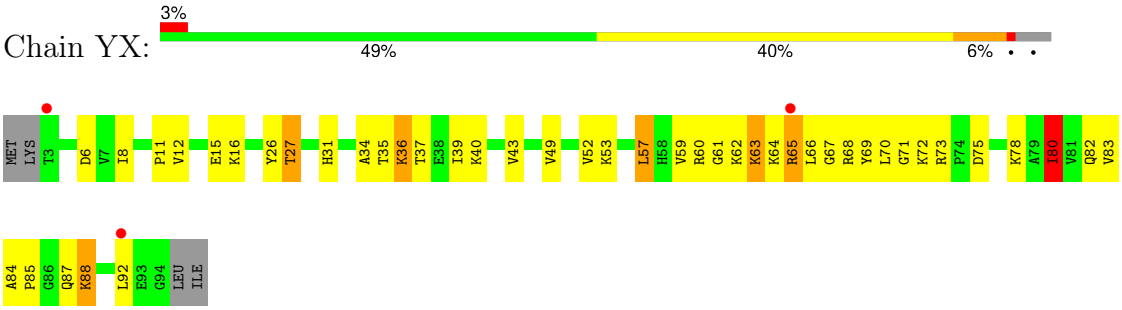
• Molecule 43: 50S ribosomal protein L23

Chain RX:



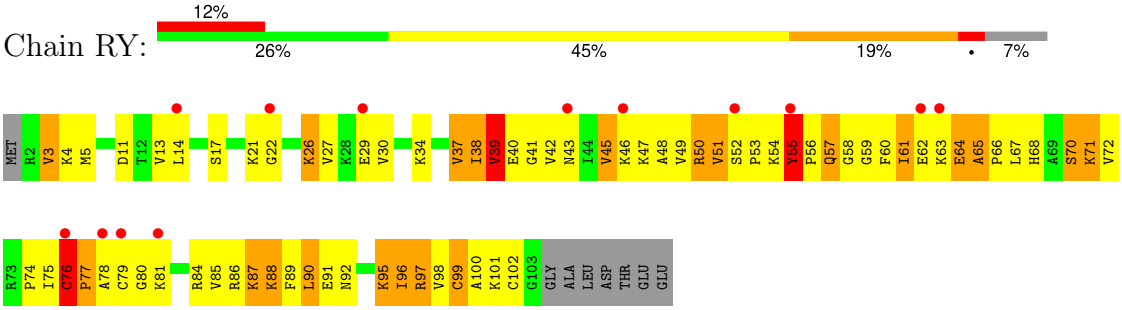
• Molecule 43: 50S ribosomal protein L23

Chain YX:



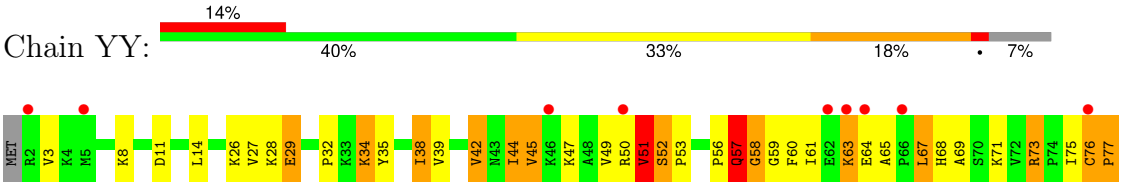
• Molecule 44: 50S ribosomal protein L24

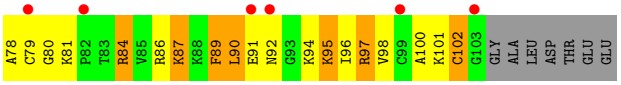
Chain RY:



• Molecule 44: 50S ribosomal protein L24

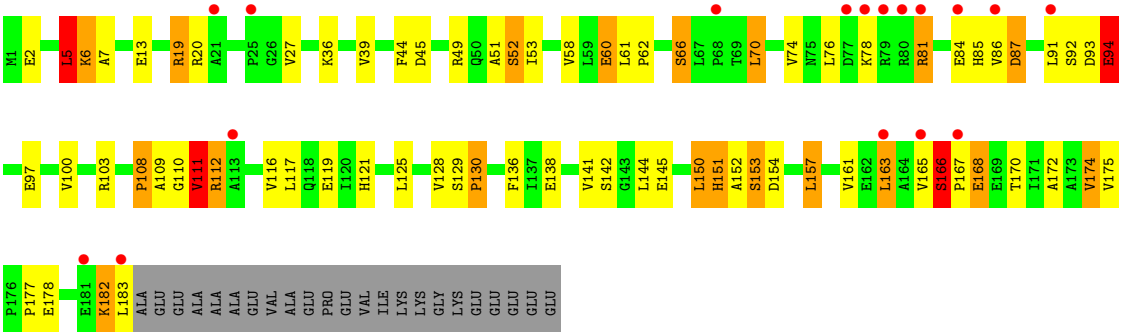
Chain YY:





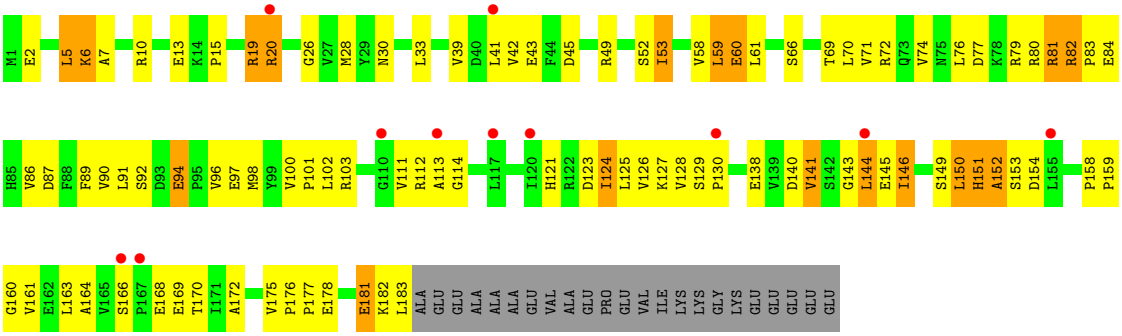
• Molecule 45: 50S ribosomal protein L25

Chain RZ:



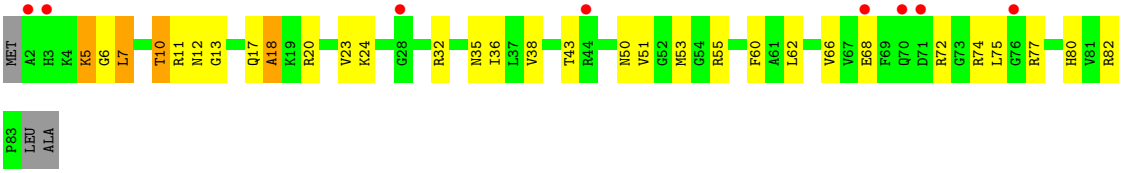
• Molecule 45: 50S ribosomal protein L25

Chain YZ:



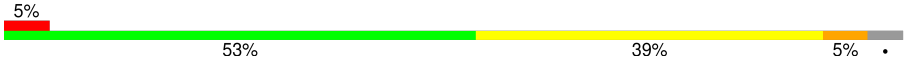
• Molecule 46: 50S ribosomal protein L27

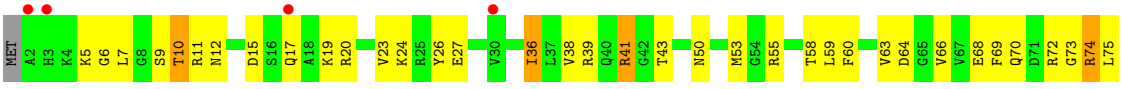
Chain R0:

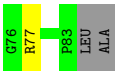


• Molecule 46: 50S ribosomal protein L27

Chain Y0:

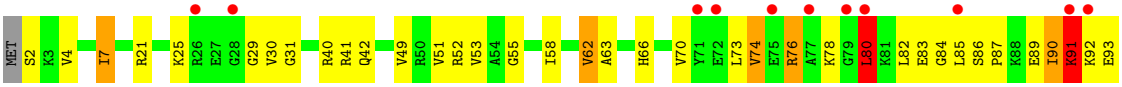






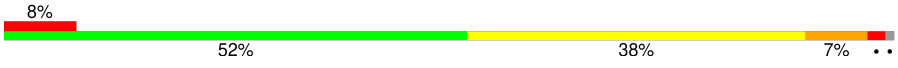
• Molecule 47: 50S ribosomal protein L28

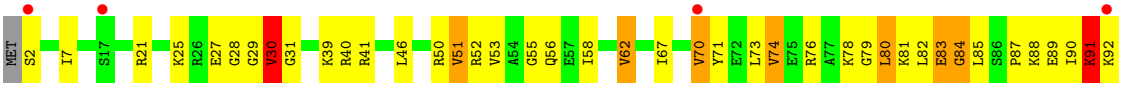
Chain R1:

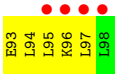


• Molecule 47: 50S ribosomal protein L28

Chain Y1:

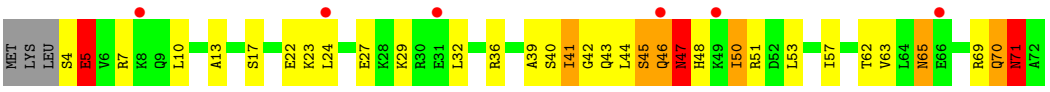






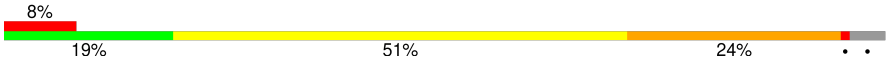
• Molecule 48: 50S ribosomal protein L29

Chain R2:



• Molecule 48: 50S ribosomal protein L29

Chain Y2:

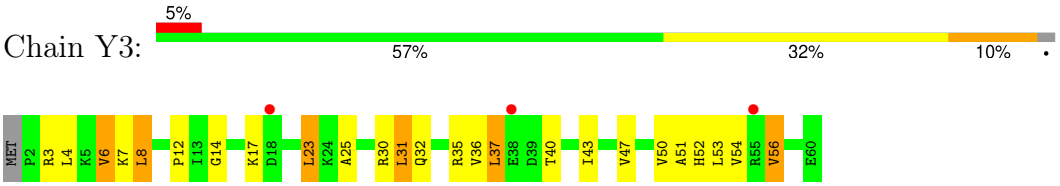


• Molecule 49: 50S ribosomal protein L30

Chain R3:

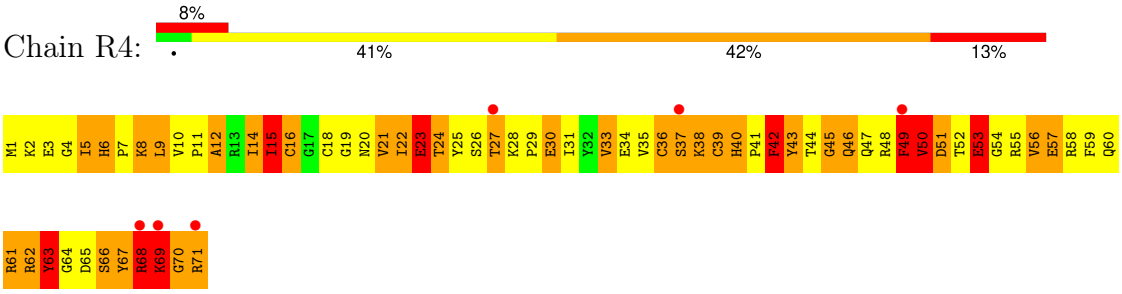
• Molecule 49: 50S ribosomal protein L30

Chain Y3:



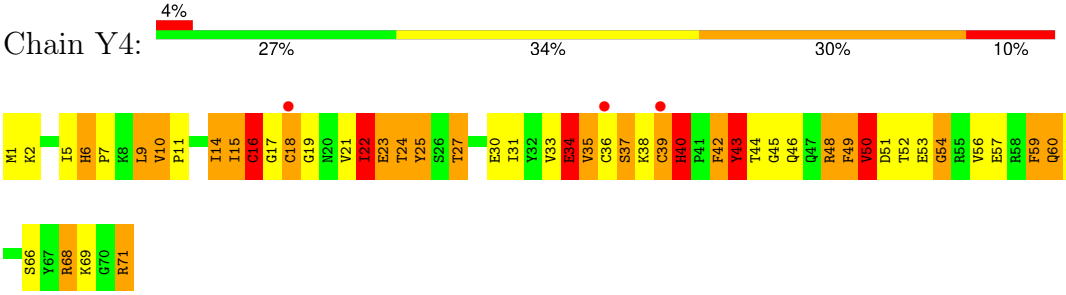
• Molecule 50: 50S ribosomal protein L31

Chain R4:



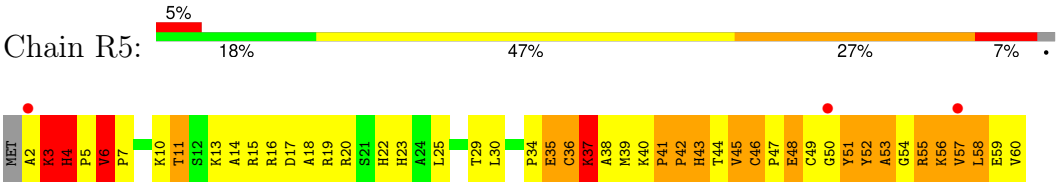
• Molecule 50: 50S ribosomal protein L31

Chain Y4:



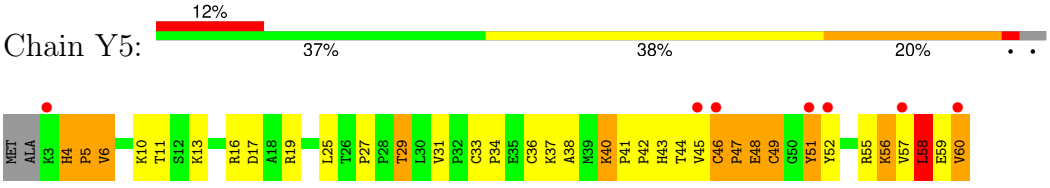
• Molecule 51: 50S ribosomal protein L32

Chain R5:



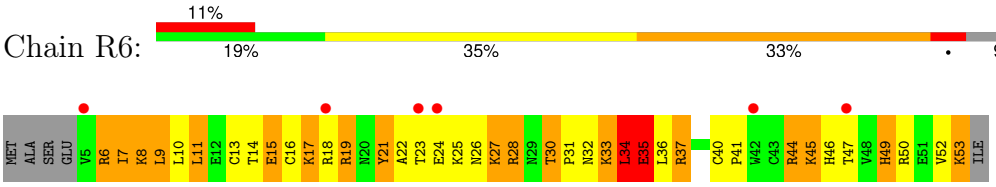
• Molecule 51: 50S ribosomal protein L32

Chain Y5:



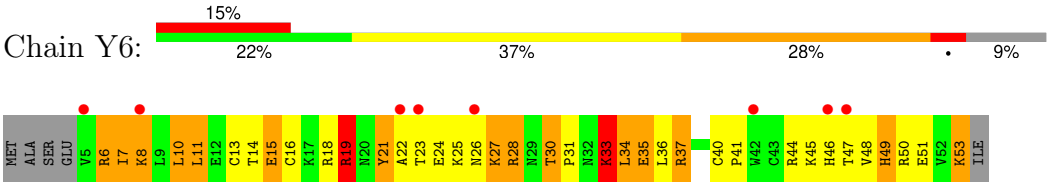
• Molecule 52: 50S ribosomal protein L33

Chain R6:



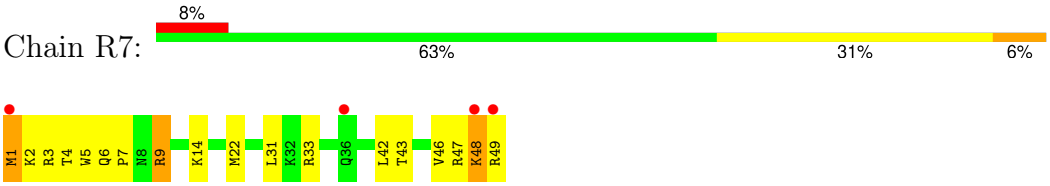
• Molecule 52: 50S ribosomal protein L33

Chain Y6:



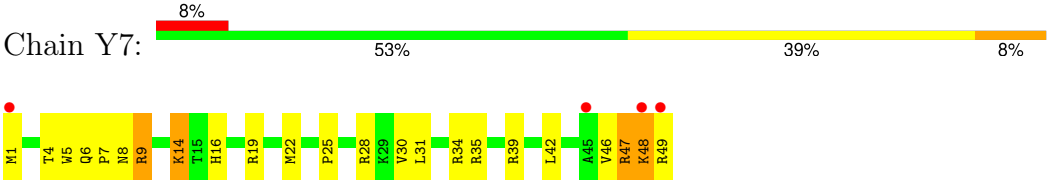
• Molecule 53: 50S ribosomal protein L34

Chain R7:



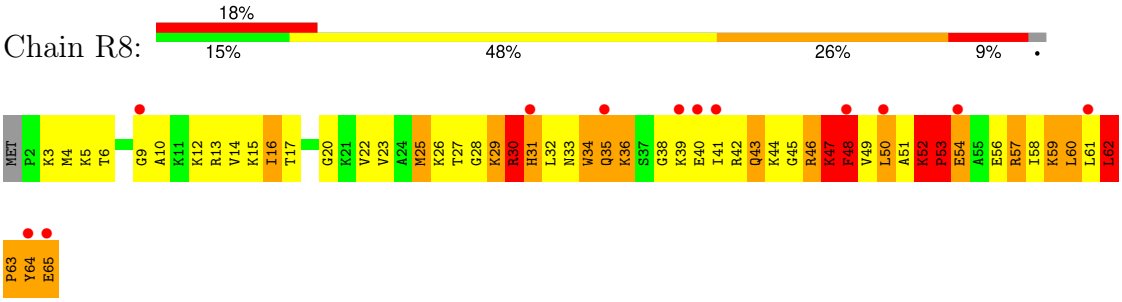
• Molecule 53: 50S ribosomal protein L34

Chain Y7:



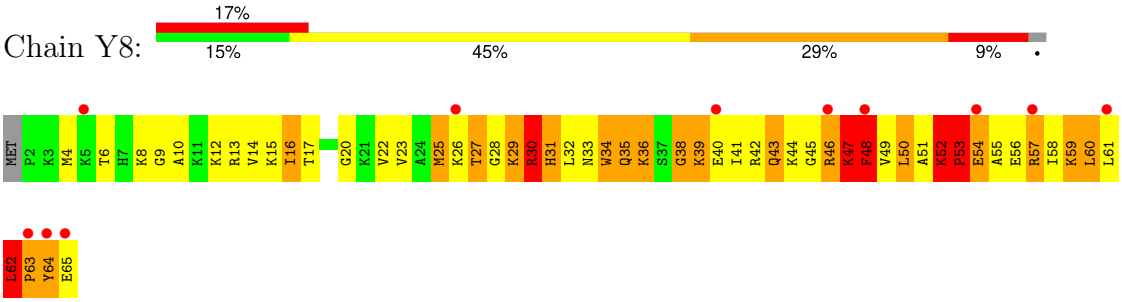
• Molecule 54: 50S ribosomal protein L35

Chain R8:



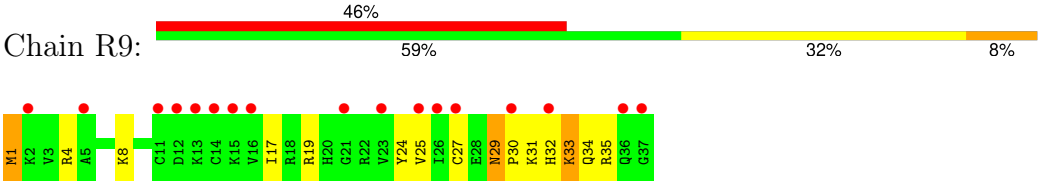
• Molecule 54: 50S ribosomal protein L35

Chain Y8:



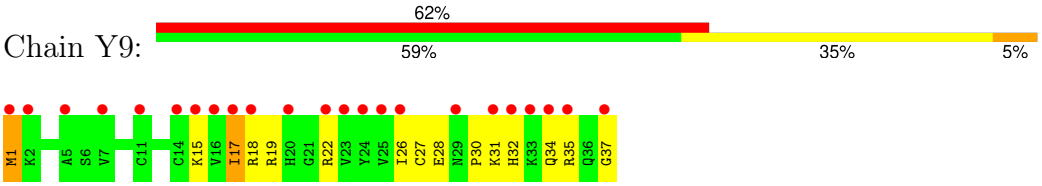
• Molecule 55: 50S ribosomal protein L36

Chain R9:



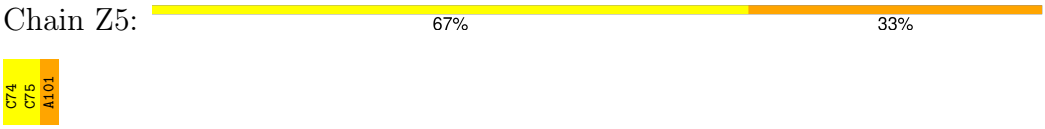
• Molecule 55: 50S ribosomal protein L36

Chain Y9:



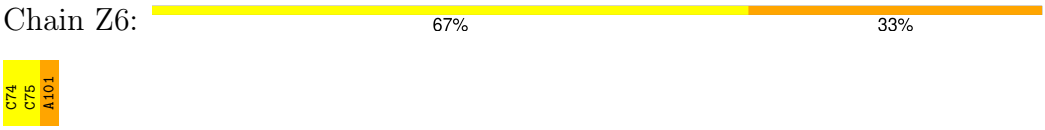
• Molecule 56: CC-Puro

Chain Z5:



• Molecule 56: CC-Puro

Chain Z6:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	208.99Å 444.57Å 616.42Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	69.39 – 3.60 69.39 – 3.60	Depositor EDS
% Data completeness (in resolution range)	96.9 (69.39-3.60) 96.9 (69.39-3.60)	Depositor EDS
R_{merge}	0.19	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.40 (at 3.41Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.2_1309)	Depositor
R, R_{free}	0.217 , 0.259 0.218 , 0.259	Depositor DCC
R_{free} test set	34831 reflections (4.60%)	wwPDB-VP
Wilson B-factor (Å^2)	87.0	Xtriage
Anisotropy	0.260	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.30 , 97.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.42$, $< L^2 > = 0.25$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.91	EDS
Total number of atoms	292320	wwPDB-VP
Average B, all atoms (Å^2)	101.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.66% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: PAR, ZN, PPU, MG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	QA	0.18	0/36098	0.38	1/56341 (0.0%)
1	XA	0.20	0/36101	0.39	4/56346 (0.0%)
2	QB	0.40	0/1959	0.87	4/2642 (0.2%)
2	XB	0.40	0/1959	0.89	4/2642 (0.2%)
3	QC	0.44	0/1629	0.87	1/2195 (0.0%)
3	XC	0.49	0/1629	0.85	1/2195 (0.0%)
4	QD	0.52	1/1733 (0.1%)	0.94	4/2318 (0.2%)
4	XD	0.51	0/1733	0.96	5/2318 (0.2%)
5	QE	0.50	0/1171	0.99	5/1576 (0.3%)
5	XE	0.60	1/1171 (0.1%)	0.96	4/1576 (0.3%)
6	QF	0.46	0/856	0.80	0/1154
6	XF	0.51	0/856	0.87	0/1154
7	QG	0.43	0/1276	0.85	0/1709
7	XG	0.46	0/1276	0.88	2/1709 (0.1%)
8	QH	0.44	0/1136	0.93	2/1527 (0.1%)
8	XH	0.47	0/1136	0.92	4/1527 (0.3%)
9	QI	0.42	0/1029	0.90	1/1379 (0.1%)
9	XI	0.43	0/1029	0.90	2/1379 (0.1%)
10	QJ	0.44	0/814	0.92	2/1095 (0.2%)
10	XJ	0.52	2/814 (0.2%)	1.03	6/1095 (0.5%)
11	QK	0.50	0/900	0.94	3/1213 (0.2%)
11	XK	0.52	0/900	0.93	0/1213
12	QL	0.59	1/991 (0.1%)	1.23	9/1327 (0.7%)
12	XL	0.60	0/991	1.29	13/1327 (1.0%)
13	QM	0.42	0/974	0.97	0/1303
13	XM	0.47	0/974	0.97	1/1303 (0.1%)
14	QN	0.49	0/501	0.96	1/664 (0.2%)
14	XN	0.57	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	0.48	0/721	0.94	2/970 (0.2%)
16	XP	0.48	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	2/1131 (0.2%)
17	XQ	0.43	0/847	0.83	0/1131
18	QR	0.44	0/579	0.89	0/768
18	XR	0.48	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	0.97	2/1007 (0.2%)
20	XT	0.44	0/765	0.98	4/1007 (0.4%)
21	QU	0.38	0/221	0.80	0/288
21	XU	0.37	0/221	0.82	0/288
22	QV	0.16	0/1836	0.31	0/2859
22	XV	0.18	0/1836	0.36	0/2859
23	QX	0.17	0/213	0.30	0/329
23	XX	0.49	0/238	0.62	0/368
24	QY	0.27	0/384	0.32	0/597
24	XY	0.27	0/384	0.48	0/597
25	RA	0.21	0/69521	0.40	2/108529 (0.0%)
25	YA	0.23	0/69521	0.42	3/108529 (0.0%)
26	RB	0.29	0/2878	0.51	0/4490
26	YB	0.35	0/2878	0.59	1/4490 (0.0%)
27	RD	0.64	0/2165	1.07	9/2919 (0.3%)
27	YD	0.72	1/2165 (0.0%)	1.29	30/2919 (1.0%)
28	RE	0.62	0/1601	1.35	29/2160 (1.3%)
28	YE	0.63	0/1601	1.35	29/2160 (1.3%)
29	RF	0.58	1/1620 (0.1%)	1.05	8/2194 (0.4%)
29	YF	0.62	0/1620	1.19	19/2194 (0.9%)
30	RG	0.41	0/1499	0.91	0/2016
30	YG	0.51	0/1499	0.91	2/2016 (0.1%)
31	RH	0.58	0/1332	1.22	14/1802 (0.8%)
31	YH	0.58	0/1332	1.22	15/1802 (0.8%)
32	RI	0.56	2/1151 (0.2%)	1.01	4/1558 (0.3%)
32	YI	0.57	1/1151 (0.1%)	0.98	5/1558 (0.3%)
33	RN	0.52	0/1131	1.01	2/1525 (0.1%)
33	YN	0.58	0/1131	1.00	3/1525 (0.2%)
34	RO	0.55	0/943	0.98	3/1269 (0.2%)
34	YO	0.60	0/943	0.97	0/1269
35	RP	0.57	0/1162	1.16	8/1544 (0.5%)
35	YP	0.74	0/1162	1.25	6/1544 (0.4%)
36	RQ	0.71	0/1143	1.36	19/1527 (1.2%)
36	YQ	0.71	0/1143	1.32	19/1527 (1.2%)
37	RR	0.55	0/982	0.99	1/1312 (0.1%)
37	YR	0.56	0/982	1.04	3/1312 (0.2%)
38	RS	0.43	0/892	0.88	0/1187

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
38	YS	0.53	0/892	1.14	7/1187 (0.6%)
39	RT	0.53	0/1155	0.98	3/1542 (0.2%)
39	YT	0.57	0/1155	1.04	7/1542 (0.5%)
40	RU	0.53	0/982	1.04	6/1306 (0.5%)
40	YU	0.65	0/982	1.07	2/1306 (0.2%)
41	RV	0.47	0/790	0.97	4/1057 (0.4%)
41	YV	0.58	0/790	1.00	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	0.95	4/993 (0.4%)
43	YX	0.60	0/739	1.00	1/993 (0.1%)
44	RY	0.54	0/798	1.07	6/1064 (0.6%)
44	YY	0.60	0/798	1.09	5/1064 (0.5%)
45	RZ	0.40	0/1493	0.88	8/2026 (0.4%)
45	YZ	0.39	0/1493	0.93	4/2026 (0.2%)
46	R0	0.55	0/657	0.99	3/874 (0.3%)
46	Y0	0.61	0/656	0.98	1/872 (0.1%)
47	R1	0.56	0/770	0.97	0/1022
47	Y1	0.58	0/770	0.95	1/1022 (0.1%)
48	R2	0.48	0/583	0.99	2/771 (0.3%)
48	Y2	0.60	0/583	1.32	8/771 (1.0%)
49	R3	0.46	0/474	0.91	0/635
49	Y3	0.53	0/474	0.86	0/635
50	R4	0.47	0/594	1.24	10/795 (1.3%)
50	Y4	0.48	0/594	1.16	6/795 (0.8%)
51	R5	0.65	0/473	1.22	6/639 (0.9%)
51	Y5	0.68	0/468	1.15	4/632 (0.6%)
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	0.79	0/525	1.40	9/691 (1.3%)
54	Y8	0.79	0/525	1.39	9/691 (1.3%)
55	R9	0.35	0/310	0.81	0/407
55	Y9	0.46	0/310	0.81	0/407
56	Z5	0.46	0/40	0.62	0/60
56	Z6	0.45	0/40	0.62	0/60
All	All	0.35	10/316522 (0.0%)	0.64	464/473223 (0.1%)

All (10) bond length outliers are listed below:

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	XE	101	ILE	C-N	9.71	1.47	1.33
32	YI	53	ALA	C-N	7.67	1.44	1.33
29	RF	199	TRP	CA-C	6.71	1.61	1.52
32	RI	53	ALA	C-N	6.42	1.42	1.33
32	RI	145	VAL	C-N	-6.27	1.24	1.33
12	QL	48	PRO	N-CD	5.44	1.55	1.47
10	XJ	53	PRO	N-CD	5.23	1.55	1.47
10	XJ	52	GLY	C-N	5.11	1.41	1.34
4	QD	29	PRO	N-CD	5.06	1.54	1.47
27	YD	241	PRO	N-CD	5.00	1.54	1.47

All (464) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
50	R4	39	CYS	N-CA-C	-13.56	95.99	112.54
29	RF	197	ASP	N-CA-C	12.49	124.63	111.14
28	RE	58	ARG	N-CA-C	-11.79	95.26	113.89
28	YE	58	ARG	N-CA-C	-11.78	95.27	113.89
48	Y2	5	GLU	N-CA-C	-11.57	99.65	113.88
35	YP	59	LEU	N-CA-C	-10.60	99.88	112.92
36	RQ	89	ASN	N-CA-C	-10.42	100.36	112.87
12	XL	119	LYS	N-CA-C	-10.39	95.14	110.52
35	YP	64	LYS	N-CA-C	-10.33	100.98	114.31
12	QL	119	LYS	N-CA-C	-10.33	95.23	110.52
36	YQ	89	ASN	N-CA-C	-10.31	100.50	112.87
28	YE	21	VAL	C-N-CD	-10.10	98.37	120.60
28	RE	21	VAL	C-N-CD	-10.10	98.39	120.60
36	YQ	81	VAL	CB-CA-C	-10.05	94.81	111.29
36	YQ	81	VAL	N-CA-C	9.96	130.06	109.34
36	RQ	81	VAL	CB-CA-C	-9.91	95.03	111.29
36	RQ	81	VAL	N-CA-C	9.89	129.91	109.34
29	RF	199	TRP	N-CA-C	-9.85	100.39	111.71
33	RN	114	ARG	N-CA-C	-9.73	97.97	110.53
35	RP	59	LEU	N-CA-C	-9.60	100.88	112.59
50	Y4	39	CYS	N-CA-C	-9.40	101.36	112.92
29	YF	197	ASP	N-CA-C	-9.27	98.69	110.19
12	QL	26	ALA	N-CA-C	-9.24	102.58	113.21
12	XL	26	ALA	N-CA-C	-9.21	102.62	113.21
50	R4	45	GLY	N-CA-C	-9.12	102.73	115.32
19	QS	6	LYS	N-CA-C	-9.07	102.61	114.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	XL	47	LYS	C-N-CD	9.04	140.48	120.60
35	RP	25	SER	N-CA-C	-9.00	101.24	113.30
40	YU	96	ALA	N-CA-C	-8.99	98.97	112.54
27	YD	91	ARG	N-CA-C	-8.75	98.74	110.55
36	RQ	125	LEU	CA-C-N	8.69	130.71	119.84
36	RQ	125	LEU	C-N-CA	8.69	130.71	119.84
54	Y8	36	LYS	N-CA-C	-8.69	96.67	110.14
36	YQ	125	LEU	CA-C-N	8.66	130.66	119.84
36	YQ	125	LEU	C-N-CA	8.66	130.66	119.84
54	R8	36	LYS	N-CA-C	-8.60	96.82	110.14
28	RE	23	VAL	N-CA-C	8.44	120.95	108.96
14	QN	26	ARG	N-CA-C	8.43	120.24	111.14
28	YE	23	VAL	N-CA-C	8.41	120.91	108.96
35	RP	22	GLY	N-CA-C	8.31	122.29	112.23
29	YF	75	HIS	N-CA-C	8.25	122.31	109.52
27	YD	193	VAL	N-CA-C	8.25	120.22	109.58
1	XA	266	G	C3'-C2'-O2'	8.19	122.98	110.70
19	QS	8	GLY	N-CA-C	8.14	119.68	111.21
31	YH	19	VAL	N-CA-C	8.11	117.96	106.53
12	QL	47	LYS	C-N-CD	8.07	138.37	120.60
7	XG	114	ARG	N-CA-C	8.05	120.14	111.36
29	YF	65	TRP	CA-C-N	8.05	129.90	119.84
29	YF	65	TRP	C-N-CA	8.05	129.90	119.84
31	RH	19	VAL	N-CA-C	8.03	117.85	106.53
50	R4	63	TYR	N-CA-C	-7.98	102.80	112.54
54	Y8	45	GLY	N-CA-C	-7.98	101.79	112.81
54	R8	45	GLY	N-CA-C	-7.92	101.89	112.81
50	Y4	63	TYR	N-CA-C	-7.91	103.77	113.50
36	YQ	5	ARG	N-CA-C	-7.75	96.93	109.96
51	R5	6	VAL	CA-C-N	7.74	128.95	119.98
51	R5	6	VAL	C-N-CA	7.74	128.95	119.98
31	RH	100	GLY	N-CA-C	-7.73	99.73	111.24
31	YH	100	GLY	N-CA-C	-7.72	99.74	111.24
11	QK	40	ILE	N-CA-C	-7.71	105.66	111.90
36	RQ	5	ARG	N-CA-C	-7.68	97.05	109.96
37	YR	9	LYS	N-CA-C	-7.66	98.15	110.32
48	Y2	14	ARG	N-CA-C	-7.62	99.99	110.35
4	QD	22	LYS	N-CA-C	7.59	119.19	111.07
54	R8	38	GLY	N-CA-C	-7.59	103.20	113.37
27	YD	251	GLY	N-CA-C	7.59	126.72	115.64
54	Y8	38	GLY	N-CA-C	-7.59	103.20	113.37
31	YH	157	TYR	N-CA-C	-7.59	103.09	112.88

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	Y7	6	GLN	CA-C-N	7.56	127.60	119.89
53	Y7	6	GLN	C-N-CA	7.56	127.60	119.89
28	RE	185	LYS	N-CA-C	7.55	119.89	109.54
31	RH	157	TYR	N-CA-C	-7.55	103.14	112.88
48	Y2	21	LEU	N-CA-C	-7.52	103.02	111.07
12	XL	58	VAL	N-CA-C	7.51	118.88	107.77
5	XE	101	ILE	O-C-N	7.50	131.95	122.57
27	YD	43	ARG	N-CA-C	7.50	122.07	113.15
48	Y2	41	ILE	N-CA-C	-7.49	103.25	112.76
12	QL	58	VAL	N-CA-C	7.49	118.85	107.77
35	RP	60	MET	N-CA-C	-7.47	103.15	111.82
4	XD	31	CYS	N-CA-C	-7.46	104.22	112.72
31	RH	117	PRO	N-CA-C	7.44	119.78	110.70
28	YE	185	LYS	N-CA-C	7.44	119.73	109.54
27	RD	244	ARG	CA-C-N	-7.44	112.72	120.38
27	RD	244	ARG	C-N-CA	-7.44	112.72	120.38
31	YH	117	PRO	N-CA-C	7.39	119.72	110.70
12	QL	44	THR	CA-C-N	7.35	129.03	119.84
12	QL	44	THR	C-N-CA	7.35	129.03	119.84
12	XL	9	GLN	O-C-N	7.35	130.56	122.11
12	XL	44	THR	CA-C-N	7.33	129.00	119.84
12	XL	44	THR	C-N-CA	7.33	129.00	119.84
54	R8	54	GLU	N-CA-C	-7.30	102.50	111.33
32	YI	133	HIS	CA-C-N	-7.29	112.25	119.76
32	YI	133	HIS	C-N-CA	-7.29	112.25	119.76
31	RH	139	GLN	N-CA-C	-7.28	103.34	111.28
32	RI	135	GLU	N-CA-C	7.26	117.85	108.34
54	Y8	54	GLU	N-CA-C	-7.22	102.59	111.33
48	Y2	16	LEU	N-CA-C	-7.22	95.42	110.80
27	YD	53	PHE	N-CA-C	7.15	121.59	112.86
31	YH	139	GLN	N-CA-C	-7.14	103.49	111.28
53	R7	6	GLN	CA-C-N	7.13	127.17	119.90
53	R7	6	GLN	C-N-CA	7.13	127.17	119.90
27	RD	272	ALA	N-CA-C	7.13	118.06	108.23
28	RE	168	MET	N-CA-C	7.11	121.10	109.94
28	YE	168	MET	N-CA-C	7.11	121.10	109.94
29	YF	203	GLN	N-CA-C	-7.04	103.29	110.97
34	RO	100	GLY	CA-C-N	7.02	126.98	120.03
34	RO	100	GLY	C-N-CA	7.02	126.98	120.03
33	RN	85	ILE	N-CA-C	7.01	115.72	107.73
28	YE	188	VAL	CA-C-N	6.99	128.58	119.84
28	YE	188	VAL	C-N-CA	6.99	128.58	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
45	YZ	158	PRO	CA-C-N	6.96	128.54	119.84
45	YZ	158	PRO	C-N-CA	6.96	128.54	119.84
35	YP	25	SER	N-CA-C	-6.95	96.00	110.80
16	XP	20	VAL	N-CA-C	6.94	118.35	108.42
28	RE	188	VAL	CA-C-N	6.92	128.49	119.84
28	RE	188	VAL	C-N-CA	6.92	128.49	119.84
11	QK	102	GLY	N-CA-C	-6.92	96.79	113.18
50	Y4	59	PHE	N-CA-C	-6.91	103.49	112.68
36	YQ	116	GLU	N-CA-C	-6.88	103.23	111.69
36	YQ	10	ARG	N-CA-C	-6.85	99.14	110.17
36	RQ	10	ARG	N-CA-C	-6.83	99.17	110.17
29	YF	24	LEU	CA-C-N	6.81	128.35	119.84
29	YF	24	LEU	C-N-CA	6.81	128.35	119.84
40	RU	76	TYR	N-CA-C	-6.80	103.95	111.36
36	RQ	116	GLU	N-CA-C	-6.80	103.33	111.69
40	RU	96	ALA	N-CA-C	-6.77	103.32	112.26
36	YQ	46	GLN	N-CA-C	-6.72	105.08	113.55
1	XA	255	G	C2'-C3'-O3'	-6.72	103.62	113.70
5	QE	23	GLY	N-CA-C	6.70	120.48	110.97
27	YD	198	ASN	N-CA-C	-6.70	102.24	111.28
20	QT	12	ALA	N-CA-C	-6.69	102.44	112.54
46	R0	17	GLN	N-CA-C	6.69	119.80	108.90
27	YD	223	GLY	N-CA-C	-6.68	104.41	112.49
36	RQ	46	GLN	N-CA-C	-6.66	105.16	113.55
2	QB	166	ASP	CA-C-N	6.65	126.27	119.56
2	QB	166	ASP	C-N-CA	6.65	126.27	119.56
38	YS	15	ARG	N-CA-C	-6.60	103.57	111.69
20	XT	12	ALA	N-CA-C	-6.60	104.85	113.17
40	RU	97	ASP	N-CA-C	-6.60	103.75	112.72
36	RQ	82	ARG	N-CA-C	6.58	123.91	114.16
28	YE	95	ILE	N-CA-C	-6.58	104.44	113.00
28	RE	95	ILE	N-CA-C	-6.58	104.45	113.00
27	YD	14	ARG	N-CA-C	-6.58	104.30	112.72
36	YQ	65	PHE	N-CA-C	6.57	121.83	113.55
50	Y4	40	HIS	CA-C-N	-6.54	113.05	119.78
50	Y4	40	HIS	C-N-CA	-6.54	113.05	119.78
51	Y5	46	CYS	CA-C-N	6.52	127.98	119.84
51	Y5	46	CYS	C-N-CA	6.52	127.98	119.84
36	YQ	82	ARG	N-CA-C	6.51	123.80	114.16
36	RQ	65	PHE	N-CA-C	6.51	121.75	113.55
50	Y4	45	GLY	N-CA-C	-6.50	106.27	115.30
28	YE	125	GLY	CA-C-N	6.49	127.95	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
28	YE	125	GLY	C-N-CA	6.49	127.95	119.84
31	YH	164	TYR	N-CA-C	-6.47	100.70	110.28
19	QS	67	VAL	N-CA-C	6.46	117.25	110.72
31	RH	164	TYR	N-CA-C	-6.46	100.72	110.28
40	YU	97	ASP	N-CA-C	-6.45	105.39	113.20
12	XL	47	LYS	CB-CA-C	6.44	118.55	108.63
28	RE	125	GLY	CA-C-N	6.44	127.89	119.84
28	RE	125	GLY	C-N-CA	6.44	127.89	119.84
45	RZ	157	LEU	CA-C-N	6.43	127.00	120.38
45	RZ	157	LEU	C-N-CA	6.43	127.00	120.38
54	Y8	48	PHE	N-CA-C	6.42	118.87	108.34
54	R8	50	LEU	N-CA-C	6.41	118.93	108.55
54	R8	48	PHE	N-CA-C	6.40	118.84	108.34
27	YD	83	GLU	N-CA-C	6.40	118.91	109.69
16	QP	71	ARG	N-CA-C	-6.40	104.39	111.36
39	YT	111	ARG	N-CA-C	-6.39	102.55	110.41
44	RY	65	ALA	CA-C-N	6.38	126.39	119.89
44	RY	65	ALA	C-N-CA	6.38	126.39	119.89
29	RF	75	HIS	N-CA-C	6.36	117.83	108.86
26	YB	66	A	C2'-C3'-O3'	6.36	119.04	109.50
54	R8	23	VAL	N-CA-C	6.32	117.13	107.77
35	YP	71	VAL	CA-C-N	-6.30	113.14	119.56
35	YP	71	VAL	C-N-CA	-6.30	113.14	119.56
52	R6	24	GLU	N-CA-C	6.29	116.31	108.19
54	Y8	50	LEU	N-CA-C	6.29	118.75	108.55
36	RQ	106	VAL	N-CA-C	6.27	116.17	108.53
54	Y8	23	VAL	N-CA-C	6.26	117.04	107.77
36	YQ	106	VAL	N-CA-C	6.25	116.16	108.53
40	RU	9	VAL	N-CA-C	6.24	116.41	110.42
27	YD	272	ALA	N-CA-C	6.23	124.08	110.80
12	XL	89	ARG	N-CA-C	6.21	118.54	110.53
50	R4	68	ARG	N-CA-C	6.20	124.01	110.80
32	RI	79	ILE	N-CA-C	6.20	114.71	107.77
27	YD	226	MET	N-CA-C	6.20	117.87	110.19
41	YV	35	LEU	CA-C-N	6.19	127.58	119.84
41	YV	35	LEU	C-N-CA	6.19	127.58	119.84
12	XL	47	LYS	N-CA-C	-6.19	101.55	110.40
43	YX	80	ILE	CB-CA-C	6.19	119.03	110.99
40	RU	92	ARG	N-CA-C	-6.18	104.33	112.24
2	XB	25	ASN	CA-C-N	6.18	127.56	119.84
2	XB	25	ASN	C-N-CA	6.18	127.56	119.84
27	YD	22	SER	N-CA-C	-6.15	103.90	111.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
27	YD	69	ARG	N-CA-C	6.14	120.78	113.28
31	YH	127	GLU	N-CA-C	-6.13	96.25	109.81
43	RX	31	HIS	CA-C-N	6.13	126.02	119.28
43	RX	31	HIS	C-N-CA	6.13	126.02	119.28
31	RH	127	GLU	N-CA-C	-6.12	96.29	109.81
36	YQ	96	VAL	N-CA-C	6.12	116.05	107.37
39	YT	57	PHE	N-CA-C	-6.11	102.89	110.41
40	RU	74	LEU	N-CA-C	6.11	116.31	108.24
46	R0	60	PHE	N-CA-C	6.10	118.46	109.24
12	QL	89	ARG	N-CA-C	6.09	118.39	110.53
39	YT	14	TYR	N-CA-C	-6.09	105.91	113.15
36	RQ	97	VAL	N-CA-C	6.08	117.06	108.36
32	RI	133	HIS	CA-C-N	-6.07	113.71	119.90
32	RI	133	HIS	C-N-CA	-6.07	113.71	119.90
52	R6	28	ARG	N-CA-C	6.07	118.41	109.24
28	YE	77	ILE	N-CA-C	-6.07	103.55	112.04
27	RD	49	ILE	N-CA-CB	6.06	117.13	110.53
27	YD	230	ASP	N-CA-C	6.06	119.92	111.56
27	YD	107	ALA	N-CA-C	6.05	118.38	109.42
48	Y2	45	SER	N-CA-C	6.05	118.26	109.07
41	RV	35	LEU	CA-C-N	6.03	127.38	119.84
41	RV	35	LEU	C-N-CA	6.03	127.38	119.84
36	RQ	96	VAL	N-CA-C	6.03	115.94	107.37
36	YQ	97	VAL	N-CA-C	6.02	116.97	108.36
28	RE	77	ILE	N-CA-C	-6.01	103.63	112.04
28	YE	18	ASP	N-CA-C	-6.00	98.95	109.02
30	YG	31	VAL	CA-C-N	5.99	127.33	119.84
30	YG	31	VAL	C-N-CA	5.99	127.33	119.84
27	YD	88	ARG	N-CA-C	5.99	117.34	108.60
50	R4	56	VAL	N-CA-C	-5.99	108.02	113.71
29	YF	183	VAL	N-CA-C	5.98	117.44	110.62
37	RR	9	LYS	N-CA-C	-5.97	100.81	109.59
38	YS	111	GLU	N-CA-C	-5.97	103.93	110.91
28	RE	18	ASP	N-CA-C	-5.97	99.00	109.02
54	R8	60	LEU	N-CA-C	-5.96	104.14	112.25
31	YH	4	ILE	N-CA-C	5.93	117.30	108.23
54	Y8	60	LEU	N-CA-C	-5.92	104.20	112.25
27	YD	106	ILE	N-CA-C	-5.90	101.93	109.30
27	YD	196	VAL	N-CA-C	5.89	120.38	111.89
5	QE	127	ASN	CA-C-N	5.89	126.03	119.32
5	QE	127	ASN	C-N-CA	5.89	126.03	119.32
31	RH	4	ILE	N-CA-C	5.89	117.24	108.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
51	R5	4	HIS	CA-C-N	-5.88	113.88	119.76
51	R5	4	HIS	C-N-CA	-5.88	113.88	119.76
31	RH	125	VAL	C-N-CD	-5.88	107.66	120.60
14	XN	13	THR	CA-C-N	5.88	127.19	119.84
14	XN	13	THR	C-N-CA	5.88	127.19	119.84
27	YD	200	ASP	N-CA-C	-5.88	105.60	112.89
31	YH	125	VAL	C-N-CD	-5.88	107.67	120.60
39	YT	89	VAL	N-CA-C	-5.88	107.02	113.43
36	RQ	81	VAL	CA-C-N	-5.87	111.13	120.70
36	RQ	81	VAL	C-N-CA	-5.87	111.13	120.70
44	YY	11	ASP	N-CA-C	5.87	117.87	110.24
39	RT	19	LEU	CA-C-N	5.86	125.77	119.85
39	RT	19	LEU	C-N-CA	5.86	125.77	119.85
4	QD	28	SER	CA-C-N	-5.86	112.52	119.84
4	QD	28	SER	C-N-CA	-5.86	112.52	119.84
3	QC	161	GLU	N-CA-C	5.86	117.47	111.14
19	XS	41	VAL	CA-C-N	5.85	141.04	127.00
19	XS	41	VAL	C-N-CA	5.85	141.04	127.00
44	YY	89	PHE	N-CA-C	-5.84	104.32	113.02
51	Y5	58	LEU	N-CA-C	5.84	118.69	110.23
29	YF	151	SER	N-CA-C	-5.83	106.14	113.20
28	RE	118	LYS	N-CA-C	-5.83	98.39	110.80
36	YQ	81	VAL	CA-C-N	-5.82	111.22	120.70
36	YQ	81	VAL	C-N-CA	-5.82	111.22	120.70
27	RD	13	ARG	N-CA-C	-5.81	106.23	113.38
31	RH	161	GLY	N-CA-C	5.80	118.30	111.63
41	RV	49	THR	CA-C-N	-5.80	112.59	119.84
41	RV	49	THR	C-N-CA	-5.80	112.59	119.84
38	YS	12	PHE	N-CA-C	-5.80	98.45	110.80
11	QK	98	LEU	N-CA-C	5.79	117.40	111.14
28	YE	118	LYS	N-CA-C	-5.79	98.47	110.80
29	YF	85	GLY	N-CA-C	-5.79	107.67	115.36
4	XD	39	PRO	CA-C-N	5.77	125.74	120.03
4	XD	39	PRO	C-N-CA	5.77	125.74	120.03
12	XL	48	PRO	CA-N-CD	-5.77	103.43	111.50
45	RZ	178	GLU	N-CA-C	5.72	115.66	108.45
31	YH	161	GLY	N-CA-C	5.72	118.21	111.63
8	XH	26	VAL	CA-C-N	5.72	126.98	119.84
8	XH	26	VAL	C-N-CA	5.72	126.98	119.84
50	R4	67	TYR	N-CA-C	5.71	118.53	109.50
27	RD	44	ASN	N-CA-C	5.71	116.81	108.14
10	XJ	75	ILE	N-CA-C	5.70	115.89	110.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
28	YE	159	HIS	N-CA-C	-5.70	101.96	110.23
28	RE	49	LEU	N-CA-C	5.68	119.73	112.12
29	RF	64	ILE	N-CA-C	5.68	115.87	110.53
28	YE	131	ALA	CB-CA-C	-5.66	110.06	116.63
38	YS	6	ALA	N-CA-C	-5.66	105.20	111.71
12	XL	46	LYS	N-CA-C	-5.64	100.97	109.60
27	YD	11	PRO	N-CA-C	-5.64	102.15	111.11
43	RX	6	ASP	N-CA-C	-5.63	106.45	113.55
38	YS	72	ALA	N-CA-C	-5.63	105.06	111.14
51	Y5	27	PRO	O-C-N	5.63	123.90	121.31
28	RE	198	VAL	N-CA-C	5.62	116.22	107.28
33	YN	134	ARG	CA-C-N	-5.62	112.82	119.84
33	YN	134	ARG	C-N-CA	-5.62	112.82	119.84
28	RE	131	ALA	CB-CA-C	-5.61	110.12	116.63
28	YE	198	VAL	N-CA-C	5.61	116.20	107.28
52	Y6	24	GLU	N-CA-C	5.61	115.51	108.45
28	RE	159	HIS	N-CA-C	-5.60	102.11	110.23
28	YE	49	LEU	N-CA-C	5.60	119.63	112.12
28	RE	93	VAL	N-CA-C	-5.59	97.71	109.34
28	YE	93	VAL	N-CA-C	-5.59	97.71	109.34
27	YD	268	ARG	N-CA-C	5.59	119.60	112.34
28	YE	174	ASP	N-CA-C	5.59	115.62	108.24
10	QJ	52	GLY	CA-C-N	5.59	124.94	118.85
10	QJ	52	GLY	C-N-CA	5.59	124.94	118.85
36	YQ	21	THR	N-CA-C	5.58	122.69	110.80
25	RA	1176	U	C2'-C3'-O3'	5.58	117.87	109.50
32	YI	14	ASP	N-CA-C	5.57	117.58	108.55
38	YS	53	SER	N-CA-C	-5.57	106.65	113.50
29	YF	97	TYR	N-CA-C	5.57	119.55	112.87
29	RF	197	ASP	CB-CA-C	-5.56	102.12	110.90
27	YD	174	ILE	N-CA-C	5.56	116.88	109.37
8	XH	75	ARG	CA-C-N	5.55	126.78	119.84
8	XH	75	ARG	C-N-CA	5.55	126.78	119.84
9	XI	63	ILE	N-CA-C	5.55	116.05	107.78
27	YD	120	GLY	CA-C-N	5.55	125.39	119.28
27	YD	120	GLY	C-N-CA	5.55	125.39	119.28
46	Y0	55	ARG	N-CA-C	5.54	118.08	111.71
36	RQ	21	THR	N-CA-C	5.54	122.60	110.80
28	YE	87	GLU	N-CA-C	-5.53	103.84	111.81
36	YQ	26	TYR	N-CA-C	5.53	119.11	111.71
27	YD	146	GLU	N-CA-C	-5.52	101.86	110.42
50	R4	15	ILE	N-CA-C	5.52	118.06	108.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	XJ	55	LYS	CB-CA-C	-5.52	110.19	116.54
9	QI	86	VAL	N-CA-C	-5.51	107.37	112.83
46	R0	11	ARG	N-CA-C	-5.51	106.60	113.38
32	YI	60	GLU	N-CA-C	-5.49	106.26	113.12
18	XR	25	THR	N-CA-C	-5.48	106.59	113.72
28	RE	87	GLU	N-CA-C	-5.48	103.92	111.81
12	QL	46	LYS	N-CA-C	-5.48	101.22	109.60
14	XN	47	LEU	N-CA-C	5.47	117.25	111.28
12	XL	127	GLU	N-CA-C	-5.47	105.83	113.37
2	QB	25	ASN	CA-C-N	5.46	126.67	119.84
2	QB	25	ASN	C-N-CA	5.46	126.67	119.84
20	XT	50	GLU	N-CA-C	5.46	117.23	111.28
29	YF	46	ARG	N-CA-C	5.46	119.66	112.89
31	RH	38	SER	CA-C-N	5.45	125.12	119.56
31	RH	38	SER	C-N-CA	5.45	125.12	119.56
10	XJ	28	ARG	N-CA-C	-5.45	106.59	113.18
29	YF	78	ILE	CB-CA-C	-5.45	104.91	112.04
38	YS	101	LEU	N-CA-C	-5.45	104.99	111.69
25	RA	2014	G	C2'-C3'-O3'	5.44	117.66	109.50
36	RQ	26	TYR	N-CA-C	5.44	119.00	111.71
44	RY	76	CYS	CA-C-N	5.42	126.62	119.84
44	RY	76	CYS	C-N-CA	5.42	126.62	119.84
33	YN	24	GLY	N-CA-C	-5.42	106.10	113.37
19	XS	58	VAL	N-CA-C	5.42	113.80	107.89
27	YD	65	ILE	N-CA-C	5.41	115.94	110.05
28	RE	174	ASP	N-CA-C	5.40	115.37	108.24
12	QL	127	GLU	N-CA-C	-5.39	105.93	113.37
29	YF	169	ASN	N-CA-C	5.39	118.95	112.38
31	YH	38	SER	CA-C-N	5.37	125.03	119.56
31	YH	38	SER	C-N-CA	5.37	125.03	119.56
10	XJ	52	GLY	CA-C-N	-5.36	113.10	119.05
10	XJ	52	GLY	C-N-CA	-5.36	113.10	119.05
29	YF	199	TRP	N-CA-C	-5.36	105.38	112.34
39	YT	16	ARG	N-CA-C	-5.35	102.27	110.14
29	YF	10	PRO	N-CA-C	5.35	118.98	110.21
28	RE	2	LYS	N-CA-C	5.34	118.54	110.64
28	YE	2	LYS	N-CA-C	5.34	118.55	110.64
29	RF	196	LEU	N-CA-C	-5.33	105.47	111.28
34	RO	32	TYR	N-CA-C	5.32	117.28	109.24
35	RP	42	SER	N-CA-C	5.32	116.77	110.97
27	YD	240	ALA	CA-C-N	-5.31	113.20	119.84
27	YD	240	ALA	C-N-CA	-5.31	113.20	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
37	YR	58	GLY	N-CA-C	5.30	122.41	115.36
1	QA	1064	G	P-O3'-C3'	5.30	128.15	120.20
20	QT	33	ILE	CB-CA-C	-5.30	105.10	111.88
31	RH	28	GLY	CA-C-N	5.29	126.45	119.84
31	RH	28	GLY	C-N-CA	5.29	126.45	119.84
31	YH	28	GLY	CA-C-N	5.28	126.44	119.84
31	YH	28	GLY	C-N-CA	5.28	126.44	119.84
1	XA	266	G	C1'-C2'-O2'	-5.28	100.49	108.40
39	RT	13	ARG	N-CA-C	-5.26	106.45	112.92
27	RD	157	ARG	N-CA-C	-5.26	106.77	114.39
32	YI	135	GLU	N-CA-C	5.25	117.84	109.65
48	Y2	39	ALA	N-CA-C	-5.25	106.83	113.18
4	XD	31	CYS	CA-C-N	5.25	131.56	121.54
4	XD	31	CYS	C-N-CA	5.25	131.56	121.54
19	XS	41	VAL	C-N-CD	-5.24	109.08	120.60
25	YA	1992	G	C2'-C3'-O3'	5.23	117.34	109.50
28	YE	200	GLU	N-CA-C	-5.23	102.01	110.32
48	R2	5	GLU	N-CA-C	-5.23	105.64	112.23
28	YE	80	GLU	N-CA-C	-5.23	100.92	109.80
29	RF	198	ALA	CA-C-N	5.22	127.79	120.28
29	RF	198	ALA	C-N-CA	5.22	127.79	120.28
50	R4	18	CYS	CB-CA-C	-5.21	108.86	116.53
28	RE	200	GLU	N-CA-C	-5.21	102.03	110.32
25	YA	271(B)	G	P-O3'-C3'	5.21	125.96	119.70
28	RE	80	GLU	N-CA-C	-5.21	100.94	109.80
45	RZ	129	SER	CA-C-N	5.21	126.35	119.84
45	RZ	129	SER	C-N-CA	5.21	126.35	119.84
50	R4	12	ALA	N-CA-C	5.21	114.70	107.73
39	YT	13	ARG	N-CA-C	-5.21	99.71	110.80
28	YE	97	LYS	N-CA-C	-5.20	103.14	110.31
43	RX	5	TYR	N-CA-C	-5.19	107.11	112.93
37	YR	43	GLU	N-CA-C	-5.19	107.11	113.50
45	YZ	82	ARG	CA-C-N	5.18	125.43	119.83
45	YZ	82	ARG	C-N-CA	5.18	125.43	119.83
28	RE	46	ALA	N-CA-C	5.18	114.67	107.73
28	RE	97	LYS	N-CA-C	-5.18	103.16	110.31
44	RY	55	TYR	CA-C-N	5.17	126.31	119.84
44	RY	55	TYR	C-N-CA	5.17	126.31	119.84
28	YE	79	ARG	N-CA-C	5.17	121.81	110.80
36	RQ	90	VAL	N-CA-C	5.17	120.08	109.34
28	YE	80	GLU	CA-C-N	-5.16	117.69	123.16
28	YE	80	GLU	C-N-CA	-5.16	117.69	123.16

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
19	XS	34	TRP	N-CA-C	-5.16	107.02	113.72
28	RE	79	ARG	N-CA-C	5.16	121.78	110.80
28	YE	194	GLY	N-CA-C	-5.16	105.94	112.54
28	YE	46	ALA	N-CA-C	5.15	114.63	107.73
44	YY	60	PHE	N-CA-C	5.15	117.02	109.24
28	RE	194	GLY	N-CA-C	-5.14	105.96	112.54
45	RZ	100	VAL	CA-C-N	5.14	126.27	119.84
45	RZ	100	VAL	C-N-CA	5.14	126.27	119.84
8	QH	26	VAL	CA-C-N	5.14	126.26	119.84
8	QH	26	VAL	C-N-CA	5.14	126.26	119.84
54	R8	53	PRO	N-CA-C	-5.13	101.90	112.47
47	Y1	70	VAL	CB-CA-C	-5.12	105.41	111.97
36	YQ	90	VAL	N-CA-C	5.12	119.99	109.34
54	Y8	53	PRO	N-CA-C	-5.12	101.93	112.47
35	RP	26	GLY	N-CA-C	-5.12	101.12	112.17
50	R4	38	LYS	N-CA-C	-5.12	105.94	113.72
19	XS	36	ARG	N-CA-C	-5.12	107.07	113.72
5	QE	95	ALA	CA-C-N	5.11	126.23	119.84
5	QE	95	ALA	C-N-CA	5.11	126.23	119.84
7	XG	27	ILE	N-CA-C	-5.11	105.72	110.53
27	RD	256	GLY	N-CA-C	5.11	119.77	113.79
29	YF	80	ALA	CA-C-N	5.11	125.40	119.47
29	YF	80	ALA	C-N-CA	5.11	125.40	119.47
20	XT	33	ILE	CB-CA-C	-5.11	105.43	111.97
52	Y6	28	ARG	N-CA-C	5.10	117.14	109.23
35	YP	95	VAL	N-CA-C	5.10	119.95	109.34
31	YH	92	ILE	N-CA-C	5.09	119.94	109.34
10	XJ	58	ASP	N-CA-C	-5.09	102.11	109.59
51	R5	41	PRO	CA-C-N	5.09	126.20	119.84
51	R5	41	PRO	C-N-CA	5.09	126.20	119.84
5	XE	148	VAL	N-CA-C	5.09	115.24	110.30
28	RE	80	GLU	CA-C-N	-5.09	117.77	123.16
28	RE	80	GLU	C-N-CA	-5.09	117.77	123.16
48	R2	46	GLN	N-CA-C	5.09	119.48	113.28
5	XE	127	ASN	CA-C-N	5.08	125.11	119.32
5	XE	127	ASN	C-N-CA	5.08	125.11	119.32
39	YT	108	ARG	N-CA-C	-5.08	107.21	113.41
2	XB	166	ASP	CA-C-N	5.07	124.79	119.82
2	XB	166	ASP	C-N-CA	5.07	124.79	119.82
13	XM	117	VAL	N-CA-C	5.07	117.03	108.81
44	YY	76	CYS	CA-C-N	5.07	126.17	119.84
44	YY	76	CYS	C-N-CA	5.07	126.17	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	Y2	56	GLN	N-CA-C	-5.06	105.76	111.28
53	Y7	30	VAL	CB-CA-C	-5.06	105.41	111.88
35	RP	71	VAL	CA-C-N	-5.05	113.83	119.19
35	RP	71	VAL	C-N-CA	-5.05	113.83	119.19
29	YF	205	ARG	N-CA-C	-5.05	105.47	110.97
16	QP	39	TYR	N-CA-C	5.05	116.26	107.93
27	YD	243	GLY	N-CA-C	-5.05	107.83	114.95
20	XT	9	ASN	N-CA-C	5.04	117.94	110.48
1	XA	812	C	P-O3'-C3'	5.03	127.75	120.20
9	XI	42	ARG	N-CA-C	-5.03	108.17	114.56
25	YA	1694	C	P-O3'-C3'	5.03	127.74	120.20
4	QD	12	CYS	CA-CB-SG	5.03	125.96	114.40
17	QQ	63	ARG	CA-C-N	5.02	125.30	119.93
17	QQ	63	ARG	C-N-CA	5.02	125.30	119.93
45	RZ	5	LEU	O-C-N	5.02	124.54	120.83
27	RD	196	VAL	N-CA-C	5.01	115.25	110.53
27	YD	7	LYS	N-CA-C	-5.01	102.92	110.24
3	XC	4	LYS	N-CA-C	5.01	121.47	110.80

There are no chirality outliers.

There are no planarity outliers.

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	547	0
1	XA	32249	0	16279	560	0
2	QB	1924	0	1975	67	0
2	XB	1924	0	1975	95	0
3	QC	1605	0	1668	52	0
3	XC	1605	0	1668	63	0
4	QD	1703	0	1765	108	0
4	XD	1703	0	1762	51	0
5	QE	1155	0	1213	49	0
5	XE	1155	0	1213	52	0
6	QF	843	0	857	18	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	XF	843	0	857	34	0
7	QG	1257	0	1296	39	0
7	XG	1257	0	1296	26	0
8	QH	1116	0	1177	43	0
8	XH	1116	0	1177	32	0
9	QI	1010	0	1037	49	0
9	XI	1010	0	1037	50	0
10	QJ	801	0	849	53	0
10	XJ	801	0	849	61	0
11	QK	885	0	904	35	0
11	XK	885	0	904	29	0
12	QL	975	0	1062	104	0
12	XL	975	0	1062	98	0
13	QM	964	0	1034	68	0
13	XM	964	0	1034	48	0
14	QN	492	0	529	32	0
14	XN	492	0	529	20	0
15	QO	734	0	771	19	0
15	XO	734	0	771	18	0
16	QP	705	0	725	17	0
16	XP	705	0	725	24	0
17	QQ	834	0	904	25	0
17	XQ	834	0	904	17	0
18	QR	574	0	644	11	0
18	XR	574	0	644	24	0
19	QS	674	0	699	96	0
19	XS	674	0	699	43	0
20	QT	763	0	861	32	0
20	XT	763	0	861	69	0
21	QU	217	0	234	13	0
21	XU	217	0	234	5	0
22	QV	1644	0	835	21	0
22	XV	1644	0	836	18	0
23	QX	191	0	99	1	0
23	XX	213	0	110	3	0
24	QY	344	0	173	3	0
24	XY	344	0	173	14	0
25	RA	62071	0	31290	1025	0
25	YA	62071	0	31290	990	0
26	RB	2573	0	1306	58	0
26	YB	2573	0	1306	78	0
27	RD	2115	0	2195	108	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
27	YD	2115	0	2195	330	0
28	RE	1568	0	1634	296	0
28	YE	1568	0	1634	288	0
29	RF	1585	0	1632	83	0
29	YF	1585	0	1632	197	0
30	RG	1474	0	1535	112	0
30	YG	1474	0	1535	73	0
31	RH	1307	0	1382	233	0
31	YH	1307	0	1382	233	0
32	RI	1136	0	1223	108	0
32	YI	1136	0	1223	70	0
33	RN	1104	0	1180	51	0
33	YN	1104	0	1180	56	0
34	RO	933	0	996	29	0
34	YO	933	0	996	28	0
35	RP	1145	0	1228	118	0
35	YP	1145	0	1227	117	0
36	RQ	1122	0	1179	173	0
36	YQ	1122	0	1179	184	0
37	RR	968	0	1033	52	0
37	YR	968	0	1033	43	0
38	RS	882	0	943	53	0
38	YS	882	0	943	168	0
39	RT	1141	0	1202	72	0
39	YT	1141	0	1202	58	0
40	RU	964	0	1022	37	0
40	YU	964	0	1021	61	0
41	RV	779	0	852	26	0
41	YV	779	0	852	47	0
42	RW	900	0	964	29	0
42	YW	900	0	964	28	0
43	RX	725	0	778	34	0
43	YX	725	0	778	27	0
44	RY	785	0	878	53	0
44	YY	785	0	878	41	0
45	RZ	1461	0	1493	44	0
45	YZ	1461	0	1493	65	0
46	R0	648	0	672	28	0
46	Y0	647	0	668	41	0
47	R1	763	0	848	33	0
47	Y1	763	0	848	37	0
48	R2	581	0	629	24	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
48	Y2	581	0	629	77	0
49	R3	469	0	518	6	0
49	Y3	469	0	518	16	0
50	R4	581	0	575	235	0
50	Y4	581	0	577	66	0
51	R5	459	0	480	79	0
51	Y5	454	0	475	40	0
52	R6	424	0	450	41	0
52	Y6	424	0	450	38	0
53	R7	430	0	480	20	0
53	Y7	430	0	480	23	0
54	R8	517	0	582	133	0
54	Y8	517	0	582	108	0
55	R9	307	0	338	13	0
55	Y9	307	0	338	19	0
56	Z5	74	0	51	13	0
56	Z6	74	0	51	8	0
57	QA	80	0	0	0	0
57	QE	1	0	0	0	0
57	QF	1	0	0	0	0
57	QM	1	0	0	0	0
57	QV	2	0	0	0	0
57	QX	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	326	0	0	0	0
57	RB	5	0	0	0	0
57	RE	2	0	0	0	0
57	RF	1	0	0	0	0
57	RP	1	0	0	0	0
57	RR	1	0	0	0	0
57	XA	110	0	0	0	0
57	XB	1	0	0	0	0
57	XD	1	0	0	0	0
57	XF	1	0	0	0	0
57	XV	2	0	0	0	0
57	XX	1	0	0	0	0
57	Y0	3	0	0	0	0
57	Y1	1	0	0	0	0
57	Y3	1	0	0	0	0
57	Y5	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	Y7	1	0	0	0	0
57	YA	356	0	0	0	0
57	YB	4	0	0	0	0
57	YD	1	0	0	0	0
57	YE	2	0	0	0	0
57	YP	3	0	0	0	0
57	YQ	1	0	0	0	0
57	YU	1	0	0	0	0
57	YY	1	0	0	0	0
58	QA	42	0	45	4	0
58	XA	42	0	45	2	0
59	QD	1	0	0	0	0
59	QN	1	0	0	0	0
59	XD	1	0	0	0	0
59	XN	1	0	0	0	0
All	All	292320	0	198405	8613	0

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 18.

All (8613) 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)
31:RH:127:GLU:CG	31:RH:128:PRO:HD3	1.35	1.53
31:YH:127:GLU:CG	31:YH:128:PRO:HD3	1.36	1.52
32:RI:144:VAL:O	32:RI:145:VAL:HG12	1.22	1.36
4:QD:9:CYS:SG	4:QD:22:LYS:CE	2.22	1.28
32:YI:144:VAL:O	32:YI:145:VAL:HG22	1.22	1.28
28:RE:14:ILE:HD11	39:RT:14:TYR:OH	1.32	1.26
35:RP:64:LYS:HG3	54:R8:25:MET:SD	1.74	1.26
51:Y5:49:CYS:SG	51:Y5:60:VAL:HG12	1.75	1.26
36:RQ:59:ARG:O	36:RQ:60:ARG:HD2	1.38	1.22
35:RP:64:LYS:CB	54:R8:25:MET:HG3	1.69	1.21
31:YH:127:GLU:HG2	31:YH:128:PRO:CD	1.70	1.21
31:YH:127:GLU:CB	31:YH:128:PRO:HD3	1.69	1.21
31:RH:127:GLU:HG2	31:RH:128:PRO:CD	1.69	1.20
30:RG:112:PRO:HB3	50:R4:37:SER:CB	1.71	1.20
35:RP:64:LYS:HB2	54:R8:25:MET:CG	1.70	1.20
31:RH:127:GLU:CB	31:RH:128:PRO:HD3	1.69	1.19
25:YA:67:U:N3	25:YA:74:A:H2	1.39	1.18
30:RG:67:LYS:HE2	50:R4:6:HIS:CE1	1.76	1.18

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2012:C:H2'	25:RA:2013:U:C6	1.78	1.18
32:YI:82:ARG:HD3	32:YI:146:ALA:HB3	1.17	1.17
31:RH:132:ARG:HH11	31:RH:132:ARG:HB2	1.10	1.15
4:QD:31:CYS:HB3	4:QD:33:MET:N	1.63	1.14
35:RP:64:LYS:HG3	54:R8:25:MET:CE	1.78	1.14
13:QM:3:ARG:NH2	30:RG:113:ARG:HH21	1.48	1.11
32:RI:57:ARG:HD3	32:RI:61:ARG:HH11	1.14	1.11
28:YE:179:GLU:HB3	28:YE:181:LEU:HD23	1.31	1.11
35:RP:62:LEU:CD2	54:R8:25:MET:HB2	1.80	1.11
31:YH:132:ARG:HB2	31:YH:132:ARG:HH11	1.10	1.11
35:RP:64:LYS:CB	54:R8:25:MET:CG	2.27	1.11
20:XT:26:ASN:HB2	20:XT:71:THR:CG2	1.80	1.11
27:YD:44:ASN:HB2	27:YD:48:ARG:O	1.50	1.11
28:RE:179:GLU:HB3	28:RE:181:LEU:HD23	1.32	1.10
29:YF:101:LEU:HD12	29:YF:102:PRO:HD2	1.21	1.10
31:RH:86:GLU:HG3	31:RH:165:ALA:H	1.06	1.10
28:YE:50:GLY:HA2	28:YE:77:ILE:HA	1.31	1.10
45:YZ:182:LYS:HG3	45:YZ:183:LEU:HA	1.21	1.10
35:RP:61:ARG:HG3	54:R8:13:ARG:HD3	1.34	1.10
30:RG:112:PRO:CB	50:R4:37:SER:HB2	1.83	1.09
4:QD:197:PRO:HD3	6:XF:16:GLN:NE2	1.65	1.09
31:YH:152:ARG:HG3	31:YH:153:LYS:HE2	1.33	1.08
27:YD:131:LEU:HB2	27:YD:136:ILE:HD11	1.36	1.08
31:RH:152:ARG:HG3	31:RH:153:LYS:HE2	1.33	1.07
1:XA:838:G:H1	1:XA:848:C:N4	1.52	1.07
20:XT:26:ASN:HB2	20:XT:71:THR:HG23	1.25	1.07
31:YH:86:GLU:HG3	31:YH:165:ALA:H	1.05	1.07
28:RE:50:GLY:HA2	28:RE:77:ILE:HA	1.31	1.07
35:YP:19:VAL:HG13	35:YP:21:ARG:H	1.13	1.07
28:RE:63:LEU:HD12	28:RE:64:LYS:H	1.18	1.06
28:RE:21:VAL:HB	28:RE:22:PRO:HB3	1.37	1.06
50:R4:71:ARG:HH11	50:R4:71:ARG:HG3	1.13	1.06
31:YH:153:LYS:HB3	31:YH:154:PRO:HD2	1.07	1.06
54:Y8:52:LYS:H	54:Y8:53:PRO:CD	1.69	1.06
19:QS:68:GLY:HA3	50:R4:68:ARG:HB2	1.35	1.06
30:RG:67:LYS:HE2	50:R4:6:HIS:NE2	1.71	1.06
28:YE:21:VAL:HB	28:YE:22:PRO:HB3	1.37	1.05
28:YE:63:LEU:HD12	28:YE:64:LYS:H	1.18	1.05
35:RP:61:ARG:HG3	54:R8:13:ARG:CD	1.86	1.05
31:RH:127:GLU:CB	31:RH:128:PRO:CD	2.35	1.05
36:RQ:59:ARG:O	36:RQ:60:ARG:CD	2.05	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:67:U:N3	25:YA:74:A:C2	2.19	1.04
53:Y7:9:ARG:NH2	53:Y7:48:LYS:HB2	1.72	1.04
5:QE:101:ILE:HD11	5:QE:119:LEU:HD23	1.36	1.04
30:RG:179:PRO:HG3	50:R4:38:LYS:NZ	1.72	1.04
31:YH:127:GLU:CG	31:YH:128:PRO:CD	2.31	1.04
36:RQ:81:VAL:O	36:RQ:82:ARG:CD	2.06	1.03
36:YQ:81:VAL:HG23	46:Y0:7:LEU:HD21	1.40	1.03
38:YS:83:LYS:O	38:YS:109:GLY:HA3	1.57	1.03
38:YS:106:ARG:HA	38:YS:110:LEU:HD11	1.39	1.03
54:R8:52:LYS:H	54:R8:53:PRO:CD	1.69	1.03
31:YH:127:GLU:CB	31:YH:128:PRO:CD	2.35	1.03
27:YD:35:LYS:HG2	27:YD:64:ILE:N	1.73	1.02
36:RQ:80:GLU:O	36:RQ:81:VAL:HG13	1.59	1.02
53:R7:9:ARG:HH21	53:R7:48:LYS:HD2	1.19	1.02
10:XJ:50:ILE:CD1	10:XJ:57:LYS:HG2	1.89	1.02
29:YF:67:GLN:O	29:YF:68:LYS:HB2	1.56	1.02
36:YQ:12:GLN:HG2	36:YQ:73:PRO:HD2	1.42	1.02
36:YQ:65:PHE:O	36:YQ:66:ILE:HG12	1.59	1.02
36:YQ:81:VAL:O	36:YQ:82:ARG:CD	2.06	1.02
29:YF:46:ARG:HH11	29:YF:46:ARG:HG2	1.20	1.02
36:RQ:12:GLN:HG2	36:RQ:73:PRO:HD2	1.42	1.02
25:RA:2713:C:H3'	25:RA:2714:U:H5"	1.43	1.01
31:RH:153:LYS:HB3	31:RH:154:PRO:HD2	1.06	1.01
32:RI:80:PRO:HB2	32:RI:146:ALA:HB2	1.37	1.01
30:RG:67:LYS:NZ	50:R4:6:HIS:CD2	2.29	1.01
29:YF:67:GLN:O	29:YF:67:GLN:HG3	1.58	1.01
53:Y7:9:ARG:HH21	53:Y7:48:LYS:HD2	1.21	1.01
35:RP:62:LEU:HD21	54:R8:25:MET:HB2	1.04	1.00
32:YI:144:VAL:O	32:YI:145:VAL:CG2	2.07	1.00
4:QD:9:CYS:SG	4:QD:22:LYS:HE3	1.95	1.00
36:RQ:65:PHE:O	36:RQ:66:ILE:HG12	1.59	1.00
36:RQ:81:VAL:O	36:RQ:82:ARG:NE	1.94	1.00
36:YQ:80:GLU:O	36:YQ:81:VAL:HG13	1.59	1.00
33:YN:63:THR:HG23	33:YN:66:LYS:HZ2	1.25	1.00
31:RH:153:LYS:HB3	31:RH:154:PRO:CD	1.92	1.00
32:RI:57:ARG:CD	32:RI:61:ARG:HH11	1.73	1.00
29:YF:185:ASP:HA	29:YF:188:ARG:HD3	1.41	1.00
36:RQ:80:GLU:OE1	46:R0:7:LEU:HB3	1.61	1.00
52:R6:25:LYS:CE	54:R8:34:TRP:HZ2	1.73	1.00
4:QD:9:CYS:SG	4:QD:22:LYS:HE2	1.95	0.99
50:R4:56:VAL:HA	50:R4:60:GLN:HB2	1.43	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:201:THR:HG22	28:RE:203:LYS:H	1.26	0.99
32:RI:144:VAL:O	32:RI:145:VAL:CG1	2.10	0.99
38:YS:26:LEU:HD12	38:YS:39:ILE:HD11	1.40	0.99
31:YH:153:LYS:HB3	31:YH:154:PRO:CD	1.93	0.99
48:Y2:50:ILE:HD12	48:Y2:51:ARG:N	1.76	0.99
25:RA:1579:C:H42	25:RA:1584:G:H1	1.09	0.99
28:YE:201:THR:HG22	28:YE:203:LYS:H	1.26	0.99
31:RH:127:GLU:CG	31:RH:128:PRO:CD	2.30	0.99
51:Y5:49:CYS:SG	51:Y5:60:VAL:CG1	2.50	0.99
1:XA:267:C:OP2	17:XQ:67:LYS:HD2	1.63	0.98
4:QD:31:CYS:HB3	4:QD:32:ALA:C	1.86	0.98
25:RA:1714:G:H5"	25:RA:1714:G:H8	1.28	0.98
36:YQ:81:VAL:O	36:YQ:82:ARG:NE	1.94	0.98
36:RQ:79:LEU:O	36:RQ:79:LEU:HD22	1.64	0.98
31:YH:86:GLU:HG3	31:YH:165:ALA:N	1.79	0.98
20:XT:41:ILE:HG22	20:XT:91:LEU:HD12	1.46	0.98
28:RE:20:ALA:O	28:RE:21:VAL:HG22	1.64	0.97
1:XA:1286:A:H5"	21:XU:26:LYS:HD2	1.45	0.97
36:YQ:79:LEU:O	36:YQ:79:LEU:HD13	1.63	0.97
35:RP:62:LEU:HD21	54:R8:25:MET:CB	1.93	0.97
27:YD:44:ASN:HB3	27:YD:49:ILE:HA	1.45	0.97
38:YS:83:LYS:NZ	38:YS:109:GLY:HA2	1.77	0.97
35:RP:64:LYS:HG3	54:R8:25:MET:HE2	1.44	0.97
48:Y2:50:ILE:HD12	48:Y2:51:ARG:H	1.24	0.97
36:YQ:79:LEU:O	36:YQ:79:LEU:HD22	1.64	0.97
25:RA:266:C:H42	25:RA:278:G:H1	1.07	0.96
26:RB:16:G:H1	26:RB:68:C:H42	1.08	0.96
36:RQ:79:LEU:O	36:RQ:79:LEU:HD13	1.63	0.96
48:R2:50:ILE:HD12	48:R2:51:ARG:H	1.27	0.96
1:XA:838:G:H1	1:XA:848:C:H42	1.07	0.96
25:RA:1215:G:H1	25:RA:1225:C:H42	1.10	0.96
27:YD:121:PRO:HB3	27:YD:135:PHE:HE2	1.26	0.96
1:QA:1002:G:H1	1:QA:1038:C:H42	1.02	0.96
25:RA:1089:C:N4	25:RA:1158:G:H1	1.63	0.96
36:YQ:32:TYR:CE1	36:YQ:133:ARG:HG3	2.00	0.96
13:QM:65:LYS:HE2	50:R4:50:VAL:HG11	1.45	0.96
13:QM:3:ARG:HH22	30:RG:113:ARG:HH21	0.99	0.96
25:YA:2701:C:H3'	25:YA:2702:U:H5"	1.46	0.96
25:RA:929:G:H1	25:RA:940:C:N4	1.62	0.96
25:RA:2760:G:N2	25:RA:2770:A:H62	1.63	0.96
28:YE:20:ALA:O	28:YE:21:VAL:HG22	1.65	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YP:19:VAL:HG13	35:YP:21:ARG:N	1.80	0.95
31:RH:77:LYS:HB3	31:RH:77:LYS:HZ3	1.30	0.95
29:YF:101:LEU:HD12	29:YF:102:PRO:CD	1.96	0.95
36:YQ:79:LEU:HD12	46:Y0:5:LYS:HD3	1.46	0.95
29:YF:103:LYS:HA	29:YF:106:ARG:HG3	1.48	0.95
25:YA:1169:G:H1	25:YA:1180:C:N4	1.64	0.95
12:QL:6:THR:H	12:QL:9:GLN:HE21	1.15	0.95
48:Y2:13:ALA:HA	48:Y2:16:LEU:HD23	1.48	0.95
19:QS:5:LEU:CD1	50:R4:67:TYR:CE2	2.50	0.95
50:R4:36:CYS:O	50:R4:39:CYS:HB2	1.67	0.95
27:YD:227:ASN:HB3	27:YD:228:PRO:HD2	1.44	0.95
31:YH:77:LYS:HB3	31:YH:77:LYS:HZ3	1.30	0.95
28:YE:78:LEU:HG	28:YE:79:ARG:HE	1.30	0.94
19:QS:68:GLY:CA	50:R4:68:ARG:HG2	1.96	0.94
1:XA:954:G:H21	1:XA:1227:A:H62	1.00	0.94
19:QS:67:VAL:HB	50:R4:59:PHE:CZ	2.03	0.94
25:RA:2320:G:N1	25:RA:2323:A:C2	2.35	0.94
31:YH:153:LYS:CB	31:YH:154:PRO:HD2	1.98	0.94
25:YA:1533:C:N4	25:YA:1538:G:H1	1.64	0.94
36:YQ:79:LEU:CD1	46:Y0:5:LYS:HD3	1.97	0.94
4:QD:28:SER:HB3	4:QD:29:PRO:CD	1.97	0.94
31:RH:86:GLU:HG3	31:RH:165:ALA:N	1.79	0.94
1:XA:80:G:H1	1:XA:89:U:H3	1.06	0.94
1:QA:49:U:C5	1:QA:365:U:O4	2.21	0.94
28:RE:78:LEU:HG	28:RE:79:ARG:HE	1.31	0.94
1:XA:1439:C:H42	1:XA:1462:G:H1	1.11	0.94
25:YA:2096:U:H3	25:YA:2193:G:H1	1.07	0.94
30:RG:179:PRO:HG3	50:R4:38:LYS:HZ2	1.32	0.94
27:YD:28:GLU:HB2	27:YD:29:PRO:CD	1.98	0.94
31:YH:77:LYS:HB3	31:YH:77:LYS:NZ	1.82	0.93
2:QB:185:ILE:HG22	2:QB:199:TYR:HB2	1.48	0.93
31:YH:127:GLU:HB3	31:YH:128:PRO:CD	1.99	0.93
25:RA:1087:C:H42	25:RA:1160:G:H1	0.94	0.93
25:RA:2129:C:H42	25:RA:2204:G:H1	1.06	0.93
36:RQ:59:ARG:O	36:RQ:60:ARG:CG	2.17	0.93
51:R5:56:LYS:H	51:R5:56:LYS:HD2	1.30	0.93
5:QE:71:LEU:HD21	5:QE:115:VAL:HG22	1.51	0.93
25:RA:2150:C:H42	25:RA:2182:G:H1	1.06	0.93
32:RI:145:VAL:HG22	32:RI:146:ALA:H	1.32	0.93
31:RH:127:GLU:HB3	31:RH:128:PRO:CD	1.99	0.93
32:YI:82:ARG:CD	32:YI:146:ALA:HB3	1.98	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RQ:34:LEU:HD11	36:RQ:129:THR:HB	1.50	0.93
25:YA:2068:U:H3	25:YA:2430:A:H2	1.12	0.93
25:YA:2287:A:H62	25:YA:2344:U:H3	1.07	0.93
4:QD:29:PRO:HD2	4:QD:30:LYS:HD3	1.48	0.92
27:YD:108:PRO:HB3	27:YD:143:HIS:CE1	2.05	0.92
27:YD:108:PRO:HB3	27:YD:143:HIS:HE1	1.32	0.92
1:XA:28:G:H1	1:XA:555:C:H42	1.17	0.92
28:YE:14:ILE:HG12	28:YE:15:PHE:H	1.33	0.92
35:RP:64:LYS:CG	54:R8:25:MET:SD	2.56	0.92
51:R5:58:LEU:HD13	51:R5:60:VAL:HG12	1.48	0.92
1:XA:1008:C:H42	1:XA:1021:G:H1	0.96	0.92
30:RG:112:PRO:HB3	50:R4:37:SER:HB2	0.94	0.92
38:YS:59:LYS:HG2	38:YS:60:GLY:H	1.31	0.92
38:YS:67:ARG:NH1	38:YS:67:ARG:HB2	1.85	0.92
25:RA:155:C:H42	25:RA:160:G:H1	0.95	0.91
31:RH:153:LYS:CB	31:RH:154:PRO:HD2	1.97	0.91
25:RA:155:C:N4	25:RA:160:G:H1	1.66	0.91
35:RP:68:GLN:OE1	35:RP:68:GLN:N	2.03	0.91
11:QK:99:GLN:HG2	11:QK:105:VAL:HG21	1.52	0.91
36:YQ:34:LEU:HD11	36:YQ:129:THR:HB	1.50	0.91
11:QK:99:GLN:CG	11:QK:105:VAL:HG21	2.00	0.91
19:QS:5:LEU:HD13	50:R4:67:TYR:CE2	2.06	0.91
25:RA:894:U:O4	25:RA:978:A:N1	2.04	0.91
27:YD:10:THR:HG23	27:YD:13:ARG:HB3	1.51	0.91
25:RA:2320:G:H1	25:RA:2323:A:H2	0.97	0.91
25:YA:1359:A:N6	25:YA:1372:U:N3	2.19	0.91
4:QD:197:PRO:HD3	6:XF:16:GLN:HE21	1.33	0.91
30:YG:6:ALA:H	50:Y4:23:GLU:HG2	1.34	0.91
28:RE:14:ILE:HG12	28:RE:15:PHE:H	1.33	0.91
10:XJ:50:ILE:HD11	10:XJ:57:LYS:HG2	1.53	0.91
33:YN:7:LYS:H	33:YN:7:LYS:HD2	1.36	0.91
25:RA:920:G:H1	25:RA:950:C:H42	1.17	0.90
25:YA:242:G:H5"	54:Y8:62:LEU:HD22	1.50	0.90
36:YQ:79:LEU:HD12	46:Y0:5:LYS:CD	2.00	0.90
19:QS:68:GLY:HA3	50:R4:68:ARG:CB	2.02	0.90
25:RA:2760:G:H21	25:RA:2770:A:N6	1.69	0.90
31:RH:77:LYS:HB3	31:RH:77:LYS:NZ	1.82	0.90
25:YA:1533:C:H42	25:YA:1538:G:H1	0.90	0.90
31:YH:26:VAL:HG13	31:YH:27:LYS:H	1.35	0.90
25:RA:723:A:H8	25:RA:2091:G:H21	1.16	0.90
48:Y2:65:ASN:HB3	48:Y2:69:ARG:HH12	1.34	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YH:4:ILE:HG13	31:YH:6:ARG:CZ	2.01	0.90
27:YD:147:LEU:HD13	27:YD:155:LEU:HD11	1.51	0.90
1:QA:1396:A:H4'	1:QA:1397:C:H5'	1.53	0.90
36:RQ:59:ARG:O	36:RQ:60:ARG:HG3	1.72	0.90
1:XA:1008:C:N4	1:XA:1021:G:H1	1.70	0.90
26:RB:51:G:N7	38:RS:62:LYS:NZ	2.19	0.90
27:YD:44:ASN:HD22	27:YD:44:ASN:H	1.19	0.90
25:RA:66:U:H3	25:RA:73:A:H2	0.95	0.89
31:RH:4:ILE:HG13	31:RH:6:ARG:CZ	2.01	0.89
32:YI:52:ARG:O	32:YI:56:LYS:N	2.05	0.89
36:YQ:81:VAL:CG2	46:Y0:7:LEU:HD21	2.02	0.89
26:YB:15:A:H5'	26:YB:16:G:C8	2.06	0.89
27:YD:69:ARG:HH21	27:YD:130:ALA:HB2	1.37	0.89
54:Y8:52:LYS:H	54:Y8:53:PRO:HD3	1.35	0.89
31:RH:10:PRO:HD2	31:RH:50:VAL:O	1.72	0.89
35:RP:61:ARG:NH1	54:R8:10:ALA:HB2	1.86	0.89
27:YD:183:ARG:HG2	27:YD:183:ARG:HH11	1.34	0.89
35:RP:19:VAL:HG13	35:RP:21:ARG:H	1.34	0.89
25:YA:571:A:H5'	25:YA:2030:A:H62	1.38	0.89
25:YA:847:U:O4	25:YA:933:A:N1	2.05	0.89
54:Y8:59:LYS:NZ	54:Y8:59:LYS:HB2	1.88	0.89
25:YA:2840:C:H42	25:YA:2877:G:H1	1.21	0.89
28:YE:63:LEU:HD12	28:YE:64:LYS:N	1.87	0.89
32:YI:82:ARG:HD3	32:YI:146:ALA:CB	2.03	0.89
36:RQ:79:LEU:HD12	46:R0:5:LYS:HD3	1.53	0.89
31:RH:26:VAL:HG13	31:RH:27:LYS:H	1.36	0.89
51:R5:3:LYS:HA	51:R5:3:LYS:HE3	1.54	0.89
1:QA:1286:A:H5"	21:QU:26:LYS:HD2	1.55	0.88
32:RI:52:ARG:O	32:RI:56:LYS:N	2.07	0.88
54:R8:52:LYS:H	54:R8:53:PRO:HD3	1.35	0.88
12:XL:6:THR:H	12:XL:9:GLN:HE21	1.15	0.88
44:YY:79:CYS:SG	44:YY:80:GLY:N	2.45	0.88
31:YH:10:PRO:HD2	31:YH:50:VAL:O	1.72	0.88
39:RT:26:ASP:HB3	39:RT:92:GLY:H	1.36	0.88
35:RP:64:LYS:HB2	54:R8:25:MET:HG3	0.90	0.88
19:QS:5:LEU:HD22	50:R4:67:TYR:OH	1.73	0.88
28:RE:63:LEU:HD12	28:RE:64:LYS:N	1.88	0.88
1:XA:157:G:H1	1:XA:164:U:H3	1.14	0.88
25:YA:1138:G:H21	33:YN:106:MET:HE3	1.37	0.88
13:QM:65:LYS:HB3	50:R4:50:VAL:HG21	1.56	0.88
28:YE:14:ILE:HD11	39:YT:14:TYR:OH	1.74	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YS:106:ARG:NH1	38:YS:106:ARG:HB2	1.88	0.88
1:QA:1244:C:H42	1:QA:1293:G:H1	1.15	0.88
30:RG:3:LEU:HD21	50:R4:25:TYR:CE1	2.08	0.88
51:R5:40:LYS:HZ1	51:R5:48:GLU:HB2	1.39	0.88
25:YA:222:A:H3'	25:YA:421:U:H5'	1.56	0.88
36:YQ:64:ILE:HA	36:YQ:106:VAL:HG12	1.54	0.88
50:Y4:18:CYS:HG	50:Y4:36:CYS:HG	1.08	0.88
25:RA:656:A:OP2	54:R8:46:ARG:NH2	2.06	0.88
25:YA:1169:G:H1	25:YA:1180:C:H42	0.89	0.88
25:RA:1579:C:N4	25:RA:1584:G:H1	1.72	0.87
25:RA:2320:G:N1	25:RA:2323:A:H2	1.72	0.87
54:R8:59:LYS:HB2	54:R8:59:LYS:NZ	1.88	0.87
20:XT:26:ASN:HB3	20:XT:71:THR:OG1	1.73	0.87
4:QD:32:ALA:O	4:QD:34:GLU:N	2.07	0.87
28:RE:77:ILE:HD12	28:RE:78:LEU:N	1.89	0.87
27:YD:27:THR:HG23	27:YD:28:GLU:H	1.38	0.87
28:YE:77:ILE:HD12	28:YE:78:LEU:N	1.89	0.87
25:RA:2037:A:H1'	51:R5:2:ALA:HA	1.53	0.87
27:YD:44:ASN:CB	27:YD:49:ILE:HA	2.05	0.87
25:RA:1087:C:N4	25:RA:1160:G:H1	1.70	0.87
27:YD:181:GLU:HA	27:YD:272:ALA:HB3	1.57	0.87
25:RA:66:U:N3	25:RA:73:A:C2	2.43	0.87
25:RA:231:G:H5"	54:R8:62:LEU:HD22	1.54	0.87
35:RP:61:ARG:HH11	54:R8:10:ALA:CB	1.87	0.87
36:RQ:64:ILE:HA	36:RQ:106:VAL:HG12	1.54	0.87
44:YY:76:CYS:HB3	44:YY:96:ILE:HD13	1.57	0.87
27:YD:135:PHE:N	27:YD:135:PHE:HD1	1.72	0.87
1:QA:664:G:H22	1:QA:741:G:H1	1.22	0.87
1:XA:1502:A:H2	1:XA:1505:G:H1	1.22	0.86
4:QD:167:GLY:HA2	27:YD:135:PHE:CZ	2.10	0.86
51:Y5:40:LYS:HG2	51:Y5:47:PRO:HD2	1.56	0.86
31:RH:8:PRO:C	31:RH:9:ILE:HG12	2.00	0.86
29:YF:7:TYR:HB3	29:YF:21:ALA:HB1	1.53	0.86
25:RA:1356:G:OP2	53:R7:9:ARG:NH1	2.07	0.86
48:R2:47:ASN:O	48:R2:48:HIS:CD2	2.28	0.86
31:YH:127:GLU:HG2	31:YH:128:PRO:HD3	0.86	0.86
30:RG:67:LYS:HG2	50:R4:5:ILE:O	1.74	0.86
13:QM:3:ARG:HH22	30:RG:113:ARG:NH2	1.73	0.86
25:RA:2299:A:H62	25:RA:2356:U:H3	0.87	0.86
7:XG:89:MET:HE1	7:XG:156:TRP:H	1.41	0.86
25:YA:483:A:H4'	44:YY:49:VAL:HA	1.56	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:35:LYS:HG2	27:YD:64:ILE:H	1.41	0.86
25:RA:48:A:N7	25:RA:118:U:C4	2.43	0.86
25:RA:1714:G:H5"	25:RA:1714:G:C8	2.10	0.86
27:YD:134:ARG:HG3	27:YD:135:PHE:CE1	2.10	0.86
25:RA:2742:G:H1'	28:RE:187:ALA:HB2	1.58	0.86
27:RD:43:ARG:NH1	27:RD:44:ASN:OD1	2.08	0.86
32:RI:51:ILE:O	32:RI:55:ALA:CB	2.24	0.86
1:XA:954:G:N2	1:XA:1227:A:H62	1.73	0.86
25:RA:2299:A:N6	25:RA:2356:U:H3	1.72	0.85
45:RZ:110:GLY:HA2	45:RZ:111:VAL:O	1.75	0.85
1:XA:838:G:N2	1:XA:848:C:N3	2.24	0.85
28:RE:61:ARG:O	28:RE:63:LEU:HG	1.77	0.85
38:YS:106:ARG:HB2	38:YS:106:ARG:HH11	1.40	0.85
36:RQ:75:THR:HA	36:RQ:88:GLY:O	1.76	0.85
45:YZ:151:HIS:HB3	45:YZ:170:THR:HA	1.59	0.85
36:YQ:75:THR:HA	36:YQ:88:GLY:O	1.76	0.85
10:XJ:55:LYS:HE3	10:XJ:56:HIS:NE2	1.90	0.85
31:YH:89:ILE:HD11	31:YH:129:THR:HB	1.58	0.85
35:YP:19:VAL:CG1	35:YP:21:ARG:H	1.88	0.85
25:RA:1489:G:H1	25:RA:1595:C:H42	1.22	0.85
51:R5:39:MET:O	51:R5:40:LYS:HG3	1.77	0.85
5:QE:50:GLU:HB3	5:QE:53:LEU:HD13	1.59	0.85
13:QM:65:LYS:CE	50:R4:50:VAL:HG11	2.06	0.85
28:RE:95:ILE:HD12	28:RE:95:ILE:H	1.41	0.85
45:RZ:111:VAL:HG22	45:RZ:112:ARG:H	1.39	0.85
13:QM:80:ARG:HB2	50:R4:71:ARG:NH2	1.92	0.85
25:RA:1405:A:N1	25:RA:1418:U:O4	2.09	0.85
25:RA:2090:U:H3	25:RA:2442:A:H2	1.23	0.85
28:RE:81:ILE:O	28:RE:82:ARG:HB2	1.75	0.85
31:RH:127:GLU:HG2	31:RH:128:PRO:HD3	0.86	0.85
44:RY:79:CYS:SG	44:RY:80:GLY:N	2.45	0.85
25:YA:847:U:C4	25:YA:933:A:N1	2.45	0.85
27:YD:28:GLU:HB2	27:YD:29:PRO:HD2	1.56	0.85
29:YF:82:ILE:HG13	29:YF:82:ILE:O	1.73	0.85
19:QS:64:GLU:HG3	50:R4:55:ARG:HH12	1.42	0.85
1:XA:266:G:C8	1:XA:266:G:H5'	2.12	0.85
25:YA:2753:A:O2'	55:Y9:15:LYS:NZ	2.10	0.85
38:YS:83:LYS:HG2	38:YS:109:GLY:CA	2.07	0.85
42:YW:18:ARG:HG3	42:YW:76:VAL:HG13	1.58	0.85
4:QD:31:CYS:CB	4:QD:32:ALA:C	2.49	0.84
1:QA:834:C:H42	1:QA:852:G:H1	1.24	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:709:G:OP1	35:RP:15:ARG:NH1	2.10	0.84
28:RE:24:THR:HG21	28:RE:188:VAL:HG11	1.59	0.84
4:QD:31:CYS:SG	4:QD:33:MET:CB	2.66	0.84
25:RA:1183:G:H21	33:RN:106:MET:HE3	1.42	0.84
25:RA:1405:A:C6	25:RA:1418:U:O4	2.30	0.84
28:YE:95:ILE:H	28:YE:95:ILE:HD12	1.42	0.84
54:R8:59:LYS:NZ	54:R8:59:LYS:CB	2.40	0.84
31:YH:8:PRO:C	31:YH:9:ILE:HG12	2.00	0.84
38:YS:106:ARG:HA	38:YS:110:LEU:CD1	2.08	0.84
30:RG:67:LYS:CE	50:R4:6:HIS:NE2	2.40	0.84
32:RI:52:ARG:HG3	32:RI:53:ALA:H	1.40	0.84
25:YA:819:A:OP2	25:YA:1187:G:N2	2.10	0.84
25:YA:1403:C:H5"	25:YA:1471:A:H1'	1.59	0.84
27:YD:17:THR:HG22	27:YD:205:VAL:H	1.41	0.84
28:YE:61:ARG:O	28:YE:63:LEU:HG	1.77	0.84
31:RH:89:ILE:HD11	31:RH:129:THR:HB	1.59	0.84
28:YE:81:ILE:O	28:YE:82:ARG:HB2	1.75	0.84
31:YH:54:ARG:NH1	31:YH:62:LYS:HG2	1.92	0.84
40:YU:90:VAL:HG22	41:YV:39:LEU:HB3	1.59	0.84
29:YF:53:THR:HG23	29:YF:56:GLU:OE1	1.77	0.84
1:QA:346:G:OP1	39:RT:41:ARG:NH2	2.11	0.84
31:RH:54:ARG:NH1	31:RH:62:LYS:HG2	1.92	0.84
20:XT:41:ILE:HG22	20:XT:91:LEU:CD1	2.08	0.84
36:YQ:30:GLY:HA2	36:YQ:107:ALA:HB2	1.60	0.84
30:RG:3:LEU:HD11	50:R4:25:TYR:CE1	2.12	0.84
39:YT:26:ASP:HB3	39:YT:92:GLY:H	1.42	0.84
25:RA:1089:C:H42	25:RA:1158:G:H1	0.85	0.84
25:YA:2392:A:H2	25:YA:2424:C:H42	1.22	0.84
38:YS:89:ARG:HD2	38:YS:92:TYR:O	1.78	0.84
40:YU:88:ILE:HG22	40:YU:90:VAL:HG23	1.59	0.83
25:YA:7:G:H1	25:YA:2896:C:H42	1.26	0.83
29:YF:32:LEU:HD13	29:YF:105:VAL:HG13	1.59	0.83
36:YQ:32:TYR:HE1	36:YQ:133:ARG:HG3	1.38	0.83
2:QB:80:ILE:HD11	2:QB:208:ILE:HG23	1.58	0.83
4:QD:8:VAL:HG13	4:QD:21:LEU:HD12	1.59	0.83
25:RA:929:G:H1	25:RA:940:C:H42	0.86	0.83
53:R7:9:ARG:NH2	53:R7:48:LYS:HD2	1.93	0.83
31:YH:13:LYS:HE2	31:YH:13:LYS:HA	1.60	0.83
12:QL:38:THR:HG23	12:QL:39:VAL:HG23	1.60	0.83
30:YG:27:ASN:HB3	30:YG:30:GLU:HG3	1.60	0.83
31:RH:105:LEU:HD13	31:RH:105:LEU:H	1.43	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1826:G:H4'	27:YD:242:ARG:HH21	1.40	0.83
28:RE:35:GLN:HG2	28:RE:37:ARG:HE	1.44	0.83
28:YE:7:VAL:HG23	28:YE:8:LYS:H	1.44	0.83
30:YG:112:PRO:HB3	50:Y4:37:SER:HB2	1.60	0.83
36:YQ:32:TYR:CD1	36:YQ:133:ARG:HA	2.12	0.83
50:Y4:18:CYS:CB	50:Y4:39:CYS:HB3	2.09	0.83
1:QA:1002:G:H1	1:QA:1038:C:N4	1.76	0.83
5:QE:101:ILE:CD1	5:QE:119:LEU:HD23	2.09	0.83
51:R5:40:LYS:HD3	51:R5:46:CYS:HB3	1.60	0.83
25:YA:2680:C:H5'	28:YE:189:PRO:HA	1.61	0.83
31:YH:105:LEU:HD13	31:YH:105:LEU:H	1.42	0.83
25:RA:2760:G:H21	25:RA:2770:A:H62	0.85	0.83
36:RQ:30:GLY:HA2	36:RQ:107:ALA:HB2	1.60	0.83
32:YI:144:VAL:HG13	32:YI:145:VAL:HG13	1.60	0.83
27:YD:25:THR:CG2	27:YD:82:ILE:H	1.93	0.82
19:QS:68:GLY:HA2	50:R4:68:ARG:HG2	1.59	0.82
25:RA:509:A:H4'	44:RY:49:VAL:HA	1.61	0.82
52:R6:25:LYS:HE3	54:R8:34:TRP:HZ2	1.42	0.82
28:YE:15:PHE:CE1	28:YE:20:ALA:HB2	2.14	0.82
48:Y2:16:LEU:HG	48:Y2:16:LEU:O	1.78	0.82
19:QS:69:HIS:ND1	50:R4:69:LYS:HE2	1.93	0.82
28:RE:15:PHE:CE1	28:RE:20:ALA:HB2	2.14	0.82
12:XL:38:THR:HG23	12:XL:39:VAL:HG23	1.60	0.82
26:YB:15:A:H5'	26:YB:16:G:H8	1.40	0.82
45:YZ:182:LYS:CG	45:YZ:183:LEU:HA	2.08	0.82
25:RA:66:U:N3	25:RA:73:A:H2	1.74	0.82
25:RA:277:G:N3	47:R1:78:LYS:NZ	2.28	0.82
28:RE:7:VAL:HG23	28:RE:8:LYS:H	1.44	0.82
25:YA:2810:A:O3'	28:YE:61:ARG:HG3	1.80	0.82
27:YD:35:LYS:NZ	27:YD:104:TYR:HB2	1.93	0.82
31:YH:153:LYS:HG2	31:YH:162:ILE:HG13	1.61	0.82
1:QA:448:A:OP2	1:QA:485:G:N2	2.13	0.82
25:RA:1457:C:H42	25:RA:1637:G:H1	1.27	0.82
30:RG:5:VAL:HG22	50:R4:25:TYR:CE2	2.15	0.82
44:RY:29:GLU:HB3	44:RY:38:ILE:HG12	1.62	0.82
38:YS:19:LYS:O	38:YS:20:ARG:HB3	1.80	0.82
54:R8:59:LYS:HB2	54:R8:59:LYS:HZ2	1.44	0.82
29:YF:192:LEU:HD21	29:YF:194:MET:HE3	1.60	0.82
19:QS:68:GLY:CA	50:R4:68:ARG:HB2	2.08	0.81
47:Y1:7:ILE:HD12	47:Y1:62:VAL:HG11	1.62	0.81
32:RI:53:ALA:O	32:RI:57:ARG:HB3	1.80	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:265:A:N6	25:YA:427:U:O2'	2.13	0.81
51:Y5:16:ARG:NH1	51:Y5:17:ASP:OD1	2.13	0.81
4:QD:31:CYS:SG	4:QD:33:MET:HB3	2.21	0.81
25:RA:2150:C:N4	25:RA:2182:G:H1	1.79	0.81
30:RG:67:LYS:HZ1	50:R4:6:HIS:CD2	1.94	0.81
31:RH:132:ARG:HB2	31:RH:132:ARG:NH1	1.94	0.81
31:RH:153:LYS:HG2	31:RH:162:ILE:HG13	1.61	0.81
35:RP:61:ARG:HH11	54:R8:10:ALA:HB2	1.41	0.81
36:RQ:90:VAL:HG13	36:RQ:91:GLU:N	1.95	0.81
25:YA:1936:A:H61	25:YA:1963:U:H3	1.28	0.81
28:YE:24:THR:HG21	28:YE:188:VAL:HG11	1.59	0.81
38:YS:88:ASP:O	38:YS:89:ARG:HB3	1.78	0.81
4:QD:31:CYS:N	4:QD:32:ALA:HA	1.94	0.81
12:QL:86:ARG:HB2	12:QL:101:VAL:HG22	1.62	0.81
25:RA:2129:C:N4	25:RA:2204:G:H1	1.77	0.81
1:XA:1028(B):C:N3	1:XA:1032(A):G:N2	2.29	0.81
25:YA:1728:G:N1	25:YA:1730:U:OP2	2.14	0.81
31:YH:10:PRO:O	31:YH:11:VAL:HG13	1.80	0.81
36:YQ:90:VAL:HG13	36:YQ:91:GLU:N	1.95	0.81
31:RH:152:ARG:O	31:RH:153:LYS:HB2	1.80	0.81
1:XA:611:A:H61	1:XA:629:G:H1	1.26	0.81
25:RA:266:C:N4	25:RA:278:G:H1	1.79	0.81
28:RE:3:GLY:O	28:RE:4:ILE:HB	1.81	0.81
29:RF:103:LYS:HA	29:RF:106:ARG:HG3	1.63	0.81
50:R4:33:VAL:HG12	50:R4:34:GLU:H	1.44	0.81
54:R8:52:LYS:N	54:R8:53:PRO:CD	2.43	0.81
2:XB:69:LEU:HB3	2:XB:162:ILE:HG22	1.62	0.81
25:RA:929:G:N2	25:RA:940:C:N3	2.29	0.81
5:XE:71:LEU:HD11	5:XE:113:ALA:O	1.81	0.81
28:YE:50:GLY:CA	28:YE:77:ILE:HA	2.09	0.81
38:YS:36:TYR:HD2	38:YS:52:SER:HB3	1.46	0.81
48:Y2:43:GLN:O	48:Y2:44:LEU:HG	1.81	0.81
54:Y8:59:LYS:NZ	54:Y8:59:LYS:CB	2.40	0.81
1:QA:1298:C:OP2	7:QG:114:ARG:NH2	2.13	0.81
5:QE:94:ALA:HB2	5:QE:119:LEU:HG	1.60	0.81
39:RT:24:PRO:HA	39:RT:49:VAL:HG13	1.61	0.81
33:YN:7:LYS:HD2	33:YN:7:LYS:N	1.94	0.81
5:QE:71:LEU:CD1	5:QE:115:VAL:H	1.93	0.81
28:RE:116:VAL:HG21	28:RE:122:PHE:CD2	2.16	0.81
52:R6:25:LYS:HE3	54:R8:34:TRP:CZ2	2.16	0.81
25:YA:2580:U:H4'	28:YE:130:GLY:HA3	1.63	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:116:VAL:HG21	28:YE:122:PHE:CD2	2.16	0.81
31:RH:13:LYS:HE2	31:RH:13:LYS:HA	1.60	0.80
13:QM:14:ARG:H	13:QM:44:ARG:HD3	1.46	0.80
29:YF:155:LEU:HD13	29:YF:174:VAL:HG13	1.62	0.80
13:QM:7:VAL:HG21	30:RG:113:ARG:O	1.81	0.80
51:R5:4:HIS:HB3	51:R5:5:PRO:CD	2.11	0.80
37:RR:33:ARG:NH2	51:R5:55:ARG:HG2	1.96	0.80
27:YD:27:THR:HG23	27:YD:28:GLU:N	1.96	0.80
35:YP:61:ARG:HD2	54:Y8:13:ARG:HD3	1.63	0.80
28:RE:14:ILE:HD11	39:RT:14:TYR:CZ	2.15	0.80
28:RE:14:ILE:HD11	39:RT:14:TYR:HH	1.45	0.80
28:RE:201:THR:CG2	28:RE:203:LYS:HB3	2.11	0.80
48:R2:50:ILE:HD12	48:R2:51:ARG:N	1.95	0.80
1:XA:1130:A:O2'	9:XI:3:GLN:NE2	2.15	0.80
36:YQ:80:GLU:O	36:YQ:81:VAL:CG1	2.30	0.80
28:RE:50:GLY:CA	28:RE:77:ILE:HA	2.10	0.80
28:RE:52:LEU:HB2	28:RE:75:VAL:HG23	1.62	0.80
25:YA:483:A:H5'	44:YY:49:VAL:HG22	1.63	0.80
28:YE:52:LEU:HB2	28:YE:75:VAL:HG23	1.61	0.80
29:YF:198:ALA:HA	29:YF:201:VAL:HG12	1.62	0.80
32:YI:92:VAL:HG13	32:YI:120:ILE:HG23	1.64	0.80
38:YS:106:ARG:CA	38:YS:110:LEU:HD21	2.10	0.80
25:RA:1089:C:N3	25:RA:1158:G:N2	2.26	0.80
25:RA:2078:G:N2	51:R5:4:HIS:O	2.15	0.80
25:RA:2126:G:H1	25:RA:2207:C:H42	1.27	0.80
28:YE:201:THR:CG2	28:YE:203:LYS:HB3	2.11	0.80
44:YY:76:CYS:SG	44:YY:77:PRO:HD2	2.22	0.80
27:YD:121:PRO:HB3	27:YD:135:PHE:CE2	2.16	0.80
28:YE:3:GLY:O	28:YE:4:ILE:HB	1.81	0.80
28:YE:35:GLN:HG2	28:YE:37:ARG:HE	1.44	0.80
31:YH:152:ARG:O	31:YH:153:LYS:HB2	1.80	0.80
1:XA:1459:C:OP1	20:XT:27:LYS:NZ	2.14	0.80
35:YP:65:ARG:HH21	54:Y8:46:ARG:HH12	1.29	0.80
54:Y8:52:LYS:N	54:Y8:53:PRO:CD	2.43	0.80
25:RA:1101:G:H1	25:RA:1150:C:H42	1.28	0.80
31:RH:150:ALA:C	31:RH:152:ARG:H	1.88	0.80
32:RI:57:ARG:HD3	32:RI:61:ARG:NH1	1.96	0.80
13:XM:65:LYS:HD3	13:XM:69:GLU:HG3	1.63	0.80
25:YA:270(T):G:H5"	47:Y1:97:LEU:HD22	1.64	0.80
32:YI:53:ALA:O	32:YI:57:ARG:HG3	1.82	0.80
1:XA:64:G:O6	1:XA:99:C:N4	2.15	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:448:A:OP2	1:XA:485:G:N2	2.15	0.79
27:YD:34:VAL:O	27:YD:34:VAL:HG13	1.81	0.79
27:YD:68:LYS:HB2	27:YD:70:TRP:CH2	2.17	0.79
1:QA:1089:G:H1	1:QA:1096:C:H42	1.30	0.79
13:QM:3:ARG:HA	13:QM:9:ILE:HG21	1.62	0.79
25:RA:2083:G:OP1	29:RF:68:LYS:NZ	2.15	0.79
4:XD:31:CYS:O	4:XD:31:CYS:SG	2.40	0.79
31:YH:126:PRO:CG	31:YH:127:GLU:H	1.95	0.79
31:YH:169:VAL:HG22	31:YH:170:ARG:H	1.48	0.79
33:YN:63:THR:HG23	33:YN:66:LYS:NZ	1.97	0.79
10:XJ:61:GLU:OE2	14:XN:45:ARG:NH1	2.15	0.79
29:YF:31:HIS:HB2	35:YP:9:ASN:OD1	1.81	0.79
31:YH:150:ALA:C	31:YH:152:ARG:H	1.88	0.79
43:YX:67:GLY:O	43:YX:69:TYR:N	2.15	0.79
36:YQ:81:VAL:O	36:YQ:82:ARG:CG	2.31	0.79
38:YS:111:GLU:OE1	38:YS:111:GLU:HA	1.80	0.79
28:RE:137:HIS:HB3	28:RE:138:PRO:HD2	1.65	0.79
36:RQ:81:VAL:O	36:RQ:82:ARG:CG	2.31	0.79
3:XC:32:LEU:HD13	3:XC:59:ARG:HD3	1.64	0.79
5:XE:41:VAL:CG1	5:XE:113:ALA:HB2	2.12	0.79
12:XL:86:ARG:HB2	12:XL:101:VAL:HG22	1.62	0.79
28:YE:24:THR:HG21	28:YE:188:VAL:CG1	2.13	0.79
32:YI:130:TYR:HB3	32:YI:136:VAL:HG13	1.62	0.79
1:QA:611:A:H61	1:QA:629:G:H1	1.26	0.79
11:QK:21:ILE:HB	11:QK:84:VAL:HG12	1.65	0.79
15:QO:26:GLU:OE2	15:QO:77:ARG:NH1	2.16	0.79
19:QS:68:GLY:CA	50:R4:68:ARG:CG	2.59	0.79
28:RE:111:ARG:HE	28:RE:160:TYR:HE1	1.31	0.79
1:XA:1086:U:H3	1:XA:1099:G:H22	1.27	0.79
25:YA:631:A:OP2	54:Y8:46:ARG:NH2	2.15	0.79
11:QK:99:GLN:HG2	11:QK:105:VAL:CG2	2.12	0.79
37:RR:104:ARG:HD2	37:RR:111:LEU:HD21	1.63	0.79
12:XL:6:THR:N	12:XL:9:GLN:HE21	1.80	0.79
31:YH:26:VAL:HG13	31:YH:27:LYS:N	1.96	0.79
12:QL:6:THR:N	12:QL:9:GLN:HE21	1.80	0.79
19:QS:68:GLY:CA	50:R4:68:ARG:CB	2.60	0.79
26:RB:38:C:H42	26:RB:44:G:H1	1.29	0.79
30:RG:145:THR:HG23	50:R4:28:LYS:HZ2	1.47	0.79
31:RH:86:GLU:CG	31:RH:165:ALA:H	1.94	0.79
27:YD:17:THR:CG2	27:YD:205:VAL:H	1.96	0.79
31:YH:153:LYS:CG	31:YH:162:ILE:H	1.96	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:10:GLY:HA3	39:RT:8:LYS:HD2	1.64	0.79
31:RH:10:PRO:O	31:RH:11:VAL:HG13	1.80	0.79
1:XA:156:G:H1	1:XA:165:C:H42	1.31	0.79
2:XB:77:ALA:HB2	2:XB:211:ILE:HD13	1.64	0.79
25:YA:2287:A:N6	25:YA:2344:U:H3	1.81	0.79
51:Y5:49:CYS:SG	51:Y5:60:VAL:N	2.52	0.79
26:RB:16:G:H1	26:RB:68:C:N4	1.80	0.78
31:RH:126:PRO:CG	31:RH:127:GLU:H	1.96	0.78
27:YD:27:THR:HG21	27:YD:83:GLU:HB3	1.63	0.78
25:RA:2820:A:O3'	28:RE:61:ARG:HG3	1.83	0.78
35:RP:64:LYS:CG	54:R8:25:MET:HE2	2.12	0.78
1:XA:677:U:H3	1:XA:713:G:H22	1.31	0.78
3:XC:59:ARG:HH12	3:XC:97:LYS:HE3	1.48	0.78
25:YA:855:G:O2'	46:Y0:27:GLU:OE2	2.01	0.78
31:YH:150:ALA:O	31:YH:152:ARG:N	2.14	0.78
45:YZ:181:GLU:HG2	45:YZ:183:LEU:HG	1.65	0.78
19:QS:5:LEU:HD21	50:R4:67:TYR:CZ	2.18	0.78
36:RQ:80:GLU:O	36:RQ:81:VAL:CG1	2.30	0.78
1:QA:1244:C:N4	1:QA:1293:G:H1	1.81	0.78
4:QD:197:PRO:CD	6:XF:16:GLN:NE2	2.45	0.78
30:RG:179:PRO:HG3	50:R4:38:LYS:HZ1	1.49	0.78
36:RQ:119:ARG:HG2	36:RQ:119:ARG:HH11	1.48	0.78
25:YA:498:G:N3	44:YY:47:LYS:NZ	2.31	0.78
25:YA:1338:G:N7	43:YX:62:LYS:NZ	2.31	0.78
25:YA:1509:C:N3	25:YA:1511:A:N6	2.31	0.78
36:YQ:59:ARG:H	36:YQ:59:ARG:HD3	1.48	0.78
36:RQ:20:ALA:HB1	36:RQ:99:PRO:HB2	1.65	0.78
50:R4:22:ILE:O	50:R4:24:THR:HG23	1.84	0.78
28:YE:137:HIS:HB3	28:YE:138:PRO:HD2	1.65	0.78
1:QA:186(E):C:H42	1:QA:191(B):G:H1	1.31	0.78
10:QJ:50:ILE:HA	10:QJ:60:ARG:HG2	1.66	0.78
31:RH:153:LYS:CG	31:RH:162:ILE:H	1.96	0.78
33:RN:95:PRO:O	33:RN:97:ARG:N	2.15	0.78
27:YD:54:ARG:HG3	27:YD:54:ARG:NH1	1.98	0.78
27:YD:94:LEU:HD22	27:YD:95:LEU:N	1.98	0.78
36:YQ:80:GLU:OE1	46:Y0:7:LEU:HG	1.82	0.78
50:Y4:1:MET:SD	50:Y4:6:HIS:NE2	2.56	0.78
20:XT:29:LYS:HD2	20:XT:66:ALA:HB2	1.65	0.78
31:YH:132:ARG:HB2	31:YH:132:ARG:NH1	1.94	0.78
20:QT:100:ILE:HG13	20:QT:102:GLY:H	1.48	0.78
31:RH:150:ALA:O	31:RH:152:ARG:N	2.14	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YQ:32:TYR:HD1	36:YQ:133:ARG:HA	1.47	0.78
27:RD:69:ARG:NH2	27:RD:128:GLY:O	2.17	0.78
28:RE:24:THR:HG21	28:RE:188:VAL:CG1	2.13	0.78
35:RP:126:VAL:HG12	35:RP:147:LEU:HD21	1.63	0.78
27:YD:34:VAL:HG21	27:YD:103:ARG:HA	1.66	0.78
28:YE:4:ILE:HD12	28:YE:28:ALA:HB1	1.66	0.78
29:YF:145:GLU:HG3	29:YF:145:GLU:O	1.81	0.78
34:YO:88:ASN:HD21	34:YO:92:GLU:HB2	1.47	0.78
25:RA:1215:G:H1	25:RA:1225:C:N4	1.81	0.78
19:QS:5:LEU:HD11	50:R4:67:TYR:CE2	2.17	0.77
28:RE:55:ASN:C	28:RE:57:LYS:H	1.91	0.77
30:RG:6:ALA:HB2	50:R4:23:GLU:OE2	1.84	0.77
50:R4:58:ARG:O	50:R4:63:TYR:HB2	1.84	0.77
1:XA:339:C:OP2	34:YO:97:ARG:NH1	2.17	0.77
10:XJ:57:LYS:HD2	10:XJ:60:ARG:NH2	1.99	0.77
31:YH:152:ARG:HG3	31:YH:153:LYS:CE	2.13	0.77
4:QD:31:CYS:SG	4:QD:33:MET:HB2	2.24	0.77
25:YA:49:A:N7	25:YA:120:U:C5	2.52	0.77
27:YD:25:THR:HG22	27:YD:82:ILE:H	1.46	0.77
29:YF:11:VAL:HB	29:YF:18:ARG:HG3	1.64	0.77
33:YN:63:THR:CG2	33:YN:66:LYS:NZ	2.47	0.77
36:YQ:81:VAL:HG23	46:Y0:7:LEU:CD2	2.13	0.77
28:RE:4:ILE:HD12	28:RE:28:ALA:HB1	1.67	0.77
32:RI:4:ILE:HD11	32:RI:44:LEU:HD12	1.65	0.77
3:XC:20:SER:HB2	3:XC:40:ARG:HH22	1.50	0.77
13:XM:14:ARG:H	13:XM:44:ARG:HD3	1.49	0.77
28:YE:55:ASN:C	28:YE:57:LYS:H	1.91	0.77
13:QM:80:ARG:CB	50:R4:71:ARG:HH22	1.96	0.77
19:QS:5:LEU:CD2	50:R4:67:TYR:CZ	2.67	0.77
1:XA:1028(B):C:N4	1:XA:1032(A):G:N1	2.32	0.77
25:YA:674:G:H1'	29:YF:74:ARG:HD3	1.66	0.77
27:YD:44:ASN:HD22	27:YD:44:ASN:N	1.79	0.77
38:YS:106:ARG:HA	38:YS:110:LEU:HD21	1.64	0.77
25:YA:49:A:N7	25:YA:120:U:C4	2.52	0.77
25:RA:254:A:N6	25:RA:454:U:O2'	2.17	0.77
29:YF:20:LEU:HD12	29:YF:21:ALA:H	1.49	0.77
36:YQ:119:ARG:HG2	36:YQ:119:ARG:HH11	1.48	0.77
38:YS:83:LYS:C	38:YS:109:GLY:HA3	2.10	0.77
5:QE:71:LEU:CD2	5:QE:115:VAL:HG22	2.15	0.77
25:RA:267:C:H42	25:RA:277:G:H1	1.31	0.77
29:RF:66:PRO:O	29:RF:68:LYS:N	2.18	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:254:G:C2'	1:XA:255:G:H5'	2.15	0.77
33:YN:95:PRO:O	33:YN:97:ARG:N	2.18	0.77
25:RA:904:C:H4'	46:R0:23:VAL:HG21	1.67	0.77
36:RQ:79:LEU:HD22	36:RQ:79:LEU:C	2.06	0.77
50:R4:1:MET:HB2	50:R4:6:HIS:NE2	2.00	0.77
29:YF:183:VAL:O	29:YF:187:VAL:HG23	1.85	0.77
35:YP:14:LYS:O	35:YP:16:ARG:HG2	1.84	0.77
36:YQ:59:ARG:H	36:YQ:59:ARG:CD	1.98	0.77
54:Y8:59:LYS:CB	54:Y8:59:LYS:HZ3	1.96	0.77
36:RQ:20:ALA:CB	36:RQ:99:PRO:HD2	2.14	0.77
27:YD:25:THR:O	27:YD:27:THR:N	2.17	0.77
27:YD:153:ALA:O	27:YD:154:LYS:HG3	1.85	0.77
35:YP:47:ASP:OD2	35:YP:50:ARG:NH2	2.17	0.77
35:YP:65:ARG:NH2	54:Y8:46:ARG:NH1	2.33	0.77
1:QA:975:A:H4'	1:QA:976:G:H5"	1.65	0.77
54:Y8:60:LEU:C	54:Y8:63:PRO:HD2	2.10	0.77
31:RH:153:LYS:HA	31:RH:153:LYS:NZ	1.99	0.76
36:RQ:90:VAL:HG13	36:RQ:91:GLU:H	1.49	0.76
29:YF:32:LEU:C	29:YF:32:LEU:HD12	2.10	0.76
36:YQ:20:ALA:CB	36:YQ:99:PRO:HD2	2.14	0.76
25:RA:2565:G:N2	56:Z5:101:PPU:H2	2.00	0.76
36:RQ:66:ILE:HG13	36:RQ:67:ARG:N	1.99	0.76
25:YA:2099:U:H3	25:YA:2190:G:H1	0.78	0.76
31:YH:153:LYS:HA	31:YH:153:LYS:NZ	1.99	0.76
36:YQ:20:ALA:HB1	36:YQ:99:PRO:HB2	1.65	0.76
38:YS:60:GLY:O	38:YS:61:ASN:HB3	1.83	0.76
25:RA:641:G:OP1	29:RF:40:GLN:NE2	2.14	0.76
30:RG:3:LEU:HD21	50:R4:25:TYR:CD1	2.20	0.76
31:RH:169:VAL:HG22	31:RH:170:ARG:H	1.48	0.76
25:YA:309:G:N3	25:YA:329:G:O2'	2.18	0.76
28:YE:111:ARG:HE	28:YE:160:TYR:HE1	1.31	0.76
27:YD:135:PHE:N	27:YD:135:PHE:CD1	2.45	0.76
36:YQ:79:LEU:HD22	36:YQ:79:LEU:C	2.07	0.76
37:YR:33:ARG:NH2	51:Y5:55:ARG:HG2	1.99	0.76
1:QA:954:G:H4'	13:QM:121:LYS:HG3	1.66	0.76
25:RA:680:G:H1	25:RA:699:C:N4	1.84	0.76
25:RA:2289:G:H5'	36:RQ:85:LYS:HG3	1.66	0.76
31:RH:152:ARG:HG3	31:RH:153:LYS:CE	2.13	0.76
37:RR:3:HIS:O	37:RR:5:LYS:N	2.18	0.76
1:XA:267:C:C5'	1:XA:267:C:H6	1.98	0.76
29:YF:29:ASN:H	29:YF:112:MET:CE	1.97	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YP:61:ARG:HD2	54:Y8:13:ARG:CD	2.15	0.76
35:YP:62:LEU:HD23	35:YP:62:LEU:H	1.51	0.76
36:YQ:90:VAL:HG13	36:YQ:91:GLU:H	1.49	0.76
3:QC:23:TYR:CD1	10:QJ:10:GLY:HA2	2.21	0.76
36:YQ:66:ILE:HG13	36:YQ:67:ARG:N	1.99	0.76
48:Y2:41:ILE:C	48:Y2:41:ILE:HD12	2.10	0.76
5:QE:101:ILE:HD11	5:QE:119:LEU:CD2	2.15	0.76
37:RR:33:ARG:HH22	51:R5:55:ARG:HG2	1.51	0.76
16:XP:45:THR:HG22	16:XP:47:ASP:H	1.51	0.76
27:YD:121:PRO:CB	27:YD:135:PHE:HE2	1.98	0.76
1:QA:1106:G:H5"	3:QC:172:ARG:HG2	1.66	0.76
25:RA:2457:G:OP1	29:RF:74:ARG:NH2	2.19	0.76
38:RS:62:LYS:HB3	38:RS:97:ARG:HD3	1.67	0.76
31:YH:125:VAL:HA	31:YH:126:PRO:HB3	1.68	0.76
25:RA:1712:A:C2'	25:RA:1713:G:H5'	2.16	0.76
31:RH:26:VAL:HG13	31:RH:27:LYS:N	1.96	0.76
51:R5:47:PRO:O	51:R5:48:GLU:HG3	1.86	0.76
1:XA:1108:G:H5'	3:XC:176:HIS:HD1	1.50	0.76
37:YR:74:LYS:O	37:YR:76:VAL:N	2.18	0.76
1:QA:410:G:H3'	4:QD:25:ARG:HH21	1.51	0.76
1:QA:963:G:H21	10:QJ:55:LYS:HE2	1.51	0.76
28:YE:23:VAL:HG21	28:YE:183:LEU:HD23	1.68	0.76
28:YE:63:LEU:CD1	28:YE:65:GLY:H	1.99	0.76
29:YF:101:LEU:CD1	29:YF:102:PRO:HD2	2.11	0.76
1:QA:1002:G:H2'	1:QA:1003:G:H8	1.51	0.75
13:QM:65:LYS:HE3	50:R4:50:VAL:HG13	1.68	0.75
44:RY:95:LYS:HB3	44:RY:100:ALA:HA	1.68	0.75
50:R4:71:ARG:HG3	50:R4:71:ARG:NH1	1.90	0.75
27:YD:69:ARG:HH21	27:YD:130:ALA:CB	1.99	0.75
13:QM:65:LYS:CE	50:R4:50:VAL:CG1	2.65	0.75
25:RA:2257:U:H5'	25:RA:2258:G:H5'	1.66	0.75
51:R5:40:LYS:CD	51:R5:46:CYS:HB3	2.15	0.75
54:R8:60:LEU:C	54:R8:63:PRO:HD2	2.11	0.75
28:YE:36:ARG:HH21	28:YE:88:GLY:HA2	1.51	0.75
25:RA:920:G:H1	25:RA:950:C:N4	1.84	0.75
32:RI:57:ARG:HD2	32:RI:61:ARG:HG2	1.65	0.75
26:YB:52:A:H62	38:YS:33:LYS:HG3	1.49	0.75
54:Y8:59:LYS:HB2	54:Y8:59:LYS:HZ2	1.49	0.75
28:RE:27:LEU:HD21	39:RT:1:MET:HE1	1.67	0.75
27:YD:142:VAL:HG23	27:YD:193:VAL:HA	1.67	0.75
32:RI:49:ALA:HA	32:RI:52:ARG:HG2	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RG:113:ARG:HG2	50:R4:34:GLU:CD	2.11	0.75
31:RH:153:LYS:HG2	31:RH:162:ILE:H	1.52	0.75
4:XD:33:MET:HE2	4:XD:37:PRO:HA	1.68	0.75
5:XE:41:VAL:HG13	5:XE:113:ALA:HB2	1.67	0.75
13:QM:3:ARG:NH2	30:RG:113:ARG:NH2	2.31	0.75
32:RI:52:ARG:HG3	32:RI:53:ALA:N	1.99	0.75
25:YA:1021:A:H61	25:YA:1142(A):A:H61	1.32	0.75
27:YD:146:GLU:HB2	27:YD:189:CYS:HB3	1.67	0.75
35:YP:15:ARG:HG2	35:YP:15:ARG:HH21	1.50	0.75
39:YT:27:THR:HG23	39:YT:90:GLN:HB3	1.67	0.75
1:QA:261:U:OP2	20:QT:79:ARG:NH2	2.19	0.75
25:RA:946:A:H3'	25:RA:947:A:H8	1.51	0.75
37:RR:74:LYS:O	37:RR:76:VAL:N	2.18	0.75
25:YA:2308:G:N1	25:YA:2311:A:C2	2.54	0.75
42:YW:41:LYS:HE3	51:Y5:25:LEU:HD21	1.69	0.75
28:RE:36:ARG:HH21	28:RE:88:GLY:HA2	1.51	0.75
44:RY:87:LYS:HD3	44:RY:92:ASN:HB3	1.69	0.75
52:R6:41:PRO:HG2	52:R6:45:LYS:H	1.52	0.75
1:XA:1439:C:N4	1:XA:1462:G:H1	1.85	0.75
28:YE:61:ARG:HB2	28:YE:62:PRO:HD3	1.69	0.75
29:YF:7:TYR:HB3	29:YF:21:ALA:CB	2.16	0.75
41:YV:24:LYS:HA	41:YV:92:THR:HG23	1.68	0.75
1:QA:1061:G:OP1	10:QJ:59:SER:OG	2.05	0.74
1:QA:1397:C:H4'	1:QA:1398:A:O5'	1.85	0.74
28:RE:63:LEU:CD1	28:RE:65:GLY:H	2.00	0.74
50:R4:34:GLU:HG3	50:R4:35:VAL:H	1.51	0.74
53:R7:9:ARG:HH21	53:R7:48:LYS:CD	1.99	0.74
1:XA:266:G:N2	1:XA:269:C:C5	2.55	0.74
25:RA:931:C:O2	25:RA:938:G:N1	2.21	0.74
32:RI:53:ALA:C	32:RI:55:ALA:H	1.94	0.74
37:RR:56:LYS:NZ	37:RR:90:ARG:O	2.20	0.74
44:RY:86:ARG:HB2	44:RY:95:LYS:HD2	1.69	0.74
1:XA:501:C:OP1	12:XL:117:ARG:NH2	2.20	0.74
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.21	0.74
25:YA:2849:U:OP2	39:YT:95:ARG:NH1	2.21	0.74
45:YZ:103:ARG:HB2	45:YZ:138:GLU:HG2	1.69	0.74
25:YA:1012:U:O2'	25:YA:1013:C:OP2	2.04	0.74
27:YD:30:GLU:HG3	27:YD:63:ARG:CZ	2.17	0.74
4:QD:31:CYS:N	4:QD:32:ALA:CA	2.51	0.74
4:QD:197:PRO:HD3	6:XF:16:GLN:CD	2.12	0.74
30:RG:34:LEU:HB2	30:RG:172:LEU:HD21	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:54:ARG:HG3	27:YD:54:ARG:HH11	1.49	0.74
30:YG:161:THR:HG22	30:YG:163:ALA:H	1.53	0.74
38:YS:36:TYR:CD2	38:YS:52:SER:HB3	2.23	0.74
1:QA:6:G:N2	5:QE:98:THR:OG1	2.21	0.74
1:QA:686:U:H1'	11:QK:42:TRP:HE1	1.52	0.74
1:QA:1346:A:H5"	9:QI:120:ARG:HH12	1.52	0.74
8:QH:29:SER:HB3	8:QH:32:LYS:HG3	1.69	0.74
25:RA:2148:A:N6	25:RA:2185:C:O2'	2.21	0.74
36:YQ:79:LEU:O	36:YQ:79:LEU:CD2	2.36	0.74
39:YT:51:ARG:HG2	39:YT:98:LYS:HG3	1.70	0.74
1:QA:1392:G:H21	1:QA:1502:A:H8	1.34	0.74
50:R4:41:PRO:O	50:R4:42:PHE:HB3	1.87	0.74
25:YA:1803:A:H4'	27:YD:259:THR:CG2	2.17	0.74
29:YF:136:THR:HG22	29:YF:166:ALA:O	1.87	0.74
32:YI:52:ARG:HA	32:YI:55:ALA:HB3	1.68	0.74
33:YN:63:THR:CG2	33:YN:66:LYS:HZ2	2.01	0.74
25:RA:2002:G:O2'	25:RA:2004:C:OP2	2.05	0.74
28:RE:201:THR:HG22	28:RE:203:LYS:HB3	1.70	0.74
1:XA:254:G:O2'	1:XA:255:G:H5'	1.87	0.74
1:XA:545:C:OP1	4:XD:61:LYS:NZ	2.21	0.74
5:XE:35:GLY:HA3	5:XE:112:LEU:O	1.88	0.74
25:YA:2729:G:H1'	28:YE:187:ALA:HB2	1.68	0.74
29:YF:129:PHE:HA	29:YF:142:TRP:NE1	2.02	0.74
25:RA:2537:G:H1	25:RA:2550:C:H42	1.36	0.74
25:YA:2745:C:O2	31:YH:139:GLN:NE2	2.20	0.74
28:YE:78:LEU:HG	28:YE:79:ARG:NE	2.03	0.74
1:QA:1028(B):C:H42	1:QA:1032(A):G:H1	1.34	0.74
4:QD:8:VAL:O	4:QD:11:LEU:HB2	1.88	0.74
13:QM:121:LYS:HE2	13:QM:121:LYS:HA	1.68	0.74
25:RA:248:G:H21	25:RA:646:A:H8	1.36	0.74
28:RE:77:ILE:HD12	28:RE:78:LEU:H	1.52	0.74
25:YA:451:C:H4'	29:YF:52:LYS:NZ	2.03	0.74
29:YF:29:ASN:HB3	29:YF:112:MET:HE1	1.70	0.74
31:YH:150:ALA:C	31:YH:152:ARG:N	2.44	0.74
31:YH:153:LYS:HG3	31:YH:161:GLY:CA	2.18	0.74
19:QS:67:VAL:HB	50:R4:59:PHE:CE1	2.23	0.73
36:RQ:79:LEU:O	36:RQ:79:LEU:CD1	2.35	0.73
5:XE:37:ARG:HA	5:XE:114:GLY:H	1.52	0.73
4:QD:175:SER:HB3	4:QD:186:LEU:HD21	1.68	0.73
31:RH:125:VAL:HA	31:RH:126:PRO:HB3	1.68	0.73
31:RH:153:LYS:HG3	31:RH:161:GLY:CA	2.18	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:RT:36:GLU:HG3	39:RT:41:ARG:HD3	1.70	0.73
35:YP:64:LYS:C	35:YP:66:GLY:H	1.96	0.73
51:R5:2:ALA:O	51:R5:3:LYS:HB2	1.88	0.73
43:YX:27:THR:HB	43:YX:80:ILE:HB	1.70	0.73
25:RA:894:U:C4	25:RA:978:A:N1	2.56	0.73
28:RE:61:ARG:HB2	28:RE:62:PRO:HD3	1.69	0.73
27:YD:131:LEU:HB2	27:YD:136:ILE:CD1	2.17	0.73
38:YS:62:LYS:HB3	38:YS:97:ARG:HD3	1.68	0.73
19:QS:9:VAL:CG1	50:R4:66:SER:O	2.37	0.73
28:RE:203:LYS:HD2	28:RE:203:LYS:O	1.88	0.73
1:XA:1004:A:H8	1:XA:1036:G:H22	1.37	0.73
50:Y4:9:LEU:H	50:Y4:27:THR:HG23	1.53	0.73
1:QA:1296:C:OP1	13:QM:44:ARG:NH2	2.22	0.73
5:QE:33:VAL:HG12	5:QE:112:LEU:HD12	1.70	0.73
25:RA:2713:C:H3'	25:RA:2714:U:C5'	2.17	0.73
25:YA:2377:A:O2'	38:YS:111:GLU:O	2.06	0.73
54:Y8:61:LEU:O	54:Y8:62:LEU:HB2	1.88	0.73
25:RA:1117:G:N1	25:RA:1137:G:N7	2.37	0.73
25:RA:1736:A:H62	25:RA:1745:A:H2	1.35	0.73
26:RB:52:A:N6	38:RS:33:LYS:HG3	2.02	0.73
30:RG:67:LYS:CE	50:R4:6:HIS:CD2	2.72	0.73
31:RH:84:SER:O	31:RH:85:LYS:HB2	1.88	0.73
36:RQ:90:VAL:CG1	36:RQ:91:GLU:H	2.02	0.73
1:XA:1296:C:OP1	13:XM:44:ARG:NH2	2.22	0.73
10:XJ:50:ILE:HD12	10:XJ:57:LYS:HG2	1.69	0.73
29:YF:29:ASN:H	29:YF:112:MET:HE1	1.54	0.73
36:YQ:79:LEU:O	36:YQ:79:LEU:CD1	2.35	0.73
48:Y2:29:LYS:HD3	48:Y2:57:ILE:HD13	1.71	0.73
1:QA:439:A:OP2	1:QA:493:G:N1	2.22	0.73
25:RA:1086:C:H42	25:RA:1161:G:H1	1.34	0.73
28:RE:23:VAL:HG21	28:RE:183:LEU:HD23	1.68	0.73
31:YH:153:LYS:HG2	31:YH:162:ILE:H	1.52	0.73
1:QA:671:G:H1	1:QA:735:C:H42	1.34	0.73
3:QC:20:SER:HB2	3:QC:40:ARG:HH22	1.54	0.73
3:QC:58:GLU:HB2	3:QC:65:ALA:HB3	1.70	0.73
25:RA:2622:C:H4'	25:RA:2623:U:OP2	1.88	0.73
31:RH:54:ARG:HH12	31:RH:62:LYS:HG2	1.54	0.73
32:RI:80:PRO:HB2	32:RI:146:ALA:CB	2.16	0.73
48:R2:50:ILE:CD1	48:R2:51:ARG:N	2.52	0.73
4:XD:7:PRO:HB2	4:XD:10:ARG:HD2	1.69	0.73
28:YE:77:ILE:HD12	28:YE:78:LEU:H	1.52	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:Y4:18:CYS:SG	50:Y4:19:GLY:N	2.62	0.73
1:QA:49:U:C4	1:QA:365:U:O4	2.42	0.73
4:QD:28:SER:HB3	4:QD:29:PRO:HD3	1.71	0.73
1:XA:1292:U:OP1	7:XG:41:ARG:NH2	2.22	0.73
26:YB:40:U:HO2'	26:YB:43:C:H5	1.36	0.73
31:YH:125:VAL:HG12	31:YH:126:PRO:HG3	1.71	0.73
51:Y5:56:LYS:HG2	51:Y5:58:LEU:HB3	1.70	0.73
25:RA:2305:C:H5"	38:RS:89:ARG:HH12	1.54	0.72
32:RI:57:ARG:CD	32:RI:61:ARG:NH1	2.51	0.72
45:RZ:19:ARG:NH1	45:RZ:84:GLU:O	2.22	0.72
1:XA:136:C:H42	1:XA:227:G:H1	1.35	0.72
27:YD:77:ALA:CB	27:YD:97:TYR:HA	2.18	0.72
28:YE:203:LYS:HD2	28:YE:203:LYS:O	1.88	0.72
54:Y8:29:LYS:HD3	54:Y8:44:LYS:HB2	1.71	0.72
1:QA:745:C:OP1	1:QA:851:G:O2'	2.06	0.72
7:QG:9:VAL:HG13	7:QG:94:ARG:HH21	1.54	0.72
28:RE:56:PRO:O	28:RE:57:LYS:HB2	1.89	0.72
30:RG:145:THR:HG23	50:R4:28:LYS:NZ	2.04	0.72
35:RP:61:ARG:O	54:R8:13:ARG:NH1	2.22	0.72
25:YA:1509:C:H3'	25:YA:1510:A:H5"	1.71	0.72
38:YS:83:LYS:HZ2	38:YS:109:GLY:HA2	1.53	0.72
25:RA:1042:A:H4'	40:RU:92:ARG:HE	1.55	0.72
28:RE:13:ARG:HA	28:RE:22:PRO:HA	1.71	0.72
31:RH:80:SER:O	31:RH:81:GLU:HB2	1.89	0.72
32:RI:5:LEU:HD11	32:RI:19:VAL:HG12	1.70	0.72
51:R5:40:LYS:CE	51:R5:46:CYS:HB3	2.19	0.72
1:XA:838:G:N1	1:XA:848:C:N4	2.31	0.72
30:YG:64:THR:HG23	30:YG:66:GLN:H	1.54	0.72
31:YH:152:ARG:O	31:YH:153:LYS:HD2	1.90	0.72
31:YH:153:LYS:HA	31:YH:153:LYS:HZ3	1.52	0.72
35:YP:15:ARG:HG2	35:YP:15:ARG:NH2	2.04	0.72
36:YQ:90:VAL:CG1	36:YQ:91:GLU:H	2.02	0.72
38:YS:26:LEU:HD23	38:YS:26:LEU:O	1.90	0.72
25:RA:2825:C:H5'	51:R5:29:THR:HG21	1.71	0.72
1:XA:954:G:H4'	13:XM:121:LYS:HG3	1.70	0.72
28:YE:21:VAL:HB	28:YE:22:PRO:CB	2.18	0.72
31:YH:54:ARG:HH12	31:YH:62:LYS:HG2	1.54	0.72
31:YH:132:ARG:HH11	31:YH:132:ARG:CB	1.97	0.72
32:YI:51:ILE:O	32:YI:55:ALA:HB2	1.89	0.72
50:Y4:48:ARG:HH12	50:Y4:52:THR:HG22	1.54	0.72
54:Y8:16:ILE:HD11	54:Y8:57:ARG:HG2	1.69	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1023:G:H3'	1:QA:1024:G:H5"	1.71	0.72
12:QL:126:LYS:HB2	12:QL:126:LYS:NZ	2.04	0.72
19:QS:5:LEU:HD11	50:R4:67:TYR:CD2	2.25	0.72
28:RE:78:LEU:HG	28:RE:79:ARG:NE	2.03	0.72
27:YD:35:LYS:HZ1	27:YD:65:ILE:HA	1.52	0.72
29:YF:124:LEU:HD12	29:YF:125:LEU:N	2.04	0.72
28:RE:28:ALA:HB3	28:RE:93:VAL:HG22	1.72	0.72
10:XJ:55:LYS:HG3	10:XJ:56:HIS:N	2.04	0.72
20:XT:26:ASN:CB	20:XT:71:THR:OG1	2.37	0.72
25:YA:958:U:OP2	36:YQ:14:ARG:NH1	2.23	0.72
35:YP:9:ASN:HB2	35:YP:10:PRO:HD2	1.70	0.72
25:RA:2141:A:N6	25:RA:2192:A:N7	2.38	0.72
30:RG:5:VAL:HG22	50:R4:25:TYR:CD2	2.25	0.72
31:RH:152:ARG:O	31:RH:153:LYS:HD2	1.90	0.72
51:R5:58:LEU:CD1	51:R5:60:VAL:HG12	2.19	0.72
1:XA:664:G:H22	1:XA:741:G:H1	1.35	0.72
25:YA:67:U:O4	25:YA:74:A:N1	2.22	0.72
28:YE:201:THR:HG22	28:YE:203:LYS:HB3	1.69	0.72
29:YF:157:VAL:HB	29:YF:194:MET:HB3	1.70	0.72
4:QD:12:CYS:HA	4:QD:19:LEU:CD2	2.20	0.72
5:QE:97:GLY:N	5:QE:117:ASP:OD2	2.18	0.72
17:QQ:4:LYS:HE3	17:QQ:6:LEU:HD21	1.72	0.72
19:QS:5:LEU:CD2	50:R4:67:TYR:OH	2.37	0.72
31:RH:26:VAL:CG1	31:RH:27:LYS:H	2.02	0.72
54:R8:16:ILE:HD11	54:R8:57:ARG:HG2	1.70	0.72
54:R8:61:LEU:O	54:R8:62:LEU:HB2	1.88	0.72
1:XA:1450:U:O2'	1:XA:1451:A:N7	2.22	0.72
12:XL:126:LYS:HB2	12:XL:126:LYS:NZ	2.04	0.72
28:YE:56:PRO:O	28:YE:57:LYS:HB2	1.89	0.72
29:YF:32:LEU:HD12	29:YF:32:LEU:O	1.90	0.72
44:YY:51:VAL:HG13	44:YY:52:SER:H	1.54	0.72
4:QD:9:CYS:O	4:QD:13:ARG:HG2	1.90	0.72
25:RA:1087:C:N3	25:RA:1160:G:N2	2.32	0.72
25:YA:2788:C:O2'	25:YA:2809:A:N3	2.23	0.72
31:YH:26:VAL:CG1	31:YH:27:LYS:H	2.02	0.72
31:YH:84:SER:O	31:YH:85:LYS:HB2	1.89	0.72
48:Y2:27:GLU:OE1	48:Y2:27:GLU:N	2.19	0.72
1:QA:542:G:OP1	4:QD:10:ARG:NH2	2.22	0.72
1:QA:1162:C:H42	1:QA:1174:G:H1	1.36	0.72
13:QM:3:ARG:HG2	50:R4:34:GLU:HB3	1.71	0.72
25:RA:1579:C:N3	25:RA:1584:G:N2	2.33	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:93:VAL:H	28:RE:95:ILE:HD12	1.54	0.72
31:RH:30:LYS:HD2	31:RH:81:GLU:H	1.54	0.72
36:RQ:79:LEU:O	36:RQ:79:LEU:CD2	2.36	0.72
45:RZ:110:GLY:HA2	45:RZ:111:VAL:C	2.13	0.72
25:YA:2056:G:N2	51:Y5:4:HIS:O	2.21	0.72
28:YE:13:ARG:HA	28:YE:22:PRO:HA	1.71	0.72
28:YE:197:ILE:HD11	28:YE:199:ARG:HH12	1.55	0.72
29:YF:9:ILE:HD11	29:YF:125:LEU:HG	1.70	0.72
31:YH:30:LYS:HD2	31:YH:81:GLU:H	1.54	0.72
4:QD:18:LYS:HD3	4:QD:20:TYR:CZ	2.24	0.71
28:RE:197:ILE:HD11	28:RE:199:ARG:HH12	1.55	0.71
31:RH:89:ILE:CD1	31:RH:129:THR:HB	2.20	0.71
46:R0:68:GLU:OE1	46:R0:82:ARG:NH1	2.23	0.71
52:R6:17:LYS:HB3	52:R6:44:ARG:HH22	1.55	0.71
54:R8:60:LEU:O	54:R8:63:PRO:HD2	1.90	0.71
20:XT:50:GLU:HG3	20:XT:51:GLU:N	2.04	0.71
25:YA:1980:G:O2'	25:YA:1982:C:OP2	2.06	0.71
34:YO:47:ILE:HG13	34:YO:48:PRO:HD2	1.72	0.71
38:YS:83:LYS:HG2	38:YS:109:GLY:N	2.04	0.71
38:YS:103:GLU:O	38:YS:106:ARG:HG3	1.90	0.71
2:QB:115:LEU:HB2	2:QB:145:LEU:HD12	1.72	0.71
25:RA:1293:A:OP2	35:RP:15:ARG:NH2	2.22	0.71
25:RA:2262:G:C6	36:RQ:82:ARG:HD2	2.24	0.71
32:RI:98:ALA:HB2	32:RI:111:PRO:HB3	1.72	0.71
36:RQ:81:VAL:C	36:RQ:82:ARG:HG2	2.14	0.71
1:XA:542:G:OP1	4:XD:10:ARG:NH2	2.23	0.71
31:YH:128:PRO:HD2	31:YH:129:THR:H	1.55	0.71
53:Y7:9:ARG:HH21	53:Y7:48:LYS:CD	1.99	0.71
54:Y8:60:LEU:O	54:Y8:63:PRO:HD2	1.90	0.71
25:RA:1269:G:N2	25:RA:1272:A:OP2	2.18	0.71
35:RP:38:GLN:HG2	35:RP:45:LEU:HD12	1.71	0.71
35:RP:58:THR:O	35:RP:61:ARG:NH2	2.23	0.71
47:R1:7:ILE:HG12	47:R1:91:LYS:HZ1	1.55	0.71
1:XA:1321:C:H3'	1:XA:1322:C:H5"	1.72	0.71
5:XE:10:MET:HB3	5:XE:32:VAL:HG22	1.70	0.71
29:YF:185:ASP:OD1	29:YF:188:ARG:NH1	2.23	0.71
38:YS:67:ARG:O	38:YS:71:ARG:HG3	1.89	0.71
28:RE:21:VAL:HB	28:RE:22:PRO:CB	2.18	0.71
30:RG:61:ALA:HB2	30:RG:68:PRO:HD3	1.72	0.71
29:YF:185:ASP:HA	29:YF:188:ARG:CD	2.20	0.71
33:YN:89:LYS:O	33:YN:93:THR:HG22	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YQ:81:VAL:C	36:YQ:82:ARG:HG2	2.15	0.71
29:RF:197:ASP:O	29:RF:200:GLU:HB2	1.90	0.71
49:R3:8:LEU:HD13	49:R3:31:LEU:HD23	1.71	0.71
25:RA:2355:C:O2'	25:RA:2385:G:O2'	2.08	0.71
31:RH:125:VAL:HG12	31:RH:126:PRO:HG3	1.70	0.71
25:YA:2406:U:N3	35:YP:73:GLY:O	2.21	0.71
54:Y8:58:ILE:HD13	54:Y8:61:LEU:HD11	1.72	0.71
30:RG:3:LEU:HD11	50:R4:25:TYR:HE1	1.53	0.71
5:XE:94:ALA:HB2	5:XE:119:LEU:HG	1.73	0.71
33:YN:8:GLN:C	33:YN:9:VAL:HG13	2.15	0.71
44:YY:29:GLU:HB3	44:YY:38:ILE:HG23	1.70	0.71
1:QA:1316:G:H22	1:QA:1319:A:H5"	1.56	0.71
25:RA:2012:C:N3	25:RA:2013:U:C4	2.59	0.71
25:RA:2692:C:H5'	28:RE:189:PRO:HA	1.70	0.71
50:R4:29:PRO:O	50:R4:30:GLU:HB2	1.89	0.71
8:XH:10:LEU:HD22	8:XH:83:ILE:HD11	1.72	0.71
27:YD:263:ARG:NH1	27:YD:263:ARG:HB2	2.06	0.71
48:Y2:7:ARG:HH11	48:Y2:7:ARG:HG3	1.55	0.71
1:QA:573:A:N3	1:QA:883:C:O2'	2.24	0.71
54:R8:58:ILE:HD13	54:R8:61:LEU:HD11	1.72	0.71
10:XJ:57:LYS:HD2	10:XJ:60:ARG:CZ	2.21	0.71
25:YA:102:G:OP2	48:Y2:7:ARG:NH2	2.23	0.71
25:YA:918:A:N3	26:YB:80:U:O2'	2.24	0.71
28:YE:93:VAL:H	28:YE:95:ILE:HD12	1.54	0.71
34:YO:2:ILE:HD12	34:YO:6:THR:HG21	1.72	0.71
44:YY:42:VAL:HG12	44:YY:65:ALA:HB3	1.71	0.71
45:YZ:182:LYS:HG3	45:YZ:183:LEU:HD23	1.70	0.71
1:QA:948:C:H42	1:QA:1233:G:H1	1.37	0.71
1:QA:1405:G:OP2	58:QA:1681:PAR:O34	2.09	0.71
28:RE:174:ASP:CG	28:RE:175:VAL:H	1.98	0.71
30:RG:65:GLY:O	50:R4:7:PRO:HD2	1.91	0.71
35:RP:64:LYS:CB	54:R8:25:MET:HG2	2.19	0.71
54:R8:59:LYS:CB	54:R8:59:LYS:HZ3	2.02	0.71
12:XL:24:VAL:HG12	12:XL:24:VAL:O	1.91	0.71
31:YH:80:SER:O	31:YH:81:GLU:HB2	1.89	0.71
38:YS:83:LYS:HZ1	38:YS:109:GLY:HA2	1.52	0.71
39:YT:77:PRO:HB2	39:YT:80:SER:HB2	1.72	0.71
10:QJ:61:GLU:OE2	14:QN:45:ARG:NH1	2.24	0.70
25:RA:2129:C:N3	25:RA:2204:G:N2	2.36	0.70
32:RI:93:THR:HG22	32:RI:119:PRO:HB3	1.72	0.70
25:YA:593:G:O3'	54:Y8:61:LEU:HD22	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:174:ASP:CG	28:YE:175:VAL:H	1.98	0.70
29:YF:66:PRO:O	29:YF:67:GLN:HB3	1.89	0.70
19:QS:40:ILE:HD11	19:QS:62:ILE:HD12	1.73	0.70
19:QS:41:VAL:HB	19:QS:42:PRO:HA	1.73	0.70
31:RH:154:PRO:O	31:RH:155:SER:HB2	1.91	0.70
31:YH:103:LEU:HD12	31:YH:131:VAL:HG21	1.73	0.70
35:YP:65:ARG:HH21	54:Y8:46:ARG:NH1	1.87	0.70
25:RA:1526:G:OP2	25:RA:1556:A:N6	2.22	0.70
31:RH:132:ARG:HH11	31:RH:132:ARG:CB	1.97	0.70
27:YD:244:ARG:HB2	27:YD:245:PRO:HD2	1.71	0.70
30:YG:47:LYS:HD3	30:YG:81:LYS:HB2	1.73	0.70
31:YH:59:ARG:HH11	31:YH:59:ARG:HG3	1.56	0.70
3:QC:79:ARG:CZ	18:XR:88:LYS:O	2.39	0.70
19:QS:5:LEU:HD13	50:R4:67:TYR:HE2	1.57	0.70
25:RA:236:G:H4'	25:RA:413:G:C5	2.26	0.70
25:RA:2404:A:C8	35:RP:60:MET:HG2	2.26	0.70
42:RW:29:LEU:HD22	42:RW:69:LEU:HD11	1.72	0.70
25:YA:662:G:OP1	35:YP:15:ARG:NH2	2.24	0.70
28:YE:14:ILE:HG12	28:YE:15:PHE:N	2.06	0.70
28:YE:28:ALA:HB3	28:YE:93:VAL:HG22	1.72	0.70
31:YH:152:ARG:O	31:YH:153:LYS:CB	2.39	0.70
18:XR:58:LEU:HD23	18:XR:62:GLU:HB3	1.74	0.70
20:XT:49:ALA:HB1	20:XT:99:LEU:HB2	1.72	0.70
28:YE:15:PHE:CE1	39:YT:81:PRO:HD2	2.26	0.70
29:YF:178:PRO:HG2	29:YF:179:GLU:OE2	1.90	0.70
32:YI:51:ILE:O	32:YI:55:ALA:CB	2.40	0.70
32:YI:144:VAL:C	32:YI:145:VAL:HG22	2.15	0.70
1:QA:191:G:H1'	20:QT:105:SER:HB3	1.74	0.70
31:RH:154:PRO:HG2	31:RH:162:ILE:O	1.91	0.70
48:R2:29:LYS:HE3	48:R2:57:ILE:HG21	1.73	0.70
54:R8:29:LYS:HD3	54:R8:44:LYS:HB2	1.71	0.70
10:XJ:50:ILE:HA	10:XJ:60:ARG:HG2	1.72	0.70
25:YA:443:A:C5	29:YF:45:ARG:HD2	2.26	0.70
25:YA:780:G:H21	25:YA:783:A:H62	1.38	0.70
25:YA:2636:U:H3	25:YA:2782:G:H1	1.39	0.70
29:YF:101:LEU:O	29:YF:106:ARG:NH1	2.23	0.70
31:YH:89:ILE:CD1	31:YH:129:THR:HB	2.20	0.70
3:QC:79:ARG:NH1	18:XR:88:LYS:O	2.24	0.70
25:RA:680:G:N2	25:RA:699:C:N3	2.38	0.70
31:RH:152:ARG:O	31:RH:153:LYS:CB	2.40	0.70
36:RQ:32:TYR:CD1	36:RQ:133:ARG:HA	2.27	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1005:A:HO2'	1:XA:1037:C:HO2'	1.36	0.70
25:YA:2056:G:H2'	25:YA:2056:G:N3	2.07	0.70
27:YD:43:ARG:HB3	27:YD:54:ARG:HB2	1.73	0.70
29:YF:164:ARG:HG3	29:YF:175:THR:OG1	1.91	0.70
42:YW:17:VAL:HG12	42:YW:76:VAL:HG11	1.73	0.70
25:RA:555:G:O2'	25:RA:557:A:N7	2.24	0.70
25:RA:2518:U:H1'	56:Z5:101:PPU:HN'3	1.57	0.70
39:RT:18:ASP:OD1	39:RT:18:ASP:N	2.19	0.70
50:R4:37:SER:C	50:R4:39:CYS:H	1.98	0.70
1:XA:324:G:N1	1:XA:327:A:OP2	2.25	0.70
29:YF:178:PRO:HB2	29:YF:201:VAL:HG11	1.73	0.70
31:YH:154:PRO:HG2	31:YH:162:ILE:O	1.91	0.70
38:YS:42:ASP:O	38:YS:43:GLU:HB2	1.90	0.70
19:QS:64:GLU:CG	50:R4:55:ARG:HH12	2.05	0.70
25:RA:2012:C:H2'	25:RA:2013:U:H6	1.52	0.70
36:RQ:59:ARG:C	36:RQ:60:ARG:HG3	2.17	0.70
2:XB:185:ILE:HG22	2:XB:199:TYR:HB2	1.74	0.70
28:YE:103:ASP:OD1	28:YE:201:THR:HA	1.92	0.70
31:YH:86:GLU:CG	31:YH:165:ALA:H	1.94	0.70
45:YZ:72:ARG:NH2	45:YZ:97:GLU:O	2.23	0.70
13:QM:65:LYS:HE3	50:R4:50:VAL:CG1	2.22	0.70
51:R5:40:LYS:HE2	51:R5:47:PRO:HD2	1.73	0.70
14:XN:48:ALA:HB2	14:XN:53:LEU:HD12	1.73	0.70
27:YD:65:ILE:O	27:YD:65:ILE:HD13	1.91	0.70
25:RA:2032:G:H5"	42:RW:42:ARG:HB2	1.74	0.69
25:RA:2597:U:H5	56:Z5:101:PPU:HO2'	1.40	0.69
31:RH:128:PRO:HD2	31:RH:129:THR:H	1.55	0.69
4:XD:105:VAL:HG13	4:XD:110:PHE:HB2	1.74	0.69
19:XS:10:PHE:HB2	19:XS:39:THR:H	1.54	0.69
25:YA:660:G:O3'	29:YF:38:ARG:NH2	2.25	0.69
36:YQ:43:THR:OG1	36:YQ:46:GLN:HB2	1.91	0.69
38:YS:54:LEU:O	38:YS:54:LEU:HD13	1.91	0.69
1:QA:922:G:H4'	5:QE:20:GLN:HA	1.74	0.69
12:QL:24:VAL:O	12:QL:24:VAL:HG12	1.90	0.69
12:QL:25:PRO:C	12:QL:27:LEU:H	1.98	0.69
27:RD:93:ALA:HB3	27:RD:105:ILE:HG22	1.74	0.69
31:RH:59:ARG:HH11	31:RH:59:ARG:HG3	1.56	0.69
1:XA:686:U:H1'	11:XK:42:TRP:HE1	1.57	0.69
25:YA:744:G:H1	25:YA:753:C:H42	1.40	0.69
10:QJ:48:THR:HA	10:QJ:62:HIS:HB3	1.73	0.69
25:RA:1517:G:N2	25:RA:1568:G:OP2	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:XT:100:ILE:HG13	20:XT:102:GLY:H	1.56	0.69
25:YA:2438:U:O3'	25:YA:2439:A:H3'	1.92	0.69
26:YB:81:G:O6	26:YB:95:U:O2	2.10	0.69
48:Y2:40:SER:C	48:Y2:42:GLY:H	2.00	0.69
25:RA:1110:C:H42	25:RA:1120:G:H1	1.40	0.69
28:RE:103:ASP:OD1	28:RE:201:THR:HA	1.92	0.69
32:RI:51:ILE:O	32:RI:55:ALA:N	2.25	0.69
1:XA:1023:G:H3'	1:XA:1024:G:H5"	1.74	0.69
3:XC:162:GLN:HG2	23:XX:24:A:H1'	1.73	0.69
10:XJ:55:LYS:HG3	10:XJ:56:HIS:CD2	2.27	0.69
25:YA:2840:C:N4	25:YA:2877:G:H1	1.89	0.69
27:YD:65:ILE:HD11	27:YD:67:PHE:CD2	2.27	0.69
1:QA:1243:C:OP2	21:QU:10:ARG:NH2	2.25	0.69
13:QM:80:ARG:CB	50:R4:71:ARG:NH2	2.55	0.69
25:RA:866:A:OP2	25:RA:1232:G:N2	2.21	0.69
25:RA:2758:C:O2	31:RH:139:GLN:NE2	2.25	0.69
28:RE:7:VAL:HG23	28:RE:8:LYS:N	2.07	0.69
28:RE:65:GLY:HA2	28:RE:70:ALA:CB	2.23	0.69
31:RH:4:ILE:HG13	31:RH:6:ARG:NE	2.08	0.69
52:R6:25:LYS:CE	54:R8:34:TRP:CZ2	2.65	0.69
12:XL:25:PRO:C	12:XL:27:LEU:H	1.98	0.69
25:YA:2071:A:H2'	25:YA:2072:G:H8	1.56	0.69
30:YG:67:LYS:HE2	50:Y4:6:HIS:CE1	2.27	0.69
48:Y2:47:ASN:O	48:Y2:49:LYS:N	2.25	0.69
35:RP:61:ARG:HH11	54:R8:10:ALA:CA	2.06	0.69
36:RQ:43:THR:OG1	36:RQ:46:GLN:HB2	1.91	0.69
51:R5:40:LYS:HE2	51:R5:47:PRO:CD	2.21	0.69
1:XA:31:G:O2'	1:XA:48:C:N4	2.26	0.69
1:XA:265:G:O2'	1:XA:266:G:O5'	2.09	0.69
1:XA:1305:G:N2	1:XA:1331:G:H2'	2.06	0.69
25:YA:252:G:OP2	35:YP:50:ARG:NH1	2.25	0.69
25:YA:2030:A:H4'	25:YA:2031:A:H8	1.56	0.69
29:YF:65:TRP:HZ3	29:YF:73:ALA:O	1.74	0.69
38:YS:106:ARG:N	38:YS:110:LEU:HD21	2.07	0.69
30:RG:67:LYS:HE2	50:R4:6:HIS:CD2	2.27	0.69
31:RH:103:LEU:HD12	31:RH:131:VAL:HG21	1.73	0.69
25:YA:2840:C:N3	25:YA:2877:G:N2	2.39	0.69
27:YD:89:SER:HB2	27:YD:159:ALA:HB2	1.75	0.69
40:YU:92:ARG:HG2	40:YU:92:ARG:O	1.91	0.69
1:QA:658:G:OP1	15:QO:8:LYS:NZ	2.22	0.69
1:QA:946:A:H61	1:QA:1234:C:H42	1.40	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:48:A:N7	25:RA:118:U:O4	2.25	0.69
45:RZ:110:GLY:N	45:RZ:111:VAL:HG12	2.08	0.69
51:R5:4:HIS:HB3	51:R5:5:PRO:HD3	1.75	0.69
51:R5:40:LYS:HG2	51:R5:47:PRO:HD2	1.75	0.69
1:XA:1028(B):C:N4	1:XA:1032(A):G:H1	1.89	0.69
25:YA:259:G:HO2'	25:YA:621:A:HO2'	1.30	0.69
25:YA:530:G:O2'	25:YA:532:A:N7	2.26	0.69
25:YA:1803:A:H4'	27:YD:259:THR:HG21	1.75	0.69
25:YA:2849:U:O4	39:YT:23:ARG:NH2	2.26	0.69
27:YD:76:PRO:O	27:YD:98:VAL:HG23	1.91	0.69
28:YE:7:VAL:HG23	28:YE:8:LYS:N	2.06	0.69
29:YF:67:GLN:O	29:YF:68:LYS:CB	2.39	0.69
31:YH:89:ILE:O	31:YH:89:ILE:HG12	1.92	0.69
31:YH:154:PRO:O	31:YH:155:SER:HB2	1.91	0.69
52:Y6:11:LEU:HD11	52:Y6:51:GLU:HG3	1.75	0.69
25:RA:2036:A:O2'	51:R5:2:ALA:HB2	1.93	0.69
30:RG:113:ARG:HG2	50:R4:34:GLU:OE2	1.93	0.69
36:RQ:80:GLU:HG3	36:RQ:81:VAL:H	1.58	0.69
45:RZ:94:GLU:HB2	45:RZ:130:PRO:HD2	1.73	0.69
1:XA:28:G:H1	1:XA:555:C:N4	1.89	0.69
6:XF:68:PRO:HG2	6:XF:71:ARG:HG3	1.75	0.69
20:XT:29:LYS:HD2	20:XT:66:ALA:CB	2.22	0.69
27:YD:17:THR:HG22	27:YD:205:VAL:N	2.08	0.69
27:YD:134:ARG:HG3	27:YD:135:PHE:CD1	2.28	0.69
1:QA:611:A:N6	1:QA:629:G:H1	1.89	0.69
27:RD:25:THR:O	27:RD:27:THR:N	2.26	0.69
42:RW:29:LEU:HG	42:RW:33:ARG:HD2	1.74	0.69
1:XA:388:G:O2'	1:XA:389:A:OP2	2.10	0.69
1:XA:690:G:H22	11:XK:55:LYS:NZ	1.90	0.69
25:YA:482:A:H4'	44:YY:47:LYS:HD2	1.74	0.69
25:YA:1309:G:H4'	53:Y7:7:PRO:HB2	1.74	0.69
27:YD:17:THR:CG2	27:YD:204:ILE:HA	2.23	0.69
27:YD:35:LYS:HB3	27:YD:63:ARG:HA	1.75	0.69
30:YG:179:PRO:HG3	50:Y4:38:LYS:NZ	2.08	0.69
45:YZ:60:GLU:HA	45:YZ:66:SER:HA	1.75	0.69
1:QA:1227:A:OP1	19:QS:80:TYR:OH	2.04	0.68
25:RA:1785:C:OP1	39:RT:96:ARG:NH1	2.23	0.68
32:RI:57:ARG:HD2	32:RI:57:ARG:C	2.17	0.68
52:R6:25:LYS:NZ	54:R8:34:TRP:HZ2	1.90	0.68
25:YA:1820:U:C2	27:YD:202:LYS:HB3	2.28	0.68
27:YD:122:ASP:CG	27:YD:123:ALA:H	2.00	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YP:65:ARG:NH2	54:Y8:46:ARG:HH12	1.89	0.68
38:YS:57:LYS:HD3	38:YS:57:LYS:H	1.58	0.68
38:YS:106:ARG:CA	38:YS:110:LEU:HD11	2.20	0.68
5:QE:102:ALA:O	5:QE:107:ARG:NH1	2.25	0.68
25:RA:2592:U:H4'	28:RE:130:GLY:HA3	1.74	0.68
45:RZ:60:GLU:HA	45:RZ:66:SER:HA	1.75	0.68
25:YA:2111:C:N3	25:YA:2118:U:O2'	2.26	0.68
28:YE:65:GLY:HA2	28:YE:70:ALA:CB	2.23	0.68
39:YT:123:GLN:O	39:YT:125:ARG:N	2.26	0.68
25:RA:1094:A:H2	25:RA:1158:G:H21	1.40	0.68
31:RH:126:PRO:HB2	31:RH:130:ARG:O	1.93	0.68
24:XY:36:U:C2	24:XY:37:A:C8	2.82	0.68
25:YA:1057:A:H62	25:YA:1086:A:H2'	1.58	0.68
38:YS:100:ALA:HA	38:YS:103:GLU:HG2	1.75	0.68
47:Y1:73:LEU:HD13	47:Y1:90:ILE:HG22	1.76	0.68
19:QS:68:GLY:HA3	50:R4:68:ARG:CG	2.21	0.68
32:RI:52:ARG:CG	32:RI:53:ALA:H	2.07	0.68
32:RI:80:PRO:CB	32:RI:146:ALA:HB2	2.17	0.68
14:XN:13:THR:N	14:XN:14:PRO:HD2	2.08	0.68
25:YA:2667:C:H1'	31:YH:109:PHE:HD2	1.57	0.68
35:YP:20:GLY:HA2	35:YP:27:HIS:O	1.94	0.68
36:YQ:80:GLU:HG3	36:YQ:81:VAL:H	1.58	0.68
36:YQ:88:GLY:C	36:YQ:90:VAL:N	2.47	0.68
1:QA:1129:C:O2	1:QA:1132:C:N4	2.19	0.68
3:QC:3:ASN:N	3:QC:3:ASN:OD1	2.27	0.68
25:RA:1489:G:H1	25:RA:1595:C:N4	1.91	0.68
30:RG:66:GLN:NE2	30:RG:93:THR:O	2.26	0.68
1:XA:116:A:H61	1:XA:313:A:H1'	1.59	0.68
26:YB:66:A:O2'	26:YB:67:G:OP2	2.11	0.68
31:YH:126:PRO:HB2	31:YH:130:ARG:O	1.93	0.68
35:YP:61:ARG:CD	54:Y8:13:ARG:CD	2.71	0.68
4:QD:13:ARG:NH1	4:QD:38:TYR:O	2.26	0.68
25:RA:1740:U:O2'	27:RD:14:ARG:NH2	2.27	0.68
31:RH:89:ILE:O	31:RH:89:ILE:HG12	1.92	0.68
35:RP:65:ARG:HH21	54:R8:46:ARG:HH12	1.40	0.68
50:R4:15:ILE:HD13	50:R4:15:ILE:N	2.09	0.68
31:YH:4:ILE:HG13	31:YH:6:ARG:NE	2.08	0.68
31:YH:4:ILE:HG13	31:YH:6:ARG:NH1	2.09	0.68
36:YQ:66:ILE:HG13	36:YQ:67:ARG:H	1.57	0.68
30:RG:47:LYS:HD3	30:RG:81:LYS:HB2	1.76	0.68
31:RH:88:LEU:H	31:RH:88:LEU:HD22	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RQ:88:GLY:C	36:RQ:90:VAL:N	2.47	0.68
1:XA:1060:C:C5	3:XC:2:GLY:HA2	2.29	0.68
13:XM:7:VAL:HG21	30:YG:113:ARG:O	1.94	0.68
25:YA:910:A:H62	36:YQ:12:GLN:HA	1.59	0.68
31:YH:126:PRO:HG2	31:YH:127:GLU:H	1.58	0.68
31:YH:126:PRO:CD	31:YH:127:GLU:H	2.07	0.68
35:YP:61:ARG:CD	54:Y8:13:ARG:HD2	2.23	0.68
5:QE:11:ILE:HG13	5:QE:31:LEU:HB3	1.76	0.68
16:QP:4:ILE:HG12	16:QP:21:VAL:HG12	1.75	0.68
19:QS:42:PRO:CG	50:R4:63:TYR:HE2	2.07	0.68
30:RG:6:ALA:H	50:R4:23:GLU:CG	2.05	0.68
31:RH:126:PRO:HG2	31:RH:127:GLU:H	1.59	0.68
2:XB:235:SER:OG	2:XB:236:TYR:N	2.25	0.68
20:XT:43:LEU:HD13	20:XT:51:GLU:HG3	1.75	0.68
25:YA:2527:C:H5"	55:Y9:30:PRO:HB2	1.75	0.68
27:YD:241:PRO:O	27:YD:243:GLY:N	2.27	0.68
28:YE:16:ARG:HG3	28:YE:16:ARG:O	1.93	0.68
48:Y2:23:LYS:O	48:Y2:27:GLU:OE1	2.11	0.68
51:Y5:40:LYS:HZ1	51:Y5:48:GLU:HB2	1.59	0.68
1:QA:1502:A:H2	1:QA:1505:G:H1	1.41	0.68
25:RA:1514:C:H42	25:RA:1571:G:H1	1.41	0.68
26:RB:52:A:O2'	26:RB:53:A:N7	2.26	0.68
36:RQ:12:GLN:CG	36:RQ:73:PRO:HD2	2.21	0.68
37:RR:38:VAL:HG22	37:RR:112:ALA:HB2	1.75	0.68
25:YA:2415:G:H4'	35:YP:67:MET:N	2.08	0.68
27:YD:35:LYS:HZ1	27:YD:104:TYR:HB2	1.56	0.68
28:YE:9:VAL:HB	28:YE:25:VAL:HG23	1.76	0.68
35:YP:18:ARG:O	35:YP:19:VAL:HG23	1.94	0.68
45:YZ:145:GLU:HG3	45:YZ:146:ILE:HG12	1.76	0.68
25:RA:66:U:O4	25:RA:73:A:N1	2.27	0.68
25:RA:2433:G:OP1	52:R6:6:ARG:NH2	2.26	0.68
30:RG:83:ARG:H	30:RG:86:MET:HG3	1.58	0.68
36:RQ:90:VAL:CG1	36:RQ:91:GLU:N	2.57	0.68
36:RQ:104:PHE:HE2	36:RQ:125:LEU:HD11	1.59	0.68
51:R5:20:ARG:HA	51:R5:23:HIS:ND1	2.09	0.68
35:YP:39:LYS:HG3	35:YP:45:LEU:HD22	1.75	0.68
1:QA:255:G:H1'	17:QQ:16:GLN:NE2	2.09	0.67
19:XS:40:ILE:HG12	19:XS:41:VAL:HG13	1.76	0.67
20:XT:29:LYS:CD	20:XT:66:ALA:HB2	2.25	0.67
20:XT:33:ILE:HG23	20:XT:63:ILE:HG12	1.76	0.67
25:YA:142:G:H1'	43:YX:37:THR:HG21	1.74	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2451:A:C6	56:Z6:101:PPU:HE2	2.28	0.67
25:YA:2741:A:OP1	55:Y9:22:ARG:NH1	2.26	0.67
36:YQ:90:VAL:CG1	36:YQ:91:GLU:N	2.57	0.67
38:YS:35:ILE:HD13	38:YS:101:LEU:HD23	1.76	0.67
48:Y2:64:LEU:HD22	48:Y2:68:ARG:HD2	1.77	0.67
11:QK:58:PRO:HB2	11:QK:93:GLN:HG3	1.75	0.67
28:RE:13:ARG:CB	28:RE:13:ARG:HH11	2.07	0.67
36:RQ:20:ALA:HB1	36:RQ:99:PRO:HD2	1.76	0.67
36:RQ:133:ARG:O	36:RQ:134:ARG:HB2	1.94	0.67
27:YD:44:ASN:N	27:YD:44:ASN:ND2	2.42	0.67
36:YQ:33:GLY:HA2	36:YQ:105:GLU:HA	1.76	0.67
36:YQ:90:VAL:O	36:YQ:92:GLY:N	2.25	0.67
10:QJ:53:PRO:HA	14:QN:42:ILE:HD12	1.76	0.67
19:QS:67:VAL:H	50:R4:59:PHE:HZ	1.41	0.67
25:RA:241:G:OP2	35:RP:50:ARG:NH1	2.27	0.67
25:RA:1039:G:OP1	40:RU:50:ARG:NH2	2.27	0.67
25:RA:1712:A:H2'	25:RA:1713:G:H5'	1.75	0.67
25:RA:2376:C:OP1	46:R0:55:ARG:NH1	2.27	0.67
28:RE:116:VAL:O	28:RE:117:MET:HB3	1.94	0.67
50:R4:33:VAL:HG12	50:R4:34:GLU:N	2.10	0.67
1:XA:833:U:H3	1:XA:853:G:H1	1.42	0.67
1:XA:991:U:O4	1:XA:1212:U:O2'	2.09	0.67
32:YI:5:LEU:HD21	32:YI:12:LEU:HB3	1.77	0.67
25:RA:2012:C:C2	25:RA:2013:U:C4	2.83	0.67
25:RA:2389:A:H2'	25:RA:2390:A:C8	2.30	0.67
39:RT:84:GLN:HG2	39:RT:85:LYS:HG2	1.76	0.67
1:XA:707:C:OP1	11:XK:85:ARG:NH1	2.27	0.67
25:YA:1454:U:H5'	37:YR:63:ARG:HE	1.58	0.67
26:YB:90:C:OP1	36:YQ:16:ARG:HG2	1.94	0.67
31:YH:77:LYS:HG2	31:YH:77:LYS:O	1.94	0.67
36:YQ:104:PHE:CE2	36:YQ:125:LEU:HD11	2.29	0.67
51:Y5:48:GLU:HA	51:Y5:59:GLU:CG	2.24	0.67
1:QA:878:G:H5'	8:QH:89:PRO:HG2	1.77	0.67
25:RA:333:G:N3	25:RA:353:G:O2'	2.27	0.67
28:RE:10:GLY:H	28:RE:25:VAL:HG23	1.60	0.67
36:RQ:104:PHE:CE2	36:RQ:125:LEU:HD11	2.30	0.67
41:RV:72:VAL:HG13	41:RV:85:LYS:HB3	1.75	0.67
53:R7:9:ARG:NH2	53:R7:48:LYS:HB2	2.10	0.67
27:YD:172:TYR:HB3	27:YD:184:LYS:HG2	1.76	0.67
28:YE:26:ILE:HD13	28:YE:27:LEU:N	2.10	0.67
38:YS:67:ARG:HB2	38:YS:67:ARG:CZ	2.24	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:Y7:9:ARG:CZ	53:Y7:48:LYS:HB2	2.24	0.67
2:QB:27:LYS:HD2	2:QB:193:ASP:HB2	1.75	0.67
28:RE:14:ILE:HG12	28:RE:15:PHE:N	2.06	0.67
1:XA:265:G:H2'	1:XA:266:G:H4'	1.77	0.67
1:XA:316:G:OP2	1:XA:351:G:O2'	2.12	0.67
5:XE:31:LEU:HD23	5:XE:45:PHE:CD1	2.30	0.67
8:XH:120:THR:H	8:XH:123:GLU:HB2	1.59	0.67
22:XV:3:G:HO2'	22:XV:4:G:H8	1.43	0.67
25:YA:1903:G:OP2	27:YD:241:PRO:HB2	1.94	0.67
35:YP:64:LYS:C	35:YP:66:GLY:N	2.48	0.67
36:YQ:12:GLN:CG	36:YQ:73:PRO:HD2	2.21	0.67
38:YS:52:SER:O	38:YS:56:LEU:HD22	1.93	0.67
45:YZ:19:ARG:NH1	45:YZ:84:GLU:O	2.24	0.67
1:QA:1292:U:OP1	7:QG:41:ARG:NH2	2.28	0.67
19:QS:29:ARG:HD3	19:QS:30:LEU:HD13	1.77	0.67
25:RA:1660:A:H62	42:RW:93:ALA:HB2	1.60	0.67
28:RE:16:ARG:HG3	28:RE:16:ARG:O	1.92	0.67
31:RH:4:ILE:HG13	31:RH:6:ARG:NH1	2.09	0.67
35:RP:61:ARG:HG3	54:R8:13:ARG:HD2	1.76	0.67
1:XA:263:A:OP2	20:XT:79:ARG:NH1	2.25	0.67
2:XB:178:ARG:HG3	8:XH:72:PRO:HA	1.76	0.67
25:YA:528:A:N1	25:YA:2042:A:H2'	2.10	0.67
25:YA:2335:A:O2'	25:YA:2336:A:O5'	2.12	0.67
28:YE:13:ARG:CB	28:YE:13:ARG:HH11	2.07	0.67
28:YE:116:VAL:O	28:YE:117:MET:HB3	1.94	0.67
29:YF:107:LYS:O	29:YF:108:LYS:C	2.36	0.67
29:YF:184:TYR:O	29:YF:188:ARG:HG3	1.94	0.67
4:QD:154:ASN:OD1	4:QD:154:ASN:N	2.26	0.67
25:RA:1232:G:H5"	41:RV:81:TYR:CE1	2.30	0.67
27:RD:182:LEU:H	27:RD:272:ALA:HB3	1.59	0.67
36:RQ:66:ILE:HG13	36:RQ:67:ARG:H	1.57	0.67
1:XA:941:G:H1	1:XA:1342:C:H42	1.41	0.67
25:YA:2250:G:C6	36:YQ:82:ARG:HD2	2.30	0.67
25:RA:82:G:N2	25:RA:101:A:OP2	2.24	0.67
29:RF:143:ALA:HB1	29:RF:148:LEU:HB2	1.75	0.67
36:RQ:32:TYR:HD1	36:RQ:133:ARG:HA	1.60	0.67
25:YA:2123:G:H1	25:YA:2175:C:H42	1.41	0.67
28:YE:62:PRO:O	28:YE:64:LYS:N	2.28	0.67
31:YH:88:LEU:H	31:YH:88:LEU:HD22	1.58	0.67
39:YT:16:ARG:NH2	39:YT:83:ILE:O	2.28	0.67
40:YU:92:ARG:HD2	41:YV:11:GLN:HB2	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:124:GLU:HB3	31:RH:132:ARG:HD2	1.77	0.67
31:RH:126:PRO:CD	31:RH:127:GLU:H	2.07	0.67
36:RQ:90:VAL:O	36:RQ:92:GLY:N	2.25	0.67
48:R2:50:ILE:CD1	48:R2:51:ARG:H	2.03	0.67
29:YF:46:ARG:HH11	29:YF:46:ARG:CG	2.04	0.67
36:YQ:104:PHE:HE2	36:YQ:125:LEU:HD11	1.59	0.67
41:YV:52:VAL:HG21	41:YV:55:ALA:HB3	1.76	0.67
25:RA:1043:G:OP1	40:RU:93:LYS:HD3	1.94	0.66
25:RA:2406:C:OP1	35:RP:63:PRO:HD2	1.93	0.66
27:RD:49:ILE:HD11	27:RD:52:ARG:HA	1.77	0.66
28:RE:36:ARG:HB3	28:RE:36:ARG:HH11	1.60	0.66
32:RI:4:ILE:HG12	32:RI:18:VAL:HG22	1.77	0.66
2:XB:168:THR:HB	2:XB:192:SER:HB2	1.77	0.66
27:YD:35:LYS:CA	27:YD:64:ILE:HG22	2.26	0.66
29:YF:103:LYS:HA	29:YF:106:ARG:CG	2.21	0.66
37:YR:78:LYS:HE2	37:YR:83:ILE:HD11	1.77	0.66
26:RB:38:C:N4	26:RB:44:G:H1	1.93	0.66
31:RH:77:LYS:O	31:RH:77:LYS:HG2	1.94	0.66
31:RH:125:VAL:CG1	31:RH:126:PRO:HG3	2.25	0.66
1:XA:1305:G:H1'	1:XA:1332:A:N6	2.09	0.66
2:XB:174:VAL:HG13	2:XB:184:VAL:HG11	1.76	0.66
25:YA:620:G:H4'	25:YA:621:A:H5"	1.78	0.66
28:YE:51:PHE:O	28:YE:52:LEU:C	2.38	0.66
1:QA:49:U:H5	1:QA:365:U:O4	1.75	0.66
25:RA:2679:C:H1'	31:RH:109:PHE:HD2	1.60	0.66
25:RA:2849:G:H5'	37:RR:46:GLY:HA2	1.77	0.66
55:R9:27:CYS:SG	55:R9:29:ASN:ND2	2.69	0.66
1:XA:1422:G:H5"	34:YO:48:PRO:HB3	1.77	0.66
25:YA:2712:U:HO2'	25:YA:2712(A):A:H8	1.40	0.66
27:YD:172:TYR:HD1	27:YD:185:VAL:C	2.03	0.66
32:YI:4:ILE:HG12	32:YI:18:VAL:HG22	1.76	0.66
33:YN:42:TRP:O	40:YU:64:ARG:NH2	2.25	0.66
48:Y2:65:ASN:HB3	48:Y2:69:ARG:NH1	2.10	0.66
1:QA:976:G:N2	1:QA:1362(A):C:OP2	2.23	0.66
3:QC:70:VAL:HG12	3:QC:72:LYS:H	1.60	0.66
32:RI:3:VAL:HG12	32:RI:38:LEU:HA	1.77	0.66
25:YA:2404:C:O3'	35:YP:77:ARG:NH2	2.27	0.66
26:YB:44:G:H1'	26:YB:47:C:N4	2.10	0.66
1:QA:427:U:OP1	4:QD:13:ARG:NH2	2.29	0.66
1:QA:1318:A:H4'	19:QS:11:VAL:HG11	1.78	0.66
22:QV:15:C:O2'	22:QV:61:C:OP1	2.13	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2481:A:H2	25:RA:2493:G:H21	1.42	0.66
35:RP:64:LYS:HB3	54:R8:25:MET:HG2	1.77	0.66
36:RQ:86:GLY:C	36:RQ:88:GLY:H	2.03	0.66
47:R1:7:ILE:HG12	47:R1:91:LYS:NZ	2.11	0.66
13:XM:105:THR:O	13:XM:107:ALA:N	2.29	0.66
25:YA:2445:G:OP1	29:YF:74:ARG:NH2	2.29	0.66
28:YE:28:ALA:O	28:YE:93:VAL:HG23	1.96	0.66
28:YE:37:ARG:NE	28:YE:37:ARG:HA	2.11	0.66
1:QA:963:G:N3	10:QJ:55:LYS:NZ	2.42	0.66
12:QL:126:LYS:C	12:QL:128:ALA:H	2.04	0.66
19:QS:39:THR:HG22	19:QS:40:ILE:H	1.61	0.66
28:RE:9:VAL:HB	28:RE:25:VAL:HG23	1.76	0.66
31:RH:168:PRO:O	31:RH:169:VAL:HG12	1.96	0.66
27:YD:68:LYS:HB2	27:YD:70:TRP:CZ3	2.31	0.66
27:YD:121:PRO:HA	27:YD:135:PHE:CD2	2.30	0.66
38:YS:106:ARG:HA	38:YS:110:LEU:CD2	2.25	0.66
42:YW:45:TYR:CZ	42:YW:49:LYS:HD2	2.31	0.66
44:YY:49:VAL:O	44:YY:51:VAL:N	2.29	0.66
1:QA:1305:G:H22	1:QA:1331:G:H2'	1.60	0.66
25:RA:2134:G:O6	25:RA:2191:A:N6	2.28	0.66
25:RA:2310:A:H62	25:RA:2330:G:H8	1.44	0.66
28:RE:101:ARG:CZ	28:RE:171:GLU:HB2	2.26	0.66
36:RQ:33:GLY:HA2	36:RQ:105:GLU:HA	1.76	0.66
12:XL:26:ALA:O	12:XL:27:LEU:O	2.14	0.66
20:XT:36:LEU:CD1	20:XT:55:ILE:HD12	2.25	0.66
27:YD:35:LYS:HE3	27:YD:64:ILE:C	2.21	0.66
31:YH:125:VAL:CG1	31:YH:126:PRO:HG3	2.25	0.66
44:YY:97:ARG:HE	44:YY:98:VAL:HB	1.61	0.66
1:QA:346:G:H1'	1:QA:347:G:H5'	1.76	0.66
4:QD:12:CYS:HA	4:QD:19:LEU:HD21	1.78	0.66
4:QD:12:CYS:O	4:QD:14:ARG:N	2.28	0.66
25:RA:793:A:C5	25:RA:2623:U:H5"	2.30	0.66
28:RE:26:ILE:HD13	28:RE:27:LEU:N	2.10	0.66
28:RE:62:PRO:O	28:RE:64:LYS:N	2.28	0.66
29:RF:149:ASP:OD1	29:RF:149:ASP:N	2.27	0.66
10:XJ:7:LYS:HB2	10:XJ:97:GLU:HB2	1.76	0.66
25:YA:2701:C:H3'	25:YA:2702:U:C5'	2.22	0.66
33:YN:35:ARG:O	33:YN:37:LYS:N	2.29	0.66
36:YQ:20:ALA:HB1	36:YQ:99:PRO:HD2	1.77	0.66
25:RA:618:C:H42	25:RA:709:G:H1	1.44	0.66
25:RA:2160:C:H42	25:RA:2175:G:H1	1.43	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2802:C:O2	25:RA:2903:G:N1	2.28	0.66
1:XA:110:C:O2'	16:XP:25:ARG:O	2.14	0.66
1:XA:137:C:H42	1:XA:226:G:H1	1.44	0.66
19:XS:50:ALA:HB1	19:XS:57:HIS:HB3	1.77	0.66
25:YA:1113:U:OP1	31:YH:2:SER:N	2.29	0.66
35:YP:105:LEU:O	35:YP:106:LEU:HB2	1.95	0.66
38:YS:88:ASP:OD1	38:YS:90:GLY:N	2.28	0.66
1:QA:842:C:O2'	1:QA:848:C:N4	2.29	0.66
1:QA:1352:C:OP1	21:QU:3:LYS:NZ	2.25	0.66
44:RY:49:VAL:O	44:RY:51:VAL:N	2.29	0.66
52:R6:11:LEU:HD23	52:R6:26:ASN:HB3	1.78	0.66
1:XA:523:A:H61	12:XL:92:ASP:HB2	1.60	0.66
30:YG:6:ALA:N	50:Y4:23:GLU:HG2	2.09	0.66
30:YG:113:ARG:HG2	50:Y4:34:GLU:OE2	1.95	0.66
38:YS:107:GLU:H	38:YS:110:LEU:HD11	1.60	0.66
39:YT:16:ARG:HD3	39:YT:19:LEU:HD11	1.77	0.66
41:YV:21:ARG:HD2	41:YV:91:TYR:CD1	2.31	0.66
5:QE:100:VAL:HG22	5:QE:118:ILE:HG22	1.79	0.65
25:RA:27:G:HO2'	25:RA:28:A:H8	1.43	0.65
25:RA:2647:C:OP1	28:RE:78:LEU:HD12	1.96	0.65
26:RB:9:G:OP1	38:RS:25:ARG:NH2	2.28	0.65
32:RI:51:ILE:O	32:RI:55:ALA:HB3	1.95	0.65
1:XA:390:C:O3'	16:XP:28:ARG:NH2	2.29	0.65
1:XA:439:A:OP2	1:XA:493:G:N1	2.28	0.65
27:YD:183:ARG:HH11	27:YD:183:ARG:CG	2.07	0.65
47:Y1:29:GLY:O	47:Y1:31:GLY:N	2.30	0.65
1:QA:963:G:H1	1:QA:972:C:H42	1.44	0.65
1:QA:1175:G:H2'	1:QA:1176:A:H8	1.60	0.65
25:RA:1091:A:C8	25:RA:1157:A:N6	2.63	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
39:RT:102:ILE:HB	39:RT:110:ILE:HD13	1.78	0.65
50:R4:16:CYS:SG	50:R4:33:VAL:HB	2.35	0.65
1:XA:790:A:OP1	22:XV:38:A:O2'	2.13	0.65
25:YA:363(B):G:H2'	25:YA:363(C):G:H8	1.61	0.65
28:YE:13:ARG:NH1	28:YE:21:VAL:HG12	2.11	0.65
28:YE:101:ARG:CZ	28:YE:171:GLU:HB2	2.25	0.65
31:YH:124:GLU:HB3	31:YH:132:ARG:HD2	1.77	0.65
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.77	0.65
12:QL:21:LYS:HD2	12:QL:21:LYS:N	2.11	0.65
25:RA:83:A:N1	25:RA:97:G:O2'	2.24	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:931:C:N3	25:RA:938:G:O6	2.29	0.65
25:RA:2244:U:P	47:R1:40:ARG:HH12	2.19	0.65
25:YA:566:U:OP1	35:YP:29:LYS:NZ	2.28	0.65
25:YA:1593:G:H2'	25:YA:1594:G:H8	1.61	0.65
28:YE:36:ARG:HB3	28:YE:36:ARG:HH11	1.60	0.65
33:YN:8:GLN:O	33:YN:9:VAL:HG22	1.96	0.65
36:YQ:88:GLY:C	36:YQ:90:VAL:H	2.02	0.65
2:QB:82:ARG:HA	2:QB:92:TYR:CE2	2.31	0.65
36:RQ:86:GLY:C	36:RQ:88:GLY:N	2.52	0.65
51:R5:40:LYS:NZ	51:R5:48:GLU:HB2	2.10	0.65
20:XT:97:ALA:O	20:XT:99:LEU:N	2.30	0.65
27:YD:27:THR:CG2	27:YD:28:GLU:H	2.08	0.65
27:YD:80:ALA:HB3	27:YD:94:LEU:CD1	2.25	0.65
31:YH:168:PRO:O	31:YH:169:VAL:HG12	1.96	0.65
48:Y2:42:GLY:O	48:Y2:44:LEU:N	2.30	0.65
12:QL:115:LYS:O	12:QL:117:ARG:HG3	1.97	0.65
28:RE:11:MET:HE3	28:RE:186:GLY:HA2	1.79	0.65
36:RQ:88:GLY:C	36:RQ:90:VAL:H	2.02	0.65
50:R4:36:CYS:O	50:R4:37:SER:O	2.14	0.65
2:XB:178:ARG:NH1	2:XB:196:LEU:O	2.28	0.65
5:XE:37:ARG:HA	5:XE:114:GLY:N	2.10	0.65
12:XL:39:VAL:HB	12:XL:57:LYS:HB2	1.78	0.65
27:YD:145:VAL:HG12	27:YD:146:GLU:O	1.96	0.65
40:YU:8:VAL:HG23	40:YU:11:ARG:HH21	1.62	0.65
45:YZ:97:GLU:HB3	45:YZ:125:LEU:HD11	1.78	0.65
48:Y2:69:ARG:NH1	48:Y2:69:ARG:HB2	2.11	0.65
1:QA:1202:G:N2	14:QN:43:CYS:SG	2.70	0.65
3:QC:9:GLY:HA2	3:QC:12:LEU:HD23	1.78	0.65
19:QS:28:LYS:HB2	19:QS:47:HIS:CE1	2.32	0.65
25:RA:1107:U:H5'	25:RA:1116:A:H1'	1.77	0.65
28:RE:28:ALA:O	28:RE:93:VAL:HG23	1.95	0.65
36:RQ:80:GLU:C	36:RQ:81:VAL:HG13	2.22	0.65
44:RY:38:ILE:HG22	44:RY:66:PRO:HA	1.79	0.65
25:YA:130:C:O3'	25:YA:1349:A:O2'	2.12	0.65
25:YA:771:G:OP1	53:Y7:14:LYS:HE3	1.97	0.65
25:YA:807:U:H2'	25:YA:808:G:C8	2.32	0.65
28:YE:10:GLY:H	28:YE:25:VAL:HG23	1.60	0.65
28:YE:201:THR:HG22	28:YE:203:LYS:N	2.07	0.65
45:YZ:58:VAL:O	45:YZ:60:GLU:N	2.29	0.65
4:XD:22:LYS:NZ	4:XD:22:LYS:HB3	2.11	0.65
12:XL:115:LYS:O	12:XL:117:ARG:HG3	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:Y8:52:LYS:HG3	54:Y8:52:LYS:O	1.97	0.65
1:QA:1002:G:N2	1:QA:1038:C:N3	2.42	0.65
16:QP:53:VAL:HG12	16:QP:79:VAL:HG22	1.77	0.65
25:RA:1480:A:H61	25:RA:1605:A:H62	1.45	0.65
28:RE:37:ARG:NE	28:RE:37:ARG:HA	2.11	0.65
28:RE:51:PHE:O	28:RE:52:LEU:C	2.38	0.65
35:RP:64:LYS:HB3	54:R8:25:MET:CG	2.24	0.65
35:RP:85:LEU:HA	35:RP:88:LEU:HD22	1.79	0.65
50:R4:49:PHE:O	50:R4:50:VAL:HG23	1.97	0.65
1:XA:254:G:H2'	1:XA:255:G:H5'	1.77	0.65
1:XA:445:G:H1	1:XA:489:C:H42	1.45	0.65
1:XA:1195:C:H5"	1:XA:1196:U:OP2	1.97	0.65
10:XJ:50:ILE:HD11	10:XJ:57:LYS:CG	2.26	0.65
51:Y5:48:GLU:HA	51:Y5:59:GLU:HG3	1.78	0.65
1:QA:191:G:O2'	20:QT:101:GLY:O	2.14	0.65
1:QA:648:A:H2'	1:QA:649:G:H8	1.62	0.65
19:QS:42:PRO:CG	50:R4:63:TYR:CE2	2.80	0.65
25:RA:155:C:N3	25:RA:160:G:N2	2.35	0.65
25:RA:2416:C:O3'	35:RP:77:ARG:NH2	2.30	0.65
28:RE:4:ILE:C	28:RE:5:LEU:HD23	2.22	0.65
29:RF:198:ALA:O	29:RF:201:VAL:HG12	1.96	0.65
31:RH:128:PRO:CD	31:RH:129:THR:H	2.09	0.65
1:XA:1316:G:H22	1:XA:1319:A:H5"	1.62	0.65
51:Y5:56:LYS:H	51:Y5:56:LYS:HD2	1.60	0.65
12:QL:26:ALA:O	12:QL:27:LEU:O	2.14	0.65
12:QL:39:VAL:HB	12:QL:57:LYS:HB2	1.79	0.65
28:RE:13:ARG:NH1	28:RE:21:VAL:HG12	2.11	0.65
31:RH:51:ARG:HH11	31:RH:51:ARG:HG3	1.61	0.65
32:RI:57:ARG:HD2	32:RI:57:ARG:O	1.97	0.65
34:RO:4:PRO:O	34:RO:5:GLN:HB2	1.96	0.65
51:R5:40:LYS:HD3	51:R5:46:CYS:CB	2.26	0.65
51:R5:56:LYS:H	51:R5:56:LYS:CD	2.07	0.65
1:XA:266:G:O2'	1:XA:267:C:O5'	2.15	0.65
4:XD:9:CYS:SG	4:XD:31:CYS:O	2.54	0.65
11:XK:21:ILE:HB	11:XK:84:VAL:HG12	1.78	0.65
12:XL:21:LYS:HD2	12:XL:21:LYS:N	2.11	0.65
25:YA:2287:A:N6	25:YA:2344:U:N3	2.39	0.65
27:YD:44:ASN:HB3	27:YD:49:ILE:HG22	1.78	0.65
27:YD:77:ALA:HB2	27:YD:97:TYR:HA	1.77	0.65
27:YD:176:ARG:HG2	27:YD:176:ARG:HH11	1.61	0.65
33:YN:13:TRP:HB2	33:YN:133:GLN:HG3	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:Y0:10:THR:HG22	46:Y0:12:ASN:H	1.63	0.65
54:Y8:56:GLU:OE1	54:Y8:56:GLU:N	2.30	0.65
13:QM:3:ARG:HD2	13:QM:9:ILE:HG12	1.79	0.64
13:QM:80:ARG:HB3	50:R4:71:ARG:HH22	1.62	0.64
25:RA:723:A:N1	25:RA:849:A:N1	2.44	0.64
25:RA:2136:A:N6	25:RA:2141:A:N7	2.45	0.64
31:RH:150:ALA:C	31:RH:152:ARG:N	2.44	0.64
35:RP:47:ASP:OD2	35:RP:50:ARG:NH2	2.30	0.64
25:YA:1216:G:OP2	40:YU:12:ARG:NH2	2.27	0.64
25:YA:2031:A:N3	25:YA:2455:G:O2'	2.30	0.64
30:YG:67:LYS:HZ3	50:Y4:6:HIS:CD2	2.15	0.64
31:YH:105:LEU:H	31:YH:105:LEU:CD1	2.09	0.64
36:YQ:23:GLY:HA3	36:YQ:101:ARG:NH1	2.12	0.64
36:YQ:81:VAL:O	36:YQ:82:ARG:HG2	1.97	0.64
36:YQ:133:ARG:O	36:YQ:134:ARG:HB2	1.96	0.64
13:QM:122:LYS:O	13:QM:122:LYS:HD3	1.97	0.64
28:RE:50:GLY:HA3	28:RE:74:PRO:HG3	1.79	0.64
28:RE:104:VAL:HG11	28:RE:188:VAL:CG2	2.27	0.64
31:RH:105:LEU:H	31:RH:105:LEU:CD1	2.09	0.64
35:RP:71:VAL:HG13	35:RP:72:PRO:HD3	1.79	0.64
36:RQ:81:VAL:O	36:RQ:82:ARG:HG2	1.97	0.64
3:XC:122:GLU:OE1	3:XC:126:ARG:NH2	2.29	0.64
50:Y4:18:CYS:SG	50:Y4:39:CYS:CB	2.85	0.64
25:RA:904:C:OP2	46:R0:77:ARG:NH2	2.23	0.64
25:RA:1355:G:H4'	53:R7:7:PRO:HB2	1.80	0.64
28:RE:35:GLN:CG	28:RE:37:ARG:HE	2.11	0.64
25:YA:2726:U:H4'	34:YO:1:MET:HE1	1.78	0.64
29:YF:175:THR:O	29:YF:176:LEU:HB2	1.95	0.64
31:YH:128:PRO:CD	31:YH:129:THR:H	2.09	0.64
36:YQ:79:LEU:HD13	46:Y0:5:LYS:HD3	1.79	0.64
22:QV:58:A:O2'	22:QV:60:U:OP2	2.14	0.64
25:RA:1431:G:O2'	25:RA:1442:U:O2	2.13	0.64
25:RA:2523:U:O4	25:RA:2587:C:N3	2.29	0.64
31:RH:148:ILE:O	31:RH:151:ILE:HG12	1.98	0.64
31:YH:117:PRO:HB3	31:YH:123:PHE:CE2	2.33	0.64
33:YN:38:HIS:O	40:YU:67:ALA:HB1	1.96	0.64
36:YQ:80:GLU:C	36:YQ:81:VAL:HG13	2.22	0.64
1:QA:1481:U:H2'	1:QA:1482:G:C8	2.33	0.64
27:RD:35:LYS:HG2	27:RD:64:ILE:N	2.12	0.64
27:RD:65:ILE:HD11	27:RD:67:PHE:CE2	2.31	0.64
36:RQ:10:ARG:O	36:RQ:11:LYS:HB2	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:R8:56:GLU:OE1	54:R8:56:GLU:N	2.30	0.64
1:XA:1392:G:H21	1:XA:1502:A:H8	1.46	0.64
15:XO:26:GLU:OE2	15:XO:77:ARG:NH1	2.31	0.64
25:YA:277:C:H5'	25:YA:278:A:H5"	1.78	0.64
25:YA:2652:C:H42	25:YA:2668:G:H1	1.43	0.64
29:YF:45:ARG:HH11	29:YF:45:ARG:CG	2.09	0.64
36:YQ:86:GLY:C	36:YQ:88:GLY:H	2.03	0.64
38:YS:78:LEU:HD11	38:YS:107:GLU:O	1.98	0.64
1:QA:636:U:H5'	17:QQ:2:PRO:HG3	1.79	0.64
25:RA:811:A:H5'	27:RD:210:GLY:HA2	1.79	0.64
25:RA:2648:U:OP1	28:RE:79:ARG:HA	1.98	0.64
27:RD:8:PRO:HB3	27:RD:14:ARG:HB2	1.79	0.64
1:XA:1311:G:H1	1:XA:1326:C:H42	1.45	0.64
12:XL:126:LYS:C	12:XL:128:ALA:H	2.04	0.64
28:YE:104:VAL:HG11	28:YE:188:VAL:CG2	2.27	0.64
29:YF:155:LEU:HD13	29:YF:174:VAL:CG1	2.27	0.64
40:YU:92:ARG:NH1	41:YV:11:GLN:O	2.31	0.64
1:QA:834:C:N4	1:QA:852:G:H1	1.93	0.64
2:QB:5:ILE:HG21	2:QB:221:LEU:HD23	1.78	0.64
5:QE:11:ILE:HD11	5:QE:31:LEU:HD12	1.80	0.64
29:RF:192:LEU:HD22	29:RF:194:MET:HG2	1.80	0.64
40:RU:90:VAL:O	40:RU:92:ARG:N	2.30	0.64
25:YA:84:A:O5'	44:YY:8:LYS:HD3	1.98	0.64
25:YA:125:G:H5"	53:Y7:19:ARG:HD3	1.78	0.64
25:YA:2286:A:H8	52:Y6:37:ARG:HH11	1.45	0.64
28:YE:69:LYS:O	28:YE:71:GLY:N	2.27	0.64
29:YF:11:VAL:HG12	29:YF:12:LEU:N	2.13	0.64
31:YH:51:ARG:HG3	31:YH:51:ARG:HH11	1.62	0.64
31:YH:148:ILE:O	31:YH:151:ILE:HG12	1.97	0.64
35:YP:58:THR:O	35:YP:61:ARG:NE	2.30	0.64
36:YQ:81:VAL:O	36:YQ:82:ARG:HD3	1.98	0.64
36:YQ:86:GLY:C	36:YQ:88:GLY:N	2.52	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
50:Y4:18:CYS:HB3	50:Y4:39:CYS:CB	2.28	0.64
12:QL:18:VAL:HG23	12:QL:19:ARG:H	1.63	0.64
26:RB:24:G:O6	26:RB:56:G:O2'	2.14	0.64
37:RR:33:ARG:NH2	51:R5:55:ARG:CG	2.61	0.64
37:RR:104:ARG:HD3	37:RR:109:ALA:HB3	1.79	0.64
3:XC:11:ARG:O	3:XC:13:GLY:N	2.30	0.64
25:YA:1359:A:N6	25:YA:1372:U:H3	1.93	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1530:G:O6	25:YA:1542:G:N2	2.29	0.64
29:YF:46:ARG:HG2	29:YF:46:ARG:NH1	2.00	0.64
31:YH:92:ILE:H	31:YH:92:ILE:HD12	1.63	0.64
10:QJ:77:PRO:O	10:QJ:79:ARG:NH1	2.30	0.64
25:RA:1105:G:O6	25:RA:1125:C:N4	2.31	0.64
25:RA:1174:A:O2'	25:RA:2502:G:OP1	2.16	0.64
28:RE:201:THR:HG21	28:RE:203:LYS:HB3	1.80	0.64
31:RH:153:LYS:HA	31:RH:153:LYS:HZ3	1.61	0.64
36:RQ:30:GLY:HA3	36:RQ:106:VAL:O	1.98	0.64
43:RX:43:VAL:HG13	43:RX:51:VAL:HG21	1.78	0.64
25:YA:952:G:P	36:YQ:16:ARG:HH12	2.20	0.64
25:YA:1335:U:OP2	43:YX:65:ARG:NH2	2.31	0.64
28:YE:4:ILE:C	28:YE:5:LEU:HD23	2.22	0.64
40:YU:50:ARG:O	40:YU:54:LYS:NZ	2.31	0.64
40:YU:90:VAL:HG12	40:YU:91:ASP:H	1.61	0.64
36:RQ:23:GLY:HA3	36:RQ:101:ARG:NH1	2.13	0.64
5:XE:147:ASP:O	5:XE:151:LEU:HG	1.97	0.64
8:XH:7:ALA:HB2	8:XH:85:ARG:HD3	1.80	0.64
25:YA:2119:A:H61	25:YA:2168:G:H22	1.44	0.64
27:YD:12:SER:C	27:YD:14:ARG:H	2.06	0.64
28:YE:14:ILE:CG1	28:YE:15:PHE:H	2.08	0.64
50:Y4:18:CYS:HB3	50:Y4:39:CYS:HB3	1.79	0.64
10:QJ:4:ILE:HB	10:QJ:74:ILE:HG13	1.80	0.63
25:RA:1117:G:O6	25:RA:1137:G:O6	2.16	0.63
27:RD:35:LYS:HZ1	27:RD:104:TYR:HB2	1.62	0.63
31:RH:92:ILE:H	31:RH:92:ILE:HD12	1.63	0.63
47:R1:29:GLY:O	47:R1:31:GLY:N	2.29	0.63
48:R2:65:ASN:HB3	48:R2:69:ARG:HH22	1.61	0.63
1:XA:267:C:P	17:XQ:67:LYS:HB2	2.38	0.63
1:XA:438:G:H4'	4:XD:123:HIS:CD2	2.33	0.63
2:XB:187:LEU:HA	2:XB:201:ILE:HB	1.79	0.63
3:XC:19:GLU:O	3:XC:40:ARG:NH2	2.30	0.63
25:YA:83:G:N2	25:YA:103:A:OP2	2.21	0.63
25:YA:1717:G:H1	25:YA:1742:C:H42	1.46	0.63
28:YE:50:GLY:HA3	28:YE:74:PRO:HG3	1.79	0.63
31:YH:3:ARG:HA	31:YH:3:ARG:NE	2.12	0.63
54:Y8:48:PHE:N	54:Y8:48:PHE:CD1	2.66	0.63
1:QA:1014:A:H4'	19:QS:14:HIS:CD2	2.32	0.63
10:QJ:49:VAL:HG13	14:QN:41:ARG:HB2	1.81	0.63
25:RA:615:G:H21	54:R8:4:MET:HE2	1.64	0.63
25:RA:931:C:C2	25:RA:938:G:N1	2.66	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1589:A:O2'	25:RA:1590:C:H3'	1.99	0.63
27:RD:35:LYS:HG2	27:RD:64:ILE:H	1.63	0.63
31:RH:153:LYS:HG3	31:RH:161:GLY:HA3	1.80	0.63
36:RQ:81:VAL:HG23	46:R0:7:LEU:CD1	2.27	0.63
38:RS:26:LEU:HB3	38:RS:87:PHE:HA	1.81	0.63
27:YD:18:VAL:HG12	27:YD:19:ALA:O	1.99	0.63
35:YP:19:VAL:HG13	35:YP:20:GLY:N	2.13	0.63
38:YS:26:LEU:HD22	38:YS:87:PHE:HD1	1.63	0.63
38:YS:42:ASP:C	38:YS:44:LYS:H	2.07	0.63
1:QA:1481:U:H2'	1:QA:1482:G:H8	1.62	0.63
2:QB:24:TRP:H	2:QB:24:TRP:HD1	1.46	0.63
36:RQ:104:PHE:O	36:RQ:105:GLU:HB3	1.98	0.63
1:XA:106:C:H2'	1:XA:107:G:H8	1.64	0.63
1:XA:1455:G:H5"	20:XT:31:SER:HB2	1.79	0.63
2:XB:79:ASP:HA	2:XB:82:ARG:HB2	1.80	0.63
12:XL:18:VAL:HG23	12:XL:19:ARG:H	1.62	0.63
25:YA:1022:G:N2	25:YA:1023:U:O4	2.31	0.63
28:YE:11:MET:HE3	28:YE:186:GLY:HA2	1.79	0.63
28:YE:201:THR:HG21	28:YE:203:LYS:HB3	1.80	0.63
45:YZ:89:PHE:HE2	45:YZ:96:VAL:HG21	1.62	0.63
45:YZ:94:GLU:HB2	45:YZ:130:PRO:HD2	1.78	0.63
1:QA:503:C:OP2	12:QL:116:SER:HB3	1.98	0.63
1:QA:1028(B):C:N4	1:QA:1032(A):G:H1	1.96	0.63
25:RA:325:G:H1	25:RA:340:C:H42	1.46	0.63
25:RA:406:G:N2	47:R1:42:GLN:OE1	2.26	0.63
25:RA:1405:A:N6	25:RA:1418:U:C5	2.66	0.63
25:RA:2356:U:O2'	52:R6:37:ARG:HG2	1.99	0.63
25:RA:2695:C:OP1	39:RT:53:ARG:NH2	2.32	0.63
25:RA:2826:C:O3'	37:RR:99:LYS:NZ	2.31	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
25:YA:784:A:N7	27:YD:229:VAL:HG21	2.14	0.63
25:YA:1533:C:N3	25:YA:1538:G:N2	2.38	0.63
27:YD:230:ASP:O	27:YD:231:HIS:HB2	1.98	0.63
36:YQ:104:PHE:O	36:YQ:105:GLU:HB3	1.98	0.63
50:Y4:23:GLU:O	50:Y4:25:TYR:N	2.31	0.63
19:QS:40:ILE:HG23	19:QS:41:VAL:HG22	1.79	0.63
25:RA:532:A:H5"	25:RA:533:G:H5'	1.81	0.63
25:RA:1405:A:N1	25:RA:1418:U:C4	2.66	0.63
25:RA:1783:C:H42	25:RA:1787:G:H1	1.47	0.63
35:RP:61:ARG:CG	54:R8:13:ARG:CD	2.72	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:XL:62:SER:O	12:XL:64:TYR:HD1	1.82	0.63
20:XT:33:ILE:HD13	20:XT:62:LEU:HB3	1.80	0.63
27:YD:72:LYS:HG2	27:YD:103:ARG:NH2	2.13	0.63
48:Y2:46:GLN:OE1	48:Y2:46:GLN:HA	1.97	0.63
50:Y4:48:ARG:O	50:Y4:50:VAL:N	2.31	0.63
1:QA:18:C:HO2'	1:QA:864:A:HO2'	1.44	0.63
12:QL:86:ARG:HB2	12:QL:101:VAL:CG2	2.28	0.63
13:QM:80:ARG:HB2	50:R4:71:ARG:HH22	1.57	0.63
25:RA:70:A:H2	43:RX:31:HIS:HE2	1.45	0.63
25:RA:73:A:H4'	25:RA:74:G:O5'	1.99	0.63
25:RA:266:C:N3	25:RA:278:G:N2	2.37	0.63
28:RE:131:ALA:HB1	28:RE:135:HIS:CE1	2.34	0.63
31:RH:117:PRO:HB3	31:RH:123:PHE:CE2	2.33	0.63
36:RQ:20:ALA:HB1	36:RQ:99:PRO:CB	2.28	0.63
36:RQ:66:ILE:CG1	36:RQ:67:ARG:H	2.12	0.63
36:RQ:81:VAL:O	36:RQ:82:ARG:HD3	1.98	0.63
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.33	0.63
12:XL:86:ARG:HB2	12:XL:101:VAL:CG2	2.28	0.63
13:XM:91:ARG:HB2	13:XM:98:VAL:HG13	1.80	0.63
25:YA:2343:C:O2'	25:YA:2373:G:O2'	2.16	0.63
25:YA:2397:G:H5"	47:Y1:28:GLY:HA2	1.80	0.63
29:YF:67:GLN:O	29:YF:67:GLN:CG	2.32	0.63
38:YS:88:ASP:CG	38:YS:90:GLY:H	2.06	0.63
44:YY:91:GLU:HG3	44:YY:92:ASN:H	1.63	0.63
5:QE:76:ILE:HG23	5:QE:118:ILE:HD13	1.80	0.63
12:QL:85:ILE:HD11	12:QL:98:TYR:HB2	1.81	0.63
26:RB:33:G:H5'	30:RG:2:PRO:HG3	1.80	0.63
31:RH:3:ARG:NE	31:RH:3:ARG:HA	2.12	0.63
35:RP:64:LYS:CG	54:R8:25:MET:CG	2.76	0.63
35:RP:95:VAL:HG13	35:RP:100:LEU:HD21	1.80	0.63
50:R4:39:CYS:HB3	50:R4:41:PRO:HD2	1.79	0.63
31:YH:153:LYS:HG3	31:YH:161:GLY:HA3	1.80	0.63
36:YQ:10:ARG:O	36:YQ:11:LYS:HB2	1.97	0.63
36:YQ:90:VAL:C	36:YQ:92:GLY:H	2.07	0.63
1:QA:954:G:H21	1:QA:1227:A:H62	1.45	0.63
4:QD:31:CYS:CB	4:QD:33:MET:CB	2.76	0.63
20:QT:41:ILE:HG22	20:QT:91:LEU:HD12	1.80	0.63
25:RA:48:A:N7	25:RA:118:U:C5	2.67	0.63
25:RA:604:C:H2'	25:RA:605:G:H8	1.64	0.63
25:RA:613:A:OP1	29:RF:95:ARG:NH1	2.31	0.63
25:RA:853:C:P	35:RP:41:ARG:HH11	2.22	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:RN:13:TRP:HB2	33:RN:133:GLN:HG3	1.81	0.63
33:RN:133:GLN:HB2	33:RN:135:PRO:HD3	1.79	0.63
34:RO:78:ARG:HH21	39:RT:103:ARG:NH2	1.96	0.63
50:R4:63:TYR:C	50:R4:65:ASP:H	2.05	0.63
54:R8:52:LYS:HG3	54:R8:52:LYS:O	1.97	0.63
1:XA:1060:C:C4	3:XC:2:GLY:HA2	2.34	0.63
10:XJ:58:ASP:O	10:XJ:59:SER:CB	2.45	0.63
25:YA:451:C:H4'	29:YF:52:LYS:HZ2	1.63	0.63
25:YA:1754:C:H5'	39:YT:101:PHE:CE2	2.34	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
29:RF:12:LEU:HD12	29:RF:17:ARG:HG2	1.80	0.63
36:RQ:20:ALA:HB1	36:RQ:99:PRO:CD	2.29	0.63
54:R8:48:PHE:N	54:R8:48:PHE:CD1	2.66	0.63
13:XM:23:TYR:HB3	13:XM:67:GLU:HA	1.81	0.63
25:YA:1209:G:H21	25:YA:1210:A:H62	1.45	0.63
25:YA:1728:G:H8	25:YA:1732:A:H62	1.46	0.63
28:YE:35:GLN:CG	28:YE:37:ARG:NE	2.62	0.63
36:YQ:20:ALA:HB1	36:YQ:99:PRO:CB	2.28	0.63
38:YS:22:GLY:O	38:YS:23:ARG:O	2.17	0.63
52:Y6:41:PRO:HG2	52:Y6:45:LYS:H	1.63	0.63
2:QB:24:TRP:H	2:QB:24:TRP:CD1	2.15	0.62
12:QL:62:SER:O	12:QL:64:TYR:HD1	1.82	0.62
25:RA:854:U:H2'	25:RA:855:G:C8	2.34	0.62
25:RA:2404:A:H8	35:RP:60:MET:HG2	1.62	0.62
30:RG:67:LYS:HZ3	50:R4:6:HIS:CD2	2.14	0.62
35:RP:61:ARG:NH1	54:R8:10:ALA:CB	2.53	0.62
36:RQ:79:LEU:CD1	46:R0:5:LYS:HD3	2.26	0.62
38:RS:15:ARG:HH11	38:RS:25:ARG:HH21	1.45	0.62
44:RY:51:VAL:HG13	44:RY:52:SER:H	1.64	0.62
50:R4:71:ARG:HH11	50:R4:71:ARG:CG	1.97	0.62
24:XY:35:G:C5	24:XY:36:U:C5	2.87	0.62
25:YA:807:U:H2'	25:YA:808:G:H8	1.62	0.62
31:YH:86:GLU:O	31:YH:87:LEU:HB2	1.99	0.62
36:YQ:30:GLY:HA3	36:YQ:106:VAL:O	1.98	0.62
40:YU:92:ARG:O	40:YU:94:ASN:N	2.29	0.62
53:Y7:9:ARG:NH2	53:Y7:48:LYS:HD2	2.05	0.62
54:Y8:59:LYS:HZ3	54:Y8:59:LYS:HB3	1.62	0.62
1:QA:1191:A:OP1	3:QC:3:ASN:ND2	2.32	0.62
2:QB:178:ARG:HH21	8:QH:74:PRO:HG3	1.64	0.62
4:QD:7:PRO:HB2	4:QD:10:ARG:HD2	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:155:ARG:HD3	7:QG:155:ARG:H	1.65	0.62
8:QH:10:LEU:HD22	8:QH:83:ILE:HD11	1.80	0.62
25:RA:1065:U:H3	25:RA:1188:A:H62	1.45	0.62
25:RA:2728:C:H2'	25:RA:2729:U:H6	1.64	0.62
48:R2:46:GLN:O	48:R2:47:ASN:HB2	1.97	0.62
1:XA:559:A:OP1	5:XE:126:ARG:NH2	2.32	0.62
1:XA:1014:A:H4'	19:XS:14:HIS:CD2	2.35	0.62
2:XB:12:GLU:O	2:XB:16:HIS:ND1	2.22	0.62
2:XB:212:GLN:NE2	2:XB:235:SER:HB2	2.14	0.62
25:YA:1057:A:N1	25:YA:1081:U:O4	2.32	0.62
28:YE:4:ILE:CD1	28:YE:28:ALA:HB1	2.29	0.62
28:YE:13:ARG:HH12	28:YE:21:VAL:HG12	1.64	0.62
29:YF:132:VAL:HG23	29:YF:133:ASN:N	2.14	0.62
25:RA:69:G:H21	25:RA:70:A:H62	1.46	0.62
25:RA:303:C:H42	25:RA:385:G:H1	1.47	0.62
25:RA:1405:A:N6	25:RA:1418:U:C4	2.67	0.62
26:RB:83:G:H4'	49:R3:52:HIS:CG	2.34	0.62
9:XI:24:GLY:N	9:XI:60:ASP:OD1	2.29	0.62
10:XJ:32:ALA:HB3	10:XJ:76:ASN:HB2	1.79	0.62
25:YA:620:G:H4'	25:YA:621:A:C5'	2.30	0.62
25:YA:1678:G:N2	25:YA:1989:G:H22	1.97	0.62
25:YA:2789:C:H1'	25:YA:2892:A:H2	1.64	0.62
29:YF:129:PHE:O	29:YF:130:ALA:HB3	1.99	0.62
30:YG:115:ARG:NH2	30:YG:137:GLU:OE1	2.32	0.62
38:YS:48:LEU:HD12	38:YS:48:LEU:N	2.14	0.62
25:RA:625:G:HO2'	25:RA:627:G:HO2'	1.43	0.62
25:RA:854:U:H2'	25:RA:855:G:H8	1.63	0.62
25:RA:1449:C:H5"	25:RA:1518:A:H1'	1.80	0.62
25:RA:1728:G:O2'	25:RA:1793:A:O2'	2.18	0.62
25:RA:2588:G:O2'	25:RA:2591:C:OP2	2.15	0.62
26:RB:52:A:H62	38:RS:33:LYS:HG3	1.64	0.62
30:RG:179:PRO:HB3	50:R4:38:LYS:HD2	1.80	0.62
31:RH:136:ILE:H	31:RH:136:ILE:HD12	1.64	0.62
36:RQ:90:VAL:C	36:RQ:92:GLY:H	2.07	0.62
2:XB:92:TYR:CE1	2:XB:151:GLY:HA3	2.35	0.62
25:YA:780:G:N2	25:YA:783:A:H62	1.98	0.62
30:YG:3:LEU:HD12	30:YG:4:ASP:H	1.64	0.62
51:Y5:4:HIS:HB3	51:Y5:5:PRO:HD3	1.82	0.62
1:QA:1002:G:H2'	1:QA:1003:G:C8	2.33	0.62
1:QA:1128:C:OP1	9:QI:66:ARG:NH2	2.32	0.62
4:QD:18:LYS:HD3	4:QD:20:TYR:OH	1.98	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:QT:30:LYS:NZ	20:QT:80:ARG:NH1	2.47	0.62
25:RA:1310:G:H5'	51:R5:11:THR:HG21	1.80	0.62
26:RB:75:G:H5"	45:RZ:36:LYS:HE2	1.80	0.62
35:RP:14:LYS:O	35:RP:16:ARG:N	2.33	0.62
39:RT:54:ARG:HA	39:RT:59:THR:HG23	1.82	0.62
1:XA:812:C:H4'	1:XA:813:U:H5'	1.80	0.62
2:XB:54:THR:HG21	2:XB:201:ILE:HD11	1.82	0.62
6:XF:97:PHE:HD1	18:XR:31:LEU:HD21	1.64	0.62
10:XJ:5:ARG:HH21	10:XJ:99:LYS:HD2	1.63	0.62
25:YA:2267:A:H5"	25:YA:2268:A:H5'	1.82	0.62
31:YH:136:ILE:H	31:YH:136:ILE:HD12	1.64	0.62
32:YI:48:GLU:OE1	32:YI:52:ARG:NH2	2.33	0.62
32:YI:81:VAL:HG21	32:YI:88:ILE:HD12	1.80	0.62
39:YT:1:MET:O	39:YT:3:ARG:N	2.29	0.62
48:Y2:70:GLN:O	48:Y2:71:ASN:HB2	2.00	0.62
1:QA:1127:G:H21	1:QA:1147:C:H41	1.45	0.62
28:RE:13:ARG:HH12	28:RE:21:VAL:HG12	1.64	0.62
28:RE:35:GLN:CG	28:RE:37:ARG:NE	2.62	0.62
25:YA:1359:A:N6	25:YA:1372:U:C4	2.67	0.62
25:YA:2807:G:N1	25:YA:2893:G:O6	2.20	0.62
36:YQ:79:LEU:HD12	46:Y0:5:LYS:HD2	1.81	0.62
48:Y2:41:ILE:HG12	48:Y2:44:LEU:HD12	1.82	0.62
1:QA:51:A:N1	1:QA:314:C:O2'	2.33	0.62
1:QA:181:G:O2'	1:QA:182:U:O5'	2.17	0.62
1:QA:1376:U:P	7:QG:94:ARG:HH12	2.23	0.62
5:QE:71:LEU:HD11	5:QE:115:VAL:H	1.64	0.62
5:QE:71:LEU:HD13	5:QE:115:VAL:H	1.65	0.62
31:RH:137:ASP:HB3	31:RH:140:LYS:HB2	1.81	0.62
1:XA:767:A:O2'	1:XA:1524:C:O2	2.12	0.62
7:XG:111:ARG:NH1	7:XG:113:GLU:OE2	2.32	0.62
19:XS:13:ASP:OD1	19:XS:13:ASP:N	2.32	0.62
25:YA:2553:G:N2	56:Z6:101:PPU:H2	2.15	0.62
27:YD:133:LEU:HD21	27:YD:191:ALA:CB	2.29	0.62
28:YE:131:ALA:HB1	28:YE:135:HIS:CE1	2.34	0.62
29:YF:28:ILE:HD13	29:YF:30:PRO:HD3	1.80	0.62
36:YQ:60:ARG:NH1	45:YZ:114:GLY:H	1.96	0.62
38:YS:100:ALA:HA	38:YS:103:GLU:CG	2.30	0.62
48:Y2:69:ARG:HB2	48:Y2:69:ARG:CZ	2.29	0.62
1:QA:585:G:O3'	17:QQ:34:LYS:NZ	2.33	0.62
8:QH:6:ILE:HB	8:QH:85:ARG:NH1	2.15	0.62
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RB:44:G:H5"	26:RB:45:A:OP1	2.00	0.62
28:RE:152:LYS:HB2	33:RN:77:GLY:O	2.00	0.62
43:RX:53:LYS:HB2	43:RX:82:GLN:HB3	1.80	0.62
50:R4:38:LYS:C	50:R4:40:HIS:N	2.52	0.62
25:YA:1265:A:H8	25:YA:1265:A:OP1	1.82	0.62
27:YD:35:LYS:HA	27:YD:64:ILE:HG22	1.82	0.62
29:YF:28:ILE:HG22	29:YF:112:MET:HB3	1.80	0.62
1:QA:692:U:OP1	11:QK:124:LYS:NZ	2.32	0.62
1:QA:1342:C:H4'	9:QI:125:TYR:HB3	1.82	0.62
22:QV:21:A:H61	22:QV:46:G:H2'	1.63	0.62
1:XA:1149:C:OP1	9:XI:9:ARG:NH2	2.33	0.62
10:XJ:47:PHE:HB3	14:XN:34:TYR:CE2	2.35	0.62
25:YA:971:C:O2'	25:YA:983:A:N3	2.29	0.62
28:YE:104:VAL:HG11	28:YE:188:VAL:HG23	1.82	0.62
50:Y4:37:SER:HB3	50:Y4:42:PHE:CD1	2.35	0.62
25:RA:1369:U:OP1	42:RW:98:LYS:NZ	2.22	0.62
28:RE:35:GLN:HG2	28:RE:37:ARG:NE	2.14	0.62
32:RI:47:LEU:O	32:RI:51:ILE:HG13	1.99	0.62
50:R4:23:GLU:O	50:R4:25:TYR:N	2.33	0.62
1:XA:267:C:H6	1:XA:267:C:H5'	1.65	0.62
1:XA:954:G:H21	1:XA:1227:A:N6	1.85	0.62
1:XA:1106:G:H5"	3:XC:172:ARG:HG2	1.82	0.62
5:XE:42:GLY:HA3	5:XE:66:MET:HG2	1.82	0.62
25:YA:273:G:H1	25:YA:364:C:H42	1.48	0.62
25:YA:2361:A:OP1	54:Y8:27:THR:HG23	2.00	0.62
25:YA:2395:C:O2'	47:Y1:30:VAL:HG12	2.00	0.62
46:Y0:27:GLU:HG3	46:Y0:68:GLU:HA	1.82	0.62
4:QD:159:ARG:NH2	25:YA:2197:U:OP1	2.33	0.61
28:RE:201:THR:HG22	28:RE:203:LYS:N	2.07	0.61
50:R4:61:ARG:O	50:R4:63:TYR:N	2.33	0.61
54:R8:33:ASN:O	54:R8:34:TRP:C	2.42	0.61
1:XA:406:G:H5'	4:XD:5:ILE:HD13	1.81	0.61
4:XD:111:ALA:HB2	4:XD:120:LEU:HD12	1.82	0.61
9:XI:29:ASN:OD1	9:XI:65:VAL:N	2.29	0.61
25:YA:1359:A:H3'	25:YA:1360:A:H5"	1.81	0.61
25:YA:1434:A:H61	25:YA:1558:A:N6	1.99	0.61
25:YA:1441:G:H2'	25:YA:1442:G:H8	1.65	0.61
26:YB:12:C:O2	46:Y0:74:ARG:HD2	1.99	0.61
27:YD:182:LEU:H	27:YD:272:ALA:HB3	1.63	0.61
48:Y2:17:SER:HB2	48:Y2:18:PRO:CA	2.30	0.61
11:QK:121:PRO:HD2	11:QK:126:ARG:HD3	1.80	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2724:U:HO2'	25:RA:2725:A:H8	1.48	0.61
27:RD:35:LYS:HD2	27:RD:104:TYR:CD1	2.35	0.61
22:XV:28:C:H2'	22:XV:29:G:H8	1.65	0.61
27:YD:227:ASN:CB	27:YD:228:PRO:HD2	2.24	0.61
29:YF:32:LEU:CD1	29:YF:105:VAL:HG13	2.29	0.61
1:QA:411:A:H62	1:QA:413:G:H21	1.47	0.61
14:QN:13:THR:N	14:QN:14:PRO:HD2	2.15	0.61
25:RA:1072:U:H4'	25:RA:1073:A:OP1	1.98	0.61
28:RE:15:PHE:CE1	39:RT:81:PRO:HD3	2.34	0.61
31:RH:86:GLU:O	31:RH:87:LEU:HB2	1.99	0.61
31:RH:152:ARG:O	31:RH:153:LYS:CD	2.48	0.61
1:XA:58:C:O2'	1:XA:388:G:N7	2.30	0.61
9:XI:114:TYR:HE2	10:XJ:60:ARG:H	1.47	0.61
25:YA:363(A):A:H2'	25:YA:363(B):G:H8	1.64	0.61
36:YQ:54:MET:O	36:YQ:57:HIS:HB3	2.00	0.61
48:Y2:40:SER:C	48:Y2:42:GLY:N	2.51	0.61
54:Y8:33:ASN:O	54:Y8:34:TRP:C	2.42	0.61
1:QA:677:U:H3	1:QA:713:G:H22	1.48	0.61
25:RA:331:G:H21	25:RA:354:A:H62	1.47	0.61
25:RA:515:G:N7	42:RW:49:LYS:NZ	2.48	0.61
25:RA:2157:A:H62	25:RA:2178:G:H21	1.46	0.61
25:RA:2404:A:H1'	35:RP:60:MET:HE3	1.81	0.61
32:RI:5:LEU:HD13	32:RI:17:GLN:HB3	1.81	0.61
1:XA:547:A:OP1	4:XD:73:ARG:NH2	2.33	0.61
20:XT:100:ILE:HG13	20:XT:102:GLY:N	2.15	0.61
25:YA:994:C:O2'	25:YA:996:A:OP1	2.15	0.61
25:YA:1593:G:H2'	25:YA:1594:G:C8	2.34	0.61
27:YD:27:THR:O	27:YD:29:PRO:HD2	1.99	0.61
27:YD:70:TRP:CH2	27:YD:150:LYS:HA	2.35	0.61
32:YI:52:ARG:HB2	32:YI:52:ARG:HH11	1.64	0.61
36:YQ:2:LEU:HD23	36:YQ:2:LEU:H	1.65	0.61
48:Y2:41:ILE:HD11	48:Y2:44:LEU:HG	1.82	0.61
54:Y8:29:LYS:HD3	54:Y8:44:LYS:CB	2.30	0.61
1:QA:1347:G:N2	1:QA:1374:A:OP2	2.25	0.61
11:QK:22:HIS:HB3	11:QK:29:ILE:HG23	1.83	0.61
14:QN:6:LEU:HD23	14:QN:23:ARG:HH22	1.64	0.61
20:QT:33:ILE:HD12	20:QT:63:ILE:CG1	2.30	0.61
25:RA:120:G:OP1	25:RA:149:A:O2'	2.16	0.61
25:RA:2148:A:H4'	25:RA:2149:G:O5'	1.99	0.61
47:R1:53:VAL:HG22	47:R1:74:VAL:HG13	1.83	0.61
50:R4:64:GLY:C	50:R4:66:SER:H	2.07	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:R9:25:VAL:HB	55:R9:34:GLN:HB2	1.82	0.61
25:YA:27:G:H1'	25:YA:513:A:N6	2.15	0.61
25:YA:573:G:N1	25:YA:2031:A:OP2	2.23	0.61
28:YE:174:ASP:CG	28:YE:175:VAL:N	2.58	0.61
29:YF:34:TRP:CZ3	35:YP:8:PRO:HB3	2.35	0.61
31:YH:137:ASP:HB3	31:YH:140:LYS:HB2	1.81	0.61
31:YH:152:ARG:O	31:YH:153:LYS:CD	2.48	0.61
36:YQ:66:ILE:CG1	36:YQ:67:ARG:H	2.12	0.61
38:YS:17:ARG:HG3	38:YS:18:ILE:N	2.14	0.61
3:QC:37:GLN:NE2	14:QN:52:GLN:OE1	2.32	0.61
10:QJ:40:LEU:HB2	10:QJ:69:ASN:HB3	1.82	0.61
29:RF:178:PRO:HB3	29:RF:198:ALA:HB1	1.82	0.61
42:RW:25:ARG:NH2	42:RW:74:ALA:O	2.32	0.61
1:XA:156:G:H1	1:XA:165:C:N4	1.99	0.61
8:XH:4:ASP:OD2	8:XH:85:ARG:NH1	2.33	0.61
12:XL:85:ILE:HD11	12:XL:98:TYR:HB2	1.81	0.61
20:XT:33:ILE:CG2	20:XT:63:ILE:HG12	2.30	0.61
20:XT:43:LEU:CB	20:XT:52:ALA:HB2	2.31	0.61
25:YA:127:A:H5"	25:YA:128:C:C6	2.35	0.61
27:YD:25:THR:HG21	27:YD:81:ALA:CA	2.31	0.61
27:YD:137:PRO:HB2	27:YD:140:THR:HG23	1.81	0.61
27:YD:147:LEU:CD1	27:YD:155:LEU:HD11	2.26	0.61
31:YH:6:ARG:HG3	31:YH:7:LEU:N	2.15	0.61
38:YS:49:VAL:HG22	38:YS:80:LEU:HD12	1.82	0.61
3:QC:14:ILE:O	3:QC:16:ARG:N	2.33	0.61
25:RA:523:G:N3	44:RY:47:LYS:NZ	2.48	0.61
25:RA:1083:G:H1	25:RA:1164:C:H42	1.48	0.61
25:RA:2245:U:H2'	25:RA:2246:G:C8	2.35	0.61
31:RH:6:ARG:HG3	31:RH:7:LEU:N	2.15	0.61
54:R8:29:LYS:HD3	54:R8:44:LYS:CB	2.30	0.61
1:XA:67:C:H2'	1:XA:68:G:C8	2.36	0.61
8:XH:91:ARG:HB2	12:XL:7:ILE:HG13	1.81	0.61
13:XM:3:ARG:HG2	50:Y4:34:GLU:HB3	1.82	0.61
27:YD:69:ARG:C	27:YD:71:ASP:H	2.08	0.61
28:YE:69:LYS:C	28:YE:71:GLY:H	2.08	0.61
28:YE:95:ILE:HD12	28:YE:95:ILE:N	2.15	0.61
1:QA:1028:C:H42	1:QA:1033:G:H1	1.48	0.61
15:XO:87:ILE:HG22	15:XO:88:ARG:H	1.65	0.61
27:YD:2:ALA:HB3	27:YD:20:ASP:HB3	1.83	0.61
27:YD:133:LEU:HD21	27:YD:191:ALA:HB2	1.82	0.61
28:YE:35:GLN:HG2	28:YE:37:ARG:NE	2.14	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:35:GLN:CG	28:YE:37:ARG:HE	2.11	0.61
28:YE:52:LEU:HB3	28:YE:54:GLN:OE1	2.00	0.61
54:Y8:22:VAL:HG21	54:Y8:53:PRO:HB2	1.83	0.61
3:QC:8:ILE:HG23	3:QC:16:ARG:HG2	1.83	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
25:RA:1696:G:O2'	37:RR:107:ASP:OD2	2.17	0.61
28:RE:52:LEU:HB3	28:RE:54:GLN:OE1	2.00	0.61
31:RH:153:LYS:CB	31:RH:154:PRO:CD	2.69	0.61
32:RI:104:GLN:O	32:RI:105:HIS:ND1	2.33	0.61
35:RP:65:ARG:NH2	54:R8:46:ARG:NH1	2.49	0.61
35:RP:84:ASN:HB3	35:RP:86:LYS:HG2	1.83	0.61
36:RQ:2:LEU:H	36:RQ:2:LEU:HD23	1.65	0.61
1:XA:201:C:H42	1:XA:216:G:H1	1.48	0.61
1:XA:611:A:N6	1:XA:629:G:H1	1.97	0.61
1:XA:1127:G:H1'	1:XA:1147:C:H42	1.65	0.61
5:XE:100:VAL:HG22	5:XE:118:ILE:HG22	1.83	0.61
25:YA:574:C:N3	28:YE:145:LYS:NZ	2.46	0.61
40:YU:52:ARG:HA	40:YU:55:ARG:HG3	1.83	0.61
40:YU:92:ARG:CZ	41:YV:11:GLN:H	2.13	0.61
1:QA:689:C:OP1	11:QK:27:ASN:ND2	2.33	0.61
28:RE:69:LYS:C	28:RE:71:GLY:H	2.09	0.61
54:R8:59:LYS:HZ3	54:R8:59:LYS:HB3	1.66	0.61
1:XA:80:G:O6	1:XA:89:U:O4	2.19	0.61
1:XA:1297:C:O2'	7:XG:114:ARG:NH2	2.33	0.61
2:XB:67:THR:HG21	2:XB:155:LEU:HG	1.81	0.61
10:XJ:49:VAL:HG22	14:XN:41:ARG:HB2	1.82	0.61
25:YA:593:G:O2'	54:Y8:61:LEU:HD13	2.01	0.61
28:YE:131:ALA:HB1	28:YE:135:HIS:HE1	1.65	0.61
29:YF:119:ARG:HH11	29:YF:119:ARG:HG2	1.64	0.61
29:YF:164:ARG:HG2	29:YF:164:ARG:HH11	1.66	0.61
32:YI:124:GLY:H	32:YI:142:VAL:HG23	1.65	0.61
36:YQ:20:ALA:HB1	36:YQ:99:PRO:CD	2.30	0.61
38:YS:89:ARG:O	38:YS:90:GLY:O	2.19	0.61
21:QU:6:ARG:HE	21:QU:15:ARG:NH2	1.99	0.60
25:RA:858:U:OP2	35:RP:29:LYS:N	2.33	0.60
25:RA:2802:C:N3	25:RA:2903:G:O6	2.34	0.60
25:RA:2867:G:N2	25:RA:2870:A:OP2	2.31	0.60
38:RS:88:ASP:O	38:RS:89:ARG:HB3	2.01	0.60
1:XA:1525:G:OP1	11:XK:120:ARG:NH2	2.34	0.60
27:YD:54:ARG:HH11	27:YD:54:ARG:CG	2.14	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YF:108:LYS:HA	29:YF:108:LYS:HZ3	1.64	0.60
33:YN:8:GLN:O	33:YN:9:VAL:HG13	2.01	0.60
35:YP:59:LEU:O	54:Y8:13:ARG:NH1	2.32	0.60
47:Y1:83:GLU:O	47:Y1:85:LEU:N	2.34	0.60
51:Y5:16:ARG:HG2	51:Y5:16:ARG:HH11	1.66	0.60
3:QC:11:ARG:O	3:QC:13:GLY:N	2.34	0.60
25:RA:1002:A:H5'	36:RQ:76:LYS:HD2	1.82	0.60
28:RE:104:VAL:HG11	28:RE:188:VAL:HG23	1.82	0.60
31:RH:126:PRO:CD	31:RH:127:GLU:N	2.65	0.60
36:RQ:66:ILE:CG1	36:RQ:67:ARG:N	2.64	0.60
37:RR:70:LEU:O	37:RR:72:ASP:N	2.31	0.60
39:RT:77:PRO:HB2	39:RT:80:SER:HB2	1.83	0.60
50:R4:71:ARG:NH1	50:R4:71:ARG:CG	2.60	0.60
5:XE:41:VAL:CG2	5:XE:113:ALA:HB2	2.31	0.60
25:YA:617:G:OP1	29:YF:40:GLN:NE2	2.34	0.60
25:YA:2396:G:OP1	47:Y1:25:LYS:NZ	2.34	0.60
28:YE:63:LEU:CD1	28:YE:64:LYS:H	2.04	0.60
36:YQ:66:ILE:CG1	36:YQ:67:ARG:N	2.64	0.60
39:YT:57:PHE:O	39:YT:58:ASN:OD1	2.19	0.60
50:Y4:56:VAL:HA	50:Y4:60:GLN:HB2	1.83	0.60
25:RA:416:G:H1	35:RP:70:GLN:HB3	1.66	0.60
25:RA:1921:G:H21	25:RA:1924:C:N4	1.99	0.60
31:RH:44:VAL:O	31:RH:44:VAL:HG22	2.01	0.60
45:RZ:111:VAL:HG13	45:RZ:112:ARG:N	2.16	0.60
24:XY:34:G:H8	24:XY:34:G:O5'	1.84	0.60
25:YA:80:G:H1	25:YA:106:C:H42	1.49	0.60
25:YA:1287:A:N7	37:YR:107:ASP:HB2	2.17	0.60
25:YA:1342:A:OP1	43:YX:36:LYS:NZ	2.34	0.60
25:YA:1754:C:OP1	39:YT:96:ARG:NH1	2.34	0.60
27:YD:35:LYS:HG2	27:YD:64:ILE:CG2	2.31	0.60
27:YD:35:LYS:NZ	27:YD:65:ILE:HA	2.15	0.60
28:YE:37:ARG:NE	28:YE:37:ARG:CA	2.64	0.60
28:YE:53:PRO:HG2	28:YE:54:GLN:NE2	2.17	0.60
31:YH:44:VAL:O	31:YH:44:VAL:HG22	2.01	0.60
35:YP:95:VAL:HG13	35:YP:100:LEU:HD21	1.83	0.60
38:YS:99:LYS:O	38:YS:102:ALA:N	2.34	0.60
1:QA:522:C:H41	12:QL:53:ARG:HH22	1.47	0.60
25:RA:441:C:O2	25:RA:1895:U:O2'	2.19	0.60
25:RA:1101:G:H1	25:RA:1150:C:N4	1.97	0.60
27:RD:44:ASN:HB3	27:RD:49:ILE:HA	1.83	0.60
36:RQ:54:MET:O	36:RQ:57:HIS:HB3	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:RY:87:LYS:O	44:RY:88:LYS:NZ	2.32	0.60
1:XA:1412:C:H2'	1:XA:1413:A:C8	2.37	0.60
17:XQ:11:VAL:HG12	17:XQ:85:VAL:HG13	1.83	0.60
25:YA:2424:C:O2	25:YA:2429:G:O2'	2.17	0.60
25:YA:2698:U:H2'	25:YA:2699:C:C6	2.36	0.60
2:QB:15:VAL:H	2:QB:16:HIS:CE1	2.20	0.60
9:QI:13:ALA:HB2	9:QI:68:GLY:HA3	1.82	0.60
15:QO:39:LEU:HD13	15:QO:56:LEU:HB2	1.83	0.60
30:RG:114:ILE:HD13	30:RG:140:ILE:HG21	1.82	0.60
6:XF:97:PHE:CD1	18:XR:31:LEU:HD21	2.36	0.60
25:YA:774:A:H2	25:YA:787:U:HO2'	1.49	0.60
25:YA:2311:A:C8	30:YG:88:ILE:HD11	2.35	0.60
39:YT:84:GLN:OE1	39:YT:85:LYS:NZ	2.34	0.60
5:QE:143:ARG:HH21	8:QH:77:GLU:CD	2.08	0.60
25:RA:64:C:O2'	25:RA:482:C:N3	2.30	0.60
25:RA:140:A:H8	25:RA:1641:G:H21	1.49	0.60
25:RA:236:G:O6	54:R8:12:LYS:NZ	2.27	0.60
25:RA:1271:G:H4'	41:RV:84:LYS:HG2	1.83	0.60
25:RA:2555:G:H21	25:RA:2658:C:H5"	1.66	0.60
25:YA:2099:U:O2	25:YA:2190:G:N2	2.25	0.60
27:YD:72:LYS:HE3	27:YD:75:ILE:HD12	1.82	0.60
27:YD:147:LEU:HD13	27:YD:155:LEU:CD1	2.29	0.60
27:YD:263:ARG:CB	27:YD:263:ARG:HH11	2.15	0.60
29:YF:175:THR:O	29:YF:176:LEU:CB	2.49	0.60
38:YS:11:LYS:HB2	38:YS:91:PRO:HD3	1.84	0.60
1:QA:648:A:H2'	1:QA:649:G:C8	2.37	0.60
1:QA:834:C:N3	1:QA:852:G:N2	2.44	0.60
12:QL:54:LYS:CD	12:QL:54:LYS:N	2.65	0.60
26:RB:50:G:H5"	38:RS:61:ASN:HD21	1.65	0.60
28:RE:4:ILE:CD1	28:RE:28:ALA:HB1	2.29	0.60
31:RH:117:PRO:HB3	31:RH:123:PHE:CD2	2.37	0.60
32:RI:145:VAL:O	32:RI:146:ALA:HB3	2.02	0.60
50:R4:35:VAL:O	50:R4:37:SER:N	2.26	0.60
1:XA:93:U:H2'	1:XA:95:G:O4'	2.01	0.60
1:XA:503:C:OP2	12:XL:116:SER:HB3	2.01	0.60
1:XA:537:G:H2'	1:XA:538:G:C8	2.36	0.60
12:XL:5:PRO:HA	12:XL:9:GLN:NE2	2.17	0.60
25:YA:1996:C:OP1	34:YO:31:LYS:NZ	2.34	0.60
25:YA:2815:C:H5'	51:Y5:29:THR:HG21	1.83	0.60
27:YD:21:PHE:HB3	27:YD:24:ILE:HG13	1.83	0.60
27:YD:35:LYS:NZ	27:YD:64:ILE:O	2.32	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:166:GLN:HE21	27:YD:166:GLN:CA	2.14	0.60
36:YQ:63:LYS:HE2	36:YQ:65:PHE:CE1	2.37	0.60
1:QA:1126:U:H1'	1:QA:1280:A:N7	2.17	0.60
19:QS:68:GLY:C	50:R4:68:ARG:HG2	2.27	0.60
25:RA:27:G:H1'	25:RA:538:A:N6	2.17	0.60
28:RE:26:ILE:HD13	28:RE:26:ILE:C	2.26	0.60
28:RE:63:LEU:CD1	28:RE:64:LYS:H	2.04	0.60
31:RH:89:ILE:O	31:RH:91:GLY:N	2.35	0.60
1:XA:1178:G:N2	1:XA:1181:G:N7	2.49	0.60
25:YA:2467:C:H4'	36:YQ:123:HIS:CD2	2.36	0.60
26:YB:95:U:H2'	26:YB:96:G:C8	2.37	0.60
28:YE:93:VAL:N	28:YE:95:ILE:CD1	2.65	0.60
28:YE:93:VAL:N	28:YE:95:ILE:HD12	2.17	0.60
34:YO:96:THR:O	34:YO:97:ARG:HB3	2.01	0.60
54:Y8:53:PRO:CD	54:Y8:54:GLU:H	2.15	0.60
1:QA:973:G:H3'	1:QA:974:A:H5"	1.84	0.60
7:QG:26:PHE:O	7:QG:30:ILE:HG12	2.01	0.60
25:RA:721:G:H1'	29:RF:74:ARG:HD3	1.84	0.60
25:RA:722:A:N3	25:RA:2455:C:O2'	2.32	0.60
25:RA:2456:G:OP2	29:RF:68:LYS:HE3	2.02	0.60
27:RD:70:TRP:CH2	27:RD:150:LYS:HA	2.36	0.60
28:RE:53:PRO:HG2	28:RE:54:GLN:NE2	2.16	0.60
28:RE:95:ILE:HD12	28:RE:95:ILE:N	2.15	0.60
36:RQ:97:VAL:HG21	36:RQ:103:MET:HE3	1.83	0.60
1:XA:1239:A:H62	1:XA:1299:A:H62	1.49	0.60
2:XB:235:SER:O	2:XB:237:ALA:N	2.35	0.60
25:YA:878:A:N6	25:YA:899:A:O2'	2.30	0.60
25:YA:2492:U:H2'	25:YA:2493:U:C6	2.37	0.60
27:YD:25:THR:HG21	27:YD:81:ALA:HA	1.84	0.60
27:YD:35:LYS:HD3	27:YD:63:ARG:CB	2.32	0.60
27:YD:134:ARG:HG3	27:YD:135:PHE:HE1	1.64	0.60
28:YE:68:ALA:O	28:YE:69:LYS:HG3	2.02	0.60
30:YG:28:VAL:HG23	30:YG:29:TRP:CD1	2.36	0.60
36:YQ:63:LYS:HD2	45:YZ:175:VAL:HG21	1.83	0.60
45:YZ:80:ARG:HH21	45:YZ:82:ARG:HH22	1.49	0.60
45:YZ:144:LEU:HD11	45:YZ:149:SER:HA	1.83	0.60
25:RA:259:A:OP2	25:RA:284:G:N1	2.32	0.60
25:RA:1802:C:O2'	25:RA:1817:A:O4'	2.14	0.60
25:RA:2880:C:H5"	37:RR:65:LEU:HD21	1.84	0.60
28:RE:37:ARG:NE	28:RE:37:ARG:CA	2.64	0.60
28:RE:131:ALA:HB1	28:RE:135:HIS:HE1	1.65	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RP:65:ARG:NH2	54:R8:46:ARG:HH12	1.99	0.60
25:YA:7:G:H1	25:YA:2896:C:N4	1.96	0.60
25:YA:984:A:H5"	25:YA:985:C:H5	1.67	0.60
25:YA:1826:G:H4'	27:YD:242:ARG:NH2	2.15	0.60
31:YH:30:LYS:CD	31:YH:81:GLU:H	2.15	0.60
35:YP:62:LEU:HD23	35:YP:62:LEU:N	2.16	0.60
37:YR:42:LYS:HA	37:YR:45:ARG:HD2	1.84	0.60
1:QA:1128:C:H4'	9:QI:16:ARG:HH22	1.67	0.59
10:QJ:42:THR:HG23	10:QJ:68:HIS:HA	1.83	0.59
25:RA:493:G:OP1	53:R7:33:ARG:NH1	2.35	0.59
26:RB:15:A:H5'	26:RB:16:G:C8	2.37	0.59
26:RB:16:G:N2	26:RB:68:C:N3	2.40	0.59
28:RE:68:ALA:O	28:RE:69:LYS:HG3	2.02	0.59
28:RE:69:LYS:O	28:RE:71:GLY:N	2.27	0.59
28:RE:116:VAL:O	28:RE:117:MET:CB	2.49	0.59
30:RG:64:THR:HG23	30:RG:66:GLN:H	1.66	0.59
12:XL:54:LYS:CD	12:XL:54:LYS:N	2.64	0.59
13:XM:65:LYS:HB3	50:Y4:50:VAL:HG21	1.84	0.59
25:YA:531:C:OP1	25:YA:561:G:N1	2.34	0.59
25:YA:1187:G:H5"	41:YV:81:TYR:CE1	2.37	0.59
25:YA:2071:A:H2'	25:YA:2072:G:C8	2.36	0.59
25:YA:2816:C:O2	25:YA:2883:A:O2'	2.20	0.59
26:YB:50:G:OP1	38:YS:63:THR:HG23	2.02	0.59
1:QA:1300:G:N1	1:QA:1335:C:O4'	2.35	0.59
25:RA:1457:C:N4	25:RA:1637:G:H1	1.97	0.59
28:RE:61:ARG:HB2	28:RE:62:PRO:CD	2.32	0.59
31:RH:30:LYS:CD	31:RH:81:GLU:H	2.15	0.59
31:RH:82:GLY:O	31:RH:135:GLY:O	2.20	0.59
36:RQ:81:VAL:HG23	36:RQ:82:ARG:H	1.67	0.59
39:RT:105:LEU:O	39:RT:107:ASP:N	2.36	0.59
1:XA:191:G:O2'	20:XT:101:GLY:O	2.21	0.59
1:XA:1128:C:H5'	9:XI:16:ARG:HH22	1.67	0.59
4:XD:22:LYS:HB3	4:XD:22:LYS:HZ2	1.66	0.59
13:XM:3:ARG:HA	13:XM:9:ILE:HG21	1.83	0.59
25:YA:1021:A:N6	25:YA:1142(A):A:H61	1.99	0.59
25:YA:1184:G:OP1	49:Y3:30:ARG:HD2	2.03	0.59
29:YF:63:LYS:HE2	29:YF:67:GLN:HB3	1.83	0.59
29:YF:123:LEU:HD12	29:YF:124:LEU:N	2.17	0.59
42:YW:86:LEU:HD12	42:YW:87:PRO:HD2	1.83	0.59
54:Y8:22:VAL:CG2	54:Y8:53:PRO:HB2	2.32	0.59
3:QC:50:ALA:HB2	3:QC:75:VAL:HB	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:31:CYS:CB	4:QD:33:MET:HB3	2.32	0.59
13:QM:3:ARG:CZ	30:RG:113:ARG:HH21	2.14	0.59
19:QS:64:GLU:HG3	50:R4:55:ARG:NH1	2.13	0.59
25:RA:1003:U:OP2	36:RQ:14:ARG:NH1	2.32	0.59
31:RH:4:ILE:HD13	31:RH:4:ILE:N	2.18	0.59
35:RP:66:GLY:O	35:RP:67:MET:HG2	2.03	0.59
36:RQ:63:LYS:HE2	36:RQ:65:PHE:CE1	2.37	0.59
51:R5:52:TYR:O	51:R5:53:ALA:HB3	2.01	0.59
1:XA:1368:G:OP1	9:XI:111:ARG:NH2	2.31	0.59
25:YA:1818:U:H2'	27:YD:157:ARG:HG3	1.84	0.59
25:YA:2470:G:H5'	36:YQ:56:ARG:HH22	1.68	0.59
28:YE:26:ILE:HD13	28:YE:26:ILE:C	2.26	0.59
28:YE:51:PHE:HD2	28:YE:52:LEU:HG	1.68	0.59
32:YI:21:VAL:HG21	32:YI:25:TYR:HD2	1.66	0.59
38:YS:110:LEU:HA	38:YS:112:PHE:CE2	2.37	0.59
54:Y8:56:GLU:O	54:Y8:59:LYS:N	2.35	0.59
1:QA:181:G:HO2'	1:QA:182:U:P	2.24	0.59
45:RZ:5:LEU:HD11	45:RZ:39:VAL:HB	1.83	0.59
1:XA:1318:A:H5'	19:XS:11:VAL:HG11	1.83	0.59
5:XE:69:VAL:O	5:XE:71:LEU:N	2.34	0.59
26:YB:13:A:N1	26:YB:69:G:O2'	2.36	0.59
26:YB:90:C:OP1	36:YQ:16:ARG:CG	2.51	0.59
27:YD:35:LYS:CG	27:YD:64:ILE:N	2.56	0.59
29:YF:11:VAL:HG11	29:YF:18:ARG:HE	1.67	0.59
31:YH:86:GLU:O	31:YH:131:VAL:O	2.20	0.59
35:YP:61:ARG:NE	54:Y8:13:ARG:HD2	2.18	0.59
1:QA:667:G:H2'	1:QA:668:G:H8	1.66	0.59
1:QA:1128:C:H1'	1:QA:1146:A:H61	1.67	0.59
4:QD:64:LEU:HB2	4:QD:198:VAL:HG11	1.83	0.59
9:QI:9:ARG:HB3	9:QI:14:VAL:HG13	1.84	0.59
25:RA:1254:G:O2'	25:RA:1283:A:N1	2.35	0.59
25:RA:1338:U:H2'	25:RA:1339:C:C6	2.38	0.59
25:RA:2450:U:O3'	25:RA:2451:A:H3'	2.03	0.59
28:RE:36:ARG:H	28:RE:37:ARG:HH21	1.49	0.59
51:R5:40:LYS:NZ	51:R5:46:CYS:HB3	2.18	0.59
1:XA:1158:C:H4'	2:XB:133:LYS:NZ	2.18	0.59
2:XB:92:TYR:HE1	2:XB:151:GLY:HA3	1.65	0.59
5:XE:45:PHE:CE2	5:XE:47:LYS:HD2	2.38	0.59
12:XL:70:ILE:HD13	12:XL:77:LEU:HD12	1.83	0.59
23:XX:22:C:O2'	23:XX:23:A:H5'	2.02	0.59
25:YA:414:C:O2	25:YA:1864:U:O2'	2.21	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1665:A:H1'	34:YO:1:MET:HG3	1.85	0.59
25:YA:1899:G:H21	25:YA:1902:C:N4	2.00	0.59
25:YA:2471:C:H3'	25:YA:2472:G:H8	1.67	0.59
25:YA:2702:U:OP1	25:YA:2702:U:H6	1.85	0.59
27:YD:174:ILE:HD12	27:YD:174:ILE:N	2.16	0.59
28:YE:116:VAL:O	28:YE:117:MET:CB	2.49	0.59
36:YQ:60:ARG:NH1	45:YZ:114:GLY:N	2.50	0.59
1:QA:690:G:H22	11:QK:55:LYS:NZ	2.00	0.59
25:RA:906:G:O2'	25:RA:907:U:O2	2.19	0.59
28:RE:116:VAL:CG2	28:RE:122:PHE:CD2	2.86	0.59
28:RE:174:ASP:CG	28:RE:175:VAL:N	2.58	0.59
31:RH:55:PRO:HG2	31:RH:61:HIS:CE1	2.37	0.59
38:RS:38:GLN:OE1	38:RS:47:THR:OG1	2.18	0.59
48:R2:47:ASN:O	48:R2:48:HIS:HD2	1.85	0.59
54:R8:22:VAL:CG2	54:R8:53:PRO:HB2	2.32	0.59
54:R8:22:VAL:HG21	54:R8:53:PRO:HB2	1.83	0.59
25:YA:2150:U:H2'	25:YA:2151:G:C8	2.36	0.59
25:YA:2646:C:OP2	25:YA:2732:G:O2'	2.13	0.59
25:YA:2745:C:H1'	31:YH:143:GLN:HG2	1.84	0.59
31:YH:4:ILE:HD13	31:YH:4:ILE:N	2.17	0.59
31:YH:55:PRO:HG2	31:YH:61:HIS:CE1	2.37	0.59
36:YQ:97:VAL:HG21	36:YQ:103:MET:HE3	1.83	0.59
53:Y7:9:ARG:HH21	53:Y7:48:LYS:HB2	1.62	0.59
53:Y7:35:ARG:HG3	53:Y7:42:LEU:HD11	1.85	0.59
1:QA:1216:G:H5"	14:QN:5:ALA:HB2	1.82	0.59
19:QS:68:GLY:O	50:R4:68:ARG:HG2	2.03	0.59
25:RA:231:G:H4'	25:RA:232:U:O5'	2.02	0.59
25:RA:794:U:N3	51:R5:2:ALA:N	2.50	0.59
50:R4:65:ASP:O	50:R4:66:SER:CB	2.51	0.59
53:R7:22:MET:HE2	53:R7:31:LEU:HD12	1.85	0.59
25:YA:857:C:OP2	46:Y0:77:ARG:NH2	2.35	0.59
25:YA:1012:U:O4	33:YN:25:ARG:HA	2.03	0.59
27:YD:27:THR:CG2	27:YD:83:GLU:HB3	2.33	0.59
27:YD:177:LEU:HD11	27:YD:183:ARG:HB2	1.85	0.59
31:YH:159:GLU:O	31:YH:160:LYS:HG2	2.03	0.59
32:YI:129:THR:HG22	32:YI:137:PRO:HB3	1.84	0.59
37:YR:33:ARG:HH21	51:Y5:55:ARG:HG2	1.66	0.59
49:Y3:6:VAL:HG13	49:Y3:56:VAL:HG13	1.84	0.59
55:Y9:35:ARG:HH21	55:Y9:37:GLY:HA3	1.67	0.59
1:QA:701:C:H1'	1:QA:703:G:C6	2.38	0.59
1:QA:1310:G:OP2	13:QM:88:ARG:NH2	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:70:ILE:HD13	12:QL:77:LEU:HD12	1.83	0.59
25:RA:2163:G:O6	25:RA:2172:U:O2	2.20	0.59
28:RE:93:VAL:N	28:RE:95:ILE:CD1	2.65	0.59
35:RP:67:MET:HG3	35:RP:67:MET:O	2.01	0.59
42:RW:86:LEU:HD12	42:RW:87:PRO:HD2	1.85	0.59
52:R6:52:VAL:HG22	52:R6:53:LYS:HG3	1.84	0.59
1:XA:1446:A:O2'	1:XA:1447:G:O5'	2.21	0.59
6:XF:61:LEU:HB3	6:XF:63:TYR:HE1	1.66	0.59
25:YA:856:C:H42	25:YA:921:G:H1	1.51	0.59
27:YD:137:PRO:HB2	27:YD:140:THR:CG2	2.33	0.59
31:YH:124:GLU:HB3	31:YH:132:ARG:HG3	1.85	0.59
35:YP:26:GLY:O	35:YP:28:GLY:N	2.35	0.59
36:YQ:81:VAL:HG23	36:YQ:82:ARG:H	1.67	0.59
38:YS:88:ASP:O	38:YS:89:ARG:CB	2.49	0.59
48:Y2:32:LEU:HD11	48:Y2:54:LYS:HG3	1.84	0.59
1:QA:327:A:O2'	1:QA:328:C:O4'	2.18	0.59
1:QA:1053:G:N7	1:QA:1200:C:H5"	2.18	0.59
1:QA:1152:A:OP1	10:QJ:68:HIS:NE2	2.35	0.59
7:QG:73:MET:HG2	7:QG:90:GLU:HA	1.83	0.59
8:QH:91:ARG:HB2	12:QL:7:ILE:HG13	1.84	0.59
12:QL:5:PRO:HA	12:QL:9:GLN:NE2	2.17	0.59
12:QL:10:LEU:HB3	17:QQ:32:TYR:CE2	2.38	0.59
13:QM:49:THR:HB	13:QM:52:GLU:HG3	1.85	0.59
25:RA:1462:G:H1	25:RA:1629:C:H42	1.48	0.59
31:RH:77:LYS:HZ3	31:RH:77:LYS:CB	2.10	0.59
47:R1:92:LYS:HG3	47:R1:96:LYS:HB2	1.84	0.59
50:R4:22:ILE:HG22	50:R4:23:GLU:N	2.18	0.59
1:XA:254:G:H2'	1:XA:255:G:H8	1.68	0.59
1:XA:538:G:OP1	12:XL:113:ARG:HD2	2.02	0.59
20:XT:56:MET:HG3	20:XT:88:VAL:HG21	1.85	0.59
25:YA:1071:G:O6	25:YA:1091:G:O6	2.21	0.59
25:YA:2278:A:OP1	36:YQ:11:LYS:HD2	2.02	0.59
25:YA:2636:U:OP1	28:YE:79:ARG:HA	2.03	0.59
28:YE:36:ARG:H	28:YE:37:ARG:HH21	1.50	0.59
28:YE:61:ARG:HB2	28:YE:62:PRO:CD	2.33	0.59
31:YH:126:PRO:CD	31:YH:127:GLU:N	2.64	0.59
32:YI:67:ARG:HH21	32:YI:68:LEU:HB2	1.68	0.59
42:YW:111:HIS:CD2	42:YW:112:GLY:H	2.20	0.59
48:Y2:64:LEU:CD2	48:Y2:68:ARG:HD2	2.33	0.59
50:Y4:18:CYS:CB	50:Y4:39:CYS:CB	2.79	0.59
10:QJ:51:ARG:NH2	14:QN:58:LYS:HZ1	2.01	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:127:GLU:HG2	31:RH:128:PRO:CG	2.33	0.59
50:R4:12:ALA:CB	50:R4:29:PRO:HA	2.33	0.59
25:YA:1026:U:H4'	25:YA:1027:A:OP1	2.00	0.59
29:YF:174:VAL:HG13	29:YF:174:VAL:O	2.03	0.59
31:YH:4:ILE:HG13	31:YH:6:ARG:CD	2.33	0.59
35:YP:147:LEU:O	35:YP:148:LEU:HB2	2.02	0.59
4:QD:111:ALA:HB2	4:QD:120:LEU:HD12	1.85	0.58
12:QL:54:LYS:N	12:QL:54:LYS:HD2	2.18	0.58
25:RA:312:C:H2'	25:RA:313:A:H8	1.68	0.58
25:RA:1543:U:H5"	25:RA:1544:C:H5	1.67	0.58
27:RD:44:ASN:CB	27:RD:49:ILE:HA	2.33	0.58
27:RD:85:ASP:HB2	27:RD:92:ILE:HD13	1.84	0.58
28:RE:93:VAL:N	28:RE:95:ILE:HD12	2.17	0.58
50:R4:48:ARG:NH1	50:R4:52:THR:H	2.01	0.58
1:XA:564:C:O2'	8:XH:91:ARG:NH2	2.35	0.58
10:XJ:76:ASN:O	10:XJ:78:ASN:ND2	2.36	0.58
13:XM:13:LYS:HA	13:XM:44:ARG:HD2	1.83	0.58
25:YA:1264:G:H3'	25:YA:1265:A:H5"	1.85	0.58
27:YD:165:ILE:HA	27:YD:175:LEU:HD23	1.83	0.58
28:YE:10:GLY:HA3	39:YT:8:LYS:HD2	1.85	0.58
28:YE:134:ILE:C	28:YE:134:ILE:HD12	2.28	0.58
30:YG:136:ARG:O	30:YG:154:GLY:HA2	2.02	0.58
30:YG:179:PRO:HG3	50:Y4:38:LYS:HZ2	1.68	0.58
31:YH:82:GLY:O	31:YH:135:GLY:O	2.20	0.58
1:QA:1226:C:OP2	13:QM:103:THR:OG1	2.15	0.58
16:QP:21:VAL:O	16:QP:33:ILE:HG12	2.02	0.58
25:RA:1394:G:H2'	25:RA:1395:A:H5"	1.86	0.58
25:RA:2418:U:N3	35:RP:73:GLY:O	2.33	0.58
27:RD:71:ASP:OD2	27:RD:103:ARG:NH2	2.36	0.58
31:RH:92:ILE:HG22	31:RH:93:GLY:N	2.18	0.58
45:RZ:45:ASP:OD1	45:RZ:49:ARG:NE	2.36	0.58
12:XL:18:VAL:O	12:XL:19:ARG:HB2	2.03	0.58
25:YA:747:U:O2	25:YA:2014:A:H1'	2.03	0.58
26:YB:12:C:O2'	46:Y0:74:ARG:HG3	2.03	0.58
27:YD:27:THR:CG2	27:YD:28:GLU:N	2.66	0.58
27:YD:44:ASN:HB3	27:YD:49:ILE:CA	2.27	0.58
29:YF:63:LYS:HE2	29:YF:67:GLN:CB	2.32	0.58
36:YQ:66:ILE:HA	36:YQ:104:PHE:HA	1.85	0.58
1:QA:1224:G:O2'	1:QA:1322:C:OP2	2.21	0.58
1:QA:1244:C:N3	1:QA:1293:G:N2	2.46	0.58
25:RA:2325:C:H5"	30:RG:91:ARG:HD3	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2762:A:H4'	31:RH:62:LYS:HB3	1.85	0.58
28:RE:72:VAL:O	28:RE:73:GLU:O	2.21	0.58
35:RP:65:ARG:HH21	54:R8:46:ARG:NH1	2.01	0.58
51:R5:60:VAL:OXT	51:R5:60:VAL:HG13	2.03	0.58
3:XC:14:ILE:HG12	3:XC:15:THR:H	1.67	0.58
8:XH:39:LEU:HB3	8:XH:45:ILE:HG12	1.85	0.58
12:XL:45:PRO:HD3	12:XL:51:ALA:O	2.03	0.58
14:XN:23:ARG:HD2	14:XN:28:GLY:O	2.03	0.58
25:YA:34:C:H41	25:YA:447:A:H61	1.50	0.58
31:YH:117:PRO:HB3	31:YH:123:PHE:CD2	2.37	0.58
37:YR:67:LEU:HD13	37:YR:76:VAL:HG21	1.85	0.58
41:YV:44:LYS:O	41:YV:46:VAL:N	2.36	0.58
54:Y8:30:ARG:O	54:Y8:31:HIS:CB	2.51	0.58
1:QA:1502:A:H2	1:QA:1505:G:N1	2.01	0.58
2:QB:77:ALA:HB2	2:QB:211:ILE:HD13	1.85	0.58
28:RE:6:GLY:HA3	28:RE:26:ILE:HD11	1.85	0.58
32:RI:51:ILE:O	32:RI:55:ALA:HB2	1.99	0.58
50:R4:63:TYR:C	50:R4:65:ASP:N	2.61	0.58
1:XA:67:C:H2'	1:XA:68:G:H8	1.68	0.58
1:XA:967:C:O2'	9:XI:125:TYR:OH	2.19	0.58
6:XF:36:ARG:NH1	6:XF:38:GLU:OE2	2.36	0.58
12:XL:82:VAL:HG23	12:XL:106:ASP:OD2	2.04	0.58
31:YH:92:ILE:HG22	31:YH:93:GLY:N	2.18	0.58
36:YQ:55:VAL:HG22	36:YQ:56:ARG:N	2.18	0.58
43:YX:61:GLY:N	43:YX:75:ASP:OD1	2.36	0.58
1:QA:1172:C:H2'	1:QA:1173:G:C8	2.39	0.58
25:RA:1410:G:N2	25:RA:1413:A:OP2	2.30	0.58
25:RA:2579:G:H2'	25:RA:2580:C:C6	2.37	0.58
31:RH:86:GLU:O	31:RH:131:VAL:O	2.20	0.58
31:RH:125:VAL:HG12	31:RH:126:PRO:CG	2.34	0.58
36:RQ:81:VAL:C	36:RQ:82:ARG:CG	2.76	0.58
54:R8:56:GLU:O	54:R8:59:LYS:N	2.35	0.58
1:XA:429:U:H1'	1:XA:430:A:H5"	1.84	0.58
25:YA:2335:A:O2'	25:YA:2336:A:H2'	2.03	0.58
27:YD:34:VAL:C	27:YD:35:LYS:HG3	2.28	0.58
31:YH:89:ILE:O	31:YH:91:GLY:N	2.35	0.58
47:Y1:51:VAL:HG11	47:Y1:74:VAL:HG21	1.84	0.58
48:Y2:51:ARG:HA	48:Y2:54:LYS:HB2	1.86	0.58
1:QA:19:C:P	5:QE:127:ASN:HD22	2.26	0.58
20:QT:33:ILE:HD12	20:QT:63:ILE:HG12	1.85	0.58
22:QV:53:G:H4'	22:QV:54:U:OP1	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:519:G:OP1	42:RW:8:ARG:NH1	2.37	0.58
25:RA:604:C:H2'	25:RA:605:G:C8	2.38	0.58
25:RA:1067:A:H61	25:RA:1188:A:H61	1.52	0.58
27:RD:35:LYS:HD2	27:RD:104:TYR:CE1	2.39	0.58
31:RH:4:ILE:HG13	31:RH:6:ARG:CD	2.33	0.58
31:RH:159:GLU:O	31:RH:160:LYS:HG2	2.03	0.58
1:XA:1314:C:OP2	19:XS:4:SER:OG	2.21	0.58
2:XB:72:GLY:HA2	2:XB:165:VAL:HG22	1.86	0.58
20:XT:10:LEU:HG	20:XT:12:ALA:H	1.68	0.58
28:YE:51:PHE:CD2	28:YE:52:LEU:HG	2.38	0.58
28:YE:78:LEU:HD23	28:YE:79:ARG:HD2	1.86	0.58
29:YF:89:VAL:HG12	29:YF:90:PHE:N	2.18	0.58
33:YN:4:TYR:O	40:YU:64:ARG:NH1	2.37	0.58
48:Y2:69:ARG:NH1	48:Y2:69:ARG:CB	2.67	0.58
50:Y4:42:PHE:O	50:Y4:44:THR:N	2.36	0.58
1:QA:582:U:OP1	15:QO:68:ARG:NH2	2.33	0.58
1:QA:1200:C:O2'	1:QA:1201:A:OP2	2.19	0.58
1:QA:1221:G:OP1	1:QA:1320:C:N4	2.37	0.58
12:QL:33:ARG:O	12:QL:85:ILE:HG22	2.03	0.58
25:RA:2052:A:H4'	25:RA:2053:A:C8	2.38	0.58
27:RD:182:LEU:N	27:RD:272:ALA:HB3	2.18	0.58
30:RG:6:ALA:H	50:R4:23:GLU:HG2	1.67	0.58
30:RG:136:ARG:O	30:RG:154:GLY:HA2	2.03	0.58
31:RH:4:ILE:HD13	31:RH:4:ILE:H	1.68	0.58
54:R8:46:ARG:O	54:R8:47:LYS:HB3	2.03	0.58
1:XA:521:G:H4'	12:XL:73:GLU:HG3	1.86	0.58
25:YA:67:U:C2	25:YA:74:A:H2	2.17	0.58
25:YA:128:C:H4'	53:Y7:49:ARG:HH12	1.67	0.58
25:YA:270(I):G:H1	25:YA:270(Q):C:H42	1.51	0.58
25:YA:2123:G:H2'	25:YA:2124:G:H8	1.69	0.58
29:YF:138:GLU:O	29:YF:141:ALA:HB3	2.03	0.58
35:YP:29:LYS:HD2	35:YP:30:THR:HG23	1.86	0.58
36:YQ:47:ILE:CD1	36:YQ:70:PRO:HD3	2.34	0.58
48:Y2:17:SER:CB	48:Y2:18:PRO:HA	2.33	0.58
25:RA:77:A:H2'	25:RA:78:G:H8	1.69	0.58
28:RE:51:PHE:CD2	28:RE:52:LEU:HG	2.39	0.58
31:RH:85:LYS:HA	31:RH:86:GLU:OE1	2.04	0.58
32:RI:56:LYS:HG3	32:RI:57:ARG:N	2.18	0.58
45:RZ:150:LEU:HD21	45:RZ:172:ALA:HB3	1.86	0.58
50:R4:15:ILE:HG22	50:R4:19:GLY:O	2.03	0.58
50:R4:42:PHE:CG	50:R4:43:TYR:N	2.72	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:R5:50:GLY:O	51:R5:51:TYR:HB2	2.03	0.58
2:XB:15:VAL:H	2:XB:16:HIS:CE1	2.22	0.58
9:XI:43:ALA:HA	9:XI:74:ILE:HD13	1.86	0.58
20:XT:63:ILE:HG22	20:XT:77:ALA:HB1	1.86	0.58
25:YA:1258:C:O4'	29:YF:84:VAL:HG11	2.03	0.58
25:YA:2277:G:H5"	36:YQ:85:LYS:HG3	1.84	0.58
27:YD:242:ARG:N	27:YD:242:ARG:HD2	2.18	0.58
29:YF:160:ASN:OD1	29:YF:162:LEU:HB2	2.04	0.58
31:YH:85:LYS:HA	31:YH:86:GLU:OE1	2.03	0.58
34:YO:64:ARG:HG2	34:YO:79:PHE:CG	2.38	0.58
38:YS:67:ARG:NH1	38:YS:67:ARG:CB	2.64	0.58
1:QA:1065:U:H6	1:QA:1190:G:H21	1.52	0.58
3:QC:134:ILE:HG23	3:QC:151:VAL:HB	1.84	0.58
4:QD:29:PRO:HD2	4:QD:30:LYS:CD	2.27	0.58
11:QK:99:GLN:CG	11:QK:105:VAL:CG2	2.77	0.58
19:QS:67:VAL:N	50:R4:59:PHE:CZ	2.72	0.58
22:QV:43:A:H2'	22:QV:44:A:C8	2.39	0.58
27:RD:24:ILE:HD11	27:RD:91:ARG:HD2	1.84	0.58
33:RN:13:TRP:O	33:RN:135:PRO:HD2	2.03	0.58
1:XA:828:A:H2'	1:XA:829:G:O4'	2.03	0.58
1:XA:1129:C:O2	1:XA:1132:C:N4	2.27	0.58
1:XA:1255:G:OP1	10:XJ:45:ARG:NH2	2.37	0.58
2:XB:93:VAL:HG11	2:XB:97:TRP:HD1	1.68	0.58
2:XB:96:ARG:H	2:XB:96:ARG:HD2	1.67	0.58
3:XC:95:THR:HG22	3:XC:97:LYS:HG3	1.84	0.58
25:YA:1190:G:OP1	35:YP:30:THR:OG1	2.16	0.58
28:YE:72:VAL:O	28:YE:73:GLU:O	2.21	0.58
28:YE:111:ARG:NE	28:YE:160:TYR:HE1	2.01	0.58
29:YF:179:GLU:H	29:YF:179:GLU:CD	2.11	0.58
31:YH:77:LYS:HZ3	31:YH:77:LYS:CB	2.10	0.58
37:YR:27:SER:HB3	37:YR:34:ILE:HD11	1.84	0.58
39:YT:24:PRO:HA	39:YT:49:VAL:HG13	1.84	0.58
43:YX:6:ASP:OD2	48:Y2:29:LYS:NZ	2.36	0.58
45:YZ:126:VAL:HG12	45:YZ:163:LEU:HA	1.86	0.58
48:Y2:15:LYS:H	48:Y2:67:LYS:CE	2.17	0.58
8:QH:121:ASP:N	8:QH:121:ASP:OD1	2.35	0.58
13:QM:78:ILE:HG23	13:QM:92:HIS:CD2	2.39	0.58
13:QM:120:LYS:O	13:QM:121:LYS:HB2	2.04	0.58
25:RA:1405:A:C6	25:RA:1418:U:C4	2.92	0.58
31:RH:84:SER:O	31:RH:133:VAL:O	2.22	0.58
32:RI:5:LEU:H	32:RI:5:LEU:HD12	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RQ:47:ILE:CD1	36:RQ:70:PRO:HD3	2.34	0.58
50:R4:38:LYS:C	50:R4:40:HIS:H	2.07	0.58
1:XA:1451:A:H5"	1:XA:1452:C:H5'	1.84	0.58
4:XD:13:ARG:HA	4:XD:33:MET:HE3	1.84	0.58
12:XL:54:LYS:N	12:XL:54:LYS:HD2	2.18	0.58
19:XS:80:TYR:O	19:XS:82:GLY:N	2.36	0.58
25:YA:648:G:H4'	25:YA:2351:G:H5"	1.86	0.58
26:YB:13:A:N6	26:YB:70:C:H5'	2.19	0.58
28:YE:63:LEU:HD13	28:YE:65:GLY:H	1.68	0.58
31:YH:4:ILE:HD13	31:YH:4:ILE:H	1.68	0.58
33:YN:40:PRO:O	40:YU:64:ARG:HD2	2.04	0.58
37:YR:24:GLN:OE1	37:YR:36:THR:HG21	2.04	0.58
38:YS:95:HIS:CG	38:YS:96:GLY:H	2.21	0.58
45:YZ:52:SER:O	45:YZ:52:SER:OG	2.17	0.58
25:RA:1273:G:OP2	40:RU:16:LYS:NZ	2.33	0.57
25:RA:2298:A:OP1	52:R6:28:ARG:NE	2.37	0.57
28:RE:111:ARG:NE	28:RE:160:TYR:HE1	2.01	0.57
28:RE:134:ILE:C	28:RE:134:ILE:HD12	2.28	0.57
33:RN:54:VAL:HB	33:RN:122:VAL:HG22	1.85	0.57
35:RP:47:ASP:OD2	35:RP:49:ARG:NH1	2.37	0.57
6:XF:100:ASN:O	18:XR:28:GLU:HG2	2.03	0.57
25:YA:323:G:H2'	29:YF:169:ASN:OD1	2.03	0.57
27:YD:71:ASP:HB3	27:YD:103:ARG:HH22	1.68	0.57
28:YE:63:LEU:HD12	28:YE:65:GLY:H	1.69	0.57
29:YF:53:THR:C	29:YF:55:GLY:H	2.10	0.57
37:YR:117:VAL:HG22	37:YR:118:GLU:H	1.68	0.57
48:Y2:21:LEU:O	48:Y2:25:VAL:HG23	2.04	0.57
1:QA:1384:C:H2'	1:QA:1385:G:H8	1.69	0.57
20:QT:26:ASN:HB2	20:QT:71:THR:HG23	1.85	0.57
25:RA:25:U:H5'	42:RW:79:GLY:HA2	1.85	0.57
25:RA:931:C:N3	25:RA:938:G:C6	2.72	0.57
34:RO:73:ASP:OD2	39:RT:32:TYR:OH	2.18	0.57
44:RY:95:LYS:NZ	44:RY:99:CYS:O	2.37	0.57
51:R5:55:ARG:NH1	51:R5:58:LEU:HD11	2.19	0.57
12:XL:83:VAL:HG22	12:XL:84:LEU:H	1.70	0.57
25:YA:587:C:OP2	35:YP:21:ARG:NH2	2.37	0.57
25:YA:1761:C:H42	25:YA:1762:A:H62	1.50	0.57
32:YI:33:ARG:HB3	32:YI:35:LEU:HG	1.86	0.57
7:QG:15:ASP:OD1	7:QG:44:TYR:OH	2.22	0.57
7:QG:26:PHE:CE2	7:QG:30:ILE:HD11	2.39	0.57
13:QM:58:GLU:O	13:QM:62:ASN:ND2	2.31	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:QS:68:GLY:HA2	50:R4:68:ARG:CB	2.34	0.57
25:RA:616:G:O2'	54:R8:61:LEU:HD13	2.04	0.57
25:RA:1952:G:H2'	25:RA:1990:G:H1	1.69	0.57
36:RQ:66:ILE:HA	36:RQ:104:PHE:HA	1.85	0.57
42:RW:71:VAL:HA	42:RW:107:LEU:HD12	1.86	0.57
50:R4:15:ILE:HG22	50:R4:20:ASN:HA	1.86	0.57
1:XA:266:G:C8	1:XA:266:G:C5'	2.85	0.57
12:XL:33:ARG:O	12:XL:85:ILE:HG22	2.03	0.57
17:XQ:55:ASP:HA	17:XQ:79:SER:HA	1.85	0.57
28:YE:116:VAL:CG2	28:YE:122:PHE:CD2	2.86	0.57
31:YH:127:GLU:HG2	31:YH:128:PRO:CG	2.32	0.57
42:YW:73:ALA:HB3	42:YW:106:ILE:HD13	1.84	0.57
48:Y2:16:LEU:O	48:Y2:17:SER:HB3	2.04	0.57
1:QA:266:G:O2'	1:QA:267:C:OP2	2.21	0.57
1:QA:620:C:C2	4:QD:135:LEU:HG	2.39	0.57
3:QC:134:ILE:HG22	3:QC:168:ALA:HB3	1.86	0.57
25:RA:369:A:H2'	25:RA:371:A:H62	1.69	0.57
50:R4:37:SER:HB3	50:R4:42:PHE:CE1	2.38	0.57
54:R8:53:PRO:CD	54:R8:54:GLU:H	2.15	0.57
1:XA:323:U:C1'	20:XT:19:SER:HG	2.17	0.57
1:XA:1027:C:H42	1:XA:1034:G:H1	1.52	0.57
3:XC:70:VAL:HG21	3:XC:76:VAL:HG11	1.85	0.57
4:XD:9:CYS:HB3	4:XD:32:ALA:HB2	1.87	0.57
5:XE:91:LEU:HD12	5:XE:120:THR:HG22	1.84	0.57
11:XK:21:ILE:HG13	11:XK:30:VAL:HG12	1.86	0.57
25:YA:1087:G:H1	25:YA:1102:C:H42	1.52	0.57
25:YA:2115:G:N2	25:YA:2165:G:N7	2.50	0.57
25:YA:2755:C:C2	55:Y9:19:ARG:NH1	2.72	0.57
27:YD:35:LYS:HG2	27:YD:64:ILE:CA	2.34	0.57
28:YE:203:LYS:HE3	28:YE:204:ALA:HB2	1.86	0.57
31:YH:76:VAL:C	31:YH:78:GLY:H	2.13	0.57
32:YI:40:THR:O	32:YI:44:LEU:HB2	2.04	0.57
38:YS:26:LEU:CD2	38:YS:87:PHE:HD1	2.17	0.57
54:Y8:46:ARG:O	54:Y8:47:LYS:HB3	2.03	0.57
1:QA:671:G:H1	1:QA:735:C:N4	2.02	0.57
19:QS:68:GLY:HA2	50:R4:68:ARG:CG	2.26	0.57
25:RA:2138:G:H1	25:RA:2184:G:P	2.26	0.57
25:RA:2304:C:P	38:RS:17:ARG:HH22	2.27	0.57
28:RE:63:LEU:HD13	28:RE:65:GLY:H	1.68	0.57
28:RE:74:PRO:HG2	28:RE:77:ILE:HG23	1.86	0.57
32:RI:116:LEU:O	32:RI:118:LYS:N	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RP:64:LYS:HG3	54:R8:25:MET:CG	2.35	0.57
44:RY:76:CYS:SG	44:RY:77:PRO:HD2	2.45	0.57
46:R0:18:ALA:O	46:R0:20:ARG:NH1	2.36	0.57
50:R4:39:CYS:O	50:R4:40:HIS:HB2	2.03	0.57
1:XA:1314:C:N4	19:XS:2:PRO:O	2.38	0.57
1:XA:1414:U:H2'	1:XA:1415:G:H8	1.69	0.57
16:XP:20:VAL:HG23	16:XP:35:LYS:HA	1.86	0.57
24:XY:35:G:C5	24:XY:36:U:C6	2.92	0.57
25:YA:784:A:C5	27:YD:229:VAL:HG21	2.40	0.57
25:YA:1045:A:O2'	25:YA:1046:A:OP2	2.19	0.57
25:YA:1196:C:HO2'	25:YA:1228:G:HO2'	1.46	0.57
25:YA:1454:U:H5'	37:YR:63:ARG:NE	2.20	0.57
28:YE:6:GLY:HA3	28:YE:26:ILE:HD11	1.85	0.57
38:YS:5:THR:HG23	38:YS:8:GLU:OE2	2.05	0.57
1:QA:411:A:C5	1:QA:413:G:H1'	2.39	0.57
1:QA:437:U:H2'	1:QA:438:G:O4'	2.04	0.57
25:RA:70:A:H4'	25:RA:71:U:H5"	1.86	0.57
28:RE:102:VAL:HG13	28:RE:172:VAL:CG2	2.34	0.57
29:RF:28:ILE:HG22	29:RF:112:MET:HB3	1.86	0.57
30:RG:22:ARG:HH21	30:RG:171:ALA:HB1	1.69	0.57
30:RG:68:PRO:HB2	30:RG:90:LEU:HD12	1.86	0.57
31:RH:124:GLU:HB3	31:RH:132:ARG:HG3	1.84	0.57
32:RI:52:ARG:O	32:RI:55:ALA:N	2.36	0.57
33:RN:40:PRO:HB3	40:RU:68:ALA:HB2	1.86	0.57
36:RQ:55:VAL:HG22	36:RQ:56:ARG:N	2.18	0.57
36:RQ:58:PHE:O	36:RQ:59:ARG:C	2.43	0.57
50:R4:3:GLU:HG3	50:R4:4:GLY:N	2.19	0.57
54:R8:30:ARG:O	54:R8:31:HIS:CB	2.51	0.57
1:XA:130:A:N3	1:XA:263:A:O2'	2.34	0.57
1:XA:267:C:C5'	1:XA:267:C:C6	2.86	0.57
2:XB:96:ARG:HD3	2:XB:148:TYR:HE1	1.70	0.57
25:YA:28:A:H61	25:YA:512:G:H1'	1.69	0.57
25:YA:1094:U:O2'	25:YA:1096:A:OP1	2.21	0.57
25:YA:2099:U:O4	25:YA:2190:G:O6	2.22	0.57
25:YA:2311:A:H8	30:YG:88:ILE:HD11	1.70	0.57
28:YE:41:LYS:HE2	28:YE:41:LYS:HA	1.87	0.57
28:YE:102:VAL:HG13	28:YE:172:VAL:CG2	2.34	0.57
31:YH:2:SER:O	31:YH:3:ARG:C	2.47	0.57
31:YH:3:ARG:HA	31:YH:3:ARG:HE	1.69	0.57
33:YN:40:PRO:HB3	40:YU:68:ALA:HB2	1.86	0.57
38:YS:106:ARG:O	38:YS:107:GLU:HB2	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:Y0:50:ASN:HB3	46:Y0:63:VAL:HG22	1.87	0.57
4:QD:29:PRO:HD2	4:QD:30:LYS:H	1.68	0.57
4:QD:31:CYS:HB3	4:QD:33:MET:CB	2.34	0.57
7:QG:79:ARG:HH12	7:QG:82:GLY:HA2	1.69	0.57
25:RA:1589:A:H1'	25:RA:1591:A:O4'	2.05	0.57
27:RD:145:VAL:HG13	27:RD:191:ALA:HB2	1.87	0.57
28:RE:51:PHE:HD2	28:RE:52:LEU:HG	1.68	0.57
30:RG:83:ARG:HG3	30:RG:86:MET:HE3	1.86	0.57
31:RH:76:VAL:C	31:RH:78:GLY:H	2.13	0.57
50:R4:27:THR:O	50:R4:28:LYS:HB3	2.03	0.57
1:XA:564:C:H5"	12:XL:10:LEU:HD13	1.87	0.57
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.40	0.57
1:XA:1292:U:H2'	1:XA:1293:G:H8	1.68	0.57
4:XD:154:ASN:OD1	4:XD:154:ASN:N	2.37	0.57
25:YA:589:C:H2'	25:YA:590:A:C8	2.39	0.57
27:YD:25:THR:HG21	27:YD:82:ILE:H	1.70	0.57
27:YD:28:GLU:O	27:YD:29:PRO:C	2.45	0.57
1:QA:34:C:H2'	1:QA:35:G:C8	2.40	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
12:QL:46:LYS:HG2	12:QL:47:LYS:H	1.70	0.57
13:QM:14:ARG:N	13:QM:44:ARG:HD3	2.18	0.57
25:RA:267:C:N4	25:RA:277:G:H1	2.02	0.57
25:RA:277:G:H2'	25:RA:278:G:C8	2.39	0.57
25:RA:2347:A:O2'	25:RA:2348:A:H2'	2.05	0.57
25:RA:2567:U:C2	56:Z5:74:C:C5	2.93	0.57
25:RA:2724:U:O2'	25:RA:2725:A:OP1	2.23	0.57
27:RD:241:PRO:O	27:RD:242:ARG:HB2	2.04	0.57
37:RR:117:VAL:O	37:RR:118:GLU:HB2	2.04	0.57
1:XA:1108:G:H5'	3:XC:176:HIS:ND1	2.18	0.57
20:XT:53:LEU:O	20:XT:57:ARG:NH1	2.38	0.57
25:YA:1495:A:O2'	25:YA:1579:A:H5"	2.04	0.57
25:YA:2032:G:H21	28:YE:146:THR:HG23	1.68	0.57
25:YA:2589:A:N1	25:YA:2606:C:N4	2.52	0.57
29:YF:32:LEU:HD13	29:YF:105:VAL:CG1	2.33	0.57
30:YG:67:LYS:HZ3	50:Y4:1:MET:HB2	1.69	0.57
32:YI:56:LYS:HE3	32:YI:57:ARG:HA	1.87	0.57
35:YP:135:LEU:O	35:YP:139:LYS:HB2	2.04	0.57
38:YS:26:LEU:HD12	38:YS:39:ILE:CD1	2.23	0.57
38:YS:67:ARG:CB	38:YS:67:ARG:HH11	2.17	0.57
1:QA:376:G:H5"	16:QP:5:ARG:HD2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:QM:23:TYR:HB3	13:QM:67:GLU:HG2	1.86	0.57
19:QS:41:VAL:HB	19:QS:42:PRO:CA	2.34	0.57
25:RA:508:A:H4'	44:RY:47:LYS:HD2	1.87	0.57
27:RD:44:ASN:HB2	27:RD:48:ARG:O	2.05	0.57
28:RE:41:LYS:HA	28:RE:41:LYS:HE2	1.86	0.57
28:RE:63:LEU:HD12	28:RE:65:GLY:H	1.69	0.57
53:R7:9:ARG:HH21	53:R7:48:LYS:HB2	1.70	0.57
1:XA:1124:G:H3'	1:XA:1145:C:N4	2.19	0.57
25:YA:1708:C:H2'	25:YA:1709:U:H6	1.69	0.57
25:YA:2832:U:H4'	25:YA:2833:G:H5"	1.86	0.57
27:YD:25:THR:HG21	27:YD:81:ALA:HB1	1.85	0.57
27:YD:34:VAL:O	27:YD:34:VAL:CG1	2.51	0.57
27:YD:36:PRO:HB2	27:YD:61:LEU:HG	1.87	0.57
28:YE:15:PHE:CD1	39:YT:81:PRO:CD	2.87	0.57
32:YI:52:ARG:HG3	32:YI:53:ALA:N	2.20	0.57
38:YS:72:ALA:O	38:YS:76:LYS:HG3	2.04	0.57
1:QA:1298:C:H4'	1:QA:1299:A:C4	2.40	0.57
3:QC:73:PRO:HG3	3:QC:105:GLU:HG3	1.87	0.57
12:QL:45:PRO:HD3	12:QL:51:ALA:O	2.04	0.57
25:RA:2262:G:C5	36:RQ:82:ARG:HD2	2.39	0.57
1:XA:328:C:H4'	1:XA:329:A:H5'	1.85	0.57
1:XA:1008:C:N3	1:XA:1021:G:N2	2.43	0.57
9:XI:15:ALA:HB2	9:XI:65:VAL:HG23	1.86	0.57
13:XM:120:LYS:C	13:XM:121:LYS:HG2	2.29	0.57
25:YA:242:G:H5"	54:Y8:62:LEU:CD2	2.30	0.57
25:YA:443:A:H5"	25:YA:444:C:OP1	2.05	0.57
25:YA:458:G:O2'	25:YA:469:G:O6	2.23	0.57
25:YA:1266:G:OP2	51:Y5:19:ARG:NH1	2.37	0.57
29:YF:118:ALA:O	29:YF:121:GLY:N	2.33	0.57
1:QA:1490:C:OP2	58:QA:1681:PAR:H641	2.05	0.56
25:RA:1686:U:H2'	25:RA:1687:C:H5"	1.87	0.56
27:RD:108:PRO:HB3	27:RD:143:HIS:CE1	2.40	0.56
41:RV:52:VAL:HG21	41:RV:55:ALA:HB3	1.87	0.56
44:RY:81:LYS:HZ3	44:RY:98:VAL:HG11	1.69	0.56
25:YA:542:C:H42	25:YA:551:G:H1	1.53	0.56
25:YA:2308:G:C6	25:YA:2311:A:N1	2.74	0.56
28:YE:111:ARG:HA	37:YR:1:MET:CG	2.35	0.56
48:Y2:17:SER:HB2	48:Y2:18:PRO:HA	1.86	0.56
1:QA:302:G:O3'	12:QL:17:LYS:HE2	2.05	0.56
1:QA:464:G:N1	1:QA:467:G:OP2	2.36	0.56
1:QA:1152:A:H5"	10:QJ:13:HIS:CD2	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:58:VAL:O	12:QL:65:GLU:HA	2.06	0.56
12:QL:82:VAL:HG23	12:QL:106:ASP:OD2	2.04	0.56
19:QS:42:PRO:CD	50:R4:63:TYR:HE2	2.18	0.56
25:RA:1305:G:H2'	25:RA:1306:G:H8	1.70	0.56
25:RA:1562:U:H2'	25:RA:1563:G:H8	1.70	0.56
25:RA:2899:C:H3'	25:RA:2900:G:H8	1.70	0.56
31:RH:2:SER:O	31:RH:3:ARG:C	2.47	0.56
50:R4:37:SER:C	50:R4:39:CYS:N	2.62	0.56
1:XA:186(E):C:H42	1:XA:191(B):G:H1	1.53	0.56
19:XS:32:LYS:HA	19:XS:50:ALA:HB3	1.86	0.56
25:YA:1678:G:H22	25:YA:1989:G:H22	1.51	0.56
25:YA:1693:U:H1'	27:YD:14:ARG:NH2	2.21	0.56
25:YA:2361:A:P	54:Y8:27:THR:HG23	2.45	0.56
25:YA:2755:C:N3	55:Y9:19:ARG:NH1	2.53	0.56
27:YD:69:ARG:HD3	27:YD:105:ILE:HD11	1.87	0.56
34:YO:85:VAL:HG11	34:YO:114:ILE:HD11	1.87	0.56
35:YP:101:VAL:HG23	35:YP:106:LEU:HB3	1.88	0.56
38:YS:103:GLU:O	38:YS:106:ARG:CG	2.52	0.56
50:Y4:71:ARG:HB2	50:Y4:71:ARG:HH11	1.68	0.56
1:QA:191:G:C1'	20:QT:105:SER:HB3	2.35	0.56
1:QA:973:G:OP1	10:QJ:57:LYS:NZ	2.39	0.56
1:QA:1305:G:N2	1:QA:1331:G:H2'	2.19	0.56
2:QB:178:ARG:NH2	8:QH:74:PRO:HG3	2.20	0.56
8:QH:102:ARG:NH1	8:QH:105:ARG:NH2	2.53	0.56
17:QQ:90:ILE:O	17:QQ:94:ASN:ND2	2.38	0.56
25:RA:1375:U:H5"	25:RA:1376:C:H5	1.70	0.56
25:RA:1562:U:H2'	25:RA:1563:G:C8	2.41	0.56
27:RD:148:GLU:HB2	27:RD:151:LYS:HD2	1.87	0.56
28:RE:37:ARG:NE	28:RE:37:ARG:N	2.54	0.56
28:RE:78:LEU:HD23	28:RE:79:ARG:HD2	1.86	0.56
29:RF:11:VAL:HG12	29:RF:12:LEU:H	1.69	0.56
37:RR:67:LEU:HD13	37:RR:76:VAL:HG21	1.86	0.56
38:RS:106:ARG:HA	38:RS:110:LEU:HD11	1.87	0.56
43:RX:60:ARG:NH1	53:R7:47:ARG:HH22	2.03	0.56
1:XA:250:A:H4'	1:XA:251:G:O5'	2.05	0.56
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.41	0.56
1:XA:1525:G:P	11:XK:120:ARG:HH22	2.27	0.56
25:YA:28:A:N6	25:YA:512:G:H1'	2.20	0.56
25:YA:467:G:OP2	53:Y7:34:ARG:NH1	2.38	0.56
25:YA:684:G:OP1	53:Y7:16:HIS:ND1	2.38	0.56
25:YA:2712:U:O2'	25:YA:2712(A):A:H8	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:92:ILE:HD12	27:YD:104:TYR:CD2	2.39	0.56
27:YD:183:ARG:HD2	27:YD:270:ILE:HG12	1.88	0.56
28:YE:32:PRO:O	28:YE:34:VAL:HG13	2.06	0.56
30:YG:81:LYS:O	30:YG:82:LEU:HB2	2.05	0.56
31:YH:84:SER:O	31:YH:133:VAL:O	2.22	0.56
36:YQ:79:LEU:O	36:YQ:79:LEU:CG	2.52	0.56
38:YS:32:LEU:O	38:YS:62:LYS:HE2	2.05	0.56
1:QA:1402:C:H2'	1:QA:1403:C:O4'	2.06	0.56
2:QB:82:ARG:HA	2:QB:92:TYR:HE2	1.71	0.56
25:RA:2172:U:H2'	25:RA:2173:G:H8	1.71	0.56
25:RA:2816:G:H2'	25:RA:2817:G:C8	2.40	0.56
26:RB:15:A:H1'	26:RB:109:G:N9	2.20	0.56
32:RI:29:TYR:HD2	32:RI:30:LEU:HD23	1.70	0.56
39:RT:111:ARG:C	39:RT:113:LYS:H	2.12	0.56
20:XT:51:GLU:O	20:XT:54:LYS:HB3	2.05	0.56
25:YA:463:G:N2	25:YA:466:A:OP2	2.37	0.56
25:YA:1607:C:N4	25:YA:1622:G:OP2	2.36	0.56
27:YD:2:ALA:O	27:YD:3:VAL:HB	2.06	0.56
28:YE:74:PRO:HG2	28:YE:77:ILE:HG23	1.87	0.56
31:YH:125:VAL:HG12	31:YH:126:PRO:CG	2.34	0.56
36:YQ:37:LEU:HD21	36:YQ:130:LYS:HE3	1.87	0.56
42:YW:71:VAL:HA	42:YW:107:LEU:HD12	1.87	0.56
12:QL:18:VAL:O	12:QL:19:ARG:HB2	2.04	0.56
25:RA:468:G:H1'	29:RF:48:THR:HG21	1.88	0.56
25:RA:854:U:O2'	25:RA:2082:A:N1	2.39	0.56
25:RA:2270:C:O2'	25:RA:2439:C:OP2	2.21	0.56
28:RE:64:LYS:C	28:RE:66:HIS:H	2.12	0.56
28:RE:183:LEU:N	28:RE:183:LEU:HD12	2.20	0.56
32:RI:8:PRO:HD3	32:RI:15:VAL:HG13	1.87	0.56
32:RI:53:ALA:C	32:RI:55:ALA:N	2.62	0.56
32:RI:69:LYS:HG3	32:RI:136:VAL:HB	1.87	0.56
32:RI:94:ALA:H	32:RI:116:LEU:HD13	1.70	0.56
35:RP:106:LEU:O	35:RP:107:LYS:HB2	2.05	0.56
36:RQ:79:LEU:O	36:RQ:79:LEU:CG	2.52	0.56
51:R5:55:ARG:HD3	51:R5:56:LYS:N	2.21	0.56
54:R8:52:LYS:H	54:R8:53:PRO:HD2	1.66	0.56
1:XA:673:G:H2'	1:XA:674:G:C8	2.40	0.56
1:XA:1469:G:H2'	1:XA:1470:G:C8	2.41	0.56
2:XB:84:GLU:HB3	2:XB:219:VAL:HG21	1.86	0.56
25:YA:1036:G:OP1	31:YH:59:ARG:HB2	2.05	0.56
25:YA:1590:U:H2'	25:YA:1591:G:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YS:14:VAL:HG13	38:YS:15:ARG:N	2.21	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
41:YV:66:ARG:HH11	41:YV:88:ARG:HD3	1.71	0.56
48:Y2:31:GLU:O	48:Y2:35:LEU:HG	2.05	0.56
48:Y2:41:ILE:HD11	48:Y2:44:LEU:CG	2.36	0.56
52:Y6:25:LYS:HE2	52:Y6:27:LYS:HE3	1.87	0.56
54:Y8:50:LEU:HD12	54:Y8:51:ALA:H	1.70	0.56
1:QA:1089:G:H1	1:QA:1096:C:N4	2.01	0.56
25:RA:752:A:H1'	27:RD:9:TYR:CE2	2.40	0.56
25:RA:1040:C:OP2	40:RU:54:LYS:NZ	2.38	0.56
25:RA:1725:G:H22	25:RA:2011:G:N2	2.03	0.56
25:RA:1829:U:H5'	27:RD:259:THR:HG22	1.87	0.56
28:RE:32:PRO:O	28:RE:34:VAL:HG13	2.06	0.56
28:RE:117:MET:HG3	28:RE:117:MET:O	2.06	0.56
28:RE:203:LYS:HE3	28:RE:204:ALA:HB2	1.86	0.56
31:RH:3:ARG:HA	31:RH:3:ARG:HE	1.69	0.56
33:RN:42:TRP:O	40:RU:64:ARG:NH2	2.39	0.56
1:XA:1118:C:P	9:XI:104:ARG:HH11	2.28	0.56
12:XL:111:LYS:O	12:XL:112:ASP:HB2	2.05	0.56
16:XP:20:VAL:HG21	16:XP:32:TYR:CD2	2.41	0.56
25:YA:2308:G:O6	25:YA:2311:A:N1	2.39	0.56
27:YD:35:LYS:CE	27:YD:104:TYR:HB2	2.35	0.56
27:YD:239:ARG:O	27:YD:240:ALA:HB2	2.05	0.56
27:YD:259:THR:O	27:YD:260:ARG:C	2.49	0.56
28:YE:77:ILE:O	28:YE:78:LEU:C	2.47	0.56
28:YE:195:LEU:HD12	28:YE:196:VAL:H	1.71	0.56
34:YO:97:ARG:HA	34:YO:117:LEU:HD22	1.88	0.56
1:QA:1004:A:P	1:QA:1025:U:H3	2.28	0.56
1:QA:1124:G:H3'	1:QA:1145:C:N4	2.20	0.56
25:RA:575:G:H5'	25:RA:1265:A:H1'	1.88	0.56
31:RH:125:VAL:HA	31:RH:126:PRO:CB	2.29	0.56
40:RU:112:ARG:NH2	41:RV:47:VAL:HG13	2.21	0.56
50:R4:48:ARG:HH12	50:R4:52:THR:HG22	1.71	0.56
1:XA:89:U:O2'	1:XA:90:C:OP1	2.24	0.56
1:XA:280:C:C2	17:XQ:38:ARG:HG3	2.39	0.56
5:XE:152:ARG:NH2	8:XH:107:LEU:O	2.38	0.56
7:XG:54:THR:O	7:XG:56:GLN:N	2.39	0.56
25:YA:956:G:OP2	36:YQ:14:ARG:NH2	2.39	0.56
25:YA:2185:C:H2'	25:YA:2186:G:H8	1.69	0.56
25:YA:2653:U:O2'	31:YH:110:SER:HB2	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2688:U:H6	25:YA:2721:A:H62	1.51	0.56
28:YE:37:ARG:NE	28:YE:37:ARG:N	2.54	0.56
28:YE:183:LEU:HD12	28:YE:183:LEU:N	2.20	0.56
29:YF:197:ASP:O	29:YF:199:TRP:N	2.38	0.56
31:YH:6:ARG:C	31:YH:8:PRO:HD2	2.30	0.56
12:QL:126:LYS:HB2	12:QL:126:LYS:HZ2	1.71	0.56
25:RA:100:G:OP2	48:R2:7:ARG:NH2	2.38	0.56
25:RA:189:U:O2	25:RA:413:G:N2	2.38	0.56
25:RA:723:A:H2	25:RA:849:A:H61	1.48	0.56
31:RH:6:ARG:C	31:RH:8:PRO:HD2	2.30	0.56
41:RV:44:LYS:HE2	41:RV:45:THR:H	1.70	0.56
50:R4:50:VAL:O	50:R4:51:ASP:C	2.48	0.56
54:R8:50:LEU:HD12	54:R8:51:ALA:H	1.70	0.56
1:XA:1392:G:N2	1:XA:1502:A:H8	2.04	0.56
2:XB:21:ARG:O	2:XB:23:ARG:HD3	2.05	0.56
3:XC:174:PRO:HD2	3:XC:182:ILE:HD11	1.88	0.56
12:XL:9:GLN:O	12:XL:13:LYS:N	2.39	0.56
12:XL:79:GLU:O	12:XL:79:GLU:HG2	2.05	0.56
25:YA:1230:C:H2'	25:YA:1231:G:C8	2.39	0.56
27:YD:94:LEU:C	27:YD:94:LEU:HD13	2.30	0.56
28:YE:64:LYS:C	28:YE:66:HIS:H	2.12	0.56
38:YS:5:THR:OG1	38:YS:7:TYR:HB3	2.06	0.56
48:Y2:15:LYS:H	48:Y2:67:LYS:NZ	2.03	0.56
1:QA:45:U:H2'	1:QA:46:G:C8	2.41	0.56
1:QA:501:C:H2'	1:QA:502:G:H8	1.71	0.56
13:QM:65:LYS:HE2	50:R4:50:VAL:CG1	2.26	0.56
25:RA:252:C:H2'	25:RA:253:C:O4'	2.06	0.56
25:RA:1160:G:H2'	25:RA:1161:G:C8	2.41	0.56
25:RA:2710:U:H2'	25:RA:2711:C:C6	2.41	0.56
32:RI:41:GLU:HA	32:RI:44:LEU:HB2	1.86	0.56
35:RP:61:ARG:CG	54:R8:13:ARG:HD2	2.35	0.56
36:RQ:12:GLN:OE1	36:RQ:72:LYS:HD2	2.06	0.56
43:RX:31:HIS:CD2	43:RX:32:PRO:HD2	2.41	0.56
50:R4:48:ARG:O	50:R4:50:VAL:N	2.38	0.56
3:XC:9:GLY:HA2	3:XC:12:LEU:HD23	1.87	0.56
4:XD:11:LEU:HD13	4:XD:66:ARG:HG2	1.87	0.56
13:XM:65:LYS:HE2	50:Y4:50:VAL:HG11	1.88	0.56
25:YA:594:U:H5'	54:Y8:61:LEU:HD21	1.87	0.56
25:YA:955:C:H5"	36:YQ:85:LYS:HE2	1.87	0.56
29:YF:155:LEU:CD1	29:YF:174:VAL:HG13	2.32	0.56
44:YY:95:LYS:HB3	44:YY:100:ALA:HA	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:34:C:H2'	1:QA:35:G:H8	1.71	0.56
4:QD:197:PRO:HD3	6:XF:16:GLN:CG	2.35	0.56
6:QF:69:GLU:CD	6:QF:69:GLU:H	2.14	0.56
8:QH:106:GLY:O	8:QH:122:ARG:NH2	2.36	0.56
25:RA:27:G:N2	25:RA:538:A:OP2	2.39	0.56
25:RA:931:C:O2	25:RA:938:G:C2	2.59	0.56
25:RA:946:A:H3'	25:RA:947:A:C8	2.37	0.56
25:RA:1381:U:OP2	43:RX:65:ARG:NH2	2.38	0.56
25:RA:2145:G:H2'	25:RA:2146:G:H8	1.69	0.56
28:RE:77:ILE:O	28:RE:78:LEU:C	2.48	0.56
50:R4:61:ARG:C	50:R4:63:TYR:H	2.14	0.56
1:XA:560:U:O2'	1:XA:561:U:OP2	2.17	0.56
3:XC:130:VAL:O	3:XC:134:ILE:HG12	2.06	0.56
4:XD:122:ARG:NH1	4:XD:134:ASP:O	2.39	0.56
25:YA:1795:C:O2	27:YD:255:LYS:HE2	2.05	0.56
25:YA:2058:A:H8	25:YA:2058:A:O5'	1.89	0.56
25:YA:2121:G:O6	25:YA:2176:A:N6	2.39	0.56
25:YA:2469:A:H2	25:YA:2481:G:H21	1.53	0.56
1:QA:1321:C:H5"	1:QA:1322:C:H5"	1.88	0.55
1:QA:1439:C:H42	1:QA:1462:G:H1	1.54	0.55
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.42	0.55
3:QC:18:TRP:HH2	14:QN:57:ARG:HD2	1.70	0.55
9:QI:95:LYS:HZ1	9:QI:96:LEU:HD13	1.71	0.55
10:QJ:5:ARG:HG3	10:QJ:71:LEU:HD11	1.87	0.55
13:QM:121:LYS:HE2	13:QM:121:LYS:CA	2.36	0.55
25:RA:215:G:O2'	25:RA:217:A:N6	2.38	0.55
25:RA:471:C:H5"	40:RU:3:ARG:HB3	1.86	0.55
31:RH:59:ARG:HH11	31:RH:59:ARG:CG	2.19	0.55
34:RO:104:ARG:HH22	39:RT:43:GLN:CD	2.13	0.55
36:RQ:37:LEU:HD21	36:RQ:130:LYS:HE3	1.87	0.55
39:RT:26:ASP:O	39:RT:49:VAL:HG12	2.07	0.55
40:RU:90:VAL:HG11	41:RV:40:LEU:HD12	1.87	0.55
12:XL:58:VAL:O	12:XL:65:GLU:HA	2.05	0.55
19:XS:42:PRO:HB3	50:Y4:60:GLN:OE1	2.05	0.55
25:YA:507:A:H5"	25:YA:508:G:H5'	1.86	0.55
25:YA:2619:C:H1'	28:YE:156:MET:HE1	1.88	0.55
29:YF:29:ASN:N	29:YF:112:MET:HE1	2.19	0.55
29:YF:198:ALA:CA	29:YF:201:VAL:HG12	2.34	0.55
36:YQ:139:GLU:O	36:YQ:140:ALA:HB3	2.05	0.55
39:YT:94:ALA:O	39:YT:95:ARG:HB2	2.06	0.55
45:YZ:125:LEU:HG	45:YZ:164:ALA:HB3	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:71:VAL:HG12	2:QB:93:VAL:HB	1.88	0.55
4:QD:187:ARG:NH2	4:QD:193:ASP:OD2	2.38	0.55
12:QL:83:VAL:HG22	12:QL:84:LEU:H	1.70	0.55
12:QL:111:LYS:O	12:QL:112:ASP:HB2	2.05	0.55
20:QT:26:ASN:CB	20:QT:71:THR:HG23	2.37	0.55
25:RA:1584:G:H2'	25:RA:1585:G:H8	1.70	0.55
34:RO:1:MET:HE3	34:RO:67:LYS:HG2	1.88	0.55
35:RP:121:LYS:HD3	35:RP:122:PRO:HD2	1.88	0.55
50:R4:9:LEU:H	50:R4:27:THR:HG22	1.71	0.55
52:R6:36:LEU:HB2	52:R6:50:ARG:HA	1.89	0.55
1:XA:1095:U:P	1:XA:1108:G:H1	2.30	0.55
1:XA:1292:U:H2'	1:XA:1293:G:C8	2.41	0.55
1:XA:1346:A:H1'	1:XA:1348:U:C6	2.41	0.55
10:XJ:34:VAL:HG22	10:XJ:74:ILE:HG22	1.89	0.55
12:XL:83:VAL:HG22	12:XL:84:LEU:N	2.21	0.55
25:YA:242:G:H4'	25:YA:243:U:O5'	2.06	0.55
25:YA:1546:C:H5'	25:YA:1547:C:H5'	1.88	0.55
25:YA:1639:U:H2'	25:YA:1640:C:H5"	1.87	0.55
25:YA:2295:C:OP1	38:YS:10:ARG:HD2	2.05	0.55
28:YE:117:MET:HG3	28:YE:117:MET:O	2.06	0.55
29:YF:198:ALA:C	29:YF:200:GLU:N	2.62	0.55
31:YH:126:PRO:CG	31:YH:127:GLU:N	2.65	0.55
31:YH:152:ARG:C	31:YH:153:LYS:HE2	2.32	0.55
39:YT:39:ARG:HG2	39:YT:40:THR:H	1.72	0.55
1:QA:265:G:H2'	1:QA:266:G:H5"	1.88	0.55
1:QA:339:C:OP2	34:RO:97:ARG:NH1	2.40	0.55
1:QA:589:C:H42	1:QA:650:G:H1	1.54	0.55
2:QB:101:MET:HE2	2:QB:108:ILE:HG21	1.88	0.55
25:RA:1961:U:OP1	25:RA:2616:U:O2'	2.24	0.55
25:RA:2262:G:C2	36:RQ:82:ARG:HB3	2.41	0.55
33:RN:42:TRP:HA	33:RN:48:MET:HE1	1.88	0.55
1:XA:598:U:H4'	8:XH:94:TYR:CD2	2.41	0.55
2:XB:158:LEU:HD13	2:XB:182:ILE:HD11	1.89	0.55
15:XO:18:PHE:CE1	15:XO:21:ASP:HB2	2.41	0.55
35:YP:52:GLU:HG3	35:YP:57:THR:HG22	1.88	0.55
39:YT:29:ARG:HB2	39:YT:46:GLU:HG3	1.88	0.55
41:YV:38:LEU:H	41:YV:51:VAL:HG13	1.70	0.55
45:YZ:121:HIS:ND1	45:YZ:123:ASP:O	2.39	0.55
48:Y2:43:GLN:O	48:Y2:44:LEU:CG	2.54	0.55
1:QA:7:G:H5'	1:QA:298:A:O4'	2.06	0.55
1:QA:942:G:N2	9:QI:124:GLN:OE1	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1035:A:N6	1:QA:1036:G:N3	2.54	0.55
1:QA:1224:G:O2'	19:QS:78:ARG:NH2	2.40	0.55
1:QA:1359:C:O2'	1:QA:1361:G:N7	2.39	0.55
10:QJ:16:LEU:HD23	10:QJ:94:VAL:HG13	1.89	0.55
25:RA:733:G:N2	25:RA:835:A:H61	2.04	0.55
25:RA:1068:G:H22	25:RA:1188:A:H2	1.53	0.55
25:RA:1715:A:OP1	34:RO:5:GLN:HG3	2.06	0.55
25:RA:2044:U:HO2'	25:RA:2628:C:HO2'	1.53	0.55
25:RA:2052:A:H4'	25:RA:2053:A:H8	1.72	0.55
25:RA:2434:A:OP2	52:R6:6:ARG:NH1	2.39	0.55
28:RE:67:PHE:O	28:RE:69:LYS:N	2.39	0.55
28:RE:195:LEU:HD12	28:RE:196:VAL:H	1.71	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	1.87	0.55
42:RW:86:LEU:HD22	42:RW:96:ILE:HD11	1.88	0.55
54:R8:63:PRO:O	54:R8:64:TYR:HB2	2.07	0.55
1:XA:427:U:OP1	4:XD:13:ARG:NH2	2.39	0.55
12:XL:27:LEU:C	12:XL:29:GLY:N	2.64	0.55
25:YA:1188:U:H4'	41:YV:79:VAL:HG22	1.86	0.55
25:YA:1889:A:N1	25:YA:2234:G:H1'	2.21	0.55
25:YA:2185:C:H2'	25:YA:2186:G:C8	2.41	0.55
27:YD:94:LEU:HD22	27:YD:95:LEU:H	1.69	0.55
36:YQ:12:GLN:OE1	36:YQ:72:LYS:HD2	2.06	0.55
36:YQ:25:ASP:N	36:YQ:102:VAL:HG23	2.22	0.55
39:YT:3:ARG:HG3	39:YT:7:ILE:HG12	1.88	0.55
1:QA:736:C:H2'	1:QA:737:A:C8	2.41	0.55
1:QA:974:A:H1'	14:QN:31:ARG:NE	2.21	0.55
2:QB:5:ILE:HD12	2:QB:224:GLN:HG2	1.88	0.55
8:QH:86:ILE:HG13	8:QH:133:LEU:HD22	1.89	0.55
25:RA:279:G:H5"	47:R1:97:LEU:HD22	1.88	0.55
25:RA:2747:A:H5'	25:RA:2748:G:OP2	2.05	0.55
28:RE:4:ILE:HD13	28:RE:5:LEU:H	1.71	0.55
29:RF:101:LEU:O	29:RF:106:ARG:NH1	2.40	0.55
30:RG:3:LEU:CD1	50:R4:25:TYR:CE1	2.89	0.55
32:RI:57:ARG:CD	32:RI:61:ARG:HG2	2.35	0.55
44:RY:81:LYS:HB2	44:RY:96:ILE:HG22	1.88	0.55
47:R1:53:VAL:HG11	47:R1:90:ILE:HD11	1.88	0.55
38:YS:18:ILE:C	38:YS:19:LYS:O	2.44	0.55
38:YS:59:LYS:CG	38:YS:60:GLY:H	2.11	0.55
1:QA:186(E):C:N4	1:QA:191(B):G:H1	2.02	0.55
1:QA:501:C:H2'	1:QA:502:G:C8	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:31:CYS:HB3	4:QD:33:MET:CA	2.33	0.55
5:QE:33:VAL:CG1	5:QE:112:LEU:HD12	2.35	0.55
9:QI:77:ILE:O	9:QI:81:ILE:HG12	2.07	0.55
25:RA:287:G:O2'	25:RA:448:U:OP2	2.15	0.55
25:RA:347:G:H2'	29:RF:169:ASN:ND2	2.21	0.55
26:RB:104:A:H2'	26:RB:105:G:O4'	2.06	0.55
31:RH:152:ARG:C	31:RH:153:LYS:HE2	2.32	0.55
36:RQ:25:ASP:N	36:RQ:102:VAL:HG23	2.21	0.55
41:RV:7:THR:HG23	41:RV:22:VAL:HG11	1.88	0.55
44:RY:37:VAL:HG21	44:RY:72:VAL:HG21	1.88	0.55
44:RY:95:LYS:CB	44:RY:100:ALA:HA	2.36	0.55
44:RY:96:ILE:HG12	44:RY:101:LYS:HB2	1.88	0.55
1:XA:243:A:H4'	1:XA:244:U:O5'	2.05	0.55
1:XA:522:C:H41	12:XL:53:ARG:HH22	1.53	0.55
5:XE:50:GLU:HB3	5:XE:53:LEU:HD13	1.88	0.55
5:XE:71:LEU:CD2	5:XE:115:VAL:HG22	2.36	0.55
22:XV:16:C:N4	22:XV:17:U:O4	2.39	0.55
25:YA:1354:A:OP1	27:YD:38:LYS:HE2	2.06	0.55
25:YA:2471:C:H5'	25:YA:2472:G:OP2	2.06	0.55
27:YD:43:ARG:CB	27:YD:54:ARG:HB2	2.37	0.55
28:YE:3:GLY:HA3	28:YE:81:ILE:HD12	1.88	0.55
28:YE:4:ILE:HD13	28:YE:5:LEU:H	1.71	0.55
32:YI:3:VAL:HG12	32:YI:38:LEU:HA	1.87	0.55
1:QA:637:G:H2'	1:QA:638:G:H8	1.71	0.55
1:QA:900:A:H2'	1:QA:901:A:C8	2.41	0.55
25:RA:77:A:H2'	25:RA:78:G:C8	2.41	0.55
25:RA:541:C:OP1	51:R5:13:LYS:NZ	2.40	0.55
25:RA:2229:A:H1'	25:RA:2231:G:C5	2.42	0.55
25:RA:2283:G:OP1	46:R0:18:ALA:HB1	2.07	0.55
27:RD:35:LYS:NZ	27:RD:104:TYR:HB2	2.22	0.55
36:RQ:81:VAL:HG23	46:R0:7:LEU:HD11	1.88	0.55
43:RX:25:LYS:HD3	43:RX:80:ILE:HD11	1.89	0.55
50:R4:36:CYS:SG	50:R4:39:CYS:CB	2.95	0.55
2:XB:82:ARG:NH1	2:XB:86:GLU:OE2	2.40	0.55
8:XH:86:ILE:HG22	8:XH:93:VAL:HG21	1.89	0.55
25:YA:630:G:N2	25:YA:633:A:OP2	2.34	0.55
25:YA:1930:G:H1'	25:YA:1931:U:OP2	2.06	0.55
28:YE:20:ALA:O	28:YE:21:VAL:CG2	2.48	0.55
29:YF:34:TRP:CE3	35:YP:8:PRO:HB3	2.42	0.55
32:YI:129:THR:HA	32:YI:137:PRO:HA	1.88	0.55
33:YN:56:ASN:N	33:YN:125:GLY:O	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YQ:64:ILE:HA	36:YQ:106:VAL:CG1	2.33	0.55
41:YV:34:GLU:O	41:YV:36:PRO:HD3	2.06	0.55
19:QS:5:LEU:CD1	50:R4:67:TYR:CD2	2.88	0.55
19:QS:42:PRO:CD	50:R4:63:TYR:CE2	2.90	0.55
22:QV:76:A:H2'	25:RA:2614:A:N6	2.22	0.55
25:RA:48:A:C8	25:RA:118:U:C5	2.95	0.55
25:RA:1096:A:H2'	25:RA:1097:G:O4'	2.06	0.55
25:RA:2854:G:H3'	25:RA:2855:G:H8	1.71	0.55
28:RE:3:GLY:HA3	28:RE:81:ILE:HD12	1.88	0.55
32:RI:21:VAL:HG21	32:RI:25:TYR:HD2	1.71	0.55
36:RQ:135:ASP:CG	45:RZ:81:ARG:HH12	2.14	0.55
1:XA:45:U:H2'	1:XA:46:G:C8	2.42	0.55
1:XA:690:G:H22	11:XK:55:LYS:HZ1	1.52	0.55
1:XA:923:A:OP1	5:XE:21:ALA:HB2	2.06	0.55
11:XK:34:ASP:OD1	11:XK:38:ASN:N	2.39	0.55
12:XL:28:LYS:O	12:XL:29:GLY:C	2.50	0.55
25:YA:49:A:C8	25:YA:120:U:C5	2.95	0.55
25:YA:468:G:N7	53:Y7:39:ARG:NH2	2.49	0.55
25:YA:2250:G:C2	36:YQ:82:ARG:HB3	2.42	0.55
25:YA:2291:U:H2'	25:YA:2292:C:C6	2.42	0.55
25:YA:2829:C:H2'	25:YA:2830:G:O4'	2.06	0.55
28:YE:53:PRO:O	28:YE:74:PRO:HA	2.07	0.55
30:YG:98:ARG:NH1	50:Y4:1:MET:SD	2.79	0.55
38:YS:107:GLU:N	38:YS:110:LEU:HD11	2.22	0.55
39:YT:26:ASP:O	39:YT:49:VAL:HG12	2.07	0.55
46:Y0:27:GLU:HB2	46:Y0:69:PHE:HD1	1.72	0.55
52:Y6:28:ARG:HB3	52:Y6:30:THR:H	1.71	0.55
10:QJ:78:ASN:O	10:QJ:81:THR:OG1	2.24	0.55
25:RA:1781:G:O2'	25:RA:2870:A:N1	2.40	0.55
28:RE:14:ILE:CD1	39:RT:14:TYR:CZ	2.89	0.55
28:RE:21:VAL:HG23	28:RE:22:PRO:HD3	1.89	0.55
32:RI:93:THR:O	32:RI:97:ILE:HG12	2.06	0.55
40:RU:52:ARG:HA	40:RU:55:ARG:HG3	1.88	0.55
25:YA:1296:G:OP1	25:YA:2709:G:O2'	2.20	0.55
25:YA:1341:U:OP2	25:YA:1394:U:O2'	2.22	0.55
28:YE:21:VAL:HG23	28:YE:22:PRO:HD3	1.89	0.55
28:YE:67:PHE:O	28:YE:69:LYS:N	2.39	0.55
29:YF:28:ILE:HD12	29:YF:28:ILE:O	2.06	0.55
36:YQ:21:THR:O	36:YQ:22:LYS:O	2.25	0.55
36:YQ:132:VAL:HG11	45:YZ:81:ARG:CZ	2.36	0.55
38:YS:36:TYR:HD2	38:YS:52:SER:CB	2.18	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YW:14:PRO:O	42:YW:17:VAL:N	2.40	0.55
5:QE:7:GLU:N	5:QE:35:GLY:O	2.36	0.55
12:QL:79:GLU:HG2	12:QL:79:GLU:O	2.06	0.55
14:QN:48:ALA:HB2	14:QN:53:LEU:HD12	1.89	0.55
25:RA:592:U:O2'	25:RA:1029:A:N1	2.38	0.55
25:RA:2320:G:O6	25:RA:2323:A:N1	2.40	0.55
29:RF:184:TYR:CE2	29:RF:188:ARG:HD2	2.42	0.55
31:RH:8:PRO:O	31:RH:9:ILE:HG23	2.07	0.55
31:RH:143:GLN:HE21	31:RH:143:GLN:C	2.15	0.55
31:RH:151:ILE:C	31:RH:152:ARG:O	2.49	0.55
37:RR:103:ARG:NH1	42:RW:40:ASN:OD1	2.40	0.55
54:R8:56:GLU:O	54:R8:57:ARG:C	2.50	0.55
1:XA:1299:A:H2'	1:XA:1301:U:H1'	1.88	0.55
3:XC:150:LYS:HE2	3:XC:152:ILE:HD11	1.88	0.55
5:XE:43:LEU:HD22	5:XE:136:MET:CG	2.37	0.55
12:XL:62:SER:C	12:XL:64:TYR:H	2.14	0.55
27:YD:31:LYS:O	27:YD:35:LYS:O	2.24	0.55
28:YE:15:PHE:CD1	39:YT:81:PRO:HD2	2.42	0.55
28:YE:54:GLN:NE2	28:YE:54:GLN:N	2.56	0.55
29:YF:24:LEU:HB3	29:YF:115:ALA:HB2	1.88	0.55
29:YF:32:LEU:HD12	29:YF:36:VAL:HG23	1.89	0.55
35:YP:71:VAL:HG13	35:YP:72:PRO:HD3	1.89	0.55
37:YR:55:ALA:HB2	37:YR:79:LEU:HD13	1.89	0.55
41:YV:61:VAL:HG23	41:YV:63:GLY:H	1.71	0.55
48:Y2:31:GLU:HB2	48:Y2:53:LEU:HD11	1.89	0.55
4:QD:12:CYS:C	4:QD:14:ARG:H	2.15	0.54
9:QI:26:VAL:HG22	9:QI:61:ALA:HB3	1.89	0.54
12:QL:28:LYS:O	12:QL:29:GLY:C	2.50	0.54
19:QS:42:PRO:HG2	50:R4:63:TYR:HE2	1.70	0.54
25:RA:416:G:N1	35:RP:70:GLN:HB3	2.22	0.54
25:RA:2126:G:H1	25:RA:2207:C:N4	1.99	0.54
25:RA:2849:G:C5'	37:RR:46:GLY:HA2	2.37	0.54
39:RT:1:MET:O	39:RT:3:ARG:N	2.40	0.54
50:R4:41:PRO:O	50:R4:42:PHE:CB	2.54	0.54
8:XH:54:ASP:N	8:XH:54:ASP:OD1	2.39	0.54
9:XI:16:ARG:HB2	9:XI:64:THR:HB	1.89	0.54
18:XR:31:LEU:HD23	18:XR:31:LEU:H	1.73	0.54
25:YA:1022:G:OP2	33:YN:65:LYS:HE3	2.06	0.54
25:YA:2556:C:H2'	25:YA:2557:G:O4'	2.07	0.54
27:YD:65:ILE:HD13	27:YD:65:ILE:C	2.32	0.54
39:YT:62:THR:HG22	39:YT:75:ILE:HG12	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1095:U:H2'	1:QA:1096:C:O4'	2.07	0.54
1:QA:1175:G:H2'	1:QA:1176:A:C8	2.41	0.54
10:QJ:22:LYS:HZ1	10:QJ:23:ILE:HG12	1.73	0.54
25:RA:895:G:H2'	25:RA:896:A:C8	2.42	0.54
25:RA:1324:A:H2'	25:RA:1325:G:C8	2.42	0.54
25:RA:1357:G:N2	25:RA:1649:A:H62	2.06	0.54
25:RA:2605:U:H2'	25:RA:2606:C:C6	2.42	0.54
30:RG:6:ALA:CB	50:R4:23:GLU:HG2	2.37	0.54
31:RH:26:VAL:CG1	31:RH:27:LYS:N	2.64	0.54
31:RH:128:PRO:CD	31:RH:129:THR:N	2.71	0.54
32:RI:113:ARG:HG3	32:RI:131:LYS:NZ	2.22	0.54
33:RN:30:ILE:HG22	33:RN:34:LEU:HD22	1.88	0.54
1:XA:963:G:H21	10:XJ:54:PHE:HE1	1.55	0.54
1:XA:1095:U:OP1	1:XA:1108:G:N1	2.39	0.54
1:XA:1126:U:H1'	1:XA:1280:A:C5	2.42	0.54
1:XA:1221:G:O3'	19:XS:77:THR:HG21	2.07	0.54
5:XE:12:LEU:HD21	5:XE:14:ARG:HD3	1.89	0.54
25:YA:910:A:C5	36:YQ:13:GLN:HG3	2.42	0.54
25:YA:2123:G:H2'	25:YA:2124:G:C8	2.42	0.54
25:YA:2330:G:H2'	25:YA:2331:G:O4'	2.07	0.54
31:YH:86:GLU:HG3	31:YH:165:ALA:CB	2.37	0.54
33:YN:39:ARG:HD3	33:YN:48:MET:HE2	1.87	0.54
37:YR:56:LYS:NZ	37:YR:87:TYR:O	2.40	0.54
51:Y5:55:ARG:HG3	51:Y5:57:VAL:H	1.72	0.54
6:QF:99:ALA:HB1	18:QR:23:LYS:HZ2	1.72	0.54
9:QI:121:ARG:NH1	9:QI:122:ALA:O	2.40	0.54
10:QJ:8:LEU:HB3	10:QJ:16:LEU:HD21	1.88	0.54
12:QL:83:VAL:HG22	12:QL:84:LEU:N	2.21	0.54
13:QM:22:ILE:HB	13:QM:25:ILE:HD12	1.89	0.54
25:RA:88:G:OP2	25:RA:89:U:O2'	2.22	0.54
25:RA:422:U:H2'	25:RA:423:G:N7	2.22	0.54
25:RA:1091:A:O2'	25:RA:1092:A:OP2	2.23	0.54
25:RA:2283:G:H2'	25:RA:2284:U:C6	2.42	0.54
25:RA:2575:U:H4'	34:RO:28:SER:HA	1.89	0.54
26:RB:13:A:H2'	26:RB:70:C:O2'	2.07	0.54
28:RE:61:ARG:O	28:RE:62:PRO:C	2.50	0.54
32:RI:144:VAL:HG22	32:RI:145:VAL:H	1.72	0.54
1:XA:1502:A:H2	1:XA:1505:G:N1	1.99	0.54
13:XM:22:ILE:HD12	13:XM:25:ILE:HD12	1.89	0.54
25:YA:833:U:H2'	25:YA:834:C:C6	2.42	0.54
25:YA:994:C:OP1	40:YU:53:ARG:NH2	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2661:G:H2'	25:YA:2662:A:C8	2.43	0.54
28:YE:176:ILE:HG22	28:YE:179:GLU:H	1.72	0.54
31:YH:8:PRO:O	31:YH:9:ILE:HG23	2.08	0.54
46:Y0:20:ARG:O	46:Y0:24:LYS:NZ	2.39	0.54
54:Y8:56:GLU:O	54:Y8:57:ARG:C	2.50	0.54
25:RA:609:A:N1	25:RA:856:G:O2'	2.31	0.54
25:RA:1086:C:N4	25:RA:1161:G:H1	2.03	0.54
25:RA:1099:C:H42	25:RA:1152:G:H1	1.56	0.54
25:RA:2339:A:H2'	25:RA:2340:A:C8	2.43	0.54
31:RH:86:GLU:HG3	31:RH:165:ALA:CB	2.38	0.54
40:RU:90:VAL:HG22	41:RV:39:LEU:HB3	1.90	0.54
50:R4:65:ASP:O	50:R4:66:SER:HB3	2.07	0.54
1:XA:1128:C:H42	1:XA:1143:G:H1	1.55	0.54
1:XA:1305:G:N2	1:XA:1332:A:OP2	2.41	0.54
4:XD:92:VAL:O	4:XD:96:LEU:HD22	2.07	0.54
7:XG:20:ASP:HB3	7:XG:23:VAL:HG23	1.88	0.54
7:XG:49:ILE:O	7:XG:53:LYS:HB3	2.07	0.54
10:XJ:33:GLN:HB2	10:XJ:75:ILE:HD11	1.89	0.54
13:XM:20:THR:C	13:XM:22:ILE:H	2.15	0.54
22:XV:0:C:O2'	46:Y0:6:GLY:O	2.22	0.54
25:YA:76:C:O2'	48:Y2:62:THR:HG21	2.08	0.54
25:YA:1508:A:O2'	25:YA:1509:C:O4'	2.25	0.54
25:YA:2336:A:H61	46:Y0:43:THR:CG2	2.21	0.54
28:YE:14:ILE:HG23	28:YE:15:PHE:N	2.23	0.54
31:YH:26:VAL:CG1	31:YH:27:LYS:N	2.63	0.54
31:YH:153:LYS:CE	31:YH:153:LYS:HA	2.38	0.54
36:YQ:79:LEU:C	36:YQ:79:LEU:CD2	2.80	0.54
1:QA:522:C:H41	12:QL:53:ARG:NH2	2.05	0.54
1:QA:542:G:H5'	4:QD:41:GLY:HA3	1.90	0.54
1:QA:892:A:O2'	1:QA:1415:G:H4'	2.07	0.54
1:QA:1000:A:N1	1:QA:1040:U:O4	2.41	0.54
1:QA:1097:C:O2'	1:QA:1169:A:N3	2.37	0.54
10:QJ:13:HIS:CE1	10:QJ:14:LYS:HE3	2.42	0.54
13:QM:7:VAL:HG21	30:RG:113:ARG:C	2.32	0.54
25:RA:537:G:H4'	25:RA:538:A:O5'	2.07	0.54
25:RA:628:C:O2	25:RA:704:U:O2'	2.25	0.54
28:RE:176:ILE:HG22	28:RE:179:GLU:H	1.71	0.54
28:RE:186:GLY:O	28:RE:188:VAL:N	2.41	0.54
36:RQ:21:THR:O	36:RQ:22:LYS:O	2.25	0.54
37:RR:103:ARG:NH1	37:RR:108:GLY:O	2.41	0.54
43:RX:83:VAL:CG1	43:RX:87:GLN:HB2	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:R5:20:ARG:C	51:R5:22:HIS:H	2.14	0.54
1:XA:446:G:H1	1:XA:488:C:H42	1.55	0.54
1:XA:1266:G:N2	1:XA:1269:A:OP2	2.34	0.54
25:YA:2306:C:H3'	25:YA:2307:G:C5'	2.38	0.54
25:YA:2470:G:H5'	36:YQ:56:ARG:NH2	2.23	0.54
26:YB:77:U:P	45:YZ:19:ARG:HH22	2.31	0.54
27:YD:155:LEU:HD23	27:YD:177:LEU:CD2	2.36	0.54
27:YD:211:ARG:HD2	27:YD:214:TRP:CZ3	2.43	0.54
29:YF:62:ARG:HB3	29:YF:62:ARG:NH1	2.22	0.54
29:YF:129:PHE:O	29:YF:130:ALA:CB	2.55	0.54
33:YN:35:ARG:HB2	33:YN:42:TRP:CH2	2.42	0.54
40:YU:76:TYR:CZ	40:YU:80:ILE:HG13	2.43	0.54
50:Y4:54:GLY:O	50:Y4:59:PHE:HB2	2.07	0.54
54:Y8:32:LEU:O	54:Y8:36:LYS:HE3	2.07	0.54
1:QA:1446:A:H4'	39:RT:125:ARG:HH22	1.73	0.54
19:QS:42:PRO:HD3	50:R4:63:TYR:CE2	2.42	0.54
25:RA:345:G:H5"	29:RF:136:THR:HG23	1.90	0.54
25:RA:1290:G:H4'	35:RP:7:ARG:HB2	1.88	0.54
25:RA:1785:C:H5"	39:RT:113:LYS:HE3	1.90	0.54
25:RA:2463:A:N1	56:Z5:101:PPU:HE2	2.23	0.54
25:RA:2715:C:H2'	25:RA:2716:C:H6	1.72	0.54
26:RB:75:G:N3	45:RZ:85:HIS:CE1	2.75	0.54
28:RE:101:ARG:HB3	28:RE:201:THR:OG1	2.08	0.54
35:RP:38:GLN:HG2	35:RP:45:LEU:CD1	2.36	0.54
36:RQ:39:PRO:HB3	36:RQ:99:PRO:HD3	1.90	0.54
47:R1:58:ILE:HD11	47:R1:86:SER:HB2	1.88	0.54
52:R6:15:GLU:CD	52:R6:41:PRO:HB3	2.33	0.54
54:R8:32:LEU:O	54:R8:36:LYS:HE3	2.07	0.54
1:XA:254:G:H2'	1:XA:255:G:C5'	2.38	0.54
12:XL:6:THR:OG1	12:XL:9:GLN:HG3	2.08	0.54
16:XP:43:LYS:HG2	16:XP:48:TRP:CE3	2.42	0.54
25:YA:674:G:C1'	29:YF:74:ARG:HD3	2.36	0.54
25:YA:1210:A:H5'	25:YA:1210:A:H8	1.73	0.54
25:YA:2757:A:OP1	55:Y9:18:ARG:O	2.25	0.54
25:YA:2864:G:OP1	39:YT:119:LYS:HD2	2.07	0.54
27:YD:72:LYS:O	27:YD:73:VAL:C	2.51	0.54
35:YP:64:LYS:O	35:YP:66:GLY:N	2.41	0.54
38:YS:13:ARG:HD2	38:YS:13:ARG:O	2.06	0.54
1:QA:363:A:OP1	12:QL:34:ARG:N	2.33	0.54
2:QB:84:GLU:HB3	2:QB:219:VAL:HG21	1.89	0.54
12:QL:6:THR:O	12:QL:7:ILE:C	2.51	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:968:U:H2'	25:RA:969:C:C6	2.43	0.54
25:RA:1110:C:N4	25:RA:1120:G:H1	2.04	0.54
30:RG:3:LEU:CD2	50:R4:25:TYR:CE1	2.86	0.54
30:RG:16:ARG:NH2	30:RG:28:VAL:O	2.41	0.54
31:RH:153:LYS:HA	31:RH:153:LYS:CE	2.38	0.54
32:RI:144:VAL:C	32:RI:145:VAL:HG12	2.20	0.54
39:RT:111:ARG:O	39:RT:112:ARG:HG3	2.08	0.54
45:RZ:108:PRO:HA	45:RZ:142:SER:HA	1.90	0.54
50:R4:23:GLU:C	50:R4:24:THR:HG1	2.16	0.54
50:R4:51:ASP:O	50:R4:51:ASP:OD1	2.25	0.54
51:R5:55:ARG:HD3	51:R5:56:LYS:H	1.73	0.54
1:XA:251:G:N1	1:XA:266:G:O6	2.41	0.54
3:XC:150:LYS:HB3	3:XC:201:TYR:HB2	1.90	0.54
9:XI:40:LEU:C	9:XI:42:ARG:H	2.16	0.54
22:XV:5:G:H1	22:XV:67:C:H42	1.54	0.54
25:YA:517:C:O2'	42:YW:18:ARG:NH2	2.39	0.54
25:YA:1169:G:N2	25:YA:1180:C:N3	2.46	0.54
27:YD:25:THR:O	27:YD:25:THR:HG23	2.07	0.54
27:YD:124:PRO:HB2	27:YD:126:GLN:NE2	2.22	0.54
27:YD:158:ALA:HB3	27:YD:161:THR:HG21	1.90	0.54
27:YD:206:LEU:O	27:YD:211:ARG:NH1	2.38	0.54
28:YE:101:ARG:HB3	28:YE:201:THR:OG1	2.07	0.54
29:YF:127:GLU:O	29:YF:129:PHE:N	2.39	0.54
31:YH:126:PRO:HD2	31:YH:127:GLU:H	1.72	0.54
1:QA:297:G:N2	1:QA:300:A:OP2	2.41	0.54
4:QD:149:ALA:HB3	4:QD:152:SER:HB2	1.89	0.54
12:QL:119:LYS:C	12:QL:120:TYR:HD1	2.16	0.54
22:QV:25:C:H2'	22:QV:26:G:O4'	2.07	0.54
25:RA:610:C:OP2	35:RP:21:ARG:NH2	2.40	0.54
25:RA:616:G:O3'	54:R8:61:LEU:HD22	2.08	0.54
25:RA:2648:U:OP1	28:RE:79:ARG:HG3	2.07	0.54
31:RH:12:PRO:O	31:RH:13:LYS:HB2	2.07	0.54
36:RQ:60:ARG:HH12	36:RQ:113:GLN:HE22	1.55	0.54
37:RR:45:ARG:HA	37:RR:95:THR:HG21	1.90	0.54
50:R4:37:SER:HB3	50:R4:42:PHE:CD1	2.43	0.54
1:XA:619:U:N3	4:XD:135:LEU:HD23	2.23	0.54
10:XJ:50:ILE:CD1	10:XJ:57:LYS:CG	2.78	0.54
25:YA:226:G:O2'	25:YA:228:A:N6	2.40	0.54
25:YA:1203:G:H3'	25:YA:1204:A:H5"	1.88	0.54
27:YD:118:VAL:HG22	27:YD:119:ALA:H	1.72	0.54
28:YE:51:PHE:O	28:YE:74:PRO:HB3	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YG:15:VAL:HG21	30:YG:176:LEU:HD23	1.90	0.54
31:YH:151:ILE:C	31:YH:152:ARG:O	2.49	0.54
19:QS:10:PHE:HE1	19:QS:16:LEU:HD22	1.73	0.54
25:RA:27:G:H22	25:RA:537:G:H1'	1.73	0.54
25:RA:100:G:H4'	25:RA:101:A:O5'	2.08	0.54
25:RA:231:G:C5'	54:R8:62:LEU:HD22	2.35	0.54
25:RA:494:G:H4'	29:RF:62:ARG:HH12	1.73	0.54
25:RA:1305:G:H2'	25:RA:1306:G:C8	2.43	0.54
25:RA:2155:G:H1'	25:RA:2180:A:H61	1.73	0.54
25:RA:2747:A:H3'	25:RA:2748:G:H8	1.73	0.54
28:RE:54:GLN:NE2	28:RE:54:GLN:N	2.55	0.54
32:RI:33:ARG:HB3	32:RI:35:LEU:HD23	1.90	0.54
48:R2:42:GLY:O	48:R2:44:LEU:N	2.35	0.54
12:XL:83:VAL:CG2	12:XL:100:ILE:HG23	2.38	0.54
12:XL:119:LYS:C	12:XL:120:TYR:HD1	2.16	0.54
13:XM:3:ARG:HA	13:XM:9:ILE:CG2	2.37	0.54
24:XY:33:U:H2'	24:XY:35:G:OP2	2.08	0.54
25:YA:141:A:H8	25:YA:1595:G:H21	1.55	0.54
27:YD:130:ALA:C	27:YD:131:LEU:HD12	2.33	0.54
27:YD:183:ARG:HG2	27:YD:183:ARG:NH1	2.12	0.54
29:YF:51:THR:O	29:YF:93:LYS:NZ	2.38	0.54
29:YF:147:GLY:O	29:YF:148:LEU:HD23	2.07	0.54
31:YH:91:GLY:O	31:YH:94:TYR:HB2	2.08	0.54
36:YQ:39:PRO:HB3	36:YQ:99:PRO:HD3	1.90	0.54
48:Y2:41:ILE:HD11	48:Y2:44:LEU:HB2	1.89	0.54
1:QA:838:G:C6	1:QA:842:C:H1'	2.42	0.54
1:QA:1004:A:H1'	1:QA:1036:G:H22	1.73	0.54
2:QB:235:SER:O	2:QB:237:ALA:N	2.41	0.54
4:QD:11:LEU:HD22	4:QD:66:ARG:HD3	1.89	0.54
4:QD:29:PRO:CD	4:QD:30:LYS:H	2.21	0.54
12:QL:62:SER:C	12:QL:64:TYR:H	2.14	0.54
27:RD:228:PRO:HD3	27:RD:234:GLY:C	2.33	0.54
28:RE:51:PHE:O	28:RE:74:PRO:HB3	2.08	0.54
28:RE:53:PRO:O	28:RE:74:PRO:HA	2.07	0.54
28:RE:152:LYS:HG2	33:RN:78:TYR:CE1	2.43	0.54
31:RH:91:GLY:O	31:RH:94:TYR:HB2	2.08	0.54
39:RT:33:LYS:HD2	39:RT:82:LEU:HA	1.89	0.54
39:RT:37:GLY:O	39:RT:39:ARG:N	2.34	0.54
1:XA:377:G:H1	1:XA:386:C:H42	1.55	0.54
1:XA:1226:C:OP2	13:XM:103:THR:OG1	2.21	0.54
1:XA:1316:G:N2	1:XA:1318:A:H3'	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:141(A):C:H2'	25:YA:142:G:O4'	2.08	0.54
25:YA:943:U:OP2	35:YP:36:LYS:NZ	2.41	0.54
25:YA:2699:C:H2'	25:YA:2700:C:O4'	2.07	0.54
28:YE:14:ILE:HD11	39:YT:14:TYR:CZ	2.42	0.54
28:YE:186:GLY:O	28:YE:188:VAL:N	2.40	0.54
33:YN:6:PRO:HG3	33:YN:41:ASP:HB2	1.89	0.54
45:YZ:182:LYS:HG3	45:YZ:183:LEU:CA	2.15	0.54
1:QA:352:C:O2'	1:QA:354:G:OP1	2.16	0.53
1:QA:1000:A:H2	1:QA:1040:U:H3	1.55	0.53
2:QB:204:ASN:HD22	2:QB:206:ASP:H	1.56	0.53
4:QD:98:GLU:OE2	4:QD:107:ARG:NE	2.41	0.53
12:QL:42:THR:HA	12:QL:53:ARG:O	2.08	0.53
12:QL:83:VAL:CG2	12:QL:100:ILE:HG23	2.38	0.53
25:RA:2013:U:H6	25:RA:2013:U:O5'	1.90	0.53
25:RA:2524:C:H4'	28:RE:122:PHE:CE2	2.43	0.53
31:RH:139:GLN:O	31:RH:143:GLN:HB2	2.09	0.53
36:RQ:81:VAL:HG23	46:R0:7:LEU:HD13	1.90	0.53
51:R5:60:VAL:OXT	51:R5:60:VAL:CG1	2.56	0.53
1:XA:1306:A:N6	1:XA:1331:G:H1'	2.23	0.53
2:XB:162:ILE:O	2:XB:185:ILE:HG12	2.08	0.53
3:XC:14:ILE:O	3:XC:16:ARG:N	2.35	0.53
3:XC:15:THR:HG23	3:XC:181:ASN:HD22	1.73	0.53
10:XJ:4:ILE:HG12	10:XJ:100:THR:HG22	1.89	0.53
10:XJ:9:ARG:HB2	10:XJ:95:GLU:HB3	1.88	0.53
12:XL:6:THR:O	12:XL:7:ILE:C	2.51	0.53
25:YA:443:A:N6	29:YF:41:LEU:O	2.40	0.53
25:YA:493:G:H2'	25:YA:494:G:O4'	2.08	0.53
27:YD:80:ALA:HB3	27:YD:94:LEU:HD13	1.88	0.53
27:YD:85:ASP:OD2	27:YD:88:ARG:HG2	2.07	0.53
27:YD:121:PRO:HA	27:YD:135:PHE:CE2	2.44	0.53
27:YD:198:ASN:C	27:YD:198:ASN:HD22	2.16	0.53
29:YF:197:ASP:O	29:YF:198:ALA:HB3	2.06	0.53
33:YN:30:ILE:HG23	33:YN:52:VAL:HG11	1.90	0.53
43:YX:60:ARG:HH22	53:Y7:47:ARG:HH12	1.56	0.53
1:QA:31:G:O2'	1:QA:48:C:N4	2.41	0.53
1:QA:607:A:C2	16:QP:31:LYS:HB2	2.43	0.53
1:QA:1204:A:OP1	14:QN:3:ARG:NH2	2.42	0.53
25:RA:1334:U:O2'	25:RA:1694:G:N2	2.41	0.53
25:RA:1834:A:O2'	27:RD:259:THR:HG21	2.08	0.53
25:RA:1907:A:H5'	25:RA:1908:C:OP2	2.08	0.53
25:RA:2373:A:O5'	54:R8:27:THR:OG1	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2451:A:H5'	25:RA:2451:A:C8	2.43	0.53
25:RA:2575:U:H2'	25:RA:2577:A:OP2	2.07	0.53
32:RI:57:ARG:O	32:RI:61:ARG:N	2.37	0.53
1:XA:1132:C:H2'	1:XA:1133:G:C8	2.44	0.53
24:XY:35:G:H2'	24:XY:36:U:O4'	2.08	0.53
25:YA:67:U:C4	25:YA:74:A:N1	2.76	0.53
25:YA:1479:G:N7	25:YA:1510:A:N6	2.57	0.53
25:YA:2393:A:H5'	35:YP:62:LEU:HB3	1.90	0.53
35:YP:88:LEU:HD12	35:YP:95:VAL:HG11	1.90	0.53
38:YS:25:ARG:HH12	38:YS:42:ASP:CG	2.16	0.53
38:YS:74:ALA:HB1	38:YS:107:GLU:HB3	1.89	0.53
54:Y8:63:PRO:O	54:Y8:64:TYR:HB2	2.07	0.53
3:QC:84:ILE:HD11	3:QC:88:ARG:HH21	1.73	0.53
8:QH:51:VAL:HG11	8:QH:60:ARG:HG3	1.90	0.53
15:QO:6:GLU:OE2	15:QO:6:GLU:N	2.35	0.53
25:RA:1827:U:H2'	25:RA:1828:C:C6	2.43	0.53
32:RI:80:PRO:C	32:RI:146:ALA:CB	2.82	0.53
34:RO:2:ILE:HD13	34:RO:8:LEU:HD11	1.90	0.53
41:RV:99:ILE:O	41:RV:101:GLY:N	2.41	0.53
54:R8:29:LYS:HB2	54:R8:44:LYS:HG2	1.90	0.53
1:XA:254:G:C2'	1:XA:255:G:C5'	2.86	0.53
1:XA:1434:A:H2'	1:XA:1435:G:O4'	2.08	0.53
10:XJ:32:ALA:H	10:XJ:78:ASN:HD21	1.56	0.53
25:YA:586:A:H5'	29:YF:89:VAL:HG21	1.90	0.53
25:YA:600:G:N2	25:YA:605:C:O3'	2.41	0.53
25:YA:1441:G:H2'	25:YA:1442:G:C8	2.42	0.53
25:YA:1818:U:O2'	27:YD:154:LYS:O	2.21	0.53
25:YA:2074:U:H2'	25:YA:2075:U:C6	2.43	0.53
25:YA:2849:U:H5	39:YT:93:ARG:HH12	1.55	0.53
41:YV:66:ARG:NH1	41:YV:88:ARG:HD3	2.23	0.53
45:YZ:124:ILE:HG22	45:YZ:126:VAL:HG13	1.90	0.53
54:Y8:58:ILE:O	54:Y8:61:LEU:HG	2.08	0.53
3:QC:35:GLU:HG2	3:QC:59:ARG:NH2	2.23	0.53
5:QE:71:LEU:HD21	5:QE:115:VAL:CG2	2.32	0.53
12:QL:6:THR:OG1	12:QL:9:GLN:HG3	2.08	0.53
25:RA:1825:U:H2'	25:RA:1826:C:C6	2.44	0.53
27:RD:44:ASN:HD22	27:RD:44:ASN:N	2.06	0.53
28:RE:14:ILE:CG1	28:RE:15:PHE:H	2.08	0.53
36:RQ:112:GLU:CD	36:RQ:112:GLU:H	2.17	0.53
36:RQ:119:ARG:HG2	36:RQ:119:ARG:NH1	2.20	0.53
54:R8:52:LYS:N	54:R8:53:PRO:HD2	2.22	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:56:U:H2'	1:XA:57:G:C8	2.43	0.53
2:XB:82:ARG:HA	2:XB:92:TYR:CE2	2.43	0.53
12:XL:42:THR:HA	12:XL:53:ARG:O	2.08	0.53
25:YA:957:A:N1	25:YA:2458:G:H4'	2.24	0.53
25:YA:1278:A:H4'	37:YR:34:ILE:HD12	1.90	0.53
28:YE:61:ARG:O	28:YE:62:PRO:C	2.51	0.53
31:YH:12:PRO:O	31:YH:13:LYS:HB2	2.07	0.53
31:YH:59:ARG:HH11	31:YH:59:ARG:CG	2.19	0.53
36:YQ:112:GLU:H	36:YQ:112:GLU:CD	2.17	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:690:G:H2'	1:QA:691:G:O4'	2.09	0.53
1:QA:963:G:H1	1:QA:972:C:N4	2.06	0.53
25:RA:827:G:H21	25:RA:830:A:H62	1.56	0.53
29:RF:32:LEU:O	29:RF:36:VAL:HG23	2.09	0.53
35:RP:113:LYS:HG2	35:RP:115:LEU:HD23	1.90	0.53
48:R2:10:LEU:O	48:R2:13:ALA:N	2.40	0.53
51:R5:16:ARG:NH1	51:R5:17:ASP:OD1	2.41	0.53
19:XS:36:ARG:NH1	19:XS:52:TYR:O	2.42	0.53
25:YA:140:A:H8	25:YA:1408:C:HO2'	1.55	0.53
25:YA:1316:U:H2'	25:YA:1317:A:C8	2.43	0.53
25:YA:2349:G:OP2	54:Y8:42:ARG:HD3	2.07	0.53
25:YA:2794:C:N4	25:YA:2795:G:O6	2.40	0.53
28:YE:47:VAL:O	28:YE:48:GLN:C	2.52	0.53
31:YH:40:GLU:O	31:YH:41:MET:HB2	2.09	0.53
32:YI:62:LYS:HE3	32:YI:134:PRO:HG2	1.90	0.53
4:QD:30:LYS:C	4:QD:32:ALA:HA	2.33	0.53
4:QD:78:LEU:HD22	4:QD:96:LEU:HB3	1.89	0.53
4:QD:194:LEU:HD12	4:QD:195:ALA:H	1.73	0.53
24:QY:30:C:H42	24:QY:40:G:H1	1.55	0.53
25:RA:505:A:N3	25:RA:507:G:H5"	2.23	0.53
25:RA:2244:U:OP2	47:R1:40:ARG:NH1	2.40	0.53
25:RA:2299:A:N6	25:RA:2356:U:N3	2.45	0.53
25:RA:2768:C:N3	55:R9:19:ARG:NH1	2.57	0.53
32:RI:88:ILE:O	32:RI:121:LYS:NZ	2.40	0.53
36:RQ:63:LYS:HD2	45:RZ:175:VAL:HG21	1.91	0.53
38:RS:106:ARG:HA	38:RS:110:LEU:HD21	1.91	0.53
48:R2:4:SER:OG	48:R2:5:GLU:OE2	2.16	0.53
50:R4:47:GLN:O	50:R4:48:ARG:HB2	2.07	0.53
51:R5:44:THR:O	51:R5:46:CYS:N	2.41	0.53
1:XA:664:G:N2	1:XA:741:G:H1	2.03	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1414:U:H2'	1:XA:1415:G:C8	2.44	0.53
2:XB:60:ASP:O	2:XB:64:ARG:HG2	2.09	0.53
11:XK:84:VAL:HG11	11:XK:95:ILE:HD11	1.91	0.53
25:YA:347:A:H2'	25:YA:348:G:C8	2.44	0.53
25:YA:2022:U:O2'	25:YA:2617:C:H5'	2.09	0.53
25:YA:2277:G:OP1	36:YQ:85:LYS:HB2	2.09	0.53
25:YA:2451:A:N1	56:Z6:101:PPU:HE2	2.23	0.53
27:YD:25:THR:CG2	27:YD:81:ALA:HB1	2.38	0.53
27:YD:25:THR:HG21	27:YD:81:ALA:CB	2.38	0.53
27:YD:172:TYR:CD1	27:YD:185:VAL:C	2.87	0.53
35:YP:65:ARG:NE	54:Y8:15:LYS:HB2	2.23	0.53
48:Y2:50:ILE:CD1	48:Y2:51:ARG:N	2.61	0.53
53:Y7:9:ARG:NH1	53:Y7:47:ARG:HG3	2.24	0.53
1:QA:382:A:H2'	1:QA:383:A:H8	1.74	0.53
1:QA:974:A:H1'	14:QN:31:ARG:HE	1.73	0.53
1:QA:1464:G:OP1	39:RT:108:ARG:NH2	2.41	0.53
19:QS:5:LEU:HD22	50:R4:67:TYR:CZ	2.36	0.53
19:QS:44:MET:O	19:QS:46:GLY:N	2.40	0.53
25:RA:1093:G:H2'	25:RA:1156:G:N1	2.23	0.53
25:RA:1480:A:H61	25:RA:1605:A:N6	2.06	0.53
25:RA:2037:A:N3	51:R5:2:ALA:N	2.57	0.53
25:RA:2159:C:H42	25:RA:2176:G:H1	1.57	0.53
28:RE:14:ILE:HG23	28:RE:15:PHE:N	2.22	0.53
28:RE:20:ALA:O	28:RE:21:VAL:CG2	2.48	0.53
31:RH:40:GLU:O	31:RH:41:MET:HB2	2.08	0.53
35:RP:64:LYS:CG	54:R8:25:MET:HG3	2.33	0.53
45:RZ:117:LEU:HA	45:RZ:174:VAL:HA	1.91	0.53
50:R4:42:PHE:O	50:R4:43:TYR:C	2.51	0.53
51:R5:55:ARG:HG3	51:R5:57:VAL:H	1.73	0.53
54:R8:58:ILE:O	54:R8:61:LEU:HG	2.08	0.53
12:XL:32:PHE:HE1	12:XL:86:ARG:HG3	1.73	0.53
17:XQ:4:LYS:HE3	17:XQ:6:LEU:HD21	1.90	0.53
25:YA:1030:G:OP2	36:YQ:128:LYS:HE2	2.09	0.53
27:YD:35:LYS:CG	27:YD:64:ILE:H	2.15	0.53
36:YQ:76:LYS:O	36:YQ:88:GLY:HA3	2.09	0.53
36:YQ:81:VAL:C	36:YQ:82:ARG:CG	2.76	0.53
1:QA:1227:A:OP2	13:QM:111:LYS:HE3	2.08	0.53
1:QA:1321:C:H3'	1:QA:1322:C:H5"	1.90	0.53
1:QA:1367:C:H4'	10:QJ:48:THR:HG21	1.90	0.53
19:QS:15:LEU:HD12	19:QS:44:MET:HE1	1.90	0.53
20:QT:36:LEU:HD12	20:QT:55:ILE:HG23	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:645:G:H4'	25:RA:646:A:H5"	1.91	0.53
25:RA:2090:U:N3	25:RA:2442:A:H2	1.99	0.53
29:RF:135:LYS:HB3	29:RF:138:GLU:HG3	1.90	0.53
35:RP:61:ARG:HH11	54:R8:10:ALA:HA	1.70	0.53
45:RZ:27:VAL:HG13	45:RZ:87:ASP:HB3	1.91	0.53
47:R1:80:LEU:HD23	47:R1:80:LEU:H	1.74	0.53
8:XH:121:ASP:HB2	8:XH:125:ARG:NH2	2.24	0.53
9:XI:111:ARG:NE	9:XI:112:LYS:O	2.38	0.53
25:YA:443:A:H3'	29:YF:45:ARG:NH1	2.24	0.53
25:YA:627:A:H4'	25:YA:628:G:H5'	1.91	0.53
25:YA:862:G:H2'	25:YA:863:A:O4'	2.09	0.53
25:YA:1035:U:H2'	25:YA:1036:G:C8	2.44	0.53
25:YA:2126:A:H4'	25:YA:2127:G:O5'	2.08	0.53
25:YA:2564:A:OP1	25:YA:2648:C:H4'	2.08	0.53
27:YD:77:ALA:HB2	27:YD:97:TYR:CG	2.44	0.53
28:YE:119:ARG:HD3	28:YE:160:TYR:HB2	1.91	0.53
29:YF:29:ASN:CB	29:YF:112:MET:HE1	2.38	0.53
29:YF:116:ASP:OD1	29:YF:119:ARG:NH2	2.41	0.53
31:YH:12:PRO:HG3	31:YH:48:GLY:O	2.09	0.53
33:YN:96:GLU:HG2	33:YN:97:ARG:N	2.24	0.53
35:YP:92:GLU:HA	35:YP:123:LEU:HD23	1.90	0.53
38:YS:10:ARG:O	38:YS:14:VAL:HG12	2.09	0.53
39:YT:16:ARG:HE	39:YT:19:LEU:HD21	1.73	0.53
39:YT:105:LEU:O	39:YT:107:ASP:N	2.42	0.53
1:QA:660:G:H1	1:QA:745:C:H42	1.57	0.53
6:QF:10:LEU:HD13	6:QF:61:LEU:HD13	1.90	0.53
25:RA:715:G:O6	25:RA:717:A:O2'	2.27	0.53
25:RA:2262:G:C4	36:RQ:82:ARG:HG3	2.44	0.53
29:RF:157:VAL:HB	29:RF:194:MET:HB3	1.91	0.53
44:RY:98:VAL:HG13	44:RY:99:CYS:SG	2.48	0.53
45:RZ:163:LEU:H	45:RZ:163:LEU:HD12	1.72	0.53
48:R2:65:ASN:HB3	48:R2:69:ARG:NH2	2.24	0.53
50:R4:54:GLY:O	50:R4:71:ARG:HA	2.08	0.53
1:XA:280:C:H3'	1:XA:281:G:H5'	1.90	0.53
1:XA:1052:U:O2'	1:XA:1055:A:OP2	2.19	0.53
10:XJ:47:PHE:HB3	14:XN:34:TYR:HE2	1.73	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:2820:A:O5'	37:YR:4:LEU:HD23	2.09	0.53
27:YD:25:THR:O	27:YD:26:LYS:C	2.52	0.53
31:YH:128:PRO:CD	31:YH:129:THR:N	2.71	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YH:139:GLN:O	31:YH:143:GLN:HB2	2.08	0.53
32:YI:93:THR:HG22	32:YI:119:PRO:HB3	1.91	0.53
1:QA:501:C:OP1	12:QL:117:ARG:NH2	2.42	0.53
1:QA:948:C:N4	1:QA:1233:G:H1	2.07	0.53
1:QA:1220:G:O3'	19:QS:36:ARG:HD3	2.08	0.53
9:QI:71:SER:HA	9:QI:74:ILE:HD12	1.91	0.53
25:RA:278:G:H2'	25:RA:279:G:C8	2.44	0.53
25:RA:2347:A:O2'	25:RA:2348:A:O5'	2.25	0.53
27:RD:206:LEU:O	27:RD:211:ARG:NH1	2.38	0.53
31:RH:10:PRO:C	31:RH:11:VAL:HG22	2.34	0.53
31:RH:126:PRO:HD2	31:RH:127:GLU:H	1.72	0.53
36:RQ:7:MET:HE1	36:RQ:73:PRO:HG3	1.91	0.53
42:RW:110:LYS:HG3	42:RW:111:HIS:ND1	2.23	0.53
50:R4:15:ILE:HD13	50:R4:15:ILE:H	1.74	0.53
54:R8:43:GLN:C	54:R8:44:LYS:HD2	2.34	0.53
1:XA:35:G:N2	12:XL:118:SER:OG	2.42	0.53
1:XA:145:G:H1	1:XA:177:C:H42	1.57	0.53
1:XA:973:G:OP1	10:XJ:57:LYS:NZ	2.42	0.53
20:XT:95:ALA:O	20:XT:97:ALA:N	2.42	0.53
24:XY:35:G:C4	24:XY:36:U:C6	2.97	0.53
25:YA:259:G:H21	25:YA:621:A:H8	1.56	0.53
25:YA:968:G:OP1	49:Y3:17:LYS:NZ	2.38	0.53
25:YA:1062:G:N1	25:YA:1076:C:O2	2.40	0.53
25:YA:2023:G:H5'	25:YA:2617:C:H4'	1.91	0.53
27:YD:35:LYS:HD3	27:YD:63:ARG:CA	2.39	0.53
27:YD:233:HIS:CD2	27:YD:233:HIS:N	2.75	0.53
27:YD:263:ARG:HB2	27:YD:263:ARG:HH11	1.68	0.53
31:YH:10:PRO:C	31:YH:11:VAL:HG22	2.34	0.53
38:YS:56:LEU:C	38:YS:56:LEU:HD23	2.34	0.53
48:Y2:16:LEU:O	48:Y2:16:LEU:CG	2.49	0.53
1:QA:828:A:H2'	1:QA:829:G:O4'	2.10	0.52
1:QA:955:U:H1'	1:QA:1227:A:H61	1.72	0.52
19:QS:67:VAL:CB	50:R4:59:PHE:CE1	2.92	0.52
25:RA:20:C:H2'	25:RA:21:A:H8	1.74	0.52
25:RA:1027:A:N1	25:RA:2049:G:O2'	2.33	0.52
25:RA:1478:C:H2'	25:RA:1479:U:O4'	2.09	0.52
25:RA:1683:C:H2'	25:RA:1684:A:C8	2.44	0.52
25:RA:2133:C:N3	25:RA:2140:U:O2'	2.42	0.52
28:RE:7:VAL:O	28:RE:196:VAL:HG13	2.09	0.52
30:RG:5:VAL:HA	50:R4:23:GLU:HG3	1.91	0.52
31:RH:12:PRO:HG3	31:RH:48:GLY:O	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RP:62:LEU:HD22	35:RP:62:LEU:H	1.72	0.52
1:XA:403:C:OP1	4:XD:137:SER:OG	2.26	0.52
1:XA:720:C:H5"	18:XR:52:PRO:HA	1.91	0.52
5:XE:74:GLY:O	5:XE:116:THR:N	2.42	0.52
25:YA:2635:C:H5"	28:YE:78:LEU:HA	1.91	0.52
28:YE:7:VAL:O	28:YE:196:VAL:HG13	2.09	0.52
28:YE:39:PRO:HG2	28:YE:40:GLU:OE1	2.09	0.52
28:YE:64:LYS:C	28:YE:66:HIS:N	2.68	0.52
29:YF:9:ILE:HD11	29:YF:125:LEU:CG	2.36	0.52
29:YF:129:PHE:O	29:YF:142:TRP:CD1	2.62	0.52
29:YF:140:LEU:O	29:YF:143:ALA:HB3	2.09	0.52
29:YF:196:LEU:C	29:YF:197:ASP:O	2.50	0.52
30:YG:96:ARG:O	30:YG:98:ARG:N	2.42	0.52
31:YH:44:VAL:O	31:YH:44:VAL:CG2	2.57	0.52
38:YS:56:LEU:O	38:YS:58:LEU:HD22	2.09	0.52
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.44	0.52
12:QL:47:LYS:HA	12:QL:48:PRO:C	2.34	0.52
25:RA:873:U:H4'	35:RP:55:ARG:HB3	1.91	0.52
25:RA:2087:C:H2'	25:RA:2088:C:C6	2.43	0.52
25:RA:2340:A:H2'	25:RA:2341:G:C8	2.43	0.52
25:RA:2361:G:OP2	54:R8:42:ARG:HD3	2.10	0.52
25:RA:2489:C:H2'	55:R9:1:MET:HG3	1.90	0.52
26:RB:40:U:O4	50:R4:1:MET:HA	2.09	0.52
26:RB:50:G:H5"	38:RS:61:ASN:ND2	2.24	0.52
28:RE:14:ILE:CG1	39:RT:14:TYR:CZ	2.92	0.52
28:RE:15:PHE:CE1	39:RT:81:PRO:CD	2.92	0.52
28:RE:61:ARG:O	28:RE:63:LEU:N	2.42	0.52
28:RE:64:LYS:C	28:RE:66:HIS:N	2.68	0.52
29:RF:134:GLY:HA3	29:RF:165:ARG:NH1	2.25	0.52
32:RI:133:HIS:HB2	32:RI:134:PRO:HD2	1.91	0.52
36:RQ:76:LYS:O	36:RQ:88:GLY:HA3	2.09	0.52
50:R4:49:PHE:CD1	50:R4:49:PHE:N	2.76	0.52
1:XA:265:G:C2'	1:XA:266:G:H4'	2.38	0.52
1:XA:1132:C:H2'	1:XA:1133:G:H8	1.74	0.52
1:XA:1388:C:H2'	1:XA:1389:C:H6	1.73	0.52
2:XB:44:LEU:H	2:XB:44:LEU:HD12	1.74	0.52
10:XJ:49:VAL:CG2	14:XN:41:ARG:HB2	2.39	0.52
25:YA:270(R):G:H2'	25:YA:270(S):G:C8	2.44	0.52
25:YA:922:U:H2'	25:YA:923:C:C6	2.44	0.52
25:YA:2392:A:H1'	35:YP:60:MET:HE3	1.90	0.52
25:YA:2703:C:H2'	25:YA:2704:C:H6	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YO:76:ALA:HB3	39:YT:75:ILE:HD12	1.90	0.52
36:YQ:29:PHE:HB3	36:YQ:65:PHE:CZ	2.44	0.52
44:YY:35:TYR:CE2	44:YY:69:ALA:HB3	2.44	0.52
52:Y6:26:ASN:ND2	52:Y6:35:GLU:OE2	2.42	0.52
52:Y6:40:CYS:HB2	52:Y6:45:LYS:HD3	1.90	0.52
1:QA:1436:U:H2'	1:QA:1437:C:O4'	2.09	0.52
13:QM:66:LEU:HA	13:QM:70:LEU:HB2	1.91	0.52
13:QM:80:ARG:HD3	50:R4:71:ARG:CZ	2.39	0.52
25:RA:2619:G:H2'	25:RA:2620:G:O4'	2.10	0.52
31:RH:44:VAL:O	31:RH:44:VAL:CG2	2.57	0.52
36:RQ:29:PHE:HB3	36:RQ:65:PHE:CZ	2.44	0.52
50:R4:48:ARG:CZ	50:R4:51:ASP:HA	2.40	0.52
3:XC:40:ARG:O	3:XC:44:GLU:HB2	2.09	0.52
20:XT:43:LEU:HB3	20:XT:52:ALA:HB2	1.90	0.52
25:YA:1291:C:H5'	25:YA:1536:A:H5'	1.91	0.52
25:YA:2154:G:H2'	25:YA:2155:G:H8	1.74	0.52
27:YD:155:LEU:CD1	27:YD:155:LEU:N	2.71	0.52
28:YE:137:HIS:HB3	28:YE:138:PRO:CD	2.37	0.52
31:YH:125:VAL:HA	31:YH:126:PRO:CB	2.29	0.52
32:YI:20:ASP:OD1	32:YI:20:ASP:N	2.40	0.52
33:YN:110:GLY:O	33:YN:114:ARG:HG3	2.09	0.52
50:Y4:18:CYS:SG	50:Y4:39:CYS:HB3	2.47	0.52
54:Y8:61:LEU:O	54:Y8:62:LEU:CB	2.57	0.52
1:QA:673:G:H2'	1:QA:674:G:C8	2.44	0.52
1:QA:701:C:H4'	1:QA:702:A:H5"	1.92	0.52
1:QA:963:G:H21	10:QJ:55:LYS:CE	2.20	0.52
20:QT:30:LYS:HZ1	20:QT:80:ARG:NH1	2.07	0.52
25:RA:723:A:C2	25:RA:849:A:N6	2.73	0.52
25:RA:2289:G:OP2	46:R0:10:THR:HG21	2.10	0.52
25:RA:2578:A:H4'	25:RA:2579:G:O5'	2.10	0.52
26:RB:38:C:O2	26:RB:48:A:H1'	2.10	0.52
32:RI:13:GLY:HA3	32:RI:17:GLN:CD	2.34	0.52
1:XA:1100:C:OP2	2:XB:96:ARG:HG2	2.10	0.52
25:YA:628:G:H2'	25:YA:629:G:H8	1.75	0.52
26:YB:28:C:OP2	38:YS:33:LYS:HE3	2.10	0.52
27:YD:66:ASP:OD2	27:YD:69:ARG:HG2	2.09	0.52
28:YE:7:VAL:CG2	28:YE:8:LYS:H	2.10	0.52
29:YF:162:LEU:HD23	29:YF:165:ARG:NH2	2.25	0.52
31:YH:89:ILE:O	31:YH:89:ILE:CG1	2.57	0.52
31:YH:121:ILE:HG12	31:YH:135:GLY:HA3	1.91	0.52
38:YS:25:ARG:CB	38:YS:25:ARG:HH11	2.22	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YS:62:LYS:HB3	38:YS:97:ARG:CD	2.39	0.52
1:QA:1109:C:H2'	1:QA:1110:A:O4'	2.09	0.52
2:QB:134:GLU:HA	2:QB:137:ARG:HB3	1.92	0.52
25:RA:799:A:H3'	53:R7:1:MET:SD	2.50	0.52
27:RD:108:PRO:HB3	27:RD:143:HIS:HE1	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	2.49	0.52
32:RI:11:ASN:O	32:RI:12:LEU:HB2	2.09	0.52
34:RO:76:ALA:HB3	39:RT:75:ILE:HB	1.92	0.52
37:RR:59:ASP:OD2	37:RR:61:HIS:HB3	2.08	0.52
50:R4:40:HIS:N	50:R4:41:PRO:CD	2.73	0.52
1:XA:1342:C:H4'	9:XI:125:TYR:HB3	1.91	0.52
3:XC:91:LEU:O	3:XC:95:THR:OG1	2.19	0.52
25:YA:2635:C:OP1	28:YE:78:LEU:HD12	2.08	0.52
26:YB:44:G:C2	26:YB:48:A:C2	2.98	0.52
29:YF:132:VAL:O	29:YF:133:ASN:C	2.52	0.52
29:YF:192:LEU:HD21	29:YF:194:MET:CE	2.35	0.52
31:YH:153:LYS:HG3	31:YH:161:GLY:HA2	1.91	0.52
35:YP:9:ASN:CB	35:YP:10:PRO:HD2	2.40	0.52
36:YQ:119:ARG:HG2	36:YQ:119:ARG:NH1	2.19	0.52
48:Y2:7:ARG:HG3	48:Y2:7:ARG:NH1	2.24	0.52
55:Y9:27:CYS:SG	55:Y9:28:GLU:N	2.82	0.52
1:QA:1028(B):C:N3	1:QA:1032(A):G:N2	2.53	0.52
1:QA:1316:G:H5"	14:QN:17:LYS:HE3	1.92	0.52
4:QD:32:ALA:HB1	4:QD:35:ARG:HB2	1.90	0.52
25:RA:144:C:H2'	25:RA:145:G:H8	1.75	0.52
25:RA:630:U:OP1	29:RF:102:PRO:HA	2.10	0.52
25:RA:1936:C:H2'	25:RA:1937:U:O4'	2.10	0.52
25:RA:2289:G:OP1	36:RQ:85:LYS:HB2	2.10	0.52
25:RA:2383:G:H4'	52:R6:45:LYS:HB3	1.92	0.52
25:RA:2611:G:OP2	27:RD:236:GLY:HA2	2.09	0.52
25:RA:2826:C:H2'	25:RA:2827:G:H8	1.74	0.52
28:RE:39:PRO:HG2	28:RE:40:GLU:OE1	2.09	0.52
30:RG:6:ALA:H	50:R4:23:GLU:HG3	1.73	0.52
31:RH:4:ILE:O	31:RH:6:ARG:N	2.43	0.52
41:RV:60:GLU:HB2	41:RV:97:LYS:HE3	1.92	0.52
50:R4:55:ARG:C	50:R4:59:PHE:HB3	2.35	0.52
52:R6:25:LYS:NZ	54:R8:34:TRP:CZ2	2.70	0.52
1:XA:593:G:H1	1:XA:646:U:H3	1.56	0.52
1:XA:1327:C:OP2	21:XU:12:LYS:NZ	2.32	0.52
2:XB:35:GLU:O	2:XB:36:ARG:HD3	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:XG:15:ASP:HB3	7:XG:19:GLY:H	1.75	0.52
12:XL:46:LYS:HG2	12:XL:47:LYS:H	1.74	0.52
16:XP:8:ARG:O	16:XP:9:PHE:HD1	1.93	0.52
20:XT:43:LEU:HB2	20:XT:52:ALA:HB2	1.92	0.52
25:YA:588:U:C2	29:YF:90:PHE:CE1	2.98	0.52
25:YA:1339:G:H5"	43:YX:16:LYS:HD3	1.92	0.52
25:YA:2277:G:C5'	36:YQ:85:LYS:HG3	2.40	0.52
26:YB:54:G:H2'	26:YB:55:U:H6	1.74	0.52
27:YD:36:PRO:HA	27:YD:62:TYR:O	2.09	0.52
27:YD:133:LEU:HG	27:YD:189:CYS:O	2.10	0.52
28:YE:93:VAL:C	28:YE:95:ILE:H	2.17	0.52
29:YF:29:ASN:H	29:YF:112:MET:HE3	1.75	0.52
38:YS:56:LEU:O	38:YS:57:LYS:C	2.53	0.52
12:QL:27:LEU:C	12:QL:29:GLY:N	2.64	0.52
12:QL:32:PHE:HE1	12:QL:86:ARG:HG3	1.73	0.52
25:RA:1797:U:H2'	25:RA:1798:C:C6	2.45	0.52
25:RA:2842:U:H4'	25:RA:2843:G:H5"	1.92	0.52
28:RE:116:VAL:HG22	28:RE:122:PHE:HB2	1.91	0.52
28:RE:170:LEU:CD2	28:RE:185:LYS:HB2	2.40	0.52
31:RH:41:MET:HE1	31:RH:64:LEU:HB3	1.91	0.52
31:RH:121:ILE:HG12	31:RH:135:GLY:HA3	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
3:XC:189:ALA:HB3	3:XC:196:LEU:HB2	1.91	0.52
10:XJ:78:ASN:O	10:XJ:81:THR:OG1	2.25	0.52
25:YA:234:C:H2'	25:YA:235:U:H6	1.75	0.52
25:YA:2016:U:H1'	51:Y5:6:VAL:HG13	1.90	0.52
25:YA:2123:G:H1	25:YA:2175:C:N4	2.07	0.52
25:YA:2151:G:H2'	25:YA:2152:G:H8	1.73	0.52
25:YA:2250:G:C5	36:YQ:82:ARG:HD2	2.44	0.52
25:YA:2702:U:H5	37:YR:73:VAL:HG21	1.75	0.52
25:YA:2753:A:H1'	55:Y9:15:LYS:NZ	2.24	0.52
26:YB:33:G:H5'	30:YG:2:PRO:HG3	1.91	0.52
27:YD:174:ILE:N	27:YD:174:ILE:CD1	2.73	0.52
28:YE:176:ILE:HG22	28:YE:176:ILE:O	2.10	0.52
31:YH:24:VAL:HG23	31:YH:24:VAL:O	2.09	0.52
38:YS:89:ARG:HG2	38:YS:89:ARG:HH11	1.74	0.52
1:QA:737:A:H2'	1:QA:738:C:C6	2.45	0.52
1:QA:1330:U:H4'	13:QM:23:TYR:CE2	2.45	0.52
5:QE:148:VAL:HG21	8:QH:107:LEU:HD22	1.91	0.52
8:QH:77:GLU:HG2	8:QH:78:GLN:H	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2597:U:H5	56:Z5:101:PPU:O2'	1.92	0.52
29:RF:150:GLY:HA2	29:RF:172:TRP:CE3	2.44	0.52
31:RH:24:VAL:HG23	31:RH:24:VAL:O	2.09	0.52
32:RI:110:ASP:N	32:RI:130:TYR:OH	2.30	0.52
44:RY:84:ARG:O	44:RY:95:LYS:HD3	2.09	0.52
50:R4:14:ILE:HG23	50:R4:14:ILE:O	2.10	0.52
7:XG:78:ARG:HG3	7:XG:79:ARG:N	2.24	0.52
14:XN:43:CYS:HA	14:XN:46:GLU:HG3	1.92	0.52
25:YA:24:G:O2'	42:YW:78:GLU:O	2.26	0.52
25:YA:1678:G:H8	25:YA:1678:G:O5'	1.92	0.52
25:YA:1809:A:H2'	25:YA:1810:A:C8	2.44	0.52
25:YA:2471:C:H3'	25:YA:2472:G:C8	2.44	0.52
27:YD:121:PRO:CB	27:YD:135:PHE:CE2	2.87	0.52
28:YE:61:ARG:O	28:YE:63:LEU:N	2.42	0.52
29:YF:108:LYS:O	29:YF:112:MET:HG3	2.10	0.52
35:YP:19:VAL:CG1	35:YP:20:GLY:N	2.72	0.52
38:YS:83:LYS:O	38:YS:109:GLY:CA	2.46	0.52
51:Y5:49:CYS:SG	51:Y5:60:VAL:HG13	2.49	0.52
51:Y5:56:LYS:HD3	51:Y5:58:LEU:HD23	1.92	0.52
52:Y6:13:CYS:O	52:Y6:21:TYR:HA	2.09	0.52
54:Y8:43:GLN:C	54:Y8:44:LYS:HD2	2.35	0.52
12:QL:127:GLU:O	12:QL:128:ALA:HB3	2.10	0.52
25:RA:1078:A:H2	25:RA:1168:G:H22	1.57	0.52
25:RA:1132:A:O2'	25:RA:1133:G:N7	2.39	0.52
25:RA:2493:G:HO2'	25:RA:2494:G:P	2.33	0.52
25:RA:2826:C:H2'	25:RA:2827:G:C8	2.45	0.52
25:RA:2859:U:H5	39:RT:93:ARG:HH12	1.57	0.52
27:RD:206:LEU:HD22	27:RD:211:ARG:HG2	1.92	0.52
28:RE:54:GLN:NE2	28:RE:54:GLN:H	2.08	0.52
28:RE:129:HIS:O	28:RE:130:GLY:C	2.53	0.52
28:RE:179:GLU:OE1	28:RE:179:GLU:HA	2.10	0.52
36:RQ:80:GLU:CD	46:R0:7:LEU:HB3	2.32	0.52
41:RV:34:GLU:O	41:RV:36:PRO:HD3	2.10	0.52
1:XA:1062:U:H2'	1:XA:1063:C:C6	2.45	0.52
3:XC:79:ARG:NH2	3:XC:82:GLU:HG3	2.25	0.52
4:XD:108:LEU:HB3	4:XD:110:PHE:CE1	2.45	0.52
12:XL:23:LYS:O	12:XL:24:VAL:HG23	2.10	0.52
25:YA:568:U:O2'	25:YA:570:G:N7	2.39	0.52
25:YA:996:A:H4'	40:YU:92:ARG:HE	1.75	0.52
25:YA:1316:U:H2'	25:YA:1317:A:H8	1.75	0.52
25:YA:2030:A:H4'	25:YA:2031:A:C8	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2660:A:H2'	25:YA:2661:G:O4'	2.09	0.52
25:YA:2712:U:O2'	25:YA:2712(A):A:OP1	2.27	0.52
27:YD:35:LYS:HG2	27:YD:64:ILE:HG22	1.92	0.52
28:YE:170:LEU:CD2	28:YE:185:LYS:HB2	2.40	0.52
38:YS:67:ARG:HB2	38:YS:67:ARG:HH11	1.65	0.52
47:Y1:83:GLU:HG2	47:Y1:84:GLY:N	2.24	0.52
49:Y3:40:THR:HB	49:Y3:43:ILE:HG12	1.92	0.52
52:Y6:7:ILE:HG13	52:Y6:8:LYS:H	1.75	0.52
1:QA:715:A:H2'	1:QA:716:A:C8	2.44	0.52
11:QK:32:ILE:HG13	11:QK:72:ALA:HB2	1.92	0.52
13:QM:8:GLU:OE1	30:RG:115:ARG:HD3	2.10	0.52
18:QR:32:ARG:HA	18:QR:69:THR:HG21	1.90	0.52
22:QV:40:C:H2'	22:QV:41:C:H6	1.74	0.52
25:RA:1053:C:OP1	33:RN:37:LYS:NZ	2.43	0.52
25:RA:1974:A:C2	34:RO:22:ILE:HG23	2.45	0.52
25:RA:2537:G:H1	25:RA:2550:C:N4	2.06	0.52
28:RE:93:VAL:C	28:RE:95:ILE:H	2.17	0.52
43:RX:59:VAL:HG21	43:RX:78:LYS:HE3	1.91	0.52
1:XA:7:G:H5'	1:XA:298:A:O4'	2.10	0.52
1:XA:1129:C:H4'	1:XA:1130:A:H5'	1.92	0.52
1:XA:1305:G:H5'	21:XU:4:GLY:HA3	1.90	0.52
2:XB:29:ALA:O	2:XB:32:ILE:HG22	2.10	0.52
2:XB:170:GLU:O	2:XB:174:VAL:HG23	2.10	0.52
5:XE:102:ALA:HB1	5:XE:106:PRO:HG2	1.92	0.52
25:YA:363(B):G:H2'	25:YA:363(C):G:C8	2.43	0.52
25:YA:1085:A:O2'	25:YA:1086:A:OP1	2.26	0.52
27:YD:43:ARG:NH1	27:YD:44:ASN:OD1	2.42	0.52
27:YD:165:ILE:C	27:YD:166:GLN:HE21	2.18	0.52
33:YN:1:MET:HE1	40:YU:95:LEU:HD21	1.91	0.52
38:YS:106:ARG:HA	38:YS:110:LEU:CG	2.39	0.52
42:YW:40:ASN:O	42:YW:41:LYS:HG2	2.10	0.52
48:Y2:15:LYS:H	48:Y2:67:LYS:HE2	1.73	0.52
1:QA:347:G:O2'	1:QA:348:G:OP2	2.23	0.51
5:QE:69:VAL:HG12	5:QE:71:LEU:HD23	1.92	0.51
25:RA:70:A:H2	43:RX:31:HIS:NE2	2.08	0.51
25:RA:1091:A:C6	25:RA:1157:A:N7	2.78	0.51
25:RA:2529:C:C2	25:RA:2554:A:N6	2.79	0.51
25:RA:2728:C:H2'	25:RA:2729:U:C6	2.44	0.51
25:RA:2860:A:N7	25:RA:2878:A:O2'	2.43	0.51
28:RE:54:GLN:O	28:RE:55:ASN:HB2	2.09	0.51
31:RH:55:PRO:HG2	31:RH:61:HIS:ND1	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:89:ILE:O	31:RH:89:ILE:CG1	2.57	0.51
37:RR:33:ARG:HD3	37:RR:113:LEU:HG	1.92	0.51
1:XA:123:C:H42	1:XA:238:G:H1	1.57	0.51
1:XA:136:C:N4	1:XA:227:G:H1	2.04	0.51
1:XA:1015:A:H2'	1:XA:1016:A:C8	2.45	0.51
20:XT:26:ASN:CB	20:XT:71:THR:CG2	2.73	0.51
25:YA:27:G:N2	25:YA:512:G:H2'	2.25	0.51
25:YA:1164:G:H2'	25:YA:1165:U:C6	2.45	0.51
26:YB:44:G:H5"	26:YB:45:A:OP1	2.10	0.51
27:YD:205:VAL:O	27:YD:206:LEU:C	2.52	0.51
28:YE:54:GLN:O	28:YE:55:ASN:HB2	2.09	0.51
29:YF:125:LEU:HA	29:YF:194:MET:O	2.10	0.51
30:YG:88:ILE:O	30:YG:88:ILE:HD13	2.09	0.51
33:YN:14:VAL:HA	33:YN:135:PRO:HD2	1.92	0.51
36:YQ:135:ASP:OD1	36:YQ:135:ASP:N	2.30	0.51
39:YT:88:ILE:HD12	39:YT:90:GLN:N	2.25	0.51
40:YU:107:ALA:O	40:YU:110:VAL:HB	2.10	0.51
5:QE:89:ILE:HG13	5:QE:121:LYS:O	2.10	0.51
20:QT:64:ASP:CG	20:QT:81:LYS:HZ2	2.18	0.51
25:RA:609:A:H5'	29:RF:89:VAL:HG21	1.92	0.51
25:RA:1312:G:O5'	42:RW:15:ARG:NH2	2.44	0.51
25:RA:1785:C:P	39:RT:96:ARG:HH12	2.33	0.51
25:RA:1957:G:H1'	25:RA:1986:G:N2	2.25	0.51
26:RB:8:U:O3'	38:RS:25:ARG:NH2	2.35	0.51
27:RD:12:SER:HB2	27:RD:208:LYS:HB3	1.92	0.51
28:RE:105:THR:HG23	28:RE:166:THR:OG1	2.10	0.51
29:RF:47:GLY:HA3	29:RF:95:ARG:O	2.10	0.51
31:RH:126:PRO:HD2	31:RH:127:GLU:N	2.25	0.51
50:R4:36:CYS:O	50:R4:37:SER:C	2.52	0.51
51:R5:40:LYS:HD3	51:R5:46:CYS:SG	2.50	0.51
1:XA:1004:A:H1'	1:XA:1036:G:H1	1.74	0.51
4:XD:13:ARG:HD2	4:XD:38:TYR:O	2.10	0.51
5:XE:13:ILE:HD11	5:XE:55:VAL:HG22	1.91	0.51
5:XE:41:VAL:HG22	5:XE:113:ALA:HB2	1.91	0.51
12:XL:127:GLU:O	12:XL:128:ALA:HB3	2.10	0.51
19:XS:15:LEU:O	19:XS:19:VAL:N	2.36	0.51
25:YA:1782:C:H1'	25:YA:2609:U:H5"	1.92	0.51
25:YA:1820:U:O2	27:YD:202:LYS:HB3	2.09	0.51
27:YD:30:GLU:HG3	27:YD:63:ARG:NH2	2.26	0.51
27:YD:67:PHE:CE2	27:YD:157:ARG:NH2	2.79	0.51
28:YE:95:ILE:H	28:YE:95:ILE:CD1	2.19	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
32:YI:110:ASP:N	32:YI:130:TYR:OH	2.43	0.51
37:YR:83:ILE:HG22	37:YR:87:TYR:HE2	1.76	0.51
43:YX:60:ARG:HH22	53:Y7:47:ARG:NH1	2.07	0.51
1:QA:243:A:H4'	1:QA:244:U:O5'	2.10	0.51
1:QA:521:G:H4'	12:QL:73:GLU:HG3	1.92	0.51
1:QA:980:C:H5'	1:QA:981:U:OP2	2.11	0.51
1:QA:1032(A):G:H2'	1:QA:1032(B):G:C8	2.46	0.51
1:QA:1152:A:H5"	10:QJ:13:HIS:HD2	1.76	0.51
1:QA:1271:G:H2'	1:QA:1272:G:C8	2.45	0.51
4:QD:61:LYS:HB2	4:QD:203:VAL:HG13	1.93	0.51
25:RA:2530:A:H4'	25:RA:2531:U:OP1	2.09	0.51
28:RE:105:THR:HB	28:RE:197:ILE:HG12	1.93	0.51
36:RQ:25:ASP:HA	36:RQ:100:GLY:O	2.11	0.51
36:RQ:64:ILE:HA	36:RQ:106:VAL:CG1	2.33	0.51
44:RY:74:PRO:O	44:RY:80:GLY:HA2	2.11	0.51
47:R1:2:SER:HB2	47:R1:4:VAL:HG12	1.92	0.51
50:R4:54:GLY:HA2	50:R4:57:GLU:HG2	1.92	0.51
51:R5:20:ARG:C	51:R5:22:HIS:N	2.68	0.51
1:XA:574:A:HO2'	1:XA:882:C:HO2'	1.48	0.51
1:XA:1027:C:N4	1:XA:1034:G:H1	2.08	0.51
1:XA:1055:A:H1'	3:XC:156:ARG:NH1	2.24	0.51
3:XC:47:LEU:HD11	3:XC:76:VAL:HB	1.91	0.51
6:XF:50:TYR:OH	18:XR:74:ARG:O	2.18	0.51
19:XS:19:VAL:HG11	19:XS:44:MET:HG2	1.91	0.51
25:YA:607:U:OP1	29:YF:102:PRO:HA	2.10	0.51
25:YA:1268:A:H2'	25:YA:1269:A:O4'	2.10	0.51
25:YA:1496:A:H8	25:YA:1577:C:O2'	1.93	0.51
25:YA:2392:A:C8	35:YP:60:MET:HG2	2.46	0.51
27:YD:221:VAL:HG22	27:YD:226:MET:HE2	1.91	0.51
28:YE:20:ALA:C	28:YE:21:VAL:HG13	2.35	0.51
28:YE:51:PHE:CD2	28:YE:52:LEU:N	2.76	0.51
35:YP:96:THR:HG22	35:YP:126:VAL:HB	1.93	0.51
41:YV:25:LEU:H	41:YV:92:THR:HG21	1.74	0.51
52:Y6:10:LEU:HG	54:Y8:34:TRP:CD1	2.45	0.51
1:QA:224:C:H2'	1:QA:225:C:C6	2.45	0.51
1:QA:1322:C:OP2	19:QS:78:ARG:NH2	2.41	0.51
10:QJ:31:GLY:HA3	10:QJ:78:ASN:ND2	2.26	0.51
20:QT:14:LYS:HA	20:QT:17:ARG:HG3	1.91	0.51
25:RA:680:G:N2	25:RA:699:C:C2	2.74	0.51
25:RA:1728:G:HO2'	25:RA:1793:A:HO2'	1.47	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2584:A:N7	28:RE:145:LYS:HB2	2.24	0.51
25:RA:2828:G:OP2	37:RR:42:LYS:NZ	2.43	0.51
27:RD:43:ARG:HH11	27:RD:44:ASN:CG	2.16	0.51
29:RF:150:GLY:HA2	29:RF:172:TRP:CD2	2.45	0.51
43:RX:35:THR:HG23	43:RX:38:GLU:HG2	1.92	0.51
53:R7:22:MET:HE2	53:R7:31:LEU:CD1	2.40	0.51
1:XA:157:G:N2	1:XA:164:U:O2	2.33	0.51
1:XA:254:G:N3	1:XA:255:G:C8	2.78	0.51
9:XI:11:LYS:H	9:XI:104:ARG:HH21	1.58	0.51
12:XL:24:VAL:O	12:XL:24:VAL:CG1	2.58	0.51
25:YA:185:U:H4'	25:YA:218:A:H4'	1.92	0.51
25:YA:1357:U:H2'	25:YA:1358:G:O4'	2.10	0.51
25:YA:2168:G:N2	25:YA:2170:A:H62	2.09	0.51
26:YB:54:G:H2'	26:YB:55:U:C6	2.46	0.51
27:YD:35:LYS:HD2	27:YD:104:TYR:CD1	2.45	0.51
28:YE:55:ASN:C	28:YE:57:LYS:N	2.62	0.51
28:YE:203:LYS:HE3	28:YE:204:ALA:CB	2.40	0.51
30:YG:16:ARG:O	30:YG:20:ILE:HG12	2.10	0.51
30:YG:67:LYS:NZ	50:Y4:1:MET:HB2	2.24	0.51
39:YT:109:GLU:O	39:YT:113:LYS:HB2	2.11	0.51
51:Y5:42:PRO:HB2	51:Y5:43:HIS:ND1	2.25	0.51
1:QA:675:A:O2'	11:QK:114:VAL:O	2.27	0.51
1:QA:701:C:H1'	1:QA:703:G:C5	2.46	0.51
1:QA:1513:A:H2'	1:QA:1514:C:C6	2.46	0.51
5:QE:7:GLU:HG2	5:QE:112:LEU:HD22	1.92	0.51
25:RA:101:A:O5'	25:RA:101:A:H8	1.94	0.51
25:RA:2045:G:H5'	25:RA:2629:C:H4'	1.92	0.51
28:RE:119:ARG:HD3	28:RE:160:TYR:HB2	1.91	0.51
1:XA:228:A:H2'	1:XA:229:U:O4'	2.10	0.51
1:XA:1320:C:N4	19:XS:36:ARG:HG3	2.25	0.51
1:XA:1517:G:H1'	25:YA:1919:A:O3'	2.10	0.51
7:XG:155:ARG:NH2	7:XG:155:ARG:O	2.43	0.51
13:XM:122:LYS:O	13:XM:122:LYS:HD3	2.11	0.51
20:XT:10:LEU:O	20:XT:13:LEU:HG	2.11	0.51
25:YA:589:C:H2'	25:YA:590:A:H8	1.73	0.51
25:YA:592:G:H21	54:Y8:4:MET:HE2	1.75	0.51
25:YA:957:A:H5'	36:YQ:76:LYS:HD2	1.92	0.51
25:YA:1042:G:H1	25:YA:1113:U:H3	1.59	0.51
25:YA:2086:U:H2'	25:YA:2087:G:C8	2.46	0.51
25:YA:2243:U:H2'	25:YA:2244:U:C6	2.45	0.51
27:YD:210:GLY:O	27:YD:213:ARG:N	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:9:VAL:HG11	39:YT:7:ILE:HG22	1.93	0.51
41:YV:65:GLY:HA3	41:YV:91:TYR:CZ	2.46	0.51
47:Y1:70:VAL:O	47:Y1:74:VAL:HG23	2.10	0.51
54:Y8:29:LYS:HB2	54:Y8:44:LYS:HG2	1.90	0.51
1:QA:452:A:O2'	1:QA:453:A:O4'	2.26	0.51
1:QA:985:C:H2'	1:QA:986:A:H8	1.75	0.51
1:QA:1104:G:H4'	2:QB:111:ARG:NH1	2.26	0.51
1:QA:1317:C:N3	19:QS:37:ARG:NH2	2.58	0.51
4:QD:33:MET:SD	4:QD:33:MET:C	2.94	0.51
12:QL:52:LEU:O	12:QL:54:LYS:NZ	2.30	0.51
13:QM:65:LYS:CB	50:R4:50:VAL:HG21	2.36	0.51
25:RA:1342:G:OP1	25:RA:2721:G:O2'	2.20	0.51
28:RE:20:ALA:C	28:RE:21:VAL:HG13	2.35	0.51
32:RI:145:VAL:CG2	32:RI:146:ALA:H	2.13	0.51
50:R4:12:ALA:HB1	50:R4:30:GLU:H	1.76	0.51
54:R8:61:LEU:O	54:R8:62:LEU:CB	2.57	0.51
4:XD:78:LEU:HD22	4:XD:96:LEU:HB3	1.92	0.51
17:XQ:100:LYS:O	17:XQ:101:ARG:NE	2.43	0.51
19:XS:26:GLY:O	19:XS:28:LYS:N	2.43	0.51
24:XY:36:U:O2	24:XY:36:U:H2'	2.10	0.51
25:YA:1036:G:H1	25:YA:1119:C:H42	1.58	0.51
25:YA:1853:A:N3	25:YA:2233:U:O2'	2.41	0.51
25:YA:2093:G:H2'	25:YA:2094:G:H8	1.75	0.51
29:YF:65:TRP:HZ2	29:YF:72:ARG:NH2	2.09	0.51
31:YH:72:ILE:O	31:YH:75:ALA:HB3	2.11	0.51
33:YN:63:THR:CG2	33:YN:66:LYS:HZ3	2.23	0.51
37:YR:104:ARG:HD3	37:YR:111:LEU:HD21	1.92	0.51
45:YZ:10:ARG:NH2	45:YZ:26:GLY:O	2.44	0.51
53:Y7:9:ARG:NH2	53:Y7:48:LYS:CB	2.62	0.51
1:QA:27:G:H4'	4:QD:209:ARG:HG3	1.92	0.51
1:QA:412:A:H4'	1:QA:413:G:O5'	2.11	0.51
1:QA:539:A:H2'	1:QA:540:G:C8	2.46	0.51
1:QA:560:U:H5'	1:QA:566:G:N2	2.26	0.51
1:QA:1216:G:H2'	1:QA:1217:C:C6	2.46	0.51
6:QF:99:ALA:HB1	18:QR:23:LYS:NZ	2.26	0.51
21:QU:6:ARG:HE	21:QU:15:ARG:HH21	1.59	0.51
25:RA:1337:C:H2'	25:RA:1338:U:C6	2.45	0.51
25:RA:2554:A:H5'	25:RA:2555:G:OP1	2.10	0.51
42:RW:67:ASP:OD1	42:RW:67:ASP:N	2.34	0.51
45:RZ:182:LYS:H	45:RZ:182:LYS:HD3	1.75	0.51
54:R8:10:ALA:O	54:R8:14:VAL:HG12	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:73:THR:OG1	2:XB:170:GLU:OE2	2.23	0.51
6:XF:4:TYR:HD1	6:XF:92:LYS:HA	1.76	0.51
9:XI:70:LYS:O	9:XI:74:ILE:HG13	2.10	0.51
20:XT:89:ARG:HH21	20:XT:104:LEU:HD11	1.76	0.51
25:YA:1833:U:O2'	25:YA:1969:A:N1	2.35	0.51
25:YA:2182:G:H2'	25:YA:2183:C:C6	2.46	0.51
25:YA:2469:A:H5"	25:YA:2470:G:C8	2.46	0.51
28:YE:54:GLN:NE2	28:YE:54:GLN:H	2.08	0.51
38:YS:95:HIS:CG	38:YS:96:GLY:N	2.77	0.51
42:YW:106:ILE:O	42:YW:106:ILE:HG12	2.07	0.51
51:Y5:38:ALA:HB3	51:Y5:40:LYS:HE3	1.92	0.51
51:Y5:45:VAL:HG11	51:Y5:57:VAL:HG12	1.93	0.51
54:Y8:52:LYS:N	54:Y8:53:PRO:HD2	2.22	0.51
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.46	0.51
8:QH:20:TYR:HE2	8:QH:75:ARG:HD2	1.76	0.51
25:RA:312:C:H2'	25:RA:313:A:C8	2.46	0.51
25:RA:656:A:N3	25:RA:2427:G:O2'	2.37	0.51
25:RA:988:U:OP2	35:RP:36:LYS:HG2	2.11	0.51
25:RA:1324:A:OP1	37:RR:36:THR:HG22	2.10	0.51
25:RA:1704:C:H2'	25:RA:1705:C:C6	2.45	0.51
25:RA:1800:G:O2'	25:RA:1980:C:OP1	2.28	0.51
25:RA:2343:G:O2'	46:R0:43:THR:HG22	2.10	0.51
28:RE:1:MET:HE2	28:RE:1:MET:H1	1.75	0.51
28:RE:47:VAL:O	28:RE:48:GLN:C	2.52	0.51
32:RI:145:VAL:HG22	32:RI:146:ALA:N	2.13	0.51
35:RP:49:ARG:HG3	54:R8:59:LYS:CG	2.41	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:975:A:N6	1:XA:1367:C:O4'	2.44	0.51
1:XA:1129:C:H5'	1:XA:1130:A:OP1	2.10	0.51
1:XA:1228:C:H2'	1:XA:1229:A:H8	1.75	0.51
4:XD:30:LYS:C	4:XD:32:ALA:H	2.18	0.51
13:XM:14:ARG:N	13:XM:44:ARG:HD3	2.21	0.51
25:YA:1045:A:C6	25:YA:1111:A:N7	2.79	0.51
25:YA:1270:C:H5"	25:YA:1271:G:H5'	1.93	0.51
25:YA:2032:G:H21	28:YE:146:THR:CG2	2.24	0.51
25:YA:2142:C:H2'	25:YA:2143:C:C6	2.46	0.51
25:YA:2882:A:OP1	37:YR:96:ARG:NH1	2.43	0.51
27:YD:117:VAL:CG2	27:YD:128:GLY:C	2.84	0.51
31:YH:41:MET:HE1	31:YH:64:LEU:HB3	1.91	0.51
36:YQ:7:MET:HE1	36:YQ:73:PRO:HG3	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YQ:25:ASP:HA	36:YQ:100:GLY:O	2.11	0.51
38:YS:83:LYS:HG2	38:YS:109:GLY:HA2	1.90	0.51
44:YY:81:LYS:HG2	44:YY:97:ARG:HD3	1.93	0.51
1:QA:1305:G:H5'	21:QU:4:GLY:HA3	1.92	0.51
5:QE:78:HIS:CE1	5:QE:142:LEU:HD23	2.46	0.51
12:QL:15:ARG:CG	17:QQ:32:TYR:OH	2.59	0.51
25:RA:610:C:O2	35:RP:33:ARG:NH1	2.44	0.51
25:RA:618:C:N4	25:RA:709:G:H1	2.09	0.51
25:RA:2012:C:C2	25:RA:2013:U:C5	2.99	0.51
29:RF:185:ASP:HA	29:RF:188:ARG:HD3	1.93	0.51
31:RH:131:VAL:CG1	31:RH:132:ARG:N	2.74	0.51
36:RQ:36:ALA:HB1	36:RQ:127:ILE:HD12	1.93	0.51
43:RX:40:LYS:HG3	43:RX:51:VAL:HB	1.92	0.51
50:R4:39:CYS:HB3	50:R4:41:PRO:CD	2.40	0.51
1:XA:407:G:H2'	1:XA:408:A:C8	2.45	0.51
1:XA:690:G:H2'	1:XA:691:G:O4'	2.10	0.51
2:XB:21:ARG:HB2	2:XB:39:ILE:HA	1.92	0.51
12:XL:126:LYS:C	12:XL:128:ALA:N	2.69	0.51
15:XO:33:THR:HG21	15:XO:85:LEU:HD22	1.93	0.51
25:YA:320:A:N3	29:YF:169:ASN:ND2	2.59	0.51
25:YA:363(A):A:H2'	25:YA:363(B):G:C8	2.45	0.51
27:YD:28:GLU:OE1	27:YD:29:PRO:HD2	2.11	0.51
31:YH:19:VAL:HG13	31:YH:43:VAL:CG2	2.41	0.51
31:YH:55:PRO:HG2	31:YH:61:HIS:ND1	2.26	0.51
31:YH:103:LEU:CD1	31:YH:131:VAL:HG21	2.41	0.51
36:YQ:58:PHE:O	36:YQ:58:PHE:HD1	1.94	0.51
41:YV:52:VAL:HG23	41:YV:55:ALA:H	1.75	0.51
48:Y2:36:ARG:O	48:Y2:40:SER:HB2	2.10	0.51
49:Y3:43:ILE:O	49:Y3:47:VAL:HG23	2.10	0.51
1:QA:188:U:H2'	1:QA:189:U:H5"	1.93	0.51
1:QA:1222:G:OP1	19:QS:77:THR:HG21	2.11	0.51
12:QL:126:LYS:C	12:QL:128:ALA:N	2.69	0.51
25:RA:56:C:H2'	25:RA:57:G:O4'	2.11	0.51
25:RA:136:G:H1'	43:RX:41:ASN:ND2	2.26	0.51
25:RA:1140:U:O2'	25:RA:1142:A:OP1	2.28	0.51
25:RA:1404:G:N1	25:RA:1418:U:OP2	2.30	0.51
25:RA:1817:A:H1'	25:RA:1960:A:N6	2.25	0.51
25:RA:2044:U:O2'	25:RA:2629:C:H5'	2.11	0.51
36:RQ:23:GLY:O	36:RQ:24:GLY:C	2.54	0.51
50:R4:42:PHE:O	50:R4:44:THR:N	2.44	0.51
51:R5:36:CYS:C	51:R5:38:ALA:H	2.19	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:27:G:H4'	4:XD:209:ARG:HG3	1.92	0.51
1:XA:1243:C:H42	1:XA:1294:G:H1	1.57	0.51
1:XA:1511:G:H2'	1:XA:1512:U:O4'	2.11	0.51
3:XC:138:VAL:HG22	3:XC:151:VAL:HG23	1.93	0.51
11:XK:41:THR:HG21	11:XK:71:LYS:HB3	1.93	0.51
13:XM:36:LYS:C	13:XM:36:LYS:HD3	2.36	0.51
19:XS:4:SER:O	19:XS:5:LEU:HD13	2.11	0.51
25:YA:1266:G:O5'	42:YW:15:ARG:NH2	2.44	0.51
25:YA:1614:A:N6	42:YW:88:ARG:H	2.09	0.51
25:YA:1914:C:H2'	25:YA:1915:U:O4'	2.11	0.51
25:YA:2875:C:H4'	39:YT:5:ALA:HB2	1.93	0.51
28:YE:37:ARG:HE	28:YE:37:ARG:N	2.09	0.51
28:YE:116:VAL:HG22	28:YE:122:PHE:HB2	1.91	0.51
30:YG:67:LYS:HG3	50:Y4:6:HIS:ND1	2.25	0.51
32:YI:52:ARG:HB2	32:YI:52:ARG:NH1	2.26	0.51
38:YS:74:ALA:O	38:YS:75:GLU:C	2.54	0.51
42:YW:57:ASN:O	42:YW:61:ASN:HB2	2.10	0.51
1:QA:1054:C:N3	24:QY:34:G:H1'	2.26	0.50
1:QA:1319:A:OP1	19:QS:3:ARG:HD3	2.11	0.50
25:RA:109:A:H4'	48:R2:69:ARG:NH2	2.26	0.50
25:RA:793:A:C6	25:RA:2623:U:H5"	2.45	0.50
25:RA:1273:G:OP1	40:RU:13:LYS:HG2	2.11	0.50
25:RA:1362:U:H2'	25:RA:1363:A:C8	2.45	0.50
25:RA:1864:U:O2'	25:RA:1991:A:N1	2.34	0.50
25:RA:2851:C:H2'	25:RA:2852:G:H8	1.75	0.50
26:RB:17:C:H2'	26:RB:18:G:O4'	2.11	0.50
26:RB:48:A:H4'	38:RS:95:HIS:HD2	1.75	0.50
28:RE:37:ARG:HE	28:RE:37:ARG:N	2.09	0.50
30:RG:88:ILE:O	30:RG:88:ILE:HD13	2.10	0.50
36:RQ:133:ARG:HG2	36:RQ:134:ARG:N	2.26	0.50
1:XA:1499:A:H1'	1:XA:1520:G:H5'	1.93	0.50
2:XB:195:ASP:O	8:XH:74:PRO:HG3	2.11	0.50
25:YA:782:A:H5'	25:YA:783:A:C2	2.46	0.50
25:YA:1006:C:H5'	33:YN:28:THR:HG23	1.93	0.50
25:YA:2250:G:C4	36:YQ:82:ARG:HG3	2.47	0.50
25:YA:2725:A:O2'	25:YA:2726:U:OP2	2.27	0.50
31:YH:126:PRO:HD2	31:YH:127:GLU:N	2.25	0.50
38:YS:86:ALA:O	38:YS:87:PHE:HB3	2.09	0.50
38:YS:87:PHE:O	38:YS:88:ASP:O	2.29	0.50
1:QA:667:G:H2'	1:QA:668:G:C8	2.44	0.50
1:QA:690:G:H22	11:QK:55:LYS:HZ1	1.58	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:949:A:H61	1:QA:1232:U:H3	1.58	0.50
1:QA:1288:A:N3	1:QA:1352:C:O2'	2.37	0.50
7:QG:116:ALA:O	7:QG:120:ILE:HG12	2.11	0.50
25:RA:605:G:H2'	25:RA:606:G:C8	2.46	0.50
25:RA:1346:U:H4'	25:RA:1347:A:H5"	1.94	0.50
25:RA:1432:C:H2'	25:RA:1433:C:H6	1.76	0.50
25:RA:2205:C:H2'	25:RA:2206:G:H8	1.76	0.50
25:RA:2219:U:H1'	25:RA:2220:A:C8	2.46	0.50
28:RE:37:ARG:HE	28:RE:37:ARG:H	1.59	0.50
29:RF:172:TRP:CD1	29:RF:172:TRP:H	2.29	0.50
31:RH:72:ILE:O	31:RH:75:ALA:HB3	2.11	0.50
31:RH:153:LYS:HG3	31:RH:161:GLY:HA2	1.91	0.50
32:RI:104:GLN:C	32:RI:105:HIS:HD1	2.18	0.50
33:RN:46:VAL:HG13	33:RN:48:MET:HG3	1.93	0.50
39:RT:118:ARG:HH21	39:RT:121:ILE:HG21	1.76	0.50
51:R5:37:LYS:HD2	51:R5:37:LYS:O	2.12	0.50
1:XA:1002:G:H2'	1:XA:1003:G:H8	1.75	0.50
12:XL:126:LYS:HB2	12:XL:126:LYS:HZ2	1.73	0.50
25:YA:581:C:H2'	25:YA:582:G:C8	2.46	0.50
25:YA:1045:A:C8	25:YA:1111:A:N6	2.79	0.50
25:YA:1655:A:H4'	28:YE:115:GLY:N	2.27	0.50
26:YB:14:U:OP2	26:YB:70:C:O2'	2.27	0.50
27:YD:10:THR:HG23	27:YD:13:ARG:CB	2.34	0.50
36:YQ:74:TYR:CD2	36:YQ:91:GLU:HB3	2.46	0.50
38:YS:26:LEU:CD2	38:YS:87:PHE:CD1	2.94	0.50
38:YS:83:LYS:HG2	38:YS:109:GLY:H	1.76	0.50
38:YS:89:ARG:HD2	38:YS:89:ARG:O	2.11	0.50
1:QA:966:G:O2'	9:QI:127:LYS:O	2.29	0.50
1:QA:1415:G:H1	1:QA:1485:U:H3	1.58	0.50
11:QK:33:THR:HG22	11:QK:39:PRO:HA	1.92	0.50
25:RA:137:G:N2	43:RX:44:GLU:OE2	2.43	0.50
25:RA:903:C:O2'	25:RA:904:C:OP1	2.29	0.50
25:RA:1091:A:N9	25:RA:1157:A:N6	2.60	0.50
25:RA:2540:U:OP1	55:R9:30:PRO:HG2	2.11	0.50
28:RE:137:HIS:HB3	28:RE:138:PRO:CD	2.37	0.50
29:RF:178:PRO:HB3	29:RF:198:ALA:CB	2.41	0.50
30:RG:3:LEU:HD11	50:R4:25:TYR:CZ	2.45	0.50
31:RH:16:SER:O	31:RH:17:VAL:HG23	2.12	0.50
31:RH:133:VAL:HG12	31:RH:141:VAL:HG13	1.93	0.50
39:RT:19:LEU:HD22	39:RT:86:ILE:HG22	1.94	0.50
42:RW:60:ASN:HD22	42:RW:60:ASN:N	2.09	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:9:GLU:HB3	2:XB:48:MET:SD	2.50	0.50
2:XB:111:ARG:HH21	2:XB:114:ARG:HG2	1.76	0.50
3:XC:54:ARG:HD3	3:XC:56:ASP:OD1	2.10	0.50
10:XJ:50:ILE:HD11	10:XJ:57:LYS:HD3	1.94	0.50
10:XJ:57:LYS:CD	10:XJ:60:ARG:CZ	2.89	0.50
25:YA:78:A:H2'	25:YA:79:G:C8	2.46	0.50
25:YA:226:G:H2'	25:YA:227:A:C8	2.46	0.50
25:YA:724:U:H2'	25:YA:725:G:O4'	2.11	0.50
27:YD:233:HIS:CD2	27:YD:233:HIS:H	2.29	0.50
28:YE:105:THR:HG23	28:YE:166:THR:OG1	2.10	0.50
28:YE:129:HIS:O	28:YE:130:GLY:C	2.53	0.50
29:YF:32:LEU:O	29:YF:36:VAL:HG23	2.11	0.50
30:YG:5:VAL:HG11	30:YG:100:TRP:HB3	1.93	0.50
31:YH:4:ILE:O	31:YH:6:ARG:N	2.43	0.50
31:YH:169:VAL:HG13	31:YH:170:ARG:N	2.26	0.50
32:YI:11:ASN:O	32:YI:12:LEU:HB2	2.11	0.50
32:YI:13:GLY:HA3	32:YI:17:GLN:OE1	2.12	0.50
56:Z6:101:PPU:HN2	56:Z6:101:PPU:HD2	1.76	0.50
1:QA:920:U:H2'	1:QA:921:U:C6	2.46	0.50
1:QA:957:U:H4'	19:QS:79:THR:HB	1.93	0.50
1:QA:1095:U:OP1	1:QA:1108:G:N2	2.43	0.50
1:QA:1446:A:O2'	1:QA:1447:G:O5'	2.27	0.50
9:QI:8:GLY:HA2	9:QI:79:LEU:HD12	1.92	0.50
10:QJ:47:PHE:CE1	10:QJ:63:PHE:HB2	2.47	0.50
11:QK:17:GLY:N	11:QK:79:SER:O	2.44	0.50
12:QL:23:LYS:O	12:QL:24:VAL:HG23	2.10	0.50
16:QP:3:LYS:HG3	16:QP:24:ALA:HB2	1.92	0.50
19:QS:68:GLY:HA3	50:R4:69:LYS:H	1.75	0.50
50:R4:1:MET:HE3	50:R4:6:HIS:CD2	2.46	0.50
50:R4:68:ARG:HD3	50:R4:69:LYS:HG2	1.92	0.50
1:XA:272:C:H2'	1:XA:273:A:C8	2.46	0.50
1:XA:322:C:O2'	20:XT:23:ARG:HD2	2.11	0.50
1:XA:457:C:H2'	1:XA:458:C:C6	2.46	0.50
1:XA:1130:A:N6	1:XA:1144:G:H21	2.10	0.50
1:XA:1336:C:H4'	1:XA:1337:G:O5'	2.11	0.50
2:XB:21:ARG:O	2:XB:23:ARG:N	2.44	0.50
2:XB:114:ARG:O	2:XB:117:GLU:HB2	2.11	0.50
2:XB:189:ASP:HB3	2:XB:203:GLY:O	2.12	0.50
5:XE:76:ILE:HG13	5:XE:93:PRO:HB3	1.94	0.50
19:XS:40:ILE:HG23	19:XS:67:VAL:O	2.12	0.50
25:YA:1567:A:OP2	27:YD:84:TYR:OH	2.21	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2615:U:H2'	25:YA:2616:C:H6	1.77	0.50
29:YF:108:LYS:HA	29:YF:108:LYS:NZ	2.27	0.50
31:YH:131:VAL:CG1	31:YH:132:ARG:N	2.74	0.50
48:Y2:41:ILE:HD11	48:Y2:44:LEU:CB	2.42	0.50
50:Y4:10:VAL:HG22	50:Y4:11:PRO:HD2	1.94	0.50
1:QA:110:C:O2'	16:QP:25:ARG:O	2.26	0.50
1:QA:1130:A:O2'	9:QI:3:GLN:NE2	2.29	0.50
1:QA:1162:C:N4	1:QA:1174:G:H1	2.08	0.50
2:QB:162:ILE:HD11	2:QB:184:VAL:HG22	1.93	0.50
4:QD:30:LYS:O	4:QD:30:LYS:HG2	2.12	0.50
9:QI:53:VAL:HB	9:QI:95:LYS:HE3	1.92	0.50
28:RE:176:ILE:HG22	28:RE:176:ILE:O	2.10	0.50
28:RE:203:LYS:HE3	28:RE:204:ALA:CB	2.40	0.50
30:RG:143:GLU:O	50:R4:28:LYS:NZ	2.44	0.50
31:RH:19:VAL:HG13	31:RH:43:VAL:HG23	1.93	0.50
33:RN:4:TYR:O	40:RU:64:ARG:NH1	2.44	0.50
39:RT:39:ARG:HG2	39:RT:40:THR:H	1.76	0.50
39:RT:111:ARG:O	39:RT:113:LYS:N	2.42	0.50
44:RY:97:ARG:HH21	44:RY:98:VAL:HB	1.77	0.50
47:R1:62:VAL:HG23	47:R1:63:ALA:O	2.11	0.50
51:R5:54:GLY:O	51:R5:55:ARG:C	2.54	0.50
1:XA:735:C:H5'	18:XR:71:LYS:HD3	1.92	0.50
1:XA:1175:G:H2'	1:XA:1176:A:C8	2.47	0.50
2:XB:80:ILE:HD11	2:XB:208:ILE:HG23	1.93	0.50
6:XF:86:ARG:O	6:XF:87:ARG:HG2	2.12	0.50
15:XO:6:GLU:H	15:XO:6:GLU:CD	2.15	0.50
25:YA:250:G:H2'	25:YA:251:A:C8	2.46	0.50
25:YA:270(J):G:H2'	25:YA:270(K):C:O4'	2.11	0.50
25:YA:2555:U:C2	56:Z6:74:C:C5	2.99	0.50
26:YB:18:G:H1	26:YB:65:C:H42	1.59	0.50
27:YD:182:LEU:H	27:YD:272:ALA:CB	2.25	0.50
27:YD:241:PRO:O	27:YD:242:ARG:C	2.53	0.50
32:YI:52:ARG:NH1	32:YI:52:ARG:CB	2.74	0.50
34:YO:120:GLU:HG2	34:YO:122:LEU:HG	1.94	0.50
36:YQ:108:GLY:O	36:YQ:109:VAL:HG23	2.12	0.50
38:YS:26:LEU:HD22	38:YS:87:PHE:CD1	2.46	0.50
48:Y2:9:GLN:O	48:Y2:12:GLU:HB3	2.10	0.50
1:QA:640:A:O2'	8:QH:115:SER:HB2	2.11	0.50
1:QA:686:U:O4	1:QA:703:G:H1'	2.11	0.50
1:QA:1054:C:H5"	1:QA:1196:U:O2'	2.11	0.50
4:QD:197:PRO:HD3	6:XF:16:GLN:HG3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:QI:95:LYS:NZ	9:QI:96:LEU:HD13	2.26	0.50
9:QI:118:LYS:O	9:QI:120:ARG:N	2.40	0.50
25:RA:70:A:H5'	25:RA:72:A:C8	2.46	0.50
28:RE:61:ARG:CB	28:RE:62:PRO:HD3	2.41	0.50
35:RP:61:ARG:HE	54:R8:13:ARG:HG3	1.77	0.50
36:RQ:108:GLY:O	36:RQ:109:VAL:HG23	2.12	0.50
50:R4:10:VAL:HG23	50:R4:11:PRO:HD2	1.93	0.50
51:R5:48:GLU:HA	51:R5:59:GLU:HG2	1.94	0.50
1:XA:267:C:H5'	1:XA:267:C:C6	2.44	0.50
1:XA:285:G:H2'	1:XA:286:G:H8	1.77	0.50
1:XA:1032(A):G:H2'	1:XA:1032(B):G:C8	2.46	0.50
1:XA:1225:A:N3	1:XA:1225:A:H2'	2.27	0.50
1:XA:1396:A:H4'	1:XA:1397:C:H5"	1.93	0.50
2:XB:32:ILE:HD11	2:XB:40:HIS:HB3	1.93	0.50
4:XD:108:LEU:HD21	4:XD:183:GLY:HA3	1.93	0.50
25:YA:628:G:H2'	25:YA:629:G:C8	2.47	0.50
25:YA:1094:U:O2	25:YA:1096:A:H5'	2.12	0.50
25:YA:1247:A:OP2	35:YP:15:ARG:NH1	2.45	0.50
25:YA:1812:A:O2'	27:YD:45:ASN:HB2	2.11	0.50
28:YE:2:LYS:HG2	28:YE:95:ILE:CG2	2.42	0.50
28:YE:15:PHE:CE1	39:YT:81:PRO:CD	2.95	0.50
31:YH:133:VAL:HG12	31:YH:141:VAL:HG13	1.93	0.50
35:YP:36:LYS:HB3	35:YP:40:SER:HB3	1.94	0.50
35:YP:138:LEU:C	35:YP:140:ALA:H	2.18	0.50
36:YQ:139:GLU:HG3	45:YZ:74:VAL:H	1.75	0.50
2:QB:231:GLU:HG3	2:QB:233:SER:H	1.77	0.50
13:QM:33:ALA:HA	13:QM:59:TYR:HE2	1.76	0.50
13:QM:40:ASN:ND2	13:QM:43:THR:HG23	2.27	0.50
25:RA:2028:C:O2'	25:RA:2833:A:N3	2.40	0.50
25:RA:2287:C:O2	36:RQ:83:MET:HG3	2.11	0.50
27:RD:62:TYR:CE2	27:RD:64:ILE:HA	2.46	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
50:R4:57:GLU:O	50:R4:61:ARG:O	2.30	0.50
53:R7:5:TRP:NE1	53:R7:7:PRO:HG3	2.26	0.50
1:XA:107:G:O6	20:XT:15:ARG:HD3	2.11	0.50
1:XA:412:A:H4'	1:XA:413:G:O5'	2.12	0.50
1:XA:501:C:O3'	12:XL:118:SER:HB2	2.12	0.50
1:XA:735:C:H2'	1:XA:736:C:H6	1.76	0.50
1:XA:826:C:H2'	1:XA:827:U:O2	2.12	0.50
1:XA:932:C:H42	1:XA:1385:G:H1	1.58	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1305:G:H22	1:XA:1331:G:H2'	1.73	0.50
4:XD:112:VAL:HG12	4:XD:116:GLN:OE1	2.12	0.50
11:XK:86:GLY:O	11:XK:91:ARG:HD3	2.11	0.50
25:YA:608:A:OP1	29:YF:100:THR:OG1	2.22	0.50
25:YA:2286:A:H4'	25:YA:2287:A:O4'	2.12	0.50
25:YA:2469:A:H4'	25:YA:2469:A:OP1	2.10	0.50
25:YA:2529:G:O6	55:Y9:31:LYS:NZ	2.40	0.50
28:YE:105:THR:HB	28:YE:197:ILE:HG12	1.92	0.50
31:YH:16:SER:O	31:YH:17:VAL:HG23	2.12	0.50
33:YN:58:ASP:OD1	33:YN:58:ASP:N	2.45	0.50
36:YQ:23:GLY:O	36:YQ:24:GLY:C	2.54	0.50
36:YQ:36:ALA:HB1	36:YQ:127:ILE:HD12	1.93	0.50
45:YZ:152:ALA:O	45:YZ:154:ASP:N	2.41	0.50
25:RA:552:C:H2'	25:RA:2792:U:C5	2.47	0.50
25:RA:610:C:N3	35:RP:33:ARG:NH1	2.59	0.50
25:RA:997:G:P	36:RQ:16:ARG:HH12	2.35	0.50
25:RA:2054:G:H21	28:RE:146:THR:HG23	1.76	0.50
28:RE:2:LYS:HG2	28:RE:95:ILE:CG2	2.42	0.50
35:RP:26:GLY:O	35:RP:28:GLY:N	2.45	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
51:R5:50:GLY:O	51:R5:51:TYR:CB	2.59	0.50
56:Z5:101:PPU:HN2	56:Z5:101:PPU:HD2	1.76	0.50
1:XA:662:G:H2'	1:XA:663:A:C8	2.47	0.50
1:XA:1179:A:O3'	9:XI:103:THR:HG23	2.12	0.50
1:XA:1388:C:H2'	1:XA:1389:C:C6	2.47	0.50
2:XB:162:ILE:HD11	2:XB:184:VAL:HG22	1.94	0.50
25:YA:1068:G:O2'	25:YA:1096:A:H1'	2.12	0.50
25:YA:1178:C:H2'	25:YA:1179:C:C6	2.47	0.50
27:YD:35:LYS:HE2	27:YD:104:TYR:HB2	1.94	0.50
31:YH:24:VAL:HG21	31:YH:72:ILE:HG12	1.94	0.50
38:YS:35:ILE:CD1	38:YS:101:LEU:HD23	2.41	0.50
41:YV:61:VAL:HA	41:YV:94:LEU:HD23	1.93	0.50
53:Y7:5:TRP:NE1	53:Y7:7:PRO:HG3	2.26	0.50
1:QA:1147:C:HO2'	9:QI:5:TYR:HH	1.60	0.50
1:QA:1210:C:O2'	1:QA:1213:A:O2'	2.21	0.50
1:QA:1271:G:H2'	1:QA:1272:G:H8	1.77	0.50
3:QC:14:ILE:HG12	3:QC:15:THR:N	2.27	0.50
13:QM:40:ASN:HD22	13:QM:43:THR:HG23	1.77	0.50
22:QV:19:G:H5'	22:QV:20:U:H5	1.77	0.50
25:RA:703:G:H2'	25:RA:704:U:O4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1033:G:O2'	25:RA:1046:A:N3	2.40	0.50
25:RA:2408:G:O5'	47:R1:25:LYS:HE2	2.11	0.50
25:RA:2797:C:H5"	28:RE:41:LYS:NZ	2.27	0.50
30:RG:142:PRO:HB2	50:R4:31:ILE:HD13	1.94	0.50
33:RN:34:LEU:O	33:RN:49:GLY:HA3	2.12	0.50
35:RP:15:ARG:HG2	35:RP:15:ARG:HH11	1.77	0.50
35:RP:64:LYS:C	35:RP:64:LYS:HD3	2.37	0.50
36:RQ:2:LEU:HD23	36:RQ:2:LEU:N	2.27	0.50
36:RQ:80:GLU:HG3	36:RQ:81:VAL:N	2.27	0.50
39:RT:34:VAL:HG12	39:RT:36:GLU:HG2	1.94	0.50
39:RT:36:GLU:HG3	39:RT:41:ARG:CD	2.39	0.50
50:R4:1:MET:HG3	50:R4:1:MET:O	2.12	0.50
1:XA:486:U:H2'	1:XA:487:A:C8	2.47	0.50
13:XM:49:THR:HB	13:XM:52:GLU:H	1.77	0.50
15:XO:67:LEU:HB3	15:XO:78:TYR:HE1	1.77	0.50
19:XS:41:VAL:HB	19:XS:42:PRO:CA	2.42	0.50
24:XY:31:C:H2'	24:XY:32:U:H5'	1.93	0.50
25:YA:814:C:H41	35:YP:25:SER:HA	1.76	0.50
25:YA:1007:C:H4'	33:YN:108:PRO:HD3	1.94	0.50
25:YA:2831:G:H1'	25:YA:2883:A:H2'	1.94	0.50
29:YF:11:VAL:CG1	29:YF:12:LEU:N	2.75	0.50
29:YF:53:THR:C	29:YF:55:GLY:N	2.68	0.50
31:YH:7:LEU:C	31:YH:7:LEU:HD12	2.37	0.50
44:YY:97:ARG:HH21	44:YY:98:VAL:HB	1.76	0.50
52:Y6:47:THR:HG22	52:Y6:48:VAL:HG12	1.94	0.50
2:QB:235:SER:OG	2:QB:236:TYR:N	2.46	0.49
5:QE:71:LEU:HD11	5:QE:115:VAL:N	2.27	0.49
25:RA:278:G:H2'	25:RA:279:G:H8	1.76	0.49
25:RA:279:G:OP1	47:R1:97:LEU:HD13	2.11	0.49
25:RA:424:G:H1'	25:RA:2243:C:O2'	2.13	0.49
25:RA:560:C:O3'	40:RU:53:ARG:NH1	2.45	0.49
25:RA:1195:G:H2'	25:RA:1196:C:C6	2.46	0.49
25:RA:1797:U:H2'	25:RA:1798:C:H6	1.76	0.49
25:RA:1896:G:N2	25:RA:1899:A:OP2	2.45	0.49
25:RA:2694:U:O2'	28:RE:13:ARG:HG2	2.12	0.49
26:RB:65:C:H41	26:RB:108:C:H2'	1.76	0.49
28:RE:119:ARG:HD3	28:RE:160:TYR:CD2	2.47	0.49
29:RF:9:ILE:HD11	29:RF:125:LEU:HG	1.94	0.49
31:RH:19:VAL:HG13	31:RH:43:VAL:CG2	2.41	0.49
31:RH:103:LEU:CD1	31:RH:131:VAL:HG21	2.41	0.49
31:RH:169:VAL:HG13	31:RH:170:ARG:N	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RI:2:LYS:HA	32:RI:20:ASP:HA	1.94	0.49
43:RX:26:TYR:HB3	43:RX:92:LEU:HD12	1.93	0.49
1:XA:407:G:O4'	4:XD:119:GLN:NE2	2.44	0.49
11:XK:82:VAL:HB	11:XK:108:ILE:HG12	1.94	0.49
16:XP:28:ARG:NH1	16:XP:29:ASP:OD2	2.45	0.49
25:YA:384:U:H2'	25:YA:385:C:H6	1.77	0.49
25:YA:443:A:H1'	25:YA:1201:C:O4'	2.12	0.49
25:YA:569:U:C4	25:YA:570:G:C6	3.00	0.49
25:YA:573:G:OP2	41:YV:78:LYS:NZ	2.43	0.49
25:YA:974(A):C:H4'	25:YA:975:G:C5'	2.42	0.49
25:YA:1093:G:OP1	31:YH:170:ARG:HD2	2.12	0.49
25:YA:1292:U:H2'	25:YA:1293:C:C6	2.47	0.49
25:YA:2776:A:OP1	25:YA:2776:A:H3'	2.11	0.49
27:YD:218:ARG:HB3	27:YD:219:PRO:HD2	1.94	0.49
28:YE:46:ALA:HB1	28:YE:80:GLU:HB2	1.94	0.49
38:YS:5:THR:HG1	38:YS:7:TYR:HB3	1.75	0.49
1:QA:130:A:N6	1:QA:233:C:O2	2.44	0.49
1:QA:1187:G:OP1	9:QI:113:LYS:NZ	2.45	0.49
1:QA:1319:A:P	19:QS:3:ARG:HD3	2.52	0.49
8:QH:9:MET:HG3	8:QH:26:VAL:HG21	1.94	0.49
13:QM:89:GLY:O	13:QM:92:HIS:HB2	2.11	0.49
25:RA:289:G:H2'	25:RA:290:G:H8	1.78	0.49
25:RA:556:C:H4'	25:RA:557:A:H5"	1.92	0.49
25:RA:734:C:H2'	25:RA:735:U:O4'	2.11	0.49
25:RA:1273:G:H8	40:RU:16:LYS:HZ1	1.57	0.49
25:RA:2262:G:OP1	25:RA:2287:C:O2'	2.29	0.49
27:RD:175:LEU:HD12	27:RD:185:VAL:HG21	1.92	0.49
31:RH:153:LYS:O	31:RH:154:PRO:O	2.30	0.49
35:RP:13:ASN:C	35:RP:15:ARG:H	2.21	0.49
43:RX:40:LYS:O	43:RX:42:ALA:N	2.45	0.49
1:XA:254:G:N1	1:XA:255:G:C5	2.80	0.49
1:XA:560:U:H4'	1:XA:561:U:H5"	1.94	0.49
13:XM:121:LYS:CA	13:XM:121:LYS:HE2	2.42	0.49
25:YA:594:U:H5'	54:Y8:61:LEU:CD2	2.42	0.49
25:YA:1139:G:O2'	25:YA:1143:A:N1	2.31	0.49
27:YD:2:ALA:CB	27:YD:20:ASP:CB	2.90	0.49
27:YD:2:ALA:CB	27:YD:20:ASP:HB3	2.42	0.49
27:YD:76:PRO:HA	27:YD:118:VAL:HG23	1.93	0.49
31:YH:19:VAL:HG13	31:YH:43:VAL:HG23	1.93	0.49
31:YH:103:LEU:HD23	31:YH:103:LEU:H	1.77	0.49
35:YP:126:VAL:HG13	35:YP:145:PRO:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YS:52:SER:O	38:YS:56:LEU:CD2	2.60	0.49
54:Y8:40:GLU:C	54:Y8:42:ARG:N	2.68	0.49
1:QA:127:G:H4'	17:QQ:2:PRO:HD2	1.94	0.49
1:QA:483:C:OP2	1:QA:484:G:O2'	2.25	0.49
1:QA:971:G:N2	1:QA:1363:A:OP2	2.33	0.49
3:QC:14:ILE:HG12	3:QC:15:THR:H	1.76	0.49
3:QC:157:ILE:HD11	3:QC:166:GLU:HB2	1.95	0.49
8:QH:95:VAL:HB	8:QH:99:GLU:O	2.13	0.49
18:QR:26:LEU:HD22	18:QR:42:ARG:HD2	1.94	0.49
25:RA:173:C:H2'	25:RA:174:U:C6	2.47	0.49
25:RA:770:G:H2'	25:RA:771:U:O4'	2.13	0.49
25:RA:1383:G:OP2	43:RX:73:ARG:NH2	2.43	0.49
25:RA:1462:G:H2'	25:RA:1463:C:C6	2.47	0.49
25:RA:1684:A:H4'	25:RA:2723:A:O2'	2.13	0.49
25:RA:2708:U:H2'	25:RA:2709:G:C8	2.47	0.49
30:RG:54:GLU:HA	30:RG:57:ALA:HB3	1.93	0.49
31:RH:23:ARG:HD2	31:RH:34:GLU:OE2	2.12	0.49
31:RH:120:GLY:HA3	31:RH:140:LYS:NZ	2.28	0.49
37:RR:44:LEU:HD22	37:RR:48:VAL:HG23	1.94	0.49
40:RU:92:ARG:O	40:RU:92:ARG:HG2	2.12	0.49
54:R8:15:LYS:C	54:R8:15:LYS:HD3	2.37	0.49
1:XA:106:C:H2'	1:XA:107:G:C8	2.46	0.49
1:XA:779:C:H2'	1:XA:780:A:O4'	2.13	0.49
1:XA:941:G:H1	1:XA:1342:C:N4	2.09	0.49
1:XA:1016:A:H2'	1:XA:1017:G:O4'	2.12	0.49
13:XM:7:VAL:HG13	50:Y4:34:GLU:OE1	2.11	0.49
14:XN:23:ARG:NH1	14:XN:30:ALA:HB2	2.27	0.49
20:XT:33:ILE:HG23	20:XT:63:ILE:CG1	2.43	0.49
20:XT:64:ASP:HA	20:XT:67:ALA:HB3	1.93	0.49
25:YA:78:A:H2'	25:YA:79:G:H8	1.77	0.49
25:YA:221:A:H4'	25:YA:222:A:O5'	2.12	0.49
25:YA:247:G:H4'	25:YA:386:G:C5	2.47	0.49
25:YA:451:C:H4'	29:YF:52:LYS:HZ1	1.73	0.49
25:YA:1754:C:P	39:YT:96:ARG:HH12	2.35	0.49
25:YA:2849:U:H4'	25:YA:2868:A:C2	2.47	0.49
28:YE:37:ARG:HE	28:YE:37:ARG:H	1.59	0.49
28:YE:61:ARG:CB	28:YE:62:PRO:CD	2.90	0.49
31:YH:153:LYS:O	31:YH:154:PRO:O	2.29	0.49
36:YQ:2:LEU:HD23	36:YQ:2:LEU:N	2.27	0.49
38:YS:60:GLY:O	38:YS:61:ASN:CB	2.55	0.49
46:Y0:70:GLN:OE1	46:Y0:72:ARG:HD3	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Y2:69:ARG:CB	48:Y2:69:ARG:HH11	2.25	0.49
50:Y4:15:ILE:H	50:Y4:15:ILE:HD13	1.76	0.49
1:QA:6:G:H4'	1:QA:298:A:H4'	1.94	0.49
1:QA:382:A:H2'	1:QA:383:A:C8	2.47	0.49
2:QB:204:ASN:ND2	2:QB:206:ASP:O	2.45	0.49
4:QD:129:ASN:HA	4:QD:145:GLU:HB2	1.94	0.49
4:QD:195:ALA:O	6:XF:16:GLN:HB2	2.11	0.49
9:QI:46:ALA:HB2	9:QI:74:ILE:HG23	1.94	0.49
12:QL:24:VAL:O	12:QL:24:VAL:CG1	2.58	0.49
25:RA:1555:C:H3'	25:RA:1556:A:H5"	1.94	0.49
25:RA:1958:A:H61	25:RA:1985:U:H3	1.59	0.49
25:RA:2565:G:N2	56:Z5:101:PPU:C2	2.72	0.49
30:RG:110:ALA:HB1	30:RG:140:ILE:HD12	1.94	0.49
30:RG:115:ARG:NH2	30:RG:137:GLU:OE1	2.45	0.49
31:RH:103:LEU:H	31:RH:103:LEU:HD23	1.77	0.49
32:RI:5:LEU:HD23	32:RI:9:LEU:HD11	1.94	0.49
32:RI:74:ASN:OD1	32:RI:74:ASN:N	2.44	0.49
36:RQ:132:VAL:HG12	36:RQ:133:ARG:N	2.27	0.49
45:RZ:166:SER:HB2	45:RZ:168:GLU:N	2.27	0.49
50:R4:47:GLN:O	50:R4:48:ARG:CB	2.60	0.49
1:XA:187:C:H2'	1:XA:188:U:O4'	2.13	0.49
1:XA:1158:C:H4'	2:XB:133:LYS:HZ3	1.77	0.49
1:XA:1392:G:H2'	1:XA:1393:U:H6	1.77	0.49
2:XB:12:GLU:C	2:XB:14:GLY:H	2.21	0.49
2:XB:24:TRP:CZ3	2:XB:26:PRO:HA	2.48	0.49
5:XE:33:VAL:HG11	5:XE:109:ILE:HA	1.95	0.49
25:YA:1790:C:H5"	25:YA:1791:A:OP1	2.12	0.49
25:YA:2306:C:H3'	25:YA:2307:G:H5"	1.93	0.49
25:YA:2328:A:H2'	25:YA:2329:G:C8	2.46	0.49
28:YE:18:ASP:O	28:YE:19:ARG:C	2.56	0.49
29:YF:144:LYS:C	29:YF:146:ALA:H	2.20	0.49
38:YS:89:ARG:O	38:YS:90:GLY:C	2.55	0.49
45:YZ:5:LEU:HB3	45:YZ:59:LEU:HA	1.94	0.49
52:Y6:41:PRO:HD2	52:Y6:46:HIS:N	2.28	0.49
1:QA:1305:G:H1'	1:QA:1332:A:N6	2.27	0.49
7:QG:20:ASP:HB3	7:QG:23:VAL:HG23	1.94	0.49
13:QM:3:ARG:HH12	30:RG:113:ARG:NH2	2.11	0.49
19:QS:41:VAL:HA	19:QS:44:MET:HG3	1.94	0.49
25:RA:997:G:C6	25:RA:1011:G:C6	3.01	0.49
25:RA:2127:C:H2'	25:RA:2128:G:H8	1.77	0.49
25:RA:2298:A:H4'	25:RA:2299:A:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:23:VAL:HG12	28:RE:173:VAL:HG21	1.94	0.49
28:RE:55:ASN:O	28:RE:57:LYS:N	2.44	0.49
31:RH:54:ARG:HD3	31:RH:65:HIS:ND1	2.27	0.49
31:RH:137:ASP:O	31:RH:138:LYS:HB2	2.12	0.49
36:RQ:90:VAL:C	36:RQ:92:GLY:N	2.70	0.49
38:RS:15:ARG:NH1	38:RS:25:ARG:HH21	2.11	0.49
39:RT:41:ARG:NH1	39:RT:41:ARG:HB2	2.26	0.49
43:RX:27:THR:HB	43:RX:80:ILE:HB	1.94	0.49
52:R6:14:THR:O	52:R6:49:HIS:HA	2.12	0.49
52:R6:25:LYS:HE2	52:R6:27:LYS:HD3	1.94	0.49
1:XA:411:A:C4	1:XA:413:G:H1'	2.47	0.49
1:XA:1436:U:OP1	20:XT:23:ARG:NH2	2.40	0.49
25:YA:195:A:H5"	25:YA:196:A:O5'	2.11	0.49
25:YA:278:A:H4'	25:YA:279:C:OP1	2.12	0.49
25:YA:593:G:H2'	25:YA:594:U:C6	2.47	0.49
25:YA:612:G:H2'	25:YA:613:U:O2	2.13	0.49
25:YA:1077:A:H5'	25:YA:1078:U:H5"	1.94	0.49
27:YD:30:GLU:CD	27:YD:63:ARG:HE	2.21	0.49
27:YD:35:LYS:CG	27:YD:64:ILE:HG22	2.42	0.49
27:YD:172:TYR:HD1	27:YD:185:VAL:O	1.95	0.49
28:YE:17:ASP:N	28:YE:17:ASP:OD1	2.46	0.49
28:YE:179:GLU:O	28:YE:180:ASN:HB2	2.12	0.49
30:YG:94:LEU:HD12	30:YG:99:MET:HA	1.95	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	1.93	0.49
36:YQ:137:TYR:CZ	45:YZ:83:PRO:HG2	2.47	0.49
38:YS:99:LYS:O	38:YS:101:LEU:N	2.45	0.49
43:YX:53:LYS:HB3	43:YX:82:GLN:HB3	1.93	0.49
54:Y8:10:ALA:O	54:Y8:14:VAL:HG12	2.11	0.49
1:QA:753:A:H4'	1:QA:754:C:O5'	2.13	0.49
1:QA:985:C:H2'	1:QA:986:A:C8	2.47	0.49
1:QA:1494:G:OP1	58:QA:1681:PAR:N32	2.45	0.49
11:QK:99:GLN:HG3	11:QK:105:VAL:HG21	1.88	0.49
17:QQ:18:THR:HG23	17:QQ:69:LYS:HE3	1.94	0.49
20:QT:79:ARG:O	20:QT:83:ARG:HG3	2.12	0.49
25:RA:234:G:O2'	25:RA:411:U:O2	2.21	0.49
25:RA:1051:C:O2'	33:RN:28:THR:HG21	2.12	0.49
25:RA:1067:A:H5"	33:RN:65:LYS:NZ	2.27	0.49
25:RA:1223:C:H2'	25:RA:1224:C:C6	2.47	0.49
25:RA:1549:U:H2'	25:RA:1550:C:C6	2.48	0.49
25:RA:1702:A:N6	25:RA:2027:A:O2'	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RB:31:C:H42	26:RB:51:G:H1	1.61	0.49
28:RE:95:ILE:H	28:RE:95:ILE:CD1	2.19	0.49
29:RF:132:VAL:HG23	29:RF:133:ASN:OD1	2.12	0.49
31:RH:7:LEU:C	31:RH:7:LEU:HD12	2.37	0.49
45:RZ:70:LEU:HB2	45:RZ:91:LEU:HD21	1.95	0.49
49:R3:6:VAL:HG13	49:R3:56:VAL:HG13	1.94	0.49
53:R7:31:LEU:HD22	53:R7:42:LEU:HD13	1.95	0.49
1:XA:486:U:H2'	1:XA:487:A:H8	1.77	0.49
13:XM:121:LYS:HE2	13:XM:121:LYS:N	2.28	0.49
20:XT:89:ARG:NH2	20:XT:104:LEU:HD11	2.27	0.49
25:YA:307:G:H21	25:YA:330:A:N6	2.11	0.49
25:YA:581:C:H2'	25:YA:582:G:H8	1.77	0.49
25:YA:1061:U:H3'	25:YA:1062:G:H5"	1.93	0.49
25:YA:1087:G:C4	25:YA:1089:G:H1'	2.47	0.49
25:YA:1717:G:H1	25:YA:1742:C:N4	2.10	0.49
25:YA:1826:G:C4'	27:YD:242:ARG:HH21	2.19	0.49
25:YA:1935:G:H1'	25:YA:1964:G:N2	2.28	0.49
25:YA:2516:G:C6	25:YA:2517:C:N4	2.80	0.49
26:YB:81:G:O6	26:YB:95:U:C2	2.65	0.49
28:YE:179:GLU:OE1	28:YE:179:GLU:HA	2.10	0.49
46:Y0:53:MET:HA	46:Y0:58:THR:O	2.13	0.49
54:Y8:16:ILE:CD1	54:Y8:57:ARG:HG2	2.42	0.49
54:Y8:30:ARG:O	54:Y8:31:HIS:HB2	2.11	0.49
1:QA:164:U:H2'	1:QA:165:C:C6	2.48	0.49
1:QA:555:C:H2'	1:QA:556:C:C6	2.48	0.49
1:QA:895:G:H2'	1:QA:896:C:C6	2.48	0.49
1:QA:963:G:N2	1:QA:972:C:N3	2.56	0.49
1:QA:1376:U:OP1	7:QG:94:ARG:NH1	2.46	0.49
1:QA:1384:C:H2'	1:QA:1385:G:C8	2.47	0.49
3:QC:47:LEU:HD23	3:QC:68:VAL:HG11	1.94	0.49
4:QD:27:TYR:O	4:QD:28:SER:O	2.30	0.49
14:QN:15:LYS:HD2	14:QN:16:PHE:CE2	2.47	0.49
15:QO:87:ILE:HG22	15:QO:88:ARG:H	1.78	0.49
25:RA:510:C:OP1	44:RY:51:VAL:HG11	2.13	0.49
25:RA:2463:A:C6	56:Z5:101:PPU:HE2	2.48	0.49
26:RB:42:C:O2	30:RG:93:THR:N	2.23	0.49
29:RF:178:PRO:HG2	29:RF:179:GLU:OE2	2.13	0.49
31:RH:12:PRO:HD3	31:RH:48:GLY:O	2.13	0.49
31:RH:128:PRO:HD2	31:RH:129:THR:N	2.25	0.49
32:RI:57:ARG:HA	32:RI:60:GLU:HB3	1.94	0.49
33:RN:7:LYS:H	33:RN:7:LYS:HZ3	1.59	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:RN:134:ARG:N	33:RN:135:PRO:HD3	2.28	0.49
36:RQ:29:PHE:N	36:RQ:105:GLU:OE2	2.41	0.49
36:RQ:132:VAL:HG11	45:RZ:81:ARG:CZ	2.43	0.49
45:RZ:152:ALA:O	45:RZ:154:ASP:N	2.42	0.49
50:R4:10:VAL:CG2	50:R4:11:PRO:HD2	2.43	0.49
50:R4:42:PHE:O	50:R4:44:THR:O	2.31	0.49
54:R8:33:ASN:O	54:R8:35:GLN:N	2.46	0.49
1:XA:158:G:H2'	1:XA:159:G:C8	2.48	0.49
1:XA:1401:G:C2	1:XA:1402:C:H1'	2.48	0.49
12:XL:85:ILE:HD11	12:XL:98:TYR:CB	2.42	0.49
13:XM:81:LEU:HD13	13:XM:88:ARG:HD2	1.94	0.49
25:YA:67:U:C4	25:YA:74:A:C2	2.99	0.49
25:YA:229:A:N6	25:YA:418:G:O5'	2.46	0.49
25:YA:2755:C:C4	55:Y9:19:ARG:NH1	2.81	0.49
31:YH:98:LEU:HD12	31:YH:102:ALA:O	2.13	0.49
36:YQ:29:PHE:N	36:YQ:105:GLU:OE2	2.41	0.49
39:YT:107:ASP:H	39:YT:110:ILE:HG22	1.78	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:273:A:H1'	17:QQ:16:GLN:OE1	2.12	0.49
1:QA:1144:G:N2	1:QA:1146:A:H62	2.11	0.49
1:QA:1179:A:O3'	9:QI:103:THR:HG23	2.13	0.49
2:QB:21:ARG:O	2:QB:23:ARG:N	2.46	0.49
19:QS:67:VAL:HB	50:R4:59:PHE:CE2	2.45	0.49
25:RA:716:G:H2'	25:RA:716:G:N3	2.28	0.49
25:RA:999:G:OP1	36:RQ:15:GLY:N	2.36	0.49
25:RA:2101:U:H2'	25:RA:2102:G:O4'	2.13	0.49
25:RA:2597:U:C5	56:Z5:101:PPU:O2'	2.65	0.49
28:RE:46:ALA:HB1	28:RE:80:GLU:HB2	1.94	0.49
28:RE:179:GLU:O	28:RE:180:ASN:HB2	2.12	0.49
31:RH:98:LEU:HD12	31:RH:102:ALA:O	2.13	0.49
31:RH:124:GLU:HB3	31:RH:132:ARG:CG	2.42	0.49
36:RQ:23:GLY:O	36:RQ:24:GLY:O	2.30	0.49
44:RY:47:LYS:HG2	44:RY:60:PHE:HD1	1.77	0.49
46:R0:32:ARG:H	46:R0:35:ASN:ND2	2.11	0.49
51:R5:56:LYS:HD2	51:R5:56:LYS:N	2.13	0.49
1:XA:266:G:H1'	1:XA:268:C:OP2	2.13	0.49
1:XA:1055:A:H4'	3:XC:161:GLU:OE2	2.12	0.49
1:XA:1128:C:C2	1:XA:1144:G:N2	2.81	0.49
1:XA:1443:G:H5"	1:XA:1446:A:H2	1.77	0.49
1:XA:1490:C:H2'	1:XA:1491:G:H8	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XE:10:MET:SD	5:XE:13:ILE:HD13	2.53	0.49
13:XM:14:ARG:HG2	13:XM:17:VAL:HG23	1.95	0.49
25:YA:1588:C:H2'	25:YA:1589:C:C6	2.48	0.49
25:YA:1693:U:H1'	27:YD:14:ARG:HH22	1.77	0.49
25:YA:1870:C:H2'	25:YA:1871:A:O4'	2.13	0.49
25:YA:2277:G:P	36:YQ:85:LYS:HB2	2.53	0.49
25:YA:2335:A:HO2'	25:YA:2336:A:P	2.36	0.49
25:YA:2667:C:N3	31:YH:110:SER:OG	2.39	0.49
26:YB:52:A:N6	38:YS:33:LYS:HG3	2.23	0.49
27:YD:69:ARG:C	27:YD:71:ASP:N	2.69	0.49
27:YD:227:ASN:HB3	27:YD:228:PRO:CD	2.30	0.49
28:YE:119:ARG:HD3	28:YE:160:TYR:CD2	2.47	0.49
34:YO:4:PRO:O	34:YO:5:GLN:HB2	2.11	0.49
40:YU:61:TRP:CD2	40:YU:94:ASN:HA	2.47	0.49
43:YX:57:LEU:HD11	43:YX:78:LYS:HD2	1.94	0.49
54:Y8:58:ILE:O	54:Y8:61:LEU:HD12	2.13	0.49
1:QA:992:U:H4'	1:QA:993:G:O5'	2.13	0.49
3:QC:73:PRO:O	3:QC:76:VAL:HG22	2.13	0.49
25:RA:1251:G:H1	25:RA:1286:U:H3	1.59	0.49
25:RA:1463:C:H2'	25:RA:1464:G:O4'	2.13	0.49
25:RA:2846:U:H2'	25:RA:2847:G:C8	2.48	0.49
28:RE:38:THR:O	28:RE:42:ASP:HB2	2.13	0.49
39:RT:16:ARG:HD3	39:RT:19:LEU:HD11	1.94	0.49
50:R4:9:LEU:H	50:R4:27:THR:CG2	2.25	0.49
51:R5:2:ALA:O	51:R5:3:LYS:CB	2.61	0.49
51:R5:48:GLU:HA	51:R5:59:GLU:CG	2.43	0.49
54:R8:58:ILE:O	54:R8:61:LEU:HD12	2.13	0.49
1:XA:263:A:P	20:XT:79:ARG:HH11	2.36	0.49
3:XC:148:GLY:HA3	3:XC:172:ARG:O	2.12	0.49
6:XF:10:LEU:HD22	6:XF:61:LEU:HD11	1.94	0.49
22:XV:51:C:H2'	22:XV:52:G:O4'	2.13	0.49
25:YA:395:U:H2'	25:YA:396:G:N7	2.28	0.49
25:YA:1291:C:H2'	25:YA:1292:U:C6	2.48	0.49
25:YA:2641:G:H2'	25:YA:2642:G:H8	1.78	0.49
26:YB:15:A:H3'	26:YB:16:G:H5'	1.94	0.49
26:YB:79:C:H2'	26:YB:80:U:O4'	2.12	0.49
27:YD:123:ALA:HB3	27:YD:131:LEU:HG	1.94	0.49
31:YH:124:GLU:HB3	31:YH:132:ARG:CG	2.43	0.49
40:YU:98:LEU:O	40:YU:102:GLU:N	2.37	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:Y6:41:PRO:O	52:Y6:45:LYS:HE3	2.12	0.49
54:Y8:15:LYS:HD3	54:Y8:15:LYS:C	2.37	0.49
55:Y9:1:MET:HE1	55:Y9:32:HIS:CE1	2.48	0.49
1:QA:1004:A:H1'	1:QA:1036:G:N2	2.27	0.49
25:RA:745:C:O2'	25:RA:781:A:N6	2.46	0.49
30:RG:60:LEU:O	30:RG:64:THR:HG22	2.12	0.49
31:RH:24:VAL:HG21	31:RH:72:ILE:HG12	1.94	0.49
50:R4:42:PHE:CD1	50:R4:42:PHE:C	2.90	0.49
51:R5:52:TYR:O	51:R5:53:ALA:CB	2.60	0.49
1:XA:601:C:H2'	1:XA:602:A:C8	2.47	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
11:XK:59:TYR:CZ	11:XK:63:LEU:HD11	2.47	0.49
16:XP:26:ARG:HH21	16:XP:31:LYS:HB3	1.76	0.49
25:YA:184:C:H1'	25:YA:217:G:H1'	1.94	0.49
25:YA:491:G:H3'	25:YA:492:A:H8	1.77	0.49
25:YA:530:G:C5	25:YA:2022:U:H5"	2.47	0.49
25:YA:958:U:H5'	36:YQ:14:ARG:HD3	1.95	0.49
25:YA:1698:A:H4'	25:YA:1699:G:OP1	2.13	0.49
25:YA:2298:A:H2'	25:YA:2299:G:O4'	2.13	0.49
38:YS:11:LYS:HG2	38:YS:11:LYS:O	2.12	0.49
38:YS:48:LEU:N	38:YS:48:LEU:CD1	2.76	0.49
42:YW:51:LEU:HD23	42:YW:105:VAL:HG11	1.94	0.49
54:Y8:33:ASN:O	54:Y8:35:GLN:N	2.46	0.49
54:Y8:52:LYS:H	54:Y8:53:PRO:HD2	1.66	0.49
1:QA:189:U:C2	17:QQ:63:ARG:NH2	2.81	0.48
2:QB:80:ILE:HG21	2:QB:212:GLN:HA	1.95	0.48
2:QB:96:ARG:H	2:QB:96:ARG:HD2	1.76	0.48
7:QG:155:ARG:O	7:QG:155:ARG:NH2	2.46	0.48
10:QJ:24:VAL:HG21	10:QJ:37:PRO:HD3	1.95	0.48
14:QN:27:CYS:SG	14:QN:29:ARG:HB2	2.53	0.48
25:RA:334:A:H1'	25:RA:335:A:H2'	1.95	0.48
25:RA:1896:G:H5'	25:RA:1897:C:OP2	2.13	0.48
25:RA:2555:G:H2'	25:RA:2556:G:C8	2.48	0.48
26:RB:24:G:H2'	26:RB:56:G:O6	2.13	0.48
28:RE:119:ARG:HD3	28:RE:160:TYR:HD2	1.78	0.48
43:RX:39:ILE:O	43:RX:43:VAL:HG12	2.13	0.48
51:R5:45:VAL:O	51:R5:45:VAL:HG12	2.13	0.48
54:R8:29:LYS:O	54:R8:30:ARG:C	2.56	0.48
1:XA:407:G:H2'	1:XA:408:A:H8	1.77	0.48
1:XA:901:A:O5'	1:XA:901:A:H8	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1118:C:OP1	9:XI:9:ARG:HD3	2.13	0.48
5:XE:43:LEU:HD22	5:XE:136:MET:HG3	1.94	0.48
6:XF:19:LEU:HD21	6:XF:59:TYR:CE1	2.47	0.48
10:XJ:35:SER:OG	10:XJ:73:ASP:HB2	2.13	0.48
25:YA:190:A:OP2	47:Y1:39:LYS:HE3	2.13	0.48
25:YA:479:A:O2'	25:YA:481:G:H5'	2.12	0.48
25:YA:1727:U:H2'	25:YA:1728:G:O4'	2.13	0.48
25:YA:1952:A:C2	34:YO:22:ILE:HG23	2.48	0.48
25:YA:2298:A:H62	25:YA:2318:G:H8	1.60	0.48
25:YA:2469:A:H5'	25:YA:2470:G:OP2	2.13	0.48
27:YD:44:ASN:H	27:YD:44:ASN:ND2	1.97	0.48
31:YH:54:ARG:HD3	31:YH:65:HIS:ND1	2.27	0.48
36:YQ:23:GLY:O	36:YQ:24:GLY:O	2.30	0.48
45:YZ:5:LEU:HD11	45:YZ:39:VAL:HB	1.95	0.48
54:Y8:35:GLN:OE1	54:Y8:35:GLN:HA	2.12	0.48
1:QA:1326:C:OP1	21:QU:17:THR:OG1	2.22	0.48
2:QB:163:PHE:HD1	2:QB:185:ILE:HG13	1.77	0.48
3:QC:150:LYS:HG3	3:QC:169:ALA:HB2	1.95	0.48
7:QG:113:GLU:HG3	7:QG:119:ARG:HG2	1.94	0.48
25:RA:229:G:H3'	25:RA:230:A:H2'	1.95	0.48
25:RA:331:G:N2	25:RA:333:G:H3'	2.29	0.48
25:RA:592:U:C4	25:RA:593:G:C6	3.01	0.48
25:RA:1702:A:O3'	28:RE:115:GLY:HA3	2.12	0.48
31:RH:109:PHE:C	31:RH:111:HIS:H	2.21	0.48
31:RH:119:GLU:CD	31:RH:120:GLY:H	2.22	0.48
31:RH:123:PHE:O	31:RH:125:VAL:HG23	2.13	0.48
31:RH:137:ASP:CB	31:RH:140:LYS:HB2	2.43	0.48
44:RY:47:LYS:HG2	44:RY:60:PHE:CD1	2.48	0.48
50:R4:22:ILE:H	50:R4:22:ILE:HD12	1.77	0.48
51:R5:3:LYS:O	51:R5:4:HIS:C	2.56	0.48
1:XA:137:C:O2'	16:XP:61:SER:O	2.31	0.48
1:XA:390:C:H2'	1:XA:391:G:C8	2.48	0.48
1:XA:842:C:O2'	1:XA:848:C:N4	2.45	0.48
15:XO:70:LEU:HD11	15:XO:77:ARG:HG3	1.95	0.48
22:XV:19:G:H5'	22:XV:20:U:H5	1.78	0.48
25:YA:121:G:H4'	25:YA:149:A:H5'	1.94	0.48
25:YA:2420:C:H41	54:Y8:30:ARG:HD2	1.77	0.48
26:YB:41:U:C4	30:YG:70:VAL:HG23	2.48	0.48
31:YH:42:ARG:O	31:YH:52:VAL:HA	2.13	0.48
31:YH:109:PHE:C	31:YH:111:HIS:H	2.21	0.48
35:YP:135:LEU:HD13	35:YP:139:LYS:HE2	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YQ:34:LEU:HD23	36:YQ:104:PHE:HD2	1.77	0.48
36:YQ:90:VAL:C	36:YQ:92:GLY:N	2.71	0.48
38:YS:33:LYS:HB3	38:YS:34:HIS:CD2	2.48	0.48
38:YS:55:ALA:O	38:YS:56:LEU:HB3	2.14	0.48
1:QA:1189:C:OP1	10:QJ:51:ARG:NH2	2.45	0.48
25:RA:364:A:H2'	25:RA:365:G:O4'	2.13	0.48
28:RE:78:LEU:CD2	28:RE:79:ARG:HD2	2.43	0.48
30:RG:98:ARG:HE	30:RG:98:ARG:HB2	1.38	0.48
31:RH:42:ARG:O	31:RH:52:VAL:HA	2.12	0.48
31:RH:127:GLU:HB3	31:RH:128:PRO:HD2	1.93	0.48
36:RQ:31:ASP:O	36:RQ:32:TYR:CG	2.66	0.48
1:XA:1118:C:H2'	1:XA:1119:C:H6	1.78	0.48
1:XA:1314:C:OP1	19:XS:6:LYS:HE3	2.12	0.48
5:XE:50:GLU:HG3	5:XE:52:PRO:HD2	1.95	0.48
6:XF:35:ALA:HA	6:XF:67:MET:HB3	1.94	0.48
25:YA:192:C:O2'	25:YA:802:A:N3	2.40	0.48
25:YA:573:G:O2'	25:YA:574:C:H3'	2.12	0.48
25:YA:2068:U:N3	25:YA:2430:A:H2	1.94	0.48
27:YD:25:THR:O	27:YD:27:THR:HG22	2.12	0.48
31:YH:12:PRO:HD3	31:YH:48:GLY:O	2.13	0.48
31:YH:13:LYS:HE2	31:YH:13:LYS:CA	2.40	0.48
31:YH:23:ARG:HD2	31:YH:34:GLU:OE2	2.12	0.48
31:YH:137:ASP:CB	31:YH:140:LYS:HB2	2.43	0.48
35:YP:82:GLY:HA2	35:YP:113:LYS:O	2.12	0.48
1:QA:1014:A:H4'	19:QS:14:HIS:NE2	2.28	0.48
1:QA:1399:C:C2	1:QA:1502:A:N6	2.82	0.48
12:QL:38:THR:CG2	12:QL:57:LYS:HB3	2.44	0.48
13:QM:49:THR:HG22	13:QM:51:ALA:H	1.79	0.48
15:QO:16:ALA:HB1	15:QO:21:ASP:HB3	1.95	0.48
19:QS:26:GLY:O	19:QS:28:LYS:N	2.41	0.48
19:QS:77:THR:HG22	19:QS:78:ARG:HD3	1.96	0.48
20:QT:33:ILE:HD12	20:QT:63:ILE:HG13	1.95	0.48
21:QU:5:ASP:O	21:QU:11:GLY:HA3	2.13	0.48
25:RA:2518:U:O4'	56:Z5:101:PPU:HD1	2.14	0.48
25:RA:2631:C:H2'	25:RA:2632:C:H6	1.76	0.48
29:RF:178:PRO:HB2	29:RF:201:VAL:HG11	1.94	0.48
35:RP:37:GLY:O	35:RP:40:SER:OG	2.26	0.48
36:RQ:34:LEU:HD23	36:RQ:104:PHE:HD2	1.77	0.48
50:R4:60:GLN:O	50:R4:63:TYR:HB3	2.14	0.48
54:R8:35:GLN:OE1	54:R8:35:GLN:HA	2.12	0.48
54:R8:41:ILE:HG13	54:R8:42:ARG:N	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:R8:56:GLU:O	54:R8:58:ILE:N	2.47	0.48
1:XA:692:U:O2'	1:XA:694:A:N7	2.26	0.48
1:XA:778:G:H2'	1:XA:779:C:O4'	2.13	0.48
1:XA:1373:G:O3'	7:XG:36:LYS:NZ	2.46	0.48
2:XB:101:MET:HA	2:XB:108:ILE:HG13	1.95	0.48
2:XB:204:ASN:ND2	2:XB:206:ASP:H	2.11	0.48
3:XC:130:VAL:HG21	3:XC:157:ILE:HG23	1.94	0.48
3:XC:134:ILE:HG23	3:XC:151:VAL:HB	1.94	0.48
6:XF:36:ARG:CZ	6:XF:38:GLU:HG2	2.44	0.48
12:XL:38:THR:CG2	12:XL:57:LYS:HB3	2.44	0.48
25:YA:57:C:H2'	25:YA:58:G:O4'	2.13	0.48
25:YA:774:A:O2'	25:YA:775:G:O5'	2.25	0.48
25:YA:1652:A:OP1	37:YR:8:ARG:NH1	2.44	0.48
25:YA:2378:A:H8	25:YA:2378:A:O5'	1.97	0.48
27:YD:45:ASN:CG	27:YD:46:GLN:N	2.68	0.48
27:YD:48:ARG:HG3	27:YD:48:ARG:HH11	1.78	0.48
28:YE:38:THR:O	28:YE:42:ASP:HB2	2.13	0.48
31:YH:53:GLU:CD	31:YH:54:ARG:H	2.21	0.48
31:YH:82:GLY:O	31:YH:83:TYR:O	2.31	0.48
32:YI:69:LYS:HG3	32:YI:136:VAL:HB	1.96	0.48
36:YQ:31:ASP:O	36:YQ:32:TYR:CG	2.66	0.48
41:YV:15:GLU:O	41:YV:18:LEU:HB2	2.14	0.48
43:YX:63:LYS:O	43:YX:64:LYS:HD2	2.14	0.48
47:Y1:41:ARG:HH11	47:Y1:41:ARG:HG3	1.79	0.48
1:QA:1064:G:C6	1:QA:1191:A:N6	2.80	0.48
1:QA:1252:A:H61	1:QA:1285:A:H61	1.60	0.48
9:QI:17:VAL:HG11	9:QI:81:ILE:HA	1.95	0.48
10:QJ:32:ALA:HB3	10:QJ:76:ASN:HB2	1.95	0.48
11:QK:48:ILE:HD11	11:QK:64:ALA:HA	1.95	0.48
13:QM:23:TYR:HE1	13:QM:70:LEU:HD12	1.77	0.48
25:RA:90:A:H2'	25:RA:91:G:H8	1.79	0.48
25:RA:1387:U:OP2	25:RA:1440:U:O2'	2.24	0.48
25:RA:1644:C:H5'	43:RX:36:LYS:HB2	1.96	0.48
25:RA:1712:A:O2'	25:RA:1713:G:H5'	2.13	0.48
25:RA:1952:G:H2'	25:RA:1990:G:N1	2.29	0.48
25:RA:2605:U:H2'	25:RA:2606:C:H6	1.79	0.48
29:RF:155:LEU:HD12	29:RF:174:VAL:HG22	1.94	0.48
30:RG:105:LYS:NZ	50:R4:26:SER:HB3	2.28	0.48
37:RR:2:ARG:HA	37:RR:5:LYS:HE3	1.95	0.48
44:RY:81:LYS:NZ	44:RY:98:VAL:HG11	2.28	0.48
45:RZ:45:ASP:O	45:RZ:49:ARG:HG2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:R3:4:LEU:O	49:R3:36:VAL:HA	2.13	0.48
1:XA:222:U:H2'	1:XA:223:U:C6	2.49	0.48
1:XA:484:G:H4'	1:XA:485:G:O5'	2.14	0.48
2:XB:37:ASN:C	2:XB:39:ILE:H	2.20	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
12:XL:27:LEU:C	12:XL:29:GLY:H	2.20	0.48
25:YA:103:A:O5'	25:YA:103:A:H8	1.96	0.48
25:YA:1041:C:H2'	25:YA:1042:G:H8	1.77	0.48
25:YA:1109:C:HO2'	25:YA:1110:G:P	2.37	0.48
25:YA:2097:C:H2'	25:YA:2098:U:O4'	2.13	0.48
26:YB:45:A:OP2	30:YG:96:ARG:NH1	2.47	0.48
27:YD:10:THR:O	27:YD:11:PRO:C	2.56	0.48
28:YE:69:LYS:C	28:YE:71:GLY:N	2.71	0.48
28:YE:174:ASP:O	28:YE:182:LEU:HD12	2.14	0.48
29:YF:107:LYS:O	29:YF:110:LEU:N	2.47	0.48
29:YF:155:LEU:HD23	29:YF:186:ILE:HA	1.95	0.48
30:YG:166:ASP:HA	30:YG:169:ALA:HB3	1.95	0.48
31:YH:7:LEU:N	31:YH:8:PRO:CD	2.77	0.48
35:YP:5:ASP:O	35:YP:6:LEU:O	2.31	0.48
35:YP:52:GLU:O	35:YP:55:ARG:HG2	2.14	0.48
39:YT:102:ILE:HB	39:YT:110:ILE:HD13	1.95	0.48
45:YZ:69:THR:HG22	45:YZ:90:VAL:HG22	1.96	0.48
51:Y5:41:PRO:O	51:Y5:44:THR:OG1	2.32	0.48
4:QD:100:ARG:NH2	4:QD:136:PRO:O	2.47	0.48
7:QG:57:GLU:OE1	7:QG:57:GLU:N	2.41	0.48
12:QL:15:ARG:HG3	17:QQ:32:TYR:OH	2.14	0.48
20:QT:75:ASN:OD1	20:QT:75:ASN:N	2.40	0.48
22:QV:23:C:H2'	22:QV:24:U:C6	2.49	0.48
25:RA:336:G:H4'	25:RA:355:A:N3	2.28	0.48
25:RA:1129:U:H2'	25:RA:1131:A:H5"	1.94	0.48
25:RA:1580:G:H2'	25:RA:1580:G:N3	2.28	0.48
25:RA:2885:C:H4'	39:RT:5:ALA:HB2	1.94	0.48
26:RB:78:A:H2'	26:RB:79:C:O4'	2.13	0.48
30:RG:95:ARG:C	30:RG:99:MET:HG2	2.38	0.48
31:RH:7:LEU:N	31:RH:8:PRO:CD	2.77	0.48
31:RH:83:TYR:CZ	31:RH:138:LYS:HD2	2.48	0.48
31:RH:104:GLU:HG3	31:RH:114:VAL:HG22	1.96	0.48
36:RQ:21:THR:HB	36:RQ:22:LYS:H	1.42	0.48
37:RR:97:VAL:HG22	37:RR:114:VAL:CG2	2.44	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)
47:R1:53:VAL:HB	47:R1:58:ILE:HD12	1.94	0.48
50:R4:48:ARG:C	50:R4:49:PHE:HD1	2.22	0.48
51:R5:49:CYS:SG	51:R5:58:LEU:HB2	2.53	0.48
1:XA:538:G:H5"	12:XL:114:LYS:HB2	1.94	0.48
1:XA:1166:G:N2	1:XA:1170:A:OP2	2.47	0.48
1:XA:1207:G:H2'	1:XA:1208:C:C6	2.49	0.48
25:YA:606:U:H4'	25:YA:658:C:H4'	1.96	0.48
25:YA:1048:A:OP2	25:YA:1110:G:N2	2.46	0.48
25:YA:1427:A:H4'	25:YA:1428:C:O5'	2.12	0.48
25:YA:1991:U:H2'	25:YA:1992:G:H5"	1.95	0.48
25:YA:2756:U:H4'	25:YA:2757:A:OP1	2.13	0.48
27:YD:35:LYS:HD2	27:YD:104:TYR:CE1	2.49	0.48
29:YF:128:ALA:O	29:YF:129:PHE:HB2	2.14	0.48
31:YH:119:GLU:CD	31:YH:120:GLY:H	2.22	0.48
31:YH:124:GLU:HB3	31:YH:132:ARG:CD	2.44	0.48
35:YP:46:LYS:HE3	35:YP:46:LYS:HB3	1.54	0.48
36:YQ:19:GLY:O	36:YQ:98:LYS:HD3	2.14	0.48
38:YS:18:ILE:O	38:YS:19:LYS:O	2.31	0.48
52:Y6:27:LYS:NZ	52:Y6:27:LYS:HB2	2.28	0.48
1:QA:17:U:H2'	1:QA:18:C:C6	2.48	0.48
1:QA:272:C:H2'	1:QA:273:A:H8	1.77	0.48
1:QA:1043:C:H2'	1:QA:1044:A:H8	1.78	0.48
1:QA:1118:C:H1'	1:QA:1179:A:C4	2.48	0.48
1:QA:1225:A:H5"	1:QA:1226:C:OP2	2.13	0.48
1:QA:1346:A:H5"	9:QI:120:ARG:NH1	2.25	0.48
1:QA:1443:G:C6	39:RT:118:ARG:HB2	2.49	0.48
12:QL:22:SER:C	12:QL:24:VAL:H	2.22	0.48
25:RA:240:A:C5	25:RA:241:G:H1'	2.49	0.48
25:RA:821:A:O2'	25:RA:822:G:O5'	2.29	0.48
25:RA:1311:A:H8	25:RA:1311:A:OP1	1.97	0.48
25:RA:1449:C:C5'	25:RA:1518:A:H1'	2.43	0.48
25:RA:1625:U:H2'	25:RA:1626:A:H5'	1.95	0.48
25:RA:1766:G:H3'	25:RA:1767:A:H5"	1.94	0.48
25:RA:2160:C:N4	25:RA:2175:G:H1	2.10	0.48
26:RB:73:A:C4	26:RB:104:A:C2	3.02	0.48
27:RD:25:THR:O	27:RD:27:THR:HG22	2.14	0.48
28:RE:77:ILE:CD1	28:RE:78:LEU:N	2.70	0.48
29:RF:102:PRO:HB2	29:RF:105:VAL:HG23	1.95	0.48
30:RG:112:PRO:HB3	50:R4:37:SER:OG	2.10	0.48
36:RQ:87:LYS:O	36:RQ:89:ASN:N	2.43	0.48
45:RZ:111:VAL:HG22	45:RZ:112:ARG:N	2.19	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:R8:40:GLU:O	54:R8:41:ILE:C	2.56	0.48
1:XA:80:G:O6	1:XA:88:C:N4	2.47	0.48
1:XA:636:U:H2'	1:XA:637:G:H8	1.79	0.48
1:XA:673:G:H5"	6:XF:87:ARG:NH1	2.29	0.48
20:XT:33:ILE:CD1	20:XT:62:LEU:HB3	2.44	0.48
24:XY:31:C:C2'	24:XY:32:U:H5'	2.43	0.48
25:YA:654(B):C:N3	25:YA:654(S):G:O6	2.46	0.48
25:YA:996:A:H4'	40:YU:92:ARG:NE	2.29	0.48
26:YB:91:C:H5"	45:YZ:79:ARG:NH1	2.29	0.48
27:YD:33:LEU:HB3	27:YD:34:VAL:H	1.49	0.48
28:YE:23:VAL:HG12	28:YE:173:VAL:HG21	1.94	0.48
28:YE:77:ILE:CD1	28:YE:78:LEU:N	2.70	0.48
29:YF:198:ALA:O	29:YF:201:VAL:HG12	2.13	0.48
40:YU:60:LEU:HD22	40:YU:60:LEU:O	2.14	0.48
40:YU:97:ASP:OD2	40:YU:101:ARG:NH1	2.46	0.48
42:YW:67:ASP:N	42:YW:67:ASP:OD1	2.46	0.48
47:Y1:25:LYS:C	47:Y1:27:GLU:H	2.22	0.48
48:Y2:16:LEU:O	48:Y2:17:SER:CB	2.56	0.48
48:Y2:33:MET:O	48:Y2:37:PHE:HD1	1.95	0.48
48:Y2:69:ARG:HH11	48:Y2:69:ARG:HB3	1.79	0.48
1:QA:1123:A:H4'	10:QJ:36:GLY:HA3	1.96	0.48
12:QL:120:TYR:O	12:QL:121:GLY:C	2.57	0.48
13:QM:3:ARG:NH1	30:RG:113:ARG:NH2	2.61	0.48
16:QP:43:LYS:HA	16:QP:48:TRP:HB3	1.96	0.48
17:QQ:100:LYS:O	17:QQ:101:ARG:NE	2.47	0.48
20:QT:12:ALA:O	20:QT:15:ARG:HB2	2.14	0.48
25:RA:2145:G:H2'	25:RA:2146:G:C8	2.48	0.48
25:RA:2603:C:H2'	25:RA:2604:G:C8	2.49	0.48
25:RA:2657:G:C3'	25:RA:2658:C:H5'	2.43	0.48
25:RA:2704:C:O2	25:RA:2857:U:O2'	2.31	0.48
28:RE:55:ASN:C	28:RE:57:LYS:N	2.62	0.48
28:RE:93:VAL:H	28:RE:95:ILE:CD1	2.23	0.48
30:RG:81:LYS:O	30:RG:82:LEU:HB2	2.13	0.48
31:RH:154:PRO:CG	31:RH:162:ILE:O	2.61	0.48
32:RI:133:HIS:HB2	32:RI:134:PRO:CD	2.43	0.48
35:RP:36:LYS:HB3	35:RP:40:SER:HB3	1.95	0.48
43:RX:60:ARG:HH12	53:R7:47:ARG:HH22	1.60	0.48
44:RY:51:VAL:O	44:RY:56:PRO:HA	2.14	0.48
52:R6:18:ARG:HB2	52:R6:44:ARG:HH12	1.77	0.48
54:R8:30:ARG:O	54:R8:31:HIS:HB2	2.12	0.48
1:XA:356:A:N3	1:XA:368:U:O2'	2.41	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:403:C:H2'	1:XA:404:U:H6	1.79	0.48
1:XA:1399:C:C2	1:XA:1502:A:N6	2.81	0.48
9:XI:9:ARG:HB2	9:XI:14:VAL:HA	1.96	0.48
20:XT:93:GLU:OE1	20:XT:94:ALA:N	2.46	0.48
22:XV:21:A:N6	22:XV:46:G:H2'	2.28	0.48
25:YA:1329:U:H5"	25:YA:1330:C:H5	1.79	0.48
25:YA:2543:G:H2'	25:YA:2544:G:C8	2.49	0.48
27:YD:35:LYS:CG	27:YD:64:ILE:CG2	2.92	0.48
27:YD:130:ALA:HA	27:YD:192:THR:HA	1.95	0.48
29:YF:45:ARG:NH1	29:YF:45:ARG:HG2	2.28	0.48
31:YH:41:MET:HG3	31:YH:54:ARG:HA	1.96	0.48
35:YP:98:GLU:HA	35:YP:101:VAL:HB	1.96	0.48
36:YQ:42:ILE:HD12	36:YQ:42:ILE:N	2.29	0.48
36:YQ:60:ARG:NH2	36:YQ:60:ARG:HB2	2.28	0.48
38:YS:66:ALA:HA	38:YS:69:VAL:HG12	1.96	0.48
44:YY:35:TYR:CD2	44:YY:69:ALA:HB3	2.49	0.48
45:YZ:10:ARG:HH21	45:YZ:26:GLY:H	1.61	0.48
45:YZ:91:LEU:HB3	45:YZ:130:PRO:HB3	1.95	0.48
50:Y4:43:TYR:CD1	50:Y4:43:TYR:C	2.92	0.48
1:QA:1422:G:H5"	34:RO:48:PRO:HB3	1.95	0.48
1:QA:1443:G:N2	39:RT:119:LYS:HB2	2.29	0.48
2:QB:25:ASN:O	2:QB:27:LYS:N	2.47	0.48
4:QD:106:TYR:HE1	4:QD:112:VAL:O	1.97	0.48
8:QH:102:ARG:NH1	8:QH:105:ARG:HH22	2.12	0.48
10:QJ:78:ASN:O	10:QJ:82:ILE:HG12	2.14	0.48
25:RA:236:G:H4'	25:RA:413:G:C4	2.49	0.48
25:RA:1813:C:H1'	25:RA:2621:U:H5"	1.96	0.48
25:RA:2383:G:HO2'	52:R6:46:HIS:HD1	1.59	0.48
25:RA:2821:G:H8	25:RA:2821:G:OP2	1.97	0.48
28:RE:15:PHE:CZ	39:RT:80:SER:HA	2.48	0.48
28:RE:61:ARG:CB	28:RE:62:PRO:CD	2.90	0.48
30:RG:82:LEU:HD21	30:RG:88:ILE:HG13	1.96	0.48
31:RH:45:VAL:HG13	31:RH:45:VAL:O	2.14	0.48
31:RH:131:VAL:HG12	31:RH:132:ARG:N	2.29	0.48
36:RQ:19:GLY:O	36:RQ:98:LYS:HD3	2.14	0.48
36:RQ:119:ARG:O	36:RQ:123:HIS:HD2	1.97	0.48
43:RX:83:VAL:HG11	43:RX:87:GLN:HB2	1.96	0.48
1:XA:1118:C:H2'	1:XA:1119:C:C6	2.49	0.48
5:XE:6:PHE:CE1	5:XE:36:ASP:HB3	2.48	0.48
10:XJ:55:LYS:HG3	10:XJ:56:HIS:H	1.78	0.48
12:XL:22:SER:C	12:XL:24:VAL:H	2.22	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:XL:61:THR:O	12:XL:63:GLY:N	2.45	0.48
16:XP:22:THR:HA	16:XP:33:ILE:HG12	1.96	0.48
25:YA:871:U:H4'	36:YQ:69:PHE:CE2	2.48	0.48
26:YB:40:U:O2'	26:YB:43:C:H5	1.92	0.48
26:YB:42:C:O2	30:YG:93:THR:N	2.21	0.48
27:YD:12:SER:C	27:YD:14:ARG:N	2.70	0.48
27:YD:27:THR:O	27:YD:29:PRO:CD	2.62	0.48
27:YD:198:ASN:C	27:YD:198:ASN:ND2	2.69	0.48
28:YE:15:PHE:CD1	28:YE:20:ALA:HB2	2.49	0.48
29:YF:129:PHE:CD2	29:YF:163:VAL:HG21	2.48	0.48
31:YH:120:GLY:HA3	31:YH:140:LYS:NZ	2.27	0.48
31:YH:153:LYS:CB	31:YH:154:PRO:CD	2.69	0.48
41:YV:76:LYS:HB2	41:YV:81:TYR:HB3	1.95	0.48
1:QA:243:A:H4'	1:QA:244:U:H3'	1.96	0.48
3:QC:79:ARG:HG3	11:XK:99:GLN:OE1	2.14	0.48
3:QC:131:ARG:HH11	5:QE:50:GLU:HG2	1.77	0.48
9:QI:40:LEU:O	9:QI:42:ARG:N	2.46	0.48
25:RA:27:G:O2'	25:RA:28:A:H8	1.95	0.48
25:RA:1139:G:OP1	31:RH:170:ARG:HD2	2.14	0.48
25:RA:1377:A:O2'	25:RA:1378:G:H8	1.96	0.48
28:RE:203:LYS:HD2	28:RE:203:LYS:C	2.39	0.48
42:RW:38:TYR:CD2	51:R5:30:LEU:HD21	2.49	0.48
47:R1:91:LYS:O	47:R1:94:LEU:N	2.36	0.48
1:XA:323:U:O3'	20:XT:22:ARG:HD3	2.13	0.48
1:XA:690:G:H22	11:XK:55:LYS:HZ2	1.62	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	1.79	0.48
20:XT:98:PRO:C	20:XT:100:ILE:H	2.21	0.48
25:YA:67:U:H3	25:YA:74:A:H2	0.66	0.48
25:YA:993:G:OP1	40:YU:50:ARG:NH2	2.46	0.48
25:YA:2056:G:C2	25:YA:2057:A:C8	3.02	0.48
25:YA:2252:G:H2'	25:YA:2253:G:O4'	2.13	0.48
25:YA:2287:A:N6	25:YA:2344:U:C2	2.82	0.48
25:YA:2355:C:O3'	46:Y0:24:LYS:HD2	2.14	0.48
25:YA:2629:A:O2'	25:YA:2630:G:H5"	2.13	0.48
28:YE:55:ASN:O	28:YE:57:LYS:N	2.44	0.48
28:YE:61:ARG:CB	28:YE:62:PRO:HD3	2.41	0.48
28:YE:119:ARG:HD3	28:YE:160:TYR:HD2	1.78	0.48
32:YI:76:THR:OG1	32:YI:139:GLN:OE1	2.31	0.48
35:YP:144:GLU:OE1	35:YP:144:GLU:N	2.40	0.48
1:QA:9:G:H5"	5:QE:126:ARG:HE	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QH:82:HIS:HD1	8:QH:138:TRP:NE1	2.11	0.47
12:QL:85:ILE:HD11	12:QL:98:TYR:CB	2.43	0.47
22:QV:3:G:O2'	22:QV:4:G:H8	1.97	0.47
25:RA:106:U:H2'	25:RA:107:G:C8	2.49	0.47
25:RA:1848:G:OP1	27:RD:88:ARG:NH2	2.45	0.47
25:RA:2255:U:H2'	25:RA:2256:U:C6	2.49	0.47
25:RA:2802:C:H1'	25:RA:2901:A:H2	1.79	0.47
27:RD:35:LYS:HE3	27:RD:64:ILE:C	2.39	0.47
29:RF:24:LEU:HD23	29:RF:115:ALA:HA	1.96	0.47
29:RF:167:ALA:HB1	29:RF:173:VAL:HG11	1.95	0.47
29:RF:183:VAL:O	29:RF:187:VAL:HG23	2.13	0.47
31:RH:82:GLY:O	31:RH:83:TYR:O	2.31	0.47
33:RN:3:THR:HG22	40:RU:64:ARG:HH11	1.79	0.47
35:RP:127:ALA:HB3	35:RP:130:PHE:CZ	2.49	0.47
1:XA:477:G:H2'	1:XA:478:A:C8	2.49	0.47
3:XC:34:LEU:HD23	3:XC:38:ARG:HG3	1.95	0.47
3:XC:70:VAL:HG12	3:XC:72:LYS:H	1.79	0.47
5:XE:110:LEU:HD13	5:XE:118:ILE:HG21	1.95	0.47
9:XI:91:ASP:C	9:XI:93:ARG:H	2.21	0.47
9:XI:121:ARG:NH1	9:XI:122:ALA:O	2.47	0.47
10:XJ:38:ILE:HD11	10:XJ:71:LEU:HD23	1.96	0.47
15:XO:66:LEU:HD12	15:XO:66:LEU:HA	1.67	0.47
25:YA:442:G:O4'	29:YF:46:ARG:HD3	2.14	0.47
25:YA:479:A:N3	25:YA:481:G:H5"	2.29	0.47
32:YI:79:ILE:HB	32:YI:142:VAL:HA	1.96	0.47
38:YS:105:ALA:C	38:YS:110:LEU:HD21	2.38	0.47
40:YU:95:LEU:HD22	41:YV:4:ILE:HD12	1.95	0.47
44:YY:44:ILE:HG13	44:YY:45:VAL:N	2.28	0.47
48:Y2:27:GLU:H	48:Y2:27:GLU:CD	2.17	0.47
54:Y8:41:ILE:HG13	54:Y8:42:ARG:N	2.28	0.47
54:Y8:53:PRO:CD	54:Y8:54:GLU:N	2.77	0.47
1:QA:9:G:OP2	5:QE:121:LYS:NZ	2.47	0.47
1:QA:619:U:N3	4:QD:134:ASP:OD1	2.34	0.47
2:QB:97:TRP:CH2	2:QB:173:ALA:HA	2.49	0.47
12:QL:50:SER:O	12:QL:51:ALA:HB2	2.14	0.47
25:RA:269:G:H2'	25:RA:270:C:O4'	2.14	0.47
25:RA:419:C:H5"	25:RA:436:C:H5"	1.96	0.47
25:RA:858:U:O2'	35:RP:21:ARG:HG3	2.14	0.47
25:RA:2033:U:H2'	25:RA:2034:G:O4'	2.13	0.47
25:RA:2331:G:O6	38:RS:4:LEU:HB2	2.14	0.47
25:RA:2568:C:H2'	25:RA:2569:G:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RB:113:C:O2'	38:RS:46:VAL:HG13	2.14	0.47
28:RE:120:TRP:O	28:RE:121:ASN:HB2	2.15	0.47
31:RH:124:GLU:HB3	31:RH:132:ARG:CD	2.43	0.47
33:RN:7:LYS:H	33:RN:7:LYS:HD2	1.80	0.47
36:RQ:42:ILE:HD12	36:RQ:42:ILE:N	2.29	0.47
36:RQ:57:HIS:ND1	36:RQ:58:PHE:N	2.62	0.47
38:RS:88:ASP:CG	38:RS:89:ARG:H	2.21	0.47
50:R4:8:LYS:O	50:R4:9:LEU:CB	2.62	0.47
51:R5:57:VAL:O	51:R5:57:VAL:HG13	2.14	0.47
1:XA:28:G:N2	1:XA:555:C:N3	2.53	0.47
2:XB:84:GLU:OE1	2:XB:87:ARG:NH2	2.43	0.47
8:XH:49:GLU:HG2	8:XH:62:TYR:HE2	1.78	0.47
9:XI:126:SER:O	9:XI:128:ARG:N	2.43	0.47
25:YA:49:A:N7	25:YA:120:U:O4	2.48	0.47
25:YA:507:A:C5'	25:YA:508:G:H5'	2.43	0.47
25:YA:2122:U:H2'	25:YA:2123:G:C8	2.49	0.47
25:YA:2753:A:H1'	55:Y9:15:LYS:HZ1	1.79	0.47
26:YB:55:U:H2'	26:YB:56:G:C8	2.48	0.47
26:YB:89(A):A:H8	26:YB:89(A):A:O5'	1.97	0.47
29:YF:155:LEU:HA	29:YF:174:VAL:HG12	1.95	0.47
30:YG:109:VAL:HG13	50:Y4:33:VAL:HG11	1.96	0.47
31:YH:123:PHE:O	31:YH:125:VAL:HG23	2.13	0.47
31:YH:127:GLU:HB3	31:YH:128:PRO:HD2	1.92	0.47
45:YZ:15:PRO:O	45:YZ:19:ARG:HB2	2.13	0.47
45:YZ:182:LYS:CG	45:YZ:183:LEU:HD23	2.39	0.47
48:Y2:17:SER:CB	48:Y2:18:PRO:CA	2.92	0.47
51:Y5:46:CYS:O	51:Y5:48:GLU:N	2.38	0.47
1:QA:280:C:H3'	1:QA:281:G:H5'	1.95	0.47
1:QA:1172:C:H2'	1:QA:1173:G:H8	1.77	0.47
2:QB:70:PHE:O	2:QB:93:VAL:N	2.48	0.47
14:QN:41:ARG:CZ	14:QN:42:ILE:HD11	2.44	0.47
17:QQ:76:LEU:HD21	17:QQ:79:SER:HB2	1.97	0.47
25:RA:161:C:H2'	25:RA:162:G:C8	2.50	0.47
25:RA:631:A:OP1	29:RF:100:THR:OG1	2.30	0.47
28:RE:18:ASP:O	28:RE:19:ARG:C	2.56	0.47
28:RE:69:LYS:C	28:RE:71:GLY:N	2.71	0.47
28:RE:174:ASP:O	28:RE:182:LEU:HD12	2.14	0.47
28:RE:195:LEU:HD12	28:RE:196:VAL:N	2.29	0.47
29:RF:20:LEU:HD23	29:RF:125:LEU:HD12	1.96	0.47
55:R9:27:CYS:SG	55:R9:32:HIS:HB2	2.55	0.47
1:XA:481:G:O2'	1:XA:482:A:O5'	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XE:8:GLU:OE2	5:XE:63:ARG:NH2	2.46	0.47
6:XF:69:GLU:O	6:XF:72:VAL:HG12	2.14	0.47
9:XI:4:TYR:CZ	9:XI:88:TYR:HB2	2.49	0.47
12:XL:50:SER:O	12:XL:51:ALA:HB2	2.14	0.47
13:XM:3:ARG:CG	50:Y4:34:GLU:HB3	2.45	0.47
25:YA:1641:A:H2'	25:YA:1642:G:O4'	2.14	0.47
26:YB:44:G:H1'	26:YB:47:C:H42	1.76	0.47
35:YP:5:ASP:O	35:YP:6:LEU:C	2.57	0.47
40:YU:92:ARG:HH21	41:YV:10:LYS:HG2	1.77	0.47
41:YV:44:LYS:O	41:YV:46:VAL:HG12	2.13	0.47
54:Y8:29:LYS:O	54:Y8:30:ARG:C	2.56	0.47
1:QA:1132:C:H2'	1:QA:1133:G:C8	2.49	0.47
1:QA:1216:G:H5"	14:QN:5:ALA:CB	2.45	0.47
6:QF:41:GLU:HB2	6:QF:62:TRP:CE3	2.50	0.47
7:QG:99:LEU:HD22	7:QG:103:TRP:CZ2	2.49	0.47
12:QL:127:GLU:O	12:QL:128:ALA:CB	2.63	0.47
13:QM:57:ARG:HB2	13:QM:57:ARG:HH11	1.80	0.47
20:QT:30:LYS:O	20:QT:33:ILE:HB	2.14	0.47
25:RA:30:G:H2'	25:RA:31:C:C6	2.49	0.47
28:RE:56:PRO:O	28:RE:57:LYS:CB	2.61	0.47
29:RF:199:TRP:HA	29:RF:202:PHE:HB3	1.96	0.47
30:RG:145:THR:O	30:RG:147:ASP:N	2.48	0.47
32:RI:98:ALA:HA	32:RI:109:ILE:HD11	1.96	0.47
40:RU:97:ASP:OD2	40:RU:101:ARG:NH1	2.47	0.47
50:R4:56:VAL:HA	50:R4:60:GLN:CB	2.28	0.47
1:XA:163:C:H2'	1:XA:164:U:C6	2.49	0.47
1:XA:191(D):U:H2'	1:XA:191(E):G:C8	2.50	0.47
1:XA:1223:C:P	19:XS:78:ARG:HH12	2.37	0.47
1:XA:1280:A:H1'	10:XJ:41:PRO:HG3	1.96	0.47
1:XA:1443:G:H5"	1:XA:1446:A:C2	2.50	0.47
18:XR:36:ASN:O	18:XR:36:ASN:ND2	2.41	0.47
25:YA:792:G:N3	25:YA:2072:G:O2'	2.39	0.47
25:YA:1918:A:O2'	25:YA:1920:C:N4	2.47	0.47
26:YB:16:G:H2'	26:YB:17:C:H6	1.79	0.47
30:YG:114:ILE:HD13	30:YG:140:ILE:HG21	1.95	0.47
31:YH:127:GLU:OE2	31:YH:130:ARG:NH2	2.47	0.47
31:YH:137:ASP:O	31:YH:138:LYS:HB2	2.13	0.47
31:YH:154:PRO:CG	31:YH:162:ILE:O	2.61	0.47
38:YS:40:ILE:HG22	38:YS:41:ASP:N	2.28	0.47
39:YT:11:GLU:OE1	39:YT:11:GLU:N	2.43	0.47
54:Y8:56:GLU:O	54:Y8:58:ILE:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:878:G:C5'	8:QH:89:PRO:HG2	2.43	0.47
1:QA:909:A:N3	1:QA:1413:A:O2'	2.46	0.47
1:QA:980:C:H5"	1:QA:981:U:C5	2.48	0.47
1:QA:1103:C:H2'	1:QA:1104:G:O4'	2.14	0.47
2:QB:211:ILE:O	2:QB:215:LEU:HB2	2.14	0.47
9:QI:28:VAL:HG22	9:QI:63:ILE:HB	1.95	0.47
12:QL:27:LEU:C	12:QL:29:GLY:H	2.20	0.47
13:QM:3:ARG:CG	50:R4:34:GLU:HB3	2.42	0.47
25:RA:29:U:H2'	25:RA:30:G:C8	2.49	0.47
25:RA:908:A:N3	26:RB:79:C:O2'	2.48	0.47
25:RA:1211:U:H2'	25:RA:1212:C:C6	2.49	0.47
25:RA:2456:G:P	29:RF:68:LYS:HE3	2.55	0.47
26:RB:79:C:H2'	26:RB:80:U:O4'	2.15	0.47
26:RB:88:C:H2'	26:RB:89:G:O4'	2.14	0.47
28:RE:54:GLN:N	28:RE:54:GLN:CD	2.73	0.47
30:RG:105:LYS:HE2	50:R4:26:SER:HB3	1.97	0.47
31:RH:53:GLU:CD	31:RH:54:ARG:H	2.21	0.47
31:RH:67:LEU:O	31:RH:71:LEU:HB2	2.14	0.47
32:RI:57:ARG:CD	32:RI:57:ARG:C	2.87	0.47
42:RW:63:ASP:OD1	42:RW:63:ASP:N	2.47	0.47
48:R2:41:ILE:HD11	48:R2:44:LEU:HD12	1.96	0.47
1:XA:254:G:C4	1:XA:255:G:N7	2.83	0.47
1:XA:686:U:O4	1:XA:703:G:H1'	2.15	0.47
1:XA:1087:G:H2'	1:XA:1088:G:H8	1.79	0.47
2:XB:93:VAL:HG11	2:XB:97:TRP:CD1	2.50	0.47
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
12:XL:43:VAL:HG23	12:XL:93:LEU:HD22	1.97	0.47
17:XQ:67:LYS:O	17:XQ:68:ARG:HB3	2.15	0.47
18:XR:66:LEU:O	18:XR:70:ILE:HG13	2.15	0.47
20:XT:35:THR:O	20:XT:39:LYS:HG3	2.14	0.47
22:XV:3:G:O2'	22:XV:4:G:H8	1.97	0.47
25:YA:729:G:N7	27:YD:209:ALA:HB3	2.29	0.47
28:YE:65:GLY:HA2	28:YE:70:ALA:HB3	1.95	0.47
28:YE:203:LYS:HD2	28:YE:203:LYS:C	2.39	0.47
31:YH:131:VAL:HG12	31:YH:132:ARG:N	2.29	0.47
42:YW:110:LYS:HG3	42:YW:111:HIS:H	1.80	0.47
1:QA:521:G:O5'	12:QL:73:GLU:HG3	2.14	0.47
1:QA:962:C:H42	1:QA:974:A:H61	1.62	0.47
1:QA:1032(A):G:H2'	1:QA:1032(B):G:H8	1.78	0.47
1:QA:1121:U:O4	1:QA:1152:A:N1	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1326:C:H2'	1:QA:1327:C:C6	2.49	0.47
2:QB:32:ILE:HD13	2:QB:40:HIS:HB3	1.95	0.47
3:QC:79:ARG:NH2	18:XR:88:LYS:O	2.47	0.47
4:QD:197:PRO:CG	6:XF:16:GLN:NE2	2.78	0.47
6:QF:61:LEU:HB3	6:QF:63:TYR:HE1	1.80	0.47
10:QJ:84:GLN:H	10:QJ:84:GLN:HG3	1.49	0.47
13:QM:3:ARG:CZ	30:RG:113:ARG:NH2	2.76	0.47
19:QS:64:GLU:CD	50:R4:55:ARG:HH12	2.22	0.47
25:RA:125:A:H5"	25:RA:126:C:C6	2.49	0.47
25:RA:589:U:OP1	35:RP:29:LYS:HE2	2.15	0.47
25:RA:839:G:H5"	25:RA:840:A:H5'	1.97	0.47
26:RB:81:G:O6	26:RB:95:U:O2	2.32	0.47
28:RE:3:GLY:HA3	28:RE:81:ILE:HG21	1.97	0.47
28:RE:65:GLY:HA2	28:RE:70:ALA:HB3	1.95	0.47
31:RH:4:ILE:H	31:RH:4:ILE:CD1	2.25	0.47
31:RH:86:GLU:H	31:RH:86:GLU:CD	2.15	0.47
39:RT:64:ARG:HD2	39:RT:73:GLU:OE1	2.14	0.47
44:RY:21:LYS:HG3	44:RY:22:GLY:N	2.30	0.47
47:R1:76:ARG:H	47:R1:76:ARG:HD2	1.79	0.47
50:R4:53:GLU:O	50:R4:57:GLU:HG3	2.14	0.47
1:XA:353:A:H5'	1:XA:353:A:H8	1.79	0.47
3:XC:22:TRP:CD1	3:XC:59:ARG:HD2	2.49	0.47
20:XT:98:PRO:O	20:XT:100:ILE:N	2.46	0.47
25:YA:900:A:H5'	25:YA:901:A:OP2	2.15	0.47
25:YA:1142(A):A:H4'	33:YN:25:ARG:HH22	1.79	0.47
25:YA:1364:G:C8	47:Y1:2:SER:N	2.83	0.47
26:YB:20:C:H2'	26:YB:21:G:O4'	2.14	0.47
27:YD:35:LYS:HD3	27:YD:63:ARG:HB3	1.96	0.47
28:YE:56:PRO:O	28:YE:57:LYS:CB	2.61	0.47
35:YP:10:PRO:O	35:YP:10:PRO:HG2	2.13	0.47
36:YQ:59:ARG:CD	36:YQ:59:ARG:N	2.72	0.47
40:YU:102:GLU:OE1	41:YV:13:ARG:NH2	2.48	0.47
48:Y2:6:VAL:O	48:Y2:7:ARG:C	2.57	0.47
50:Y4:2:LYS:HA	50:Y4:2:LYS:HD2	1.67	0.47
1:QA:56:U:H2'	1:QA:57:G:C8	2.49	0.47
1:QA:393:A:OP2	16:QP:12:LYS:HD2	2.15	0.47
1:QA:426:G:OP1	4:QD:38:TYR:OH	2.18	0.47
1:QA:765:G:N2	1:QA:813:U:OP2	2.48	0.47
1:QA:894:G:H2'	1:QA:895:G:C8	2.50	0.47
1:QA:1224:G:C6	1:QA:1322:C:H1'	2.50	0.47
2:QB:85:ALA:HB3	2:QB:92:TYR:HD2	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:18:TYR:HD2	7:QG:59:LEU:HD22	1.79	0.47
10:QJ:81:THR:C	10:QJ:83:GLU:H	2.23	0.47
19:QS:5:LEU:HD11	50:R4:66:SER:HB2	1.96	0.47
20:QT:30:LYS:CE	20:QT:80:ARG:NH1	2.78	0.47
25:RA:399:G:H5'	47:R1:66:HIS:NE2	2.30	0.47
25:RA:873:U:C4'	35:RP:55:ARG:HB3	2.44	0.47
25:RA:1074:A:N6	25:RA:1171:G:H2'	2.29	0.47
25:RA:1432:C:H2'	25:RA:1433:C:C6	2.49	0.47
25:RA:1520:G:H1	25:RA:1566:U:H3	1.63	0.47
25:RA:1543:U:H5"	25:RA:1544:C:C5	2.49	0.47
25:RA:1683:C:O2'	25:RA:1791:A:N3	2.45	0.47
25:RA:2758:C:H1'	31:RH:143:GLN:HG2	1.96	0.47
27:RD:118:VAL:HG22	27:RD:119:ALA:N	2.29	0.47
28:RE:15:PHE:CD1	39:RT:81:PRO:CD	2.98	0.47
28:RE:121:ASN:O	28:RE:122:PHE:C	2.57	0.47
28:RE:197:ILE:CD1	28:RE:199:ARG:HH12	2.26	0.47
29:RF:62:ARG:HB3	29:RF:62:ARG:CZ	2.45	0.47
31:RH:41:MET:HG3	31:RH:54:ARG:HA	1.96	0.47
36:RQ:66:ILE:H	36:RQ:104:PHE:HA	1.80	0.47
36:RQ:86:GLY:O	36:RQ:88:GLY:N	2.46	0.47
44:RY:76:CYS:HB2	44:RY:101:LYS:HG3	1.96	0.47
50:R4:61:ARG:C	50:R4:63:TYR:N	2.73	0.47
54:R8:44:LYS:HD2	54:R8:44:LYS:N	2.30	0.47
1:XA:164:U:H2'	1:XA:165:C:C6	2.50	0.47
1:XA:269:C:H2'	1:XA:270:A:C8	2.49	0.47
1:XA:437:U:H2'	1:XA:438:G:O4'	2.13	0.47
1:XA:522:C:H41	12:XL:53:ARG:NH2	2.12	0.47
1:XA:730:G:C5	1:XA:731:G:H1'	2.49	0.47
1:XA:982:U:H5"	14:XN:6:LEU:HD21	1.96	0.47
1:XA:987:G:H2'	1:XA:988:G:H8	1.80	0.47
1:XA:1005:A:O2'	1:XA:1037:C:O2'	2.22	0.47
1:XA:1318:A:O2'	19:XS:37:ARG:HD3	2.15	0.47
2:XB:18:GLY:H	2:XB:42:ILE:HG22	1.80	0.47
10:XJ:55:LYS:CD	10:XJ:56:HIS:CD2	2.98	0.47
11:XK:48:ILE:HG13	11:XK:63:LEU:HB2	1.97	0.47
25:YA:265:A:O2'	25:YA:266:G:H4'	2.14	0.47
25:YA:542:C:N4	25:YA:551:G:H1	2.12	0.47
25:YA:796:C:H2'	25:YA:797:C:C6	2.49	0.47
25:YA:1083:U:H2'	25:YA:1085:A:H5"	1.97	0.47
25:YA:1510:A:O2'	25:YA:1512:G:N7	2.45	0.47
25:YA:2154:G:H2'	25:YA:2155:G:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2213:U:H1'	47:Y1:52:ARG:NH2	2.30	0.47
25:YA:2599:G:OP2	27:YD:236:GLY:HA2	2.15	0.47
25:YA:2712:U:OP1	25:YA:2714:G:H4'	2.14	0.47
25:YA:2776:A:H4'	25:YA:2777:G:O5'	2.13	0.47
26:YB:40:U:O2'	26:YB:45:A:N6	2.48	0.47
27:YD:31:LYS:C	27:YD:32:SER:O	2.54	0.47
27:YD:32:SER:O	27:YD:33:LEU:CB	2.60	0.47
27:YD:72:LYS:CG	27:YD:103:ARG:NH2	2.76	0.47
27:YD:177:LEU:C	27:YD:179:SER:H	2.23	0.47
28:YE:52:LEU:HB2	28:YE:75:VAL:CG2	2.40	0.47
28:YE:54:GLN:N	28:YE:54:GLN:CD	2.73	0.47
28:YE:61:ARG:O	28:YE:63:LEU:CG	2.57	0.47
28:YE:78:LEU:CD2	28:YE:79:ARG:HD2	2.43	0.47
28:YE:89:ASP:O	28:YE:90:THR:O	2.33	0.47
30:YG:11:TYR:HA	30:YG:15:VAL:HB	1.95	0.47
30:YG:34:LEU:HD22	30:YG:35:GLU:N	2.30	0.47
31:YH:67:LEU:O	31:YH:71:LEU:HB2	2.15	0.47
36:YQ:32:TYR:HA	36:YQ:133:ARG:O	2.15	0.47
36:YQ:80:GLU:HG3	36:YQ:81:VAL:N	2.27	0.47
36:YQ:86:GLY:O	36:YQ:88:GLY:N	2.46	0.47
38:YS:46:VAL:HG12	38:YS:47:THR:N	2.28	0.47
47:Y1:53:VAL:HG22	47:Y1:74:VAL:HG13	1.96	0.47
48:Y2:48:HIS:O	48:Y2:49:LYS:C	2.57	0.47
1:QA:1055:A:O2'	3:QC:161:GLU:OE2	2.22	0.47
3:QC:82:GLU:O	3:QC:86:VAL:HG13	2.14	0.47
11:QK:16:SER:OG	11:QK:106:LYS:NZ	2.48	0.47
25:RA:27:G:C2	25:RA:537:G:N3	2.83	0.47
25:RA:1921:G:N2	25:RA:1924:C:N4	2.63	0.47
25:RA:2299:A:N1	25:RA:2358:A:C2	2.83	0.47
27:RD:61:LEU:HA	27:RD:61:LEU:HD12	1.77	0.47
28:RE:63:LEU:O	28:RE:64:LYS:CB	2.62	0.47
32:RI:57:ARG:O	32:RI:60:GLU:HB3	2.15	0.47
38:RS:56:LEU:O	38:RS:58:LEU:N	2.48	0.47
39:RT:123:GLN:O	39:RT:125:ARG:N	2.48	0.47
41:RV:24:LYS:HG3	41:RV:92:THR:HG23	1.97	0.47
1:XA:513:C:H2'	1:XA:514:C:O4'	2.14	0.47
1:XA:1308:U:OP2	13:XM:99:ARG:HD2	2.15	0.47
1:XA:1453:G:N7	20:XT:55:ILE:HD11	2.29	0.47
12:XL:120:TYR:O	12:XL:121:GLY:C	2.57	0.47
19:XS:41:VAL:HA	19:XS:44:MET:HG3	1.97	0.47
25:YA:315:G:H2'	25:YA:316:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:658:C:O2'	29:YF:102:PRO:HG3	2.13	0.47
25:YA:2756:U:H5'	55:Y9:17:ILE:HD12	1.95	0.47
26:YB:83:G:C6	26:YB:84:C:C5	3.03	0.47
27:YD:136:ILE:HD12	27:YD:136:ILE:N	2.30	0.47
29:YF:109:GLY:O	29:YF:110:LEU:C	2.58	0.47
29:YF:127:GLU:OE1	29:YF:127:GLU:HA	2.07	0.47
30:YG:28:VAL:O	30:YG:31:VAL:HG13	2.14	0.47
31:YH:18:GLU:HA	31:YH:18:GLU:OE2	2.15	0.47
33:YN:30:ILE:HG22	33:YN:34:LEU:HD22	1.96	0.47
36:YQ:32:TYR:CE1	36:YQ:133:ARG:HA	2.49	0.47
44:YY:73:ARG:HE	44:YY:73:ARG:HB3	1.47	0.47
2:QB:104:ASN:OD1	2:QB:107:THR:OG1	2.30	0.47
19:QS:15:LEU:H	19:QS:15:LEU:HD23	1.79	0.47
25:RA:2559:U:O2	34:RO:23:ARG:NH2	2.47	0.47
26:RB:5:C:O2'	26:RB:27:C:O2	2.33	0.47
27:RD:211:ARG:HD2	27:RD:214:TRP:CZ3	2.50	0.47
28:RE:17:ASP:N	28:RE:17:ASP:OD1	2.46	0.47
28:RE:101:ARG:C	28:RE:201:THR:OG1	2.58	0.47
29:RF:133:ASN:HA	29:RF:162:LEU:HD22	1.96	0.47
31:RH:18:GLU:HA	31:RH:18:GLU:OE2	2.14	0.47
32:RI:9:LEU:O	32:RI:10:GLU:HG3	2.15	0.47
36:RQ:34:LEU:HD11	36:RQ:129:THR:CB	2.35	0.47
40:RU:66:ASN:CG	40:RU:70:ARG:HH21	2.21	0.47
1:XA:933:G:OP2	7:XG:3:ARG:HB2	2.15	0.47
1:XA:952:U:H2'	1:XA:953:G:H8	1.80	0.47
1:XA:1104:G:H4'	2:XB:111:ARG:NH1	2.29	0.47
11:XK:109:VAL:HG11	18:XR:84:LYS:HD3	1.97	0.47
19:XS:41:VAL:HG23	19:XS:67:VAL:HG13	1.97	0.47
25:YA:492:A:H2'	25:YA:493:G:O4'	2.14	0.47
25:YA:968:G:H2'	25:YA:969:U:O4'	2.15	0.47
25:YA:2572:A:OP1	25:YA:2574:G:O2'	2.28	0.47
28:YE:22:PRO:O	28:YE:22:PRO:CG	2.63	0.47
28:YE:120:TRP:O	28:YE:121:ASN:HB2	2.15	0.47
29:YF:162:LEU:HD23	29:YF:165:ARG:HH21	1.79	0.47
49:Y3:23:LEU:HD13	49:Y3:50:VAL:HG11	1.96	0.47
1:QA:64:G:H4'	1:QA:65:U:H5'	1.97	0.47
1:QA:108:G:H5'	1:QA:109:A:H5"	1.97	0.47
1:QA:1239:A:O2'	7:QG:114:ARG:O	2.30	0.47
1:QA:1348:U:C4	1:QA:1374:A:H2	2.33	0.47
19:QS:35:SER:O	19:QS:71:LEU:HD12	2.15	0.47
25:RA:291:G:H1	25:RA:394:C:H42	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:321:C:H5"	44:RY:85:VAL:HG21	1.96	0.47
25:RA:2136:A:N6	25:RA:2141:A:H62	2.13	0.47
25:RA:2478:C:OP1	55:R9:4:ARG:HB2	2.15	0.47
25:RA:2899:C:H3'	25:RA:2900:G:C8	2.50	0.47
26:RB:44:G:O2'	26:RB:48:A:N6	2.47	0.47
38:RS:48:LEU:HD23	38:RS:82:ILE:HD11	1.96	0.47
1:XA:267:C:H6	1:XA:267:C:H5"	1.79	0.47
1:XA:323:U:O4'	20:XT:19:SER:OG	2.22	0.47
1:XA:327:A:O2'	1:XA:328:C:O4'	2.28	0.47
1:XA:792:A:H4'	1:XA:793:U:O5'	2.14	0.47
5:XE:89:ILE:HG12	5:XE:91:LEU:HD13	1.97	0.47
12:XL:8:ASN:O	12:XL:11:VAL:N	2.48	0.47
25:YA:7:G:N2	25:YA:2896:C:N3	2.52	0.47
25:YA:120:U:C5	25:YA:149:A:N6	2.83	0.47
25:YA:270(R):G:H2'	25:YA:270(S):G:H8	1.80	0.47
25:YA:588:U:H1'	29:YF:90:PHE:CD1	2.50	0.47
25:YA:705:A:C8	25:YA:727:A:C2	3.03	0.47
25:YA:1021:A:H2'	25:YA:1023:U:H5'	1.97	0.47
25:YA:1794:U:H2'	25:YA:1795:C:C6	2.50	0.47
25:YA:2652:C:N4	25:YA:2668:G:H1	2.12	0.47
27:YD:231:HIS:ND1	27:YD:232:PRO:HD2	2.30	0.47
31:YH:89:ILE:HD13	31:YH:89:ILE:H	1.80	0.47
35:YP:88:LEU:HB2	35:YP:91:PHE:HE1	1.80	0.47
38:YS:95:HIS:O	38:YS:96:GLY:C	2.58	0.47
44:YY:87:LYS:HD3	44:YY:92:ASN:HB3	1.97	0.47
46:Y0:19:LYS:HA	46:Y0:19:LYS:HD3	1.66	0.47
47:Y1:91:LYS:HB3	47:Y1:92:LYS:H	1.44	0.47
50:Y4:38:LYS:HD3	50:Y4:42:PHE:HE1	1.80	0.47
51:Y5:33:CYS:SG	51:Y5:34:PRO:HD2	2.55	0.47
1:QA:736:C:H2'	1:QA:737:A:H8	1.79	0.46
1:QA:838:G:C5	1:QA:842:C:H1'	2.50	0.46
1:QA:948:C:N3	1:QA:1233:G:N2	2.56	0.46
1:QA:1314:C:H2'	1:QA:1315:U:C6	2.50	0.46
2:QB:8:LYS:H	2:QB:8:LYS:HD3	1.79	0.46
14:QN:24:CYS:HB3	14:QN:29:ARG:H	1.79	0.46
20:QT:89:ARG:NH2	20:QT:105:SER:O	2.36	0.46
25:RA:166:G:H3'	25:RA:167:G:H8	1.79	0.46
25:RA:251:A:H2'	25:RA:252:C:O4'	2.15	0.46
25:RA:1066:A:N6	25:RA:1186:U:O2'	2.48	0.46
25:RA:1324:A:H4'	37:RR:34:ILE:HD12	1.96	0.46
25:RA:1584:G:H2'	25:RA:1585:G:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:RD:12:SER:O	27:RD:16:MET:HB2	2.14	0.46
39:RT:20:PRO:HD2	39:RT:86:ILE:HG23	1.97	0.46
42:RW:23:LEU:O	42:RW:27:LYS:HD2	2.14	0.46
51:R5:39:MET:C	51:R5:40:LYS:HG3	2.39	0.46
54:R8:56:GLU:C	54:R8:58:ILE:N	2.73	0.46
1:XA:255:G:H2'	1:XA:256:U:C6	2.50	0.46
1:XA:297:G:H4'	1:XA:557:G:H4'	1.96	0.46
1:XA:1313:U:OP1	19:XS:5:LEU:HB2	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
24:XY:35:G:C6	24:XY:36:U:C5	3.03	0.46
25:YA:370:G:H5"	25:YA:423:A:N6	2.31	0.46
25:YA:443:A:C6	29:YF:45:ARG:HD2	2.50	0.46
25:YA:582:G:H2'	25:YA:583:G:C8	2.50	0.46
25:YA:2540:C:H2'	25:YA:2541:A:O4'	2.14	0.46
26:YB:76:G:H2'	26:YB:77:U:O4'	2.15	0.46
27:YD:145:VAL:O	27:YD:153:ALA:HA	2.14	0.46
28:YE:101:ARG:HD2	28:YE:171:GLU:HA	1.97	0.46
28:YE:103:ASP:OD2	28:YE:168:MET:HG2	2.15	0.46
31:YH:86:GLU:O	31:YH:132:ARG:HA	2.16	0.46
31:YH:104:GLU:HG3	31:YH:114:VAL:HG22	1.96	0.46
33:YN:114:ARG:O	33:YN:115:ARG:HB3	2.14	0.46
35:YP:96:THR:O	35:YP:99:LEU:HB3	2.15	0.46
36:YQ:87:LYS:O	36:YQ:89:ASN:N	2.43	0.46
38:YS:28:VAL:HG11	38:YS:98:VAL:HG12	1.97	0.46
38:YS:59:LYS:HG2	38:YS:60:GLY:N	2.13	0.46
38:YS:99:LYS:C	38:YS:101:LEU:N	2.72	0.46
46:Y0:17:GLN:O	46:Y0:19:LYS:HE3	2.14	0.46
54:Y8:29:LYS:HE3	54:Y8:41:ILE:O	2.15	0.46
1:QA:269:C:H2'	1:QA:270:A:C8	2.49	0.46
1:QA:962:C:N4	1:QA:974:A:H61	2.13	0.46
6:QF:97:PHE:O	18:QR:31:LEU:HD23	2.14	0.46
19:QS:42:PRO:HG2	50:R4:63:TYR:CE2	2.48	0.46
25:RA:2238:C:H2'	25:RA:2239:A:O4'	2.15	0.46
25:RA:2591:C:H4'	28:RE:134:ILE:HG12	1.97	0.46
26:RB:49:C:OP2	38:RS:30:ARG:NH1	2.48	0.46
27:RD:34:VAL:C	27:RD:35:LYS:HG3	2.40	0.46
28:RE:87:GLU:O	28:RE:89:ASP:N	2.48	0.46
32:RI:40:THR:O	32:RI:44:LEU:N	2.44	0.46
32:RI:112:LYS:H	32:RI:112:LYS:HG2	1.50	0.46
39:RT:16:ARG:HE	39:RT:19:LEU:HD21	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:RU:8:VAL:HG23	40:RU:11:ARG:HH21	1.80	0.46
43:RX:55:ASN:HB2	43:RX:80:ILE:HG23	1.96	0.46
51:R5:56:LYS:O	51:R5:57:VAL:C	2.57	0.46
1:XA:376:G:OP1	16:XP:5:ARG:HB2	2.16	0.46
1:XA:939:G:H5"	7:XG:102:ARG:NH2	2.29	0.46
3:XC:178:LEU:HD13	3:XC:178:LEU:HA	1.84	0.46
4:XD:63:LYS:HD2	4:XD:198:VAL:HG22	1.97	0.46
9:XI:114:TYR:HD2	10:XJ:60:ARG:HB2	1.80	0.46
12:XL:127:GLU:O	12:XL:128:ALA:CB	2.62	0.46
19:XS:33:THR:OG1	19:XS:34:TRP:N	2.49	0.46
25:YA:270(T):G:C6	25:YA:270(U):C:C4	3.04	0.46
25:YA:307:G:H21	25:YA:330:A:H62	1.63	0.46
25:YA:1257:C:O2'	29:YF:84:VAL:HG12	2.15	0.46
25:YA:1471:A:OP2	25:YA:1521:G:N1	2.44	0.46
25:YA:2310:A:N6	30:YG:79:ASN:HB2	2.31	0.46
25:YA:2492:U:H2'	25:YA:2493:U:H6	1.80	0.46
25:YA:2853:C:H2'	25:YA:2854:G:H8	1.80	0.46
28:YE:3:GLY:HA3	28:YE:81:ILE:HG21	1.97	0.46
28:YE:188:VAL:O	28:YE:188:VAL:HG13	2.15	0.46
29:YF:46:ARG:CG	29:YF:46:ARG:NH1	2.71	0.46
31:YH:4:ILE:HG13	31:YH:6:ARG:HD3	1.97	0.46
31:YH:9:ILE:O	31:YH:10:PRO:O	2.33	0.46
45:YZ:128:VAL:HB	45:YZ:161:VAL:HG13	1.96	0.46
54:Y8:9:GLY:O	54:Y8:13:ARG:HG2	2.16	0.46
54:Y8:40:GLU:O	54:Y8:41:ILE:C	2.56	0.46
1:QA:191(D):U:H2'	1:QA:191(E):G:C8	2.50	0.46
1:QA:589:C:N4	1:QA:650:G:H1	2.12	0.46
1:QA:766:A:H2'	1:QA:767:A:O4'	2.15	0.46
1:QA:1055:A:N7	1:QA:1200:C:N4	2.63	0.46
1:QA:1235:U:H2'	1:QA:1236:A:O4'	2.15	0.46
2:QB:166:ASP:OD2	2:QB:169:LYS:HB2	2.15	0.46
12:QL:115:LYS:O	12:QL:117:ARG:N	2.47	0.46
18:QR:53:ARG:HE	18:QR:59:SER:C	2.22	0.46
25:RA:231:G:H3'	54:R8:6:THR:HG23	1.97	0.46
25:RA:277:G:H2'	25:RA:278:G:H8	1.80	0.46
25:RA:469:A:H3'	29:RF:45:ARG:NH1	2.30	0.46
25:RA:1131:A:O2'	25:RA:1132:A:OP1	2.28	0.46
25:RA:1383:G:H2'	25:RA:1384:G:H8	1.80	0.46
25:RA:1634:C:H2'	25:RA:1635:C:H6	1.80	0.46
25:RA:2289:G:P	36:RQ:85:LYS:HB2	2.54	0.46
25:RA:2631:C:H1'	28:RE:156:MET:HE1	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:33:VAL:HG12	28:RE:90:THR:H	1.81	0.46
28:RE:188:VAL:HG13	28:RE:188:VAL:O	2.15	0.46
31:RH:127:GLU:OE2	31:RH:130:ARG:NH2	2.47	0.46
40:RU:102:GLU:OE1	41:RV:13:ARG:NH2	2.49	0.46
43:RX:49:VAL:HG13	43:RX:83:VAL:HG13	1.95	0.46
44:RY:89:PHE:O	44:RY:90:LEU:HD13	2.15	0.46
47:R1:89:GLU:HA	47:R1:93:GLU:HB2	1.96	0.46
50:R4:3:GLU:HG3	50:R4:4:GLY:H	1.79	0.46
51:R5:43:HIS:N	51:R5:43:HIS:ND1	2.63	0.46
52:R6:13:CYS:HB2	52:R6:22:ALA:HB3	1.98	0.46
1:XA:148:G:H2'	1:XA:149:A:H8	1.81	0.46
1:XA:186(F):C:H2'	1:XA:187:C:O4'	2.16	0.46
1:XA:953:G:H5'	1:XA:965:A:H61	1.80	0.46
1:XA:967:C:H5"	1:XA:968:A:OP2	2.16	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
25:YA:264:C:C2'	25:YA:265:A:H5"	2.45	0.46
25:YA:1301:A:H2	25:YA:1626:G:N3	2.14	0.46
25:YA:1695:G:H1'	27:YD:8:PRO:O	2.15	0.46
26:YB:5:C:OP1	26:YB:61:G:O2'	2.21	0.46
27:YD:110:GLY:O	27:YD:111:LEU:C	2.58	0.46
29:YF:183:VAL:O	29:YF:184:TYR:C	2.57	0.46
31:YH:94:TYR:N	31:YH:94:TYR:CD1	2.82	0.46
31:YH:106:THR:HG22	31:YH:112:PRO:HB3	1.97	0.46
35:YP:121:LYS:HB2	35:YP:121:LYS:HE2	1.74	0.46
36:YQ:109:VAL:HG13	36:YQ:113:GLN:OE1	2.16	0.46
38:YS:24:LEU:HB2	38:YS:85:VAL:HG12	1.98	0.46
1:QA:487:A:H2'	1:QA:488:C:O4'	2.16	0.46
1:QA:1095:U:P	1:QA:1108:G:H1	2.37	0.46
6:QF:10:LEU:N	6:QF:59:TYR:O	2.46	0.46
25:RA:212:A:H5"	25:RA:449:A:H5'	1.97	0.46
25:RA:536:U:O4	25:RA:537:G:N1	2.48	0.46
25:RA:1185:C:OP2	33:RN:66:LYS:NZ	2.47	0.46
25:RA:1825:U:H2'	25:RA:1826:C:H6	1.80	0.46
25:RA:2119:C:N3	25:RA:2214:G:O6	2.48	0.46
25:RA:2299:A:N1	25:RA:2358:A:H2	2.13	0.46
25:RA:2902:G:H5"	25:RA:2903:G:H5'	1.97	0.46
27:RD:70:TRP:CD2	27:RD:150:LYS:HD2	2.49	0.46
28:RE:89:ASP:O	28:RE:90:THR:O	2.33	0.46
42:RW:86:LEU:O	42:RW:94:ASP:N	2.44	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:R4:64:GLY:C	50:R4:66:SER:N	2.73	0.46
1:XA:59:A:N6	1:XA:331:G:H1'	2.30	0.46
1:XA:254:G:C2	1:XA:255:G:C5	3.02	0.46
1:XA:537:G:H2'	1:XA:538:G:H8	1.80	0.46
1:XA:977:A:O2'	1:XA:979:C:OP2	2.26	0.46
1:XA:1061:G:N7	3:XC:2:GLY:HA3	2.30	0.46
7:XG:74:GLU:HG2	7:XG:91:VAL:HG22	1.98	0.46
10:XJ:55:LYS:CG	10:XJ:56:HIS:H	2.27	0.46
11:XK:88:GLY:C	11:XK:90:GLY:H	2.23	0.46
17:XQ:63:ARG:HG2	17:XQ:64:PRO:HD2	1.97	0.46
20:XT:44:ALA:HB1	20:XT:92:LEU:HG	1.96	0.46
25:YA:1140:C:OP1	33:YN:23:LEU:HB3	2.15	0.46
25:YA:1680:U:O2'	25:YA:1763:G:N7	2.39	0.46
25:YA:1814:G:H4'	27:YD:51:VAL:HG21	1.97	0.46
25:YA:2563:U:H4'	34:YO:28:SER:HA	1.97	0.46
25:YA:2887:U:H2'	25:YA:2888:C:C6	2.50	0.46
27:YD:35:LYS:HE3	27:YD:65:ILE:N	2.31	0.46
27:YD:206:LEU:HA	27:YD:206:LEU:HD23	1.49	0.46
32:YI:68:LEU:HA	32:YI:71:ILE:HG22	1.97	0.46
32:YI:131:LYS:HB3	32:YI:132:PRO:HA	1.98	0.46
1:QA:618:C:H5'	1:QA:619:U:H5"	1.98	0.46
1:QA:1158:C:O2	1:QA:1158:C:H2'	2.16	0.46
1:QA:1352:C:H2'	1:QA:1353:G:C8	2.50	0.46
2:QB:165:VAL:HG23	2:QB:166:ASP:H	1.81	0.46
7:QG:78:ARG:HG3	7:QG:79:ARG:N	2.30	0.46
12:QL:27:LEU:HD13	12:QL:28:LYS:N	2.30	0.46
16:QP:3:LYS:O	16:QP:21:VAL:HA	2.15	0.46
19:QS:63:THR:HG23	19:QS:65:ASN:OD1	2.15	0.46
25:RA:310:C:H2'	25:RA:311:C:C6	2.50	0.46
25:RA:604:C:H42	25:RA:1305:G:H1	1.63	0.46
25:RA:843:C:H2'	25:RA:844:C:C6	2.49	0.46
25:RA:1068:G:O2'	25:RA:1069:U:OP2	2.32	0.46
25:RA:1809:U:H2'	25:RA:1815:A:N6	2.30	0.46
25:RA:2304:C:OP2	38:RS:17:ARG:NH2	2.49	0.46
25:RA:2420:U:H2'	25:RA:2421:G:C8	2.50	0.46
28:RE:103:ASP:OD2	28:RE:168:MET:HG2	2.15	0.46
31:RH:9:ILE:O	31:RH:10:PRO:O	2.33	0.46
32:RI:29:TYR:CD2	32:RI:30:LEU:HD23	2.51	0.46
32:RI:53:ALA:O	32:RI:55:ALA:N	2.48	0.46
34:RO:104:ARG:NH2	39:RT:43:GLN:CD	2.73	0.46
35:RP:83:VAL:HG12	35:RP:114:ILE:HA	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:RS:78:LEU:HD11	38:RS:107:GLU:O	2.15	0.46
54:R8:29:LYS:HE3	54:R8:41:ILE:O	2.15	0.46
54:R8:52:LYS:O	54:R8:52:LYS:CG	2.64	0.46
1:XA:562:C:O2'	12:XL:16:GLU:O	2.28	0.46
1:XA:973:G:H3'	1:XA:974:A:C5'	2.45	0.46
1:XA:1002:G:H2'	1:XA:1003:G:C8	2.51	0.46
2:XB:70:PHE:O	2:XB:93:VAL:N	2.33	0.46
10:XJ:62:HIS:H	10:XJ:62:HIS:CD2	2.33	0.46
12:XL:126:LYS:HB2	12:XL:126:LYS:HZ3	1.80	0.46
22:XV:15:C:O2'	22:XV:61:C:OP1	2.31	0.46
25:YA:764:A:H5'	27:YD:210:GLY:HA2	1.96	0.46
25:YA:1858:G:O2'	25:YA:1884:A:N6	2.48	0.46
25:YA:2069:G:H1	25:YA:2442:C:H42	1.62	0.46
25:YA:2246:G:H2'	25:YA:2247:A:C8	2.49	0.46
25:YA:2371:G:O2'	52:Y6:45:LYS:HB3	2.15	0.46
25:YA:2666:C:H42	31:YH:109:PHE:HA	1.80	0.46
27:YD:61:LEU:HB3	27:YD:63:ARG:NH1	2.31	0.46
27:YD:102:LYS:O	27:YD:103:ARG:HG3	2.15	0.46
31:YH:86:GLU:O	31:YH:87:LEU:CB	2.64	0.46
31:YH:151:ILE:O	31:YH:152:ARG:O	2.34	0.46
38:YS:61:ASN:O	38:YS:65:VAL:HG23	2.15	0.46
45:YZ:72:ARG:HH22	45:YZ:97:GLU:C	2.20	0.46
1:QA:485:G:H1'	1:QA:486:U:H5	1.81	0.46
1:QA:557:G:C6	1:QA:558:G:C6	3.04	0.46
1:QA:620:C:H2'	1:QA:621:A:O4'	2.15	0.46
1:QA:955:U:H1'	1:QA:1227:A:N6	2.30	0.46
4:QD:28:SER:HB3	4:QD:29:PRO:HD2	1.93	0.46
12:QL:6:THR:H	12:QL:9:GLN:NE2	1.97	0.46
20:QT:29:LYS:O	20:QT:33:ILE:HG12	2.16	0.46
22:QV:16:C:OP1	22:QV:61:C:H5'	2.16	0.46
25:RA:230:A:H8	25:RA:230:A:OP1	1.99	0.46
25:RA:325:G:O4'	25:RA:341:G:N2	2.48	0.46
25:RA:964:A:C5	25:RA:965:G:H1'	2.51	0.46
25:RA:1403:U:H2'	25:RA:1404:G:O4'	2.16	0.46
25:RA:2368:C:OP1	46:R0:24:LYS:NZ	2.41	0.46
25:RA:2724:U:O2'	25:RA:2725:A:C8	2.67	0.46
28:RE:94:GLU:C	28:RE:96:PHE:N	2.73	0.46
30:RG:98:ARG:O	30:RG:101:ILE:HG13	2.16	0.46
36:RQ:109:VAL:HG13	36:RQ:113:GLN:OE1	2.16	0.46
38:RS:61:ASN:O	38:RS:65:VAL:HG23	2.14	0.46
38:RS:83:LYS:O	38:RS:109:GLY:HA3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:836:G:C6	1:XA:851:G:C6	3.04	0.46
1:XA:975:A:H5'	1:XA:975:A:H8	1.80	0.46
2:XB:163:PHE:CD1	2:XB:185:ILE:HG13	2.50	0.46
15:XO:56:LEU:O	15:XO:60:VAL:HG23	2.15	0.46
16:XP:1:MET:O	16:XP:3:LYS:HG3	2.15	0.46
19:XS:41:VAL:HB	19:XS:42:PRO:HA	1.96	0.46
25:YA:297:C:H2'	25:YA:298:G:O4'	2.16	0.46
25:YA:996:A:OP2	40:YU:92:ARG:NH2	2.48	0.46
25:YA:1708:C:H2'	25:YA:1709:U:C6	2.50	0.46
25:YA:1999:C:H5"	25:YA:2723:C:O2'	2.16	0.46
25:YA:2059:A:H5'	25:YA:2060:A:OP2	2.15	0.46
25:YA:2212:A:H1'	25:YA:2215:G:C6	2.51	0.46
25:YA:2693:A:H2'	25:YA:2694:G:H8	1.81	0.46
27:YD:79:VAL:HG21	27:YD:111:LEU:HD21	1.98	0.46
27:YD:148:GLU:HB2	27:YD:151:LYS:HD2	1.98	0.46
27:YD:183:ARG:CG	27:YD:183:ARG:NH1	2.69	0.46
27:YD:211:ARG:HG2	27:YD:211:ARG:HH11	1.80	0.46
29:YF:184:TYR:CD2	29:YF:188:ARG:HD2	2.50	0.46
36:YQ:63:LYS:HE2	36:YQ:65:PHE:CZ	2.51	0.46
36:YQ:66:ILE:H	36:YQ:104:PHE:HA	1.80	0.46
40:YU:83:LEU:HG	40:YU:88:ILE:HG13	1.97	0.46
47:Y1:96:LYS:H	47:Y1:97:LEU:HD12	1.81	0.46
49:Y3:8:LEU:HD22	49:Y3:31:LEU:HD22	1.96	0.46
52:Y6:33:LYS:HE2	52:Y6:33:LYS:HB2	1.76	0.46
54:Y8:44:LYS:HD2	54:Y8:44:LYS:N	2.30	0.46
54:Y8:48:PHE:N	54:Y8:48:PHE:HD1	2.14	0.46
1:QA:452:A:H2'	1:QA:453:A:C8	2.51	0.46
1:QA:1240:U:OP1	7:QG:119:ARG:NH2	2.48	0.46
17:QQ:74:LEU:HB3	17:QQ:75:ARG:H	1.63	0.46
25:RA:1108:G:H2'	25:RA:1109:G:C8	2.50	0.46
25:RA:2087:C:H1'	25:RA:2461:U:H3	1.81	0.46
25:RA:2390:A:H8	25:RA:2390:A:O5'	1.99	0.46
26:RB:38:C:N3	26:RB:44:G:N2	2.55	0.46
27:RD:35:LYS:HE3	27:RD:63:ARG:C	2.41	0.46
28:RE:50:GLY:CA	28:RE:74:PRO:HG3	2.46	0.46
28:RE:54:GLN:CA	28:RE:54:GLN:HE21	2.27	0.46
28:RE:172:VAL:HG13	28:RE:182:LEU:HD11	1.98	0.46
30:RG:22:ARG:HH22	30:RG:175:LEU:HD21	1.80	0.46
31:RH:126:PRO:CG	31:RH:127:GLU:N	2.65	0.46
32:RI:88:ILE:HG12	32:RI:122:GLU:H	1.80	0.46
36:RQ:66:ILE:O	36:RQ:104:PHE:N	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RV:51:VAL:HG12	41:RV:53:GLU:H	1.80	0.46
43:RX:40:LYS:C	43:RX:42:ALA:H	2.23	0.46
50:R4:4:GLY:O	50:R4:5:ILE:C	2.59	0.46
50:R4:15:ILE:HG22	50:R4:20:ASN:CA	2.45	0.46
50:R4:26:SER:C	50:R4:27:THR:O	2.58	0.46
1:XA:9:G:H5"	5:XE:126:ARG:HE	1.81	0.46
1:XA:869:G:H4'	1:XA:872:A:O4'	2.15	0.46
6:XF:50:TYR:CE2	18:XR:81:PHE:CD2	3.03	0.46
25:YA:330:A:O2'	25:YA:331:A:H8	1.98	0.46
25:YA:1190:G:H5'	35:YP:32:THR:HA	1.98	0.46
25:YA:1320:C:C5	25:YA:1329:U:H5'	2.50	0.46
26:YB:95:U:H2'	26:YB:96:G:H8	1.79	0.46
27:YD:36:PRO:HB3	27:YD:62:TYR:O	2.16	0.46
27:YD:48:ARG:HG3	27:YD:48:ARG:NH1	2.31	0.46
27:YD:105:ILE:HG23	27:YD:106:ILE:O	2.15	0.46
28:YE:87:GLU:O	28:YE:89:ASP:N	2.48	0.46
28:YE:195:LEU:HD12	28:YE:196:VAL:N	2.29	0.46
30:YG:34:LEU:HD12	30:YG:100:TRP:CH2	2.50	0.46
32:YI:88:ILE:HG12	32:YI:122:GLU:N	2.31	0.46
33:YN:9:VAL:HG23	33:YN:10:GLU:N	2.31	0.46
35:YP:13:ASN:C	35:YP:15:ARG:N	2.73	0.46
38:YS:110:LEU:HA	38:YS:112:PHE:CZ	2.50	0.46
40:YU:75:ASN:HB3	40:YU:78:THR:H	1.81	0.46
48:Y2:15:LYS:H	48:Y2:67:LYS:HZ3	1.64	0.46
51:Y5:48:GLU:HA	51:Y5:59:GLU:HG2	1.97	0.46
1:QA:103:C:P	20:QT:17:ARG:HH21	2.39	0.46
1:QA:287:U:H2'	1:QA:288:A:C8	2.51	0.46
1:QA:564:C:OP1	12:QL:15:ARG:NE	2.47	0.46
1:QA:1371:G:O3'	9:QI:69:GLY:HA3	2.16	0.46
12:QL:43:VAL:HG23	12:QL:93:LEU:HD22	1.97	0.46
25:RA:225:C:O2'	25:RA:458:U:H4'	2.16	0.46
25:RA:668:A:N1	25:RA:2381:A:O2'	2.47	0.46
25:RA:965:G:N2	25:RA:2281:A:OP2	2.49	0.46
25:RA:1184:G:O2'	25:RA:1189:A:N1	2.41	0.46
31:RH:37:VAL:HG11	31:RH:68:THR:HG23	1.98	0.46
31:RH:86:GLU:O	31:RH:132:ARG:HA	2.15	0.46
31:RH:89:ILE:H	31:RH:89:ILE:HD13	1.81	0.46
35:RP:124:LYS:HA	35:RP:143:GLY:O	2.16	0.46
36:RQ:26:TYR:O	36:RQ:27:VAL:O	2.33	0.46
36:RQ:134:ARG:HH12	45:RZ:119:GLU:HG3	1.80	0.46
37:RR:37:THR:OG1	37:RR:40:LYS:HG3	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:RY:17:SER:OG	44:RY:71:LYS:HD2	2.16	0.46
51:R5:41:PRO:HA	51:R5:42:PRO:HD3	1.82	0.46
1:XA:601:C:H2'	1:XA:602:A:H8	1.81	0.46
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.98	0.46
1:XA:1226:C:O2'	13:XM:103:THR:O	2.27	0.46
1:XA:1252:A:H2'	1:XA:1253:G:O4'	2.16	0.46
2:XB:114:ARG:O	2:XB:118:LEU:HG	2.16	0.46
2:XB:204:ASN:HD22	2:XB:205:ASP:N	2.13	0.46
2:XB:217:ARG:HE	2:XB:217:ARG:HB2	1.54	0.46
3:XC:78:GLY:HA3	3:XC:83:ARG:HB3	1.98	0.46
6:XF:48:LEU:HG	6:XF:57:GLN:HA	1.98	0.46
16:XP:8:ARG:C	16:XP:9:PHE:HD1	2.24	0.46
20:XT:26:ASN:O	20:XT:30:LYS:HB2	2.16	0.46
25:YA:625:G:O6	35:YP:107:LYS:HE2	2.16	0.46
25:YA:1165:U:H2'	25:YA:1166:C:C6	2.50	0.46
25:YA:2011:U:OP1	42:YW:42:ARG:NH1	2.49	0.46
27:YD:14:ARG:HG3	27:YD:15:PHE:N	2.31	0.46
28:YE:63:LEU:O	28:YE:64:LYS:CB	2.63	0.46
28:YE:137:HIS:CB	28:YE:138:PRO:HD2	2.42	0.46
28:YE:188:VAL:HA	28:YE:189:PRO:HD2	1.79	0.46
32:YI:3:VAL:O	32:YI:18:VAL:HA	2.15	0.46
36:YQ:87:LYS:O	36:YQ:87:LYS:HG2	2.15	0.46
38:YS:13:ARG:O	38:YS:14:VAL:HB	2.15	0.46
1:QA:1184:G:H2'	1:QA:1185:G:H8	1.81	0.46
1:QA:1226:C:O2'	13:QM:103:THR:O	2.25	0.46
1:QA:1277:C:O2'	1:QA:1279:A:H8	1.99	0.46
1:QA:1367:C:OP2	9:QI:112:LYS:NZ	2.48	0.46
3:QC:22:TRP:CZ2	14:QN:54:PRO:HG2	2.51	0.46
4:QD:75:PHE:HE1	4:QD:97:LEU:HD11	1.81	0.46
10:QJ:29:ARG:NH1	1:XA:1164:G:OP1	2.49	0.46
25:RA:1501:U:OP1	37:RR:77:ARG:NH1	2.47	0.46
25:RA:1830:G:H4'	25:RA:1831:C:O5'	2.16	0.46
25:RA:2657:G:H3'	25:RA:2658:C:H5'	1.96	0.46
26:RB:89(A):A:C5	26:RB:90:C:H1'	2.51	0.46
27:RD:68:LYS:HD2	27:RD:70:TRP:CZ2	2.51	0.46
29:RF:126:VAL:HG11	29:RF:142:TRP:HH2	1.80	0.46
29:RF:199:TRP:NE1	29:RF:203:GLN:OE1	2.49	0.46
31:RH:59:ARG:CG	31:RH:59:ARG:NH1	2.79	0.46
31:RH:66:GLY:O	31:RH:67:LEU:C	2.58	0.46
32:RI:49:ALA:HA	32:RI:52:ARG:CG	2.44	0.46
35:RP:101:VAL:HG23	35:RP:107:LYS:H	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RQ:87:LYS:O	36:RQ:87:LYS:HG2	2.15	0.46
38:RS:24:LEU:HB2	38:RS:85:VAL:HG12	1.96	0.46
45:RZ:74:VAL:HG13	45:RZ:86:VAL:HG22	1.98	0.46
1:XA:773:G:H1	1:XA:806:C:H42	1.64	0.46
1:XA:1127:G:H4'	1:XA:1148:U:O2	2.15	0.46
1:XA:1285:A:H4'	1:XA:1286:A:O5'	2.16	0.46
9:XI:46:ALA:HA	9:XI:78:LYS:HB2	1.98	0.46
10:XJ:55:LYS:CG	10:XJ:56:HIS:CD2	2.97	0.46
12:XL:27:LEU:HD13	12:XL:28:LYS:N	2.30	0.46
15:XO:56:LEU:HD21	25:YA:715:G:C4	2.50	0.46
25:YA:1204:A:H1'	25:YA:1206:G:C8	2.51	0.46
25:YA:1217:C:OP1	40:YU:15:LYS:HE3	2.15	0.46
25:YA:1678:G:N2	25:YA:1989:G:N2	2.64	0.46
25:YA:1794:U:H2'	25:YA:1795:C:H6	1.81	0.46
25:YA:2105:C:H2'	25:YA:2106:G:C8	2.50	0.46
25:YA:2666:C:N4	31:YH:109:PHE:HA	2.31	0.46
27:YD:2:ALA:HB1	27:YD:20:ASP:CB	2.46	0.46
28:YE:36:ARG:O	28:YE:37:ARG:C	2.59	0.46
28:YE:111:ARG:NE	28:YE:160:TYR:CE1	2.76	0.46
31:YH:88:LEU:HD22	31:YH:163:TYR:O	2.16	0.46
36:YQ:137:TYR:CE1	45:YZ:83:PRO:HG3	2.51	0.46
37:YR:78:LYS:O	37:YR:83:ILE:HG12	2.16	0.46
38:YS:108:GLY:O	38:YS:110:LEU:N	2.48	0.46
39:YT:95:ARG:HD2	39:YT:95:ARG:HA	1.75	0.46
42:YW:110:LYS:HG3	42:YW:111:HIS:ND1	2.31	0.46
52:Y6:25:LYS:CE	54:Y8:34:TRP:HZ2	2.29	0.46
54:Y8:56:GLU:C	54:Y8:58:ILE:N	2.73	0.46
1:QA:62:U:O2'	1:QA:379:C:O2	2.30	0.46
1:QA:256:U:H2'	1:QA:257:G:C8	2.51	0.46
1:QA:1162:C:H2'	1:QA:1163:C:O4'	2.16	0.46
1:QA:1277:C:HO2'	1:QA:1279:A:H8	1.58	0.46
19:QS:32:LYS:HA	19:QS:50:ALA:HB3	1.98	0.46
23:QX:21:C:H2'	23:QX:22:C:O4'	2.16	0.46
25:RA:1249:A:H1'	25:RA:1251:G:C8	2.51	0.46
25:RA:1384:G:O6	43:RX:62:LYS:NZ	2.40	0.46
25:RA:1725:G:H22	25:RA:2011:G:H22	1.64	0.46
25:RA:2797:C:H5"	28:RE:41:LYS:HZ3	1.80	0.46
28:RE:1:MET:HE2	28:RE:1:MET:N	2.31	0.46
28:RE:47:VAL:O	28:RE:47:VAL:HG23	2.16	0.46
28:RE:61:ARG:O	28:RE:63:LEU:CG	2.57	0.46
30:RG:3:LEU:CG	50:R4:25:TYR:CE1	2.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RG:6:ALA:N	50:R4:23:GLU:CG	2.78	0.46
31:RH:4:ILE:HG13	31:RH:6:ARG:HD3	1.97	0.46
31:RH:13:LYS:HE2	31:RH:13:LYS:CA	2.40	0.46
34:RO:31:LYS:HB3	34:RO:32:TYR:CD2	2.51	0.46
36:RQ:63:LYS:HE2	36:RQ:65:PHE:CZ	2.50	0.46
39:RT:26:ASP:HB2	39:RT:90:GLN:O	2.16	0.46
40:RU:69:CYS:HB3	40:RU:106:PHE:HZ	1.81	0.46
50:R4:50:VAL:HG13	50:R4:50:VAL:O	2.15	0.46
52:R6:33:LYS:HG3	52:R6:34:LEU:HD13	1.98	0.46
1:XA:222:U:H2'	1:XA:223:U:H6	1.81	0.46
1:XA:265:G:C8	1:XA:267:C:C5	3.04	0.46
1:XA:501:C:H2'	1:XA:502:G:C8	2.50	0.46
1:XA:953:G:H2'	1:XA:954:G:O4'	2.16	0.46
1:XA:1323:G:H2'	1:XA:1324:A:C8	2.51	0.46
9:XI:18:PHE:HD2	9:XI:62:TYR:HD2	1.62	0.46
10:XJ:47:PHE:CE2	14:XN:37:PHE:HE2	2.34	0.46
25:YA:83:G:N1	25:YA:102:G:H1'	2.31	0.46
25:YA:443:A:H3'	29:YF:45:ARG:HH12	1.80	0.46
25:YA:533:G:H5'	40:YU:24:TYR:CD1	2.51	0.46
25:YA:533:G:H5'	40:YU:24:TYR:CE1	2.51	0.46
25:YA:669:G:H5"	25:YA:670:A:OP2	2.15	0.46
25:YA:1124:C:H2'	25:YA:1125:G:O4'	2.16	0.46
25:YA:2365:G:H4'	46:Y0:60:PHE:CZ	2.51	0.46
25:YA:2511:U:O4	25:YA:2575:C:N3	2.48	0.46
26:YB:12:C:H2'	46:Y0:73:GLY:HA3	1.98	0.46
36:YQ:11:LYS:HE2	36:YQ:87:LYS:HA	1.98	0.46
37:YR:51:LEU:HD12	37:YR:70:LEU:HG	1.97	0.46
44:YY:84:ARG:HB3	44:YY:95:LYS:HD3	1.97	0.46
1:QA:165:C:H2'	1:QA:166:G:C8	2.51	0.45
1:QA:411:A:C4	1:QA:413:G:H1'	2.51	0.45
1:QA:1132:C:H2'	1:QA:1133:G:H8	1.82	0.45
2:QB:120:ALA:C	2:QB:122:PHE:H	2.23	0.45
4:QD:103:ASN:OD1	4:QD:114:ARG:NE	2.49	0.45
9:QI:45:ALA:O	9:QI:48:GLU:HG2	2.15	0.45
10:QJ:31:GLY:HA3	10:QJ:78:ASN:CG	2.40	0.45
13:QM:84:ILE:HD12	13:QM:84:ILE:HA	1.74	0.45
25:RA:49:U:H3'	25:RA:50:G:H5'	1.98	0.45
25:RA:1528:U:H3	25:RA:1558:G:H1	1.62	0.45
25:RA:2059:G:H2'	25:RA:2060:G:C8	2.50	0.45
25:RA:2304:C:H2'	25:RA:2305:C:C6	2.51	0.45
25:RA:2317:A:O5'	30:RG:134:GLY:HA3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2773:C:H2'	25:RA:2774:G:H5"	1.98	0.45
28:RE:15:PHE:CD1	28:RE:20:ALA:HB2	2.50	0.45
31:RH:88:LEU:HD22	31:RH:163:TYR:O	2.16	0.45
31:RH:137:ASP:HB2	31:RH:140:LYS:HE3	1.98	0.45
32:RI:51:ILE:O	32:RI:52:ARG:C	2.57	0.45
33:RN:57:ALA:C	33:RN:60:ILE:HD11	2.40	0.45
36:RQ:30:GLY:CA	36:RQ:107:ALA:HB2	2.39	0.45
36:RQ:59:ARG:C	36:RQ:60:ARG:CG	2.74	0.45
36:RQ:85:LYS:HD3	36:RQ:86:GLY:H	1.80	0.45
37:RR:70:LEU:C	37:RR:72:ASP:H	2.21	0.45
47:R1:73:LEU:HB3	47:R1:90:ILE:HG23	1.97	0.45
1:XA:474:G:H2'	1:XA:475:G:H8	1.80	0.45
25:YA:236:C:H2'	25:YA:237:C:H6	1.81	0.45
25:YA:756:C:H2'	25:YA:757:U:O4'	2.15	0.45
25:YA:848:G:H2'	25:YA:849:A:C8	2.51	0.45
25:YA:896:A:N3	45:YZ:176:PRO:HB3	2.31	0.45
25:YA:1680:U:O2	25:YA:1763:G:H3'	2.15	0.45
25:YA:1761:C:N4	25:YA:1762:A:H62	2.13	0.45
25:YA:2259:G:C2	25:YA:2282:G:N1	2.84	0.45
25:YA:2356:C:H2'	25:YA:2357:U:O4'	2.16	0.45
27:YD:11:PRO:O	27:YD:12:SER:CB	2.65	0.45
27:YD:18:VAL:CG1	27:YD:19:ALA:N	2.78	0.45
27:YD:118:VAL:O	27:YD:129:ASN:HA	2.16	0.45
28:YE:1:MET:HA	28:YE:200:GLU:OE2	2.16	0.45
28:YE:1:MET:HE2	28:YE:1:MET:N	2.31	0.45
28:YE:51:PHE:HD2	28:YE:52:LEU:H	1.59	0.45
28:YE:62:PRO:O	28:YE:63:LEU:C	2.59	0.45
28:YE:94:GLU:C	28:YE:96:PHE:N	2.73	0.45
28:YE:101:ARG:C	28:YE:201:THR:OG1	2.58	0.45
29:YF:31:HIS:O	29:YF:34:TRP:HB3	2.15	0.45
31:YH:51:ARG:HG3	31:YH:51:ARG:NH1	2.30	0.45
31:YH:128:PRO:HD2	31:YH:129:THR:N	2.25	0.45
36:YQ:27:VAL:HG22	36:YQ:105:GLU:CD	2.41	0.45
36:YQ:79:LEU:CD1	46:Y0:5:LYS:CD	2.72	0.45
36:YQ:85:LYS:HD3	36:YQ:86:GLY:H	1.80	0.45
38:YS:102:ALA:C	38:YS:104:GLY:N	2.73	0.45
47:Y1:58:ILE:HD12	47:Y1:58:ILE:N	2.30	0.45
47:Y1:83:GLU:C	47:Y1:85:LEU:H	2.24	0.45
1:QA:381:C:H2'	1:QA:382:A:O4'	2.17	0.45
1:QA:980:C:H1'	14:QN:19:ARG:HG2	1.98	0.45
1:QA:1028:C:N4	1:QA:1033:G:H1	2.14	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1375:A:H4'	7:QG:29:LYS:HE3	1.98	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
19:QS:67:VAL:CB	50:R4:59:PHE:CZ	2.88	0.45
19:QS:67:VAL:HG12	50:R4:59:PHE:CE1	2.52	0.45
25:RA:1384:G:O2'	25:RA:1439:A:N1	2.40	0.45
25:RA:1826:C:O2	27:RD:255:LYS:HE2	2.16	0.45
27:RD:118:VAL:HG22	27:RD:119:ALA:H	1.82	0.45
31:RH:109:PHE:CE1	31:RH:152:ARG:NH1	2.84	0.45
36:RQ:27:VAL:HG22	36:RQ:105:GLU:CD	2.41	0.45
36:RQ:81:VAL:HG23	36:RQ:82:ARG:N	2.32	0.45
37:RR:33:ARG:HG2	37:RR:34:ILE:N	2.30	0.45
52:R6:44:ARG:O	52:R6:45:LYS:HB2	2.16	0.45
55:R9:8:LYS:O	55:R9:34:GLN:NE2	2.49	0.45
1:XA:109:A:C6	1:XA:326:G:C6	3.04	0.45
1:XA:221:C:H2'	1:XA:222:U:H6	1.81	0.45
1:XA:1142:G:H2'	1:XA:1143:G:O4'	2.15	0.45
1:XA:1206:G:H2'	1:XA:1207:G:O4'	2.15	0.45
1:XA:1305:G:C5'	21:XU:4:GLY:HA3	2.46	0.45
7:XG:50:ILE:HG21	7:XG:61:VAL:HG21	1.98	0.45
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.97	0.45
25:YA:686:G:N2	25:YA:788:A:H61	2.14	0.45
25:YA:701:G:H1	25:YA:731:C:H42	1.62	0.45
25:YA:1087:G:H1	25:YA:1102:C:N4	2.13	0.45
25:YA:1535:U:C2	25:YA:1537:C:H1'	2.50	0.45
25:YA:2689:U:H4'	25:YA:2690:C:O5'	2.15	0.45
28:YE:77:ILE:O	28:YE:78:LEU:O	2.35	0.45
29:YF:7:TYR:N	29:YF:7:TYR:CD1	2.85	0.45
29:YF:65:TRP:CH2	29:YF:72:ARG:HB3	2.50	0.45
29:YF:167:ALA:HB1	29:YF:173:VAL:HG11	1.98	0.45
30:YG:146:TYR:O	30:YG:149:VAL:HG22	2.16	0.45
36:YQ:60:ARG:HA	45:YZ:178:GLU:C	2.42	0.45
40:YU:58:ARG:HA	40:YU:61:TRP:CE3	2.51	0.45
44:YY:51:VAL:HG13	44:YY:52:SER:N	2.28	0.45
48:Y2:65:ASN:O	48:Y2:66:GLU:C	2.59	0.45
1:QA:359:U:H2'	1:QA:360:A:C8	2.50	0.45
1:QA:1054:C:N3	24:QY:34:G:C1'	2.80	0.45
1:QA:1241:G:H2'	1:QA:1242:C:C6	2.51	0.45
3:QC:19:GLU:HA	3:QC:54:ARG:HH12	1.81	0.45
12:QL:113:ARG:NH2	12:QL:120:TYR:CE2	2.85	0.45
22:QV:9:G:N2	22:QV:26:G:H1'	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:611:U:H2'	25:RA:612:C:C6	2.51	0.45
28:RE:1:MET:HA	28:RE:200:GLU:OE2	2.16	0.45
28:RE:22:PRO:CG	28:RE:22:PRO:O	2.63	0.45
29:RF:9:ILE:HG23	29:RF:20:LEU:O	2.16	0.45
35:RP:49:ARG:NE	54:R8:59:LYS:HG2	2.31	0.45
35:RP:88:LEU:HD12	35:RP:95:VAL:HG11	1.98	0.45
36:RQ:5:ARG:O	36:RQ:6:ARG:O	2.34	0.45
36:RQ:52:VAL:O	36:RQ:53:ALA:C	2.59	0.45
36:RQ:104:PHE:O	36:RQ:105:GLU:CB	2.65	0.45
52:R6:26:ASN:ND2	52:R6:35:GLU:OE2	2.49	0.45
1:XA:1311:G:H1	1:XA:1326:C:N4	2.13	0.45
2:XB:55:PHE:HD1	2:XB:58:ILE:HG13	1.81	0.45
9:XI:114:TYR:N	9:XI:114:TYR:HD1	2.14	0.45
10:XJ:50:ILE:HD11	10:XJ:57:LYS:CD	2.46	0.45
13:XM:58:GLU:O	13:XM:62:ASN:ND2	2.33	0.45
17:XQ:43:LEU:HD12	17:XQ:68:ARG:HG2	1.97	0.45
25:YA:1144:G:C6	25:YA:1145:C:C4	3.04	0.45
25:YA:1796:U:H2'	25:YA:1797:C:C6	2.51	0.45
25:YA:2327:A:H2'	25:YA:2328:A:C8	2.51	0.45
25:YA:2695:C:H2'	25:YA:2696:U:C6	2.51	0.45
25:YA:2811:G:P	28:YE:61:ARG:HG3	2.56	0.45
28:YE:47:VAL:O	28:YE:47:VAL:HG23	2.16	0.45
28:YE:54:GLN:CA	28:YE:54:GLN:HE21	2.27	0.45
28:YE:111:ARG:HA	37:YR:1:MET:HG2	1.98	0.45
31:YH:16:SER:OG	31:YH:17:VAL:N	2.50	0.45
31:YH:109:PHE:CE1	31:YH:152:ARG:NH1	2.85	0.45
36:YQ:26:TYR:O	36:YQ:27:VAL:O	2.34	0.45
36:YQ:30:GLY:CA	36:YQ:107:ALA:HB2	2.39	0.45
38:YS:5:THR:OG1	38:YS:8:GLU:HG3	2.17	0.45
41:YV:19:LYS:HA	41:YV:94:LEU:O	2.15	0.45
44:YY:56:PRO:O	44:YY:58:GLY:N	2.49	0.45
53:Y7:22:MET:HE2	53:Y7:31:LEU:CD1	2.47	0.45
1:QA:105:G:C6	1:QA:106:C:C4	3.04	0.45
1:QA:397:A:H3'	1:QA:397:A:N3	2.31	0.45
4:QD:15:GLU:HG2	4:QD:63:LYS:HG3	1.97	0.45
4:QD:53:ASP:O	4:QD:57:ARG:HD2	2.16	0.45
4:QD:197:PRO:HG3	6:XF:16:GLN:NE2	2.31	0.45
7:QG:113:GLU:CG	7:QG:119:ARG:HG2	2.47	0.45
19:QS:2:PRO:HB2	19:QS:3:ARG:H	1.56	0.45
25:RA:299:G:H3'	25:RA:300:A:H5"	1.98	0.45
25:RA:469:A:H1'	25:RA:1246:C:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:581:G:P	33:RN:111:PRO:HD2	2.56	0.45
25:RA:1248:G:H3'	25:RA:1249:A:H5"	1.99	0.45
25:RA:1698:G:H2'	25:RA:1699:A:O4'	2.16	0.45
27:RD:121:PRO:HB3	27:RD:135:PHE:CE2	2.52	0.45
28:RE:21:VAL:HG23	28:RE:22:PRO:CD	2.46	0.45
28:RE:62:PRO:O	28:RE:63:LEU:C	2.59	0.45
31:RH:6:ARG:C	31:RH:8:PRO:CD	2.90	0.45
31:RH:151:ILE:O	31:RH:152:ARG:O	2.34	0.45
35:RP:77:ARG:HB2	35:RP:78:PRO:HD2	1.99	0.45
36:RQ:93:TYR:CD1	36:RQ:93:TYR:N	2.84	0.45
44:RY:90:LEU:HB2	44:RY:91:GLU:H	1.63	0.45
52:R6:34:LEU:HD13	52:R6:34:LEU:H	1.81	0.45
1:XA:17:U:H2'	1:XA:18:C:C6	2.51	0.45
1:XA:254:G:C2	1:XA:255:G:C8	3.04	0.45
1:XA:255:G:H4'	17:XQ:17:LYS:HD3	1.98	0.45
1:XA:778:G:H1'	11:XK:119:CYS:HB3	1.97	0.45
12:XL:64:TYR:O	12:XL:65:GLU:HB2	2.16	0.45
12:XL:113:ARG:NH2	12:XL:120:TYR:CE2	2.84	0.45
12:XL:115:LYS:O	12:XL:117:ARG:N	2.47	0.45
18:XR:73:ALA:HB3	18:XR:79:LEU:HD12	1.98	0.45
25:YA:347:A:H2'	25:YA:348:G:H8	1.80	0.45
25:YA:470:A:H2'	25:YA:471:A:H8	1.82	0.45
25:YA:2345:G:H1'	25:YA:2382:G:H5'	1.98	0.45
25:YA:2635:C:H5'	28:YE:77:ILE:HD13	1.98	0.45
25:YA:2646:C:H2'	25:YA:2647:U:O4'	2.15	0.45
27:YD:65:ILE:HD11	27:YD:67:PHE:CE2	2.51	0.45
27:YD:109:ASP:HB2	27:YD:197:GLY:CA	2.46	0.45
28:YE:13:ARG:HH11	28:YE:13:ARG:HB3	1.82	0.45
28:YE:33:VAL:HG12	28:YE:90:THR:H	1.81	0.45
29:YF:117:ARG:NH2	29:YF:189:THR:O	2.50	0.45
35:YP:27:HIS:ND1	35:YP:27:HIS:N	2.64	0.45
35:YP:124:LYS:HA	35:YP:143:GLY:O	2.15	0.45
37:YR:24:GLN:HE21	37:YR:44:LEU:HG	1.81	0.45
37:YR:109:ALA:HA	37:YR:110:PRO:HD2	1.77	0.45
38:YS:109:GLY:O	38:YS:110:LEU:HB2	2.16	0.45
44:YY:87:LYS:HA	44:YY:92:ASN:HB3	1.98	0.45
44:YY:101:LYS:HG2	44:YY:102:CYS:H	1.81	0.45
45:YZ:128:VAL:HG22	45:YZ:129:SER:H	1.82	0.45
1:QA:1336:C:H1'	1:QA:1337:G:C2	2.52	0.45
7:QG:20:ASP:OD1	7:QG:21:VAL:N	2.49	0.45
7:QG:45:ASP:O	7:QG:49:ILE:HG12	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:61:THR:O	12:QL:63:GLY:N	2.45	0.45
25:RA:1519:A:H2'	25:RA:1520:G:O4'	2.17	0.45
25:RA:2584:A:H62	28:RE:145:LYS:HG3	1.81	0.45
27:RD:30:GLU:HG3	27:RD:63:ARG:CZ	2.47	0.45
30:RG:10:LYS:O	30:RG:14:GLU:HB3	2.17	0.45
30:RG:102:PHE:O	30:RG:106:LEU:N	2.50	0.45
30:RG:106:LEU:HA	30:RG:110:ALA:HB3	1.98	0.45
31:RH:106:THR:HG22	31:RH:112:PRO:HB3	1.97	0.45
33:RN:19:GLU:HB2	33:RN:56:ASN:HD22	1.80	0.45
38:RS:16:ASN:HA	38:RS:19:LYS:HD3	1.99	0.45
45:RZ:108:PRO:HB2	45:RZ:109:ALA:H	1.62	0.45
50:R4:33:VAL:CG1	50:R4:34:GLU:H	2.22	0.45
51:R5:16:ARG:O	51:R5:20:ARG:HG3	2.16	0.45
1:XA:60:A:H4'	1:XA:61:G:O5'	2.17	0.45
1:XA:1126:U:H1'	1:XA:1280:A:C6	2.51	0.45
1:XA:1157:A:N1	1:XA:1180:A:H2'	2.31	0.45
1:XA:1321:C:C3'	1:XA:1322:C:H5"	2.45	0.45
2:XB:120:ALA:C	2:XB:122:PHE:H	2.25	0.45
7:XG:15:ASP:OD1	7:XG:44:TYR:OH	2.35	0.45
7:XG:45:ASP:O	7:XG:49:ILE:HG12	2.17	0.45
8:XH:86:ILE:HG13	8:XH:133:LEU:HD22	1.98	0.45
19:XS:47:HIS:O	19:XS:62:ILE:HG12	2.17	0.45
19:XS:63:THR:HG23	19:XS:66:MET:HG2	1.99	0.45
25:YA:729:G:C5	27:YD:208:LYS:HB2	2.51	0.45
25:YA:729:G:OP2	27:YD:13:ARG:NH1	2.50	0.45
25:YA:910:A:C6	25:YA:911:A:C6	3.04	0.45
25:YA:1186:G:H8	25:YA:1186:G:O5'	2.00	0.45
25:YA:1359:A:H3'	25:YA:1360:A:C5'	2.45	0.45
25:YA:1668:A:OP1	34:YO:5:GLN:HG3	2.16	0.45
28:YE:95:ILE:HG22	28:YE:95:ILE:O	2.16	0.45
33:YN:8:GLN:C	33:YN:9:VAL:CG1	2.86	0.45
35:YP:101:VAL:C	35:YP:103:ALA:H	2.23	0.45
36:YQ:52:VAL:O	36:YQ:53:ALA:C	2.59	0.45
38:YS:78:LEU:HD21	38:YS:108:GLY:HA2	1.99	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
41:YV:19:LYS:HG3	41:YV:95:LEU:HD23	1.98	0.45
41:YV:36:PRO:HA	41:YV:56:SER:OG	2.16	0.45
44:YY:89:PHE:C	44:YY:90:LEU:HD13	2.41	0.45
44:YY:94:LYS:HD2	44:YY:101:LYS:HZ3	1.82	0.45
45:YZ:141:VAL:HG23	45:YZ:144:LEU:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:YZ:149:SER:HB2	45:YZ:172:ALA:O	2.16	0.45
47:Y1:91:LYS:HA	47:Y1:91:LYS:HE3	1.98	0.45
48:Y2:18:PRO:C	48:Y2:20:GLU:H	2.24	0.45
54:Y8:52:LYS:O	54:Y8:52:LYS:CG	2.64	0.45
1:QA:12:U:H2'	1:QA:13:U:H5"	1.99	0.45
1:QA:1512:U:H3	1:QA:1523:G:H1	1.64	0.45
2:QB:76:GLN:O	2:QB:208:ILE:HG12	2.17	0.45
2:QB:163:PHE:HA	2:QB:185:ILE:HG13	1.98	0.45
6:QF:45:LEU:HD12	6:QF:59:TYR:HD2	1.82	0.45
7:QG:49:ILE:O	7:QG:53:LYS:HB3	2.16	0.45
12:QL:64:TYR:O	12:QL:65:GLU:HB2	2.16	0.45
25:RA:277:G:OP1	32:RI:42:SER:OG	2.34	0.45
25:RA:708:C:H4'	35:RP:13:ASN:OD1	2.17	0.45
25:RA:1147:U:H2'	25:RA:1148:C:C6	2.52	0.45
25:RA:1248:G:O6	25:RA:1249:A:N6	2.50	0.45
25:RA:2127:C:H2'	25:RA:2128:G:C8	2.51	0.45
25:RA:2541:G:O6	55:R9:31:LYS:NZ	2.48	0.45
27:RD:76:PRO:HB2	27:RD:116:GLN:OE1	2.17	0.45
27:RD:85:ASP:HA	27:RD:86:PRO:HD2	1.72	0.45
38:RS:83:LYS:C	38:RS:109:GLY:HA3	2.42	0.45
43:RX:67:GLY:C	43:RX:69:TYR:H	2.23	0.45
51:R5:15:ARG:HA	51:R5:18:ALA:HB3	1.99	0.45
1:XA:636:U:H2'	1:XA:637:G:C8	2.51	0.45
1:XA:1343:G:H2'	1:XA:1344:C:C6	2.52	0.45
2:XB:140:HIS:HA	2:XB:143:GLU:OE1	2.17	0.45
3:XC:48:TYR:OH	3:XC:122:GLU:OE2	2.22	0.45
15:XO:32:LEU:HD11	15:XO:62:GLN:HG2	1.99	0.45
16:XP:17:TYR:CE2	16:XP:41:PRO:HG3	2.52	0.45
19:XS:81:ARG:HE	19:XS:81:ARG:HB2	1.36	0.45
25:YA:598:G:H1'	35:YP:12:ALA:HB2	1.98	0.45
25:YA:631:A:N3	25:YA:2415:G:O2'	2.47	0.45
25:YA:996:A:O2'	40:YU:92:ARG:HG3	2.17	0.45
25:YA:1204:A:H1'	25:YA:1206:G:N9	2.32	0.45
25:YA:1915:U:H3'	25:YA:1916:A:H8	1.82	0.45
25:YA:1937:A:O2'	25:YA:1939:U:OP2	2.30	0.45
26:YB:50:G:P	38:YS:63:THR:HG23	2.57	0.45
26:YB:70:C:H2'	26:YB:71:C:H6	1.82	0.45
27:YD:35:LYS:CE	27:YD:64:ILE:C	2.89	0.45
27:YD:154:LYS:C	27:YD:155:LEU:HD12	2.41	0.45
27:YD:198:ASN:ND2	27:YD:198:ASN:O	2.50	0.45
28:YE:199:ARG:HH11	28:YE:199:ARG:HG3	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YF:196:LEU:O	29:YF:200:GLU:HG2	2.17	0.45
31:YH:66:GLY:O	31:YH:67:LEU:C	2.58	0.45
35:YP:135:LEU:HD23	35:YP:135:LEU:HA	1.74	0.45
36:YQ:34:LEU:HB2	36:YQ:118:LEU:HD22	1.99	0.45
47:Y1:80:LEU:HB2	47:Y1:81:LYS:H	1.61	0.45
48:Y2:18:PRO:C	48:Y2:20:GLU:N	2.73	0.45
52:Y6:28:ARG:HB3	52:Y6:30:THR:C	2.41	0.45
1:QA:373:A:H2'	1:QA:374:A:H8	1.82	0.45
1:QA:1320:C:N4	19:QS:36:ARG:HG3	2.30	0.45
8:QH:104:ARG:O	8:QH:107:LEU:HB2	2.16	0.45
9:QI:126:SER:O	9:QI:128:ARG:N	2.45	0.45
11:QK:41:THR:HG21	11:QK:71:LYS:HB2	1.99	0.45
25:RA:70:A:H5"	25:RA:71:U:H2'	1.99	0.45
27:RD:105:ILE:HD12	27:RD:105:ILE:HA	1.63	0.45
28:RE:2:LYS:O	28:RE:199:ARG:HA	2.17	0.45
31:RH:86:GLU:O	31:RH:87:LEU:CB	2.64	0.45
32:RI:145:VAL:O	32:RI:146:ALA:CB	2.64	0.45
34:RO:48:PRO:O	34:RO:49:ARG:HG2	2.17	0.45
37:RR:42:LYS:HA	37:RR:45:ARG:HD2	1.98	0.45
37:RR:78:LYS:HE2	37:RR:83:ILE:HD11	1.98	0.45
38:RS:10:ARG:O	38:RS:14:VAL:HG12	2.17	0.45
54:R8:48:PHE:N	54:R8:48:PHE:HD1	2.14	0.45
1:XA:1190:G:OP2	3:XC:5:ILE:HG23	2.17	0.45
1:XA:1287:A:H2'	1:XA:1288:A:C8	2.52	0.45
1:XA:1308:U:OP1	13:XM:98:VAL:HG23	2.17	0.45
10:XJ:16:LEU:HD11	10:XJ:70:ARG:HB2	1.99	0.45
10:XJ:55:LYS:HG3	10:XJ:56:HIS:CG	2.51	0.45
25:YA:773:U:H5'	27:YD:47:GLY:HA2	1.98	0.45
25:YA:994:C:H3'	40:YU:54:LYS:HE3	1.99	0.45
25:YA:1045:A:H4'	25:YA:1046:A:O5'	2.16	0.45
25:YA:1103:A:H5'	25:YA:1104:C:C5	2.52	0.45
25:YA:1113:U:H5'	31:YH:2:SER:HB2	1.99	0.45
25:YA:2187:G:H2'	25:YA:2188:C:C6	2.51	0.45
25:YA:2477:C:H2'	55:Y9:1:MET:HG3	1.99	0.45
25:YA:2485:G:OP1	36:YQ:46:GLN:NE2	2.42	0.45
25:YA:2563:U:O2	25:YA:2565:A:H8	1.99	0.45
27:YD:25:THR:CG2	27:YD:25:THR:O	2.65	0.45
27:YD:68:LYS:HD2	27:YD:70:TRP:CZ2	2.52	0.45
28:YE:4:ILE:HG12	28:YE:91:VAL:HG11	1.99	0.45
29:YF:155:LEU:HA	29:YF:174:VAL:CG1	2.46	0.45
29:YF:198:ALA:C	29:YF:200:GLU:H	2.25	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YQ:65:PHE:O	36:YQ:66:ILE:CG1	2.48	0.45
42:YW:97:LYS:HE2	42:YW:99:ARG:NH2	2.31	0.45
46:Y0:23:VAL:HA	46:Y0:38:VAL:HA	1.99	0.45
47:Y1:79:GLY:N	47:Y1:80:LEU:HD23	2.32	0.45
1:QA:390:C:O3'	16:QP:28:ARG:NH2	2.49	0.45
1:QA:1109:C:OP2	3:QC:176:HIS:ND1	2.50	0.45
1:QA:1347:G:C8	9:QI:107:ARG:HB3	2.51	0.45
4:QD:9:CYS:SG	4:QD:31:CYS:O	2.75	0.45
11:QK:91:ARG:NH1	11:QK:110:ASP:OD2	2.48	0.45
25:RA:139:A:C8	25:RA:1454:C:O2'	2.69	0.45
25:RA:1096:A:O2'	25:RA:2765:C:H1'	2.17	0.45
25:RA:1107:U:H3'	25:RA:1108:G:H5"	1.99	0.45
25:RA:1147:U:H2'	25:RA:1148:C:H6	1.81	0.45
25:RA:2315:G:O2'	30:RG:132:ASN:HB2	2.16	0.45
28:RE:2:LYS:HG2	28:RE:95:ILE:HG22	1.99	0.45
28:RE:93:VAL:C	28:RE:95:ILE:N	2.75	0.45
28:RE:154:LYS:HD3	28:RE:154:LYS:C	2.42	0.45
29:RF:45:ARG:HH11	29:RF:45:ARG:CG	2.29	0.45
31:RH:94:TYR:CD1	31:RH:94:TYR:N	2.82	0.45
32:RI:52:ARG:O	32:RI:53:ALA:C	2.58	0.45
32:RI:76:THR:OG1	32:RI:139:GLN:OE1	2.34	0.45
34:RO:22:ILE:HG12	34:RO:41:ALA:HA	1.98	0.45
34:RO:87:ILE:HD12	34:RO:91:LEU:HD12	1.99	0.45
34:RO:104:ARG:HD3	39:RT:36:GLU:OE2	2.17	0.45
1:XA:539:A:H2'	1:XA:540:G:C8	2.51	0.45
1:XA:1391:U:H2'	1:XA:1392:G:C8	2.52	0.45
1:XA:1489:G:H2'	1:XA:1490:C:O4'	2.17	0.45
1:XA:1491:G:C2	58:XA:1710:PAR:H41	2.52	0.45
2:XB:115:LEU:HD13	2:XB:145:LEU:HB3	1.98	0.45
10:XJ:11:PHE:HB3	14:XN:55:GLY:HA3	1.99	0.45
11:XK:28:THR:OG1	11:XK:90:GLY:HA3	2.17	0.45
12:XL:117:ARG:NH2	12:XL:124:LYS:HD3	2.32	0.45
13:XM:65:LYS:O	13:XM:70:LEU:HD23	2.17	0.45
19:XS:66:MET:HB2	19:XS:74:PHE:CZ	2.52	0.45
25:YA:1786:A:C2	25:YA:2606:C:H1'	2.51	0.45
27:YD:92:ILE:HD12	27:YD:104:TYR:HD2	1.82	0.45
28:YE:2:LYS:O	28:YE:199:ARG:HA	2.17	0.45
28:YE:154:LYS:C	28:YE:154:LYS:HD3	2.42	0.45
32:YI:120:ILE:HD11	32:YI:126:TYR:CZ	2.52	0.45
38:YS:111:GLU:O	38:YS:112:PHE:CD2	2.70	0.45
39:YT:6:LEU:HA	39:YT:9:LEU:HB2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:YT:102:ILE:HA	39:YT:105:LEU:CD2	2.47	0.45
48:Y2:28:LYS:HB3	48:Y2:57:ILE:HG12	1.98	0.45
1:QA:484:G:H4'	1:QA:485:G:O5'	2.17	0.45
1:QA:568:G:O6	12:QL:5:PRO:HD3	2.16	0.45
1:QA:816:A:OP1	1:QA:1526:G:O2'	2.30	0.45
4:QD:12:CYS:HA	4:QD:19:LEU:HD23	1.97	0.45
8:QH:6:ILE:HB	8:QH:85:ARG:HH11	1.82	0.45
15:QO:4:THR:HB	15:QO:6:GLU:CD	2.41	0.45
19:QS:42:PRO:HD3	50:R4:63:TYR:OH	2.17	0.45
25:RA:529:U:H5"	25:RA:530:A:H5'	1.98	0.45
25:RA:1355:G:P	53:R7:9:ARG:HD3	2.56	0.45
25:RA:2348:A:H61	46:R0:43:THR:CG2	2.29	0.45
25:RA:2671:G:H1'	25:RA:2674:A:N6	2.32	0.45
28:RE:77:ILE:O	28:RE:78:LEU:O	2.35	0.45
32:RI:52:ARG:HA	32:RI:55:ALA:HB3	1.99	0.45
36:RQ:119:ARG:HH11	36:RQ:119:ARG:CG	2.25	0.45
48:R2:41:ILE:HD11	48:R2:44:LEU:HB2	1.98	0.45
54:R8:9:GLY:O	54:R8:13:ARG:HG2	2.16	0.45
54:R8:36:LYS:HB3	54:R8:40:GLU:HG2	1.99	0.45
1:XA:114:U:H2'	1:XA:115:G:C8	2.52	0.45
1:XA:464:G:C6	1:XA:466:C:H5'	2.52	0.45
1:XA:477:G:H2'	1:XA:478:A:H8	1.82	0.45
4:XD:86:LYS:HD2	4:XD:86:LYS:H	1.82	0.45
5:XE:110:LEU:HD13	5:XE:118:ILE:HD13	1.98	0.45
21:XU:5:ASP:HB3	21:XU:8:THR:OG1	2.17	0.45
25:YA:2032:G:H1'	28:YE:145:LYS:HD3	1.98	0.45
25:YA:2785:C:O2'	28:YE:64:LYS:HD3	2.17	0.45
29:YF:144:LYS:C	29:YF:146:ALA:N	2.75	0.45
36:YQ:58:PHE:O	36:YQ:58:PHE:CD1	2.70	0.45
37:YR:98:LEU:HD13	51:Y5:51:TYR:CD2	2.52	0.45
37:YR:98:LEU:HD13	51:Y5:51:TYR:HD2	1.81	0.45
45:YZ:98:MET:HE3	45:YZ:98:MET:HB2	1.91	0.45
50:Y4:22:ILE:HG22	50:Y4:23:GLU:H	1.82	0.45
1:QA:143:A:H5"	1:QA:144:G:O5'	2.17	0.45
1:QA:674:G:N2	1:QA:717:C:O2	2.49	0.45
10:QJ:40:LEU:HB2	10:QJ:69:ASN:CB	2.47	0.45
25:RA:184:A:H61	25:RA:187:C:H3'	1.82	0.45
25:RA:655:G:N2	25:RA:658:A:OP2	2.45	0.45
25:RA:829:A:O2'	27:RD:225:ALA:HB1	2.17	0.45
25:RA:1049:G:O2'	25:RA:1056:A:N1	2.44	0.45
25:RA:1319:U:O2	25:RA:2024:G:O2'	2.33	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1333:A:N7	37:RR:107:ASP:HB2	2.31	0.45
25:RA:1765:U:H2'	25:RA:1766:G:O4'	2.17	0.45
25:RA:2081:A:H5'	25:RA:2082:A:OP2	2.16	0.45
25:RA:2378:A:H2'	25:RA:2379:G:O4'	2.16	0.45
25:RA:2479:C:H4'	36:RQ:123:HIS:ND1	2.32	0.45
25:RA:2832:G:O2'	25:RA:2834:C:OP2	2.23	0.45
28:RE:36:ARG:HH11	28:RE:36:ARG:CB	2.28	0.45
29:RF:161:GLU:OE2	29:RF:164:ARG:NH1	2.50	0.45
32:RI:52:ARG:CA	32:RI:55:ALA:HB3	2.47	0.45
34:RO:111:PHE:HB3	34:RO:114:ILE:HG13	1.98	0.45
36:RQ:10:ARG:O	36:RQ:11:LYS:CB	2.64	0.45
36:RQ:22:LYS:HA	45:RZ:78:LYS:HD2	1.99	0.45
43:RX:15:GLU:H	43:RX:15:GLU:CD	2.25	0.45
44:RY:68:HIS:CE1	44:RY:70:SER:HB3	2.52	0.45
47:R1:83:GLU:OE2	47:R1:83:GLU:N	2.49	0.45
54:R8:17:THR:O	54:R8:20:GLY:N	2.46	0.45
1:XA:78:G:O2'	1:XA:79:G:OP1	2.29	0.45
1:XA:559:A:H4'	1:XA:560:U:H5"	1.99	0.45
1:XA:1157:A:H1'	1:XA:1158:C:C4	2.52	0.45
3:XC:153:VAL:HG22	3:XC:198:VAL:HG22	1.98	0.45
4:XD:25:ARG:NH1	4:XD:30:LYS:HG3	2.32	0.45
8:XH:51:VAL:HG11	8:XH:60:ARG:HG3	1.99	0.45
8:XH:75:ARG:HA	8:XH:76:PRO:HD2	1.71	0.45
12:XL:8:ASN:O	12:XL:11:VAL:HG23	2.17	0.45
13:XM:121:LYS:HE2	13:XM:121:LYS:HA	1.98	0.45
25:YA:38:A:H2'	25:YA:39:C:C6	2.52	0.45
25:YA:270(F):U:H2'	25:YA:270(G):C:C6	2.52	0.45
25:YA:1009:A:OP1	33:YN:37:LYS:NZ	2.49	0.45
25:YA:1598:C:H5'	43:YX:36:LYS:HB3	1.98	0.45
25:YA:1798:U:H5"	27:YD:259:THR:HG22	1.99	0.45
25:YA:2741:A:C5'	55:Y9:22:ARG:HH12	2.30	0.45
27:YD:166:GLN:HA	27:YD:166:GLN:NE2	2.32	0.45
28:YE:21:VAL:HG23	28:YE:22:PRO:CD	2.46	0.45
29:YF:61:GLY:O	29:YF:62:ARG:C	2.58	0.45
31:YH:137:ASP:HB2	31:YH:140:LYS:HE3	1.98	0.45
34:YO:17:ARG:NH2	34:YO:47:ILE:HD13	2.32	0.45
34:YO:68:GLU:H	34:YO:68:GLU:CD	2.24	0.45
35:YP:126:VAL:HG12	35:YP:147:LEU:HD22	1.99	0.45
36:YQ:5:ARG:O	36:YQ:6:ARG:O	2.35	0.45
36:YQ:64:ILE:HG13	45:YZ:178:GLU:OE1	2.17	0.45
36:YQ:93:TYR:CD1	36:YQ:93:TYR:N	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YS:83:LYS:CE	38:YS:109:GLY:HA2	2.47	0.45
50:Y4:16:CYS:HB3	50:Y4:33:VAL:HB	1.98	0.45
54:Y8:36:LYS:HB3	54:Y8:40:GLU:HG2	1.99	0.45
1:QA:1149:C:P	9:QI:9:ARG:HH21	2.40	0.44
1:QA:1224:G:N1	1:QA:1322:C:H1'	2.32	0.44
1:QA:1299:A:C6	1:QA:1301:U:C2	3.05	0.44
2:QB:30:ARG:HH21	2:QB:194:PRO:HG2	1.81	0.44
8:QH:6:ILE:O	8:QH:10:LEU:HG	2.17	0.44
25:RA:1215:G:N2	25:RA:1225:C:N3	2.49	0.44
25:RA:2012:C:C4	25:RA:2013:U:O4	2.70	0.44
36:RQ:11:LYS:HE2	36:RQ:87:LYS:HA	1.98	0.44
37:RR:28:LEU:HD12	37:RR:48:VAL:HG11	1.99	0.44
50:R4:6:HIS:O	50:R4:7:PRO:C	2.61	0.44
1:XA:135:C:H2'	1:XA:136:C:H5'	1.99	0.44
1:XA:263:A:OP1	20:XT:79:ARG:HD3	2.17	0.44
1:XA:748:C:OP2	1:XA:748:C:H6	2.00	0.44
1:XA:748:C:H1'	1:XA:749:C:H5	1.82	0.44
20:XT:30:LYS:CE	20:XT:80:ARG:HH12	2.30	0.44
25:YA:27:G:H1'	25:YA:513:A:H61	1.80	0.44
25:YA:102:G:H4'	25:YA:103:A:O5'	2.17	0.44
25:YA:491:G:H3'	25:YA:492:A:C8	2.52	0.44
25:YA:900:A:H3'	25:YA:901:A:H8	1.82	0.44
25:YA:1278:A:OP1	37:YR:36:THR:HG22	2.16	0.44
25:YA:1844:C:H2'	25:YA:1845:G:C8	2.53	0.44
25:YA:2359:C:H2'	25:YA:2360:A:O4'	2.16	0.44
25:YA:2584:U:H2'	25:YA:2585:U:C6	2.53	0.44
25:YA:2630:G:H2'	25:YA:2631:G:H8	1.82	0.44
27:YD:52:ARG:HB2	27:YD:53:PHE:CD2	2.52	0.44
27:YD:226:MET:H	27:YD:226:MET:HG2	1.53	0.44
38:YS:3:ARG:O	38:YS:4:LEU:O	2.35	0.44
38:YS:78:LEU:HD21	38:YS:108:GLY:CA	2.47	0.44
40:YU:66:ASN:HB2	40:YU:76:TYR:HB2	1.99	0.44
50:Y4:43:TYR:C	50:Y4:43:TYR:HD1	2.25	0.44
1:QA:731:G:OP1	1:QA:766:A:H1'	2.17	0.44
1:QA:836:G:C6	1:QA:851:G:C6	3.06	0.44
1:QA:1396:A:H4'	1:QA:1397:C:C5'	2.36	0.44
1:QA:1408:A:N1	58:QA:1681:PAR:O61	2.50	0.44
1:QA:1525:G:OP1	11:QK:120:ARG:NH2	2.50	0.44
2:QB:51:LEU:HD22	2:QB:55:PHE:HE2	1.82	0.44
10:QJ:51:ARG:NE	10:QJ:60:ARG:O	2.45	0.44
25:RA:69:G:OP1	25:RA:110:U:N3	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:353:G:P	44:RY:71:LYS:HD3	2.58	0.44
25:RA:794:U:C4	51:R5:2:ALA:N	2.85	0.44
25:RA:1701:A:C2	28:RE:113:PHE:CD2	3.05	0.44
25:RA:2851:C:H2'	25:RA:2852:G:C8	2.51	0.44
26:RB:9:G:P	38:RS:25:ARG:NH2	2.90	0.44
28:RE:101:ARG:HD2	28:RE:171:GLU:HA	1.98	0.44
29:RF:9:ILE:HA	29:RF:10:PRO:HD3	1.89	0.44
31:RH:51:ARG:HG3	31:RH:51:ARG:NH1	2.30	0.44
31:RH:149:ARG:HA	31:RH:162:ILE:HG21	1.99	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
40:RU:65:ILE:HG12	40:RU:96:ALA:CB	2.47	0.44
54:R8:16:ILE:CD1	54:R8:57:ARG:HG2	2.42	0.44
1:XA:560:U:HO2'	1:XA:561:U:P	2.37	0.44
1:XA:1191:A:H5"	3:XC:4:LYS:HZ2	1.82	0.44
7:XG:138:LYS:HE2	7:XG:142:GLU:OE2	2.17	0.44
12:XL:120:TYR:N	12:XL:120:TYR:CD1	2.86	0.44
19:XS:24:ALA:O	19:XS:25:LYS:HB3	2.16	0.44
25:YA:313:C:H2'	25:YA:314:A:O4'	2.17	0.44
25:YA:637:A:H2'	35:YP:117:GLU:CD	2.42	0.44
25:YA:944:G:H5"	25:YA:945:A:O5'	2.17	0.44
25:YA:971:C:H2'	25:YA:972:G:O4'	2.17	0.44
25:YA:1655:A:O3'	28:YE:115:GLY:HA3	2.18	0.44
25:YA:2319:G:N7	38:YS:3:ARG:HB3	2.32	0.44
25:YA:2370:G:H21	52:Y6:45:LYS:HE2	1.82	0.44
27:YD:177:LEU:O	27:YD:179:SER:N	2.51	0.44
27:YD:214:TRP:C	27:YD:216:GLY:H	2.26	0.44
29:YF:149:ASP:OD2	29:YF:151:SER:HB3	2.17	0.44
34:YO:86:ILE:HG22	34:YO:94:ARG:HD3	2.00	0.44
1:QA:481:G:O2'	1:QA:482:A:O5'	2.35	0.44
1:QA:1318:A:H4'	19:QS:11:VAL:CG1	2.46	0.44
4:QD:166:LYS:HG3	4:QD:178:VAL:HG11	1.99	0.44
6:QF:41:GLU:HB3	6:QF:62:TRP:HB3	2.00	0.44
7:QG:16:LEU:CD1	9:QI:42:ARG:HA	2.48	0.44
15:QO:39:LEU:HA	15:QO:39:LEU:HD23	1.69	0.44
19:QS:10:PHE:HB2	19:QS:39:THR:H	1.82	0.44
25:RA:868:A:H2'	25:RA:991:G:H5"	1.98	0.44
25:RA:1199:C:H2'	25:RA:1200:G:O4'	2.17	0.44
25:RA:1273:G:H8	40:RU:16:LYS:NZ	2.16	0.44
25:RA:1654:A:H1'	25:RA:1656:A:OP2	2.18	0.44
25:RA:1850:A:H2'	27:RD:178:PRO:HB2	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2417:G:O2'	25:RA:2418:U:OP2	2.34	0.44
25:RA:2724:U:OP1	25:RA:2727:G:H4'	2.16	0.44
25:RA:2789:A:H4'	25:RA:2790:G:O5'	2.17	0.44
28:RE:36:ARG:O	28:RE:37:ARG:C	2.59	0.44
32:RI:49:ALA:CA	32:RI:52:ARG:HG2	2.45	0.44
33:RN:114:ARG:O	33:RN:115:ARG:HB3	2.17	0.44
40:RU:105:VAL:HG21	41:RV:2:PHE:HZ	1.82	0.44
44:RY:42:VAL:HG12	44:RY:65:ALA:HB3	1.99	0.44
45:RZ:58:VAL:O	45:RZ:60:GLU:N	2.47	0.44
51:R5:56:LYS:O	51:R5:58:LEU:N	2.50	0.44
54:R8:40:GLU:C	54:R8:42:ARG:N	2.68	0.44
1:XA:278:G:OP2	17:XQ:92:ARG:NH2	2.50	0.44
1:XA:983:A:H5"	1:XA:984:C:OP2	2.17	0.44
25:YA:528:A:C2	25:YA:2042:A:H2'	2.52	0.44
25:YA:676:A:H8	25:YA:2069:G:H21	1.65	0.44
25:YA:748:G:OP2	42:YW:88:ARG:HG3	2.17	0.44
25:YA:898:C:H2'	25:YA:899:A:H5'	1.99	0.44
25:YA:1141:U:H1'	25:YA:1142(A):A:C6	2.53	0.44
25:YA:1407:C:H42	25:YA:1595:G:H1	1.65	0.44
25:YA:1473:G:H1	25:YA:1520:U:H3	1.65	0.44
25:YA:1562:A:H2'	25:YA:1563:G:C8	2.52	0.44
25:YA:1614:A:H61	42:YW:88:ARG:H	1.64	0.44
25:YA:1788:C:OP1	27:YD:222:ARG:NH2	2.44	0.44
25:YA:2101:G:H1	25:YA:2188:C:H42	1.65	0.44
25:YA:2236:C:H2'	25:YA:2237:G:O4'	2.17	0.44
25:YA:2336:A:H61	46:Y0:43:THR:HG21	1.82	0.44
26:YB:30:C:OP2	38:YS:32:LEU:HD11	2.17	0.44
27:YD:80:ALA:O	27:YD:113:VAL:HG13	2.16	0.44
28:YE:50:GLY:CA	28:YE:74:PRO:HG3	2.46	0.44
28:YE:93:VAL:C	28:YE:95:ILE:N	2.75	0.44
28:YE:121:ASN:O	28:YE:122:PHE:C	2.57	0.44
29:YF:111:ALA:O	29:YF:112:MET:C	2.59	0.44
30:YG:114:ILE:HB	30:YG:117:PHE:HB2	1.99	0.44
31:YH:6:ARG:C	31:YH:8:PRO:CD	2.89	0.44
32:YI:97:ILE:HD12	32:YI:140:LEU:HD11	2.00	0.44
41:YV:99:ILE:HD13	41:YV:99:ILE:H	1.82	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
47:Y1:53:VAL:HB	47:Y1:58:ILE:HD13	1.99	0.44
51:Y5:40:LYS:HZ3	51:Y5:46:CYS:C	2.25	0.44
1:QA:826:C:H2'	1:QA:827:U:O2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1429:C:H2'	1:QA:1430:C:C6	2.52	0.44
4:QD:150:GLU:OE1	4:QD:150:GLU:N	2.51	0.44
4:QD:197:PRO:N	6:XF:16:GLN:HG3	2.33	0.44
6:QF:23:LYS:O	6:QF:27:GLN:HG2	2.17	0.44
10:QJ:33:GLN:O	10:QJ:75:ILE:HG12	2.17	0.44
19:QS:66:MET:HB2	19:QS:74:PHE:CZ	2.52	0.44
25:RA:1465:A:H61	25:RA:1540:A:H61	1.65	0.44
25:RA:2417:G:H1'	25:RA:2424:A:N6	2.33	0.44
27:RD:49:ILE:CD1	27:RD:52:ARG:HA	2.47	0.44
27:RD:70:TRP:HZ3	27:RD:146:GLU:OE2	2.01	0.44
28:RE:4:ILE:HG12	28:RE:91:VAL:HG11	1.99	0.44
30:RG:51:ARG:O	30:RG:53:LEU:N	2.48	0.44
35:RP:62:LEU:HD13	35:RP:62:LEU:N	2.32	0.44
35:RP:140:ALA:O	35:RP:141:ALA:HB2	2.17	0.44
50:R4:50:VAL:CG1	50:R4:50:VAL:O	2.63	0.44
50:R4:51:ASP:O	50:R4:51:ASP:CG	2.60	0.44
54:R8:47:LYS:HD2	54:R8:48:PHE:N	2.33	0.44
1:XA:64:G:H4'	1:XA:65:U:O5'	2.18	0.44
1:XA:666:G:H5'	1:XA:726:C:H1'	2.00	0.44
1:XA:981:U:H5'	14:XN:21:TYR:CE1	2.53	0.44
1:XA:1216:G:H5"	14:XN:5:ALA:HB2	1.99	0.44
1:XA:1226:C:O2'	13:XM:111:LYS:NZ	2.50	0.44
1:XA:1392:G:H2'	1:XA:1393:U:C6	2.52	0.44
2:XB:33:TYR:HB2	2:XB:43:ASP:HB2	1.99	0.44
8:XH:65:TYR:HA	8:XH:79:VAL:HG23	1.98	0.44
8:XH:83:ILE:HB	8:XH:137:VAL:HG13	1.99	0.44
9:XI:25:LYS:HE3	9:XI:25:LYS:HB2	1.72	0.44
9:XI:95:LYS:HZ3	9:XI:96:LEU:HD13	1.83	0.44
20:XT:30:LYS:NZ	20:XT:80:ARG:HH12	2.15	0.44
20:XT:87:LYS:O	20:XT:91:LEU:HG	2.18	0.44
25:YA:270(T):G:OP1	47:Y1:97:LEU:HD13	2.18	0.44
25:YA:1550:C:H2'	25:YA:1551:C:H6	1.81	0.44
25:YA:2078:C:H2'	25:YA:2079:U:C6	2.53	0.44
25:YA:2163:C:N4	25:YA:2164:C:H41	2.15	0.44
25:YA:2630:G:H2'	25:YA:2631:G:C8	2.52	0.44
27:YD:213:ARG:HD2	27:YD:213:ARG:HA	1.60	0.44
28:YE:172:VAL:HG13	28:YE:182:LEU:HD11	1.98	0.44
35:YP:14:LYS:O	35:YP:16:ARG:N	2.50	0.44
38:YS:56:LEU:O	38:YS:57:LYS:O	2.36	0.44
39:YT:61:PHE:CE1	39:YT:76:PHE:HB2	2.53	0.44
54:Y8:47:LYS:HD2	54:Y8:48:PHE:N	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:64:G:H4'	1:QA:65:U:C5'	2.47	0.44
1:QA:1151:A:H2'	1:QA:1152:A:C8	2.53	0.44
1:QA:1294:G:H2'	1:QA:1295:G:C8	2.52	0.44
1:QA:1312:G:H5"	50:R4:67:TYR:OH	2.17	0.44
1:QA:1327:C:OP1	21:QU:21:TYR:HD1	2.00	0.44
1:QA:1346:A:H5'	1:QA:1348:U:H1'	2.00	0.44
2:QB:71:VAL:HA	2:QB:93:VAL:HB	2.00	0.44
4:QD:196:LEU:HA	6:XF:16:GLN:HG3	2.00	0.44
12:QL:120:TYR:N	12:QL:120:TYR:CD1	2.86	0.44
13:QM:80:ARG:HE	50:R4:71:ARG:NH1	2.14	0.44
25:RA:231:G:N2	25:RA:243:G:H2'	2.32	0.44
25:RA:610:C:C2	35:RP:33:ARG:NH1	2.86	0.44
25:RA:992:G:H2'	25:RA:993:G:C8	2.53	0.44
25:RA:1276:C:H2'	25:RA:1277:G:C8	2.52	0.44
25:RA:2541:G:H5"	25:RA:2542:A:H5"	1.99	0.44
28:RE:15:PHE:CD1	39:RT:81:PRO:HD3	2.52	0.44
28:RE:143:ASN:ND2	28:RE:143:ASN:N	2.65	0.44
30:RG:37:VAL:O	30:RG:94:LEU:HG	2.17	0.44
30:RG:95:ARG:O	30:RG:99:MET:HG2	2.17	0.44
31:RH:84:SER:OG	31:RH:85:LYS:N	2.51	0.44
35:RP:18:ARG:HD2	35:RP:27:HIS:CD2	2.51	0.44
37:RR:29:LEU:HD12	37:RR:29:LEU:HA	1.74	0.44
41:RV:49:THR:HB	41:RV:50:PRO:HD2	1.99	0.44
1:XA:22:G:H2'	1:XA:23:C:C6	2.52	0.44
1:XA:686:U:H2'	1:XA:687:A:C8	2.52	0.44
1:XA:1247:U:H1'	1:XA:1291:G:N2	2.33	0.44
4:XD:26:CYS:SG	4:XD:31:CYS:CB	3.02	0.44
25:YA:335:C:H2'	25:YA:336:C:H6	1.82	0.44
25:YA:503:A:H4'	25:YA:504:U:C5'	2.48	0.44
25:YA:593:G:H1'	54:Y8:4:MET:HE1	1.99	0.44
25:YA:744:G:H1	25:YA:753:C:N4	2.09	0.44
25:YA:1003:G:O2'	25:YA:1010:A:N1	2.42	0.44
25:YA:1021:A:H61	25:YA:1142(A):A:N6	2.08	0.44
25:YA:1649:G:O2'	37:YR:107:ASP:OD2	2.29	0.44
25:YA:2607:G:C6	25:YA:2608:G:C6	3.05	0.44
25:YA:2636:U:OP1	28:YE:79:ARG:HG3	2.17	0.44
27:YD:145:VAL:HB	27:YD:155:LEU:HB2	1.99	0.44
28:YE:1:MET:HE2	28:YE:1:MET:H1	1.83	0.44
29:YF:24:LEU:HD12	29:YF:24:LEU:N	2.33	0.44
29:YF:65:TRP:HZ3	29:YF:73:ALA:C	2.26	0.44
29:YF:201:VAL:HG13	29:YF:202:PHE:N	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YI:88:ILE:HG12	32:YI:122:GLU:H	1.82	0.44
36:YQ:60:ARG:HB2	36:YQ:60:ARG:HH21	1.82	0.44
36:YQ:66:ILE:O	36:YQ:104:PHE:N	2.49	0.44
39:YT:42:ILE:HG21	39:YT:84:GLN:NE2	2.32	0.44
40:YU:104:GLN:OE1	40:YU:105:VAL:HG23	2.18	0.44
48:Y2:41:ILE:HD12	48:Y2:41:ILE:O	2.16	0.44
52:Y6:41:PRO:HD2	52:Y6:46:HIS:H	1.81	0.44
1:QA:908:A:H2'	1:QA:909:A:C8	2.53	0.44
1:QA:977:A:O2'	1:QA:981:U:N3	2.50	0.44
1:QA:992:U:H1'	1:QA:993:G:OP2	2.17	0.44
2:QB:228:GLY:O	2:QB:230:VAL:N	2.50	0.44
3:QC:70:VAL:HG21	3:QC:76:VAL:HG11	2.00	0.44
12:QL:120:TYR:O	12:QL:121:GLY:O	2.36	0.44
25:RA:399:G:H1'	25:RA:400:U:H5	1.83	0.44
25:RA:624:C:O2	25:RA:628:C:H4'	2.17	0.44
25:RA:1756:U:H2'	25:RA:1757:C:C6	2.52	0.44
25:RA:2310:A:H2'	25:RA:2311:G:O4'	2.16	0.44
28:RE:11:MET:O	28:RE:12:THR:HB	2.18	0.44
28:RE:95:ILE:HG22	28:RE:95:ILE:O	2.16	0.44
31:RH:53:GLU:OE1	31:RH:53:GLU:HA	2.16	0.44
32:RI:93:THR:H	32:RI:96:ASP:HB2	1.83	0.44
35:RP:18:ARG:HD2	35:RP:27:HIS:HD2	1.83	0.44
35:RP:61:ARG:O	54:R8:13:ARG:HD3	2.17	0.44
36:RQ:34:LEU:HB2	36:RQ:118:LEU:HD22	1.99	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
46:R0:50:ASN:C	46:R0:62:LEU:HD12	2.42	0.44
50:R4:15:ILE:CG2	50:R4:20:ASN:ND2	2.81	0.44
52:R6:32:ASN:OD1	52:R6:32:ASN:N	2.49	0.44
1:XA:110:C:H2'	1:XA:111:G:O4'	2.17	0.44
1:XA:574:A:N3	1:XA:883:C:H1'	2.32	0.44
1:XA:825:G:H1'	8:XH:2:LEU:HD21	1.99	0.44
1:XA:1105:A:H2'	1:XA:1106:G:H8	1.82	0.44
1:XA:1372:U:H2'	1:XA:1373:G:O4'	2.17	0.44
3:XC:47:LEU:HA	3:XC:47:LEU:HD12	1.83	0.44
11:XK:19:ALA:HB2	11:XK:32:ILE:HG22	1.99	0.44
13:XM:23:TYR:HE2	13:XM:70:LEU:HD12	1.83	0.44
15:XO:77:ARG:HA	15:XO:80:ALA:HB3	1.99	0.44
20:XT:26:ASN:HB3	20:XT:71:THR:HG1	1.75	0.44
25:YA:974(A):C:H4'	25:YA:975:G:O5'	2.18	0.44
25:YA:1019:U:HO2'	25:YA:1021:A:H2	1.62	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1063:G:H22	25:YA:1076:C:H1'	1.83	0.44
25:YA:1263:U:H1'	51:Y5:10:LYS:HG3	2.00	0.44
25:YA:1416:G:H2'	25:YA:1417:C:C6	2.53	0.44
25:YA:1534:G:H2'	25:YA:1534:G:N3	2.32	0.44
26:YB:8:U:H3	26:YB:112:G:H1	1.66	0.44
27:YD:143:HIS:HD2	27:YD:144:ALA:HB2	1.82	0.44
27:YD:155:LEU:N	27:YD:155:LEU:HD12	2.32	0.44
30:YG:67:LYS:HG3	50:Y4:6:HIS:CE1	2.53	0.44
30:YG:98:ARG:O	30:YG:101:ILE:HG13	2.17	0.44
31:YH:6:ARG:CG	31:YH:7:LEU:N	2.81	0.44
32:YI:52:ARG:CG	32:YI:53:ALA:N	2.80	0.44
32:YI:110:ASP:HB3	32:YI:112:LYS:N	2.33	0.44
44:YY:51:VAL:O	44:YY:56:PRO:HA	2.18	0.44
45:YZ:100:VAL:HA	45:YZ:101:PRO:HD3	1.87	0.44
46:Y0:43:THR:O	46:Y0:43:THR:HG23	2.17	0.44
52:Y6:34:LEU:HD13	52:Y6:34:LEU:H	1.82	0.44
1:QA:281:G:H8	1:QA:281:G:OP2	2.01	0.44
1:QA:475:G:H2'	1:QA:476:G:H8	1.82	0.44
7:QG:113:GLU:H	7:QG:113:GLU:HG2	1.39	0.44
12:QL:117:ARG:NH2	12:QL:124:LYS:HD3	2.32	0.44
15:QO:50:HIS:O	15:QO:53:HIS:HB3	2.17	0.44
25:RA:794:U:N1	51:R5:2:ALA:HB3	2.33	0.44
25:RA:902:G:H1	25:RA:968:U:H3	1.64	0.44
25:RA:903:C:H2'	25:RA:904:C:H6	1.83	0.44
25:RA:2141:A:C2	25:RA:2193:A:H1'	2.53	0.44
25:RA:2715:C:H2'	25:RA:2716:C:C6	2.51	0.44
32:RI:101:LEU:HD22	32:RI:107:VAL:HB	1.99	0.44
34:RO:106:LEU:HD23	34:RO:106:LEU:HA	1.81	0.44
36:RQ:20:ALA:C	36:RQ:21:THR:HG23	2.43	0.44
41:RV:35:LEU:CD2	41:RV:57:VAL:HG22	2.47	0.44
42:RW:1:MET:HE3	42:RW:2:GLU:H	1.82	0.44
43:RX:67:GLY:O	43:RX:69:TYR:N	2.43	0.44
45:RZ:157:LEU:HD23	45:RZ:161:VAL:HG12	1.98	0.44
51:R5:52:TYR:CD1	51:R5:52:TYR:N	2.85	0.44
52:R6:25:LYS:CD	54:R8:34:TRP:HZ2	2.28	0.44
52:R6:41:PRO:HD2	52:R6:46:HIS:H	1.83	0.44
55:R9:24:TYR:CE2	55:R9:35:ARG:HG3	2.53	0.44
1:XA:864:A:H3'	1:XA:865:A:C8	2.53	0.44
1:XA:1117:G:H5"	9:XI:104:ARG:NH1	2.33	0.44
3:XC:82:GLU:O	3:XC:86:VAL:HG13	2.17	0.44
7:XG:87:VAL:HG11	7:XG:155:ARG:HA	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:XJ:58:ASP:O	10:XJ:59:SER:HB2	2.16	0.44
13:XM:115:LYS:HE3	13:XM:115:LYS:HB2	1.75	0.44
13:XM:120:LYS:O	13:XM:121:LYS:CB	2.66	0.44
15:XO:32:LEU:O	15:XO:36:ILE:HG13	2.18	0.44
15:XO:82:ILE:O	15:XO:86:GLY:N	2.51	0.44
18:XR:52:PRO:HB2	18:XR:54:ARG:HG2	2.00	0.44
22:XV:2:C:H2'	22:XV:3:G:H5'	2.00	0.44
22:XV:21:A:H61	22:XV:46:G:H2'	1.82	0.44
25:YA:263:C:H2'	25:YA:264:C:O4'	2.18	0.44
25:YA:270(E):G:H2'	25:YA:270(F):U:O4'	2.17	0.44
25:YA:534:U:HO2'	40:YU:49:HIS:HD1	1.59	0.44
25:YA:1028:A:N6	25:YA:1125:G:H2'	2.33	0.44
25:YA:1221:C:H2'	25:YA:1222:C:C6	2.53	0.44
25:YA:2401:U:H2'	25:YA:2402:C:H5"	1.99	0.44
25:YA:2421:G:OP1	52:Y6:6:ARG:NH2	2.51	0.44
25:YA:2585:U:H5	56:Z6:101:PPU:O2'	2.00	0.44
25:YA:2747:G:O6	25:YA:2755:C:H5"	2.18	0.44
26:YB:80:U:O2'	26:YB:81:G:H5'	2.17	0.44
27:YD:134:ARG:H	27:YD:134:ARG:HG2	1.60	0.44
31:YH:153:LYS:HG3	31:YH:162:ILE:H	1.78	0.44
1:QA:376:G:H1	1:QA:387:U:H3	1.65	0.44
1:QA:678:U:H2'	1:QA:679:C:C6	2.53	0.44
1:QA:894:G:H2'	1:QA:895:G:H8	1.81	0.44
2:QB:74:LYS:O	2:QB:78:GLN:HG3	2.18	0.44
5:QE:41:VAL:HG13	5:QE:113:ALA:HA	2.00	0.44
7:QG:9:VAL:HG13	7:QG:94:ARG:NH2	2.27	0.44
10:QJ:47:PHE:HE1	10:QJ:63:PHE:HB2	1.83	0.44
11:QK:92:GLU:HB3	11:QK:96:ARG:NH1	2.33	0.44
12:QL:27:LEU:HD13	12:QL:28:LYS:H	1.83	0.44
16:QP:23:ASP:O	16:QP:26:ARG:HB2	2.17	0.44
25:RA:816:G:H5'	25:RA:1425:A:N6	2.32	0.44
25:RA:876:A:N7	25:RA:2259:A:O2'	2.48	0.44
25:RA:1857:G:H4'	27:RD:242:ARG:CZ	2.48	0.44
27:RD:34:VAL:HG22	27:RD:35:LYS:HG3	2.00	0.44
27:RD:65:ILE:HD13	27:RD:65:ILE:H	1.82	0.44
28:RE:13:ARG:HH11	28:RE:13:ARG:HB3	1.82	0.44
28:RE:52:LEU:HB2	28:RE:75:VAL:CG2	2.40	0.44
28:RE:199:ARG:HH11	28:RE:199:ARG:HG3	1.82	0.44
29:RF:7:TYR:O	29:RF:21:ALA:HA	2.18	0.44
30:RG:171:ALA:O	30:RG:175:LEU:HG	2.18	0.44
36:RQ:133:ARG:CG	36:RQ:134:ARG:N	2.78	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:RT:107:ASP:O	39:RT:111:ARG:NH1	2.51	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
44:RY:81:LYS:HB2	44:RY:96:ILE:CG2	2.48	0.44
45:RZ:151:HIS:HA	45:RZ:170:THR:HA	1.99	0.44
47:R1:49:VAL:HG11	47:R1:70:VAL:HG11	1.98	0.44
50:R4:68:ARG:HH11	50:R4:69:LYS:HG2	1.82	0.44
52:R6:45:LYS:HD3	52:R6:45:LYS:HA	1.75	0.44
54:R8:53:PRO:CD	54:R8:54:GLU:N	2.77	0.44
54:R8:58:ILE:O	54:R8:61:LEU:CG	2.66	0.44
1:XA:1228:C:H2'	1:XA:1229:A:C8	2.53	0.44
15:XO:26:GLU:H	15:XO:26:GLU:HG2	1.54	0.44
16:XP:39:TYR:CZ	16:XP:41:PRO:HB3	2.53	0.44
20:XT:52:ALA:C	20:XT:54:LYS:H	2.26	0.44
25:YA:470:A:H2'	25:YA:471:A:C8	2.53	0.44
25:YA:516:C:OP1	51:Y5:13:LYS:NZ	2.44	0.44
25:YA:580:C:H2'	25:YA:581:C:C6	2.53	0.44
25:YA:1050:A:H8	25:YA:2751:G:O2'	2.00	0.44
25:YA:2094:G:OP1	32:YI:22:LYS:HD2	2.18	0.44
25:YA:2275:C:O2	36:YQ:83:MET:HG3	2.18	0.44
25:YA:2347:C:H2'	25:YA:2348:U:C6	2.52	0.44
26:YB:116:G:H4'	38:YS:54:LEU:HD13	2.00	0.44
27:YD:30:GLU:HG3	27:YD:63:ARG:NE	2.32	0.44
28:YE:2:LYS:HG2	28:YE:95:ILE:HG22	1.99	0.44
28:YE:120:TRP:CE3	28:YE:155:LYS:HD3	2.53	0.44
29:YF:184:TYR:CE2	29:YF:188:ARG:HD2	2.52	0.44
31:YH:137:ASP:OD1	31:YH:138:LYS:N	2.51	0.44
36:YQ:81:VAL:HG23	36:YQ:82:ARG:N	2.31	0.44
38:YS:112:PHE:O	38:YS:112:PHE:CD1	2.70	0.44
39:YT:48:ILE:HD12	39:YT:48:ILE:H	1.83	0.44
41:YV:15:GLU:HG3	41:YV:16:PRO:HD2	1.99	0.44
47:Y1:70:VAL:O	47:Y1:73:LEU:HB2	2.18	0.44
50:Y4:48:ARG:CZ	50:Y4:51:ASP:HA	2.47	0.44
55:Y9:1:MET:O	55:Y9:34:GLN:HG2	2.18	0.44
1:QA:35:G:H2'	1:QA:36:C:C6	2.53	0.44
1:QA:280:C:C2	17:QQ:38:ARG:HG3	2.53	0.44
1:QA:310:G:H5"	16:QP:31:LYS:HB3	2.00	0.44
4:QD:135:LEU:HD13	4:QD:135:LEU:HA	1.86	0.44
9:QI:16:ARG:O	9:QI:63:ILE:HA	2.17	0.44
17:QQ:60:ILE:HB	17:QQ:74:LEU:HD23	2.00	0.44
22:QV:21:A:N6	22:QV:46:G:H2'	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:647:G:OP2	35:RP:108:LYS:NZ	2.39	0.44
25:RA:1829:U:C5'	27:RD:259:THR:HG22	2.47	0.44
25:RA:2054:G:H21	28:RE:146:THR:CG2	2.29	0.44
25:RA:2358:A:H5"	25:RA:2395:G:H1'	2.00	0.44
25:RA:2417:G:O2'	25:RA:2423:A:N6	2.51	0.44
27:RD:30:GLU:CD	27:RD:63:ARG:HH21	2.26	0.44
37:RR:27:SER:HB3	37:RR:34:ILE:HD11	2.00	0.44
37:RR:54:LEU:HD23	37:RR:66:VAL:HG23	1.99	0.44
38:RS:19:LYS:O	38:RS:20:ARG:HB3	2.18	0.44
52:R6:28:ARG:HG3	52:R6:31:PRO:HD2	2.00	0.44
54:R8:40:GLU:O	54:R8:43:GLN:N	2.50	0.44
1:XA:790:A:C6	1:XA:791:G:C6	3.05	0.44
1:XA:1347:G:N2	1:XA:1373:G:H2'	2.33	0.44
3:XC:108:ASN:HB3	3:XC:111:LEU:HD12	2.00	0.44
5:XE:9:LYS:HB2	5:XE:9:LYS:HE3	1.89	0.44
12:XL:120:TYR:O	12:XL:121:GLY:O	2.36	0.44
16:XP:4:ILE:HB	16:XP:66:PRO:HB3	2.00	0.44
16:XP:18:ARG:NH1	16:XP:32:TYR:OH	2.50	0.44
22:XV:28:C:H2'	22:XV:29:G:C8	2.48	0.44
25:YA:265:A:C6	25:YA:428:A:C4	3.06	0.44
25:YA:624:C:O2	25:YA:657:U:H4'	2.17	0.44
25:YA:773:U:C5'	27:YD:47:GLY:HA2	2.48	0.44
25:YA:860:U:C5	25:YA:917:A:C2	3.06	0.44
25:YA:1062:G:H1'	25:YA:1088:A:C6	2.53	0.44
25:YA:1359:A:N6	25:YA:1373:A:C4	2.85	0.44
25:YA:1448:G:H2'	25:YA:1449:A:C8	2.52	0.44
25:YA:2784:C:H5"	28:YE:41:LYS:NZ	2.33	0.44
27:YD:17:THR:HG21	27:YD:204:ILE:HA	1.99	0.44
27:YD:44:ASN:HB2	27:YD:49:ILE:HA	1.94	0.44
27:YD:44:ASN:CB	27:YD:49:ILE:HG22	2.46	0.44
27:YD:102:LYS:O	27:YD:103:ARG:CG	2.66	0.44
27:YD:272:ALA:HB1	27:YD:273:ARG:H	1.58	0.44
29:YF:65:TRP:CZ2	29:YF:72:ARG:NH2	2.86	0.44
29:YF:108:LYS:O	29:YF:109:GLY:C	2.61	0.44
29:YF:174:VAL:CG1	29:YF:174:VAL:O	2.65	0.44
31:YH:37:VAL:HG11	31:YH:68:THR:HG23	1.98	0.44
32:YI:130:TYR:N	32:YI:136:VAL:O	2.51	0.44
38:YS:14:VAL:CG1	38:YS:15:ARG:N	2.81	0.44
49:Y3:31:LEU:O	49:Y3:32:GLN:HB2	2.17	0.44
2:QB:37:ASN:C	2:QB:39:ILE:H	2.26	0.43
3:QC:81:GLY:O	3:QC:85:ARG:HB2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:119:LYS:HB2	12:QL:120:TYR:HD1	1.83	0.43
20:QT:16:HIS:O	20:QT:19:SER:HB3	2.17	0.43
22:QV:8:G:N2	22:QV:46:G:OP2	2.51	0.43
25:RA:66:U:C4	25:RA:73:A:N1	2.86	0.43
25:RA:231:G:H5"	54:R8:62:LEU:CD2	2.39	0.43
25:RA:739:C:H4'	27:RD:41:GLY:O	2.18	0.43
25:RA:969:C:H2'	25:RA:970:C:C6	2.53	0.43
25:RA:1291:G:OP1	35:RP:13:ASN:ND2	2.40	0.43
25:RA:1509:C:H4'	25:RA:2715:C:H5'	2.00	0.43
25:RA:2078:G:H2'	25:RA:2078:G:N3	2.34	0.43
25:RA:2230:U:H4'	47:R1:52:ARG:HH12	1.83	0.43
25:RA:2306:C:H2'	25:RA:2307:C:H6	1.82	0.43
25:RA:2362:C:C5	54:R8:42:ARG:NH1	2.86	0.43
25:RA:2518:U:O2'	56:Z5:101:PPU:H4'	2.18	0.43
27:RD:145:VAL:HG11	27:RD:175:LEU:HD11	2.00	0.43
28:RE:3:GLY:CA	28:RE:81:ILE:HG21	2.48	0.43
28:RE:51:PHE:HD2	28:RE:52:LEU:H	1.59	0.43
30:RG:6:ALA:HB3	50:R4:23:GLU:HG2	2.00	0.43
30:RG:57:ALA:HB1	30:RG:68:PRO:HG2	1.99	0.43
31:RH:58:GLU:O	31:RH:59:ARG:C	2.61	0.43
31:RH:136:ILE:HD12	31:RH:136:ILE:N	2.31	0.43
31:RH:137:ASP:OD1	31:RH:138:LYS:N	2.51	0.43
54:R8:28:GLY:O	54:R8:29:LYS:C	2.61	0.43
1:XA:455:C:H42	1:XA:477:G:H1	1.65	0.43
1:XA:630:G:H2'	1:XA:631:G:O4'	2.18	0.43
1:XA:824:C:H2'	1:XA:825:G:C8	2.53	0.43
4:XD:33:MET:HE2	4:XD:37:PRO:CA	2.44	0.43
6:XF:33:TYR:HB2	6:XF:75:LEU:HD12	1.99	0.43
22:XV:2:C:C2'	22:XV:3:G:H5'	2.48	0.43
25:YA:340:A:H2'	25:YA:341:G:O4'	2.18	0.43
25:YA:588:U:H2'	25:YA:589:C:C6	2.53	0.43
25:YA:639:U:H2'	25:YA:640:C:C6	2.53	0.43
25:YA:823:G:H2'	25:YA:824:A:C8	2.53	0.43
25:YA:1021:A:OP2	33:YN:65:LYS:NZ	2.51	0.43
26:YB:4:C:C2	26:YB:117:G:N2	2.86	0.43
27:YD:35:LYS:HB3	27:YD:36:PRO:HA	2.00	0.43
27:YD:145:VAL:HG12	27:YD:146:GLU:N	2.32	0.43
27:YD:166:GLN:CA	27:YD:166:GLN:NE2	2.78	0.43
28:YE:48:GLN:HE21	28:YE:48:GLN:HB3	1.55	0.43
29:YF:42:ALA:O	29:YF:45:ARG:HB2	2.18	0.43
30:YG:10:LYS:HE2	30:YG:175:LEU:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YG:67:LYS:O	30:YG:67:LYS:HD2	2.17	0.43
31:YH:149:ARG:HA	31:YH:162:ILE:HG21	1.99	0.43
32:YI:32:PRO:C	32:YI:34:GLY:H	2.26	0.43
35:YP:62:LEU:HD21	54:Y8:25:MET:HB2	1.99	0.43
38:YS:38:GLN:CG	38:YS:47:THR:HG21	2.48	0.43
38:YS:57:LYS:O	38:YS:58:LEU:HB3	2.18	0.43
52:Y6:7:ILE:HD12	52:Y6:7:ILE:HA	1.85	0.43
1:QA:56:U:H4'	32:YI:82:ARG:HH22	1.83	0.43
1:QA:860:A:H2'	1:QA:861:G:O4'	2.19	0.43
1:QA:1098:C:H2'	1:QA:1099:G:O4'	2.18	0.43
1:QA:1346:A:C4	7:QG:10:ARG:NH1	2.86	0.43
1:QA:1347:G:O2'	1:QA:1348:U:P	2.76	0.43
1:QA:1347:G:O6	9:QI:10:ARG:NH2	2.51	0.43
7:QG:116:ALA:HA	7:QG:119:ARG:HE	1.83	0.43
15:QO:17:ARG:HD3	15:QO:26:GLU:HG3	1.99	0.43
25:RA:988:U:P	35:RP:36:LYS:HG2	2.58	0.43
25:RA:1185:C:OP1	33:RN:23:LEU:HB3	2.18	0.43
25:RA:1583:C:H2'	25:RA:1584:G:O4'	2.17	0.43
25:RA:2332:A:N3	25:RA:2332:A:H2'	2.33	0.43
27:RD:70:TRP:CD1	27:RD:70:TRP:C	2.96	0.43
28:RE:25:VAL:HG11	39:RT:11:GLU:CD	2.43	0.43
31:RH:92:ILE:CD1	31:RH:160:LYS:HD3	2.48	0.43
33:RN:33:LEU:HA	33:RN:38:HIS:CE1	2.53	0.43
50:R4:2:LYS:HD2	50:R4:2:LYS:HA	1.61	0.43
54:R8:58:ILE:O	54:R8:61:LEU:CD1	2.67	0.43
1:XA:1192:C:OP2	3:XC:4:LYS:NZ	2.48	0.43
3:XC:72:LYS:HB3	3:XC:75:VAL:HG23	2.00	0.43
4:XD:100:ARG:NH1	4:XD:137:SER:HB3	2.33	0.43
9:XI:118:LYS:O	9:XI:119:ALA:HB3	2.18	0.43
10:XJ:57:LYS:CD	10:XJ:60:ARG:NH2	2.78	0.43
15:XO:39:LEU:HD13	15:XO:56:LEU:HB2	2.00	0.43
16:XP:45:THR:HG22	16:XP:47:ASP:N	2.26	0.43
25:YA:69:C:H2'	25:YA:70:G:C8	2.53	0.43
25:YA:357:A:H2'	25:YA:358:U:C6	2.53	0.43
25:YA:425:G:H2'	25:YA:426:C:H6	1.83	0.43
25:YA:1062:G:H2'	25:YA:1063:G:C8	2.53	0.43
25:YA:1069:A:H2'	25:YA:1073:A:N7	2.33	0.43
25:YA:1344:G:H4'	25:YA:1384:A:C5	2.53	0.43
25:YA:1510:A:H2'	25:YA:1510:A:N3	2.32	0.43
25:YA:2377:A:H2'	25:YA:2378:A:C8	2.52	0.43
25:YA:2841:C:H42	25:YA:2876:G:H1	1.64	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YB:78:A:C2	26:YB:99:A:C4	3.06	0.43
27:YD:95:LEU:HD12	27:YD:95:LEU:O	2.17	0.43
28:YE:3:GLY:CA	28:YE:81:ILE:HG21	2.49	0.43
29:YF:79:GLY:O	29:YF:80:ALA:C	2.61	0.43
30:YG:83:ARG:HG3	30:YG:86:MET:HE3	1.99	0.43
33:YN:112:LEU:O	33:YN:112:LEU:HG	2.17	0.43
35:YP:126:VAL:HG12	35:YP:147:LEU:CD2	2.48	0.43
36:YQ:21:THR:HB	36:YQ:22:LYS:H	1.42	0.43
36:YQ:80:GLU:C	36:YQ:81:VAL:CG1	2.88	0.43
37:YR:38:VAL:HG22	37:YR:112:ALA:HB2	1.99	0.43
39:YT:35:LYS:H	39:YT:35:LYS:HD2	1.83	0.43
42:YW:14:PRO:C	42:YW:18:ARG:HD2	2.43	0.43
43:YX:70:LEU:HD23	43:YX:70:LEU:H	1.84	0.43
1:QA:711:G:OP1	6:QF:54:LYS:NZ	2.52	0.43
1:QA:1372:U:H2'	1:QA:1373:G:O4'	2.18	0.43
4:QD:155:LEU:O	4:QD:159:ARG:HG2	2.18	0.43
7:QG:153:HIS:CE1	11:QK:57:THR:HG23	2.53	0.43
10:QJ:50:ILE:HB	14:QN:41:ARG:NE	2.33	0.43
13:QM:122:LYS:HD3	13:QM:122:LYS:C	2.43	0.43
18:QR:37:VAL:HG22	18:QR:78:LEU:HB3	2.00	0.43
25:RA:389:G:H2'	25:RA:390:G:C8	2.53	0.43
25:RA:399:G:O2'	25:RA:400:U:P	2.76	0.43
25:RA:565:C:H2'	25:RA:566:C:C6	2.53	0.43
25:RA:581:G:OP1	33:RN:111:PRO:HD2	2.17	0.43
25:RA:918:U:OP1	36:RQ:5:ARG:HG2	2.17	0.43
25:RA:1536:A:O2'	27:RD:99:ASP:OD1	2.33	0.43
25:RA:1834:A:H4'	27:RD:259:THR:HG23	1.99	0.43
25:RA:1852:A:H2'	25:RA:1853:G:C8	2.53	0.43
25:RA:1940:A:O2'	25:RA:1942:C:N4	2.51	0.43
25:RA:2205:C:H2'	25:RA:2206:G:C8	2.53	0.43
25:RA:2343:G:O2'	25:RA:2348:A:N1	2.40	0.43
26:RB:86:G:C2	26:RB:91:C:C2	3.06	0.43
28:RE:16:ARG:O	28:RE:18:ASP:O	2.36	0.43
28:RE:31:CYS:HB3	28:RE:49:LEU:HG	2.01	0.43
28:RE:36:ARG:HB3	28:RE:36:ARG:NH1	2.30	0.43
31:RH:6:ARG:CG	31:RH:7:LEU:N	2.81	0.43
34:RO:20:MET:HE3	34:RO:44:LYS:HE3	2.01	0.43
36:RQ:27:VAL:HG13	36:RQ:28:ALA:N	2.32	0.43
44:RY:42:VAL:O	44:RY:65:ALA:N	2.45	0.43
45:RZ:153:SER:HB2	45:RZ:167:PRO:HB3	2.00	0.43
1:XA:255:G:O2'	1:XA:256:U:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:857:C:H2'	1:XA:858:G:O4'	2.18	0.43
1:XA:858:G:O6	1:XA:869:G:H3'	2.18	0.43
1:XA:1145:C:H4'	1:XA:1146:A:H5'	2.00	0.43
2:XB:80:ILE:HG21	2:XB:212:GLN:HA	2.00	0.43
2:XB:100:GLY:N	2:XB:176:GLU:OE2	2.47	0.43
25:YA:374:A:C2	25:YA:401:A:C4	3.07	0.43
25:YA:1028:A:N3	25:YA:2486:G:O2'	2.43	0.43
25:YA:1178:C:O2'	25:YA:1179:C:OP1	2.36	0.43
25:YA:1535:U:H5"	25:YA:1537:C:C4	2.53	0.43
25:YA:1902:C:H5'	27:YD:246:PRO:HD3	2.00	0.43
25:YA:2546:U:H4'	25:YA:2566:A:H2	1.84	0.43
27:YD:181:GLU:HA	27:YD:272:ALA:CB	2.38	0.43
28:YE:3:GLY:HA3	28:YE:81:ILE:CD1	2.48	0.43
28:YE:11:MET:O	28:YE:12:THR:HB	2.18	0.43
31:YH:136:ILE:HD12	31:YH:136:ILE:N	2.31	0.43
36:YQ:136:ALA:C	36:YQ:138:ASP:H	2.25	0.43
37:YR:101:ALA:CB	51:Y5:47:PRO:HD3	2.48	0.43
38:YS:86:ALA:O	38:YS:87:PHE:CB	2.65	0.43
38:YS:99:LYS:C	38:YS:101:LEU:H	2.25	0.43
40:YU:92:ARG:NH2	41:YV:11:GLN:H	2.15	0.43
41:YV:81:TYR:C	41:YV:82:ARG:HD2	2.43	0.43
43:YX:8:ILE:O	48:Y2:36:ARG:NH2	2.51	0.43
43:YX:72:LYS:HG2	43:YX:73:ARG:O	2.18	0.43
47:Y1:83:GLU:C	47:Y1:85:LEU:N	2.76	0.43
51:Y5:56:LYS:CG	51:Y5:58:LEU:HB3	2.46	0.43
54:Y8:58:ILE:O	54:Y8:61:LEU:CG	2.66	0.43
2:QB:167:PRO:HG3	2:QB:188:ALA:HB2	2.00	0.43
4:QD:133:VAL:HG12	4:QD:135:LEU:H	1.83	0.43
11:QK:19:ALA:HB2	11:QK:32:ILE:HG22	2.00	0.43
25:RA:98:U:H4'	25:RA:99:G:O5'	2.18	0.43
25:RA:662:A:O5'	35:RP:116:GLY:HA2	2.18	0.43
25:RA:873:U:H2'	25:RA:875:U:O4'	2.19	0.43
25:RA:905:U:O2	25:RA:2280:A:H2'	2.18	0.43
25:RA:1033:G:H2'	25:RA:1034:A:O4'	2.18	0.43
25:RA:1243:U:H2'	25:RA:1244:U:C6	2.53	0.43
25:RA:1249:A:H2	25:RA:1287:A:N1	2.17	0.43
25:RA:1315:A:O2'	25:RA:1371:G:O6	2.35	0.43
25:RA:2297:C:N4	52:R6:27:LYS:HE2	2.33	0.43
25:RA:2738:A:O2'	25:RA:2739:U:H5"	2.18	0.43
28:RE:48:GLN:HE21	28:RE:48:GLN:HB3	1.55	0.43
28:RE:52:LEU:O	28:RE:74:PRO:HA	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RI:113:ARG:HG3	32:RI:131:LYS:HZ3	1.81	0.43
44:RY:47:LYS:O	44:RY:49:VAL:N	2.51	0.43
44:RY:97:ARG:HE	44:RY:98:VAL:HB	1.83	0.43
50:R4:49:PHE:N	50:R4:49:PHE:HD1	2.17	0.43
1:XA:191(E):G:H2'	1:XA:191(F):U:C6	2.54	0.43
1:XA:265:G:H2'	1:XA:267:C:H5	1.83	0.43
1:XA:575:G:O2'	1:XA:821:G:H5'	2.17	0.43
10:XJ:32:ALA:H	10:XJ:78:ASN:ND2	2.16	0.43
10:XJ:44:VAL:HG13	10:XJ:66:ARG:HG2	1.99	0.43
12:XL:27:LEU:HD13	12:XL:28:LYS:H	1.84	0.43
17:XQ:62:SER:HB3	17:XQ:72:ARG:HE	1.84	0.43
19:XS:68:GLY:HA3	50:Y4:68:ARG:HB2	2.00	0.43
20:XT:26:ASN:HB2	20:XT:71:THR:CB	2.43	0.43
25:YA:242:G:C3'	54:Y8:6:THR:HG23	2.49	0.43
25:YA:508:G:HO2'	25:YA:509:C:P	2.41	0.43
25:YA:539:G:H5'	25:YA:540:G:OP1	2.19	0.43
25:YA:1179:C:H2'	25:YA:1180:C:O4'	2.18	0.43
25:YA:1270:C:O2'	25:YA:1648:C:OP2	2.34	0.43
25:YA:1535:U:H5"	25:YA:1537:C:N3	2.32	0.43
25:YA:1820:U:H4'	25:YA:1821:A:OP2	2.18	0.43
25:YA:1860:G:H1	25:YA:1882:C:H42	1.66	0.43
25:YA:2216:G:H2'	25:YA:2217:G:H8	1.82	0.43
25:YA:2795:G:H3'	25:YA:2797:U:C5'	2.48	0.43
28:YE:143:ASN:N	28:YE:143:ASN:ND2	2.65	0.43
30:YG:31:VAL:HA	30:YG:32:PRO:HD3	1.83	0.43
31:YH:35:VAL:CG2	31:YH:75:ALA:HB2	2.48	0.43
35:YP:49:ARG:HG3	54:Y8:59:LYS:CG	2.49	0.43
35:YP:57:THR:C	35:YP:59:LEU:H	2.26	0.43
35:YP:83:VAL:O	35:YP:114:ILE:HA	2.19	0.43
41:YV:52:VAL:O	41:YV:54:GLY:N	2.51	0.43
48:Y2:41:ILE:C	48:Y2:41:ILE:CD1	2.81	0.43
48:Y2:59:ARG:O	48:Y2:62:THR:HG23	2.18	0.43
54:Y8:58:ILE:O	54:Y8:61:LEU:CD1	2.67	0.43
1:QA:1199:U:H4'	10:QJ:54:PHE:CZ	2.53	0.43
1:QA:1298:C:H4'	1:QA:1299:A:C8	2.53	0.43
1:QA:1439:C:N4	1:QA:1462:G:H1	2.17	0.43
1:QA:1502:A:H5'	1:QA:1504:G:N7	2.34	0.43
2:QB:217:ARG:HE	2:QB:217:ARG:HB2	1.29	0.43
8:QH:105:ARG:HA	8:QH:105:ARG:HD3	1.78	0.43
10:QJ:22:LYS:HB3	10:QJ:22:LYS:HE3	1.68	0.43
12:QL:76:ASN:O	12:QL:76:ASN:CG	2.61	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:QQ:63:ARG:HG2	17:QQ:64:PRO:HD2	2.00	0.43
25:RA:48:A:H61	25:RA:166:G:H2'	1.81	0.43
25:RA:309:C:H42	25:RA:380:G:H1	1.66	0.43
25:RA:956:A:C5	36:RQ:13:GLN:HG3	2.54	0.43
25:RA:1235:G:OP1	35:RP:30:THR:OG1	2.25	0.43
25:RA:1629:C:O2'	25:RA:1632:A:H8	2.01	0.43
25:RA:1821:C:H2'	25:RA:1822:A:C5	2.54	0.43
25:RA:2303:U:H2'	25:RA:2304:C:C6	2.54	0.43
25:RA:2569:G:H2'	25:RA:2570:C:C6	2.53	0.43
25:RA:2647:C:H5"	28:RE:78:LEU:HA	2.00	0.43
26:RB:24:G:H1'	26:RB:27:C:N4	2.33	0.43
28:RE:16:ARG:C	28:RE:17:ASP:CG	2.86	0.43
30:RG:105:LYS:CE	50:R4:26:SER:HB3	2.49	0.43
31:RH:16:SER:OG	31:RH:17:VAL:N	2.50	0.43
35:RP:62:LEU:HD22	35:RP:62:LEU:O	2.19	0.43
36:RQ:83:MET:HB2	46:R0:7:LEU:HD12	2.01	0.43
43:RX:40:LYS:C	43:RX:42:ALA:N	2.76	0.43
44:RY:46:LYS:HB2	44:RY:61:ILE:HG22	1.99	0.43
45:RZ:5:LEU:HD21	45:RZ:44:PHE:HA	2.01	0.43
50:R4:39:CYS:O	50:R4:40:HIS:CB	2.66	0.43
1:XA:64:G:H5'	1:XA:65:U:OP1	2.19	0.43
1:XA:652:U:H1'	1:XA:653:A:C2	2.54	0.43
2:XB:178:ARG:HG3	8:XH:72:PRO:CA	2.47	0.43
13:XM:14:ARG:H	13:XM:44:ARG:CD	2.25	0.43
15:XO:25:THR:HG21	15:XO:70:LEU:HB2	2.01	0.43
24:XY:36:U:N3	24:XY:37:A:N7	2.65	0.43
25:YA:18:C:O2'	25:YA:553:U:OP1	2.33	0.43
25:YA:357:A:H2'	25:YA:358:U:H6	1.82	0.43
25:YA:581:C:OP1	40:YU:33:ARG:HG3	2.18	0.43
25:YA:846:C:C4	25:YA:930:U:C4	3.07	0.43
25:YA:1675:C:O2	28:YE:129:HIS:N	2.49	0.43
25:YA:2292:C:P	38:YS:17:ARG:HH22	2.42	0.43
25:YA:2732:G:H3'	25:YA:2733:A:O4'	2.18	0.43
25:YA:2811:G:OP2	25:YA:2811:G:H8	2.01	0.43
27:YD:43:ARG:CZ	27:YD:49:ILE:HG21	2.49	0.43
28:YE:51:PHE:O	28:YE:74:PRO:CB	2.67	0.43
30:YG:47:LYS:HB2	30:YG:47:LYS:HE3	1.73	0.43
34:YO:64:ARG:HG2	34:YO:79:PHE:CD1	2.53	0.43
37:YR:34:ILE:HA	37:YR:34:ILE:HD13	1.71	0.43
38:YS:88:ASP:CG	38:YS:89:ARG:N	2.77	0.43
40:YU:60:LEU:HD11	40:YU:64:ARG:CZ	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:YV:55:ALA:HB2	41:YV:101:GLY:HA2	1.99	0.43
43:YX:53:LYS:H	43:YX:82:GLN:HB3	1.83	0.43
44:YY:87:LYS:HB2	44:YY:87:LYS:NZ	2.33	0.43
45:YZ:30:ASN:OD1	45:YZ:33:LEU:N	2.49	0.43
54:Y8:40:GLU:O	54:Y8:43:GLN:N	2.50	0.43
1:QA:337:C:H2'	1:QA:338:A:C8	2.53	0.43
1:QA:429:U:H1'	1:QA:430:A:H5"	2.00	0.43
1:QA:475:G:H2'	1:QA:476:G:C8	2.53	0.43
1:QA:743:U:H2'	1:QA:744:C:C6	2.53	0.43
1:QA:960:U:O2'	1:QA:1223:C:H5"	2.17	0.43
1:QA:1321:C:C4	1:QA:1322:C:C4	3.07	0.43
8:QH:13:ILE:O	8:QH:17:THR:HG23	2.19	0.43
16:QP:20:VAL:HG21	16:QP:32:TYR:CE2	2.54	0.43
25:RA:26:G:OP1	42:RW:80:PRO:HB3	2.19	0.43
25:RA:238:C:O2	54:R8:12:LYS:HE3	2.18	0.43
25:RA:289:G:H2'	25:RA:290:G:C8	2.52	0.43
25:RA:1106:U:O2	25:RA:1134:A:H1'	2.19	0.43
25:RA:1157:A:H4'	31:RH:3:ARG:CD	2.49	0.43
25:RA:1399:A:O4'	25:RA:1616:A:H2	2.02	0.43
25:RA:1704:C:OP1	28:RE:136:ARG:N	2.52	0.43
25:RA:2432:C:O5'	25:RA:2432:C:H6	2.02	0.43
25:RA:2691:A:H5'	28:RE:165:VAL:HG11	2.00	0.43
25:RA:2724:U:O2'	25:RA:2725:A:P	2.76	0.43
28:RE:51:PHE:CD2	28:RE:52:LEU:N	2.76	0.43
30:RG:97:ASP:HA	30:RG:100:TRP:HD1	1.84	0.43
31:RH:125:VAL:CG1	31:RH:126:PRO:CG	2.94	0.43
39:RT:1:MET:O	39:RT:3:ARG:HG2	2.19	0.43
1:XA:359:U:H2'	1:XA:360:A:C8	2.53	0.43
1:XA:877:C:H5"	8:XH:88:LYS:HD3	2.00	0.43
1:XA:1228:C:P	13:XM:108:ARG:HH22	2.42	0.43
1:XA:1490:C:H2'	1:XA:1491:G:C8	2.54	0.43
2:XB:215:LEU:HD22	2:XB:215:LEU:HA	1.73	0.43
14:XN:29:ARG:HD3	14:XN:40:CYS:HB2	1.99	0.43
25:YA:30:G:H2'	25:YA:31:C:O4'	2.19	0.43
25:YA:858:U:H1'	25:YA:2268:A:H2'	2.00	0.43
25:YA:860:U:H5	25:YA:917:A:C2	2.37	0.43
25:YA:1063:G:H1'	25:YA:1077:A:N7	2.33	0.43
25:YA:2151:G:H2'	25:YA:2152:G:C8	2.53	0.43
25:YA:2213:U:H1'	47:Y1:52:ARG:CZ	2.49	0.43
25:YA:2224:G:OP1	27:YD:268:ARG:HD3	2.18	0.43
25:YA:2370:G:H21	52:Y6:45:LYS:CE	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:11:PRO:O	27:YD:12:SER:OG	2.30	0.43
27:YD:44:ASN:HB3	27:YD:49:ILE:CG2	2.47	0.43
27:YD:172:TYR:CD1	27:YD:186:HIS:HA	2.53	0.43
28:YE:155:LYS:O	28:YE:156:MET:HG3	2.19	0.43
31:YH:27:LYS:HD2	31:YH:27:LYS:C	2.44	0.43
31:YH:92:ILE:CD1	31:YH:160:LYS:HD3	2.48	0.43
32:YI:51:ILE:O	32:YI:55:ALA:N	2.45	0.43
36:YQ:27:VAL:HG13	36:YQ:28:ALA:N	2.32	0.43
37:YR:91:GLN:H	37:YR:91:GLN:CD	2.26	0.43
44:YY:67:LEU:HD12	44:YY:67:LEU:HA	1.78	0.43
49:Y3:51:ALA:HA	49:Y3:54:VAL:HG12	2.00	0.43
54:Y8:28:GLY:O	54:Y8:29:LYS:C	2.61	0.43
1:QA:109:A:C6	1:QA:326:G:C6	3.07	0.43
1:QA:149:A:H4'	1:QA:1450:U:N3	2.32	0.43
1:QA:789:U:H1'	1:QA:792:A:H2	1.83	0.43
4:QD:158:ILE:HD13	4:QD:158:ILE:HA	1.83	0.43
5:QE:47:LYS:HE2	5:QE:47:LYS:HB2	1.82	0.43
11:QK:38:ASN:HA	11:QK:39:PRO:HD3	1.87	0.43
12:QL:91:LYS:HE2	12:QL:91:LYS:HB2	1.76	0.43
14:QN:47:LEU:HD23	14:QN:47:LEU:HA	1.74	0.43
15:QO:25:THR:HG21	15:QO:70:LEU:HB2	2.00	0.43
18:QR:53:ARG:HH21	18:QR:60:ALA:N	2.17	0.43
19:QS:67:VAL:N	50:R4:59:PHE:HZ	2.10	0.43
25:RA:517:A:H2'	25:RA:518:G:O4'	2.19	0.43
25:RA:611:U:H1'	29:RF:90:PHE:CG	2.53	0.43
25:RA:750:U:O4	25:RA:751:G:N1	2.52	0.43
25:RA:995:G:C6	25:RA:996:C:C4	3.07	0.43
25:RA:1514:C:N4	25:RA:1571:G:H1	2.11	0.43
25:RA:1766:G:H3'	25:RA:1767:A:C5'	2.48	0.43
25:RA:2220:A:C2	32:RI:29:TYR:HB2	2.53	0.43
25:RA:2437:A:H4'	25:RA:2438:A:H5"	1.99	0.43
26:RB:61:G:C6	26:RB:62:C:C4	3.07	0.43
28:RE:51:PHE:O	28:RE:74:PRO:CB	2.67	0.43
28:RE:120:TRP:CE3	28:RE:155:LYS:HD3	2.53	0.43
31:RH:35:VAL:CG2	31:RH:75:ALA:HB2	2.48	0.43
32:RI:68:LEU:HA	32:RI:71:ILE:HG22	2.00	0.43
35:RP:90:ARG:HB3	35:RP:91:PHE:H	1.68	0.43
38:RS:12:PHE:HD1	38:RS:12:PHE:HA	1.72	0.43
44:RY:55:TYR:CD1	44:RY:55:TYR:N	2.87	0.43
48:R2:39:ALA:HA	48:R2:45:SER:HB2	2.00	0.43
1:XA:514:C:H2'	1:XA:515:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:688:G:H2'	1:XA:689:C:H6	1.83	0.43
1:XA:768:A:H5'	1:XA:1524:C:H1'	2.00	0.43
1:XA:789:U:O2'	1:XA:791:G:N7	2.48	0.43
1:XA:1320:C:H42	19:XS:36:ARG:HG3	1.83	0.43
1:XA:1454:G:H2'	1:XA:1455:G:C8	2.53	0.43
12:XL:76:ASN:O	12:XL:76:ASN:CG	2.62	0.43
20:XT:41:ILE:HG22	20:XT:91:LEU:HD11	1.98	0.43
25:YA:299:A:OP2	25:YA:299:A:H8	2.02	0.43
25:YA:350:U:H2'	25:YA:351:G:O4'	2.19	0.43
25:YA:760:G:H2'	25:YA:761:A:O4'	2.18	0.43
25:YA:911:A:H2'	36:YQ:9:TYR:OH	2.18	0.43
28:YE:13:ARG:HH11	28:YE:13:ARG:HB2	1.81	0.43
34:YO:88:ASN:OD1	34:YO:90:GLN:HB2	2.19	0.43
34:YO:88:ASN:ND2	34:YO:92:GLU:HB2	2.23	0.43
35:YP:126:VAL:HG22	35:YP:145:PRO:HG2	2.01	0.43
39:YT:80:SER:HA	39:YT:81:PRO:HD3	1.89	0.43
41:YV:52:VAL:C	41:YV:54:GLY:H	2.26	0.43
45:YZ:112:ARG:O	45:YZ:114:GLY:N	2.51	0.43
1:QA:49:U:O4	1:QA:365:U:O4	2.36	0.43
1:QA:775:G:H2'	1:QA:776:G:O4'	2.19	0.43
1:QA:981:U:H5'	14:QN:21:TYR:CE2	2.54	0.43
1:QA:1223:C:P	19:QS:78:ARG:HH12	2.41	0.43
4:QD:31:CYS:CA	4:QD:32:ALA:C	2.92	0.43
4:QD:169:LYS:HE2	4:QD:169:LYS:HB3	1.88	0.43
9:QI:112:LYS:HD3	9:QI:113:LYS:O	2.18	0.43
13:QM:44:ARG:HB2	13:QM:47:ASP:OD2	2.19	0.43
18:QR:29:PHE:N	18:QR:29:PHE:CD1	2.87	0.43
20:QT:53:LEU:HD12	20:QT:100:ILE:HG23	2.01	0.43
25:RA:590:A:H2'	25:RA:591:U:O4'	2.19	0.43
25:RA:1294:G:C5	40:RU:3:ARG:HB2	2.53	0.43
25:RA:1834:A:H4'	27:RD:259:THR:CG2	2.49	0.43
25:RA:2036:A:HO2'	51:R5:2:ALA:HB2	1.81	0.43
25:RA:2414:C:H5	25:RA:2427:G:H22	1.65	0.43
25:RA:2879:G:H2'	25:RA:2880:C:O4'	2.18	0.43
26:RB:15:A:H1'	26:RB:109:G:C8	2.53	0.43
32:RI:60:GLU:O	32:RI:64:GLU:N	2.52	0.43
33:RN:58:ASP:HB3	33:RN:95:PRO:HB3	2.00	0.43
33:RN:61:ARG:HA	33:RN:61:ARG:HE	1.82	0.43
42:RW:20:VAL:HG22	42:RW:47:VAL:HG21	2.01	0.43
45:RZ:141:VAL:HA	45:RZ:144:LEU:HD23	2.00	0.43
50:R4:59:PHE:CE1	50:R4:70:GLY:N	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:464:G:N2	1:XA:467:G:N7	2.67	0.43
1:XA:501:C:H2'	1:XA:502:G:H8	1.82	0.43
1:XA:745:C:OP1	1:XA:851:G:O2'	2.37	0.43
1:XA:941:G:H2'	1:XA:942:G:O4'	2.18	0.43
1:XA:1075:C:OP1	2:XB:179:LYS:HE2	2.19	0.43
4:XD:153:ARG:NH1	4:XD:181:MET:HB2	2.33	0.43
5:XE:79:GLU:H	5:XE:79:GLU:HG3	1.45	0.43
10:XJ:6:ILE:HG22	10:XJ:98:ILE:HG23	2.01	0.43
12:XL:6:THR:H	12:XL:9:GLN:NE2	1.97	0.43
13:XM:4:ILE:HG22	13:XM:5:ALA:N	2.34	0.43
14:XN:27:CYS:SG	14:XN:29:ARG:HB2	2.58	0.43
25:YA:921:G:H4'	25:YA:2269:A:C5	2.54	0.43
25:YA:1331:A:O2'	25:YA:1332:G:H8	2.02	0.43
25:YA:2633:G:H2'	25:YA:2634:G:O4'	2.19	0.43
25:YA:2652:C:H2'	25:YA:2653:U:O4'	2.19	0.43
26:YB:83:G:C5	26:YB:84:C:C5	3.06	0.43
27:YD:117:VAL:HG21	27:YD:128:GLY:C	2.44	0.43
28:YE:16:ARG:O	28:YE:18:ASP:O	2.36	0.43
28:YE:23:VAL:HG12	28:YE:184:VAL:O	2.19	0.43
28:YE:111:ARG:HA	37:YR:1:MET:HG3	2.01	0.43
31:YH:120:GLY:O	31:YH:136:ILE:HD12	2.19	0.43
35:YP:61:ARG:CZ	54:Y8:13:ARG:HD2	2.49	0.43
38:YS:30:ARG:NH2	38:YS:92:TYR:HD1	2.17	0.43
44:YY:80:GLY:O	44:YY:81:LYS:HG3	2.18	0.43
48:Y2:62:THR:O	48:Y2:65:ASN:HB2	2.18	0.43
52:Y6:28:ARG:HH21	52:Y6:30:THR:HG23	1.84	0.43
1:QA:386:C:H2'	1:QA:387:U:O4'	2.19	0.43
1:QA:502:G:H4'	1:QA:550:G:H4'	2.01	0.43
1:QA:580:U:H2'	1:QA:581:G:O4'	2.18	0.43
1:QA:857:C:H2'	1:QA:858:G:O4'	2.19	0.43
1:QA:986:A:H1'	19:QS:54:GLY:O	2.19	0.43
1:QA:1443:G:H5'	1:QA:1446:A:OP2	2.19	0.43
2:QB:8:LYS:HE3	2:QB:11:LEU:HB3	2.01	0.43
2:QB:44:LEU:H	2:QB:44:LEU:HD12	1.83	0.43
6:QF:62:TRP:CH2	6:QF:64:GLN:HB2	2.54	0.43
10:QJ:79:ARG:HD3	10:QJ:79:ARG:HA	1.78	0.43
11:QK:53:SER:C	11:QK:55:LYS:H	2.27	0.43
12:QL:44:THR:HA	12:QL:45:PRO:HD3	1.70	0.43
15:QO:48:LYS:HD3	15:QO:48:LYS:HA	1.76	0.43
25:RA:604:C:OP1	40:RU:33:ARG:HG3	2.18	0.43
25:RA:616:G:H2'	25:RA:617:U:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1233:U:H4'	41:RV:79:VAL:HG22	2.01	0.43
25:RA:2347:A:HO2'	25:RA:2348:A:C5'	2.31	0.43
25:RA:2762:A:H3'	25:RA:2763:A:H2'	2.00	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:83:TYR:CE1	31:RH:138:LYS:HE3	2.53	0.43
39:RT:19:LEU:HA	39:RT:20:PRO:HD3	1.86	0.43
39:RT:107:ASP:O	39:RT:110:ILE:HG22	2.19	0.43
40:RU:69:CYS:HB3	40:RU:106:PHE:CZ	2.54	0.43
44:RY:54:LYS:HB3	44:RY:55:TYR:CD1	2.53	0.43
50:R4:15:ILE:N	50:R4:15:ILE:CD1	2.78	0.43
50:R4:35:VAL:C	50:R4:37:SER:H	2.19	0.43
50:R4:43:TYR:O	50:R4:46:GLN:HA	2.19	0.43
50:R4:48:ARG:NH1	50:R4:51:ASP:HA	2.34	0.43
2:XB:7:VAL:HG21	2:XB:217:ARG:NH1	2.34	0.43
5:XE:42:GLY:CA	5:XE:66:MET:HG2	2.48	0.43
8:XH:13:ILE:O	8:XH:17:THR:HG23	2.18	0.43
8:XH:104:ARG:HD2	8:XH:138:TRP:CD2	2.53	0.43
9:XI:8:GLY:HA2	9:XI:79:LEU:HD12	2.01	0.43
14:XN:6:LEU:HD23	14:XN:23:ARG:HH22	1.83	0.43
25:YA:65:C:H5'	43:YX:71:GLY:HA3	1.99	0.43
25:YA:234:C:H2'	25:YA:235:U:C6	2.53	0.43
25:YA:253:C:H2'	25:YA:254:G:O4'	2.19	0.43
25:YA:273:G:H1	25:YA:364:C:N4	2.15	0.43
25:YA:2420:C:O5'	25:YA:2420:C:H6	2.01	0.43
25:YA:2564:A:C2	25:YA:2647:U:H4'	2.53	0.43
26:YB:89(A):A:C5	26:YB:90:C:H1'	2.54	0.43
28:YE:52:LEU:O	28:YE:74:PRO:HA	2.19	0.43
30:YG:64:THR:CG2	30:YG:66:GLN:H	2.27	0.43
30:YG:103:LEU:HA	30:YG:103:LEU:HD23	1.83	0.43
31:YH:58:GLU:O	31:YH:59:ARG:C	2.61	0.43
35:YP:113:LYS:HG2	35:YP:115:LEU:HD23	2.01	0.43
49:Y3:7:LYS:HE2	49:Y3:32:GLN:O	2.19	0.43
1:QA:464:G:O6	1:QA:466:C:H5'	2.19	0.43
1:QA:1147:C:O2'	9:QI:5:TYR:OH	2.32	0.43
1:QA:1395:C:O2'	1:QA:1401:G:O2'	2.30	0.43
3:QC:11:ARG:HB3	3:QC:15:THR:HB	2.01	0.43
4:QD:31:CYS:N	4:QD:32:ALA:C	2.77	0.43
4:QD:120:LEU:HD23	4:QD:120:LEU:HA	1.86	0.43
10:QJ:54:PHE:HB3	10:QJ:55:LYS:H	1.69	0.43
25:RA:193:A:O2'	25:RA:194:G:OP2	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:231:G:C3'	54:R8:6:THR:HG23	2.49	0.43
25:RA:322:G:O2'	25:RA:346:A:N1	2.50	0.43
25:RA:331:G:H22	25:RA:334:A:P	2.42	0.43
25:RA:389:G:H2'	25:RA:390:G:H8	1.83	0.43
25:RA:723:A:H2	25:RA:849:A:N6	2.15	0.43
25:RA:740:C:O2'	25:RA:1399:A:N3	2.40	0.43
25:RA:1176:U:HO2'	25:RA:1177:G:P	2.39	0.43
25:RA:1219:A:H2'	25:RA:1219:A:N3	2.34	0.43
25:RA:1382:A:H2'	25:RA:1383:G:C8	2.53	0.43
25:RA:1704:C:H2'	25:RA:1705:C:H6	1.84	0.43
25:RA:2099:A:H2'	25:RA:2100:C:H6	1.83	0.43
27:RD:169:GLU:N	27:RD:172:TYR:O	2.51	0.43
31:RH:119:GLU:CD	31:RH:120:GLY:N	2.77	0.43
32:RI:62:LYS:HA	32:RI:133:HIS:NE2	2.33	0.43
33:RN:89:LYS:O	33:RN:93:THR:HG22	2.19	0.43
48:R2:70:GLN:O	48:R2:71:ASN:HB2	2.19	0.43
1:XA:302:G:O3'	12:XL:17:LYS:HE2	2.19	0.43
1:XA:1199:U:H4'	10:XJ:54:PHE:CD2	2.53	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	2.19	0.43
3:XC:149:ALA:HA	3:XC:201:TYR:O	2.18	0.43
4:XD:196:LEU:O	4:XD:198:VAL:N	2.51	0.43
7:XG:140:ASP:HA	7:XG:143:ARG:NH1	2.34	0.43
25:YA:99:U:H4'	25:YA:101:G:C5'	2.49	0.43
25:YA:325:G:H2'	25:YA:326:G:H8	1.84	0.43
25:YA:896:A:C2	45:YZ:176:PRO:HB3	2.54	0.43
25:YA:1012:U:HO2'	25:YA:1013:C:P	2.37	0.43
25:YA:1336:A:H2'	25:YA:1337:G:H8	1.83	0.43
25:YA:1805:U:O2	27:YD:50:THR:HB	2.19	0.43
25:YA:2744:G:N7	25:YA:2755:C:C2	2.87	0.43
28:YE:179:GLU:CB	28:YE:181:LEU:HD23	2.24	0.43
29:YF:45:ARG:HH11	29:YF:45:ARG:HG2	1.82	0.43
29:YF:63:LYS:CE	29:YF:67:GLN:HB2	2.49	0.43
30:YG:145:THR:O	30:YG:147:ASP:N	2.45	0.43
31:YH:119:GLU:CD	31:YH:120:GLY:N	2.77	0.43
35:YP:15:ARG:NH2	35:YP:15:ARG:CG	2.73	0.43
35:YP:30:THR:O	35:YP:33:ARG:HB2	2.18	0.43
36:YQ:57:HIS:ND1	36:YQ:58:PHE:N	2.66	0.43
37:YR:70:LEU:HD23	37:YR:70:LEU:HA	1.84	0.43
43:YX:87:GLN:C	43:YX:88:LYS:HG3	2.42	0.43
45:YZ:74:VAL:HG13	45:YZ:86:VAL:HG22	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:YZ:102:LEU:HG	45:YZ:123:ASP:HA	2.01	0.43
48:Y2:4:SER:OG	48:Y2:5:GLU:OE2	2.26	0.43
50:Y4:6:HIS:HA	50:Y4:7:PRO:HD2	1.83	0.43
53:Y7:47:ARG:HB2	53:Y7:48:LYS:H	1.60	0.43
1:QA:166:G:H2'	1:QA:167:G:H8	1.84	0.42
1:QA:692:U:H5	11:QK:26:ASN:OD1	2.01	0.42
5:QE:94:ALA:HB2	5:QE:119:LEU:CG	2.40	0.42
9:QI:116:LYS:HE2	9:QI:122:ALA:HB2	2.01	0.42
17:QQ:45:HIS:NE2	17:QQ:47:PRO:HG3	2.34	0.42
20:QT:36:LEU:CD1	20:QT:55:ILE:HG23	2.48	0.42
20:QT:84:LEU:HD23	20:QT:84:LEU:HA	1.86	0.42
22:QV:15:C:H5"	22:QV:16:C:H5	1.82	0.42
25:RA:115:G:C6	25:RA:117:A:C6	3.07	0.42
25:RA:132:C:H2'	25:RA:133:G:C8	2.54	0.42
25:RA:520:G:N3	42:RW:61:ASN:ND2	2.66	0.42
25:RA:1316:C:O2'	25:RA:1695:C:OP2	2.35	0.42
25:RA:1614:A:C8	27:RD:84:TYR:CE2	3.07	0.42
25:RA:2595:G:C6	25:RA:2596:U:C5	3.06	0.42
26:RB:58:A:H8	26:RB:58:A:O5'	2.02	0.42
27:RD:28:GLU:H	27:RD:28:GLU:CD	2.27	0.42
28:RE:23:VAL:HG12	28:RE:184:VAL:O	2.19	0.42
29:RF:29:ASN:H	29:RF:112:MET:CE	2.32	0.42
38:RS:93:LYS:HE3	38:RS:93:LYS:HB2	1.66	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
54:R8:28:GLY:O	54:R8:29:LYS:O	2.37	0.42
1:XA:16:A:N1	1:XA:919:A:H2	2.17	0.42
1:XA:266:G:O2'	1:XA:268:C:OP2	2.31	0.42
1:XA:328:C:H4'	1:XA:329:A:C5'	2.47	0.42
1:XA:355:C:H1'	1:XA:388:G:H2'	2.01	0.42
1:XA:376:G:H1	1:XA:387:U:H3	1.66	0.42
1:XA:1104:G:O5'	2:XB:111:ARG:HD2	2.18	0.42
1:XA:1322:C:OP1	1:XA:1322:C:H6	2.01	0.42
2:XB:9:GLU:H	2:XB:9:GLU:CD	2.27	0.42
2:XB:212:GLN:NE2	2:XB:216:SER:HB2	2.34	0.42
6:XF:30:LEU:HB3	6:XF:35:ALA:HB3	2.01	0.42
6:XF:95:GLU:HA	6:XF:96:PRO:HD3	1.87	0.42
20:XT:36:LEU:HD12	20:XT:55:ILE:HG23	2.01	0.42
25:YA:27:G:H22	25:YA:512:G:H2'	1.82	0.42
25:YA:28:A:H1'	25:YA:513:A:C2	2.53	0.42
25:YA:69:C:H2'	25:YA:70:G:H8	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:950:G:C6	25:YA:951:C:C4	3.07	0.42
26:YB:8:U:O2'	38:YS:40:ILE:CD1	2.67	0.42
27:YD:17:THR:HG22	27:YD:204:ILE:HA	1.98	0.42
27:YD:108:PRO:HG2	27:YD:111:LEU:HB2	2.01	0.42
29:YF:135:LYS:O	29:YF:136:THR:C	2.61	0.42
36:YQ:74:TYR:HD2	36:YQ:91:GLU:HB3	1.84	0.42
45:YZ:20:ARG:O	45:YZ:20:ARG:HD3	2.18	0.42
47:Y1:94:LEU:HD23	47:Y1:94:LEU:HA	1.81	0.42
48:Y2:48:HIS:C	48:Y2:50:ILE:N	2.76	0.42
50:Y4:14:ILE:HG13	50:Y4:31:ILE:HB	1.99	0.42
1:QA:238:G:OP1	17:QQ:25:ARG:NH2	2.52	0.42
1:QA:1320:C:C2	19:QS:72:GLY:HA3	2.54	0.42
1:QA:1336:C:O2'	1:QA:1337:G:P	2.76	0.42
3:QC:148:GLY:HA3	3:QC:172:ARG:O	2.18	0.42
4:QD:108:LEU:HD21	4:QD:183:GLY:HA3	2.01	0.42
10:QJ:50:ILE:HB	14:QN:41:ARG:HE	1.83	0.42
19:QS:41:VAL:HG12	19:QS:44:MET:HB2	2.02	0.42
22:QV:2:C:C2'	22:QV:3:G:H5'	2.49	0.42
25:RA:37:C:H2'	25:RA:38:A:C8	2.53	0.42
25:RA:363:U:O5'	25:RA:363:U:H6	2.02	0.42
25:RA:438:G:N2	35:RP:71:VAL:HG21	2.33	0.42
25:RA:753:A:H2'	25:RA:754:G:O4'	2.18	0.42
25:RA:919:A:H4'	36:RQ:66:ILE:HD11	2.01	0.42
25:RA:926:G:N3	25:RA:927:G:H1'	2.35	0.42
25:RA:1003:U:O2	26:RB:89(A):A:O2'	2.35	0.42
25:RA:1402:G:C2	25:RA:1403:U:C2	3.08	0.42
25:RA:1487:G:H2'	25:RA:1488:G:H8	1.85	0.42
25:RA:1818:A:N3	25:RA:1818:A:H2'	2.34	0.42
25:RA:2290:A:OP1	36:RQ:11:LYS:HD2	2.19	0.42
25:RA:2651:A:H1'	25:RA:2791:A:C2	2.54	0.42
25:RA:2842:U:O2'	25:RA:2843:G:P	2.77	0.42
26:RB:9:G:P	38:RS:25:ARG:HH22	2.42	0.42
26:RB:63:G:C2	26:RB:64:C:C2	3.07	0.42
32:RI:31:LEU:HD11	32:RI:38:LEU:HG	2.00	0.42
32:RI:64:GLU:O	32:RI:67:ARG:NH2	2.51	0.42
33:RN:30:ILE:HG23	33:RN:52:VAL:HG11	1.99	0.42
33:RN:96:GLU:HB2	33:RN:122:VAL:HG12	2.00	0.42
35:RP:19:VAL:HG13	35:RP:21:ARG:N	2.17	0.42
37:RR:33:ARG:HH21	51:R5:55:ARG:HB3	1.84	0.42
51:R5:35:GLU:O	51:R5:36:CYS:C	2.63	0.42
52:R6:7:ILE:HG13	52:R6:8:LYS:H	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:137:C:N4	1:XA:226:G:H1	2.11	0.42
1:XA:235:C:H2'	1:XA:236:G:H8	1.85	0.42
1:XA:977:A:H8	1:XA:1223:C:C2	2.37	0.42
1:XA:1058:G:H2'	1:XA:1059:C:O4'	2.19	0.42
1:XA:1149:C:P	9:XI:9:ARG:HH21	2.42	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:236:C:H2'	25:YA:237:C:C6	2.54	0.42
25:YA:515:A:H1'	25:YA:581:C:H1'	2.01	0.42
25:YA:818:G:N7	25:YA:1187:G:C6	2.87	0.42
25:YA:1478:G:C2	25:YA:1479:G:C8	3.07	0.42
25:YA:1592:C:H2'	25:YA:1593:G:C8	2.55	0.42
25:YA:2212:A:H1'	25:YA:2215:G:C5	2.54	0.42
25:YA:2641:G:H2'	25:YA:2642:G:C8	2.54	0.42
26:YB:43:C:H1'	30:YG:93:THR:O	2.19	0.42
27:YD:33:LEU:O	27:YD:35:LYS:N	2.52	0.42
31:YH:125:VAL:CG1	31:YH:126:PRO:CG	2.94	0.42
35:YP:29:LYS:HB3	35:YP:30:THR:H	1.54	0.42
38:YS:64:GLU:O	38:YS:68:GLN:HG3	2.19	0.42
47:Y1:58:ILE:HG23	47:Y1:87:PRO:HG3	2.02	0.42
50:Y4:60:GLN:O	50:Y4:63:TYR:HB3	2.20	0.42
53:Y7:25:PRO:HA	53:Y7:28:ARG:CZ	2.49	0.42
54:Y8:53:PRO:HD2	54:Y8:54:GLU:H	1.84	0.42
1:QA:825:G:H2'	1:QA:826:C:O4'	2.20	0.42
1:QA:1314:C:OP1	19:QS:6:LYS:HD2	2.19	0.42
1:QA:1346:A:H4'	1:QA:1347:G:O5'	2.19	0.42
1:QA:1392:G:N2	1:QA:1502:A:H8	2.09	0.42
2:QB:69:LEU:O	2:QB:162:ILE:HA	2.19	0.42
2:QB:130:ARG:HA	2:QB:131:PRO:HD3	1.81	0.42
3:QC:59:ARG:HH12	3:QC:97:LYS:HE3	1.84	0.42
3:QC:112:SER:O	3:QC:116:VAL:HG23	2.20	0.42
4:QD:171:GLY:HA2	4:QD:172:PRO:HD3	1.87	0.42
5:QE:107:ARG:O	5:QE:111:GLU:HB2	2.18	0.42
7:QG:16:LEU:HD12	9:QI:42:ARG:HA	2.02	0.42
7:QG:102:ARG:HG2	7:QG:106:GLN:OE1	2.20	0.42
9:QI:17:VAL:HG11	9:QI:81:ILE:HD13	2.00	0.42
9:QI:48:GLU:N	9:QI:49:PRO:HD2	2.35	0.42
17:QQ:29:HIS:CG	17:QQ:30:PRO:HD2	2.54	0.42
25:RA:369:A:O2'	25:RA:371:A:N7	2.53	0.42
25:RA:469:A:C5	29:RF:45:ARG:HD2	2.54	0.42
25:RA:636:G:N2	25:RA:640:A:O2'	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2021:C:H5"	25:RA:2736:C:O2'	2.18	0.42
25:RA:2178:G:O6	25:RA:2179:G:N2	2.51	0.42
25:RA:2323:A:C8	30:RG:88:ILE:HD11	2.54	0.42
25:RA:2702:C:OP2	37:RR:14:SER:HB3	2.19	0.42
25:RA:2874:G:OP1	39:RT:119:LYS:HD3	2.20	0.42
28:RE:3:GLY:HA3	28:RE:81:ILE:CD1	2.47	0.42
28:RE:28:ALA:HB3	28:RE:93:VAL:CG2	2.46	0.42
28:RE:155:LYS:O	28:RE:156:MET:HG3	2.19	0.42
29:RF:78:ILE:H	29:RF:78:ILE:HG13	1.66	0.42
29:RF:117:ARG:HH12	35:RP:1:MET:N	2.17	0.42
31:RH:26:VAL:CG1	31:RH:33:LEU:HB2	2.49	0.42
31:RH:58:GLU:O	31:RH:60:ARG:N	2.53	0.42
31:RH:169:VAL:HG22	31:RH:170:ARG:N	2.26	0.42
40:RU:75:ASN:HB2	40:RU:78:THR:H	1.84	0.42
52:R6:25:LYS:HD2	54:R8:34:TRP:CZ2	2.54	0.42
1:XA:123:C:N3	1:XA:238:G:N2	2.60	0.42
1:XA:266:G:O2'	1:XA:267:C:P	2.76	0.42
1:XA:1190:G:H5'	3:XC:176:HIS:NE2	2.34	0.42
1:XA:1306:A:H61	1:XA:1331:G:H1'	1.84	0.42
2:XB:68:ILE:HB	2:XB:70:PHE:HE1	1.84	0.42
4:XD:16:GLY:HA2	4:XD:33:MET:HE1	2.00	0.42
5:XE:71:LEU:HD22	5:XE:115:VAL:HG22	2.01	0.42
13:XM:117:VAL:O	13:XM:118:ALA:C	2.62	0.42
18:XR:56:THR:HB	18:XR:58:LEU:HD12	2.02	0.42
25:YA:80:G:H1	25:YA:106:C:N4	2.14	0.42
25:YA:871:U:H4'	36:YQ:69:PHE:CD2	2.54	0.42
25:YA:878:A:H3'	25:YA:879:G:H8	1.84	0.42
25:YA:2394:C:OP1	35:YP:63:PRO:HD2	2.18	0.42
26:YB:40:U:H1'	26:YB:45:A:H61	1.84	0.42
28:YE:36:ARG:HH11	28:YE:36:ARG:CB	2.28	0.42
30:YG:16:ARG:N	30:YG:17:PRO:HD2	2.34	0.42
31:YH:125:VAL:HG12	31:YH:126:PRO:CD	2.49	0.42
35:YP:61:ARG:H	35:YP:61:ARG:HG3	1.55	0.42
35:YP:125:VAL:CG1	35:YP:138:LEU:HD21	2.49	0.42
41:YV:64:HIS:ND1	41:YV:92:THR:HG22	2.34	0.42
49:Y3:4:LEU:HD22	49:Y3:56:VAL:HG12	2.01	0.42
1:QA:1500:A:H5"	1:QA:1508:G:H5"	2.00	0.42
2:QB:21:ARG:HG3	2:QB:38:GLY:O	2.20	0.42
4:QD:107:ARG:HH21	4:QD:194:LEU:HD21	1.84	0.42
6:QF:22:GLU:O	6:QF:26:ILE:HG13	2.19	0.42
8:QH:25:ASP:N	8:QH:25:ASP:OD1	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QH:101:PRO:HG2	8:QH:133:LEU:HD11	2.01	0.42
12:QL:38:THR:HG22	12:QL:57:LYS:HB3	2.01	0.42
17:QQ:10:VAL:HG13	17:QQ:19:VAL:HB	2.00	0.42
19:QS:10:PHE:CG	19:QS:11:VAL:N	2.88	0.42
20:QT:87:LYS:HD2	20:QT:87:LYS:HA	1.68	0.42
25:RA:35:G:H2'	25:RA:36:G:O4'	2.20	0.42
25:RA:57:G:N2	25:RA:69:G:C4	2.87	0.42
25:RA:772:G:C6	25:RA:773:G:N1	2.88	0.42
25:RA:866:A:C4	25:RA:1234:A:C2	3.08	0.42
25:RA:892:G:OP2	25:RA:892:G:H8	2.03	0.42
25:RA:1083:G:H1	25:RA:1164:C:N4	2.15	0.42
25:RA:2304:C:P	38:RS:17:ARG:NH2	2.93	0.42
25:RA:2489:C:H3'	55:R9:1:MET:HE3	2.01	0.42
25:RA:2730:G:O2'	39:RT:96:ARG:HD3	2.19	0.42
28:RE:188:VAL:HA	28:RE:189:PRO:HD2	1.79	0.42
31:RH:120:GLY:O	31:RH:136:ILE:HD12	2.19	0.42
32:RI:124:GLY:O	32:RI:142:VAL:HG23	2.18	0.42
36:RQ:80:GLU:OE1	46:R0:6:GLY:O	2.38	0.42
37:RR:113:LEU:HD12	37:RR:113:LEU:HA	1.88	0.42
45:RZ:52:SER:O	45:RZ:52:SER:OG	2.33	0.42
45:RZ:93:ASP:OD1	45:RZ:93:ASP:N	2.53	0.42
50:R4:68:ARG:O	50:R4:69:LYS:HB2	2.17	0.42
51:R5:20:ARG:HA	51:R5:23:HIS:CE1	2.54	0.42
52:R6:28:ARG:HB3	52:R6:30:THR:H	1.84	0.42
4:XD:112:VAL:N	4:XD:116:GLN:OE1	2.38	0.42
5:XE:71:LEU:HD21	5:XE:115:VAL:CG2	2.49	0.42
13:XM:7:VAL:O	13:XM:9:ILE:HG23	2.19	0.42
25:YA:70:G:H21	25:YA:71:A:N6	2.17	0.42
25:YA:305:U:H2'	25:YA:306:U:C6	2.54	0.42
25:YA:684:G:O2'	25:YA:788:A:N7	2.51	0.42
25:YA:775:G:C4	25:YA:794:G:C8	3.07	0.42
25:YA:1387:C:C2	25:YA:1388:G:C8	3.07	0.42
25:YA:2439:A:C8	25:YA:2439:A:H5'	2.55	0.42
25:YA:2705:A:O2'	25:YA:2852:G:OP1	2.25	0.42
28:YE:104:VAL:CG1	28:YE:188:VAL:HG23	2.49	0.42
28:YE:197:ILE:CD1	28:YE:199:ARG:HH12	2.26	0.42
35:YP:48:PRO:C	35:YP:50:ARG:H	2.27	0.42
36:YQ:20:ALA:HA	36:YQ:98:LYS:HB3	2.02	0.42
36:YQ:20:ALA:C	36:YQ:21:THR:HG23	2.43	0.42
36:YQ:25:ASP:H	36:YQ:102:VAL:HG23	1.84	0.42
38:YS:15:ARG:O	38:YS:19:LYS:HD3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:YT:45:PHE:CE1	39:YT:65:LYS:HE3	2.55	0.42
42:YW:86:LEU:HD22	42:YW:96:ILE:HD12	2.01	0.42
45:YZ:150:LEU:HB2	45:YZ:154:ASP:OD2	2.20	0.42
45:YZ:169:GLU:HG2	45:YZ:170:THR:N	2.34	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	1.84	0.42
52:Y6:41:PRO:HG2	52:Y6:45:LYS:N	2.29	0.42
1:QA:60:A:H4'	1:QA:61:G:O5'	2.20	0.42
1:QA:967:C:H5"	1:QA:968:A:OP2	2.19	0.42
1:QA:1235:U:O3'	21:QU:3:LYS:HB2	2.19	0.42
2:QB:92:TYR:CD1	2:QB:151:GLY:HA3	2.55	0.42
4:QD:33:MET:CE	4:QD:37:PRO:HA	2.49	0.42
5:QE:101:ILE:CG1	5:QE:119:LEU:HD23	2.49	0.42
14:QN:41:ARG:NH2	14:QN:42:ILE:HD11	2.35	0.42
25:RA:680:G:N1	25:RA:699:C:N4	2.60	0.42
25:RA:1091:A:C4	25:RA:1157:A:N6	2.88	0.42
25:RA:1839:U:H2'	25:RA:1840:A:O4'	2.20	0.42
25:RA:2295:C:H2'	25:RA:2296:C:O4'	2.19	0.42
27:RD:33:LEU:HB3	27:RD:34:VAL:H	1.65	0.42
28:RE:24:THR:HB	28:RE:184:VAL:HG23	2.02	0.42
28:RE:72:VAL:O	28:RE:73:GLU:C	2.62	0.42
28:RE:76:ARG:C	28:RE:78:LEU:N	2.76	0.42
29:RF:182:ASN:O	29:RF:186:ILE:HG12	2.20	0.42
30:RG:173:LEU:O	30:RG:178:PHE:HB2	2.20	0.42
38:RS:39:ILE:HD11	38:RS:73:LEU:HD11	2.00	0.42
40:RU:83:LEU:HD12	40:RU:113:ALA:HB2	2.01	0.42
41:RV:64:HIS:CG	41:RV:92:THR:HG22	2.53	0.42
50:R4:35:VAL:C	50:R4:37:SER:N	2.77	0.42
1:XA:474:G:H2'	1:XA:475:G:C8	2.54	0.42
1:XA:540:G:H2'	1:XA:541:G:O4'	2.19	0.42
1:XA:1124:G:H3'	1:XA:1145:C:H41	1.83	0.42
1:XA:1417:G:C6	1:XA:1482:G:C6	3.07	0.42
1:XA:1507:A:H2'	1:XA:1508:G:C8	2.55	0.42
2:XB:223:ILE:HA	2:XB:226:ARG:HB3	2.02	0.42
9:XI:32:ASP:OD1	9:XI:33:PHE:N	2.53	0.42
13:XM:40:ASN:ND2	13:XM:43:THR:HG23	2.34	0.42
20:XT:44:ALA:HB1	20:XT:91:LEU:HB2	2.02	0.42
22:XV:19:G:H5'	22:XV:20:U:C5	2.54	0.42
24:XY:34:G:C6	24:XY:35:G:C6	3.08	0.42
25:YA:142:G:H1'	43:YX:37:THR:CG2	2.44	0.42
25:YA:658:C:H2'	25:YA:659:C:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:857:C:H1'	46:Y0:26:TYR:CE1	2.55	0.42
25:YA:1164:G:H2'	25:YA:1165:U:H6	1.84	0.42
25:YA:1336:A:H2'	25:YA:1337:G:C8	2.54	0.42
25:YA:1344:G:H4'	25:YA:1384:A:N7	2.35	0.42
25:YA:1957:C:H2'	25:YA:1958:C:C6	2.54	0.42
25:YA:2346:A:H5"	25:YA:2383:G:H1'	2.00	0.42
25:YA:2364:C:H2'	25:YA:2365:G:O4'	2.20	0.42
26:YB:7:G:H4'	38:YS:29:PHE:CD2	2.54	0.42
26:YB:15:A:H1'	26:YB:109:G:C8	2.54	0.42
27:YD:155:LEU:HD23	27:YD:177:LEU:HD21	2.00	0.42
28:YE:31:CYS:HB3	28:YE:49:LEU:HG	2.01	0.42
28:YE:70:ALA:O	28:YE:71:GLY:C	2.63	0.42
28:YE:117:MET:HA	28:YE:122:PHE:N	2.35	0.42
29:YF:11:VAL:HG12	29:YF:12:LEU:H	1.84	0.42
29:YF:128:ALA:O	29:YF:129:PHE:CB	2.67	0.42
30:YG:113:ARG:HH21	50:Y4:34:GLU:HG2	1.84	0.42
31:YH:26:VAL:CG1	31:YH:33:LEU:HB2	2.50	0.42
31:YH:58:GLU:O	31:YH:60:ARG:N	2.52	0.42
31:YH:89:ILE:CD1	31:YH:89:ILE:H	2.32	0.42
31:YH:136:ILE:O	31:YH:137:ASP:O	2.38	0.42
32:YI:27:ARG:HB2	47:Y1:71:TYR:CZ	2.54	0.42
33:YN:96:GLU:HG2	33:YN:97:ARG:H	1.84	0.42
33:YN:137:LYS:HD2	33:YN:137:LYS:HA	1.77	0.42
34:YO:21:CYS:O	34:YO:22:ILE:HD13	2.19	0.42
35:YP:39:LYS:HG3	35:YP:45:LEU:CD2	2.45	0.42
38:YS:110:LEU:HD23	38:YS:112:PHE:CE1	2.55	0.42
48:Y2:27:GLU:N	48:Y2:27:GLU:CD	2.77	0.42
51:Y5:58:LEU:HD13	51:Y5:60:VAL:OXT	2.19	0.42
52:Y6:15:GLU:HG2	52:Y6:49:HIS:NE2	2.34	0.42
54:Y8:28:GLY:O	54:Y8:29:LYS:O	2.36	0.42
1:QA:266:G:O3'	17:QQ:67:LYS:HB2	2.18	0.42
1:QA:986:A:O2'	19:QS:55:LYS:O	2.38	0.42
1:QA:1152:A:H2'	1:QA:1153:C:C6	2.54	0.42
1:QA:1278:U:H5"	1:QA:1279:A:C8	2.55	0.42
1:QA:1430:C:H2'	1:QA:1431:C:C6	2.54	0.42
4:QD:197:PRO:CD	6:XF:16:GLN:HG3	2.48	0.42
13:QM:4:ILE:H	13:QM:9:ILE:HG22	1.84	0.42
15:QO:87:ILE:HG22	15:QO:88:ARG:N	2.35	0.42
18:QR:56:THR:HB	18:QR:58:LEU:CD1	2.50	0.42
25:RA:126:C:H4'	53:R7:49:ARG:NH1	2.35	0.42
25:RA:533:G:H5"	25:RA:533:G:N3	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:776:G:O2'	25:RA:810:G:H4'	2.19	0.42
25:RA:1243:U:H2'	25:RA:1244:U:H6	1.85	0.42
25:RA:1542:A:H8	25:RA:1624:C:O2'	2.02	0.42
25:RA:1770:A:H3'	25:RA:1771:G:C8	2.55	0.42
25:RA:2177:G:H2'	25:RA:2178:G:O4'	2.20	0.42
25:RA:2802:C:N3	25:RA:2903:G:C6	2.87	0.42
25:RA:2821:G:P	28:RE:61:ARG:HG3	2.58	0.42
27:RD:96:HIS:NE2	27:RD:102:LYS:HE2	2.34	0.42
27:RD:123:ALA:HA	27:RD:124:PRO:HD2	1.77	0.42
27:RD:245:PRO:HA	27:RD:246:PRO:HD3	1.95	0.42
28:RE:35:GLN:HB3	28:RE:48:GLN:HB2	2.01	0.42
28:RE:104:VAL:CG1	28:RE:188:VAL:HG23	2.49	0.42
30:RG:159:VAL:HG21	30:RG:173:LEU:HD11	2.00	0.42
32:RI:50:ARG:O	32:RI:54:GLN:CB	2.68	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
36:RQ:139:GLU:H	36:RQ:139:GLU:CD	2.28	0.42
37:RR:63:ARG:HA	37:RR:80:PHE:CZ	2.54	0.42
38:RS:14:VAL:HG11	38:RS:90:GLY:O	2.19	0.42
50:R4:54:GLY:HA2	50:R4:57:GLU:CG	2.50	0.42
52:R6:40:CYS:HA	52:R6:41:PRO:HD2	1.85	0.42
1:XA:91:C:H2'	1:XA:92:G:O4'	2.20	0.42
1:XA:445:G:H1	1:XA:489:C:N4	2.13	0.42
1:XA:611:A:N6	1:XA:629:G:N1	2.56	0.42
1:XA:771:G:H2'	1:XA:772:U:C6	2.54	0.42
1:XA:1068:G:H5'	1:XA:1388:C:OP1	2.19	0.42
1:XA:1147:C:O2	9:XI:16:ARG:NH1	2.52	0.42
1:XA:1352:C:H2'	1:XA:1353:G:C8	2.54	0.42
2:XB:19:HIS:CE1	2:XB:206:ASP:HB2	2.54	0.42
2:XB:212:GLN:CD	2:XB:235:SER:HB2	2.44	0.42
9:XI:111:ARG:HH22	10:XJ:62:HIS:CE1	2.38	0.42
20:XT:43:LEU:HD23	20:XT:43:LEU:HA	1.88	0.42
25:YA:353:G:H2'	25:YA:354:G:H8	1.85	0.42
25:YA:1374:G:C6	25:YA:1375:C:C4	3.08	0.42
26:YB:116:G:H2'	26:YB:117:G:O4'	2.20	0.42
27:YD:2:ALA:O	27:YD:3:VAL:CB	2.68	0.42
27:YD:12:SER:O	27:YD:14:ARG:N	2.51	0.42
27:YD:71:ASP:CB	27:YD:103:ARG:HH22	2.32	0.42
27:YD:158:ALA:HB3	27:YD:161:THR:CG2	2.49	0.42
28:YE:28:ALA:HB3	28:YE:93:VAL:CG2	2.47	0.42
28:YE:35:GLN:HB3	28:YE:48:GLN:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:143:ASN:HB2	28:YE:147:PRO:HD2	2.00	0.42
28:YE:176:ILE:HD12	28:YE:176:ILE:N	2.35	0.42
29:YF:32:LEU:C	29:YF:32:LEU:CD1	2.83	0.42
29:YF:62:ARG:NH1	29:YF:62:ARG:CB	2.82	0.42
30:YG:99:MET:HB2	30:YG:99:MET:HE3	1.66	0.42
31:YH:84:SER:O	31:YH:85:LYS:CB	2.64	0.42
35:YP:36:LYS:HB3	35:YP:40:SER:CB	2.49	0.42
38:YS:42:ASP:C	38:YS:44:LYS:N	2.72	0.42
38:YS:52:SER:HB2	38:YS:55:ALA:CB	2.49	0.42
49:Y3:8:LEU:HB3	49:Y3:31:LEU:HA	2.01	0.42
50:Y4:68:ARG:HB2	50:Y4:69:LYS:H	1.51	0.42
52:Y6:10:LEU:HG	54:Y8:34:TRP:HD1	1.85	0.42
1:QA:1095:U:H5"	1:QA:1109:C:O2	2.19	0.42
1:QA:1269:A:N1	1:QA:1312:G:O2'	2.40	0.42
2:QB:98:LEU:HD12	2:QB:101:MET:HE3	2.01	0.42
5:QE:79:GLU:OE2	8:QH:104:ARG:HA	2.20	0.42
10:QJ:76:ASN:HA	10:QJ:77:PRO:HD2	1.85	0.42
14:QN:23:ARG:NH1	14:QN:30:ALA:HB2	2.35	0.42
15:QO:43:LEU:HA	15:QO:43:LEU:HD23	1.74	0.42
20:QT:29:LYS:HD2	20:QT:71:THR:OG1	2.20	0.42
25:RA:407:U:H2'	25:RA:408:G:H8	1.85	0.42
25:RA:1352:C:C2	25:RA:1669:G:C2	3.08	0.42
25:RA:1378:G:N2	25:RA:1655:A:O2'	2.53	0.42
25:RA:1712:A:H2'	25:RA:1713:G:C5'	2.48	0.42
25:RA:1766:G:H2'	25:RA:1769:G:O6	2.19	0.42
25:RA:1850:A:H4'	25:RA:1851:U:O5'	2.18	0.42
25:RA:2658:C:H2'	25:RA:2659:U:O4'	2.19	0.42
25:RA:2701:U:H4'	25:RA:2702:C:O5'	2.19	0.42
28:RE:117:MET:HA	28:RE:122:PHE:N	2.35	0.42
28:RE:143:ASN:HB2	28:RE:147:PRO:HD2	2.01	0.42
28:RE:176:ILE:N	28:RE:176:ILE:HD12	2.35	0.42
30:RG:116:ASP:OD1	30:RG:116:ASP:N	2.53	0.42
31:RH:89:ILE:CD1	31:RH:89:ILE:H	2.32	0.42
31:RH:125:VAL:HG12	31:RH:126:PRO:CD	2.49	0.42
35:RP:49:ARG:HG3	54:R8:59:LYS:HG2	2.02	0.42
35:RP:100:LEU:HA	35:RP:100:LEU:HD22	1.77	0.42
36:RQ:27:VAL:HG11	36:RQ:134:ARG:HG3	2.01	0.42
36:RQ:65:PHE:O	36:RQ:66:ILE:CG1	2.47	0.42
39:RT:26:ASP:HB3	39:RT:92:GLY:N	2.18	0.42
42:RW:75:TYR:CZ	42:RW:104:THR:HG21	2.54	0.42
45:RZ:5:LEU:HB3	45:RZ:6:LYS:H	1.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:R1:90:ILE:O	47:R1:94:LEU:HB2	2.20	0.42
1:XA:266:G:C5'	1:XA:266:G:N9	2.83	0.42
1:XA:813:U:H5"	1:XA:903:G:O3'	2.19	0.42
1:XA:1226:C:H4'	19:XS:80:TYR:CZ	2.55	0.42
2:XB:7:VAL:HG11	2:XB:217:ARG:CZ	2.49	0.42
3:XC:32:LEU:HD22	3:XC:59:ARG:NH1	2.34	0.42
3:XC:85:ARG:HD2	3:XC:85:ARG:HA	1.83	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:3:ARG:HG3	13:XM:9:ILE:HG21	2.01	0.42
25:YA:270(V):G:H2'	25:YA:270(W):G:H8	1.84	0.42
25:YA:1109:C:O2'	25:YA:1110:G:OP1	2.29	0.42
25:YA:1206:G:C6	25:YA:1207:C:C4	3.08	0.42
25:YA:1754:C:H2'	25:YA:1755:A:C8	2.54	0.42
25:YA:2073:C:H5'	27:YD:229:VAL:HG22	2.02	0.42
25:YA:2420:C:N4	54:Y8:30:ARG:HD2	2.35	0.42
25:YA:2683:C:OP1	39:YT:53:ARG:NH2	2.46	0.42
26:YB:106:G:O2'	26:YB:107:U:H5'	2.20	0.42
27:YD:25:THR:HG23	27:YD:27:THR:HB	2.02	0.42
27:YD:263:ARG:NH1	27:YD:263:ARG:CB	2.75	0.42
28:YE:72:VAL:O	28:YE:73:GLU:C	2.62	0.42
28:YE:128:SER:O	28:YE:129:HIS:HB2	2.19	0.42
29:YF:183:VAL:HG22	29:YF:184:TYR:N	2.35	0.42
31:YH:84:SER:OG	31:YH:85:LYS:N	2.51	0.42
31:YH:169:VAL:HG22	31:YH:170:ARG:N	2.26	0.42
32:YI:67:ARG:NH2	32:YI:68:LEU:HB2	2.32	0.42
36:YQ:51:ARG:O	36:YQ:52:VAL:C	2.62	0.42
37:YR:33:ARG:HH21	51:Y5:55:ARG:CG	2.30	0.42
38:YS:18:ILE:O	38:YS:19:LYS:C	2.62	0.42
39:YT:26:ASP:HB2	39:YT:91:ARG:HA	2.00	0.42
41:YV:65:GLY:O	41:YV:90:PRO:HA	2.20	0.42
46:Y0:41:ARG:NE	46:Y0:41:ARG:HA	2.33	0.42
48:Y2:16:LEU:C	48:Y2:16:LEU:HD12	2.45	0.42
51:Y5:31:VAL:HG13	51:Y5:42:PRO:HG3	2.00	0.42
1:QA:64:G:H4'	1:QA:65:U:O5'	2.19	0.42
2:QB:60:ASP:O	2:QB:64:ARG:HG2	2.19	0.42
2:QB:230:VAL:HB	2:QB:231:GLU:H	1.60	0.42
11:QK:48:ILE:HG23	11:QK:63:LEU:HD22	2.01	0.42
25:RA:681:C:H42	25:RA:699:C:H42	1.68	0.42
25:RA:1255:A:O5'	25:RA:1257:G:H5'	2.19	0.42
25:RA:1265:A:H5'	25:RA:1266:C:OP2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1832:G:OP2	27:RD:154:LYS:HE2	2.18	0.42
25:RA:2331:G:H4'	25:RA:2332:A:OP1	2.20	0.42
28:RE:137:HIS:CB	28:RE:138:PRO:HD2	2.42	0.42
44:RY:50:ARG:H	44:RY:50:ARG:HG2	1.67	0.42
45:RZ:136:PHE:HE2	45:RZ:138:GLU:HB3	1.83	0.42
51:R5:40:LYS:HE2	51:R5:47:PRO:HG2	2.02	0.42
1:XA:8:A:H5'	5:XE:101:ILE:O	2.19	0.42
1:XA:254:G:H2'	1:XA:255:G:C8	2.51	0.42
1:XA:778:G:O5'	1:XA:778:G:H8	2.01	0.42
4:XD:120:LEU:HD23	4:XD:120:LEU:HA	1.89	0.42
18:XR:43:PHE:CE1	18:XR:58:LEU:HD11	2.54	0.42
25:YA:27:G:HO2'	25:YA:28:A:H8	1.62	0.42
25:YA:153:C:OP1	47:Y1:88:LYS:HE2	2.19	0.42
25:YA:455:C:N3	25:YA:473:G:H5'	2.34	0.42
25:YA:1187:G:H8	25:YA:1187:G:O5'	2.01	0.42
25:YA:1662:C:O2'	25:YA:2687:U:OP1	2.32	0.42
25:YA:2232:U:P	47:Y1:40:ARG:HH12	2.42	0.42
25:YA:2267:A:H5"	25:YA:2268:A:C5'	2.48	0.42
26:YB:34:U:P	30:YG:2:PRO:HG2	2.59	0.42
28:YE:18:ASP:HA	39:YT:82:LEU:HD11	2.01	0.42
29:YF:123:LEU:HD12	29:YF:124:LEU:H	1.82	0.42
29:YF:132:VAL:HG23	29:YF:133:ASN:H	1.83	0.42
35:YP:1:MET:HB3	35:YP:2:LYS:H	1.61	0.42
38:YS:49:VAL:HG21	38:YS:77:ALA:HA	2.02	0.42
38:YS:111:GLU:O	38:YS:112:PHE:HD2	2.02	0.42
44:YY:96:ILE:HG13	44:YY:98:VAL:H	1.85	0.42
47:Y1:76:ARG:H	47:Y1:76:ARG:HD2	1.83	0.42
1:QA:363:A:C4	12:QL:31:PRO:HD2	2.55	0.42
1:QA:922:G:H2'	1:QA:923:A:C8	2.55	0.42
1:QA:1130:A:HO2'	9:QI:3:GLN:HE22	1.60	0.42
7:QG:13:GLN:O	7:QG:24:THR:HG21	2.20	0.42
11:QK:41:THR:HG22	11:QK:42:TRP:N	2.34	0.42
11:QK:120:ARG:HA	11:QK:121:PRO:HD3	1.87	0.42
12:QL:61:THR:C	12:QL:63:GLY:H	2.27	0.42
25:RA:1093:G:H2'	25:RA:1156:G:H1	1.84	0.42
25:RA:1487:G:H2'	25:RA:1488:G:C8	2.55	0.42
25:RA:1858:C:OP2	27:RD:222:ARG:NH1	2.43	0.42
25:RA:1974:A:C5	34:RO:22:ILE:HD12	2.55	0.42
25:RA:2639:G:O2'	25:RA:2794:A:N1	2.42	0.42
25:RA:2842:U:H4'	25:RA:2843:G:C5'	2.49	0.42
27:RD:35:LYS:HB3	27:RD:36:PRO:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RF:129:PHE:O	29:RF:130:ALA:HB3	2.20	0.42
29:RF:184:TYR:O	29:RF:188:ARG:HG3	2.19	0.42
29:RF:197:ASP:OD1	29:RF:197:ASP:N	2.51	0.42
30:RG:151:ALA:HB3	30:RG:153:ARG:NH1	2.35	0.42
31:RH:27:LYS:HD2	31:RH:27:LYS:C	2.44	0.42
31:RH:76:VAL:C	31:RH:78:GLY:N	2.78	0.42
31:RH:136:ILE:O	31:RH:137:ASP:O	2.38	0.42
32:RI:52:ARG:O	32:RI:55:ALA:CA	2.68	0.42
33:RN:35:ARG:HB2	33:RN:42:TRP:CZ3	2.55	0.42
48:R2:36:ARG:O	48:R2:40:SER:N	2.50	0.42
1:XA:64:G:N2	1:XA:68:G:O6	2.51	0.42
1:XA:397:A:H5'	1:XA:398:C:OP1	2.20	0.42
1:XA:406:G:C5'	4:XD:5:ILE:HD13	2.49	0.42
1:XA:719:C:O2'	18:XR:49:LYS:HB3	2.19	0.42
1:XA:767:A:H2'	1:XA:768:A:O4'	2.19	0.42
1:XA:947:G:H2'	1:XA:948:C:O4'	2.20	0.42
1:XA:1074:G:H2'	1:XA:1075:C:C6	2.55	0.42
1:XA:1292:U:P	7:XG:41:ARG:NH2	2.92	0.42
2:XB:113:HIS:O	2:XB:116:GLU:HB2	2.20	0.42
3:XC:79:ARG:HH21	3:XC:82:GLU:HG3	1.85	0.42
5:XE:71:LEU:CD2	5:XE:115:VAL:CG2	2.98	0.42
9:XI:125:TYR:HD1	9:XI:126:SER:H	1.68	0.42
12:XL:53:ARG:HH12	12:XL:92:ASP:CB	2.33	0.42
12:XL:119:LYS:HB2	12:XL:120:TYR:HD1	1.83	0.42
22:XV:47:U:H3'	22:XV:48:C:H5'	2.01	0.42
25:YA:246:C:N4	54:Y8:8:LYS:HG3	2.35	0.42
25:YA:287:C:H2'	25:YA:288:C:C6	2.55	0.42
25:YA:631:A:H61	25:YA:2402:C:N4	2.17	0.42
25:YA:690:G:H2'	25:YA:691:C:C6	2.54	0.42
25:YA:947:G:H2'	25:YA:948:G:C8	2.54	0.42
25:YA:1101:U:H2'	25:YA:1102:C:C6	2.54	0.42
25:YA:1414:G:O6	25:YA:1587:A:N6	2.52	0.42
25:YA:1778:U:H2'	25:YA:1784:A:N6	2.34	0.42
25:YA:2439:A:H3'	25:YA:2439:A:P	2.60	0.42
25:YA:2547:U:H2'	25:YA:2548:G:C8	2.54	0.42
25:YA:2593:U:H2'	25:YA:2594:C:C6	2.55	0.42
25:YA:2678:C:H2'	25:YA:2679:A:O4'	2.20	0.42
25:YA:2688:U:H1'	25:YA:2721:A:N6	2.34	0.42
25:YA:2865:U:C4	25:YA:2866:U:C4	3.08	0.42
28:YE:9:VAL:HB	28:YE:10:GLY:H	1.70	0.42
28:YE:36:ARG:HB3	28:YE:36:ARG:NH1	2.31	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:76:ARG:C	28:YE:78:LEU:N	2.76	0.42
30:YG:62:LEU:HD23	30:YG:148:MET:HE1	2.01	0.42
32:YI:37:VAL:HG12	32:YI:38:LEU:H	1.84	0.42
32:YI:133:HIS:HB2	32:YI:134:PRO:CD	2.50	0.42
33:YN:46:VAL:HG13	33:YN:48:MET:HG3	2.02	0.42
35:YP:82:GLY:HA3	35:YP:115:LEU:HD21	2.01	0.42
43:YX:84:ALA:HB1	43:YX:85:PRO:HD2	2.02	0.42
46:Y0:27:GLU:HB2	46:Y0:69:PHE:CD1	2.53	0.42
50:Y4:37:SER:HB3	50:Y4:42:PHE:HB3	2.00	0.42
51:Y5:56:LYS:H	51:Y5:56:LYS:CD	2.29	0.42
52:Y6:25:LYS:HD2	54:Y8:34:TRP:CZ2	2.54	0.42
1:QA:270:A:H2'	1:QA:271:C:C6	2.54	0.42
1:QA:1149:C:OP1	9:QI:14:VAL:HG21	2.19	0.42
1:QA:1225:A:H2'	1:QA:1225:A:N3	2.35	0.42
1:QA:1429:C:H2'	1:QA:1430:C:H6	1.84	0.42
2:QB:88:ALA:HB2	2:QB:219:VAL:HG13	2.02	0.42
3:QC:42:LEU:HD12	3:QC:42:LEU:HA	1.80	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
8:QH:51:VAL:HG21	8:QH:60:ARG:HG2	2.01	0.42
8:QH:54:ASP:OD1	8:QH:54:ASP:N	2.53	0.42
8:QH:59:LEU:O	8:QH:61:VAL:HG23	2.20	0.42
14:QN:29:ARG:HG2	14:QN:31:ARG:O	2.20	0.42
25:RA:509:A:H1'	44:RY:59:GLY:O	2.20	0.42
25:RA:625:G:H8	25:RA:625:G:OP2	2.03	0.42
25:RA:798:A:C6	25:RA:836:A:C5	3.08	0.42
25:RA:825:G:H5'	27:RD:48:ARG:NH1	2.35	0.42
25:RA:827:G:N2	25:RA:830:A:H62	2.18	0.42
25:RA:1233:U:C4'	41:RV:79:VAL:HG22	2.50	0.42
25:RA:1410:G:N7	47:R1:2:SER:N	2.68	0.42
25:RA:1556:A:N3	25:RA:1556:A:H2'	2.35	0.42
28:RE:128:SER:O	28:RE:129:HIS:HB2	2.20	0.42
29:RF:46:ARG:HG2	29:RF:46:ARG:HH11	1.84	0.42
29:RF:113:ALA:HB1	29:RF:186:ILE:HG21	2.02	0.42
29:RF:127:GLU:C	29:RF:129:PHE:H	2.27	0.42
35:RP:20:GLY:HA2	35:RP:27:HIS:O	2.19	0.42
36:RQ:118:LEU:HD23	36:RQ:118:LEU:HA	1.87	0.42
38:RS:108:GLY:O	38:RS:110:LEU:HG	2.20	0.42
39:RT:51:ARG:HG3	39:RT:98:LYS:HG3	2.02	0.42
43:RX:44:GLU:O	43:RX:48:LYS:N	2.52	0.42
44:RY:39:VAL:HB	44:RY:40:GLU:H	1.57	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:R4:38:LYS:HG3	50:R4:44:THR:OG1	2.20	0.42
50:R4:45:GLY:O	50:R4:46:GLN:C	2.62	0.42
51:R5:40:LYS:HE2	51:R5:47:PRO:CG	2.49	0.42
53:R7:47:ARG:HB2	53:R7:48:LYS:H	1.68	0.42
1:XA:96:G:H2'	1:XA:97:U:O4'	2.20	0.42
1:XA:272:C:H2'	1:XA:273:A:H8	1.84	0.42
1:XA:323:U:H2'	1:XA:324:G:O4'	2.20	0.42
1:XA:564:C:OP2	12:XL:15:ARG:NH2	2.39	0.42
1:XA:1427:U:H2'	1:XA:1428:A:C8	2.55	0.42
7:XG:36:LYS:HB2	7:XG:36:LYS:HZ2	1.85	0.42
11:XK:24:SER:C	11:XK:26:ASN:H	2.28	0.42
12:XL:89:ARG:HB3	12:XL:97:ARG:HA	2.02	0.42
12:XL:109:GLY:HA3	12:XL:121:GLY:O	2.20	0.42
13:XM:16:ASP:HB3	13:XM:41:PRO:HB3	2.01	0.42
13:XM:20:THR:O	13:XM:22:ILE:N	2.51	0.42
19:XS:78:ARG:H	19:XS:78:ARG:HG2	1.56	0.42
25:YA:389:G:H22	35:YP:72:PRO:CG	2.32	0.42
25:YA:825:C:O2	35:YP:55:ARG:NH2	2.53	0.42
25:YA:847:U:O4	25:YA:933:A:C6	2.72	0.42
25:YA:1113:U:H2'	25:YA:1114:G:C8	2.55	0.42
25:YA:1578:U:H2'	25:YA:1579:A:H5'	2.01	0.42
25:YA:1655:A:O2'	28:YE:115:GLY:HA2	2.20	0.42
25:YA:2741:A:H5"	55:Y9:22:ARG:HH12	1.84	0.42
26:YB:41:U:O4	30:YG:70:VAL:HG23	2.19	0.42
28:YE:16:ARG:C	28:YE:17:ASP:CG	2.86	0.42
29:YF:105:VAL:O	29:YF:106:ARG:C	2.63	0.42
33:YN:35:ARG:HB2	33:YN:42:TRP:CZ3	2.55	0.42
36:YQ:20:ALA:HB2	36:YQ:99:PRO:HD2	1.99	0.42
36:YQ:118:LEU:HD13	36:YQ:131:ILE:HG23	2.01	0.42
40:YU:109:LEU:HD23	40:YU:109:LEU:HA	1.90	0.42
43:YX:26:TYR:HB3	43:YX:92:LEU:HD12	2.02	0.42
46:Y0:53:MET:HB3	46:Y0:59:LEU:HD23	2.01	0.42
50:Y4:39:CYS:O	50:Y4:40:HIS:HB2	2.20	0.42
1:QA:565:U:H5"	1:QA:566:G:H2'	2.02	0.41
1:QA:664:G:N2	1:QA:741:G:H1	2.01	0.41
1:QA:853:G:H2'	1:QA:854:G:H8	1.85	0.41
1:QA:935:A:H1'	1:QA:1384:C:N3	2.35	0.41
1:QA:1304:G:N1	1:QA:1332:A:OP2	2.51	0.41
3:QC:36:ASP:HA	3:QC:39:ILE:HD12	2.02	0.41
7:QG:70:LYS:HA	7:QG:71:PRO:HD2	1.90	0.41
8:QH:36:LEU:HD12	8:QH:59:LEU:HD13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QH:54:ASP:O	8:QH:56:LYS:HG3	2.20	0.41
14:QN:4:LYS:O	14:QN:7:ILE:HG12	2.20	0.41
19:QS:42:PRO:HD3	50:R4:63:TYR:CZ	2.55	0.41
21:QU:2:GLY:O	21:QU:5:ASP:N	2.47	0.41
25:RA:545:G:H2'	25:RA:546:G:C8	2.55	0.41
25:RA:571:A:H3'	25:RA:572:A:C8	2.55	0.41
25:RA:612:C:H2'	25:RA:613:A:C8	2.54	0.41
25:RA:938:G:N2	25:RA:939:C:O2	2.53	0.41
25:RA:1464:G:H8	25:RA:1464:G:O5'	2.03	0.41
25:RA:1837:C:H2'	25:RA:1838:G:H8	1.85	0.41
25:RA:2138:G:N1	25:RA:2184:G:OP1	2.53	0.41
25:RA:2739:U:O2'	25:RA:2740:G:H5'	2.20	0.41
27:RD:101:GLU:OE1	27:RD:103:ARG:NH1	2.53	0.41
28:RE:144:ARG:HB3	28:RE:145:LYS:H	1.58	0.41
37:RR:109:ALA:HA	37:RR:110:PRO:HD2	1.95	0.41
38:RS:78:LEU:HD23	38:RS:78:LEU:HA	1.86	0.41
40:RU:58:ARG:NH1	40:RU:93:LYS:HE2	2.35	0.41
49:R3:7:LYS:HA	49:R3:33:GLN:O	2.20	0.41
52:R6:13:CYS:O	52:R6:21:TYR:HA	2.20	0.41
1:XA:25:C:H2'	1:XA:26:A:C8	2.55	0.41
1:XA:160:A:H1'	1:XA:344:A:C5	2.54	0.41
1:XA:781:A:C5	1:XA:802:A:C2	3.08	0.41
1:XA:1412:C:H2'	1:XA:1413:A:H8	1.81	0.41
1:XA:1490:C:OP2	58:XA:1710:PAR:N64	2.53	0.41
5:XE:131:ILE:HD13	5:XE:131:ILE:HA	1.84	0.41
9:XI:4:TYR:CE1	9:XI:88:TYR:HB2	2.55	0.41
10:XJ:3:LYS:HB2	10:XJ:75:ILE:O	2.19	0.41
16:XP:56:ALA:HB1	16:XP:74:LEU:HD13	2.02	0.41
19:XS:40:ILE:CG1	19:XS:41:VAL:HG13	2.47	0.41
25:YA:500:G:N2	25:YA:502:A:H3'	2.35	0.41
25:YA:1138:G:N2	33:YN:106:MET:HE3	2.19	0.41
25:YA:1788:C:H2'	25:YA:1789:A:O4'	2.20	0.41
25:YA:1878:G:H2'	25:YA:1879:C:C6	2.55	0.41
25:YA:2264:C:N4	46:Y0:15:ASP:OD2	2.49	0.41
25:YA:2712:U:O2'	25:YA:2712(A):A:P	2.77	0.41
26:YB:34:U:OP2	30:YG:2:PRO:HG2	2.20	0.41
26:YB:91:C:H5"	45:YZ:79:ARG:HH12	1.84	0.41
27:YD:109:ASP:HB2	27:YD:197:GLY:HA2	2.02	0.41
27:YD:121:PRO:CA	27:YD:135:PHE:CE2	3.02	0.41
27:YD:215:LEU:H	27:YD:215:LEU:HG	1.59	0.41
29:YF:20:LEU:HD12	29:YF:21:ALA:N	2.26	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YF:101:LEU:HD12	29:YF:102:PRO:N	2.33	0.41
30:YG:146:TYR:C	30:YG:148:MET:H	2.28	0.41
36:YQ:34:LEU:HD23	36:YQ:104:PHE:CD2	2.55	0.41
37:YR:2:ARG:HG2	37:YR:5:LYS:NZ	2.35	0.41
38:YS:26:LEU:HB3	38:YS:87:PHE:HA	2.02	0.41
41:YV:72:VAL:HG13	41:YV:85:LYS:HG2	2.01	0.41
44:YY:51:VAL:HG23	44:YY:57:GLN:N	2.36	0.41
44:YY:63:LYS:HA	44:YY:63:LYS:HD2	1.86	0.41
44:YY:84:ARG:O	44:YY:95:LYS:HD3	2.20	0.41
49:Y3:35:ARG:HB3	49:Y3:37:LEU:HD21	2.01	0.41
1:QA:865:A:N3	1:QA:918:A:O2'	2.43	0.41
1:QA:877:C:H5"	8:QH:88:LYS:HD3	2.03	0.41
1:QA:1465:C:H2'	1:QA:1466:C:O4'	2.20	0.41
2:QB:27:LYS:HD2	2:QB:193:ASP:CB	2.46	0.41
4:QD:25:ARG:O	4:QD:28:SER:HB2	2.20	0.41
5:QE:43:LEU:HD13	5:QE:109:ILE:HD11	2.01	0.41
8:QH:12:ARG:NH1	8:QH:27:PRO:HD2	2.35	0.41
8:QH:38:ILE:HD12	8:QH:118:VAL:HG12	2.02	0.41
15:QO:31:LEU:O	15:QO:35:ARG:HG3	2.20	0.41
17:QQ:83:ASP:O	17:QQ:87:LYS:HG2	2.20	0.41
25:RA:1004:A:N3	25:RA:2469:U:O2'	2.53	0.41
25:RA:1076:G:OP2	36:RQ:128:LYS:HE2	2.20	0.41
25:RA:1412:A:H2'	25:RA:1413:A:O4'	2.20	0.41
25:RA:1725:G:N2	25:RA:2011:G:N2	2.66	0.41
25:RA:2410:U:H2'	25:RA:2411:G:C8	2.55	0.41
26:RB:50:G:P	38:RS:62:LYS:HB2	2.60	0.41
27:RD:43:ARG:HB2	27:RD:54:ARG:HB2	2.02	0.41
28:RE:111:ARG:NE	28:RE:160:TYR:CE1	2.76	0.41
29:RF:29:ASN:HB3	29:RF:112:MET:HE1	2.02	0.41
29:RF:93:LYS:HB3	29:RF:94:PRO:HD2	2.01	0.41
30:RG:47:LYS:HD3	30:RG:81:LYS:CB	2.49	0.41
33:RN:10:GLU:HA	33:RN:11:PRO:HD3	1.65	0.41
36:RQ:20:ALA:HA	36:RQ:98:LYS:HB3	2.02	0.41
45:RZ:97:GLU:HB3	45:RZ:125:LEU:HD11	2.02	0.41
45:RZ:109:ALA:C	45:RZ:111:VAL:HG12	2.45	0.41
46:R0:23:VAL:HA	46:R0:38:VAL:HG22	2.00	0.41
49:R3:35:ARG:HB3	49:R3:37:LEU:HD21	2.02	0.41
1:XA:158:G:H2'	1:XA:159:G:H8	1.84	0.41
1:XA:186(E):C:N4	1:XA:191(B):G:H1	2.17	0.41
1:XA:224:C:H2'	1:XA:225:C:C6	2.55	0.41
1:XA:347:G:H1'	1:XA:348:G:H5'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:24:TRP:CD1	2:XB:24:TRP:H	2.38	0.41
4:XD:127:THR:HA	4:XD:132:ARG:HA	2.03	0.41
8:XH:104:ARG:HD2	8:XH:138:TRP:CG	2.56	0.41
12:XL:61:THR:C	12:XL:63:GLY:H	2.27	0.41
18:XR:38:GLU:O	18:XR:42:ARG:NH1	2.54	0.41
25:YA:414:C:H2'	25:YA:415:A:C8	2.56	0.41
25:YA:654:A:HO2'	25:YA:654(A):G:P	2.43	0.41
25:YA:1024:G:OP1	25:YA:1026:U:H5'	2.20	0.41
25:YA:1818:U:C2'	27:YD:157:ARG:HG3	2.49	0.41
25:YA:2562:U:O2'	34:YO:23:ARG:HD3	2.20	0.41
26:YB:50:G:H5"	38:YS:61:ASN:HD21	1.85	0.41
27:YD:9:TYR:CZ	27:YD:13:ARG:HD3	2.54	0.41
27:YD:165:ILE:O	27:YD:166:GLN:NE2	2.53	0.41
28:YE:4:ILE:HG22	28:YE:198:VAL:HB	2.02	0.41
28:YE:167:VAL:CG1	28:YE:189:PRO:HD3	2.50	0.41
28:YE:186:GLY:C	28:YE:188:VAL:H	2.28	0.41
29:YF:53:THR:O	29:YF:55:GLY:N	2.53	0.41
29:YF:64:ILE:HG23	29:YF:65:TRP:CD1	2.54	0.41
32:YI:21:VAL:HG22	32:YI:22:LYS:H	1.85	0.41
32:YI:98:ALA:HB2	32:YI:111:PRO:HB3	2.01	0.41
33:YN:18:ALA:HB3	33:YN:55:VAL:O	2.19	0.41
33:YN:59:LYS:HE3	33:YN:61:ARG:HH22	1.85	0.41
37:YR:3:HIS:O	37:YR:5:LYS:N	2.53	0.41
38:YS:51:ALA:HB3	38:YS:73:LEU:HD23	2.01	0.41
38:YS:92:TYR:HB2	38:YS:98:VAL:HG11	2.02	0.41
47:Y1:89:GLU:HA	47:Y1:93:GLU:HB2	2.02	0.41
50:Y4:38:LYS:C	50:Y4:40:HIS:H	2.23	0.41
56:Z6:75:C:N4	56:Z6:101:PPU:H102	2.35	0.41
1:QA:35:G:O2'	12:QL:118:SER:O	2.17	0.41
1:QA:328:C:H4'	1:QA:329:A:H5'	2.02	0.41
1:QA:1148:U:H2'	1:QA:1149:C:O4'	2.20	0.41
1:QA:1368:G:H5'	9:QI:112:LYS:HB3	2.03	0.41
3:QC:189:ALA:O	3:QC:190:ARG:C	2.62	0.41
5:QE:79:GLU:HB3	5:QE:92:LYS:HA	2.02	0.41
13:QM:40:ASN:HA	13:QM:41:PRO:HD3	1.89	0.41
16:QP:20:VAL:HG21	16:QP:32:TYR:CD2	2.56	0.41
25:RA:303:C:N4	25:RA:385:G:H1	2.14	0.41
25:RA:365:G:H2'	25:RA:366:G:O4'	2.21	0.41
25:RA:1849:U:H2'	27:RD:157:ARG:HG3	2.03	0.41
25:RA:2128:G:H2'	25:RA:2129:C:O4'	2.20	0.41
25:RA:2830:A:O5'	37:RR:4:LEU:HD23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:110:GLY:O	37:RR:3:HIS:CE1	2.73	0.41
28:RE:179:GLU:CB	28:RE:181:LEU:HD23	2.24	0.41
28:RE:197:ILE:HD11	28:RE:199:ARG:NH1	2.30	0.41
30:RG:27:ASN:HB3	30:RG:30:GLU:HG3	2.01	0.41
31:RH:86:GLU:HG3	31:RH:165:ALA:CA	2.49	0.41
31:RH:128:PRO:CG	31:RH:129:THR:H	2.33	0.41
34:RO:7:TYR:CE1	34:RO:20:MET:HB2	2.56	0.41
35:RP:47:ASP:CG	35:RP:49:ARG:HH11	2.28	0.41
36:RQ:34:LEU:HD23	36:RQ:104:PHE:CD2	2.55	0.41
41:RV:76:LYS:HB2	41:RV:81:TYR:HB3	2.01	0.41
44:RY:88:LYS:NZ	44:RY:88:LYS:HA	2.35	0.41
47:R1:85:LEU:HA	47:R1:87:PRO:HD2	2.02	0.41
48:R2:47:ASN:O	48:R2:48:HIS:CG	2.72	0.41
48:R2:50:ILE:HD13	48:R2:51:ARG:N	2.33	0.41
1:XA:611:A:N1	1:XA:629:G:N2	2.61	0.41
1:XA:1196:U:C2	23:XX:23:A:C2	3.08	0.41
3:XC:150:LYS:HE3	3:XC:167:TRP:HE1	1.84	0.41
9:XI:40:LEU:O	9:XI:42:ARG:N	2.48	0.41
9:XI:46:ALA:HB2	9:XI:74:ILE:HG23	2.01	0.41
9:XI:125:TYR:HD1	9:XI:126:SER:N	2.18	0.41
25:YA:518:G:H5'	42:YW:18:ARG:HH12	1.85	0.41
25:YA:919:G:N2	25:YA:2269:A:OP2	2.53	0.41
25:YA:1771:C:O2'	25:YA:1786:A:O4'	2.36	0.41
25:YA:2572:A:C8	28:YE:144:ARG:HB3	2.55	0.41
25:YA:2839:G:C6	25:YA:2840:C:C4	3.09	0.41
27:YD:14:ARG:CG	27:YD:15:PHE:N	2.83	0.41
27:YD:145:VAL:O	27:YD:154:LYS:N	2.48	0.41
27:YD:145:VAL:CG1	27:YD:146:GLU:N	2.84	0.41
27:YD:168:ARG:O	27:YD:169:GLU:HB2	2.19	0.41
27:YD:269:PHE:N	27:YD:269:PHE:CD1	2.88	0.41
28:YE:35:GLN:HG3	28:YE:37:ARG:NH2	2.35	0.41
29:YF:80:ALA:O	29:YF:83:PHE:HB2	2.20	0.41
29:YF:160:ASN:CG	29:YF:163:VAL:HG23	2.45	0.41
30:YG:86:MET:HA	30:YG:87:PRO:HD2	1.95	0.41
31:YH:105:LEU:CD1	31:YH:105:LEU:N	2.81	0.41
38:YS:83:LYS:HE3	38:YS:84:GLN:CG	2.49	0.41
40:YU:69:CYS:HB3	40:YU:106:PHE:CZ	2.56	0.41
46:Y0:72:ARG:HB2	46:Y0:75:LEU:HB2	2.02	0.41
50:Y4:15:ILE:C	50:Y4:16:CYS:SG	3.03	0.41
50:Y4:24:THR:OG1	50:Y4:25:TYR:N	2.53	0.41
1:QA:67:C:H2'	1:QA:68:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:115:G:H4'	1:QA:116:A:O5'	2.20	0.41
1:QA:714:G:N2	1:QA:777:A:N3	2.65	0.41
1:QA:718:G:N2	18:QR:82:THR:HG23	2.35	0.41
1:QA:1058:G:H2'	1:QA:1059:C:C6	2.55	0.41
1:QA:1479:C:H2'	1:QA:1480:G:H8	1.85	0.41
2:QB:208:ILE:HA	2:QB:211:ILE:HD12	2.02	0.41
4:QD:122:ARG:HD3	4:QD:122:ARG:O	2.20	0.41
4:QD:165:MET:SD	4:QD:168:ARG:HD2	2.60	0.41
5:QE:100:VAL:HG22	5:QE:118:ILE:CG2	2.49	0.41
8:QH:20:TYR:CE2	8:QH:75:ARG:HD2	2.54	0.41
16:QP:53:VAL:O	16:QP:57:ARG:HG2	2.21	0.41
19:QS:28:LYS:HA	19:QS:47:HIS:HE1	1.86	0.41
19:QS:50:ALA:HB1	19:QS:57:HIS:HB3	2.03	0.41
25:RA:76:C:H5"	48:R2:10:LEU:HD11	2.01	0.41
25:RA:347:G:H2'	29:RF:169:ASN:HD21	1.85	0.41
25:RA:504:A:C6	25:RA:506:A:C6	3.09	0.41
25:RA:551:A:N3	25:RA:2066:C:H1'	2.35	0.41
25:RA:582:G:H22	40:RU:49:HIS:CE1	2.38	0.41
25:RA:589:U:P	41:RV:80:GLN:HE21	2.43	0.41
25:RA:776:G:OP2	27:RD:13:ARG:NH1	2.52	0.41
25:RA:1489:G:N2	25:RA:1595:C:N3	2.50	0.41
25:RA:1520:G:C6	25:RA:1521:C:C4	3.08	0.41
25:RA:2000:A:H2'	25:RA:2001:C:O4'	2.20	0.41
25:RA:2569:G:H2'	25:RA:2570:C:H6	1.86	0.41
25:RA:2594:G:N2	25:RA:2595:G:H1'	2.35	0.41
27:RD:221:VAL:HG22	27:RD:226:MET:HE3	2.03	0.41
28:RE:13:ARG:HH11	28:RE:13:ARG:HB2	1.81	0.41
29:RF:164:ARG:HG3	29:RF:175:THR:OG1	2.20	0.41
29:RF:177:ALA:HB1	29:RF:178:PRO:HD2	2.03	0.41
31:RH:146:ALA:HA	31:RH:164:TYR:OH	2.21	0.41
34:RO:104:ARG:NH2	39:RT:43:GLN:OE1	2.50	0.41
44:RY:54:LYS:HB3	44:RY:55:TYR:CE1	2.55	0.41
53:R7:1:MET:SD	53:R7:3:ARG:NH2	2.93	0.41
1:XA:411:A:N9	1:XA:413:G:H1'	2.35	0.41
1:XA:618:C:O2	1:XA:622:A:N6	2.54	0.41
1:XA:1347:G:C8	9:XI:107:ARG:HB3	2.55	0.41
10:XJ:3:LYS:HD2	10:XJ:77:PRO:HD3	2.01	0.41
12:XL:53:ARG:HH12	12:XL:92:ASP:HB3	1.85	0.41
16:XP:17:TYR:HE2	16:XP:41:PRO:HG3	1.85	0.41
16:XP:60:LEU:HD23	16:XP:60:LEU:HA	1.81	0.41
24:XY:33:U:C6	24:XY:35:G:OP2	2.73	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:389:G:H1	35:YP:70:GLN:HB3	1.85	0.41
25:YA:596:G:H2'	25:YA:597:U:O4'	2.20	0.41
25:YA:646:A:H2'	25:YA:647:G:O4'	2.21	0.41
25:YA:1005:C:C2	25:YA:1143:A:C5	3.08	0.41
25:YA:1153:C:H2'	25:YA:1154:G:O4'	2.20	0.41
25:YA:2553:G:H1'	25:YA:2582:G:N3	2.36	0.41
25:YA:2555:U:C2	56:Z6:74:C:C6	3.08	0.41
25:YA:2636:U:H2'	25:YA:2637:U:C6	2.55	0.41
25:YA:2845:G:H2'	25:YA:2846:G:C8	2.55	0.41
25:YA:2846:G:H2'	25:YA:2847:U:C6	2.55	0.41
26:YB:66:A:HO2'	26:YB:67:G:P	2.36	0.41
29:YF:176:LEU:HD11	29:YF:180:GLY:O	2.19	0.41
31:YH:76:VAL:C	31:YH:78:GLY:N	2.78	0.41
31:YH:146:ALA:HB2	31:YH:164:TYR:OH	2.21	0.41
33:YN:29:LYS:H	33:YN:29:LYS:HG2	1.53	0.41
36:YQ:137:TYR:CE1	45:YZ:83:PRO:CG	3.03	0.41
41:YV:22:VAL:HG12	41:YV:23:GLU:H	1.85	0.41
43:YX:11:PRO:HD3	48:Y2:37:PHE:CD2	2.55	0.41
45:YZ:6:LYS:NZ	45:YZ:43:GLU:HG3	2.36	0.41
54:Y8:25:MET:HB3	54:Y8:26:LYS:H	1.69	0.41
1:QA:19:C:OP2	5:QE:127:ASN:ND2	2.34	0.41
1:QA:304:U:H2'	1:QA:305:G:C8	2.56	0.41
1:QA:1014:A:H2'	1:QA:1015:A:C8	2.55	0.41
2:QB:219:VAL:O	2:QB:223:ILE:HG13	2.20	0.41
7:QG:45:ASP:O	7:QG:48:LYS:HB3	2.21	0.41
12:QL:53:ARG:HH12	12:QL:92:ASP:CB	2.33	0.41
12:QL:90:VAL:HG12	12:QL:92:ASP:H	1.85	0.41
12:QL:109:GLY:HA3	12:QL:121:GLY:O	2.20	0.41
13:QM:91:ARG:HB2	13:QM:98:VAL:HG13	2.03	0.41
15:QO:2:PRO:HB2	15:QO:3:ILE:H	1.56	0.41
19:QS:67:VAL:CG1	50:R4:59:PHE:CE1	3.03	0.41
20:QT:89:ARG:HH21	20:QT:104:LEU:HG	1.85	0.41
25:RA:858:U:H3'	35:RP:22:GLY:HA2	2.02	0.41
25:RA:1588:G:H5"	25:RA:1589:A:OP2	2.19	0.41
25:RA:1645:C:H2'	25:RA:1646:C:H6	1.86	0.41
25:RA:1833:A:H2'	25:RA:1834:A:C8	2.56	0.41
25:RA:2041:A:N6	25:RA:2042:A:C5	2.89	0.41
28:RE:35:GLN:HG3	28:RE:37:ARG:NH2	2.36	0.41
28:RE:93:VAL:HG21	28:RE:180:ASN:HA	2.03	0.41
28:RE:167:VAL:CG1	28:RE:189:PRO:HD3	2.50	0.41
29:RF:178:PRO:HB2	29:RF:201:VAL:CG1	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RI:97:ILE:HG12	32:RI:97:ILE:H	1.67	0.41
33:RN:47:ALA:HB2	33:RN:112:LEU:HD11	2.02	0.41
35:RP:15:ARG:NH1	35:RP:15:ARG:HG2	2.36	0.41
35:RP:81:GLN:HG2	35:RP:106:LEU:HD23	2.02	0.41
37:RR:10:LEU:O	37:RR:12:ARG:HG3	2.21	0.41
37:RR:33:ARG:NH2	51:R5:55:ARG:CB	2.83	0.41
38:RS:14:VAL:HG21	38:RS:89:ARG:HG2	2.02	0.41
44:RY:84:ARG:HD3	44:RY:86:ARG:NH1	2.35	0.41
48:R2:50:ILE:HD12	48:R2:50:ILE:N	2.35	0.41
54:R8:16:ILE:HD11	54:R8:57:ARG:CG	2.44	0.41
1:XA:292:G:N7	1:XA:293:G:H1'	2.35	0.41
2:XB:118:LEU:CB	2:XB:142:LEU:HD12	2.50	0.41
9:XI:128:ARG:NH2	22:XV:35:A:OP2	2.52	0.41
11:XK:18:ARG:HA	11:XK:81:ASP:H	1.86	0.41
12:XL:62:SER:HB2	12:XL:64:TYR:CD1	2.56	0.41
13:XM:12:ASN:N	13:XM:45:VAL:HG13	2.35	0.41
16:XP:23:ASP:O	16:XP:26:ARG:HB2	2.20	0.41
25:YA:396:G:H8	25:YA:396:G:O5'	2.04	0.41
25:YA:849:A:N1	49:Y3:25:ALA:HB2	2.34	0.41
25:YA:1317:A:H2'	25:YA:1318:C:C6	2.56	0.41
25:YA:1372:U:H2'	25:YA:1373:A:C8	2.55	0.41
25:YA:1550:C:H2'	25:YA:1551:C:C6	2.56	0.41
25:YA:2031:A:N6	25:YA:2498:C:O4'	2.54	0.41
25:YA:2391:G:OP2	54:Y8:32:LEU:HD13	2.21	0.41
25:YA:2741:A:H5"	55:Y9:22:ARG:NH1	2.36	0.41
26:YB:16:G:H2'	26:YB:17:C:C6	2.54	0.41
27:YD:158:ALA:O	27:YD:196:VAL:HG11	2.21	0.41
30:YG:124:SER:HB2	30:YG:131:TYR:CE1	2.56	0.41
31:YH:86:GLU:HG3	31:YH:165:ALA:CA	2.49	0.41
44:YY:32:PRO:C	44:YY:34:LYS:H	2.29	0.41
53:Y7:47:ARG:HB2	53:Y7:47:ARG:HE	1.58	0.41
54:Y8:14:VAL:CG1	54:Y8:60:LEU:HD11	2.50	0.41
1:QA:284:G:H2'	1:QA:285:G:C8	2.55	0.41
1:QA:405:U:O4	4:QD:2:GLY:N	2.54	0.41
1:QA:474:G:H5'	16:QP:81:ARG:HG3	2.01	0.41
1:QA:792:A:H2'	1:QA:792:A:N3	2.36	0.41
1:QA:979:C:OP1	1:QA:1223:C:N4	2.52	0.41
1:QA:1001:G:H2'	1:QA:1002:G:O4'	2.20	0.41
1:QA:1346:A:OP1	9:QI:120:ARG:NH1	2.53	0.41
2:QB:184:VAL:N	2:QB:198:ASP:OD2	2.44	0.41
2:QB:210:SER:O	2:QB:214:ILE:HG12	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:173:TRP:CD1	4:QD:174:LEU:HG	2.56	0.41
13:QM:8:GLU:OE1	30:RG:115:ARG:CD	2.69	0.41
25:RA:231:G:C8	54:R8:5:LYS:HG2	2.56	0.41
25:RA:831:A:O4'	27:RD:227:ASN:ND2	2.53	0.41
25:RA:1048:G:H2'	25:RA:1049:G:O4'	2.20	0.41
25:RA:1727:U:O2'	25:RA:1794:G:N7	2.36	0.41
25:RA:2157:A:H62	25:RA:2178:G:N2	2.16	0.41
25:RA:2486:C:H5"	25:RA:2487:C:H5	1.85	0.41
25:RA:2507:G:H5"	36:RQ:81:VAL:CG1	2.49	0.41
25:RA:2624:C:C5	25:RA:2625:U:H5	2.38	0.41
26:RB:40:U:O4	50:R4:2:LYS:N	2.51	0.41
26:RB:52:A:O2'	26:RB:53:A:C8	2.73	0.41
27:RD:35:LYS:HZ1	27:RD:65:ILE:HA	1.85	0.41
30:RG:3:LEU:HD11	50:R4:25:TYR:OH	2.21	0.41
30:RG:6:ALA:HB3	30:RG:104:GLU:OE2	2.20	0.41
31:RH:137:ASP:HB2	31:RH:140:LYS:CE	2.51	0.41
33:RN:71:ILE:HG21	33:RN:84:LYS:HB3	2.02	0.41
37:RR:22:ARG:HA	37:RR:47:PHE:HE2	1.86	0.41
1:XA:89:U:HO2'	1:XA:90:C:P	2.43	0.41
1:XA:92:G:H3'	1:XA:93:U:C6	2.55	0.41
1:XA:411:A:C6	1:XA:429:U:C4	3.08	0.41
1:XA:1333:A:H2'	1:XA:1334:G:O4'	2.21	0.41
1:XA:1374:A:O2'	7:XG:28:ASN:HB3	2.21	0.41
2:XB:80:ILE:HD11	2:XB:208:ILE:HG12	2.02	0.41
17:XQ:62:SER:CB	17:XQ:72:ARG:HE	2.33	0.41
20:XT:11:SER:HA	20:XT:13:LEU:HD12	2.01	0.41
20:XT:44:ALA:O	20:XT:91:LEU:O	2.39	0.41
25:YA:483:A:O2'	44:YY:59:GLY:HA2	2.20	0.41
25:YA:742:G:H2'	25:YA:743:G:H8	1.85	0.41
26:YB:70:C:H2'	26:YB:71:C:C6	2.55	0.41
27:YD:182:LEU:N	27:YD:272:ALA:HB3	2.32	0.41
30:YG:165:THR:OG1	30:YG:168:GLU:HG3	2.21	0.41
31:YH:59:ARG:CG	31:YH:59:ARG:NH1	2.79	0.41
32:YI:57:ARG:O	32:YI:61:ARG:HG2	2.20	0.41
40:YU:30:LYS:HA	40:YU:30:LYS:HD3	1.90	0.41
41:YV:38:LEU:O	41:YV:51:VAL:HA	2.21	0.41
41:YV:72:VAL:CG1	41:YV:85:LYS:HG2	2.50	0.41
45:YZ:77:ASP:OD2	45:YZ:80:ARG:HD3	2.21	0.41
46:Y0:36:ILE:HD11	46:Y0:39:ARG:HG2	2.02	0.41
50:Y4:48:ARG:NH1	50:Y4:52:THR:H	2.19	0.41
1:QA:401:C:H2'	1:QA:402:G:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:501:C:O3'	12:QL:118:SER:HB2	2.20	0.41
1:QA:537:G:H5"	12:QL:113:ARG:HH12	1.84	0.41
1:QA:790:A:OP1	22:QV:38:A:O2'	2.34	0.41
1:QA:790:A:H2'	1:QA:791:G:C8	2.55	0.41
1:QA:884:U:H4'	1:QA:885:G:H5"	2.01	0.41
1:QA:1461:G:H2'	1:QA:1462:G:C8	2.56	0.41
3:QC:122:GLU:HA	3:QC:125:GLU:OE1	2.21	0.41
5:QE:110:LEU:HD13	5:QE:118:ILE:HG12	2.01	0.41
6:QF:35:ALA:HA	6:QF:67:MET:HB3	2.02	0.41
12:QL:8:ASN:O	12:QL:11:VAL:HG23	2.20	0.41
12:QL:117:ARG:HB3	12:QL:122:THR:HB	2.02	0.41
19:QS:5:LEU:HD12	19:QS:5:LEU:HA	1.93	0.41
22:QV:3:G:HO2'	22:QV:4:G:P	2.44	0.41
25:RA:30:G:C5	25:RA:31:C:C4	3.09	0.41
25:RA:218:A:N6	25:RA:444:C:O2'	2.45	0.41
25:RA:602:G:H2'	25:RA:603:C:C6	2.56	0.41
25:RA:1773:C:H2'	25:RA:1774:C:C6	2.55	0.41
25:RA:1929:G:C6	25:RA:1930:C:C4	3.09	0.41
25:RA:2033:U:OP2	42:RW:16:LYS:NZ	2.50	0.41
25:RA:2047:C:H2'	25:RA:2048:C:C6	2.56	0.41
25:RA:2318:C:H2'	25:RA:2319:G:H21	1.86	0.41
25:RA:2771:A:C5	31:RH:67:LEU:HD21	2.55	0.41
25:RA:2787:C:H2'	25:RA:2788:A:O4'	2.20	0.41
25:RA:2831:A:H2'	25:RA:2832:G:O4'	2.20	0.41
27:RD:226:MET:HB3	27:RD:230:ASP:HB2	2.03	0.41
28:RE:7:VAL:CG2	28:RE:8:LYS:H	2.11	0.41
28:RE:134:ILE:C	28:RE:134:ILE:CD1	2.94	0.41
28:RE:186:GLY:C	28:RE:188:VAL:H	2.28	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
30:RG:124:SER:HB2	30:RG:131:TYR:CE1	2.56	0.41
31:RH:105:LEU:CD1	31:RH:105:LEU:N	2.81	0.41
34:RO:26:LYS:HB2	34:RO:30:ALA:HB2	2.02	0.41
36:RQ:80:GLU:C	36:RQ:81:VAL:CG1	2.89	0.41
43:RX:51:VAL:HG13	43:RX:81:VAL:HG23	2.02	0.41
54:R8:14:VAL:CG1	54:R8:60:LEU:HD11	2.50	0.41
1:XA:451:A:OP1	1:XA:481:G:N2	2.46	0.41
1:XA:822:C:H2'	1:XA:823:G:H8	1.85	0.41
1:XA:872:A:C4	1:XA:874:G:C8	3.09	0.41
1:XA:976:G:H5"	1:XA:1358:U:O2'	2.21	0.41
1:XA:1187:G:O5'	9:XI:113:LYS:HE3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:XF:25:ILE:HD13	6:XF:28:ARG:NH1	2.35	0.41
18:XR:85:LEU:HD23	18:XR:88:LYS:HD2	2.03	0.41
25:YA:669:G:N3	25:YA:669:G:H2'	2.36	0.41
25:YA:764:A:C6	27:YD:209:ALA:HB1	2.55	0.41
25:YA:811:U:H3'	35:YP:22:GLY:HA2	2.02	0.41
25:YA:942:G:O2'	25:YA:1189:A:N3	2.47	0.41
25:YA:1250:G:OP2	35:YP:21:ARG:HD3	2.21	0.41
25:YA:1340:U:H4'	25:YA:1394:U:O2'	2.20	0.41
25:YA:1503:U:H2'	25:YA:1504:C:C6	2.55	0.41
25:YA:1668:A:H4'	25:YA:1669:A:O5'	2.20	0.41
25:YA:1844:C:H2'	25:YA:1845:G:H8	1.86	0.41
25:YA:2106:G:H2'	25:YA:2107:C:O4'	2.21	0.41
25:YA:2224:G:H4'	25:YA:2226:C:C2	2.55	0.41
25:YA:2277:G:OP2	46:Y0:10:THR:HG21	2.20	0.41
25:YA:2599:G:OP2	27:YD:236:GLY:CA	2.69	0.41
27:YD:197:GLY:O	27:YD:198:ASN:HB3	2.21	0.41
28:YE:63:LEU:CD1	28:YE:64:LYS:N	2.71	0.41
28:YE:161:GLY:O	28:YE:162:ALA:HB3	2.20	0.41
29:YF:68:LYS:O	29:YF:69:HIS:HB2	2.20	0.41
29:YF:129:PHE:O	29:YF:142:TRP:HD1	2.04	0.41
29:YF:133:ASN:O	29:YF:134:GLY:C	2.64	0.41
30:YG:103:LEU:O	30:YG:107:LEU:HG	2.21	0.41
32:YI:1:MET:HE3	32:YI:27:ARG:NH2	2.36	0.41
32:YI:79:ILE:N	32:YI:141:LYS:O	2.54	0.41
33:YN:96:GLU:O	33:YN:100:GLU:HG3	2.20	0.41
35:YP:59:LEU:HA	35:YP:61:ARG:HE	1.84	0.41
36:YQ:34:LEU:HD11	36:YQ:129:THR:CB	2.35	0.41
40:YU:17:ILE:HG23	40:YU:39:LEU:HD12	2.02	0.41
40:YU:98:LEU:HD23	40:YU:99:ALA:N	2.36	0.41
52:Y6:11:LEU:HD13	52:Y6:11:LEU:HA	1.86	0.41
1:QA:356:A:N3	1:QA:368:U:O2'	2.43	0.41
1:QA:967:C:H4'	9:QI:125:TYR:CE1	2.56	0.41
2:QB:47:THR:HA	2:QB:202:PRO:HG2	2.00	0.41
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
13:QM:80:ARG:HE	50:R4:71:ARG:HH12	1.69	0.41
15:QO:32:LEU:HA	15:QO:32:LEU:HD23	1.76	0.41
19:QS:36:ARG:HA	19:QS:71:LEU:HB2	2.03	0.41
21:QU:10:ARG:HA	21:QU:13:ILE:HB	2.02	0.41
25:RA:82:G:O2'	25:RA:83:A:O5'	2.32	0.41
25:RA:179:A:N3	25:RA:726:C:O2'	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1053:C:H5”	33:RN:35:ARG:HH11	1.85	0.41
25:RA:1308:A:N3	51:R5:10:LYS:HE3	2.35	0.41
25:RA:1358:U:H4’	25:RA:1359:U:O5’	2.21	0.41
25:RA:1752:G:C6	25:RA:1753:U:C4	3.08	0.41
25:RA:2153:G:N2	25:RA:2180:A:N7	2.69	0.41
25:RA:2320:G:C6	25:RA:2323:A:N1	2.89	0.41
25:RA:2538:G:O2’	55:R9:33:LYS:HE3	2.21	0.41
25:RA:2579:G:H2’	25:RA:2580:C:H6	1.84	0.41
25:RA:2781:C:H1’	33:RN:89:LYS:HZ1	1.86	0.41
27:RD:35:LYS:NZ	27:RD:64:ILE:O	2.41	0.41
27:RD:127:VAL:HA	27:RD:193:VAL:HG22	2.02	0.41
28:RE:4:ILE:HG22	28:RE:198:VAL:HB	2.02	0.41
28:RE:179:GLU:C	28:RE:181:LEU:H	2.28	0.41
30:RG:112:PRO:CG	50:R4:37:SER:HB2	2.46	0.41
31:RH:45:VAL:O	31:RH:45:VAL:CG1	2.69	0.41
32:RI:14:ASP:O	32:RI:16:GLY:N	2.54	0.41
36:RQ:139:GLU:CG	36:RQ:140:ALA:N	2.84	0.41
39:RT:91:ARG:HB2	39:RT:121:ILE:HG13	2.03	0.41
40:RU:61:TRP:O	40:RU:65:ILE:HG13	2.21	0.41
45:RZ:76:LEU:HD23	45:RZ:76:LEU:H	1.86	0.41
46:R0:12:ASN:HB3	46:R0:13:GLY:H	1.67	0.41
50:R4:68:ARG:HB2	50:R4:69:LYS:H	1.35	0.41
56:Z5:75:C:N4	56:Z5:101:PPU:H102	2.35	0.41
1:XA:878:G:H1’	8:XH:3:THR:HG21	2.02	0.41
1:XA:952:U:H2’	1:XA:953:G:C8	2.55	0.41
1:XA:1469:G:H2’	1:XA:1470:G:H8	1.84	0.41
3:XC:138:VAL:HG13	3:XC:149:ALA:HB3	2.02	0.41
4:XD:52:SER:O	4:XD:55:ALA:HB3	2.21	0.41
6:XF:46:ARG:HB3	6:XF:60:PHE:CE1	2.55	0.41
8:XH:44:PHE:HE2	8:XH:109:ILE:CG2	2.34	0.41
12:XL:25:PRO:HD2	12:XL:97:ARG:HH11	1.86	0.41
12:XL:90:VAL:HG12	12:XL:92:ASP:H	1.85	0.41
14:XN:51:GLY:O	14:XN:53:LEU:N	2.53	0.41
17:XQ:59:ILE:HB	17:XQ:71:PHE:HB3	2.03	0.41
25:YA:46:C:OP2	25:YA:215:G:H2’	2.20	0.41
25:YA:389:G:N1	35:YP:70:GLN:HB3	2.36	0.41
25:YA:605:C:O2	25:YA:657:U:O2’	2.38	0.41
25:YA:655:A:H8	25:YA:656:G:O4’	2.04	0.41
25:YA:918:A:C5	25:YA:919:G:H1’	2.56	0.41
25:YA:1311:G:N2	25:YA:1603:A:H62	2.19	0.41
25:YA:1537:C:H2’	25:YA:1538:G:O4’	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1810:A:H8	25:YA:1810:A:O5'	2.03	0.41
25:YA:2286:A:H2'	52:Y6:31:PRO:HG2	2.03	0.41
25:YA:2311:A:H8	30:YG:88:ILE:CD1	2.33	0.41
25:YA:2390:U:O2'	25:YA:2391:G:H5'	2.21	0.41
25:YA:2577:A:H5"	25:YA:2578:G:H5'	2.03	0.41
27:YD:117:VAL:HG22	27:YD:118:VAL:N	2.35	0.41
28:YE:24:THR:HB	28:YE:184:VAL:HG23	2.02	0.41
31:YH:53:GLU:OE1	31:YH:53:GLU:HA	2.16	0.41
32:YI:23:PRO:O	32:YI:27:ARG:HG2	2.21	0.41
32:YI:115:ALA:HB3	32:YI:128:LEU:HD12	2.02	0.41
38:YS:66:ALA:HA	38:YS:69:VAL:CG1	2.51	0.41
54:Y8:26:LYS:HD3	54:Y8:26:LYS:HA	1.86	0.41
1:QA:8:A:C8	5:QE:101:ILE:HA	2.56	0.41
1:QA:446:G:H2'	1:QA:447:G:O4'	2.21	0.41
1:QA:538:G:OP1	12:QL:113:ARG:HD2	2.21	0.41
1:QA:599:C:H2'	1:QA:600:C:H6	1.86	0.41
1:QA:918:A:H2'	1:QA:919:A:O4'	2.20	0.41
1:QA:1157:A:H62	1:QA:1178:G:H21	1.67	0.41
1:QA:1160:G:H1	1:QA:1177:G:N2	2.19	0.41
1:QA:1210:C:H3'	1:QA:1211:U:H5"	2.01	0.41
1:QA:1286:A:C8	1:QA:1287:A:H4'	2.56	0.41
1:QA:1306:A:N6	1:QA:1331:G:H1'	2.35	0.41
1:QA:1434:A:H61	1:QA:1467:G:H1'	1.86	0.41
1:QA:1496:C:H2'	1:QA:1497:G:O4'	2.21	0.41
8:QH:41:ARG:NH2	8:QH:123:GLU:OE2	2.54	0.41
9:QI:40:LEU:HD11	9:QI:70:LYS:HG2	2.02	0.41
11:QK:25:TYR:CZ	11:QK:87:THR:HB	2.55	0.41
11:QK:124:LYS:C	11:QK:126:ARG:H	2.29	0.41
12:QL:43:VAL:HG13	12:QL:55:VAL:HG21	2.03	0.41
12:QL:45:PRO:C	12:QL:46:LYS:O	2.63	0.41
13:QM:105:THR:OG1	13:QM:106:ASN:N	2.54	0.41
19:QS:23:ASN:C	19:QS:25:LYS:H	2.29	0.41
25:RA:259:A:H5'	47:R1:98:LEU:O	2.20	0.41
25:RA:552:C:N4	25:RA:2790:G:O2'	2.42	0.41
25:RA:574:G:H5"	41:RV:68:LYS:NZ	2.36	0.41
25:RA:600:G:C6	25:RA:601:A:C6	3.09	0.41
25:RA:793:A:H2'	25:RA:2624:C:H5"	2.03	0.41
25:RA:839:G:N3	25:RA:2094:G:O2'	2.43	0.41
25:RA:853:C:O2	25:RA:2456:G:O2'	2.37	0.41
25:RA:937:A:O2'	25:RA:938:G:H8	2.04	0.41
25:RA:1055:A:P	33:RN:37:LYS:NZ	2.94	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1249:A:H1'	25:RA:1251:G:C4	2.55	0.41
25:RA:1347:A:H2	25:RA:1672:G:N3	2.19	0.41
25:RA:1543:U:H3'	25:RA:1544:C:H6	1.86	0.41
25:RA:1625:U:C2'	25:RA:1626:A:H5'	2.51	0.41
25:RA:1634:C:H2'	25:RA:1635:C:C6	2.55	0.41
25:RA:1873:G:H2'	25:RA:1874:C:C6	2.56	0.41
25:RA:1904:C:H5'	25:RA:1905:G:OP2	2.21	0.41
25:RA:2009:G:H2'	25:RA:2010:C:C6	2.56	0.41
25:RA:2012:C:H2'	25:RA:2013:U:C5	2.45	0.41
25:RA:2519:C:H2'	25:RA:2520:G:O4'	2.21	0.41
25:RA:2714:U:H3	25:RA:2717:A:H61	1.69	0.41
25:RA:2842:U:HO2'	25:RA:2843:G:P	2.44	0.41
27:RD:150:LYS:N	27:RD:150:LYS:HD3	2.36	0.41
27:RD:257:LEU:HD23	27:RD:257:LEU:HA	1.90	0.41
28:RE:71:GLY:O	28:RE:72:VAL:C	2.63	0.41
28:RE:161:GLY:O	28:RE:162:ALA:HB3	2.20	0.41
30:RG:179:PRO:CG	50:R4:38:LYS:HZ1	2.28	0.41
31:RH:26:VAL:HG12	31:RH:33:LEU:HB2	2.03	0.41
32:RI:12:LEU:HG	32:RI:19:VAL:HG11	2.03	0.41
32:RI:52:ARG:CG	32:RI:53:ALA:N	2.66	0.41
32:RI:144:VAL:C	32:RI:145:VAL:CG1	2.89	0.41
33:RN:57:ALA:O	33:RN:60:ILE:HD11	2.21	0.41
33:RN:73:THR:HB	33:RN:82:LEU:HD11	2.02	0.41
34:RO:63:VAL:HB	34:RO:106:LEU:HD11	2.02	0.41
35:RP:61:ARG:NE	54:R8:13:ARG:HG3	2.36	0.41
36:RQ:20:ALA:HB1	36:RQ:99:PRO:CG	2.51	0.41
36:RQ:39:PRO:HA	36:RQ:97:VAL:O	2.21	0.41
36:RQ:139:GLU:HG2	36:RQ:140:ALA:N	2.36	0.41
38:RS:62:LYS:HB3	38:RS:97:ARG:CD	2.44	0.41
47:R1:58:ILE:CD1	47:R1:86:SER:HB2	2.50	0.41
50:R4:14:ILE:HA	50:R4:31:ILE:O	2.21	0.41
54:R8:3:LYS:HE2	54:R8:3:LYS:HB3	1.82	0.41
54:R8:26:LYS:HA	54:R8:26:LYS:HD3	1.86	0.41
54:R8:64:TYR:HB3	54:R8:65:GLU:H	1.40	0.41
1:XA:259:G:H2'	1:XA:260:G:O4'	2.21	0.41
1:XA:388:G:HO2'	1:XA:389:A:P	2.35	0.41
1:XA:426:G:OP1	4:XD:38:TYR:OH	2.22	0.41
1:XA:745:C:H1'	1:XA:836:G:O2'	2.21	0.41
1:XA:791:G:H2'	1:XA:792:A:H5'	2.03	0.41
1:XA:950:U:H2'	1:XA:951:G:H8	1.85	0.41
1:XA:1305:G:H1'	1:XA:1332:A:H62	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1389:C:H2'	1:XA:1390:U:O4'	2.20	0.41
2:XB:48:MET:HE2	2:XB:48:MET:HB3	1.94	0.41
2:XB:126:GLU:O	2:XB:129:GLU:HB2	2.20	0.41
3:XC:42:LEU:HD12	3:XC:42:LEU:HA	1.87	0.41
4:XD:64:LEU:HD13	4:XD:198:VAL:HG11	2.02	0.41
4:XD:131:ARG:H	4:XD:131:ARG:HG2	1.67	0.41
5:XE:43:LEU:HD22	5:XE:136:MET:HG2	2.03	0.41
8:XH:6:ILE:HB	8:XH:85:ARG:NH1	2.36	0.41
10:XJ:76:ASN:HA	10:XJ:77:PRO:HD2	1.97	0.41
11:XK:19:ALA:CB	11:XK:32:ILE:HG22	2.50	0.41
11:XK:38:ASN:HA	11:XK:39:PRO:HD3	1.75	0.41
12:XL:38:THR:HG22	12:XL:57:LYS:HB3	2.01	0.41
12:XL:62:SER:O	12:XL:64:TYR:N	2.54	0.41
19:XS:67:VAL:HG21	50:Y4:60:GLN:HE22	1.86	0.41
20:XT:74:LYS:C	20:XT:76:ALA:H	2.29	0.41
25:YA:270:A:N7	25:YA:270(Z):U:O2	2.54	0.41
25:YA:740:U:H2'	25:YA:741:G:C8	2.56	0.41
25:YA:863:A:H2'	25:YA:864:G:H8	1.86	0.41
25:YA:1035:U:OP1	31:YH:59:ARG:HD2	2.20	0.41
25:YA:1061:U:H3'	25:YA:1062:G:C5'	2.51	0.41
25:YA:1385:G:H1'	25:YA:1386:C:C6	2.56	0.41
25:YA:1516:U:H2'	25:YA:1517:G:C8	2.56	0.41
25:YA:1767:C:H2'	25:YA:1768:U:O4'	2.21	0.41
25:YA:2291:U:H2'	25:YA:2292:C:H6	1.85	0.41
25:YA:2320:A:H2'	25:YA:2320:A:N3	2.35	0.41
25:YA:2712(A):A:H5"	37:YR:13:HIS:CD2	2.55	0.41
26:YB:15:A:H1'	26:YB:109:G:N9	2.35	0.41
26:YB:33:G:C2	26:YB:50:G:C2	3.09	0.41
26:YB:59:A:H2'	26:YB:60:C:O4'	2.21	0.41
28:YE:134:ILE:C	28:YE:134:ILE:CD1	2.93	0.41
28:YE:179:GLU:C	28:YE:181:LEU:H	2.28	0.41
29:YF:28:ILE:HD12	29:YF:28:ILE:C	2.46	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
31:YH:65:HIS:O	31:YH:66:GLY:C	2.63	0.41
31:YH:137:ASP:HB2	31:YH:140:LYS:CE	2.51	0.41
31:YH:146:ALA:HA	31:YH:164:TYR:OH	2.21	0.41
34:YO:4:PRO:O	34:YO:5:GLN:CB	2.69	0.41
37:YR:44:LEU:HD22	37:YR:48:VAL:HG23	2.02	0.41
38:YS:61:ASN:OD1	38:YS:63:THR:OG1	2.29	0.41
38:YS:88:ASP:CG	38:YS:89:ARG:H	2.28	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YS:93:LYS:HE3	38:YS:93:LYS:HB2	1.93	0.41
40:YU:8:VAL:O	40:YU:12:ARG:HG3	2.20	0.41
43:YX:31:HIS:HB3	43:YX:34:ALA:HB2	2.03	0.41
45:YZ:97:GLU:HG3	45:YZ:127:LYS:NZ	2.35	0.41
45:YZ:152:ALA:HB2	45:YZ:168:GLU:HA	2.03	0.41
48:Y2:41:ILE:HD12	48:Y2:43:GLN:N	2.35	0.41
52:Y6:13:CYS:HB2	52:Y6:22:ALA:HB3	2.03	0.41
54:Y8:17:THR:O	54:Y8:20:GLY:N	2.46	0.41
54:Y8:53:PRO:C	54:Y8:55:ALA:N	2.76	0.41
1:QA:35:G:N2	12:QL:118:SER:OG	2.47	0.41
1:QA:192:U:H2'	1:QA:193:C:C6	2.56	0.41
1:QA:662:G:H2'	1:QA:663:A:C8	2.56	0.41
1:QA:1003:G:H2'	1:QA:1004:A:H4'	2.02	0.41
1:QA:1066:C:H5'	1:QA:1067:A:OP2	2.21	0.41
1:QA:1119:C:H2'	1:QA:1120:G:C8	2.55	0.41
1:QA:1129:C:H5'	1:QA:1130:A:H5'	2.03	0.41
1:QA:1316:G:H4'	14:QN:18:VAL:HG13	2.02	0.41
1:QA:1495:U:O2'	25:RA:1941:A:N1	2.39	0.41
5:QE:147:ASP:O	5:QE:151:LEU:HG	2.21	0.41
12:QL:21:LYS:N	12:QL:21:LYS:CD	2.83	0.41
25:RA:630:U:H5	25:RA:644:G:C5	2.38	0.41
25:RA:769:A:H3'	25:RA:770:G:H8	1.86	0.41
25:RA:883:G:C5	25:RA:884:C:C4	3.09	0.41
25:RA:910:A:O3'	26:RB:100:G:N2	2.52	0.41
25:RA:1565:G:C6	25:RA:1566:U:C4	3.09	0.41
25:RA:1890:A:N6	25:RA:1905:G:O2'	2.52	0.41
25:RA:2108:U:H2'	25:RA:2109:G:C8	2.56	0.41
25:RA:2575:U:H1'	25:RA:2578:A:N6	2.35	0.41
25:RA:2675:G:H3'	25:RA:2676:G:H8	1.86	0.41
26:RB:99:A:C5	26:RB:100:G:C8	3.09	0.41
27:RD:111:LEU:HD23	27:RD:111:LEU:HA	1.78	0.41
28:RE:51:PHE:CG	28:RE:52:LEU:N	2.89	0.41
28:RE:147:PRO:HB2	28:RE:149:ARG:HG2	2.03	0.41
31:RH:145:ALA:O	31:RH:148:ILE:HB	2.21	0.41
32:RI:120:ILE:HD11	32:RI:126:TYR:OH	2.20	0.41
33:RN:9:VAL:HG21	33:RN:48:MET:HB3	2.02	0.41
40:RU:83:LEU:HG	40:RU:88:ILE:HB	2.03	0.41
47:R1:95:LEU:HD23	47:R1:95:LEU:HA	1.94	0.41
53:R7:31:LEU:HD23	53:R7:31:LEU:HA	1.86	0.41
1:XA:126:G:H4'	1:XA:634:C:O2	2.21	0.41
1:XA:255:G:P	17:XQ:69:LYS:HZ3	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:679:C:H2'	1:XA:680:C:C6	2.56	0.41
1:XA:891:U:H2'	1:XA:892:A:H8	1.86	0.41
1:XA:1338:G:C6	1:XA:1339:A:C6	3.09	0.41
3:XC:119:ARG:HH21	3:XC:140:ARG:CZ	2.34	0.41
4:XD:186:LEU:HD23	4:XD:186:LEU:HA	1.95	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
11:XK:48:ILE:HD13	11:XK:48:ILE:HA	1.83	0.41
12:XL:22:SER:C	12:XL:24:VAL:N	2.79	0.41
20:XT:44:ALA:CB	20:XT:91:LEU:HB2	2.51	0.41
25:YA:229:A:OP1	25:YA:229:A:H4'	2.21	0.41
25:YA:491:G:H8	25:YA:491:G:OP2	2.03	0.41
25:YA:693:C:O2'	25:YA:1353:A:N3	2.50	0.41
25:YA:1297:C:O2'	25:YA:1302:A:N1	2.52	0.41
25:YA:1462:C:H4'	25:YA:2703:C:O4'	2.21	0.41
26:YB:17:C:H2'	26:YB:18:G:O4'	2.21	0.41
26:YB:69:G:C5	26:YB:70:C:C5	3.09	0.41
27:YD:147:LEU:CD1	27:YD:155:LEU:HD21	2.51	0.41
29:YF:13:SER:OG	29:YF:14:PRO:HD2	2.21	0.41
29:YF:198:ALA:HA	29:YF:201:VAL:CG1	2.41	0.41
30:YG:7:LEU:HD12	30:YG:104:GLU:HA	2.03	0.41
31:YH:20:ALA:HB3	31:YH:23:ARG:HG2	2.03	0.41
33:YN:1:MET:HE2	41:YV:12:TYR:HA	2.02	0.41
35:YP:62:LEU:N	35:YP:62:LEU:CD2	2.79	0.41
35:YP:65:ARG:HB2	54:Y8:12:LYS:O	2.21	0.41
35:YP:106:LEU:O	35:YP:107:LYS:HB2	2.20	0.41
36:YQ:27:VAL:HG11	36:YQ:134:ARG:HG2	2.02	0.41
38:YS:20:ARG:HE	38:YS:21:THR:HA	1.86	0.41
38:YS:53:SER:HA	38:YS:56:LEU:CD2	2.50	0.41
38:YS:89:ARG:HG2	38:YS:89:ARG:NH1	2.36	0.41
40:YU:96:ALA:HA	40:YU:98:LEU:HD23	2.03	0.41
44:YY:67:LEU:O	44:YY:68:HIS:C	2.63	0.41
48:Y2:11:GLU:HA	48:Y2:14:ARG:HD2	2.02	0.41
48:Y2:61:LEU:HD23	48:Y2:61:LEU:HA	1.85	0.41
52:Y6:36:LEU:HD13	52:Y6:50:ARG:CZ	2.51	0.41
1:QA:904:C:H2'	1:QA:905:U:O4'	2.21	0.40
3:QC:83:ARG:O	3:QC:86:VAL:HG22	2.21	0.40
4:QD:13:ARG:O	4:QD:39:PRO:HA	2.22	0.40
4:QD:30:LYS:CD	4:QD:30:LYS:H	2.35	0.40
8:QH:44:PHE:HD1	8:QH:80:ILE:HG12	1.86	0.40
8:QH:100:ILE:HA	8:QH:101:PRO:HD3	1.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:27:G:H1'	25:RA:538:A:H61	1.86	0.40
25:RA:1075:A:H8	25:RA:1075:A:O5'	2.04	0.40
25:RA:1437:U:C2	25:RA:1440:U:C4	3.09	0.40
25:RA:1684:A:H5'	25:RA:1791:A:O2'	2.21	0.40
25:RA:2087:C:H2'	25:RA:2088:C:H6	1.85	0.40
25:RA:2095:C:H4'	27:RD:228:PRO:HB2	2.03	0.40
28:RE:9:VAL:HB	28:RE:10:GLY:H	1.71	0.40
28:RE:65:GLY:O	28:RE:66:HIS:C	2.64	0.40
32:RI:49:ALA:O	32:RI:52:ARG:HG2	2.21	0.40
36:RQ:76:LYS:HB3	36:RQ:90:VAL:CG1	2.51	0.40
46:R0:72:ARG:HB2	46:R0:75:LEU:HB2	2.03	0.40
50:R4:42:PHE:CZ	50:R4:43:TYR:HB3	2.56	0.40
50:R4:48:ARG:O	50:R4:49:PHE:C	2.63	0.40
1:XA:606:G:N2	1:XA:631:G:H8	2.19	0.40
1:XA:652:U:H1'	1:XA:653:A:H2	1.86	0.40
1:XA:818:G:O2'	1:XA:820:U:OP2	2.36	0.40
1:XA:1171:G:H2'	1:XA:1172:C:C6	2.56	0.40
1:XA:1288:A:N1	1:XA:1371:G:H1'	2.37	0.40
1:XA:1436:U:H2'	1:XA:1437:C:O4'	2.21	0.40
2:XB:19:HIS:NE2	2:XB:206:ASP:HB2	2.36	0.40
10:XJ:47:PHE:CZ	14:XN:37:PHE:HE2	2.39	0.40
12:XL:117:ARG:HB3	12:XL:122:THR:HB	2.02	0.40
19:XS:15:LEU:HA	19:XS:18:LYS:HB3	2.04	0.40
25:YA:94:G:H2'	25:YA:95:G:O4'	2.21	0.40
25:YA:432:A:C6	25:YA:433:C:C4	3.10	0.40
25:YA:445:C:H5"	40:YU:3:ARG:HB3	2.02	0.40
25:YA:518:G:H2'	25:YA:519:U:C6	2.56	0.40
25:YA:2105:C:H2'	25:YA:2106:G:H8	1.85	0.40
25:YA:2588:G:C6	25:YA:2607:G:C2	3.09	0.40
27:YD:31:LYS:O	27:YD:32:SER:O	2.39	0.40
27:YD:228:PRO:HD3	27:YD:234:GLY:O	2.21	0.40
28:YE:93:VAL:H	28:YE:95:ILE:CD1	2.22	0.40
29:YF:62:ARG:HB3	29:YF:62:ARG:CZ	2.51	0.40
29:YF:118:ALA:HA	29:YF:123:LEU:HB3	2.02	0.40
31:YH:170:ARG:HB3	31:YH:171:LEU:H	1.47	0.40
33:YN:63:THR:HG22	33:YN:66:LYS:HZ3	1.84	0.40
36:YQ:20:ALA:HB1	36:YQ:99:PRO:CG	2.51	0.40
48:Y2:37:PHE:O	48:Y2:40:SER:HB3	2.21	0.40
54:Y8:38:GLY:C	54:Y8:40:GLU:N	2.79	0.40
1:QA:978:A:O2'	1:QA:1322:C:N3	2.42	0.40
1:QA:1036:G:H2'	1:QA:1037:C:C2	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1278:U:O4	10:QJ:99:LYS:NZ	2.37	0.40
3:QC:43:LEU:HD22	3:QC:47:LEU:HD22	2.02	0.40
5:QE:127:ASN:HA	5:QE:128:PRO:HD3	1.89	0.40
6:QF:33:TYR:CE1	6:QF:78:GLU:HG2	2.56	0.40
7:QG:54:THR:O	7:QG:56:GLN:N	2.52	0.40
7:QG:93:PRO:O	7:QG:96:GLN:HB2	2.21	0.40
10:QJ:29:ARG:NH1	1:XA:1163:C:O3'	2.54	0.40
12:QL:62:SER:HB2	12:QL:64:TYR:CD1	2.56	0.40
25:RA:139:A:H8	25:RA:1454:C:O2'	2.03	0.40
25:RA:733:G:H21	25:RA:835:A:H61	1.70	0.40
25:RA:1206:G:N2	41:RV:10:LYS:HE3	2.36	0.40
25:RA:1309:U:C4	25:RA:1310:G:C6	3.09	0.40
25:RA:1355:G:HO2'	25:RA:1657:C:HO2'	1.65	0.40
25:RA:1727:U:O2	25:RA:1794:G:H3'	2.22	0.40
25:RA:1749:G:H2'	25:RA:1750:G:O4'	2.21	0.40
25:RA:2279:A:H5"	25:RA:2280:A:H5'	2.04	0.40
25:RA:2299:A:N6	25:RA:2356:U:C2	2.89	0.40
25:RA:2308:U:OP2	38:RS:6:ALA:HB2	2.21	0.40
25:RA:2504:U:H2'	25:RA:2505:U:H6	1.86	0.40
27:RD:44:ASN:HB2	27:RD:49:ILE:HA	2.02	0.40
29:RF:33:LEU:HD12	29:RF:33:LEU:HA	1.83	0.40
30:RG:131:TYR:O	30:RG:159:VAL:HG13	2.21	0.40
32:RI:30:LEU:HD22	32:RI:35:LEU:HD11	2.02	0.40
44:RY:11:ASP:O	44:RY:26:LYS:HG3	2.21	0.40
50:R4:49:PHE:O	50:R4:50:VAL:CG2	2.69	0.40
1:XA:277:C:H2'	1:XA:278:G:H8	1.86	0.40
1:XA:303:A:H2'	1:XA:304:U:O4'	2.21	0.40
1:XA:677:U:O2	1:XA:777:A:O2'	2.39	0.40
1:XA:820:U:H4'	1:XA:821:G:OP2	2.22	0.40
1:XA:1072:G:C5	1:XA:1073:U:C4	3.09	0.40
3:XC:188:LEU:HD13	3:XC:188:LEU:HA	1.90	0.40
5:XE:34:VAL:HG11	5:XE:63:ARG:HG2	2.02	0.40
9:XI:95:LYS:NZ	9:XI:96:LEU:HD13	2.36	0.40
10:XJ:6:ILE:O	10:XJ:71:LEU:HD12	2.21	0.40
19:XS:36:ARG:HA	19:XS:71:LEU:HB2	2.03	0.40
25:YA:292:C:C2	25:YA:349:G:C2	3.09	0.40
25:YA:856:C:N4	25:YA:921:G:H1	2.16	0.40
25:YA:857:C:H5"	46:Y0:77:ARG:NH2	2.37	0.40
25:YA:1204:A:H2	25:YA:1241:A:N1	2.19	0.40
25:YA:1405:U:H2'	25:YA:1406:U:C6	2.57	0.40
25:YA:1783:A:H5'	25:YA:2608:G:H4'	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2552:U:H2'	25:YA:2554:U:OP2	2.20	0.40
25:YA:2743:C:H2'	25:YA:2744:G:O4'	2.21	0.40
26:YB:28:C:H2'	26:YB:29:A:O4'	2.21	0.40
27:YD:68:LYS:HG3	27:YD:68:LYS:O	2.20	0.40
27:YD:107:ALA:HA	27:YD:108:PRO:HD2	2.01	0.40
27:YD:177:LEU:C	27:YD:179:SER:N	2.79	0.40
28:YE:119:ARG:HG2	28:YE:160:TYR:HB2	2.03	0.40
29:YF:59:TYR:HB3	29:YF:60:SER:H	1.70	0.40
31:YH:145:ALA:O	31:YH:148:ILE:HB	2.21	0.40
32:YI:90:GLY:O	32:YI:121:LYS:HE2	2.21	0.40
40:YU:61:TRP:O	40:YU:65:ILE:HG13	2.22	0.40
50:Y4:43:TYR:O	50:Y4:46:GLN:HA	2.20	0.40
54:Y8:40:GLU:O	54:Y8:42:ARG:N	2.54	0.40
1:QA:122:G:C2	1:QA:123:C:C2	3.09	0.40
1:QA:591:U:H2'	1:QA:592:G:H8	1.86	0.40
1:QA:637:G:H2'	1:QA:638:G:C8	2.52	0.40
1:QA:1053:G:N7	1:QA:1199:U:H3'	2.36	0.40
3:QC:7:PRO:O	3:QC:11:ARG:NH1	2.54	0.40
3:QC:71:ALA:HB2	3:QC:109:PRO:HB3	2.04	0.40
9:QI:40:LEU:C	9:QI:42:ARG:H	2.30	0.40
12:QL:22:SER:C	12:QL:24:VAL:N	2.79	0.40
12:QL:53:ARG:HH12	12:QL:92:ASP:HB3	1.85	0.40
20:QT:86:ARG:O	20:QT:90:GLN:HG3	2.21	0.40
22:QV:0:C:O2'	46:R0:6:GLY:O	2.36	0.40
25:RA:17:G:H2'	25:RA:18:C:C6	2.56	0.40
25:RA:20:C:H2'	25:RA:21:A:C8	2.53	0.40
25:RA:1070:G:O5'	25:RA:1070:G:H8	2.04	0.40
25:RA:1081:U:OP1	31:RH:59:ARG:HD2	2.21	0.40
25:RA:1160:G:H2'	25:RA:1161:G:H8	1.85	0.40
25:RA:1645:C:H2'	25:RA:1646:C:C6	2.56	0.40
25:RA:2747:A:H3'	25:RA:2748:G:C8	2.54	0.40
25:RA:2758:C:H4'	31:RH:142:GLY:O	2.21	0.40
27:RD:96:HIS:CD2	27:RD:102:LYS:HG2	2.56	0.40
28:RE:70:ALA:O	28:RE:71:GLY:C	2.63	0.40
28:RE:119:ARG:HG2	28:RE:160:TYR:HB2	2.03	0.40
29:RF:181:LEU:HD22	29:RF:181:LEU:HA	1.79	0.40
30:RG:117:PHE:HE1	30:RG:120:LEU:HD23	1.86	0.40
31:RH:146:ALA:HB2	31:RH:164:TYR:OH	2.21	0.40
34:RO:66:LYS:HA	34:RO:79:PHE:O	2.21	0.40
36:RQ:66:ILE:O	36:RQ:67:ARG:HB2	2.22	0.40
37:RR:102:GLU:HG2	42:RW:37:ARG:HH12	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:RS:23:ARG:HB2	38:RS:86:ALA:HB2	2.03	0.40
39:RT:109:GLU:O	39:RT:113:LYS:HB2	2.21	0.40
46:R0:68:GLU:HG2	46:R0:80:HIS:HB2	2.04	0.40
50:R4:63:TYR:O	50:R4:65:ASP:N	2.54	0.40
52:R6:11:LEU:HD13	52:R6:11:LEU:HA	1.81	0.40
54:R8:53:PRO:HD2	54:R8:54:GLU:H	1.84	0.40
1:XA:564:C:H5"	12:XL:10:LEU:CD1	2.50	0.40
1:XA:1416:G:C6	1:XA:1417:G:C5	3.10	0.40
2:XB:15:VAL:C	2:XB:16:HIS:CG	2.99	0.40
2:XB:166:ASP:HB3	2:XB:169:LYS:HB2	2.03	0.40
3:XC:20:SER:HB2	3:XC:40:ARG:NH2	2.29	0.40
5:XE:12:LEU:HB3	5:XE:31:LEU:CB	2.51	0.40
11:XK:18:ARG:HB3	11:XK:33:THR:OG1	2.21	0.40
12:XL:43:VAL:HG13	12:XL:55:VAL:HG21	2.03	0.40
25:YA:117:G:OP2	25:YA:119:A:O2'	2.35	0.40
25:YA:270:A:C2	25:YA:366:C:H4'	2.56	0.40
25:YA:270(I):G:H1	25:YA:270(Q):C:N4	2.16	0.40
25:YA:527:C:OP2	25:YA:2779:U:H5	2.04	0.40
25:YA:587:C:H4'	25:YA:588:U:O5'	2.21	0.40
25:YA:588:U:O4	25:YA:670:A:H1'	2.21	0.40
25:YA:1347:G:H1	25:YA:1599:C:H42	1.69	0.40
25:YA:1384:A:N3	25:YA:1405:U:H1'	2.36	0.40
25:YA:2176:A:H2'	25:YA:2177:C:C6	2.57	0.40
25:YA:2729:G:C1'	28:YE:187:ALA:HB2	2.45	0.40
25:YA:2730:C:H2'	25:YA:2731:G:H8	1.87	0.40
27:YD:13:ARG:HG2	27:YD:13:ARG:O	2.20	0.40
28:YE:14:ILE:HD11	39:YT:14:TYR:HH	1.83	0.40
28:YE:71:GLY:O	28:YE:72:VAL:C	2.63	0.40
28:YE:93:VAL:HG21	28:YE:180:ASN:HA	2.03	0.40
28:YE:94:GLU:C	28:YE:96:PHE:H	2.28	0.40
29:YF:118:ALA:C	29:YF:120:GLU:N	2.78	0.40
31:YH:26:VAL:HG12	31:YH:33:LEU:HB2	2.03	0.40
40:YU:90:VAL:CG2	41:YV:39:LEU:HB3	2.39	0.40
41:YV:21:ARG:HD2	41:YV:91:TYR:CE1	2.56	0.40
47:Y1:87:PRO:O	47:Y1:91:LYS:HB2	2.20	0.40
48:Y2:53:LEU:O	48:Y2:57:ILE:HG13	2.21	0.40
49:Y3:52:HIS:CD2	49:Y3:53:LEU:HG	2.57	0.40
50:Y4:48:ARG:HH12	50:Y4:52:THR:H	1.69	0.40
52:Y6:40:CYS:HA	52:Y6:41:PRO:HD2	1.79	0.40
1:QA:232:G:C6	1:QA:233:C:C4	3.10	0.40
1:QA:539:A:OP1	12:QL:114:LYS:HE2	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:543:C:OP1	4:QD:14:ARG:HG3	2.21	0.40
1:QA:601:C:H2'	1:QA:602:A:H8	1.86	0.40
1:QA:674:G:H2'	1:QA:675:A:C8	2.56	0.40
1:QA:792:A:H4'	1:QA:793:U:O5'	2.21	0.40
1:QA:936:C:H2'	1:QA:937:A:O4'	2.22	0.40
4:QD:176:LEU:HD12	4:QD:182:LYS:O	2.21	0.40
10:QJ:48:THR:OG1	10:QJ:62:HIS:ND1	2.45	0.40
11:QK:74:ALA:C	11:QK:76:GLY:H	2.30	0.40
12:QL:62:SER:C	12:QL:64:TYR:N	2.79	0.40
12:QL:89:ARG:HB3	12:QL:97:ARG:HA	2.02	0.40
13:QM:13:LYS:HG3	13:QM:44:ARG:NH1	2.36	0.40
13:QM:121:LYS:C	13:QM:122:LYS:HG3	2.47	0.40
25:RA:63:A:H2'	25:RA:64:C:O4'	2.22	0.40
25:RA:347:G:H1'	25:RA:1250:U:O2	2.21	0.40
25:RA:533:G:H4'	25:RA:534:C:OP2	2.21	0.40
25:RA:593:G:H2'	25:RA:2052:A:C5	2.57	0.40
25:RA:1177:G:O6	25:RA:2062:C:H1'	2.21	0.40
25:RA:1874:C:H5'	27:RD:253:GLN:OE1	2.21	0.40
25:RA:2096:U:H2'	25:RA:2097:U:C6	2.57	0.40
25:RA:2116:G:C2	25:RA:2218:C:C2	3.10	0.40
25:RA:2745:G:H3'	25:RA:2746:A:O4'	2.21	0.40
27:RD:209:ALA:O	27:RD:212:SER:HB2	2.22	0.40
28:RE:5:LEU:O	28:RE:28:ALA:HA	2.22	0.40
30:RG:59:GLU:O	30:RG:63:ILE:HG23	2.20	0.40
31:RH:20:ALA:HB3	31:RH:23:ARG:HG2	2.03	0.40
33:RN:104:LYS:C	33:RN:106:MET:H	2.28	0.40
35:RP:6:LEU:HB3	35:RP:7:ARG:H	1.53	0.40
35:RP:114:ILE:HD11	35:RP:130:PHE:CD2	2.57	0.40
36:RQ:46:GLN:OE1	36:RQ:126:PRO:HG3	2.21	0.40
36:RQ:51:ARG:O	36:RQ:52:VAL:C	2.62	0.40
37:RR:98:LEU:HB3	51:R5:45:VAL:HG23	2.04	0.40
39:RT:51:ARG:CG	39:RT:98:LYS:HG3	2.52	0.40
45:RZ:103:ARG:HD3	45:RZ:136:PHE:CD2	2.55	0.40
50:R4:12:ALA:HB1	50:R4:30:GLU:N	2.35	0.40
51:R5:6:VAL:HA	51:R5:7:PRO:HD3	1.81	0.40
54:R8:53:PRO:CG	54:R8:54:GLU:N	2.84	0.40
1:XA:261:U:OP2	20:XT:79:ARG:NH2	2.54	0.40
1:XA:665:A:N3	1:XA:732:C:H2'	2.36	0.40
1:XA:784:C:H4'	25:YA:1837:C:OP1	2.21	0.40
1:XA:1158:C:H4'	2:XB:133:LYS:HZ1	1.87	0.40
1:XA:1200:C:H4'	1:XA:1201:A:H5"	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XD:165:MET:O	4:XD:167:GLY:N	2.54	0.40
5:XE:51:VAL:HB	5:XE:52:PRO:HD3	2.04	0.40
5:XE:89:ILE:HG12	5:XE:91:LEU:CD1	2.52	0.40
25:YA:299:A:N1	25:YA:322:A:O2'	2.50	0.40
25:YA:960:A:C8	25:YA:962:G:C8	3.09	0.40
25:YA:1430:C:H2'	25:YA:1431:U:C6	2.56	0.40
25:YA:1658:C:H2'	25:YA:1659:U:C6	2.57	0.40
25:YA:1756:G:H4'	25:YA:1758:G:O4'	2.21	0.40
26:YB:109:G:C6	26:YB:110:G:C5	3.10	0.40
27:YD:230:ASP:OD1	27:YD:230:ASP:N	2.54	0.40
28:YE:92:THR:HB	28:YE:93:VAL:H	1.57	0.40
29:YF:33:LEU:O	29:YF:37:VAL:HG23	2.21	0.40
29:YF:36:VAL:HG11	29:YF:183:VAL:HG11	2.04	0.40
29:YF:150:GLY:C	29:YF:152:GLU:H	2.29	0.40
29:YF:160:ASN:O	29:YF:161:GLU:C	2.64	0.40
32:YI:52:ARG:CA	32:YI:55:ALA:HB3	2.43	0.40
32:YI:56:LYS:HG3	32:YI:57:ARG:N	2.35	0.40
32:YI:77:LEU:HD11	32:YI:140:LEU:HD12	2.03	0.40
35:YP:49:ARG:HE	54:Y8:58:ILE:HG22	1.87	0.40
35:YP:97:PRO:HD3	35:YP:126:VAL:O	2.21	0.40
38:YS:99:LYS:HE2	38:YS:103:GLU:OE2	2.20	0.40
41:YV:3:ALA:HA	41:YV:40:LEU:O	2.21	0.40
49:Y3:12:PRO:O	49:Y3:14:GLY:N	2.55	0.40
50:Y4:14:ILE:HG23	50:Y4:14:ILE:O	2.21	0.40
50:Y4:16:CYS:HB2	50:Y4:17:GLY:H	1.59	0.40
52:Y6:28:ARG:HA	52:Y6:28:ARG:HD2	1.86	0.40
54:Y8:53:PRO:O	54:Y8:54:GLU:C	2.64	0.40
1:QA:188:U:C2'	1:QA:189:U:H5"	2.52	0.40
1:QA:284:G:H2'	1:QA:285:G:H8	1.87	0.40
1:QA:318:G:H2'	1:QA:319:G:C8	2.57	0.40
1:QA:358:U:H2'	1:QA:359:U:O4'	2.21	0.40
1:QA:559:A:H4'	1:QA:560:U:H3'	2.02	0.40
1:QA:575:G:O2'	1:QA:821:G:H5'	2.21	0.40
1:QA:1055:A:H4'	3:QC:161:GLU:OE2	2.22	0.40
1:QA:1179:A:H5"	9:QI:102:LEU:O	2.22	0.40
1:QA:1316:G:N1	1:QA:1319:A:OP2	2.54	0.40
4:QD:63:LYS:HE3	4:QD:63:LYS:HB2	1.77	0.40
6:QF:21:LEU:O	6:QF:25:ILE:HG12	2.20	0.40
10:QJ:47:PHE:CE2	14:QN:37:PHE:HE1	2.40	0.40
10:QJ:51:ARG:HG3	10:QJ:60:ARG:C	2.45	0.40
13:QM:4:ILE:H	13:QM:9:ILE:CG2	2.35	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:QU:26:LYS:HE3	21:QU:26:LYS:HB2	1.89	0.40
22:QV:5:G:H1	22:QV:67:C:H42	1.68	0.40
25:RA:212:A:N1	25:RA:434:G:O2'	2.50	0.40
25:RA:455:A:H8	25:RA:455:A:OP2	2.05	0.40
25:RA:588:C:H4'	25:RA:1299:A:C6	2.56	0.40
25:RA:628:C:H1'	25:RA:704:U:O2'	2.22	0.40
25:RA:801:C:H2'	25:RA:802:C:H6	1.87	0.40
25:RA:1482:G:H1'	25:RA:1524:A:O2'	2.22	0.40
25:RA:1685:C:H5"	25:RA:2722:C:O2'	2.22	0.40
25:RA:1869:C:C2	25:RA:1920:U:C4	3.10	0.40
25:RA:2072:C:N4	25:RA:2073:A:N1	2.70	0.40
25:RA:2390:A:OP1	38:RS:111:GLU:HG2	2.22	0.40
25:RA:2480:G:O2'	25:RA:2481:A:H5"	2.20	0.40
25:RA:2631:C:H2'	25:RA:2632:C:C6	2.55	0.40
26:RB:72:G:N2	26:RB:103:U:C5	2.90	0.40
27:RD:26:LYS:H	27:RD:26:LYS:HD2	1.87	0.40
27:RD:35:LYS:HB3	27:RD:63:ARG:HA	2.04	0.40
28:RE:116:VAL:CG2	28:RE:122:PHE:CG	3.05	0.40
28:RE:151:TYR:HB3	33:RN:79:PRO:CG	2.52	0.40
31:RH:101:ARG:O	31:RH:117:PRO:HG3	2.21	0.40
31:RH:148:ILE:HD13	31:RH:148:ILE:HA	1.88	0.40
32:RI:97:ILE:HD12	32:RI:140:LEU:HD11	2.03	0.40
33:RN:108:PRO:O	33:RN:113:GLY:HA3	2.21	0.40
34:RO:68:GLU:H	34:RO:68:GLU:CD	2.29	0.40
35:RP:25:SER:OG	35:RP:26:GLY:O	2.38	0.40
36:RQ:119:ARG:NH1	36:RQ:119:ARG:CG	2.83	0.40
38:RS:69:VAL:HG13	38:RS:101:LEU:HD22	2.03	0.40
44:RY:64:GLU:H	44:RY:64:GLU:HG2	1.64	0.40
46:R0:43:THR:O	46:R0:43:THR:HG23	2.21	0.40
47:R1:87:PRO:O	47:R1:91:LYS:HB2	2.21	0.40
50:R4:21:VAL:O	50:R4:22:ILE:O	2.40	0.40
50:R4:57:GLU:HG2	50:R4:57:GLU:H	1.68	0.40
52:R6:17:LYS:HB3	52:R6:44:ARG:NH2	2.30	0.40
52:R6:41:PRO:HD2	52:R6:46:HIS:N	2.37	0.40
54:R8:40:GLU:O	54:R8:42:ARG:N	2.54	0.40
55:R9:1:MET:HE1	55:R9:32:HIS:HD2	1.86	0.40
1:XA:256:U:H2'	1:XA:257:G:C8	2.56	0.40
1:XA:269:C:H2'	1:XA:270:A:H8	1.87	0.40
1:XA:449:C:H5	16:XP:42:ARG:HH11	1.69	0.40
1:XA:755:G:OP2	15:XO:65:ARG:HG2	2.22	0.40
1:XA:1032(A):G:H2'	1:XA:1032(B):G:H8	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XD:108:LEU:HB3	4:XD:110:PHE:CD1	2.57	0.40
8:XH:91:ARG:HG3	12:XL:7:ILE:HG21	2.04	0.40
10:XJ:55:LYS:HE3	10:XJ:56:HIS:CD2	2.55	0.40
25:YA:388:G:H2'	25:YA:390:A:N7	2.35	0.40
25:YA:519:U:H2'	25:YA:520:G:C8	2.56	0.40
25:YA:648:G:C4'	25:YA:2351:G:H5"	2.51	0.40
25:YA:699:A:H2'	25:YA:700:G:O4'	2.21	0.40
25:YA:843:G:N2	25:YA:936:C:C2	2.90	0.40
25:YA:1709:U:H1'	25:YA:2860:A:N3	2.37	0.40
25:YA:2532:G:C6	25:YA:2533:A:C6	3.10	0.40
26:YB:3:C:H2'	26:YB:4:C:C6	2.57	0.40
27:YD:72:LYS:HG2	27:YD:103:ARG:HH22	1.85	0.40
27:YD:210:GLY:O	27:YD:211:ARG:C	2.63	0.40
29:YF:124:LEU:HD12	29:YF:125:LEU:O	2.22	0.40
29:YF:127:GLU:C	29:YF:129:PHE:H	2.26	0.40
30:YG:98:ARG:HH12	50:Y4:1:MET:HB3	1.87	0.40
31:YH:77:LYS:HB3	31:YH:77:LYS:HZ2	1.79	0.40
31:YH:101:ARG:O	31:YH:117:PRO:HG3	2.21	0.40
31:YH:128:PRO:CG	31:YH:129:THR:H	2.33	0.40
32:YI:110:ASP:HB2	32:YI:130:TYR:HE1	1.87	0.40
38:YS:24:LEU:HD22	38:YS:24:LEU:N	2.37	0.40
38:YS:83:LYS:HE3	38:YS:84:GLN:HG3	2.02	0.40
40:YU:17:ILE:HD13	40:YU:17:ILE:HA	1.92	0.40
40:YU:19:LYS:O	40:YU:22:LYS:HB2	2.22	0.40
45:YZ:45:ASP:O	45:YZ:49:ARG:HG2	2.22	0.40
54:Y8:39:LYS:HD2	54:Y8:39:LYS:O	2.22	0.40

There are no symmetry-related clashes.

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%)	174 (74%)	44 (19%)	17 (7%)	1 10
2	XB	235/256 (92%)	178 (76%)	42 (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%)	178 (86%)	19 (9%)	9 (4%)	2 18
4	XD	206/209 (99%)	176 (85%)	25 (12%)	5 (2%)	4 29
5	QE	149/162 (92%)	136 (91%)	9 (6%)	4 (3%)	4 27
5	XE	149/162 (92%)	134 (90%)	13 (9%)	2 (1%)	9 39
6	QF	99/101 (98%)	95 (96%)	4 (4%)	0	100 100
6	XF	99/101 (98%)	94 (95%)	5 (5%)	0	100 100
7	QG	153/156 (98%)	136 (89%)	15 (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%)	79 (81%)	13 (13%)	5 (5%)	1 15
11	QK	117/129 (91%)	101 (86%)	14 (12%)	2 (2%)	7 35
11	XK	117/129 (91%)	101 (86%)	14 (12%)	2 (2%)	7 35
12	QL	123/132 (93%)	85 (69%)	24 (20%)	14 (11%)	0 4
12	XL	123/132 (93%)	85 (69%)	24 (20%)	14 (11%)	0 4
13	QM	119/126 (94%)	95 (80%)	15 (13%)	9 (8%)	1 9
13	XM	119/126 (94%)	94 (79%)	16 (13%)	9 (8%)	1 9
14	QN	58/61 (95%)	50 (86%)	4 (7%)	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

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
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%)	18 (22%)	10 (12%)	0 4
20	QT	97/106 (92%)	76 (78%)	15 (16%)	6 (6%)	1 12
20	XT	97/106 (92%)	75 (77%)	17 (18%)	5 (5%)	1 15
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
27	YD	270/276 (98%)	205 (76%)	46 (17%)	19 (7%)	1 10
28	RE	203/206 (98%)	120 (59%)	41 (20%)	42 (21%)	0 1
28	YE	203/206 (98%)	120 (59%)	41 (20%)	42 (21%)	0 1
29	RF	200/210 (95%)	171 (86%)	19 (10%)	10 (5%)	1 16
29	YF	200/210 (95%)	143 (72%)	37 (18%)	20 (10%)	0 5
30	RG	179/182 (98%)	139 (78%)	26 (14%)	14 (8%)	1 8
30	YG	179/182 (98%)	143 (80%)	24 (13%)	12 (7%)	1 11
31	RH	168/180 (93%)	94 (56%)	36 (21%)	38 (23%)	0 0
31	YH	168/180 (93%)	94 (56%)	36 (21%)	38 (23%)	0 0
32	RI	144/148 (97%)	99 (69%)	31 (22%)	14 (10%)	0 6
32	YI	144/148 (97%)	106 (74%)	21 (15%)	17 (12%)	0 4
33	RN	136/140 (97%)	104 (76%)	20 (15%)	12 (9%)	0 7
33	YN	136/140 (97%)	109 (80%)	16 (12%)	11 (8%)	1 8
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%)	112 (76%)	25 (17%)	11 (7%)	1 9
35	YP	148/150 (99%)	111 (75%)	22 (15%)	15 (10%)	0 5
36	RQ	139/141 (99%)	95 (68%)	30 (22%)	14 (10%)	0 5
36	YQ	139/141 (99%)	98 (70%)	25 (18%)	16 (12%)	0 4
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

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
38	YS	109/112 (97%)	62 (57%)	29 (27%)	18 (16%)	0 2
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%)	101 (88%)	12 (10%)	2 (2%)	7 35
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
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%)	128 (71%)	33 (18%)	20 (11%)	0 5
45	YZ	181/206 (88%)	135 (75%)	28 (16%)	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%)	75 (79%)	11 (12%)	9 (10%)	0 6
47	Y1	95/98 (97%)	72 (76%)	17 (18%)	6 (6%)	1 12
48	R2	67/72 (93%)	54 (81%)	9 (13%)	4 (6%)	1 13
48	Y2	67/72 (93%)	46 (69%)	12 (18%)	9 (13%)	0 3
49	R3	57/60 (95%)	52 (91%)	3 (5%)	2 (4%)	3 23
49	Y3	57/60 (95%)	53 (93%)	3 (5%)	1 (2%)	6 34
50	R4	69/71 (97%)	22 (32%)	21 (30%)	26 (38%)	0 0
50	Y4	69/71 (97%)	35 (51%)	15 (22%)	19 (28%)	0 0
51	R5	57/60 (95%)	33 (58%)	9 (16%)	15 (26%)	0 0
51	Y5	56/60 (93%)	46 (82%)	8 (14%)	2 (4%)	2 22
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

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
54	R8	62/65 (95%)	36 (58%)	14 (23%)	12 (19%)	0 1
54	Y8	62/65 (95%)	36 (58%)	14 (23%)	12 (19%)	0 1
55	R9	35/37 (95%)	35 (100%)	0	0	100 100
55	Y9	35/37 (95%)	31 (89%)	4 (11%)	0	100 100
All	All	11469/12128 (95%)	9009 (79%)	1610 (14%)	850 (7%)	1 9

All (850) 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
4	QD	33	MET
12	QL	18	VAL
12	QL	27	LEU
12	QL	62	SER
12	QL	121	GLY
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	4	ILE
28	RE	7	VAL
28	RE	9	VAL
28	RE	22	PRO
28	RE	54	GLN
28	RE	57	LYS
28	RE	60	ASN
28	RE	63	LEU
28	RE	64	LYS
28	RE	68	ALA
28	RE	70	ALA
28	RE	73	GLU
28	RE	90	THR

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Mol	Chain	Res	Type
28	RE	92	THR
28	RE	93	VAL
28	RE	169	ASN
28	RE	187	ALA
28	RE	189	PRO
31	RH	10	PRO
31	RH	12	PRO
31	RH	83	TYR
31	RH	85	LYS
31	RH	86	GLU
31	RH	87	LEU
31	RH	90	LYS
31	RH	92	ILE
31	RH	126	PRO
31	RH	127	GLU
31	RH	128	PRO
31	RH	137	ASP
31	RH	138	LYS
31	RH	153	LYS
31	RH	154	PRO
31	RH	155	SER
31	RH	169	VAL
32	RI	115	ALA
32	RI	133	HIS
32	RI	145	VAL
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	15	ARG
35	RP	95	VAL
35	RP	141	ALA
35	RP	148	LEU
36	RQ	6	ARG
36	RQ	18	LYS
36	RQ	22	LYS
36	RQ	27	VAL
36	RQ	81	VAL
36	RQ	90	VAL
36	RQ	134	ARG

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Mol	Chain	Res	Type
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	6	LYS
45	RZ	111	VAL
48	R2	70	GLN
48	R2	71	ASN
50	R4	5	ILE
50	R4	14	ILE
50	R4	16	CYS
50	R4	22	ILE
50	R4	23	GLU
50	R4	36	CYS
50	R4	37	SER
50	R4	40	HIS
50	R4	42	PHE
50	R4	43	TYR
50	R4	49	PHE
50	R4	50	VAL
50	R4	51	ASP
50	R4	53	GLU
50	R4	62	ARG
50	R4	66	SER
50	R4	68	ARG
51	R5	3	LYS

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Mol	Chain	Res	Type
51	R5	4	HIS
51	R5	35	GLU
51	R5	51	TYR
51	R5	53	ALA
52	R6	15	GLU
54	R8	29	LYS
54	R8	31	HIS
54	R8	34	TRP
54	R8	52	LYS
54	R8	62	LEU
2	XB	230	VAL
2	XB	236	TYR
3	XC	12	LEU
4	XD	154	ASN
11	XK	91	ARG
12	XL	18	VAL
12	XL	27	LEU
12	XL	62	SER
12	XL	121	GLY
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	96	GLY
27	YD	26	LYS
27	YD	28	GLU
27	YD	123	ALA
27	YD	231	HIS
28	YE	4	ILE
28	YE	7	VAL
28	YE	9	VAL
28	YE	22	PRO
28	YE	54	GLN
28	YE	57	LYS
28	YE	60	ASN
28	YE	63	LEU
28	YE	64	LYS
28	YE	68	ALA

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Mol	Chain	Res	Type
28	YE	70	ALA
28	YE	73	GLU
28	YE	90	THR
28	YE	92	THR
28	YE	93	VAL
28	YE	169	ASN
28	YE	187	ALA
28	YE	189	PRO
29	YF	25	PRO
29	YF	66	PRO
29	YF	68	LYS
29	YF	73	ALA
29	YF	89	VAL
29	YF	128	ALA
29	YF	176	LEU
30	YG	96	ARG
31	YH	10	PRO
31	YH	12	PRO
31	YH	83	TYR
31	YH	85	LYS
31	YH	86	GLU
31	YH	87	LEU
31	YH	90	LYS
31	YH	92	ILE
31	YH	126	PRO
31	YH	127	GLU
31	YH	128	PRO
31	YH	137	ASP
31	YH	138	LYS
31	YH	153	LYS
31	YH	154	PRO
31	YH	155	SER
31	YH	169	VAL
32	YI	133	HIS
33	YN	9	VAL
33	YN	22	THR
33	YN	36	GLY
35	YP	6	LEU
35	YP	15	ARG
35	YP	25	SER
35	YP	27	HIS
35	YP	95	VAL

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Mol	Chain	Res	Type
35	YP	106	LEU
35	YP	148	LEU
36	YQ	6	ARG
36	YQ	18	LYS
36	YQ	22	LYS
36	YQ	27	VAL
36	YQ	81	VAL
36	YQ	90	VAL
36	YQ	134	ARG
37	YR	3	HIS
38	YS	4	LEU
38	YS	12	PHE
38	YS	14	VAL
38	YS	23	ARG
38	YS	56	LEU
38	YS	57	LYS
38	YS	88	ASP
38	YS	89	ARG
38	YS	90	GLY
38	YS	107	GLU
39	YT	2	ASN
39	YT	123	GLN
39	YT	124	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	146	ILE
45	YZ	152	ALA
45	YZ	159	PRO
45	YZ	166	SER
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

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Mol	Chain	Res	Type
48	Y2	48	HIS
48	Y2	71	ASN
50	Y4	24	THR
50	Y4	40	HIS
50	Y4	49	PHE
52	Y6	15	GLU
53	Y7	48	LYS
54	Y8	29	LYS
54	Y8	31	HIS
54	Y8	34	TRP
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	13	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	103	LEU
12	QL	49	ASN
12	QL	65	GLU
12	QL	110	VAL
12	QL	115	LYS
12	QL	116	SER
12	QL	128	ALA
13	QM	12	ASN
13	QM	120	LYS
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	8	LYS
28	RE	37	ARG
28	RE	53	PRO
28	RE	61	ARG
28	RE	78	LEU
28	RE	88	GLY
28	RE	186	GLY
28	RE	190	GLY
28	RE	204	ALA
29	RF	17	ARG
29	RF	67	GLN
29	RF	73	ALA
29	RF	89	VAL
29	RF	134	GLY
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	3	ARG
31	RH	8	PRO
31	RH	55	PRO
31	RH	59	ARG
31	RH	84	SER
31	RH	151	ILE
31	RH	156	ALA
31	RH	168	PRO
32	RI	10	GLU
32	RI	11	ASN
32	RI	54	GLN
32	RI	102	SER
32	RI	117	GLU
35	RP	90	ARG
35	RP	103	ALA
35	RP	106	LEU
36	RQ	13	GLN
36	RQ	24	GLY
36	RQ	28	ALA
36	RQ	57	HIS
37	RR	107	ASP

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Mol	Chain	Res	Type
38	RS	4	LEU
38	RS	107	GLU
39	RT	37	GLY
40	RU	90	VAL
41	RV	49	THR
41	RV	79	VAL
43	RX	41	ASN
44	RY	45	VAL
44	RY	48	ALA
44	RY	63	LYS
45	RZ	51	ALA
45	RZ	108	PRO
45	RZ	116	VAL
45	RZ	153	SER
45	RZ	177	PRO
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	9	LEU
50	R4	24	THR
51	R5	43	HIS
51	R5	55	ARG
52	R6	7	ILE
52	R6	45	LYS
2	XB	15	VAL
3	XC	79	ARG
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	65	GLU
12	XL	110	VAL
12	XL	115	LYS

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Mol	Chain	Res	Type
12	XL	116	SER
12	XL	128	ALA
13	XM	6	GLY
13	XM	21	TYR
19	XS	41	VAL
19	XS	45	VAL
20	XT	99	LEU
27	YD	3	VAL
27	YD	32	SER
27	YD	58	HIS
27	YD	122	ASP
27	YD	169	GLU
28	YE	8	LYS
28	YE	20	ALA
28	YE	37	ARG
28	YE	53	PRO
28	YE	61	ARG
28	YE	78	LEU
28	YE	88	GLY
28	YE	186	GLY
28	YE	190	GLY
28	YE	204	ALA
29	YF	18	ARG
29	YF	107	LYS
29	YF	108	LYS
29	YF	111	ALA
29	YF	132	VAL
29	YF	134	GLY
29	YF	168	ARG
30	YG	4	ASP
30	YG	36	LYS
31	YH	3	ARG
31	YH	8	PRO
31	YH	55	PRO
31	YH	59	ARG
31	YH	84	SER
31	YH	151	ILE
31	YH	156	ALA
31	YH	168	PRO
32	YI	145	VAL
33	YN	23	LEU
33	YN	96	GLU

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Mol	Chain	Res	Type
34	YO	5	GLN
35	YP	19	VAL
35	YP	66	GLY
35	YP	93	GLY
35	YP	141	ALA
36	YQ	13	GLN
36	YQ	24	GLY
36	YQ	28	ALA
37	YR	4	LEU
37	YR	45	ARG
37	YR	107	ASP
38	YS	61	ASN
38	YS	87	PHE
38	YS	96	GLY
38	YS	100	ALA
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	53	ILE
45	YZ	59	LEU
45	YZ	81	ARG
48	Y2	24	LEU
48	Y2	44	LEU
48	Y2	70	GLN
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

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Mol	Chain	Res	Type
2	QB	204	ASN
2	QB	207	ALA
3	QC	4	LYS
3	QC	51	GLY
4	QD	29	PRO
4	QD	155	LEU
5	QE	77	PRO
10	QJ	30	SER
11	QK	125	PHE
12	QL	51	ALA
12	QL	123	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	20	ALA
28	RE	62	PRO
28	RE	69	LYS
28	RE	71	GLY
28	RE	82	ARG
28	RE	117	MET
28	RE	130	GLY
28	RE	132	HIS
29	RF	133	ASN
30	RG	32	PRO
30	RG	116	ASP
31	RH	50	VAL
31	RH	81	GLU
31	RH	152	ARG
32	RI	15	VAL
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
36	RQ	88	GLY

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Mol	Chain	Res	Type
36	RQ	91	GLU
37	RR	74	LYS
38	RS	12	PHE
38	RS	61	ASN
39	RT	12	SER
39	RT	97	ALA
40	RU	117	GLN
43	RX	67	GLY
44	RY	58	GLY
45	RZ	166	SER
47	R1	76	ARG
49	R3	27	GLY
50	R4	27	THR
50	R4	46	GLN
52	R6	16	CYS
52	R6	33	LYS
52	R6	35	GLU
52	R6	49	HIS
54	R8	46	ARG
54	R8	47	LYS
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
11	XK	103	LEU
12	XL	51	ALA
12	XL	123	LYS
13	XM	4	ILE
13	XM	12	ASN
13	XM	42	ALA
19	XS	27	GLU
19	XS	28	LYS
20	XT	84	LEU
27	YD	12	SER

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Mol	Chain	Res	Type
27	YD	111	LEU
27	YD	239	ARG
27	YD	242	ARG
27	YD	262	ARG
28	YE	62	PRO
28	YE	69	LYS
28	YE	71	GLY
28	YE	82	ARG
28	YE	117	MET
28	YE	130	GLY
28	YE	132	HIS
31	YH	50	VAL
31	YH	81	GLU
31	YH	152	ARG
32	YI	11	ASN
32	YI	12	LEU
32	YI	72	LEU
32	YI	113	ARG
32	YI	122	GLU
33	YN	131	GLN
35	YP	29	LYS
35	YP	65	ARG
36	YQ	57	HIS
36	YQ	88	GLY
36	YQ	91	GLU
36	YQ	140	ALA
37	YR	86	ARG
38	YS	19	LYS
38	YS	74	ALA
38	YS	75	GLU
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	13	GLU
45	YZ	92	SER
45	YZ	113	ALA
45	YZ	181	GLU
49	Y3	3	ARG
50	Y4	23	GLU

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Mol	Chain	Res	Type
50	Y4	30	GLU
50	Y4	34	GLU
50	Y4	66	SER
51	Y5	47	PRO
52	Y6	19	ARG
52	Y6	49	HIS
54	Y8	46	ARG
54	Y8	47	LYS
2	QB	22	LYS
2	QB	126	GLU
4	QD	171	GLY
9	QI	56	LEU
12	QL	64	TYR
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	66	HIS
28	RE	126	PRO
29	RF	66	PRO
30	RG	36	LYS
30	RG	86	MET
31	RH	13	LYS
31	RH	109	PHE
31	RH	159	GLU
32	RI	122	GLU
35	RP	21	ARG
37	RR	71	GLN
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
44	RY	4	LYS
44	RY	53	PRO

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Mol	Chain	Res	Type
44	RY	99	CYS
45	RZ	7	ALA
45	RZ	13	GLU
45	RZ	92	SER
45	RZ	112	ARG
48	R2	47	ASN
50	R4	8	LYS
51	R5	14	ALA
51	R5	37	LYS
51	R5	42	PRO
51	R5	45	VAL
51	R5	48	GLU
53	R7	48	LYS
54	R8	25	MET
54	R8	30	ARG
54	R8	53	PRO
54	R8	57	ARG
2	XB	19	HIS
2	XB	101	MET
2	XB	155	LEU
8	XH	129	VAL
12	XL	64	TYR
14	XN	15	LYS
14	XN	32	SER
15	XO	88	ARG
18	XR	20	ALA
19	XS	9	VAL
20	XT	98	PRO
21	XU	9	ARG
27	YD	73	VAL
28	YE	66	HIS
28	YE	126	PRO
29	YF	43	LYS
29	YF	130	ALA
29	YF	145	GLU
30	YG	14	GLU
30	YG	82	LEU
30	YG	86	MET
30	YG	116	ASP
31	YH	13	LYS
31	YH	47	GLU
31	YH	109	PHE

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Mol	Chain	Res	Type
31	YH	159	GLU
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	133	ARG
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
50	Y4	60	GLN
52	Y6	35	GLU
54	Y8	25	MET
54	Y8	30	ARG
54	Y8	53	PRO
54	Y8	57	ARG
2	QB	209	ARG
2	QB	234	PRO
4	QD	42	GLN
5	QE	96	PRO
7	QG	7	ALA
9	QI	121	ARG
12	QL	63	GLY
13	QM	4	ILE
18	QR	26	LEU
20	QT	73	HIS
20	QT	97	ALA
27	RD	238	GLY
28	RE	79	ARG
29	RF	8	GLN
30	RG	82	LEU
30	RG	117	PHE
31	RH	11	VAL
31	RH	27	LYS
31	RH	47	GLU
31	RH	77	LYS

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Mol	Chain	Res	Type
31	RH	170	ARG
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	39	VAL
44	RY	41	GLY
44	RY	62	GLU
45	RZ	61	LEU
45	RZ	66	SER
45	RZ	81	ARG
45	RZ	130	PRO
46	R0	18	ALA
47	R1	74	VAL
47	R1	82	LEU
50	R4	30	GLU
50	R4	69	LYS
52	R6	9	LEU
52	R6	19	ARG
54	R8	64	TYR
2	XB	121	LEU
3	XC	181	ASN
10	XJ	27	ALA
12	XL	63	GLY
13	XM	101	GLN
15	XO	23	GLY
20	XT	97	ALA
27	YD	33	LEU
28	YE	79	ARG
29	YF	47	GLY
29	YF	118	ALA
29	YF	136	THR
30	YG	5	VAL
30	YG	53	LEU
31	YH	11	VAL
31	YH	27	LYS
31	YH	77	LYS
31	YH	170	ARG
32	YI	18	VAL

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Mol	Chain	Res	Type
32	YI	71	ILE
32	YI	117	GLU
32	YI	118	LYS
33	YN	95	PRO
33	YN	127	ASP
39	YT	86	ILE
40	YU	117	GLN
41	YV	50	PRO
44	YY	3	VAL
44	YY	39	VAL
45	YZ	7	ALA
45	YZ	143	GLY
45	YZ	153	SER
47	Y1	74	VAL
50	Y4	14	ILE
51	Y5	5	PRO
52	Y6	21	TYR
54	Y8	64	TYR
2	QB	155	LEU
10	QJ	82	ILE
13	QM	10	PRO
14	QN	15	LYS
20	QT	98	PRO
29	RF	130	ALA
30	RG	52	ILE
30	RG	88	ILE
31	RH	7	LEU
31	RH	26	VAL
35	RP	5	ASP
38	RS	82	ILE
39	RT	40	THR
44	RY	5	MET
47	R1	55	GLY
50	R4	33	VAL
50	R4	70	GLY
51	R5	57	VAL
52	R6	21	TYR
52	R6	34	LEU
2	XB	126	GLU
2	XB	237	ALA
10	XJ	91	PRO
14	XN	60	SER

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Mol	Chain	Res	Type
27	YD	178	PRO
27	YD	241	PRO
30	YG	117	PHE
31	YH	7	LEU
31	YH	26	VAL
34	YO	97	ARG
35	YP	7	ARG
45	YZ	61	LEU
45	YZ	177	PRO
47	Y1	55	GLY
2	QB	5	ILE
16	QP	46	PRO
27	RD	125	ILE
28	RE	86	PRO
28	RE	184	VAL
36	RQ	86	GLY
45	RZ	53	ILE
51	R5	46	CYS
2	XB	26	PRO
5	XE	74	GLY
28	YE	86	PRO
28	YE	184	VAL
32	YI	15	VAL
36	YQ	86	GLY
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
32	YI	16	GLY
39	YT	37	GLY
45	YZ	160	GLY
7	QG	50	ILE
9	QI	89	ASN
10	QJ	37	PRO
33	RN	134	ARG
39	RT	86	ILE
41	RV	54	GLY
45	RZ	62	PRO
45	RZ	165	VAL

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Mol	Chain	Res	Type
51	R5	34	PRO
8	XH	51	VAL
16	XP	46	PRO
19	XS	31	ILE
27	YD	34	VAL
30	YG	52	ILE
32	YI	13	GLY
42	YW	14	PRO
28	RE	52	LEU
28	RE	55	ASN
29	RF	132	VAL
45	RZ	94	GLU
28	YE	52	LEU
28	YE	55	ASN
30	YG	88	ILE
35	YP	24	GLY
37	YR	117	VAL
2	QB	227	GLY
12	XL	48	PRO
48	Y2	18	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	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%)	145 (91%)	14 (9%)	9 33
4	QD	180/181 (99%)	154 (86%)	26 (14%)	3 18
4	XD	180/181 (99%)	155 (86%)	25 (14%)	3 19
5	QE	116/123 (94%)	102 (88%)	14 (12%)	5 23
5	XE	116/123 (94%)	100 (86%)	16 (14%)	3 20

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
6	QF	90/90 (100%)	79 (88%)	11 (12%)	5 23
6	XF	90/90 (100%)	78 (87%)	12 (13%)	4 21
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
12	QL	104/109 (95%)	87 (84%)	17 (16%)	2 15
12	XL	104/109 (95%)	86 (83%)	18 (17%)	2 12
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%)	58 (80%)	15 (20%)	1 8
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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
21	XU	20/22 (91%)	20 (100%)	0	100 100
27	RD	214/218 (98%)	170 (79%)	44 (21%)	1 8
27	YD	214/218 (98%)	173 (81%)	41 (19%)	1 9
28	RE	165/166 (99%)	125 (76%)	40 (24%)	1 5
28	YE	165/166 (99%)	125 (76%)	40 (24%)	1 5
29	RF	161/166 (97%)	126 (78%)	35 (22%)	1 7
29	YF	161/166 (97%)	138 (86%)	23 (14%)	3 19
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%)	111 (78%)	31 (22%)	1 7
31	YH	142/148 (96%)	112 (79%)	30 (21%)	1 7
32	RI	122/124 (98%)	98 (80%)	24 (20%)	1 8
32	YI	122/124 (98%)	91 (75%)	31 (25%)	0 4
33	RN	117/119 (98%)	94 (80%)	23 (20%)	1 8
33	YN	117/119 (98%)	93 (80%)	24 (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%)	85 (73%)	31 (27%)	0 3
35	YP	116/116 (100%)	78 (67%)	38 (33%)	0 2
36	RQ	111/111 (100%)	95 (86%)	16 (14%)	3 18
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%)	73 (84%)	14 (16%)	2 15
39	RT	120/127 (94%)	101 (84%)	19 (16%)	2 15
39	YT	120/127 (94%)	94 (78%)	26 (22%)	1 7
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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
42	RW	92/92 (100%)	73 (79%)	19 (21%)	1 7
42	YW	92/92 (100%)	76 (83%)	16 (17%)	2 12
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%)	141 (87%)	21 (13%)	4 21
45	YZ	162/179 (90%)	141 (87%)	21 (13%)	4 21
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
48	R2	64/67 (96%)	48 (75%)	16 (25%)	0 4
48	Y2	64/67 (96%)	57 (89%)	7 (11%)	6 27
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%)	48 (76%)	15 (24%)	1 5
50	Y4	63/63 (100%)	43 (68%)	20 (32%)	0 2
51	R5	51/52 (98%)	40 (78%)	11 (22%)	1 7
51	Y5	51/52 (98%)	37 (72%)	14 (28%)	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%)	40 (74%)	14 (26%)	0 4
54	Y8	54/55 (98%)	39 (72%)	15 (28%)	0 3
55	R9	34/34 (100%)	30 (88%)	4 (12%)	5 24
55	Y9	34/34 (100%)	31 (91%)	3 (9%)	9 33
All	All	9702/10066 (96%)	8045 (83%)	1657 (17%)	2 13

All (1657) 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
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

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Mol	Chain	Res	Type
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	13	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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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	20	LYS

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Mol	Chain	Res	Type
12	QL	24	VAL
12	QL	27	LEU
12	QL	41	ARG
12	QL	57	LYS
12	QL	62	SER
12	QL	70	ILE
12	QL	73	GLU
12	QL	81	SER
12	QL	101	VAL
12	QL	104	VAL
12	QL	110	VAL
12	QL	112	ASP
12	QL	116	SER
12	QL	120	TYR
12	QL	126	LYS
13	QM	8	GLU
13	QM	13	LYS
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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	28	LYS
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
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

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Mol	Chain	Res	Type
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	134	ARG
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
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	5	LEU
28	RE	13	ARG
28	RE	14	ILE
28	RE	17	ASP
28	RE	21	VAL
28	RE	25	VAL
28	RE	26	ILE
28	RE	27	LEU
28	RE	33	VAL
28	RE	36	ARG
28	RE	38	THR
28	RE	41	LYS

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Mol	Chain	Res	Type
28	RE	45	THR
28	RE	48	GLN
28	RE	49	LEU
28	RE	54	GLN
28	RE	59	VAL
28	RE	61	ARG
28	RE	62	PRO
28	RE	66	HIS
28	RE	73	GLU
28	RE	75	VAL
28	RE	77	ILE
28	RE	78	LEU
28	RE	79	ARG
28	RE	80	GLU
28	RE	93	VAL
28	RE	117	MET
28	RE	119	ARG
28	RE	143	ASN
28	RE	146	THR
28	RE	154	LYS
28	RE	167	VAL
28	RE	179	GLU
28	RE	184	VAL
28	RE	196	VAL
28	RE	200	GLU
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

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Mol	Chain	Res	Type
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
29	RF	192	LEU
29	RF	194	MET
29	RF	196	LEU
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	9	ILE

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Mol	Chain	Res	Type
31	RH	10	PRO
31	RH	11	VAL
31	RH	16	SER
31	RH	27	LYS
31	RH	32	GLU
31	RH	37	VAL
31	RH	41	MET
31	RH	43	VAL
31	RH	44	VAL
31	RH	47	GLU
31	RH	59	ARG
31	RH	64	LEU
31	RH	77	LYS
31	RH	81	GLU
31	RH	88	LEU
31	RH	89	ILE
31	RH	105	LEU
31	RH	124	GLU
31	RH	132	ARG
31	RH	136	ILE
31	RH	139	GLN
31	RH	143	GLN
31	RH	144	VAL
31	RH	152	ARG
31	RH	153	LYS
31	RH	154	PRO
31	RH	155	SER
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	56	LYS
32	RI	58	LEU
32	RI	72	LEU
32	RI	81	VAL
32	RI	88	ILE

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Mol	Chain	Res	Type
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
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
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

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Mol	Chain	Res	Type
35	RP	6	LEU
35	RP	7	ARG
35	RP	14	LYS
35	RP	15	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	62	LEU
35	RP	64	LYS
35	RP	65	ARG
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	2	LEU
36	RQ	25	ASP
36	RQ	26	TYR
36	RQ	27	VAL
36	RQ	46	GLN
36	RQ	54	MET
36	RQ	55	VAL
36	RQ	58	PHE
36	RQ	60	ARG
36	RQ	79	LEU
36	RQ	83	MET

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Mol	Chain	Res	Type
36	RQ	89	ASN
36	RQ	90	VAL
36	RQ	91	GLU
36	RQ	112	GLU
36	RQ	139	GLU
37	RR	1	MET
37	RR	6	SER
37	RR	9	LYS
37	RR	18	LEU
37	RR	28	LEU
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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	19	ARG
45	RZ	20	ARG
45	RZ	52	SER
45	RZ	60	GLU
45	RZ	70	LEU
45	RZ	87	ASP
45	RZ	94	GLU
45	RZ	111	VAL

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Mol	Chain	Res	Type
45	RZ	121	HIS
45	RZ	128	VAL
45	RZ	145	GLU
45	RZ	150	LEU
45	RZ	151	HIS
45	RZ	163	LEU
45	RZ	166	SER
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	45	SER
48	R2	47	ASN
48	R2	50	ILE
48	R2	53	LEU
48	R2	62	THR
48	R2	63	VAL
48	R2	65	ASN
48	R2	71	ASN

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Mol	Chain	Res	Type
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	6	HIS
50	R4	15	ILE
50	R4	21	VAL
50	R4	23	GLU
50	R4	42	PHE
50	R4	49	PHE
50	R4	50	VAL
50	R4	53	GLU
50	R4	57	GLU
50	R4	61	ARG
50	R4	62	ARG
50	R4	63	TYR
50	R4	68	ARG
50	R4	69	LYS
50	R4	71	ARG
51	R5	3	LYS
51	R5	4	HIS
51	R5	6	VAL
51	R5	11	THR
51	R5	19	ARG
51	R5	25	LEU
51	R5	36	CYS
51	R5	37	LYS
51	R5	52	TYR
51	R5	56	LYS
51	R5	58	LEU
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

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Mol	Chain	Res	Type
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	16	ILE
54	R8	30	ARG
54	R8	35	GLN
54	R8	39	LYS
54	R8	43	GLN
54	R8	47	LYS
54	R8	48	PHE
54	R8	49	VAL
54	R8	52	LYS
54	R8	53	PRO
54	R8	59	LYS
54	R8	62	LEU
54	R8	63	PRO
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
2	XB	15	VAL
2	XB	23	ARG
2	XB	36	ARG
2	XB	67	THR
2	XB	68	ILE
2	XB	71	VAL

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Mol	Chain	Res	Type
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	79	ARG
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	30	LYS
4	XD	33	MET
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

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Mol	Chain	Res	Type
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	21	LEU
6	XF	23	LYS
6	XF	36	ARG
6	XF	37	VAL
6	XF	45	LEU
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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	20	LYS
12	XL	24	VAL
12	XL	27	LEU
12	XL	41	ARG
12	XL	48	PRO
12	XL	57	LYS
12	XL	62	SER
12	XL	70	ILE
12	XL	73	GLU
12	XL	81	SER
12	XL	101	VAL
12	XL	104	VAL
12	XL	110	VAL

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Mol	Chain	Res	Type
12	XL	112	ASP
12	XL	116	SER
12	XL	120	TYR
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
15	XO	66	LEU
15	XO	82	ILE
15	XO	87	ILE
16	XP	2	VAL
16	XP	11	SER

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Mol	Chain	Res	Type
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
19	XS	81	ARG
19	XS	83	HIS
20	XT	10	LEU
20	XT	13	LEU
20	XT	24	LEU

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Mol	Chain	Res	Type
20	XT	41	ILE
20	XT	45	GLN
20	XT	50	GLU
20	XT	55	ILE
20	XT	73	HIS
20	XT	84	LEU
20	XT	93	GLU
27	YD	10	THR
27	YD	17	THR
27	YD	26	LYS
27	YD	28	GLU
27	YD	33	LEU
27	YD	43	ARG
27	YD	44	ASN
27	YD	52	ARG
27	YD	61	LEU
27	YD	65	ILE
27	YD	67	PHE
27	YD	73	VAL
27	YD	94	LEU
27	YD	98	VAL
27	YD	105	ILE
27	YD	106	ILE
27	YD	131	LEU
27	YD	134	ARG
27	YD	135	PHE
27	YD	147	LEU
27	YD	155	LEU
27	YD	157	ARG
27	YD	166	GLN
27	YD	173	VAL
27	YD	177	LEU
27	YD	183	ARG
27	YD	192	THR
27	YD	198	ASN
27	YD	200	ASP
27	YD	215	LEU
27	YD	217	ARG
27	YD	218	ARG
27	YD	221	VAL
27	YD	226	MET
27	YD	230	ASP

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Mol	Chain	Res	Type
27	YD	233	HIS
27	YD	237	GLU
27	YD	257	LEU
27	YD	259	THR
27	YD	261	LYS
27	YD	271	ILE
28	YE	2	LYS
28	YE	4	ILE
28	YE	5	LEU
28	YE	13	ARG
28	YE	14	ILE
28	YE	17	ASP
28	YE	21	VAL
28	YE	25	VAL
28	YE	26	ILE
28	YE	27	LEU
28	YE	33	VAL
28	YE	36	ARG
28	YE	38	THR
28	YE	41	LYS
28	YE	45	THR
28	YE	48	GLN
28	YE	49	LEU
28	YE	54	GLN
28	YE	59	VAL
28	YE	61	ARG
28	YE	62	PRO
28	YE	66	HIS
28	YE	73	GLU
28	YE	75	VAL
28	YE	77	ILE
28	YE	78	LEU
28	YE	79	ARG
28	YE	80	GLU
28	YE	93	VAL
28	YE	117	MET
28	YE	119	ARG
28	YE	143	ASN
28	YE	146	THR
28	YE	154	LYS
28	YE	167	VAL
28	YE	179	GLU

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Mol	Chain	Res	Type
28	YE	184	VAL
28	YE	196	VAL
28	YE	200	GLU
28	YE	203	LYS
29	YF	7	TYR
29	YF	9	ILE
29	YF	25	PRO
29	YF	32	LEU
29	YF	33	LEU
29	YF	45	ARG
29	YF	46	ARG
29	YF	65	TRP
29	YF	66	PRO
29	YF	67	GLN
29	YF	70	THR
29	YF	82	ILE
29	YF	106	ARG
29	YF	108	LYS
29	YF	124	LEU
29	YF	127	GLU
29	YF	145	GLU
29	YF	161	GLU
29	YF	164	ARG
29	YF	179	GLU
29	YF	181	LEU
29	YF	183	VAL
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	9	ILE
31	YH	10	PRO
31	YH	11	VAL
31	YH	16	SER
31	YH	27	LYS
31	YH	32	GLU
31	YH	37	VAL
31	YH	41	MET
31	YH	43	VAL
31	YH	44	VAL
31	YH	45	VAL
31	YH	59	ARG
31	YH	64	LEU
31	YH	77	LYS
31	YH	81	GLU
31	YH	88	LEU
31	YH	89	ILE
31	YH	105	LEU
31	YH	124	GLU
31	YH	132	ARG
31	YH	136	ILE
31	YH	139	GLN
31	YH	144	VAL
31	YH	152	ARG
31	YH	153	LYS
31	YH	154	PRO
31	YH	155	SER
31	YH	169	VAL
32	YI	1	MET
32	YI	2	LYS
32	YI	7	GLU

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Mol	Chain	Res	Type
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	54	GLN
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	142	VAL
33	YN	2	LYS
33	YN	5	VAL
33	YN	7	LYS
33	YN	9	VAL
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
33	YN	67	LEU
33	YN	73	THR

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Mol	Chain	Res	Type
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	134	ARG
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	9	ASN
35	YP	13	ASN
35	YP	14	LYS
35	YP	15	ARG
35	YP	16	ARG
35	YP	17	LYS
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

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Mol	Chain	Res	Type
35	YP	61	ARG
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	2	LEU
36	YQ	14	ARG
36	YQ	25	ASP
36	YQ	26	TYR
36	YQ	27	VAL
36	YQ	54	MET
36	YQ	55	VAL
36	YQ	59	ARG
36	YQ	79	LEU
36	YQ	83	MET
36	YQ	89	ASN
36	YQ	90	VAL
36	YQ	91	GLU
36	YQ	106	VAL
36	YQ	112	GLU
36	YQ	134	ARG
36	YQ	135	ASP
37	YR	18	LEU
37	YR	28	LEU
37	YR	29	LEU
37	YR	34	ILE

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Mol	Chain	Res	Type
37	YR	36	THR
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	4	LEU
38	YS	12	PHE
38	YS	17	ARG
38	YS	18	ILE
38	YS	20	ARG
38	YS	44	LYS
38	YS	56	LEU
38	YS	57	LYS
38	YS	73	LEU
38	YS	89	ARG
38	YS	101	LEU
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
39	YT	28	VAL
39	YT	40	THR
39	YT	41	ARG
39	YT	42	ILE
39	YT	50	ILE
39	YT	65	LYS
39	YT	66	VAL

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Mol	Chain	Res	Type
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	90	VAL
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
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

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Mol	Chain	Res	Type
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	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
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

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Mol	Chain	Res	Type
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	2	GLU
45	YZ	5	LEU
45	YZ	19	ARG
45	YZ	20	ARG
45	YZ	28	MET
45	YZ	41	LEU
45	YZ	42	VAL
45	YZ	53	ILE
45	YZ	60	GLU
45	YZ	70	LEU
45	YZ	71	VAL
45	YZ	76	LEU
45	YZ	87	ASP
45	YZ	94	GLU
45	YZ	111	VAL
45	YZ	124	ILE
45	YZ	140	ASP
45	YZ	141	VAL
45	YZ	144	LEU
45	YZ	150	LEU
45	YZ	151	HIS
46	Y0	9	SER
46	Y0	10	THR
46	Y0	11	ARG
46	Y0	36	ILE
46	Y0	41	ARG
46	Y0	64	ASP

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Mol	Chain	Res	Type
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	7	ARG
48	Y2	9	GLN
48	Y2	16	LEU
48	Y2	24	LEU
48	Y2	53	LEU
48	Y2	62	THR
48	Y2	64	LEU
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	42	PHE
50	Y4	43	TYR
50	Y4	48	ARG
50	Y4	49	PHE

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Mol	Chain	Res	Type
50	Y4	50	VAL
50	Y4	53	GLU
50	Y4	57	GLU
50	Y4	61	ARG
50	Y4	63	TYR
50	Y4	68	ARG
50	Y4	71	ARG
51	Y5	4	HIS
51	Y5	6	VAL
51	Y5	11	THR
51	Y5	29	THR
51	Y5	36	CYS
51	Y5	37	LYS
51	Y5	40	LYS
51	Y5	48	GLU
51	Y5	49	CYS
51	Y5	51	TYR
51	Y5	52	TYR
51	Y5	56	LYS
51	Y5	58	LEU
51	Y5	60	VAL
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

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Mol	Chain	Res	Type
54	Y8	16	ILE
54	Y8	27	THR
54	Y8	30	ARG
54	Y8	35	GLN
54	Y8	39	LYS
54	Y8	43	GLN
54	Y8	47	LYS
54	Y8	48	PHE
54	Y8	49	VAL
54	Y8	52	LYS
54	Y8	53	PRO
54	Y8	59	LYS
54	Y8	62	LEU
54	Y8	63	PRO
54	Y8	65	GLU
55	Y9	1	MET
55	Y9	17	ILE
55	Y9	26	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (84) such sidechains are listed below:

Mol	Chain	Res	Type
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
12	QL	9	GLN
15	QO	9	GLN
19	QS	47	HIS
19	QS	57	HIS
20	QT	90	GLN
28	RE	35	GLN
28	RE	55	ASN
28	RE	180	ASN
30	RG	40	ASN

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Mol	Chain	Res	Type
30	RG	123	ASN
31	RH	143	GLN
31	RH	147	ASN
31	RH	158	HIS
32	RI	11	ASN
33	RN	130	HIS
34	RO	89	ASN
35	RP	81	GLN
36	RQ	141	GLN
38	RS	68	GLN
39	RT	79	HIS
39	RT	84	GLN
40	RU	72	HIS
44	RY	57	GLN
48	R2	43	GLN
48	R2	56	GLN
50	R4	6	HIS
51	R5	22	HIS
54	R8	33	ASN
55	R9	29	ASN
55	R9	32	HIS
2	XB	40	HIS
2	XB	204	ASN
2	XB	212	GLN
3	XC	3	ASN
3	XC	102	ASN
5	XE	65	ASN
5	XE	141	GLN
6	XF	16	GLN
6	XF	27	GLN
6	XF	73	ASN
7	XG	86	GLN
7	XG	106	GLN
7	XG	148	ASN
10	XJ	76	ASN
10	XJ	78	ASN
12	XL	9	GLN
16	XP	13	HIS
17	XQ	16	GLN
19	XS	14	HIS
19	XS	69	HIS
27	YD	44	ASN

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Mol	Chain	Res	Type
27	YD	87	ASN
27	YD	112	GLN
27	YD	164	GLN
27	YD	166	GLN
27	YD	198	ASN
28	YE	48	GLN
28	YE	55	ASN
28	YE	159	HIS
28	YE	180	ASN
29	YF	169	ASN
34	YO	3	GLN
34	YO	90	GLN
35	YP	35	HIS
37	YR	13	HIS
37	YR	71	GLN
42	YW	40	ASN
44	YY	57	GLN
45	YZ	151	HIS
46	Y0	29	GLN
48	Y2	38	GLN
54	Y8	33	ASN
55	Y9	29	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1498/1522 (98%)	279 (18%)	43 (2%)
1	XA	1498/1522 (98%)	283 (18%)	37 (2%)
22	QV	76/77 (98%)	21 (27%)	1 (1%)
22	XV	76/77 (98%)	13 (17%)	1 (1%)
23	QX	8/25 (32%)	2 (25%)	0
23	XX	9/25 (36%)	1 (11%)	0
24	QY	15/17 (88%)	2 (13%)	0
24	XY	15/17 (88%)	1 (6%)	0
25	RA	2879/2915 (98%)	607 (21%)	50 (1%)
25	YA	2879/2915 (98%)	607 (21%)	56 (1%)
26	RB	119/122 (97%)	22 (18%)	2 (1%)
26	YB	119/122 (97%)	27 (22%)	1 (0%)
56	Z5	1/3 (33%)	0	0
56	Z6	1/3 (33%)	0	0
All	All	9193/9362 (98%)	1865 (20%)	191 (2%)

All (1865) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	9	G
1	QA	32	A
1	QA	39	G
1	QA	47	C
1	QA	48	C
1	QA	50	A
1	QA	51	A
1	QA	64	G
1	QA	65	U
1	QA	66	G
1	QA	91	C
1	QA	95	G
1	QA	101	A
1	QA	116	A
1	QA	121	C
1	QA	130	A
1	QA	144	G
1	QA	146	G
1	QA	163	C
1	QA	169	C
1	QA	173	U
1	QA	174	C
1	QA	182	U
1	QA	186(F)	C
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

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Mol	Chain	Res	Type
1	QA	332	G
1	QA	344	A
1	QA	346	G
1	QA	347	G
1	QA	348	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	382	A
1	QA	397	A
1	QA	398	C
1	QA	406	G
1	QA	411	A
1	QA	412	A
1	QA	413	G
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	435	C
1	QA	442	C
1	QA	452	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	508	C
1	QA	509	A
1	QA	510	A
1	QA	511	C
1	QA	518	C
1	QA	521	G
1	QA	524	G

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Mol	Chain	Res	Type
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	564	C
1	QA	566	G
1	QA	568	G
1	QA	572	A
1	QA	573	A
1	QA	574	A
1	QA	576	G
1	QA	577	G
1	QA	579	G
1	QA	596	C
1	QA	607	A
1	QA	614	A
1	QA	618	C
1	QA	630	G
1	QA	631	G
1	QA	633	G
1	QA	653	A
1	QA	661	G
1	QA	665	A
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	729	A
1	QA	731	G
1	QA	748	C
1	QA	749	C
1	QA	754	C
1	QA	755	G
1	QA	760	G
1	QA	774	G

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Mol	Chain	Res	Type
1	QA	777	A
1	QA	785	G
1	QA	792	A
1	QA	793	U
1	QA	794	A
1	QA	813	U
1	QA	815	A
1	QA	817	C
1	QA	819	A
1	QA	821	G
1	QA	827	U
1	QA	828	A
1	QA	836	G
1	QA	841	U
1	QA	842	C
1	QA	843	U
1	QA	848	C
1	QA	859	A
1	QA	870	U
1	QA	871	U
1	QA	872	A
1	QA	902	G
1	QA	914	A
1	QA	916	G
1	QA	926	G
1	QA	927	G
1	QA	933	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
1	QA	974	A
1	QA	975	A
1	QA	976	G
1	QA	977	A
1	QA	981	U
1	QA	982	U
1	QA	983	A
1	QA	991	U

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Mol	Chain	Res	Type
1	QA	992	U
1	QA	993	G
1	QA	994	A
1	QA	1004	A
1	QA	1006	C
1	QA	1009	G
1	QA	1020	U
1	QA	1024	G
1	QA	1025	U
1	QA	1026	G
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	1054	C
1	QA	1055	A
1	QA	1064	G
1	QA	1065	U
1	QA	1066	C
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	1127	G
1	QA	1130	A
1	QA	1131	G
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G
1	QA	1140	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	1171	G

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Mol	Chain	Res	Type
1	QA	1178	G
1	QA	1181	G
1	QA	1182	G
1	QA	1183	A
1	QA	1187	G
1	QA	1191	A
1	QA	1193	G
1	QA	1196	U
1	QA	1197	G
1	QA	1200	C
1	QA	1201	A
1	QA	1202	G
1	QA	1211	U
1	QA	1212	U
1	QA	1213	A
1	QA	1215	G
1	QA	1226	C
1	QA	1238	A
1	QA	1240	U
1	QA	1241	G
1	QA	1256	A
1	QA	1257	U
1	QA	1258	G
1	QA	1270	C
1	QA	1280	A
1	QA	1281	U
1	QA	1286	A
1	QA	1287	A
1	QA	1297	C
1	QA	1298	C
1	QA	1299	A
1	QA	1302	U
1	QA	1305	G
1	QA	1319	A
1	QA	1320	C
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

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Mol	Chain	Res	Type
1	QA	1346	A
1	QA	1347	G
1	QA	1348	U
1	QA	1353	G
1	QA	1359	C
1	QA	1362(A)	C
1	QA	1368	G
1	QA	1370	G
1	QA	1379	G
1	QA	1381	U
1	QA	1397	C
1	QA	1398	A
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	1492	A
1	QA	1499	A
1	QA	1503	A
1	QA	1506	U
1	QA	1517	G
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	13	A
22	QV	14	G
22	QV	15	C
22	QV	17	U
22	QV	18	G
22	QV	19	G
22	QV	21	A
22	QV	22	G
22	QV	47	U
22	QV	48	C
22	QV	52	G
22	QV	53	G

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Mol	Chain	Res	Type
22	QV	54	U
22	QV	59	A
22	QV	64	G
22	QV	67	C
22	QV	75	C
22	QV	76	A
23	QX	22	C
23	QX	23	A
24	QY	34	G
24	QY	37	A
25	RA	15	G
25	RA	34	C
25	RA	35	G
25	RA	45	C
25	RA	50	G
25	RA	54	G
25	RA	60	G
25	RA	70	A
25	RA	73	A
25	RA	74	G
25	RA	83	A
25	RA	99	G
25	RA	100	G
25	RA	101	A
25	RA	116	A
25	RA	118	U
25	RA	129	G
25	RA	137	G
25	RA	139	A
25	RA	156	U
25	RA	166	G
25	RA	170	A
25	RA	177	G
25	RA	185	A
25	RA	188	A
25	RA	194	G
25	RA	204	G
25	RA	205	A
25	RA	210	A
25	RA	211	A
25	RA	212	A
25	RA	217	A

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Mol	Chain	Res	Type
25	RA	218	A
25	RA	219	U
25	RA	221	G
25	RA	222	A
25	RA	231	G
25	RA	232	U
25	RA	237	G
25	RA	241	G
25	RA	254	A
25	RA	255	G
25	RA	258	U
25	RA	271	U
25	RA	272	U
25	RA	275	C
25	RA	284	G
25	RA	286	C
25	RA	287	G
25	RA	288	U
25	RA	299	G
25	RA	300	A
25	RA	301	C
25	RA	323	A
25	RA	324	A
25	RA	335	A
25	RA	340	C
25	RA	347	G
25	RA	348	A
25	RA	351	G
25	RA	353	G
25	RA	354	A
25	RA	363	U
25	RA	366	G
25	RA	370	A
25	RA	376	G
25	RA	377	G
25	RA	392	U
25	RA	394	C
25	RA	398	A
25	RA	399	G
25	RA	400	U
25	RA	413	G
25	RA	422	U

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Mol	Chain	Res	Type
25	RA	423	G
25	RA	432	U
25	RA	438	G
25	RA	439	A
25	RA	455	A
25	RA	470	C
25	RA	474	U
25	RA	477	C
25	RA	481	C
25	RA	482	C
25	RA	483	A
25	RA	496	A
25	RA	505	A
25	RA	507	G
25	RA	509	A
25	RA	519	G
25	RA	528	A
25	RA	529	U
25	RA	530	A
25	RA	533	G
25	RA	534	C
25	RA	538	A
25	RA	552	C
25	RA	554	A
25	RA	557	A
25	RA	558	G
25	RA	562	C
25	RA	563	G
25	RA	564	G
25	RA	570	C
25	RA	573	G
25	RA	579	G
25	RA	586	G
25	RA	596	G
25	RA	597	C
25	RA	598	A
25	RA	626	A
25	RA	630	U
25	RA	638	U
25	RA	639	G
25	RA	641	G
25	RA	646	A

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Mol	Chain	Res	Type
25	RA	647	G
25	RA	652	A
25	RA	656	A
25	RA	662	A
25	RA	663	G
25	RA	670	C
25	RA	671	A
25	RA	675	C
25	RA	676	G
25	RA	677	C
25	RA	678	A
25	RA	679	A
25	RA	680	G
25	RA	701	A
25	RA	705	C
25	RA	706	C
25	RA	715	G
25	RA	716	G
25	RA	733	G
25	RA	749	G
25	RA	764	G
25	RA	769	A
25	RA	777	C
25	RA	800	C
25	RA	812	G
25	RA	818	G
25	RA	822	G
25	RA	823	G
25	RA	829	A
25	RA	830	A
25	RA	831	A
25	RA	832	G
25	RA	837	C
25	RA	839	G
25	RA	852	G
25	RA	859	C
25	RA	866	A
25	RA	874	U
25	RA	875	U
25	RA	878	G
25	RA	893	C
25	RA	894	U

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Mol	Chain	Res	Type
25	RA	903	C
25	RA	904	C
25	RA	906	G
25	RA	907	U
25	RA	916	G
25	RA	919	A
25	RA	929	G
25	RA	931	C
25	RA	932	C
25	RA	933	C
25	RA	934	A
25	RA	935	C
25	RA	936	C
25	RA	939	C
25	RA	942	A
25	RA	943	C
25	RA	945	A
25	RA	946	A
25	RA	947	A
25	RA	950	C
25	RA	952	G
25	RA	953	U
25	RA	956	A
25	RA	960	C
25	RA	961	C
25	RA	963	A
25	RA	977	G
25	RA	983	G
25	RA	986	A
25	RA	990	A
25	RA	991	G
25	RA	1004	A
25	RA	1006	C
25	RA	1019	G
25	RA	1020	C
25	RA	1026	A
25	RA	1029	A
25	RA	1035	G
25	RA	1042	A
25	RA	1048	G
25	RA	1049	G
25	RA	1051	C

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Mol	Chain	Res	Type
25	RA	1054	C
25	RA	1057	G
25	RA	1058	U
25	RA	1059	C
25	RA	1063	G
25	RA	1066	A
25	RA	1068	G
25	RA	1069	U
25	RA	1071	G
25	RA	1072	U
25	RA	1073	A
25	RA	1079	U
25	RA	1090	G
25	RA	1091	A
25	RA	1092	A
25	RA	1096	A
25	RA	1100	A
25	RA	1101	G
25	RA	1103	A
25	RA	1105	G
25	RA	1106	U
25	RA	1107	U
25	RA	1111	U
25	RA	1112	U
25	RA	1113	A
25	RA	1114	G
25	RA	1116	A
25	RA	1123	A
25	RA	1124	U
25	RA	1125	C
25	RA	1128	U
25	RA	1129	U
25	RA	1130	A
25	RA	1131	A
25	RA	1132	A
25	RA	1133	G
25	RA	1134	A
25	RA	1137	G
25	RA	1139	G
25	RA	1141	A
25	RA	1142	A
25	RA	1150	C

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Mol	Chain	Res	Type
25	RA	1156	G
25	RA	1157	A
25	RA	1158	G
25	RA	1172	A
25	RA	1176	U
25	RA	1177	G
25	RA	1180	C
25	RA	1181	G
25	RA	1187	U
25	RA	1188	A
25	RA	1197	G
25	RA	1218	G
25	RA	1219	A
25	RA	1220	U
25	RA	1221	G
25	RA	1223	C
25	RA	1224	C
25	RA	1225	C
25	RA	1235	G
25	RA	1236	G
25	RA	1240	G
25	RA	1249	A
25	RA	1250	U
25	RA	1251	G
25	RA	1255	A
25	RA	1256	U
25	RA	1257	G
25	RA	1265	A
25	RA	1266	C
25	RA	1282	G
25	RA	1284	G
25	RA	1299	A
25	RA	1302	G
25	RA	1311	A
25	RA	1317	G
25	RA	1318	A
25	RA	1319	U
25	RA	1346	U
25	RA	1347	A
25	RA	1355	G
25	RA	1358	U
25	RA	1359	U

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Mol	Chain	Res	Type
25	RA	1360	C
25	RA	1367	A
25	RA	1375	U
25	RA	1391	C
25	RA	1395	A
25	RA	1398	U
25	RA	1411	A
25	RA	1414	G
25	RA	1425	A
25	RA	1430	A
25	RA	1431	G
25	RA	1432	C
25	RA	1435	G
25	RA	1441	A
25	RA	1453	C
25	RA	1454	C
25	RA	1457	C
25	RA	1462	G
25	RA	1465	A
25	RA	1466	U
25	RA	1467	G
25	RA	1474	C
25	RA	1479	U
25	RA	1491	A
25	RA	1492	C
25	RA	1496	A
25	RA	1497	G
25	RA	1505	C
25	RA	1506	G
25	RA	1507	A
25	RA	1508	G
25	RA	1514	C
25	RA	1518	A
25	RA	1521	C
25	RA	1524	A
25	RA	1528	U
25	RA	1529	G
25	RA	1532	A
25	RA	1536	A
25	RA	1539	C
25	RA	1541	A
25	RA	1543	U

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Mol	Chain	Res	Type
25	RA	1551	C
25	RA	1552	C
25	RA	1553	A
25	RA	1554	A
25	RA	1556	A
25	RA	1560	U
25	RA	1579	C
25	RA	1580	G
25	RA	1581	U
25	RA	1582	A
25	RA	1583	C
25	RA	1584	G
25	RA	1589	A
25	RA	1590	C
25	RA	1591	A
25	RA	1601	A
25	RA	1605	A
25	RA	1606	G
25	RA	1607	G
25	RA	1613	A
25	RA	1616	A
25	RA	1625	U
25	RA	1626	A
25	RA	1627	A
25	RA	1628	G
25	RA	1631	C
25	RA	1632	A
25	RA	1639	G
25	RA	1653	C
25	RA	1654	A
25	RA	1655	A
25	RA	1662	A
25	RA	1663	C
25	RA	1664	A
25	RA	1686	U
25	RA	1687	C
25	RA	1695	C
25	RA	1701	A
25	RA	1714	G
25	RA	1715	A
25	RA	1721	G
25	RA	1722	C

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Mol	Chain	Res	Type
25	RA	1750	G
25	RA	1763	G
25	RA	1766	G
25	RA	1767	A
25	RA	1768	U
25	RA	1771	G
25	RA	1774	C
25	RA	1775	C
25	RA	1776	G
25	RA	1787	G
25	RA	1793	A
25	RA	1794	G
25	RA	1795	G
25	RA	1800	G
25	RA	1804	A
25	RA	1811	A
25	RA	1813	C
25	RA	1818	A
25	RA	1822	A
25	RA	1830	G
25	RA	1831	C
25	RA	1847	G
25	RA	1851	U
25	RA	1860	A
25	RA	1866	G
25	RA	1870	G
25	RA	1878	A
25	RA	1879	A
25	RA	1889	G
25	RA	1896	G
25	RA	1897	C
25	RA	1899	A
25	RA	1900	G
25	RA	1903	C
25	RA	1904	C
25	RA	1908	C
25	RA	1910	G
25	RA	1911	A
25	RA	1927	C
25	RA	1928	G
25	RA	1935	A
25	RA	1942	C

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Mol	Chain	Res	Type
25	RA	1951	G
25	RA	1952	G
25	RA	1953	U
25	RA	1956	C
25	RA	1958	A
25	RA	1960	A
25	RA	1961	U
25	RA	1968	U
25	RA	1969	C
25	RA	1977	U
25	RA	1985	U
25	RA	1986	G
25	RA	1987	C
25	RA	1989	C
25	RA	1991	A
25	RA	1992	A
25	RA	1993	A
25	RA	1994	A
25	RA	2004	C
25	RA	2014	G
25	RA	2015	U
25	RA	2042	A
25	RA	2045	G
25	RA	2053	A
25	RA	2054	G
25	RA	2055	A
25	RA	2065	C
25	RA	2077	C
25	RA	2078	G
25	RA	2081	A
25	RA	2082	A
25	RA	2083	G
25	RA	2084	A
25	RA	2091	G
25	RA	2111	U
25	RA	2121	U
25	RA	2129	C
25	RA	2130	C
25	RA	2133	C
25	RA	2135	U
25	RA	2136	A
25	RA	2137	G

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Mol	Chain	Res	Type
25	RA	2138	G
25	RA	2139	A
25	RA	2140	U
25	RA	2141	A
25	RA	2142	G
25	RA	2148	A
25	RA	2149	G
25	RA	2150	C
25	RA	2153	G
25	RA	2154	U
25	RA	2156	A
25	RA	2157	A
25	RA	2158	C
25	RA	2166	U
25	RA	2167	C
25	RA	2168	C
25	RA	2169	G
25	RA	2170	G
25	RA	2172	U
25	RA	2179	G
25	RA	2180	A
25	RA	2183	C
25	RA	2188	G
25	RA	2190	G
25	RA	2192	A
25	RA	2195	A
25	RA	2198	A
25	RA	2212	G
25	RA	2214	G
25	RA	2220	A
25	RA	2227	G
25	RA	2228	G
25	RA	2229	A
25	RA	2230	U
25	RA	2231	G
25	RA	2237	A
25	RA	2250	G
25	RA	2251	G
25	RA	2255	U
25	RA	2258	G
25	RA	2265	G
25	RA	2281	A

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Mol	Chain	Res	Type
25	RA	2287	C
25	RA	2292	G
25	RA	2295	C
25	RA	2299	A
25	RA	2300	A
25	RA	2315	G
25	RA	2317	A
25	RA	2319	G
25	RA	2320	G
25	RA	2323	A
25	RA	2324	U
25	RA	2331	G
25	RA	2332	A
25	RA	2333	G
25	RA	2337	G
25	RA	2346	G
25	RA	2348	A
25	RA	2355	C
25	RA	2357	G
25	RA	2358	A
25	RA	2359	C
25	RA	2362	C
25	RA	2384	G
25	RA	2391	G
25	RA	2395	G
25	RA	2397	C
25	RA	2404	A
25	RA	2406	C
25	RA	2413	U
25	RA	2414	C
25	RA	2415	C
25	RA	2418	U
25	RA	2435	U
25	RA	2437	A
25	RA	2441	G
25	RA	2442	A
25	RA	2447	A
25	RA	2451	A
25	RA	2452	C
25	RA	2453	C
25	RA	2457	G
25	RA	2460	A

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Mol	Chain	Res	Type
25	RA	2481	A
25	RA	2486	C
25	RA	2487	C
25	RA	2494	G
25	RA	2506	G
25	RA	2514	G
25	RA	2517	G
25	RA	2531	U
25	RA	2541	G
25	RA	2550	C
25	RA	2554	A
25	RA	2555	G
25	RA	2566	U
25	RA	2579	G
25	RA	2586	G
25	RA	2614	A
25	RA	2621	U
25	RA	2623	U
25	RA	2624	C
25	RA	2635	G
25	RA	2641	A
25	RA	2658	C
25	RA	2667	G
25	RA	2677	A
25	RA	2685	G
25	RA	2701	U
25	RA	2702	C
25	RA	2714	U
25	RA	2715	C
25	RA	2724	U
25	RA	2725	A
25	RA	2726	A
25	RA	2727	G
25	RA	2739	U
25	RA	2745	G
25	RA	2746	A
25	RA	2752	U
25	RA	2761	A
25	RA	2765	C
25	RA	2770	A
25	RA	2771	A
25	RA	2774	G

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Mol	Chain	Res	Type
25	RA	2778	A
25	RA	2783	G
25	RA	2784	C
25	RA	2790	G
25	RA	2791	A
25	RA	2792	U
25	RA	2793	G
25	RA	2802	C
25	RA	2803	A
25	RA	2804	C
25	RA	2809	U
25	RA	2817	G
25	RA	2820	A
25	RA	2822	G
25	RA	2830	A
25	RA	2831	A
25	RA	2842	U
25	RA	2843	G
25	RA	2844	G
25	RA	2845	A
25	RA	2855	G
25	RA	2859	U
25	RA	2877	G
25	RA	2878	A
25	RA	2882	G
25	RA	2890	C
25	RA	2900	G
25	RA	2901	A
25	RA	2903	G
26	RB	9	G
26	RB	12	C
26	RB	13	A
26	RB	15	A
26	RB	22	U
26	RB	25	A
26	RB	27	C
26	RB	30	C
26	RB	32	C
26	RB	41	U
26	RB	42	C
26	RB	45	A
26	RB	47	C

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Mol	Chain	Res	Type
26	RB	56	G
26	RB	67	G
26	RB	73	A
26	RB	77	U
26	RB	81	G
26	RB	82	G
26	RB	89	G
26	RB	96	G
26	RB	109	G
1	XA	9	G
1	XA	32	A
1	XA	39	G
1	XA	47	C
1	XA	48	C
1	XA	50	A
1	XA	51	A
1	XA	54	C
1	XA	61	G
1	XA	64	G
1	XA	65	U
1	XA	66	G
1	XA	76	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	116	A
1	XA	121	C
1	XA	129(A)	G
1	XA	130	A
1	XA	144	G
1	XA	146	G
1	XA	147	G
1	XA	163	C
1	XA	169	C
1	XA	172	A
1	XA	173	U
1	XA	174	C

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Mol	Chain	Res	Type
1	XA	190	G
1	XA	195	A
1	XA	197	A
1	XA	199	G
1	XA	201	C
1	XA	209	U
1	XA	216	G
1	XA	222	U
1	XA	231	G
1	XA	243	A
1	XA	244	U
1	XA	247	G
1	XA	251	G
1	XA	255	G
1	XA	256	U
1	XA	266	G
1	XA	267	C
1	XA	268	C
1	XA	270	A
1	XA	281	G
1	XA	289	G
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	332	G
1	XA	345	C
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	381	C
1	XA	384	G
1	XA	389	A
1	XA	397	A
1	XA	398	C

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Mol	Chain	Res	Type
1	XA	406	G
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	434	U
1	XA	438	G
1	XA	442	C
1	XA	452	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
1	XA	521	G
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	572	A
1	XA	573	A
1	XA	576	G
1	XA	577	G
1	XA	579	G
1	XA	630	G

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Mol	Chain	Res	Type
1	XA	631	G
1	XA	633	G
1	XA	653	A
1	XA	665	A
1	XA	688	G
1	XA	702	A
1	XA	704	A
1	XA	723	U
1	XA	731	G
1	XA	734	G
1	XA	749	C
1	XA	753	A
1	XA	755	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	799	G
1	XA	811	C
1	XA	813	U
1	XA	817	C
1	XA	819	A
1	XA	821	G
1	XA	827	U
1	XA	828	A
1	XA	841	U
1	XA	842	C
1	XA	843	U
1	XA	848	C
1	XA	859	A
1	XA	864	A
1	XA	871	U
1	XA	872	A
1	XA	873	A
1	XA	902	G
1	XA	914	A
1	XA	927	G
1	XA	934	C
1	XA	935	A
1	XA	940	C
1	XA	942	G
1	XA	960	U

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Mol	Chain	Res	Type
1	XA	968	A
1	XA	969	A
1	XA	971	G
1	XA	974	A
1	XA	975	A
1	XA	976	G
1	XA	977	A
1	XA	983	A
1	XA	991	U
1	XA	992	U
1	XA	993	G
1	XA	994	A
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	1030	C
1	XA	1032(A)	G
1	XA	1036	G
1	XA	1040	U
1	XA	1042	G
1	XA	1050	G
1	XA	1053	G
1	XA	1054	C
1	XA	1055	A
1	XA	1081	G
1	XA	1094	G
1	XA	1095	U
1	XA	1096	C
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

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Mol	Chain	Res	Type
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1146	A
1	XA	1152	A
1	XA	1157	A
1	XA	1158	C
1	XA	1159	U
1	XA	1160	G
1	XA	1162	C
1	XA	1176	A
1	XA	1177	G
1	XA	1178	G
1	XA	1181	G
1	XA	1182	G
1	XA	1183	A
1	XA	1184	G
1	XA	1190	G
1	XA	1193	G
1	XA	1196	U
1	XA	1197	G
1	XA	1201	A
1	XA	1212	U
1	XA	1214	C
1	XA	1225	A
1	XA	1227	A
1	XA	1238	A
1	XA	1241	G
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1260	C
1	XA	1263	C
1	XA	1270	C
1	XA	1273	G
1	XA	1280	A
1	XA	1281	U
1	XA	1282	C
1	XA	1286	A
1	XA	1287	A
1	XA	1290	G
1	XA	1297	C

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Mol	Chain	Res	Type
1	XA	1298	C
1	XA	1300	G
1	XA	1301	U
1	XA	1302	U
1	XA	1303	C
1	XA	1305	G
1	XA	1317	C
1	XA	1319	A
1	XA	1320	C
1	XA	1322	C
1	XA	1331	G
1	XA	1335	C
1	XA	1336	C
1	XA	1337	G
1	XA	1338	G
1	XA	1347	G
1	XA	1348	U
1	XA	1353	G
1	XA	1362(A)	C
1	XA	1363	A
1	XA	1370	G
1	XA	1380	U
1	XA	1398	A
1	XA	1402	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	1487	G
1	XA	1492	A
1	XA	1497	G
1	XA	1499	A
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

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Mol	Chain	Res	Type
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	54	U
22	XV	64	G
22	XV	67	C
22	XV	76	A
23	XX	24	A
24	XY	38	A
25	YA	9	U
25	YA	10	G
25	YA	15	G
25	YA	34	C
25	YA	46	C
25	YA	50	U
25	YA	55	G
25	YA	64	A
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	155	C
25	YA	161	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

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Mol	Chain	Res	Type
25	YA	222	A
25	YA	223	A
25	YA	225	A
25	YA	226	G
25	YA	228	A
25	YA	229	A
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	264	C
25	YA	265	A
25	YA	266	G
25	YA	269	U
25	YA	270(K)	C
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	294	A
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	334	C
25	YA	342	G
25	YA	345	A
25	YA	352	G

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Mol	Chain	Res	Type
25	YA	363	G
25	YA	364	C
25	YA	371	A
25	YA	372	G
25	YA	386	G
25	YA	396	G
25	YA	405	U
25	YA	411	G
25	YA	412	A
25	YA	421	U
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	504	U
25	YA	505	A
25	YA	509	C
25	YA	512	G
25	YA	518	G
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	556	G
25	YA	563	G
25	YA	571	A
25	YA	573	G
25	YA	575	A
25	YA	586	A
25	YA	588	U
25	YA	603	A
25	YA	607	U
25	YA	609(A)	G

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Mol	Chain	Res	Type
25	YA	614	U
25	YA	615	G
25	YA	617	G
25	YA	622	G
25	YA	627	A
25	YA	634	C
25	YA	637	A
25	YA	638	G
25	YA	645	C
25	YA	646	A
25	YA	651	G
25	YA	654(A)	G
25	YA	654(B)	C
25	YA	654(T)	C
25	YA	654(V)	A
25	YA	657	U
25	YA	668	G
25	YA	670	A
25	YA	686	G
25	YA	702	G
25	YA	717	G
25	YA	722	A
25	YA	726	G
25	YA	730	C
25	YA	734	A
25	YA	747	U
25	YA	752	A
25	YA	753	C
25	YA	782	A
25	YA	784	A
25	YA	785	G
25	YA	790	C
25	YA	792	G
25	YA	793	A
25	YA	805	G
25	YA	812	C
25	YA	819	A
25	YA	827	U
25	YA	828	U
25	YA	831	G
25	YA	847	U
25	YA	856	C

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Mol	Chain	Res	Type
25	YA	857	C
25	YA	859	G
25	YA	860	U
25	YA	880	G
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	890	A
25	YA	892	G
25	YA	896	A
25	YA	897	C
25	YA	899	A
25	YA	900	A
25	YA	901	A
25	YA	905	U
25	YA	907	U
25	YA	910	A
25	YA	914	C
25	YA	917	A
25	YA	918	A
25	YA	926	A
25	YA	932	G
25	YA	938	G
25	YA	941	A
25	YA	943	U
25	YA	945	A
25	YA	946	G
25	YA	959	A
25	YA	961	C
25	YA	974	G
25	YA	974(A)	C
25	YA	975	G
25	YA	983	A
25	YA	996	A
25	YA	1003	G
25	YA	1005	C
25	YA	1010	A
25	YA	1011	G

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Mol	Chain	Res	Type
25	YA	1012	U
25	YA	1013	C
25	YA	1017	G
25	YA	1020	A
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	1058	G
25	YA	1059	G
25	YA	1060	U
25	YA	1061	U
25	YA	1065	U
25	YA	1067	A
25	YA	1068	G
25	YA	1070	A
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	1090	U
25	YA	1093	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

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Mol	Chain	Res	Type
25	YA	1122	G
25	YA	1126	A
25	YA	1128	A
25	YA	1129	A
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	1151	G
25	YA	1156	A
25	YA	1169	G
25	YA	1170	G
25	YA	1173	G
25	YA	1174	A
25	YA	1175	U
25	YA	1176	G
25	YA	1179	C
25	YA	1180	C
25	YA	1194	A
25	YA	1195	G
25	YA	1204	A
25	YA	1205	U
25	YA	1211	U
25	YA	1212	G
25	YA	1220	A
25	YA	1236	G
25	YA	1238	G
25	YA	1250	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	1320	C
25	YA	1321	A
25	YA	1329	U
25	YA	1345	C

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Mol	Chain	Res	Type
25	YA	1349	A
25	YA	1352	U
25	YA	1359	A
25	YA	1360	A
25	YA	1365	A
25	YA	1368	G
25	YA	1379	A
25	YA	1384	A
25	YA	1385	G
25	YA	1386	C
25	YA	1395	A
25	YA	1407	C
25	YA	1408	C
25	YA	1411	C
25	YA	1416	G
25	YA	1417	C
25	YA	1419	A
25	YA	1420	U
25	YA	1421	G
25	YA	1427	A
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	1459	G
25	YA	1460	A
25	YA	1461	G
25	YA	1467	C
25	YA	1471	A
25	YA	1472	A
25	YA	1480	G
25	YA	1482	U
25	YA	1483	G
25	YA	1485	G
25	YA	1493	C
25	YA	1496	A
25	YA	1497	U
25	YA	1504	C
25	YA	1507	A

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Mol	Chain	Res	Type
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	1554	A
25	YA	1558	A
25	YA	1559	G
25	YA	1560	G
25	YA	1566	A
25	YA	1569	A
25	YA	1578	U
25	YA	1579	A
25	YA	1581	G
25	YA	1585	C
25	YA	1586	A
25	YA	1591	G
25	YA	1597	A
25	YA	1598	C
25	YA	1608	A
25	YA	1609	A
25	YA	1610	A
25	YA	1617	C
25	YA	1618	A
25	YA	1640	C
25	YA	1646	C
25	YA	1647	G
25	YA	1648	C
25	YA	1649	G
25	YA	1654	A
25	YA	1674	G
25	YA	1688	U
25	YA	1695	G
25	YA	1699	G
25	YA	1725	G

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Mol	Chain	Res	Type
25	YA	1728	G
25	YA	1729	A
25	YA	1730	U
25	YA	1731	G
25	YA	1732	A
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	1763	G
25	YA	1764	G
25	YA	1773	A
25	YA	1776	G
25	YA	1780	A
25	YA	1782	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	1858	G
25	YA	1869	G
25	YA	1872	A
25	YA	1878	G
25	YA	1882	C
25	YA	1889	A
25	YA	1896	G
25	YA	1903	G
25	YA	1906	G
25	YA	1913	A
25	YA	1919	A
25	YA	1929	G
25	YA	1930	G
25	YA	1931	U
25	YA	1939	U

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Mol	Chain	Res	Type
25	YA	1940	U
25	YA	1955	U
25	YA	1956	U
25	YA	1963	U
25	YA	1965	C
25	YA	1967	C
25	YA	1969	A
25	YA	1970	A
25	YA	1971	A
25	YA	1972	A
25	YA	1982	C
25	YA	1991	U
25	YA	1992	G
25	YA	1993	U
25	YA	2020	A
25	YA	2021	C
25	YA	2023	G
25	YA	2031	A
25	YA	2033	A
25	YA	2043	C
25	YA	2055	C
25	YA	2056	G
25	YA	2058	A
25	YA	2059	A
25	YA	2060	A
25	YA	2061	G
25	YA	2063	C
25	YA	2069	G
25	YA	2093	G
25	YA	2099	U
25	YA	2100	G
25	YA	2111	C
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	2122	U
25	YA	2126	A

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Mol	Chain	Res	Type
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	2165	G
25	YA	2166	G
25	YA	2167	U
25	YA	2168	G
25	YA	2169	A
25	YA	2173	A
25	YA	2176	A
25	YA	2178	C
25	YA	2189	U
25	YA	2190	G
25	YA	2192	G
25	YA	2194	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	2269	A
25	YA	2273	A
25	YA	2275	C
25	YA	2283	C
25	YA	2287	A
25	YA	2288	A
25	YA	2291	U
25	YA	2305	A
25	YA	2307	G
25	YA	2308	G
25	YA	2312	U

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Mol	Chain	Res	Type
25	YA	2319	G
25	YA	2320	A
25	YA	2325	G
25	YA	2326	C
25	YA	2334	G
25	YA	2346	A
25	YA	2347	C
25	YA	2352	A
25	YA	2377	A
25	YA	2383	G
25	YA	2385	C
25	YA	2389	G
25	YA	2391	G
25	YA	2392	A
25	YA	2394	C
25	YA	2402	C
25	YA	2403	C
25	YA	2406	U
25	YA	2410	G
25	YA	2423	U
25	YA	2424	C
25	YA	2425	A
25	YA	2429	G
25	YA	2430	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	2475	C
25	YA	2484	G
25	YA	2494	G
25	YA	2502	G
25	YA	2505	G
25	YA	2513	G
25	YA	2518	A
25	YA	2525	G
25	YA	2529	G

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Mol	Chain	Res	Type
25	YA	2542	A
25	YA	2554	U
25	YA	2558	C
25	YA	2566	A
25	YA	2567	G
25	YA	2573	C
25	YA	2582	G
25	YA	2599	G
25	YA	2602	A
25	YA	2609	U
25	YA	2610	C
25	YA	2611	U
25	YA	2612	C
25	YA	2621	A
25	YA	2629	A
25	YA	2632	A
25	YA	2634	G
25	YA	2654	A
25	YA	2655	G
25	YA	2656	U
25	YA	2661	G
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	2707	G
25	YA	2712	U
25	YA	2712(A)	A
25	YA	2713	A
25	YA	2714	G
25	YA	2718	G
25	YA	2719	G
25	YA	2726	U
25	YA	2733	A
25	YA	2734	A
25	YA	2744	G
25	YA	2757	A
25	YA	2760	C
25	YA	2761	G

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Mol	Chain	Res	Type
25	YA	2762	G
25	YA	2765	A
25	YA	2770	G
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	2794	C
25	YA	2795	G
25	YA	2797	U
25	YA	2807	G
25	YA	2808	U
25	YA	2818	G
25	YA	2820	A
25	YA	2821	A
25	YA	2830	G
25	YA	2833	G
25	YA	2834	G
25	YA	2835	A
25	YA	2844	G
25	YA	2845	G
25	YA	2847	U
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
26	YB	2	C
26	YB	8	U
26	YB	9	G
26	YB	13	A
26	YB	14	U
26	YB	15	A
26	YB	16	G
26	YB	22	U
26	YB	24	G
26	YB	25	A

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Mol	Chain	Res	Type
26	YB	32	C
26	YB	35	U
26	YB	41	U
26	YB	42	C
26	YB	44	G
26	YB	45	A
26	YB	52	A
26	YB	53	A
26	YB	56	G
26	YB	65	C
26	YB	67	G
26	YB	73	A
26	YB	82	G
26	YB	106	G
26	YB	108	C
26	YB	109	G
26	YB	115	G

All (191) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	QA	31	G
1	QA	64	G
1	QA	115	G
1	QA	181	G
1	QA	189	U
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	421	U
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

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Mol	Chain	Res	Type
1	QA	703	G
1	QA	753	A
1	QA	792	A
1	QA	812	C
1	QA	913	A
1	QA	991	U
1	QA	992	U
1	QA	1025	U
1	QA	1027	C
1	QA	1064	G
1	QA	1065	U
1	QA	1200	C
1	QA	1285	A
1	QA	1297	C
1	QA	1301	U
1	QA	1336	C
1	QA	1346	A
1	QA	1347	G
1	QA	1397	C
1	QA	1446	A
1	QA	1498	U
1	QA	1528	U
22	QV	53	G
25	RA	98	U
25	RA	100	G
25	RA	216	A
25	RA	218	A
25	RA	231	G
25	RA	287	G
25	RA	369	A
25	RA	397	G
25	RA	399	G
25	RA	431	C
25	RA	528	A
25	RA	533	G
25	RA	537	G
25	RA	662	A
25	RA	799	A
25	RA	821	A
25	RA	893	C
25	RA	903	C
25	RA	906	G

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Mol	Chain	Res	Type
25	RA	1068	G
25	RA	1072	U
25	RA	1091	A
25	RA	1124	U
25	RA	1131	A
25	RA	1176	U
25	RA	1223	C
25	RA	1249	A
25	RA	1255	A
25	RA	1358	U
25	RA	1473	A
25	RA	1605	A
25	RA	1700	G
25	RA	1714	G
25	RA	1830	G
25	RA	1850	A
25	RA	1952	G
25	RA	2014	G
25	RA	2148	A
25	RA	2229	A
25	RA	2417	G
25	RA	2451	A
25	RA	2493	G
25	RA	2530	A
25	RA	2578	A
25	RA	2622	C
25	RA	2701	U
25	RA	2724	U
25	RA	2789	A
25	RA	2842	U
25	RA	2877	G
26	RB	24	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	243	A
1	XA	250	A
1	XA	255	G

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Mol	Chain	Res	Type
1	XA	265	G
1	XA	266	G
1	XA	267	C
1	XA	328	C
1	XA	345	C
1	XA	388	G
1	XA	412	A
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	812	C
1	XA	913	A
1	XA	992	U
1	XA	1027	C
1	XA	1054	C
1	XA	1285	A
1	XA	1301	U
1	XA	1336	C
1	XA	1347	G
1	XA	1397	C
1	XA	1446	A
1	XA	1498	U
22	XV	53	G
25	YA	99	U
25	YA	102	G
25	YA	195	A
25	YA	196	A
25	YA	221	A
25	YA	222	A
25	YA	229	A
25	YA	241	A
25	YA	242	G
25	YA	271(B)	G
25	YA	278	A
25	YA	404	C
25	YA	456	C

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Mol	Chain	Res	Type
25	YA	503	A
25	YA	508	G
25	YA	587	C
25	YA	637	A
25	YA	654	A
25	YA	752	A
25	YA	846	C
25	YA	856	C
25	YA	859	G
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	1460	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	1930	G
25	YA	1955	U
25	YA	1992	G
25	YA	2126	A
25	YA	2351	G
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	2776	A
25	YA	2832	U

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Mol	Chain	Res	Type
25	YA	2867	G
26	YB	66	A

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
56	PPU	Z6	101	56,25	37,40,41	2.58	8 (21%)	47,57,60	2.55	15 (31%)
56	PPU	Z5	101	56,25	37,40,41	2.58	8 (21%)	47,57,60	2.56	15 (31%)

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
56	PPU	Z6	101	56,25	-	2/25/43/44	0/4/4/4
56	PPU	Z5	101	56,25	-	2/25/43/44	0/4/4/4

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	Z5	101	PPU	O-C	9.63	1.41	1.23
56	Z6	101	PPU	O-C	9.60	1.41	1.23
56	Z6	101	PPU	C9-N6	-6.23	1.31	1.45
56	Z5	101	PPU	C9-N6	-6.22	1.32	1.45
56	Z5	101	PPU	C-N3'	5.87	1.46	1.34
56	Z6	101	PPU	C-N3'	5.87	1.46	1.34
56	Z6	101	PPU	C10-N6	-5.84	1.32	1.45
56	Z5	101	PPU	C10-N6	-5.82	1.32	1.45
56	Z5	101	PPU	C5-N7	-3.61	1.32	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	Z6	101	PPU	C5-N7	-3.58	1.32	1.39
56	Z6	101	PPU	C8-N9	-3.19	1.32	1.37
56	Z5	101	PPU	C8-N9	-3.16	1.32	1.37
56	Z6	101	PPU	C1'-N9	2.74	1.53	1.46
56	Z5	101	PPU	C1'-N9	2.74	1.53	1.46
56	Z6	101	PPU	C4-N9	-2.19	1.33	1.37
56	Z5	101	PPU	C4-N9	-2.18	1.33	1.37

All (30) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	Z5	101	PPU	C3'-N3'-C	-8.53	110.23	123.20
56	Z6	101	PPU	C3'-N3'-C	-8.51	110.26	123.20
56	Z6	101	PPU	C2'-C1'-N9	-5.95	98.51	113.30
56	Z5	101	PPU	C2'-C1'-N9	-5.95	98.52	113.30
56	Z6	101	PPU	C5-C4-N3	-4.96	119.88	126.72
56	Z5	101	PPU	C5-C4-N3	-4.95	119.91	126.72
56	Z5	101	PPU	N3-C2-N1	-4.73	121.42	128.58
56	Z6	101	PPU	N3-C2-N1	-4.71	121.45	128.58
56	Z5	101	PPU	CA-C-N3'	4.10	121.76	116.21
56	Z6	101	PPU	CA-C-N3'	4.08	121.73	116.21
56	Z6	101	PPU	C4-C5-N7	-4.03	105.97	110.58
56	Z6	101	PPU	C2-N1-C6	4.01	121.62	111.83
56	Z5	101	PPU	C2-N1-C6	4.01	121.62	111.83
56	Z5	101	PPU	C4-C5-N7	-4.00	106.00	110.58
56	Z5	101	PPU	C2-N3-C4	3.68	120.82	111.83
56	Z6	101	PPU	C2-N3-C4	3.67	120.79	111.83
56	Z5	101	PPU	C5-N7-C8	3.59	109.10	103.45
56	Z6	101	PPU	C5-N7-C8	3.58	109.08	103.45
56	Z6	101	PPU	CM-OC-CZ	-3.44	110.13	117.50
56	Z5	101	PPU	CM-OC-CZ	-3.43	110.13	117.50
56	Z5	101	PPU	N9-C8-N7	-3.42	109.09	113.94
56	Z6	101	PPU	N9-C8-N7	-3.40	109.11	113.94
56	Z6	101	PPU	O4'-C1'-N9	-3.00	102.32	108.09
56	Z5	101	PPU	O4'-C1'-N9	-3.00	102.33	108.09
56	Z5	101	PPU	N3-C4-N9	2.86	132.03	127.17
56	Z6	101	PPU	N3-C4-N9	2.85	132.01	127.17
56	Z6	101	PPU	C4-C5-C6	2.42	118.41	115.91
56	Z5	101	PPU	C4-C5-C6	2.36	118.35	115.91
56	Z6	101	PPU	C5-C4-N9	2.10	108.10	105.81
56	Z5	101	PPU	C5-C4-N9	2.07	108.07	105.81

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
56	Z5	101	PPU	O-C-CA-N
56	Z6	101	PPU	O-C-CA-N
56	Z5	101	PPU	N3'-C-CA-N
56	Z6	101	PPU	N3'-C-CA-N

There are no ring outliers.

2 monomers are involved in 18 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	Z6	101	PPU	6	0
56	Z5	101	PPU	12	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 924 ligands modelled in this entry, 922 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	1710	-	44,45,45	1.42	6 (13%)	63,67,67	1.24	4 (6%)
58	PAR	QA	1681	-	44,45,45	1.42	7 (15%)	63,67,67	1.32	7 (11%)

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	1710	-	-	7/18/94/94	0/4/4/4
58	PAR	QA	1681	-	-	7/18/94/94	0/4/4/4

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	QA	1681	PAR	C52-C42	3.22	1.58	1.52
58	XA	1710	PAR	C52-C42	3.13	1.58	1.52
58	QA	1681	PAR	O54-C14	3.10	1.49	1.41
58	XA	1710	PAR	O54-C14	2.97	1.49	1.41
58	QA	1681	PAR	C11-C21	2.86	1.57	1.52
58	XA	1710	PAR	C11-C21	2.79	1.57	1.52
58	XA	1710	PAR	O51-C11	2.66	1.48	1.41
58	QA	1681	PAR	O51-C11	2.60	1.48	1.41
58	XA	1710	PAR	C14-C24	2.57	1.57	1.52
58	QA	1681	PAR	C31-C21	2.50	1.56	1.53
58	QA	1681	PAR	C14-C24	2.35	1.57	1.52
58	QA	1681	PAR	O54-C54	2.25	1.49	1.44
58	XA	1710	PAR	C31-C21	2.20	1.56	1.53

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
58	QA	1681	PAR	C14-O54-C54	5.17	123.82	113.72
58	XA	1710	PAR	O33-C14-C24	4.95	116.17	108.08
58	XA	1710	PAR	C14-O54-C54	3.82	121.17	113.72
58	QA	1681	PAR	O54-C54-C64	3.38	112.56	106.07
58	QA	1681	PAR	O33-C14-C24	3.02	113.02	108.08
58	XA	1710	PAR	O54-C54-C64	2.92	111.69	106.07
58	XA	1710	PAR	C11-O51-C51	2.78	119.16	113.72
58	QA	1681	PAR	C34-C44-C54	-2.46	105.77	110.23
58	QA	1681	PAR	C44-C34-C24	-2.43	106.95	110.99
58	QA	1681	PAR	C11-O51-C51	2.12	117.86	113.72
58	QA	1681	PAR	C22-C32-C42	2.05	114.52	109.50

There are no chirality outliers.

All (14) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
58	QA	1681	PAR	C44-C54-C64-N64
58	QA	1681	PAR	O54-C54-C64-N64
58	XA	1710	PAR	C44-C54-C64-N64

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Mol	Chain	Res	Type	Atoms
58	XA	1710	PAR	O43-C43-C53-O53
58	XA	1710	PAR	C33-C43-C53-O53
58	QA	1681	PAR	O51-C51-C61-O61
58	QA	1681	PAR	C41-C51-C61-O61
58	QA	1681	PAR	C33-C43-C53-O53
58	QA	1681	PAR	O43-C43-C53-O53
58	XA	1710	PAR	O54-C54-C64-N64
58	XA	1710	PAR	C41-C51-C61-O61
58	XA	1710	PAR	C52-C42-O11-C11
58	QA	1681	PAR	C52-C42-O11-C11
58	XA	1710	PAR	C43-C33-O33-C14

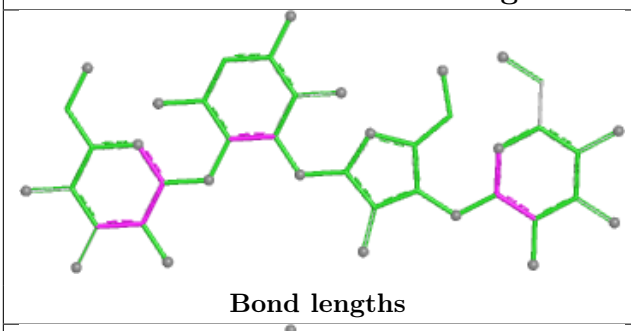
There are no ring outliers.

2 monomers are involved in 6 short contacts:

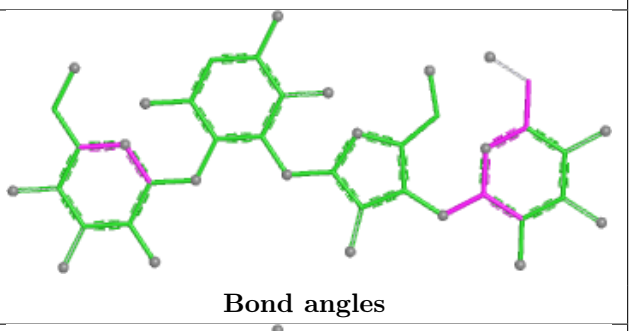
Mol	Chain	Res	Type	Clashes	Symm-Clashes
58	XA	1710	PAR	2	0
58	QA	1681	PAR	4	0

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

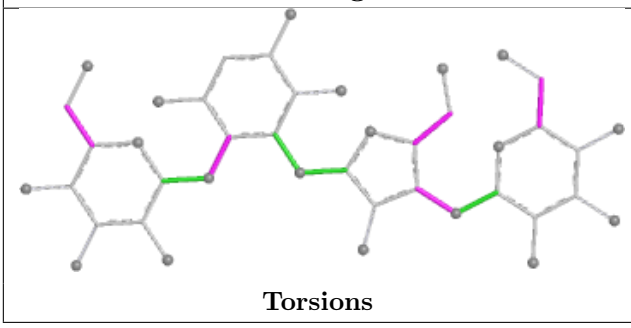
Ligand PAR XA 1710



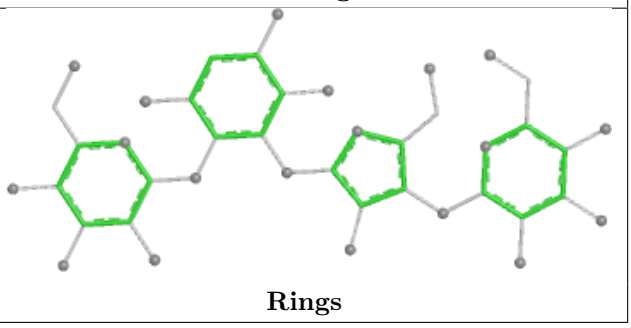
Bond lengths



Bond angles

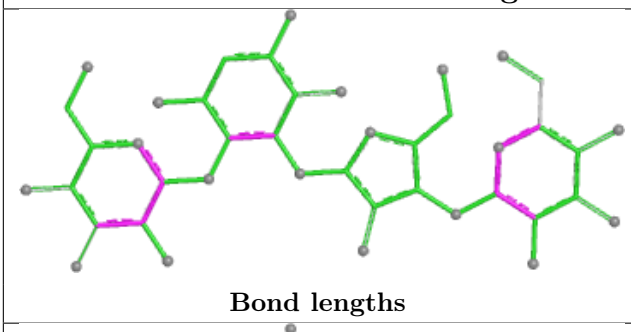


Torsions

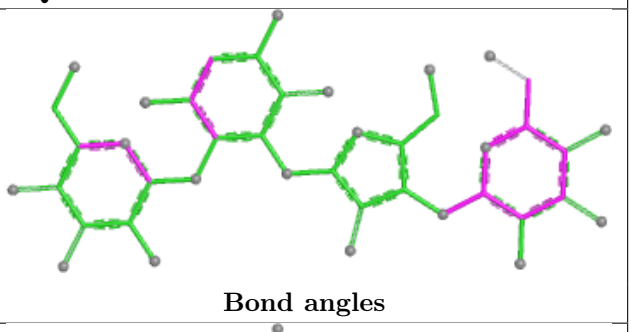


Rings

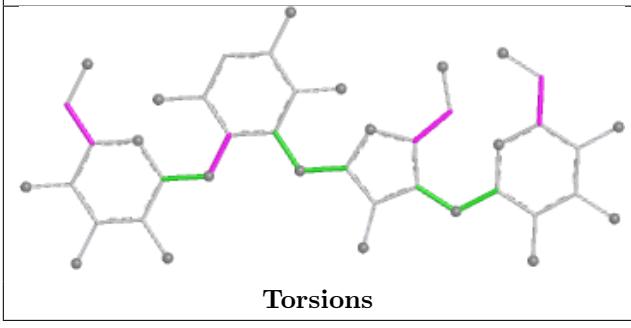
Ligand PAR QA 1681



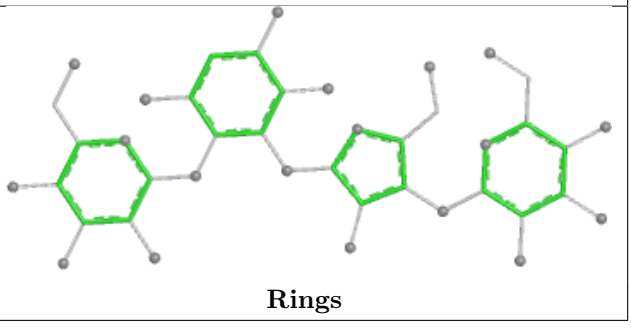
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	QA	1500/1522 (98%)	0.35	38 (2%) 58 34	40, 98, 191, 460	0
1	XA	1500/1522 (98%)	0.27	21 (1%) 73 46	37, 88, 192, 384	0
2	QB	237/256 (92%)	0.65	8 (3%) 48 27	91, 151, 229, 303	0
2	XB	237/256 (92%)	0.55	2 (0%) 82 58	71, 131, 209, 300	0
3	QC	205/239 (85%)	0.58	9 (4%) 39 22	79, 138, 213, 261	0
3	XC	205/239 (85%)	0.23	5 (2%) 59 34	53, 95, 150, 275	0
4	QD	208/209 (99%)	0.83	23 (11%) 10 8	59, 105, 170, 323	0
4	XD	208/209 (99%)	0.60	16 (7%) 19 13	43, 92, 156, 208	0
5	QE	151/162 (93%)	0.64	11 (7%) 21 14	66, 112, 178, 228	0
5	XE	151/162 (93%)	0.35	2 (1%) 75 48	44, 86, 140, 204	0
6	QF	101/101 (100%)	0.27	1 (0%) 79 54	48, 92, 135, 211	0
6	XF	101/101 (100%)	0.38	0 100 100	47, 96, 150, 271	0
7	QG	155/156 (99%)	0.46	7 (4%) 38 21	86, 136, 192, 401	0
7	XG	155/156 (99%)	0.42	2 (1%) 75 48	63, 118, 165, 229	0
8	QH	138/138 (100%)	0.57	8 (5%) 29 17	66, 110, 155, 278	0
8	XH	138/138 (100%)	0.57	7 (5%) 33 19	62, 104, 145, 170	0
9	QI	127/128 (99%)	1.16	25 (19%) 3 3	82, 153, 208, 251	0
9	XI	127/128 (99%)	1.05	18 (14%) 6 6	56, 131, 179, 246	0
10	QJ	99/105 (94%)	1.04	11 (11%) 10 8	101, 158, 246, 398	0
10	XJ	99/105 (94%)	0.85	9 (9%) 15 11	60, 121, 205, 240	0
11	QK	119/129 (92%)	0.51	7 (5%) 28 17	60, 100, 188, 269	0
11	XK	119/129 (92%)	0.28	3 (2%) 58 34	37, 93, 164, 272	0
12	QL	125/132 (94%)	0.87	15 (12%) 9 7	47, 91, 145, 263	0
12	XL	125/132 (94%)	0.75	17 (13%) 7 6	42, 72, 139, 285	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
13	QM	121/126 (96%)	0.96	12 (9%) 13 10	91, 151, 204, 320	0
13	XM	121/126 (96%)	0.77	8 (6%) 24 15	58, 116, 178, 305	0
14	QN	60/61 (98%)	1.34	15 (25%) 2 2	88, 128, 188, 195	0
14	XN	60/61 (98%)	0.86	11 (18%) 3 4	49, 90, 129, 159	0
15	QO	88/89 (98%)	0.20	0 100 100	41, 92, 137, 169	0
15	XO	88/89 (98%)	0.48	0 100 100	56, 97, 143, 170	0
16	QP	84/88 (95%)	1.06	10 (11%) 9 8	62, 95, 137, 206	0
16	XP	84/88 (95%)	1.17	10 (11%) 9 8	74, 110, 158, 267	0
17	QQ	100/105 (95%)	0.56	3 (3%) 52 30	57, 99, 132, 165	0
17	XQ	100/105 (95%)	0.67	5 (5%) 34 19	68, 112, 143, 168	0
18	QR	70/88 (79%)	0.21	0 100 100	64, 101, 147, 191	0
18	XR	70/88 (79%)	0.37	1 (1%) 73 46	62, 104, 164, 181	0
19	QS	84/93 (90%)	0.67	2 (2%) 59 34	100, 157, 204, 241	0
19	XS	84/93 (90%)	0.40	3 (3%) 46 26	66, 121, 190, 335	0
20	QT	99/106 (93%)	0.83	6 (6%) 27 16	55, 101, 164, 255	0
20	XT	99/106 (93%)	1.45	27 (27%) 1 2	80, 141, 215, 265	0
21	QU	25/27 (92%)	1.50	9 (36%) 1 1	95, 140, 198, 248	0
21	XU	25/27 (92%)	1.41	6 (24%) 2 2	76, 110, 159, 180	0
22	QV	77/77 (100%)	0.22	1 (1%) 75 48	38, 106, 168, 231	0
22	XV	77/77 (100%)	0.06	1 (1%) 75 48	42, 84, 137, 180	0
23	QX	9/25 (36%)	1.23	3 (33%) 1 1	63, 86, 158, 171	0
23	XX	10/25 (40%)	1.67	3 (30%) 1 1	47, 69, 148, 219	0
24	QY	16/17 (94%)	0.49	1 (6%) 26 16	87, 115, 167, 175	0
24	XY	16/17 (94%)	0.34	0 100 100	68, 95, 153, 191	0
25	RA	2882/2915 (98%)	0.08	37 (1%) 75 48	27, 74, 249, 510	0
25	YA	2882/2915 (98%)	0.07	39 (1%) 73 46	27, 69, 246, 557	0
26	RB	120/122 (98%)	0.55	3 (2%) 58 34	90, 127, 170, 210	0
26	YB	120/122 (98%)	0.01	1 (0%) 82 58	61, 90, 124, 152	0
27	RD	272/276 (98%)	0.38	14 (5%) 33 19	22, 61, 105, 222	0
27	YD	272/276 (98%)	0.51	12 (4%) 39 22	22, 61, 105, 185	0
28	RE	205/206 (99%)	0.81	11 (5%) 31 18	39, 83, 168, 336	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
28	YE	205/206 (99%)	0.73	12 (5%) 28 17	31, 91, 177, 273	0
29	RF	202/210 (96%)	0.31	4 (1%) 65 38	23, 99, 171, 216	0
29	YF	202/210 (96%)	0.39	4 (1%) 65 38	32, 78, 149, 227	0
30	RG	181/182 (99%)	0.68	7 (3%) 43 24	92, 150, 197, 231	0
30	YG	181/182 (99%)	0.51	9 (4%) 34 19	61, 98, 160, 244	0
31	RH	170/180 (94%)	0.86	8 (4%) 36 20	102, 193, 270, 361	0
31	YH	170/180 (94%)	0.87	14 (8%) 17 12	53, 105, 164, 210	0
32	RI	146/148 (98%)	1.03	24 (16%) 4 5	67, 125, 195, 258	0
32	YI	146/148 (98%)	0.64	8 (5%) 30 18	48, 123, 189, 271	0
33	RN	138/140 (98%)	0.67	10 (7%) 21 14	51, 93, 154, 202	0
33	YN	138/140 (98%)	0.73	8 (5%) 29 17	47, 92, 157, 220	0
34	RO	122/122 (100%)	0.40	1 (0%) 82 58	48, 80, 114, 148	0
34	YO	122/122 (100%)	0.12	1 (0%) 82 58	27, 64, 103, 120	0
35	RP	150/150 (100%)	0.63	10 (6%) 24 15	28, 99, 159, 288	0
35	YP	150/150 (100%)	0.76	12 (8%) 18 13	31, 90, 162, 231	0
36	RQ	141/141 (100%)	1.31	29 (20%) 2 3	54, 102, 180, 226	0
36	YQ	141/141 (100%)	0.95	23 (16%) 4 5	35, 73, 140, 222	0
37	RR	118/118 (100%)	0.24	2 (1%) 69 41	29, 70, 104, 138	0
37	YR	118/118 (100%)	0.80	8 (6%) 23 15	51, 91, 139, 190	0
38	RS	111/112 (99%)	0.88	8 (7%) 21 14	81, 120, 204, 273	0
38	YS	111/112 (99%)	0.70	6 (5%) 31 18	66, 101, 156, 201	0
39	RT	137/146 (93%)	0.69	8 (5%) 29 17	50, 91, 188, 276	0
39	YT	137/146 (93%)	0.70	14 (10%) 12 10	51, 89, 212, 242	0
40	RU	117/118 (99%)	0.44	2 (1%) 69 41	35, 81, 155, 298	0
40	YU	117/118 (99%)	0.64	9 (7%) 19 13	40, 81, 152, 243	0
41	RV	101/101 (100%)	0.48	2 (1%) 65 38	55, 114, 183, 398	0
41	YV	101/101 (100%)	0.71	6 (5%) 28 17	44, 111, 174, 335	0
42	RW	113/113 (100%)	0.40	4 (3%) 47 27	36, 63, 115, 296	0
42	YW	113/113 (100%)	0.42	7 (6%) 26 16	37, 74, 134, 258	0
43	RX	92/96 (95%)	0.58	5 (5%) 31 18	51, 77, 128, 164	0
43	YX	92/96 (95%)	0.49	3 (3%) 49 28	37, 73, 112, 140	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
44	RY	102/110 (92%)	1.22	13 (12%) 8 7	55, 119, 185, 325	0
44	YY	102/110 (92%)	0.95	15 (14%) 6 5	42, 92, 162, 273	0
45	RZ	183/206 (88%)	1.05	17 (9%) 14 10	104, 153, 230, 292	0
45	YZ	183/206 (88%)	0.80	11 (6%) 27 17	55, 116, 202, 300	0
46	R0	82/85 (96%)	0.88	8 (9%) 13 10	48, 88, 127, 238	0
46	Y0	82/85 (96%)	0.47	4 (4%) 35 20	44, 71, 99, 142	0
47	R1	97/98 (98%)	0.99	13 (13%) 7 6	37, 80, 161, 290	0
47	Y1	97/98 (98%)	0.80	8 (8%) 17 12	39, 75, 176, 210	0
48	R2	69/72 (95%)	0.63	6 (8%) 16 11	63, 105, 160, 274	0
48	Y2	69/72 (95%)	0.71	6 (8%) 16 11	47, 80, 151, 219	0
49	R3	59/60 (98%)	0.47	0 100 100	63, 97, 155, 205	0
49	Y3	59/60 (98%)	0.52	3 (5%) 33 19	55, 89, 162, 293	0
50	R4	71/71 (100%)	0.98	6 (8%) 16 12	150, 244, 350, 423	0
50	Y4	71/71 (100%)	0.69	3 (4%) 40 22	69, 162, 340, 411	0
51	R5	59/60 (98%)	0.71	3 (5%) 33 19	40, 77, 216, 261	0
51	Y5	58/60 (96%)	0.83	7 (12%) 8 7	44, 97, 231, 342	0
52	R6	49/54 (90%)	1.20	6 (12%) 8 7	119, 194, 264, 286	0
52	Y6	49/54 (90%)	1.11	8 (16%) 4 5	115, 171, 260, 295	0
53	R7	49/49 (100%)	0.49	4 (8%) 17 12	27, 54, 110, 166	0
53	Y7	49/49 (100%)	0.55	4 (8%) 17 12	32, 51, 111, 180	0
54	R8	64/65 (98%)	1.12	12 (18%) 3 3	42, 82, 134, 223	0
54	Y8	64/65 (98%)	1.12	11 (17%) 4 4	35, 68, 120, 229	0
55	R9	37/37 (100%)	2.12	17 (45%) 0 1	134, 200, 317, 510	0
55	Y9	37/37 (100%)	2.51	23 (62%) 0 0	134, 206, 322, 404	0
56	Z5	2/3 (66%)	0.68	0 100 100	50, 50, 50, 60	0
56	Z6	2/3 (66%)	0.33	0 100 100	38, 38, 38, 41	0
All	All	20878/21490 (97%)	0.46	995 (4%) 35 20	22, 92, 205, 557	0

All (995) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
55	R9	14	CYS	7.0
7	XG	5	ARG	6.3

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Mol	Chain	Res	Type	RSRZ
36	YQ	80	GLU	6.2
53	R7	48	LYS	6.1
14	XN	2	ALA	6.0
46	R0	2	ALA	6.0
4	QD	31	CYS	5.9
53	Y7	48	LYS	5.9
36	RQ	80	GLU	5.9
39	YT	104	ASN	5.9
36	YQ	87	LYS	5.7
9	QI	27	THR	5.6
35	RP	61	ARG	5.6
13	QM	102	ARG	5.5
21	XU	2	GLY	5.5
4	QD	50	ARG	5.4
11	XK	129	SER	5.3
31	YH	155	SER	5.3
13	XM	122	LYS	5.2
55	R9	11	CYS	5.2
55	Y9	23	VAL	5.1
4	XD	50	ARG	4.9
11	XK	128	ALA	4.9
23	XX	15	A	4.8
13	QM	101	GLN	4.8
20	XT	9	ASN	4.8
10	QJ	45	ARG	4.8
54	Y8	64	TYR	4.7
54	R8	64	TYR	4.7
53	Y7	49	ARG	4.7
10	QJ	55	LYS	4.7
21	QU	2	GLY	4.7
32	RI	20	ASP	4.7
9	QI	106	ALA	4.7
25	RA	1072	U	4.7
55	Y9	26	ILE	4.7
14	QN	14	PRO	4.6
44	YY	91	GLU	4.6
55	Y9	16	VAL	4.6
23	XX	24	A	4.6
36	RQ	87	LYS	4.6
20	XT	70	SER	4.6
44	RY	62	GLU	4.6
47	Y1	92	LYS	4.5

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Mol	Chain	Res	Type	RSRZ
12	XL	89	ARG	4.5
55	Y9	31	LYS	4.5
37	YR	69	ASP	4.4
25	RA	34	C	4.4
14	QN	30	ALA	4.4
13	XM	100	GLY	4.4
21	XU	10	ARG	4.3
32	RI	8	PRO	4.3
28	YE	159	HIS	4.3
11	XK	127	LYS	4.3
25	YA	2189	U	4.2
54	Y8	54	GLU	4.2
55	Y9	17	ILE	4.2
11	QK	128	ALA	4.1
25	YA	1026	U	4.1
36	YQ	91	GLU	4.1
10	QJ	58	ASP	4.1
39	RT	106	SER	4.1
47	Y1	98	LEU	4.1
28	YE	19	ARG	4.1
25	YA	669	G	4.1
9	XI	119	ALA	4.1
44	RY	29	GLU	4.1
38	RS	20	ARG	4.1
54	R8	50	LEU	4.1
9	XI	12	GLU	4.0
16	QP	68	ASP	4.0
50	R4	69	LYS	4.0
4	XD	12	CYS	4.0
12	XL	28	LYS	4.0
25	RA	6	A	3.9
37	YR	1	MET	3.9
44	RY	46	LYS	3.9
44	YY	63	LYS	3.9
2	XB	160	ASP	3.9
35	RP	79	ARG	3.9
35	RP	109	GLY	3.9
9	QI	30	GLY	3.9
48	Y2	11	GLU	3.9
20	XT	23	ARG	3.9
53	Y7	1	MET	3.9
25	YA	2062	A	3.9

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Mol	Chain	Res	Type	RSRZ
45	RZ	84	GLU	3.8
9	QI	127	LYS	3.8
44	YY	2	ARG	3.8
5	XE	81	GLU	3.8
23	XX	23	A	3.8
33	YN	138	LEU	3.8
35	YP	61	ARG	3.8
1	XA	328	C	3.8
16	QP	54	GLU	3.8
35	RP	67	MET	3.8
27	YD	40	THR	3.8
32	RI	18	VAL	3.8
16	XP	65	GLN	3.7
7	QG	5	ARG	3.7
36	YQ	139	GLU	3.7
30	YG	80	PHE	3.7
54	Y8	48	PHE	3.7
10	QJ	65	LEU	3.7
36	RQ	89	ASN	3.7
4	QD	12	CYS	3.7
54	R8	48	PHE	3.7
39	RT	11	GLU	3.7
36	YQ	138	ASP	3.7
11	QK	127	LYS	3.7
22	XV	0	C	3.7
25	YA	2188	C	3.7
1	QA	973	G	3.7
9	QI	115	GLY	3.7
32	RI	15	VAL	3.7
1	XA	1182	G	3.6
28	YE	127	ASP	3.6
36	RQ	21	THR	3.6
40	RU	90	VAL	3.6
55	Y9	24	TYR	3.6
9	QI	75	ASP	3.6
12	XL	19	ARG	3.6
32	YI	117	GLU	3.6
55	Y9	35	ARG	3.6
8	QH	1	MET	3.6
9	QI	119	ALA	3.6
28	RE	63	LEU	3.6
5	QE	94	ALA	3.5

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Mol	Chain	Res	Type	RSRZ
9	QI	110	GLU	3.5
39	YT	109	GLU	3.5
36	RQ	88	GLY	3.5
36	YQ	88	GLY	3.5
11	QK	89	ALA	3.5
25	RA	2143	G	3.5
21	XU	15	ARG	3.5
4	QD	32	ALA	3.5
32	RI	16	GLY	3.5
9	XI	126	SER	3.5
1	XA	1531	A	3.5
28	RE	159	HIS	3.5
28	YE	187	ALA	3.4
38	RS	32	LEU	3.4
25	YA	2190	G	3.4
4	QD	26	CYS	3.4
45	RZ	68	PRO	3.4
4	XD	32	ALA	3.4
30	YG	164	GLU	3.4
10	QJ	46	ARG	3.4
22	QV	0	C	3.4
35	YP	16	ARG	3.4
55	R9	12	ASP	3.4
32	YI	11	ASN	3.4
54	R8	54	GLU	3.4
25	RA	2138	G	3.4
25	YA	2165	G	3.4
25	RA	2084	A	3.4
5	QE	99	GLY	3.3
21	QU	16	GLY	3.3
36	YQ	140	ALA	3.3
43	RX	41	ASN	3.3
35	RP	16	ARG	3.3
4	XD	80	GLU	3.3
27	YD	33	LEU	3.3
44	RY	79	CYS	3.3
47	R1	92	LYS	3.3
44	RY	22	GLY	3.3
36	RQ	91	GLU	3.3
54	Y8	65	GLU	3.3
16	XP	48	TRP	3.3
4	XD	30	LYS	3.3

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Mol	Chain	Res	Type	RSRZ
1	QA	1364	U	3.3
4	QD	209	ARG	3.3
4	QD	167	GLY	3.3
16	XP	69	THR	3.3
21	XU	26	LYS	3.3
38	RS	33	LYS	3.3
55	R9	23	VAL	3.3
36	RQ	7	MET	3.3
1	QA	934	C	3.3
31	RH	152	ARG	3.3
47	R1	95	LEU	3.3
36	YQ	21	THR	3.3
9	XI	110	GLU	3.3
40	YU	117	GLN	3.3
9	QI	117	HIS	3.3
21	QU	10	ARG	3.2
13	QM	10	PRO	3.2
16	XP	25	ARG	3.2
12	QL	128	ALA	3.2
28	YE	204	ALA	3.2
36	RQ	20	ALA	3.2
14	XN	14	PRO	3.2
31	RH	43	VAL	3.2
41	RV	36	PRO	3.2
55	Y9	15	LYS	3.2
20	XT	106	ALA	3.2
32	RI	1	MET	3.2
1	QA	631	G	3.2
48	Y2	70	GLN	3.2
44	YY	62	GLU	3.2
52	R6	5	VAL	3.2
1	QA	5	U	3.2
52	R6	42	TRP	3.2
51	R5	50	GLY	3.2
36	YQ	89	ASN	3.2
46	R0	68	GLU	3.2
1	XA	1453	G	3.2
8	QH	86	ILE	3.2
55	R9	26	ILE	3.2
44	RY	43	ASN	3.2
45	RZ	80	ARG	3.2
12	XL	21	LYS	3.2

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Mol	Chain	Res	Type	RSRZ
20	XT	21	LYS	3.2
38	YS	2	ALA	3.2
55	R9	25	VAL	3.2
12	XL	7	ILE	3.1
43	RX	60	ARG	3.1
45	RZ	163	LEU	3.1
1	QA	82	U	3.1
27	RD	169	GLU	3.1
32	YI	15	VAL	3.1
36	YQ	79	LEU	3.1
51	Y5	57	VAL	3.1
4	QD	73	ARG	3.1
10	QJ	5	ARG	3.1
12	QL	16	GLU	3.1
55	Y9	11	CYS	3.1
43	RX	65	ARG	3.1
20	XT	73	HIS	3.1
30	RG	34	LEU	3.1
25	YA	1177	A	3.1
1	QA	1397	C	3.1
30	RG	30	GLU	3.1
27	RD	38	LYS	3.1
47	R1	26	ARG	3.1
12	XL	14	GLY	3.1
55	R9	32	HIS	3.1
27	RD	30	GLU	3.1
33	RN	68	GLU	3.1
33	YN	68	GLU	3.1
36	RQ	6	ARG	3.1
12	QL	18	VAL	3.0
12	XL	91	LYS	3.0
55	R9	15	LYS	3.0
35	RP	15	ARG	3.0
7	QG	82	GLY	3.0
13	QM	100	GLY	3.0
30	YG	26	GLN	3.0
31	RH	115	VAL	3.0
36	RQ	136	ALA	3.0
35	YP	15	ARG	3.0
25	RA	2210	C	3.0
39	YT	106	SER	3.0
45	YZ	166	SER	3.0

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Mol	Chain	Res	Type	RSRZ
55	Y9	20	HIS	3.0
39	YT	1	MET	3.0
39	YT	115	ARG	3.0
47	Y1	95	LEU	3.0
55	R9	36	GLN	3.0
10	XJ	59	SER	3.0
35	YP	71	VAL	3.0
1	XA	110	C	3.0
20	XT	16	HIS	3.0
12	QL	64	TYR	3.0
38	RS	11	LYS	3.0
1	QA	1190	G	3.0
45	YZ	155	LEU	3.0
1	XA	1126	U	3.0
52	Y6	22	ALA	3.0
37	YR	72	ASP	3.0
42	YW	67	ASP	3.0
20	XT	34	LYS	2.9
30	RG	17	PRO	2.9
32	RI	12	LEU	2.9
36	YQ	19	GLY	2.9
13	XM	94	ARG	2.9
38	YS	20	ARG	2.9
1	XA	631	G	2.9
9	XI	114	TYR	2.9
51	Y5	51	TYR	2.9
9	XI	102	LEU	2.9
47	R1	98	LEU	2.9
8	XH	84	ARG	2.9
17	XQ	101	ARG	2.9
20	XT	25	ARG	2.9
42	RW	92	ARG	2.9
13	QM	106	ASN	2.9
30	YG	167	GLU	2.9
11	QK	129	SER	2.9
39	YT	112	ARG	2.9
20	XT	45	GLN	2.9
1	QA	1181	G	2.9
9	XI	106	ALA	2.9
50	Y4	36	CYS	2.9
3	XC	161	GLU	2.9
54	Y8	46	ARG	2.9

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Mol	Chain	Res	Type	RSRZ
36	RQ	12	GLN	2.9
28	RE	52	LEU	2.9
32	YI	27	ARG	2.9
9	XI	41	VAL	2.9
9	QI	43	ALA	2.9
31	YH	152	ARG	2.9
36	RQ	77	LYS	2.9
55	Y9	33	LYS	2.9
1	XA	1286	A	2.8
25	RA	1556	A	2.8
29	RF	60	SER	2.8
40	YU	90	VAL	2.8
25	RA	2211	U	2.8
23	QX	22	C	2.8
25	RA	2167	C	2.8
10	XJ	46	ARG	2.8
44	YY	50	ARG	2.8
3	QC	135	LYS	2.8
4	QD	51	PRO	2.8
9	QI	125	TYR	2.8
27	YD	30	GLU	2.8
35	YP	52	GLU	2.8
55	Y9	37	GLY	2.8
32	RI	86	THR	2.8
25	YA	1536	A	2.8
9	XI	128	ARG	2.8
12	QL	27	LEU	2.8
17	QQ	24	GLU	2.8
28	RE	78	LEU	2.8
36	YQ	81	VAL	2.8
47	R1	72	GLU	2.8
1	XA	5	U	2.8
32	RI	17	GLN	2.8
50	Y4	39	CYS	2.8
9	QI	105	ASP	2.8
33	RN	57	ALA	2.8
13	QM	97	PRO	2.8
31	YH	154	PRO	2.8
31	RH	169	VAL	2.8
4	QD	77	ASN	2.8
1	QA	1531	A	2.8
51	R5	2	ALA	2.8

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Mol	Chain	Res	Type	RSRZ
12	QL	28	LYS	2.8
4	QD	49	ARG	2.8
54	Y8	40	GLU	2.8
52	Y6	23	THR	2.8
55	Y9	22	ARG	2.8
50	R4	37	SER	2.8
4	QD	20	TYR	2.8
7	QG	81	GLY	2.8
36	RQ	115	MET	2.8
28	RE	121	ASN	2.8
37	YR	102	GLU	2.8
12	XL	23	LYS	2.8
44	YY	46	LYS	2.8
25	RA	638	U	2.8
14	QN	35	ARG	2.7
20	XT	17	ARG	2.7
12	XL	13	LYS	2.7
29	YF	207	GLY	2.7
39	YT	11	GLU	2.7
5	QE	24	ARG	2.7
2	QB	79	ASP	2.7
25	YA	12	U	2.7
36	RQ	83	MET	2.7
51	R5	57	VAL	2.7
14	QN	37	PHE	2.7
32	RI	10	GLU	2.7
52	R6	23	THR	2.7
1	XA	422	C	2.7
53	R7	49	ARG	2.7
2	QB	179	LYS	2.7
20	XT	68	LYS	2.7
9	QI	33	PHE	2.7
1	QA	1365	G	2.7
25	RA	1149	A	2.7
10	QJ	64	GLU	2.7
33	RN	115	ARG	2.7
45	RZ	81	ARG	2.7
37	YR	7	GLY	2.7
39	YT	25	GLY	2.7
42	YW	92	ARG	2.7
45	YZ	20	ARG	2.7
36	YQ	66	ILE	2.7

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Mol	Chain	Res	Type	RSRZ
44	YY	99	CYS	2.7
7	QG	28	ASN	2.7
12	QL	91	LYS	2.7
21	QU	26	LYS	2.7
25	RA	555	G	2.7
4	XD	209	ARG	2.7
55	Y9	18	ARG	2.7
41	YV	101	GLY	2.7
7	QG	35	LYS	2.7
20	QT	74	LYS	2.7
27	RD	26	LYS	2.7
36	RQ	11	LYS	2.7
35	YP	1	MET	2.7
10	QJ	47	PHE	2.7
32	RI	35	LEU	2.7
28	RE	7	VAL	2.6
12	XL	26	ALA	2.6
46	R0	71	ASP	2.6
12	XL	17	LYS	2.6
13	QM	122	LYS	2.6
21	XU	25	LYS	2.6
50	R4	27	THR	2.6
28	RE	163	GLU	2.6
4	XD	208	SER	2.6
25	RA	1105	G	2.6
25	YA	1630	G	2.6
25	YA	2805	G	2.6
32	RI	4	ILE	2.6
19	XS	76	PRO	2.6
9	XI	115	GLY	2.6
28	YE	200	GLU	2.6
48	R2	66	GLU	2.6
4	XD	31	CYS	2.6
10	XJ	5	ARG	2.6
20	XT	55	ILE	2.6
28	RE	79	ARG	2.6
40	RU	59	ARG	2.6
44	RY	76	CYS	2.6
37	RR	9	LYS	2.6
55	Y9	34	GLN	2.6
13	XM	6	GLY	2.6
21	QU	14	TRP	2.6

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Mol	Chain	Res	Type	RSRZ
47	R1	71	TYR	2.6
25	YA	2121	G	2.6
35	YP	136	GLU	2.6
32	RI	2	LYS	2.6
44	RY	63	LYS	2.6
20	QT	73	HIS	2.6
45	RZ	167	PRO	2.6
40	YU	96	ALA	2.6
40	YU	116	ALA	2.6
39	RT	1	MET	2.6
1	QA	975	A	2.6
32	RI	7	GLU	2.6
1	QA	1281	U	2.6
1	QA	1358	U	2.6
31	YH	169	VAL	2.6
33	YN	134	ARG	2.6
39	YT	111	ARG	2.6
4	QD	84	LYS	2.6
55	R9	13	LYS	2.6
28	RE	187	ALA	2.6
36	RQ	73	PRO	2.6
43	YX	92	LEU	2.6
14	XN	22	THR	2.6
25	RA	2187	G	2.6
25	RA	2228	G	2.6
13	QM	78	ILE	2.6
20	XT	29	LYS	2.6
25	YA	2402	C	2.6
55	Y9	2	LYS	2.6
27	YD	36	PRO	2.6
45	YZ	130	PRO	2.6
25	YA	614	U	2.6
14	QN	29	ARG	2.5
30	YG	137	GLU	2.5
35	YP	50	ARG	2.5
46	R0	44	ARG	2.5
49	Y3	55	ARG	2.5
3	QC	188	LEU	2.5
20	XT	52	ALA	2.5
25	RA	1221	G	2.5
12	QL	95	GLY	2.5
25	YA	277	C	2.5

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Mol	Chain	Res	Type	RSRZ
52	R6	47	THR	2.5
3	QC	167	TRP	2.5
5	QE	87	SER	2.5
55	Y9	7	VAL	2.5
1	XA	1257	U	2.5
16	XP	49	LEU	2.5
44	RY	14	LEU	2.5
17	XQ	33	GLY	2.5
16	XP	12	LYS	2.5
38	YS	11	LYS	2.5
3	QC	15	THR	2.5
46	Y0	3	HIS	2.5
29	YF	27	GLU	2.5
33	YN	62	VAL	2.5
33	RN	1	MET	2.5
1	XA	266	G	2.5
5	QE	86	ALA	2.5
48	Y2	72	ALA	2.5
30	YG	87	PRO	2.5
14	QN	38	GLY	2.5
51	Y5	3	LYS	2.5
55	R9	2	LYS	2.5
1	QA	1348	U	2.5
1	XA	1183	A	2.5
25	YA	2726	U	2.5
26	YB	1	U	2.5
5	QE	98	THR	2.5
10	QJ	60	ARG	2.5
17	QQ	101	ARG	2.5
17	XQ	91	ARG	2.5
8	XH	2	LEU	2.5
35	RP	27	HIS	2.5
41	YV	1	MET	2.5
55	R9	16	VAL	2.5
7	QG	86	GLN	2.5
45	RZ	25	PRO	2.5
16	QP	63	GLY	2.5
32	RI	34	GLY	2.5
44	RY	52	SER	2.5
5	QE	82	VAL	2.5
9	QI	26	VAL	2.5
38	RS	7	TYR	2.5

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Mol	Chain	Res	Type	RSRZ
1	XA	306	G	2.5
9	XI	127	LYS	2.5
23	QX	15	A	2.5
36	RQ	22	LYS	2.5
48	Y2	41	ILE	2.5
12	QL	5	PRO	2.5
19	QS	2	PRO	2.5
45	YZ	167	PRO	2.5
2	QB	99	GLY	2.5
19	XS	84	GLY	2.5
32	RI	116	LEU	2.5
45	RZ	183	LEU	2.5
53	R7	1	MET	2.5
5	QE	90	VAL	2.5
16	XP	21	VAL	2.5
8	QH	58	TYR	2.5
33	YN	38	HIS	2.4
35	YP	76	LYS	2.4
44	RY	81	LYS	2.4
39	YT	94	ALA	2.4
55	Y9	5	ALA	2.4
3	XC	30	ARG	2.4
20	XT	15	ARG	2.4
36	YQ	5	ARG	2.4
55	R9	30	PRO	2.4
3	QC	159	GLY	2.4
12	QL	63	GLY	2.4
16	QP	23	ASP	2.4
25	RA	2164	C	2.4
25	YA	34	C	2.4
25	YA	6	A	2.4
45	RZ	86	VAL	2.4
21	XU	21	TYR	2.4
36	RQ	18	LYS	2.4
17	XQ	86	GLU	2.4
39	RT	109	GLU	2.4
55	Y9	32	HIS	2.4
12	QL	129	ALA	2.4
27	RD	33	LEU	2.4
39	YT	6	LEU	2.4
36	RQ	133	ARG	2.4
36	YQ	12	GLN	2.4

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Mol	Chain	Res	Type	RSRZ
45	RZ	113	ALA	2.4
4	QD	33	MET	2.4
27	RD	235	GLY	2.4
36	YQ	62	GLY	2.4
37	YR	106	GLY	2.4
47	Y1	17	SER	2.4
28	YE	7	VAL	2.4
9	QI	62	TYR	2.4
10	XJ	64	GLU	2.4
13	QM	104	ARG	2.4
25	RA	1555	C	2.4
25	RA	2186	C	2.4
27	YD	273	ARG	2.4
20	XT	75	ASN	2.4
33	RN	90	MET	2.4
12	QL	72	GLY	2.4
25	YA	2211	G	2.4
27	YD	26	LYS	2.4
31	RH	123	PHE	2.4
32	YI	6	LEU	2.4
9	XI	66	ARG	2.4
18	XR	42	ARG	2.4
36	RQ	10	ARG	2.4
42	RW	74	ALA	2.4
48	R2	46	GLN	2.4
53	Y7	45	ALA	2.4
42	YW	60	ASN	2.4
50	R4	49	PHE	2.4
1	QA	1240	U	2.4
31	YH	171	LEU	2.4
1	QA	88	C	2.4
25	YA	2179	C	2.4
1	QA	974	A	2.4
9	QI	111	ARG	2.4
9	XI	48	GLU	2.4
16	QP	8	ARG	2.4
32	YI	41	GLU	2.4
43	YX	65	ARG	2.4
50	R4	68	ARG	2.4
54	R8	65	GLU	2.4
32	RI	83	ALA	2.4
46	R0	70	GLN	2.4

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Mol	Chain	Res	Type	RSRZ
1	QA	703	G	2.4
36	RQ	104	PHE	2.4
9	QI	64	THR	2.4
51	Y5	60	VAL	2.4
3	QC	190	ARG	2.4
31	YH	170	ARG	2.4
27	RD	28	GLU	2.4
38	RS	64	GLU	2.4
55	R9	5	ALA	2.4
33	RN	8	GLN	2.3
35	YP	64	LYS	2.4
47	Y1	96	LYS	2.4
1	XA	1281	U	2.3
4	QD	29	PRO	2.3
12	XL	48	PRO	2.3
30	RG	80	PHE	2.3
30	YG	2	PRO	2.3
55	R9	37	GLY	2.3
1	QA	1183	A	2.3
1	QA	1357	A	2.3
30	RG	82	LEU	2.3
43	YX	3	THR	2.3
55	Y9	25	VAL	2.3
4	XD	76	ARG	2.3
27	YD	176	ARG	2.3
36	YQ	10	ARG	2.3
39	YT	51	ARG	2.3
9	XI	125	TYR	2.3
34	YO	81	ASP	2.3
40	YU	97	ASP	2.3
47	R1	91	LYS	2.3
54	R8	39	LYS	2.3
13	QM	32	GLU	2.3
16	QP	34	GLU	2.3
29	YF	56	GLU	2.3
31	YH	40	GLU	2.3
36	RQ	107	ALA	2.3
3	QC	175	LEU	2.3
9	QI	47	LEU	2.3
20	XT	69	GLY	2.3
27	RD	64	ILE	2.3
32	YI	128	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
36	RQ	79	LEU	2.3
45	YZ	144	LEU	2.3
39	RT	104	ASN	2.3
9	XI	44	VAL	2.3
14	QN	22	THR	2.3
14	QN	25	VAL	2.3
52	Y6	47	THR	2.3
14	QN	15	LYS	2.3
39	YT	8	LYS	2.3
20	XT	12	ALA	2.3
2	QB	128	GLU	2.3
5	XE	83	GLU	2.3
14	QN	46	GLU	2.3
16	XP	68	ASP	2.3
25	RA	1164	C	2.3
25	RA	2768	C	2.3
40	YU	89	GLU	2.3
49	Y3	18	ASP	2.3
54	R8	35	GLN	2.3
27	RD	37	LEU	2.3
10	XJ	10	GLY	2.3
12	QL	31	PRO	2.3
31	YH	39	PRO	2.3
33	RN	130	HIS	2.3
47	Y1	70	VAL	2.3
16	QP	69	THR	2.3
4	QD	131	ARG	2.3
20	XT	74	LYS	2.3
44	YY	76	CYS	2.3
4	XD	48	ALA	2.3
51	Y5	52	TYR	2.3
45	RZ	91	LEU	2.3
4	QD	15	GLU	2.3
41	YV	53	GLU	2.3
1	QA	1450	U	2.3
17	XQ	97	SER	2.3
46	R0	3	HIS	2.3
51	Y5	45	VAL	2.3
4	XD	73	ARG	2.3
14	QN	3	ARG	2.3
23	QX	23	A	2.3
25	YA	1379	A	2.3

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Mol	Chain	Res	Type	RSRZ
29	RF	62	ARG	2.3
36	YQ	1	MET	2.3
40	YU	15	LYS	2.3
45	RZ	79	ARG	2.3
51	Y5	46	CYS	2.3
4	QD	16	GLY	2.3
5	QE	85	GLY	2.3
36	YQ	31	ASP	2.3
19	XS	11	VAL	2.3
46	R0	76	GLY	2.3
3	QC	3	ASN	2.3
9	XI	7	THR	2.3
10	XJ	68	HIS	2.3
33	YN	29	LYS	2.3
28	YE	199	ARG	2.3
31	RH	106	THR	2.3
48	Y2	71	ASN	2.3
25	YA	11	G	2.3
25	YA	615	G	2.3
25	YA	2112	G	2.3
47	Y1	97	LEU	2.3
20	QT	12	ALA	2.3
32	RI	146	ALA	2.3
35	YP	70	GLN	2.3
1	XA	1503	A	2.3
8	XH	136	GLU	2.3
12	XL	62	SER	2.3
44	YY	64	GLU	2.3
49	Y3	38	GLU	2.3
54	R8	40	GLU	2.3
1	QA	1226	C	2.3
9	QI	28	VAL	2.3
13	XM	27	LYS	2.3
27	RD	35	LYS	2.3
31	YH	5	GLY	2.3
33	RN	9	VAL	2.3
55	R9	21	GLY	2.3
30	RG	91	ARG	2.3
43	RX	3	THR	2.2
52	Y6	26	ASN	2.2
55	Y9	29	ASN	2.2
20	XT	20	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
31	RH	171	LEU	2.2
14	XN	59	ALA	2.2
46	Y0	2	ALA	2.2
9	QI	114	TYR	2.2
7	XG	35	LYS	2.2
16	XP	43	LYS	2.2
4	XD	163	GLU	2.2
10	XJ	61	GLU	2.2
55	Y9	14	CYS	2.2
13	XM	74	VAL	2.2
28	RE	56	PRO	2.2
34	RO	1	MET	2.2
1	QA	1235	U	2.2
41	YV	36	PRO	2.2
54	Y8	63	PRO	2.2
21	QU	13	ILE	2.2
25	RA	2180	A	2.2
25	YA	529	A	2.2
45	RZ	21	ALA	2.2
13	XM	31	LYS	2.2
9	QI	71	SER	2.2
8	XH	1	MET	2.2
36	RQ	81	VAL	2.2
36	YQ	6	ARG	2.2
38	RS	85	VAL	2.2
39	RT	125	ARG	2.2
40	YU	92	ARG	2.2
45	RZ	181	GLU	2.2
9	QI	7	THR	2.2
38	YS	41	ASP	2.2
52	Y6	46	HIS	2.2
2	QB	188	ALA	2.2
12	XL	129	ALA	2.2
48	R2	49	LYS	2.2
20	XT	19	SER	2.2
38	YS	27	SER	2.2
41	RV	81	TYR	2.2
55	Y9	1	MET	2.2
1	QA	630	G	2.2
25	RA	2181	G	2.2
25	RA	2331	G	2.2
2	QB	165	VAL	2.2

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Mol	Chain	Res	Type	RSRZ
27	RD	34	VAL	2.2
31	YH	6	ARG	2.2
52	Y6	5	VAL	2.2
2	QB	38	GLY	2.2
54	R8	41	ILE	2.2
50	Y4	18	CYS	2.2
1	QA	1366	C	2.2
1	XA	131	C	2.2
9	XI	118	LYS	2.2
39	YT	107	ASP	2.2
45	RZ	78	LYS	2.2
16	QP	65	GLN	2.2
2	XB	130	ARG	2.2
5	QE	107	ARG	2.2
12	QL	19	ARG	2.2
20	XT	80	ARG	2.2
37	RR	2	ARG	2.2
4	QD	2	GLY	2.2
8	QH	55	GLY	2.2
29	RF	145	GLU	2.2
30	YG	54	GLU	2.2
36	RQ	15	GLY	2.2
28	YE	77	ILE	2.2
14	QN	13	THR	2.2
25	RA	1186	U	2.2
25	RA	1466	U	2.2
27	RD	40	THR	2.2
29	YF	48	THR	2.2
35	RP	108	LYS	2.2
27	YD	44	ASN	2.2
10	XJ	58	ASP	2.2
1	QA	1503	A	2.2
1	XA	108	G	2.2
25	RA	1725	G	2.2
25	RA	1878	A	2.2
25	RA	2170	G	2.2
25	YA	275	G	2.2
31	YH	64	LEU	2.2
21	QU	15	ARG	2.2
14	XN	34	TYR	2.2
28	RE	72	VAL	2.2
36	RQ	32	TYR	2.2

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Mol	Chain	Res	Type	RSRZ
41	YV	58	VAL	2.2
1	QA	980	C	2.2
1	QA	1367	C	2.2
14	XN	8	GLU	2.2
25	YA	2175	C	2.2
31	YH	46	GLU	2.2
43	RX	94	GLY	2.2
52	R6	24	GLU	2.2
36	RQ	8	LYS	2.2
36	YQ	83	MET	2.2
44	YY	92	ASN	2.2
19	QS	5	LEU	2.2
47	R1	77	ALA	2.1
48	R2	24	LEU	2.2
46	Y0	17	GLN	2.1
53	R7	36	GLN	2.1
7	QG	21	VAL	2.1
8	XH	46	LYS	2.1
20	QT	93	GLU	2.1
20	XT	65	LYS	2.1
36	YQ	24	GLY	2.1
44	YY	66	PRO	2.1
27	YD	50	THR	2.1
27	RD	2	ALA	2.1
31	YH	147	ASN	2.1
9	QI	107	ARG	2.1
27	RD	262	ARG	2.1
50	R4	71	ARG	2.1
1	QA	856	C	2.1
1	QA	972	C	2.1
1	QA	1234	C	2.1
4	XD	83	SER	2.1
25	RA	1429	C	2.1
26	RB	11	C	2.1
8	QH	4	ASP	2.1
55	R9	27	CYS	2.1
16	QP	58	TYR	2.1
42	YW	113	LYS	2.1
44	RY	55	TYR	2.1
4	XD	130	GLY	2.1
35	YP	118	GLY	2.1
45	YZ	110	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
46	R0	28	GLY	2.1
3	QC	166	GLU	2.1
3	XC	166	GLU	2.1
33	RN	10	GLU	2.1
42	YW	31	GLU	2.1
1	XA	1196	U	2.1
25	YA	1175	U	2.1
25	YA	1396	U	2.1
47	R1	85	LEU	2.1
3	XC	3	ASN	2.1
12	QL	34	ARG	2.1
39	RT	112	ARG	2.1
45	YZ	113	ALA	2.1
52	R6	18	ARG	2.1
47	Y1	2	SER	2.1
45	YZ	120	ILE	2.1
4	XD	22	LYS	2.1
8	QH	97	VAL	2.1
9	QI	14	VAL	2.1
13	XM	7	VAL	2.1
30	RG	74	LYS	2.1
45	RZ	165	VAL	2.1
40	YU	56	ASP	2.1
48	R2	8	LYS	2.1
52	Y6	8	LYS	2.1
25	RA	1222	A	2.1
25	YA	2310	A	2.1
28	YE	130	GLY	2.1
3	XC	35	GLU	2.1
1	QA	1233	G	2.1
1	XA	81	G	2.1
1	XA	1511	G	2.1
24	QY	43	G	2.1
25	RA	99	G	2.1
25	YA	2793	G	2.1
5	QE	27	ARG	2.1
14	XN	3	ARG	2.1
31	YH	3	ARG	2.1
39	RT	3	ARG	2.1
4	QD	152	SER	2.1
20	XT	14	LYS	2.1
48	Y2	15	LYS	2.1

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Mol	Chain	Res	Type	RSRZ
8	QH	106	GLY	2.1
8	XH	119	LEU	2.1
27	YD	236	GLY	2.1
32	RI	30	LEU	2.1
47	R1	79	GLY	2.1
52	Y6	42	TRP	2.1
36	YQ	7	MET	2.1
44	YY	79	CYS	2.1
4	QD	115	ARG	2.1
14	QN	12	ARG	2.1
28	YE	14	ILE	2.1
33	RN	124	ALA	2.1
42	YW	27	LYS	2.1
54	Y8	26	LYS	2.1
29	RF	6	VAL	2.1
28	YE	63	LEU	2.1
54	Y8	61	LEU	2.1
1	QA	1322	C	2.1
1	QA	1344	C	2.1
10	QJ	62	HIS	2.1
1	QA	945	G	2.1
4	XD	2	GLY	2.1
25	RA	837	C	2.1
25	YA	2108	C	2.1
54	R8	31	HIS	2.1
16	QP	48	TRP	2.1
25	RA	2142	G	2.1
32	RI	110	ASP	2.1
36	RQ	62	GLY	2.1
2	QB	12	GLU	2.1
13	QM	103	THR	2.1
33	YN	88	GLU	2.1
38	YS	64	GLU	2.1
42	RW	30	GLU	2.1
8	QH	84	ARG	2.1
11	QK	126	ARG	2.1
21	QU	6	ARG	2.1
13	QM	120	LYS	2.1
16	XP	27	LYS	2.1
32	RI	36	ALA	2.1
37	YR	15	SER	2.1
32	RI	9	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
25	YA	945	A	2.0
25	YA	1384	A	2.0
25	YA	2693	A	2.0
35	RP	24	GLY	2.0
6	QF	74	ASP	2.0
9	QI	42	ARG	2.0
21	QU	5	ASP	2.0
33	YN	50	ASP	2.0
45	RZ	77	ASP	2.0
20	XT	58	LYS	2.0
27	YD	204	ILE	2.0
36	RQ	139	GLU	2.0
54	Y8	5	LYS	2.0
4	QD	164	ALA	2.0
9	XI	46	ALA	2.0
14	XN	60	SER	2.0
32	RI	115	ALA	2.0
11	QK	99	GLN	2.0
45	YZ	117	LEU	2.0
54	R8	61	LEU	2.0
37	YR	73	VAL	2.0
1	QA	1331	G	2.0
1	QA	1511	G	2.0
25	RA	1952	G	2.0
25	RA	156	U	2.0
12	XL	29	GLY	2.0
17	QQ	80	GLY	2.0
30	YG	129	GLY	2.0
54	R8	9	GLY	2.0
14	QN	34	TYR	2.0
14	XN	57	ARG	2.0
44	YY	82	PRO	2.0
54	Y8	57	ARG	2.0
14	XN	13	THR	2.0
14	XN	61	TRP	2.0
8	XH	52	ASP	2.0
20	XT	60	GLU	2.0
48	R2	31	GLU	2.0
12	XL	128	ALA	2.0
31	RH	33	LEU	2.0
44	RY	78	ALA	2.0
47	R1	80	LEU	2.0

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Mol	Chain	Res	Type	RSRZ
4	QD	198	VAL	2.0
10	QJ	44	VAL	2.0
26	RB	53	A	2.0
41	YV	46	VAL	2.0
44	YY	5	MET	2.0
11	QK	119	CYS	2.0
32	RI	11	ASN	2.0
14	QN	4	LYS	2.0
20	QT	21	LYS	2.0
27	YD	5	LYS	2.0
42	YW	91	GLY	2.0
44	YY	103	GLY	2.0
47	R1	28	GLY	2.0
10	XJ	92	THR	2.0
12	XL	6	THR	2.0
25	YA	654(B)	C	2.0
25	YA	889	C	2.0
25	YA	2804	C	2.0
26	RB	108	C	2.0
32	YI	38	LEU	2.0
38	RS	103	GLU	2.0
45	YZ	41	LEU	2.0
47	R1	75	GLU	2.0
20	QT	70	SER	2.0
42	RW	13	SER	2.0
35	RP	19	VAL	2.0
46	Y0	30	VAL	2.0

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

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	PPU	Z5	101	37/38	0.93	0.13	45,47,48,48	0
56	PPU	Z6	101	37/38	0.94	0.12	36,37,38,38	0

6.3 Carbohydrates (i)

There are no oligosaccharides in this entry.

6.4 Ligands (i)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3193	1/1	0.26	0.23	56,56,56,56	0
57	MG	RA	3289	1/1	0.34	0.29	26,26,26,26	0
57	MG	RA	3059	1/1	0.37	0.22	10,10,10,10	0
57	MG	YA	3194	1/1	0.39	0.41	60,60,60,60	0
57	MG	XX	101	1/1	0.41	0.28	57,57,57,57	0
57	MG	YA	3175	1/1	0.44	0.27	63,63,63,63	0
57	MG	XA	1632	1/1	0.48	0.14	58,58,58,58	0
57	MG	QA	1656	1/1	0.49	0.23	63,63,63,63	0
57	MG	QA	1624	1/1	0.49	0.18	77,77,77,77	0
57	MG	YA	3146	1/1	0.51	0.26	98,98,98,98	0
57	MG	XA	1627	1/1	0.51	0.22	98,98,98,98	0
57	MG	RA	3277	1/1	0.52	0.26	59,59,59,59	0
57	MG	YA	3339	1/1	0.52	0.31	78,78,78,78	0
57	MG	YP	201	1/1	0.53	0.23	66,66,66,66	0
57	MG	XA	1659	1/1	0.57	0.22	105,105,105,105	0
57	MG	XA	1686	1/1	0.58	0.30	72,72,72,72	0
57	MG	YA	3153	1/1	0.59	0.23	52,52,52,52	0
57	MG	QA	1669	1/1	0.60	0.15	59,59,59,59	0
57	MG	XA	1705	1/1	0.60	0.23	52,52,52,52	0
57	MG	YA	3158	1/1	0.60	0.30	76,76,76,76	0
57	MG	YE	302	1/1	0.60	0.26	49,49,49,49	0
57	MG	QV	101	1/1	0.60	0.19	50,50,50,50	0
57	MG	YA	3274	1/1	0.61	0.35	60,60,60,60	0
57	MG	QA	1617	1/1	0.61	0.28	38,38,38,38	0
57	MG	QA	1622	1/1	0.63	0.18	70,70,70,70	0
57	MG	YA	3196	1/1	0.63	0.16	90,90,90,90	0
57	MG	YA	3291	1/1	0.64	0.18	71,71,71,71	0
57	MG	YA	3176	1/1	0.64	0.16	89,89,89,89	0
57	MG	RA	3202	1/1	0.66	0.22	55,55,55,55	0
57	MG	RA	3154	1/1	0.67	0.16	26,26,26,26	0
57	MG	YA	3294	1/1	0.67	0.21	62,62,62,62	0
57	MG	YA	3333	1/1	0.67	0.30	69,69,69,69	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3243	1/1	0.67	0.23	84,84,84,84	0
57	MG	RA	3256	1/1	0.67	0.58	78,78,78,78	0
57	MG	RA	3160	1/1	0.67	0.21	82,82,82,82	0
57	MG	YA	3082	1/1	0.68	0.28	51,51,51,51	0
57	MG	YA	3296	1/1	0.68	0.19	48,48,48,48	0
57	MG	YA	3298	1/1	0.68	0.19	55,55,55,55	0
57	MG	YA	3117	1/1	0.68	0.32	49,49,49,49	0
57	MG	YA	3206	1/1	0.68	0.23	70,70,70,70	0
57	MG	XA	1675	1/1	0.68	0.17	59,59,59,59	0
57	MG	QA	1648	1/1	0.68	0.19	71,71,71,71	0
57	MG	XA	1635	1/1	0.69	0.27	58,58,58,58	0
57	MG	YA	3182	1/1	0.69	0.12	62,62,62,62	0
57	MG	QA	1613	1/1	0.69	0.22	40,40,40,40	0
57	MG	RA	3203	1/1	0.69	0.20	70,70,70,70	0
57	MG	RA	3209	1/1	0.69	0.20	59,59,59,59	0
57	MG	RA	3009	1/1	0.70	0.21	52,52,52,52	0
57	MG	YA	3112	1/1	0.70	0.24	44,44,44,44	0
57	MG	YQ	201	1/1	0.70	0.23	61,61,61,61	0
57	MG	RA	3102	1/1	0.71	0.14	38,38,38,38	0
57	MG	RA	3201	1/1	0.71	0.25	65,65,65,65	0
57	MG	XA	1677	1/1	0.71	0.14	81,81,81,81	0
57	MG	QA	1639	1/1	0.71	0.19	67,67,67,67	0
57	MG	YA	3320	1/1	0.71	0.22	63,63,63,63	0
57	MG	YA	3086	1/1	0.72	0.32	51,51,51,51	0
57	MG	XA	1684	1/1	0.72	0.26	56,56,56,56	0
57	MG	YA	3338	1/1	0.73	0.14	89,89,89,89	0
57	MG	XA	1694	1/1	0.73	0.21	69,69,69,69	0
57	MG	QA	1604	1/1	0.73	0.26	47,47,47,47	0
57	MG	RA	3189	1/1	0.73	0.23	58,58,58,58	0
57	MG	YP	202	1/1	0.73	0.15	52,52,52,52	0
57	MG	QA	1663	1/1	0.73	0.18	55,55,55,55	0
57	MG	YA	3137	1/1	0.74	0.30	51,51,51,51	0
57	MG	YA	3006	1/1	0.74	0.24	22,22,22,22	0
57	MG	YA	3353	1/1	0.74	0.24	66,66,66,66	0
57	MG	XA	1648	1/1	0.74	0.20	59,59,59,59	0
57	MG	XA	1695	1/1	0.74	0.17	78,78,78,78	0
57	MG	QA	1635	1/1	0.74	0.19	58,58,58,58	0
57	MG	RA	3171	1/1	0.74	0.14	57,57,57,57	0
57	MG	QA	1676	1/1	0.75	0.18	63,63,63,63	0
57	MG	RA	3286	1/1	0.75	0.34	57,57,57,57	0
57	MG	QM	201	1/1	0.75	0.14	104,104,104,104	0
57	MG	RA	3062	1/1	0.75	0.11	61,61,61,61	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3183	1/1	0.75	0.17	47,47,47,47	0
57	MG	YA	3189	1/1	0.75	0.36	51,51,51,51	0
57	MG	RA	3068	1/1	0.75	0.14	47,47,47,47	0
57	MG	QA	1665	1/1	0.75	0.19	55,55,55,55	0
57	MG	YU	201	1/1	0.75	0.25	62,62,62,62	0
57	MG	QA	1658	1/1	0.76	0.25	62,62,62,62	0
57	MG	R5	101	1/1	0.76	0.53	162,162,162,162	0
57	MG	YA	3204	1/1	0.76	0.17	75,75,75,75	0
57	MG	XA	1680	1/1	0.76	0.17	65,65,65,65	0
57	MG	QA	1666	1/1	0.76	0.14	50,50,50,50	0
57	MG	RA	3185	1/1	0.76	0.29	60,60,60,60	0
57	MG	RA	3117	1/1	0.76	0.12	65,65,65,65	0
57	MG	RA	3144	1/1	0.76	0.27	60,60,60,60	0
57	MG	QA	1626	1/1	0.76	0.15	65,65,65,65	0
57	MG	YA	3305	1/1	0.76	0.25	53,53,53,53	0
57	MG	YA	3167	1/1	0.77	0.22	43,43,43,43	0
57	MG	YA	3342	1/1	0.77	0.15	56,56,56,56	0
57	MG	QA	1673	1/1	0.77	0.22	63,63,63,63	0
57	MG	QA	1645	1/1	0.77	0.15	73,73,73,73	0
57	MG	YA	3181	1/1	0.77	0.14	52,52,52,52	0
57	MG	QA	1641	1/1	0.77	0.15	59,59,59,59	0
57	MG	XA	1628	1/1	0.77	0.18	36,36,36,36	0
57	MG	XF	201	1/1	0.77	0.15	65,65,65,65	0
57	MG	YA	3308	1/1	0.78	0.13	72,72,72,72	0
57	MG	RA	3215	1/1	0.78	0.14	33,33,33,33	0
57	MG	YA	3166	1/1	0.78	0.16	51,51,51,51	0
57	MG	RA	3072	1/1	0.78	0.25	52,52,52,52	0
57	MG	RA	3132	1/1	0.78	0.13	52,52,52,52	0
57	MG	XA	1697	1/1	0.78	0.20	47,47,47,47	0
57	MG	YA	3283	1/1	0.78	0.19	64,64,64,64	0
57	MG	YE	301	1/1	0.78	0.20	28,28,28,28	0
57	MG	RA	3258	1/1	0.78	0.23	48,48,48,48	0
57	MG	YA	3133	1/1	0.78	0.13	71,71,71,71	0
57	MG	XA	1708	1/1	0.78	0.21	33,33,33,33	0
57	MG	RA	3205	1/1	0.78	0.18	59,59,59,59	0
57	MG	RA	3044	1/1	0.78	0.24	65,65,65,65	0
57	MG	YY	201	1/1	0.78	0.12	45,45,45,45	0
57	MG	RA	3210	1/1	0.79	0.20	68,68,68,68	0
57	MG	YA	3135	1/1	0.79	0.12	43,43,43,43	0
57	MG	YA	3240	1/1	0.79	0.34	43,43,43,43	0
57	MG	YA	3024	1/1	0.79	0.25	28,28,28,28	0
57	MG	YA	3277	1/1	0.79	0.29	80,80,80,80	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	XA	1612	1/1	0.79	0.25	68,68,68,68	0
57	MG	RA	3135	1/1	0.79	0.19	64,64,64,64	0
57	MG	RA	3130	1/1	0.79	0.34	59,59,59,59	0
57	MG	YA	3295	1/1	0.79	0.18	47,47,47,47	0
57	MG	YA	3162	1/1	0.79	0.08	70,70,70,70	0
57	MG	QA	1634	1/1	0.79	0.24	58,58,58,58	0
57	MG	YA	3127	1/1	0.79	0.14	54,54,54,54	0
57	MG	YA	3198	1/1	0.79	0.18	62,62,62,62	0
57	MG	RA	3075	1/1	0.80	0.11	58,58,58,58	0
57	MG	YA	3159	1/1	0.80	0.13	44,44,44,44	0
57	MG	YA	3073	1/1	0.80	0.35	38,38,38,38	0
57	MG	RA	3176	1/1	0.80	0.10	28,28,28,28	0
57	MG	YA	3210	1/1	0.80	0.20	40,40,40,40	0
57	MG	YA	3214	1/1	0.80	0.24	89,89,89,89	0
57	MG	XA	1692	1/1	0.80	0.20	58,58,58,58	0
57	MG	RA	3112	1/1	0.80	0.15	58,58,58,58	0
57	MG	RA	3138	1/1	0.80	0.19	61,61,61,61	0
57	MG	RA	3281	1/1	0.80	0.14	53,53,53,53	0
57	MG	RA	3190	1/1	0.80	0.20	69,69,69,69	0
57	MG	RA	3163	1/1	0.80	0.23	27,27,27,27	0
57	MG	RA	3299	1/1	0.80	0.20	53,53,53,53	0
57	MG	RB	205	1/1	0.80	0.15	61,61,61,61	0
57	MG	RA	3218	1/1	0.80	0.14	48,48,48,48	0
57	MG	RA	3226	1/1	0.81	0.28	60,60,60,60	0
57	MG	YA	3315	1/1	0.81	0.24	50,50,50,50	0
57	MG	YA	3100	1/1	0.81	0.18	59,59,59,59	0
57	MG	QA	1627	1/1	0.81	0.13	69,69,69,69	0
57	MG	XA	1638	1/1	0.81	0.19	39,39,39,39	0
57	MG	YA	3118	1/1	0.81	0.31	58,58,58,58	0
57	MG	RA	3314	1/1	0.81	0.25	59,59,59,59	0
57	MG	RA	3315	1/1	0.81	0.10	67,67,67,67	0
57	MG	RA	3118	1/1	0.81	0.23	62,62,62,62	0
57	MG	QX	101	1/1	0.81	0.20	66,66,66,66	0
57	MG	RA	3153	1/1	0.81	0.18	34,34,34,34	0
57	MG	XA	1626	1/1	0.81	0.12	31,31,31,31	0
57	MG	RA	3001	1/1	0.81	0.16	27,27,27,27	0
57	MG	RA	3220	1/1	0.81	0.34	75,75,75,75	0
57	MG	YA	3199	1/1	0.81	0.12	55,55,55,55	0
57	MG	QA	1677	1/1	0.82	0.15	29,29,29,29	0
57	MG	YA	3065	1/1	0.82	0.14	55,55,55,55	0
57	MG	RA	3187	1/1	0.82	0.19	68,68,68,68	0
57	MG	RA	3283	1/1	0.82	0.21	65,65,65,65	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3229	1/1	0.82	0.17	37,37,37,37	0
57	MG	RA	3113	1/1	0.82	0.19	27,27,27,27	0
57	MG	RA	3298	1/1	0.82	0.17	53,53,53,53	0
57	MG	YA	3335	1/1	0.82	0.28	59,59,59,59	0
57	MG	YA	3170	1/1	0.82	0.16	54,54,54,54	0
57	MG	YA	3216	1/1	0.82	0.10	40,40,40,40	0
57	MG	YA	3222	1/1	0.82	0.16	60,60,60,60	0
57	MG	YA	3344	1/1	0.82	0.18	55,55,55,55	0
57	MG	QF	201	1/1	0.82	0.15	57,57,57,57	0
57	MG	YB	201	1/1	0.82	0.28	46,46,46,46	0
57	MG	YA	3262	1/1	0.82	0.20	40,40,40,40	0
57	MG	RA	3303	1/1	0.82	0.34	51,51,51,51	0
57	MG	YA	3125	1/1	0.82	0.31	54,54,54,54	0
57	MG	RA	3219	1/1	0.82	0.17	58,58,58,58	0
57	MG	RA	3266	1/1	0.82	0.34	53,53,53,53	0
57	MG	RA	3269	1/1	0.82	0.15	67,67,67,67	0
57	MG	R0	101	1/1	0.82	0.10	14,14,14,14	0
57	MG	XA	1631	1/1	0.83	0.26	63,63,63,63	0
57	MG	YA	3205	1/1	0.83	0.20	73,73,73,73	0
57	MG	QA	1633	1/1	0.83	0.29	52,52,52,52	0
57	MG	YA	3319	1/1	0.83	0.23	45,45,45,45	0
57	MG	QA	1672	1/1	0.83	0.23	41,41,41,41	0
57	MG	YA	3329	1/1	0.83	0.30	56,56,56,56	0
57	MG	YA	3330	1/1	0.83	0.21	45,45,45,45	0
57	MG	RA	3270	1/1	0.83	0.23	41,41,41,41	0
57	MG	RA	3274	1/1	0.83	0.27	46,46,46,46	0
57	MG	XA	1653	1/1	0.83	0.09	42,42,42,42	0
57	MG	YA	3179	1/1	0.83	0.15	50,50,50,50	0
57	MG	YA	3130	1/1	0.83	0.15	42,42,42,42	0
57	MG	RA	3011	1/1	0.83	0.15	46,46,46,46	0
57	MG	RA	3191	1/1	0.83	0.11	49,49,49,49	0
57	MG	RA	3238	1/1	0.83	0.18	57,57,57,57	0
57	MG	YD	301	1/1	0.83	0.21	19,19,19,19	0
57	MG	RA	3285	1/1	0.83	0.22	58,58,58,58	0
57	MG	RA	3211	1/1	0.83	0.24	62,62,62,62	0
57	MG	YA	3155	1/1	0.83	0.29	37,37,37,37	0
57	MG	RA	3131	1/1	0.83	0.23	21,21,21,21	0
57	MG	QA	1605	1/1	0.83	0.26	30,30,30,30	0
57	MG	YA	3300	1/1	0.83	0.17	45,45,45,45	0
57	MG	YA	3302	1/1	0.83	0.28	53,53,53,53	0
57	MG	RA	3170	1/1	0.84	0.12	35,35,35,35	0
57	MG	YA	3178	1/1	0.84	0.15	56,56,56,56	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3008	1/1	0.84	0.53	33,33,33,33	0
57	MG	YA	3331	1/1	0.84	0.24	51,51,51,51	0
57	MG	YA	3180	1/1	0.84	0.14	52,52,52,52	0
57	MG	RE	301	1/1	0.84	0.24	24,24,24,24	0
57	MG	YA	3025	1/1	0.84	0.39	23,23,23,23	0
57	MG	YA	3053	1/1	0.84	0.16	22,22,22,22	0
57	MG	YA	3064	1/1	0.84	0.10	25,25,25,25	0
57	MG	YA	3292	1/1	0.84	0.45	74,74,74,74	0
57	MG	YA	3148	1/1	0.84	0.15	39,39,39,39	0
57	MG	RA	3213	1/1	0.84	0.22	57,57,57,57	0
57	MG	RA	3214	1/1	0.84	0.13	46,46,46,46	0
57	MG	XA	1646	1/1	0.84	0.08	72,72,72,72	0
57	MG	RA	3010	1/1	0.84	0.13	39,39,39,39	0
57	MG	XA	1619	1/1	0.84	0.28	40,40,40,40	0
57	MG	XA	1655	1/1	0.84	0.28	53,53,53,53	0
57	MG	QA	1601	1/1	0.84	0.11	31,31,31,31	0
57	MG	RA	3181	1/1	0.84	0.23	29,29,29,29	0
57	MG	RA	3027	1/1	0.84	0.33	27,27,27,27	0
57	MG	XA	1698	1/1	0.85	0.32	76,76,76,76	0
57	MG	RA	3254	1/1	0.85	0.11	27,27,27,27	0
57	MG	YA	3203	1/1	0.85	0.36	51,51,51,51	0
57	MG	YA	3109	1/1	0.85	0.14	42,42,42,42	0
57	MG	RA	3149	1/1	0.85	0.10	41,41,41,41	0
57	MG	YA	3168	1/1	0.85	0.27	25,25,25,25	0
57	MG	YA	3208	1/1	0.85	0.26	49,49,49,49	0
57	MG	QA	1623	1/1	0.85	0.14	54,54,54,54	0
57	MG	QA	1646	1/1	0.85	0.12	61,61,61,61	0
57	MG	YA	3002	1/1	0.85	0.12	22,22,22,22	0
57	MG	YA	3219	1/1	0.85	0.38	83,83,83,83	0
57	MG	QA	1621	1/1	0.85	0.18	61,61,61,61	0
57	MG	YA	3334	1/1	0.85	0.16	67,67,67,67	0
57	MG	YA	3225	1/1	0.85	0.11	56,56,56,56	0
57	MG	YA	3337	1/1	0.85	0.28	57,57,57,57	0
57	MG	RA	3221	1/1	0.85	0.20	23,23,23,23	0
57	MG	YA	3245	1/1	0.85	0.11	36,36,36,36	0
57	MG	RA	3313	1/1	0.85	0.33	68,68,68,68	0
57	MG	XA	1630	1/1	0.85	0.28	47,47,47,47	0
57	MG	YA	3275	1/1	0.85	0.21	46,46,46,46	0
57	MG	YA	3355	1/1	0.85	0.27	67,67,67,67	0
57	MG	YA	3045	1/1	0.85	0.21	9,9,9,9	0
57	MG	YA	3282	1/1	0.85	0.15	43,43,43,43	0
57	MG	QA	1620	1/1	0.85	0.09	66,66,66,66	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3165	1/1	0.85	0.06	36,36,36,36	0
57	MG	YA	3192	1/1	0.85	0.23	48,48,48,48	0
57	MG	YA	3293	1/1	0.85	0.18	60,60,60,60	0
57	MG	RA	3318	1/1	0.85	0.16	40,40,40,40	0
57	MG	RA	3084	1/1	0.85	0.14	26,26,26,26	0
57	MG	RA	3125	1/1	0.85	0.19	54,54,54,54	0
57	MG	RA	3122	1/1	0.86	0.17	24,24,24,24	0
57	MG	RA	3288	1/1	0.86	0.21	49,49,49,49	0
57	MG	RA	3123	1/1	0.86	0.16	74,74,74,74	0
57	MG	YA	3156	1/1	0.86	0.12	67,67,67,67	0
57	MG	YA	3317	1/1	0.86	0.19	38,38,38,38	0
57	MG	RA	3124	1/1	0.86	0.29	33,33,33,33	0
57	MG	RA	3264	1/1	0.86	0.27	63,63,63,63	0
57	MG	QA	1675	1/1	0.86	0.09	36,36,36,36	0
57	MG	YA	3165	1/1	0.86	0.07	59,59,59,59	0
57	MG	RA	3152	1/1	0.86	0.14	54,54,54,54	0
57	MG	YA	3083	1/1	0.86	0.20	23,23,23,23	0
57	MG	RA	3023	1/1	0.86	0.27	14,14,14,14	0
57	MG	YA	3227	1/1	0.86	0.30	52,52,52,52	0
57	MG	RA	3271	1/1	0.86	0.26	43,43,43,43	0
57	MG	XA	1636	1/1	0.86	0.10	66,66,66,66	0
57	MG	RA	3182	1/1	0.86	0.20	48,48,48,48	0
57	MG	YA	3115	1/1	0.86	0.29	23,23,23,23	0
57	MG	RB	203	1/1	0.86	0.21	47,47,47,47	0
57	MG	YA	3347	1/1	0.86	0.16	57,57,57,57	0
57	MG	XA	1709	1/1	0.86	0.14	38,38,38,38	0
57	MG	QA	1642	1/1	0.86	0.11	62,62,62,62	0
57	MG	RA	3120	1/1	0.86	0.23	50,50,50,50	0
57	MG	YB	202	1/1	0.86	0.11	51,51,51,51	0
57	MG	YA	3128	1/1	0.86	0.07	43,43,43,43	0
57	MG	RA	3161	1/1	0.86	0.14	55,55,55,55	0
57	MG	YA	3005	1/1	0.86	0.17	23,23,23,23	0
57	MG	RA	3251	1/1	0.86	0.25	46,46,46,46	0
57	MG	YA	3136	1/1	0.86	0.28	30,30,30,30	0
57	MG	XA	1660	1/1	0.86	0.19	53,53,53,53	0
57	MG	YA	3138	1/1	0.86	0.15	40,40,40,40	0
57	MG	XA	1668	1/1	0.86	0.28	48,48,48,48	0
59	ZN	QD	301	1/1	0.86	0.22	77,77,77,77	0
57	MG	YA	3143	1/1	0.87	0.18	9,9,9,9	0
57	MG	YA	3079	1/1	0.87	0.25	21,21,21,21	0
57	MG	QY	101	1/1	0.87	0.21	66,66,66,66	0
57	MG	YA	3200	1/1	0.87	0.24	45,45,45,45	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	XA	1662	1/1	0.87	0.14	38,38,38,38	0
57	MG	RA	3292	1/1	0.87	0.24	37,37,37,37	0
57	MG	YA	3310	1/1	0.87	0.15	42,42,42,42	0
57	MG	YA	3089	1/1	0.87	0.17	51,51,51,51	0
57	MG	YA	3095	1/1	0.87	0.09	42,42,42,42	0
57	MG	QA	1618	1/1	0.87	0.19	58,58,58,58	0
57	MG	RA	3199	1/1	0.87	0.27	44,44,44,44	0
57	MG	YA	3164	1/1	0.87	0.13	51,51,51,51	0
57	MG	RA	3267	1/1	0.87	0.14	40,40,40,40	0
57	MG	YA	3114	1/1	0.87	0.17	39,39,39,39	0
57	MG	YA	3332	1/1	0.87	0.31	57,57,57,57	0
57	MG	XA	1683	1/1	0.87	0.10	48,48,48,48	0
57	MG	RA	3311	1/1	0.87	0.13	56,56,56,56	0
57	MG	RA	3312	1/1	0.87	0.20	55,55,55,55	0
57	MG	YA	3228	1/1	0.87	0.26	57,57,57,57	0
57	MG	YA	3172	1/1	0.87	0.40	52,52,52,52	0
57	MG	YA	3122	1/1	0.87	0.14	26,26,26,26	0
57	MG	YA	3249	1/1	0.87	0.25	70,70,70,70	0
57	MG	YA	3258	1/1	0.87	0.33	52,52,52,52	0
57	MG	XA	1617	1/1	0.87	0.30	41,41,41,41	0
57	MG	YA	3266	1/1	0.87	0.38	65,65,65,65	0
57	MG	YA	3268	1/1	0.87	0.10	52,52,52,52	0
57	MG	YA	3035	1/1	0.87	0.29	27,27,27,27	0
57	MG	RA	3129	1/1	0.87	0.09	42,42,42,42	0
57	MG	YA	3048	1/1	0.87	0.25	18,18,18,18	0
57	MG	YA	3131	1/1	0.87	0.13	39,39,39,39	0
57	MG	YA	3132	1/1	0.87	0.16	37,37,37,37	0
57	MG	YA	3288	1/1	0.87	0.24	58,58,58,58	0
57	MG	XA	1623	1/1	0.87	0.10	48,48,48,48	0
57	MG	YA	3063	1/1	0.87	0.13	12,12,12,12	0
57	MG	XA	1654	1/1	0.87	0.09	78,78,78,78	0
57	MG	RA	3014	1/1	0.87	0.29	23,23,23,23	0
57	MG	QA	1644	1/1	0.87	0.16	54,54,54,54	0
57	MG	RA	3134	1/1	0.88	0.12	27,27,27,27	0
57	MG	RA	3325	1/1	0.88	0.18	60,60,60,60	0
57	MG	XA	1658	1/1	0.88	0.16	30,30,30,30	0
57	MG	YA	3201	1/1	0.88	0.16	63,63,63,63	0
57	MG	RA	3174	1/1	0.88	0.08	19,19,19,19	0
57	MG	QA	1640	1/1	0.88	0.16	63,63,63,63	0
57	MG	RA	3177	1/1	0.88	0.08	31,31,31,31	0
57	MG	RA	3069	1/1	0.88	0.12	39,39,39,39	0
57	MG	YA	3151	1/1	0.88	0.33	69,69,69,69	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	QA	1653	1/1	0.88	0.18	30,30,30,30	0
57	MG	RA	3183	1/1	0.88	0.09	37,37,37,37	0
57	MG	QA	1655	1/1	0.88	0.23	19,19,19,19	0
57	MG	XA	1682	1/1	0.88	0.24	60,60,60,60	0
57	MG	RA	3078	1/1	0.88	0.14	7,7,7,7	0
57	MG	RA	3079	1/1	0.88	0.20	53,53,53,53	0
57	MG	QA	1612	1/1	0.88	0.25	39,39,39,39	0
57	MG	RA	3227	1/1	0.88	0.15	27,27,27,27	0
57	MG	RA	3228	1/1	0.88	0.19	23,23,23,23	0
57	MG	YA	3336	1/1	0.88	0.19	60,60,60,60	0
57	MG	XA	1629	1/1	0.88	0.14	63,63,63,63	0
57	MG	XA	1696	1/1	0.88	0.23	65,65,65,65	0
57	MG	YA	3111	1/1	0.88	0.13	26,26,26,26	0
57	MG	YA	3340	1/1	0.88	0.18	55,55,55,55	0
57	MG	YA	3260	1/1	0.88	0.10	34,34,34,34	0
57	MG	RA	3098	1/1	0.88	0.25	5,5,5,5	0
57	MG	RA	3192	1/1	0.88	0.12	31,31,31,31	0
57	MG	YA	3351	1/1	0.88	0.15	39,39,39,39	0
57	MG	XA	1701	1/1	0.88	0.18	47,47,47,47	0
57	MG	YA	3269	1/1	0.88	0.18	59,59,59,59	0
57	MG	YA	3116	1/1	0.88	0.26	40,40,40,40	0
57	MG	QA	1628	1/1	0.88	0.14	64,64,64,64	0
57	MG	XA	1706	1/1	0.88	0.28	66,66,66,66	0
57	MG	XA	1633	1/1	0.88	0.49	47,47,47,47	0
57	MG	RA	3109	1/1	0.88	0.21	34,34,34,34	0
57	MG	RA	3253	1/1	0.88	0.24	29,29,29,29	0
57	MG	RA	3164	1/1	0.88	0.20	45,45,45,45	0
57	MG	RA	3110	1/1	0.88	0.23	54,54,54,54	0
57	MG	QA	1660	1/1	0.88	0.23	31,31,31,31	0
57	MG	XA	1652	1/1	0.88	0.13	72,72,72,72	0
57	MG	Y7	101	1/1	0.88	0.17	33,33,33,33	0
57	MG	RA	3206	1/1	0.88	0.08	51,51,51,51	0
57	MG	YA	3187	1/1	0.89	0.12	87,87,87,87	0
57	MG	RA	3002	1/1	0.89	0.13	47,47,47,47	0
57	MG	YA	3190	1/1	0.89	0.08	27,27,27,27	0
57	MG	YA	3126	1/1	0.89	0.10	17,17,17,17	0
57	MG	QA	1647	1/1	0.89	0.17	35,35,35,35	0
57	MG	RA	3050	1/1	0.89	0.15	14,14,14,14	0
57	MG	XA	1610	1/1	0.89	0.20	21,21,21,21	0
57	MG	XA	1661	1/1	0.89	0.09	44,44,44,44	0
57	MG	RA	3233	1/1	0.89	0.18	46,46,46,46	0
57	MG	RA	3151	1/1	0.89	0.23	37,37,37,37	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3055	1/1	0.89	0.15	15,15,15,15	0
57	MG	YA	3202	1/1	0.89	0.08	32,32,32,32	0
57	MG	XA	1620	1/1	0.89	0.12	52,52,52,52	0
57	MG	RA	3097	1/1	0.89	0.19	31,31,31,31	0
57	MG	RA	3058	1/1	0.89	0.28	19,19,19,19	0
57	MG	YA	3327	1/1	0.89	0.22	51,51,51,51	0
57	MG	YA	3142	1/1	0.89	0.36	58,58,58,58	0
57	MG	RA	3294	1/1	0.89	0.20	39,39,39,39	0
57	MG	RA	3159	1/1	0.89	0.21	30,30,30,30	0
57	MG	YA	3072	1/1	0.89	0.10	27,27,27,27	0
57	MG	YA	3215	1/1	0.89	0.21	47,47,47,47	0
57	MG	RA	3186	1/1	0.89	0.12	28,28,28,28	0
57	MG	XA	1687	1/1	0.89	0.16	33,33,33,33	0
57	MG	YA	3081	1/1	0.89	0.20	45,45,45,45	0
57	MG	XA	1690	1/1	0.89	0.24	50,50,50,50	0
57	MG	RA	3300	1/1	0.89	0.14	47,47,47,47	0
57	MG	QA	1674	1/1	0.89	0.12	56,56,56,56	0
57	MG	RA	3259	1/1	0.89	0.20	50,50,50,50	0
57	MG	YA	3244	1/1	0.89	0.18	33,33,33,33	0
57	MG	YA	3093	1/1	0.89	0.23	32,32,32,32	0
57	MG	RA	3262	1/1	0.89	0.27	99,99,99,99	0
57	MG	YA	3350	1/1	0.89	0.16	40,40,40,40	0
57	MG	YA	3256	1/1	0.89	0.14	33,33,33,33	0
57	MG	YA	3097	1/1	0.89	0.26	30,30,30,30	0
57	MG	XA	1634	1/1	0.89	0.24	38,38,38,38	0
57	MG	YA	3107	1/1	0.89	0.25	45,45,45,45	0
57	MG	RA	3060	1/1	0.89	0.24	15,15,15,15	0
57	MG	RA	3216	1/1	0.89	0.17	51,51,51,51	0
57	MG	QA	1680	1/1	0.89	0.19	53,53,53,53	0
57	MG	YA	3113	1/1	0.89	0.34	53,53,53,53	0
57	MG	RA	3013	1/1	0.89	0.18	16,16,16,16	0
57	MG	XA	1707	1/1	0.89	0.25	50,50,50,50	0
57	MG	QE	201	1/1	0.89	0.23	59,59,59,59	0
57	MG	RA	3326	1/1	0.89	0.42	57,57,57,57	0
57	MG	YA	3285	1/1	0.89	0.11	46,46,46,46	0
57	MG	RA	3198	1/1	0.89	0.20	49,49,49,49	0
57	MG	QA	1602	1/1	0.89	0.29	22,22,22,22	0
57	MG	YA	3152	1/1	0.90	0.17	41,41,41,41	0
57	MG	RA	3301	1/1	0.90	0.20	48,48,48,48	0
57	MG	XA	1667	1/1	0.90	0.23	23,23,23,23	0
57	MG	RA	3015	1/1	0.90	0.08	16,16,16,16	0
57	MG	YA	3157	1/1	0.90	0.25	51,51,51,51	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3156	1/1	0.90	0.29	55,55,55,55	0
57	MG	YA	3209	1/1	0.90	0.22	28,28,28,28	0
57	MG	RA	3083	1/1	0.90	0.20	18,18,18,18	0
57	MG	YA	3311	1/1	0.90	0.29	69,69,69,69	0
57	MG	RA	3207	1/1	0.90	0.18	45,45,45,45	0
57	MG	YA	3163	1/1	0.90	0.25	39,39,39,39	0
57	MG	RA	3276	1/1	0.90	0.18	44,44,44,44	0
57	MG	RA	3005	1/1	0.90	0.19	26,26,26,26	0
57	MG	YA	3041	1/1	0.90	0.21	12,12,12,12	0
57	MG	YA	3328	1/1	0.90	0.23	49,49,49,49	0
57	MG	YA	3042	1/1	0.90	0.20	11,11,11,11	0
57	MG	RA	3279	1/1	0.90	0.23	40,40,40,40	0
57	MG	RA	3280	1/1	0.90	0.18	54,54,54,54	0
57	MG	YA	3234	1/1	0.90	0.24	25,25,25,25	0
57	MG	RA	3119	1/1	0.90	0.21	40,40,40,40	0
57	MG	RB	201	1/1	0.90	0.09	99,99,99,99	0
57	MG	QV	102	1/1	0.90	0.17	27,27,27,27	0
57	MG	XA	1643	1/1	0.90	0.17	59,59,59,59	0
57	MG	XA	1644	1/1	0.90	0.18	42,42,42,42	0
57	MG	RA	3121	1/1	0.90	0.20	40,40,40,40	0
57	MG	YA	3259	1/1	0.90	0.20	54,54,54,54	0
57	MG	QA	1632	1/1	0.90	0.14	28,28,28,28	0
57	MG	RA	3287	1/1	0.90	0.21	26,26,26,26	0
57	MG	YA	3265	1/1	0.90	0.20	65,65,65,65	0
57	MG	RA	3168	1/1	0.90	0.09	26,26,26,26	0
57	MG	YA	3267	1/1	0.90	0.23	42,42,42,42	0
57	MG	QA	1659	1/1	0.90	0.16	40,40,40,40	0
57	MG	RA	3150	1/1	0.90	0.10	37,37,37,37	0
57	MG	YA	3087	1/1	0.90	0.22	31,31,31,31	0
57	MG	YA	3191	1/1	0.90	0.23	62,62,62,62	0
57	MG	YA	3139	1/1	0.90	0.26	76,76,76,76	0
57	MG	QA	1619	1/1	0.90	0.10	40,40,40,40	0
57	MG	YA	3092	1/1	0.90	0.16	45,45,45,45	0
57	MG	RA	3200	1/1	0.90	0.24	60,60,60,60	0
57	MG	YA	3286	1/1	0.90	0.29	67,67,67,67	0
57	MG	YA	3287	1/1	0.90	0.16	44,44,44,44	0
57	MG	YP	203	1/1	0.90	0.32	32,32,32,32	0
57	MG	YA	3197	1/1	0.90	0.11	53,53,53,53	0
57	MG	YA	3147	1/1	0.90	0.23	34,34,34,34	0
57	MG	RA	3057	1/1	0.90	0.16	48,48,48,48	0
57	MG	YA	3149	1/1	0.90	0.09	27,27,27,27	0
58	PAR	QA	1681	42/42	0.90	0.14	71,71,72,72	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	QA	1668	1/1	0.90	0.13	36,36,36,36	0
57	MG	RA	3092	1/1	0.91	0.12	29,29,29,29	0
57	MG	RR	201	1/1	0.91	0.19	25,25,25,25	0
57	MG	RA	3066	1/1	0.91	0.21	3,3,3,3	0
57	MG	RA	3053	1/1	0.91	0.18	5,5,5,5	0
57	MG	YA	3094	1/1	0.91	0.16	23,23,23,23	0
57	MG	RA	3290	1/1	0.91	0.16	44,44,44,44	0
57	MG	YA	3096	1/1	0.91	0.23	26,26,26,26	0
57	MG	RA	3101	1/1	0.91	0.14	32,32,32,32	0
57	MG	XV	101	1/1	0.91	0.22	34,34,34,34	0
57	MG	QA	1630	1/1	0.91	0.13	24,24,24,24	0
57	MG	RA	3265	1/1	0.91	0.33	58,58,58,58	0
57	MG	YA	3110	1/1	0.91	0.13	7,7,7,7	0
57	MG	YA	3226	1/1	0.91	0.21	41,41,41,41	0
57	MG	RA	3172	1/1	0.91	0.14	34,34,34,34	0
57	MG	RA	3071	1/1	0.91	0.15	32,32,32,32	0
57	MG	RA	3128	1/1	0.91	0.25	60,60,60,60	0
57	MG	YA	3237	1/1	0.91	0.13	26,26,26,26	0
57	MG	RA	3056	1/1	0.91	0.30	14,14,14,14	0
57	MG	RA	3306	1/1	0.91	0.12	47,47,47,47	0
57	MG	YA	3171	1/1	0.91	0.45	85,85,85,85	0
57	MG	YA	3029	1/1	0.91	0.13	17,17,17,17	0
57	MG	YA	3251	1/1	0.91	0.22	44,44,44,44	0
57	MG	YA	3253	1/1	0.91	0.19	37,37,37,37	0
57	MG	YA	3031	1/1	0.91	0.26	36,36,36,36	0
57	MG	XA	1678	1/1	0.91	0.20	45,45,45,45	0
57	MG	YA	3119	1/1	0.91	0.21	42,42,42,42	0
57	MG	YA	3036	1/1	0.91	0.15	19,19,19,19	0
57	MG	YA	3261	1/1	0.91	0.22	43,43,43,43	0
57	MG	RA	3310	1/1	0.91	0.18	39,39,39,39	0
57	MG	RA	3179	1/1	0.91	0.16	47,47,47,47	0
57	MG	QA	1614	1/1	0.91	0.15	30,30,30,30	0
57	MG	RA	3157	1/1	0.91	0.22	42,42,42,42	0
57	MG	YA	3129	1/1	0.91	0.13	50,50,50,50	0
57	MG	RA	3237	1/1	0.91	0.15	21,21,21,21	0
57	MG	YA	3054	1/1	0.91	0.21	23,23,23,23	0
57	MG	QA	1638	1/1	0.91	0.06	53,53,53,53	0
57	MG	YB	203	1/1	0.91	0.16	37,37,37,37	0
57	MG	YB	204	1/1	0.91	0.26	27,27,27,27	0
57	MG	RA	3039	1/1	0.91	0.19	13,13,13,13	0
57	MG	YA	3281	1/1	0.91	0.26	33,33,33,33	0
57	MG	RA	3321	1/1	0.91	0.14	32,32,32,32	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3066	1/1	0.91	0.17	9,9,9,9	0
57	MG	XA	1637	1/1	0.91	0.06	74,74,74,74	0
57	MG	RA	3246	1/1	0.91	0.24	68,68,68,68	0
57	MG	RA	3282	1/1	0.91	0.21	39,39,39,39	0
57	MG	QA	1664	1/1	0.91	0.08	30,30,30,30	0
57	MG	QA	1610	1/1	0.91	0.23	20,20,20,20	0
57	MG	Y3	101	1/1	0.91	0.15	28,28,28,28	0
57	MG	RA	3188	1/1	0.91	0.16	53,53,53,53	0
57	MG	YA	3084	1/1	0.91	0.25	12,12,12,12	0
57	MG	XA	1703	1/1	0.91	0.13	46,46,46,46	0
57	MG	YA	3224	1/1	0.92	0.23	41,41,41,41	0
57	MG	YA	3056	1/1	0.92	0.12	11,11,11,11	0
57	MG	YA	3059	1/1	0.92	0.15	12,12,12,12	0
57	MG	YA	3123	1/1	0.92	0.20	46,46,46,46	0
57	MG	YA	3124	1/1	0.92	0.16	38,38,38,38	0
57	MG	YA	3230	1/1	0.92	0.23	43,43,43,43	0
57	MG	YA	3060	1/1	0.92	0.15	33,33,33,33	0
57	MG	RA	3070	1/1	0.92	0.19	9,9,9,9	0
57	MG	YA	3324	1/1	0.92	0.20	40,40,40,40	0
57	MG	YA	3326	1/1	0.92	0.18	34,34,34,34	0
57	MG	XA	1699	1/1	0.92	0.14	35,35,35,35	0
57	MG	YA	3241	1/1	0.92	0.10	19,19,19,19	0
57	MG	XA	1613	1/1	0.92	0.23	17,17,17,17	0
57	MG	XA	1615	1/1	0.92	0.14	25,25,25,25	0
57	MG	YA	3070	1/1	0.92	0.13	29,29,29,29	0
57	MG	XA	1656	1/1	0.92	0.15	56,56,56,56	0
57	MG	XA	1657	1/1	0.92	0.29	49,49,49,49	0
57	MG	YA	3186	1/1	0.92	0.17	22,22,22,22	0
57	MG	RA	3093	1/1	0.92	0.18	18,18,18,18	0
57	MG	QA	1679	1/1	0.92	0.15	52,52,52,52	0
57	MG	QA	1603	1/1	0.92	0.26	80,80,80,80	0
57	MG	XD	302	1/1	0.92	0.10	82,82,82,82	0
57	MG	RA	3257	1/1	0.92	0.37	52,52,52,52	0
57	MG	RA	3180	1/1	0.92	0.08	28,28,28,28	0
57	MG	RA	3073	1/1	0.92	0.15	26,26,26,26	0
57	MG	RA	3139	1/1	0.92	0.17	26,26,26,26	0
57	MG	YA	3346	1/1	0.92	0.11	28,28,28,28	0
57	MG	RA	3316	1/1	0.92	0.22	42,42,42,42	0
57	MG	RA	3140	1/1	0.92	0.15	25,25,25,25	0
57	MG	QA	1654	1/1	0.92	0.16	68,68,68,68	0
57	MG	YA	3014	1/1	0.92	0.17	8,8,8,8	0
57	MG	YA	3354	1/1	0.92	0.16	50,50,50,50	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3276	1/1	0.92	0.33	43,43,43,43	0
57	MG	YA	3019	1/1	0.92	0.27	29,29,29,29	0
57	MG	YA	3022	1/1	0.92	0.19	16,16,16,16	0
57	MG	RA	3026	1/1	0.92	0.10	11,11,11,11	0
57	MG	RA	3167	1/1	0.92	0.21	57,57,57,57	0
57	MG	RA	3291	1/1	0.92	0.20	45,45,45,45	0
57	MG	RA	3236	1/1	0.92	0.38	71,71,71,71	0
57	MG	YA	3207	1/1	0.92	0.08	25,25,25,25	0
57	MG	QA	1657	1/1	0.92	0.10	29,29,29,29	0
57	MG	RA	3296	1/1	0.92	0.20	45,45,45,45	0
57	MG	RF	301	1/1	0.92	0.08	62,62,62,62	0
57	MG	YA	3211	1/1	0.92	0.09	50,50,50,50	0
57	MG	RA	3032	1/1	0.92	0.22	40,40,40,40	0
57	MG	RA	3034	1/1	0.92	0.24	16,16,16,16	0
57	MG	Y0	101	1/1	0.92	0.12	10,10,10,10	0
57	MG	RA	3275	1/1	0.92	0.19	59,59,59,59	0
57	MG	XA	1601	1/1	0.92	0.18	35,35,35,35	0
57	MG	YA	3220	1/1	0.92	0.21	55,55,55,55	0
58	PAR	XA	1710	42/42	0.92	0.14	56,56,57,57	0
57	MG	RA	3090	1/1	0.92	0.20	31,31,31,31	0
57	MG	YA	3284	1/1	0.93	0.17	59,59,59,59	0
57	MG	YA	3023	1/1	0.93	0.22	17,17,17,17	0
57	MG	XA	1676	1/1	0.93	0.05	41,41,41,41	0
57	MG	RA	3091	1/1	0.93	0.19	39,39,39,39	0
57	MG	YA	3026	1/1	0.93	0.18	15,15,15,15	0
57	MG	RA	3051	1/1	0.93	0.09	22,22,22,22	0
57	MG	YA	3030	1/1	0.93	0.22	17,17,17,17	0
57	MG	XA	1679	1/1	0.93	0.14	27,27,27,27	0
57	MG	YA	3034	1/1	0.93	0.20	16,16,16,16	0
57	MG	RA	3061	1/1	0.93	0.18	11,11,11,11	0
57	MG	RA	3204	1/1	0.93	0.13	47,47,47,47	0
57	MG	RA	3155	1/1	0.93	0.30	43,43,43,43	0
57	MG	RA	3094	1/1	0.93	0.24	45,45,45,45	0
57	MG	RA	3096	1/1	0.93	0.11	5,5,5,5	0
57	MG	YA	3046	1/1	0.93	0.13	19,19,19,19	0
57	MG	RA	3244	1/1	0.93	0.19	47,47,47,47	0
57	MG	YA	3052	1/1	0.93	0.18	22,22,22,22	0
57	MG	XA	1688	1/1	0.93	0.16	60,60,60,60	0
57	MG	RA	3008	1/1	0.93	0.19	12,12,12,12	0
57	MG	YA	3055	1/1	0.93	0.21	52,52,52,52	0
57	MG	RA	3319	1/1	0.93	0.14	32,32,32,32	0
57	MG	RA	3320	1/1	0.93	0.24	62,62,62,62	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3250	1/1	0.93	0.17	57,57,57,57	0
57	MG	RA	3184	1/1	0.93	0.07	49,49,49,49	0
57	MG	RA	3136	1/1	0.93	0.24	15,15,15,15	0
57	MG	RA	3137	1/1	0.93	0.14	24,24,24,24	0
57	MG	YA	3144	1/1	0.93	0.08	33,33,33,33	0
57	MG	RB	202	1/1	0.93	0.06	69,69,69,69	0
57	MG	YA	3069	1/1	0.93	0.18	10,10,10,10	0
57	MG	XA	1700	1/1	0.93	0.23	50,50,50,50	0
57	MG	YA	3071	1/1	0.93	0.23	8,8,8,8	0
57	MG	QA	1625	1/1	0.93	0.06	22,22,22,22	0
57	MG	RA	3099	1/1	0.93	0.22	14,14,14,14	0
57	MG	QA	1631	1/1	0.93	0.09	69,69,69,69	0
57	MG	YA	3232	1/1	0.93	0.25	20,20,20,20	0
57	MG	RA	3217	1/1	0.93	0.11	46,46,46,46	0
57	MG	RP	201	1/1	0.93	0.30	31,31,31,31	0
57	MG	RA	3261	1/1	0.93	0.12	56,56,56,56	0
57	MG	RA	3019	1/1	0.93	0.17	18,18,18,18	0
57	MG	YA	3343	1/1	0.93	0.23	46,46,46,46	0
57	MG	YA	3085	1/1	0.93	0.21	7,7,7,7	0
57	MG	XA	1711	1/1	0.93	0.09	27,27,27,27	0
57	MG	RA	3146	1/1	0.93	0.12	41,41,41,41	0
57	MG	YA	3349	1/1	0.93	0.20	46,46,46,46	0
57	MG	YA	3088	1/1	0.93	0.27	56,56,56,56	0
57	MG	RA	3147	1/1	0.93	0.13	27,27,27,27	0
57	MG	YA	3091	1/1	0.93	0.22	17,17,17,17	0
57	MG	YA	3257	1/1	0.93	0.26	35,35,35,35	0
57	MG	XA	1606	1/1	0.93	0.19	40,40,40,40	0
57	MG	XA	1609	1/1	0.93	0.17	25,25,25,25	0
57	MG	QA	1629	1/1	0.93	0.09	52,52,52,52	0
57	MG	YA	3004	1/1	0.93	0.18	14,14,14,14	0
57	MG	RA	3224	1/1	0.93	0.07	28,28,28,28	0
57	MG	RA	3127	1/1	0.93	0.09	24,24,24,24	0
57	MG	YA	3098	1/1	0.93	0.20	21,21,21,21	0
57	MG	XA	1614	1/1	0.93	0.16	13,13,13,13	0
57	MG	YA	3101	1/1	0.93	0.08	5,5,5,5	0
57	MG	YA	3102	1/1	0.93	0.08	20,20,20,20	0
57	MG	YA	3271	1/1	0.93	0.23	51,51,51,51	0
57	MG	YA	3272	1/1	0.93	0.17	32,32,32,32	0
57	MG	YA	3011	1/1	0.93	0.30	30,30,30,30	0
57	MG	YA	3012	1/1	0.93	0.13	6,6,6,6	0
57	MG	RA	3012	1/1	0.93	0.21	27,27,27,27	0
57	MG	Y0	103	1/1	0.93	0.10	46,46,46,46	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3185	1/1	0.93	0.20	37,37,37,37	0
57	MG	YA	3278	1/1	0.93	0.27	50,50,50,50	0
57	MG	YA	3016	1/1	0.93	0.19	6,6,6,6	0
57	MG	XA	1616	1/1	0.93	0.23	29,29,29,29	0
57	MG	RA	3304	1/1	0.93	0.16	44,44,44,44	0
57	MG	RA	3273	1/1	0.94	0.21	30,30,30,30	0
57	MG	YA	3188	1/1	0.94	0.27	19,19,19,19	0
57	MG	XA	1621	1/1	0.94	0.09	25,25,25,25	0
57	MG	XA	1622	1/1	0.94	0.21	33,33,33,33	0
57	MG	YA	3032	1/1	0.94	0.22	9,9,9,9	0
57	MG	YA	3033	1/1	0.94	0.17	11,11,11,11	0
57	MG	RA	3114	1/1	0.94	0.14	21,21,21,21	0
57	MG	YA	3289	1/1	0.94	0.30	69,69,69,69	0
57	MG	XA	1625	1/1	0.94	0.11	32,32,32,32	0
57	MG	RA	3234	1/1	0.94	0.25	16,16,16,16	0
57	MG	YA	3040	1/1	0.94	0.10	8,8,8,8	0
57	MG	QA	1652	1/1	0.94	0.22	34,34,34,34	0
57	MG	RA	3040	1/1	0.94	0.23	12,12,12,12	0
57	MG	RA	3278	1/1	0.94	0.14	34,34,34,34	0
57	MG	YA	3297	1/1	0.94	0.21	61,61,61,61	0
57	MG	XA	1689	1/1	0.94	0.21	51,51,51,51	0
57	MG	RA	3158	1/1	0.94	0.09	26,26,26,26	0
57	MG	YA	3050	1/1	0.94	0.24	21,21,21,21	0
57	MG	RA	3041	1/1	0.94	0.19	24,24,24,24	0
57	MG	RA	3208	1/1	0.94	0.17	22,22,22,22	0
57	MG	RA	3042	1/1	0.94	0.13	9,9,9,9	0
57	MG	RA	3323	1/1	0.94	0.17	39,39,39,39	0
57	MG	RA	3324	1/1	0.94	0.15	38,38,38,38	0
57	MG	YA	3134	1/1	0.94	0.12	21,21,21,21	0
57	MG	RA	3247	1/1	0.94	0.09	55,55,55,55	0
57	MG	RA	3095	1/1	0.94	0.20	18,18,18,18	0
57	MG	YA	3212	1/1	0.94	0.07	32,32,32,32	0
57	MG	YA	3062	1/1	0.94	0.16	17,17,17,17	0
57	MG	QA	1611	1/1	0.94	0.16	21,21,21,21	0
57	MG	XA	1639	1/1	0.94	0.24	43,43,43,43	0
57	MG	YA	3217	1/1	0.94	0.13	45,45,45,45	0
57	MG	RA	3047	1/1	0.94	0.18	27,27,27,27	0
57	MG	XA	1704	1/1	0.94	0.14	44,44,44,44	0
57	MG	QA	1637	1/1	0.94	0.13	44,44,44,44	0
57	MG	RA	3080	1/1	0.94	0.26	36,36,36,36	0
57	MG	XA	1647	1/1	0.94	0.10	82,82,82,82	0
57	MG	RA	3148	1/1	0.94	0.14	38,38,38,38	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	XA	1649	1/1	0.94	0.21	39,39,39,39	0
57	MG	YA	3150	1/1	0.94	0.18	34,34,34,34	0
57	MG	YA	3075	1/1	0.94	0.15	10,10,10,10	0
57	MG	YA	3231	1/1	0.94	0.21	24,24,24,24	0
57	MG	YA	3076	1/1	0.94	0.17	22,22,22,22	0
57	MG	RA	3082	1/1	0.94	0.16	39,39,39,39	0
57	MG	YA	3154	1/1	0.94	0.06	18,18,18,18	0
57	MG	YA	3080	1/1	0.94	0.10	17,17,17,17	0
57	MG	YA	3345	1/1	0.94	0.24	67,67,67,67	0
57	MG	XB	301	1/1	0.94	0.11	51,51,51,51	0
57	MG	QA	1609	1/1	0.94	0.11	42,42,42,42	0
57	MG	RA	3260	1/1	0.94	0.19	45,45,45,45	0
57	MG	RA	3195	1/1	0.94	0.06	15,15,15,15	0
57	MG	RA	3297	1/1	0.94	0.27	48,48,48,48	0
57	MG	YA	3252	1/1	0.94	0.27	27,27,27,27	0
57	MG	RA	3196	1/1	0.94	0.11	56,56,56,56	0
57	MG	RA	3197	1/1	0.94	0.28	44,44,44,44	0
57	MG	RA	3003	1/1	0.94	0.14	42,42,42,42	0
57	MG	RA	3086	1/1	0.94	0.20	9,9,9,9	0
57	MG	RA	3089	1/1	0.94	0.14	18,18,18,18	0
57	MG	RA	3035	1/1	0.94	0.30	49,49,49,49	0
57	MG	XA	1664	1/1	0.94	0.31	38,38,38,38	0
57	MG	YA	3013	1/1	0.94	0.19	13,13,13,13	0
57	MG	YA	3263	1/1	0.94	0.17	22,22,22,22	0
57	MG	XA	1665	1/1	0.94	0.19	35,35,35,35	0
57	MG	YA	3174	1/1	0.94	0.46	74,74,74,74	0
57	MG	YA	3015	1/1	0.94	0.21	20,20,20,20	0
57	MG	XA	1666	1/1	0.94	0.15	48,48,48,48	0
57	MG	YA	3177	1/1	0.94	0.17	19,19,19,19	0
57	MG	YA	3018	1/1	0.94	0.17	28,28,28,28	0
57	MG	RA	3178	1/1	0.94	0.16	33,33,33,33	0
57	MG	RA	3307	1/1	0.94	0.19	38,38,38,38	0
57	MG	XA	1670	1/1	0.94	0.14	37,37,37,37	0
57	MG	RA	3308	1/1	0.94	0.17	48,48,48,48	0
57	MG	RA	3309	1/1	0.94	0.16	54,54,54,54	0
57	MG	RA	3230	1/1	0.94	0.12	22,22,22,22	0
57	MG	YA	3027	1/1	0.94	0.58	39,39,39,39	0
57	MG	YA	3121	1/1	0.95	0.14	20,20,20,20	0
57	MG	XA	1604	1/1	0.95	0.28	44,44,44,44	0
57	MG	YA	3233	1/1	0.95	0.16	24,24,24,24	0
57	MG	YA	3068	1/1	0.95	0.10	36,36,36,36	0
57	MG	YA	3312	1/1	0.95	0.06	26,26,26,26	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3236	1/1	0.95	0.28	10,10,10,10	0
57	MG	XA	1642	1/1	0.95	0.15	27,27,27,27	0
57	MG	RA	3194	1/1	0.95	0.09	43,43,43,43	0
57	MG	QX	102	1/1	0.95	0.13	43,43,43,43	0
57	MG	YA	3323	1/1	0.95	0.20	49,49,49,49	0
57	MG	RA	3048	1/1	0.95	0.11	12,12,12,12	0
57	MG	YA	3325	1/1	0.95	0.28	42,42,42,42	0
57	MG	RA	3175	1/1	0.95	0.15	31,31,31,31	0
57	MG	YA	3246	1/1	0.95	0.25	38,38,38,38	0
57	MG	RA	3107	1/1	0.95	0.13	21,21,21,21	0
57	MG	QA	1607	1/1	0.95	0.23	35,35,35,35	0
57	MG	YA	3077	1/1	0.95	0.14	21,21,21,21	0
57	MG	XA	1693	1/1	0.95	0.24	40,40,40,40	0
57	MG	XA	1650	1/1	0.95	0.20	54,54,54,54	0
57	MG	XA	1651	1/1	0.95	0.14	62,62,62,62	0
57	MG	QA	1661	1/1	0.95	0.23	37,37,37,37	0
57	MG	YA	3028	1/1	0.95	0.14	6,6,6,6	0
57	MG	RA	3317	1/1	0.95	0.21	51,51,51,51	0
57	MG	RA	3030	1/1	0.95	0.16	15,15,15,15	0
57	MG	XA	1618	1/1	0.95	0.12	37,37,37,37	0
57	MG	YA	3195	1/1	0.95	0.15	39,39,39,39	0
57	MG	YA	3264	1/1	0.95	0.17	30,30,30,30	0
57	MG	YA	3341	1/1	0.95	0.17	39,39,39,39	0
57	MG	YA	3140	1/1	0.95	0.17	50,50,50,50	0
57	MG	YA	3141	1/1	0.95	0.22	48,48,48,48	0
57	MG	RA	3126	1/1	0.95	0.18	51,51,51,51	0
57	MG	RA	3142	1/1	0.95	0.08	48,48,48,48	0
57	MG	RA	3143	1/1	0.95	0.21	19,19,19,19	0
57	MG	YA	3270	1/1	0.95	0.23	43,43,43,43	0
57	MG	YA	3348	1/1	0.95	0.05	49,49,49,49	0
57	MG	RA	3054	1/1	0.95	0.13	10,10,10,10	0
57	MG	RA	3293	1/1	0.95	0.12	58,58,58,58	0
57	MG	YA	3039	1/1	0.95	0.12	12,12,12,12	0
57	MG	XA	1624	1/1	0.95	0.14	41,41,41,41	0
57	MG	RA	3145	1/1	0.95	0.14	40,40,40,40	0
57	MG	XA	1663	1/1	0.95	0.11	26,26,26,26	0
57	MG	YA	3043	1/1	0.95	0.20	31,31,31,31	0
57	MG	RA	3268	1/1	0.95	0.24	45,45,45,45	0
57	MG	YA	3099	1/1	0.95	0.21	19,19,19,19	0
57	MG	RA	3020	1/1	0.95	0.12	9,9,9,9	0
57	MG	RA	3116	1/1	0.95	0.18	50,50,50,50	0
57	MG	YA	3049	1/1	0.95	0.17	15,15,15,15	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3213	1/1	0.95	0.06	31,31,31,31	0
57	MG	RA	3166	1/1	0.95	0.19	36,36,36,36	0
57	MG	YA	3108	1/1	0.95	0.05	32,32,32,32	0
57	MG	RB	204	1/1	0.95	0.24	51,51,51,51	0
57	MG	RA	3272	1/1	0.95	0.24	44,44,44,44	0
57	MG	XA	1673	1/1	0.95	0.20	21,21,21,21	0
57	MG	RA	3241	1/1	0.95	0.09	35,35,35,35	0
57	MG	YA	3003	1/1	0.95	0.21	24,24,24,24	0
57	MG	Y0	102	1/1	0.95	0.29	45,45,45,45	0
57	MG	RA	3043	1/1	0.95	0.12	12,12,12,12	0
57	MG	RA	3022	1/1	0.95	0.14	4,4,4,4	0
57	MG	RA	3169	1/1	0.95	0.06	26,26,26,26	0
57	MG	RA	3045	1/1	0.95	0.17	5,5,5,5	0
57	MG	RA	3133	1/1	0.95	0.17	45,45,45,45	0
57	MG	RA	3193	1/1	0.95	0.15	46,46,46,46	0
59	ZN	XD	301	1/1	0.95	0.19	49,49,49,49	0
57	MG	YA	3020	1/1	0.96	0.18	16,16,16,16	0
57	MG	YA	3169	1/1	0.96	0.04	49,49,49,49	0
57	MG	YA	3021	1/1	0.96	0.23	24,24,24,24	0
57	MG	RE	302	1/1	0.96	0.12	20,20,20,20	0
57	MG	YA	3057	1/1	0.96	0.12	13,13,13,13	0
57	MG	YA	3173	1/1	0.96	0.18	43,43,43,43	0
57	MG	RA	3028	1/1	0.96	0.15	24,24,24,24	0
57	MG	RA	3029	1/1	0.96	0.12	18,18,18,18	0
57	MG	QA	1662	1/1	0.96	0.08	48,48,48,48	0
57	MG	RA	3115	1/1	0.96	0.09	12,12,12,12	0
57	MG	YA	3218	1/1	0.96	0.18	25,25,25,25	0
57	MG	RA	3052	1/1	0.96	0.13	4,4,4,4	0
57	MG	XA	1681	1/1	0.96	0.14	21,21,21,21	0
57	MG	YA	3221	1/1	0.96	0.13	37,37,37,37	0
57	MG	RA	3231	1/1	0.96	0.15	22,22,22,22	0
57	MG	YA	3103	1/1	0.96	0.12	36,36,36,36	0
57	MG	YA	3279	1/1	0.96	0.15	57,57,57,57	0
57	MG	RA	3087	1/1	0.96	0.12	30,30,30,30	0
57	MG	RA	3088	1/1	0.96	0.27	23,23,23,23	0
57	MG	YA	3184	1/1	0.96	0.06	41,41,41,41	0
57	MG	XA	1607	1/1	0.96	0.31	29,29,29,29	0
57	MG	YA	3145	1/1	0.96	0.13	23,23,23,23	0
57	MG	RA	3173	1/1	0.96	0.06	42,42,42,42	0
57	MG	YA	3001	1/1	0.96	0.07	39,39,39,39	0
57	MG	RA	3322	1/1	0.96	0.26	40,40,40,40	0
57	MG	QA	1678	1/1	0.96	0.20	43,43,43,43	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3037	1/1	0.96	0.10	23,23,23,23	0
57	MG	YA	3352	1/1	0.96	0.18	47,47,47,47	0
57	MG	QA	1616	1/1	0.96	0.18	35,35,35,35	0
57	MG	YA	3238	1/1	0.96	0.17	28,28,28,28	0
57	MG	RA	3263	1/1	0.96	0.20	33,33,33,33	0
57	MG	YA	3356	1/1	0.96	0.34	61,61,61,61	0
57	MG	RA	3239	1/1	0.96	0.09	7,7,7,7	0
57	MG	YA	3243	1/1	0.96	0.16	45,45,45,45	0
57	MG	RA	3103	1/1	0.96	0.07	25,25,25,25	0
57	MG	RA	3063	1/1	0.96	0.36	3,3,3,3	0
57	MG	YA	3120	1/1	0.96	0.20	14,14,14,14	0
57	MG	YA	3247	1/1	0.96	0.27	45,45,45,45	0
57	MG	YA	3304	1/1	0.96	0.21	42,42,42,42	0
57	MG	YA	3044	1/1	0.96	0.18	15,15,15,15	0
57	MG	XA	1641	1/1	0.96	0.09	21,21,21,21	0
57	MG	QA	1649	1/1	0.96	0.10	81,81,81,81	0
57	MG	YA	3161	1/1	0.96	0.22	51,51,51,51	0
57	MG	YA	3255	1/1	0.96	0.12	32,32,32,32	0
57	MG	YA	3313	1/1	0.96	0.17	24,24,24,24	0
57	MG	YA	3314	1/1	0.96	0.27	37,37,37,37	0
57	MG	RA	3222	1/1	0.96	0.16	4,4,4,4	0
57	MG	QA	1606	1/1	0.96	0.19	20,20,20,20	0
57	MG	XA	1645	1/1	0.96	0.09	31,31,31,31	0
57	MG	Y5	101	1/1	0.96	0.06	17,17,17,17	0
57	MG	XA	1671	1/1	0.96	0.19	39,39,39,39	0
57	MG	YA	3321	1/1	0.96	0.31	34,34,34,34	0
57	MG	YA	3322	1/1	0.96	0.20	39,39,39,39	0
57	MG	YA	3090	1/1	0.96	0.09	13,13,13,13	0
57	MG	RA	3249	1/1	0.96	0.17	41,41,41,41	0
57	MG	RA	3025	1/1	0.97	0.07	6,6,6,6	0
57	MG	RA	3255	1/1	0.97	0.17	35,35,35,35	0
57	MG	RA	3284	1/1	0.97	0.23	32,32,32,32	0
57	MG	XA	1691	1/1	0.97	0.05	105,105,105,105	0
57	MG	RA	3081	1/1	0.97	0.07	24,24,24,24	0
57	MG	RA	3038	1/1	0.97	0.11	15,15,15,15	0
57	MG	RA	3016	1/1	0.97	0.10	15,15,15,15	0
57	MG	RA	3141	1/1	0.97	0.06	36,36,36,36	0
57	MG	RA	3100	1/1	0.97	0.12	28,28,28,28	0
57	MG	RA	3067	1/1	0.97	0.15	13,13,13,13	0
57	MG	RA	3018	1/1	0.97	0.09	24,24,24,24	0
57	MG	QA	1650	1/1	0.97	0.23	41,41,41,41	0
57	MG	RA	3235	1/1	0.97	0.15	18,18,18,18	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3104	1/1	0.97	0.13	33,33,33,33	0
57	MG	YA	3273	1/1	0.97	0.26	32,32,32,32	0
57	MG	RA	3295	1/1	0.97	0.22	29,29,29,29	0
57	MG	RA	3105	1/1	0.97	0.09	19,19,19,19	0
57	MG	QA	1615	1/1	0.97	0.12	57,57,57,57	0
57	MG	RA	3108	1/1	0.97	0.06	32,32,32,32	0
57	MG	YA	3223	1/1	0.97	0.13	18,18,18,18	0
57	MG	RA	3240	1/1	0.97	0.18	17,17,17,17	0
57	MG	QA	1643	1/1	0.97	0.09	23,23,23,23	0
57	MG	RA	3242	1/1	0.97	0.04	20,20,20,20	0
57	MG	YA	3038	1/1	0.97	0.14	10,10,10,10	0
57	MG	RA	3302	1/1	0.97	0.23	37,37,37,37	0
57	MG	RA	3031	1/1	0.97	0.09	30,30,30,30	0
57	MG	RA	3111	1/1	0.97	0.14	33,33,33,33	0
57	MG	XA	1672	1/1	0.97	0.16	36,36,36,36	0
57	MG	RA	3245	1/1	0.97	0.23	39,39,39,39	0
57	MG	XV	102	1/1	0.97	0.12	14,14,14,14	0
57	MG	YA	3290	1/1	0.97	0.16	28,28,28,28	0
57	MG	YA	3235	1/1	0.97	0.18	16,16,16,16	0
57	MG	XA	1674	1/1	0.97	0.09	4,4,4,4	0
57	MG	RA	3007	1/1	0.97	0.19	7,7,7,7	0
57	MG	YA	3047	1/1	0.97	0.17	14,14,14,14	0
57	MG	RA	3074	1/1	0.97	0.06	8,8,8,8	0
57	MG	XA	1602	1/1	0.97	0.28	19,19,19,19	0
57	MG	YA	3242	1/1	0.97	0.21	21,21,21,21	0
57	MG	RA	3046	1/1	0.97	0.11	13,13,13,13	0
57	MG	YA	3051	1/1	0.97	0.18	8,8,8,8	0
57	MG	YA	3301	1/1	0.97	0.30	48,48,48,48	0
57	MG	XA	1640	1/1	0.97	0.18	41,41,41,41	0
57	MG	YA	3303	1/1	0.97	0.48	63,63,63,63	0
57	MG	XA	1605	1/1	0.97	0.32	34,34,34,34	0
57	MG	RA	3033	1/1	0.97	0.28	19,19,19,19	0
57	MG	YA	3306	1/1	0.97	0.24	50,50,50,50	0
57	MG	YA	3307	1/1	0.97	0.11	12,12,12,12	0
57	MG	YA	3248	1/1	0.97	0.11	34,34,34,34	0
57	MG	YA	3309	1/1	0.97	0.14	37,37,37,37	0
57	MG	RA	3024	1/1	0.97	0.08	22,22,22,22	0
57	MG	YA	3104	1/1	0.97	0.14	16,16,16,16	0
57	MG	YA	3105	1/1	0.97	0.17	11,11,11,11	0
57	MG	Y1	101	1/1	0.97	0.11	35,35,35,35	0
57	MG	XA	1608	1/1	0.97	0.06	21,21,21,21	0
57	MG	YA	3254	1/1	0.97	0.12	11,11,11,11	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3252	1/1	0.97	0.08	47,47,47,47	0
57	MG	YA	3316	1/1	0.97	0.13	30,30,30,30	0
57	MG	RA	3223	1/1	0.97	0.16	6,6,6,6	0
57	MG	XA	1611	1/1	0.97	0.05	20,20,20,20	0
57	MG	YA	3061	1/1	0.97	0.07	2,2,2,2	0
57	MG	YA	3017	1/1	0.98	0.05	6,6,6,6	0
57	MG	YA	3067	1/1	0.98	0.23	22,22,22,22	0
57	MG	RA	3076	1/1	0.98	0.11	4,4,4,4	0
57	MG	YA	3280	1/1	0.98	0.12	25,25,25,25	0
57	MG	XA	1669	1/1	0.98	0.09	21,21,21,21	0
57	MG	RA	3077	1/1	0.98	0.11	5,5,5,5	0
57	MG	RA	3049	1/1	0.98	0.08	7,7,7,7	0
57	MG	YA	3318	1/1	0.98	0.18	34,34,34,34	0
57	MG	QA	1670	1/1	0.98	0.15	37,37,37,37	0
57	MG	RA	3036	1/1	0.98	0.07	10,10,10,10	0
57	MG	YA	3160	1/1	0.98	0.05	18,18,18,18	0
57	MG	YA	3074	1/1	0.98	0.19	19,19,19,19	0
57	MG	RA	3305	1/1	0.98	0.35	48,48,48,48	0
57	MG	RA	3037	1/1	0.98	0.10	12,12,12,12	0
57	MG	XA	1603	1/1	0.98	0.20	16,16,16,16	0
57	MG	YA	3106	1/1	0.98	0.04	27,27,27,27	0
57	MG	YA	3078	1/1	0.98	0.27	15,15,15,15	0
57	MG	RA	3225	1/1	0.98	0.24	46,46,46,46	0
57	MG	RA	3106	1/1	0.98	0.07	12,12,12,12	0
57	MG	YA	3229	1/1	0.98	0.15	19,19,19,19	0
57	MG	RA	3212	1/1	0.98	0.26	46,46,46,46	0
57	MG	RA	3021	1/1	0.98	0.12	2,2,2,2	0
57	MG	RA	3017	1/1	0.98	0.08	15,15,15,15	0
57	MG	YA	3299	1/1	0.98	0.26	32,32,32,32	0
57	MG	YA	3007	1/1	0.98	0.07	16,16,16,16	0
57	MG	XA	1702	1/1	0.98	0.11	43,43,43,43	0
57	MG	YA	3058	1/1	0.98	0.19	21,21,21,21	0
57	MG	YA	3009	1/1	0.98	0.14	10,10,10,10	0
57	MG	QA	1667	1/1	0.98	0.10	38,38,38,38	0
57	MG	RA	3085	1/1	0.98	0.14	21,21,21,21	0
57	MG	YA	3239	1/1	0.98	0.21	31,31,31,31	0
57	MG	RA	3232	1/1	0.98	0.22	36,36,36,36	0
57	MG	XA	1685	1/1	0.98	0.15	21,21,21,21	0
57	MG	RA	3065	1/1	0.98	0.10	13,13,13,13	0
59	ZN	QN	101	1/1	0.98	0.05	135,135,135,135	0
57	MG	RA	3006	1/1	0.98	0.26	10,10,10,10	0
59	ZN	XN	101	1/1	0.98	0.05	81,81,81,81	0

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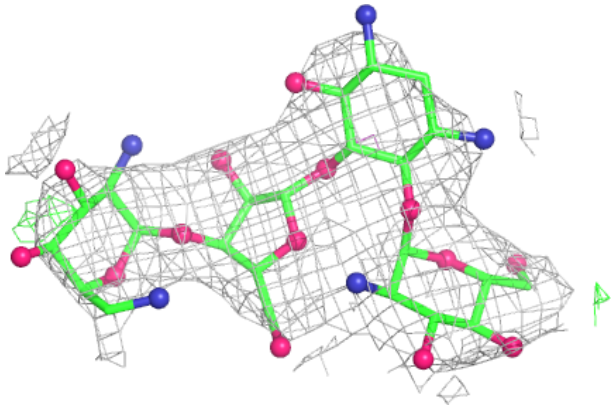
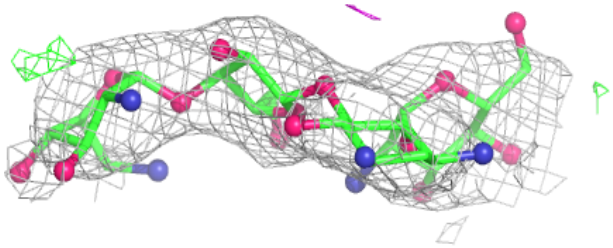
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	QA	1636	1/1	0.99	0.05	12,12,12,12	0
57	MG	YA	3010	1/1	0.99	0.10	11,11,11,11	0
57	MG	RA	3248	1/1	0.99	0.24	46,46,46,46	0
57	MG	QA	1651	1/1	0.99	0.08	29,29,29,29	0
57	MG	QA	1608	1/1	0.99	0.04	18,18,18,18	0
57	MG	QA	1671	1/1	0.99	0.14	23,23,23,23	0
57	MG	RA	3064	1/1	0.99	0.25	9,9,9,9	0
57	MG	YA	3250	1/1	0.99	0.03	27,27,27,27	0
57	MG	RA	3004	1/1	0.99	0.15	11,11,11,11	0
57	MG	RA	3162	1/1	0.99	0.03	18,18,18,18	0

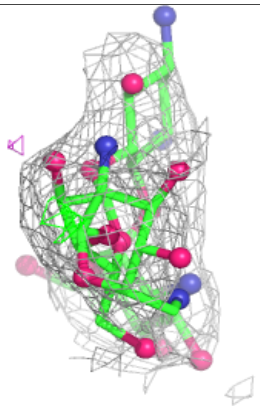
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around PAR QA 1681:

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

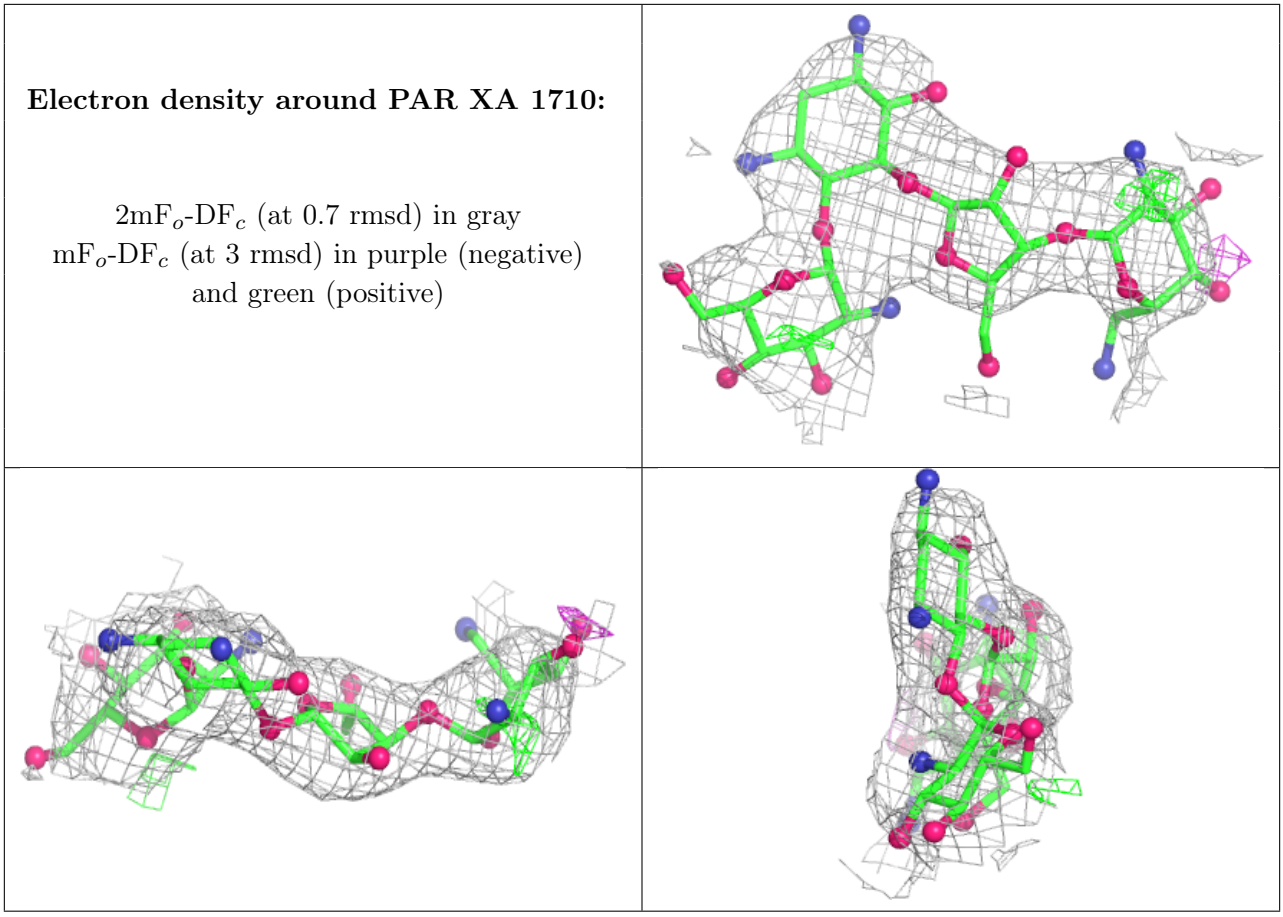






Electron density around PAR XA 1710:

$2mF_o$-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

There are no such residues in this entry.