Full wwPDB X-ray Structure Validation Report (i)

Nov 4, 2023 – 11:11 PM EDT

PDB ID	:	5VPO
Title	:	The 70S P-site ASL SufA6 complex
Authors	:	Hong, S.; Sunita, S.; Dunkle, J.A.; Maehigashi, T.; Dunham, C.M.
Deposited on	:	2017-05-05
Resolution	:	3.34 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:

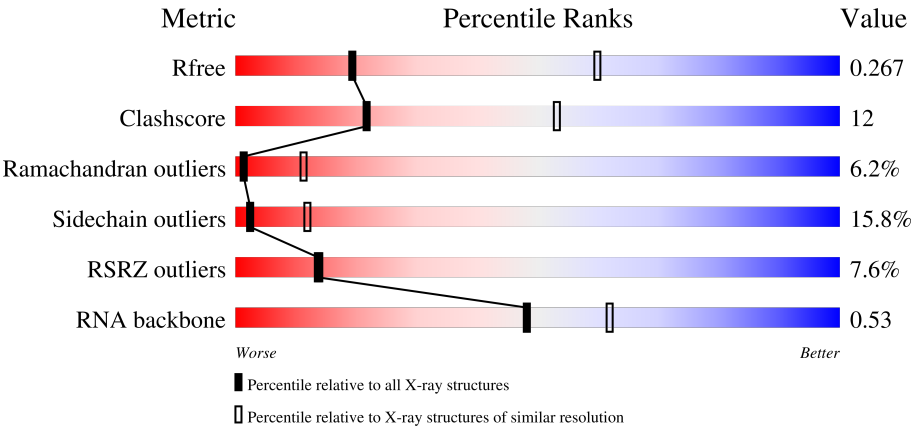
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.34 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}	130704	1060 (3.38-3.30)
Clashscore	141614	1111 (3.38-3.30)
Ramachandran outliers	138981	1090 (3.38-3.30)
Sidechain outliers	138945	1089 (3.38-3.30)
RSRZ outliers	127900	1028 (3.38-3.30)
RNA backbone	3102	1129 (3.78-2.90)

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

Mol	Chain	Length	Quality of chain
1	QX	19	11% 16% 5% 79%
1	XX	19	5% 16% 5% 79%
2	QA	1521	8% 57% 33% 8%
2	XA	1521	7% 55% 34% 8%

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Mol	Chain	Length	Quality of chain
3	QB	256	14% 47% 38% 7% 7%
3	XB	256	7% 45% 36% 10% 7%
4	QC	239	16% 55% 28% 14%
4	XC	239	8% 55% 28% 14%
5	QD	209	5% 49% 43% 7%
5	XD	209	3% 68% 25% 5%
6	QE	162	3% 58% 33% 7%
6	XE	162	4% 54% 36% 7%
7	QF	101	% 65% 30% 5%
7	XF	101	% 62% 35%
8	QG	156	22% 66% 31%
8	XG	156	17% 72% 24%
9	QH	138	6% 59% 38%
9	XH	138	% 64% 31% 5%
10	QI	128	32% 56% 38%
10	XI	128	19% 57% 31% 10%
11	QJ	105	44% 46% 39% 10% 6%
11	XJ	105	38% 44% 42% 9% 6%
12	QK	129	7% 58% 29% 5% 8%
12	XK	129	6% 60% 30% 8%
13	QL	132	8% 52% 34% 8% 5%
13	XL	132	5% 55% 32% 8% 5%
14	QM	126	24% 46% 40% 9%
14	XM	126	29% 49% 36% 11%
15	QN	61	21% 49% 39% 10%

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Mol	Chain	Length	Quality of chain
15	XN	61	15% 54% 34% 8%
16	QO	89	2% 65% 28% 6%
16	XO	89	% 67% 24% 8%
17	QP	88	% 68% 22% 6% 5%
17	XP	88	3% 56% 36% 5%
18	QQ	105	7% 62% 30% 5%
18	XQ	105	4% 71% 20% 5%
19	QR	88	6% 52% 20% 5% 20%
19	XR	88	% 43% 32% 5% 20%
20	QS	93	42% 37% 34% 18% 10%
20	XS	93	48% 26% 48% 13% 10%
21	QT	106	2% 58% 30% 5% 7%
21	XT	106	8% 47% 37% 9% 7%
22	QU	27	59% 48% 44% 7%
22	XU	27	78% 67% 26% 7%
23	RA	2915	7% 57% 32% 9%
23	YA	2915	5% 58% 31% 9%
24	RB	122	% 56% 30% 12%
24	YB	122	60% 28% 10%
25	RD	276	% 53% 37% 9%
25	YD	276	56% 35% 7%
26	RE	206	2% 48% 37% 13%
26	YE	206	% 53% 36% 9%
27	RF	210	47% 37% 11%
27	YF	210	60% 26% 9%

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Mol	Chain	Length	Quality of chain
28	RG	182	19% 54% 37% 7%
28	YG	182	7% 54% 35% 9%
29	RH	180	17% 49% 33% 11% 6%
29	YH	180	2% 44% 34% 14% 6%
30	RI	148	4% 42% 42% 14%
30	YI	148	3% 43% 43% 11%
31	RN	140	50% 41% 7%
31	YN	140	51% 38% 9%
32	RO	122	70% 25% 5%
32	YO	122	69% 26% 5%
33	RP	150	5% 41% 40% 17%
33	YP	150	2% 41% 36% 19%
34	RQ	141	4% 43% 43% 12%
34	YQ	141	3% 49% 40% 9%
35	RR	118	43% 46% 11%
35	YR	118	57% 31% 12%
36	RS	112	9% 45% 38% 16%
36	YS	112	2% 46% 37% 13%
37	RT	146	5% 45% 40% 8% 6%
37	YT	146	3% 42% 42% 10% 6%
38	RU	118	3% 68% 25% 6%
38	YU	118	2% 49% 40% 10%
39	RV	101	58% 31% 9%
39	YV	101	2% 43% 46% 11%
40	RW	113	4% 59% 31% 9%

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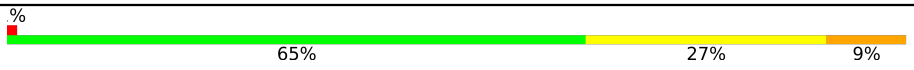
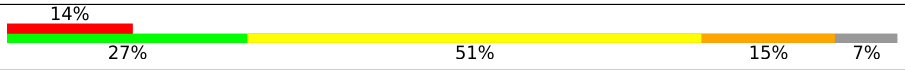
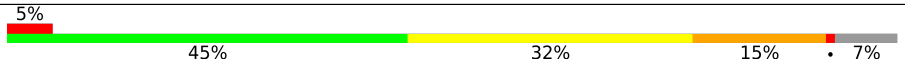
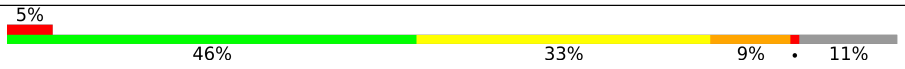
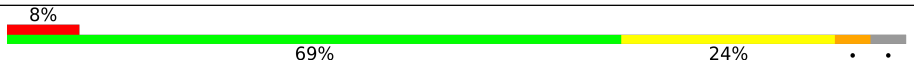
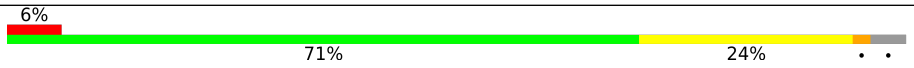
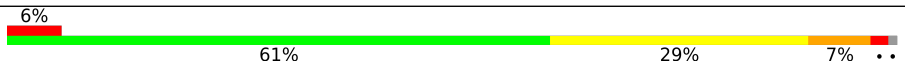
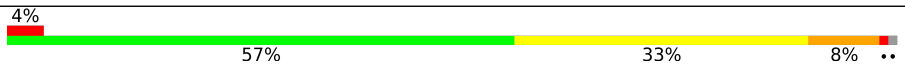
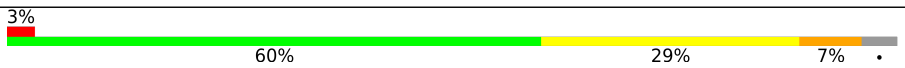
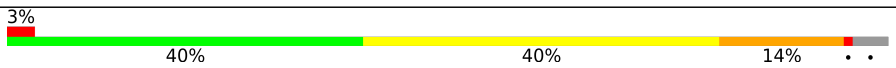
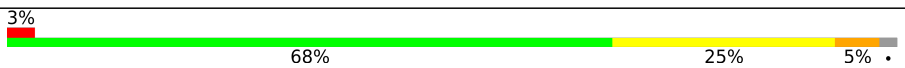
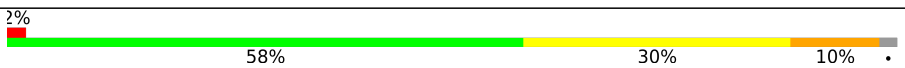
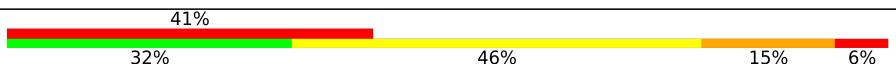
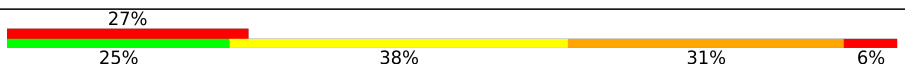
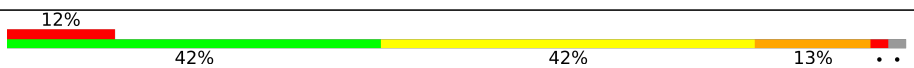
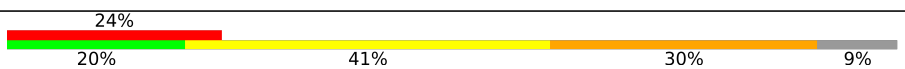
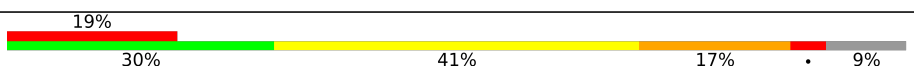
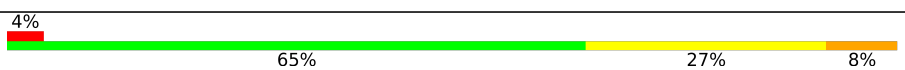
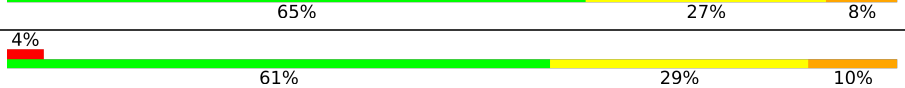
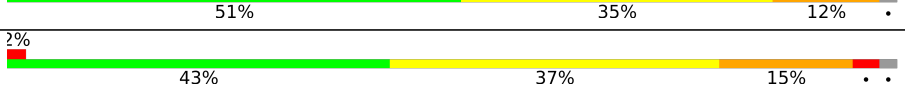
Mol	Chain	Length	Quality of chain
40	YW	113	
41	RX	96	
41	YX	96	
42	RY	110	
42	YY	110	
43	RZ	206	
43	YZ	206	
44	R0	85	
44	Y0	85	
45	R1	98	
45	Y1	98	
46	R2	72	
46	Y2	72	
47	R3	60	
47	Y3	60	
48	R4	71	
48	Y4	71	
49	R5	60	
49	Y5	60	
50	R6	54	
50	Y6	54	
51	R7	49	
51	Y7	49	
52	R8	65	
52	Y8	65	

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Mol	Chain	Length	Quality of chain
53	R9	37	24% 70% 27%
53	Y9	37	8% 68% 30%
54	QV	18	17% 61% 22% 11% 6%
54	XV	18	17% 67% 22% 6% 6%

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
55	MG	QA	1605	-	-	-	X
55	MG	QA	1619	-	-	-	X
55	MG	QA	1622	-	-	-	X
55	MG	QA	1623	-	-	-	X
55	MG	QA	1624	-	-	-	X
55	MG	QA	1629	-	-	-	X
55	MG	QA	1631	-	-	-	X
55	MG	QA	1639	-	-	-	X
55	MG	QA	1647	-	-	-	X
55	MG	QA	1651	-	-	-	X
55	MG	QA	1657	-	-	-	X
55	MG	QA	1661	-	-	-	X
55	MG	QA	1662	-	-	-	X
55	MG	QA	1666	-	-	-	X
55	MG	RA	3004	-	-	-	X
55	MG	RA	3009	-	-	-	X
55	MG	RA	3156	-	-	-	X
55	MG	RA	3184	-	-	-	X
55	MG	RA	3223	-	-	-	X
55	MG	RA	3225	-	-	-	X
55	MG	RA	3230	-	-	-	X
55	MG	XA	1623	-	-	-	X
55	MG	XA	1624	-	-	-	X
55	MG	XA	1629	-	-	-	X
55	MG	XA	1634	-	-	-	X
55	MG	XA	1644	-	-	-	X
55	MG	XA	1648	-	-	-	X
55	MG	XA	1652	-	-	-	X
55	MG	XA	1655	-	-	-	X
55	MG	XA	1660	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
55	MG	XA	1661	-	-	-	X
55	MG	XA	1662	-	-	-	X
55	MG	XA	1663	-	-	-	X
55	MG	XA	1665	-	-	-	X
55	MG	XA	1671	-	-	-	X
55	MG	XB	301	-	-	-	X
55	MG	XL	201	-	-	-	X
55	MG	XM	201	-	-	-	X
55	MG	YA	3122	-	-	-	X
55	MG	YA	3143	-	-	-	X
55	MG	YA	3144	-	-	-	X
55	MG	YA	3198	-	-	-	X
55	MG	YP	202	-	-	-	X

2 Entry composition (i)

There are 56 unique types of molecules in this entry. The entry contains 288423 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 messenger RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	QX	4	Total	C	N	O	P	0	0	0
			80	36	11	29	4			
1	XX	4	Total	C	N	O	P	0	0	0
			80	36	11	29	4			

- Molecule 2 is a RNA chain called 16S rRNA.

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

- Molecule 3 is a protein called 30S ribosomal protein S2.

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

- Molecule 4 is a protein called 30S ribosomal protein S3.

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

- Molecule 5 is a protein called 30S ribosomal protein S4.

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

- Molecule 6 is a protein called 30S ribosomal protein S5.

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

- Molecule 7 is a protein called 30S ribosomal protein S6.

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

- Molecule 8 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	QG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			
8	XG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 9 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	QH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			
9	XH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 10 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
10	QI	127	Total	C	N	O	0	0	0
			1010	639	197	174			

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
10	XI	127	Total	C	N	O	0	0	0
			1010	639	197	174			

- Molecule 11 is a protein called 30S ribosomal protein S10.

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

- Molecule 12 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	QK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			
12	XK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			

- Molecule 13 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	QL	125	Total	C	N	O	S	0	0	0
			975	614	196	164	1			
13	XL	125	Total	C	N	O	S	0	0	0
			975	614	196	164	1			

- Molecule 14 is a protein called 30S ribosomal protein S13.

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

- Molecule 15 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	QN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
15	XN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 16 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	QO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
16	XO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

- Molecule 17 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	QP	84	Total	C	N	O	S	0	0	0
			705	446	140	118	1			
17	XP	84	Total	C	N	O	S	0	0	0
			705	446	140	118	1			

- Molecule 18 is a protein called 30S ribosomal protein S17.

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

- Molecule 19 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
19	QR	70	Total	C	N	O	0	0	0
			574	367	112	95			
19	XR	70	Total	C	N	O	0	0	0
			574	367	112	95			

- Molecule 20 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	QS	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			
20	XS	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			

- Molecule 21 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	QT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			
21	XT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			

- Molecule 22 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
22	QU	25	Total	C	N	O	0	0	0
			217	134	52	31			
22	XU	25	Total	C	N	O	0	0	0
			217	134	52	31			

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

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

- Molecule 24 is a RNA chain called 5S rRNA.

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

- Molecule 25 is a protein called 50S ribosomal protein L2.

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

- Molecule 26 is a protein called 50S ribosomal protein L3.

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

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

- Molecule 27 is a protein called 50S ribosomal protein L4.

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

- Molecule 28 is a protein called 50S ribosomal protein L5.

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

- Molecule 29 is a protein called 50S ribosomal protein L6.

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

- Molecule 30 is a protein called 50S ribosomal protein L9.

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

- Molecule 31 is a protein called 50S ribosomal protein L13.

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

- Molecule 32 is a protein called 50S ribosomal protein L14.

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

- Molecule 33 is a protein called 50S ribosomal protein L15.

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

- Molecule 34 is a protein called 50S ribosomal protein L16.

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

- Molecule 35 is a protein called 50S ribosomal protein L17.

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

- Molecule 36 is a protein called 50S ribosomal protein L18.

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

- Molecule 37 is a protein called 50S ribosomal protein L19.

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

- Molecule 38 is a protein called 50S ribosomal protein L20.

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

- Molecule 39 is a protein called 50S ribosomal protein L21.

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

- Molecule 40 is a protein called 50S ribosomal protein L22.

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

- Molecule 41 is a protein called 50S ribosomal protein L23.

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

- Molecule 42 is a protein called 50S ribosomal protein L24.

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

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

- Molecule 43 is a protein called 50S ribosomal protein L25.

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

- Molecule 44 is a protein called 50S ribosomal protein L27.

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

- Molecule 45 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	R1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			
45	Y1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			

- Molecule 46 is a protein called 50S ribosomal protein L29.

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

- Molecule 47 is a protein called 50S ribosomal protein L30.

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

- Molecule 48 is a protein called 50S ribosomal protein L31.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	R5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			
49	Y5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

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

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

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

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

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

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

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

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

- Molecule 54 is a RNA chain called P-site ASL SufA6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	XV	18	Total 385	C 173	N 70	O 125	P 17	0	0	0
54	QV	18	Total 385	C 173	N 70	O 125	P 17	0	0	0

- Molecule 55 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
55	QA	66	Total 66	Mg 66	0	0
55	QF	1	Total 1	Mg 1	0	0
55	QH	1	Total 1	Mg 1	0	0
55	QM	1	Total 1	Mg 1	0	0
55	RA	243	Total 243	Mg 243	0	0
55	RB	2	Total 2	Mg 2	0	0
55	RD	1	Total 1	Mg 1	0	0
55	RE	2	Total 2	Mg 2	0	0
55	RF	1	Total 1	Mg 1	0	0
55	RP	2	Total 2	Mg 2	0	0
55	RR	1	Total 1	Mg 1	0	0
55	R0	1	Total 1	Mg 1	0	0
55	R3	1	Total 1	Mg 1	0	0
55	R5	1	Total 1	Mg 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
55	R8	1	Total Mg 1 1	0	0
55	XA	71	Total Mg 71 71	0	0
55	XB	1	Total Mg 1 1	0	0
55	XL	1	Total Mg 1 1	0	0
55	XM	1	Total Mg 1 1	0	0
55	YA	267	Total Mg 267 267	0	0
55	YB	4	Total Mg 4 4	0	0
55	YD	2	Total Mg 2 2	0	0
55	YE	1	Total Mg 1 1	0	0
55	YP	2	Total Mg 2 2	0	0
55	YX	1	Total Mg 1 1	0	0
55	Y5	1	Total Mg 1 1	0	0

- Molecule 56 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
56	QD	1	Total Zn 1 1	0	0
56	QN	1	Total Zn 1 1	0	0
56	XD	1	Total Zn 1 1	0	0
56	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: messenger RNA

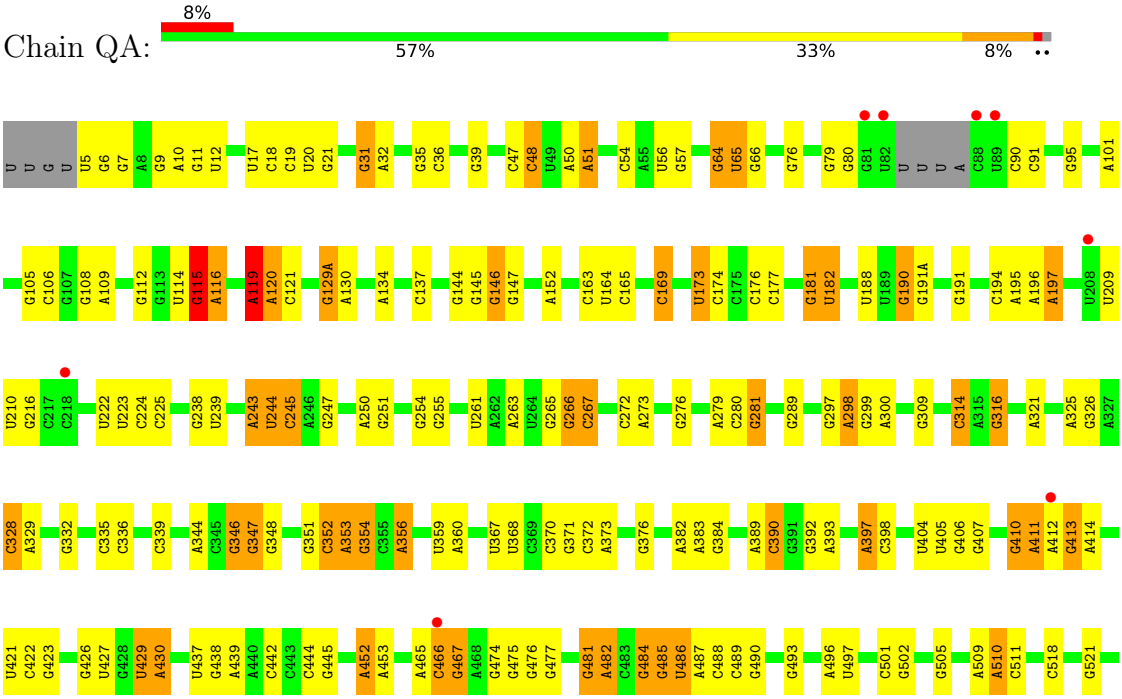
Chain QX:

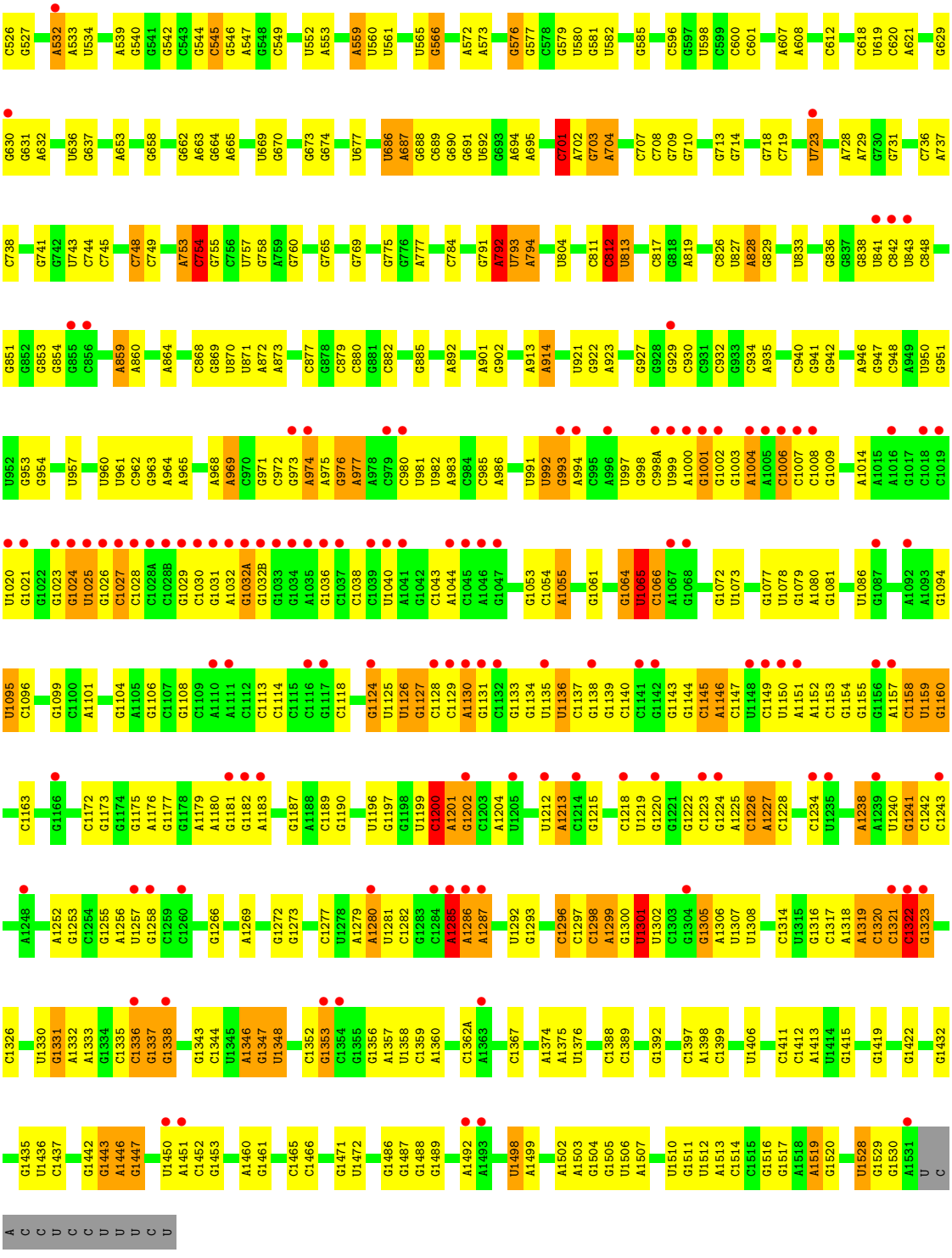
• Molecule 1: messenger RNA

Chain XX:

• Molecule 2: 16S rRNA

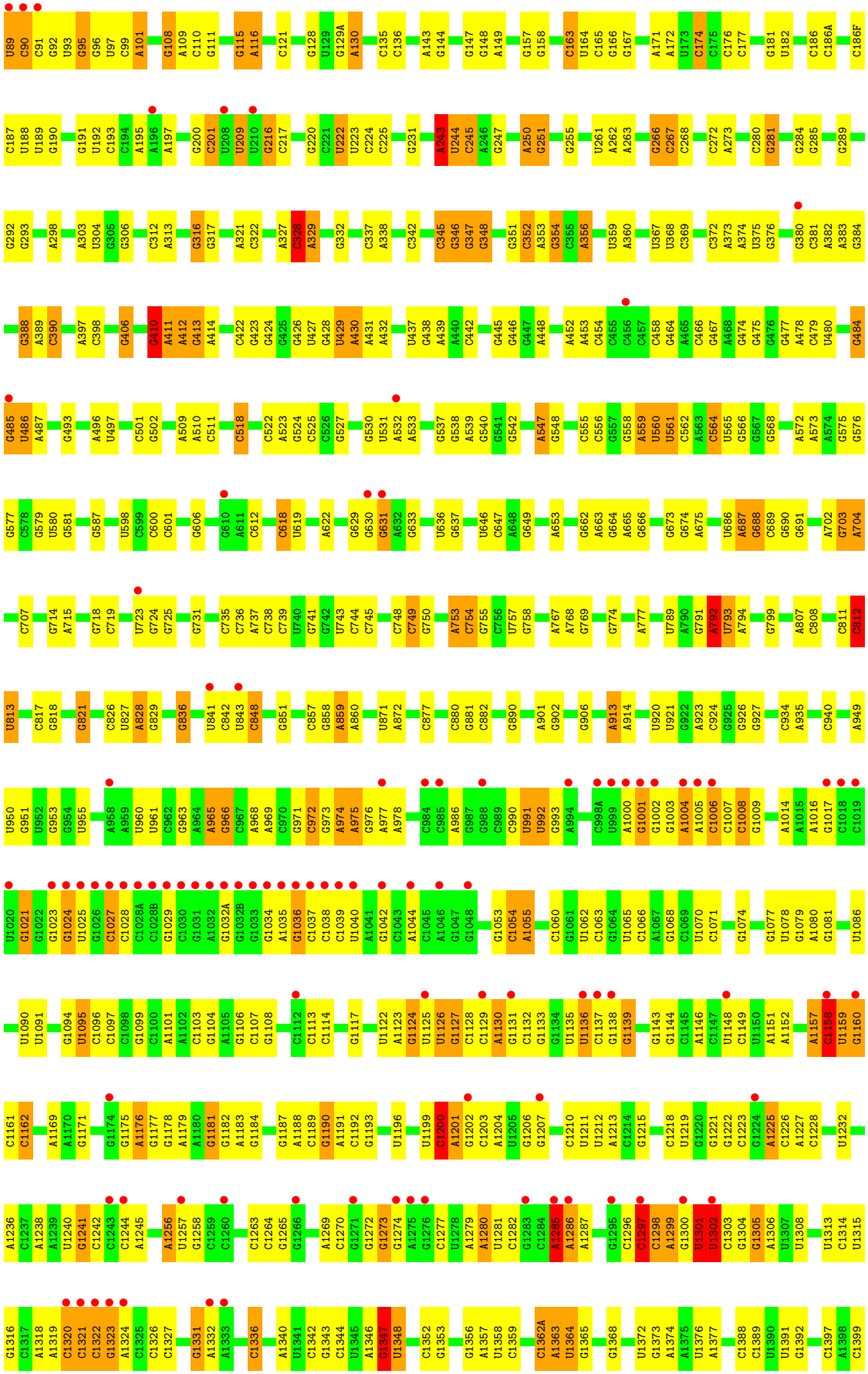
Chain QA:





• Molecule 2: 16S rRNA

Chain XA: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C187 U188 U189 G190 G191 U192 C193 C194 A195 A196 A197 G200 C201 U208 U209 U210 G216 C217 G220 C221 U222 U223 C224 C225 G231 A243 U244 C245 A246 G247 A250 G251 G255 U261 A262 A263 G266 C267 C268 C272 A273 C280 G281 G284 G285 G289
G292 G293 A298 A303 U304 G305 G306 C312 A313 G316 G317 A321 C322 A327 G328 A329 G332 C337 A338 C342 C345 G346 G347 G348 G351 C352 A353 G354 C355 A356 U359 A360 U367 U368 C369 C372 A373 A374 U375 G376 G380 C381 A382 A383 G384
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G577 C578 G579 U580 G581 G587 U598 C599 C600 C601 G606 G610 A611 C612 C618 U619 A622 G629 G630 G631 A632 G633 U636 G637 U646 C647 A648 G649 A653 G662 A663 G664 A665 G666 G673 G674 A675 U686 A687 G688 C689 G690 G691 A702 G703 A704
C707 G714 A715 G718 C719 U723 G724 G725 G731 C735 C736 A737 C738 C739 U740 G741 G742 U743 C744 C745 C748 C749 G750 A753 C754 G755 C756 U757 G758 A767 A768 G769 G774 A777 U789 A790 G791 A792 U793 A794 G799 A807 C808 C811 C812
U813 C817 G818 G821 C826 U827 A828 G829 G836 U841 C842 U843 C848 G851 C857 G858 A859 A860 U871 A872 C877 C880 G881 C882 G890 A901 G902 G906 A913 A914 U920 U921 G922 A923 C924 G925 G926 G927 C934 A935 C940 A949
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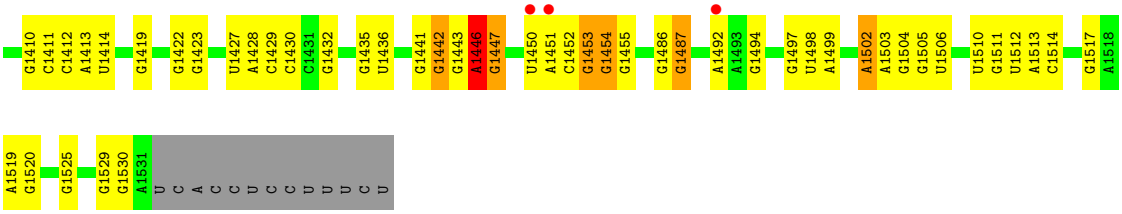
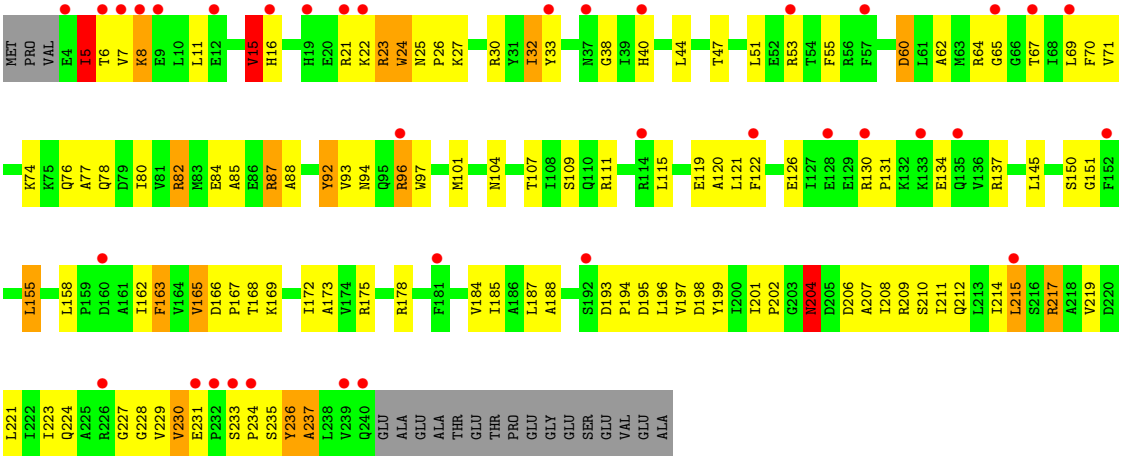
U1090 U1091 G1094 U1095 C1096 C1097 C1098 G1099 C1100 A1101 A1102 C1103 G1104 A1105 G1106 C1107 G1108 C1112 C1113 C1114 G1117 U1122 A1123 G1124 U1125 U1126 G1127 C1128 C1129 A1130 G1131 C1132 G1133 G1134 U1135 U1136 C1137 G1138 G1139 G1143 G1144 C1145 A1146 C1147 U1148 C1149 U1150 A1151 A1152 A1157 C1158 U1159 G1160
C1161 C1162 A1169 A1170 G1171 G1174 G1175 A1176 G1177 C1178 A1179 A1180 G1181 G1182 A1183 C1184 G1187 A1188 C1189 G1190 A1191 C1192 G1193 U1196 U1199 C1200 A1201 G1202 C1203 A1204 U1205 G1206 G1207 C1210 U1211 U1212 A1213 C1214 G1215 C1218 U1219 G1220 G1221 G1222 G1223 G1224 A1225 C1226 A1227 C1228 U1232
A1236 C1237 A1238 A1239 U1240 G1241 C1242 C1243 C1244 A1245 A1256 U1257 G1258 C1259 C1260 C1263 C1264 G1265 G1266 A1269 C1270 G1271 G1272 G1273 G1274 A1275 G1276 C1277 U1278 A1279 A1280 U1281 C1282 G1283 C1284 A1285 A1286 A1287 G1295 C1296 C1297 C1298 A1299 G1300 U1301 U1302 C1303 G1304 G1305 A1306 U1307 U1308 U1313 C1314 U1315
G1316 C1317 A1318 A1319 C1320 C1321 C1322 G1323 A1324 C1325 C1326 C1327 G1331 A1332 A1333 C1336 A1340 U1341 C1342 G1343 C1344 U1345 A1346 G1347 U1348 C1352 G1353 G1356 A1357 U1358 C1359 C1362A A1363 U1364 G1365 G1368 U1372 G1373 A1374 A1375 U1376 A1377 C1388 C1389 U1390 U1391 G1392 C1397 A1398 C1399



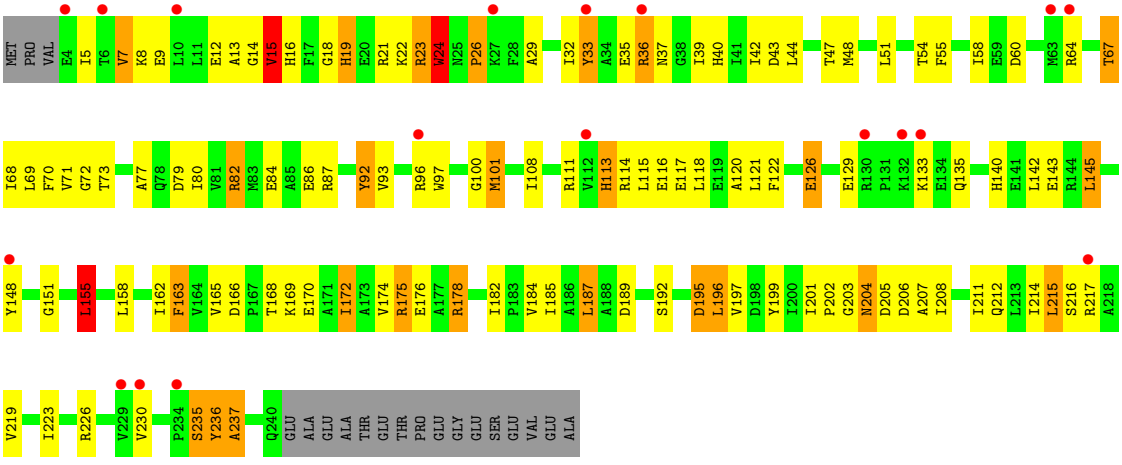
• Molecule 3: 30S ribosomal protein S2

Chain QB:



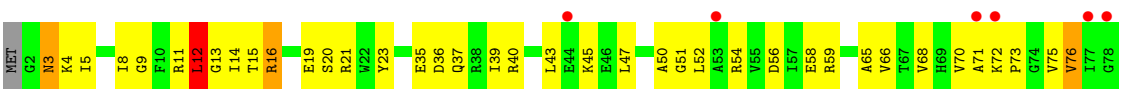
• Molecule 3: 30S ribosomal protein S2

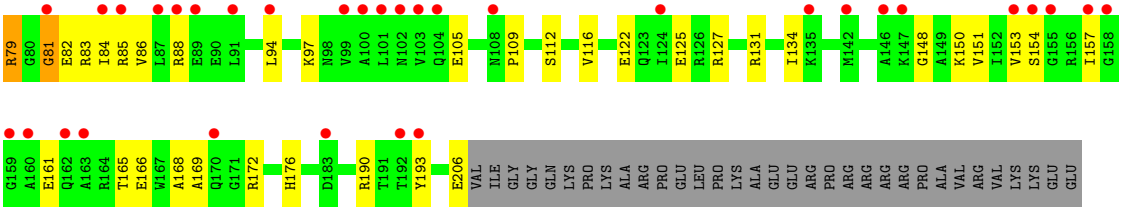
Chain XB:



• Molecule 4: 30S ribosomal protein S3

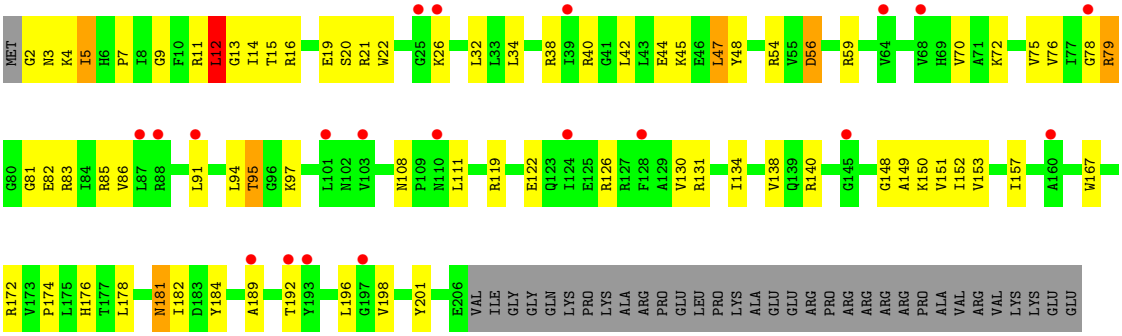
Chain QC:





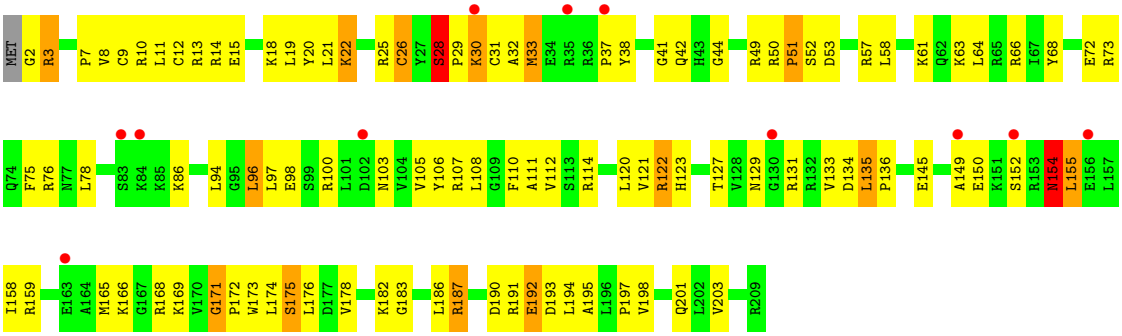
• Molecule 4: 30S ribosomal protein S3

Chain XC:



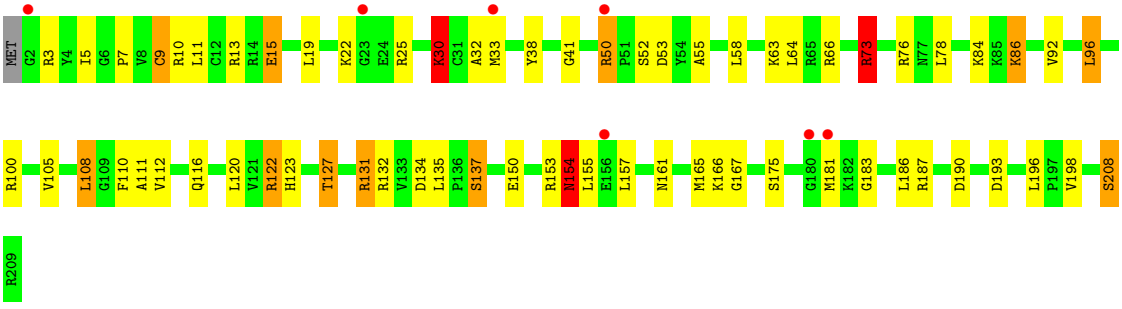
• Molecule 5: 30S ribosomal protein S4

Chain QD:



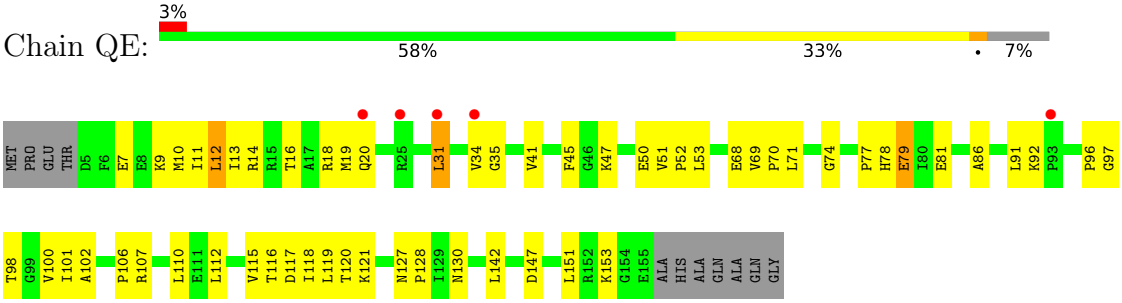
• Molecule 5: 30S ribosomal protein S4

Chain XD:



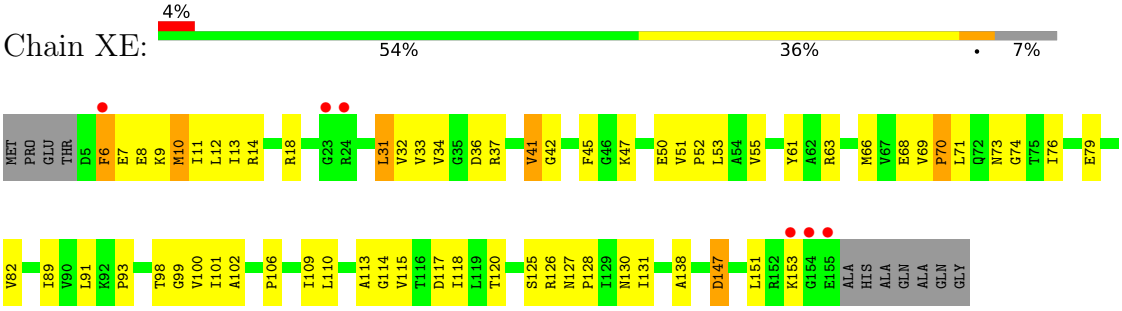
• Molecule 6: 30S ribosomal protein S5

Chain QE:



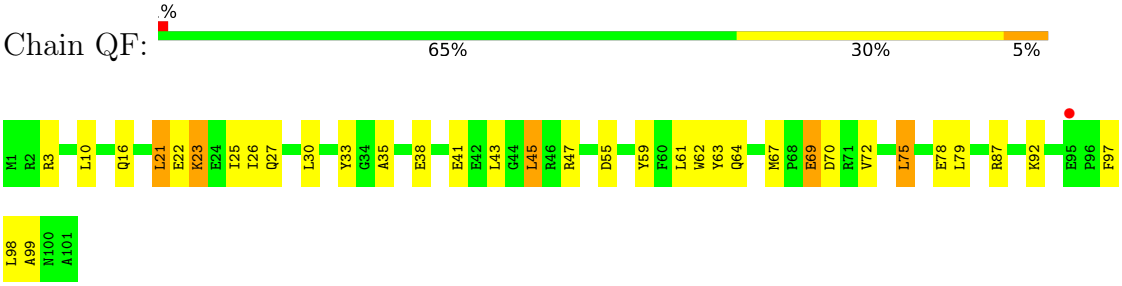
• Molecule 6: 30S ribosomal protein S5

Chain XE:



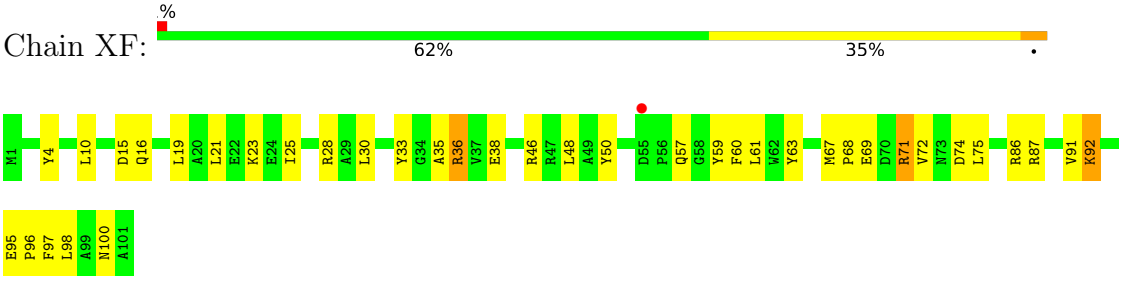
• Molecule 7: 30S ribosomal protein S6

Chain QF:



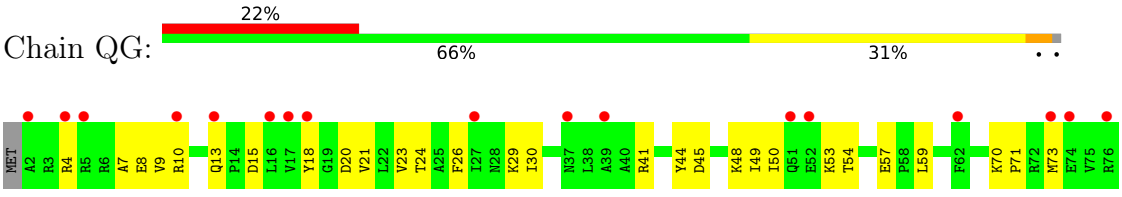
• Molecule 7: 30S ribosomal protein S6

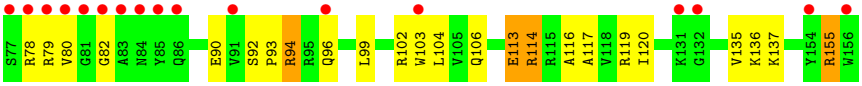
Chain XF:



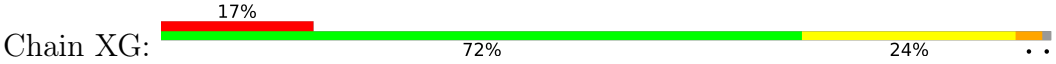
• Molecule 8: 30S ribosomal protein S7

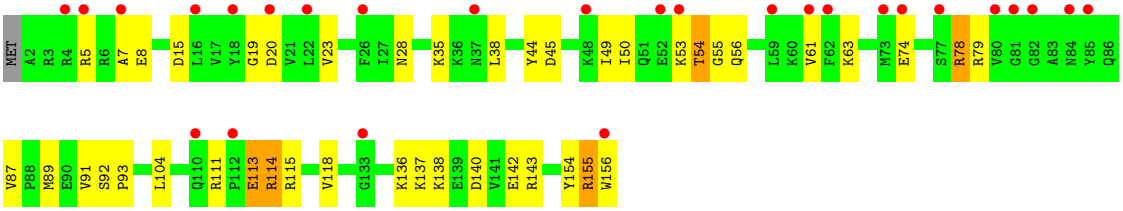
Chain QG:



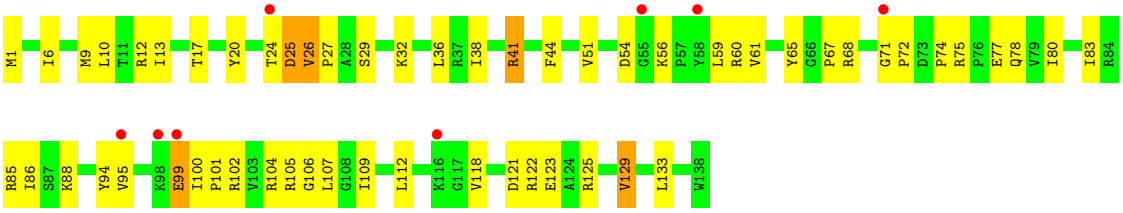


• Molecule 8: 30S ribosomal protein S7

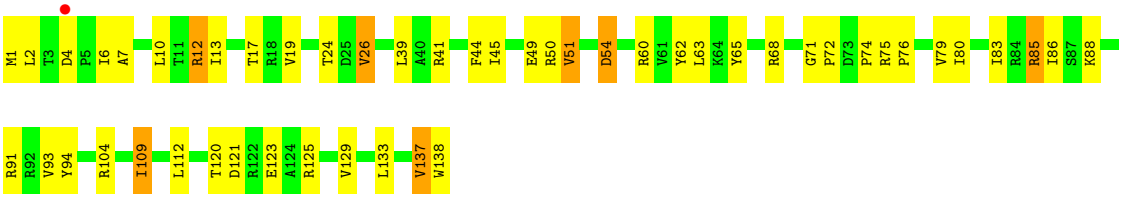




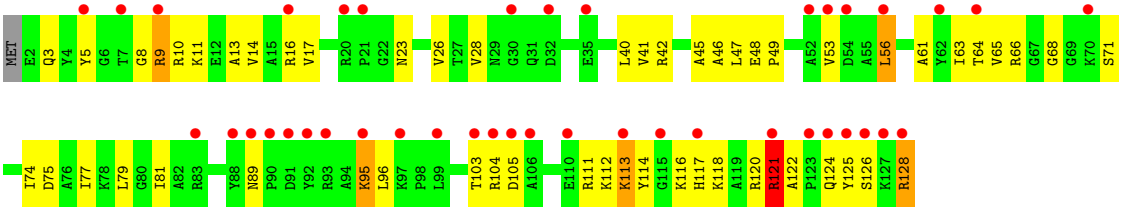
• Molecule 9: 30S ribosomal protein S8



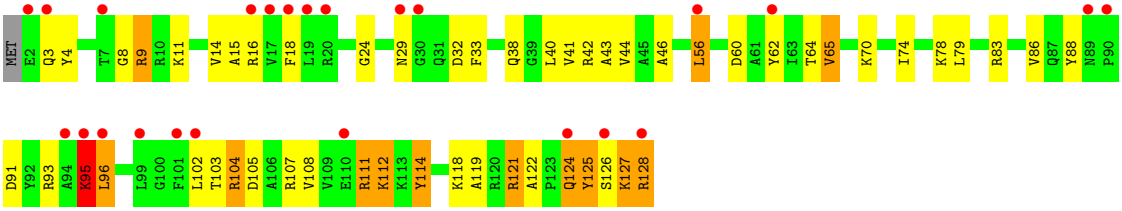
• Molecule 9: 30S ribosomal protein S8



• Molecule 10: 30S ribosomal protein S9

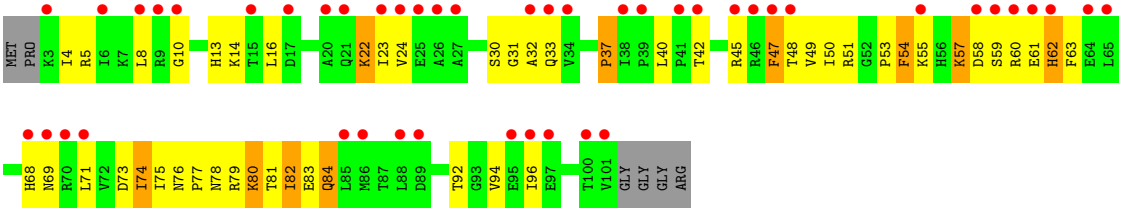


• Molecule 10: 30S ribosomal protein S9



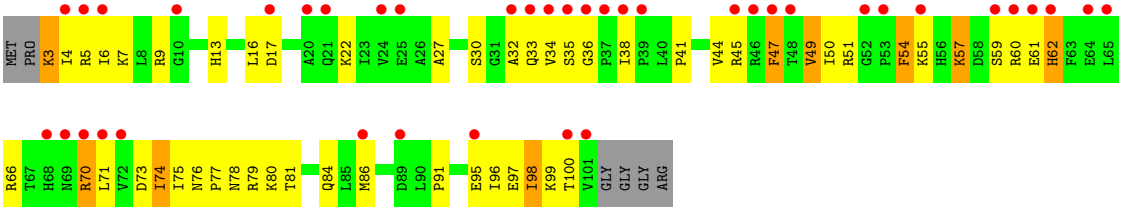
• Molecule 11: 30S ribosomal protein S10

Chain QJ:



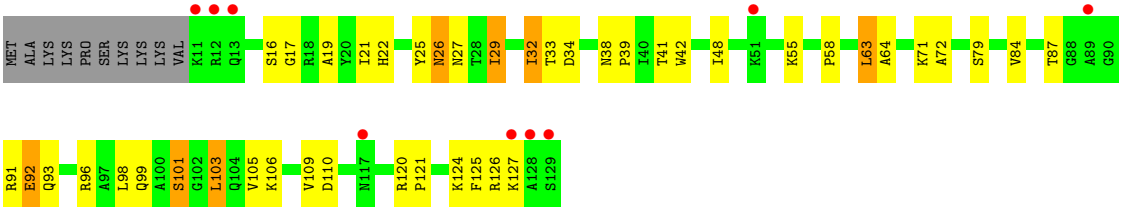
• Molecule 11: 30S ribosomal protein S10

Chain XJ:



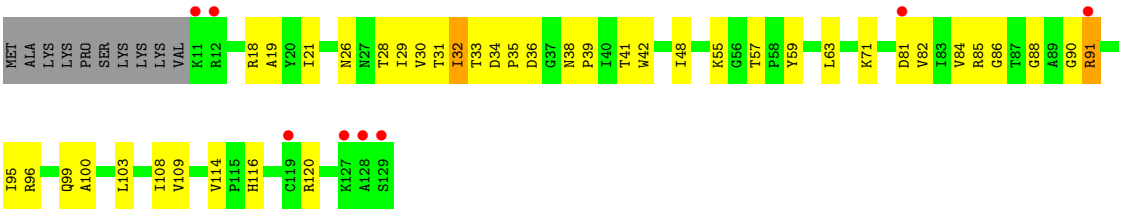
• Molecule 12: 30S ribosomal protein S11

Chain QK:



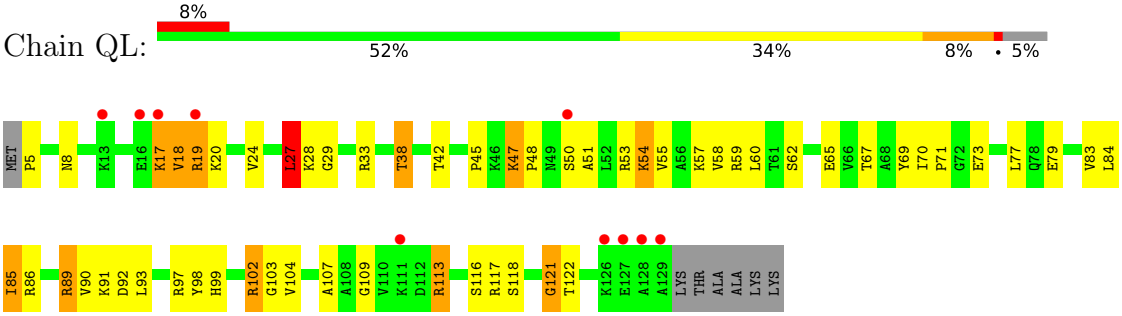
• Molecule 12: 30S ribosomal protein S11

Chain XK:



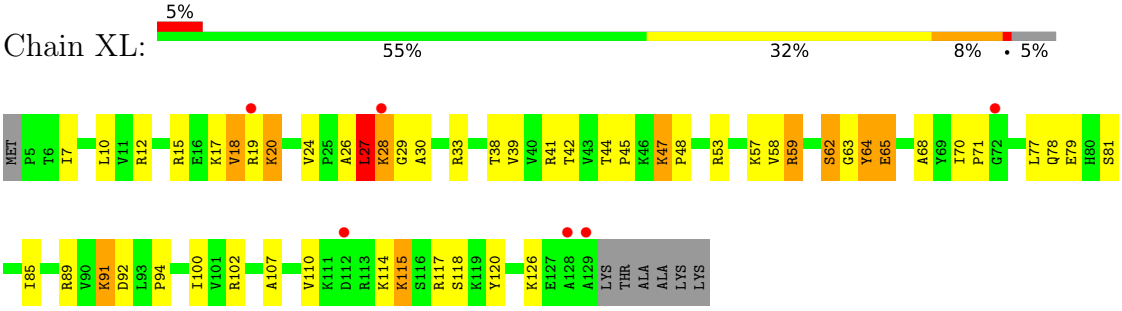
• Molecule 13: 30S ribosomal protein S12

Chain QL:



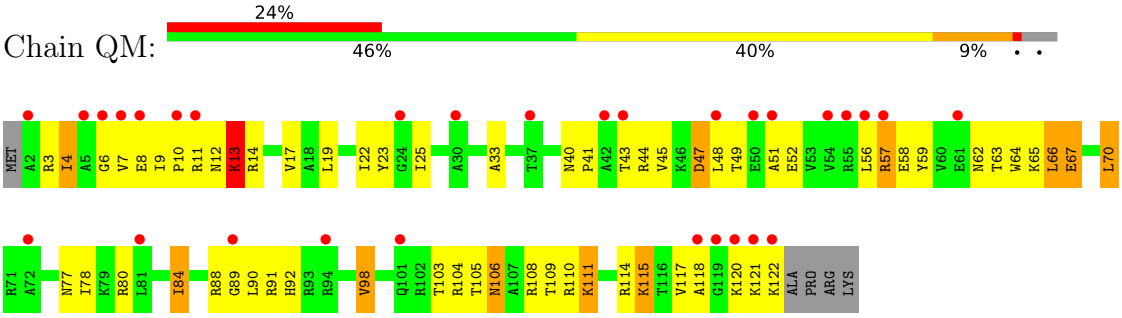
• Molecule 13: 30S ribosomal protein S12

Chain XL:



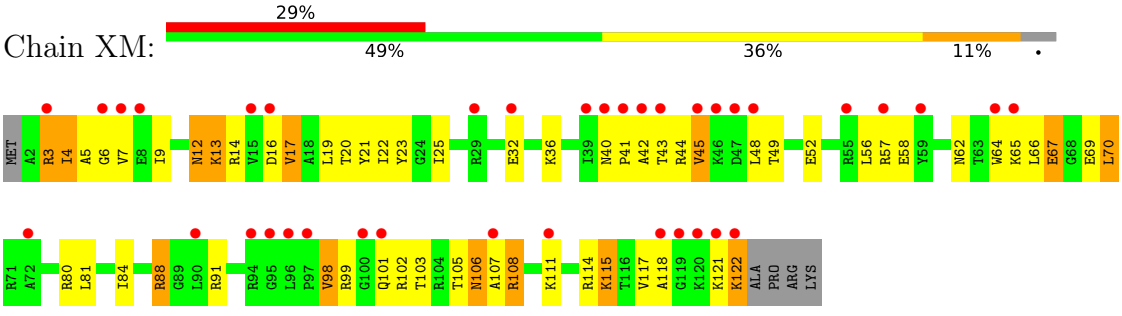
• Molecule 14: 30S ribosomal protein S13

Chain QM:



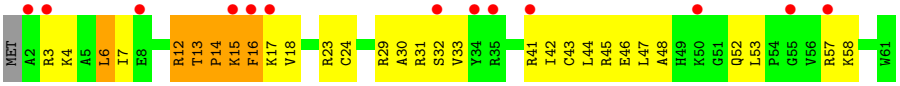
• Molecule 14: 30S ribosomal protein S13

Chain XM:

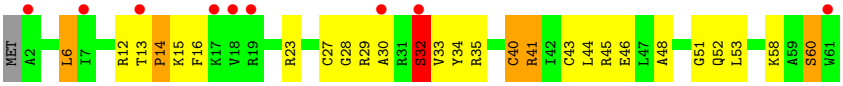


• Molecule 15: 30S ribosomal protein S14 type Z

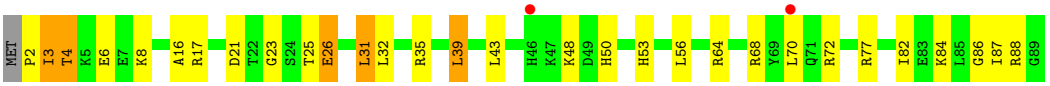
Chain QN:



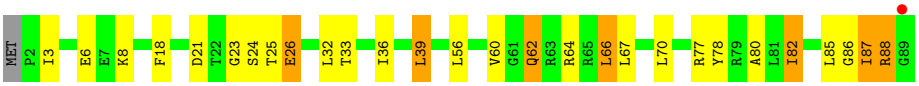
• Molecule 15: 30S ribosomal protein S14 type Z



• Molecule 16: 30S ribosomal protein S15

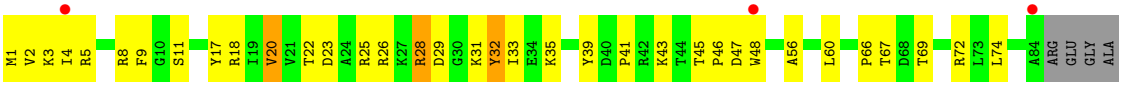


• Molecule 16: 30S ribosomal protein S15

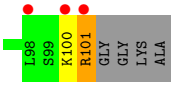


• Molecule 17: 30S ribosomal protein S16

• Molecule 17: 30S ribosomal protein S16

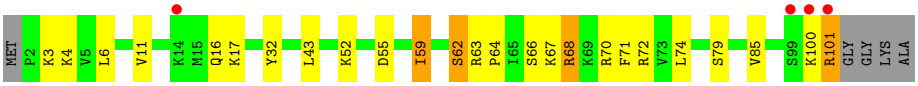


• Molecule 18: 30S ribosomal protein S17



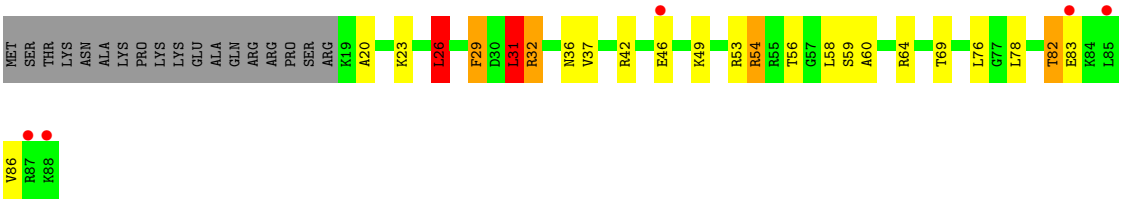
• Molecule 18: 30S ribosomal protein S17

Chain XQ:



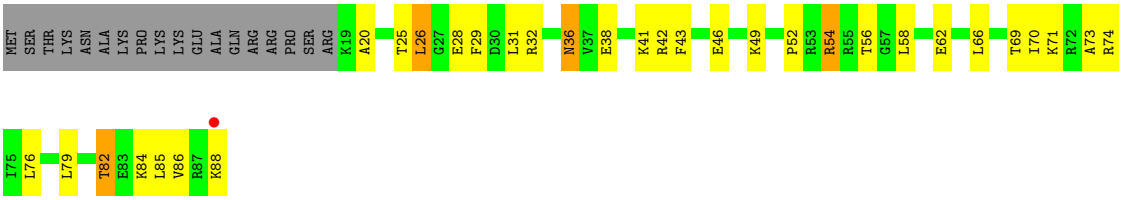
• Molecule 19: 30S ribosomal protein S18

Chain QR:



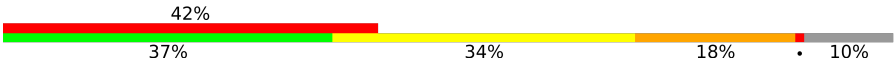
• Molecule 19: 30S ribosomal protein S18

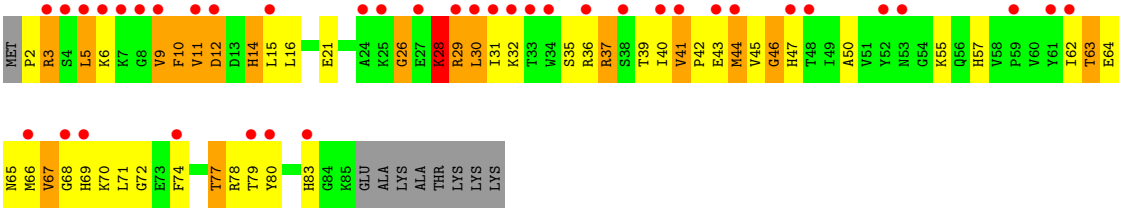
Chain XR:



• Molecule 20: 30S ribosomal protein S19

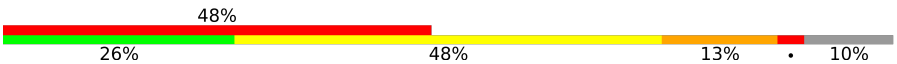
Chain QS:

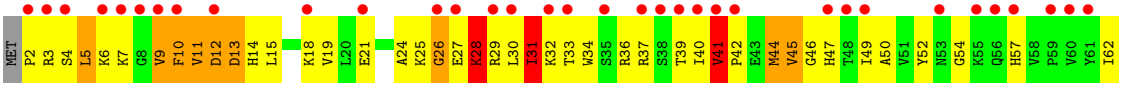


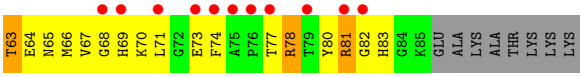


• Molecule 20: 30S ribosomal protein S19

Chain XS:

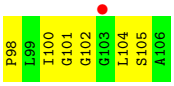






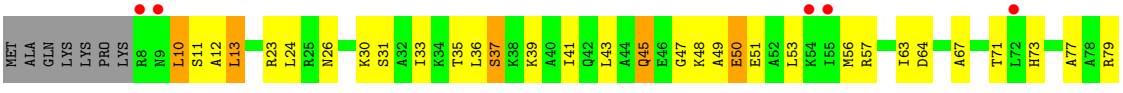
• Molecule 21: 30S ribosomal protein S20

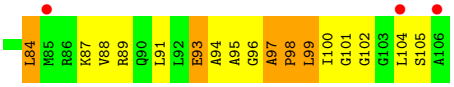
Chain QT:



• Molecule 21: 30S ribosomal protein S20

Chain XT:



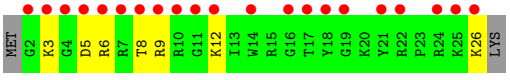


• Molecule 22: 30S ribosomal protein Thx

Chain QU:

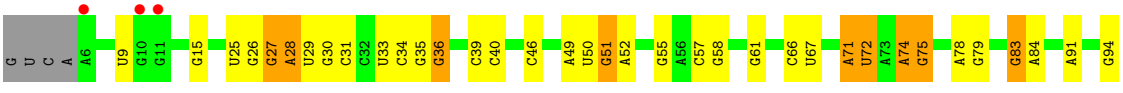
• Molecule 22: 30S ribosomal protein Thx

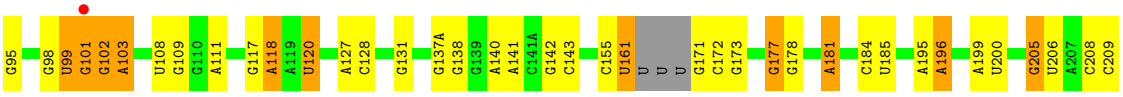
Chain XU:

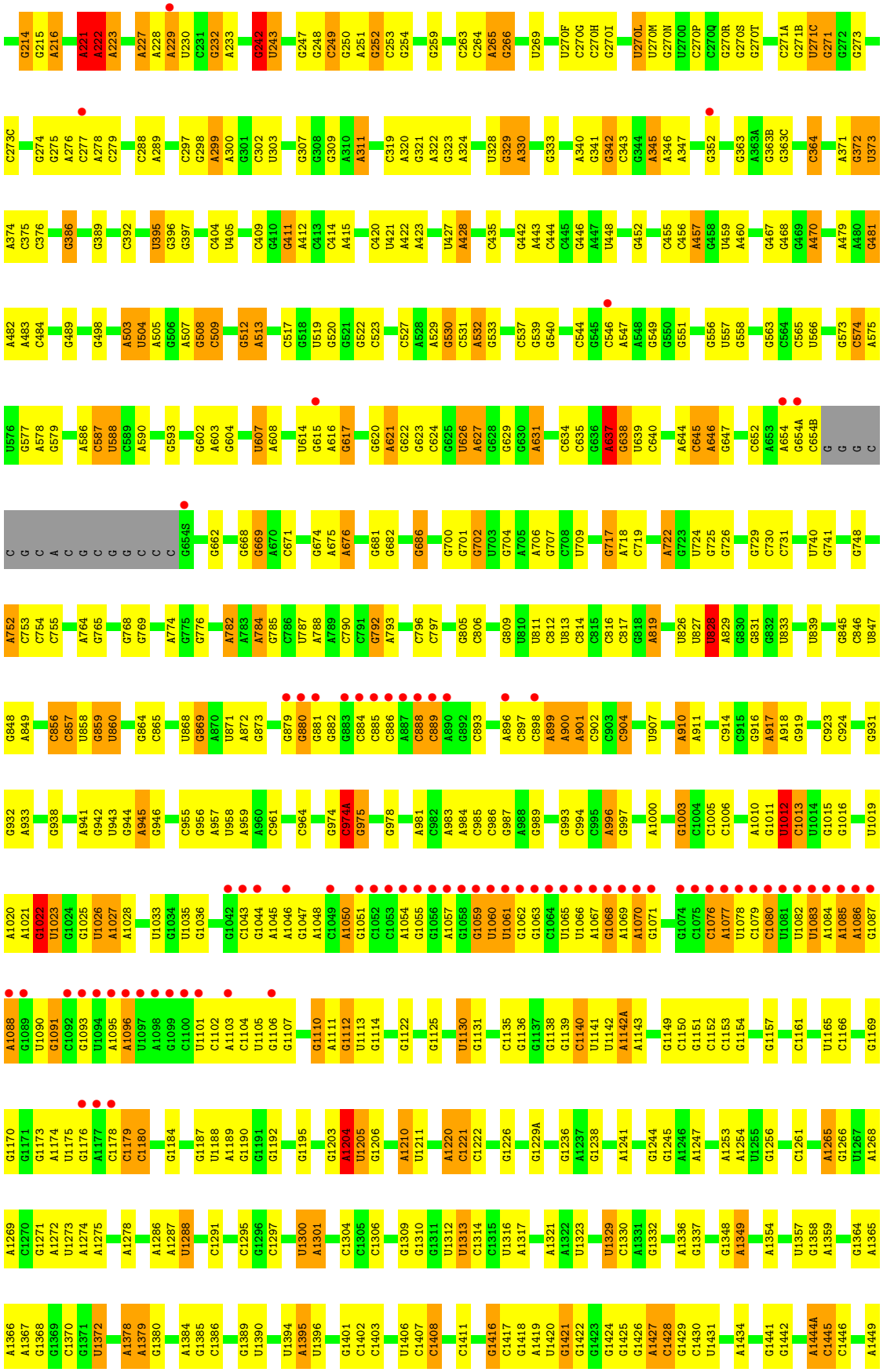


• Molecule 23: 23S rRNA

Chain RA:



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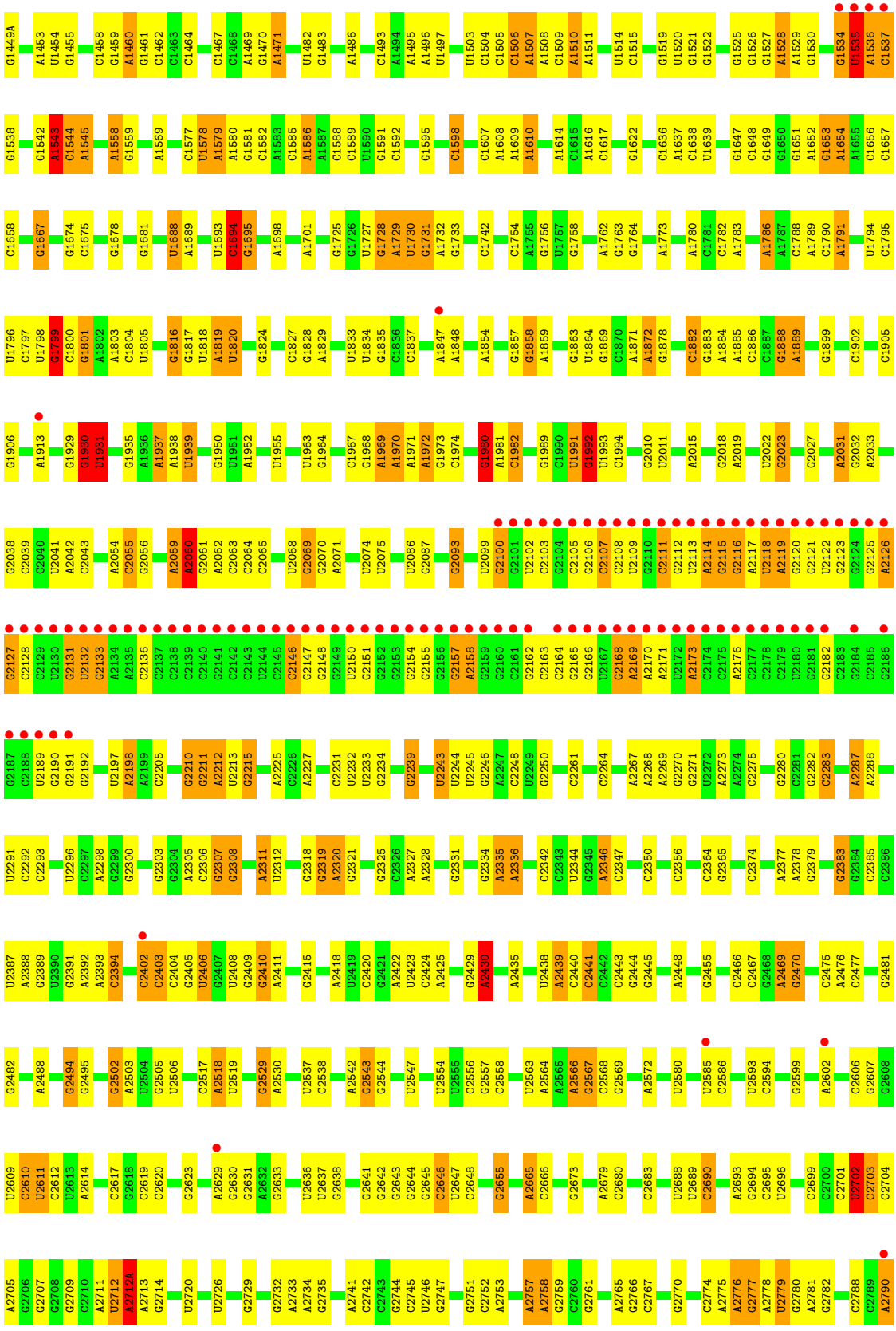
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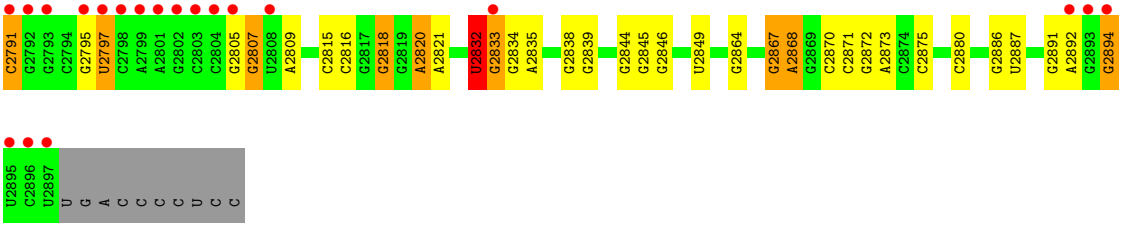
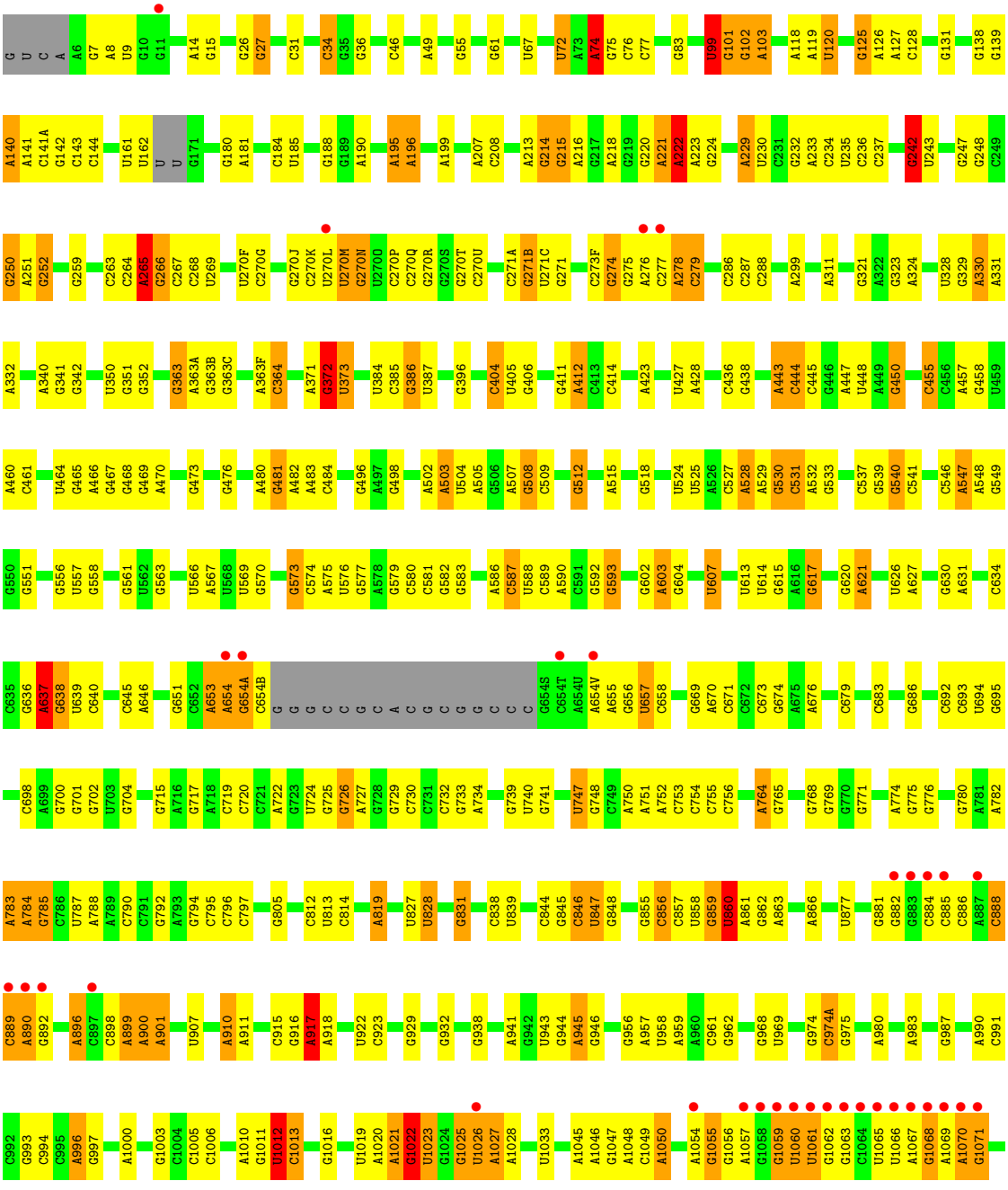
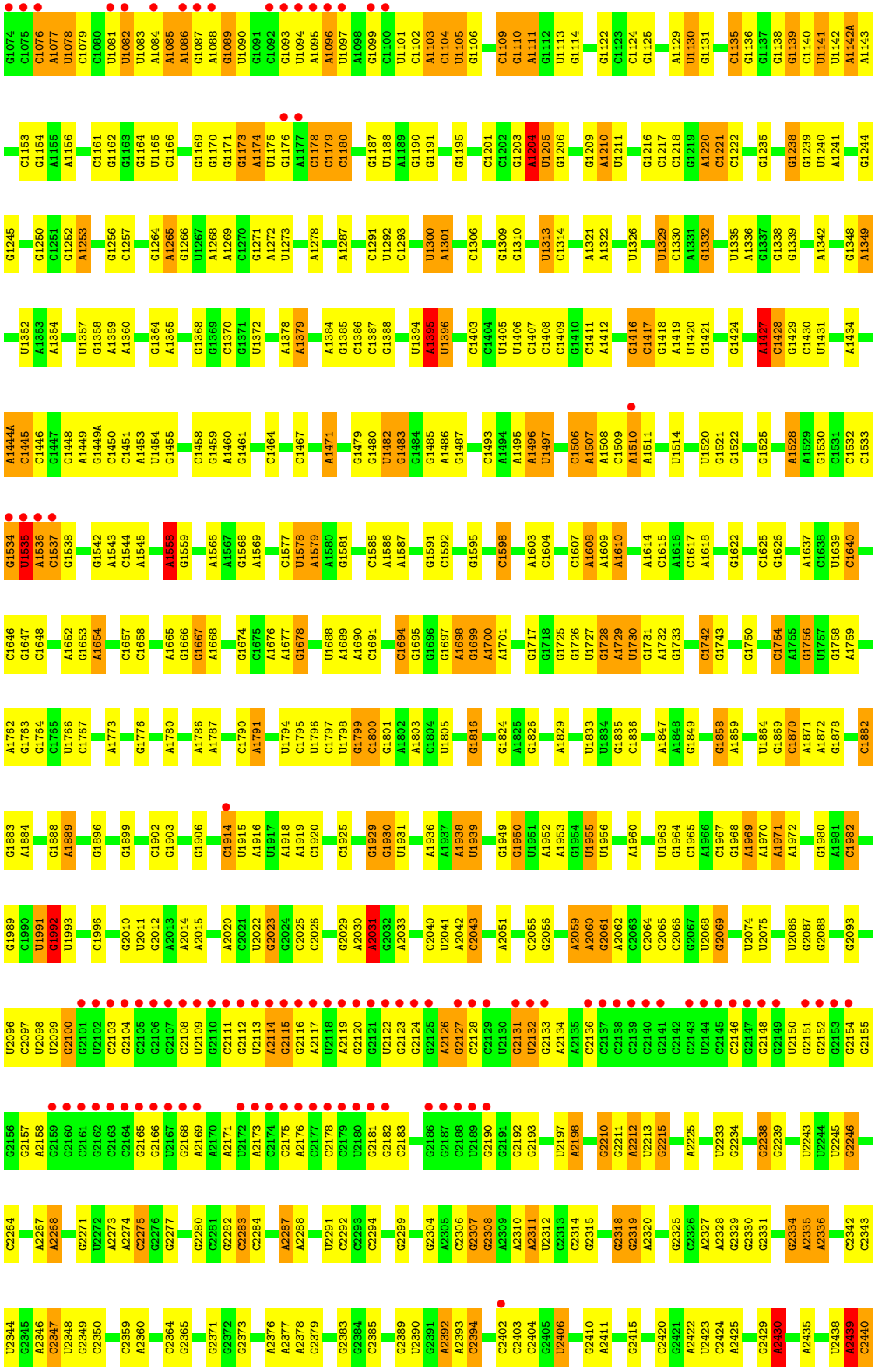
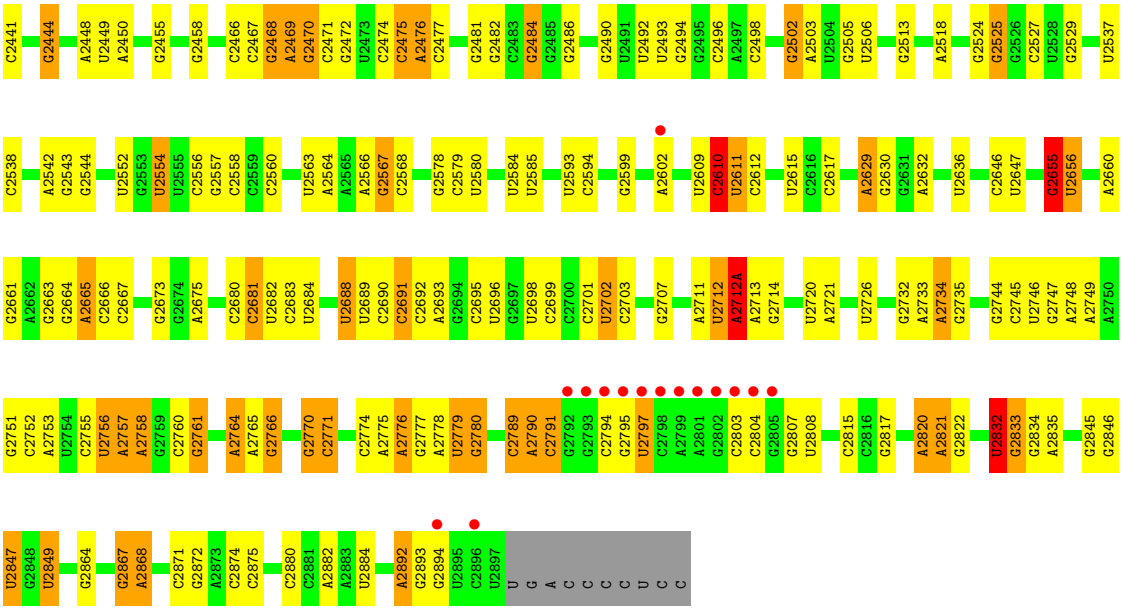


• Molecule 23: 23S rRNA

Chain YA:

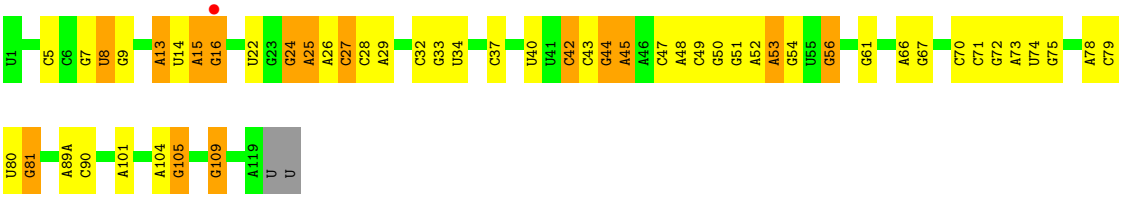






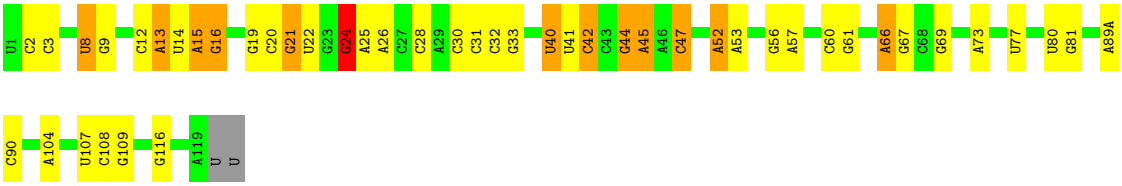
• Molecule 24: 5S rRNA

Chain RB:



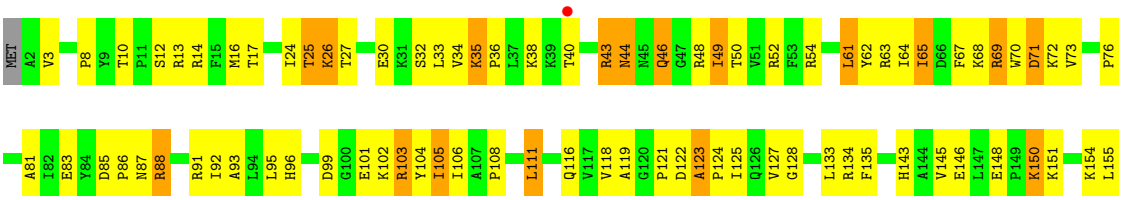
• Molecule 24: 5S rRNA

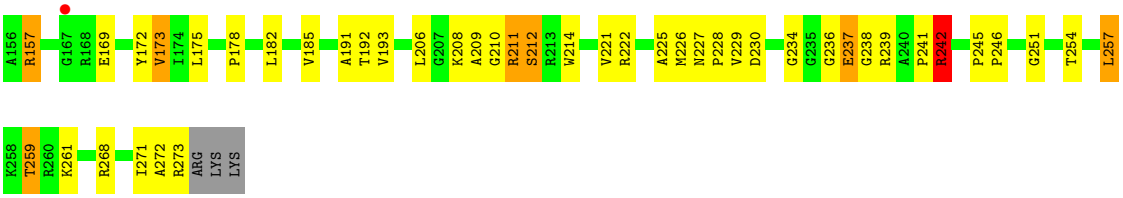
Chain YB:



• Molecule 25: 50S ribosomal protein L2

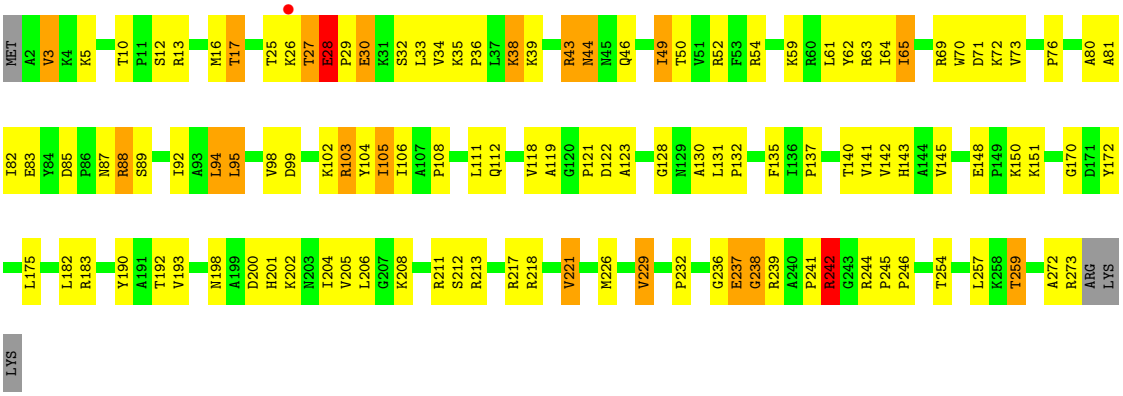
Chain RD:





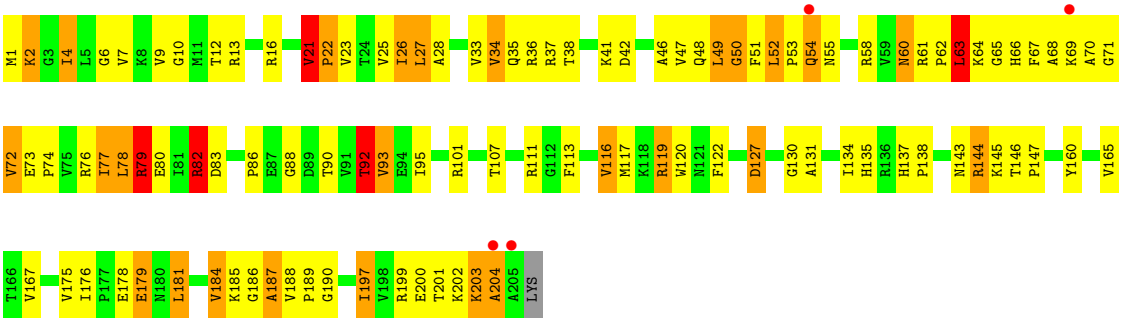
• Molecule 25: 50S ribosomal protein L2

Chain YD:



• Molecule 26: 50S ribosomal protein L3

Chain RE:

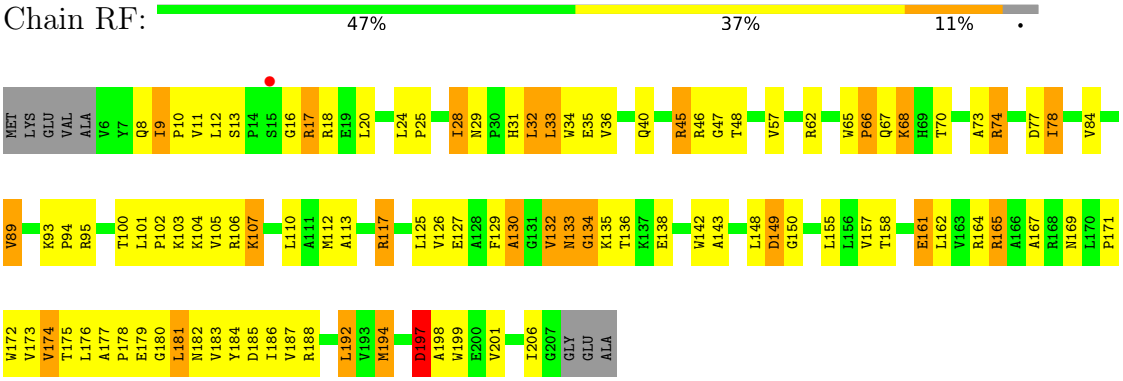


• Molecule 26: 50S ribosomal protein L3

Chain YE:

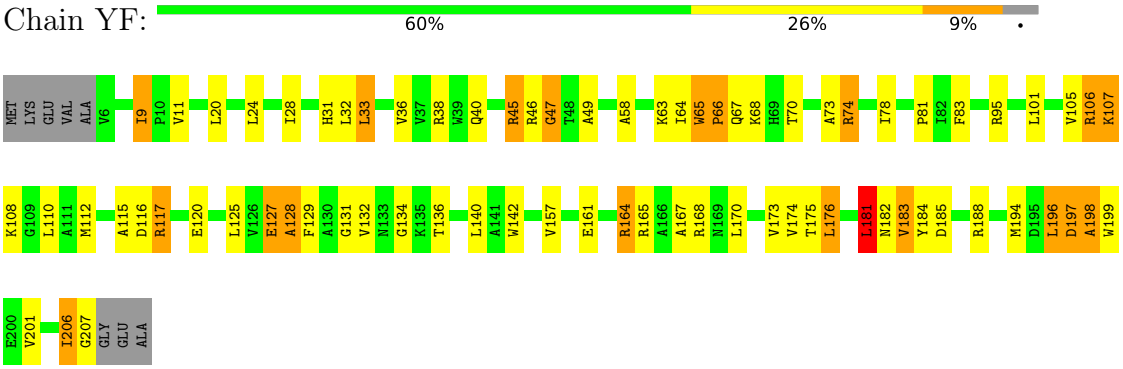
• Molecule 27: 50S ribosomal protein L4

Chain RF:



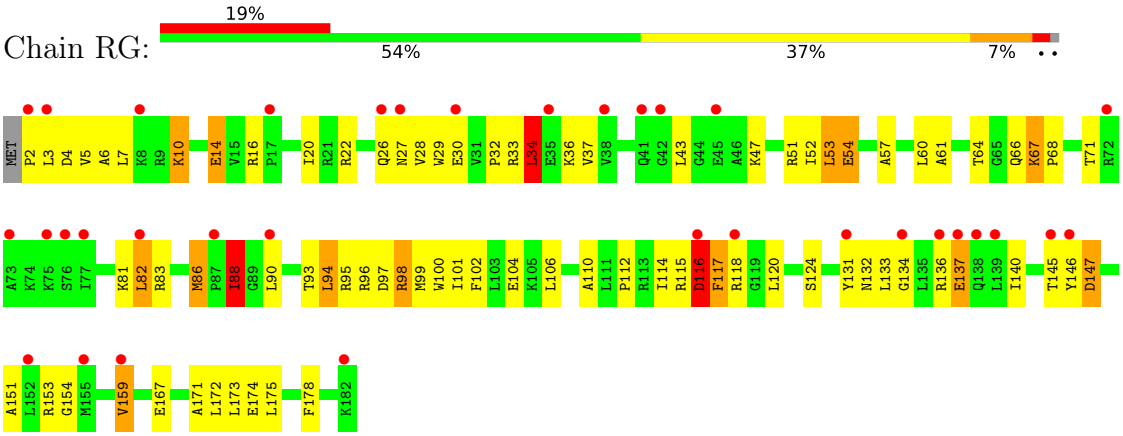
• Molecule 27: 50S ribosomal protein L4

Chain YF:



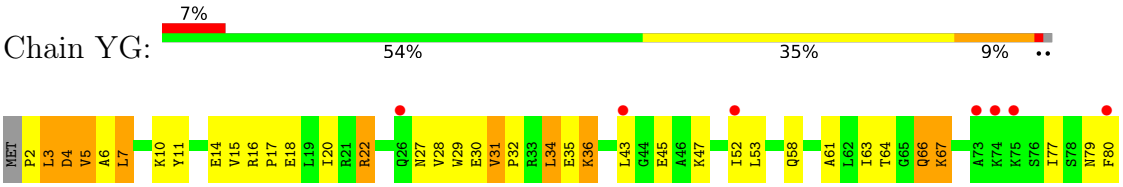
• Molecule 28: 50S ribosomal protein L5

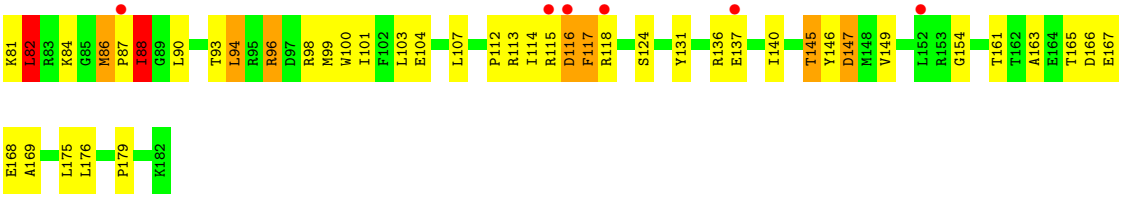
Chain RG:



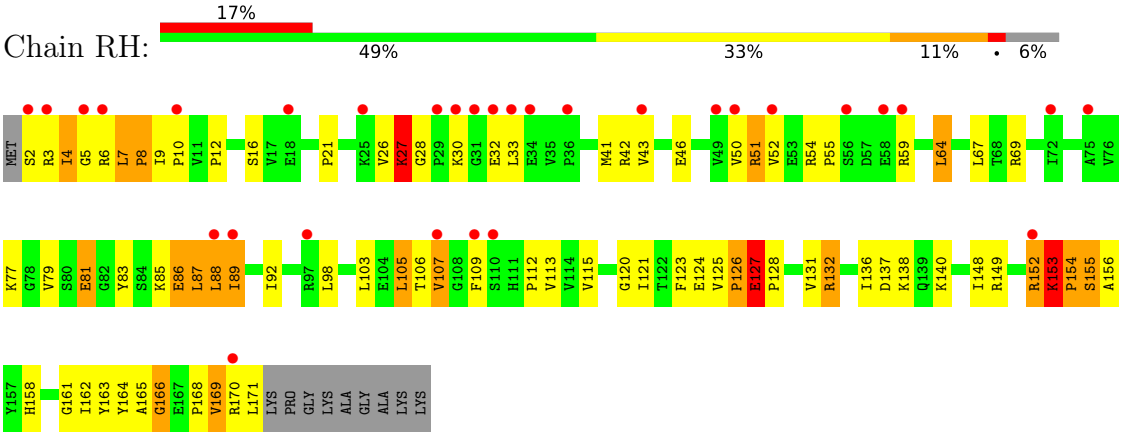
• Molecule 28: 50S ribosomal protein L5

Chain YG:

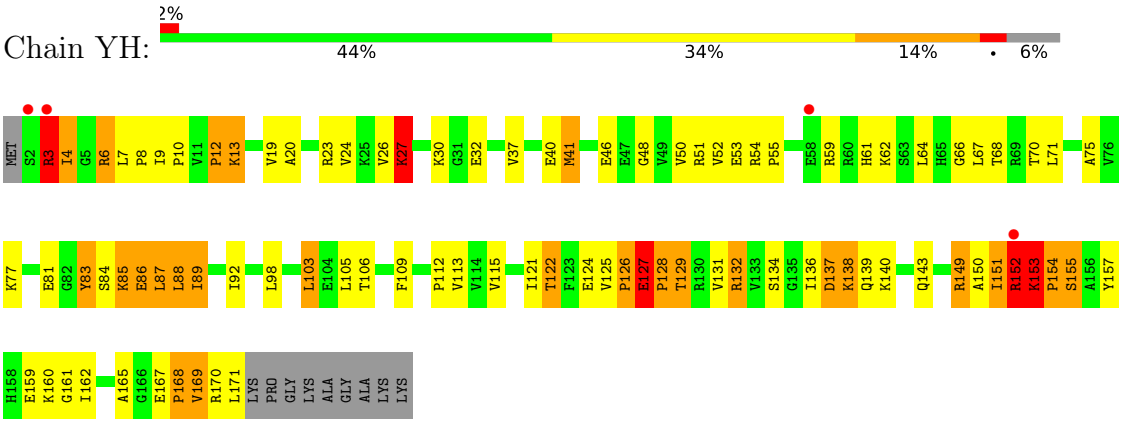




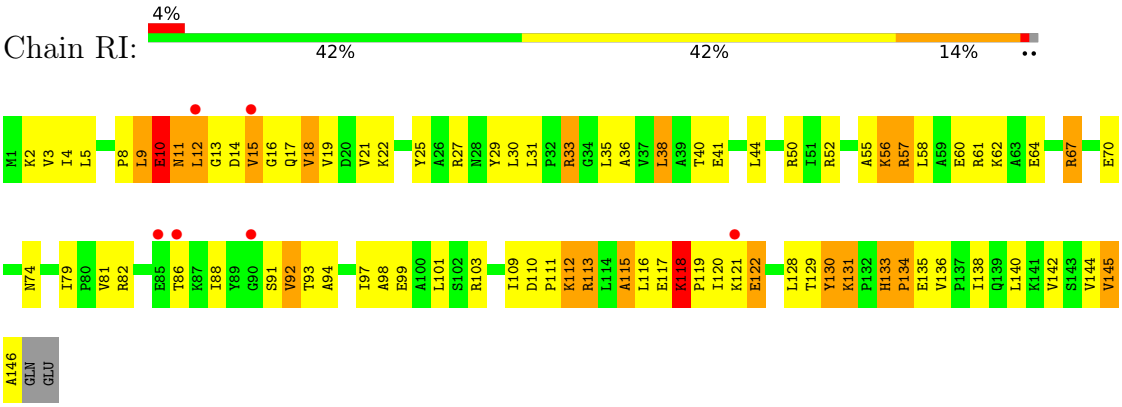
• Molecule 29: 50S ribosomal protein L6



• Molecule 29: 50S ribosomal protein L6

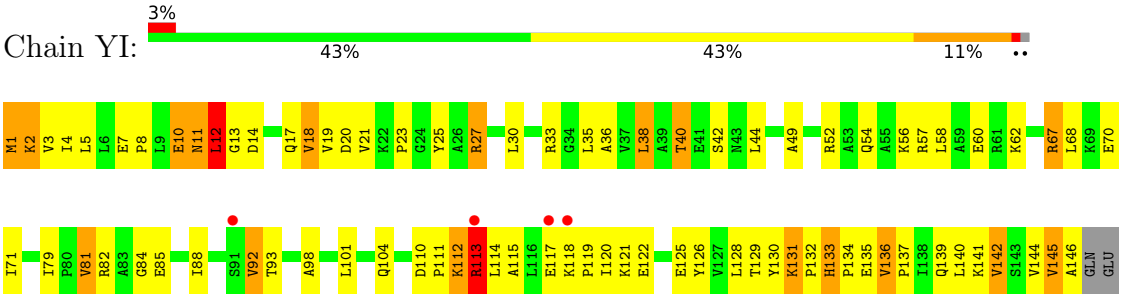


• Molecule 30: 50S ribosomal protein L9



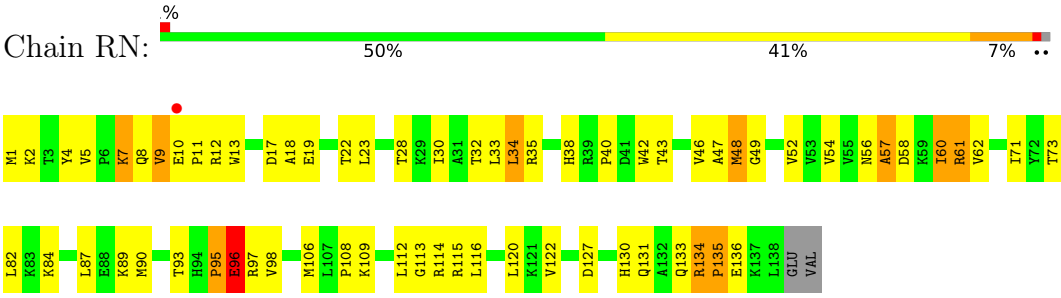
• Molecule 30: 50S ribosomal protein L9

Chain YI:



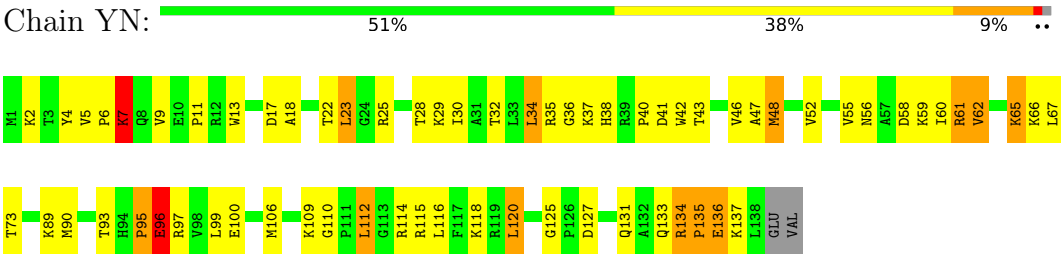
• Molecule 31: 50S ribosomal protein L13

Chain RN:



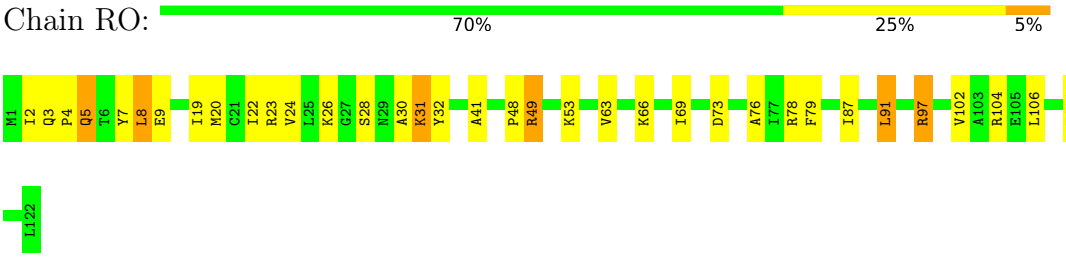
• Molecule 31: 50S ribosomal protein L13

Chain YN:



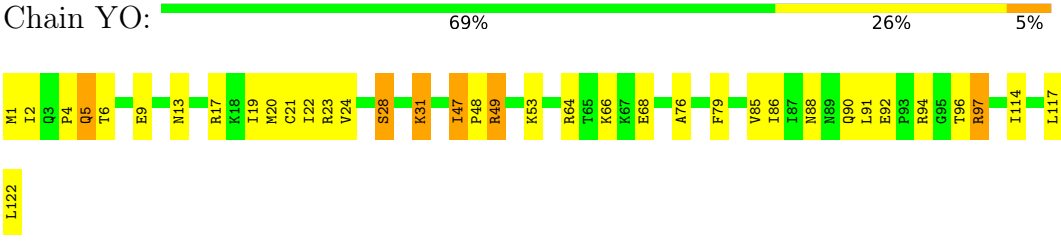
• Molecule 32: 50S ribosomal protein L14

Chain RO:



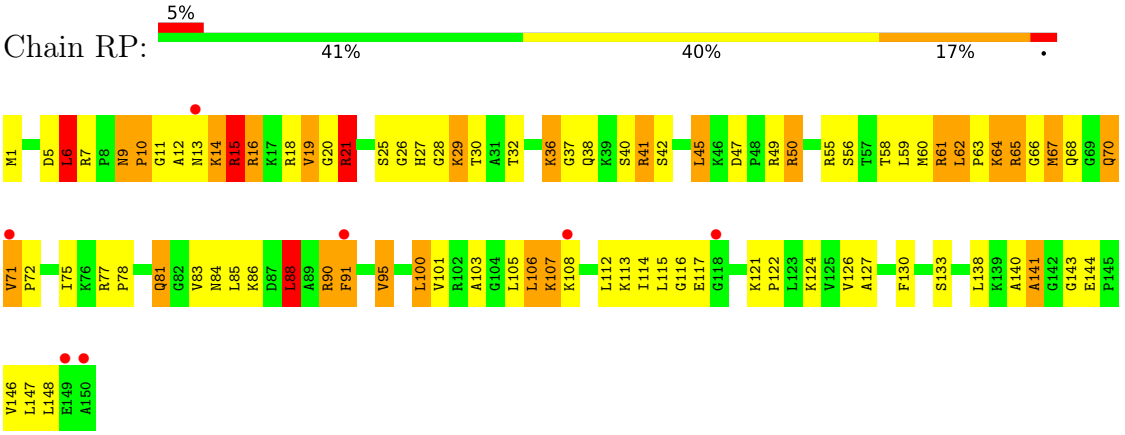
• Molecule 32: 50S ribosomal protein L14

Chain YO:



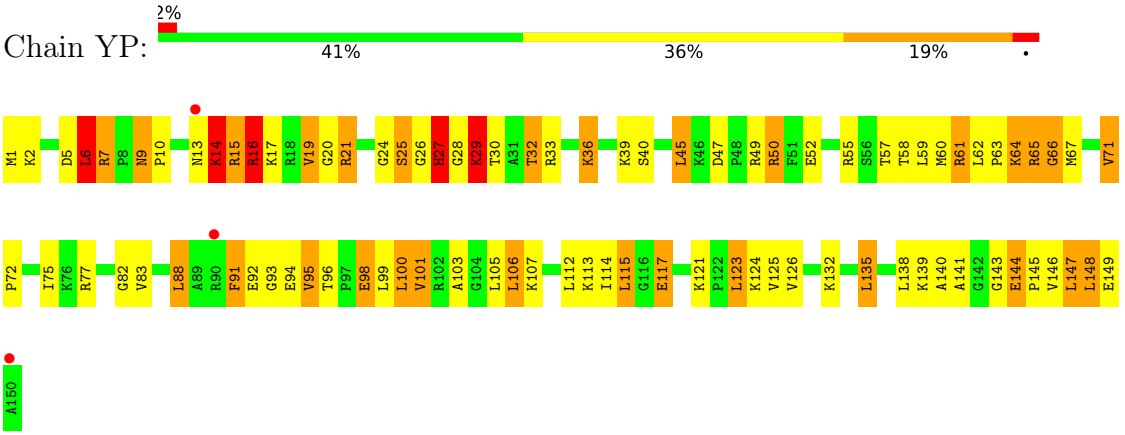
• Molecule 33: 50S ribosomal protein L15

Chain RP:



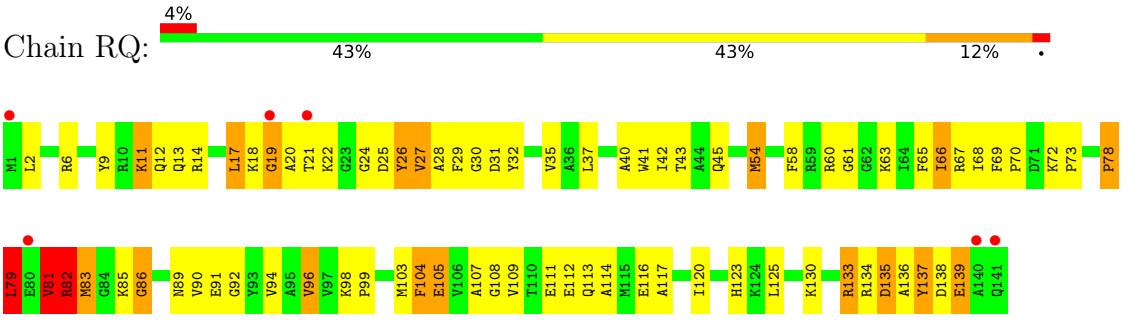
• Molecule 33: 50S ribosomal protein L15

Chain YP:



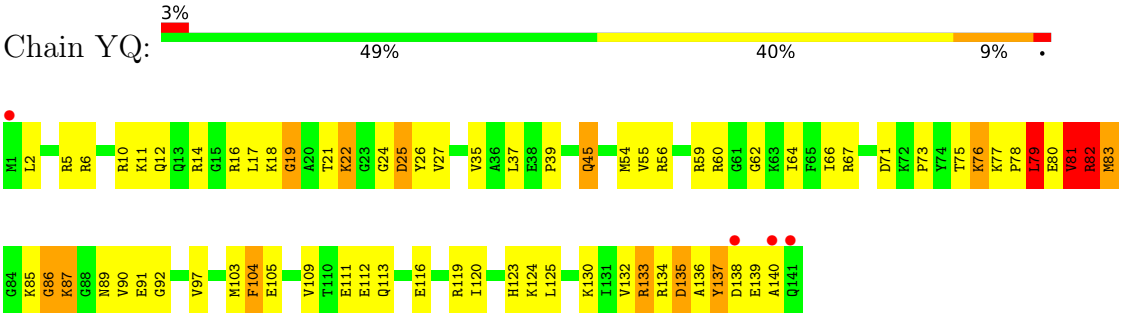
• Molecule 34: 50S ribosomal protein L16

Chain RQ:



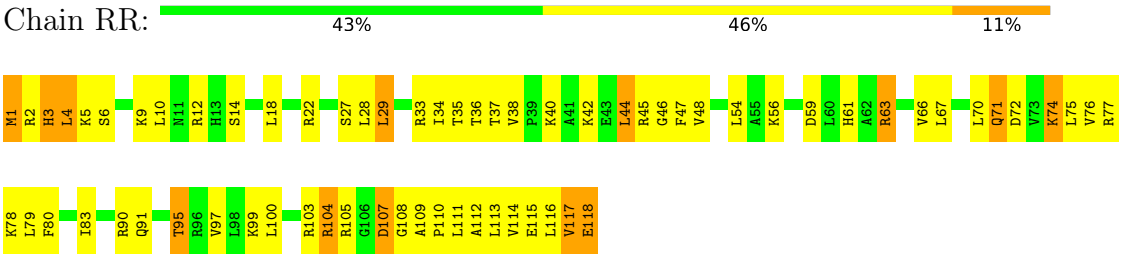
• Molecule 34: 50S ribosomal protein L16

Chain YQ:



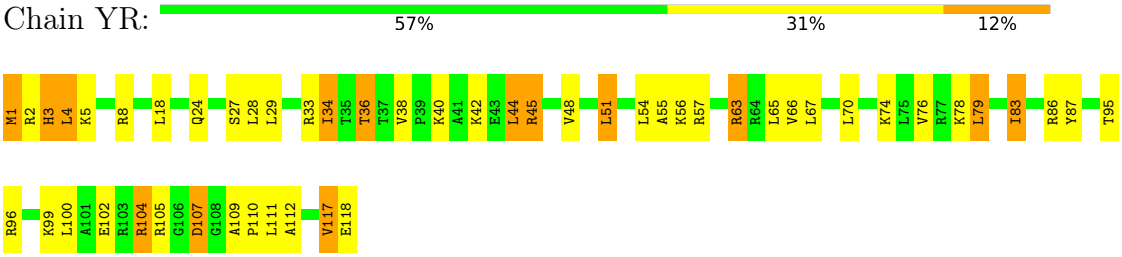
• Molecule 35: 50S ribosomal protein L17

Chain RR:



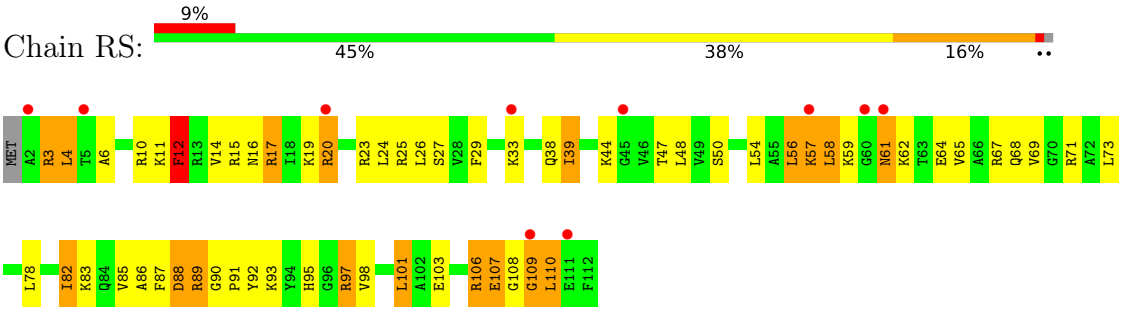
• Molecule 35: 50S ribosomal protein L17

Chain YR:



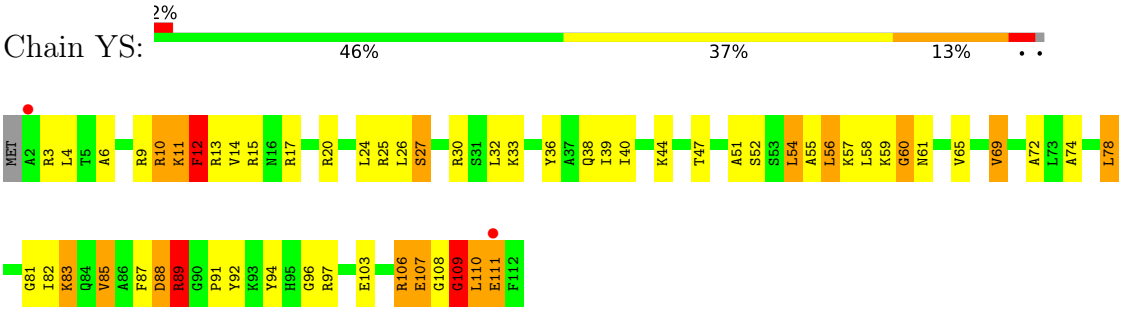
• Molecule 36: 50S ribosomal protein L18

Chain RS:



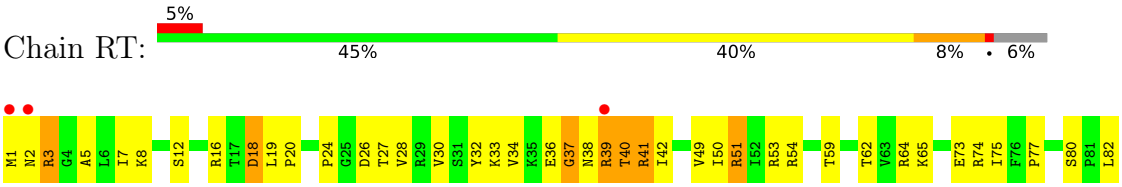
• Molecule 36: 50S ribosomal protein L18

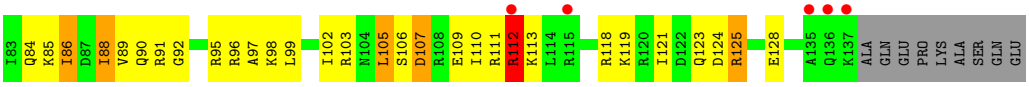
Chain YS:



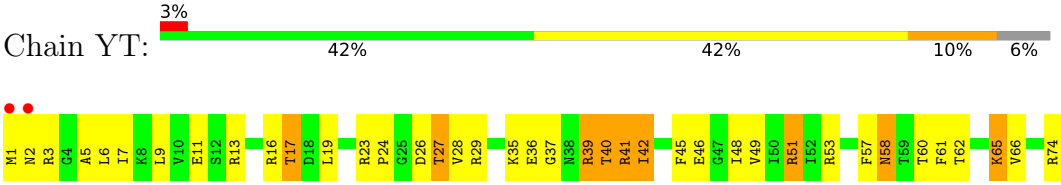
• Molecule 37: 50S ribosomal protein L19

Chain RT:

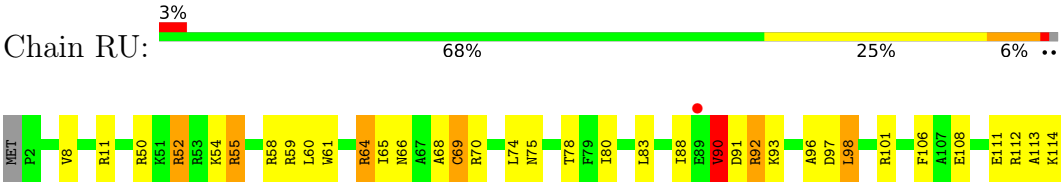




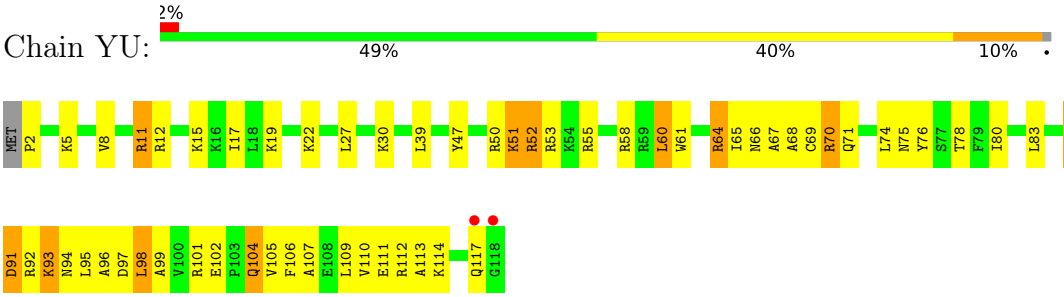
• Molecule 37: 50S ribosomal protein L19



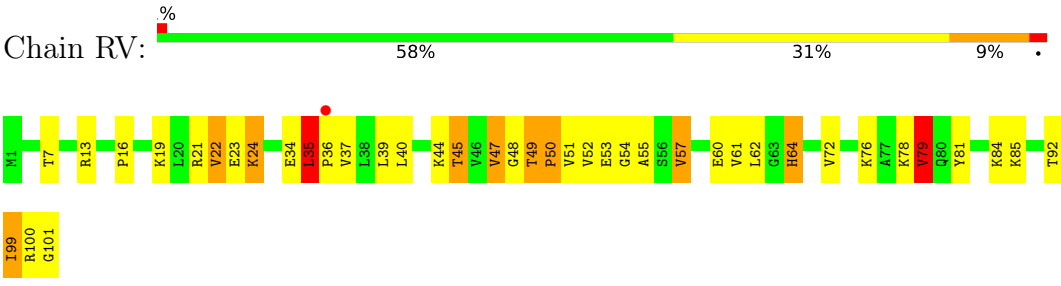
• Molecule 38: 50S ribosomal protein L20



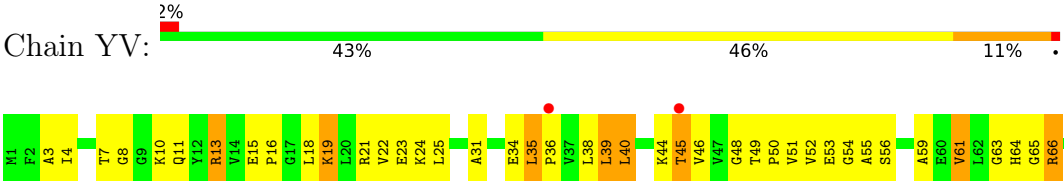
• Molecule 38: 50S ribosomal protein L20

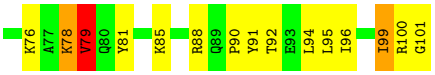


• Molecule 39: 50S ribosomal protein L21



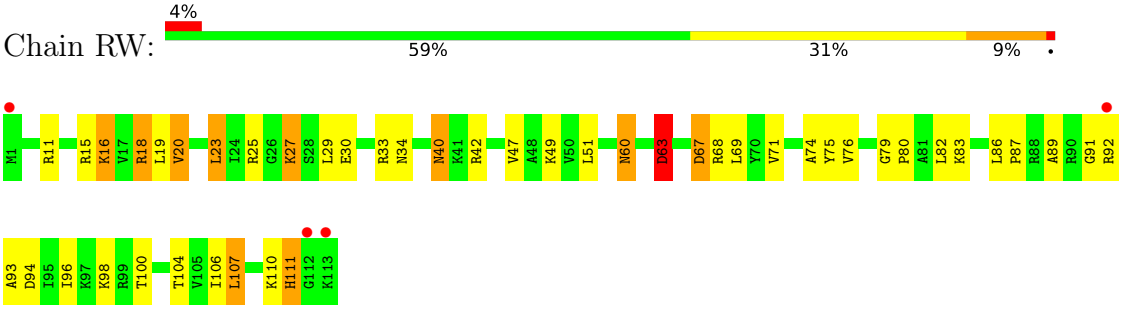
• Molecule 39: 50S ribosomal protein L21





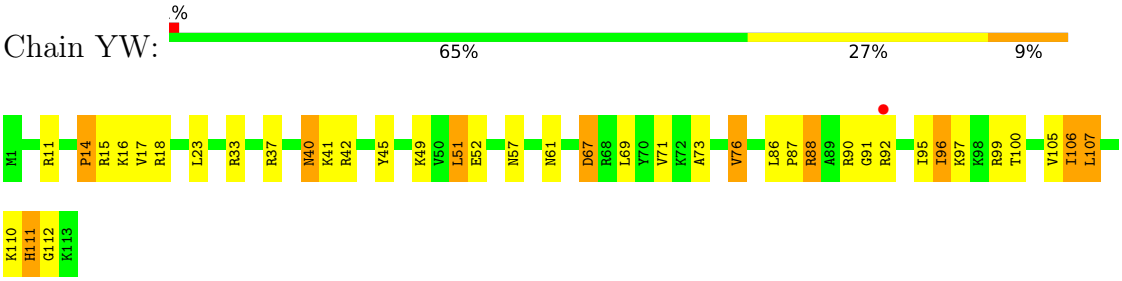
• Molecule 40: 50S ribosomal protein L22

Chain RW:



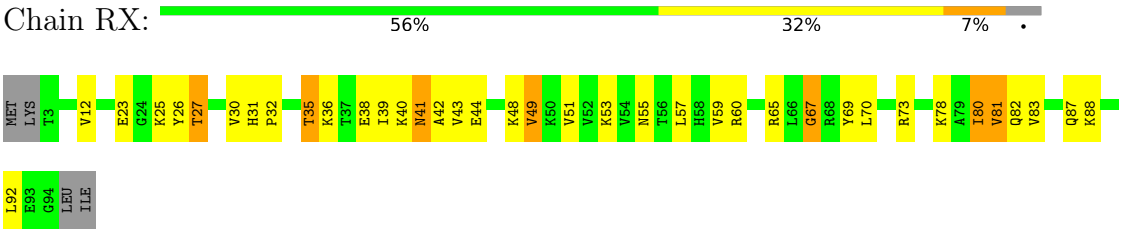
• Molecule 40: 50S ribosomal protein L22

Chain YW:



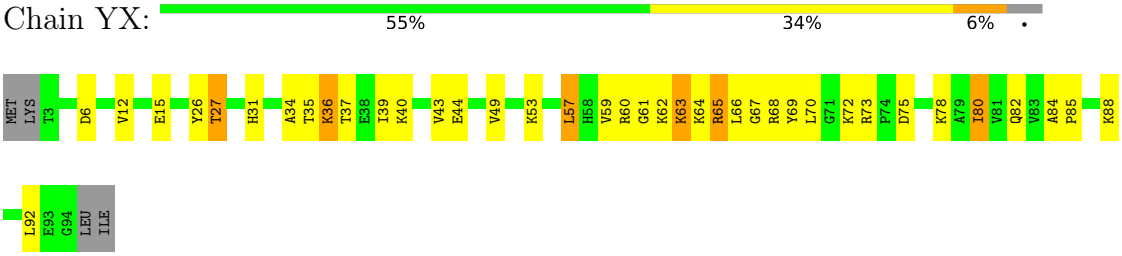
• Molecule 41: 50S ribosomal protein L23

Chain RX:



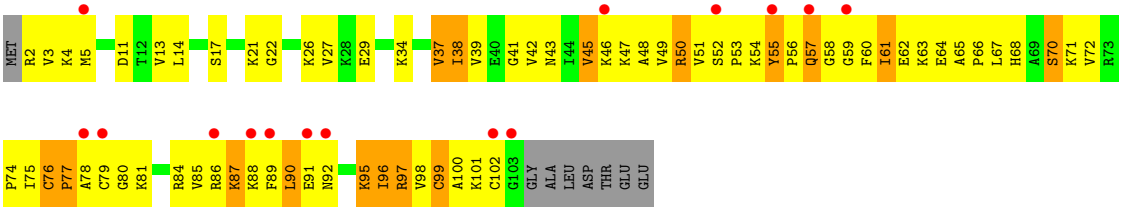
• Molecule 41: 50S ribosomal protein L23

Chain YX:



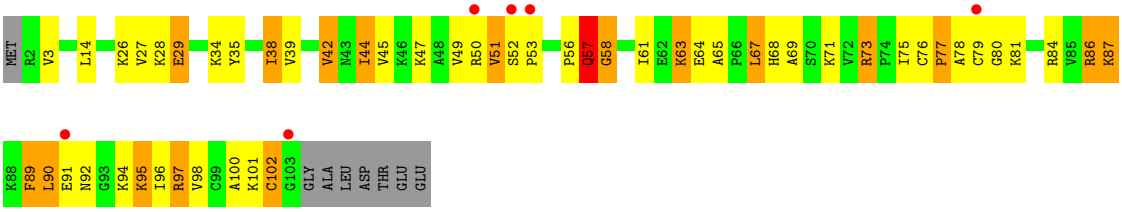
• Molecule 42: 50S ribosomal protein L24

Chain RY:



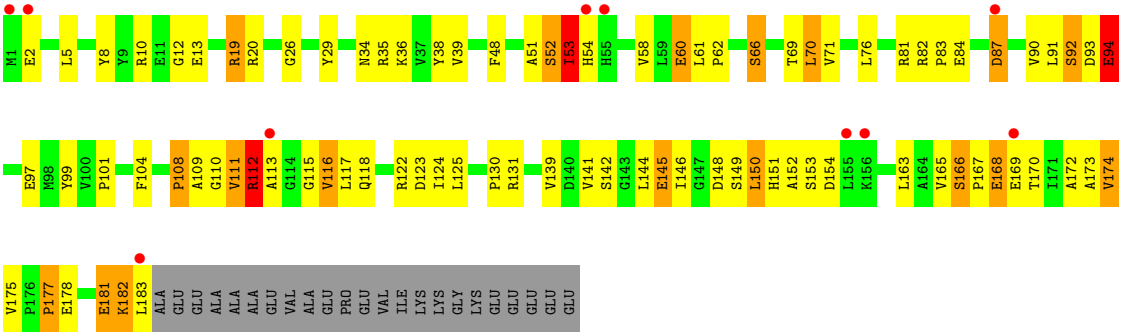
• Molecule 42: 50S ribosomal protein L24

Chain YY:



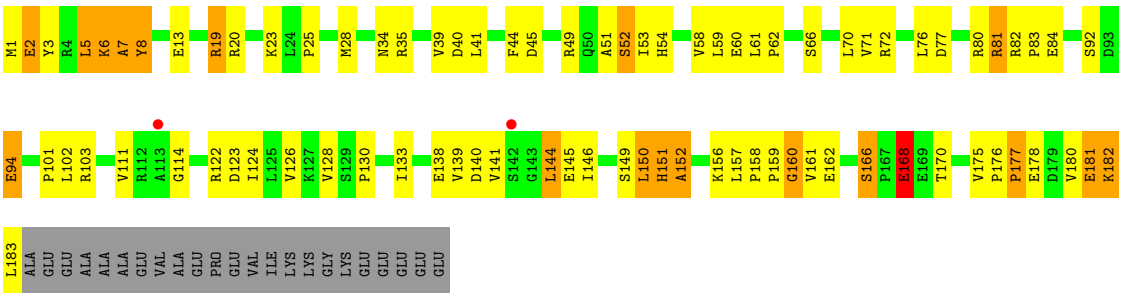
• Molecule 43: 50S ribosomal protein L25

Chain RZ:



• Molecule 43: 50S ribosomal protein L25

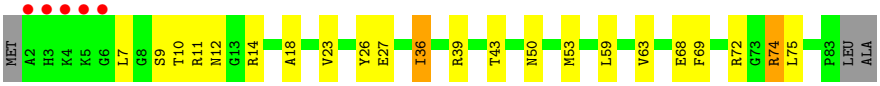
Chain YZ:



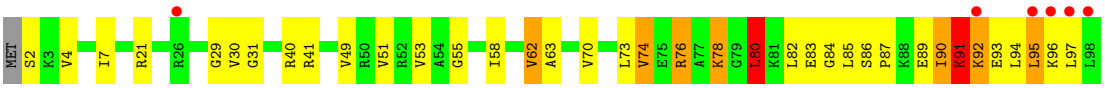
• Molecule 44: 50S ribosomal protein L27

Chain R0:

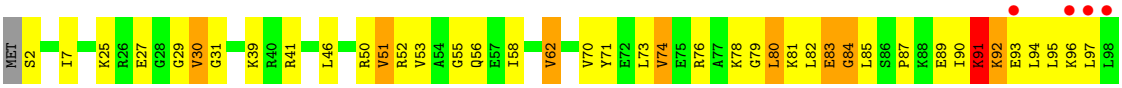
• Molecule 44: 50S ribosomal protein L27



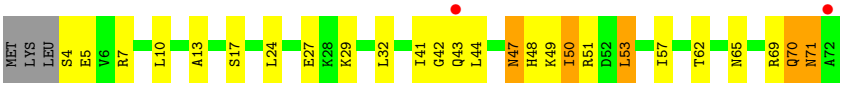
• Molecule 45: 50S ribosomal protein L28



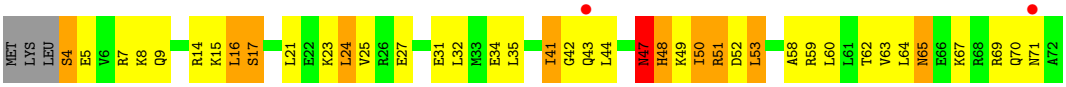
• Molecule 45: 50S ribosomal protein L28



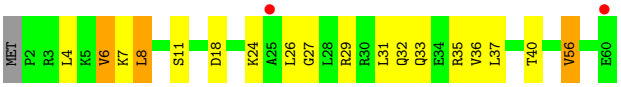
• Molecule 46: 50S ribosomal protein L29



• Molecule 46: 50S ribosomal protein L29

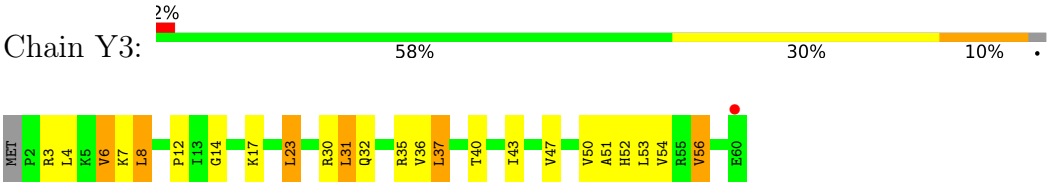


• Molecule 47: 50S ribosomal protein L30



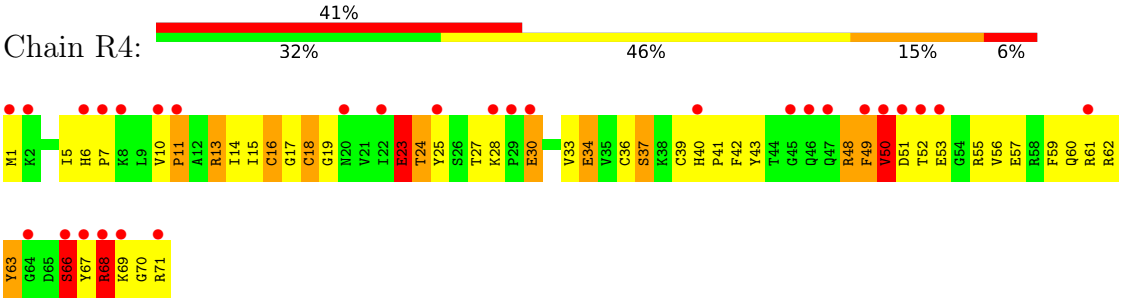
• Molecule 47: 50S ribosomal protein L30

Chain Y3:



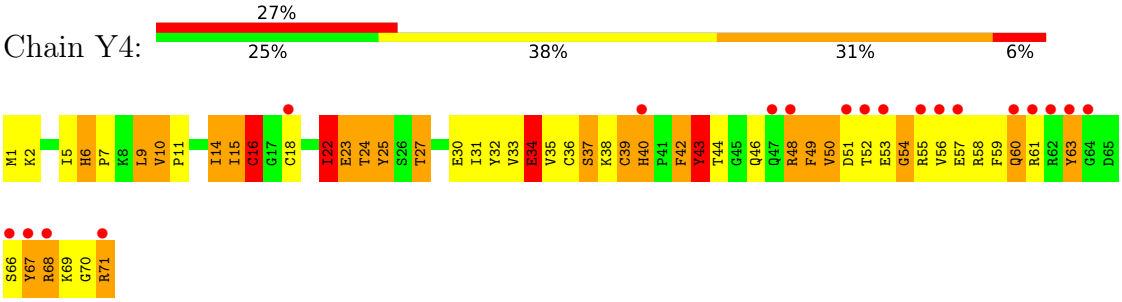
• Molecule 48: 50S ribosomal protein L31

Chain R4:



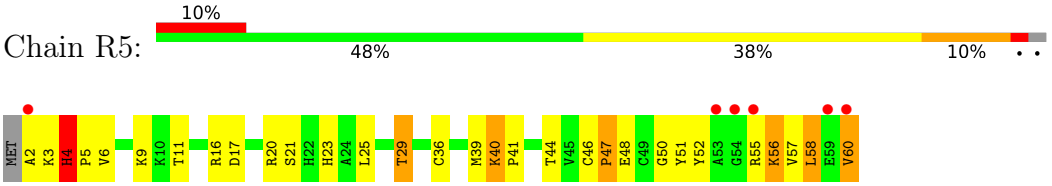
• Molecule 48: 50S ribosomal protein L31

Chain Y4:



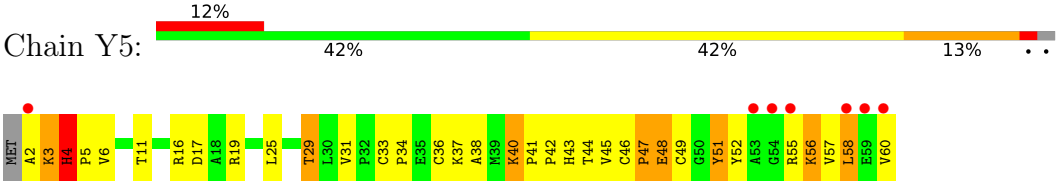
• Molecule 49: 50S ribosomal protein L32

Chain R5:



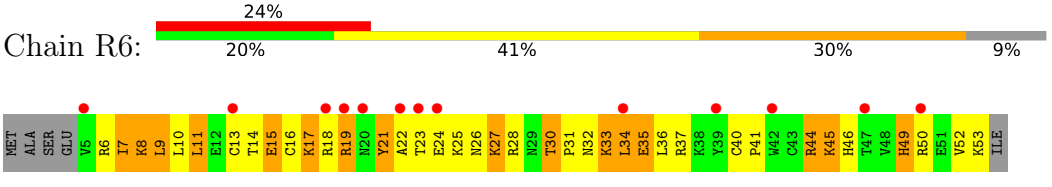
• Molecule 49: 50S ribosomal protein L32

Chain Y5:



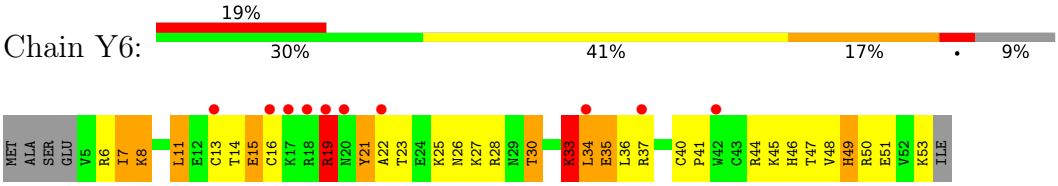
• Molecule 50: 50S ribosomal protein L33

Chain R6:



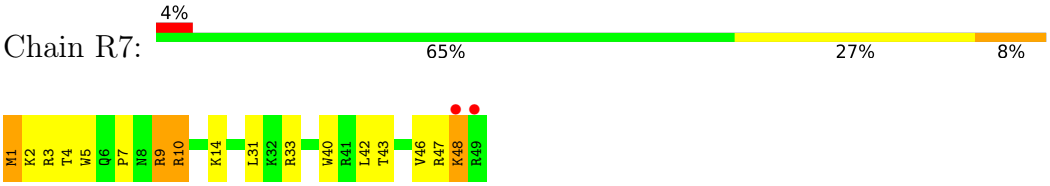
• Molecule 50: 50S ribosomal protein L33

Chain Y6:



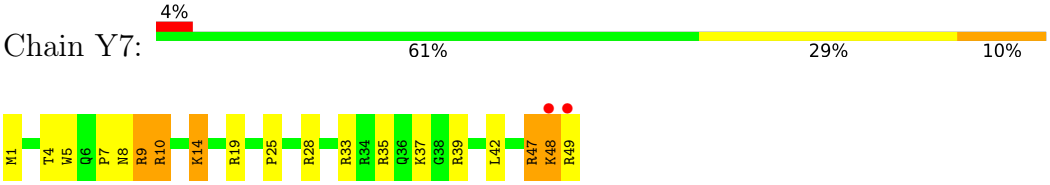
• Molecule 51: 50S ribosomal protein L34

Chain R7:



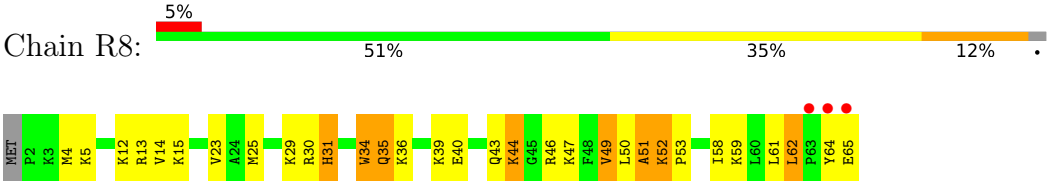
• Molecule 51: 50S ribosomal protein L34

Chain Y7:



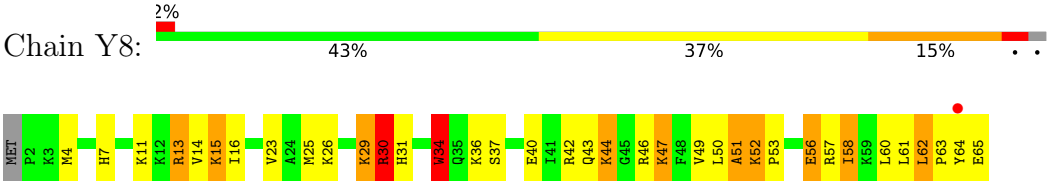
• Molecule 52: 50S ribosomal protein L35

Chain R8:



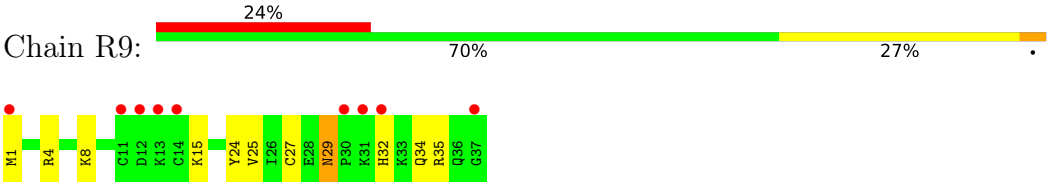
• Molecule 52: 50S ribosomal protein L35

Chain Y8:



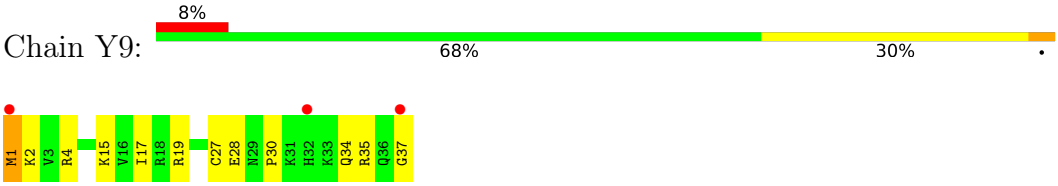
• Molecule 53: 50S ribosomal protein L36

Chain R9:



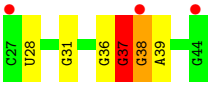
• Molecule 53: 50S ribosomal protein L36

Chain Y9:



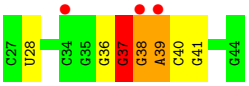
• Molecule 54: P-site ASL SufA6

Chain XV:



• Molecule 54: P-site ASL SufA6

Chain QV:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	210.12Å 448.51Å 621.97Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	34.99 – 3.34 34.99 – 3.20	Depositor EDS
% Data completeness (in resolution range)	96.5 (34.99-3.34) 96.6 (34.99-3.20)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.57 (at 3.18Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.237 , 0.267 0.237 , 0.267	Depositor DCC
R_{free} test set	43433 reflections (4.71%)	wwPDB-VP
Wilson B-factor (Å^2)	69.9	Xtriage
Anisotropy	0.136	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.26 , 51.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.42$, $< L^2 > = 0.24$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.90	EDS
Total number of atoms	288423	wwPDB-VP
Average B, all atoms (Å^2)	93.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.74% 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: 1MG, ZN, 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	QX	0.52	0/87	1.10	0/132
1	XX	0.47	0/87	1.10	0/132
2	QA	0.29	0/36098	0.81	32/56341 (0.1%)
2	XA	0.31	0/36101	0.82	31/56346 (0.1%)
3	QB	0.31	0/1959	0.52	0/2642
3	XB	0.32	0/1959	0.54	0/2642
4	QC	0.31	0/1629	0.53	0/2195
4	XC	0.36	0/1629	0.56	0/2195
5	QD	0.38	0/1733	0.59	1/2318 (0.0%)
5	XD	0.40	0/1733	0.60	0/2318
6	QE	0.35	0/1171	0.56	0/1576
6	XE	0.39	0/1171	0.59	0/1576
7	QF	0.38	0/856	0.54	0/1154
7	XF	0.39	0/856	0.58	0/1154
8	QG	0.33	0/1276	0.50	0/1709
8	XG	0.34	0/1276	0.50	0/1709
9	QH	0.33	0/1136	0.55	0/1527
9	XH	0.38	0/1136	0.58	0/1527
10	QI	0.31	0/1029	0.55	0/1379
10	XI	0.34	0/1029	0.58	0/1379
11	QJ	0.33	0/814	0.54	0/1095
11	XJ	0.35	0/814	0.59	0/1095
12	QK	0.36	0/900	0.57	0/1213
12	XK	0.39	0/900	0.58	0/1213
13	QL	0.37	0/991	0.61	0/1327
13	XL	0.45	0/991	0.74	1/1327 (0.1%)
14	QM	0.32	0/974	0.59	0/1303
14	XM	0.37	0/974	0.63	0/1303
15	QN	0.41	0/501	0.60	0/664
15	XN	0.42	0/501	0.66	0/664
16	QO	0.35	0/745	0.53	0/992
16	XO	0.39	0/745	0.54	0/992

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
17	QP	0.36	0/721	0.57	0/970
17	XP	0.35	0/721	0.57	0/970
18	QQ	0.35	0/847	0.53	0/1131
18	XQ	0.35	0/847	0.54	0/1131
19	QR	0.35	0/579	0.64	1/768 (0.1%)
19	XR	0.37	0/579	0.59	0/768
20	QS	0.33	0/689	0.61	0/926
20	XS	0.38	0/689	0.69	1/926 (0.1%)
21	QT	0.36	0/765	0.64	0/1007
21	XT	0.31	0/765	0.59	0/1007
22	QU	0.30	0/221	0.54	0/288
22	XU	0.31	0/221	0.62	0/288
23	RA	0.37	0/69521	0.86	56/108529 (0.1%)
23	YA	0.48	1/69543 (0.0%)	0.93	97/108563 (0.1%)
24	RB	0.30	0/2878	0.82	0/4490
24	YB	0.37	0/2878	0.86	2/4490 (0.0%)
25	RD	0.50	0/2165	0.70	0/2919
25	YD	0.58	0/2165	0.78	1/2919 (0.0%)
26	RE	0.43	0/1601	0.73	3/2160 (0.1%)
26	YE	0.46	0/1601	0.75	2/2160 (0.1%)
27	RF	0.42	0/1620	0.62	0/2194
27	YF	0.48	0/1620	0.71	1/2194 (0.0%)
28	RG	0.31	0/1499	0.57	1/2016 (0.0%)
28	YG	0.39	0/1499	0.60	0/2016
29	RH	0.29	0/1332	0.58	0/1802
29	YH	0.45	0/1332	0.73	0/1802
30	RI	0.32	0/1151	0.57	0/1558
30	YI	0.30	0/1151	0.57	0/1558
31	RN	0.41	0/1131	0.62	0/1525
31	YN	0.43	0/1131	0.64	0/1525
32	RO	0.41	0/943	0.62	1/1269 (0.1%)
32	YO	0.50	0/943	0.65	0/1269
33	RP	0.43	0/1162	0.81	1/1544 (0.1%)
33	YP	0.49	0/1162	0.90	2/1544 (0.1%)
34	RQ	0.47	0/1143	0.73	2/1527 (0.1%)
34	YQ	0.57	0/1143	0.80	1/1527 (0.1%)
35	RR	0.42	0/982	0.69	0/1312
35	YR	0.45	0/982	0.73	0/1312
36	RS	0.36	0/892	0.64	0/1187
36	YS	0.40	0/892	0.75	1/1187 (0.1%)
37	RT	0.42	0/1155	0.63	0/1542
37	YT	0.44	0/1155	0.67	0/1542
38	RU	0.39	0/982	0.65	0/1306

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
38	YU	0.50	0/982	0.69	0/1306
39	RV	0.38	0/790	0.61	1/1057 (0.1%)
39	YV	0.45	0/790	0.73	1/1057 (0.1%)
40	RW	0.49	0/911	0.67	0/1220
40	YW	0.45	0/911	0.67	0/1220
41	RX	0.47	0/739	0.62	0/993
41	YX	0.50	0/739	0.66	0/993
42	RY	0.44	0/798	0.68	0/1064
42	YY	0.46	0/798	0.70	0/1064
43	RZ	0.34	0/1493	0.54	0/2026
43	YZ	0.33	0/1493	0.56	0/2026
44	R0	0.32	0/657	0.53	0/874
44	Y0	0.38	0/657	0.55	0/874
45	R1	0.44	0/770	0.66	0/1022
45	Y1	0.46	0/770	0.69	0/1022
46	R2	0.39	0/583	0.65	0/771
46	Y2	0.52	0/583	0.73	0/771
47	R3	0.35	0/474	0.57	0/635
47	Y3	0.41	0/474	0.59	0/635
48	R4	0.33	0/594	0.68	0/795
48	Y4	0.37	0/594	0.68	0/795
49	R5	0.43	0/473	0.74	0/639
49	Y5	0.43	0/473	0.77	1/639 (0.2%)
50	R6	0.35	0/431	0.69	0/575
50	Y6	0.37	0/431	0.67	0/575
51	R7	0.49	0/438	0.68	0/575
51	Y7	0.57	0/438	0.71	0/575
52	R8	0.55	0/525	0.79	0/691
52	Y8	0.58	0/525	0.82	0/691
53	R9	0.27	0/310	0.46	0/407
53	Y9	0.32	0/310	0.48	0/407
54	QV	0.38	0/403	0.86	0/627
54	XV	0.35	0/403	0.83	0/627
All	All	0.39	1/312559 (0.0%)	0.81	241/467055 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
13	QL	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
13	XL	0	1
26	RE	0	1
26	YE	0	1
27	YF	0	1
29	RH	0	2
29	YH	0	2
36	YS	0	1
43	YZ	0	1
46	Y2	0	1
52	R8	0	2
52	Y8	0	2
All	All	0	16

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	YA	528	A	N9-C4	-5.51	1.34	1.37

All (241) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	YA	2031	A	O4'-C1'-N9	8.08	114.67	108.20
23	YA	265	A	O4'-C1'-N9	7.83	114.46	108.20
2	QA	1158	C	C2-N1-C1'	7.62	127.18	118.80
2	QA	1301	U	C2-N1-C1'	7.49	126.69	117.70
23	RA	2420	C	O5'-P-OP1	-7.46	98.99	105.70
2	XA	328	C	C2-N1-C1'	7.23	126.75	118.80
2	XA	1301	U	C2-N1-C1'	7.19	126.33	117.70
2	QA	1301	U	N1-C2-O2	7.19	127.83	122.80
2	XA	1158	C	C2-N1-C1'	7.16	126.68	118.80
2	QA	1322	C	C2-N1-C1'	7.15	126.67	118.80
26	YE	21	VAL	C-N-CD	-7.15	104.87	120.60
13	XL	47	LYS	C-N-CD	-7.14	104.89	120.60
2	QA	328	C	C2-N1-C1'	7.14	126.65	118.80
23	RA	2335	A	O4'-C1'-N9	7.10	113.88	108.20
23	RA	1130	U	P-O3'-C3'	7.04	128.14	119.70
2	QA	1158	C	N1-C2-O2	6.95	123.07	118.90
23	YA	528	A	C2-N3-C4	-6.87	107.16	110.60
2	QA	1065	U	P-O3'-C3'	6.86	127.93	119.70
23	RA	1396	U	N1-C2-O2	6.83	127.58	122.80
23	RA	1396	U	N3-C2-O2	-6.81	117.43	122.20
23	YA	1396	U	N3-C2-O2	-6.80	117.44	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	YA	140	A	N7-C8-N9	6.69	117.14	113.80
23	YA	2439	A	C8-N9-C4	-6.69	103.12	105.80
23	RA	2506	U	C2-N1-C1'	6.66	125.69	117.70
23	RA	2702	U	C2-N1-C1'	6.66	125.69	117.70
23	YA	2468	G	C4-N9-C1'	6.65	135.15	126.50
23	RA	828	U	N3-C2-O2	-6.62	117.56	122.20
23	YA	2444	G	O5'-P-OP2	-6.60	99.76	105.70
26	RE	21	VAL	C-N-CD	-6.54	106.20	120.60
23	YA	1396	U	N1-C2-O2	6.54	127.38	122.80
23	YA	2420	C	O5'-P-OP1	-6.54	99.81	105.70
23	YA	1021	A	C8-N9-C4	-6.53	103.19	105.80
23	YA	2490	G	C4-C5-N7	6.52	113.41	110.80
36	YS	56	LEU	CA-CB-CG	6.49	130.22	115.30
23	RA	1931	U	N3-C2-O2	-6.48	117.66	122.20
23	YA	1021	A	N7-C8-N9	6.48	117.04	113.80
2	XA	1301	U	N1-C2-O2	6.46	127.32	122.80
23	RA	828	U	N1-C2-O2	6.45	127.31	122.80
23	YA	74	A	C2-N3-C4	-6.38	107.41	110.60
23	YA	2712(A)	A	N7-C8-N9	6.37	116.98	113.80
23	YA	2506	U	C2-N1-C1'	6.37	125.34	117.70
23	YA	860	U	C4-C5-C6	6.37	123.52	119.70
23	YA	1021	A	C5-N7-C8	-6.34	100.73	103.90
2	XA	812	C	P-O3'-C3'	6.33	127.29	119.70
23	RA	1535	U	C2-N1-C1'	6.29	125.25	117.70
23	YA	2688	U	N3-C2-O2	-6.24	117.83	122.20
23	YA	1021	A	C2-N3-C4	-6.22	107.49	110.60
23	YA	2506	U	N1-C2-O2	6.17	127.12	122.80
23	YA	859	G	P-O3'-C3'	6.17	127.11	119.70
2	XA	328	C	C6-N1-C2	-6.16	117.84	120.30
2	XA	1302	U	C2-N1-C1'	6.15	125.08	117.70
23	YA	1496	A	N7-C8-N9	6.15	116.87	113.80
23	YA	1396	U	C2-N1-C1'	6.13	125.05	117.70
23	YA	2506	U	N3-C2-O2	-6.13	117.91	122.20
23	YA	1332	G	C6-C5-N7	-6.12	126.73	130.40
27	YF	74	ARG	NE-CZ-NH1	6.10	123.35	120.30
23	YA	1130	U	P-O3'-C3'	6.09	127.01	119.70
23	YA	783	A	N7-C8-N9	6.07	116.84	113.80
23	RA	1313	U	C2-N1-C1'	6.05	124.95	117.70
34	RQ	79	LEU	CA-CB-CG	6.05	129.21	115.30
23	RA	2060	A	P-O3'-C3'	6.03	126.94	119.70
23	YA	1332	G	C4-N9-C1'	6.02	134.33	126.50
2	QA	1301	U	N3-C2-O2	-6.02	117.98	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
28	RG	34	LEU	CA-CB-CG	6.01	129.12	115.30
2	QA	754	C	C2-N1-C1'	6.01	125.41	118.80
23	YA	2439	A	P-O3'-C3'	6.00	126.89	119.70
23	YA	1950	G	O4'-C1'-N9	5.98	112.98	108.20
39	YV	35	LEU	CA-CB-CG	5.96	129.01	115.30
23	RA	1786	A	O4'-C1'-N9	5.96	112.97	108.20
2	QA	1322	C	N1-C2-O2	5.94	122.47	118.90
23	YA	1992	G	P-O3'-C3'	5.93	126.81	119.70
2	XA	1336	C	C2-N1-C1'	5.92	125.31	118.80
23	RA	205	G	P-O3'-C3'	5.92	126.80	119.70
23	RA	1012	U	P-O3'-C3'	5.92	126.80	119.70
23	RA	1980	G	P-O3'-C3'	5.91	126.80	119.70
2	XA	328	C	N1-C2-O2	5.91	122.44	118.90
2	QA	1065	U	OP2-P-O3'	5.91	118.19	105.20
23	YA	783	A	C5-N7-C8	-5.89	100.95	103.90
23	RA	1786	A	C5-N7-C8	-5.85	100.97	103.90
2	XA	1158	C	C6-N1-C2	-5.84	117.96	120.30
23	YA	503	A	P-O3'-C3'	5.82	126.69	119.70
23	YA	1925	C	N1-C2-O2	-5.82	115.41	118.90
26	RE	63	LEU	CA-CB-CG	5.80	128.65	115.30
23	YA	1955	U	P-O3'-C3'	5.80	126.66	119.70
23	RA	676	A	O4'-C1'-N9	5.80	112.84	108.20
2	QA	701	C	P-O3'-C3'	5.78	126.63	119.70
23	YA	1496	A	C8-N9-C4	-5.76	103.50	105.80
2	QA	328	C	N1-C2-O2	5.74	122.34	118.90
23	YA	2430	A	C2-N3-C4	-5.73	107.73	110.60
23	YA	1535	U	C2-N1-C1'	5.72	124.57	117.70
23	YA	102	G	P-O3'-C3'	5.71	126.55	119.70
23	YA	2490	G	C5-N7-C8	-5.71	101.45	104.30
34	YQ	82	ARG	N-CA-C	5.71	126.40	111.00
23	RA	2702	U	N1-C2-O2	5.70	126.79	122.80
23	YA	1204	A	C2-N3-C4	-5.69	107.76	110.60
33	YP	59	LEU	CA-CB-CG	5.67	128.35	115.30
23	RA	221	A	P-O3'-C3'	5.67	126.50	119.70
23	YA	1332	G	C8-N9-C1'	-5.66	119.65	127.00
23	YA	372	G	C4-N9-C1'	-5.64	119.16	126.50
23	RA	1396	U	C2-N1-C1'	5.64	124.47	117.70
23	RA	242	G	P-O3'-C3'	5.64	126.47	119.70
23	YA	1313	U	C2-N1-C1'	5.63	124.46	117.70
23	YA	2655	G	P-O3'-C3'	5.63	126.46	119.70
2	QA	1158	C	N3-C2-O2	-5.63	117.96	121.90
23	RA	2712(A)	A	N7-C8-N9	5.63	116.62	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	RA	1786	A	N7-C8-N9	5.63	116.61	113.80
23	YA	1992	G	N3-C4-C5	-5.63	125.79	128.60
23	YA	2318	G	O4'-C1'-N9	5.62	112.70	108.20
23	YA	1992	G	C8-N9-C4	-5.60	104.16	106.40
23	YA	242	G	P-O3'-C3'	5.60	126.42	119.70
23	YA	1950	G	C4-N9-C1'	5.59	133.77	126.50
2	QA	1200	C	P-O3'-C3'	5.59	126.41	119.70
23	YA	74	A	N1-C2-N3	5.59	132.09	129.30
33	YP	25	SER	N-CA-C	-5.59	95.91	111.00
23	YA	1395	A	O4'-C1'-N9	5.58	112.67	108.20
25	YD	229	VAL	CB-CA-C	-5.58	100.80	111.40
23	RA	530	G	O4'-C1'-N9	5.57	112.66	108.20
2	XA	1158	C	N1-C2-O2	5.57	122.24	118.90
23	YA	917	A	C2-N3-C4	-5.56	107.82	110.60
23	YA	99	U	P-O3'-C3'	5.56	126.37	119.70
2	XA	687	A	P-O3'-C3'	5.55	126.36	119.70
23	YA	1427	A	P-O3'-C3'	5.55	126.36	119.70
23	RA	1950	G	O4'-C1'-N9	5.54	112.63	108.20
23	RA	1204	A	O4'-C1'-N9	5.54	112.63	108.20
2	XA	1302	U	N1-C2-O2	5.53	126.67	122.80
2	XA	1446	A	P-O3'-C3'	5.53	126.33	119.70
23	YA	1332	G	C4-C5-N7	5.53	113.01	110.80
23	YA	2832	U	P-O3'-C3'	5.53	126.33	119.70
23	YA	2849	U	C2-N1-C1'	-5.52	111.08	117.70
23	YA	528	A	N1-C2-N3	5.51	132.06	129.30
23	YA	2468	G	C6-C5-N7	-5.51	127.09	130.40
23	YA	1535	U	N1-C2-O2	5.50	126.65	122.80
23	RA	2506	U	N3-C2-O2	-5.50	118.35	122.20
23	RA	2712(A)	A	C8-N9-C4	-5.50	103.60	105.80
23	YA	1528	A	O4'-C1'-N9	5.50	112.60	108.20
23	YA	783	A	C8-N9-C4	-5.49	103.60	105.80
2	QA	328	C	P-O3'-C3'	5.49	126.29	119.70
2	QA	723	U	C2-N1-C1'	5.47	124.26	117.70
26	RE	27	LEU	CA-CB-CG	5.46	127.87	115.30
2	XA	1301	U	N3-C2-O2	-5.46	118.38	122.20
23	RA	1992	G	P-O3'-C3'	5.46	126.25	119.70
23	RA	2506	U	N1-C2-O2	5.46	126.62	122.80
33	RP	88	LEU	CA-CB-CG	5.46	127.85	115.30
23	YA	140	A	C5-N7-C8	-5.45	101.17	103.90
23	YA	856	C	C6-N1-C2	-5.45	118.12	120.30
23	RA	1786	A	N1-C6-N6	5.43	121.86	118.60
23	YA	1799	G	P-O3'-C3'	5.43	126.22	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	RA	974(A)	C	P-O3'-C3'	5.42	126.21	119.70
23	YA	450	G	C5-C6-N1	-5.42	108.79	111.50
23	YA	2468	G	C8-N9-C1'	-5.42	119.95	127.00
2	QA	792	A	P-O3'-C3'	5.41	126.19	119.70
2	XA	1200	C	P-O3'-C3'	5.40	126.18	119.70
23	YA	1314	C	C2-N1-C1'	5.39	124.73	118.80
23	YA	530	G	O4'-C1'-N9	5.39	112.51	108.20
2	QA	1285	A	P-O3'-C3'	5.37	126.15	119.70
23	YA	1914	C	C6-N1-C2	-5.37	118.15	120.30
23	RA	1694	C	P-O3'-C3'	5.37	126.14	119.70
23	YA	637	A	P-O3'-C3'	5.37	126.14	119.70
23	RA	2702	U	C5-C6-N1	5.36	125.38	122.70
2	XA	1347	G	C4-N9-C1'	-5.34	119.56	126.50
2	QA	1528	U	P-O3'-C3'	5.34	126.11	119.70
2	QA	1158	C	C6-N1-C2	-5.33	118.17	120.30
23	YA	1558	A	P-O3'-C3'	5.33	126.10	119.70
23	RA	1653	G	P-O3'-C3'	5.33	126.09	119.70
2	QA	1027	C	P-O3'-C3'	5.32	126.08	119.70
23	RA	2321	G	C4-N9-C1'	5.31	133.40	126.50
23	YA	2439	A	N7-C8-N9	5.31	116.45	113.80
23	YA	2584	U	N3-C2-O2	-5.31	118.48	122.20
2	XA	410	G	P-O3'-C3'	5.31	126.07	119.70
23	YA	2681	C	P-O3'-C3'	5.30	126.06	119.70
23	RA	1786	A	C6-C5-N7	-5.30	128.59	132.30
19	QR	31	LEU	CA-CB-CG	5.29	127.47	115.30
2	QA	754	C	N1-C2-O2	5.28	122.07	118.90
23	RA	2832	U	P-O3'-C3'	5.27	126.03	119.70
49	Y5	4	HIS	C-N-CD	5.27	139.47	128.40
23	RA	1930	G	C4-N9-C1'	-5.27	119.65	126.50
23	YA	2468	G	O4'-C1'-N9	5.27	112.42	108.20
23	YA	222	A	P-O3'-C3'	5.26	126.02	119.70
23	YA	271(B)	G	P-O3'-C3'	5.26	126.01	119.70
24	YB	66	A	P-O3'-C3'	5.26	126.01	119.70
23	YA	1694	C	P-O3'-C3'	5.25	126.01	119.70
23	RA	1535	U	N1-C2-O2	5.25	126.48	122.80
23	YA	974(A)	C	P-O3'-C3'	5.25	125.99	119.70
24	YB	24	G	P-O3'-C3'	5.24	125.99	119.70
32	RO	8	LEU	CA-CB-CG	5.22	127.31	115.30
23	RA	1786	A	C4-C5-N7	5.22	113.31	110.70
23	YA	1012	U	P-O3'-C3'	5.21	125.95	119.70
23	YA	974(A)	C	C6-N1-C2	-5.21	118.22	120.30
23	YA	860	U	N3-C2-O2	-5.21	118.56	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	XS	41	VAL	C-N-CD	-5.20	109.15	120.60
23	RA	1543	A	O4'-C1'-N9	5.20	112.36	108.20
23	RA	227	A	P-O3'-C3'	5.19	125.93	119.70
23	YA	1914	C	C2-N1-C1'	5.19	124.51	118.80
23	RA	222	A	P-O3'-C3'	5.18	125.92	119.70
2	XA	328	C	N3-C2-O2	-5.18	118.28	121.90
23	RA	637	A	P-O3'-C3'	5.17	125.91	119.70
2	XA	1027	C	OP1-P-O3'	5.17	116.58	105.20
2	QA	1301	U	C6-N1-C1'	-5.17	113.97	121.20
23	RA	828	U	C2-N1-C1'	5.17	123.90	117.70
23	YA	404	C	P-O3'-C3'	5.16	125.89	119.70
2	XA	1302	U	N3-C2-O2	-5.15	118.59	122.20
2	QA	1158	C	C6-N1-C1'	-5.15	114.62	120.80
23	RA	1022	G	P-O3'-C3'	5.14	125.87	119.70
23	RA	1799	G	P-O3'-C3'	5.14	125.87	119.70
2	XA	1297	C	P-O3'-C3'	5.14	125.87	119.70
39	RV	35	LEU	CA-CB-CG	5.14	127.12	115.30
2	XA	328	C	P-O3'-C3'	5.14	125.86	119.70
23	YA	2490	G	C6-C5-N7	-5.13	127.32	130.40
2	QA	115	G	P-O3'-C3'	5.13	125.85	119.70
23	YA	372	G	OP2-P-O3'	5.12	116.47	105.20
23	RA	1882	C	N1-C2-O2	5.12	121.97	118.90
23	RA	2430	A	N1-C2-N3	5.12	131.86	129.30
2	XA	410	G	OP1-P-O3'	5.12	116.46	105.20
23	YA	1332	G	O4'-C1'-N9	-5.12	104.11	108.20
2	XA	1285	A	P-O3'-C3'	5.11	125.83	119.70
23	RA	205	G	OP2-P-O3'	5.11	116.44	105.20
23	YA	1022	G	P-O3'-C3'	5.11	125.83	119.70
5	QD	28	SER	C-N-CD	5.10	139.10	128.40
23	YA	74	A	O4'-C1'-N9	-5.09	104.13	108.20
2	QA	119	A	P-O3'-C3'	5.08	125.80	119.70
23	RA	2702	U	N3-C2-O2	-5.08	118.64	122.20
23	RA	1528	A	O4'-C1'-N9	5.07	112.26	108.20
23	YA	1313	U	N1-C2-O2	5.07	126.35	122.80
2	XA	1301	U	C6-N1-C1'	-5.06	114.11	121.20
23	RA	1313	U	C5-C6-N1	5.06	125.23	122.70
2	XA	913	A	P-O3'-C3'	5.06	125.78	119.70
23	YA	2610	C	P-O3'-C3'	5.06	125.78	119.70
2	QA	687	A	P-O3'-C3'	5.06	125.77	119.70
23	YA	99	U	OP2-P-O3'	5.06	116.32	105.20
2	XA	243	A	P-O3'-C3'	5.05	125.77	119.70
26	YE	117	MET	CA-CB-CG	5.05	121.89	113.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	QA	1322	C	C6-N1-C2	-5.05	118.28	120.30
2	XA	1158	C	N3-C2-O2	-5.05	118.37	121.90
23	YA	1012	U	OP2-P-O3'	5.04	116.30	105.20
2	QA	812	C	P-O3'-C3'	5.04	125.75	119.70
2	QA	1027	C	OP1-P-O3'	5.04	116.28	105.20
2	QA	1322	C	C6-N1-C1'	-5.02	114.78	120.80
23	YA	1950	G	C6-C5-N7	-5.01	127.39	130.40
2	XA	1336	C	N1-C2-O2	5.01	121.91	118.90
2	XA	792	A	O4'-C1'-N9	5.00	112.20	108.20
34	RQ	82	ARG	N-CA-C	5.00	124.51	111.00

There are no chirality outliers.

All (16) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
13	QL	47	LYS	Peptide
52	R8	30	ARG	Peptide
52	R8	35	GLN	Peptide
26	RE	21	VAL	Peptide
29	RH	127	GLU	Peptide
29	RH	153	LYS	Peptide
13	XL	47	LYS	Peptide
46	Y2	17	SER	Peptide
52	Y8	30	ARG	Peptide
52	Y8	51	ALA	Peptide
26	YE	21	VAL	Peptide
27	YF	47	GLY	Peptide
29	YH	127	GLU	Peptide
29	YH	153	LYS	Peptide
36	YS	109	GLY	Peptide
43	YZ	181	GLU	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	QX	80	0	44	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	XX	80	0	44	1	0
2	QA	32247	0	16278	439	0
2	XA	32249	0	16279	454	1
3	QB	1924	0	1975	78	0
3	XB	1924	0	1975	93	0
4	QC	1605	0	1668	59	0
4	XC	1605	0	1668	56	0
5	QD	1703	0	1763	74	0
5	XD	1703	0	1763	45	0
6	QE	1155	0	1213	38	0
6	XE	1155	0	1213	42	0
7	QF	843	0	857	21	0
7	XF	843	0	857	27	0
8	QG	1257	0	1296	38	0
8	XG	1257	0	1296	26	0
9	QH	1116	0	1177	52	0
9	XH	1116	0	1177	37	0
10	QI	1010	0	1037	34	0
10	XI	1010	0	1037	43	0
11	QJ	801	0	849	47	0
11	XJ	801	0	849	44	0
12	QK	885	0	904	28	0
12	XK	885	0	904	44	0
13	QL	975	0	1062	33	0
13	XL	975	0	1062	38	0
14	QM	964	0	1034	64	0
14	XM	964	0	1034	57	0
15	QN	492	0	529	23	0
15	XN	492	0	529	20	0
16	QO	734	0	771	21	0
16	XO	734	0	771	18	0
17	QP	705	0	725	16	0
17	XP	705	0	725	22	0
18	QQ	834	0	904	19	0
18	XQ	834	0	904	17	0
19	QR	574	0	644	14	0
19	XR	574	0	644	22	0
20	QS	674	0	698	150	0
20	XS	674	0	698	146	0
21	QT	763	0	860	21	0
21	XT	763	0	861	41	0
22	QU	217	0	234	10	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
22	XU	217	0	234	4	0
23	RA	62071	0	31291	765	0
23	YA	62091	0	31298	741	0
24	RB	2573	0	1306	38	0
24	YB	2573	0	1306	29	0
25	RD	2115	0	2195	102	0
25	YD	2115	0	2195	96	0
26	RE	1568	0	1634	68	0
26	YE	1568	0	1634	58	0
27	RF	1585	0	1632	77	0
27	YF	1585	0	1632	66	0
28	RG	1474	0	1535	56	0
28	YG	1474	0	1535	57	0
29	RH	1307	0	1382	61	0
29	YH	1307	0	1382	67	0
30	RI	1136	0	1223	55	1
30	YI	1136	0	1223	46	0
31	RN	1104	0	1180	36	0
31	YN	1104	0	1180	50	0
32	RO	933	0	996	21	0
32	YO	933	0	996	27	0
33	RP	1145	0	1227	82	0
33	YP	1145	0	1228	86	0
34	RQ	1122	0	1179	55	0
34	YQ	1122	0	1179	44	0
35	RR	968	0	1033	48	0
35	YR	968	0	1033	36	0
36	RS	882	0	943	49	0
36	YS	882	0	943	40	0
37	RT	1141	0	1202	52	0
37	YT	1141	0	1202	53	0
38	RU	964	0	1022	29	0
38	YU	964	0	1022	55	0
39	RV	779	0	852	21	0
39	YV	779	0	852	43	0
40	RW	900	0	964	29	0
40	YW	900	0	964	26	0
41	RX	725	0	778	28	0
41	YX	725	0	778	22	0
42	RY	785	0	878	53	0
42	YY	785	0	878	40	0
43	RZ	1461	0	1493	53	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
43	YZ	1461	0	1493	46	0
44	R0	648	0	672	19	0
44	Y0	648	0	672	20	0
45	R1	763	0	848	27	0
45	Y1	763	0	848	31	0
46	R2	581	0	629	17	0
46	Y2	581	0	629	25	0
47	R3	469	0	518	8	0
47	Y3	469	0	518	15	0
48	R4	581	0	574	158	0
48	Y4	581	0	569	163	0
49	R5	459	0	480	26	0
49	Y5	459	0	480	33	0
50	R6	424	0	450	26	0
50	Y6	424	0	450	29	0
51	R7	430	0	480	14	0
51	Y7	430	0	480	19	0
52	R8	517	0	582	31	0
52	Y8	517	0	582	46	0
53	R9	307	0	338	8	0
53	Y9	307	0	338	10	0
54	QV	385	0	198	6	0
54	XV	385	0	198	5	0
55	QA	66	0	0	0	0
55	QF	1	0	0	0	0
55	QH	1	0	0	0	0
55	QM	1	0	0	0	0
55	R0	1	0	0	0	0
55	R3	1	0	0	0	0
55	R5	1	0	0	0	0
55	R8	1	0	0	0	0
55	RA	243	0	0	0	0
55	RB	2	0	0	0	0
55	RD	1	0	0	0	0
55	RE	2	0	0	0	0
55	RF	1	0	0	0	0
55	RP	2	0	0	0	0
55	RR	1	0	0	0	0
55	XA	71	0	0	0	0
55	XB	1	0	0	0	0
55	XL	1	0	0	0	0
55	XM	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
55	Y5	1	0	0	0	0
55	YA	267	0	0	0	0
55	YB	4	0	0	0	0
55	YD	2	0	0	0	0
55	YE	1	0	0	0	0
55	YP	2	0	0	0	0
55	YX	1	0	0	0	0
56	QD	1	0	0	0	0
56	QN	1	0	0	0	0
56	XD	1	0	0	0	0
56	XN	1	0	0	0	0
All	All	288423	0	196477	5647	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 12.

All (5647) 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)
20:XS:68:GLY:CA	48:Y4:68:ARG:HB2	1.22	1.67
20:XS:68:GLY:HA2	48:Y4:68:ARG:CB	1.19	1.60
14:QM:80:ARG:HD3	48:R4:71:ARG:CZ	1.26	1.59
20:QS:67:VAL:N	48:R4:59:PHE:CZ	1.71	1.55
14:XM:80:ARG:HD3	48:Y4:71:ARG:CZ	1.09	1.53
14:XM:80:ARG:CD	48:Y4:71:ARG:NH2	1.71	1.52
20:XS:68:GLY:CA	48:Y4:69:LYS:H	0.87	1.51
20:XS:69:HIS:CA	48:Y4:69:LYS:HE3	1.38	1.51
4:QC:79:ARG:NH2	12:XK:100:ALA:CA	1.79	1.44
20:QS:42:PRO:HD3	48:R4:63:TYR:CZ	1.51	1.43
20:XS:65:ASN:C	48:Y4:59:PHE:HE2	1.23	1.40
14:XM:80:ARG:NE	48:Y4:71:ARG:NH1	1.65	1.40
20:QS:67:VAL:CB	48:R4:59:PHE:CE1	2.04	1.39
14:QM:80:ARG:NE	48:R4:71:ARG:HH12	1.15	1.39
20:XS:69:HIS:HA	48:Y4:69:LYS:CE	1.50	1.39
20:QS:42:PRO:CD	48:R4:63:TYR:CE2	2.07	1.37
4:QC:79:ARG:NH2	12:XK:100:ALA:CB	1.85	1.37
20:QS:64:GLU:HG3	48:R4:55:ARG:NH1	1.38	1.37
20:XS:65:ASN:C	48:Y4:59:PHE:CE2	1.99	1.36
14:QM:80:ARG:HD3	48:R4:71:ARG:NH1	1.38	1.35
14:XM:80:ARG:CD	48:Y4:71:ARG:CZ	1.99	1.35
14:QM:80:ARG:CD	48:R4:71:ARG:NH1	1.89	1.35

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:QS:67:VAL:CG1	48:R4:59:PHE:CD1	2.10	1.34
14:XM:80:ARG:HD3	48:Y4:71:ARG:NH2	1.03	1.34
20:XS:69:HIS:ND1	48:Y4:69:LYS:HD3	1.39	1.34
20:QS:67:VAL:HB	48:R4:59:PHE:CZ	1.60	1.33
20:XS:39:THR:CG2	48:Y4:68:ARG:HE	1.40	1.33
20:XS:70:LYS:NZ	48:Y4:68:ARG:NH2	1.76	1.33
20:XS:39:THR:HG23	48:Y4:68:ARG:NE	1.39	1.32
20:QS:70:LYS:HE2	48:R4:68:ARG:NH2	1.43	1.32
14:XM:80:ARG:NE	48:Y4:71:ARG:HH12	0.86	1.32
20:XS:70:LYS:CE	48:Y4:68:ARG:NH2	1.94	1.30
20:QS:67:VAL:HB	48:R4:59:PHE:CE1	1.61	1.30
4:QC:79:ARG:NH2	12:XK:100:ALA:HA	1.36	1.30
20:XS:67:VAL:HG11	48:Y4:59:PHE:O	1.32	1.30
14:QM:80:ARG:HD3	48:R4:71:ARG:NH2	1.43	1.29
14:XM:80:ARG:CD	48:Y4:71:ARG:NH1	1.96	1.27
20:QS:68:GLY:CA	48:R4:68:ARG:HB2	1.65	1.26
20:QS:64:GLU:CD	48:R4:55:ARG:HH12	1.38	1.25
20:QS:64:GLU:CG	48:R4:55:ARG:HH12	1.47	1.25
14:QM:80:ARG:NE	48:R4:71:ARG:NH1	1.82	1.24
20:XS:65:ASN:CA	48:Y4:59:PHE:HE2	1.49	1.23
20:QS:67:VAL:CA	48:R4:59:PHE:CZ	2.21	1.22
14:XM:80:ARG:CG	48:Y4:71:ARG:NH2	2.02	1.21
20:QS:64:GLU:CG	48:R4:55:ARG:NH1	2.01	1.20
14:QM:80:ARG:CD	48:R4:71:ARG:HH12	1.49	1.19
20:XS:70:LYS:HE2	48:Y4:68:ARG:NH2	1.51	1.18
14:QM:80:ARG:CB	48:R4:71:ARG:HH22	1.55	1.18
20:XS:69:HIS:ND1	48:Y4:69:LYS:CD	2.05	1.18
20:QS:67:VAL:HB	48:R4:59:PHE:CE2	1.79	1.17
20:QS:67:VAL:HB	48:R4:59:PHE:CD1	1.80	1.16
5:QD:22:LYS:HG3	5:QD:26:CYS:SG	1.85	1.16
14:QM:80:ARG:CD	48:R4:71:ARG:CZ	2.21	1.16
20:QS:67:VAL:CB	48:R4:59:PHE:CZ	2.23	1.16
4:QC:79:ARG:CZ	12:XK:100:ALA:HA	1.76	1.15
20:QS:67:VAL:N	48:R4:59:PHE:HZ	1.17	1.15
20:QS:9:VAL:CG1	48:R4:66:SER:O	1.93	1.15
20:QS:70:LYS:CE	48:R4:68:ARG:NH2	2.09	1.14
20:XS:64:GLU:O	48:Y4:59:PHE:CD2	2.01	1.13
20:XS:68:GLY:HA2	48:Y4:68:ARG:CG	1.74	1.13
20:QS:42:PRO:CG	48:R4:63:TYR:CE2	2.31	1.12
14:QM:80:ARG:CG	48:R4:71:ARG:HH22	1.61	1.12
20:QS:68:GLY:HA3	48:R4:68:ARG:HB2	1.30	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:XS:39:THR:CG2	48:Y4:68:ARG:CG	2.28	1.11
20:QS:67:VAL:HG12	48:R4:59:PHE:CE1	1.86	1.11
4:QC:79:ARG:NH2	12:XK:100:ALA:HB2	1.56	1.10
20:QS:68:GLY:O	48:R4:68:ARG:HD3	1.50	1.10
20:QS:42:PRO:CD	48:R4:63:TYR:CZ	2.32	1.09
20:XS:68:GLY:HA3	48:Y4:69:LYS:N	0.77	1.09
20:QS:67:VAL:HG12	48:R4:59:PHE:CD1	1.79	1.08
4:QC:79:ARG:HH21	12:XK:100:ALA:HB2	0.94	1.08
14:QM:80:ARG:CD	48:R4:71:ARG:NH2	2.17	1.08
20:QS:70:LYS:CE	48:R4:68:ARG:HH21	1.66	1.08
20:QS:69:HIS:HA	48:R4:69:LYS:HE3	1.34	1.07
20:QS:68:GLY:HA3	48:R4:69:LYS:H	0.99	1.07
14:XM:7:VAL:HG22	48:Y4:34:GLU:OE1	1.53	1.07
25:YD:43:ARG:NH1	25:YD:44:ASN:OD1	1.86	1.06
20:QS:42:PRO:HD3	48:R4:63:TYR:CE2	1.79	1.06
23:YA:2701:C:H3'	23:YA:2702:U:H5"	1.30	1.06
14:XM:80:ARG:HD3	48:Y4:71:ARG:NH1	1.61	1.06
20:QS:67:VAL:CA	48:R4:59:PHE:CE1	2.37	1.05
3:XB:195:ASP:O	9:XH:74:PRO:HG3	1.56	1.05
20:QS:64:GLU:HB2	48:R4:60:GLN:NE2	1.72	1.04
20:QS:68:GLY:O	48:R4:68:ARG:CD	2.05	1.04
20:QS:67:VAL:CG1	48:R4:59:PHE:CE1	2.30	1.04
23:RA:2701:C:H3'	23:RA:2702:U:H5"	1.39	1.03
14:XM:80:ARG:CD	48:Y4:71:ARG:HH12	1.65	1.03
14:QM:80:ARG:HB2	48:R4:71:ARG:HH22	1.17	1.03
20:XS:64:GLU:OE1	48:Y4:56:VAL:HG22	1.59	1.03
20:XS:69:HIS:CE1	48:Y4:69:LYS:HD3	1.93	1.03
20:QS:68:GLY:C	48:R4:68:ARG:HD3	1.79	1.02
20:XS:68:GLY:HA3	48:Y4:69:LYS:CA	1.88	1.02
20:QS:64:GLU:CD	48:R4:55:ARG:NH1	2.11	1.02
20:XS:39:THR:CG2	48:Y4:68:ARG:HG2	1.90	1.02
20:XS:65:ASN:CA	48:Y4:59:PHE:CE2	2.37	1.01
20:XS:39:THR:HG22	48:Y4:68:ARG:HG2	1.40	1.01
14:QM:80:ARG:HB2	48:R4:71:ARG:NH2	1.73	1.01
14:QM:65:LYS:HE3	48:R4:50:VAL:HG21	1.42	1.00
20:XS:39:THR:CG2	48:Y4:68:ARG:NE	2.08	1.00
20:QS:67:VAL:HB	48:R4:59:PHE:CD2	1.96	1.00
20:QS:9:VAL:HG11	48:R4:66:SER:O	1.61	0.99
23:YA:1138:G:H21	31:YN:106:MET:HE3	1.27	0.99
14:XM:80:ARG:HE	48:Y4:71:ARG:NH1	1.35	0.99
20:QS:68:GLY:HA3	48:R4:69:LYS:N	1.77	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:483:A:H4'	42:YY:49:VAL:HA	1.44	0.98
20:QS:68:GLY:HA2	48:R4:68:ARG:CB	1.94	0.97
5:QD:9:CYS:SG	5:QD:22:LYS:CE	2.52	0.97
14:XM:80:ARG:CB	48:Y4:71:ARG:NH2	2.27	0.97
20:QS:67:VAL:CB	48:R4:59:PHE:CD1	2.33	0.97
20:QS:67:VAL:HB	48:R4:59:PHE:CG	1.99	0.97
2:XA:664:G:H22	2:XA:741:G:H1	1.10	0.97
2:XA:1298:C:OP2	8:XG:114:ARG:NH2	1.99	0.96
20:XS:70:LYS:NZ	48:Y4:68:ARG:HH21	1.44	0.96
23:RA:1310:G:OP2	51:R7:9:ARG:NH1	1.98	0.96
20:XS:70:LYS:HE2	48:Y4:68:ARG:CZ	1.94	0.96
23:RA:2068:U:H3	23:RA:2430:A:H2	1.11	0.96
20:QS:68:GLY:CA	48:R4:68:ARG:CB	2.44	0.96
23:YA:67:U:H3	23:YA:74:A:H2	1.10	0.96
20:QS:68:GLY:N	48:R4:59:PHE:HE1	1.63	0.95
20:XS:69:HIS:CG	48:Y4:69:LYS:HD3	2.01	0.95
23:YA:1496:A:H8	23:YA:1577:C:HO2'	1.06	0.95
20:XS:65:ASN:HB3	48:Y4:55:ARG:HD2	1.48	0.95
5:QD:9:CYS:SG	5:QD:22:LYS:HE3	2.07	0.95
20:QS:68:GLY:CA	48:R4:68:ARG:HD3	1.97	0.94
3:QB:185:ILE:HG22	3:QB:199:TYR:HB2	1.48	0.94
20:QS:68:GLY:HA2	48:R4:68:ARG:HB2	1.45	0.94
20:XS:39:THR:HG21	48:Y4:68:ARG:CG	1.95	0.94
20:XS:70:LYS:HZ3	48:Y4:68:ARG:HH21	0.94	0.94
14:QM:80:ARG:HE	48:R4:71:ARG:NH1	1.51	0.94
23:RA:1359:A:N6	23:RA:1372:U:O4	2.00	0.93
20:XS:39:THR:HG23	48:Y4:68:ARG:CD	1.99	0.93
23:YA:620:G:H4'	23:YA:621:A:H5"	1.48	0.93
20:QS:42:PRO:HG2	48:R4:63:TYR:CE2	2.01	0.92
20:XS:68:GLY:HA3	48:Y4:68:ARG:C	1.88	0.92
20:XS:67:VAL:CG1	48:Y4:59:PHE:O	2.16	0.92
20:XS:39:THR:HG23	48:Y4:68:ARG:HE	0.91	0.92
23:RA:1019:U:HO2'	23:RA:1021:A:H2	1.09	0.91
33:RP:58:THR:O	33:RP:61:ARG:NE	2.03	0.91
26:YE:24:THR:HG21	26:YE:188:VAL:HG11	1.52	0.91
20:QS:64:GLU:HG3	48:R4:55:ARG:HH11	1.16	0.91
23:YA:993:G:OP1	38:YU:50:ARG:NH2	2.04	0.91
20:XS:64:GLU:O	48:Y4:55:ARG:HG2	1.71	0.91
20:XS:70:LYS:NZ	48:Y4:68:ARG:HH22	1.69	0.90
20:XS:65:ASN:HB3	48:Y4:55:ARG:CD	2.01	0.90
23:RA:2392:A:H8	33:RP:60:MET:HG2	1.37	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:QS:68:GLY:O	48:R4:68:ARG:NE	2.03	0.90
4:QC:79:ARG:HH22	12:XK:100:ALA:CB	1.65	0.90
20:QS:70:LYS:NZ	48:R4:68:ARG:NH2	2.19	0.90
20:XS:39:THR:CG2	48:Y4:68:ARG:CD	2.50	0.90
2:QA:1080:A:H5"	6:QE:16:THR:HG21	1.52	0.90
20:QS:42:PRO:HG2	48:R4:63:TYR:CD2	2.06	0.89
14:XM:80:ARG:HB2	48:Y4:71:ARG:NH2	1.87	0.89
20:XS:39:THR:HG21	48:Y4:68:ARG:HG3	1.53	0.89
24:RB:33:G:H5'	28:RG:2:PRO:HG3	1.50	0.89
23:RA:1403:C:H5"	23:RA:1471:A:H1'	1.54	0.89
23:YA:1338:G:N7	41:YX:62:LYS:NZ	2.19	0.89
23:YA:2068:U:H3	23:YA:2430:A:H2	1.20	0.89
49:R5:55:ARG:HG3	49:R5:57:VAL:H	1.37	0.89
14:QM:80:ARG:CD	48:R4:71:ARG:HH22	1.83	0.89
26:YE:50:GLY:HA2	26:YE:77:ILE:HA	1.53	0.89
42:YY:79:CYS:SG	42:YY:80:GLY:N	2.45	0.89
14:QM:80:ARG:CB	48:R4:71:ARG:NH2	2.34	0.88
20:XS:68:GLY:N	48:Y4:68:ARG:HB2	1.89	0.88
37:RT:26:ASP:HB3	37:RT:92:GLY:H	1.36	0.88
23:YA:2287:A:H62	23:YA:2344:U:H3	1.21	0.88
20:QS:64:GLU:OE2	48:R4:55:ARG:NH1	2.05	0.88
33:YP:58:THR:O	33:YP:61:ARG:NE	2.08	0.87
33:RP:64:LYS:O	33:RP:66:GLY:N	2.07	0.87
42:YY:76:CYS:HB3	42:YY:96:ILE:HD13	1.57	0.87
20:QS:42:PRO:HD2	48:R4:63:TYR:CE2	2.06	0.87
49:Y5:40:LYS:HG2	49:Y5:47:PRO:HD2	1.56	0.87
33:RP:19:VAL:HG13	33:RP:21:ARG:H	1.40	0.86
23:RA:1980:G:O2'	23:RA:1982:C:OP2	1.93	0.86
20:QS:67:VAL:HG11	48:R4:59:PHE:CD1	2.08	0.86
5:XD:157:LEU:O	5:XD:161:ASN:ND2	2.07	0.86
20:XS:70:LYS:CE	48:Y4:68:ARG:HH22	1.81	0.86
43:YZ:94:GLU:HB2	43:YZ:130:PRO:HD2	1.56	0.86
25:RD:43:ARG:NH1	25:RD:44:ASN:OD1	2.08	0.86
20:QS:39:THR:HG23	48:R4:68:ARG:HE	1.41	0.86
20:QS:68:GLY:CA	48:R4:69:LYS:H	1.88	0.85
20:XS:70:LYS:HZ1	48:Y4:68:ARG:NH2	1.70	0.85
6:QE:50:GLU:HB3	6:QE:53:LEU:HD13	1.59	0.85
2:XA:1298:C:H2'	8:XG:114:ARG:HH12	1.39	0.85
20:XS:65:ASN:O	48:Y4:59:PHE:CE2	2.30	0.85
42:RY:79:CYS:SG	42:RY:80:GLY:N	2.45	0.85
23:YA:259:G:H21	23:YA:621:A:H8	1.24	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:XS:65:ASN:C	48:Y4:59:PHE:CZ	2.50	0.85
40:YW:18:ARG:HG3	40:YW:76:VAL:HG13	1.58	0.84
14:QM:65:LYS:CE	48:R4:50:VAL:HG21	2.07	0.84
3:QB:80:ILE:HD11	3:QB:208:ILE:HG23	1.58	0.84
4:QC:79:ARG:HH22	12:XK:100:ALA:CA	1.63	0.84
20:QS:64:GLU:OE2	48:R4:55:ARG:NH2	2.11	0.84
23:RA:2580:U:H4'	26:RE:130:GLY:HA3	1.60	0.84
3:XB:178:ARG:HG3	9:XH:72:PRO:HA	1.59	0.84
23:RA:270(R):G:N3	45:R1:78:LYS:NZ	2.25	0.84
23:YA:631:A:OP2	52:Y8:46:ARG:NH2	2.09	0.84
20:QS:42:PRO:CD	48:R4:63:TYR:HE2	1.89	0.84
20:QS:68:GLY:N	48:R4:59:PHE:CE1	2.45	0.84
2:XA:1139:G:N2	2:XA:1143:G:O6	2.10	0.84
14:QM:80:ARG:HE	48:R4:71:ARG:HH12	0.88	0.84
5:XD:9:CYS:SG	5:XD:22:LYS:CE	2.66	0.84
31:YN:4:TYR:O	38:YU:64:ARG:NH1	2.10	0.84
37:YT:26:ASP:HB3	37:YT:92:GLY:H	1.42	0.84
20:QS:42:PRO:CG	48:R4:63:TYR:CD2	2.61	0.83
23:YA:2701:C:H3'	23:YA:2702:U:C5'	2.09	0.83
28:YG:27:ASN:HB3	28:YG:30:GLU:HG3	1.60	0.83
33:YP:19:VAL:HG13	33:YP:21:ARG:H	1.41	0.83
3:QB:178:ARG:HG3	9:QH:72:PRO:N	1.94	0.83
20:QS:68:GLY:HA2	48:R4:68:ARG:CG	2.08	0.83
20:XS:68:GLY:CA	48:Y4:68:ARG:CB	2.06	0.83
38:YU:90:VAL:O	38:YU:92:ARG:N	2.11	0.82
23:RA:1019:U:H3	23:RA:1142(A):A:H62	1.26	0.82
49:R5:4:HIS:HB3	49:R5:5:PRO:HD3	1.62	0.82
20:XS:64:GLU:O	48:Y4:59:PHE:HD2	1.59	0.82
3:QB:178:ARG:NE	9:QH:71:GLY:O	2.13	0.82
27:RF:197:ASP:O	27:RF:199:TRP:N	2.12	0.82
23:YA:483:A:H5'	42:YY:49:VAL:HG22	1.61	0.82
20:XS:65:ASN:HA	48:Y4:59:PHE:CE2	2.12	0.82
49:R5:16:ARG:NH1	49:R5:17:ASP:OD1	2.13	0.82
20:XS:67:VAL:HG11	48:Y4:59:PHE:C	2.00	0.82
45:Y1:7:ILE:HD12	45:Y1:62:VAL:HG11	1.62	0.82
23:RA:2245:U:H5'	23:RA:2246:G:H5'	1.62	0.82
42:RY:29:GLU:HB3	42:RY:38:ILE:HG12	1.62	0.82
2:QA:686:U:H1'	12:QK:42:TRP:HE1	1.43	0.81
14:QM:7:VAL:HG22	48:R4:34:GLU:OE1	1.79	0.81
46:Y2:47:ASN:O	46:Y2:49:LYS:N	2.12	0.81
49:Y5:16:ARG:NH1	49:Y5:17:ASP:OD1	2.13	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QB:195:ASP:O	9:QH:74:PRO:HG3	1.81	0.81
33:RP:62:LEU:HD21	52:R8:25:MET:HB2	1.61	0.81
23:YA:2580:U:H4'	26:YE:130:GLY:HA3	1.62	0.81
27:RF:103:LYS:HA	27:RF:106:ARG:HG3	1.63	0.81
14:QM:14:ARG:H	14:QM:44:ARG:HD3	1.45	0.81
43:RZ:94:GLU:HB2	43:RZ:130:PRO:HD2	1.62	0.81
46:R2:47:ASN:O	46:R2:49:LYS:N	2.13	0.81
31:YN:4:TYR:OH	31:YN:7:LYS:NZ	2.14	0.81
3:XB:69:LEU:HB3	3:XB:162:ILE:HG22	1.62	0.81
20:XS:42:PRO:CG	48:Y4:60:GLN:O	2.29	0.81
23:RA:996:A:H4'	38:RU:92:ARG:HE	1.45	0.81
26:RE:201:THR:HG22	26:RE:203:LYS:H	1.45	0.81
20:QS:42:PRO:HD3	48:R4:63:TYR:OH	1.78	0.81
37:RT:24:PRO:HA	37:RT:49:VAL:HG13	1.61	0.80
43:YZ:151:HIS:HB3	43:YZ:170:THR:HA	1.63	0.80
31:RN:42:TRP:O	38:RU:64:ARG:NH2	2.15	0.80
14:XM:65:LYS:HD3	14:XM:69:GLU:HG3	1.63	0.80
23:YA:1021:A:OP2	31:YN:65:LYS:NZ	2.14	0.80
23:YA:2015:A:H1'	49:Y5:2:ALA:HA	1.63	0.80
23:RA:1689:A:H62	23:RA:1698:A:H2	1.30	0.80
26:RE:50:GLY:HA2	26:RE:77:ILE:HA	1.64	0.80
42:YY:76:CYS:SG	42:YY:77:PRO:HD2	2.22	0.80
23:RA:2131:G:H4'	23:RA:2132:U:H4'	1.64	0.80
23:RA:2392:A:C8	33:RP:60:MET:HG2	2.16	0.80
14:QM:80:ARG:CG	48:R4:71:ARG:NH2	2.40	0.80
35:RR:104:ARG:HD2	35:RR:111:LEU:HD21	1.63	0.80
23:YA:498:G:N3	42:YY:47:LYS:NZ	2.29	0.80
14:QM:3:ARG:HA	14:QM:9:ILE:HG21	1.62	0.79
2:XA:1200:C:O2'	2:XA:1201:A:OP2	1.99	0.79
20:XS:69:HIS:CB	48:Y4:69:LYS:HE3	2.12	0.79
20:QS:64:GLU:HB2	48:R4:60:GLN:HE22	1.45	0.79
23:YA:1359:A:N6	23:YA:1372:U:O4	2.15	0.79
43:YZ:144:LEU:HD11	43:YZ:149:SER:HA	1.62	0.79
41:YX:67:GLY:O	41:YX:69:TYR:N	2.15	0.79
12:QK:21:ILE:HB	12:QK:84:VAL:HG12	1.65	0.79
16:QO:26:GLU:OE2	16:QO:77:ARG:NH1	2.16	0.79
20:QS:67:VAL:HG11	48:R4:59:PHE:O	1.82	0.79
20:QS:70:LYS:NZ	48:R4:68:ARG:HH21	1.76	0.79
3:XB:77:ALA:HB2	3:XB:211:ILE:HD13	1.64	0.79
4:XC:32:LEU:HD13	4:XC:59:ARG:HD3	1.64	0.79
20:XS:68:GLY:N	48:Y4:59:PHE:HE1	1.58	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:XT:33:ILE:O	21:XT:37:SER:OG	2.01	0.79
2:QA:1002:G:H2'	2:QA:1003:G:H8	1.47	0.79
23:RA:1607:C:N4	23:RA:1622:G:OP2	2.15	0.79
2:QA:922:G:H4'	6:QE:20:GLN:HA	1.64	0.79
3:XB:178:ARG:HG3	9:XH:72:PRO:CA	2.13	0.79
23:YA:2753:A:O2'	53:Y9:15:LYS:NZ	2.15	0.79
44:Y0:10:THR:HG22	44:Y0:12:ASN:H	1.48	0.79
20:QS:69:HIS:CA	48:R4:69:LYS:HE3	2.11	0.79
43:YZ:182:LYS:HG3	43:YZ:183:LEU:HD23	1.65	0.79
5:XD:9:CYS:SG	5:XD:22:LYS:NZ	2.52	0.78
23:RA:141:A:H8	23:RA:1595:G:H21	1.30	0.78
20:XS:69:HIS:CB	48:Y4:69:LYS:CE	2.61	0.78
23:YA:270(T):G:H5"	45:Y1:97:LEU:HD22	1.66	0.78
20:XS:65:ASN:HA	48:Y4:59:PHE:HE2	1.44	0.78
5:QD:197:PRO:HD3	7:XF:16:GLN:HE21	1.49	0.78
4:XC:59:ARG:HH12	4:XC:97:LYS:HE3	1.48	0.78
23:YA:1021:A:N6	23:YA:1141:U:O2	2.17	0.78
23:RA:1061:U:H5'	23:RA:1070:A:H1'	1.65	0.78
48:Y4:1:MET:SD	48:Y4:6:HIS:NE2	2.55	0.78
21:QT:100:ILE:HG13	21:QT:102:GLY:H	1.48	0.78
11:QJ:50:ILE:HA	11:QJ:60:ARG:HG2	1.66	0.78
20:QS:69:HIS:HA	48:R4:69:LYS:CE	2.11	0.78
23:RA:2839:G:H5'	35:RR:46:GLY:HA2	1.65	0.78
33:RP:126:VAL:HG12	33:RP:147:LEU:HD21	1.63	0.78
25:RD:69:ARG:NH2	25:RD:128:GLY:O	2.17	0.78
31:RN:95:PRO:O	31:RN:97:ARG:N	2.15	0.78
23:YA:1728:G:N1	23:YA:1730:U:OP2	2.17	0.78
2:QA:410:G:H3'	5:QD:25:ARG:HH21	1.46	0.78
32:YO:88:ASN:HD21	32:YO:92:GLU:HB2	1.47	0.78
20:QS:69:HIS:CE1	48:R4:69:LYS:HD3	2.18	0.78
23:RA:1754:C:OP1	37:RT:96:ARG:NH1	2.16	0.78
23:RA:2753:A:O2'	53:R9:15:LYS:NZ	2.16	0.78
2:XA:953:G:H5'	2:XA:965:A:H61	1.48	0.78
2:QA:1298:C:OP2	8:QG:114:ARG:NH2	2.17	0.77
2:QA:1502:A:H2	2:QA:1505:G:H1	1.33	0.77
2:XA:1368:G:OP1	10:XI:111:ARG:NH2	2.16	0.77
23:RA:617:G:OP1	27:RF:40:GLN:NE2	2.15	0.77
23:RA:1138:G:H21	31:RN:106:MET:HE3	1.48	0.77
23:RA:483:A:H4'	42:RY:49:VAL:HA	1.65	0.77
27:RF:66:PRO:O	27:RF:68:LYS:N	2.18	0.77
14:XM:14:ARG:H	14:XM:44:ARG:HD3	1.49	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YD:69:ARG:NH2	25:YD:128:GLY:O	2.17	0.77
4:QC:79:ARG:HH22	12:XK:100:ALA:HA	1.25	0.77
2:XA:19:C:OP1	6:XE:125:SER:OG	2.02	0.77
2:XA:427:U:OP1	5:XD:13:ARG:NH2	2.18	0.77
2:XA:1298:C:H2'	8:XG:114:ARG:NH1	1.99	0.77
31:YN:95:PRO:O	31:YN:97:ARG:N	2.18	0.77
4:XC:20:SER:HB2	4:XC:40:ARG:HH22	1.50	0.77
20:XS:68:GLY:N	48:Y4:59:PHE:CE1	2.48	0.77
2:QA:954:G:H21	2:QA:1227:A:H62	1.30	0.77
20:QS:70:LYS:HE2	48:R4:68:ARG:HH21	1.25	0.77
23:YA:1019:U:HO2'	23:YA:1021:A:H2	1.31	0.77
33:YP:47:ASP:OD1	33:YP:50:ARG:NH2	2.17	0.77
23:RA:1543:A:O2'	23:RA:1544:C:H3'	1.85	0.76
44:Y0:27:GLU:HG3	44:Y0:68:GLU:HA	1.66	0.76
23:RA:674:G:H1'	27:RF:74:ARG:HD3	1.67	0.76
20:QS:68:GLY:HA3	48:R4:68:ARG:CB	2.11	0.76
23:RA:2298:A:H62	23:RA:2318:G:H8	1.33	0.76
26:RE:9:VAL:HB	26:RE:25:VAL:HG23	1.66	0.76
34:RQ:83:MET:HB2	44:R0:7:LEU:HD12	1.67	0.76
35:RR:3:HIS:O	35:RR:5:LYS:N	2.19	0.76
23:YA:1310:G:OP2	51:Y7:9:ARG:NH1	2.19	0.76
23:RA:1667:G:O2'	23:RA:1991:U:O4	2.03	0.76
23:RA:2701:C:H3'	23:RA:2702:U:C5'	2.16	0.76
23:RA:94:G:H21	46:R2:47:ASN:HD22	1.32	0.76
23:RA:249:C:O2	52:R8:12:LYS:NZ	2.18	0.76
2:XA:1129:C:N4	2:XA:1133:G:O6	2.19	0.76
17:XP:45:THR:HG22	17:XP:47:ASP:H	1.51	0.76
36:RS:62:LYS:HB3	36:RS:97:ARG:HD3	1.67	0.76
23:YA:1899:G:H21	23:YA:1902:C:H41	1.31	0.76
23:RA:1012:U:O2'	23:RA:1013:C:OP2	2.03	0.76
30:RI:5:LEU:HD11	30:RI:19:VAL:HG12	1.65	0.76
23:YA:250:G:OP2	52:Y8:13:ARG:NH2	2.19	0.76
27:YF:197:ASP:O	27:YF:199:TRP:N	2.19	0.75
24:RB:52:A:O2'	24:RB:53:A:N7	2.19	0.75
42:RY:95:LYS:HB3	42:RY:100:ALA:HA	1.68	0.75
29:YH:153:LYS:HG2	29:YH:162:ILE:HG13	1.67	0.75
23:YA:587:C:OP2	33:YP:21:ARG:NH2	2.20	0.75
35:YR:74:LYS:O	35:YR:76:VAL:N	2.18	0.75
43:RZ:60:GLU:HA	43:RZ:66:SER:HA	1.66	0.75
2:QA:1106:G:H5"	4:QC:172:ARG:HG2	1.68	0.75
37:YT:57:PHE:O	37:YT:58:ASN:ND2	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RY:87:LYS:HD3	42:RY:92:ASN:HB3	1.69	0.75
20:XS:9:VAL:HG12	48:Y4:67:TYR:HA	1.68	0.75
20:XS:66:MET:N	48:Y4:59:PHE:CZ	2.54	0.75
50:R6:41:PRO:HG2	50:R6:45:LYS:H	1.52	0.75
37:YT:27:THR:HG23	37:YT:90:GLN:HB3	1.67	0.75
23:RA:27:G:N2	23:RA:513:A:OP2	2.20	0.75
33:RP:14:LYS:O	33:RP:16:ARG:N	2.20	0.75
35:RR:74:LYS:O	35:RR:76:VAL:N	2.18	0.75
38:YU:92:ARG:O	38:YU:94:ASN:N	2.20	0.75
6:QE:102:ALA:HB1	6:QE:106:PRO:HG2	1.69	0.75
39:YV:24:LYS:HA	39:YV:92:THR:HG23	1.68	0.75
6:QE:7:GLU:HG2	6:QE:112:LEU:HD22	1.69	0.74
23:RA:958:U:OP2	34:RQ:14:ARG:NH1	2.18	0.74
42:RY:86:ARG:HB2	42:RY:95:LYS:HD2	1.69	0.74
51:R7:9:ARG:HH21	51:R7:48:LYS:HD2	1.52	0.74
31:YN:13:TRP:HB2	31:YN:133:GLN:HG3	1.69	0.74
18:XQ:66:SER:O	18:XQ:70:ARG:NH1	2.21	0.74
28:RG:34:LEU:HB2	28:RG:172:LEU:HD21	1.68	0.74
35:RR:56:LYS:NZ	35:RR:90:ARG:O	2.20	0.74
36:YS:78:LEU:HD21	36:YS:108:GLY:HA3	1.68	0.74
6:QE:79:GLU:OE2	9:QH:104:ARG:HA	1.86	0.74
20:QS:39:THR:CG2	48:R4:68:ARG:HE	2.00	0.74
23:RA:2392:A:H2	23:RA:2424:C:H42	1.33	0.74
23:RA:1080:C:N4	23:RA:1088:A:OP2	2.15	0.74
2:XA:1299:A:H2'	2:XA:1301:U:H1'	1.69	0.74
20:XS:69:HIS:CA	48:Y4:69:LYS:CE	2.29	0.74
5:QD:197:PRO:HD3	7:XF:16:GLN:NE2	2.02	0.74
23:YA:265:A:N6	23:YA:427:U:O2'	2.21	0.74
37:YT:51:ARG:HG2	37:YT:98:LYS:HG3	1.70	0.74
2:QA:1352:C:OP1	22:QU:3:LYS:NZ	2.18	0.74
9:QH:29:SER:HB3	9:QH:32:LYS:HG3	1.69	0.74
26:RE:62:PRO:O	26:RE:64:LYS:N	2.20	0.74
30:RI:8:PRO:HD3	30:RI:15:VAL:HG13	1.67	0.74
6:QE:100:VAL:O	6:QE:107:ARG:NH2	2.20	0.74
28:YG:161:THR:HG22	28:YG:163:ALA:H	1.53	0.74
20:XS:66:MET:N	48:Y4:59:PHE:CE2	2.55	0.74
20:QS:70:LYS:HE2	48:R4:68:ARG:HH22	1.53	0.73
2:XA:547:A:OP1	5:XD:73:ARG:NH2	2.21	0.73
2:QA:864:A:H5'	6:QE:86:ALA:HB2	1.70	0.73
2:XA:674:G:H2'	2:XA:675:A:H8	1.52	0.73
30:RI:52:ARG:HB2	30:RI:56:LYS:HB3	1.69	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:R1:7:ILE:HG12	45:R1:91:LYS:HZ1	1.51	0.73
2:XA:963:G:N3	11:XJ:55:LYS:NZ	2.33	0.73
20:XS:65:ASN:HA	48:Y4:55:ARG:HG3	1.70	0.73
2:QA:532:A:H61	4:QC:193:TYR:HB3	1.53	0.73
5:QD:175:SER:HB3	5:QD:186:LEU:HD21	1.69	0.73
20:QS:67:VAL:N	48:R4:59:PHE:CE2	2.53	0.73
23:YA:125:G:H5"	51:Y7:19:ARG:HD3	1.70	0.73
48:Y4:9:LEU:H	48:Y4:27:THR:HG23	1.53	0.73
2:XA:1130:A:O2'	10:XI:3:GLN:NE2	2.19	0.73
8:QG:9:VAL:HG13	8:QG:94:ARG:HH21	1.54	0.73
23:RA:221:A:H4'	23:RA:222:A:O5'	1.87	0.73
33:YP:14:LYS:O	33:YP:16:ARG:N	2.22	0.73
41:YX:27:THR:HB	41:YX:80:ILE:HB	1.69	0.73
23:RA:1542:G:O6	23:RA:1543:A:N6	2.22	0.73
2:XA:1002:G:H1	2:XA:1038:C:H42	1.36	0.73
5:XD:7:PRO:HB2	5:XD:10:ARG:HD2	1.69	0.73
20:XS:39:THR:HG21	48:Y4:68:ARG:HE	1.51	0.73
34:YQ:111:GLU:OE1	34:YQ:133:ARG:NH2	2.22	0.73
2:QA:346:G:OP1	37:RT:41:ARG:NH2	2.22	0.73
34:YQ:24:GLY:O	34:YQ:26:TYR:N	2.19	0.73
34:YQ:104:PHE:HE1	34:YQ:125:LEU:HD11	1.54	0.73
29:YH:86:GLU:HG3	29:YH:165:ALA:H	1.53	0.73
4:QC:20:SER:HB2	4:QC:40:ARG:HH22	1.54	0.72
23:YA:2599:G:OP2	25:YD:236:GLY:HA2	1.90	0.72
2:XA:975:A:HO2'	15:XN:32:SER:HG	1.37	0.72
48:Y4:48:ARG:HH12	48:Y4:52:THR:HG22	1.54	0.72
2:QA:973:G:OP1	11:QJ:57:LYS:NZ	2.23	0.72
23:RA:270(T):G:H5"	45:R1:97:LEU:HD22	1.71	0.72
25:YD:35:LYS:HD2	25:YD:104:TYR:CE1	2.24	0.72
2:QA:542:G:OP1	5:QD:10:ARG:NH2	2.23	0.72
4:QC:58:GLU:HB2	4:QC:65:ALA:HB3	1.70	0.72
23:YA:674:G:H1'	27:YF:74:ARG:HD3	1.71	0.72
24:YB:52:A:H62	36:YS:33:LYS:HG3	1.55	0.72
28:YG:6:ALA:H	48:Y4:23:GLU:HG2	1.54	0.72
28:YG:64:THR:HG23	28:YG:66:GLN:H	1.55	0.72
18:QQ:4:LYS:HE3	18:QQ:6:LEU:HD21	1.72	0.72
23:RA:1187:G:H5"	39:RV:81:TYR:CE2	2.24	0.72
23:YA:676:A:H8	23:YA:2069:G:H21	1.38	0.72
29:YH:129:THR:OG1	29:YH:129:THR:O	2.08	0.72
23:RA:1857:G:O2'	23:RA:1885:A:N6	2.22	0.72
43:RZ:165:VAL:HG11	43:RZ:169:GLU:HB2	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YB:15:A:H5'	24:YB:16:G:C8	2.25	0.72
42:YY:51:VAL:HG13	42:YY:52:SER:H	1.55	0.72
43:RZ:108:PRO:HA	43:RZ:142:SER:HA	1.72	0.71
46:Y2:42:GLY:O	46:Y2:44:LEU:N	2.20	0.71
2:QA:963:G:N3	11:QJ:55:LYS:NZ	2.34	0.71
23:YA:1190:G:OP1	33:YP:30:THR:OG1	2.07	0.71
32:YO:47:ILE:HG13	32:YO:48:PRO:HD2	1.72	0.71
23:YA:2023:G:H5'	23:YA:2617:C:H4'	1.72	0.71
5:QD:28:SER:HB3	5:QD:29:PRO:HD3	1.72	0.71
20:QS:64:GLU:O	48:R4:59:PHE:CE2	2.43	0.71
50:R6:17:LYS:HB3	50:R6:44:ARG:HH22	1.55	0.71
6:XE:10:MET:HB3	6:XE:32:VAL:HG22	1.70	0.71
20:XS:64:GLU:OE1	48:Y4:56:VAL:CG2	2.38	0.71
26:YE:170:LEU:HD21	26:YE:187:ALA:HB3	1.72	0.71
42:YY:29:GLU:HB3	42:YY:38:ILE:HG23	1.70	0.71
33:RP:38:GLN:HG2	33:RP:45:LEU:HD12	1.72	0.71
7:XF:50:TYR:OH	19:XR:74:ARG:O	2.06	0.71
10:XI:114:TYR:HE1	11:XJ:60:ARG:H	1.38	0.71
3:QB:115:LEU:HB2	3:QB:145:LEU:HD12	1.73	0.71
23:RA:1022:G:H22	23:RA:1142(A):A:H2	1.37	0.71
47:R3:8:LEU:HD13	47:R3:31:LEU:HD23	1.71	0.71
11:XJ:50:ILE:HA	11:XJ:60:ARG:HG2	1.72	0.71
31:YN:89:LYS:O	31:YN:93:THR:HG22	1.90	0.71
43:YZ:60:GLU:HA	43:YZ:66:SER:HA	1.73	0.71
14:QM:59:TYR:O	14:QM:63:THR:OG1	2.07	0.71
23:RA:631:A:OP2	52:R8:46:ARG:NH2	2.24	0.71
23:RA:2133:G:H1'	23:RA:2158:A:H61	1.56	0.71
28:RG:61:ALA:HB2	28:RG:68:PRO:HD3	1.72	0.71
9:XH:10:LEU:HD22	9:XH:83:ILE:HD11	1.72	0.71
21:XT:45:GLN:HB2	21:XT:91:LEU:HD13	1.73	0.71
36:YS:106:ARG:HA	36:YS:110:LEU:HD21	1.73	0.71
37:YT:77:PRO:HB2	37:YT:80:SER:HB2	1.72	0.71
2:QA:439:A:OP2	2:QA:493:G:N1	2.21	0.71
23:YA:1021:A:H8	23:YA:1022:G:H5"	1.56	0.71
23:YA:1509:C:H3'	23:YA:1510:A:H5"	1.73	0.71
36:YS:24:LEU:HB2	36:YS:85:VAL:HG12	1.70	0.71
52:Y8:58:ILE:HD13	52:Y8:61:LEU:HD21	1.73	0.71
20:QS:64:GLU:OE2	48:R4:55:ARG:CZ	2.39	0.70
20:QS:68:GLY:CA	48:R4:68:ARG:CD	2.68	0.70
23:RA:2547:U:O2	32:RO:23:ARG:NH2	2.22	0.70
34:RQ:81:VAL:O	34:RQ:82:ARG:NE	2.22	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:860:U:H5	23:YA:917:A:C2	2.08	0.70
28:YG:47:LYS:HD3	28:YG:81:LYS:HB2	1.73	0.70
32:YO:2:ILE:HD12	32:YO:6:THR:HG21	1.72	0.70
20:QS:68:GLY:HA3	48:R4:68:ARG:HD3	1.73	0.70
23:RA:586:A:H5'	27:RF:89:VAL:HG21	1.73	0.70
23:RA:2287:A:H62	23:RA:2344:U:H3	1.39	0.70
46:R2:29:LYS:HE3	46:R2:57:ILE:HG21	1.73	0.70
23:YA:83:G:N2	23:YA:103:A:OP2	2.17	0.70
23:YA:602:G:HO2'	23:YA:604:G:HO2'	1.32	0.70
42:YY:42:VAL:HG12	42:YY:65:ALA:HB3	1.71	0.70
20:QS:40:ILE:HD11	20:QS:62:ILE:HD12	1.74	0.70
20:QS:41:VAL:HB	20:QS:42:PRO:HA	1.74	0.70
23:RA:2404:C:H1'	33:RP:67:MET:HE1	1.73	0.70
29:RH:106:THR:HG22	29:RH:112:PRO:HB3	1.72	0.70
40:RW:29:LEU:HD22	40:RW:69:LEU:HD11	1.72	0.70
2:XA:439:A:OP2	2:XA:493:G:N1	2.23	0.70
23:YA:443:A:N7	27:YF:45:ARG:HD2	2.05	0.70
30:RI:133:HIS:HB2	30:RI:134:PRO:HD2	1.71	0.70
3:XB:185:ILE:HG22	3:XB:199:TYR:HB2	1.74	0.70
11:QJ:61:GLU:OE2	15:QN:45:ARG:NH1	2.23	0.70
15:XN:48:ALA:HB2	15:XN:53:LEU:HD12	1.73	0.70
23:RA:859:G:O2'	23:RA:860:U:O2	2.07	0.70
23:RA:252:G:OP2	33:RP:50:ARG:NH1	2.25	0.70
37:RT:18:ASP:OD1	37:RT:18:ASP:N	2.19	0.70
27:YF:185:ASP:HA	27:YF:188:ARG:HD3	1.72	0.70
40:YW:17:VAL:HG12	40:YW:76:VAL:HG11	1.72	0.70
2:XA:201:C:N4	2:XA:209:U:O2	2.25	0.70
19:XR:58:LEU:HD23	19:XR:62:GLU:HB3	1.74	0.70
23:YA:443:A:H3'	27:YF:45:ARG:HH12	1.56	0.70
30:YI:92:VAL:HG13	30:YI:120:ILE:HG23	1.74	0.70
30:RI:4:ILE:HD11	30:RI:44:LEU:HD12	1.73	0.70
2:XA:1129:C:H4'	2:XA:1130:A:H5'	1.74	0.70
23:YA:528:A:C2	23:YA:2042:A:H2'	2.26	0.70
2:QA:677:U:H3	2:QA:713:G:H22	1.39	0.70
23:YA:2469:A:O2'	34:YQ:56:ARG:HG2	1.91	0.70
25:YD:43:ARG:HB3	25:YD:54:ARG:HB2	1.74	0.70
30:YI:4:ILE:HG12	30:YI:18:VAL:HG22	1.72	0.70
23:RA:67:U:H3	23:RA:74:A:H2	1.40	0.69
23:RA:482:A:H4'	42:RY:47:LYS:HD2	1.74	0.69
23:RA:768:G:O2'	23:RA:1379:A:N6	2.25	0.69
30:YI:133:HIS:HB2	30:YI:134:PRO:HD2	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:QJ:48:THR:HA	11:QJ:62:HIS:HB3	1.73	0.69
20:QS:64:GLU:CB	48:R4:60:GLN:NE2	2.54	0.69
23:RA:442:G:H1'	27:RF:48:THR:HG21	1.73	0.69
25:RD:93:ALA:HB3	25:RD:105:ILE:HG22	1.74	0.69
26:RE:119:ARG:HB3	26:RE:120:TRP:CD1	2.27	0.69
44:R0:68:GLU:OE1	44:R0:82:ARG:NH1	2.25	0.69
20:QS:67:VAL:C	48:R4:59:PHE:CE1	2.64	0.69
48:R4:18:CYS:SG	48:R4:19:GLY:N	2.66	0.69
2:XA:411:A:C4	2:XA:413:G:H1'	2.27	0.69
5:XD:105:VAL:HG13	5:XD:110:PHE:HB2	1.74	0.69
7:XF:68:PRO:HG2	7:XF:71:ARG:HG3	1.74	0.69
20:XS:65:ASN:HA	48:Y4:55:ARG:CG	2.22	0.69
2:QA:1077:G:N2	2:QA:1080:A:OP2	2.25	0.69
20:QS:42:PRO:HD2	48:R4:63:TYR:HE2	1.51	0.69
23:RA:2849:U:OP1	37:RT:95:ARG:NH1	2.26	0.69
21:XT:100:ILE:HG13	21:XT:102:GLY:H	1.56	0.69
23:YA:1359:A:H61	23:YA:1372:U:H3	1.39	0.69
25:YD:182:LEU:H	25:YD:272:ALA:HB3	1.56	0.69
2:QA:1316:G:H22	2:QA:1319:A:H5"	1.57	0.69
20:XS:10:PHE:HB2	20:XS:39:THR:H	1.54	0.69
23:YA:1607:C:N4	23:YA:1622:G:OP2	2.24	0.69
25:YD:71:ASP:HB2	25:YD:103:ARG:HH22	1.58	0.69
23:RA:242:G:H5"	52:R8:62:LEU:HD13	1.73	0.69
23:RA:1582:C:HO2'	23:RA:1586:A:H8	1.41	0.69
23:RA:2712:U:HO2'	23:RA:2712(A):A:H8	1.39	0.69
27:YF:110:LEU:HD11	27:YF:181:LEU:HD13	1.74	0.69
27:YF:182:ASN:ND2	27:YF:185:ASP:OD2	2.19	0.69
50:Y6:11:LEU:HD11	50:Y6:51:GLU:HG3	1.75	0.69
30:RI:3:VAL:HG12	30:RI:38:LEU:HA	1.74	0.69
34:RQ:37:LEU:HD21	34:RQ:130:LYS:HE3	1.74	0.69
48:R4:7:PRO:HB2	48:R4:27:THR:HG21	1.74	0.69
49:R5:41:PRO:O	49:R5:44:THR:OG1	2.10	0.69
2:XA:1286:A:H5"	22:XU:26:LYS:HD2	1.75	0.69
23:YA:1899:G:H21	23:YA:1902:C:N4	1.90	0.69
27:YF:184:TYR:O	27:YF:188:ARG:HG3	1.93	0.69
23:RA:468:G:H4'	27:RF:62:ARG:HH12	1.58	0.69
29:RH:86:GLU:HG3	29:RH:165:ALA:H	1.56	0.69
26:YE:128:SER:OG	26:YE:129:HIS:N	2.24	0.69
27:YF:157:VAL:HB	27:YF:194:MET:HB3	1.75	0.69
11:XJ:61:GLU:OE2	15:XN:45:ARG:NH1	2.25	0.69
25:RD:25:THR:O	25:RD:27:THR:N	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RE:2:LYS:HD3	26:RE:95:ILE:HG22	1.75	0.68
40:RW:29:LEU:HG	40:RW:33:ARG:HD2	1.74	0.68
23:RA:2680:C:H5'	26:RE:189:PRO:HA	1.75	0.68
23:RA:2867:G:O2'	23:RA:2868:A:H8	1.76	0.68
33:YP:64:LYS:C	33:YP:66:GLY:H	1.96	0.68
17:QP:4:ILE:HG12	17:QP:21:VAL:HG12	1.75	0.68
23:RA:2114:A:N6	23:RA:2119:A:N7	2.41	0.68
28:RG:66:GLN:NE2	28:RG:93:THR:O	2.26	0.68
3:XB:235:SER:OG	3:XB:236:TYR:N	2.25	0.68
15:XN:13:THR:N	15:XN:14:PRO:HD2	2.09	0.68
20:XS:69:HIS:ND1	48:Y4:69:LYS:CE	2.56	0.68
23:YA:1858:G:O2'	23:YA:1884:A:N6	2.27	0.68
24:YB:80:U:H2'	24:YB:81:G:H21	1.58	0.68
25:YD:25:THR:O	25:YD:27:THR:N	2.26	0.68
45:Y1:73:LEU:HD13	45:Y1:90:ILE:HG22	1.76	0.68
2:QA:191:G:H1'	21:QT:105:SER:HB3	1.75	0.68
28:RG:47:LYS:HD3	28:RG:81:LYS:HB2	1.76	0.68
2:XA:1226:C:O2'	14:XM:111:LYS:NZ	2.27	0.68
23:YA:99:U:H4'	23:YA:101:G:H5"	1.75	0.68
23:YA:1245:G:OP1	33:YP:13:ASN:ND2	2.26	0.68
4:QC:3:ASN:N	4:QC:3:ASN:OD1	2.27	0.68
2:XA:1002:G:H2'	2:XA:1003:G:H8	1.58	0.68
20:XS:42:PRO:HG2	48:Y4:60:GLN:O	1.92	0.68
23:YA:630:G:OP1	52:Y8:46:ARG:NH1	2.27	0.68
37:YT:123:GLN:O	37:YT:125:ARG:N	2.26	0.68
12:QK:58:PRO:HB2	12:QK:93:GLN:HG3	1.75	0.68
24:RB:80:U:H2'	24:RB:81:G:H21	1.58	0.68
35:RR:38:VAL:HG22	35:RR:112:ALA:HB2	1.75	0.68
20:XS:39:THR:HG21	48:Y4:68:ARG:NE	2.06	0.68
26:YE:95:ILE:H	26:YE:95:ILE:HD12	1.59	0.68
23:YA:1689:A:H62	23:YA:1698:A:H2	1.40	0.68
31:YN:133:GLN:HB2	31:YN:135:PRO:HD3	1.76	0.68
34:YQ:37:LEU:HD21	34:YQ:130:LYS:HE3	1.74	0.68
6:QE:11:ILE:HG13	6:QE:31:LEU:HB3	1.76	0.68
2:XA:555:C:OP2	13:XL:20:LYS:NZ	2.27	0.68
20:XS:40:ILE:HG12	20:XS:41:VAL:HG13	1.76	0.68
23:YA:1309:G:H4'	51:Y7:7:PRO:HB2	1.76	0.68
20:QS:68:GLY:CA	48:R4:68:ARG:CG	2.70	0.68
23:RA:2445:G:OP1	27:RF:74:ARG:NH2	2.27	0.68
25:YD:142:VAL:HG23	25:YD:193:VAL:HA	1.75	0.68
33:YP:64:LYS:C	33:YP:66:GLY:N	2.48	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:622:G:OP2	33:RP:108:LYS:NZ	2.27	0.68
34:RQ:12:GLN:HG2	34:RQ:73:PRO:HD2	1.75	0.68
28:RG:83:ARG:H	28:RG:86:MET:HG3	1.59	0.67
2:XA:664:G:N2	2:XA:741:G:H1	1.89	0.67
3:XB:174:VAL:HG13	3:XB:184:VAL:HG11	1.75	0.67
23:YA:49:A:N7	23:YA:120:U:H5	1.92	0.67
23:YA:482:A:H4'	42:YY:47:LYS:HD2	1.74	0.67
33:YP:39:LYS:HG3	33:YP:45:LEU:HD22	1.75	0.67
34:YQ:89:ASN:O	34:YQ:92:GLY:N	2.18	0.67
5:QD:154:ASN:N	5:QD:154:ASN:OD1	2.26	0.67
23:RA:2816:C:O3'	35:RR:99:LYS:NZ	2.27	0.67
29:RH:152:ARG:HG3	29:RH:153:LYS:HD2	1.77	0.67
2:QA:1002:G:H2'	2:QA:1003:G:C8	2.29	0.67
20:QS:29:ARG:HD3	20:QS:30:LEU:HD13	1.77	0.67
23:YA:2849:U:OP2	37:YT:95:ARG:NH1	2.27	0.67
52:Y8:29:LYS:O	52:Y8:31:HIS:N	2.27	0.67
20:QS:70:LYS:CE	48:R4:68:ARG:HH22	2.06	0.67
23:RA:857:C:H4'	44:R0:23:VAL:HG21	1.76	0.67
39:RV:72:VAL:HG13	39:RV:85:LYS:HB3	1.75	0.67
2:XA:971:G:N2	2:XA:1363:A:OP2	2.28	0.67
3:XB:168:THR:HB	3:XB:192:SER:HB2	1.77	0.67
3:XB:178:ARG:CG	9:XH:72:PRO:HA	2.25	0.67
6:XE:31:LEU:HD23	6:XE:45:PHE:CD1	2.30	0.67
23:YA:443:A:H3'	27:YF:45:ARG:NH1	2.08	0.67
23:YA:2123:G:H2'	23:YA:2124:G:H8	1.60	0.67
26:YE:1:MET:N	26:YE:83:ASP:O	2.28	0.67
29:YH:137:ASP:OD1	29:YH:138:LYS:N	2.27	0.67
39:YV:52:VAL:HG21	39:YV:55:ALA:HB3	1.76	0.67
29:RH:41:MET:HE1	29:RH:64:LEU:HD22	1.75	0.67
37:RT:84:GLN:HG2	37:RT:85:LYS:HG2	1.76	0.67
9:XH:120:THR:H	9:XH:123:GLU:HB2	1.59	0.67
23:YA:220:G:O2'	23:YA:233:A:N3	2.26	0.67
37:YT:16:ARG:NH2	37:YT:83:ILE:O	2.27	0.67
2:QA:1243:C:OP2	22:QU:10:ARG:NH2	2.27	0.67
3:QB:178:ARG:HG3	9:QH:72:PRO:CA	2.25	0.67
23:RA:155:C:H42	23:RA:171:G:H1	1.41	0.67
11:XJ:7:LYS:HB2	11:XJ:97:GLU:HB2	1.76	0.67
23:YA:142:G:H1'	41:YX:37:THR:HG21	1.76	0.67
24:YB:24:G:H1'	24:YB:26:A:H62	1.59	0.67
25:YD:35:LYS:HG2	25:YD:64:ILE:H	1.59	0.67
2:QA:953:G:H5'	2:QA:965:A:H61	1.60	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QA:1224:G:C6	2:QA:1322:C:H1'	2.29	0.67
3:QB:27:LYS:HD2	3:QB:193:ASP:HB2	1.75	0.67
23:RA:2068:U:N3	23:RA:2430:A:H2	1.89	0.67
25:RD:49:ILE:HD11	25:RD:52:ARG:HA	1.77	0.67
27:RF:143:ALA:HB1	27:RF:148:LEU:HB2	1.75	0.67
4:QC:70:VAL:HG12	4:QC:72:LYS:H	1.60	0.66
23:RA:1598:C:H5'	41:RX:36:LYS:HB2	1.76	0.66
25:RD:182:LEU:H	25:RD:272:ALA:HB3	1.59	0.66
34:RQ:30:GLY:HA2	34:RQ:107:ALA:HB2	1.78	0.66
23:YA:2306:C:H3'	23:YA:2307:G:H5"	1.76	0.66
49:Y5:4:HIS:HB3	49:Y5:5:PRO:HD3	1.77	0.66
23:YA:2444:G:OP2	27:YF:68:LYS:HE3	1.96	0.66
23:RA:84:A:N1	23:RA:98:G:O2'	2.22	0.66
20:XS:70:LYS:HZ1	48:Y4:68:ARG:HH22	1.32	0.66
23:YA:1403:C:H5"	23:YA:1471:A:H1'	1.76	0.66
23:YA:2392:A:H8	33:YP:60:MET:HG2	1.61	0.66
23:YA:2470:G:H5'	34:YQ:56:ARG:HH22	1.60	0.66
35:YR:78:LYS:HE2	35:YR:83:ILE:HD11	1.77	0.66
23:RA:2271:G:OP1	44:R0:18:ALA:HB1	1.96	0.66
23:YA:2655:G:O2'	23:YA:2656:U:OP2	2.14	0.66
40:YW:45:TYR:CZ	40:YW:49:LYS:HD2	2.30	0.66
23:RA:265:A:N6	23:RA:427:U:O2'	2.29	0.66
30:RI:41:GLU:HA	30:RI:44:LEU:HB2	1.76	0.66
53:R9:27:CYS:SG	53:R9:29:ASN:ND2	2.69	0.66
14:XM:105:THR:O	14:XM:107:ALA:N	2.29	0.66
20:XS:50:ALA:HB1	20:XS:57:HIS:HB3	1.77	0.66
2:QA:1118:C:H1'	2:QA:1179:A:C4	2.30	0.66
28:RG:6:ALA:H	48:R4:23:GLU:HG2	1.61	0.66
23:YA:943:U:OP2	33:YP:36:LYS:NZ	2.28	0.66
29:YH:86:GLU:HG3	29:YH:165:ALA:N	2.10	0.66
42:YY:49:VAL:O	42:YY:51:VAL:N	2.29	0.66
2:QA:297:G:N2	2:QA:300:A:OP2	2.29	0.66
23:RA:242:G:C8	52:R8:5:LYS:HG2	2.31	0.66
27:RF:149:ASP:OD1	27:RF:149:ASP:N	2.27	0.66
45:R1:7:ILE:HG12	45:R1:91:LYS:NZ	2.11	0.66
2:XA:1321:C:H5"	2:XA:1322:C:H5"	1.76	0.66
23:YA:444:C:H4'	27:YF:49:ALA:HB2	1.77	0.66
23:YA:910:A:H62	34:YQ:12:GLN:HA	1.60	0.66
23:YA:2636:U:OP1	26:YE:79:ARG:HA	1.96	0.66
42:YY:97:ARG:HE	42:YY:98:VAL:HB	1.61	0.66
2:QA:191:G:O2'	21:QT:101:GLY:O	2.14	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RQ:135:ASP:OD1	34:RQ:135:ASP:N	2.23	0.66
6:XE:37:ARG:HA	6:XE:114:GLY:H	1.58	0.66
23:YA:1667:G:O2'	23:YA:1991:U:O4	2.14	0.66
23:YA:2392:A:H2	23:YA:2424:C:H42	1.43	0.66
31:YN:35:ARG:O	31:YN:37:LYS:N	2.29	0.66
26:RE:63:LEU:HD13	26:RE:65:GLY:H	1.60	0.66
37:RT:102:ILE:HB	37:RT:110:ILE:HD13	1.78	0.66
8:XG:89:MET:HE1	8:XG:156:TRP:H	1.61	0.66
23:YA:780:G:H21	23:YA:783:A:H62	1.41	0.66
23:YA:888:C:H3'	23:YA:889:C:H4'	1.78	0.66
2:QA:1086:U:H3	2:QA:1099:G:H22	1.43	0.66
20:QS:39:THR:HG22	20:QS:40:ILE:H	1.61	0.66
20:QS:65:ASN:C	48:R4:59:PHE:HE2	1.99	0.66
23:RA:993:G:OP1	38:RU:50:ARG:NH2	2.28	0.66
42:RY:49:VAL:O	42:RY:51:VAL:N	2.29	0.66
2:XA:673:G:H2'	2:XA:674:G:C8	2.31	0.66
2:XA:950:U:H2'	2:XA:951:G:H8	1.61	0.66
30:YI:130:TYR:HB3	30:YI:136:VAL:HG13	1.76	0.65
33:YP:105:LEU:O	33:YP:106:LEU:HB2	1.95	0.65
23:RA:2212:A:H1'	23:RA:2215:G:C5	2.31	0.65
23:RA:2444:G:OP2	27:RF:68:LYS:HE3	1.97	0.65
25:RD:27:THR:HG21	25:RD:81:ALA:HB1	1.78	0.65
48:R4:1:MET:SD	48:R4:6:HIS:NE2	2.69	0.65
23:YA:67:U:N3	23:YA:74:A:H2	1.89	0.65
39:YV:21:ARG:HD2	39:YV:91:TYR:CD1	2.31	0.65
3:QB:82:ARG:HA	3:QB:92:TYR:CE2	2.31	0.65
4:QC:79:ARG:NH1	12:XK:100:ALA:HA	2.11	0.65
23:RA:2308:G:H22	23:RA:2311:A:H2	1.44	0.65
25:RD:108:PRO:HG2	25:RD:111:LEU:HG	1.78	0.65
50:R6:11:LEU:HD23	50:R6:26:ASN:HB3	1.78	0.65
12:XK:21:ILE:HB	12:XK:84:VAL:HG12	1.77	0.65
23:YA:1479:G:N7	23:YA:1510:A:N6	2.44	0.65
37:YT:16:ARG:HD3	37:YT:19:LEU:HD11	1.77	0.65
38:YU:8:VAL:HG23	38:YU:11:ARG:HH21	1.62	0.65
45:Y1:29:GLY:O	45:Y1:31:GLY:N	2.30	0.65
20:QS:67:VAL:CB	48:R4:59:PHE:CE2	2.65	0.65
43:RZ:144:LEU:HG	43:RZ:150:LEU:HD12	1.78	0.65
2:XA:562:C:H1'	13:XL:15:ARG:HD2	1.78	0.65
43:YZ:128:VAL:HB	43:YZ:161:VAL:HG13	1.79	0.65
20:QS:28:LYS:HB2	20:QS:47:HIS:CE1	2.32	0.65
23:RA:1464:C:HO2'	23:RA:1528:A:H8	1.45	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:RP:59:LEU:HA	33:RP:61:ARG:NE	2.12	0.65
42:RY:38:ILE:HG22	42:RY:66:PRO:HA	1.79	0.65
2:XA:1352:C:OP1	22:XU:3:LYS:NZ	2.24	0.65
23:RA:1043:C:H42	23:RA:1112:G:H1	1.45	0.65
3:XB:178:ARG:HD2	9:XH:71:GLY:C	2.17	0.65
23:YA:1063:G:H22	23:YA:1076:C:H1'	1.62	0.65
17:QP:53:VAL:HG12	17:QP:79:VAL:HG22	1.77	0.65
3:XB:178:ARG:NH1	3:XB:196:LEU:O	2.29	0.65
25:YD:44:ASN:HB3	25:YD:49:ILE:HA	1.78	0.65
29:YH:20:ALA:HB3	29:YH:23:ARG:HG2	1.77	0.65
43:RZ:166:SER:HB2	43:RZ:168:GLU:N	2.12	0.65
49:R5:58:LEU:HD13	49:R5:60:VAL:HG12	1.78	0.65
21:XT:97:ALA:O	21:XT:99:LEU:N	2.30	0.65
29:YH:153:LYS:HG3	29:YH:161:GLY:HA2	1.78	0.65
46:Y2:50:ILE:HD12	46:Y2:51:ARG:H	1.62	0.65
49:Y5:56:LYS:H	49:Y5:56:LYS:HD2	1.60	0.65
3:QB:5:ILE:HG21	3:QB:221:LEU:HD23	1.78	0.65
4:QC:79:ARG:HH22	12:XK:100:ALA:HB1	1.61	0.65
14:QM:3:ARG:HD2	14:QM:9:ILE:HG12	1.79	0.65
32:RO:4:PRO:O	32:RO:5:GLN:HB2	1.96	0.65
4:QC:79:ARG:HH21	12:XK:100:ALA:CB	1.63	0.65
23:RA:1854:A:H62	23:RA:1888:G:H8	1.45	0.65
23:RA:2832:U:H4'	23:RA:2833:G:H5"	1.77	0.65
33:RP:47:ASP:OD1	33:RP:50:ARG:NH2	2.30	0.65
33:RP:71:VAL:HG13	33:RP:72:PRO:HD3	1.79	0.65
33:RP:85:LEU:HA	33:RP:88:LEU:HD22	1.79	0.65
2:XA:1128:C:H5'	10:XI:16:ARG:HH22	1.62	0.65
4:XC:122:GLU:OE1	4:XC:126:ARG:NH2	2.28	0.65
49:Y5:40:LYS:HZ1	49:Y5:48:GLU:HB2	1.62	0.65
2:QA:664:G:H22	2:QA:741:G:H1	1.45	0.64
2:QA:690:G:H22	12:QK:55:LYS:HZ1	1.46	0.64
20:QS:68:GLY:H	48:R4:59:PHE:HE1	1.44	0.64
23:RA:1728:G:H3'	23:RA:1729:A:H5"	1.78	0.64
23:YA:764:A:N3	25:YD:213:ARG:NH1	2.44	0.64
30:YI:1:MET:HG3	30:YI:23:PRO:HB3	1.79	0.64
2:XA:1502:A:H2	2:XA:1505:G:H1	1.46	0.64
20:XS:73:GLU:OE2	48:Y4:69:LYS:HE2	1.98	0.64
23:YA:1210:A:H5'	23:YA:1210:A:H8	1.62	0.64
25:YD:80:ALA:HB3	25:YD:94:LEU:HD13	1.79	0.64
27:YF:107:LYS:HD2	27:YF:207:GLY:H	1.62	0.64
23:RA:2438:U:O3'	23:RA:2439:A:H3'	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RI:92:VAL:HG13	30:RI:120:ILE:HG23	1.79	0.64
2:XA:250:A:H4'	2:XA:251:G:O5'	1.95	0.64
29:YH:153:LYS:HB3	29:YH:162:ILE:H	1.63	0.64
34:YQ:78:PRO:O	34:YQ:79:LEU:HB2	1.97	0.64
38:YU:88:ILE:HG22	38:YU:90:VAL:HG23	1.79	0.64
23:RA:1899:G:H21	23:RA:1902:C:N4	1.95	0.64
23:RA:2306:C:H3'	23:RA:2307:G:H5"	1.80	0.64
25:RD:35:LYS:HG2	25:RD:64:ILE:N	2.12	0.64
25:RD:65:ILE:HD11	25:RD:67:PHE:CE1	2.31	0.64
34:RQ:137:TYR:CE2	43:RZ:83:PRO:HG3	2.32	0.64
4:XC:11:ARG:O	4:XC:13:GLY:N	2.30	0.64
6:XE:98:THR:HB	6:XE:117:ASP:HB3	1.79	0.64
16:XO:26:GLU:OE2	16:XO:77:ARG:NH1	2.31	0.64
2:QA:1348:U:H4'	10:QI:120:ARG:HD2	1.79	0.64
4:QC:9:GLY:HA2	4:QC:12:LEU:HD23	1.78	0.64
25:YD:30:GLU:HG3	25:YD:63:ARG:NH2	2.12	0.64
3:QB:178:ARG:HG3	9:QH:71:GLY:C	2.18	0.64
6:QE:11:ILE:HD11	6:QE:31:LEU:HD12	1.80	0.64
38:RU:90:VAL:O	38:RU:92:ARG:N	2.30	0.64
2:XA:1450:U:O2'	2:XA:1451:A:N7	2.30	0.64
4:XC:19:GLU:O	4:XC:40:ARG:NH2	2.30	0.64
26:YE:9:VAL:HB	26:YE:25:VAL:HG23	1.80	0.64
25:RD:8:PRO:HB3	25:RD:14:ARG:HB2	1.79	0.64
34:RQ:17:LEU:HD21	34:RQ:41:TRP:CD1	2.33	0.64
2:XA:1453:G:H2'	21:XT:39:LYS:HE2	1.79	0.64
3:XB:187:LEU:HA	3:XB:201:ILE:HB	1.78	0.64
2:QA:1023:G:H3'	2:QA:1024:G:H5"	1.79	0.64
2:QA:1133:G:H2'	2:QA:1134:G:H8	1.62	0.64
11:QJ:53:PRO:HA	15:QN:42:ILE:HD12	1.79	0.64
48:R4:48:ARG:O	48:R4:50:VAL:N	2.31	0.64
11:QJ:77:PRO:O	11:QJ:79:ARG:NH1	2.30	0.64
27:RF:192:LEU:HD22	27:RF:194:MET:HG2	1.80	0.64
29:RH:88:LEU:HD11	29:RH:165:ALA:HB2	1.80	0.64
6:XE:147:ASP:O	6:XE:151:LEU:HG	1.97	0.64
9:XH:7:ALA:HB2	9:XH:85:ARG:HD3	1.80	0.64
37:YT:36:GLU:HG3	37:YT:41:ARG:HE	1.62	0.64
2:QA:1175:G:H2'	2:QA:1176:A:C8	2.33	0.64
23:RA:1496:A:H8	23:RA:1577:C:HO2'	1.46	0.64
44:R0:36:ILE:HG13	44:R0:58:THR:HG23	1.80	0.64
2:XA:1356:G:H2'	2:XA:1357:A:C8	2.33	0.64
23:YA:593:G:O4'	52:Y8:4:MET:HE1	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:751:A:H5'	40:YW:90:ARG:HA	1.79	0.64
25:YD:35:LYS:NZ	25:YD:64:ILE:O	2.31	0.64
35:YR:51:LEU:HD13	35:YR:66:VAL:HG13	1.79	0.64
3:QB:24:TRP:H	3:QB:24:TRP:HD1	1.46	0.63
25:RD:35:LYS:HG2	25:RD:64:ILE:H	1.63	0.63
41:RX:43:VAL:HG13	41:RX:51:VAL:HG21	1.79	0.63
23:YA:1081:U:H3'	23:YA:1082:U:H4'	1.80	0.63
28:YG:112:PRO:HB3	48:Y4:37:SER:HB2	1.80	0.63
2:QA:346:G:H1'	2:QA:347:G:H5'	1.79	0.63
5:QD:7:PRO:HB2	5:QD:10:ARG:HD2	1.81	0.63
35:RR:104:ARG:HD3	35:RR:109:ALA:HB3	1.79	0.63
36:RS:26:LEU:HB3	36:RS:87:PHE:HA	1.81	0.63
45:R1:29:GLY:O	45:R1:31:GLY:N	2.29	0.63
2:XA:501:C:OP1	13:XL:117:ARG:NH2	2.31	0.63
23:YA:1103:A:H5'	23:YA:1104:C:H5	1.64	0.63
52:Y8:16:ILE:HD13	52:Y8:57:ARG:HG2	1.80	0.63
35:RR:33:ARG:HG3	35:RR:115:GLU:HB3	1.79	0.63
23:YA:2392:A:C8	33:YP:60:MET:HG2	2.32	0.63
2:QA:1322:C:O2'	2:QA:1323:G:H5'	1.98	0.63
44:R0:36:ILE:HD11	44:R0:39:ARG:HG2	1.79	0.63
3:XB:79:ASP:HA	3:XB:82:ARG:HB2	1.80	0.63
23:YA:900:A:H3'	23:YA:901:A:H8	1.64	0.63
25:YD:25:THR:HG23	25:YD:27:THR:HB	1.80	0.63
25:YD:35:LYS:HG2	25:YD:64:ILE:N	2.13	0.63
33:YP:58:THR:HG22	33:YP:61:ARG:HG3	1.80	0.63
38:YU:83:LEU:HD12	38:YU:113:ALA:HB2	1.79	0.63
46:Y2:41:ILE:HD11	46:Y2:44:LEU:HG	1.80	0.63
11:QJ:4:ILE:HB	11:QJ:74:ILE:HG13	1.80	0.63
2:XA:973:G:OP1	11:XJ:57:LYS:NZ	2.32	0.63
23:YA:2749:A:H4'	29:YH:62:LYS:HB3	1.80	0.63
33:YP:13:ASN:O	33:YP:15:ARG:N	2.32	0.63
48:Y4:48:ARG:O	48:Y4:50:VAL:N	2.31	0.63
14:QM:65:LYS:HE3	48:R4:50:VAL:CG2	2.24	0.63
23:RA:2404:C:O3'	33:RP:77:ARG:NH2	2.31	0.63
23:RA:2502:G:H5"	23:RA:2503:A:H5"	1.81	0.63
38:RU:66:ASN:O	38:RU:70:ARG:HB2	1.98	0.63
46:R2:65:ASN:HB3	46:R2:69:ARG:HH22	1.61	0.63
2:XA:1305:G:O2'	2:XA:1332:A:N6	2.32	0.63
11:XJ:32:ALA:HB3	11:XJ:76:ASN:HB2	1.79	0.63
36:YS:59:LYS:HD3	36:YS:60:GLY:H	1.62	0.63
42:YY:91:GLU:HG3	42:YY:92:ASN:H	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Y4:23:GLU:O	48:Y4:25:TYR:N	2.31	0.63
51:Y7:9:ARG:HH21	51:Y7:48:LYS:HD2	1.63	0.63
20:QS:40:ILE:HG23	20:QS:41:VAL:HG22	1.78	0.63
23:RA:1169:G:H1	23:RA:1180:C:H42	1.46	0.63
33:RP:95:VAL:HG13	33:RP:100:LEU:HD21	1.80	0.63
2:XA:35:G:O2'	13:XL:118:SER:O	2.12	0.63
2:XA:674:G:H2'	2:XA:675:A:C8	2.33	0.63
10:XI:24:GLY:N	10:XI:60:ASP:OD1	2.29	0.63
23:YA:1329:U:H5"	23:YA:1330:C:H5	1.62	0.63
29:YH:83:TYR:CZ	29:YH:138:LYS:HD2	2.34	0.63
40:YW:41:LYS:HE3	49:Y5:25:LEU:HD21	1.80	0.63
9:QH:10:LEU:HD22	9:QH:83:ILE:HD11	1.80	0.63
23:RA:259:G:O2'	23:RA:621:A:O2'	2.14	0.63
30:RI:29:TYR:HD2	30:RI:30:LEU:HD23	1.63	0.63
31:RN:13:TRP:HB2	31:RN:133:GLN:HG3	1.81	0.63
36:RS:15:ARG:HH11	36:RS:25:ARG:HH21	1.44	0.63
2:XA:263:A:OP2	21:XT:79:ARG:NH1	2.32	0.63
2:QA:427:U:OP1	5:QD:13:ARG:NH2	2.31	0.63
23:RA:1444(A):A:H4'	23:RA:1460:A:O2'	1.99	0.63
24:RB:74:U:H1'	43:RZ:34:ASN:HD21	1.64	0.63
31:RN:133:GLN:HB2	31:RN:135:PRO:HD3	1.79	0.63
14:XM:91:ARG:HB2	14:XM:98:VAL:HG13	1.80	0.63
20:XS:69:HIS:CG	48:Y4:69:LYS:CE	2.82	0.63
23:YA:138:G:N2	41:YX:44:GLU:OE2	2.25	0.63
23:YA:1652:A:OP1	35:YR:8:ARG:NH1	2.32	0.63
23:YA:1824:G:OP1	25:YD:52:ARG:NH1	2.32	0.63
29:YH:152:ARG:HG3	29:YH:153:LYS:HD2	1.81	0.63
50:Y6:41:PRO:HG2	50:Y6:45:LYS:H	1.63	0.63
32:YO:13:ASN:ND2	32:YO:96:THR:O	2.30	0.62
2:QA:579:G:H5'	2:QA:728:A:H1'	1.81	0.62
2:QA:1346:A:H5"	10:QI:120:ARG:HH12	1.63	0.62
23:RA:2690:C:OP2	35:RR:14:SER:HB3	1.99	0.62
26:RE:119:ARG:HG2	26:RE:160:TYR:HB2	1.80	0.62
27:RF:12:LEU:HD12	27:RF:17:ARG:HG2	1.80	0.62
30:RI:88:ILE:O	30:RI:121:LYS:NZ	2.32	0.62
5:QD:22:LYS:CG	5:QD:26:CYS:SG	2.66	0.62
8:QG:155:ARG:HD3	8:QG:155:ARG:H	1.65	0.62
23:RA:27:G:N2	23:RA:512:G:H1'	2.15	0.62
42:RY:51:VAL:HG13	42:RY:52:SER:H	1.64	0.62
2:XA:67:C:H2'	2:XA:68:G:C8	2.34	0.62
3:XB:92:TYR:CE1	3:XB:151:GLY:HA3	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:XM:23:TYR:HB3	14:XM:67:GLU:HA	1.81	0.62
29:YH:26:VAL:HG11	29:YH:75:ALA:HB1	1.81	0.62
23:RA:307:G:H21	23:RA:330:A:H62	1.48	0.62
43:RZ:110:GLY:HA2	43:RZ:111:VAL:C	2.19	0.62
23:YA:1068:G:O2'	23:YA:1096:A:N3	2.33	0.62
23:YA:1678:G:H8	23:YA:1678:G:O5'	1.81	0.62
23:YA:2438:U:O3'	23:YA:2439:A:H3'	2.00	0.62
27:YF:46:ARG:HH11	27:YF:46:ARG:HG2	1.65	0.62
28:YG:115:ARG:NH2	28:YG:137:GLU:OE1	2.33	0.62
23:RA:27:G:H22	23:RA:512:G:H1'	1.63	0.62
23:RA:1278:A:H4'	35:RR:34:ILE:HD12	1.80	0.62
3:XB:54:THR:HG21	3:XB:201:ILE:HD11	1.82	0.62
3:XB:212:GLN:NE2	3:XB:235:SER:HB2	2.15	0.62
23:YA:1996:C:OP1	32:YO:31:LYS:NZ	2.32	0.62
28:YG:3:LEU:HD12	28:YG:4:ASP:H	1.64	0.62
37:YT:1:MET:O	37:YT:3:ARG:N	2.29	0.62
43:YZ:80:ARG:HH21	43:YZ:82:ARG:HH22	1.47	0.62
2:QA:1318:A:H4'	20:QS:11:VAL:HG11	1.82	0.62
13:QL:57:LYS:HG2	13:QL:67:THR:HG22	1.80	0.62
23:RA:498:G:N3	42:RY:47:LYS:NZ	2.46	0.62
2:XA:1053:G:H5'	2:XA:1054:C:H5'	1.82	0.62
3:XB:195:ASP:O	9:XH:74:PRO:CG	2.41	0.62
23:YA:2393:A:H5'	33:YP:62:LEU:HB3	1.81	0.62
2:QA:1204:A:OP1	15:QN:3:ARG:NH2	2.32	0.62
2:QA:1286:A:H5"	22:QU:26:LYS:HD2	1.80	0.62
37:RT:54:ARG:HA	37:RT:59:THR:HG23	1.82	0.62
20:XS:64:GLU:C	48:Y4:55:ARG:HG2	2.20	0.62
23:YA:1012:U:O2'	23:YA:1013:C:OP2	2.17	0.62
23:YA:1568:G:H4'	25:YD:59:LYS:HB3	1.82	0.62
2:QA:31:G:O2'	2:QA:48:C:N4	2.33	0.62
12:QK:98:LEU:O	12:QK:101:SER:OG	2.14	0.62
41:RX:53:LYS:HB2	41:RX:82:GLN:HB3	1.80	0.62
5:XD:111:ALA:HB2	5:XD:120:LEU:HD12	1.82	0.62
20:XS:13:ASP:OD1	20:XS:13:ASP:N	2.32	0.62
23:YA:1057:A:H62	23:YA:1086:A:H2'	1.63	0.62
52:Y8:23:VAL:HG11	52:Y8:46:ARG:HD3	1.81	0.62
2:QA:510:A:OP2	5:QD:49:ARG:NH2	2.33	0.62
9:QH:6:ILE:HB	9:QH:85:ARG:NH1	2.15	0.62
23:RA:27:G:H1'	23:RA:513:A:H62	1.65	0.62
2:XA:949:A:N7	14:XM:106:ASN:ND2	2.47	0.62
11:XJ:5:ARG:HH21	11:XJ:99:LYS:HD2	1.63	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QK:121:PRO:HD2	12:QK:126:ARG:HD3	1.80	0.62
20:QS:9:VAL:HG12	48:R4:66:SER:O	1.95	0.62
2:XA:67:C:O2'	2:XA:171:A:N3	2.29	0.62
20:XS:73:GLU:OE2	48:Y4:69:LYS:NZ	2.33	0.62
23:YA:252:G:OP2	33:YP:50:ARG:NH1	2.33	0.62
30:YI:144:VAL:HG13	30:YI:145:VAL:HG13	1.82	0.62
48:Y4:37:SER:HB3	48:Y4:42:PHE:CD1	2.35	0.62
2:XA:1443:G:H5"	2:XA:1446:A:H2	1.62	0.61
23:YA:987:G:O2'	23:YA:1000:A:N3	2.30	0.61
23:YA:1187:G:H5"	39:YV:81:TYR:CE2	2.35	0.61
4:QC:79:ARG:NE	12:XK:99:GLN:HB2	2.15	0.61
23:RA:1205:U:C4	27:RF:171:PRO:HA	2.35	0.61
25:RD:35:LYS:HD2	25:RD:104:TYR:CD1	2.35	0.61
26:RE:51:PHE:CD1	26:RE:52:LEU:HG	2.34	0.61
26:RE:67:PHE:O	26:RE:69:LYS:N	2.33	0.61
2:XA:826:C:H2'	2:XA:827:U:O2	2.01	0.61
2:XA:1065:U:O2'	2:XA:1066:C:OP2	2.16	0.61
3:XB:67:THR:HG21	3:XB:155:LEU:HG	1.81	0.61
8:XG:111:ARG:NH1	8:XG:113:GLU:OE2	2.32	0.61
14:XM:80:ARG:NH1	48:Y4:70:GLY:HA3	2.15	0.61
18:QQ:66:SER:O	18:QQ:70:ARG:NH1	2.33	0.61
20:QS:67:VAL:CB	48:R4:59:PHE:CG	2.75	0.61
23:RA:27:G:O2'	23:RA:28:A:O5'	2.18	0.61
27:RF:28:ILE:HG22	27:RF:112:MET:HB3	1.80	0.61
3:XB:12:GLU:O	3:XB:16:HIS:ND1	2.22	0.61
6:XE:42:GLY:HA3	6:XE:66:MET:HG2	1.82	0.61
16:XO:87:ILE:HG22	16:XO:88:ARG:H	1.64	0.61
21:XT:100:ILE:HG13	21:XT:102:GLY:N	2.15	0.61
36:YS:83:LYS:C	36:YS:109:GLY:HA3	2.21	0.61
12:QK:22:HIS:HB3	12:QK:29:ILE:HG23	1.83	0.61
23:RA:806:C:OP2	33:RP:41:ARG:NH1	2.28	0.61
43:RZ:146:ILE:HA	43:RZ:174:VAL:HB	1.81	0.61
53:R9:25:VAL:HB	53:R9:34:GLN:HB2	1.81	0.61
23:YA:1020:A:N1	23:YA:1141:U:H2'	2.15	0.61
38:YU:92:ARG:HD2	39:YV:11:GLN:HB2	1.82	0.61
23:RA:1794:U:H2'	23:RA:1795:C:C6	2.36	0.61
23:RA:2293:C:H5"	36:RS:89:ARG:HH12	1.65	0.61
45:R1:53:VAL:HG22	45:R1:74:VAL:HG13	1.83	0.61
2:XA:542:G:OP1	5:XD:10:ARG:NH2	2.33	0.61
2:XA:1525:G:OP1	12:XK:120:ARG:NH2	2.33	0.61
27:YF:197:ASP:OD2	27:YF:197:ASP:N	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:QI:13:ALA:HB2	10:QI:68:GLY:HA3	1.82	0.61
15:QN:13:THR:N	15:QN:14:PRO:HD2	2.15	0.61
23:RA:1090:U:H3	23:RA:1102:C:H1'	1.64	0.61
23:RA:2636:U:OP1	26:RE:79:ARG:HA	2.00	0.61
23:YA:654(A):G:H8	23:YA:654(A):G:OP2	1.83	0.61
54:XV:38:G:H8	54:XV:38:G:OP1	1.82	0.61
2:QA:974:A:H1'	15:QN:31:ARG:HE	1.66	0.61
22:QU:6:ARG:HE	22:QU:15:ARG:NH2	1.99	0.61
23:RA:49:A:N7	23:RA:120:U:H5	1.98	0.61
24:RB:8:U:O3'	36:RS:25:ARG:NH2	2.34	0.61
33:RP:84:ASN:HB3	33:RP:86:LYS:HG2	1.83	0.61
34:RQ:65:PHE:O	34:RQ:67:ARG:N	2.34	0.61
14:XM:80:ARG:HG3	48:Y4:71:ARG:NH2	2.11	0.61
23:YA:2864:G:OP1	37:YT:119:LYS:HD2	2.00	0.61
2:QA:565:U:H5"	2:QA:566:G:H2'	1.82	0.61
16:QO:82:ILE:O	16:QO:86:GLY:N	2.33	0.61
2:XA:686:U:O2'	12:XK:42:TRP:NE1	2.34	0.61
23:YA:259:G:N2	23:YA:621:A:H8	1.95	0.61
23:YA:2349:G:OP2	52:Y8:42:ARG:HD3	2.01	0.61
40:RW:25:ARG:NH2	40:RW:74:ALA:O	2.33	0.61
20:XS:65:ASN:CB	48:Y4:55:ARG:HD2	2.27	0.61
5:QD:30:LYS:C	5:QD:32:ALA:H	2.02	0.61
36:RS:88:ASP:O	36:RS:89:ARG:HB3	2.01	0.61
38:RU:90:VAL:HG11	39:RV:40:LEU:HD12	1.82	0.61
2:XA:191:G:O2'	21:XT:101:GLY:O	2.19	0.61
9:XH:4:ASP:OD1	9:XH:85:ARG:NH1	2.34	0.61
23:YA:1980:G:O2'	23:YA:1982:C:OP2	2.19	0.61
29:YH:113:VAL:HG11	29:YH:151:ILE:HD12	1.83	0.61
30:YI:49:ALA:HA	30:YI:52:ARG:HG2	1.82	0.61
34:YQ:35:VAL:HG13	34:YQ:130:LYS:HB3	1.83	0.61
45:Y1:83:GLU:O	45:Y1:85:LEU:N	2.34	0.61
2:QA:826:C:H2'	2:QA:827:U:O2	2.00	0.60
2:QA:1175:G:H2'	2:QA:1176:A:H8	1.65	0.60
35:RR:70:LEU:O	35:RR:72:ASP:N	2.31	0.60
23:YA:1798:U:H5'	25:YD:259:THR:HG22	1.83	0.60
23:YA:1918:A:O2'	23:YA:1920:C:N4	2.34	0.60
23:YA:2646:C:OP2	23:YA:2732:G:O2'	2.16	0.60
25:YD:35:LYS:HD2	25:YD:104:TYR:CD1	2.35	0.60
25:YD:72:LYS:NZ	25:YD:99:ASP:OD1	2.33	0.60
38:YU:52:ARG:HA	38:YU:55:ARG:HG3	1.83	0.60
43:YZ:102:LEU:HG	43:YZ:123:ASP:HA	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Y4:56:VAL:HA	48:Y4:60:GLN:HB2	1.83	0.60
49:Y5:16:ARG:HG2	49:Y5:16:ARG:HH11	1.66	0.60
2:QA:745:C:OP1	2:QA:851:G:O2'	2.18	0.60
4:QC:8:ILE:HG23	4:QC:16:ARG:HG2	1.84	0.60
11:QJ:40:LEU:HB2	11:QJ:69:ASN:HB3	1.82	0.60
15:QN:6:LEU:HD23	15:QN:23:ARG:HH22	1.64	0.60
15:QN:24:CYS:HB3	15:QN:29:ARG:H	1.66	0.60
23:RA:942:G:O2'	23:RA:1189:A:N3	2.32	0.60
23:RA:2015:A:H1'	49:R5:2:ALA:HA	1.83	0.60
2:XA:1055:A:N7	2:XA:1200:C:N4	2.49	0.60
2:XA:1211:U:H4'	2:XA:1213:A:H1'	1.81	0.60
23:YA:1678:G:N2	23:YA:1989:G:H22	1.99	0.60
25:YD:108:PRO:HB3	25:YD:143:HIS:CE1	2.35	0.60
20:QS:42:PRO:HD3	48:R4:63:TYR:HH	1.65	0.60
23:RA:590:A:OP1	27:RF:95:ARG:NH1	2.35	0.60
23:RA:806:C:P	33:RP:41:ARG:HH11	2.24	0.60
29:RH:8:PRO:HG2	29:RH:69:ARG:HE	1.66	0.60
37:RT:77:PRO:HB2	37:RT:80:SER:HB2	1.83	0.60
2:XA:1446:A:O2'	2:XA:1447:G:O5'	2.19	0.60
18:XQ:11:VAL:HG12	18:XQ:85:VAL:HG13	1.83	0.60
43:YZ:158:PRO:O	43:YZ:160:GLY:N	2.35	0.60
44:Y0:27:GLU:HB2	44:Y0:69:PHE:HD1	1.66	0.60
2:QA:119:A:H4'	2:QA:120:A:O5'	2.01	0.60
2:QA:754:C:H5'	16:QO:72:ARG:HH22	1.66	0.60
2:QA:953:G:N7	14:QM:104:ARG:NH2	2.49	0.60
4:QC:14:ILE:O	4:QC:16:ARG:N	2.33	0.60
16:QO:39:LEU:HD13	16:QO:56:LEU:HB2	1.83	0.60
23:RA:2439:A:H5'	23:RA:2439:A:C8	2.36	0.60
25:RD:44:ASN:HB3	25:RD:49:ILE:HA	1.83	0.60
35:RR:33:ARG:NH2	49:R5:55:ARG:HG2	2.15	0.60
2:XA:1305:G:N2	2:XA:1331:G:H2'	2.16	0.60
10:XI:29:ASN:OD1	10:XI:65:VAL:N	2.29	0.60
23:YA:1062:G:H2'	23:YA:1063:G:C8	2.36	0.60
23:YA:1354:A:OP1	25:YD:38:LYS:HE2	2.02	0.60
44:Y0:27:GLU:HB2	44:Y0:69:PHE:CD1	2.37	0.60
50:Y6:25:LYS:HZ2	52:Y8:34:TRP:HZ2	1.48	0.60
4:QC:11:ARG:O	4:QC:13:GLY:N	2.34	0.60
5:QD:105:VAL:HG13	5:QD:110:PHE:HB2	1.83	0.60
23:RA:345:A:H2'	23:RA:347:A:H62	1.66	0.60
23:RA:1337:G:OP2	41:RX:73:ARG:NH2	2.33	0.60
23:YA:956:G:OP2	34:YQ:14:ARG:NH2	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YG:28:VAL:HG23	28:YG:29:TRP:CD1	2.36	0.60
33:YP:95:VAL:HG13	33:YP:100:LEU:HD21	1.83	0.60
23:RA:819:A:OP2	23:RA:1187:G:N2	2.27	0.60
20:XS:68:GLY:H	48:Y4:59:PHE:HE1	1.41	0.60
23:YA:242:G:H5"	52:Y8:62:LEU:HD13	1.83	0.60
23:YA:2667:C:H1'	29:YH:109:PHE:HD2	1.66	0.60
32:YO:96:THR:O	32:YO:97:ARG:HB3	2.01	0.60
3:QB:15:VAL:H	3:QB:16:HIS:CE1	2.20	0.60
4:QC:79:ARG:CZ	12:XK:100:ALA:CA	2.54	0.60
23:RA:83:G:N2	23:RA:103:A:OP2	2.31	0.60
29:RH:154:PRO:HD3	29:RH:162:ILE:N	2.16	0.60
34:RQ:134:ARG:NH2	43:RZ:122:ARG:HD2	2.17	0.60
43:RZ:58:VAL:O	43:RZ:60:GLU:N	2.34	0.60
2:XA:58:C:O2'	2:XA:388:G:N7	2.28	0.60
29:YH:4:ILE:HB	29:YH:6:ARG:HG2	1.82	0.60
37:YT:84:GLN:OE1	37:YT:85:LYS:NZ	2.34	0.60
53:Y9:35:ARG:HH21	53:Y9:37:GLY:HA3	1.67	0.60
2:QA:411:A:H62	2:QA:413:G:H21	1.48	0.60
2:QA:689:C:OP1	12:QK:27:ASN:ND2	2.35	0.60
2:QA:1296:C:OP1	14:QM:44:ARG:NH2	2.35	0.60
2:QA:1321:C:H5"	2:QA:1322:C:H5"	1.84	0.60
23:RA:1649:G:O2'	35:RR:107:ASP:OD1	2.14	0.60
42:RY:87:LYS:O	42:RY:88:LYS:NZ	2.33	0.60
48:R4:23:GLU:O	48:R4:25:TYR:N	2.33	0.60
2:XA:559:A:OP1	6:XE:126:ARG:NH2	2.35	0.60
2:XA:1435:G:H2'	2:XA:1436:U:C6	2.36	0.60
23:YA:1049:C:H2'	23:YA:1050:A:H5"	1.83	0.60
2:QA:276:G:O3'	18:QQ:68:ARG:NH1	2.32	0.60
2:QA:612:C:O2	2:QA:629:G:N2	2.34	0.60
2:QA:1305:G:H22	2:QA:1331:G:H2'	1.66	0.60
23:RA:71:A:H5'	23:RA:72:U:H3'	1.82	0.60
23:RA:551:G:H5'	23:RA:1220:A:H1'	1.84	0.60
49:R5:16:ARG:HH11	49:R5:16:ARG:HG2	1.65	0.60
2:XA:1232:U:OP1	10:XI:124:GLN:NE2	2.35	0.60
33:YP:147:LEU:O	33:YP:148:LEU:HB2	2.02	0.60
2:QA:690:G:H22	12:QK:55:LYS:NZ	1.99	0.60
2:QA:1213:A:N6	2:QA:1215:G:N3	2.50	0.60
13:QL:84:LEU:HD22	13:QL:104:VAL:HG11	1.84	0.60
23:RA:1048:A:H2	23:RA:1112:G:H21	1.49	0.60
23:RA:2111:C:N3	23:RA:2118:U:O2'	2.33	0.60
23:YA:860:U:OP2	23:YA:916:G:N1	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:996:A:H4'	38:YU:92:ARG:HE	1.66	0.60
23:YA:2292:C:P	36:YS:17:ARG:HH22	2.25	0.60
23:YA:2308:G:H22	23:YA:2311:A:H2	1.48	0.60
23:YA:2404:C:O3'	33:YP:77:ARG:NH2	2.34	0.60
23:RA:900:A:H3'	23:RA:901:A:H8	1.67	0.59
25:RD:70:TRP:CH2	25:RD:150:LYS:HA	2.36	0.59
28:RG:64:THR:HG23	28:RG:66:GLN:H	1.66	0.59
28:RG:114:ILE:HD13	28:RG:140:ILE:HG21	1.83	0.59
3:XB:235:SER:O	3:XB:237:ALA:N	2.35	0.59
35:YR:42:LYS:HA	35:YR:45:ARG:HD2	1.84	0.59
52:Y8:50:LEU:HD12	52:Y8:51:ALA:H	1.67	0.59
8:QG:26:PHE:O	8:QG:30:ILE:HG12	2.01	0.59
11:QJ:42:THR:HG23	11:QJ:68:HIS:HA	1.83	0.59
37:RT:105:LEU:O	37:RT:107:ASP:N	2.36	0.59
2:XA:1023:G:H3'	2:XA:1024:G:H5"	1.83	0.59
2:XA:1321:C:H3'	2:XA:1322:C:H5"	1.84	0.59
40:YW:86:LEU:HD12	40:YW:87:PRO:HD2	1.83	0.59
2:QA:501:C:H2'	2:QA:502:G:C8	2.37	0.59
4:QC:50:ALA:HB2	4:QC:75:VAL:HB	1.85	0.59
30:RI:57:ARG:HA	30:RI:60:GLU:HB3	1.85	0.59
2:XA:1086:U:H3	2:XA:1099:G:H22	1.48	0.59
3:XB:92:TYR:HE1	3:XB:151:GLY:HA3	1.65	0.59
23:YA:877:U:H3	23:YA:899:A:H2	1.50	0.59
2:QA:1220:G:O3'	20:QS:36:ARG:HD3	2.03	0.59
23:RA:1323:U:OP1	40:RW:98:LYS:NZ	2.25	0.59
23:RA:2335:A:O2'	23:RA:2336:A:O5'	2.19	0.59
24:RB:50:G:H5"	36:RS:61:ASN:HD21	1.66	0.59
2:XA:686:U:H1'	12:XK:42:TRP:HE1	1.66	0.59
7:XF:61:LEU:HB3	7:XF:63:TYR:HE2	1.66	0.59
14:XM:3:ARG:HA	14:XM:9:ILE:HG21	1.83	0.59
23:YA:2795:G:H3'	23:YA:2797:U:C5'	2.32	0.59
40:YW:111:HIS:CD2	40:YW:112:GLY:H	2.20	0.59
2:QA:1147:C:HO2'	10:QI:5:TYR:HH	1.49	0.59
5:QD:64:LEU:HB2	5:QD:198:VAL:HG11	1.83	0.59
10:QI:9:ARG:HB3	10:QI:14:VAL:HG13	1.84	0.59
23:RA:330:A:H2	23:RA:1210:A:HO2'	1.50	0.59
23:RA:1028:A:N6	23:RA:1125:G:H2'	2.18	0.59
23:RA:2023:G:H5'	23:RA:2617:C:H4'	1.83	0.59
34:RQ:109:VAL:HG12	34:RQ:114:ALA:HB2	1.83	0.59
52:R8:29:LYS:HB2	52:R8:44:LYS:HG2	1.84	0.59
2:XA:345:C:H4'	2:XA:346:G:O5'	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XA:973:G:H3'	2:XA:974:A:H5"	1.83	0.59
23:YA:2319:G:N7	36:YS:3:ARG:HB3	2.18	0.59
35:YR:33:ARG:NH2	49:Y5:55:ARG:HG2	2.17	0.59
2:QA:196:A:OP1	21:QT:68:LYS:NZ	2.34	0.59
2:QA:658:G:OP1	16:QO:8:LYS:NZ	2.34	0.59
8:QG:73:MET:HG2	8:QG:90:GLU:HA	1.83	0.59
23:RA:2779:U:O2'	23:RA:2781:A:N7	2.36	0.59
28:RG:67:LYS:HE2	48:R4:6:HIS:CE1	2.38	0.59
29:RH:105:LEU:HD13	29:RH:105:LEU:H	1.67	0.59
36:RS:38:GLN:OE1	36:RS:47:THR:OG1	2.18	0.59
43:RZ:109:ALA:HB3	43:RZ:145:GLU:HA	1.85	0.59
4:XC:14:ILE:HG12	4:XC:15:THR:H	1.67	0.59
23:YA:1266:G:O5'	40:YW:15:ARG:NH2	2.35	0.59
29:YH:98:LEU:HD22	29:YH:125:VAL:HB	1.83	0.59
51:Y7:35:ARG:HG3	51:Y7:42:LEU:HD11	1.85	0.59
40:RW:86:LEU:HD12	40:RW:87:PRO:HD2	1.85	0.59
23:YA:1142(A):A:H4'	31:YN:25:ARG:HH22	1.65	0.59
23:YA:1991:U:H2'	23:YA:1992:G:H5"	1.84	0.59
23:YA:2306:C:H2'	23:YA:2307:G:H21	1.66	0.59
26:YE:36:ARG:HH21	26:YE:88:GLY:HA2	1.68	0.59
33:YP:26:GLY:O	33:YP:28:GLY:N	2.35	0.59
47:Y3:6:VAL:HG13	47:Y3:56:VAL:HG13	1.84	0.59
2:QA:701:C:H1'	2:QA:703:G:C6	2.37	0.59
2:QA:1443:G:N2	23:RA:2864:G:OP1	2.31	0.59
5:XD:9:CYS:SG	5:XD:22:LYS:HE2	2.39	0.59
11:XJ:76:ASN:O	11:XJ:78:ASN:ND2	2.36	0.59
20:XS:69:HIS:CB	48:Y4:69:LYS:HE2	2.33	0.59
23:YA:1434:A:H61	23:YA:1558:A:N6	2.01	0.59
23:YA:2770:G:H5"	23:YA:2771:C:OP2	2.02	0.59
29:YH:6:ARG:NH2	29:YH:54:ARG:HH22	2.01	0.59
36:YS:26:LEU:HB3	36:YS:87:PHE:HA	1.85	0.59
14:QM:49:THR:HB	14:QM:52:GLU:HG3	1.85	0.59
23:RA:1101:U:H2'	23:RA:1102:C:C6	2.38	0.59
23:RA:2683:C:OP1	37:RT:53:ARG:NH2	2.35	0.59
45:R1:92:LYS:HG3	45:R1:96:LYS:HB2	1.84	0.59
2:XA:1314:C:OP1	20:XS:6:LYS:HE3	2.02	0.59
21:XT:10:LEU:HG	21:XT:12:ALA:H	1.67	0.59
23:YA:922:U:H2'	23:YA:923:C:C6	2.37	0.59
23:YA:1169:G:H1	23:YA:1180:C:H42	1.50	0.59
6:XE:45:PHE:CE2	6:XE:47:LYS:HD2	2.38	0.59
20:XS:69:HIS:CG	48:Y4:69:LYS:CD	2.75	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:XS:70:LYS:HZ3	48:Y4:68:ARG:NH2	1.64	0.59
31:YN:40:PRO:HB3	38:YU:68:ALA:HB2	1.85	0.59
1:QX:1:C:O2'	2:QA:1498:U:OP2	2.18	0.58
23:RA:2115:G:N2	23:RA:2165:G:N7	2.41	0.58
48:R4:16:CYS:SG	48:R4:17:GLY:N	2.75	0.58
50:R6:52:VAL:HG22	50:R6:53:LYS:HG3	1.84	0.58
2:XA:539:A:OP2	13:XL:115:LYS:HE3	2.03	0.58
2:XA:1455:G:H5"	21:XT:31:SER:HB2	1.85	0.58
13:XL:38:THR:HG23	13:XL:57:LYS:HB3	1.84	0.58
20:XS:68:GLY:CA	48:Y4:69:LYS:N	1.73	0.58
24:YB:33:G:H5'	28:YG:2:PRO:HG3	1.84	0.58
24:YB:77:U:P	43:YZ:19:ARG:HH22	2.26	0.58
25:YD:28:GLU:OE1	25:YD:29:PRO:HD2	2.03	0.58
28:YG:136:ARG:O	28:YG:154:GLY:HA2	2.02	0.58
35:YR:67:LEU:HD13	35:YR:76:VAL:HG21	1.84	0.58
45:Y1:51:VAL:HG11	45:Y1:74:VAL:HG21	1.84	0.58
49:Y5:4:HIS:HB3	49:Y5:5:PRO:CD	2.32	0.58
25:RD:71:ASP:OD2	25:RD:103:ARG:NH2	2.36	0.58
25:RD:85:ASP:HB2	25:RD:92:ILE:HD13	1.84	0.58
29:RH:121:ILE:HG13	29:RH:140:LYS:HD2	1.84	0.58
2:XA:406:G:H5'	5:XD:5:ILE:HD13	1.84	0.58
23:YA:77:C:O3'	46:Y2:14:ARG:NH2	2.37	0.58
36:YS:106:ARG:HA	36:YS:110:LEU:HD11	1.86	0.58
41:YX:61:GLY:N	41:YX:75:ASP:OD2	2.36	0.58
54:XV:36:G:H2'	54:XV:37:1MG:H5"	1.85	0.58
2:QA:56:U:H2'	2:QA:57:G:C8	2.38	0.58
2:QA:316:G:OP2	2:QA:351:G:O2'	2.21	0.58
2:QA:359:U:H2'	2:QA:360:A:C8	2.38	0.58
2:QA:405:U:O4	5:QD:2:GLY:N	2.37	0.58
2:QA:957:U:H4'	20:QS:79:THR:HB	1.85	0.58
5:QD:111:ALA:HB2	5:QD:120:LEU:HD12	1.85	0.58
25:RD:44:ASN:CB	25:RD:49:ILE:HA	2.33	0.58
28:RG:112:PRO:HB3	48:R4:37:SER:HB2	1.85	0.58
15:XN:23:ARG:HD2	15:XN:28:GLY:O	2.03	0.58
24:YB:77:U:OP1	43:YZ:19:ARG:NH2	2.35	0.58
39:YV:44:LYS:O	39:YV:46:VAL:N	2.36	0.58
11:QJ:49:VAL:HG13	15:QN:41:ARG:HB2	1.86	0.58
30:RI:94:ALA:H	30:RI:116:LEU:HD13	1.69	0.58
2:XA:243:A:H4'	2:XA:244:U:O5'	2.04	0.58
2:XA:686:U:HO2'	12:XK:42:TRP:HE1	1.51	0.58
3:XB:93:VAL:HG11	3:XB:97:TRP:HD1	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:XM:13:LYS:HA	14:XM:44:ARG:HD2	1.83	0.58
20:XS:42:PRO:HG3	48:Y4:60:GLN:O	2.03	0.58
21:XT:63:ILE:HG22	21:XT:77:ALA:HB1	1.86	0.58
23:YA:771:G:OP1	51:Y7:14:LYS:HE3	2.03	0.58
23:YA:1939:U:H5"	23:YA:1939:U:H6	1.68	0.58
23:YA:2126:A:H4'	23:YA:2127:G:O5'	2.02	0.58
43:YZ:19:ARG:HD3	43:YZ:25:PRO:HD2	1.85	0.58
2:QA:501:C:H2'	2:QA:502:G:H8	1.67	0.58
2:QA:1330:U:H4'	14:QM:23:TYR:CE2	2.38	0.58
20:QS:42:PRO:CD	48:R4:63:TYR:OH	2.44	0.58
23:RA:2790:A:H2'	23:RA:2791:C:H5"	1.84	0.58
2:XA:188:U:H2'	2:XA:189:U:H5"	1.84	0.58
21:XT:56:MET:HG3	21:XT:88:VAL:HG21	1.85	0.58
23:YA:2415:G:H4'	33:YP:67:MET:N	2.18	0.58
8:QG:26:PHE:CE2	8:QG:30:ILE:HD11	2.38	0.58
23:RA:309:G:N3	23:RA:329:G:O2'	2.36	0.58
23:RA:517:C:OP1	49:R5:16:ARG:NH2	2.37	0.58
23:RA:994:C:OP2	38:RU:54:LYS:NZ	2.36	0.58
29:RH:89:ILE:O	29:RH:89:ILE:HG12	2.04	0.58
2:XA:1178:G:N2	2:XA:1181:G:N7	2.50	0.58
3:XB:15:VAL:H	3:XB:16:HIS:CE1	2.22	0.58
4:QC:134:ILE:HG23	4:QC:151:VAL:HB	1.85	0.58
17:QP:21:VAL:O	17:QP:33:ILE:HG12	2.02	0.58
23:RA:2287:A:N6	23:RA:2344:U:H3	2.01	0.58
25:RD:35:LYS:HD2	25:RD:104:TYR:CE1	2.39	0.58
31:RN:54:VAL:HB	31:RN:122:VAL:HG22	1.85	0.58
2:XA:1123:A:H4'	11:XJ:36:GLY:HA3	1.85	0.58
2:XA:1412:C:H2'	2:XA:1413:A:C8	2.39	0.58
7:XF:36:ARG:NH1	7:XF:38:GLU:OE2	2.37	0.58
23:YA:2527:C:H5"	53:Y9:30:PRO:HB2	1.86	0.58
29:YH:153:LYS:HB3	29:YH:154:PRO:HD3	1.85	0.58
30:YI:82:ARG:HD3	30:YI:146:ALA:HB3	1.85	0.58
35:YR:27:SER:HB3	35:YR:34:ILE:HD11	1.84	0.58
48:Y4:42:PHE:O	48:Y4:44:THR:N	2.36	0.58
9:QH:121:ASP:N	9:QH:121:ASP:OD1	2.34	0.58
24:RB:56:G:OP1	28:RG:27:ASN:ND2	2.37	0.58
25:RD:182:LEU:N	25:RD:272:ALA:HB3	2.18	0.58
28:RG:136:ARG:O	28:RG:154:GLY:HA2	2.03	0.58
29:RH:87:LEU:HD22	29:RH:162:ILE:HG22	1.85	0.58
43:RZ:111:VAL:HG13	43:RZ:112:ARG:H	1.69	0.58
3:XB:72:GLY:HA2	3:XB:165:VAL:HG22	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XC:95:THR:HG22	4:XC:97:LYS:HG3	1.84	0.58
34:YQ:137:TYR:CE2	43:YZ:83:PRO:HG3	2.38	0.58
3:QB:77:ALA:HB2	3:QB:211:ILE:HD13	1.86	0.58
25:RD:24:ILE:HD11	25:RD:91:ARG:HD2	1.84	0.58
9:XH:39:LEU:HB3	9:XH:45:ILE:HG12	1.86	0.58
23:YA:1533:C:H42	23:YA:1538:G:H1	1.50	0.58
23:YA:2789:C:H1'	23:YA:2892:A:H2	1.68	0.58
27:YF:127:GLU:O	27:YF:129:PHE:N	2.32	0.58
2:QA:1055:A:N7	2:QA:1200:C:N4	2.51	0.58
2:QA:1226:C:OP2	14:QM:103:THR:OG1	2.14	0.58
23:RA:1543:A:HO2'	23:RA:1544:C:H3'	1.67	0.58
31:RN:13:TRP:O	31:RN:135:PRO:HD2	2.03	0.58
33:RP:47:ASP:OD1	33:RP:49:ARG:NH1	2.37	0.58
2:XA:560:U:O2'	2:XA:561:U:OP2	2.21	0.58
3:XB:96:ARG:H	3:XB:96:ARG:HD2	1.67	0.58
10:XI:43:ALA:HA	10:XI:74:ILE:HD13	1.86	0.58
23:YA:1101:U:H2'	23:YA:1102:C:C6	2.39	0.58
24:YB:15:A:H5'	24:YB:16:G:H8	1.68	0.58
35:YR:117:VAL:HG22	35:YR:118:GLU:H	1.68	0.58
38:YU:92:ARG:HD3	38:YU:94:ASN:HB3	1.85	0.58
23:RA:389:G:H1	33:RP:70:GLN:HB3	1.69	0.57
23:RA:395:U:H2'	23:RA:396:G:N7	2.19	0.57
26:RE:131:ALA:HB1	26:RE:135:HIS:HE1	1.69	0.57
42:RY:95:LYS:NZ	42:RY:99:CYS:O	2.37	0.57
2:XA:200:G:H1	2:XA:217:C:H42	1.52	0.57
2:XA:280:C:H3'	2:XA:281:G:H5'	1.85	0.57
23:YA:2275:C:O2	34:YQ:83:MET:HG3	2.04	0.57
25:YD:65:ILE:H	25:YD:65:ILE:HD13	1.68	0.57
28:YG:98:ARG:NH1	48:Y4:1:MET:SD	2.77	0.57
32:YO:64:ARG:HG2	32:YO:79:PHE:CG	2.38	0.57
34:YQ:66:ILE:HA	34:YQ:104:PHE:HA	1.85	0.57
35:YR:24:GLN:OE1	35:YR:36:THR:HG21	2.04	0.57
2:QA:962:C:H2'	2:QA:963:G:H8	1.70	0.57
2:QA:1128:C:H4'	10:QI:16:ARG:HH22	1.69	0.57
2:QA:1135:U:H4'	2:QA:1136:U:H5	1.69	0.57
4:QC:134:ILE:HG22	4:QC:168:ALA:HB3	1.86	0.57
8:QG:15:ASP:OD2	8:QG:44:TYR:OH	2.22	0.57
13:QL:53:ARG:HD3	13:QL:93:LEU:HD21	1.86	0.57
23:RA:1210:A:H5"	23:RA:1210:A:H8	1.68	0.57
43:RZ:166:SER:HB2	43:RZ:168:GLU:H	1.70	0.57
5:XD:9:CYS:HB3	5:XD:32:ALA:HB2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:XE:91:LEU:HD12	6:XE:120:THR:HG22	1.85	0.57
26:YE:35:GLN:HB3	26:YE:48:GLN:HB2	1.86	0.57
27:YF:28:ILE:HG22	27:YF:112:MET:HB3	1.85	0.57
34:YQ:116:GLU:O	34:YQ:120:ILE:HG12	2.05	0.57
36:YS:59:LYS:HD3	36:YS:60:GLY:N	2.19	0.57
40:YW:73:ALA:HB3	40:YW:106:ILE:HD13	1.84	0.57
2:QA:552:U:O2'	13:QL:86:ARG:O	2.21	0.57
23:RA:259:G:H21	23:RA:621:A:H8	1.52	0.57
23:RA:2119:A:N6	23:RA:2170:A:N7	2.48	0.57
28:RG:68:PRO:HB2	28:RG:90:LEU:HD12	1.86	0.57
29:RH:153:LYS:HB3	29:RH:154:PRO:CD	2.34	0.57
40:RW:71:VAL:HA	40:RW:107:LEU:HD12	1.86	0.57
12:XK:21:ILE:HG13	12:XK:30:VAL:HG12	1.86	0.57
18:XQ:55:ASP:HA	18:XQ:79:SER:HA	1.85	0.57
23:YA:573:G:OP2	39:YV:78:LYS:NZ	2.37	0.57
23:YA:2564:A:C2	23:YA:2647:U:H4'	2.40	0.57
28:YG:67:LYS:HE2	48:Y4:6:HIS:CE1	2.39	0.57
37:YT:24:PRO:HA	37:YT:49:VAL:HG13	1.85	0.57
2:QA:973:G:H3'	2:QA:974:A:H5"	1.87	0.57
2:QA:1004:A:O5'	2:QA:1025:U:N3	2.37	0.57
23:RA:1783:A:HO2'	23:RA:2607:G:HO2'	1.51	0.57
10:XI:15:ALA:HB2	10:XI:65:VAL:HG23	1.86	0.57
20:XS:80:TYR:O	20:XS:82:GLY:N	2.36	0.57
23:YA:1019:U:H3	23:YA:1142(A):A:H62	1.51	0.57
2:QA:1159:U:O2'	2:QA:1160:G:N7	2.38	0.57
23:RA:1818:U:H2'	25:RD:157:ARG:HG3	1.87	0.57
23:RA:2633:G:O2'	26:RE:60:ASN:ND2	2.37	0.57
35:RR:117:VAL:O	35:RR:118:GLU:HB2	2.05	0.57
2:XA:380:G:N2	2:XA:383:A:OP2	2.35	0.57
23:YA:1342:A:OP1	41:YX:36:LYS:NZ	2.37	0.57
28:YG:98:ARG:HH12	48:Y4:1:MET:HB3	1.69	0.57
36:YS:10:ARG:NH2	36:YS:91:PRO:O	2.36	0.57
43:YZ:141:VAL:HG23	43:YZ:144:LEU:HB2	1.86	0.57
23:RA:1245:G:OP1	33:RP:13:ASN:ND2	2.36	0.57
2:XA:429:U:H1'	2:XA:430:A:H5"	1.85	0.57
3:XB:96:ARG:HD3	3:XB:148:TYR:HE1	1.70	0.57
4:XC:70:VAL:HG21	4:XC:76:VAL:HG11	1.85	0.57
5:XD:154:ASN:OD1	5:XD:154:ASN:N	2.37	0.57
14:XM:80:ARG:HE	48:Y4:71:ARG:HH12	0.57	0.57
23:YA:996:A:OP2	38:YU:92:ARG:NH2	2.37	0.57
23:YA:2334:G:H5'	36:YS:9:ARG:HG2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:2599:G:OP2	25:RD:236:GLY:HA2	2.05	0.57
25:RD:145:VAL:HG13	25:RD:191:ALA:HB2	1.87	0.57
42:RY:76:CYS:SG	42:RY:77:PRO:HD2	2.45	0.57
52:R8:36:LYS:HB3	52:R8:40:GLU:HG2	1.85	0.57
11:XJ:50:ILE:HD11	11:XJ:57:LYS:HD3	1.85	0.57
17:XP:20:VAL:HG23	17:XP:35:LYS:HA	1.86	0.57
20:XS:73:GLU:OE2	48:Y4:69:LYS:CE	2.53	0.57
23:YA:1754:C:OP1	37:YT:96:ARG:NH1	2.37	0.57
24:YB:57:A:H1'	28:YG:29:TRP:HB2	1.85	0.57
2:QA:1412:C:H2'	2:QA:1413:A:C8	2.40	0.57
23:RA:2291:U:O2'	23:RA:2374:C:O2	2.21	0.57
24:RB:7:G:N2	36:RS:38:GLN:OE1	2.31	0.57
41:RX:60:ARG:NH1	51:R7:47:ARG:HH22	2.03	0.57
2:XA:748:C:H1'	2:XA:749:C:H5	1.70	0.57
29:YH:149:ARG:HG3	29:YH:162:ILE:O	2.05	0.57
33:YP:135:LEU:O	33:YP:139:LYS:HB2	2.04	0.57
8:QG:79:ARG:HH12	8:QG:82:GLY:HA2	1.69	0.57
23:RA:1636:C:H2'	23:RA:1637:A:C8	2.40	0.57
25:RD:44:ASN:HB2	25:RD:48:ARG:O	2.05	0.57
25:RD:241:PRO:O	25:RD:242:ARG:HB2	2.04	0.57
2:XA:448:A:OP2	2:XA:485:G:N2	2.22	0.57
2:XA:523:A:H61	13:XL:92:ASP:HB2	1.70	0.57
20:XS:64:GLU:O	48:Y4:59:PHE:CE2	2.55	0.57
23:YA:1028:A:N3	23:YA:2486:G:O2'	2.28	0.57
25:YD:71:ASP:CB	25:YD:103:ARG:HH22	2.18	0.57
2:QA:243:A:H4'	2:QA:244:U:O5'	2.04	0.57
2:QA:390:C:O3'	17:QP:28:ARG:NH2	2.36	0.57
14:QM:58:GLU:O	14:QM:62:ASN:ND2	2.31	0.57
20:QS:41:VAL:HB	20:QS:42:PRO:CA	2.34	0.57
23:RA:247:G:H4'	23:RA:386:G:C5	2.40	0.57
23:RA:2010:G:H5"	40:RW:42:ARG:HB2	1.87	0.57
23:RA:2751:G:N7	29:RH:2:SER:HB3	2.20	0.57
30:RI:144:VAL:HG22	30:RI:145:VAL:H	1.70	0.57
33:RP:58:THR:C	33:RP:61:ARG:HE	2.06	0.57
39:RV:52:VAL:HG21	39:RV:55:ALA:HB3	1.87	0.57
2:XA:191:G:C4	21:XT:105:SER:HB3	2.39	0.57
2:XA:438:G:H4'	5:XD:123:HIS:CD2	2.40	0.57
2:XA:1510:U:H2'	2:XA:1511:G:C8	2.40	0.57
2:QA:559:A:H4'	2:QA:560:U:H3'	1.85	0.56
2:QA:1255:G:OP1	11:QJ:45:ARG:NH2	2.38	0.56
3:QB:51:LEU:HD23	3:QB:201:ILE:HD12	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QF:3:ARG:NH1	7:QF:38:GLU:OE2	2.37	0.56
14:QM:14:ARG:N	14:QM:44:ARG:HD3	2.18	0.56
23:RA:1614:A:H62	40:RW:93:ALA:HB2	1.70	0.56
25:RD:108:PRO:HB3	25:RD:143:HIS:CE1	2.40	0.56
28:RG:22:ARG:HH21	28:RG:171:ALA:HB1	1.69	0.56
20:XS:32:LYS:HA	20:XS:50:ALA:HB3	1.86	0.56
27:YF:107:LYS:HD2	27:YF:206:ILE:HA	1.86	0.56
34:YQ:85:LYS:O	34:YQ:87:LYS:N	2.38	0.56
2:QA:1004:A:P	2:QA:1025:U:H3	2.26	0.56
13:QL:117:ARG:HB3	13:QL:122:THR:HB	1.87	0.56
23:RA:1101:U:H2'	23:RA:1102:C:H6	1.70	0.56
24:RB:72:G:O2'	24:RB:104:A:N6	2.37	0.56
25:RD:148:GLU:HB2	25:RD:151:LYS:HD2	1.87	0.56
34:RQ:24:GLY:O	34:RQ:26:TYR:N	2.35	0.56
34:RQ:43:THR:HA	34:RQ:94:VAL:HG12	1.87	0.56
35:RR:67:LEU:HD13	35:RR:76:VAL:HG21	1.86	0.56
43:RZ:110:GLY:HA2	43:RZ:111:VAL:O	2.04	0.56
2:XA:464:G:N2	2:XA:467:G:N7	2.53	0.56
2:XA:564:C:O2'	9:XH:91:ARG:NH2	2.37	0.56
23:YA:141:A:H8	23:YA:1595:G:H21	1.53	0.56
23:YA:1359:A:H2'	23:YA:1360:A:H5'	1.87	0.56
23:YA:1915:U:H3'	23:YA:1916:A:H8	1.71	0.56
23:YA:2758:A:C4	29:YH:67:LEU:HD21	2.40	0.56
32:YO:85:VAL:HG11	32:YO:114:ILE:HD11	1.87	0.56
2:QA:662:G:O2'	2:QA:836:G:OP1	2.22	0.56
4:QC:73:PRO:HG3	4:QC:105:GLU:HG3	1.88	0.56
9:QH:102:ARG:NH1	9:QH:105:ARG:NH2	2.53	0.56
18:QQ:90:ILE:O	18:QQ:94:ASN:ND2	2.38	0.56
23:RA:74:A:H4'	23:RA:75:G:O5'	2.05	0.56
23:RA:263:C:H2'	23:RA:264:C:O4'	2.05	0.56
23:RA:1791:A:N6	23:RA:1828:G:O2'	2.38	0.56
23:RA:2439:A:H5'	23:RA:2439:A:H8	1.70	0.56
33:RP:106:LEU:O	33:RP:107:LYS:HB2	2.05	0.56
34:RQ:32:TYR:HE1	34:RQ:133:ARG:HG3	1.69	0.56
2:XA:64:G:N2	2:XA:68:G:O6	2.31	0.56
2:XA:707:C:OP1	12:XK:85:ARG:NH1	2.38	0.56
20:XS:15:LEU:O	20:XS:19:VAL:N	2.36	0.56
23:YA:1326:U:HO2'	23:YA:2010:G:HO2'	1.50	0.56
23:YA:2287:A:N6	23:YA:2344:U:H3	1.97	0.56
28:YG:81:LYS:O	28:YG:82:LEU:HB2	2.05	0.56
33:YP:101:VAL:HG23	33:YP:106:LEU:HB3	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YT:60:THR:HG22	37:YT:77:PRO:HA	1.86	0.56
39:YV:59:ALA:HB2	39:YV:96:ILE:HD13	1.88	0.56
43:YZ:180:VAL:HG13	43:YZ:181:GLU:HB2	1.88	0.56
48:Y4:71:ARG:HB2	48:Y4:71:ARG:HH11	1.68	0.56
2:QA:692:U:OP1	12:QK:124:LYS:NZ	2.28	0.56
2:QA:748:C:H1'	2:QA:749:C:H5	1.71	0.56
20:QS:68:GLY:HA2	48:R4:68:ARG:HG2	1.88	0.56
23:RA:1678:G:H22	23:RA:1989:G:H22	1.53	0.56
26:RE:10:GLY:HA3	37:RT:8:LYS:HD2	1.85	0.56
27:RF:11:VAL:HG12	27:RF:12:LEU:H	1.69	0.56
36:RS:106:ARG:HA	36:RS:110:LEU:HD11	1.87	0.56
39:RV:44:LYS:HE2	39:RV:45:THR:H	1.70	0.56
20:XS:65:ASN:O	48:Y4:59:PHE:CZ	2.58	0.56
39:YV:66:ARG:HH11	39:YV:88:ARG:HD3	1.71	0.56
50:Y6:25:LYS:HE2	50:Y6:27:LYS:HE3	1.87	0.56
3:QB:178:ARG:NH2	9:QH:74:PRO:HG3	2.21	0.56
9:QH:106:GLY:O	9:QH:122:ARG:NH2	2.36	0.56
14:QM:23:TYR:HB3	14:QM:67:GLU:HG2	1.87	0.56
23:RA:910:A:C5	34:RQ:13:GLN:HG3	2.40	0.56
26:RE:4:ILE:HD12	26:RE:28:ALA:HB1	1.88	0.56
30:RI:98:ALA:HB2	30:RI:111:PRO:HB3	1.86	0.56
34:RQ:66:ILE:HA	34:RQ:104:PHE:HA	1.87	0.56
2:XA:128:G:O2'	18:XQ:3:LYS:NZ	2.28	0.56
2:XA:978:A:O2'	2:XA:1322:C:N3	2.33	0.56
17:XP:20:VAL:HG21	17:XP:32:TYR:CD1	2.40	0.56
23:YA:1178:C:H2'	23:YA:1179:C:C6	2.41	0.56
23:YA:1952:A:C5	32:YO:22:ILE:HD12	2.40	0.56
24:YB:116:G:H4'	36:YS:54:LEU:HD13	1.87	0.56
28:YG:67:LYS:HZ1	48:Y4:6:HIS:CD2	2.23	0.56
40:YW:71:VAL:HA	40:YW:107:LEU:HD12	1.87	0.56
13:QL:45:PRO:HB3	13:QL:92:ASP:HB3	1.87	0.56
5:XD:11:LEU:HD13	5:XD:66:ARG:HG2	1.87	0.56
23:YA:968:G:OP1	47:Y3:17:LYS:NZ	2.38	0.56
23:YA:1728:G:H8	23:YA:1732:A:H62	1.53	0.56
32:YO:97:ARG:HA	32:YO:117:LEU:HD22	1.88	0.56
3:XB:21:ARG:O	3:XB:23:ARG:HD3	2.05	0.56
4:XC:130:VAL:O	4:XC:134:ILE:HG12	2.06	0.56
4:XC:174:PRO:HD2	4:XC:182:ILE:HD11	1.88	0.56
23:YA:1796:U:H2'	23:YA:1797:C:C6	2.40	0.56
23:YA:2327:A:H2'	23:YA:2328:A:C8	2.40	0.56
31:YN:56:ASN:N	31:YN:125:GLY:O	2.22	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QA:261:U:OP2	21:QT:79:ARG:NH2	2.39	0.56
20:QS:69:HIS:ND1	48:R4:69:LYS:HD3	2.21	0.56
23:RA:796:C:H2'	23:RA:797:C:C6	2.41	0.56
23:RA:1266:G:O5'	40:RW:15:ARG:NH2	2.38	0.56
23:RA:2126:A:H4'	23:RA:2127:G:O5'	2.05	0.56
23:RA:2537:U:H2'	23:RA:2538:C:C6	2.41	0.56
3:XB:84:GLU:HB3	3:XB:219:VAL:HG21	1.86	0.56
6:XE:37:ARG:HA	6:XE:114:GLY:N	2.21	0.56
2:QA:1152:A:H5"	11:QJ:13:HIS:CD2	2.40	0.56
3:QB:82:ARG:HA	3:QB:92:TYR:HE2	1.71	0.56
13:QL:89:ARG:HB3	13:QL:97:ARG:HA	1.88	0.56
23:RA:102:G:OP2	46:R2:7:ARG:NH2	2.39	0.56
23:RA:764:A:H5'	25:RD:210:GLY:HA2	1.87	0.56
23:RA:2022:U:O2'	23:RA:2617:C:H5'	2.06	0.56
23:RA:2305:A:O5'	28:RG:134:GLY:HA3	2.05	0.56
33:RP:68:GLN:HG2	52:R8:12:LYS:HD3	1.88	0.56
33:RP:121:LYS:HD3	33:RP:122:PRO:HD2	1.88	0.56
41:RX:31:HIS:CD2	41:RX:32:PRO:HD2	2.40	0.56
2:XA:1077:G:N2	2:XA:1080:A:OP2	2.33	0.56
4:XC:9:GLY:HA2	4:XC:12:LEU:HD23	1.88	0.56
7:XF:97:PHE:HD2	19:XR:31:LEU:HD21	1.70	0.56
29:YH:92:ILE:H	29:YH:92:ILE:HD12	1.71	0.56
34:YQ:81:VAL:C	34:YQ:82:ARG:HG2	2.25	0.56
2:QA:880:C:OP1	13:QL:8:ASN:ND2	2.30	0.56
2:QA:1435:G:H2'	2:QA:1436:U:C6	2.41	0.56
5:QD:187:ARG:NH2	5:QD:193:ASP:OD2	2.38	0.56
11:QJ:5:ARG:HG3	11:QJ:71:LEU:HD11	1.87	0.56
23:RA:662:G:H5'	33:RP:15:ARG:HA	1.87	0.56
23:RA:2146:C:H4'	23:RA:2147:G:C8	2.40	0.56
30:RI:99:GLU:OE2	30:RI:103:ARG:NH2	2.39	0.56
48:R4:24:THR:OG1	48:R4:25:TYR:N	2.38	0.56
2:XA:881:G:P	13:XL:12:ARG:HH22	2.29	0.56
8:XG:54:THR:O	8:XG:56:GLN:N	2.39	0.56
23:YA:527:C:OP2	23:YA:2779:U:H5	1.89	0.56
23:YA:1154:G:OP2	38:YU:58:ARG:NH1	2.39	0.56
23:YA:1266:G:O2'	23:YA:2012:G:O6	2.16	0.56
23:YA:1639:U:H2'	23:YA:1640:C:H5"	1.87	0.56
23:YA:1952:A:C6	32:YO:22:ILE:HD12	2.41	0.56
23:YA:2476:A:H2'	23:YA:2477:C:C6	2.42	0.56
42:YY:95:LYS:HB3	42:YY:100:ALA:HA	1.87	0.56
1:XX:0:C:H3'	2:XA:926:G:H22	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QA:1446:A:H4'	37:RT:125:ARG:HH22	1.71	0.55
23:RA:1204:A:O2'	23:RA:1205:U:O5'	2.24	0.55
23:RA:1378:A:OP1	51:R7:10:ARG:NH2	2.39	0.55
23:RA:2630:G:N3	23:RA:2894:G:N2	2.54	0.55
27:RF:110:LEU:HD11	27:RF:181:LEU:HD12	1.88	0.55
37:RT:26:ASP:O	37:RT:49:VAL:HG12	2.07	0.55
50:R6:36:LEU:HB2	50:R6:50:ARG:HA	1.89	0.55
29:YH:41:MET:HE1	29:YH:64:LEU:HB3	1.86	0.55
31:YN:40:PRO:O	38:YU:64:ARG:HD2	2.06	0.55
3:QB:71:VAL:HG12	3:QB:93:VAL:HB	1.88	0.55
42:RY:81:LYS:HZ3	42:RY:98:VAL:HG11	1.70	0.55
45:R1:53:VAL:HG11	45:R1:90:ILE:HD11	1.88	0.55
5:XD:122:ARG:NH1	5:XD:134:ASP:O	2.39	0.55
23:YA:2439:A:C8	23:YA:2439:A:H5'	2.41	0.55
25:YD:232:PRO:HB3	25:YD:244:ARG:NH1	2.21	0.55
37:YT:29:ARG:HB2	37:YT:46:GLU:HG3	1.88	0.55
10:QI:77:ILE:O	10:QI:81:ILE:HG12	2.07	0.55
23:RA:676:A:H8	23:RA:2069:G:H21	1.53	0.55
23:RA:1833:U:O2'	23:RA:1969:A:N1	2.28	0.55
23:RA:2210:G:H5'	23:RA:2211:G:C5	2.41	0.55
23:RA:2758:A:C4	29:RH:67:LEU:HD21	2.41	0.55
24:RB:15:A:H5'	24:RB:16:G:C8	2.41	0.55
39:RV:7:THR:HG23	39:RV:22:VAL:HG11	1.88	0.55
2:XA:243:A:H4'	2:XA:244:U:H3'	1.87	0.55
2:XA:1095:U:P	2:XA:1108:G:H1	2.29	0.55
2:XA:1126:U:H5	2:XA:1127:G:C4	2.24	0.55
2:XA:1314:C:N4	20:XS:2:PRO:O	2.40	0.55
11:XJ:34:VAL:HG22	11:XJ:74:ILE:HG22	1.89	0.55
16:XO:18:PHE:CE1	16:XO:21:ASP:HB2	2.41	0.55
21:XT:49:ALA:HB1	21:XT:99:LEU:HB2	1.89	0.55
23:YA:1427:A:H4'	23:YA:1428:C:O5'	2.06	0.55
23:YA:2820:A:O5'	35:YR:4:LEU:HD23	2.06	0.55
2:QA:1126:U:H1'	2:QA:1280:A:N7	2.22	0.55
3:QB:5:ILE:HD12	3:QB:224:GLN:HG2	1.88	0.55
20:QS:9:VAL:HG13	48:R4:66:SER:O	2.01	0.55
23:RA:784:A:O4'	25:RD:227:ASN:ND2	2.39	0.55
23:RA:1509:C:H3'	23:RA:1510:A:H5"	1.89	0.55
26:RE:63:LEU:CD1	26:RE:65:GLY:H	2.20	0.55
32:RO:78:ARG:HH21	37:RT:103:ARG:NH2	2.04	0.55
40:RW:86:LEU:HD22	40:RW:96:ILE:HD11	1.88	0.55
2:XA:316:G:OP2	2:XA:351:G:O2'	2.18	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XA:1108:G:H5'	4:XC:176:HIS:HD1	1.71	0.55
3:XB:158:LEU:HD13	3:XB:182:ILE:HD11	1.89	0.55
23:YA:207:A:H2'	23:YA:208:C:O4'	2.05	0.55
27:YF:101:LEU:O	27:YF:106:ARG:NH1	2.40	0.55
37:YT:39:ARG:HG2	37:YT:40:THR:H	1.72	0.55
50:Y6:28:ARG:HB3	50:Y6:30:THR:H	1.71	0.55
2:QA:736:C:H2'	2:QA:737:A:C8	2.41	0.55
9:QH:86:ILE:HG13	9:QH:133:LEU:HD22	1.89	0.55
11:QJ:16:LEU:HD23	11:QJ:94:VAL:HG13	1.88	0.55
27:RF:101:LEU:O	27:RF:106:ARG:NH1	2.40	0.55
43:RZ:19:ARG:NH1	43:RZ:84:GLU:O	2.39	0.55
48:R4:16:CYS:SG	48:R4:36:CYS:N	2.79	0.55
23:YA:72:U:N3	46:Y2:62:THR:HG22	2.21	0.55
23:YA:531:C:OP1	23:YA:561:G:N1	2.39	0.55
23:YA:2022:U:O2'	23:YA:2617:C:H5'	2.06	0.55
23:YA:2197:U:H1'	23:YA:2198:A:C8	2.42	0.55
30:YI:93:THR:HG22	30:YI:119:PRO:HB3	1.87	0.55
30:YI:115:ALA:HB3	30:YI:128:LEU:HD12	1.87	0.55
33:YP:52:GLU:HG3	33:YP:57:THR:HG22	1.88	0.55
39:YV:38:LEU:H	39:YV:51:VAL:HG13	1.70	0.55
52:Y8:50:LEU:HD12	52:Y8:51:ALA:N	2.21	0.55
23:RA:1026:U:H4'	23:RA:1027:A:OP1	2.05	0.55
23:RA:2567:G:H2'	23:RA:2568:C:C6	2.42	0.55
30:RI:11:ASN:O	30:RI:12:LEU:HB2	2.06	0.55
30:RI:88:ILE:HG12	30:RI:122:GLU:H	1.72	0.55
42:RY:37:VAL:HG21	42:RY:72:VAL:HG21	1.88	0.55
42:RY:81:LYS:HB2	42:RY:96:ILE:HG22	1.89	0.55
2:XA:737:A:H2'	2:XA:738:C:C6	2.41	0.55
10:XI:16:ARG:HB2	10:XI:64:THR:HB	1.89	0.55
26:YE:63:LEU:HD12	26:YE:64:LYS:N	2.22	0.55
29:YH:121:ILE:HG12	29:YH:140:LYS:HD2	1.89	0.55
2:QA:1376:U:OP1	8:QG:94:ARG:NH1	2.40	0.55
11:QJ:78:ASN:O	11:QJ:81:THR:OG1	2.24	0.55
23:RA:586:A:N1	23:RA:809:G:O2'	2.29	0.55
24:RB:52:A:N6	36:RS:33:LYS:HG3	2.22	0.55
34:RQ:30:GLY:CA	34:RQ:107:ALA:HB2	2.37	0.55
42:RY:95:LYS:CB	42:RY:100:ALA:HA	2.36	0.55
42:RY:96:ILE:HG12	42:RY:101:LYS:HB2	1.88	0.55
43:RZ:99:TYR:HB3	43:RZ:123:ASP:HB2	1.89	0.55
49:R5:4:HIS:HB3	49:R5:5:PRO:CD	2.33	0.55
23:YA:570:G:H2'	23:YA:2030:A:C5	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:1252:G:C2	23:YA:1253:A:C2	2.95	0.55
23:YA:1728:G:H3'	23:YA:1729:A:H5"	1.89	0.55
33:YP:62:LEU:HD12	52:Y8:30:ARG:NH1	2.22	0.55
37:YT:3:ARG:HG3	37:YT:7:ILE:HG12	1.88	0.55
43:YZ:114:GLY:HA3	43:YZ:177:PRO:HG3	1.88	0.55
2:QA:1128:C:OP1	10:QI:66:ARG:NH2	2.37	0.55
10:QI:121:ARG:NH1	10:QI:122:ALA:O	2.40	0.55
20:QS:64:GLU:O	48:R4:59:PHE:CD2	2.60	0.55
23:RA:1149:G:H2'	23:RA:1150:C:C6	2.42	0.55
29:RH:109:PHE:HZ	29:RH:152:ARG:HG2	1.72	0.55
2:XA:811:C:O2'	2:XA:901:A:N1	2.40	0.55
23:YA:221:A:H4'	23:YA:222:A:O5'	2.06	0.55
23:YA:363(B):G:H2'	23:YA:363(C):G:H8	1.72	0.55
23:YA:1026:U:H1'	23:YA:1027:A:O5'	2.06	0.55
23:YA:1434:A:H61	23:YA:1558:A:H62	1.54	0.55
23:YA:2245:U:H5'	23:YA:2246:G:H5'	1.89	0.55
23:YA:2314:C:H2'	23:YA:2315:G:H8	1.71	0.55
23:YA:2712:U:HO2'	23:YA:2712(A):A:H8	1.50	0.55
25:YD:43:ARG:HD2	25:YD:44:ASN:OD1	2.07	0.55
29:YH:157:TYR:HA	29:YH:171:LEU:O	2.07	0.55
30:YI:21:VAL:HG21	30:YI:25:TYR:HD1	1.71	0.55
39:YV:34:GLU:O	39:YV:36:PRO:HD3	2.06	0.55
52:Y8:60:LEU:HB3	52:Y8:63:PRO:HG2	1.89	0.55
27:RF:184:TYR:CE2	27:RF:188:ARG:HD2	2.42	0.55
29:RH:124:GLU:HB3	29:RH:132:ARG:HG3	1.89	0.55
38:RU:52:ARG:HA	38:RU:55:ARG:HG3	1.88	0.55
41:RX:25:LYS:HD3	41:RX:80:ILE:HD11	1.89	0.55
43:RZ:182:LYS:H	43:RZ:182:LYS:HD3	1.71	0.55
49:R5:56:LYS:H	49:R5:56:LYS:HD2	1.72	0.55
2:XA:110:C:H2'	2:XA:111:G:O4'	2.07	0.55
2:XA:1200:C:HO2'	2:XA:1201:A:P	2.26	0.55
2:XA:1342:C:H4'	10:XI:125:TYR:HB3	1.88	0.55
9:XH:86:ILE:HG22	9:XH:93:VAL:HG21	1.89	0.55
20:XS:69:HIS:HB3	48:Y4:69:LYS:HE2	1.89	0.55
23:YA:384:U:H2'	23:YA:385:C:H6	1.71	0.55
23:YA:2636:U:OP2	26:YE:79:ARG:NH1	2.40	0.55
37:YT:26:ASP:O	37:YT:49:VAL:HG12	2.07	0.55
39:YV:61:VAL:HG23	39:YV:63:GLY:H	1.71	0.55
40:YW:14:PRO:O	40:YW:17:VAL:N	2.40	0.55
10:QI:26:VAL:HG22	10:QI:61:ALA:HB3	1.89	0.55
23:RA:1434:A:H61	23:RA:1558:A:H62	1.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RD:35:LYS:NZ	25:RD:104:TYR:HB2	2.22	0.55
52:R8:29:LYS:HD3	52:R8:44:LYS:HB2	1.88	0.55
2:XA:1129:C:H5'	2:XA:1130:A:OP1	2.07	0.55
5:XD:92:VAL:O	5:XD:96:LEU:HD22	2.07	0.55
8:XG:20:ASP:HB3	8:XG:23:VAL:HG23	1.89	0.55
14:XM:22:ILE:HD12	14:XM:25:ILE:HD12	1.89	0.55
20:XS:67:VAL:HG11	48:Y4:59:PHE:CA	2.37	0.55
23:YA:1278:A:H4'	35:YR:34:ILE:HD12	1.89	0.55
33:YP:71:VAL:HG13	33:YP:72:PRO:HD3	1.89	0.55
2:QA:673:G:H2'	2:QA:674:G:C8	2.42	0.54
2:QA:1392:G:H21	2:QA:1502:A:H8	1.55	0.54
11:QJ:8:LEU:HB3	11:QJ:16:LEU:HD21	1.87	0.54
20:QS:70:LYS:HZ1	48:R4:68:ARG:NH2	2.00	0.54
23:RA:443:A:N7	27:RF:45:ARG:HD2	2.22	0.54
23:RA:574:C:N3	26:RE:145:LYS:NZ	2.55	0.54
23:RA:826:U:H2'	23:RA:828:U:O4'	2.08	0.54
23:RA:898:C:H2'	23:RA:899:A:H5'	1.89	0.54
31:RN:30:ILE:HG22	31:RN:34:LEU:HD22	1.88	0.54
37:RT:1:MET:O	37:RT:3:ARG:N	2.40	0.54
3:XB:82:ARG:NH1	3:XB:86:GLU:OE2	2.40	0.54
12:XK:34:ASP:OD1	12:XK:38:ASN:N	2.39	0.54
20:XS:9:VAL:HG12	48:Y4:67:TYR:CA	2.37	0.54
23:YA:2336:A:H61	44:Y0:43:THR:HG21	1.70	0.54
31:YN:42:TRP:O	38:YU:64:ARG:NH2	2.41	0.54
35:YR:56:LYS:NZ	35:YR:87:TYR:O	2.40	0.54
2:QA:964:A:N3	2:QA:969:A:O2'	2.40	0.54
2:QA:986:A:O2'	20:QS:55:LYS:O	2.24	0.54
2:QA:1152:A:H5"	11:QJ:13:HIS:HD2	1.71	0.54
11:QJ:13:HIS:CE1	11:QJ:14:LYS:HE3	2.42	0.54
23:RA:620:G:H4'	23:RA:621:A:H5"	1.88	0.54
31:RN:40:PRO:HB3	38:RU:68:ALA:HB2	1.89	0.54
34:RQ:54:MET:HG3	34:RQ:117:ALA:HB1	1.89	0.54
46:R2:42:GLY:O	46:R2:44:LEU:N	2.35	0.54
2:XA:1218:C:H2'	2:XA:1219:U:C6	2.41	0.54
6:XE:50:GLU:HB3	6:XE:53:LEU:HD13	1.88	0.54
8:XG:49:ILE:O	8:XG:53:LYS:HB3	2.07	0.54
13:XL:70:ILE:HG12	13:XL:100:ILE:HD12	1.88	0.54
23:YA:1210:A:H5'	23:YA:1210:A:C8	2.42	0.54
23:YA:2314:C:H2'	23:YA:2315:G:C8	2.43	0.54
23:YA:2335:A:HO2'	23:YA:2336:A:P	2.29	0.54
25:YD:12:SER:O	25:YD:16:MET:HB2	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YI:133:HIS:HB2	30:YI:134:PRO:CD	2.38	0.54
34:YQ:109:VAL:HG13	34:YQ:113:GLN:HB3	1.89	0.54
37:YT:62:THR:HG22	37:YT:75:ILE:HG12	1.89	0.54
2:QA:582:U:OP1	16:QO:68:ARG:NH2	2.37	0.54
6:QE:78:HIS:CE1	6:QE:142:LEU:HD23	2.42	0.54
15:QN:48:ALA:HB2	15:QN:53:LEU:HD12	1.89	0.54
23:RA:229:A:H4'	23:RA:229:A:OP1	2.07	0.54
23:RA:2776:A:OP1	23:RA:2776:A:H3'	2.07	0.54
34:RQ:31:ASP:O	34:RQ:134:ARG:HB2	2.07	0.54
2:XA:437:U:H2'	2:XA:438:G:O4'	2.07	0.54
2:XA:501:C:H2'	2:XA:502:G:C8	2.42	0.54
2:XA:1008:C:H42	2:XA:1021:G:H1	1.55	0.54
17:XP:43:LYS:HG2	17:XP:48:TRP:CE3	2.42	0.54
30:YI:5:LEU:HD13	30:YI:17:GLN:HB3	1.89	0.54
54:QV:38:G:H8	54:QV:38:G:OP1	1.90	0.54
23:RA:137(A):G:H1'	41:RX:41:ASN:ND2	2.22	0.54
23:RA:1427:A:H4'	23:RA:1428:C:O5'	2.07	0.54
23:RA:2233:U:H2'	23:RA:2234:G:C8	2.42	0.54
23:RA:2734:A:H5'	23:RA:2735:G:OP2	2.07	0.54
38:RU:112:ARG:NH2	39:RV:47:VAL:HG13	2.23	0.54
45:R1:58:ILE:HD11	45:R1:86:SER:HB2	1.88	0.54
14:XM:3:ARG:HA	14:XM:9:ILE:CG2	2.37	0.54
23:YA:1335:U:OP2	41:YX:65:ARG:NH2	2.39	0.54
23:YA:1794:U:H2'	23:YA:1795:C:C6	2.42	0.54
31:YN:35:ARG:HB2	31:YN:42:TRP:CH2	2.42	0.54
35:YR:55:ALA:HB2	35:YR:79:LEU:HD13	1.89	0.54
49:Y5:55:ARG:HG3	49:Y5:57:VAL:H	1.73	0.54
2:QA:181:G:O2'	2:QA:182:U:O5'	2.25	0.54
23:RA:848:G:H2'	23:RA:849:A:C8	2.42	0.54
23:RA:1203:G:H3'	23:RA:1204:A:H5"	1.90	0.54
23:RA:1309:G:H4'	51:R7:7:PRO:HB2	1.89	0.54
24:RB:5:C:OP1	24:RB:61:G:O2'	2.22	0.54
26:RE:35:GLN:HE21	26:RE:37:ARG:CZ	2.21	0.54
28:RG:16:ARG:NH2	28:RG:28:VAL:O	2.41	0.54
30:RI:116:LEU:O	30:RI:118:LYS:N	2.41	0.54
35:RR:103:ARG:NH1	35:RR:108:GLY:O	2.41	0.54
41:RX:83:VAL:CG1	41:RX:87:GLN:HB2	2.38	0.54
46:R2:50:ILE:HD12	46:R2:51:ARG:H	1.72	0.54
2:XA:690:G:H22	12:XK:55:LYS:NZ	2.06	0.54
4:XC:150:LYS:HE2	4:XC:152:ILE:HD11	1.88	0.54
9:XH:54:ASP:N	9:XH:54:ASP:OD1	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:XR:31:LEU:HD23	19:XR:31:LEU:H	1.73	0.54
23:YA:1265:A:H8	23:YA:1265:A:OP1	1.90	0.54
23:YA:1332:G:N2	23:YA:1610:A:N7	2.55	0.54
23:YA:1754:C:P	37:YT:96:ARG:HH12	2.30	0.54
23:YA:2114:A:N6	23:YA:2119:A:H62	2.06	0.54
23:YA:2131:G:H4'	23:YA:2132:U:H4'	1.87	0.54
23:YA:2304:G:H22	23:YA:2312:U:H3	1.54	0.54
43:YZ:145:GLU:HG3	43:YZ:146:ILE:HG12	1.89	0.54
2:QA:1321:C:H3'	2:QA:1322:C:H5"	1.90	0.54
3:QB:84:GLU:HB3	3:QB:219:VAL:HG21	1.89	0.54
23:RA:873:G:H1	23:RA:904:C:H42	1.56	0.54
23:RA:1003:G:O2'	23:RA:1010:A:N1	2.35	0.54
23:RA:1937:A:O2'	23:RA:1939:U:OP2	2.16	0.54
23:RA:2679:A:H4'	26:RE:165:VAL:HG11	1.88	0.54
25:RD:35:LYS:HZ1	25:RD:104:TYR:HB2	1.71	0.54
30:RI:115:ALA:HB3	30:RI:128:LEU:HD12	1.90	0.54
49:R5:40:LYS:HG2	49:R5:47:PRO:HD2	1.90	0.54
4:XC:15:THR:HG23	4:XC:181:ASN:HD22	1.72	0.54
13:XL:115:LYS:O	13:XL:117:ARG:N	2.35	0.54
23:YA:1103:A:H5'	23:YA:1104:C:C5	2.42	0.54
33:YP:64:LYS:O	33:YP:66:GLY:N	2.41	0.54
38:YU:76:TYR:CZ	38:YU:80:ILE:HG13	2.43	0.54
2:QA:999:U:H2'	2:QA:1000:A:C8	2.43	0.54
2:QA:1124:G:H5"	2:QA:1145:C:H41	1.72	0.54
20:QS:10:PHE:HE2	20:QS:16:LEU:HD22	1.73	0.54
23:RA:2107:C:H42	23:RA:2182:G:H1	1.54	0.54
33:RP:38:GLN:HG2	33:RP:45:LEU:CD1	2.36	0.54
37:RT:111:ARG:O	37:RT:112:ARG:HG3	2.08	0.54
2:XA:1210:C:O2'	2:XA:1213:A:O2'	2.25	0.54
6:XE:12:LEU:HD21	6:XE:14:ARG:HD3	1.89	0.54
6:XE:100:VAL:HG22	6:XE:118:ILE:HG22	1.90	0.54
48:Y4:54:GLY:O	48:Y4:59:PHE:HB2	2.07	0.54
6:QE:7:GLU:N	6:QE:35:GLY:O	2.36	0.54
14:QM:22:ILE:HB	14:QM:25:ILE:HD12	1.89	0.54
23:RA:1416:G:H2'	23:RA:1417:C:C6	2.43	0.54
23:RA:2494:G:H2'	23:RA:2495:G:H8	1.73	0.54
23:RA:2638:G:OP1	26:RE:82:ARG:NH2	2.41	0.54
37:RT:37:GLY:O	37:RT:39:ARG:N	2.34	0.54
2:XA:1453:G:H8	21:XT:39:LYS:HE2	1.71	0.54
4:XC:150:LYS:HB3	4:XC:201:TYR:HB2	1.90	0.54
11:XJ:33:GLN:HB2	11:XJ:75:ILE:HD11	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:31:C:O3'	23:YA:1238:G:H5"	2.08	0.54
23:YA:2335:A:O2'	23:YA:2336:A:O5'	2.25	0.54
23:YA:2343:C:O2'	23:YA:2373:G:O2'	2.19	0.54
23:YA:2610:C:H4'	23:YA:2611:U:OP2	2.06	0.54
46:Y2:35:LEU:HD12	46:Y2:53:LEU:HD12	1.89	0.54
3:QB:204:ASN:HD22	3:QB:206:ASP:H	1.56	0.54
23:RA:2116:G:N1	23:RA:2162:G:OP1	2.41	0.54
26:RE:111:ARG:HG3	26:RE:160:TYR:CD1	2.43	0.54
2:XA:501:C:H2'	2:XA:502:G:H8	1.72	0.54
11:XJ:32:ALA:H	11:XJ:78:ASN:HD21	1.55	0.54
23:YA:540:G:H5'	23:YA:541:C:OP2	2.07	0.54
23:YA:1138:G:N2	31:YN:106:MET:HE3	2.11	0.54
23:YA:2884:U:C2	49:Y5:51:TYR:HE1	2.25	0.54
28:YG:15:VAL:HG21	28:YG:176:LEU:HD23	1.90	0.54
21:QT:75:ASN:OD1	21:QT:75:ASN:N	2.40	0.54
23:RA:817:C:O2'	23:RA:839:U:H5"	2.08	0.54
23:RA:2267:A:H5"	23:RA:2268:A:H5'	1.88	0.54
23:RA:2818:G:OP2	35:RR:42:LYS:NZ	2.40	0.54
33:RP:14:LYS:O	33:RP:16:ARG:HG2	2.08	0.54
35:RR:45:ARG:HA	35:RR:95:THR:HG21	1.90	0.54
37:RT:33:LYS:HD2	37:RT:82:LEU:HA	1.89	0.54
43:RZ:29:TYR:HE2	43:RZ:87:ASP:HB3	1.73	0.54
48:R4:56:VAL:HA	48:R4:60:GLN:HB2	1.89	0.54
2:XA:539:A:H2'	2:XA:540:G:C8	2.43	0.54
3:XB:82:ARG:HA	3:XB:92:TYR:CE2	2.43	0.54
26:YE:78:LEU:HG	26:YE:79:ARG:NE	2.23	0.54
26:YE:111:ARG:HD2	26:YE:160:TYR:CD1	2.42	0.54
31:YN:6:PRO:HG3	31:YN:41:ASP:HB2	1.89	0.54
3:QB:195:ASP:O	9:QH:68:ARG:NH2	2.41	0.53
3:QB:235:SER:O	3:QB:237:ALA:N	2.41	0.53
5:QD:194:LEU:HD12	5:QD:195:ALA:H	1.73	0.53
33:RP:9:ASN:HB2	33:RP:10:PRO:HD2	1.90	0.53
33:RP:61:ARG:HD2	52:R8:13:ARG:HD2	1.90	0.53
2:XA:261:U:OP2	21:XT:79:ARG:NH2	2.41	0.53
2:XA:346:G:H1'	2:XA:347:G:H5'	1.90	0.53
2:XA:1443:G:N2	23:YA:2864:G:OP1	2.32	0.53
23:YA:2712:U:O2'	23:YA:2712(A):A:OP1	2.26	0.53
33:YP:62:LEU:HD12	52:Y8:30:ARG:HH11	1.72	0.53
34:YQ:83:MET:HB2	44:Y0:7:LEU:HD22	1.89	0.53
23:RA:587:C:OP2	33:RP:21:ARG:NH2	2.42	0.53
23:RA:2122:U:H2'	23:RA:2123:G:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:2298:A:N6	23:RA:2318:G:H8	2.04	0.53
2:XA:484:G:H4'	2:XA:485:G:O5'	2.08	0.53
23:YA:1833:U:O2'	23:YA:1969:A:N1	2.30	0.53
25:YD:70:TRP:CH2	25:YD:150:LYS:HA	2.43	0.53
31:YN:30:ILE:HG23	31:YN:52:VAL:HG11	1.90	0.53
33:YP:88:LEU:HD12	33:YP:95:VAL:HG11	1.90	0.53
33:YP:92:GLU:HA	33:YP:123:LEU:HD23	1.89	0.53
39:YV:66:ARG:NH1	39:YV:88:ARG:HD3	2.23	0.53
43:YZ:52:SER:O	43:YZ:54:HIS:N	2.41	0.53
2:QA:838:G:C5	2:QA:842:C:H1'	2.44	0.53
2:QA:1277:C:HO2'	2:QA:1279:A:H8	1.55	0.53
4:QC:35:GLU:HG2	4:QC:59:ARG:NH2	2.24	0.53
4:QC:84:ILE:HD11	4:QC:88:ARG:HH21	1.73	0.53
23:RA:813:U:H2'	23:RA:814:C:C6	2.44	0.53
30:RI:93:THR:HG22	30:RI:119:PRO:HB3	1.89	0.53
32:RO:2:ILE:HD13	32:RO:8:LEU:HD11	1.90	0.53
2:XA:129(A):G:O2'	2:XA:189:U:H3'	2.08	0.53
11:XJ:4:ILE:HG12	11:XJ:100:THR:HG22	1.89	0.53
11:XJ:9:ARG:HB2	11:XJ:95:GLU:HB3	1.88	0.53
18:XQ:4:LYS:HE3	18:XQ:6:LEU:HD21	1.90	0.53
20:XS:36:ARG:NH1	20:XS:52:TYR:O	2.42	0.53
23:YA:2513:G:N2	26:YE:143:ASN:HD21	2.06	0.53
23:YA:2734:A:H5'	23:YA:2735:G:OP2	2.07	0.53
25:YD:43:ARG:CB	25:YD:54:ARG:HB2	2.38	0.53
23:RA:1348:G:H2'	23:RA:1349:A:H5"	1.91	0.53
33:RP:113:LYS:HG2	33:RP:115:LEU:HD23	1.90	0.53
43:RZ:52:SER:O	43:RZ:52:SER:OG	2.22	0.53
2:XA:69:G:H2'	2:XA:73:G:C8	2.43	0.53
3:XB:60:ASP:O	3:XB:64:ARG:HG2	2.09	0.53
23:YA:1094:U:O2'	23:YA:1096:A:OP1	2.18	0.53
43:YZ:45:ASP:OD1	43:YZ:49:ARG:NE	2.37	0.53
2:QA:1200:C:H4'	2:QA:1201:A:H5'	1.91	0.53
5:QD:149:ALA:HB3	5:QD:152:SER:HB2	1.90	0.53
20:QS:44:MET:O	20:QS:46:GLY:N	2.40	0.53
23:RA:579:G:O2'	23:RA:2019:A:OP1	2.21	0.53
23:RA:1063:G:N2	23:RA:1076:C:O2'	2.40	0.53
23:RA:2795:G:H3'	23:RA:2797:U:C5'	2.39	0.53
25:RD:44:ASN:HD22	25:RD:44:ASN:N	2.06	0.53
27:RF:32:LEU:O	27:RF:36:VAL:HG23	2.09	0.53
29:RH:149:ARG:HE	29:RH:154:PRO:HG2	1.72	0.53
10:XI:111:ARG:NE	10:XI:112:LYS:O	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:443:A:H5"	23:YA:444:C:OP1	2.09	0.53
23:YA:1055:G:H1	23:YA:1104:C:H42	1.57	0.53
23:YA:2182:G:H2'	23:YA:2183:C:C6	2.44	0.53
23:YA:2667:C:H1'	29:YH:109:PHE:CD2	2.42	0.53
25:YD:30:GLU:HG3	25:YD:63:ARG:HH21	1.72	0.53
34:YQ:12:GLN:HG2	34:YQ:73:PRO:HD2	1.90	0.53
43:YZ:182:LYS:HG3	43:YZ:183:LEU:HA	1.90	0.53
53:Y9:27:CYS:SG	53:Y9:28:GLU:N	2.82	0.53
9:QH:51:VAL:HG11	9:QH:60:ARG:HG3	1.90	0.53
11:QJ:51:ARG:NH2	15:QN:58:LYS:HZ1	2.07	0.53
16:QO:6:GLU:OE2	16:QO:6:GLU:N	2.35	0.53
34:RQ:32:TYR:CE1	34:RQ:133:ARG:HG3	2.43	0.53
36:RS:106:ARG:HA	36:RS:110:LEU:HD21	1.91	0.53
39:RV:99:ILE:O	39:RV:101:GLY:N	2.42	0.53
2:XA:1280:A:H1'	11:XJ:41:PRO:HG3	1.91	0.53
9:XH:121:ASP:HB2	9:XH:125:ARG:NH2	2.24	0.53
12:XK:84:VAL:HG11	12:XK:95:ILE:HD11	1.90	0.53
23:YA:1359:A:N6	23:YA:1372:U:C4	2.76	0.53
23:YA:1364:G:N7	45:Y1:2:SER:N	2.57	0.53
23:YA:2294:C:OP2	36:YS:13:ARG:NH1	2.42	0.53
23:YA:2331:G:O2'	44:Y0:43:THR:HG22	2.08	0.53
25:YD:244:ARG:HB2	25:YD:245:PRO:HD2	1.90	0.53
37:YT:105:LEU:O	37:YT:107:ASP:N	2.42	0.53
37:YT:112:ARG:O	37:YT:112:ARG:NE	2.39	0.53
46:Y2:15:LYS:H	46:Y2:67:LYS:HE2	1.73	0.53
2:QA:1079:G:O3'	6:QE:14:ARG:NH2	2.41	0.53
2:QA:1081:G:OP1	6:QE:16:THR:OG1	2.26	0.53
23:RA:94:G:N2	46:R2:47:ASN:HD22	2.05	0.53
23:RA:1693:U:O2'	25:RD:14:ARG:NH2	2.42	0.53
23:RA:1863:G:HO2'	23:RA:2411:A:HO2'	1.57	0.53
23:RA:2112:G:O6	23:RA:2169:A:N6	2.41	0.53
27:RF:135:LYS:HB3	27:RF:138:GLU:HG3	1.89	0.53
46:R2:10:LEU:O	46:R2:13:ALA:N	2.40	0.53
23:YA:819:A:OP2	23:YA:1187:G:N2	2.27	0.53
37:YT:51:ARG:CG	37:YT:98:LYS:HG3	2.38	0.53
44:Y0:11:ARG:O	44:Y0:14:ARG:NH2	2.42	0.53
2:QA:376:G:H5"	17:QP:5:ARG:HD2	1.91	0.53
23:RA:626:U:H5"	23:RA:627:A:H5'	1.90	0.53
23:RA:1588:C:H2'	23:RA:1589:C:H6	1.74	0.53
27:RF:157:VAL:HB	27:RF:194:MET:HB3	1.91	0.53
42:RY:98:VAL:HG13	42:RY:99:CYS:SG	2.48	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:R1:80:LEU:HD23	45:R1:80:LEU:H	1.74	0.53
46:R2:65:ASN:HB3	46:R2:69:ARG:NH2	2.24	0.53
20:XS:31:ILE:HG23	20:XS:49:ILE:HA	1.91	0.53
21:XT:95:ALA:O	21:XT:97:ALA:N	2.42	0.53
23:YA:443:A:H1'	23:YA:1201:C:O4'	2.08	0.53
25:YD:206:LEU:O	25:YD:211:ARG:HD3	2.09	0.53
28:YG:179:PRO:HG3	48:Y4:38:LYS:NZ	2.24	0.53
37:YT:16:ARG:HE	37:YT:19:LEU:HD21	1.73	0.53
43:YZ:150:LEU:HD13	43:YZ:150:LEU:H	1.74	0.53
50:Y6:26:ASN:ND2	50:Y6:35:GLU:OE2	2.42	0.53
2:QA:673:G:O3'	7:QF:87:ARG:NH2	2.41	0.53
7:QF:10:LEU:HD13	7:QF:61:LEU:HD13	1.90	0.53
25:RD:206:LEU:O	25:RD:211:ARG:NH1	2.38	0.53
40:RW:110:LYS:HG3	40:RW:111:HIS:ND1	2.23	0.53
43:RZ:70:LEU:HB2	43:RZ:91:LEU:HD21	1.91	0.53
2:XA:110:C:O2'	17:XP:25:ARG:O	2.23	0.53
2:XA:880:C:OP1	13:XL:12:ARG:NH1	2.42	0.53
2:XA:1024:G:OP1	2:XA:1024:G:H4'	2.09	0.53
3:XB:44:LEU:H	3:XB:44:LEU:HD12	1.74	0.53
19:XR:25:THR:HB	19:XR:26:LEU:HD23	1.91	0.53
23:YA:1604:C:O2'	23:YA:1610:A:N1	2.38	0.53
23:YA:2776:A:OP1	23:YA:2776:A:H3'	2.09	0.53
31:YN:96:GLU:HG2	31:YN:97:ARG:N	2.24	0.53
38:YU:102:GLU:OE1	39:YV:13:ARG:NH2	2.42	0.53
2:QA:1152:A:H2'	2:QA:1153:C:C6	2.44	0.53
2:QA:1266:G:N2	2:QA:1269:A:OP2	2.39	0.53
23:RA:1688:U:H1'	23:RA:1701:A:C6	2.43	0.53
24:RB:28:C:H2'	24:RB:29:A:C8	2.44	0.53
26:RE:1:MET:N	26:RE:83:ASP:O	2.41	0.53
26:RE:203:LYS:HE3	26:RE:204:ALA:HB2	1.91	0.53
29:RH:46:GLU:OE2	29:RH:51:ARG:NH1	2.42	0.53
2:XA:1422:G:H5"	32:YO:48:PRO:HB3	1.91	0.53
2:XA:1432:G:OP1	37:YT:107:ASP:HB2	2.09	0.53
3:XB:162:ILE:O	3:XB:185:ILE:HG12	2.08	0.53
4:XC:40:ARG:O	4:XC:44:GLU:HB2	2.09	0.53
23:YA:190:A:OP2	45:Y1:39:LYS:HE3	2.09	0.53
23:YA:1535:U:H5"	23:YA:1537:C:C4	2.43	0.53
25:YD:85:ASP:OD2	25:YD:88:ARG:HD2	2.08	0.53
30:YI:79:ILE:HB	30:YI:142:VAL:HA	1.91	0.53
31:YN:13:TRP:O	31:YN:135:PRO:HD2	2.08	0.53
43:YZ:101:PRO:HA	43:YZ:123:ASP:HB3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QA:1189:C:OP1	11:QJ:51:ARG:NH2	2.38	0.52
13:QL:55:VAL:HG12	13:QL:69:TYR:HA	1.90	0.52
15:QN:24:CYS:HB3	15:QN:29:ARG:N	2.23	0.52
49:R5:40:LYS:NZ	49:R5:46:CYS:HB3	2.24	0.52
2:XA:950:U:H2'	2:XA:951:G:C8	2.44	0.52
3:XB:178:ARG:NE	9:XH:71:GLY:O	2.41	0.52
23:YA:184:C:H2'	23:YA:185:U:C6	2.44	0.52
23:YA:1209:G:H21	23:YA:1210:A:H62	1.55	0.52
23:YA:2015:A:H1'	49:Y5:2:ALA:CA	2.38	0.52
23:YA:2051:A:H5'	23:YA:2578:G:O4'	2.08	0.52
25:YD:132:PRO:HD3	25:YD:190:TYR:CZ	2.44	0.52
28:YG:96:ARG:O	28:YG:98:ARG:N	2.42	0.52
29:YH:149:ARG:NH1	29:YH:167:GLU:OE1	2.42	0.52
36:YS:10:ARG:O	36:YS:12:PHE:N	2.42	0.52
50:Y6:40:CYS:HB2	50:Y6:45:LYS:HD3	1.90	0.52
2:QA:775:G:N2	2:QA:804:U:O4	2.42	0.52
2:QA:1061:G:OP1	11:QJ:59:SER:OG	2.24	0.52
23:RA:2335:A:O2'	23:RA:2336:A:H2'	2.09	0.52
23:RA:2712:U:O2'	23:RA:2712(A):A:H8	1.93	0.52
25:RD:35:LYS:NZ	25:RD:64:ILE:O	2.41	0.52
27:RF:134:GLY:HA3	27:RF:165:ARG:NH1	2.25	0.52
29:RH:10:PRO:HD2	29:RH:50:VAL:HG13	1.89	0.52
2:XA:1060:C:C5	4:XC:2:GLY:HA2	2.44	0.52
2:XA:1264:C:H2'	2:XA:1265:G:C8	2.43	0.52
23:YA:264:C:C2'	23:YA:265:A:H5"	2.39	0.52
23:YA:1204:A:H2	23:YA:1241:A:N1	2.07	0.52
23:YA:2315:G:OP1	28:YG:36:LYS:NZ	2.42	0.52
31:YN:110:GLY:O	31:YN:114:ARG:HG3	2.09	0.52
42:YY:35:TYR:CE1	42:YY:69:ALA:HB3	2.44	0.52
2:QA:997:U:H2'	2:QA:998:G:C8	2.44	0.52
2:QA:1376:U:P	8:QG:94:ARG:HH12	2.33	0.52
5:QD:78:LEU:HD22	5:QD:96:LEU:HB3	1.89	0.52
23:RA:774:A:H2	23:RA:787:U:HO2'	1.55	0.52
23:RA:1885:A:H5'	23:RA:1886:C:OP2	2.08	0.52
28:RG:82:LEU:HA	28:RG:86:MET:SD	2.48	0.52
30:RI:64:GLU:O	30:RI:67:ARG:NH2	2.43	0.52
39:RV:60:GLU:HB2	39:RV:97:LYS:HE3	1.91	0.52
46:R2:4:SER:OG	46:R2:5:GLU:OE2	2.16	0.52
2:XA:17:U:H2'	2:XA:18:C:C6	2.44	0.52
2:XA:598:U:H4'	9:XH:94:TYR:CD2	2.44	0.52
2:XA:1298:C:P	8:XG:114:ARG:HH22	2.31	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:XG:15:ASP:HB3	8:XG:19:GLY:H	1.74	0.52
13:XL:7:ILE:HD13	13:XL:10:LEU:HD12	1.90	0.52
21:XT:47:GLY:O	21:XT:49:ALA:N	2.41	0.52
21:XT:53:LEU:O	21:XT:57:ARG:NH1	2.42	0.52
23:YA:795:C:H2'	23:YA:796:C:H6	1.74	0.52
23:YA:1221:C:H2'	23:YA:1222:C:H6	1.74	0.52
23:YA:2134:A:OP2	23:YA:2157:G:N2	2.43	0.52
2:QA:709:G:H2'	2:QA:710:G:H8	1.73	0.52
14:QM:66:LEU:HA	14:QM:70:LEU:HB2	1.91	0.52
23:RA:321:G:H5"	27:RF:136:THR:HG23	1.92	0.52
23:RA:1190:G:H5'	33:RP:32:THR:HA	1.91	0.52
23:RA:1364:G:N7	45:R1:2:SER:N	2.57	0.52
35:RR:59:ASP:OD1	35:RR:61:HIS:HB3	2.08	0.52
17:XP:8:ARG:O	17:XP:9:PHE:HD2	1.93	0.52
23:YA:1287:A:N7	35:YR:107:ASP:HB2	2.25	0.52
36:YS:6:ALA:O	36:YS:10:ARG:HD3	2.09	0.52
44:Y0:36:ILE:HD11	44:Y0:39:ARG:HG2	1.92	0.52
50:Y6:13:CYS:O	50:Y6:21:TYR:HA	2.09	0.52
2:QA:35:G:N3	13:QL:118:SER:OG	2.41	0.52
10:QI:71:SER:HA	10:QI:74:ILE:HD12	1.90	0.52
23:RA:919:G:N2	23:RA:2269:A:OP2	2.40	0.52
23:RA:1754:C:H5"	37:RT:113:LYS:HE3	1.91	0.52
23:RA:1819:A:H2'	25:RD:178:PRO:HB2	1.90	0.52
23:RA:2032:G:H1'	26:RE:145:LYS:HD3	1.90	0.52
23:RA:2418:A:OP2	52:R8:29:LYS:HE2	2.10	0.52
24:RB:52:A:H62	36:RS:33:LYS:HG3	1.75	0.52
25:RD:133:LEU:HB3	25:RD:173:VAL:HG11	1.91	0.52
29:RH:86:GLU:HG3	29:RH:165:ALA:N	2.25	0.52
30:RI:30:LEU:HD22	30:RI:35:LEU:HD11	1.92	0.52
30:RI:133:HIS:HB2	30:RI:134:PRO:CD	2.38	0.52
2:XA:1068:G:N2	2:XA:1191:A:N3	2.46	0.52
4:XC:14:ILE:O	4:XC:16:ARG:N	2.35	0.52
15:XN:43:CYS:HA	15:XN:46:GLU:HG3	1.92	0.52
23:YA:1022:G:OP2	31:YN:65:LYS:HE3	2.09	0.52
28:YG:88:ILE:O	28:YG:88:ILE:HD13	2.09	0.52
33:YP:20:GLY:HA2	33:YP:27:HIS:O	2.10	0.52
2:QA:1326:C:OP1	22:QU:17:THR:OG1	2.18	0.52
2:QA:1422:G:H5"	32:RO:48:PRO:HB3	1.90	0.52
3:QB:134:GLU:HA	3:QB:137:ARG:HB3	1.92	0.52
5:QD:98:GLU:OE2	5:QD:107:ARG:NE	2.43	0.52
23:RA:631:A:OP1	33:RP:64:LYS:HE2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RY:87:LYS:HA	42:RY:92:ASN:HB3	1.91	0.52
2:XA:426:G:OP1	5:XD:38:TYR:OH	2.14	0.52
3:XB:35:GLU:O	3:XB:36:ARG:HD3	2.10	0.52
4:XC:189:ALA:HB3	4:XC:196:LEU:HB2	1.91	0.52
6:XE:13:ILE:HD11	6:XE:55:VAL:HG22	1.91	0.52
23:YA:286:C:H2'	23:YA:287:C:C6	2.45	0.52
23:YA:860:U:C5	23:YA:917:A:C2	2.94	0.52
23:YA:1216:G:OP2	38:YU:12:ARG:NH2	2.36	0.52
23:YA:2815:C:H5'	49:Y5:29:THR:HG21	1.90	0.52
47:Y3:40:THR:HB	47:Y3:43:ILE:HG12	1.92	0.52
52:Y8:11:LYS:NZ	52:Y8:63:PRO:HG3	2.24	0.52
54:QV:36:G:H2'	54:QV:37:1MG:H5"	1.90	0.52
23:RA:2742:C:OP1	53:R9:35:ARG:HD3	2.10	0.52
40:RW:60:ASN:HD22	40:RW:60:ASN:H	1.56	0.52
43:RZ:151:HIS:HA	43:RZ:170:THR:HA	1.92	0.52
23:YA:2328:A:H2'	23:YA:2329:G:C8	2.45	0.52
27:YF:116:ASP:OD2	33:YP:1:MET:N	2.26	0.52
2:QA:690:G:H2'	2:QA:691:G:O4'	2.10	0.52
2:QA:757:U:H2'	2:QA:758:G:O4'	2.09	0.52
5:QD:12:CYS:HA	5:QD:19:LEU:HD23	1.92	0.52
23:RA:1012:U:OP1	38:RU:75:ASN:ND2	2.42	0.52
23:RA:1021:A:H8	23:RA:1022:G:H5"	1.74	0.52
23:RA:1794:U:H2'	23:RA:1795:C:H6	1.73	0.52
45:R1:2:SER:HB2	45:R1:4:VAL:HG12	1.92	0.52
10:XI:11:LYS:H	10:XI:104:ARG:HH21	1.58	0.52
11:XJ:78:ASN:O	11:XJ:81:THR:OG1	2.25	0.52
23:YA:265:A:O2'	23:YA:266:G:H4'	2.09	0.52
23:YA:968:G:H2'	23:YA:969:U:H6	1.74	0.52
27:YF:24:LEU:HD23	27:YF:115:ALA:HA	1.91	0.52
27:YF:63:LYS:HE2	27:YF:67:GLN:HB2	1.91	0.52
43:YZ:152:ALA:HB2	43:YZ:168:GLU:HA	1.92	0.52
2:QA:946:A:O2'	2:QA:1333:A:N3	2.38	0.52
9:QH:77:GLU:HG2	9:QH:78:GLN:H	1.74	0.52
20:QS:65:ASN:O	48:R4:59:PHE:CE2	2.63	0.52
23:RA:997:G:OP1	38:RU:93:LYS:HD3	2.09	0.52
23:RA:1062:G:H2'	23:RA:1063:G:C8	2.44	0.52
23:RA:1991:U:H2'	23:RA:1992:G:H5"	1.91	0.52
23:RA:2150:U:H2'	23:RA:2151:G:C8	2.45	0.52
23:RA:2619:C:H2'	23:RA:2620:C:H6	1.75	0.52
25:RD:108:PRO:HB3	25:RD:143:HIS:HE1	1.73	0.52
25:RD:206:LEU:HD22	25:RD:211:ARG:HG2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:RF:150:GLY:HA2	27:RF:172:TRP:CE3	2.44	0.52
2:XA:890:G:O2'	2:XA:906:G:O6	2.22	0.52
23:YA:363(A):A:H2'	23:YA:363(B):G:C8	2.45	0.52
23:YA:570:G:H2'	23:YA:2030:A:C6	2.45	0.52
23:YA:957:A:N1	23:YA:2458:G:H4'	2.25	0.52
23:YA:996:A:H4'	38:YU:92:ARG:NE	2.25	0.52
23:YA:2271:G:OP1	44:Y0:18:ALA:HB1	2.10	0.52
37:YT:88:ILE:HD12	37:YT:90:GLN:N	2.25	0.52
45:Y1:83:GLU:HG2	45:Y1:84:GLY:N	2.24	0.52
2:QA:868:C:H2'	2:QA:869:G:O4'	2.10	0.52
6:QE:91:LEU:HD12	6:QE:120:THR:HG22	1.92	0.52
23:RA:858:U:O2	23:RA:2268:A:H2'	2.10	0.52
39:RV:34:GLU:O	39:RV:36:PRO:HD3	2.10	0.52
42:RY:84:ARG:O	42:RY:95:LYS:HD3	2.09	0.52
2:XA:753:A:H4'	2:XA:754:C:O5'	2.10	0.52
2:XA:1135:U:H4'	2:XA:1136:U:H5	1.75	0.52
5:XD:13:ARG:HD2	5:XD:38:TYR:O	2.10	0.52
23:YA:1688:U:O2	23:YA:1700:A:H5"	2.10	0.52
40:YW:40:ASN:O	40:YW:41:LYS:HG2	2.10	0.52
46:Y2:58:ALA:O	46:Y2:62:THR:HG23	2.10	0.52
50:Y6:7:ILE:HG13	50:Y6:8:LYS:H	1.75	0.52
20:QS:69:HIS:ND1	48:R4:69:LYS:HE2	2.25	0.51
23:RA:1417:C:H2'	23:RA:1418:G:O4'	2.10	0.51
23:RA:1434:A:H61	23:RA:1558:A:N6	2.08	0.51
37:RT:111:ARG:C	37:RT:113:LYS:H	2.12	0.51
41:RX:59:VAL:HG21	41:RX:78:LYS:HE3	1.91	0.51
2:XA:1399:C:C2	2:XA:1502:A:N6	2.79	0.51
5:XD:108:LEU:HB3	5:XD:110:PHE:CE1	2.45	0.51
23:YA:140:A:C8	23:YA:1408:C:O2'	2.63	0.51
23:YA:795:C:H2'	23:YA:796:C:C6	2.45	0.51
23:YA:2655:G:HO2'	23:YA:2664:G:H1	1.54	0.51
25:YD:148:GLU:HB2	25:YD:151:LYS:HD2	1.92	0.51
29:YH:26:VAL:HG13	29:YH:27:LYS:H	1.75	0.51
29:YH:88:LEU:H	29:YH:88:LEU:HD22	1.75	0.51
12:QK:32:ILE:HG13	12:QK:72:ALA:HB2	1.92	0.51
20:QS:64:GLU:CB	48:R4:60:GLN:HE22	2.19	0.51
23:RA:288:C:H2'	23:RA:289:A:H8	1.76	0.51
23:RA:1614:A:N1	40:RW:91:GLY:HA2	2.25	0.51
23:RA:2311:A:C8	28:RG:88:ILE:HD11	2.45	0.51
23:RA:2758:A:C5	29:RH:67:LEU:HD21	2.45	0.51
25:RD:12:SER:HB2	25:RD:208:LYS:HB3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:RF:47:GLY:HA3	27:RF:95:ARG:O	2.10	0.51
29:RH:153:LYS:HG2	29:RH:162:ILE:HG13	1.92	0.51
2:XA:347:G:H1'	2:XA:348:G:H5"	1.92	0.51
3:XB:29:ALA:O	3:XB:32:ILE:HG22	2.10	0.51
3:XB:170:GLU:O	3:XB:174:VAL:HG23	2.11	0.51
10:XI:70:LYS:O	10:XI:74:ILE:HG13	2.10	0.51
20:XS:68:GLY:CA	48:Y4:69:LYS:CA	2.69	0.51
23:YA:363:G:H2'	23:YA:363(A):A:H8	1.74	0.51
23:YA:2422:A:N7	52:Y8:31:HIS:NE2	2.52	0.51
28:YG:77:ILE:HD13	28:YG:82:LEU:HD12	1.93	0.51
33:YP:96:THR:HG22	33:YP:126:VAL:HB	1.92	0.51
39:YV:25:LEU:H	39:YV:92:THR:HG21	1.74	0.51
52:Y8:51:ALA:N	52:Y8:53:PRO:HD2	2.25	0.51
2:QA:1055:A:O2'	4:QC:161:GLU:OE2	2.22	0.51
2:QA:1347:G:N2	2:QA:1374:A:OP2	2.34	0.51
12:QK:96:ARG:HA	12:QK:99:GLN:HE21	1.76	0.51
23:RA:964:C:O2'	23:RA:2273:A:N3	2.35	0.51
29:RH:86:GLU:H	29:RH:86:GLU:CD	2.12	0.51
41:RX:35:THR:HG23	41:RX:38:GLU:HG2	1.92	0.51
42:RY:74:PRO:O	42:RY:80:GLY:HA2	2.11	0.51
2:XA:56:U:H2'	2:XA:57:G:C8	2.45	0.51
2:XA:67:C:H2'	2:XA:68:G:H8	1.74	0.51
2:XA:619:U:H3	5:XD:135:LEU:HD23	1.75	0.51
2:XA:1213:A:N6	2:XA:1215:G:N3	2.58	0.51
13:XL:77:LEU:HD21	13:XL:107:ALA:HA	1.93	0.51
21:XT:26:ASN:HB2	21:XT:71:THR:HG23	1.92	0.51
23:YA:1429:G:H2'	23:YA:1430:C:C6	2.45	0.51
23:YA:2875:C:H4'	37:YT:5:ALA:HB2	1.92	0.51
49:Y5:42:PRO:HB2	49:Y5:43:HIS:ND1	2.24	0.51
49:Y5:56:LYS:HD3	49:Y5:58:LEU:HD23	1.90	0.51
2:QA:265:G:H2'	2:QA:266:G:H5"	1.92	0.51
2:QA:737:A:H2'	2:QA:738:C:C6	2.45	0.51
19:QR:32:ARG:HA	19:QR:69:THR:HG21	1.91	0.51
23:RA:1247:A:OP1	27:RF:95:ARG:NH2	2.43	0.51
23:RA:2331:G:O2'	44:R0:43:THR:HG22	2.10	0.51
35:RR:33:ARG:HD3	35:RR:113:LEU:HG	1.93	0.51
2:XA:1175:G:H2'	2:XA:1176:A:C8	2.46	0.51
23:YA:2747:G:O6	23:YA:2755:C:H5"	2.10	0.51
27:YF:127:GLU:OE1	27:YF:196:LEU:HB2	2.11	0.51
35:YR:83:ILE:HG22	35:YR:87:TYR:HE2	1.76	0.51
36:YS:11:LYS:HB2	36:YS:91:PRO:HB3	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:Y2:24:LEU:HD13	46:Y2:60:LEU:HD11	1.92	0.51
2:QA:356:A:N3	2:QA:368:U:O2'	2.33	0.51
2:QA:1150:U:O4	2:QA:1151:A:N6	2.44	0.51
6:QE:78:HIS:HB2	9:QH:104:ARG:HG2	1.93	0.51
20:QS:69:HIS:ND1	48:R4:69:LYS:CD	2.74	0.51
23:RA:845:G:H8	23:RA:845:G:OP2	1.93	0.51
23:RA:943:U:OP2	33:RP:36:LYS:HG2	2.10	0.51
27:RF:150:GLY:HA2	27:RF:172:TRP:CD2	2.45	0.51
33:RP:10:PRO:O	33:RP:12:ALA:N	2.43	0.51
36:RS:56:LEU:HD23	36:RS:58:LEU:HD22	1.92	0.51
43:RZ:111:VAL:O	43:RZ:113:ALA:N	2.44	0.51
8:XG:155:ARG:NH2	8:XG:155:ARG:O	2.43	0.51
21:XT:89:ARG:HH21	21:XT:104:LEU:HD11	1.76	0.51
30:YI:54:GLN:O	30:YI:58:LEU:HB2	2.10	0.51
31:YN:38:HIS:O	38:YU:67:ALA:HB1	2.10	0.51
38:YU:107:ALA:O	38:YU:110:VAL:HB	2.10	0.51
45:Y1:70:VAL:O	45:Y1:74:VAL:HG23	2.10	0.51
46:Y2:65:ASN:HB3	46:Y2:69:ARG:NH2	2.26	0.51
49:Y5:38:ALA:HB3	49:Y5:40:LYS:HE3	1.92	0.51
3:QB:178:ARG:CG	9:QH:72:PRO:HA	2.41	0.51
5:QD:61:LYS:HB2	5:QD:203:VAL:HG13	1.93	0.51
23:RA:222:A:HO2'	23:RA:223:A:P	2.33	0.51
23:RA:2469:A:H5"	23:RA:2470:G:C8	2.46	0.51
23:RA:2619:C:H2'	23:RA:2620:C:C6	2.46	0.51
40:RW:67:ASP:OD2	40:RW:67:ASP:N	2.33	0.51
2:XA:1347:G:C8	10:XI:107:ARG:HB3	2.46	0.51
3:XB:9:GLU:HB3	3:XB:48:MET:SD	2.50	0.51
4:XC:138:VAL:HG22	4:XC:151:VAL:HG23	1.93	0.51
6:XE:102:ALA:HB1	6:XE:106:PRO:HG2	1.92	0.51
7:XF:4:TYR:HD1	7:XF:92:LYS:HA	1.76	0.51
8:XG:78:ARG:HG3	8:XG:79:ARG:N	2.25	0.51
18:XQ:100:LYS:O	18:XQ:101:ARG:NE	2.43	0.51
20:XS:19:VAL:HG11	20:XS:44:MET:HG2	1.91	0.51
21:XT:10:LEU:O	21:XT:13:LEU:HG	2.11	0.51
23:YA:127:A:H5"	23:YA:128:C:C6	2.45	0.51
23:YA:2068:U:N3	23:YA:2430:A:H2	1.99	0.51
28:YG:16:ARG:O	28:YG:20:ILE:HG12	2.10	0.51
37:YT:109:GLU:O	37:YT:113:LYS:HB2	2.11	0.51
38:YU:47:TYR:HA	38:YU:50:ARG:NH2	2.26	0.51
38:YU:92:ARG:NH1	39:YV:11:GLN:O	2.44	0.51
39:YV:65:GLY:HA3	39:YV:91:TYR:CZ	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:QJ:31:GLY:HA3	11:QJ:78:ASN:ND2	2.26	0.51
23:RA:389:G:N1	33:RP:70:GLN:HB3	2.26	0.51
23:RA:1050:A:H2'	23:RA:1051:G:O4'	2.10	0.51
23:RA:1496:A:H8	23:RA:1577:C:O2'	1.93	0.51
23:RA:2119:A:C2	23:RA:2171:A:H1'	2.46	0.51
26:RE:134:ILE:HA	26:RE:137:HIS:CD2	2.46	0.51
37:RT:28:VAL:HG23	37:RT:88:ILE:HA	1.92	0.51
2:XA:600:C:H2'	2:XA:601:C:C6	2.46	0.51
2:XA:1314:C:OP2	20:XS:4:SER:OG	2.28	0.51
3:XB:80:ILE:HD11	3:XB:208:ILE:HG23	1.93	0.51
23:YA:1929:G:H4'	23:YA:1930:G:OP1	2.11	0.51
23:YA:2150:U:H2'	23:YA:2151:G:C8	2.45	0.51
23:YA:2524:G:H5'	23:YA:2525:G:OP2	2.10	0.51
26:YE:62:PRO:O	26:YE:64:LYS:N	2.43	0.51
29:YH:6:ARG:NE	29:YH:54:ARG:HH12	2.09	0.51
29:YH:89:ILE:O	29:YH:89:ILE:HG12	2.10	0.51
47:Y3:43:ILE:O	47:Y3:47:VAL:HG23	2.10	0.51
52:Y8:23:VAL:CG1	52:Y8:46:ARG:HD3	2.40	0.51
2:QA:983:A:N1	2:QA:1222:G:N2	2.57	0.51
2:QA:1001:G:H2'	2:QA:1002:G:O4'	2.11	0.51
2:QA:1151:A:H2'	2:QA:1152:A:C8	2.46	0.51
2:QA:1305:G:N2	2:QA:1331:G:H2'	2.25	0.51
9:QH:20:TYR:HE2	9:QH:75:ARG:HD2	1.76	0.51
17:QP:3:LYS:HG3	17:QP:24:ALA:HB2	1.92	0.51
23:RA:479:A:N3	23:RA:481:G:H5"	2.26	0.51
23:RA:996:A:H4'	38:RU:92:ARG:NE	2.20	0.51
23:RA:1796:U:H2'	23:RA:1797:C:C6	2.46	0.51
23:RA:2567:G:H2'	23:RA:2568:C:H6	1.76	0.51
24:RB:44:G:H1'	24:RB:47:C:H42	1.76	0.51
27:RF:20:LEU:HD23	27:RF:125:LEU:HD12	1.93	0.51
27:RF:185:ASP:HA	27:RF:188:ARG:HD3	1.93	0.51
2:XA:1190:G:OP2	4:XC:5:ILE:HG23	2.10	0.51
2:XA:1429:C:H2'	2:XA:1430:C:H6	1.74	0.51
7:XF:97:PHE:CD2	19:XR:31:LEU:HD21	2.46	0.51
12:XK:41:THR:HG21	12:XK:71:LYS:HB3	1.93	0.51
20:XS:26:GLY:O	20:XS:28:LYS:N	2.43	0.51
20:XS:65:ASN:CA	48:Y4:55:ARG:CG	2.89	0.51
23:YA:1717:G:H1	23:YA:1742:C:H42	1.59	0.51
23:YA:2212:A:H1'	23:YA:2215:G:C5	2.45	0.51
23:YA:2466:C:OP1	53:Y9:4:ARG:HB2	2.11	0.51
23:YA:2537:U:H2'	23:YA:2538:C:C6	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:2757:A:N1	29:YH:67:LEU:HD22	2.25	0.51
34:YQ:2:LEU:HD23	34:YQ:2:LEU:H	1.76	0.51
40:YW:106:ILE:O	40:YW:106:ILE:HG12	2.07	0.51
42:YY:81:LYS:HG2	42:YY:97:ARG:HD3	1.93	0.51
49:Y5:45:VAL:HG11	49:Y5:57:VAL:HG12	1.93	0.51
2:QA:376:G:H5"	17:QP:5:ARG:HB2	1.93	0.51
2:QA:481:G:O2'	2:QA:482:A:O5'	2.29	0.51
2:QA:664:G:P	19:QR:64:ARG:HH21	2.34	0.51
7:QF:69:GLU:CD	7:QF:69:GLU:H	2.15	0.51
23:RA:155:C:N4	23:RA:171:G:H1	2.07	0.51
23:RA:1026:U:H1'	23:RA:1027:A:O5'	2.11	0.51
23:RA:1638:C:O3'	23:RA:2709:G:N2	2.44	0.51
30:RI:4:ILE:HG12	30:RI:18:VAL:HG22	1.93	0.51
37:RT:118:ARG:HH21	37:RT:121:ILE:HG21	1.76	0.51
5:XD:78:LEU:HD22	5:XD:96:LEU:HB3	1.92	0.51
23:YA:141:A:C8	23:YA:1408:C:H1'	2.46	0.51
23:YA:2698:U:H2'	23:YA:2699:C:C6	2.46	0.51
25:YD:35:LYS:NZ	25:YD:104:TYR:HB2	2.26	0.51
30:YI:4:ILE:HD11	30:YI:44:LEU:HD12	1.93	0.51
35:YR:104:ARG:HD3	35:YR:111:LEU:HD21	1.92	0.51
10:QI:8:GLY:HA2	10:QI:79:LEU:HD12	1.92	0.51
13:QL:38:THR:HG23	13:QL:57:LYS:HB3	1.93	0.51
22:QU:6:ARG:HE	22:QU:15:ARG:HH21	1.59	0.51
23:RA:111:A:H4'	46:R2:69:ARG:NH2	2.25	0.51
23:RA:1332:G:H21	23:RA:1610:A:H8	1.50	0.51
38:RU:90:VAL:HG22	39:RV:39:LEU:HB3	1.93	0.51
2:XA:1376:U:H2'	2:XA:1377:A:C8	2.46	0.51
4:XC:47:LEU:HD11	4:XC:76:VAL:HB	1.91	0.51
7:XF:86:ARG:O	7:XF:87:ARG:HG2	2.11	0.51
20:XS:40:ILE:HG23	20:XS:67:VAL:O	2.11	0.51
23:YA:848:G:O6	23:YA:929:G:H2'	2.11	0.51
23:YA:1416:G:H2'	23:YA:1417:C:C6	2.46	0.51
23:YA:1454:U:H5'	35:YR:63:ARG:HE	1.76	0.51
24:YB:13:A:N1	24:YB:69:G:O2'	2.30	0.51
3:QB:162:ILE:HD11	3:QB:184:VAL:HG22	1.93	0.50
10:QI:118:LYS:O	10:QI:120:ARG:N	2.40	0.50
13:QL:54:LYS:H	13:QL:54:LYS:HD2	1.75	0.50
23:RA:2364:C:H2'	23:RA:2365:G:O4'	2.10	0.50
24:RB:50:G:H5"	36:RS:61:ASN:ND2	2.27	0.50
28:RG:88:ILE:O	28:RG:88:ILE:HD13	2.10	0.50
37:RT:19:LEU:HD22	37:RT:86:ILE:HG22	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:RZ:54:HIS:CE1	43:RZ:101:PRO:HG3	2.45	0.50
49:R5:3:LYS:HA	49:R5:3:LYS:NZ	2.27	0.50
2:XA:390:C:O3'	17:XP:28:ARG:NH2	2.44	0.50
2:XA:1225:A:H5"	2:XA:1226:C:OP2	2.11	0.50
14:XM:14:ARG:N	14:XM:44:ARG:HD3	2.20	0.50
40:YW:57:ASN:O	40:YW:61:ASN:HB2	2.10	0.50
2:QA:280:C:H3'	2:QA:281:G:H5'	1.93	0.50
3:QB:178:ARG:CD	9:QH:71:GLY:O	2.58	0.50
11:QJ:47:PHE:CE1	11:QJ:63:PHE:HB2	2.47	0.50
12:QK:33:THR:HG22	12:QK:39:PRO:HA	1.92	0.50
23:RA:1068:G:O2'	23:RA:1096:A:N3	2.44	0.50
23:RA:1179:C:H2'	23:RA:1180:C:O4'	2.12	0.50
23:RA:1286:A:O2'	23:RA:1288:U:OP2	2.21	0.50
23:RA:1510:A:O2'	23:RA:1511:A:N7	2.44	0.50
23:RA:1803:A:O2'	25:RD:259:THR:HG21	2.12	0.50
31:RN:46:VAL:HG13	31:RN:48:MET:HG3	1.93	0.50
34:RQ:17:LEU:HD23	34:RQ:96:VAL:HG23	1.92	0.50
34:RQ:89:ASN:O	34:RQ:92:GLY:N	2.42	0.50
40:RW:60:ASN:HD22	40:RW:60:ASN:N	2.09	0.50
41:RX:60:ARG:HH12	51:R7:47:ARG:HH22	1.58	0.50
43:RZ:166:SER:H	43:RZ:167:PRO:HA	1.75	0.50
2:XA:719:C:H1'	19:XR:49:LYS:HB3	1.92	0.50
3:XB:21:ARG:HB2	3:XB:39:ILE:HA	1.91	0.50
3:XB:189:ASP:HB3	3:XB:203:GLY:O	2.12	0.50
16:XO:33:THR:HG21	16:XO:85:LEU:HD22	1.93	0.50
20:XS:4:SER:O	20:XS:5:LEU:HD13	2.11	0.50
23:YA:263:C:H2'	23:YA:264:C:O4'	2.12	0.50
23:YA:1278:A:OP1	35:YR:36:THR:HG22	2.10	0.50
23:YA:1509:C:H2'	23:YA:1511:A:C8	2.46	0.50
23:YA:2233:U:H2'	23:YA:2234:G:C8	2.46	0.50
23:YA:2543:G:H2'	23:YA:2544:G:C8	2.46	0.50
34:YQ:89:ASN:O	34:YQ:91:GLU:N	2.44	0.50
2:QA:1399:C:C2	2:QA:1502:A:N6	2.79	0.50
4:QC:37:GLN:NE2	15:QN:52:GLN:OE1	2.32	0.50
8:QG:116:ALA:O	8:QG:120:ILE:HG12	2.11	0.50
10:QI:53:VAL:HB	10:QI:95:LYS:HE3	1.92	0.50
10:QI:95:LYS:NZ	10:QI:96:LEU:HD13	2.26	0.50
14:QM:92:HIS:HD2	14:QM:110:ARG:HH21	1.58	0.50
21:QT:14:LYS:HA	21:QT:17:ARG:HG3	1.91	0.50
23:RA:2074:U:H2'	23:RA:2075:U:C6	2.46	0.50
25:RD:62:TYR:CE1	25:RD:64:ILE:HA	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RE:176:ILE:HG23	26:RE:178:GLU:OE2	2.11	0.50
33:RP:14:LYS:O	33:RP:14:LYS:HD3	2.12	0.50
41:RX:40:LYS:HG3	41:RX:51:VAL:HB	1.92	0.50
3:XB:178:ARG:CD	9:XH:71:GLY:O	2.59	0.50
3:XB:178:ARG:HH21	9:XH:74:PRO:HB3	1.76	0.50
23:YA:1021:A:C8	23:YA:1021:A:H3'	2.46	0.50
23:YA:1239:G:H2'	23:YA:1240:U:O4'	2.11	0.50
23:YA:2336:A:H61	44:Y0:43:THR:CG2	2.23	0.50
26:YE:111:ARG:HA	35:YR:1:MET:CG	2.40	0.50
39:YV:52:VAL:HG23	39:YV:55:ALA:H	1.76	0.50
12:QK:17:GLY:N	12:QK:79:SER:O	2.44	0.50
23:RA:102:G:H4'	23:RA:103:A:O5'	2.11	0.50
23:RA:223:A:O2'	23:RA:420:C:O2	2.29	0.50
37:RT:111:ARG:O	37:RT:113:LYS:N	2.42	0.50
49:R5:46:CYS:HB2	49:R5:50:GLY:HA3	1.93	0.50
2:XA:108:G:H5"	2:XA:109:A:H5"	1.94	0.50
2:XA:191:G:N3	21:XT:105:SER:HB3	2.26	0.50
2:XA:284:G:H2'	2:XA:285:G:H8	1.77	0.50
2:XA:792:A:H4'	2:XA:793:U:O5'	2.12	0.50
23:YA:1021:A:H8	23:YA:1021:A:H3'	1.77	0.50
23:YA:2075:U:OP2	23:YA:2238:G:O2'	2.28	0.50
30:YI:11:ASN:O	30:YI:12:LEU:HB2	2.12	0.50
33:YP:62:LEU:HD23	33:YP:62:LEU:N	2.26	0.50
34:YQ:66:ILE:O	34:YQ:104:PHE:N	2.39	0.50
36:YS:30:ARG:HG3	36:YS:97:ARG:NH2	2.27	0.50
52:Y8:58:ILE:HA	52:Y8:61:LEU:HD21	1.92	0.50
2:QA:7:G:H2'	6:QE:119:LEU:HD22	1.92	0.50
2:QA:224:C:H2'	2:QA:225:C:C6	2.47	0.50
2:QA:1298:C:H4'	2:QA:1299:A:C4	2.47	0.50
23:RA:443:A:H3'	27:RF:45:ARG:NH1	2.25	0.50
23:RA:769:G:H5'	23:RA:1379:A:H61	1.76	0.50
23:RA:782:A:O2'	25:RD:225:ALA:HB1	2.12	0.50
23:RA:1788:C:H2'	23:RA:1789:A:O4'	2.12	0.50
26:RE:6:GLY:HA2	26:RE:51:PHE:CZ	2.46	0.50
30:RI:88:ILE:HG12	30:RI:122:GLU:N	2.26	0.50
33:RP:62:LEU:CD2	52:R8:25:MET:HB2	2.37	0.50
42:RY:97:ARG:HH21	42:RY:98:VAL:HB	1.77	0.50
51:R7:5:TRP:NE1	51:R7:7:PRO:HG3	2.26	0.50
2:XA:130:A:N3	2:XA:263:A:O2'	2.41	0.50
2:XA:565:U:H5"	2:XA:566:G:H2'	1.92	0.50
2:XA:1296:C:OP1	14:XM:44:ARG:NH2	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XC:54:ARG:HD3	4:XC:56:ASP:OD1	2.10	0.50
16:XO:67:LEU:HB3	16:XO:78:TYR:HE1	1.76	0.50
23:YA:747:U:N1	49:Y5:2:ALA:HB3	2.27	0.50
23:YA:1424:G:OP1	25:YD:33:LEU:HD12	2.12	0.50
23:YA:1800:C:OP2	25:YD:183:ARG:NH1	2.44	0.50
32:YO:120:GLU:HG2	32:YO:122:LEU:HG	1.94	0.50
33:YP:58:THR:O	33:YP:61:ARG:CZ	2.59	0.50
39:YV:61:VAL:HA	39:YV:94:LEU:HD23	1.93	0.50
2:QA:544:G:OP2	5:QD:66:ARG:NH2	2.44	0.50
2:QA:922:G:H1'	6:QE:19:MET:HB3	1.94	0.50
5:QD:33:MET:CE	5:QD:37:PRO:HA	2.41	0.50
14:QM:40:ASN:ND2	14:QM:43:THR:HG23	2.27	0.50
23:RA:637:A:O5'	33:RP:116:GLY:HA2	2.12	0.50
23:RA:910:A:N3	23:RA:2264:C:O2'	2.43	0.50
23:RA:1366:A:H2'	23:RA:1367:A:O4'	2.12	0.50
23:RA:1817:G:OP1	25:RD:88:ARG:NH2	2.37	0.50
23:RA:2410:G:C2	23:RA:2411:A:H1'	2.47	0.50
24:RB:51:G:N7	36:RS:62:LYS:NZ	2.52	0.50
29:RH:132:ARG:HH11	29:RH:132:ARG:HB2	1.76	0.50
45:R1:62:VAL:HG23	45:R1:63:ALA:O	2.11	0.50
2:XA:356:A:N3	2:XA:368:U:O2'	2.36	0.50
3:XB:114:ARG:O	3:XB:117:GLU:HB2	2.11	0.50
12:XK:86:GLY:O	12:XK:91:ARG:HD3	2.11	0.50
20:XS:65:ASN:HA	48:Y4:59:PHE:CD2	2.46	0.50
23:YA:270(M):U:H1'	23:YA:270(N):G:C6	2.47	0.50
27:YF:108:LYS:O	27:YF:112:MET:HG3	2.11	0.50
27:YF:167:ALA:HB1	27:YF:173:VAL:HG11	1.93	0.50
28:YG:5:VAL:HG11	28:YG:100:TRP:HB3	1.93	0.50
50:Y6:47:THR:HG22	50:Y6:48:VAL:HG12	1.94	0.50
23:RA:270(F):U:H2'	23:RA:270(G):C:C6	2.46	0.50
23:RA:686:G:N2	23:RA:788:A:H61	2.10	0.50
23:RA:989:G:OP2	47:R3:11:SER:OG	2.19	0.50
23:RA:2645:G:C3'	23:RA:2646:C:H5'	2.42	0.50
24:RB:54:G:H21	28:RG:29:TRP:HZ2	1.60	0.50
31:RN:34:LEU:O	31:RN:49:GLY:HA3	2.12	0.50
33:RP:26:GLY:O	33:RP:28:GLY:N	2.45	0.50
36:RS:67:ARG:O	36:RS:71:ARG:HG3	2.12	0.50
52:R8:23:VAL:HG11	52:R8:46:ARG:HD3	1.93	0.50
2:XA:1264:C:H2'	2:XA:1265:G:H8	1.77	0.50
5:XD:108:LEU:HD21	5:XD:183:GLY:HA3	1.93	0.50
7:XF:97:PHE:HB2	19:XR:32:ARG:CZ	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:128:C:H4'	51:Y7:49:ARG:HH12	1.75	0.50
23:YA:1019:U:O2'	23:YA:1021:A:H2	1.94	0.50
29:YH:4:ILE:HG13	29:YH:6:ARG:NE	2.26	0.50
29:YH:84:SER:O	29:YH:85:LYS:HB2	2.11	0.50
33:YP:36:LYS:HB3	33:YP:40:SER:HB3	1.94	0.50
48:Y4:10:VAL:HG22	48:Y4:11:PRO:HD2	1.94	0.50
51:Y7:5:TRP:NE1	51:Y7:7:PRO:HG3	2.26	0.50
52:Y8:25:MET:O	52:Y8:47:LYS:NZ	2.44	0.50
2:QA:1227:A:OP2	14:QM:111:LYS:HE3	2.12	0.50
11:QJ:22:LYS:HZ2	11:QJ:23:ILE:HA	1.77	0.50
14:QM:33:ALA:HA	14:QM:59:TYR:HE2	1.76	0.50
23:RA:900:A:H3'	23:RA:901:A:C8	2.47	0.50
23:RA:2441:C:OP2	23:RA:2586:C:O2'	2.26	0.50
23:RA:2867:G:O2'	23:RA:2868:A:O5'	2.30	0.50
27:RF:16:GLY:O	27:RF:18:ARG:N	2.45	0.50
43:RZ:8:TYR:HB2	43:RZ:38:TYR:CE2	2.46	0.50
2:XA:31:G:O2'	2:XA:48:C:N4	2.44	0.50
2:XA:64:G:H5"	2:XA:65:U:OP1	2.11	0.50
2:XA:192:U:H2'	2:XA:193:C:C6	2.47	0.50
2:XA:267:C:OP2	18:XQ:67:LYS:HD2	2.12	0.50
2:XA:328:C:H4'	2:XA:329:A:H5'	1.94	0.50
2:XA:458:C:H2'	2:XA:464:G:H8	1.76	0.50
3:XB:111:ARG:HH21	3:XB:114:ARG:HG2	1.76	0.50
14:XM:49:THR:HB	14:XM:52:GLU:H	1.77	0.50
23:YA:530:G:C5	23:YA:2022:U:H5"	2.47	0.50
23:YA:860:U:H5	23:YA:917:A:N1	2.09	0.50
23:YA:1204:A:H1'	23:YA:1206:G:C4	2.47	0.50
23:YA:1264:G:H3'	23:YA:1265:A:H5"	1.93	0.50
23:YA:2392:A:OP2	52:Y8:31:HIS:HD2	1.95	0.50
27:YF:65:TRP:O	27:YF:67:GLN:N	2.43	0.50
2:QA:1301:U:O2	2:QA:1301:U:H2'	2.11	0.50
23:RA:1973:G:H2'	23:RA:1974:C:C6	2.47	0.50
23:RA:2790:A:C2	23:RA:2791:C:H2'	2.47	0.50
34:RQ:134:ARG:CZ	43:RZ:122:ARG:HD2	2.42	0.50
37:RT:34:VAL:HG12	37:RT:36:GLU:HG2	1.94	0.50
2:XA:738:C:H2'	2:XA:739:C:C6	2.46	0.50
2:XA:1191:A:H5"	4:XC:4:LYS:HZ2	1.77	0.50
6:XE:76:ILE:HG13	6:XE:93:PRO:HB3	1.94	0.50
11:XJ:49:VAL:HG22	15:XN:41:ARG:HB2	1.94	0.50
23:YA:273(F):C:H2'	23:YA:274:G:H5"	1.94	0.50
23:YA:340:A:H2'	23:YA:341:G:O4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:1952:A:N3	23:YA:2560:C:O2'	2.44	0.50
23:YA:2151:G:H2'	23:YA:2152:G:H8	1.77	0.50
24:YB:44:G:H1'	24:YB:47:C:N4	2.27	0.50
30:YI:3:VAL:HG12	30:YI:38:LEU:HA	1.93	0.50
31:YN:58:ASP:OD1	31:YN:58:ASP:N	2.45	0.50
41:YX:60:ARG:HH22	51:Y7:47:ARG:HH12	1.60	0.50
42:YY:97:ARG:HH21	42:YY:98:VAL:HB	1.76	0.50
3:QB:204:ASN:ND2	3:QB:206:ASP:O	2.45	0.49
3:QB:231:GLU:HG3	3:QB:233:SER:H	1.77	0.49
4:QC:14:ILE:HG12	4:QC:15:THR:H	1.76	0.49
10:QI:46:ALA:HB2	10:QI:74:ILE:HG23	1.94	0.49
23:RA:1261:C:OP2	40:RW:83:LYS:NZ	2.44	0.49
23:RA:1534:G:N3	23:RA:1534:G:H2'	2.26	0.49
30:RI:9:LEU:O	30:RI:10:GLU:HG3	2.11	0.49
2:XA:1000:A:H2'	2:XA:1001:G:H8	1.77	0.49
2:XA:1152:A:H5"	11:XJ:13:HIS:CD2	2.47	0.49
5:XD:112:VAL:HG12	5:XD:116:GLN:OE1	2.12	0.49
20:XS:41:VAL:HB	20:XS:42:PRO:CA	2.42	0.49
20:XS:45:VAL:HG11	48:Y4:60:GLN:HE22	1.75	0.49
23:YA:330:A:H2	23:YA:1210:A:H2'	1.78	0.49
23:YA:2031:A:C6	23:YA:2498:C:H1'	2.47	0.49
24:YB:44:G:H1'	24:YB:47:C:H42	1.75	0.49
31:YN:7:LYS:N	31:YN:7:LYS:HD2	2.27	0.49
33:YP:126:VAL:HG13	33:YP:145:PRO:HB2	1.94	0.49
38:YU:83:LEU:HG	38:YU:88:ILE:HG13	1.93	0.49
2:QA:1104:G:H4'	3:QB:111:ARG:NH1	2.26	0.49
2:QA:1172:C:H2'	2:QA:1173:G:C8	2.46	0.49
2:QA:1241:G:H2'	2:QA:1242:C:C6	2.47	0.49
3:QB:235:SER:OG	3:QB:236:TYR:N	2.45	0.49
4:QC:73:PRO:O	4:QC:76:VAL:HG22	2.12	0.49
8:QG:20:ASP:HB3	8:QG:23:VAL:HG23	1.94	0.49
13:QL:69:TYR:CG	13:QL:90:VAL:HG21	2.46	0.49
14:QM:40:ASN:HD22	14:QM:43:THR:HG23	1.77	0.49
20:QS:41:VAL:O	48:R4:63:TYR:OH	2.23	0.49
23:RA:1582:C:O2'	23:RA:1586:A:H8	1.92	0.49
35:RR:44:LEU:HD22	35:RR:48:VAL:HG23	1.94	0.49
37:RT:39:ARG:HG2	37:RT:40:THR:H	1.76	0.49
2:XA:130:A:C8	18:XQ:63:ARG:HG3	2.46	0.49
2:XA:1151:A:H2'	2:XA:1152:A:C8	2.47	0.49
3:XB:162:ILE:HD11	3:XB:184:VAL:HG22	1.94	0.49
23:YA:278:A:H2'	23:YA:279:C:C6	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:704:G:H2'	23:YA:726:G:H22	1.77	0.49
23:YA:1069:A:H4'	23:YA:1070:A:H5"	1.94	0.49
23:YA:2291:U:H2'	23:YA:2292:C:C6	2.47	0.49
26:YE:103:ASP:OD1	26:YE:201:THR:HG23	2.12	0.49
34:YQ:66:ILE:HG13	34:YQ:67:ARG:N	2.27	0.49
2:QA:56:U:H2'	2:QA:57:G:H8	1.78	0.49
2:QA:1225:A:H5"	2:QA:1226:C:OP2	2.12	0.49
2:QA:1460:A:H2'	2:QA:1461:G:O4'	2.13	0.49
7:QF:97:PHE:O	19:QR:31:LEU:HD23	2.12	0.49
9:QH:9:MET:HG3	9:QH:26:VAL:HG21	1.94	0.49
23:RA:140:A:H8	23:RA:1408:C:HO2'	1.59	0.49
25:RD:175:LEU:HD12	25:RD:185:VAL:HG21	1.92	0.49
28:RG:60:LEU:O	28:RG:64:THR:HG22	2.11	0.49
28:RG:115:ARG:NH2	28:RG:137:GLU:OE1	2.45	0.49
29:RH:155:SER:OG	29:RH:156:ALA:N	2.45	0.49
34:RQ:11:LYS:HE2	34:RQ:86:GLY:O	2.11	0.49
36:RS:15:ARG:NH1	36:RS:25:ARG:HH21	2.11	0.49
41:RX:26:TYR:HB3	41:RX:92:LEU:HD12	1.93	0.49
41:RX:40:LYS:O	41:RX:42:ALA:N	2.45	0.49
3:XB:21:ARG:O	3:XB:23:ARG:N	2.44	0.49
14:XM:14:ARG:HG2	14:XM:17:VAL:HG23	1.94	0.49
17:XP:28:ARG:NH1	17:XP:29:ASP:OD1	2.45	0.49
23:YA:698:C:O2'	23:YA:734:A:N6	2.46	0.49
23:YA:1113:U:H2'	23:YA:1114:G:C8	2.46	0.49
23:YA:1164:G:H2'	23:YA:1165:U:C6	2.47	0.49
23:YA:1510:A:H2'	23:YA:1510:A:N3	2.27	0.49
26:YE:35:GLN:HG2	26:YE:37:ARG:HE	1.77	0.49
26:YE:73:GLU:HG3	26:YE:74:PRO:HD2	1.92	0.49
38:YU:95:LEU:HD22	39:YV:4:ILE:HD12	1.93	0.49
48:Y4:15:ILE:H	48:Y4:15:ILE:HD13	1.76	0.49
2:QA:1502:A:H2	2:QA:1505:G:N1	2.06	0.49
3:QB:178:ARG:HG3	9:QH:72:PRO:HA	1.93	0.49
9:QH:95:VAL:HB	9:QH:99:GLU:O	2.13	0.49
15:QN:15:LYS:HD2	15:QN:16:PHE:CE2	2.47	0.49
20:QS:41:VAL:HA	20:QS:44:MET:HG3	1.93	0.49
23:RA:1421:G:C2	23:RA:1422:G:C8	3.00	0.49
23:RA:1731:G:H8	23:RA:1731:G:OP2	1.95	0.49
23:RA:1935:G:H1'	23:RA:1964:G:N2	2.27	0.49
23:RA:2120:G:H2'	23:RA:2121:G:H8	1.77	0.49
24:RB:5:C:O2'	24:RB:27:C:O2	2.31	0.49
34:RQ:20:ALA:HB1	34:RQ:99:PRO:HD2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RX:27:THR:HB	41:RX:80:ILE:HB	1.94	0.49
43:RZ:48:PHE:CE2	43:RZ:52:SER:HA	2.47	0.49
2:XA:322:C:O2'	21:XT:23:ARG:HD2	2.12	0.49
2:XA:1002:G:H2'	2:XA:1003:G:C8	2.44	0.49
2:XA:1222:G:H5"	20:XS:78:ARG:NH1	2.27	0.49
3:XB:32:ILE:HD11	3:XB:40:HIS:HB3	1.94	0.49
12:XK:82:VAL:HB	12:XK:108:ILE:HG12	1.94	0.49
21:XT:64:ASP:HA	21:XT:67:ALA:HB3	1.93	0.49
23:YA:729:G:C6	25:YD:208:LYS:HB2	2.47	0.49
23:YA:780:G:N2	23:YA:783:A:H62	2.08	0.49
23:YA:994:C:OP1	38:YU:53:ARG:NH2	2.44	0.49
27:YF:31:HIS:HB2	33:YP:9:ASN:OD1	2.12	0.49
31:YN:34:LEU:HD21	31:YN:120:LEU:HB2	1.94	0.49
2:QA:1317:C:N3	20:QS:37:ARG:NH2	2.57	0.49
4:QC:157:ILE:HD11	4:QC:166:GLU:HB2	1.94	0.49
23:RA:299:A:H8	23:RA:299:A:OP2	1.96	0.49
23:RA:923:C:H2'	23:RA:924:C:C6	2.47	0.49
23:RA:2331:G:H4'	44:R0:43:THR:H	1.76	0.49
23:RA:2566:A:H4'	23:RA:2567:G:O5'	2.13	0.49
23:RA:2729:G:H1'	26:RE:187:ALA:HB2	1.94	0.49
25:RD:35:LYS:HZ1	25:RD:65:ILE:HA	1.76	0.49
31:RN:134:ARG:N	31:RN:135:PRO:HD3	2.28	0.49
37:RT:16:ARG:HD3	37:RT:19:LEU:HD11	1.93	0.49
51:R7:31:LEU:HD22	51:R7:42:LEU:HD13	1.95	0.49
2:XA:224:C:H2'	2:XA:225:C:C6	2.47	0.49
10:XI:40:LEU:C	10:XI:42:ARG:H	2.15	0.49
13:XL:62:SER:HB2	13:XL:64:TYR:HD1	1.76	0.49
14:XM:20:THR:C	14:XM:22:ILE:H	2.16	0.49
15:XN:23:ARG:NH1	15:XN:30:ALA:HB2	2.27	0.49
23:YA:1093:G:H4'	29:YH:170:ARG:NH2	2.27	0.49
23:YA:2151:G:H2'	23:YA:2152:G:C8	2.47	0.49
25:YD:76:PRO:HG2	25:YD:98:VAL:HG21	1.94	0.49
25:YD:121:PRO:HB3	25:YD:135:PHE:CE1	2.47	0.49
28:YG:94:LEU:HD12	28:YG:99:MET:HA	1.95	0.49
38:YU:61:TRP:CD2	38:YU:94:ASN:HA	2.47	0.49
41:YX:57:LEU:HD11	41:YX:78:LYS:HD2	1.94	0.49
42:YY:86:ARG:HB2	42:YY:95:LYS:HD2	1.93	0.49
2:QA:64:G:H4'	2:QA:65:U:O5'	2.12	0.49
2:QA:352:C:O2'	2:QA:354:G:OP1	2.21	0.49
3:QB:96:ARG:H	3:QB:96:ARG:HD2	1.76	0.49
19:QR:26:LEU:HD22	19:QR:42:ARG:HD2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:2556:C:H2'	23:RA:2557:G:O4'	2.13	0.49
23:RA:2679:A:H5'	26:RE:165:VAL:HG21	1.95	0.49
27:RF:9:ILE:HD11	27:RF:125:LEU:HG	1.94	0.49
27:RF:132:VAL:HG23	27:RF:133:ASN:OD1	2.12	0.49
27:RF:178:PRO:HG2	27:RF:179:GLU:OE2	2.13	0.49
28:RG:110:ALA:HB1	28:RG:140:ILE:HD12	1.94	0.49
34:RQ:69:PHE:CD1	34:RQ:70:PRO:HD2	2.46	0.49
34:RQ:89:ASN:O	34:RQ:91:GLU:N	2.45	0.49
50:R6:15:GLU:CD	50:R6:41:PRO:HB3	2.32	0.49
2:XA:97:U:H2'	2:XA:99:C:C6	2.48	0.49
2:XA:538:G:H5"	13:XL:114:LYS:HB2	1.94	0.49
2:XA:662:G:H2'	2:XA:663:A:C8	2.47	0.49
2:XA:1513:A:H2'	2:XA:1514:C:C6	2.47	0.49
4:XC:79:ARG:HH12	4:XC:82:GLU:HG3	1.78	0.49
13:XL:71:PRO:O	13:XL:102:ARG:HD3	2.12	0.49
23:YA:1637:A:H4'	23:YA:2711:A:O2'	2.12	0.49
25:YD:27:THR:HG21	25:YD:83:GLU:HG2	1.94	0.49
26:YE:179:GLU:HB3	26:YE:181:LEU:HD23	1.94	0.49
31:YN:17:ASP:O	31:YN:56:ASN:HB2	2.12	0.49
50:Y6:41:PRO:HD2	50:Y6:46:HIS:N	2.28	0.49
2:QA:243:A:H4'	2:QA:244:U:H3'	1.95	0.49
2:QA:1201:A:HO2'	2:QA:1202:G:P	2.36	0.49
2:QA:1356:G:H2'	2:QA:1357:A:C8	2.47	0.49
2:QA:1510:U:H2'	2:QA:1511:G:C8	2.48	0.49
8:QG:113:GLU:HG3	8:QG:119:ARG:HG2	1.94	0.49
23:RA:375:C:H2'	23:RA:376:C:C6	2.48	0.49
23:RA:2543:G:H21	23:RA:2646:C:H5"	1.78	0.49
42:RY:47:LYS:HG2	42:RY:60:PHE:HD1	1.76	0.49
50:R6:14:THR:O	50:R6:49:HIS:HA	2.12	0.49
2:XA:89:U:O2'	2:XA:90:C:OP1	2.29	0.49
2:XA:445:G:H2'	2:XA:446:G:C8	2.47	0.49
2:XA:1319:A:H5'	2:XA:1320:C:OP1	2.13	0.49
3:XB:197:VAL:O	9:XH:68:ARG:NH2	2.45	0.49
7:XF:35:ALA:HA	7:XF:67:MET:HB3	1.94	0.49
11:XJ:35:SER:OG	11:XJ:73:ASP:HB2	2.13	0.49
23:YA:581:C:H2'	23:YA:582:G:H8	1.77	0.49
23:YA:2059:A:H5'	23:YA:2060:A:OP2	2.13	0.49
23:YA:2468:G:OP1	34:YQ:119:ARG:NH2	2.38	0.49
23:YA:2882:A:OP1	35:YR:96:ARG:NH1	2.45	0.49
28:YG:67:LYS:HZ1	48:Y4:1:MET:HB2	1.78	0.49
29:YH:98:LEU:HD13	29:YH:125:VAL:HB	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YI:129:THR:HA	30:YI:137:PRO:HA	1.92	0.49
41:YX:53:LYS:HB3	41:YX:82:GLN:HB3	1.93	0.49
50:Y6:21:TYR:HE1	50:Y6:53:LYS:HE3	1.77	0.49
2:QA:273:A:H1'	18:QQ:16:GLN:OE1	2.13	0.49
2:QA:1346:A:H2'	8:QG:10:ARG:HH22	1.77	0.49
4:QC:14:ILE:HG12	4:QC:15:THR:N	2.27	0.49
4:QC:79:ARG:HE	12:XK:99:GLN:HB2	1.76	0.49
23:RA:1153:C:H2'	23:RA:1154:G:O4'	2.13	0.49
25:RD:228:PRO:HD3	25:RD:234:GLY:C	2.33	0.49
26:RE:70:ALA:O	26:RE:72:VAL:N	2.46	0.49
44:R0:10:THR:HG22	44:R0:11:ARG:H	1.77	0.49
47:R3:6:VAL:HG13	47:R3:56:VAL:HG13	1.94	0.49
50:R6:25:LYS:HE2	50:R6:27:LYS:HD3	1.94	0.49
3:XB:24:TRP:CZ3	3:XB:26:PRO:HA	2.48	0.49
12:XK:59:TYR:CZ	12:XK:63:LEU:HD11	2.47	0.49
20:XS:73:GLU:CD	48:Y4:69:LYS:HE2	2.33	0.49
23:YA:1021:A:C8	23:YA:1022:G:H5"	2.41	0.49
23:YA:1156:A:C8	38:YU:51:LYS:HG3	2.48	0.49
23:YA:2394:C:OP1	33:YP:63:PRO:HD2	2.12	0.49
23:YA:2867:G:O2'	23:YA:2868:A:P	2.71	0.49
33:YP:63:PRO:HD3	52:Y8:13:ARG:HD3	1.95	0.49
2:QA:173:U:H5"	2:QA:197:A:O4'	2.13	0.49
2:QA:1252:A:H61	2:QA:1285:A:H61	1.61	0.49
5:QD:129:ASN:HA	5:QD:145:GLU:HB2	1.94	0.49
16:QO:87:ILE:HG22	16:QO:88:ARG:H	1.78	0.49
28:RG:54:GLU:HA	28:RG:57:ALA:HB3	1.94	0.49
29:RH:4:ILE:HG13	29:RH:6:ARG:NE	2.28	0.49
30:RI:33:ARG:HB3	30:RI:35:LEU:HD23	1.93	0.49
30:RI:98:ALA:HA	30:RI:109:ILE:HD11	1.94	0.49
38:RU:92:ARG:O	38:RU:92:ARG:HG2	2.13	0.49
2:XA:1192:C:OP2	4:XC:4:LYS:NZ	2.43	0.49
23:YA:774:A:H2	23:YA:787:U:O2'	1.96	0.49
23:YA:2476:A:H2'	23:YA:2477:C:H6	1.77	0.49
27:YF:185:ASP:OD1	27:YF:188:ARG:NH1	2.35	0.49
29:YH:12:PRO:HG3	29:YH:48:GLY:HA2	1.95	0.49
2:QA:539:A:H2'	2:QA:540:G:C8	2.48	0.49
2:QA:607:A:C2	17:QP:31:LYS:HB2	2.47	0.49
2:QA:765:G:N2	2:QA:813:U:OP2	2.45	0.49
2:QA:1152:A:OP1	11:QJ:68:HIS:NE2	2.46	0.49
2:QA:1298:C:O2'	2:QA:1299:A:OP2	2.28	0.49
3:QB:21:ARG:O	3:QB:23:ARG:N	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:QJ:24:VAL:HG21	11:QJ:37:PRO:HD3	1.95	0.49
14:QM:23:TYR:HE1	14:QM:70:LEU:HD12	1.77	0.49
21:QT:79:ARG:O	21:QT:83:ARG:HG3	2.12	0.49
22:QU:5:ASP:O	22:QU:11:GLY:HA3	2.13	0.49
42:RY:47:LYS:HG2	42:RY:60:PHE:CD1	2.48	0.49
2:XA:1256:A:OP2	4:XC:26:LYS:NZ	2.32	0.49
2:XA:1446:A:H5'	37:YT:122:ASP:OD1	2.12	0.49
4:XC:7:PRO:O	4:XC:11:ARG:HG2	2.13	0.49
6:XE:33:VAL:HG11	6:XE:109:ILE:HA	1.95	0.49
6:XE:110:LEU:HD13	6:XE:118:ILE:HG21	1.94	0.49
7:XF:19:LEU:HD21	7:XF:59:TYR:CE2	2.47	0.49
21:XT:89:ARG:NH2	21:XT:104:LEU:HD11	2.27	0.49
23:YA:573:G:O2'	23:YA:574:C:H3'	2.13	0.49
23:YA:898:C:H2'	23:YA:899:A:H5'	1.93	0.49
23:YA:2119:A:C2	23:YA:2171:A:H1'	2.48	0.49
25:YD:61:LEU:O	25:YD:63:ARG:NH1	2.45	0.49
25:YD:170:GLY:C	25:YD:172:TYR:H	2.16	0.49
30:YI:62:LYS:HE3	30:YI:134:PRO:HG2	1.94	0.49
32:YO:4:PRO:O	32:YO:5:GLN:HB2	2.11	0.49
37:YT:107:ASP:H	37:YT:110:ILE:HG22	1.78	0.49
50:Y6:41:PRO:O	50:Y6:45:LYS:HE3	2.13	0.49
23:RA:411:G:OP2	23:RA:2406:U:O2'	2.28	0.48
23:RA:1268:A:H2'	23:RA:1269:A:O4'	2.13	0.48
23:RA:1469:A:H2'	23:RA:1470:G:O4'	2.12	0.48
23:RA:1654:A:OP2	35:RR:2:ARG:HD2	2.13	0.48
23:RA:1678:G:N2	23:RA:1989:G:H22	2.11	0.48
3:XB:204:ASN:ND2	3:XB:206:ASP:H	2.11	0.48
30:YI:8:PRO:HG3	30:YI:14:ASP:HB2	1.95	0.48
33:YP:61:ARG:HD3	52:Y8:13:ARG:HD2	1.94	0.48
2:QA:54:C:N4	2:QA:353:A:OP2	2.42	0.48
2:QA:114:U:H2'	2:QA:115:G:C8	2.48	0.48
2:QA:701:C:O2	2:QA:703:G:N1	2.46	0.48
2:QA:1320:C:N4	20:QS:36:ARG:HG3	2.27	0.48
5:QD:100:ARG:NH2	5:QD:136:PRO:O	2.47	0.48
13:QL:24:VAL:HG13	13:QL:98:TYR:HE2	1.77	0.48
14:QM:49:THR:HG22	14:QM:51:ALA:H	1.78	0.48
16:QO:16:ALA:HB1	16:QO:21:ASP:HB3	1.94	0.48
23:RA:593:G:O2'	52:R8:61:LEU:HD13	2.12	0.48
23:RA:729:G:C6	25:RD:208:LYS:HB2	2.48	0.48
23:RA:918:A:C5	23:RA:919:G:H1'	2.49	0.48
23:RA:1453:A:N6	23:RA:2702:U:H1'	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:1525:G:H2'	23:RA:1526:G:H8	1.78	0.48
23:RA:1637:A:H4'	23:RA:2711:A:O2'	2.13	0.48
23:RA:2282:G:H4'	23:RA:2389:G:O2'	2.13	0.48
23:RA:2408:U:H2'	23:RA:2409:G:C8	2.48	0.48
26:RE:181:LEU:HD21	37:RT:7:ILE:HG23	1.95	0.48
29:RH:41:MET:HG3	29:RH:54:ARG:HA	1.95	0.48
2:XA:165:C:H2'	2:XA:166:G:H8	1.78	0.48
4:XC:130:VAL:HG21	4:XC:157:ILE:HG23	1.94	0.48
14:XM:81:LEU:HD13	14:XM:88:ARG:HD2	1.94	0.48
16:XO:56:LEU:HD21	23:YA:715:G:C4	2.48	0.48
20:XS:39:THR:HG22	20:XS:40:ILE:H	1.78	0.48
23:YA:414:C:O2	23:YA:1864:U:O2'	2.29	0.48
23:YA:593:G:O2'	52:Y8:61:LEU:HD13	2.13	0.48
23:YA:1165:U:H2'	23:YA:1166:C:C6	2.48	0.48
23:YA:1532:C:H2'	23:YA:1533:C:O4'	2.13	0.48
25:YD:35:LYS:HD3	25:YD:63:ARG:CB	2.43	0.48
27:YF:176:LEU:HD21	27:YF:181:LEU:HA	1.94	0.48
28:YG:166:ASP:HA	28:YG:169:ALA:HB3	1.95	0.48
29:YH:55:PRO:HG2	29:YH:61:HIS:CE1	2.48	0.48
33:YP:82:GLY:HA2	33:YP:113:LYS:O	2.12	0.48
33:YP:135:LEU:HD13	33:YP:139:LYS:HE2	1.94	0.48
40:YW:51:LEU:HD23	40:YW:105:VAL:HG11	1.94	0.48
2:QA:222:U:H2'	2:QA:223:U:C6	2.48	0.48
3:QB:80:ILE:HG21	3:QB:212:GLN:HA	1.95	0.48
18:QQ:18:THR:HG23	18:QQ:69:LYS:HE3	1.94	0.48
23:RA:674:G:C1'	27:RF:74:ARG:HD3	2.41	0.48
23:RA:709:U:H3	23:RA:722:A:H61	1.60	0.48
23:RA:2116:G:H1	23:RA:2162:G:P	2.35	0.48
23:RA:2336:A:H61	44:R0:43:THR:HG21	1.77	0.48
29:RH:152:ARG:HH21	29:RH:153:LYS:HZ1	1.61	0.48
41:RX:39:ILE:O	41:RX:43:VAL:HG12	2.13	0.48
2:XA:412:A:H4'	2:XA:413:G:O5'	2.12	0.48
3:XB:47:THR:HA	3:XB:202:PRO:HG2	1.95	0.48
6:XE:10:MET:SD	6:XE:13:ILE:HD13	2.53	0.48
7:XF:36:ARG:CZ	7:XF:38:GLU:HG2	2.44	0.48
23:YA:103:A:O5'	23:YA:103:A:H8	1.96	0.48
23:YA:213:A:H2'	23:YA:214:G:O4'	2.14	0.48
23:YA:264:C:H2'	23:YA:265:A:H5"	1.95	0.48
23:YA:443:A:C5	27:YF:45:ARG:HD2	2.48	0.48
23:YA:468:G:N7	51:Y7:39:ARG:NH2	2.58	0.48
23:YA:674:G:C1'	27:YF:74:ARG:HD3	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:1061:U:H3'	23:YA:1062:G:H5"	1.94	0.48
23:YA:1204:A:H1'	23:YA:1206:G:C8	2.48	0.48
23:YA:1614:A:H61	40:YW:88:ARG:H	1.62	0.48
23:YA:1698:A:H4'	23:YA:1699:G:OP1	2.13	0.48
34:YQ:104:PHE:CE1	34:YQ:125:LEU:HD11	2.41	0.48
45:Y1:41:ARG:HH11	45:Y1:41:ARG:HG3	1.78	0.48
2:QA:17:U:H2'	2:QA:18:C:C6	2.48	0.48
2:QA:484:G:H4'	2:QA:485:G:O5'	2.13	0.48
2:QA:738:C:OP2	7:QF:92:LYS:NZ	2.45	0.48
2:QA:753:A:H4'	2:QA:754:C:O5'	2.13	0.48
2:QA:1336:C:H1'	2:QA:1337:G:C2	2.47	0.48
2:QA:1443:G:H5'	2:QA:1446:A:OP2	2.13	0.48
2:QA:1450:U:O2'	2:QA:1451:A:N7	2.46	0.48
13:QL:17:LYS:HG2	13:QL:19:ARG:HG2	1.94	0.48
13:QL:58:VAL:O	13:QL:65:GLU:HA	2.13	0.48
20:QS:77:THR:HG22	20:QS:78:ARG:HD3	1.95	0.48
23:RA:1728:G:H5'	23:RA:1729:A:OP2	2.14	0.48
27:RF:178:PRO:HB2	27:RF:201:VAL:HG11	1.94	0.48
45:R1:53:VAL:HB	45:R1:58:ILE:HD12	1.94	0.48
49:R5:55:ARG:HG3	49:R5:57:VAL:N	2.17	0.48
2:XA:789:U:O2'	2:XA:791:G:N7	2.36	0.48
2:XA:1301:U:H3'	2:XA:1302:U:H5'	1.94	0.48
3:XB:101:MET:HA	3:XB:108:ILE:HG13	1.95	0.48
4:XC:134:ILE:HG23	4:XC:151:VAL:HB	1.94	0.48
6:XE:6:PHE:CE2	6:XE:36:ASP:HB3	2.48	0.48
6:XE:50:GLU:HG3	6:XE:52:PRO:HD2	1.95	0.48
10:XI:9:ARG:HB2	10:XI:14:VAL:HA	1.96	0.48
12:XK:18:ARG:NH2	12:XK:35:PRO:O	2.45	0.48
23:YA:1021:A:H62	23:YA:1141:U:H3	1.60	0.48
23:YA:1061:U:H4'	23:YA:1070:A:H1'	1.95	0.48
23:YA:2306:C:H2'	23:YA:2307:G:N2	2.28	0.48
26:YE:21:VAL:HG23	26:YE:22:PRO:HD3	1.95	0.48
29:YH:137:ASP:HB3	29:YH:140:LYS:HB3	1.94	0.48
37:YT:102:ILE:HB	37:YT:110:ILE:HD13	1.95	0.48
43:YZ:5:LEU:HD21	43:YZ:44:PHE:HA	1.94	0.48
49:Y5:41:PRO:O	49:Y5:44:THR:OG1	2.32	0.48
2:QA:713:G:H2'	2:QA:714:G:C8	2.48	0.48
2:QA:1127:G:H21	2:QA:1147:C:H41	1.60	0.48
3:QB:178:ARG:CD	9:QH:71:GLY:C	2.81	0.48
4:QC:47:LEU:HD23	4:QC:68:VAL:HG11	1.94	0.48
8:QG:155:ARG:O	8:QG:155:ARG:NH2	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:QP:43:LYS:HA	17:QP:48:TRP:HB3	1.95	0.48
23:RA:270(H):C:H2'	23:RA:270(I):G:C8	2.49	0.48
23:RA:1047:G:H2'	23:RA:1110:G:N1	2.28	0.48
23:RA:1816:G:H8	25:RD:62:TYR:CZ	2.32	0.48
23:RA:2120:G:H2'	23:RA:2121:G:C8	2.48	0.48
23:RA:2319:G:N7	36:RS:3:ARG:HB3	2.28	0.48
23:RA:2870:C:H2'	23:RA:2871:C:O4'	2.14	0.48
27:RF:155:LEU:HD12	27:RF:174:VAL:HG22	1.94	0.48
33:RP:58:THR:O	33:RP:61:ARG:CZ	2.61	0.48
36:RS:64:GLU:O	36:RS:68:GLN:HG3	2.14	0.48
2:XA:7:G:H5'	2:XA:298:A:O4'	2.14	0.48
2:XA:703:G:H4'	2:XA:704:A:O5'	2.14	0.48
2:XA:842:C:O2'	2:XA:848:C:N4	2.46	0.48
2:XA:966:G:O2'	10:XI:127:LYS:O	2.32	0.48
2:XA:1273:G:H3'	2:XA:1274:G:H8	1.77	0.48
2:XA:1429:C:H2'	2:XA:1430:C:C6	2.49	0.48
3:XB:84:GLU:OE1	3:XB:87:ARG:NH2	2.43	0.48
4:XC:148:GLY:HA3	4:XC:172:ARG:O	2.12	0.48
16:XO:70:LEU:HD11	16:XO:77:ARG:HG3	1.96	0.48
20:XS:69:HIS:CE1	48:Y4:69:LYS:CD	2.73	0.48
23:YA:270(T):G:OP1	45:Y1:97:LEU:HD13	2.13	0.48
23:YA:956:G:H5"	34:YQ:77:LYS:HE2	1.94	0.48
23:YA:1364:G:C8	45:Y1:2:SER:N	2.82	0.48
26:YE:111:ARG:HG2	35:YR:1:MET:SD	2.54	0.48
30:YI:120:ILE:HD11	30:YI:126:TYR:CZ	2.48	0.48
32:YO:76:ALA:HB3	37:YT:75:ILE:HD12	1.95	0.48
33:YP:5:ASP:O	33:YP:6:LEU:O	2.31	0.48
38:YU:98:LEU:O	38:YU:102:GLU:N	2.37	0.48
39:YV:15:GLU:O	39:YV:18:LEU:HB2	2.14	0.48
41:YX:63:LYS:O	41:YX:64:LYS:HD2	2.14	0.48
2:QA:812:C:H4'	2:QA:813:U:O5'	2.14	0.48
3:QB:163:PHE:HD2	3:QB:185:ILE:HG13	1.78	0.48
10:QI:17:VAL:HG11	10:QI:81:ILE:HA	1.95	0.48
10:QI:40:LEU:O	10:QI:42:ARG:N	2.46	0.48
16:QO:26:GLU:H	16:QO:26:GLU:HG2	1.42	0.48
23:RA:373:U:H2'	23:RA:374:A:H8	1.78	0.48
23:RA:669:G:H2'	23:RA:669:G:N3	2.28	0.48
23:RA:1106:G:H2'	23:RA:1107:G:C8	2.48	0.48
23:RA:1329:U:H5"	23:RA:1330:C:H5	1.79	0.48
23:RA:1403:C:H5"	23:RA:1471:A:C1'	2.38	0.48
24:RB:7:G:H5'	36:RS:29:PHE:CE1	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RH:154:PRO:HD3	29:RH:162:ILE:H	1.77	0.48
30:RI:62:LYS:HA	30:RI:133:HIS:NE2	2.29	0.48
31:RN:4:TYR:O	38:RU:64:ARG:NH1	2.46	0.48
33:RP:36:LYS:HB3	33:RP:40:SER:HB3	1.95	0.48
35:RR:2:ARG:HA	35:RR:5:LYS:HE3	1.95	0.48
35:RR:97:VAL:HG22	35:RR:114:VAL:CG2	2.44	0.48
2:XA:192:U:H2'	2:XA:193:C:H6	1.79	0.48
2:XA:359:U:H2'	2:XA:360:A:C8	2.48	0.48
2:XA:612:C:O2	2:XA:629:G:N2	2.46	0.48
2:XA:1126:U:H1'	2:XA:1280:A:C5	2.48	0.48
7:XF:10:LEU:HD22	7:XF:61:LEU:HD11	1.94	0.48
23:YA:190:A:N3	23:YA:679:C:O2'	2.42	0.48
23:YA:1396:U:H2'	23:YA:1396:U:O2	2.12	0.48
23:YA:1657:C:H2'	23:YA:1658:C:C6	2.49	0.48
23:YA:2477:C:H2'	53:Y9:1:MET:HG3	1.96	0.48
23:YA:2712:U:O2'	23:YA:2712(A):A:H8	1.94	0.48
23:YA:2849:U:P	37:YT:95:ARG:HH12	2.36	0.48
26:YE:20:ALA:HB3	26:YE:21:VAL:HG13	1.95	0.48
33:YP:14:LYS:O	33:YP:16:ARG:HG2	2.13	0.48
36:YS:74:ALA:HB1	36:YS:107:GLU:HB3	1.95	0.48
38:YU:60:LEU:HD22	38:YU:60:LEU:O	2.14	0.48
38:YU:97:ASP:OD1	38:YU:101:ARG:NH1	2.46	0.48
43:YZ:182:LYS:CB	43:YZ:183:LEU:HA	2.42	0.48
2:QA:474:G:H2'	2:QA:475:G:C8	2.49	0.48
2:QA:585:G:O3'	18:QQ:34:LYS:NZ	2.46	0.48
2:QA:963:G:H1	2:QA:972:C:H42	1.61	0.48
2:QA:1014:A:H4'	20:QS:14:HIS:CD2	2.49	0.48
2:QA:1285:A:H1'	2:QA:1286:A:OP2	2.14	0.48
4:QC:150:LYS:HG3	4:QC:169:ALA:HB2	1.95	0.48
9:QH:102:ARG:NH1	9:QH:105:ARG:HH22	2.12	0.48
12:QK:48:ILE:HD11	12:QK:64:ALA:HA	1.95	0.48
14:QM:80:ARG:CZ	48:R4:70:GLY:HA3	2.42	0.48
20:QS:26:GLY:O	20:QS:28:LYS:N	2.41	0.48
21:QT:89:ARG:NH2	21:QT:105:SER:O	2.36	0.48
23:RA:829:A:N7	23:RA:2248:C:H5'	2.29	0.48
23:RA:1525:G:H2'	23:RA:1526:G:C8	2.48	0.48
23:RA:2563:U:H4'	32:RO:28:SER:HA	1.96	0.48
33:RP:59:LEU:HA	33:RP:61:ARG:HE	1.76	0.48
42:RY:81:LYS:NZ	42:RY:98:VAL:HG11	2.28	0.48
52:R8:51:ALA:N	52:R8:53:PRO:HD2	2.29	0.48
2:XA:1340:A:O2'	54:XV:31:G:O3'	2.32	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:XP:26:ARG:HH21	17:XP:31:LYS:HB3	1.77	0.48
21:XT:93:GLU:OE1	21:XT:94:ALA:N	2.46	0.48
23:YA:589:C:H2'	23:YA:590:A:C8	2.49	0.48
23:YA:1418:G:N1	23:YA:1579:A:OP2	2.29	0.48
33:YP:52:GLU:O	33:YP:55:ARG:HG2	2.14	0.48
40:YW:67:ASP:OD2	40:YW:67:ASP:N	2.46	0.48
49:Y5:46:CYS:O	49:Y5:48:GLU:N	2.38	0.48
2:QA:707:C:H2'	2:QA:708:C:C6	2.48	0.48
11:QJ:32:ALA:HB3	11:QJ:76:ASN:HB2	1.96	0.48
18:QQ:100:LYS:O	18:QQ:101:ARG:NE	2.47	0.48
21:QT:12:ALA:O	21:QT:15:ARG:HB2	2.14	0.48
23:RA:2102:U:H2'	23:RA:2103:C:C6	2.49	0.48
25:RD:25:THR:O	25:RD:27:THR:HG22	2.14	0.48
27:RF:102:PRO:HB2	27:RF:105:VAL:HG23	1.95	0.48
28:RG:82:LEU:HD21	28:RG:88:ILE:HG13	1.96	0.48
42:RY:51:VAL:O	42:RY:56:PRO:HA	2.14	0.48
47:R3:4:LEU:O	47:R3:36:VAL:HA	2.13	0.48
48:R4:23:GLU:HG3	48:R4:25:TYR:CE2	2.49	0.48
49:R5:46:CYS:O	49:R5:48:GLU:N	2.47	0.48
2:XA:176:C:H2'	2:XA:177:C:C6	2.49	0.48
2:XA:244:U:H4'	2:XA:245:C:O5'	2.13	0.48
2:XA:859:A:H2'	2:XA:860:A:O4'	2.14	0.48
23:YA:910:A:N3	23:YA:2264:C:O2'	2.44	0.48
23:YA:1221:C:H2'	23:YA:1222:C:C6	2.48	0.48
23:YA:1268:A:H2'	23:YA:1269:A:O4'	2.14	0.48
23:YA:2347:C:H2'	23:YA:2348:U:H6	1.79	0.48
39:YV:76:LYS:HB2	39:YV:81:TYR:HB3	1.95	0.48
42:YY:35:TYR:CD1	42:YY:69:ALA:HB3	2.49	0.48
49:Y5:58:LEU:HD22	49:Y5:60:VAL:HB	1.96	0.48
2:QA:429:U:H1'	2:QA:430:A:H5"	1.96	0.48
2:QA:619:U:N3	5:QD:134:ASP:OD2	2.40	0.48
2:QA:703:G:H4'	2:QA:704:A:O5'	2.14	0.48
2:QA:1079:G:H5"	6:QE:45:PHE:CE2	2.49	0.48
2:QA:1347:G:H22	2:QA:1374:A:P	2.36	0.48
11:QJ:78:ASN:O	11:QJ:82:ILE:HG12	2.14	0.48
23:RA:271(C):U:O2'	23:RA:271:G:OP1	2.29	0.48
23:RA:1091:G:N2	23:RA:1101:U:H1'	2.28	0.48
23:RA:1244:G:H4'	33:RP:7:ARG:HB2	1.96	0.48
23:RA:1510:A:N3	23:RA:1510:A:H2'	2.27	0.48
23:RA:1798:U:C5'	25:RD:259:THR:HG22	2.44	0.48
23:RA:1798:U:H5'	25:RD:259:THR:HG22	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:2154:G:H2'	23:RA:2155:G:H8	1.79	0.48
29:RH:86:GLU:OE1	29:RH:86:GLU:N	2.43	0.48
31:RN:7:LYS:H	31:RN:7:LYS:HD2	1.79	0.48
41:RX:83:VAL:HG11	41:RX:87:GLN:HB2	1.96	0.48
45:R1:91:LYS:O	45:R1:94:LEU:N	2.36	0.48
2:XA:673:G:H5"	7:XF:87:ARG:NH1	2.29	0.48
2:XA:724:G:C2	2:XA:725:G:C8	3.02	0.48
6:XE:8:GLU:OE2	6:XE:63:ARG:NH2	2.46	0.48
10:XI:114:TYR:CD2	10:XI:114:TYR:N	2.81	0.48
23:YA:7:G:H2'	23:YA:8:A:O4'	2.14	0.48
23:YA:247:G:H4'	23:YA:386:G:C5	2.49	0.48
25:YD:254:THR:O	25:YD:254:THR:OG1	2.30	0.48
29:YH:6:ARG:HA	29:YH:66:GLY:HA2	1.95	0.48
31:YN:134:ARG:N	31:YN:135:PRO:HD3	2.29	0.48
38:YU:90:VAL:HG22	39:YV:39:LEU:HB3	1.96	0.48
42:YY:44:ILE:HG13	42:YY:45:VAL:N	2.28	0.48
50:Y6:40:CYS:HA	50:Y6:41:PRO:HD2	1.79	0.48
2:QA:474:G:H2'	2:QA:475:G:H8	1.79	0.48
2:QA:1032(A):G:H2'	2:QA:1032(B):G:C8	2.49	0.48
2:QA:1129:C:H5'	2:QA:1130:A:OP1	2.14	0.48
6:QE:69:VAL:O	6:QE:71:LEU:N	2.47	0.48
23:RA:27:G:H1'	23:RA:513:A:N6	2.28	0.48
23:RA:1667:G:H8	23:RA:1667:G:OP2	1.96	0.48
23:RA:2665:A:H2'	23:RA:2666:C:O4'	2.14	0.48
27:RF:197:ASP:OD2	27:RF:197:ASP:N	2.46	0.48
28:RG:81:LYS:O	28:RG:82:LEU:HB2	2.13	0.48
50:R6:18:ARG:HB2	50:R6:44:ARG:HH12	1.77	0.48
2:XA:1313:U:OP1	20:XS:5:LEU:HB2	2.14	0.48
4:XC:81:GLY:O	4:XC:85:ARG:HB2	2.14	0.48
9:XH:49:GLU:HG2	9:XH:62:TYR:HE2	1.78	0.48
13:XL:7:ILE:HD13	13:XL:7:ILE:HA	1.82	0.48
17:XP:22:THR:HA	17:XP:33:ILE:HG12	1.96	0.48
20:XS:67:VAL:C	48:Y4:68:ARG:HB2	2.34	0.48
21:XT:98:PRO:O	21:XT:100:ILE:N	2.46	0.48
23:YA:445:C:OP1	38:YU:2:PRO:HA	2.14	0.48
23:YA:1417:C:O2'	23:YA:1587:A:N3	2.36	0.48
23:YA:2364:C:H2'	23:YA:2365:G:O4'	2.13	0.48
23:YA:2484:G:H1'	34:YQ:124:LYS:HD2	1.96	0.48
23:YA:2832:U:H4'	23:YA:2833:G:C5'	2.44	0.48
23:YA:2832:U:H4'	23:YA:2833:G:H5"	1.95	0.48
33:YP:98:GLU:HA	33:YP:101:VAL:HB	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YS:65:VAL:O	36:YS:69:VAL:HG12	2.14	0.48
38:YU:92:ARG:CZ	39:YV:11:GLN:H	2.26	0.48
50:Y6:27:LYS:NZ	50:Y6:27:LYS:HB2	2.28	0.48
3:QB:211:ILE:O	3:QB:215:LEU:HB2	2.14	0.47
4:QC:79:ARG:NH2	12:XK:100:ALA:N	2.53	0.47
5:QD:26:CYS:HA	5:QD:31:CYS:HA	1.96	0.47
8:QG:57:GLU:OE1	8:QG:57:GLU:N	2.41	0.47
14:QM:57:ARG:HB2	14:QM:57:ARG:HH11	1.79	0.47
23:RA:49:A:H61	23:RA:177:G:H2'	1.79	0.47
23:RA:330:A:H2	23:RA:1210:A:H2'	1.79	0.47
23:RA:635:C:O2'	23:RA:639:U:OP1	2.29	0.47
23:RA:826:U:H4'	33:RP:55:ARG:HB3	1.96	0.47
23:RA:1113:U:H2'	23:RA:1114:G:C8	2.49	0.47
27:RF:183:VAL:O	27:RF:187:VAL:HG23	2.13	0.47
28:RG:145:THR:O	28:RG:147:ASP:N	2.47	0.47
30:RI:12:LEU:HG	30:RI:19:VAL:HG11	1.95	0.47
30:RI:57:ARG:O	30:RI:61:ARG:HG2	2.14	0.47
33:RP:61:ARG:CD	52:R8:13:ARG:HD2	2.44	0.47
33:RP:127:ALA:HB3	33:RP:130:PHE:CZ	2.49	0.47
2:XA:411:A:C6	2:XA:429:U:C4	3.01	0.47
23:YA:1109:C:O2'	23:YA:1110:G:OP1	2.27	0.47
23:YA:2892:A:H2'	23:YA:2893:G:O4'	2.14	0.47
25:YD:35:LYS:HZ1	25:YD:104:TYR:HB2	1.79	0.47
34:YQ:21:THR:HB	34:YQ:22:LYS:H	1.40	0.47
39:YV:44:LYS:O	39:YV:46:VAL:HG12	2.13	0.47
2:QA:438:G:H4'	5:QD:123:HIS:CG	2.49	0.47
2:QA:1128:C:H4'	10:QI:16:ARG:HH12	1.79	0.47
3:QB:25:ASN:O	3:QB:27:LYS:N	2.47	0.47
7:QF:61:LEU:HB3	7:QF:63:TYR:HE2	1.79	0.47
13:QL:38:THR:O	13:QL:79:GLU:HG3	2.14	0.47
23:RA:307:G:N2	23:RA:309:G:H3'	2.29	0.47
23:RA:860:U:H5	23:RA:917:A:C2	2.32	0.47
23:RA:984:A:H5"	23:RA:985:C:H5	1.80	0.47
23:RA:1204:A:H2	23:RA:1241:A:N1	2.12	0.47
23:RA:1889:A:O2'	23:RA:2087:G:H5'	2.14	0.47
23:RA:2495:G:H5"	34:RQ:81:VAL:HG13	1.95	0.47
23:RA:2693:A:H2'	23:RA:2694:G:H8	1.79	0.47
24:RB:44:G:OP1	48:R4:1:MET:N	2.37	0.47
27:RF:167:ALA:HB1	27:RF:173:VAL:HG11	1.95	0.47
2:XA:618:C:H5'	2:XA:619:U:H5"	1.96	0.47
5:XD:15:GLU:HG2	5:XD:63:LYS:HB2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XL:27:LEU:O	13:XL:29:GLY:N	2.46	0.47
23:YA:141(A):C:H2'	23:YA:142:G:O4'	2.14	0.47
23:YA:639:U:H2'	23:YA:640:C:C6	2.49	0.47
23:YA:747:U:C1'	49:Y5:2:ALA:HB3	2.44	0.47
23:YA:2011:U:OP1	40:YW:42:ARG:NH1	2.47	0.47
23:YA:2695:C:H2'	23:YA:2696:U:C6	2.49	0.47
30:YI:68:LEU:HA	30:YI:71:ILE:HG22	1.97	0.47
43:YZ:6:LYS:HD2	43:YZ:8:TYR:OH	2.14	0.47
45:Y1:91:LYS:HB3	45:Y1:92:LYS:H	1.44	0.47
2:QA:877:C:H5"	9:QH:88:LYS:HD3	1.95	0.47
2:QA:1053:G:O6	2:QA:1199:U:H2'	2.13	0.47
2:QA:1223:C:P	20:QS:78:ARG:HH12	2.37	0.47
3:QB:70:PHE:O	3:QB:93:VAL:N	2.48	0.47
7:QF:41:GLU:HB2	7:QF:62:TRP:CE3	2.50	0.47
14:QM:78:ILE:HG23	14:QM:92:HIS:ND1	2.29	0.47
20:QS:15:LEU:H	20:QS:15:LEU:HD23	1.79	0.47
23:RA:512:G:H4'	23:RA:513:A:O5'	2.14	0.47
23:RA:608:A:OP1	27:RF:100:THR:OG1	2.29	0.47
23:RA:1086:A:H4'	23:RA:1103:A:N6	2.29	0.47
23:RA:1952:A:C2	32:RO:22:ILE:HG23	2.48	0.47
24:RB:48:A:H4'	36:RS:95:HIS:HD2	1.79	0.47
30:RI:60:GLU:O	30:RI:64:GLU:N	2.44	0.47
34:RQ:136:ALA:C	34:RQ:138:ASP:H	2.18	0.47
38:RU:97:ASP:OD1	38:RU:101:ARG:NH1	2.47	0.47
46:R2:41:ILE:HD11	46:R2:44:LEU:HD12	1.96	0.47
2:XA:1157:A:H1'	2:XA:1158:C:C4	2.49	0.47
3:XB:73:THR:OG1	3:XB:170:GLU:OE2	2.23	0.47
23:YA:26:G:C6	23:YA:27:G:N1	2.81	0.47
23:YA:700:G:H2'	23:YA:701:G:O4'	2.14	0.47
23:YA:724:U:H2'	23:YA:725:G:O4'	2.14	0.47
23:YA:896:A:C5	43:YZ:146:ILE:HD12	2.49	0.47
23:YA:2371:G:O2'	50:Y6:45:LYS:HB3	2.14	0.47
23:YA:2867:G:OP2	37:YT:119:LYS:NZ	2.31	0.47
30:YI:2:LYS:HA	30:YI:20:ASP:HA	1.95	0.47
46:Y2:59:ARG:O	46:Y2:63:VAL:HG23	2.15	0.47
2:QA:598:U:H4'	9:QH:94:TYR:CD2	2.50	0.47
2:QA:636:U:H2'	2:QA:637:G:H8	1.79	0.47
2:QA:828:A:H2'	2:QA:829:G:O4'	2.14	0.47
2:QA:974:A:H1'	15:QN:31:ARG:NE	2.29	0.47
2:QA:1227:A:O3'	14:QM:115:LYS:HE3	2.14	0.47
3:QB:97:TRP:CH2	3:QB:173:ALA:HA	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:QL:51:ALA:HB3	13:QL:53:ARG:HE	1.80	0.47
23:RA:1090:U:N3	23:RA:1102:C:H1'	2.29	0.47
23:RA:1430:C:H2'	23:RA:1431:U:C6	2.50	0.47
23:RA:2210:G:H3'	23:RA:2211:G:C8	2.50	0.47
23:RA:2377:A:H2'	23:RA:2378:A:C8	2.50	0.47
23:RA:2402:C:H2'	23:RA:2403:C:H5'	1.97	0.47
23:RA:2758:A:C2	23:RA:2759:G:H1'	2.49	0.47
23:RA:2788:C:OP1	26:RE:61:ARG:NH1	2.48	0.47
26:RE:37:ARG:NE	26:RE:37:ARG:HA	2.28	0.47
37:RT:64:ARG:HD2	37:RT:73:GLU:OE1	2.14	0.47
53:R9:27:CYS:SG	53:R9:32:HIS:HB2	2.55	0.47
2:XA:1000:A:H2'	2:XA:1001:G:C8	2.50	0.47
2:XA:1342:C:H2'	2:XA:1343:G:C8	2.50	0.47
10:XI:121:ARG:NH1	10:XI:122:ALA:O	2.47	0.47
10:XI:126:SER:O	10:XI:128:ARG:N	2.43	0.47
11:XJ:38:ILE:HD11	11:XJ:71:LEU:HD23	1.96	0.47
13:XL:24:VAL:HG12	13:XL:24:VAL:O	2.14	0.47
23:YA:483:A:H3'	23:YA:484:C:H6	1.80	0.47
23:YA:896:A:C4	43:YZ:146:ILE:HD12	2.50	0.47
23:YA:1203:G:H3'	23:YA:1204:A:H5"	1.97	0.47
23:YA:2335:A:O2'	23:YA:2336:A:H2'	2.15	0.47
23:YA:2629:A:O2'	23:YA:2630:G:H5"	2.15	0.47
25:YD:28:GLU:HB2	25:YD:29:PRO:CD	2.45	0.47
27:YF:36:VAL:HG11	27:YF:183:VAL:HG11	1.95	0.47
30:YI:98:ALA:HB2	30:YI:111:PRO:HB3	1.95	0.47
45:Y1:53:VAL:HG22	45:Y1:74:VAL:HG13	1.96	0.47
2:QA:255:G:H1'	18:QQ:16:GLN:NE2	2.30	0.47
2:QA:1032:A:N1	2:QA:1032(A):G:O2'	2.48	0.47
4:QC:82:GLU:O	4:QC:86:VAL:HG13	2.14	0.47
8:QG:99:LEU:HD22	8:QG:103:TRP:CZ2	2.49	0.47
23:RA:483:A:H1'	42:RY:59:GLY:O	2.14	0.47
23:RA:1688:U:H5'	23:RA:1689:A:OP1	2.15	0.47
23:RA:1694:C:H4'	23:RA:1695:G:O5'	2.14	0.47
23:RA:2054:A:H5"	23:RA:2055:C:O5'	2.15	0.47
2:XA:157:G:H2'	2:XA:158:G:H8	1.79	0.47
4:XC:34:LEU:HD23	4:XC:38:ARG:HG3	1.95	0.47
19:XR:66:LEU:O	19:XR:70:ILE:HG13	2.14	0.47
23:YA:528:A:O2'	23:YA:529:A:H5'	2.14	0.47
23:YA:1059:G:H3'	23:YA:1060:U:H5"	1.96	0.47
23:YA:1482:U:H5'	23:YA:1483:G:OP2	2.14	0.47
23:YA:2210:G:H2'	23:YA:2210:G:N3	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YD:71:ASP:HB2	25:YD:103:ARG:NH2	2.27	0.47
37:YT:11:GLU:OE1	37:YT:11:GLU:N	2.43	0.47
40:YW:110:LYS:HG3	40:YW:111:HIS:H	1.80	0.47
43:YZ:58:VAL:O	43:YZ:60:GLU:N	2.47	0.47
44:Y0:50:ASN:HB3	44:Y0:63:VAL:HG22	1.97	0.47
2:QA:222:U:H2'	2:QA:223:U:H6	1.80	0.47
5:QD:106:TYR:HE1	5:QD:112:VAL:O	1.97	0.47
13:QL:27:LEU:O	13:QL:29:GLY:N	2.47	0.47
18:QQ:76:LEU:HD21	18:QQ:79:SER:HB2	1.97	0.47
23:RA:944:G:H5"	23:RA:945:A:O5'	2.14	0.47
23:RA:1754:C:P	37:RT:96:ARG:HH12	2.32	0.47
23:RA:1819:A:H4'	23:RA:1820:U:O5'	2.14	0.47
23:RA:2011:U:OP2	40:RW:16:LYS:NZ	2.44	0.47
23:RA:2781:A:H5"	23:RA:2782:G:H5'	1.95	0.47
23:RA:2844:G:H3'	23:RA:2845:G:H8	1.78	0.47
29:RH:152:ARG:HG3	29:RH:153:LYS:CD	2.44	0.47
30:RI:40:THR:O	30:RI:44:LEU:N	2.43	0.47
34:RQ:63:LYS:HG2	34:RQ:65:PHE:CE2	2.50	0.47
42:RY:21:LYS:HG3	42:RY:22:GLY:N	2.30	0.47
2:XA:537:G:H2'	2:XA:538:G:C8	2.49	0.47
2:XA:1127:G:H2'	2:XA:1128:C:C6	2.50	0.47
4:XC:70:VAL:HG12	4:XC:72:LYS:H	1.79	0.47
4:XC:79:ARG:NH1	4:XC:82:GLU:HG3	2.29	0.47
23:YA:673:C:H5"	27:YF:81:PRO:HD2	1.96	0.47
23:YA:888:C:H3'	23:YA:889:C:C4'	2.43	0.47
23:YA:1025:G:C4	23:YA:1135:C:H1'	2.50	0.47
23:YA:1056:G:HO2'	23:YA:1086:A:HO2'	1.59	0.47
23:YA:1454:U:H5'	35:YR:63:ARG:NE	2.29	0.47
23:YA:1533:C:H2'	23:YA:1534:G:N7	2.29	0.47
27:YF:140:LEU:HD12	27:YF:140:LEU:HA	1.77	0.47
28:YG:28:VAL:O	28:YG:31:VAL:HG13	2.14	0.47
31:YN:30:ILE:HG22	31:YN:34:LEU:HD22	1.96	0.47
33:YP:144:GLU:OE1	33:YP:144:GLU:N	2.40	0.47
52:Y8:36:LYS:HB3	52:Y8:40:GLU:HG2	1.95	0.47
2:QA:105:G:H2'	2:QA:106:C:C6	2.50	0.47
2:QA:115:G:H4'	2:QA:116:A:O5'	2.14	0.47
2:QA:784:C:H4'	23:RA:1837:C:OP1	2.15	0.47
2:QA:940:C:H2'	2:QA:941:G:C8	2.49	0.47
2:QA:942:G:N2	10:QI:124:GLN:OE1	2.38	0.47
2:QA:962:C:H2'	2:QA:963:G:C8	2.49	0.47
2:QA:1286:A:H8	2:QA:1287:A:H4'	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QB:32:ILE:HD13	3:QB:40:HIS:HB3	1.96	0.47
3:QB:85:ALA:HB3	3:QB:92:TYR:HD2	1.80	0.47
21:QT:30:LYS:O	21:QT:33:ILE:HB	2.14	0.47
23:RA:288:C:H2'	23:RA:289:A:C8	2.49	0.47
23:RA:1445:C:H2'	23:RA:1446:C:H6	1.80	0.47
23:RA:2466:C:OP1	53:R9:4:ARG:HB2	2.13	0.47
26:RE:95:ILE:HD12	26:RE:95:ILE:H	1.80	0.47
28:RG:3:LEU:HD11	48:R4:25:TYR:CE1	2.48	0.47
29:RH:27:LYS:HA	29:RH:32:GLU:HA	1.96	0.47
35:RR:1:MET:HB3	35:RR:2:ARG:H	1.35	0.47
37:RT:123:GLN:O	37:RT:125:ARG:N	2.48	0.47
40:RW:63:ASP:OD1	40:RW:63:ASP:N	2.48	0.47
42:RY:76:CYS:HB2	42:RY:101:LYS:HG3	1.96	0.47
2:XA:93:U:H2'	2:XA:95:G:O4'	2.14	0.47
2:XA:474:G:H2'	2:XA:475:G:H8	1.80	0.47
2:XA:877:C:H5"	9:XH:88:LYS:HD3	1.96	0.47
4:XC:22:TRP:CD1	4:XC:59:ARG:HD2	2.49	0.47
4:XC:48:TYR:OH	4:XC:122:GLU:OE2	2.22	0.47
7:XF:69:GLU:O	7:XF:72:VAL:HG12	2.14	0.47
10:XI:114:TYR:HD1	11:XJ:60:ARG:HB2	1.79	0.47
11:XJ:47:PHE:HB3	15:XN:34:TYR:CE2	2.50	0.47
12:XK:48:ILE:HG13	12:XK:63:LEU:HB2	1.97	0.47
14:XM:58:GLU:O	14:XM:62:ASN:ND2	2.33	0.47
18:XQ:67:LYS:O	18:XQ:68:ARG:HB3	2.15	0.47
21:XT:35:THR:O	21:XT:39:LYS:HG3	2.15	0.47
23:YA:286:C:H2'	23:YA:287:C:H6	1.78	0.47
23:YA:566:U:OP1	33:YP:29:LYS:NZ	2.43	0.47
23:YA:581:C:H2'	23:YA:582:G:C8	2.50	0.47
23:YA:1093:G:H5'	29:YH:170:ARG:NH1	2.30	0.47
23:YA:1688:U:H5'	23:YA:1689:A:OP1	2.15	0.47
23:YA:2123:G:H2'	23:YA:2124:G:C8	2.45	0.47
23:YA:2299:G:N2	23:YA:2318:G:H1'	2.30	0.47
25:YD:206:LEU:HA	25:YD:206:LEU:HD23	1.51	0.47
26:YE:116:VAL:HG11	26:YE:138:PRO:HB3	1.97	0.47
27:YF:164:ARG:HG3	27:YF:175:THR:OG1	2.15	0.47
28:YG:34:LEU:HD22	28:YG:35:GLU:N	2.30	0.47
28:YG:113:ARG:HG2	48:Y4:34:GLU:OE2	2.14	0.47
29:YH:4:ILE:HB	29:YH:6:ARG:CG	2.43	0.47
29:YH:4:ILE:HG13	29:YH:6:ARG:CZ	2.44	0.47
29:YH:122:THR:HG22	29:YH:134:SER:HB2	1.96	0.47
33:YP:50:ARG:HE	52:Y8:7:HIS:HE2	1.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QA:190:G:H8	2:QA:190:G:OP1	1.98	0.47
5:QD:12:CYS:HA	5:QD:19:LEU:CD2	2.44	0.47
11:QJ:84:GLN:H	11:QJ:84:GLN:HG3	1.49	0.47
23:RA:35:G:H2'	23:RA:36:G:O4'	2.15	0.47
23:RA:142:G:H2'	23:RA:143:C:C6	2.50	0.47
23:RA:748:G:C8	40:RW:89:ALA:HB1	2.50	0.47
23:RA:1805:U:O2	25:RD:50:THR:HB	2.15	0.47
24:RB:75:G:H5"	43:RZ:36:LYS:HD3	1.97	0.47
26:RE:73:GLU:HG3	26:RE:74:PRO:HD2	1.96	0.47
2:XA:272:C:H2'	2:XA:273:A:H8	1.79	0.47
2:XA:485:G:H1'	2:XA:486:U:H5	1.79	0.47
2:XA:757:U:H2'	2:XA:758:G:O4'	2.14	0.47
3:XB:201:ILE:HG21	3:XB:214:ILE:HG21	1.95	0.47
10:XI:4:TYR:CZ	10:XI:88:TYR:HB2	2.50	0.47
19:XR:36:ASN:O	19:XR:36:ASN:ND2	2.41	0.47
23:YA:576:U:H2'	23:YA:577:G:C8	2.50	0.47
23:YA:1756:G:H4'	23:YA:1758:G:O4'	2.15	0.47
25:YD:237:GLU:O	25:YD:239:ARG:N	2.47	0.47
27:YF:9:ILE:HG23	27:YF:20:LEU:O	2.15	0.47
42:YY:73:ARG:HE	42:YY:73:ARG:HB3	1.47	0.47
2:QA:7:G:H21	6:QE:121:LYS:HG2	1.79	0.47
2:QA:35:G:H2'	2:QA:36:C:C6	2.49	0.47
2:QA:1516:G:N1	2:QA:1519:A:OP2	2.46	0.47
10:QI:28:VAL:HG22	10:QI:63:ILE:HB	1.96	0.47
15:QN:41:ARG:CZ	15:QN:42:ILE:HD11	2.44	0.47
23:RA:196:A:HO2'	23:RA:2068:U:H5	1.62	0.47
23:RA:1019:U:H3	23:RA:1142(A):A:N6	2.03	0.47
23:RA:2655:G:N2	23:RA:2665:A:OP2	2.48	0.47
25:RD:118:VAL:HG22	25:RD:119:ALA:N	2.29	0.47
25:RD:211:ARG:HD2	25:RD:214:TRP:CZ3	2.50	0.47
27:RF:133:ASN:HA	27:RF:162:LEU:HD22	1.96	0.47
36:RS:56:LEU:O	36:RS:58:LEU:N	2.48	0.47
43:RZ:29:TYR:CE2	43:RZ:87:ASP:HB3	2.49	0.47
43:RZ:52:SER:O	43:RZ:53:ILE:HG13	2.15	0.47
45:R1:76:ARG:H	45:R1:76:ARG:HD2	1.80	0.47
2:XA:262:A:C6	2:XA:263:A:C6	3.02	0.47
2:XA:518:C:H2'	2:XA:530:G:C2	2.50	0.47
2:XA:1014:A:H4'	20:XS:14:HIS:CD2	2.49	0.47
2:XA:1113:C:H2'	2:XA:1114:C:H6	1.80	0.47
2:XA:1391:U:H2'	2:XA:1392:G:C8	2.50	0.47
2:XA:1443:G:H5'	2:XA:1446:A:OP2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:XS:41:VAL:HA	20:XS:44:MET:HG3	1.97	0.47
23:YA:719:C:H2'	23:YA:720:C:C6	2.50	0.47
23:YA:1022:G:N2	23:YA:1023:U:O4	2.44	0.47
23:YA:1483:G:C6	23:YA:1507:A:C8	3.03	0.47
23:YA:2154:G:H2'	23:YA:2155:G:H8	1.80	0.47
27:YF:182:ASN:HD21	27:YF:185:ASP:CG	2.14	0.47
28:YG:114:ILE:HD13	28:YG:140:ILE:HG21	1.96	0.47
30:YI:5:LEU:HD21	30:YI:12:LEU:HB3	1.97	0.47
33:YP:88:LEU:HB2	33:YP:91:PHE:HE2	1.80	0.47
33:YP:121:LYS:HB2	33:YP:121:LYS:HE2	1.75	0.47
6:QE:9:LYS:HB3	6:QE:112:LEU:HD11	1.97	0.47
13:QL:17:LYS:HG3	13:QL:18:VAL:N	2.30	0.47
20:QS:35:SER:O	20:QS:71:LEU:HD12	2.15	0.47
20:QS:69:HIS:CE1	48:R4:69:LYS:CD	2.94	0.47
23:RA:52:A:OP2	23:RA:117:G:N1	2.40	0.47
23:RA:414:C:H2'	23:RA:415:A:C8	2.50	0.47
23:RA:577:G:O2'	23:RA:1254:A:OP1	2.31	0.47
23:RA:754:C:H2'	23:RA:755:C:C6	2.50	0.47
23:RA:1275:A:N1	23:RA:1295:C:O2'	2.38	0.47
26:RE:186:GLY:O	26:RE:188:VAL:N	2.48	0.47
27:RF:62:ARG:HB3	27:RF:62:ARG:CZ	2.45	0.47
39:RV:24:LYS:HG3	39:RV:92:THR:HG23	1.97	0.47
2:XA:524:G:H2'	2:XA:525:C:C6	2.49	0.47
2:XA:690:G:H22	12:XK:55:LYS:HZ2	1.63	0.47
2:XA:1327:C:OP2	22:XU:12:LYS:NZ	2.42	0.47
3:XB:18:GLY:H	3:XB:42:ILE:HG22	1.80	0.47
5:XD:63:LYS:HD2	5:XD:198:VAL:HG22	1.97	0.47
8:XG:115:ARG:HB2	8:XG:118:VAL:HG22	1.97	0.47
14:XM:57:ARG:NH2	48:Y4:32:TYR:OH	2.48	0.47
23:YA:270(J):G:H2'	23:YA:270(K):C:O4'	2.15	0.47
23:YA:1139:G:O2'	23:YA:1143:A:N1	2.34	0.47
23:YA:2444:G:P	27:YF:68:LYS:HE3	2.54	0.47
24:YB:40:U:O2'	24:YB:45:A:N6	2.48	0.47
25:YD:17:THR:CG2	25:YD:205:VAL:H	2.28	0.47
28:YG:11:TYR:HA	28:YG:15:VAL:HB	1.95	0.47
31:YN:114:ARG:O	31:YN:115:ARG:HB3	2.14	0.47
33:YP:19:VAL:HG13	33:YP:21:ARG:N	2.20	0.47
2:QA:244:U:H4'	2:QA:245:C:O5'	2.15	0.46
2:QA:1513:A:H2'	2:QA:1514:C:C6	2.51	0.46
3:QB:8:LYS:H	3:QB:8:LYS:HD3	1.79	0.46
3:QB:166:ASP:OD1	3:QB:169:LYS:HB2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QG:18:TYR:HD2	8:QG:59:LEU:HD22	1.79	0.46
12:QK:16:SER:OG	12:QK:106:LYS:NZ	2.48	0.46
23:RA:33:U:O4	23:RA:446:G:O2'	2.31	0.46
23:RA:363(B):G:H2'	23:RA:363(C):G:H8	1.79	0.46
23:RA:467:G:OP1	51:R7:33:ARG:NH1	2.48	0.46
29:RH:153:LYS:HB3	29:RH:162:ILE:H	1.80	0.46
32:RO:76:ALA:HB3	37:RT:75:ILE:HB	1.97	0.46
36:RS:48:LEU:HD23	36:RS:82:ILE:HD11	1.96	0.46
37:RT:16:ARG:HE	37:RT:19:LEU:HD21	1.80	0.46
41:RX:49:VAL:HG13	41:RX:83:VAL:HG13	1.95	0.46
43:RZ:181:GLU:HB3	43:RZ:182:LYS:HD3	1.97	0.46
45:R1:89:GLU:HA	45:R1:93:GLU:HB2	1.96	0.46
52:R8:29:LYS:HD3	52:R8:44:LYS:CB	2.45	0.46
2:XA:1122:U:O4	2:XA:1123:A:N6	2.48	0.46
6:XE:127:ASN:HA	6:XE:128:PRO:HD3	1.81	0.46
10:XI:83:ARG:O	10:XI:86:VAL:HG12	2.15	0.46
16:XO:66:LEU:HD12	16:XO:66:LEU:HA	1.67	0.46
18:XQ:63:ARG:HG2	18:XQ:64:PRO:HD2	1.97	0.46
23:YA:693:C:H2'	23:YA:694:U:O4'	2.15	0.46
23:YA:1665:A:H1'	32:YO:1:MET:HG3	1.95	0.46
23:YA:2100:G:H2'	23:YA:2100:G:N3	2.30	0.46
23:YA:2123:G:H1	23:YA:2175:C:H42	1.62	0.46
27:YF:108:LYS:NZ	27:YF:108:LYS:HB3	2.31	0.46
27:YF:129:PHE:HA	27:YF:142:TRP:NE1	2.29	0.46
29:YH:154:PRO:HD3	29:YH:162:ILE:H	1.79	0.46
30:YI:88:ILE:HG12	30:YI:122:GLU:N	2.30	0.46
42:YY:87:LYS:HD3	42:YY:92:ASN:HB3	1.98	0.46
47:Y3:23:LEU:HD13	47:Y3:50:VAL:HG11	1.96	0.46
48:Y4:38:LYS:HD3	48:Y4:42:PHE:HE1	1.80	0.46
2:QA:474:G:H5'	17:QP:81:ARG:HG3	1.96	0.46
2:QA:811:C:O2'	2:QA:901:A:N1	2.45	0.46
2:QA:1129:C:H4'	2:QA:1130:A:H5'	1.97	0.46
2:QA:1240:U:OP1	8:QG:119:ARG:NH2	2.48	0.46
2:QA:1360:A:H8	2:QA:1360:A:OP1	1.98	0.46
8:QG:78:ARG:HG3	8:QG:79:ARG:N	2.29	0.46
15:QN:32:SER:O	15:QN:32:SER:OG	2.26	0.46
23:RA:1578:U:H2'	23:RA:1579:A:H5'	1.97	0.46
23:RA:1639:U:H4'	23:RA:2699:C:H4'	1.96	0.46
23:RA:2086:U:H2'	23:RA:2087:G:C8	2.50	0.46
25:RD:12:SER:O	25:RD:16:MET:HB2	2.14	0.46
25:RD:43:ARG:HH11	25:RD:44:ASN:CG	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RE:21:VAL:HB	26:RE:22:PRO:HB3	1.96	0.46
28:RG:22:ARG:HH22	28:RG:175:LEU:HD21	1.79	0.46
37:RT:20:PRO:HD2	37:RT:86:ILE:HG23	1.97	0.46
38:RU:8:VAL:HG23	38:RU:11:ARG:HH21	1.80	0.46
41:RX:55:ASN:HB2	41:RX:80:ILE:HG23	1.97	0.46
42:RY:89:PHE:O	42:RY:90:LEU:HD13	2.15	0.46
2:XA:736:C:H2'	2:XA:737:A:C8	2.49	0.46
2:XA:1221:G:O3'	20:XS:77:THR:HG21	2.14	0.46
2:XA:1306:A:N6	2:XA:1331:G:H1'	2.30	0.46
6:XE:89:ILE:HG12	6:XE:91:LEU:HD13	1.97	0.46
20:XS:33:THR:OG1	20:XS:34:TRP:N	2.49	0.46
20:XS:41:VAL:HG23	20:XS:67:VAL:HG13	1.98	0.46
23:YA:579:G:H2'	23:YA:580:C:C6	2.51	0.46
23:YA:858:U:O2	23:YA:2268:A:H2'	2.16	0.46
23:YA:2273:A:H2'	23:YA:2274:A:C8	2.50	0.46
23:YA:2760:C:H2'	23:YA:2761:G:H5"	1.98	0.46
33:YP:29:LYS:HD2	33:YP:30:THR:HG23	1.97	0.46
33:YP:64:LYS:HB2	52:Y8:25:MET:HG3	1.96	0.46
33:YP:96:THR:O	33:YP:99:LEU:HB3	2.15	0.46
36:YS:52:SER:HB2	36:YS:55:ALA:H	1.79	0.46
2:QA:12:U:H4'	2:QA:526:C:H4'	1.96	0.46
5:QD:103:ASN:OD1	5:QD:114:ARG:NE	2.48	0.46
7:QF:10:LEU:N	7:QF:59:TYR:O	2.46	0.46
23:RA:94:G:N3	46:R2:47:ASN:ND2	2.64	0.46
23:RA:507:A:C5'	23:RA:508:G:H5'	2.45	0.46
23:RA:1657:C:H2'	23:RA:1658:C:C6	2.50	0.46
23:RA:1804:C:H2'	23:RA:1805:U:H6	1.80	0.46
23:RA:2064:C:H2'	23:RA:2065:C:C6	2.49	0.46
23:RA:2415:G:H4'	33:RP:67:MET:N	2.31	0.46
30:RI:14:ASP:O	30:RI:16:GLY:N	2.48	0.46
30:RI:52:ARG:O	30:RI:56:LYS:N	2.48	0.46
33:RP:83:VAL:HG12	33:RP:114:ILE:HA	1.98	0.46
40:RW:23:LEU:O	40:RW:27:LYS:HD2	2.14	0.46
50:R6:13:CYS:HB2	50:R6:22:ALA:HB3	1.98	0.46
2:XA:284:G:H2'	2:XA:285:G:C8	2.50	0.46
2:XA:565:U:OP2	2:XA:566:G:O2'	2.22	0.46
9:XH:75:ARG:HA	9:XH:76:PRO:HD2	1.72	0.46
10:XI:18:PHE:HD1	10:XI:62:TYR:HD2	1.62	0.46
23:YA:1726:G:C6	23:YA:1727:U:C4	3.03	0.46
23:YA:2347:C:H2'	23:YA:2348:U:C6	2.50	0.46
23:YA:2680:C:H5'	26:YE:189:PRO:HA	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YB:28:C:OP1	36:YS:36:TYR:OH	2.26	0.46
25:YD:94:LEU:HD22	25:YD:95:LEU:N	2.31	0.46
27:YF:127:GLU:OE2	27:YF:128:ALA:N	2.47	0.46
36:YS:27:SER:HA	36:YS:88:ASP:HB2	1.96	0.46
47:Y3:8:LEU:HD22	47:Y3:31:LEU:HD22	1.96	0.46
48:Y4:2:LYS:HA	48:Y4:2:LYS:HD2	1.67	0.46
49:Y5:33:CYS:SG	49:Y5:34:PRO:HD2	2.55	0.46
2:QA:719:C:O2'	19:QR:49:LYS:HB3	2.14	0.46
2:QA:1305:G:H5'	22:QU:4:GLY:HA3	1.98	0.46
2:QA:1512:U:H2'	2:QA:1513:A:C8	2.51	0.46
6:QE:151:LEU:HD22	9:QH:67:PRO:HD3	1.98	0.46
17:QP:3:LYS:O	17:QP:21:VAL:HA	2.15	0.46
20:QS:65:ASN:O	48:R4:59:PHE:HE2	1.98	0.46
23:RA:66:C:H2'	23:RA:67:U:C6	2.51	0.46
23:RA:200:U:O2	23:RA:386:G:N2	2.48	0.46
23:RA:414:C:O2	23:RA:1864:U:O2'	2.32	0.46
23:RA:443:A:C5	27:RF:45:ARG:HD2	2.50	0.46
23:RA:974(A):C:H4'	23:RA:975:G:C5'	2.46	0.46
23:RA:1165:U:H2'	23:RA:1166:C:C6	2.50	0.46
36:RS:61:ASN:O	36:RS:65:VAL:HG23	2.14	0.46
2:XA:165:C:H2'	2:XA:166:G:C8	2.50	0.46
2:XA:222:U:H2'	2:XA:223:U:C6	2.51	0.46
2:XA:618:C:O2	2:XA:622:A:N6	2.49	0.46
2:XA:1128:C:N3	2:XA:1144:G:N2	2.45	0.46
2:XA:1301:U:H2'	2:XA:1301:U:O2	2.15	0.46
3:XB:163:PHE:CD2	3:XB:185:ILE:HG13	2.50	0.46
3:XB:204:ASN:HD22	3:XB:205:ASP:N	2.13	0.46
13:XL:62:SER:O	13:XL:64:TYR:N	2.48	0.46
20:XS:64:GLU:C	48:Y4:59:PHE:CE2	2.89	0.46
23:YA:630:G:OP2	52:Y8:15:LYS:NZ	2.49	0.46
23:YA:1188:U:H4'	39:YV:79:VAL:HG22	1.97	0.46
24:YB:44:G:H5"	24:YB:45:A:OP1	2.15	0.46
25:YD:25:THR:CG2	25:YD:82:ILE:H	2.27	0.46
26:YE:150:VAL:HG13	26:YE:154:LYS:HG3	1.96	0.46
26:YE:176:ILE:HB	26:YE:181:LEU:HB2	1.97	0.46
38:YU:75:ASN:HB3	38:YU:78:THR:H	1.81	0.46
45:Y1:80:LEU:HB2	45:Y1:81:LYS:H	1.61	0.46
2:QA:7:G:H5'	2:QA:298:A:O4'	2.14	0.46
2:QA:335:C:H2'	2:QA:336:C:C6	2.51	0.46
2:QA:620:C:C2	5:QD:135:LEU:HG	2.51	0.46
2:QA:620:C:H2'	2:QA:621:A:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QA:1128:C:C4'	10:QI:16:ARG:HH22	2.29	0.46
2:QA:1316:G:H5"	15:QN:17:LYS:HE3	1.97	0.46
18:QQ:74:LEU:HB3	18:QQ:75:ARG:H	1.63	0.46
21:QT:33:ILE:HD13	21:QT:62:LEU:HB3	1.97	0.46
23:RA:859:G:O2'	23:RA:860:U:P	2.74	0.46
23:RA:996:A:OP2	38:RU:92:ARG:NH2	2.48	0.46
23:RA:2232:U:P	45:R1:40:ARG:HH12	2.39	0.46
24:RB:78:A:H2'	24:RB:79:C:O4'	2.16	0.46
25:RD:70:TRP:CD2	25:RD:150:LYS:HD2	2.49	0.46
28:RG:98:ARG:O	28:RG:101:ILE:HG13	2.16	0.46
36:RS:78:LEU:HD11	36:RS:107:GLU:O	2.15	0.46
2:XA:116:A:H61	2:XA:313:A:H1'	1.81	0.46
2:XA:646:U:H2'	2:XA:647:C:C6	2.51	0.46
2:XA:1074:G:OP2	6:XE:61:TYR:OH	2.11	0.46
3:XB:178:ARG:HD2	9:XH:71:GLY:O	2.14	0.46
5:XD:30:LYS:C	5:XD:32:ALA:H	2.18	0.46
8:XG:74:GLU:HG2	8:XG:91:VAL:HG22	1.98	0.46
23:YA:1056:G:O2'	23:YA:1086:A:O2'	2.22	0.46
23:YA:1062:G:H8	23:YA:1062:G:O5'	1.98	0.46
23:YA:2579:C:H2'	23:YA:2580:U:O4'	2.16	0.46
23:YA:2789:C:H1'	23:YA:2892:A:C2	2.49	0.46
25:YD:35:LYS:HE3	25:YD:63:ARG:C	2.36	0.46
25:YD:35:LYS:HB3	25:YD:63:ARG:HA	1.98	0.46
2:QA:437:U:H2'	2:QA:438:G:O4'	2.16	0.46
2:QA:1065:U:O2'	2:QA:1066:C:OP2	2.26	0.46
2:QA:1078:U:H1'	6:QE:130:ASN:OD1	2.15	0.46
2:QA:1179:A:O3'	10:QI:103:THR:HG23	2.15	0.46
3:QB:165:VAL:HG23	3:QB:166:ASP:H	1.81	0.46
5:QD:75:PHE:HE1	5:QD:97:LEU:HD11	1.81	0.46
20:QS:63:THR:HG23	20:QS:65:ASN:OD1	2.16	0.46
20:QS:69:HIS:ND1	48:R4:69:LYS:CE	2.78	0.46
21:QT:29:LYS:O	21:QT:33:ILE:HG12	2.16	0.46
23:RA:639:U:H2'	23:RA:640:C:C6	2.51	0.46
33:RP:6:LEU:HB3	33:RP:7:ARG:H	1.55	0.46
33:RP:124:LYS:HA	33:RP:143:GLY:O	2.16	0.46
36:RS:83:LYS:O	36:RS:109:GLY:HA3	2.15	0.46
40:RW:86:LEU:O	40:RW:94:ASP:N	2.44	0.46
2:XA:57:G:H2'	2:XA:58:C:C6	2.50	0.46
2:XA:1053:G:O6	2:XA:1199:U:H2'	2.16	0.46
2:XA:1113:C:H2'	2:XA:1114:C:C6	2.51	0.46
2:XA:1525:G:P	12:XK:120:ARG:HH22	2.37	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XC:78:GLY:HA3	4:XC:83:ARG:HB3	1.98	0.46
16:XO:56:LEU:O	16:XO:60:VAL:HG23	2.16	0.46
23:YA:330:A:H2	23:YA:1210:A:HO2'	1.62	0.46
23:YA:566:U:H2'	23:YA:567:A:O4'	2.15	0.46
23:YA:636:G:OP1	33:YP:132:LYS:HB2	2.15	0.46
23:YA:1614:A:N1	40:YW:91:GLY:HA2	2.30	0.46
23:YA:2030:A:H4'	23:YA:2031:A:H8	1.81	0.46
23:YA:2122:U:H2'	23:YA:2123:G:C8	2.51	0.46
23:YA:2537:U:H2'	23:YA:2538:C:H6	1.80	0.46
33:YP:135:LEU:HD23	33:YP:135:LEU:HA	1.74	0.46
43:YZ:77:ASP:OD2	43:YZ:80:ARG:HD3	2.15	0.46
45:Y1:96:LYS:H	45:Y1:97:LEU:HD12	1.81	0.46
20:QS:69:HIS:HD1	48:R4:69:LYS:HE2	1.80	0.46
23:RA:49:A:N7	23:RA:120:U:C5	2.81	0.46
23:RA:557:U:H2'	23:RA:558:G:H8	1.81	0.46
23:RA:2776:A:H4'	23:RA:2777:G:O5'	2.16	0.46
23:RA:2788:C:O2'	23:RA:2809:A:N3	2.47	0.46
23:RA:2867:G:HO2'	23:RA:2868:A:P	2.38	0.46
29:RH:87:LEU:HA	29:RH:163:TYR:O	2.16	0.46
32:RO:31:LYS:HB3	32:RO:32:TYR:CD1	2.51	0.46
36:RS:24:LEU:HB2	36:RS:85:VAL:HG12	1.96	0.46
52:R8:39:LYS:O	52:R8:43:GLN:HB2	2.15	0.46
53:R9:8:LYS:O	53:R9:34:GLN:NE2	2.49	0.46
2:XA:1285:A:H4'	2:XA:1286:A:O5'	2.15	0.46
20:XS:69:HIS:ND1	48:Y4:69:LYS:HD2	2.20	0.46
23:YA:607:U:H3	23:YA:621:A:H2	1.61	0.46
23:YA:1169:G:H1	23:YA:1180:C:N4	2.12	0.46
23:YA:1598:C:H5'	41:YX:36:LYS:HB3	1.98	0.46
23:YA:2103:C:H2'	23:YA:2104:G:C8	2.50	0.46
23:YA:2467:C:H4'	34:YQ:123:HIS:CD2	2.50	0.46
26:YE:36:ARG:NH2	26:YE:88:GLY:HA2	2.29	0.46
29:YH:103:LEU:HD23	29:YH:115:VAL:HB	1.97	0.46
30:YI:81:VAL:HG21	30:YI:88:ILE:HD12	1.98	0.46
2:QA:444:C:H2'	2:QA:445:G:H8	1.81	0.46
2:QA:792:A:H4'	2:QA:793:U:O5'	2.16	0.46
2:QA:1213:A:N1	2:QA:1215:G:H1'	2.30	0.46
5:QD:30:LYS:C	5:QD:32:ALA:N	2.69	0.46
13:QL:54:LYS:HD2	13:QL:54:LYS:N	2.31	0.46
20:QS:32:LYS:HA	20:QS:50:ALA:HB3	1.98	0.46
23:RA:242:G:H1'	23:RA:243:U:OP2	2.16	0.46
23:RA:530:G:O2'	23:RA:532:A:N7	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:981:A:N1	23:RA:2027:G:O2'	2.40	0.46
23:RA:1801:G:OP2	25:RD:154:LYS:HE2	2.16	0.46
23:RA:2544:G:H1'	23:RA:2646:C:H4'	1.97	0.46
23:RA:2593:U:H2'	23:RA:2594:C:C6	2.51	0.46
27:RF:126:VAL:HG11	27:RF:142:TRP:HH2	1.80	0.46
29:RH:115:VAL:HG11	29:RH:148:ILE:HD11	1.98	0.46
38:RU:69:CYS:HB3	38:RU:106:PHE:HZ	1.81	0.46
42:RY:17:SER:OG	42:RY:71:LYS:HD2	2.16	0.46
50:R6:33:LYS:HG3	50:R6:34:LEU:HD13	1.98	0.46
52:R8:50:LEU:C	52:R8:53:PRO:HD2	2.36	0.46
2:XA:41:G:H2'	2:XA:42:G:C8	2.51	0.46
2:XA:164:U:H2'	2:XA:165:C:C6	2.50	0.46
2:XA:828:A:H2'	2:XA:829:G:O4'	2.16	0.46
2:XA:1203:C:H2'	2:XA:1204:A:H8	1.80	0.46
2:XA:1225:A:N3	2:XA:1225:A:H2'	2.30	0.46
2:XA:1269:A:H1'	2:XA:1326:C:H1'	1.97	0.46
2:XA:1322:C:OP2	20:XS:78:ARG:NH2	2.49	0.46
2:XA:1451:A:H2'	2:XA:1451:A:N3	2.31	0.46
3:XB:55:PHE:HD1	3:XB:58:ILE:HG13	1.81	0.46
8:XG:50:ILE:HG21	8:XG:61:VAL:HG21	1.98	0.46
20:XS:81:ARG:HE	20:XS:81:ARG:HB2	1.36	0.46
21:XT:26:ASN:O	21:XT:30:LYS:HB2	2.16	0.46
23:YA:1162:G:O2'	39:YV:90:PRO:HG2	2.15	0.46
23:YA:1300:U:H4'	23:YA:1301:A:H5'	1.97	0.46
23:YA:1915:U:H3'	23:YA:1916:A:C8	2.49	0.46
25:YD:118:VAL:HG22	25:YD:119:ALA:N	2.31	0.46
26:YE:116:VAL:O	26:YE:117:MET:HB3	2.16	0.46
29:YH:106:THR:HG22	29:YH:112:PRO:HB3	1.96	0.46
29:YH:167:GLU:HA	29:YH:168:PRO:HD3	1.79	0.46
2:QA:129(A):G:N2	2:QA:188:U:O2'	2.49	0.46
2:QA:769:G:H4'	2:QA:1513:A:H4'	1.98	0.46
10:QI:45:ALA:O	10:QI:48:GLU:HG2	2.15	0.46
23:RA:1291:C:H5'	23:RA:1536:A:H5'	1.97	0.46
23:RA:2100:G:H1	23:RA:2189:U:H3	1.64	0.46
24:RB:44:G:H1'	24:RB:47:C:N4	2.30	0.46
29:RH:85:LYS:HD2	29:RH:85:LYS:HA	1.85	0.46
33:RP:101:VAL:HG23	33:RP:107:LYS:H	1.81	0.46
34:RQ:81:VAL:C	34:RQ:82:ARG:HG2	2.37	0.46
35:RR:116:LEU:HD23	35:RR:116:LEU:HA	1.83	0.46
2:XA:255:G:H4'	18:XQ:17:LYS:HD3	1.98	0.46
2:XA:1159:U:O2'	2:XA:1160:G:N7	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XB:217:ARG:HE	3:XB:217:ARG:HB2	1.54	0.46
10:XI:46:ALA:HA	10:XI:78:LYS:HB2	1.98	0.46
13:XL:92:ASP:O	13:XL:94:PRO:HD3	2.16	0.46
17:XP:1:MET:O	17:XP:3:LYS:HG3	2.16	0.46
20:XS:41:VAL:HB	20:XS:42:PRO:HA	1.96	0.46
23:YA:2377:A:H4'	36:YS:111:GLU:O	2.15	0.46
26:YE:108:SER:HB3	26:YE:165:VAL:HG21	1.98	0.46
27:YF:129:PHE:O	27:YF:142:TRP:CD1	2.69	0.46
28:YG:34:LEU:HD12	28:YG:100:TRP:CH2	2.50	0.46
34:YQ:135:ASP:N	34:YQ:135:ASP:OD1	2.48	0.46
40:YW:110:LYS:HG3	40:YW:111:HIS:ND1	2.31	0.46
42:YY:84:ARG:HB3	42:YY:95:LYS:HD3	1.97	0.46
2:QA:109:A:C6	2:QA:326:G:C6	3.03	0.46
2:QA:600:C:H2'	2:QA:601:C:C6	2.51	0.46
2:QA:709:G:H2'	2:QA:710:G:C8	2.50	0.46
2:QA:977:A:O2'	2:QA:981:U:N3	2.49	0.46
2:QA:1336:C:O2'	2:QA:1337:G:O5'	2.33	0.46
3:QB:178:ARG:CG	9:QH:71:GLY:C	2.83	0.46
5:QD:201:GLN:NE2	6:QE:116:THR:HG22	2.31	0.46
23:RA:30:G:H2'	23:RA:31:C:C6	2.51	0.46
23:RA:181:A:H1'	23:RA:435:C:H5'	1.98	0.46
23:RA:593:G:H4'	52:R8:61:LEU:HD13	1.98	0.46
23:RA:634:C:H2'	23:RA:635:C:C6	2.51	0.46
24:RB:15:A:H1'	24:RB:109:G:N9	2.31	0.46
29:RH:120:GLY:HA3	29:RH:140:LYS:NZ	2.31	0.46
34:RQ:2:LEU:H	34:RQ:2:LEU:HD23	1.81	0.46
35:RR:37:THR:OG1	35:RR:40:LYS:HG3	2.16	0.46
39:RV:51:VAL:HG12	39:RV:53:GLU:H	1.80	0.46
45:R1:73:LEU:HB3	45:R1:90:ILE:HG23	1.97	0.46
50:R6:44:ARG:O	50:R6:45:LYS:HB2	2.16	0.46
2:XA:1034:G:H2'	2:XA:1035:A:H8	1.81	0.46
2:XA:1318:A:H4'	20:XS:11:VAL:CG1	2.46	0.46
3:XB:114:ARG:O	3:XB:118:LEU:HG	2.16	0.46
3:XB:215:LEU:HD22	3:XB:215:LEU:HA	1.73	0.46
7:XF:48:LEU:HG	7:XF:57:GLN:HA	1.98	0.46
8:XG:92:SER:HA	8:XG:93:PRO:HD2	1.79	0.46
10:XI:18:PHE:HB2	10:XI:62:TYR:HB3	1.97	0.46
23:YA:1291:C:H5'	23:YA:1536:A:H5'	1.97	0.46
23:YA:2470:G:OP1	34:YQ:56:ARG:NH1	2.49	0.46
23:YA:2593:U:H2'	23:YA:2594:C:C6	2.51	0.46
25:YD:10:THR:OG1	25:YD:13:ARG:HB2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YE:70:ALA:O	26:YE:72:VAL:N	2.49	0.46
27:YF:129:PHE:C	27:YF:131:GLY:H	2.18	0.46
28:YG:6:ALA:N	48:Y4:23:GLU:HG2	2.28	0.46
34:YQ:136:ALA:O	34:YQ:138:ASP:N	2.40	0.46
35:YR:51:LEU:HD12	35:YR:70:LEU:HG	1.97	0.46
39:YV:19:LYS:HA	39:YV:94:LEU:O	2.15	0.46
43:YZ:52:SER:O	43:YZ:52:SER:OG	2.30	0.46
2:QA:164:U:H2'	2:QA:165:C:C6	2.51	0.45
2:QA:501:C:H1'	2:QA:549:C:H1'	1.98	0.45
2:QA:546:G:P	5:QD:72:GLU:HB3	2.56	0.45
2:QA:1218:C:H2'	2:QA:1219:U:C6	2.51	0.45
2:QA:1298:C:H4'	2:QA:1299:A:C8	2.51	0.45
2:QA:1314:C:P	20:QS:6:LYS:HD2	2.56	0.45
5:QD:15:GLU:HG2	5:QD:63:LYS:HG3	1.97	0.45
8:QG:20:ASP:OD1	8:QG:21:VAL:N	2.48	0.45
13:QL:113:ARG:HH21	13:QL:116:SER:HB2	1.81	0.45
23:RA:127:A:H5"	23:RA:128:C:C6	2.51	0.45
23:RA:375:C:H2'	23:RA:376:C:H6	1.81	0.45
23:RA:860:U:H5	23:RA:917:A:N1	2.13	0.45
23:RA:1454:U:OP1	35:RR:77:ARG:NH1	2.43	0.45
23:RA:1657:C:H2'	23:RA:1658:C:H6	1.80	0.45
23:RA:1681:G:HO2'	23:RA:1762:A:HO2'	1.61	0.45
23:RA:2643:G:H2'	23:RA:2644:G:O4'	2.16	0.45
25:RD:68:LYS:HD2	25:RD:70:TRP:CZ2	2.51	0.45
26:RE:63:LEU:HD12	26:RE:64:LYS:N	2.30	0.45
27:RF:31:HIS:HB2	33:RP:9:ASN:OD1	2.16	0.45
29:RH:103:LEU:HD13	29:RH:131:VAL:HG11	1.97	0.45
29:RH:153:LYS:HG3	29:RH:161:GLY:HA2	1.97	0.45
30:RI:5:LEU:HD23	30:RI:9:LEU:HD11	1.98	0.45
34:RQ:29:PHE:N	34:RQ:105:GLU:OE2	2.40	0.45
34:RQ:104:PHE:HE1	34:RQ:125:LEU:HD11	1.80	0.45
37:RT:26:ASP:HB2	37:RT:90:GLN:O	2.16	0.45
2:XA:920:U:H2'	2:XA:921:U:C6	2.51	0.45
11:XJ:62:HIS:H	11:XJ:62:HIS:CD2	2.34	0.45
14:XM:36:LYS:C	14:XM:36:LYS:HD3	2.36	0.45
23:YA:250:G:H2'	23:YA:251:A:C8	2.51	0.45
23:YA:278:A:O2'	23:YA:279:C:O4'	2.31	0.45
23:YA:754:C:H2'	23:YA:755:C:C6	2.51	0.45
23:YA:1085:A:O2'	23:YA:1086:A:OP1	2.28	0.45
23:YA:1292:U:H2'	23:YA:1293:C:C6	2.51	0.45
23:YA:2359:C:H2'	23:YA:2360:A:O4'	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:2757:A:C2	29:YH:67:LEU:HD22	2.51	0.45
29:YH:86:GLU:O	29:YH:87:LEU:HB2	2.16	0.45
30:YI:112:LYS:H	30:YI:112:LYS:HG2	1.39	0.45
33:YP:138:LEU:C	33:YP:140:ALA:H	2.18	0.45
35:YR:109:ALA:HA	35:YR:110:PRO:HD2	1.77	0.45
42:YY:94:LYS:HD2	42:YY:101:LYS:HZ3	1.81	0.45
45:Y1:58:ILE:HD12	45:Y1:58:ILE:N	2.31	0.45
2:QA:191:G:C1'	21:QT:105:SER:HB3	2.43	0.45
2:QA:1130:A:O2'	10:QI:3:GLN:NE2	2.31	0.45
2:QA:1320:C:C2	20:QS:72:GLY:HA3	2.51	0.45
4:QC:19:GLU:HA	4:QC:54:ARG:HH12	1.82	0.45
4:QC:23:TYR:CD1	11:QJ:10:GLY:HA2	2.51	0.45
7:QF:99:ALA:HB1	19:QR:23:LYS:NZ	2.31	0.45
14:QM:89:GLY:O	14:QM:92:HIS:HB2	2.15	0.45
15:QN:47:LEU:HD23	15:QN:47:LEU:HA	1.74	0.45
23:RA:27:G:O2'	23:RA:28:A:H8	1.99	0.45
23:RA:184:C:H2'	23:RA:185:U:C6	2.51	0.45
23:RA:221:A:C4	23:RA:266:G:N7	2.85	0.45
23:RA:250:G:OP2	52:R8:13:ARG:NH2	2.49	0.45
23:RA:2642:G:OP1	31:RN:76:SER:OG	2.31	0.45
24:RB:14:U:H5'	24:RB:71:C:O4'	2.15	0.45
29:RH:170:ARG:HB3	29:RH:171:LEU:H	1.52	0.45
33:RP:77:ARG:HB2	33:RP:78:PRO:HD2	1.99	0.45
40:RW:23:LEU:HD12	40:RW:23:LEU:HA	1.77	0.45
2:XA:8:A:N6	5:XD:208:SER:O	2.49	0.45
2:XA:352:C:O2'	2:XA:354:G:OP1	2.21	0.45
2:XA:857:C:H2'	2:XA:858:G:O4'	2.16	0.45
2:XA:1318:A:H4'	20:XS:11:VAL:HG11	1.98	0.45
3:XB:140:HIS:HA	3:XB:143:GLU:OE1	2.17	0.45
6:XE:41:VAL:HG13	6:XE:113:ALA:HB2	1.97	0.45
14:XM:115:LYS:HE3	14:XM:115:LYS:HB2	1.75	0.45
19:XR:32:ARG:HA	19:XR:69:THR:HG21	1.97	0.45
20:XS:47:HIS:O	20:XS:62:ILE:HG12	2.17	0.45
23:YA:229:A:OP1	23:YA:229:A:H4'	2.13	0.45
23:YA:363(B):G:H2'	23:YA:363(C):G:C8	2.51	0.45
23:YA:412:A:N7	23:YA:2411:A:H2	2.15	0.45
23:YA:524:U:H2'	23:YA:525:U:C6	2.51	0.45
23:YA:1520:U:H2'	23:YA:1521:G:O4'	2.15	0.45
23:YA:1794:U:H2'	23:YA:1795:C:H6	1.81	0.45
23:YA:2552:U:H2'	23:YA:2554:U:OP2	2.16	0.45
23:YA:2821:A:H2'	23:YA:2822:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YB:20:C:H2'	24:YB:21:G:O4'	2.17	0.45
25:YD:137:PRO:O	25:YD:140:THR:HG23	2.16	0.45
35:YR:78:LYS:O	35:YR:83:ILE:HG12	2.16	0.45
38:YU:68:ALA:O	38:YU:71:GLN:HB2	2.16	0.45
2:QA:545:C:O2'	2:QA:549:C:OP1	2.29	0.45
2:QA:1095:U:P	2:QA:1108:G:H1	2.39	0.45
3:QB:195:ASP:O	9:QH:74:PRO:CG	2.58	0.45
3:QB:217:ARG:HE	3:QB:217:ARG:HB2	1.29	0.45
5:QD:18:LYS:HD3	5:QD:20:TYR:CZ	2.51	0.45
21:QT:26:ASN:HB2	21:QT:71:THR:HG23	1.97	0.45
23:RA:29:U:H2'	23:RA:30:G:C8	2.52	0.45
23:RA:264:C:C2'	23:RA:265:A:H5"	2.46	0.45
23:RA:507:A:H5"	23:RA:508:G:H5'	1.98	0.45
23:RA:856:C:HO2'	23:RA:857:C:P	2.40	0.45
23:RA:1424:G:H2'	23:RA:1425:G:O4'	2.16	0.45
23:RA:2093:G:O2'	23:RA:2198:A:N1	2.43	0.45
23:RA:2557:G:H2'	23:RA:2558:C:H6	1.81	0.45
24:RB:80:U:H2'	24:RB:81:G:N2	2.29	0.45
32:RO:48:PRO:O	32:RO:49:ARG:HG2	2.17	0.45
33:RP:88:LEU:HD12	33:RP:95:VAL:HG11	1.98	0.45
35:RR:33:ARG:HG2	35:RR:34:ILE:N	2.30	0.45
50:R6:26:ASN:ND2	50:R6:35:GLU:OE2	2.49	0.45
2:XA:272:C:H2'	2:XA:273:A:C8	2.51	0.45
4:XC:153:VAL:HG22	4:XC:198:VAL:HG22	1.98	0.45
8:XG:45:ASP:O	8:XG:49:ILE:HG12	2.17	0.45
19:XR:73:ALA:HB3	19:XR:79:LEU:HD12	1.98	0.45
23:YA:26:G:H1'	23:YA:515:A:H61	1.82	0.45
23:YA:36:G:N3	23:YA:450:G:O2'	2.47	0.45
23:YA:236:C:H2'	23:YA:237:C:C6	2.52	0.45
23:YA:363(A):A:H2'	23:YA:363(B):G:H8	1.81	0.45
23:YA:1754:C:H5'	37:YT:101:PHE:CE2	2.51	0.45
23:YA:1816:G:H8	25:YD:62:TYR:CZ	2.35	0.45
23:YA:1826:G:H4'	25:YD:242:ARG:CZ	2.46	0.45
33:YP:27:HIS:ND1	33:YP:27:HIS:N	2.64	0.45
35:YR:24:GLN:HE21	35:YR:44:LEU:HG	1.81	0.45
42:YY:87:LYS:HA	42:YY:92:ASN:HB3	1.98	0.45
43:YZ:19:ARG:NH1	43:YZ:84:GLU:O	2.46	0.45
44:Y0:53:MET:HB2	44:Y0:59:LEU:HD23	1.98	0.45
5:QD:121:VAL:O	5:QD:134:ASP:HA	2.17	0.45
6:QE:97:GLY:N	6:QE:117:ASP:OD2	2.40	0.45
9:QH:20:TYR:HA	9:QH:65:TYR:CZ	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:911:A:H2'	34:RQ:9:TYR:OH	2.17	0.45
23:RA:1022:G:O2'	23:RA:1023:U:OP2	2.25	0.45
23:RA:2127:G:N2	23:RA:2173:A:H1'	2.31	0.45
23:RA:2296:U:OP2	36:RS:6:ALA:HB2	2.17	0.45
23:RA:2572:A:C8	26:RE:144:ARG:HD2	2.52	0.45
25:RD:105:ILE:HD12	25:RD:105:ILE:HA	1.63	0.45
25:RD:118:VAL:HG22	25:RD:119:ALA:H	1.82	0.45
28:RG:106:LEU:HA	28:RG:110:ALA:HB3	1.98	0.45
33:RP:18:ARG:HD2	33:RP:27:HIS:HD2	1.81	0.45
36:RS:16:ASN:HA	36:RS:19:LYS:HD3	1.98	0.45
41:RX:31:HIS:HA	41:RX:32:PRO:HD3	1.84	0.45
2:XA:99:C:H2'	2:XA:101:A:C8	2.51	0.45
2:XA:564:C:H5'	18:XQ:32:TYR:CE2	2.51	0.45
2:XA:1006:C:H2'	2:XA:1007:C:C6	2.51	0.45
2:XA:1070:U:H2'	2:XA:1071:C:H6	1.82	0.45
16:XO:6:GLU:H	16:XO:6:GLU:CD	2.15	0.45
20:XS:63:THR:HG23	20:XS:66:MET:HG2	1.99	0.45
23:YA:466:A:N3	23:YA:683:C:H1'	2.32	0.45
23:YA:1614:A:N6	40:YW:88:ARG:H	2.14	0.45
23:YA:1786:A:H1'	23:YA:1938:A:N6	2.32	0.45
27:YF:11:VAL:HA	27:YF:125:LEU:O	2.16	0.45
33:YP:124:LYS:HA	33:YP:143:GLY:O	2.16	0.45
37:YT:6:LEU:HA	37:YT:9:LEU:HB2	1.99	0.45
38:YU:66:ASN:O	38:YU:70:ARG:HB2	2.17	0.45
39:YV:19:LYS:HG3	39:YV:95:LEU:HD23	1.98	0.45
43:YZ:28:MET:O	43:YZ:34:ASN:HA	2.17	0.45
45:Y1:91:LYS:HA	45:Y1:91:LYS:HE3	1.98	0.45
46:Y2:24:LEU:HA	46:Y2:24:LEU:HD23	1.67	0.45
2:QA:542:G:H5'	5:QD:41:GLY:HA3	1.98	0.45
2:QA:793:U:O2	2:QA:1516:G:H4'	2.17	0.45
2:QA:1201:A:O2'	2:QA:1202:G:O5'	2.33	0.45
3:QB:163:PHE:HA	3:QB:185:ILE:HG13	1.98	0.45
7:QF:45:LEU:HD12	7:QF:59:TYR:HD1	1.82	0.45
8:QG:45:ASP:O	8:QG:49:ILE:HG12	2.16	0.45
8:QG:49:ILE:O	8:QG:53:LYS:HB3	2.16	0.45
23:RA:265:A:O2'	23:RA:266:G:H4'	2.16	0.45
25:RD:121:PRO:HB3	25:RD:135:PHE:CE1	2.52	0.45
26:RE:111:ARG:HA	35:RR:1:MET:SD	2.57	0.45
35:RR:103:ARG:NH1	40:RW:40:ASN:OD1	2.50	0.45
2:XA:555:C:H2'	2:XA:556:C:C6	2.51	0.45
8:XG:15:ASP:OD2	8:XG:44:TYR:OH	2.35	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:XI:114:TYR:N	10:XI:114:TYR:HD2	2.14	0.45
16:XO:32:LEU:HD11	16:XO:62:GLN:HG2	1.99	0.45
21:XT:87:LYS:HD2	21:XT:87:LYS:HA	1.74	0.45
23:YA:1257:C:H4'	27:YF:83:PHE:CE2	2.51	0.45
23:YA:1798:U:C5'	25:YD:259:THR:HG22	2.45	0.45
23:YA:2074:U:H2'	23:YA:2075:U:C6	2.51	0.45
42:YY:51:VAL:HG13	42:YY:52:SER:N	2.29	0.45
42:YY:56:PRO:O	42:YY:58:GLY:N	2.49	0.45
2:QA:792:A:H1'	2:QA:793:U:OP2	2.17	0.45
2:QA:1352:C:H2'	2:QA:1353:G:C8	2.52	0.45
3:QB:197:VAL:O	9:QH:68:ARG:NH2	2.49	0.45
8:QG:113:GLU:CG	8:QG:119:ARG:HG2	2.47	0.45
23:RA:311:A:C6	23:RA:328:U:C4	3.05	0.45
23:RA:607:U:OP1	27:RF:102:PRO:HA	2.16	0.45
23:RA:2867:G:O2'	23:RA:2868:A:P	2.75	0.45
23:RA:2867:G:OP2	37:RT:119:LYS:NZ	2.31	0.45
23:RA:2875:C:H4'	37:RT:5:ALA:HB2	1.99	0.45
25:RD:30:GLU:HG3	25:RD:63:ARG:CZ	2.47	0.45
25:RD:76:PRO:HB2	25:RD:116:GLN:OE1	2.17	0.45
26:RE:46:ALA:HB2	26:RE:82:ARG:HA	1.98	0.45
30:RI:113:ARG:HG3	30:RI:131:LYS:NZ	2.32	0.45
31:RN:19:GLU:HB2	31:RN:56:ASN:HD22	1.80	0.45
2:XA:474:G:H2'	2:XA:475:G:C8	2.51	0.45
2:XA:477:G:H2'	2:XA:478:A:H8	1.81	0.45
2:XA:600:C:H2'	2:XA:601:C:H6	1.81	0.45
2:XA:686:U:O4	2:XA:703:G:H1'	2.17	0.45
2:XA:719:C:O2'	19:XR:49:LYS:HB3	2.16	0.45
2:XA:735:C:H5'	19:XR:71:LYS:HD3	1.99	0.45
7:XF:100:ASN:O	19:XR:28:GLU:HG2	2.17	0.45
17:XP:17:TYR:CE1	17:XP:41:PRO:HG3	2.52	0.45
23:YA:1394:U:C4	23:YA:1395:A:C6	3.05	0.45
23:YA:1534:G:H2'	23:YA:1534:G:N3	2.32	0.45
23:YA:1914:C:H2'	23:YA:1915:U:O4'	2.17	0.45
30:YI:110:ASP:HB3	30:YI:112:LYS:N	2.32	0.45
39:YV:36:PRO:HA	39:YV:56:SER:OG	2.17	0.45
46:Y2:4:SER:OG	46:Y2:5:GLU:OE1	2.23	0.45
46:Y2:21:LEU:O	46:Y2:25:VAL:HG23	2.17	0.45
47:Y3:31:LEU:O	47:Y3:32:GLN:HB2	2.17	0.45
50:Y6:15:GLU:CD	50:Y6:41:PRO:HB3	2.37	0.45
2:QA:382:A:H2'	2:QA:383:A:C8	2.51	0.45
2:QA:1176:A:H2'	2:QA:1177:G:H5'	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QA:1343:G:H2'	2:QA:1344:C:C6	2.51	0.45
4:QC:79:ARG:CZ	12:XK:99:GLN:C	2.85	0.45
5:QD:53:ASP:O	5:QD:57:ARG:HD2	2.16	0.45
12:QK:91:ARG:NH1	12:QK:110:ASP:OD1	2.48	0.45
14:QM:92:HIS:CD2	14:QM:110:ARG:HH21	2.35	0.45
23:RA:78:A:H2'	23:RA:79:G:C8	2.52	0.45
23:RA:273(C):C:H42	23:RA:363(C):G:H1	1.65	0.45
23:RA:1790:C:H5"	23:RA:1791:A:OP1	2.16	0.45
23:RA:2250:G:C4	34:RQ:82:ARG:HG3	2.52	0.45
24:RB:28:C:H2'	24:RB:29:A:H8	1.82	0.45
28:RG:10:LYS:O	28:RG:14:GLU:HB3	2.17	0.45
32:RO:22:ILE:HG12	32:RO:41:ALA:HA	1.98	0.45
34:RQ:111:GLU:C	34:RQ:113:GLN:H	2.19	0.45
35:RR:33:ARG:HH22	49:R5:55:ARG:HG2	1.81	0.45
43:RZ:10:ARG:NH2	43:RZ:26:GLY:O	2.49	0.45
50:R6:34:LEU:HD13	50:R6:34:LEU:H	1.82	0.45
2:XA:1103:C:H2'	2:XA:1104:G:O4'	2.17	0.45
2:XA:1241:G:H2'	2:XA:1242:C:C6	2.51	0.45
3:XB:115:LEU:HD13	3:XB:145:LEU:HB3	1.98	0.45
9:XH:86:ILE:HG13	9:XH:133:LEU:HD22	1.98	0.45
23:YA:944:G:H5"	23:YA:945:A:O5'	2.16	0.45
23:YA:1174:A:H2'	23:YA:1174:A:N3	2.32	0.45
23:YA:2688:U:H5	23:YA:2720:U:OP2	1.99	0.45
26:YE:67:PHE:O	26:YE:69:LYS:N	2.49	0.45
29:YH:150:ALA:O	29:YH:152:ARG:N	2.49	0.45
37:YT:102:ILE:HA	37:YT:105:LEU:CD2	2.47	0.45
38:YU:58:ARG:HA	38:YU:61:TRP:CE3	2.52	0.45
54:QV:37:1MG:H2'	54:QV:39:A:C8	2.52	0.45
2:QA:10:A:H2'	2:QA:11:G:C8	2.52	0.45
2:QA:1411:C:H2'	2:QA:1412:C:H6	1.82	0.45
3:QB:51:LEU:HD22	3:QB:55:PHE:HE2	1.82	0.45
5:QD:8:VAL:HG13	5:QD:21:LEU:HD12	1.97	0.45
9:QH:104:ARG:O	9:QH:107:LEU:HB2	2.16	0.45
10:QI:126:SER:O	10:QI:128:ARG:N	2.45	0.45
11:QJ:40:LEU:HB2	11:QJ:69:ASN:CB	2.47	0.45
23:RA:1006:C:O2'	31:RN:106:MET:O	2.32	0.45
23:RA:1429:G:H2'	23:RA:1430:C:C6	2.52	0.45
23:RA:1506:C:H3'	23:RA:1507:A:H5"	1.99	0.45
27:RF:45:ARG:HH11	27:RF:45:ARG:CG	2.29	0.45
31:RN:116:LEU:HD23	31:RN:116:LEU:HA	1.78	0.45
35:RR:78:LYS:HE2	35:RR:83:ILE:HD11	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RY:68:HIS:CE1	42:RY:70:SER:HB3	2.52	0.45
48:R4:10:VAL:HA	48:R4:11:PRO:HD2	1.75	0.45
2:XA:143:A:H2	2:XA:220:G:H1	1.65	0.45
2:XA:745:C:OP1	2:XA:851:G:O2'	2.34	0.45
2:XA:1342:C:H2'	2:XA:1343:G:H8	1.82	0.45
2:XA:1343:G:H2'	2:XA:1344:C:C6	2.52	0.45
3:XB:70:PHE:O	3:XB:93:VAL:N	2.34	0.45
5:XD:86:LYS:HD2	5:XD:86:LYS:H	1.82	0.45
23:YA:467:G:OP1	51:Y7:33:ARG:NH1	2.45	0.45
23:YA:784:A:H5'	23:YA:785:G:OP1	2.15	0.45
23:YA:796:C:H2'	23:YA:797:C:C6	2.52	0.45
23:YA:1359:A:N6	23:YA:1372:U:H3	2.11	0.45
23:YA:1405:U:H2'	23:YA:1406:U:C6	2.51	0.45
23:YA:1870:C:H2'	23:YA:1871:A:O4'	2.16	0.45
23:YA:2040:C:H2'	23:YA:2041:U:C6	2.52	0.45
33:YP:106:LEU:HD23	33:YP:106:LEU:HA	1.84	0.45
42:YY:101:LYS:HG2	42:YY:102:CYS:H	1.82	0.45
45:Y1:79:GLY:N	45:Y1:80:LEU:HD23	2.32	0.45
48:Y4:16:CYS:HB3	48:Y4:33:VAL:HB	1.98	0.45
50:Y6:33:LYS:HE2	50:Y6:33:LYS:HB2	1.76	0.45
2:QA:1004:A:H2	2:QA:1024:G:C8	2.35	0.45
2:QA:1226:C:H2'	14:QM:103:THR:HB	1.97	0.45
2:QA:1316:G:N2	2:QA:1319:A:H5"	2.28	0.45
3:QB:30:ARG:HH21	3:QB:194:PRO:HG2	1.81	0.45
3:QB:76:GLN:O	3:QB:208:ILE:HG12	2.17	0.45
12:QK:41:THR:HG21	12:QK:71:LYS:HB2	1.99	0.45
23:RA:704:G:H1'	23:RA:726:G:N2	2.31	0.45
23:RA:1972:A:H2'	23:RA:1973:G:H8	1.80	0.45
24:RB:37:C:O2	36:RS:95:HIS:NE2	2.50	0.45
26:RE:107:THR:O	26:RE:190:GLY:HA2	2.17	0.45
35:RR:42:LYS:HA	35:RR:45:ARG:HD2	1.98	0.45
36:RS:10:ARG:O	36:RS:14:VAL:HG12	2.17	0.45
2:XA:312:C:H2'	2:XA:313:A:H8	1.82	0.45
5:XD:50:ARG:H	5:XD:50:ARG:HG3	1.63	0.45
10:XI:111:ARG:HH22	11:XJ:62:HIS:CE1	2.35	0.45
11:XJ:16:LEU:HD11	11:XJ:70:ARG:HB2	1.99	0.45
21:XT:33:ILE:HG23	21:XT:63:ILE:HG12	1.99	0.45
23:YA:1077:A:H5'	23:YA:1078:U:H5"	1.98	0.45
23:YA:2065:C:H1'	23:YA:2449:U:O2	2.17	0.45
23:YA:2774:C:H2'	23:YA:2775:A:O4'	2.16	0.45
25:YD:39:LYS:HB2	25:YD:62:TYR:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YG:146:TYR:O	28:YG:149:VAL:HG22	2.16	0.45
29:YH:12:PRO:O	29:YH:13:LYS:HB2	2.17	0.45
29:YH:85:LYS:HD2	29:YH:85:LYS:HA	1.89	0.45
33:YP:126:VAL:HG12	33:YP:147:LEU:HD22	1.99	0.45
40:YW:97:LYS:HE2	40:YW:99:ARG:NH2	2.31	0.45
41:YX:60:ARG:HH22	51:Y7:47:ARG:NH1	2.14	0.45
48:Y4:22:ILE:HG22	48:Y4:23:GLU:H	1.82	0.45
2:QA:686:U:O4	2:QA:703:G:H1'	2.17	0.45
2:QA:836:G:C6	2:QA:851:G:C6	3.05	0.45
8:QG:9:VAL:HG13	8:QG:94:ARG:NH2	2.27	0.45
9:QH:6:ILE:HB	9:QH:85:ARG:HH11	1.82	0.45
9:QH:6:ILE:O	9:QH:10:LEU:HG	2.17	0.45
11:QJ:51:ARG:NE	11:QJ:60:ARG:O	2.45	0.45
14:QM:84:ILE:HD12	14:QM:84:ILE:HA	1.75	0.45
23:RA:1226:G:H4'	39:RV:84:LYS:HG2	1.98	0.45
23:RA:1401:G:H2'	23:RA:1402:C:O4'	2.16	0.45
23:RA:1678:G:H22	23:RA:1989:G:N2	2.13	0.45
23:RA:2150:U:H2'	23:RA:2151:G:H8	1.81	0.45
23:RA:2392:A:OP2	52:R8:31:HIS:HD2	2.00	0.45
23:RA:2630:G:O4'	23:RA:2894:G:H1'	2.16	0.45
23:RA:2747:G:H21	23:RA:2757:A:H62	1.65	0.45
28:RG:102:PHE:O	28:RG:106:LEU:N	2.50	0.45
33:RP:64:LYS:HB2	52:R8:25:MET:HG3	1.98	0.45
35:RR:28:LEU:HD12	35:RR:48:VAL:HG11	1.99	0.45
42:RY:90:LEU:HB2	42:RY:91:GLU:H	1.63	0.45
45:R1:83:GLU:OE2	45:R1:83:GLU:N	2.49	0.45
46:R2:41:ILE:HD11	46:R2:44:LEU:HB2	1.99	0.45
2:XA:148:G:H1	2:XA:174:C:H42	1.65	0.45
2:XA:973:G:C4	11:XJ:55:LYS:HE2	2.52	0.45
2:XA:978:A:OP2	2:XA:1362(A):C:N4	2.48	0.45
5:XD:25:ARG:NH1	5:XD:30:LYS:HG3	2.32	0.45
9:XH:65:TYR:HA	9:XH:79:VAL:HG23	1.98	0.45
18:XQ:43:LEU:HD12	18:XQ:68:ARG:HG2	1.97	0.45
20:XS:65:ASN:N	48:Y4:59:PHE:CE2	2.84	0.45
20:XS:66:MET:HB2	20:XS:74:PHE:CZ	2.52	0.45
22:XU:5:ASP:HB3	22:XU:8:THR:OG1	2.17	0.45
23:YA:750:A:OP1	23:YA:1615:C:N4	2.46	0.45
23:YA:855:G:O2'	44:Y0:27:GLU:OE2	2.22	0.45
24:YB:8:U:O2'	36:YS:40:ILE:HD13	2.17	0.45
25:YD:44:ASN:ND2	25:YD:44:ASN:N	2.64	0.45
26:YE:167:VAL:HG21	26:YE:187:ALA:CB	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YI:110:ASP:N	30:YI:130:TYR:OH	2.50	0.45
50:Y6:7:ILE:HD12	50:Y6:7:ILE:HA	1.85	0.45
2:QA:359:U:H2'	2:QA:360:A:H8	1.81	0.44
2:QA:838:G:C6	2:QA:842:C:H1'	2.53	0.44
2:QA:962:C:H42	2:QA:974:A:H61	1.65	0.44
2:QA:1124:G:H3'	2:QA:1145:C:N4	2.32	0.44
2:QA:1222:G:OP1	20:QS:77:THR:HG21	2.17	0.44
2:QA:1308:U:OP1	14:QM:98:VAL:HG23	2.17	0.44
2:QA:1367:C:H4'	11:QJ:48:THR:HG21	1.99	0.44
7:QF:41:GLU:HB3	7:QF:62:TRP:HB3	1.99	0.44
8:QG:113:GLU:H	8:QG:113:GLU:HG2	1.39	0.44
20:QS:10:PHE:HB2	20:QS:39:THR:H	1.82	0.44
20:QS:65:ASN:C	48:R4:59:PHE:CE2	2.85	0.44
20:QS:66:MET:HB2	20:QS:74:PHE:CZ	2.51	0.44
20:QS:67:VAL:HG12	48:R4:59:PHE:HD1	1.63	0.44
23:RA:27:G:O2'	23:RA:28:A:C8	2.71	0.44
23:RA:1027:A:C2	23:RA:2488:A:H5'	2.52	0.44
23:RA:1300:U:H4'	23:RA:1301:A:H5"	1.98	0.44
23:RA:1543:A:O2'	23:RA:1544:C:O5'	2.30	0.44
23:RA:2308:G:N2	23:RA:2311:A:H2	2.11	0.44
23:RA:2630:G:H2'	23:RA:2631:G:C8	2.53	0.44
27:RF:161:GLU:OE2	27:RF:164:ARG:NH1	2.51	0.44
29:RH:52:VAL:HG21	29:RH:69:ARG:HA	1.98	0.44
30:RI:21:VAL:HG21	30:RI:25:TYR:HD1	1.82	0.44
42:RY:42:VAL:HG12	42:RY:65:ALA:HB3	1.99	0.44
2:XA:767:A:H2'	2:XA:768:A:O4'	2.17	0.44
2:XA:1304:G:C6	2:XA:1305:G:C2	3.05	0.44
8:XG:138:LYS:HE2	8:XG:142:GLU:OE2	2.17	0.44
12:XK:28:THR:OG1	12:XK:90:GLY:HA3	2.17	0.44
14:XM:65:LYS:O	14:XM:70:LEU:HD23	2.17	0.44
23:YA:603:A:O4'	23:YA:655:A:N6	2.50	0.44
23:YA:732:C:H2'	23:YA:733:G:O4'	2.17	0.44
23:YA:747:U:O2	23:YA:2014:A:H1'	2.17	0.44
23:YA:1348:G:H2'	23:YA:1349:A:H5"	1.98	0.44
23:YA:1759:A:H1'	23:YA:2711:A:C2	2.52	0.44
23:YA:1888:G:H5"	23:YA:1888:G:N3	2.31	0.44
23:YA:2031:A:N3	23:YA:2455:G:O2'	2.44	0.44
29:YH:52:VAL:HG21	29:YH:68:THR:HG22	2.00	0.44
32:YO:86:ILE:HG22	32:YO:94:ARG:HD3	2.00	0.44
36:YS:88:ASP:HB3	36:YS:89:ARG:H	1.47	0.44
2:QA:411:A:N6	2:QA:413:G:H21	2.14	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QA:1292:U:OP1	8:QG:41:ARG:NH2	2.50	0.44
2:QA:1305:G:H1'	2:QA:1332:A:N6	2.32	0.44
3:QB:130:ARG:HA	3:QB:131:PRO:HD3	1.81	0.44
11:QJ:33:GLN:O	11:QJ:75:ILE:HG12	2.17	0.44
20:QS:70:LYS:NZ	48:R4:68:ARG:HH22	2.12	0.44
23:RA:208:C:H2'	23:RA:209:C:C6	2.52	0.44
23:RA:828:U:H4'	23:RA:831:G:N1	2.31	0.44
23:RA:1287:A:N7	35:RR:107:ASP:HB2	2.31	0.44
23:RA:2261:C:C6	44:R0:16:SER:HB3	2.53	0.44
23:RA:2336:A:H61	44:R0:43:THR:CG2	2.30	0.44
23:RA:2702:U:O2	23:RA:2702:U:H2'	2.16	0.44
25:RD:85:ASP:HA	25:RD:86:PRO:HD2	1.72	0.44
29:RH:109:PHE:CZ	29:RH:152:ARG:HG2	2.52	0.44
34:RQ:108:GLY:HA3	43:RZ:116:VAL:HG11	1.99	0.44
43:RZ:152:ALA:O	43:RZ:154:ASP:N	2.49	0.44
2:XA:812:C:H1'	2:XA:813:U:OP2	2.17	0.44
2:XA:992:U:H3	2:XA:1044:A:H62	1.65	0.44
2:XA:1190:G:OP1	4:XC:4:LYS:HA	2.17	0.44
2:XA:1346:A:H1'	2:XA:1348:U:C6	2.53	0.44
9:XH:51:VAL:HG11	9:XH:60:ARG:HG3	1.99	0.44
13:XL:45:PRO:HG3	13:XL:53:ARG:HD3	1.98	0.44
20:XS:24:ALA:O	20:XS:25:LYS:HB3	2.17	0.44
21:XT:87:LYS:O	21:XT:91:LEU:HG	2.17	0.44
23:YA:844:C:H2'	23:YA:845:G:O4'	2.17	0.44
23:YA:846:C:C2	23:YA:847:U:C5	3.06	0.44
23:YA:1486:A:H2'	23:YA:1487:G:H8	1.83	0.44
23:YA:1654:A:OP2	35:YR:2:ARG:HD2	2.17	0.44
23:YA:1790:C:H2'	23:YA:1791:A:C5	2.52	0.44
29:YH:3:ARG:HA	29:YH:3:ARG:NE	2.33	0.44
33:YP:64:LYS:CB	52:Y8:25:MET:HG3	2.48	0.44
39:YV:99:ILE:HD13	39:YV:99:ILE:H	1.82	0.44
40:YW:33:ARG:NH2	40:YW:52:GLU:OE1	2.50	0.44
41:YX:35:THR:O	41:YX:39:ILE:HG13	2.16	0.44
43:YZ:3:TYR:O	43:YZ:58:VAL:HG23	2.16	0.44
45:Y1:53:VAL:HB	45:Y1:58:ILE:HD13	1.98	0.44
46:Y2:41:ILE:HD11	46:Y2:44:LEU:CG	2.48	0.44
2:QA:954:G:H4'	14:QM:121:LYS:HG3	1.99	0.44
7:QF:23:LYS:O	7:QF:27:GLN:HG2	2.17	0.44
23:RA:898:C:C2'	23:RA:899:A:H5'	2.47	0.44
23:RA:1188:U:H4'	39:RV:79:VAL:HG22	2.00	0.44
25:RD:49:ILE:CD1	25:RD:52:ARG:HA	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RO:87:ILE:HD12	32:RO:91:LEU:HD12	1.99	0.44
36:RS:11:LYS:HG3	36:RS:91:PRO:HD3	1.98	0.44
38:RU:65:ILE:HG12	38:RU:96:ALA:CB	2.47	0.44
50:R6:32:ASN:N	50:R6:32:ASN:OD1	2.49	0.44
2:XA:376:G:OP1	17:XP:5:ARG:HB2	2.18	0.44
2:XA:381:C:H2'	2:XA:382:A:O4'	2.17	0.44
3:XB:12:GLU:C	3:XB:14:GLY:H	2.21	0.44
9:XH:83:ILE:HB	9:XH:137:VAL:HG13	1.99	0.44
28:YG:47:LYS:HE3	28:YG:47:LYS:HB2	1.73	0.44
30:YI:40:THR:O	30:YI:44:LEU:HB2	2.18	0.44
32:YO:17:ARG:NH2	32:YO:47:ILE:HD13	2.33	0.44
2:QA:19:C:P	6:QE:127:ASN:HD22	2.41	0.44
2:QA:238:G:C6	2:QA:239:U:C4	3.06	0.44
2:QA:410:G:H2'	2:QA:429:U:C5	2.53	0.44
2:QA:973:G:O6	2:QA:974:A:N6	2.50	0.44
11:QJ:47:PHE:HE1	11:QJ:63:PHE:HB2	1.83	0.44
13:QL:70:ILE:HD13	13:QL:77:LEU:HD12	1.99	0.44
23:RA:671:C:OP1	33:RP:42:SER:O	2.36	0.44
23:RA:1210:A:H5"	23:RA:1210:A:C8	2.51	0.44
23:RA:2133:G:H2'	23:RA:2157:G:N2	2.33	0.44
23:RA:2168:G:H2'	23:RA:2168:G:N3	2.32	0.44
23:RA:2572:A:N7	26:RE:144:ARG:HD2	2.32	0.44
24:RB:24:G:H5"	24:RB:25:A:OP1	2.18	0.44
28:RG:37:VAL:O	28:RG:94:LEU:HG	2.17	0.44
28:RG:57:ALA:HB1	28:RG:68:PRO:HG2	1.99	0.44
29:RH:28:GLY:HA3	29:RH:79:VAL:HB	2.00	0.44
31:RN:114:ARG:O	31:RN:115:ARG:HB3	2.17	0.44
32:RO:111:PHE:HB3	32:RO:114:ILE:HG13	1.99	0.44
44:R0:41:ARG:HE	44:R0:41:ARG:HA	1.82	0.44
46:R2:49:LYS:O	46:R2:53:LEU:HB2	2.18	0.44
2:XA:1202:G:N2	15:XN:46:GLU:OE2	2.38	0.44
2:XA:1441:G:H4'	2:XA:1442:G:C4	2.53	0.44
4:XC:14:ILE:HG12	4:XC:15:THR:N	2.30	0.44
6:XE:99:GLY:N	6:XE:117:ASP:OD2	2.47	0.44
17:XP:18:ARG:NH1	17:XP:32:TYR:OH	2.50	0.44
20:XS:69:HIS:HA	48:Y4:69:LYS:HE3	0.54	0.44
23:YA:860:U:C5	23:YA:917:A:H2	2.35	0.44
23:YA:2097:C:H2'	23:YA:2098:U:O4'	2.17	0.44
23:YA:2477:C:H2'	53:Y9:1:MET:CG	2.48	0.44
31:YN:134:ARG:O	31:YN:136:GLU:N	2.50	0.44
37:YT:61:PHE:CE2	37:YT:76:PHE:HB2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YU:104:GLN:OE1	38:YU:105:VAL:HG23	2.18	0.44
39:YV:15:GLU:HG3	39:YV:16:PRO:HD2	1.99	0.44
42:YY:51:VAL:O	42:YY:56:PRO:HA	2.17	0.44
50:Y6:34:LEU:HD13	50:Y6:34:LEU:H	1.82	0.44
2:QA:272:C:H2'	2:QA:273:A:H8	1.82	0.44
2:QA:452:A:O2'	2:QA:453:A:O4'	2.35	0.44
2:QA:932:C:H4'	8:QG:4:ARG:NH2	2.33	0.44
5:QD:28:SER:HB3	5:QD:29:PRO:CD	2.42	0.44
6:QE:18:ARG:HE	6:QE:18:ARG:HB3	1.52	0.44
16:QO:50:HIS:O	16:QO:53:HIS:HB3	2.17	0.44
23:RA:118:A:N3	23:RA:178:G:H1'	2.32	0.44
23:RA:1059:G:H3'	23:RA:1060:U:H5"	1.99	0.44
23:RA:1591:G:H2'	23:RA:1592:C:C6	2.52	0.44
25:RD:70:TRP:HZ3	25:RD:146:GLU:OE2	2.01	0.44
26:RE:23:VAL:HG12	26:RE:184:VAL:O	2.17	0.44
27:RF:9:ILE:HA	27:RF:10:PRO:HD3	1.89	0.44
33:RP:37:GLY:O	33:RP:40:SER:OG	2.26	0.44
34:RQ:12:GLN:HE21	34:RQ:72:LYS:HD3	1.82	0.44
39:RV:35:LEU:CD2	39:RV:57:VAL:HG22	2.47	0.44
2:XA:1158:C:H4'	3:XB:133:LYS:NZ	2.33	0.44
11:XJ:61:GLU:OE1	15:XN:58:LYS:HE2	2.17	0.44
19:XR:52:PRO:HB2	19:XR:54:ARG:HG2	2.00	0.44
20:XS:69:HIS:ND1	48:Y4:69:LYS:HE2	2.30	0.44
23:YA:143:C:H2'	23:YA:144:C:H6	1.82	0.44
23:YA:547:A:H2'	23:YA:548:A:C8	2.52	0.44
23:YA:1050:A:H8	23:YA:2751:G:O2'	2.00	0.44
23:YA:1109:C:HO2'	23:YA:1110:G:P	2.39	0.44
23:YA:1173:G:H4'	23:YA:1174:A:N7	2.33	0.44
27:YF:184:TYR:CE2	27:YF:188:ARG:HD2	2.52	0.44
29:YH:124:GLU:HB3	29:YH:132:ARG:HG3	1.99	0.44
31:YN:62:VAL:HG12	31:YN:66:LYS:HD2	1.98	0.44
37:YT:42:ILE:HG21	37:YT:84:GLN:NE2	2.32	0.44
38:YU:66:ASN:HB2	38:YU:76:TYR:HB2	1.99	0.44
48:Y4:35:VAL:C	48:Y4:37:SER:H	2.20	0.44
2:QA:137:C:O4'	17:QP:63:GLY:HA2	2.18	0.44
2:QA:339:C:OP2	32:RO:97:ARG:NH1	2.50	0.44
2:QA:411:A:C5	2:QA:413:G:H1'	2.52	0.44
2:QA:692:U:H5	12:QK:26:ASN:OD1	1.99	0.44
2:QA:1053:G:N7	2:QA:1200:C:H5"	2.33	0.44
2:QA:1307:U:O3'	14:QM:110:ARG:HD3	2.18	0.44
6:QE:100:VAL:HG22	6:QE:118:ILE:HG22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:QT:87:LYS:HD2	21:QT:87:LYS:HA	1.68	0.44
23:RA:26:G:OP1	40:RW:80:PRO:HB3	2.18	0.44
23:RA:792:G:H5"	23:RA:793:A:H5'	1.98	0.44
23:RA:956:G:H2'	23:RA:957:A:H2'	2.00	0.44
23:RA:1035:U:H2'	23:RA:1036:G:C8	2.52	0.44
28:RG:51:ARG:O	28:RG:53:LEU:N	2.48	0.44
32:RO:106:LEU:HD23	32:RO:106:LEU:HA	1.81	0.44
33:RP:140:ALA:O	33:RP:141:ALA:HB2	2.17	0.44
39:RV:49:THR:HB	39:RV:50:PRO:HD2	1.99	0.44
49:R5:46:CYS:HA	49:R5:47:PRO:HD2	1.63	0.44
53:R9:24:TYR:CE2	53:R9:35:ARG:HG3	2.53	0.44
2:XA:17:U:H5"	6:XE:14:ARG:NH1	2.33	0.44
2:XA:1129:C:C4'	2:XA:1130:A:H5'	2.46	0.44
6:XE:110:LEU:HD13	6:XE:118:ILE:HD13	1.98	0.44
16:XO:82:ILE:O	16:XO:86:GLY:N	2.51	0.44
23:YA:270(F):U:H2'	23:YA:270(G):C:C6	2.53	0.44
23:YA:2655:G:O2'	23:YA:2656:U:P	2.76	0.44
27:YF:47:GLY:HA3	27:YF:95:ARG:O	2.18	0.44
28:YG:98:ARG:O	28:YG:101:ILE:HG13	2.17	0.44
28:YG:114:ILE:HB	28:YG:117:PHE:HB2	1.99	0.44
43:YZ:157:LEU:HD13	43:YZ:162:GLU:HA	2.00	0.44
44:Y0:23:VAL:HB	44:Y0:26:TYR:HE2	1.82	0.44
46:Y2:17:SER:CB	46:Y2:67:LYS:HE3	2.47	0.44
2:QA:20:U:H2'	2:QA:21:G:O4'	2.17	0.44
2:QA:112:G:H4'	2:QA:389:A:H5"	1.99	0.44
2:QA:130:A:N3	2:QA:263:A:O2'	2.43	0.44
2:QA:885:G:O2'	2:QA:914:A:N1	2.44	0.44
2:QA:929:G:C6	2:QA:930:C:C4	3.06	0.44
2:QA:1113:C:H2'	2:QA:1114:C:C6	2.53	0.44
2:QA:1412:C:H2'	2:QA:1413:A:H8	1.81	0.44
2:QA:1436:U:H2'	2:QA:1437:C:O4'	2.16	0.44
4:QC:70:VAL:HG21	4:QC:76:VAL:HG11	2.00	0.44
5:QD:150:GLU:OE1	5:QD:150:GLU:N	2.51	0.44
5:QD:166:LYS:HG3	5:QD:178:VAL:HG11	1.99	0.44
10:QI:95:LYS:HZ1	10:QI:96:LEU:HD13	1.82	0.44
11:QJ:22:LYS:HB3	11:QJ:22:LYS:HE3	1.68	0.44
12:QK:92:GLU:HB3	12:QK:96:ARG:NH1	2.33	0.44
16:QO:39:LEU:HA	16:QO:39:LEU:HD23	1.68	0.44
20:QS:2:PRO:HB2	20:QS:3:ARG:H	1.56	0.44
20:QS:39:THR:CG2	48:R4:68:ARG:NE	2.76	0.44
23:RA:140:A:C8	23:RA:1408:C:O2'	2.71	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:249:C:OP2	23:RA:2394:C:O2'	2.29	0.44
23:RA:1459:G:H2'	23:RA:1460:A:H5"	1.99	0.44
23:RA:1994:C:P	26:RE:127:ASP:HB2	2.58	0.44
23:RA:2041:U:H2'	23:RA:2042:A:C8	2.53	0.44
23:RA:2303:G:O2'	28:RG:132:ASN:HB2	2.18	0.44
23:RA:2469:A:OP1	23:RA:2469:A:H4'	2.16	0.44
23:RA:2517:C:O3'	23:RA:2518:A:H3'	2.18	0.44
28:RG:95:ARG:O	28:RG:99:MET:HG2	2.18	0.44
28:RG:171:ALA:O	28:RG:175:LEU:HG	2.18	0.44
30:RI:14:ASP:H	30:RI:17:GLN:HB2	1.83	0.44
30:RI:21:VAL:HG22	30:RI:22:LYS:H	1.82	0.44
35:RR:29:LEU:HD12	35:RR:29:LEU:HA	1.74	0.44
39:RV:16:PRO:HB3	39:RV:97:LYS:O	2.17	0.44
41:RX:67:GLY:O	41:RX:69:TYR:N	2.43	0.44
2:XA:974:A:OP2	15:XN:29:ARG:NH2	2.50	0.44
3:XB:33:TYR:HB2	3:XB:43:ASP:HB2	1.99	0.44
3:XB:80:ILE:HG21	3:XB:212:GLN:HA	1.99	0.44
12:XK:19:ALA:HB2	12:XK:32:ILE:HG22	2.00	0.44
13:XL:42:THR:HA	13:XL:53:ARG:O	2.18	0.44
16:XO:77:ARG:HA	16:XO:80:ALA:HB3	1.99	0.44
20:XS:68:GLY:CA	48:Y4:68:ARG:CA	2.89	0.44
23:YA:363(F):A:H4'	23:YA:364:C:H5'	2.00	0.44
23:YA:1153:C:H2'	23:YA:1154:G:O4'	2.17	0.44
23:YA:1217:C:OP1	38:YU:15:LYS:HE3	2.17	0.44
23:YA:1448:G:O2'	23:YA:1528:A:N6	2.51	0.44
23:YA:1530:G:O6	23:YA:1542:G:N2	2.51	0.44
23:YA:2029:G:H2'	23:YA:2031:A:OP2	2.17	0.44
23:YA:2563:U:H4'	32:YO:28:SER:HA	1.98	0.44
27:YF:63:LYS:HE3	27:YF:65:TRP:O	2.18	0.44
28:YG:10:LYS:HE2	28:YG:175:LEU:O	2.18	0.44
30:YI:67:ARG:HH21	30:YI:68:LEU:HB2	1.82	0.44
41:YX:70:LEU:HD23	41:YX:70:LEU:H	1.83	0.44
52:Y8:49:VAL:HG23	52:Y8:53:PRO:HB3	2.00	0.44
2:QA:859:A:H2'	2:QA:860:A:O4'	2.18	0.44
3:QB:71:VAL:HA	3:QB:93:VAL:HB	2.00	0.44
13:QL:109:GLY:HA3	13:QL:121:GLY:O	2.17	0.44
23:RA:250:G:C6	23:RA:251:A:C6	3.06	0.44
23:RA:718:A:H3'	23:RA:719:C:H6	1.83	0.44
23:RA:987:G:O2'	23:RA:1000:A:N3	2.47	0.44
23:RA:1535:U:N3	23:RA:1537:C:H1'	2.32	0.44
23:RA:2306:C:H2'	23:RA:2307:G:N2	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:2543:G:H2'	23:RA:2544:G:C8	2.53	0.44
25:RD:34:VAL:HG22	25:RD:35:LYS:HG3	2.00	0.44
27:RF:117:ARG:HH12	33:RP:1:MET:N	2.16	0.44
29:RH:123:PHE:O	29:RH:125:VAL:HG23	2.18	0.44
35:RR:27:SER:HB3	35:RR:34:ILE:HD11	1.99	0.44
36:RS:19:LYS:O	36:RS:20:ARG:HB3	2.17	0.44
36:RS:29:PHE:HD2	36:RS:92:TYR:HH	1.65	0.44
37:RT:107:ASP:O	37:RT:111:ARG:NH1	2.51	0.44
41:RX:87:GLN:O	41:RX:88:LYS:HG3	2.18	0.44
43:RZ:76:LEU:HD23	43:RZ:76:LEU:H	1.83	0.44
43:RZ:115:GLY:HA2	43:RZ:175:VAL:O	2.17	0.44
44:R0:40:GLN:OE1	44:R0:44:ARG:N	2.51	0.44
2:XA:986:A:H1'	20:XS:54:GLY:O	2.17	0.44
2:XA:1453:G:H8	21:XT:39:LYS:CE	2.30	0.44
8:XG:87:VAL:HG11	8:XG:155:ARG:HA	1.99	0.44
13:XL:24:VAL:O	13:XL:26:ALA:N	2.47	0.44
14:XM:23:TYR:HE1	14:XM:70:LEU:HD12	1.83	0.44
16:XO:39:LEU:HD13	16:XO:56:LEU:HB2	2.00	0.44
17:XP:39:TYR:CZ	17:XP:41:PRO:HB3	2.53	0.44
23:YA:617:G:OP1	27:YF:40:GLN:NE2	2.51	0.44
23:YA:890:A:O2'	23:YA:892:G:H8	2.01	0.44
23:YA:968:G:H2'	23:YA:969:U:C6	2.52	0.44
23:YA:1357:U:H2'	23:YA:1358:G:O4'	2.18	0.44
23:YA:2282:G:H4'	23:YA:2389:G:O2'	2.18	0.44
25:YD:61:LEU:HD13	25:YD:61:LEU:HA	1.92	0.44
27:YF:66:PRO:O	27:YF:68:LYS:N	2.51	0.44
33:YP:62:LEU:HB2	52:Y8:30:ARG:HH11	1.83	0.44
37:YT:48:ILE:HD12	37:YT:48:ILE:H	1.83	0.44
45:Y1:94:LEU:HD23	45:Y1:94:LEU:HA	1.81	0.44
2:QA:145:G:H2'	2:QA:146:G:O4'	2.17	0.44
2:QA:309:G:O2'	2:QA:607:A:N1	2.47	0.44
2:QA:992:U:H1'	2:QA:993:G:OP2	2.17	0.44
5:QD:133:VAL:HG12	5:QD:135:LEU:H	1.83	0.44
23:RA:1169:G:H1	23:RA:1180:C:N4	2.13	0.44
23:RA:1678:G:N2	23:RA:1989:G:N2	2.65	0.44
23:RA:2292:C:P	36:RS:17:ARG:HH22	2.41	0.44
30:RI:55:ALA:HA	30:RI:58:LEU:HB3	2.00	0.44
41:RX:57:LEU:HD11	41:RX:78:LYS:HD2	1.99	0.44
49:R5:16:ARG:HD2	49:R5:20:ARG:NH1	2.33	0.44
2:XA:587:G:N2	2:XA:754:C:OP2	2.51	0.44
2:XA:690:G:H2'	2:XA:691:G:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XA:1277:C:O2'	2:XA:1279:A:H1'	2.17	0.44
4:XC:108:ASN:HB3	4:XC:111:LEU:HD12	2.00	0.44
5:XD:100:ARG:NH1	5:XD:137:SER:HB3	2.33	0.44
5:XD:153:ARG:NH1	5:XD:181:MET:HB2	2.32	0.44
7:XF:33:TYR:HB2	7:XF:75:LEU:HD12	1.99	0.44
11:XJ:44:VAL:HG13	11:XJ:66:ARG:HG2	1.99	0.44
13:XL:39:VAL:HG12	13:XL:41:ARG:HG3	2.00	0.44
16:XO:32:LEU:O	16:XO:36:ILE:HG13	2.18	0.44
23:YA:1430:C:H2'	23:YA:1431:U:C6	2.52	0.44
23:YA:2213:U:O2	45:Y1:52:ARG:NH2	2.51	0.44
23:YA:2790:A:H2'	23:YA:2791:C:H5"	2.00	0.44
25:YD:85:ASP:HB2	25:YD:92:ILE:HD13	1.99	0.44
26:YE:105:THR:OG1	26:YE:199:ARG:NH1	2.50	0.44
38:YU:88:ILE:H	38:YU:88:ILE:HG12	1.49	0.44
45:Y1:70:VAL:O	45:Y1:73:LEU:HB2	2.18	0.44
46:Y2:31:GLU:HB2	46:Y2:53:LEU:HD11	2.00	0.44
48:Y4:48:ARG:CZ	48:Y4:51:ASP:HA	2.47	0.44
50:Y6:41:PRO:HD2	50:Y6:46:HIS:H	1.81	0.44
3:QB:74:LYS:O	3:QB:78:GLN:HG3	2.18	0.43
17:QP:23:ASP:O	17:QP:26:ARG:HB2	2.16	0.43
23:RA:1022:G:C6	23:RA:1140:C:C4	3.06	0.43
23:RA:1859:A:N6	23:RA:1883:G:O2'	2.51	0.43
23:RA:1871:A:H2'	23:RA:1872:A:C8	2.53	0.43
23:RA:2108:C:H2'	23:RA:2109:U:C6	2.53	0.43
23:RA:2387:U:O2'	44:R0:41:ARG:NH2	2.51	0.43
23:RA:2745:C:C4	23:RA:2746:U:C4	3.06	0.43
24:RB:40:U:H1'	24:RB:45:A:H61	1.82	0.43
42:RY:81:LYS:HB2	42:RY:96:ILE:CG2	2.48	0.43
42:RY:97:ARG:HE	42:RY:98:VAL:HB	1.83	0.43
45:R1:49:VAL:HG11	45:R1:70:VAL:HG11	1.98	0.43
50:R6:28:ARG:HG3	50:R6:31:PRO:HD2	2.00	0.43
50:R6:41:PRO:HD2	50:R6:46:HIS:H	1.83	0.43
2:XA:662:G:H2'	2:XA:663:A:H8	1.82	0.43
2:XA:1060:C:C4	4:XC:2:GLY:HA2	2.53	0.43
2:XA:1062:U:H2'	2:XA:1063:C:C6	2.53	0.43
3:XB:178:ARG:HG3	9:XH:72:PRO:N	2.32	0.43
23:YA:458:G:O2'	51:Y7:39:ARG:HD3	2.17	0.43
23:YA:1506:C:H3'	23:YA:1507:A:H5"	1.98	0.43
23:YA:2267:A:H5"	23:YA:2268:A:H5'	2.00	0.43
23:YA:2492:U:H2'	23:YA:2493:U:C6	2.53	0.43
24:YB:40:U:H1'	24:YB:45:A:H61	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YE:37:ARG:O	26:YE:45:THR:HA	2.18	0.43
28:YG:67:LYS:O	28:YG:67:LYS:HD2	2.17	0.43
33:YP:126:VAL:HG12	33:YP:147:LEU:CD2	2.48	0.43
42:YY:67:LEU:HD12	42:YY:67:LEU:HA	1.78	0.43
43:YZ:180:VAL:HA	43:YZ:181:GLU:HA	1.89	0.43
2:QA:813:U:O5'	2:QA:813:U:H6	2.01	0.43
2:QA:985:C:H2'	2:QA:986:A:C8	2.53	0.43
2:QA:1032:A:H2'	2:QA:1032:A:N3	2.33	0.43
5:QD:158:ILE:HD13	5:QD:158:ILE:HA	1.82	0.43
8:QG:116:ALA:HA	8:QG:119:ARG:HE	1.83	0.43
20:QS:68:GLY:HA3	48:R4:68:ARG:CD	2.41	0.43
21:QT:16:HIS:O	21:QT:19:SER:HB3	2.17	0.43
23:RA:78:A:H2'	23:RA:79:G:H8	1.83	0.43
23:RA:729:G:OP2	25:RD:13:ARG:NH1	2.50	0.43
23:RA:2610:C:H4'	23:RA:2611:U:OP2	2.18	0.43
23:RA:2636:U:H2'	23:RA:2637:U:C6	2.53	0.43
25:RD:65:ILE:HD13	25:RD:65:ILE:H	1.82	0.43
28:RG:95:ARG:C	28:RG:99:MET:HG2	2.39	0.43
30:RI:74:ASN:OD1	30:RI:74:ASN:N	2.48	0.43
34:RQ:136:ALA:O	34:RQ:138:ASP:N	2.46	0.43
35:RR:54:LEU:HD23	35:RR:66:VAL:HG23	1.99	0.43
49:R5:56:LYS:H	49:R5:56:LYS:CD	2.31	0.43
2:XA:619:U:N3	5:XD:135:LEU:HD23	2.32	0.43
2:XA:1372:U:H2'	2:XA:1373:G:O4'	2.18	0.43
13:XL:58:VAL:O	13:XL:65:GLU:HA	2.18	0.43
23:YA:582:G:H2'	23:YA:583:G:C8	2.53	0.43
23:YA:862:G:H2'	23:YA:863:A:O4'	2.18	0.43
23:YA:1085:A:HO2'	23:YA:1086:A:P	2.38	0.43
23:YA:1971:A:C8	25:YD:241:PRO:HB3	2.52	0.43
23:YA:2023:G:H4'	23:YA:2617:C:O3'	2.18	0.43
23:YA:2747:G:H5"	29:YH:70:THR:HG21	2.00	0.43
33:YP:61:ARG:NH1	52:Y8:56:GLU:OE2	2.49	0.43
35:YR:38:VAL:HG22	35:YR:112:ALA:HB2	2.00	0.43
41:YX:72:LYS:HG2	41:YX:73:ARG:O	2.18	0.43
2:QA:35:G:O2'	13:QL:118:SER:O	2.35	0.43
2:QA:793:U:H3'	2:QA:794:A:H5"	2.00	0.43
4:QC:11:ARG:HB3	4:QC:15:THR:HB	2.00	0.43
23:RA:302:C:H2'	23:RA:303:U:C6	2.53	0.43
23:RA:646:A:H2'	23:RA:647:G:O4'	2.18	0.43
23:RA:1278:A:OP1	35:RR:36:THR:HG22	2.17	0.43
23:RA:1833:U:H2'	23:RA:1834:U:H6	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RD:145:VAL:HG11	25:RD:175:LEU:HD11	2.00	0.43
26:RE:36:ARG:HH21	26:RE:88:GLY:HA2	1.84	0.43
43:RZ:69:THR:HG22	43:RZ:90:VAL:HA	1.99	0.43
2:XA:542:G:H5'	5:XD:41:GLY:HA3	1.99	0.43
2:XA:963:G:H21	11:XJ:55:LYS:HE2	1.83	0.43
2:XA:1095:U:OP2	2:XA:1108:G:N1	2.41	0.43
2:XA:1322:C:OP1	2:XA:1322:C:H6	2.02	0.43
2:XA:1359:C:OP2	15:XN:35:ARG:NH1	2.51	0.43
2:XA:1446:A:H4'	37:YT:125:ARG:HH12	1.83	0.43
2:XA:1511:G:H2'	2:XA:1512:U:O4'	2.19	0.43
3:XB:172:ILE:O	3:XB:175:ARG:HB3	2.18	0.43
4:XC:72:LYS:HB3	4:XC:75:VAL:HG23	2.00	0.43
13:XL:62:SER:C	13:XL:64:TYR:H	2.21	0.43
18:XQ:62:SER:HB3	18:XQ:72:ARG:HE	1.84	0.43
23:YA:76:C:O2'	46:Y2:62:THR:HG21	2.18	0.43
23:YA:587:C:N4	23:YA:671:C:C2	2.86	0.43
23:YA:1048:A:C5	23:YA:1111:A:H2	2.36	0.43
23:YA:1408:C:H2'	23:YA:1409:C:C6	2.53	0.43
23:YA:2025:C:H2'	23:YA:2026:C:C6	2.52	0.43
23:YA:2721:A:O2'	23:YA:2874:C:H5'	2.17	0.43
23:YA:2820:A:C8	26:YE:109:LYS:HE2	2.53	0.43
24:YB:42:C:O2	28:YG:93:THR:N	2.33	0.43
25:YD:92:ILE:HD12	25:YD:104:TYR:CD2	2.54	0.43
26:YE:188:VAL:O	26:YE:188:VAL:HG13	2.18	0.43
30:YI:27:ARG:HB2	45:Y1:71:TYR:CZ	2.52	0.43
33:YP:83:VAL:O	33:YP:114:ILE:HA	2.19	0.43
37:YT:35:LYS:H	37:YT:35:LYS:HD2	1.83	0.43
39:YV:52:VAL:O	39:YV:54:GLY:N	2.51	0.43
45:Y1:25:LYS:C	45:Y1:27:GLU:H	2.22	0.43
2:QA:580:U:H2'	2:QA:581:G:O4'	2.18	0.43
2:QA:921:U:O2	6:QE:19:MET:HB2	2.18	0.43
2:QA:1154:G:H2'	2:QA:1155:G:H8	1.83	0.43
2:QA:1228:C:OP1	14:QM:115:LYS:N	2.45	0.43
2:QA:1305:G:O2'	2:QA:1306:A:O4'	2.36	0.43
3:QB:228:GLY:O	3:QB:230:VAL:N	2.50	0.43
5:QD:155:LEU:O	5:QD:159:ARG:HG2	2.18	0.43
9:QH:13:ILE:O	9:QH:17:THR:HG23	2.19	0.43
11:QJ:54:PHE:HB3	11:QJ:55:LYS:H	1.69	0.43
12:QK:19:ALA:HB2	12:QK:32:ILE:HG22	2.00	0.43
12:QK:38:ASN:HA	12:QK:39:PRO:HD3	1.88	0.43
17:QP:20:VAL:HG21	17:QP:32:TYR:CE1	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:372:G:O2'	23:RA:373:U:P	2.76	0.43
23:RA:498:G:H1'	42:RY:47:LYS:HZ3	1.83	0.43
23:RA:1220:A:H5'	23:RA:1221:C:OP2	2.19	0.43
23:RA:1520:U:H2'	23:RA:1521:G:O4'	2.18	0.43
23:RA:2122:U:H2'	23:RA:2123:G:C8	2.53	0.43
25:RD:72:LYS:NZ	25:RD:99:ASP:OD1	2.43	0.43
26:RE:119:ARG:HD3	26:RE:160:TYR:HB2	2.00	0.43
26:RE:143:ASN:HD22	26:RE:147:PRO:HD3	1.84	0.43
30:RI:128:LEU:N	30:RI:138:ILE:O	2.50	0.43
31:RN:33:LEU:HA	31:RN:38:HIS:CE1	2.54	0.43
31:RN:58:ASP:HB3	31:RN:95:PRO:HB3	2.00	0.43
42:RY:47:LYS:O	42:RY:49:VAL:N	2.51	0.43
50:R6:40:CYS:HA	50:R6:41:PRO:HD2	1.85	0.43
2:XA:738:C:H2'	2:XA:739:C:H6	1.82	0.43
3:XB:37:ASN:C	3:XB:39:ILE:H	2.20	0.43
11:XJ:54:PHE:CZ	11:XJ:55:LYS:HE3	2.53	0.43
14:XM:14:ARG:H	14:XM:44:ARG:CD	2.25	0.43
16:XO:25:THR:HG21	16:XO:70:LEU:HB2	2.00	0.43
17:XP:4:ILE:HB	17:XP:66:PRO:HB3	2.00	0.43
23:YA:512:G:OP1	23:YA:1235:G:H5'	2.18	0.43
29:YH:67:LEU:O	29:YH:71:LEU:HB2	2.18	0.43
30:YI:5:LEU:HD11	30:YI:19:VAL:HG12	1.99	0.43
31:YN:112:LEU:HG	31:YN:112:LEU:O	2.17	0.43
32:YO:64:ARG:HG2	32:YO:79:PHE:CD1	2.53	0.43
48:Y4:43:TYR:C	48:Y4:43:TYR:CD2	2.92	0.43
53:Y9:1:MET:O	53:Y9:34:GLN:HG2	2.18	0.43
2:QA:485:G:H1'	2:QA:486:U:H5	1.84	0.43
2:QA:1226:C:H4'	20:QS:80:TYR:OH	2.19	0.43
14:QM:65:LYS:HE2	48:R4:50:VAL:HG21	1.97	0.43
16:QO:17:ARG:HD3	16:QO:26:GLU:HG3	1.99	0.43
18:QQ:60:ILE:HB	18:QQ:74:LEU:HD23	2.00	0.43
19:QR:37:VAL:HG22	19:QR:78:LEU:HB3	2.01	0.43
23:RA:702:G:C2	23:RA:731:C:C2	3.06	0.43
23:RA:1265:A:H8	23:RA:1265:A:OP1	2.00	0.43
23:RA:1729:A:H2'	23:RA:1730:U:H5"	2.01	0.43
23:RA:1930:G:O2'	23:RA:1931:U:O5'	2.36	0.43
37:RT:1:MET:O	37:RT:3:ARG:HG2	2.19	0.43
43:RZ:97:GLU:HB3	43:RZ:125:LEU:HD11	2.01	0.43
2:XA:477:G:H2'	2:XA:478:A:C8	2.53	0.43
2:XA:963:G:H21	11:XJ:55:LYS:CE	2.31	0.43
2:XA:1126:U:H1'	2:XA:1280:A:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XA:1190:G:H5'	4:XC:176:HIS:NE2	2.34	0.43
4:XC:82:GLU:O	4:XC:86:VAL:HG13	2.17	0.43
15:XN:6:LEU:HD23	15:XN:23:ARG:HH22	1.83	0.43
15:XN:27:CYS:SG	15:XN:29:ARG:HB2	2.58	0.43
15:XN:29:ARG:HD3	15:XN:40:CYS:HB2	1.99	0.43
21:XT:98:PRO:C	21:XT:100:ILE:H	2.21	0.43
23:YA:747:U:C4	49:Y5:2:ALA:N	2.86	0.43
23:YA:1859:A:N6	23:YA:1883:G:O2'	2.52	0.43
23:YA:2335:A:HO2'	23:YA:2336:A:H8	1.65	0.43
23:YA:2469:A:C5	23:YA:2482:G:C8	3.06	0.43
23:YA:2756:U:H1'	23:YA:2757:A:H5"	2.01	0.43
24:YB:104:A:H5'	43:YZ:72:ARG:HD3	2.00	0.43
33:YP:30:THR:O	33:YP:33:ARG:HB2	2.18	0.43
42:YY:80:GLY:O	42:YY:81:LYS:HG3	2.18	0.43
47:Y3:51:ALA:HA	47:Y3:54:VAL:HG12	2.00	0.43
51:Y7:47:ARG:HB2	51:Y7:48:LYS:H	1.59	0.43
54:QV:40:C:H2'	54:QV:41:G:C8	2.53	0.43
2:QA:545:C:OP1	5:QD:61:LYS:NZ	2.51	0.43
2:QA:976:G:OP2	2:QA:1358:U:O2'	2.37	0.43
3:QB:44:LEU:H	3:QB:44:LEU:HD12	1.83	0.43
3:QB:167:PRO:HG3	3:QB:188:ALA:HB2	2.00	0.43
11:QJ:79:ARG:HD3	11:QJ:79:ARG:HA	1.78	0.43
13:QL:71:PRO:HG3	13:QL:99:HIS:HD2	1.82	0.43
23:RA:249:C:H4'	23:RA:250:G:O5'	2.19	0.43
23:RA:321:G:O2'	23:RA:340:A:N3	2.48	0.43
23:RA:740:U:H2'	23:RA:741:G:C8	2.54	0.43
23:RA:833:U:O2	33:RP:55:ARG:NH2	2.51	0.43
23:RA:1274:A:N3	23:RA:1297:C:H1'	2.34	0.43
23:RA:1656:C:H2'	23:RA:1657:C:C6	2.54	0.43
23:RA:1858:G:O2'	23:RA:1884:A:N6	2.52	0.43
23:RA:2270:G:H2'	23:RA:2271:G:O4'	2.18	0.43
23:RA:2636:U:H2'	23:RA:2637:U:H6	1.84	0.43
23:RA:2688:U:H5	23:RA:2720:U:OP2	2.01	0.43
34:RQ:116:GLU:O	34:RQ:120:ILE:HG12	2.17	0.43
36:RS:12:PHE:HD2	36:RS:12:PHE:HA	1.71	0.43
40:RW:20:VAL:HG22	40:RW:47:VAL:HG21	2.00	0.43
42:RY:42:VAL:O	42:RY:65:ALA:N	2.45	0.43
42:RY:46:LYS:HB2	42:RY:61:ILE:HG22	1.99	0.43
43:RZ:35:ARG:HB3	43:RZ:35:ARG:HH11	1.83	0.43
52:R8:58:ILE:HA	52:R8:61:LEU:HD21	2.01	0.43
2:XA:431:A:H2'	2:XA:432:A:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XA:1097:C:O2'	2:XA:1169:A:N3	2.37	0.43
2:XA:1423:G:OP1	32:YO:49:ARG:NH2	2.52	0.43
2:XA:1454:G:H4'	21:XT:36:LEU:HD21	2.01	0.43
10:XI:91:ASP:C	10:XI:93:ARG:H	2.21	0.43
10:XI:118:LYS:O	10:XI:119:ALA:HB3	2.18	0.43
23:YA:185:U:H4'	23:YA:218:A:H4'	2.01	0.43
23:YA:270(J):G:N2	23:YA:270(Q):C:O2	2.51	0.43
23:YA:747:U:OP2	49:Y5:3:LYS:HD2	2.19	0.43
23:YA:896:A:N3	43:YZ:176:PRO:HB3	2.34	0.43
23:YA:1140:C:OP1	31:YN:23:LEU:HB3	2.18	0.43
23:YA:1209:G:N2	23:YA:1210:A:H62	2.16	0.43
23:YA:1766:U:H2'	23:YA:1767:C:H6	1.82	0.43
23:YA:2310:A:N6	28:YG:79:ASN:HB2	2.33	0.43
23:YA:2755:C:C4	53:Y9:19:ARG:NH1	2.87	0.43
23:YA:2849:U:H5	37:YT:93:ARG:HH12	1.67	0.43
25:YD:132:PRO:HG3	25:YD:190:TYR:CE1	2.54	0.43
26:YE:87:GLU:O	26:YE:89:ASP:N	2.50	0.43
26:YE:119:ARG:HG2	26:YE:160:TYR:HB2	2.00	0.43
27:YF:64:ILE:HG23	27:YF:65:TRP:CD1	2.53	0.43
29:YH:4:ILE:H	29:YH:4:ILE:HG12	1.59	0.43
32:YO:88:ASN:OD1	32:YO:90:GLN:HB2	2.19	0.43
46:Y2:15:LYS:H	46:Y2:67:LYS:CE	2.32	0.43
49:Y5:58:LEU:HD13	49:Y5:60:VAL:HB	2.01	0.43
2:QA:194:C:H5"	21:QT:65:LYS:HG3	2.01	0.43
23:RA:27:G:HO2'	23:RA:28:A:P	2.42	0.43
23:RA:320:A:H4'	23:RA:322:A:N7	2.33	0.43
23:RA:631:A:H61	23:RA:2402:C:N4	2.17	0.43
23:RA:1005:C:O2'	31:RN:28:THR:HG21	2.18	0.43
23:RA:1204:A:H1'	23:RA:1206:G:C4	2.53	0.43
23:RA:1441:G:H2'	23:RA:1442:G:H8	1.83	0.43
23:RA:1588:C:H2'	23:RA:1589:C:C6	2.53	0.43
23:RA:1728:G:H3'	23:RA:1729:A:C5'	2.45	0.43
23:RA:2126:A:H1'	23:RA:2127:G:OP2	2.19	0.43
23:RA:2393:A:H5'	33:RP:62:LEU:HB3	2.01	0.43
27:RF:9:ILE:HG23	27:RF:20:LEU:O	2.18	0.43
30:RI:30:LEU:HB3	30:RI:36:ALA:HB3	2.00	0.43
2:XA:148:G:H2'	2:XA:149:A:C8	2.54	0.43
2:XA:452:A:H2'	2:XA:453:A:C8	2.54	0.43
2:XA:750:G:O2'	16:XO:21:ASP:OD2	2.36	0.43
5:XD:112:VAL:N	5:XD:116:GLN:OE1	2.38	0.43
6:XE:42:GLY:CA	6:XE:66:MET:HG2	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:XI:8:GLY:HA2	10:XI:79:LEU:HD12	2.01	0.43
11:XJ:32:ALA:H	11:XJ:78:ASN:ND2	2.16	0.43
13:XL:78:GLN:HB3	13:XL:79:GLU:H	1.67	0.43
13:XL:110:VAL:CG2	13:XL:120:TYR:HB3	2.48	0.43
16:XO:26:GLU:H	16:XO:26:GLU:HG2	1.54	0.43
23:YA:277:C:H3'	23:YA:278:A:C5'	2.49	0.43
23:YA:593:G:O3'	52:Y8:61:LEU:HD22	2.18	0.43
23:YA:861:A:H2'	23:YA:862:G:O4'	2.19	0.43
23:YA:1006:C:O2	31:YN:106:MET:HG2	2.18	0.43
23:YA:1537:C:H2'	23:YA:1538:G:C8	2.53	0.43
23:YA:2096:U:H3	23:YA:2193:G:H1	1.67	0.43
23:YA:2283:C:H2'	23:YA:2284:C:O4'	2.18	0.43
30:YI:125:GLU:OE1	30:YI:141:LYS:HB3	2.19	0.43
32:YO:88:ASN:ND2	32:YO:92:GLU:HB2	2.23	0.43
33:YP:62:LEU:HB2	52:Y8:30:ARG:NH1	2.34	0.43
33:YP:113:LYS:HG2	33:YP:115:LEU:HD23	2.01	0.43
33:YP:126:VAL:HG22	33:YP:145:PRO:HG2	2.00	0.43
35:YR:33:ARG:HH21	49:Y5:55:ARG:HG2	1.82	0.43
35:YR:34:ILE:HA	35:YR:34:ILE:HD13	1.71	0.43
36:YS:39:ILE:HD12	36:YS:85:VAL:HG11	2.00	0.43
42:YY:87:LYS:HB2	42:YY:87:LYS:NZ	2.33	0.43
2:QA:947:G:O3'	14:QM:109:THR:OG1	2.34	0.43
2:QA:1143:G:H2'	2:QA:1144:G:C8	2.54	0.43
2:QA:1292:U:H2'	2:QA:1293:G:C8	2.53	0.43
3:QB:8:LYS:HE3	3:QB:11:LEU:HB3	2.01	0.43
4:QC:81:GLY:O	4:QC:85:ARG:HB2	2.18	0.43
7:QF:99:ALA:HB1	19:QR:23:LYS:HZ2	1.82	0.43
19:QR:53:ARG:HH21	19:QR:60:ALA:N	2.17	0.43
23:RA:774:A:H2	23:RA:787:U:O2'	2.02	0.43
23:RA:859:G:H2'	23:RA:916:G:O6	2.18	0.43
23:RA:1316:U:H2'	23:RA:1317:A:C8	2.54	0.43
25:RD:35:LYS:HE3	25:RD:64:ILE:C	2.39	0.43
26:RE:34:VAL:HG23	26:RE:64:LYS:HZ2	1.84	0.43
26:RE:116:VAL:HG11	26:RE:138:PRO:HB3	2.01	0.43
26:RE:179:GLU:HB3	26:RE:181:LEU:HD22	1.99	0.43
33:RP:18:ARG:HD2	33:RP:27:HIS:CD2	2.54	0.43
33:RP:65:ARG:O	33:RP:68:GLN:NE2	2.50	0.43
33:RP:90:ARG:HB3	33:RP:91:PHE:H	1.68	0.43
36:RS:93:LYS:HE3	36:RS:93:LYS:HB2	1.65	0.43
42:RY:55:TYR:CD2	42:RY:55:TYR:N	2.87	0.43
43:RZ:94:GLU:HB2	43:RZ:130:PRO:CD	2.43	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XA:580:U:H2'	2:XA:581:G:O4'	2.19	0.43
2:XA:748:C:OP2	2:XA:748:C:H6	2.01	0.43
3:XB:212:GLN:NE2	3:XB:216:SER:HB2	2.34	0.43
4:XC:85:ARG:HD2	4:XC:85:ARG:HA	1.83	0.43
6:XE:69:VAL:O	6:XE:71:LEU:N	2.51	0.43
8:XG:140:ASP:HA	8:XG:143:ARG:NH1	2.34	0.43
10:XI:95:LYS:HZ3	10:XI:96:LEU:HD13	1.84	0.43
13:XL:28:LYS:HB3	13:XL:30:ALA:HB2	2.01	0.43
23:YA:528:A:H2	23:YA:2043:C:H5'	1.84	0.43
23:YA:2330:G:H2'	23:YA:2331:G:O4'	2.19	0.43
23:YA:2389:G:H5"	23:YA:2390:U:O4'	2.18	0.43
26:YE:201:THR:HG22	26:YE:203:LYS:H	1.83	0.43
30:YI:57:ARG:HA	30:YI:60:GLU:HB3	2.00	0.43
33:YP:15:ARG:O	33:YP:17:LYS:HG3	2.19	0.43
35:YR:70:LEU:HD23	35:YR:70:LEU:HA	1.84	0.43
39:YV:55:ALA:HB2	39:YV:101:GLY:HA2	2.00	0.43
41:YX:53:LYS:H	41:YX:82:GLN:HB3	1.83	0.43
46:Y2:17:SER:HB3	46:Y2:67:LYS:HE3	2.00	0.43
46:Y2:47:ASN:HB2	46:Y2:48:HIS:H	1.50	0.43
2:QA:397:A:H3'	2:QA:397:A:N3	2.34	0.43
2:QA:1190:G:H4'	4:QC:176:HIS:CE1	2.54	0.43
20:QS:67:VAL:CG1	48:R4:59:PHE:HD1	2.11	0.43
21:QT:84:LEU:HD23	21:QT:84:LEU:HA	1.86	0.43
23:RA:700:G:H2'	23:RA:701:G:O4'	2.19	0.43
23:RA:1969:A:O2'	23:RA:1972:A:N3	2.38	0.43
23:RA:2693:A:H2'	23:RA:2694:G:C8	2.54	0.43
26:RE:117:MET:HB2	26:RE:122:PHE:O	2.18	0.43
29:RH:124:GLU:HB3	29:RH:132:ARG:CG	2.48	0.43
37:RT:107:ASP:O	37:RT:110:ILE:HG22	2.19	0.43
39:RV:64:HIS:CG	39:RV:92:THR:HG22	2.52	0.43
43:RZ:104:PHE:HD1	43:RZ:139:VAL:HB	1.84	0.43
46:R2:70:GLN:O	46:R2:71:ASN:HB2	2.19	0.43
50:R6:17:LYS:HB3	50:R6:44:ARG:NH2	2.30	0.43
2:XA:1388:C:H2'	2:XA:1389:C:C6	2.54	0.43
3:XB:7:VAL:HG21	3:XB:217:ARG:NH1	2.34	0.43
13:XL:59:ARG:NH1	13:XL:65:GLU:OE2	2.51	0.43
21:XT:50:GLU:HG3	21:XT:51:GLU:N	2.33	0.43
23:YA:455:C:N3	23:YA:473:G:H5'	2.34	0.43
23:YA:2212:A:H1'	23:YA:2215:G:C4	2.54	0.43
23:YA:2376:A:H2'	23:YA:2377:A:O4'	2.18	0.43
23:YA:2780:G:OP2	31:YN:118:LYS:HE2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YB:2:C:H2'	24:YB:3:C:C6	2.54	0.43
26:YE:4:ILE:HD12	26:YE:28:ALA:HB1	2.01	0.43
28:YG:145:THR:O	28:YG:147:ASP:N	2.44	0.43
29:YH:126:PRO:HB2	29:YH:127:GLU:H	1.59	0.43
30:YI:144:VAL:O	30:YI:145:VAL:HG22	2.18	0.43
33:YP:5:ASP:O	33:YP:6:LEU:C	2.57	0.43
34:YQ:45:GLN:H	34:YQ:45:GLN:CD	2.22	0.43
47:Y3:7:LYS:HE2	47:Y3:32:GLN:O	2.19	0.43
2:QA:694:A:C2	2:QA:695:A:H1'	2.54	0.43
9:QH:101:PRO:HG2	9:QH:133:LEU:HD11	2.01	0.43
10:QI:16:ARG:O	10:QI:63:ILE:HA	2.18	0.43
13:QL:102:ARG:HE	13:QL:102:ARG:HB3	1.39	0.43
14:QM:44:ARG:HB2	14:QM:47:ASP:OD2	2.19	0.43
19:QR:29:PHE:CD2	19:QR:29:PHE:N	2.87	0.43
23:RA:322:A:H3'	27:RF:169:ASN:OD1	2.19	0.43
23:RA:873:G:H1	23:RA:904:C:N4	2.16	0.43
23:RA:1184:G:OP1	47:R3:29:ARG:NH1	2.52	0.43
23:RA:2031:A:N3	23:RA:2455:G:O2'	2.47	0.43
25:RD:169:GLU:N	25:RD:172:TYR:O	2.52	0.43
29:RH:16:SER:OG	29:RH:26:VAL:O	2.30	0.43
30:RI:112:LYS:H	30:RI:112:LYS:HG2	1.47	0.43
31:RN:96:GLU:HB2	31:RN:122:VAL:HG12	2.00	0.43
32:RO:104:ARG:HD3	37:RT:36:GLU:OE2	2.19	0.43
34:RQ:20:ALA:HA	34:RQ:98:LYS:HB3	2.00	0.43
34:RQ:104:PHE:CE1	34:RQ:125:LEU:HD11	2.54	0.43
36:RS:88:ASP:CG	36:RS:89:ARG:H	2.21	0.43
37:RT:19:LEU:HA	37:RT:20:PRO:HD3	1.86	0.43
38:RU:69:CYS:HB3	38:RU:106:PHE:CZ	2.54	0.43
2:XA:410:G:H2'	2:XA:429:U:C5	2.54	0.43
2:XA:955:U:H1'	2:XA:1227:A:N6	2.33	0.43
2:XA:1306:A:H61	2:XA:1331:G:H1'	1.84	0.43
5:XD:196:LEU:O	5:XD:198:VAL:N	2.51	0.43
14:XM:4:ILE:HG22	14:XM:5:ALA:N	2.34	0.43
14:XM:7:VAL:O	14:XM:9:ILE:HG23	2.19	0.43
20:XS:70:LYS:HE2	48:Y4:68:ARG:HH22	1.49	0.43
23:YA:195:A:H5"	23:YA:196:A:O5'	2.19	0.43
23:YA:270(M):U:O2'	23:YA:270(N):G:O5'	2.28	0.43
23:YA:574:C:N3	26:YE:145:LYS:NZ	2.62	0.43
23:YA:1796:U:H2'	23:YA:1797:C:H6	1.82	0.43
23:YA:2065:C:H2'	23:YA:2066:C:C6	2.54	0.43
23:YA:2114:A:H3'	23:YA:2114:A:N3	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YE:14:ILE:HG23	26:YE:15:PHE:N	2.34	0.43
26:YE:201:THR:HG22	26:YE:203:LYS:N	2.33	0.43
27:YF:33:LEU:HD12	27:YF:33:LEU:HA	1.87	0.43
28:YG:31:VAL:HA	28:YG:32:PRO:HD3	1.83	0.43
33:YP:125:VAL:CG1	33:YP:138:LEU:HD21	2.49	0.43
36:YS:83:LYS:HZ1	36:YS:109:GLY:HA2	1.83	0.43
39:YV:64:HIS:ND1	39:YV:92:THR:HG22	2.34	0.43
43:YZ:1:MET:HG2	43:YZ:2:GLU:H	1.84	0.43
48:Y4:14:ILE:HG13	48:Y4:31:ILE:HB	1.99	0.43
50:Y6:41:PRO:HG2	50:Y6:45:LYS:N	2.29	0.43
2:QA:64:G:H4'	2:QA:65:U:C5'	2.49	0.42
2:QA:950:U:H2'	2:QA:951:G:C8	2.54	0.42
4:QC:79:ARG:CZ	12:XK:99:GLN:O	2.67	0.42
5:QD:108:LEU:HD21	5:QD:183:GLY:HA3	2.01	0.42
5:QD:120:LEU:HD23	5:QD:120:LEU:HA	1.86	0.42
9:QH:105:ARG:HA	9:QH:105:ARG:HD3	1.78	0.42
23:RA:99:U:H4'	23:RA:101:G:O5'	2.18	0.42
23:RA:459:U:H5"	51:R7:40:TRP:CD2	2.54	0.42
23:RA:955:C:OP2	34:RQ:14:ARG:HD2	2.19	0.42
23:RA:1203:G:O6	23:RA:1204:A:N6	2.52	0.42
23:RA:1930:G:HO2'	23:RA:1931:U:P	2.42	0.42
23:RA:2645:G:H3'	23:RA:2646:C:H5'	2.00	0.42
24:RB:89(A):A:C5	24:RB:90:C:H1'	2.53	0.42
26:RE:48:GLN:OE1	26:RE:64:LYS:NZ	2.52	0.42
30:RI:128:LEU:HD23	30:RI:140:LEU:HD21	2.00	0.42
31:RN:61:ARG:HA	31:RN:61:ARG:HE	1.82	0.42
31:RN:89:LYS:O	31:RN:93:THR:HG22	2.19	0.42
34:RQ:78:PRO:O	34:RQ:79:LEU:HB3	2.19	0.42
42:RY:54:LYS:HB3	42:RY:55:TYR:CD2	2.53	0.42
50:R6:7:ILE:HG13	50:R6:8:LYS:H	1.84	0.42
50:R6:8:LYS:O	50:R6:27:LYS:HA	2.18	0.42
50:R6:35:GLU:H	50:R6:35:GLU:HG2	1.72	0.42
50:R6:45:LYS:HD3	50:R6:45:LYS:HA	1.75	0.42
2:XA:255:G:H1'	18:XQ:16:GLN:OE1	2.18	0.42
2:XA:485:G:O2'	2:XA:486:U:O5'	2.32	0.42
2:XA:1096:C:H2'	2:XA:1097:C:H6	1.84	0.42
2:XA:1148:U:H2'	2:XA:1149:C:O4'	2.19	0.42
4:XC:47:LEU:HD12	4:XC:47:LEU:HA	1.83	0.42
8:XG:38:LEU:HD12	8:XG:38:LEU:O	2.19	0.42
9:XH:13:ILE:O	9:XH:17:THR:HG23	2.19	0.42
11:XJ:6:ILE:HG22	11:XJ:98:ILE:HG23	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:593:G:C1'	52:Y8:4:MET:HE1	2.48	0.42
23:YA:748:G:OP2	40:YW:88:ARG:HG3	2.19	0.42
23:YA:997:G:OP1	38:YU:93:LYS:HD2	2.20	0.42
23:YA:1012:U:O4	31:YN:25:ARG:HA	2.19	0.42
23:YA:1378:A:OP1	51:Y7:10:ARG:NH2	2.52	0.42
26:YE:36:ARG:HH21	26:YE:88:GLY:CA	2.32	0.42
26:YE:111:ARG:HD2	26:YE:160:TYR:CE1	2.54	0.42
31:YN:134:ARG:H	31:YN:135:PRO:HD3	1.83	0.42
49:Y5:58:LEU:HB2	49:Y5:60:VAL:H	1.83	0.42
50:Y6:28:ARG:HH21	50:Y6:30:THR:HG23	1.84	0.42
2:QA:669:U:H2'	2:QA:670:G:H8	1.84	0.42
2:QA:728:A:H2'	2:QA:729:A:C8	2.54	0.42
2:QA:1002:G:H1	2:QA:1038:C:H42	1.66	0.42
2:QA:1043:C:H2'	2:QA:1044:A:H8	1.84	0.42
2:QA:1415:G:C6	2:QA:1486:G:C6	3.07	0.42
2:QA:1488:G:H2'	2:QA:1489:G:C8	2.55	0.42
3:QB:69:LEU:O	3:QB:162:ILE:HA	2.19	0.42
7:QF:62:TRP:CH2	7:QF:64:GLN:HB2	2.54	0.42
10:QI:116:LYS:HE2	10:QI:122:ALA:HB2	2.01	0.42
16:QO:25:THR:HG21	16:QO:70:LEU:HB2	2.00	0.42
18:QQ:29:HIS:CG	18:QQ:30:PRO:HD2	2.54	0.42
23:RA:637:A:H2'	33:RP:117:GLU:OE2	2.19	0.42
23:RA:811:U:OP2	33:RP:29:LYS:N	2.46	0.42
23:RA:2070:G:H2'	23:RA:2071:A:C8	2.54	0.42
23:RA:2282:G:H5"	23:RA:2283:C:O4'	2.19	0.42
23:RA:2327:A:H2'	23:RA:2328:A:C8	2.55	0.42
27:RF:34:TRP:CE3	27:RF:35:GLU:HG2	2.54	0.42
28:RG:97:ASP:HA	28:RG:100:TRP:HD1	1.84	0.42
43:RZ:150:LEU:HD21	43:RZ:172:ALA:HB3	2.00	0.42
2:XA:262:A:H2'	2:XA:263:A:C8	2.55	0.42
2:XA:791:G:H2'	2:XA:792:A:H5'	2.01	0.42
2:XA:972:C:O2	11:XJ:55:LYS:HD3	2.19	0.42
2:XA:1226:C:OP2	14:XM:103:THR:OG1	2.26	0.42
17:XP:45:THR:HG22	17:XP:47:ASP:N	2.26	0.42
23:YA:1105:U:H2'	23:YA:1106:G:H8	1.84	0.42
23:YA:1882:C:H5'	23:YA:1883:G:OP2	2.19	0.42
23:YA:2469:A:H2	23:YA:2481:G:H21	1.66	0.42
23:YA:2492:U:H2'	23:YA:2493:U:H6	1.83	0.42
33:YP:1:MET:HB3	33:YP:2:LYS:H	1.61	0.42
33:YP:39:LYS:HG3	33:YP:45:LEU:CD2	2.45	0.42
43:YZ:52:SER:C	43:YZ:54:HIS:H	2.23	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:YZ:103:ARG:HB2	43:YZ:138:GLU:HG2	1.99	0.42
48:Y4:60:GLN:O	48:Y4:63:TYR:HB3	2.20	0.42
2:QA:10:A:H2'	2:QA:11:G:H8	1.83	0.42
2:QA:411:A:C4	2:QA:413:G:H1'	2.54	0.42
2:QA:686:U:HO2'	12:QK:42:TRP:HE1	1.64	0.42
2:QA:743:U:H2'	2:QA:744:C:C6	2.53	0.42
2:QA:947:G:H2'	2:QA:948:C:O4'	2.20	0.42
2:QA:1133:G:H2'	2:QA:1134:G:C8	2.49	0.42
4:QC:112:SER:O	4:QC:116:VAL:HG23	2.20	0.42
8:QG:102:ARG:HG2	8:QG:106:GLN:OE1	2.20	0.42
9:QH:25:ASP:N	9:QH:25:ASP:OD1	2.50	0.42
10:QI:17:VAL:HG11	10:QI:81:ILE:HD13	2.00	0.42
10:QI:112:LYS:HD3	10:QI:113:LYS:O	2.18	0.42
18:QQ:45:HIS:NE2	18:QQ:47:PRO:HG3	2.34	0.42
18:QQ:63:ARG:HG2	18:QQ:64:PRO:HD2	2.00	0.42
23:RA:341:G:H2'	23:RA:342:G:O4'	2.20	0.42
23:RA:1083:U:O2'	23:RA:1085:A:H5"	2.18	0.42
23:RA:1161:C:O2'	39:RV:23:GLU:HG2	2.19	0.42
23:RA:1930:G:O2'	23:RA:1931:U:P	2.77	0.42
23:RA:2125:G:O2'	23:RA:2173:A:N6	2.52	0.42
23:RA:2212:A:H1'	23:RA:2215:G:C4	2.53	0.42
27:RF:28:ILE:H	27:RF:28:ILE:HG13	1.68	0.42
28:RG:159:VAL:HG21	28:RG:173:LEU:HD11	2.00	0.42
38:RU:83:LEU:HD12	38:RU:113:ALA:HB2	2.01	0.42
2:XA:108:G:H5"	2:XA:109:A:C5'	2.49	0.42
2:XA:1117:G:H5"	10:XI:104:ARG:NH1	2.34	0.42
9:XH:104:ARG:HD2	9:XH:138:TRP:CD2	2.53	0.42
23:YA:551:G:H5'	23:YA:1220:A:H1'	2.00	0.42
23:YA:573:G:N1	23:YA:2031:A:OP2	2.32	0.42
23:YA:787:U:H5"	23:YA:788:A:H5'	2.00	0.42
23:YA:1161:C:H4'	39:YV:8:GLY:HA2	2.02	0.42
23:YA:2406:U:H2'	23:YA:2406:U:OP2	2.19	0.42
25:YD:35:LYS:HE3	25:YD:64:ILE:N	2.35	0.42
26:YE:57:LYS:HD2	26:YE:57:LYS:HA	1.87	0.42
28:YG:103:LEU:HA	28:YG:103:LEU:HD23	1.83	0.42
29:YH:126:PRO:HG2	29:YH:128:PRO:HA	2.00	0.42
29:YH:159:GLU:O	29:YH:160:LYS:HG2	2.19	0.42
31:YN:96:GLU:HG2	31:YN:97:ARG:H	1.84	0.42
34:YQ:76:LYS:HG3	34:YQ:77:LYS:N	2.35	0.42
45:Y1:58:ILE:HG23	45:Y1:87:PRO:HG3	2.02	0.42
47:Y3:4:LEU:HD22	47:Y3:56:VAL:HG12	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:Y6:15:GLU:HG2	50:Y6:49:HIS:NE2	2.34	0.42
51:Y7:25:PRO:HA	51:Y7:28:ARG:CZ	2.49	0.42
2:QA:486:U:H2'	2:QA:487:A:H8	1.84	0.42
2:QA:489:C:H2'	2:QA:490:G:H8	1.84	0.42
2:QA:791:G:C6	2:QA:792:A:N1	2.87	0.42
2:QA:892:A:O2'	2:QA:1415:G:H4'	2.20	0.42
2:QA:1149:C:P	10:QI:9:ARG:HH21	2.43	0.42
2:QA:1252:A:H2'	2:QA:1253:G:O4'	2.20	0.42
2:QA:1375:A:H4'	8:QG:29:LYS:HE3	2.01	0.42
2:QA:1446:A:O2'	2:QA:1447:G:O5'	2.36	0.42
2:QA:1465:C:H2'	2:QA:1466:C:O4'	2.20	0.42
3:QB:21:ARG:HG3	3:QB:38:GLY:O	2.19	0.42
20:QS:41:VAL:HG12	20:QS:44:MET:HB2	2.02	0.42
23:RA:57:C:H2'	23:RA:58:G:O4'	2.18	0.42
23:RA:489:G:N7	40:RW:49:LYS:NZ	2.67	0.42
23:RA:754:C:H2'	23:RA:755:C:H6	1.84	0.42
23:RA:931:G:O2'	47:R3:24:LYS:HD3	2.19	0.42
23:RA:1543:A:H2	23:RA:1545:A:C5	2.38	0.42
23:RA:1799:G:H3'	23:RA:1799:G:P	2.59	0.42
25:RD:33:LEU:HB3	25:RD:34:VAL:H	1.64	0.42
25:RD:245:PRO:HA	25:RD:246:PRO:HD3	1.95	0.42
26:RE:9:VAL:HG23	26:RE:26:ILE:HA	2.00	0.42
30:RI:79:ILE:HD13	30:RI:79:ILE:HA	1.93	0.42
37:RT:26:ASP:HB3	37:RT:92:GLY:N	2.18	0.42
38:RU:75:ASN:HB2	38:RU:78:THR:H	1.84	0.42
49:R5:56:LYS:HB3	49:R5:56:LYS:HE3	1.79	0.42
2:XA:186(F):C:H2'	2:XA:187:C:O4'	2.18	0.42
2:XA:1053:G:N7	2:XA:1200:C:H5"	2.35	0.42
2:XA:1297:C:H4'	2:XA:1298:C:H5'	2.02	0.42
2:XA:1323:G:H2'	2:XA:1324:A:C8	2.55	0.42
7:XF:30:LEU:HB3	7:XF:35:ALA:HB3	2.01	0.42
19:XR:43:PHE:CE2	19:XR:58:LEU:HD11	2.54	0.42
23:YA:768:G:N2	23:YA:1379:A:O2'	2.53	0.42
34:YQ:39:PRO:HA	34:YQ:97:VAL:O	2.20	0.42
36:YS:60:GLY:O	36:YS:61:ASN:HB3	2.18	0.42
36:YS:106:ARG:HA	36:YS:110:LEU:CD2	2.47	0.42
37:YT:45:PHE:CE1	37:YT:65:LYS:HE3	2.55	0.42
37:YT:58:ASN:C	37:YT:58:ASN:HD22	2.23	0.42
48:Y4:6:HIS:HA	48:Y4:7:PRO:HD2	1.82	0.42
52:Y8:52:LYS:N	52:Y8:53:PRO:HD2	2.33	0.42
2:QA:370:C:H2'	2:QA:371:G:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QA:853:G:H2'	2:QA:854:G:H8	1.85	0.42
2:QA:1432:G:OP1	37:RT:107:ASP:HB2	2.20	0.42
3:QB:230:VAL:HB	3:QB:231:GLU:H	1.60	0.42
5:QD:135:LEU:HD13	5:QD:135:LEU:HA	1.86	0.42
6:QE:79:GLU:HB3	6:QE:92:LYS:HA	2.02	0.42
12:QK:48:ILE:HG23	12:QK:63:LEU:HD22	2.01	0.42
15:QN:23:ARG:NH1	15:QN:30:ALA:HB2	2.35	0.42
18:QQ:10:VAL:HG13	18:QQ:19:VAL:HB	2.01	0.42
20:QS:10:PHE:CG	20:QS:11:VAL:N	2.88	0.42
23:RA:39:C:H2'	23:RA:40:C:C6	2.54	0.42
23:RA:519:U:H2'	23:RA:520:G:H8	1.84	0.42
23:RA:1012:U:HO2'	23:RA:1013:C:P	2.38	0.42
23:RA:2311:A:H1'	28:RG:82:LEU:HD11	2.00	0.42
23:RA:2647:U:H2'	23:RA:2648:C:C6	2.55	0.42
24:RB:13:A:H2'	24:RB:70:C:O2'	2.20	0.42
29:RH:153:LYS:HD2	29:RH:153:LYS:N	2.33	0.42
31:RN:30:ILE:HG23	31:RN:52:VAL:HG11	1.99	0.42
36:RS:14:VAL:HG11	36:RS:90:GLY:O	2.19	0.42
42:RY:50:ARG:H	42:RY:50:ARG:HG2	1.67	0.42
43:RZ:148:ASP:OD1	43:RZ:149:SER:N	2.50	0.42
48:R4:14:ILE:HG22	48:R4:24:THR:HG22	2.01	0.42
50:R6:28:ARG:HB3	50:R6:30:THR:H	1.84	0.42
2:XA:266:G:H5'	2:XA:268:C:H41	1.84	0.42
2:XA:374:A:C6	2:XA:375:U:C4	3.08	0.42
2:XA:485:G:O2'	2:XA:486:U:P	2.78	0.42
3:XB:7:VAL:HG11	3:XB:217:ARG:CZ	2.49	0.42
3:XB:223:ILE:HA	3:XB:226:ARG:HB3	2.02	0.42
4:XC:149:ALA:HA	4:XC:201:TYR:O	2.18	0.42
10:XI:32:ASP:OD1	10:XI:33:PHE:N	2.53	0.42
19:XR:56:THR:HB	19:XR:58:LEU:HD12	2.02	0.42
23:YA:77:C:OP1	46:Y2:59:ARG:HD3	2.19	0.42
23:YA:469:G:O6	51:Y7:37:LYS:NZ	2.41	0.42
23:YA:1321:A:H2'	23:YA:1322:A:O4'	2.19	0.42
23:YA:1790:C:H5"	23:YA:1791:A:OP1	2.19	0.42
23:YA:2556:C:H2'	23:YA:2557:G:O4'	2.19	0.42
25:YD:25:THR:HG22	25:YD:82:ILE:H	1.84	0.42
27:YF:45:ARG:HH11	27:YF:45:ARG:CG	2.33	0.42
28:YG:16:ARG:N	28:YG:17:PRO:HD2	2.34	0.42
37:YT:26:ASP:HB2	37:YT:91:ARG:HA	2.00	0.42
37:YT:80:SER:HA	37:YT:81:PRO:HD3	1.89	0.42
40:YW:86:LEU:HD22	40:YW:96:ILE:HD12	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:Y2:8:LYS:HB2	46:Y2:8:LYS:HE3	1.83	0.42
2:QA:833:U:H3	2:QA:853:G:H1	1.66	0.42
2:QA:1238:A:H62	2:QA:1299:A:N6	2.17	0.42
2:QA:1471:G:H2'	2:QA:1472:U:C6	2.54	0.42
3:QB:92:TYR:CD1	3:QB:151:GLY:HA3	2.55	0.42
4:QC:56:ASP:O	4:QC:66:VAL:HA	2.20	0.42
5:QD:192:GLU:H	5:QD:192:GLU:HG3	1.56	0.42
7:QF:22:GLU:O	7:QF:26:ILE:HG13	2.19	0.42
16:QO:87:ILE:HG22	16:QO:88:ARG:N	2.35	0.42
23:RA:25:U:H5'	40:RW:79:GLY:HA2	2.02	0.42
23:RA:108:U:H2'	23:RA:109:G:C8	2.55	0.42
23:RA:452:G:N3	23:RA:457:A:H2	2.18	0.42
23:RA:508:G:HO2'	23:RA:509:C:P	2.42	0.42
23:RA:857:C:OP2	44:R0:77:ARG:NH2	2.46	0.42
23:RA:974(A):C:H4'	23:RA:975:G:O5'	2.20	0.42
23:RA:1930:G:H2'	23:RA:1968:G:N1	2.34	0.42
23:RA:2346:A:H5"	23:RA:2383:G:H1'	2.01	0.42
23:RA:2645:G:N2	23:RA:2767:C:OP2	2.53	0.42
24:RB:49:C:H2'	24:RB:50:G:C8	2.54	0.42
25:RD:96:HIS:NE2	25:RD:102:LYS:HE2	2.34	0.42
27:RF:182:ASN:O	27:RF:186:ILE:HG12	2.20	0.42
28:RG:151:ALA:HB3	28:RG:153:ARG:NH1	2.35	0.42
29:RH:6:ARG:HG3	29:RH:7:LEU:HG	2.01	0.42
35:RR:63:ARG:HA	35:RR:80:PHE:CZ	2.54	0.42
52:R8:4:MET:SD	52:R8:61:LEU:HD12	2.59	0.42
52:R8:59:LYS:HB2	52:R8:59:LYS:NZ	2.35	0.42
2:XA:1035:A:C6	2:XA:1036:G:H1'	2.54	0.42
3:XB:19:HIS:CE1	3:XB:206:ASP:HB2	2.54	0.42
4:XC:32:LEU:HD22	4:XC:59:ARG:NH1	2.34	0.42
6:XE:69:VAL:HA	6:XE:70:PRO:HD2	1.76	0.42
8:XG:89:MET:CE	8:XG:156:TRP:H	2.32	0.42
14:XM:3:ARG:HG3	14:XM:9:ILE:HG21	2.02	0.42
14:XM:122:LYS:HE2	14:XM:122:LYS:HB2	1.86	0.42
17:XP:60:LEU:HD23	17:XP:60:LEU:HA	1.80	0.42
20:XS:40:ILE:CG1	20:XS:41:VAL:HG13	2.47	0.42
23:YA:460:A:H2'	23:YA:461:C:O4'	2.19	0.42
23:YA:481:G:OP2	42:YY:47:LYS:HG3	2.20	0.42
23:YA:910:A:N1	23:YA:2277:G:H1'	2.34	0.42
23:YA:1952:A:C6	23:YA:1953:A:N1	2.88	0.42
23:YA:1952:A:C2	32:YO:22:ILE:HG23	2.55	0.42
25:YD:34:VAL:HG22	25:YD:35:LYS:HG3	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YD:36:PRO:CB	25:YD:61:LEU:HB3	2.50	0.42
28:YG:64:THR:CG2	28:YG:66:GLN:H	2.28	0.42
28:YG:86:MET:HA	28:YG:87:PRO:HD2	1.95	0.42
29:YH:153:LYS:HB3	29:YH:154:PRO:CD	2.49	0.42
31:YN:46:VAL:HG13	31:YN:48:MET:HG3	2.02	0.42
31:YN:137:LYS:HD2	31:YN:137:LYS:HA	1.76	0.42
36:YS:81:GLY:O	36:YS:83:LYS:N	2.53	0.42
41:YX:84:ALA:HB1	41:YX:85:PRO:HD2	2.02	0.42
44:Y0:10:THR:HG22	44:Y0:12:ASN:N	2.25	0.42
47:Y3:8:LEU:HB3	47:Y3:31:LEU:HA	2.01	0.42
52:Y8:4:MET:HB2	52:Y8:4:MET:HE2	1.62	0.42
2:QA:266:G:O2'	2:QA:267:C:OP2	2.29	0.42
2:QA:299:G:H2'	2:QA:300:A:C8	2.54	0.42
2:QA:1172:C:H2'	2:QA:1173:G:H8	1.85	0.42
2:QA:1318:A:H4'	20:QS:11:VAL:CG1	2.49	0.42
6:QE:47:LYS:HE2	6:QE:47:LYS:HB2	1.82	0.42
10:QI:48:GLU:N	10:QI:49:PRO:HD2	2.35	0.42
12:QK:41:THR:HG22	12:QK:42:TRP:N	2.34	0.42
15:QN:41:ARG:NH2	15:QN:42:ILE:HD11	2.35	0.42
16:QO:48:LYS:HD3	16:QO:48:LYS:HA	1.76	0.42
23:RA:140:A:H8	23:RA:1408:C:O2'	2.02	0.42
23:RA:273:G:H1	23:RA:364:C:H42	1.66	0.42
23:RA:522:G:H2'	23:RA:523:C:C6	2.55	0.42
23:RA:1651:G:H2'	23:RA:1652:A:O4'	2.18	0.42
23:RA:1786:A:C2	23:RA:2606:C:H1'	2.55	0.42
23:RA:2704:C:H2'	23:RA:2705:A:O4'	2.19	0.42
23:RA:2805:G:H2'	23:RA:2807:G:C8	2.54	0.42
25:RD:61:LEU:HA	25:RD:61:LEU:HD12	1.77	0.42
26:RE:78:LEU:HG	26:RE:79:ARG:NE	2.35	0.42
27:RF:78:ILE:H	27:RF:78:ILE:HG13	1.66	0.42
28:RG:116:ASP:OD1	28:RG:116:ASP:N	2.53	0.42
28:RG:173:LEU:O	28:RG:178:PHE:HB2	2.20	0.42
31:RN:35:ARG:HB2	31:RN:42:TRP:CZ3	2.54	0.42
33:RP:100:LEU:HA	33:RP:100:LEU:HD22	1.77	0.42
35:RR:113:LEU:HD12	35:RR:113:LEU:HA	1.88	0.42
40:RW:34:ASN:ND2	49:R5:39:MET:HG3	2.34	0.42
40:RW:75:TYR:CZ	40:RW:104:THR:HG21	2.54	0.42
44:R0:18:ALA:O	44:R0:20:ARG:NH1	2.53	0.42
2:XA:538:G:OP2	13:XL:115:LYS:HG3	2.20	0.42
2:XA:688:G:H2'	2:XA:689:C:H6	1.85	0.42
2:XA:718:G:N2	19:XR:82:THR:HG23	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XA:1090:U:H2'	2:XA:1091:U:H6	1.84	0.42
2:XA:1319:A:H2'	2:XA:1323:G:N7	2.35	0.42
3:XB:68:ILE:HB	3:XB:70:PHE:HE1	1.84	0.42
3:XB:93:VAL:HG11	3:XB:97:TRP:CD1	2.50	0.42
3:XB:100:GLY:N	3:XB:176:GLU:OE2	2.47	0.42
3:XB:113:HIS:O	3:XB:116:GLU:HB2	2.20	0.42
12:XK:109:VAL:HG11	19:XR:84:LYS:HD3	2.02	0.42
14:XM:40:ASN:ND2	14:XM:43:THR:HG23	2.34	0.42
23:YA:49:A:N7	23:YA:120:U:C5	2.81	0.42
23:YA:557:U:H2'	23:YA:558:G:H8	1.84	0.42
23:YA:638:G:H2'	23:YA:639:U:O4'	2.20	0.42
25:YD:89:SER:O	25:YD:198:ASN:ND2	2.52	0.42
30:YI:30:LEU:HB3	30:YI:36:ALA:HB3	2.01	0.42
33:YP:36:LYS:HB3	33:YP:40:SER:CB	2.49	0.42
48:Y4:37:SER:HB3	48:Y4:42:PHE:HB3	2.00	0.42
52:Y8:44:LYS:HD2	52:Y8:44:LYS:N	2.34	0.42
2:QA:134:A:H1'	2:QA:325:A:C5	2.54	0.42
2:QA:553:A:O2'	13:QL:29:GLY:O	2.38	0.42
3:QB:120:ALA:C	3:QB:122:PHE:H	2.23	0.42
5:QD:63:LYS:HB2	5:QD:63:LYS:HE3	1.77	0.42
11:QJ:81:THR:C	11:QJ:83:GLU:H	2.23	0.42
13:QL:27:LEU:HG	13:QL:62:SER:HB3	2.01	0.42
23:RA:637:A:H4'	23:RA:638:G:O5'	2.20	0.42
23:RA:675:A:N6	23:RA:676:A:N6	2.67	0.42
23:RA:978:G:C2	23:RA:986:C:C2	3.07	0.42
23:RA:1106:G:H2'	23:RA:1107:G:H8	1.85	0.42
23:RA:1727:U:H2'	23:RA:1728:G:O4'	2.20	0.42
23:RA:2197:U:H1'	23:RA:2198:A:C8	2.55	0.42
23:RA:2243:U:H2'	23:RA:2244:U:C6	2.55	0.42
23:RA:2292:C:OP2	36:RS:17:ARG:NH2	2.52	0.42
23:RA:2476:A:H2'	23:RA:2477:C:C6	2.54	0.42
25:RD:123:ALA:HA	25:RD:124:PRO:HD2	1.77	0.42
27:RF:184:TYR:O	27:RF:188:ARG:HG3	2.19	0.42
29:RH:105:LEU:HD22	29:RH:113:VAL:HB	2.01	0.42
29:RH:164:TYR:O	29:RH:166:GLY:N	2.52	0.42
30:RI:29:TYR:CD2	30:RI:30:LEU:HD23	2.49	0.42
36:RS:39:ILE:HD11	36:RS:73:LEU:HD11	2.00	0.42
41:RX:44:GLU:O	41:RX:48:LYS:N	2.52	0.42
43:RZ:177:PRO:HB2	43:RZ:178:GLU:H	1.67	0.42
2:XA:166:G:H2'	2:XA:167:G:H8	1.83	0.42
2:XA:303:A:H2'	2:XA:304:U:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XA:537:G:H2'	2:XA:538:G:H8	1.83	0.42
2:XA:606:G:N2	2:XA:631:G:H8	2.17	0.42
2:XA:663:A:H5'	2:XA:836:G:OP1	2.20	0.42
2:XA:769:G:H4'	2:XA:1513:A:H4'	2.02	0.42
2:XA:1189:C:OP1	11:XJ:51:ARG:NH2	2.45	0.42
2:XA:1308:U:OP2	14:XM:99:ARG:HD2	2.20	0.42
5:XD:134:ASP:OD2	5:XD:134:ASP:N	2.47	0.42
23:YA:556:G:H2'	23:YA:557:U:C6	2.55	0.42
23:YA:1102:C:H2'	23:YA:1103:A:H5"	2.02	0.42
23:YA:1329:U:H5"	23:YA:1330:C:C5	2.49	0.42
23:YA:1697:G:OP2	23:YA:1698:A:O2'	2.30	0.42
24:YB:14:U:O2	24:YB:107:U:H4'	2.19	0.42
25:YD:25:THR:HG21	25:YD:81:ALA:HA	2.02	0.42
25:YD:105:ILE:HD12	25:YD:105:ILE:HA	1.55	0.42
29:YH:30:LYS:HE2	29:YH:81:GLU:H	1.85	0.42
30:YI:131:LYS:HB3	30:YI:132:PRO:HA	2.01	0.42
31:YN:35:ARG:HB2	31:YN:42:TRP:CZ3	2.55	0.42
33:YP:29:LYS:HD2	33:YP:30:THR:CG2	2.50	0.42
38:YU:109:LEU:HD23	38:YU:109:LEU:HA	1.89	0.42
44:Y0:72:ARG:CB	44:Y0:75:LEU:HB2	2.50	0.42
52:Y8:60:LEU:C	52:Y8:63:PRO:HD2	2.40	0.42
2:QA:51:A:N1	2:QA:314:C:O2'	2.46	0.42
2:QA:1030:C:H2'	2:QA:1031:G:O4'	2.20	0.42
2:QA:1064:G:O2'	2:QA:1065:U:O5'	2.35	0.42
3:QB:60:ASP:O	3:QB:64:ARG:HG2	2.19	0.42
3:QB:178:ARG:HH21	9:QH:74:PRO:HB3	1.85	0.42
4:QC:36:ASP:HA	4:QC:39:ILE:HD12	2.02	0.42
4:QC:59:ARG:HH12	4:QC:97:LYS:HE3	1.84	0.42
4:QC:134:ILE:HD11	4:QC:153:VAL:HG21	2.02	0.42
5:QD:11:LEU:HD22	5:QD:66:ARG:HD3	2.02	0.42
14:QM:4:ILE:H	14:QM:9:ILE:HG22	1.84	0.42
16:QO:2:PRO:HB2	16:QO:3:ILE:H	1.56	0.42
21:QT:64:ASP:CG	21:QT:81:LYS:HZ2	2.22	0.42
23:RA:265:A:H2'	23:RA:266:G:O4'	2.19	0.42
23:RA:414:C:H2'	23:RA:415:A:H8	1.85	0.42
23:RA:616:A:C4	27:RF:180:GLY:HA2	2.55	0.42
25:RD:35:LYS:HB3	25:RD:36:PRO:HA	2.01	0.42
25:RD:101:GLU:OE1	25:RD:103:ARG:NH1	2.52	0.42
26:RE:188:VAL:HG23	26:RE:189:PRO:HD2	2.01	0.42
28:RG:6:ALA:N	48:R4:23:GLU:HG2	2.31	0.42
29:RH:125:VAL:HA	29:RH:126:PRO:HA	1.90	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RI:82:ARG:HD3	30:RI:146:ALA:HB3	2.02	0.42
30:RI:93:THR:O	30:RI:97:ILE:HG12	2.18	0.42
43:RZ:82:ARG:HG3	43:RZ:83:PRO:HD2	2.01	0.42
45:R1:90:ILE:O	45:R1:94:LEU:HB2	2.20	0.42
47:R3:35:ARG:HB3	47:R3:37:LEU:HD21	2.01	0.42
51:R7:47:ARG:HB2	51:R7:48:LYS:H	1.68	0.42
2:XA:1016:A:H2'	2:XA:1017:G:O4'	2.20	0.42
2:XA:1114:C:H1'	15:XN:60:SER:HB2	2.02	0.42
2:XA:1124:G:O2'	11:XJ:38:ILE:HG21	2.20	0.42
2:XA:1228:C:P	14:XM:108:ARG:HH22	2.43	0.42
20:XS:65:ASN:HA	48:Y4:55:ARG:HG2	2.01	0.42
23:YA:270(T):G:C6	23:YA:270(U):C:C4	3.07	0.42
23:YA:1190:G:H5'	33:YP:32:THR:HA	2.02	0.42
25:YD:245:PRO:HA	25:YD:246:PRO:HD3	1.87	0.42
26:YE:181:LEU:HD13	26:YE:181:LEU:HA	1.85	0.42
31:YN:7:LYS:HD2	31:YN:7:LYS:H	1.84	0.42
32:YO:21:CYS:O	32:YO:22:ILE:HD13	2.20	0.42
36:YS:38:GLN:HG3	36:YS:47:THR:HG21	2.02	0.42
36:YS:83:LYS:NZ	36:YS:109:GLY:HA2	2.34	0.42
39:YV:65:GLY:O	39:YV:90:PRO:HA	2.20	0.42
49:Y5:31:VAL:HG13	49:Y5:42:PRO:HG3	2.01	0.42
50:Y6:14:THR:HG21	50:Y6:19:ARG:HH21	1.85	0.42
52:Y8:26:LYS:HB3	52:Y8:44:LYS:HG3	2.01	0.42
2:QA:404:U:H2'	2:QA:405:U:C6	2.55	0.42
2:QA:487:A:H2'	2:QA:488:C:O4'	2.20	0.42
2:QA:998(A):C:H2'	2:QA:999:U:C6	2.54	0.42
2:QA:1286:A:C8	2:QA:1287:A:H4'	2.55	0.42
3:QB:88:ALA:HB2	3:QB:219:VAL:HG13	2.02	0.42
5:QD:197:PRO:CD	7:XF:16:GLN:NE2	2.80	0.42
9:QH:12:ARG:NH1	9:QH:27:PRO:HD2	2.35	0.42
19:QR:53:ARG:HE	19:QR:59:SER:C	2.22	0.42
20:QS:70:LYS:HZ3	48:R4:68:ARG:HH21	1.61	0.42
23:RA:363(B):G:H2'	23:RA:363(C):G:C8	2.55	0.42
23:RA:816:C:H2'	23:RA:817:C:H6	1.85	0.42
23:RA:1930:G:H2'	23:RA:1968:G:C6	2.55	0.42
27:RF:46:ARG:HG2	27:RF:46:ARG:HH11	1.84	0.42
27:RF:129:PHE:O	27:RF:130:ALA:HB3	2.20	0.42
28:RG:47:LYS:HD3	28:RG:81:LYS:CB	2.49	0.42
30:RI:57:ARG:HD3	30:RI:61:ARG:HH11	1.84	0.42
37:RT:51:ARG:HG3	37:RT:98:LYS:HG3	2.02	0.42
39:RV:76:LYS:HB2	39:RV:81:TYR:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:R4:55:ARG:O	48:R4:59:PHE:HB3	2.20	0.42
2:XA:148:G:H2'	2:XA:149:A:H8	1.85	0.42
2:XA:201:C:H42	2:XA:216:G:H1	1.68	0.42
2:XA:266:G:H5"	2:XA:267:C:H5	1.85	0.42
2:XA:575:G:O2'	2:XA:821:G:OP2	2.30	0.42
2:XA:1221:G:OP1	20:XS:36:ARG:HD3	2.19	0.42
2:XA:1298:C:H4'	2:XA:1299:A:N9	2.35	0.42
4:XC:42:LEU:HD12	4:XC:42:LEU:HA	1.87	0.42
10:XI:46:ALA:HB2	10:XI:74:ILE:HG23	2.02	0.42
12:XK:38:ASN:HA	12:XK:39:PRO:HD3	1.75	0.42
13:XL:70:ILE:HA	13:XL:71:PRO:HD3	1.81	0.42
23:YA:1071:G:O5'	23:YA:1071:G:H8	2.03	0.42
23:YA:1690:A:H2'	23:YA:1691:C:O4'	2.20	0.42
23:YA:1805:U:O2	25:YD:50:THR:HB	2.20	0.42
26:YE:167:VAL:HG21	26:YE:187:ALA:HB1	2.01	0.42
31:YN:59:LYS:HE3	31:YN:61:ARG:HH22	1.84	0.42
34:YQ:54:MET:HB3	34:YQ:64:ILE:HD13	2.01	0.42
34:YQ:85:LYS:O	34:YQ:86:GLY:C	2.58	0.42
39:YV:22:VAL:HG12	39:YV:23:GLU:H	1.84	0.42
42:YY:96:ILE:HG13	42:YY:98:VAL:H	1.85	0.42
48:Y4:39:CYS:O	48:Y4:40:HIS:HB2	2.20	0.42
2:QA:254:G:OP1	18:QQ:67:LYS:O	2.38	0.41
2:QA:452:A:C6	2:QA:453:A:C6	3.08	0.41
5:QD:165:MET:SD	5:QD:168:ARG:HD2	2.60	0.41
9:QH:51:VAL:HG21	9:QH:60:ARG:HG2	2.02	0.41
9:QH:54:ASP:OD1	9:QH:54:ASP:N	2.53	0.41
9:QH:54:ASP:O	9:QH:56:LYS:HG3	2.20	0.41
14:QM:40:ASN:HA	14:QM:41:PRO:HD3	1.89	0.41
15:QN:4:LYS:O	15:QN:7:ILE:HG12	2.20	0.41
19:QR:56:THR:HB	19:QR:58:LEU:CD1	2.50	0.41
20:QS:28:LYS:HA	20:QS:47:HIS:HE1	1.85	0.41
23:RA:274:G:H1'	23:RA:363:G:N1	2.35	0.41
23:RA:503:A:H4'	23:RA:504:U:H5"	2.01	0.41
23:RA:531:C:H4'	23:RA:532:A:H5"	2.02	0.41
23:RA:1222:C:C2	23:RA:1229(A):G:C2	3.07	0.41
23:RA:1332:G:C8	23:RA:1332:G:H5'	2.55	0.41
23:RA:1354:A:OP1	25:RD:38:LYS:HE2	2.20	0.41
23:RA:2415:G:H4'	33:RP:66:GLY:HA3	2.01	0.41
26:RE:76:ARG:N	26:RE:76:ARG:HD2	2.35	0.41
27:RF:93:LYS:HB3	27:RF:94:PRO:HD2	2.01	0.41
29:RH:4:ILE:HB	29:RH:6:ARG:HG2	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RI:110:ASP:N	30:RI:130:TYR:OH	2.51	0.41
34:RQ:17:LEU:HD21	34:RQ:41:TRP:HD1	1.84	0.41
34:RQ:18:LYS:HB3	34:RQ:19:GLY:H	1.50	0.41
35:RR:109:ALA:HA	35:RR:110:PRO:HD2	1.95	0.41
36:RS:108:GLY:O	36:RS:110:LEU:HG	2.20	0.41
45:R1:85:LEU:HA	45:R1:87:PRO:HD2	2.01	0.41
47:R3:7:LYS:HA	47:R3:33:GLN:O	2.20	0.41
52:R8:23:VAL:CG1	52:R8:46:ARG:HD3	2.49	0.41
2:XA:292:G:N7	2:XA:293:G:H1'	2.35	0.41
2:XA:369:C:OP2	2:XA:388:G:N2	2.53	0.41
2:XA:522:C:H41	13:XL:53:ARG:HH22	1.68	0.41
2:XA:1374:A:O2'	8:XG:28:ASN:HB3	2.20	0.41
6:XE:9:LYS:HB2	6:XE:9:LYS:HE3	1.89	0.41
8:XG:15:ASP:O	8:XG:19:GLY:HA2	2.20	0.41
9:XH:121:ASP:OD1	9:XH:121:ASP:N	2.47	0.41
10:XI:4:TYR:CE1	10:XI:88:TYR:HB2	2.55	0.41
10:XI:125:TYR:HD2	10:XI:126:SER:H	1.68	0.41
23:YA:464:U:H2'	23:YA:465:G:O4'	2.19	0.41
23:YA:528:A:N1	23:YA:2042:A:H2'	2.34	0.41
23:YA:1665:A:C2'	23:YA:1666:G:H5'	2.50	0.41
23:YA:2849:U:H4'	23:YA:2868:A:C2	2.55	0.41
25:YD:221:VAL:HG22	25:YD:226:MET:CE	2.49	0.41
26:YE:144:ARG:HB3	26:YE:145:LYS:H	1.45	0.41
33:YP:82:GLY:HA3	33:YP:115:LEU:HD21	2.01	0.41
38:YU:30:LYS:HA	38:YU:30:LYS:HD3	1.89	0.41
42:YY:51:VAL:HG23	42:YY:57:GLN:N	2.35	0.41
47:Y3:35:ARG:HB3	47:Y3:37:LEU:HD21	2.01	0.41
48:Y4:16:CYS:SG	48:Y4:36:CYS:HB3	2.59	0.41
49:Y5:56:LYS:H	49:Y5:56:LYS:CD	2.29	0.41
2:QA:662:G:H2'	2:QA:663:A:C8	2.54	0.41
2:QA:718:G:N2	19:QR:82:THR:HG23	2.35	0.41
2:QA:737:A:H2'	2:QA:738:C:H6	1.85	0.41
2:QA:1024:G:OP1	2:QA:1024:G:H4'	2.20	0.41
3:QB:47:THR:HA	3:QB:202:PRO:HG2	2.00	0.41
8:QG:70:LYS:HA	8:QG:71:PRO:HD2	1.89	0.41
9:QH:38:ILE:HD12	9:QH:118:VAL:HG12	2.02	0.41
9:QH:59:LEU:O	9:QH:61:VAL:HG23	2.21	0.41
13:QL:85:ILE:HD12	13:QL:85:ILE:HA	1.75	0.41
15:QN:29:ARG:HG2	15:QN:31:ARG:O	2.20	0.41
16:QO:31:LEU:O	16:QO:35:ARG:HG3	2.20	0.41
20:QS:50:ALA:HB1	20:QS:57:HIS:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:QS:64:GLU:HB2	48:R4:60:GLN:HE21	1.70	0.41
23:RA:50:U:H3'	23:RA:51:G:H5'	2.01	0.41
23:RA:397:G:O2'	23:RA:2231:C:H1'	2.20	0.41
23:RA:1139:G:O2'	23:RA:1143:A:N1	2.37	0.41
23:RA:2741:A:H2'	23:RA:2742:C:O4'	2.20	0.41
23:RA:2838:G:C6	23:RA:2839:G:C5	3.07	0.41
23:RA:2886:G:H2'	23:RA:2887:U:H6	1.84	0.41
29:RH:10:PRO:HD2	29:RH:50:VAL:O	2.20	0.41
32:RO:7:TYR:CE1	32:RO:20:MET:HB2	2.55	0.41
33:RP:20:GLY:HA2	33:RP:27:HIS:O	2.19	0.41
33:RP:81:GLN:HG2	33:RP:106:LEU:HD23	2.02	0.41
42:RY:88:LYS:NZ	42:RY:88:LYS:HA	2.35	0.41
43:RZ:141:VAL:HA	43:RZ:144:LEU:HD23	2.02	0.41
2:XA:558:G:H5"	2:XA:559:A:OP2	2.20	0.41
2:XA:1161:C:H2'	2:XA:1162:C:C6	2.56	0.41
2:XA:1410:G:H2'	2:XA:1411:C:C6	2.54	0.41
2:XA:1442:G:C5	2:XA:1446:A:C6	3.08	0.41
5:XD:127:THR:HA	5:XD:132:ARG:HA	2.03	0.41
6:XE:131:ILE:HD13	6:XE:131:ILE:HA	1.84	0.41
10:XI:125:TYR:HD2	10:XI:126:SER:N	2.18	0.41
14:XM:12:ASN:N	14:XM:45:VAL:HG13	2.35	0.41
20:XS:67:VAL:HG23	48:Y4:59:PHE:CE2	2.54	0.41
23:YA:218:A:C2	23:YA:235:U:H4'	2.55	0.41
23:YA:657:U:H2'	23:YA:658:C:C6	2.55	0.41
23:YA:729:G:OP2	25:YD:13:ARG:NH1	2.49	0.41
23:YA:828:U:H4'	23:YA:831:G:N1	2.35	0.41
23:YA:1087:G:C5	23:YA:1089:G:H1'	2.54	0.41
23:YA:1332:G:H8	23:YA:1332:G:H2'	1.67	0.41
23:YA:1578:U:C2'	23:YA:1579:A:H5'	2.50	0.41
23:YA:2683:C:OP1	37:YT:53:ARG:NH2	2.49	0.41
25:YD:232:PRO:HB3	25:YD:244:ARG:CZ	2.50	0.41
31:YN:65:LYS:O	31:YN:69:GLN:HG2	2.20	0.41
35:YR:2:ARG:HG2	35:YR:5:LYS:NZ	2.35	0.41
35:YR:3:HIS:O	35:YR:5:LYS:N	2.53	0.41
36:YS:30:ARG:NH2	36:YS:92:TYR:CD1	2.87	0.41
36:YS:51:ALA:HB1	36:YS:69:VAL:HG23	2.02	0.41
41:YX:26:TYR:HB3	41:YX:92:LEU:HD12	2.02	0.41
42:YY:84:ARG:O	42:YY:95:LYS:HD3	2.20	0.41
45:Y1:76:ARG:H	45:Y1:76:ARG:HD2	1.84	0.41
2:QA:152:A:H62	2:QA:169:C:N4	2.17	0.41
2:QA:176:C:H2'	2:QA:177:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QA:267:C:P	18:QQ:67:LYS:HB2	2.61	0.41
2:QA:1073:U:O2'	3:QB:104:ASN:OD1	2.36	0.41
4:QC:148:GLY:HA3	4:QC:172:ARG:O	2.19	0.41
9:QH:20:TYR:CE2	9:QH:75:ARG:HD2	2.54	0.41
11:QJ:48:THR:OG1	11:QJ:62:HIS:ND1	2.44	0.41
16:QO:43:LEU:HA	16:QO:43:LEU:HD23	1.74	0.41
18:QQ:83:ASP:O	18:QQ:87:LYS:HG2	2.20	0.41
21:QT:89:ARG:HH21	21:QT:104:LEU:HG	1.85	0.41
23:RA:155:C:H5'	23:RA:161:U:OP2	2.20	0.41
23:RA:177:G:H5"	23:RA:177:G:N3	2.34	0.41
23:RA:196:A:N3	23:RA:196:A:H2'	2.35	0.41
23:RA:222:A:H3'	23:RA:421:U:H5"	2.02	0.41
23:RA:270(L):U:H2'	30:RI:50:ARG:HD2	2.01	0.41
23:RA:297:C:H5"	42:RY:85:VAL:HG21	2.00	0.41
23:RA:879:G:C2	23:RA:880:G:H1'	2.55	0.41
23:RA:1192:G:OP2	33:RP:18:ARG:NH1	2.53	0.41
23:RA:1462:C:H4'	23:RA:2703:C:H5'	2.02	0.41
23:RA:1527:G:H2'	23:RA:1543:A:N1	2.35	0.41
23:RA:2170:A:H2'	23:RA:2171:A:O4'	2.20	0.41
23:RA:2832:U:O2'	23:RA:2833:G:P	2.78	0.41
27:RF:113:ALA:HB1	27:RF:186:ILE:HG21	2.02	0.41
27:RF:177:ALA:HB1	27:RF:178:PRO:HD2	2.03	0.41
28:RG:6:ALA:HB3	28:RG:104:GLU:OE2	2.20	0.41
28:RG:98:ARG:HE	28:RG:98:ARG:HB2	1.38	0.41
34:RQ:58:PHE:HD1	34:RQ:61:GLY:HA3	1.85	0.41
34:RQ:68:ILE:HD13	34:RQ:103:MET:HG2	2.02	0.41
35:RR:22:ARG:HA	35:RR:47:PHE:HE2	1.86	0.41
36:RS:78:LEU:HD23	36:RS:78:LEU:HA	1.86	0.41
38:RU:58:ARG:NH1	38:RU:93:LYS:HE2	2.35	0.41
41:RX:40:LYS:C	41:RX:42:ALA:H	2.23	0.41
43:RZ:118:GLN:N	43:RZ:173:ALA:O	2.31	0.41
51:R7:1:MET:SD	51:R7:3:ARG:NH2	2.93	0.41
2:XA:486:U:H2'	2:XA:487:A:C8	2.55	0.41
2:XA:1132:C:H2'	2:XA:1133:G:C8	2.55	0.41
2:XA:1161:C:O2'	2:XA:1162:C:H5'	2.21	0.41
9:XH:104:ARG:HD2	9:XH:138:TRP:CG	2.56	0.41
17:XP:23:ASP:O	17:XP:26:ARG:HB2	2.20	0.41
17:XP:56:ALA:HB1	17:XP:74:LEU:HD13	2.02	0.41
19:XR:38:GLU:O	19:XR:42:ARG:NH1	2.54	0.41
21:XT:53:LEU:HD12	21:XT:100:ILE:HG23	2.02	0.41
23:YA:27:G:H22	23:YA:512:G:H2'	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:34:C:H41	23:YA:447:A:H61	1.68	0.41
23:YA:480:A:H1'	42:YY:44:ILE:HG12	2.02	0.41
23:YA:1930:G:H2'	23:YA:1968:G:N1	2.35	0.41
23:YA:2308:G:N2	23:YA:2311:A:H2	2.17	0.41
27:YF:117:ARG:HD2	27:YF:120:GLU:OE2	2.20	0.41
29:YH:19:VAL:HG22	29:YH:24:VAL:HG12	2.03	0.41
36:YS:107:GLU:N	36:YS:110:LEU:HD11	2.35	0.41
45:Y1:89:GLU:HA	45:Y1:93:GLU:HB2	2.02	0.41
2:QA:272:C:H2'	2:QA:273:A:C8	2.56	0.41
2:QA:426:G:OP1	5:QD:38:TYR:OH	2.19	0.41
2:QA:476:G:H2'	2:QA:477:G:H8	1.85	0.41
2:QA:1006:C:H2'	2:QA:1007:C:C6	2.55	0.41
2:QA:1095:U:H2'	2:QA:1096:C:C6	2.55	0.41
3:QB:62:ALA:O	3:QB:65:GLY:N	2.40	0.41
5:QD:51:PRO:HB2	5:QD:52:SER:H	1.69	0.41
9:QH:36:LEU:HD12	9:QH:59:LEU:HD13	2.02	0.41
12:QK:120:ARG:HA	12:QK:121:PRO:HD3	1.87	0.41
13:QL:38:THR:HG21	13:QL:65:GLU:OE2	2.19	0.41
17:QP:53:VAL:O	17:QP:57:ARG:HG2	2.20	0.41
20:QS:36:ARG:HA	20:QS:71:LEU:HB2	2.02	0.41
23:RA:565:C:H2'	23:RA:566:U:O4'	2.20	0.41
23:RA:675:A:N3	23:RA:2443:C:O2'	2.42	0.41
23:RA:1090:U:N3	23:RA:1102:C:O2	2.53	0.41
23:RA:2422:A:N7	52:R8:31:HIS:NE2	2.61	0.41
23:RA:2529:G:H5"	23:RA:2530:A:H5"	2.03	0.41
25:RD:35:LYS:HE3	25:RD:63:ARG:C	2.41	0.41
27:RF:164:ARG:HG3	27:RF:175:THR:OG1	2.20	0.41
27:RF:178:PRO:HB2	27:RF:201:VAL:CG1	2.50	0.41
33:RP:63:PRO:HA	52:R8:13:ARG:HB3	2.02	0.41
34:RQ:40:ALA:O	34:RQ:42:ILE:HD12	2.21	0.41
50:R6:13:CYS:O	50:R6:21:TYR:HA	2.20	0.41
2:XA:327:A:O2'	2:XA:328:C:O4'	2.35	0.41
2:XA:1005:A:HO2'	2:XA:1037:C:HO2'	1.68	0.41
2:XA:1376:U:H2'	2:XA:1377:A:H8	1.86	0.41
3:XB:118:LEU:CB	3:XB:142:LEU:HD12	2.50	0.41
11:XJ:3:LYS:HD2	11:XJ:77:PRO:HD3	2.01	0.41
12:XK:18:ARG:HA	12:XK:81:ASP:H	1.86	0.41
13:XL:62:SER:HB2	13:XL:64:TYR:CD1	2.56	0.41
15:XN:51:GLY:O	15:XN:53:LEU:N	2.53	0.41
17:XP:8:ARG:C	17:XP:9:PHE:HD2	2.24	0.41
17:XP:17:TYR:HE1	17:XP:41:PRO:HG3	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:143:C:H2'	23:YA:144:C:C6	2.55	0.41
23:YA:278:A:H4'	23:YA:279:C:OP1	2.21	0.41
23:YA:444:C:C4'	27:YF:49:ALA:HB2	2.47	0.41
23:YA:775:G:C4	23:YA:794:G:C8	3.09	0.41
23:YA:958:U:OP2	34:YQ:14:ARG:NH1	2.53	0.41
23:YA:1450:C:N4	23:YA:1451:C:H41	2.19	0.41
23:YA:1949:G:C6	23:YA:1950:G:C6	3.08	0.41
23:YA:2567:G:H2'	23:YA:2568:C:C6	2.56	0.41
23:YA:2764:A:N6	23:YA:2766:G:C2	2.88	0.41
28:YG:165:THR:OG1	28:YG:168:GLU:HG3	2.21	0.41
31:YN:18:ALA:HB3	31:YN:55:VAL:O	2.19	0.41
38:YU:69:CYS:HB3	38:YU:106:PHE:CZ	2.56	0.41
39:YV:38:LEU:O	39:YV:51:VAL:HA	2.20	0.41
48:Y4:24:THR:OG1	48:Y4:25:TYR:N	2.53	0.41
2:QA:585:G:N3	2:QA:879:C:H4'	2.36	0.41
3:QB:219:VAL:O	3:QB:223:ILE:HG13	2.19	0.41
8:QG:13:GLN:O	8:QG:24:THR:HG21	2.20	0.41
20:QS:70:LYS:HZ1	48:R4:68:ARG:HH22	1.68	0.41
22:QU:2:GLY:O	22:QU:5:ASP:N	2.47	0.41
23:RA:644:A:H4'	23:RA:645:C:H5	1.86	0.41
23:RA:681:G:H2'	23:RA:682:G:O4'	2.20	0.41
23:RA:686:G:H21	23:RA:788:A:H61	1.66	0.41
23:RA:860:U:C5	23:RA:917:A:C2	3.09	0.41
23:RA:1578:U:C2'	23:RA:1579:A:H5'	2.50	0.41
23:RA:2019:A:OP2	49:R5:9:LYS:NZ	2.52	0.41
23:RA:2105:C:H2'	23:RA:2106:G:H8	1.85	0.41
23:RA:2163:C:N4	23:RA:2164:C:H41	2.19	0.41
23:RA:2319:G:H4'	23:RA:2320:A:OP1	2.21	0.41
23:RA:2695:C:H2'	23:RA:2696:U:C6	2.55	0.41
23:RA:2832:U:HO2'	23:RA:2833:G:P	2.44	0.41
24:RB:104:A:H2'	24:RB:105:G:O4'	2.21	0.41
25:RD:43:ARG:HB2	25:RD:54:ARG:HB2	2.03	0.41
25:RD:257:LEU:HD23	25:RD:257:LEU:HA	1.90	0.41
27:RF:29:ASN:O	27:RF:112:MET:HE1	2.20	0.41
28:RG:27:ASN:HB3	28:RG:30:GLU:HG3	2.01	0.41
30:RI:130:TYR:HB3	30:RI:136:VAL:HG13	2.03	0.41
31:RN:47:ALA:HB2	31:RN:112:LEU:HD11	2.02	0.41
35:RR:10:LEU:O	35:RR:12:ARG:HG3	2.21	0.41
36:RS:14:VAL:HG21	36:RS:89:ARG:HG2	2.02	0.41
42:RY:84:ARG:HD3	42:RY:86:ARG:NH1	2.35	0.41
43:RZ:111:VAL:HG13	43:RZ:112:ARG:N	2.33	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XA:96:G:H2'	2:XA:97:U:O4'	2.21	0.41
2:XA:163:C:H2'	2:XA:164:U:C6	2.56	0.41
2:XA:266:G:O2'	2:XA:267:C:OP2	2.35	0.41
2:XA:445:G:H2'	2:XA:446:G:H8	1.85	0.41
2:XA:1079:G:C6	2:XA:1080:A:N6	2.88	0.41
2:XA:1486:G:H2'	2:XA:1487:G:O4'	2.20	0.41
14:XM:16:ASP:HB3	14:XM:41:PRO:HB3	2.01	0.41
14:XM:20:THR:O	14:XM:22:ILE:N	2.51	0.41
23:YA:139:G:N3	23:YA:141:A:N1	2.68	0.41
23:YA:458:G:C8	51:Y7:37:LYS:HG2	2.55	0.41
23:YA:2115:G:N2	23:YA:2165:G:N7	2.56	0.41
23:YA:2803:C:H2'	23:YA:2804:C:C6	2.55	0.41
27:YF:125:LEU:HA	27:YF:194:MET:O	2.20	0.41
28:YG:166:ASP:OD1	28:YG:166:ASP:N	2.54	0.41
31:YN:7:LYS:NZ	31:YN:7:LYS:H	2.17	0.41
33:YP:101:VAL:C	33:YP:103:ALA:H	2.23	0.41
34:YQ:19:GLY:O	34:YQ:21:THR:OG1	2.23	0.41
39:YV:72:VAL:HG13	39:YV:85:LYS:HG2	2.01	0.41
53:Y9:2:LYS:HA	53:Y9:2:LYS:HD2	1.86	0.41
2:QA:466:C:H5"	2:QA:467:G:OP2	2.20	0.41
2:QA:576:G:O6	2:QA:880:C:O2'	2.33	0.41
2:QA:882:C:N4	13:QL:5:PRO:HB3	2.36	0.41
2:QA:923:A:O2'	2:QA:1399:C:OP2	2.30	0.41
2:QA:1298:C:H41	8:QG:114:ARG:HB3	1.85	0.41
3:QB:208:ILE:HA	3:QB:211:ILE:HD12	2.02	0.41
11:QJ:80:LYS:HD3	11:QJ:80:LYS:HA	1.69	0.41
20:QS:5:LEU:HD12	20:QS:5:LEU:HA	1.93	0.41
22:QU:10:ARG:HA	22:QU:13:ILE:HB	2.01	0.41
23:RA:587:C:H4'	23:RA:588:U:O5'	2.19	0.41
23:RA:1005:C:C2	23:RA:1143:A:C5	3.08	0.41
23:RA:1077:A:H3'	23:RA:1077:A:N3	2.36	0.41
23:RA:1394:U:C4	23:RA:1395:A:C6	3.08	0.41
23:RA:2356:C:O3'	44:R0:20:ARG:HD3	2.20	0.41
28:RG:124:SER:HB2	28:RG:131:TYR:CE1	2.56	0.41
31:RN:71:ILE:HG21	31:RN:84:LYS:HB3	2.02	0.41
42:RY:54:LYS:HB3	42:RY:55:TYR:CE2	2.55	0.41
50:R6:24:GLU:HB3	50:R6:25:LYS:H	1.74	0.41
2:XA:176:C:H2'	2:XA:177:C:H6	1.86	0.41
2:XA:347:G:O2'	2:XA:348:G:H5"	2.20	0.41
2:XA:1106:G:H2'	2:XA:1107:C:H6	1.86	0.41
3:XB:166:ASP:HB3	3:XB:169:LYS:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XC:119:ARG:HH21	4:XC:140:ARG:CZ	2.34	0.41
4:XC:150:LYS:HE3	4:XC:167:TRP:HE1	1.84	0.41
6:XE:68:GLU:O	6:XE:68:GLU:HG3	2.21	0.41
7:XF:95:GLU:HA	7:XF:96:PRO:HD3	1.87	0.41
10:XI:79:LEU:O	10:XI:83:ARG:HG2	2.19	0.41
13:XL:44:THR:HA	13:XL:45:PRO:HD3	1.69	0.41
23:YA:250:G:P	52:Y8:13:ARG:HH22	2.43	0.41
23:YA:330:A:HO2'	23:YA:331:A:H8	1.66	0.41
23:YA:569:U:C4	23:YA:570:G:C6	3.08	0.41
23:YA:1464:C:HO2'	23:YA:1528:A:H8	1.64	0.41
23:YA:1625:C:H2'	23:YA:1626:G:O4'	2.21	0.41
24:YB:89(A):A:C5	24:YB:90:C:H1'	2.55	0.41
25:YD:102:LYS:C	25:YD:103:ARG:HG2	2.40	0.41
27:YF:107:LYS:CD	27:YF:207:GLY:H	2.30	0.41
38:YU:8:VAL:O	38:YU:12:ARG:HG3	2.20	0.41
38:YU:98:LEU:HD23	38:YU:99:ALA:N	2.36	0.41
43:YZ:182:LYS:CG	43:YZ:183:LEU:HA	2.51	0.41
54:XV:37:1MG:H5"	54:XV:37:1MG:H8	1.86	0.41
2:QA:701:C:H1'	2:QA:703:G:C5	2.56	0.41
2:QA:1337:G:H5"	2:QA:1338:G:OP1	2.21	0.41
2:QA:1392:G:N2	2:QA:1502:A:H8	2.17	0.41
6:QE:127:ASN:HA	6:QE:128:PRO:HD3	1.89	0.41
12:QK:99:GLN:HG2	12:QK:105:VAL:HG21	2.03	0.41
16:QO:4:THR:HB	16:QO:6:GLU:CD	2.41	0.41
17:QP:20:VAL:HG21	17:QP:32:TYR:CD1	2.56	0.41
23:RA:172:C:H2'	23:RA:173:G:C8	2.56	0.41
23:RA:232:G:H8	23:RA:232:G:OP2	2.03	0.41
23:RA:623:G:H2'	23:RA:624:C:C6	2.55	0.41
23:RA:706:A:H2'	23:RA:707:G:O4'	2.21	0.41
23:RA:797:C:OP2	27:RF:62:ARG:HB2	2.20	0.41
24:RB:42:C:H2'	24:RB:43:C:O4'	2.20	0.41
31:RN:10:GLU:HA	31:RN:11:PRO:HD3	1.65	0.41
31:RN:57:ALA:O	31:RN:60:ILE:HD11	2.21	0.41
2:XA:186:C:H2'	2:XA:186(A):C:C6	2.55	0.41
2:XA:606:G:H1	2:XA:631:G:H5"	1.85	0.41
2:XA:636:U:H2'	2:XA:637:G:H8	1.86	0.41
2:XA:807:A:H2'	2:XA:808:C:C6	2.55	0.41
2:XA:1078:U:O2'	6:XE:130:ASN:OD1	2.14	0.41
2:XA:1079:G:H2'	2:XA:1080:A:C8	2.56	0.41
2:XA:1211:U:H1'	2:XA:1213:A:N3	2.35	0.41
2:XA:1454:G:H2'	2:XA:1455:G:H8	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XH:44:PHE:HE2	9:XH:109:ILE:CG2	2.34	0.41
12:XK:88:GLY:C	12:XK:90:GLY:H	2.23	0.41
23:YA:250:G:P	52:Y8:13:ARG:NH2	2.93	0.41
23:YA:592:G:H2'	52:Y8:4:MET:HE2	2.01	0.41
23:YA:838:C:H2'	23:YA:839:U:H6	1.85	0.41
23:YA:2660:A:H2'	23:YA:2661:G:O4'	2.21	0.41
23:YA:2745:C:C4	23:YA:2746:U:C4	3.08	0.41
26:YE:41:LYS:HA	26:YE:41:LYS:HE2	2.02	0.41
26:YE:64:LYS:C	26:YE:66:HIS:H	2.24	0.41
30:YI:2:LYS:H	30:YI:2:LYS:HG2	1.56	0.41
30:YI:38:LEU:H	30:YI:38:LEU:HD12	1.84	0.41
36:YS:88:ASP:O	36:YS:89:ARG:HB3	2.21	0.41
38:YU:92:ARG:HD2	38:YU:95:LEU:HD12	2.02	0.41
39:YV:72:VAL:CG1	39:YV:85:LYS:HG2	2.51	0.41
48:Y4:48:ARG:NH1	48:Y4:52:THR:H	2.19	0.41
51:Y7:47:ARG:HB2	51:Y7:47:ARG:HE	1.58	0.41
54:XV:37:1MG:H8	54:XV:37:1MG:C5'	2.33	0.41
2:QA:392:G:H2'	2:QA:393:A:H8	1.86	0.41
2:QA:1443:G:N2	37:RT:119:LYS:HB2	2.35	0.41
3:QB:27:LYS:HD2	3:QB:193:ASP:CB	2.46	0.41
5:QD:38:TYR:HB2	5:QD:44:GLY:O	2.21	0.41
5:QD:68:TYR:OH	5:QD:98:GLU:OE1	2.31	0.41
5:QD:171:GLY:HA2	5:QD:172:PRO:HD3	1.87	0.41
6:QE:12:LEU:O	6:QE:13:ILE:HD12	2.21	0.41
8:QG:45:ASP:O	8:QG:48:LYS:HB3	2.21	0.41
14:QM:91:ARG:HB2	14:QM:98:VAL:HG13	2.03	0.41
14:QM:105:THR:OG1	14:QM:106:ASN:N	2.54	0.41
23:RA:27:G:O2'	23:RA:28:A:P	2.79	0.41
23:RA:66:C:H2'	23:RA:67:U:H6	1.86	0.41
23:RA:108:U:H2'	23:RA:109:G:H8	1.84	0.41
23:RA:392:C:H5"	23:RA:409:C:H5"	2.03	0.41
23:RA:724:U:H2'	23:RA:725:G:O4'	2.21	0.41
23:RA:900:A:H5'	23:RA:901:A:OP2	2.21	0.41
23:RA:1636:C:H2'	23:RA:1637:A:H8	1.82	0.41
23:RA:1972:A:H2'	23:RA:1973:G:C8	2.55	0.41
23:RA:2820:A:C6	35:RR:4:LEU:HD11	2.56	0.41
25:RD:34:VAL:C	25:RD:35:LYS:HG3	2.40	0.41
25:RD:127:VAL:HA	25:RD:193:VAL:HG22	2.02	0.41
25:RD:226:MET:HB3	25:RD:230:ASP:HB2	2.03	0.41
26:RE:184:VAL:HB	26:RE:185:LYS:H	1.64	0.41
29:RH:4:ILE:O	29:RH:6:ARG:N	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RH:152:ARG:HE	29:RH:153:LYS:HZ3	1.69	0.41
32:RO:73:ASP:OD2	37:RT:32:TYR:OH	2.28	0.41
36:RS:62:LYS:HB3	36:RS:97:ARG:CD	2.44	0.41
41:RX:51:VAL:HG13	41:RX:81:VAL:HG23	2.03	0.41
2:XA:115:G:H4'	2:XA:116:A:O5'	2.21	0.41
2:XA:411:A:N6	2:XA:413:G:H21	2.19	0.41
2:XA:1298:C:H4'	2:XA:1299:A:C4	2.56	0.41
4:XC:91:LEU:O	4:XC:95:THR:OG1	2.19	0.41
10:XI:40:LEU:O	10:XI:42:ARG:N	2.48	0.41
12:XK:19:ALA:CB	12:XK:32:ILE:HG22	2.50	0.41
18:XQ:59:ILE:HB	18:XQ:71:PHE:HB3	2.03	0.41
19:XR:85:LEU:HD23	19:XR:88:LYS:HD2	2.03	0.41
20:XS:78:ARG:H	20:XS:78:ARG:HG2	1.56	0.41
23:YA:234:C:H2'	23:YA:235:U:H6	1.85	0.41
23:YA:900:A:H5'	23:YA:901:A:OP2	2.21	0.41
23:YA:2665:A:H2'	23:YA:2666:C:O4'	2.21	0.41
23:YA:2712:U:O2'	23:YA:2712(A):A:P	2.79	0.41
23:YA:2845:G:H2'	23:YA:2846:G:C8	2.56	0.41
23:YA:2847:U:P	37:YT:98:LYS:HZ3	2.44	0.41
24:YB:44:G:OP1	48:Y4:1:MET:N	2.47	0.41
25:YD:3:VAL:HG13	25:YD:17:THR:HG23	2.03	0.41
26:YE:86:PRO:HB2	26:YE:87:GLU:H	1.67	0.41
26:YE:95:ILE:H	26:YE:95:ILE:CD1	2.31	0.41
27:YF:9:ILE:HD11	27:YF:125:LEU:HG	2.03	0.41
27:YF:64:ILE:HA	27:YF:64:ILE:HD12	1.80	0.41
2:QA:181:G:HO2'	2:QA:182:U:H6	1.67	0.41
2:QA:392:G:H2'	2:QA:393:A:C8	2.55	0.41
2:QA:636:U:H2'	2:QA:637:G:C8	2.56	0.41
2:QA:663:A:O3'	19:QR:64:ARG:NH2	2.49	0.41
2:QA:1299:A:C6	2:QA:1301:U:C2	3.08	0.41
2:QA:1321:C:C4	2:QA:1322:C:C4	3.09	0.41
2:QA:1347:G:O2'	2:QA:1348:U:P	2.79	0.41
2:QA:1411:C:H2'	2:QA:1412:C:C6	2.55	0.41
3:QB:210:SER:O	3:QB:214:ILE:HG12	2.21	0.41
5:QD:122:ARG:O	5:QD:122:ARG:HD3	2.20	0.41
5:QD:169:LYS:HE2	5:QD:169:LYS:HB3	1.88	0.41
6:QE:110:LEU:HD13	6:QE:118:ILE:HG12	2.02	0.41
9:QH:41:ARG:NH2	9:QH:123:GLU:OE2	2.54	0.41
9:QH:44:PHE:HD1	9:QH:80:ILE:HG12	1.86	0.41
11:QJ:31:GLY:HA3	11:QJ:78:ASN:CG	2.41	0.41
11:QJ:76:ASN:HA	11:QJ:77:PRO:HD2	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:QL:103:GLY:N	13:QL:107:ALA:O	2.49	0.41
16:QO:32:LEU:HA	16:QO:32:LEU:HD23	1.76	0.41
23:RA:214:G:O2'	23:RA:216:A:O3'	2.38	0.41
23:RA:577:G:C6	23:RA:578:A:C6	3.08	0.41
23:RA:602:G:O2'	23:RA:604:G:O2'	2.32	0.41
23:RA:752:A:H3'	51:R7:1:MET:SD	2.60	0.41
23:RA:888:C:C2'	23:RA:889:C:H4'	2.50	0.41
23:RA:1020:A:N6	23:RA:1141:U:O2'	2.53	0.41
23:RA:1425:G:H2'	23:RA:1426:G:O4'	2.21	0.41
23:RA:1816:G:C8	25:RD:62:TYR:CZ	3.08	0.41
23:RA:2239:G:H5'	25:RD:251:GLY:HA3	2.02	0.41
23:RA:2467:C:H4'	34:RQ:123:HIS:CG	2.56	0.41
23:RA:2557:G:H2'	23:RA:2558:C:C6	2.56	0.41
24:RB:40:U:H3	24:RB:43:C:H5"	1.86	0.41
26:RE:35:GLN:HB3	26:RE:48:GLN:HB2	2.02	0.41
28:RG:131:TYR:O	28:RG:159:VAL:HG13	2.21	0.41
29:RH:33:LEU:HD11	29:RH:136:ILE:O	2.20	0.41
29:RH:107:VAL:HB	29:RH:153:LYS:HE3	2.03	0.41
30:RI:5:LEU:H	30:RI:5:LEU:HD12	1.86	0.41
31:RN:57:ALA:C	31:RN:60:ILE:HD11	2.40	0.41
31:RN:73:THR:HB	31:RN:82:LEU:HD11	2.02	0.41
32:RO:26:LYS:HB2	32:RO:30:ALA:HB2	2.03	0.41
33:RP:62:LEU:HD13	33:RP:62:LEU:N	2.36	0.41
34:RQ:66:ILE:HG13	34:RQ:67:ARG:N	2.36	0.41
35:RR:70:LEU:C	35:RR:72:ASP:H	2.21	0.41
36:RS:83:LYS:C	36:RS:109:GLY:HA3	2.41	0.41
37:RT:91:ARG:HB2	37:RT:121:ILE:HG13	2.03	0.41
38:RU:61:TRP:O	38:RU:65:ILE:HG13	2.21	0.41
38:RU:83:LEU:HG	38:RU:88:ILE:HB	2.03	0.41
44:R0:27:GLU:HG3	44:R0:68:GLU:HA	2.03	0.41
45:R1:58:ILE:CD1	45:R1:86:SER:HB2	2.50	0.41
48:R4:13:ARG:O	48:R4:30:GLU:HA	2.20	0.41
48:R4:23:GLU:HG3	48:R4:25:TYR:HE2	1.85	0.41
48:R4:39:CYS:HB2	48:R4:41:PRO:HD2	2.02	0.41
2:XA:453:A:C6	2:XA:454:C:C4	3.09	0.41
2:XA:923:A:H2'	2:XA:924:C:O4'	2.20	0.41
2:XA:1106:G:H2'	2:XA:1107:C:C6	2.56	0.41
2:XA:1158:C:H4'	3:XB:133:LYS:HZ3	1.84	0.41
2:XA:1206:G:C6	2:XA:1207:G:C5	3.09	0.41
2:XA:1320:C:H5'	20:XS:70:LYS:HG3	2.03	0.41
2:XA:1453:G:H2'	21:XT:39:LYS:CE	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XD:52:SER:O	5:XD:55:ALA:HB3	2.21	0.41
7:XF:46:ARG:HB3	7:XF:60:PHE:CE1	2.55	0.41
8:XG:154:TYR:HD2	8:XG:154:TYR:HA	1.76	0.41
11:XJ:3:LYS:HB2	11:XJ:75:ILE:O	2.19	0.41
13:XL:102:ARG:HE	13:XL:102:ARG:HB3	1.71	0.41
14:XM:81:LEU:HD23	14:XM:81:LEU:HA	1.93	0.41
18:XQ:62:SER:CB	18:XQ:72:ARG:HE	2.33	0.41
20:XS:64:GLU:HB3	48:Y4:60:GLN:NE2	2.36	0.41
21:XT:11:SER:HA	21:XT:13:LEU:HD12	2.01	0.41
21:XT:43:LEU:HD23	21:XT:43:LEU:HA	1.88	0.41
23:YA:140:A:H8	23:YA:1408:C:O2'	2.04	0.41
23:YA:436:C:H2'	23:YA:438:G:H8	1.85	0.41
23:YA:436:C:H2'	23:YA:438:G:C8	2.56	0.41
23:YA:507:A:C5'	23:YA:508:G:H5'	2.51	0.41
23:YA:839:U:H1'	23:YA:1191:G:H1'	2.02	0.41
23:YA:1113:U:H2'	23:YA:1114:G:H8	1.85	0.41
23:YA:1124:C:H2'	23:YA:1125:G:O4'	2.20	0.41
23:YA:1339:G:N2	23:YA:1603:A:H1'	2.36	0.41
23:YA:1417:C:H2'	23:YA:1418:G:O4'	2.20	0.41
23:YA:1676:A:H2'	23:YA:1677:A:O4'	2.21	0.41
23:YA:1803:A:O2'	25:YD:259:THR:HG21	2.21	0.41
23:YA:1889:A:H1'	23:YA:2087:G:O4'	2.21	0.41
23:YA:2086:U:H2'	23:YA:2087:G:C8	2.55	0.41
23:YA:2377:A:H2'	23:YA:2378:A:C8	2.56	0.41
23:YA:2469:A:H2	23:YA:2481:G:N3	2.19	0.41
23:YA:2691:C:O3'	23:YA:2871:C:H4'	2.21	0.41
24:YB:60:C:H2'	24:YB:61:G:H8	1.86	0.41
25:YD:36:PRO:HB3	25:YD:61:LEU:HB3	2.03	0.41
25:YD:130:ALA:C	25:YD:131:LEU:HD12	2.42	0.41
27:YF:28:ILE:H	27:YF:28:ILE:HG13	1.68	0.41
27:YF:67:GLN:HG3	27:YF:67:GLN:O	2.21	0.41
28:YG:103:LEU:O	28:YG:107:LEU:HG	2.21	0.41
28:YG:124:SER:HB2	28:YG:131:TYR:CE1	2.56	0.41
30:YI:14:ASP:H	30:YI:17:GLN:HB2	1.86	0.41
30:YI:67:ARG:NH2	30:YI:68:LEU:HB2	2.36	0.41
31:YN:96:GLU:O	31:YN:100:GLU:HG3	2.20	0.41
33:YP:106:LEU:O	33:YP:107:LYS:HB2	2.20	0.41
34:YQ:16:ARG:HB3	34:YQ:17:LEU:H	1.76	0.41
34:YQ:81:VAL:HG23	44:Y0:7:LEU:HD21	2.02	0.41
35:YR:44:LEU:HD22	35:YR:48:VAL:HG23	2.02	0.41
38:YU:17:ILE:HG23	38:YU:39:LEU:HD12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YU:92:ARG:NH2	39:YV:11:GLN:H	2.18	0.41
41:YX:31:HIS:HB3	41:YX:34:ALA:HB2	2.03	0.41
42:YY:63:LYS:HD2	42:YY:63:LYS:HA	1.86	0.41
50:Y6:36:LEU:HD13	50:Y6:50:ARG:CZ	2.51	0.41
52:Y8:37:SER:O	52:Y8:40:GLU:HB3	2.21	0.41
54:QV:37:1MG:H8	54:QV:37:1MG:C5'	2.34	0.41
4:QC:83:ARG:O	4:QC:86:VAL:HG22	2.21	0.41
4:QC:122:GLU:HA	4:QC:125:GLU:OE1	2.21	0.41
7:QF:33:TYR:CE1	7:QF:78:GLU:HG2	2.56	0.41
7:QF:35:ALA:HA	7:QF:67:MET:HB3	2.02	0.41
12:QK:25:TYR:CZ	12:QK:87:THR:HB	2.55	0.41
23:RA:297:C:H2'	23:RA:298:G:O4'	2.21	0.41
23:RA:428:A:H8	23:RA:428:A:OP2	2.04	0.41
23:RA:2041:U:H2'	23:RA:2042:A:H8	1.86	0.41
25:RD:150:LYS:N	25:RD:150:LYS:HD3	2.36	0.41
26:RE:92:THR:HB	26:RE:93:VAL:H	1.54	0.41
27:RF:181:LEU:HD22	27:RF:181:LEU:HA	1.79	0.41
28:RG:47:LYS:HB2	28:RG:47:LYS:HE3	1.81	0.41
32:RO:63:VAL:HB	32:RO:106:LEU:HD11	2.02	0.41
43:RZ:54:HIS:NE2	43:RZ:101:PRO:HG3	2.36	0.41
43:RZ:104:PHE:HB3	43:RZ:141:VAL:CG1	2.51	0.41
2:XA:20:U:H2'	2:XA:21:G:O4'	2.20	0.41
2:XA:485:G:HO2'	2:XA:486:U:P	2.44	0.41
2:XA:689:C:H3'	2:XA:690:G:H21	1.86	0.41
2:XA:1004:A:N1	2:XA:1024:G:H2'	2.36	0.41
2:XA:1414:U:O2	2:XA:1487:G:N2	2.54	0.41
3:XB:126:GLU:O	3:XB:129:GLU:HB2	2.20	0.41
11:XJ:54:PHE:CD2	11:XJ:55:LYS:HG3	2.56	0.41
13:XL:68:ALA:HB2	13:XL:85:ILE:HD11	2.03	0.41
14:XM:121:LYS:HA	14:XM:121:LYS:HD3	1.90	0.41
23:YA:142:G:H1'	41:YX:37:THR:CG2	2.47	0.41
23:YA:180:G:N2	23:YA:215:G:O6	2.53	0.41
23:YA:267:C:H2'	23:YA:268:C:H6	1.86	0.41
23:YA:270(R):G:OP1	30:YI:42:SER:OG	2.36	0.41
23:YA:372:G:O2'	23:YA:373:U:P	2.78	0.41
23:YA:653:A:H4'	23:YA:654:A:OP2	2.21	0.41
23:YA:918:A:N3	24:YB:80:U:O2'	2.44	0.41
23:YA:1754:C:P	37:YT:96:ARG:NH1	2.93	0.41
23:YA:1816:G:H8	25:YD:62:TYR:OH	2.04	0.41
23:YA:2061:G:OP1	27:YF:68:LYS:NZ	2.54	0.41
23:YA:2087:G:C2'	23:YA:2088:G:H5'	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YB:12:C:O2'	44:Y0:74:ARG:HG3	2.21	0.41
25:YD:145:VAL:HG11	25:YD:175:LEU:HD11	2.02	0.41
26:YE:32:PRO:HA	26:YE:90:THR:HA	2.03	0.41
34:YQ:83:MET:H	44:Y0:7:LEU:HD22	1.86	0.41
38:YU:96:ALA:HA	38:YU:98:LEU:HD23	2.03	0.41
48:Y4:48:ARG:HH12	48:Y4:52:THR:H	1.69	0.41
2:QA:407:G:OP1	5:QD:3:ARG:NH1	2.54	0.40
2:QA:1199:U:H4'	11:QJ:54:PHE:CZ	2.56	0.40
3:QB:104:ASN:OD1	3:QB:107:THR:OG1	2.30	0.40
5:QD:20:TYR:CE1	7:XF:15:ASP:HB3	2.56	0.40
5:QD:173:TRP:CD1	5:QD:174:LEU:HG	2.56	0.40
8:QG:93:PRO:O	8:QG:96:GLN:HB2	2.21	0.40
11:QJ:61:GLU:OE1	15:QN:58:LYS:HE2	2.21	0.40
23:RA:253:C:H2'	23:RA:254:G:O4'	2.22	0.40
23:RA:373:U:H2'	23:RA:374:A:C8	2.55	0.40
23:RA:484:C:OP1	42:RY:51:VAL:HG11	2.21	0.40
23:RA:717:G:H2'	23:RA:718:A:O4'	2.20	0.40
23:RA:1529:A:H2'	23:RA:1530:G:O4'	2.22	0.40
23:RA:1580:A:H8	23:RA:1580:A:OP2	2.03	0.40
23:RA:1824:G:N3	25:RD:254:THR:OG1	2.53	0.40
23:RA:2059:A:H5'	23:RA:2060:A:OP2	2.20	0.40
23:RA:2205:C:O2'	23:RA:2227:A:N1	2.43	0.40
23:RA:2774:C:H2'	23:RA:2775:A:O4'	2.21	0.40
26:RE:144:ARG:HB3	26:RE:145:LYS:H	1.47	0.40
26:RE:197:ILE:HD11	26:RE:199:ARG:CZ	2.50	0.40
29:RH:98:LEU:HB2	29:RH:125:VAL:HB	2.03	0.40
29:RH:103:LEU:HG	29:RH:105:LEU:HD12	2.02	0.40
34:RQ:58:PHE:CD1	34:RQ:61:GLY:HA3	2.56	0.40
43:RZ:99:TYR:HA	43:RZ:124:ILE:O	2.21	0.40
2:XA:479:C:H2'	2:XA:480:U:C6	2.55	0.40
2:XA:714:G:H2'	2:XA:715:A:C8	2.56	0.40
2:XA:990:C:H2'	2:XA:991:U:C6	2.56	0.40
2:XA:1244:C:H2'	2:XA:1245:A:H8	1.86	0.40
2:XA:1315:U:H2'	2:XA:1316:G:O4'	2.21	0.40
5:XD:64:LEU:HD13	5:XD:198:VAL:HG11	2.03	0.40
5:XD:165:MET:O	5:XD:167:GLY:N	2.54	0.40
6:XE:31:LEU:HD23	6:XE:45:PHE:HD1	1.78	0.40
6:XE:34:VAL:HG11	6:XE:63:ARG:HG2	2.02	0.40
9:XH:12:ARG:HD3	9:XH:26:VAL:HB	2.03	0.40
10:XI:95:LYS:NZ	10:XI:96:LEU:HD13	2.36	0.40
11:XJ:6:ILE:O	11:XJ:71:LEU:HD12	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:XK:18:ARG:HB3	12:XK:33:THR:OG1	2.21	0.40
14:XM:80:ARG:CZ	48:Y4:70:GLY:HA3	2.50	0.40
23:YA:234:C:H2'	23:YA:235:U:C6	2.55	0.40
23:YA:350:U:H2'	23:YA:351:G:O4'	2.21	0.40
23:YA:373:U:H1'	23:YA:423:A:N3	2.36	0.40
23:YA:726:G:O2'	23:YA:727:A:OP2	2.32	0.40
23:YA:740:U:H2'	23:YA:741:G:C8	2.56	0.40
23:YA:755:C:H2'	23:YA:756:C:C6	2.56	0.40
23:YA:769:G:H5'	23:YA:1379:A:N6	2.36	0.40
23:YA:962:G:H4'	23:YA:2496:C:O2'	2.22	0.40
23:YA:1335:U:H2'	23:YA:1336:A:O4'	2.22	0.40
23:YA:1608:A:H1'	23:YA:1610:A:OP2	2.21	0.40
23:YA:2663:G:C6	23:YA:2664:G:C4	3.10	0.40
23:YA:2684:U:O2'	32:YO:68:GLU:HG3	2.21	0.40
23:YA:2817:G:OP1	35:YR:99:LYS:NZ	2.39	0.40
25:YD:35:LYS:HZ1	25:YD:65:ILE:HA	1.86	0.40
25:YD:62:TYR:HA	25:YD:87:ASN:OD1	2.21	0.40
25:YD:201:HIS:O	25:YD:204:ILE:HG12	2.21	0.40
28:YG:7:LEU:HD12	28:YG:104:GLU:HA	2.03	0.40
28:YG:18:GLU:OE1	28:YG:22:ARG:NH1	2.49	0.40
28:YG:61:ALA:HA	28:YG:64:THR:HG22	2.02	0.40
31:YN:29:LYS:H	31:YN:29:LYS:HG2	1.53	0.40
32:YO:4:PRO:O	32:YO:5:GLN:CB	2.69	0.40
36:YS:69:VAL:HA	36:YS:72:ALA:HB3	2.03	0.40
45:Y1:83:GLU:C	45:Y1:85:LEU:H	2.24	0.40
50:Y6:28:ARG:HA	50:Y6:28:ARG:HD2	1.86	0.40
2:QA:347:G:O2'	2:QA:348:G:OP2	2.33	0.40
2:QA:963:G:H21	11:QJ:55:LYS:CE	2.35	0.40
2:QA:1072:G:H2'	2:QA:1073:U:C6	2.56	0.40
5:QD:20:TYR:CZ	7:XF:15:ASP:HB3	2.56	0.40
7:QF:30:LEU:HD23	7:QF:75:LEU:HD11	2.02	0.40
23:RA:300:A:H1'	23:RA:319:C:H1'	2.03	0.40
23:RA:345:A:O2'	23:RA:347:A:N7	2.39	0.40
23:RA:483:A:H5'	42:RY:49:VAL:HG22	2.04	0.40
23:RA:1464:C:O2'	23:RA:1528:A:H8	2.01	0.40
23:RA:1728:G:C6	23:RA:1730:U:OP2	2.75	0.40
25:RD:111:LEU:HD23	25:RD:111:LEU:HA	1.78	0.40
27:RF:29:ASN:HB3	27:RF:32:LEU:HD23	2.04	0.40
27:RF:33:LEU:HD12	27:RF:33:LEU:HA	1.83	0.40
29:RH:30:LYS:HD2	29:RH:81:GLU:H	1.86	0.40
31:RN:9:VAL:HG21	31:RN:48:MET:HB3	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RQ:72:LYS:HB3	34:RQ:94:VAL:O	2.21	0.40
37:RT:109:GLU:O	37:RT:113:LYS:HB2	2.21	0.40
2:XA:135:C:H2'	2:XA:136:C:H5'	2.01	0.40
2:XA:881:G:H2'	2:XA:882:C:O4'	2.21	0.40
2:XA:1179:A:O3'	10:XI:103:THR:HG23	2.21	0.40
2:XA:1223:C:P	20:XS:78:ARG:HH12	2.44	0.40
2:XA:1356:G:H2'	2:XA:1357:A:H8	1.81	0.40
2:XA:1358:U:OP1	15:XN:35:ARG:HG3	2.20	0.40
3:XB:19:HIS:NE2	3:XB:206:ASP:HB2	2.36	0.40
3:XB:80:ILE:HD11	3:XB:208:ILE:HG12	2.02	0.40
4:XC:138:VAL:HG13	4:XC:149:ALA:HB3	2.02	0.40
6:XE:82:VAL:HB	6:XE:138:ALA:HB2	2.04	0.40
6:XE:89:ILE:HG12	6:XE:91:LEU:CD1	2.52	0.40
7:XF:25:ILE:HD13	7:XF:28:ARG:NH1	2.36	0.40
23:YA:1204:A:O2'	23:YA:1205:U:O5'	2.39	0.40
23:YA:1496:A:H5'	23:YA:1497:U:OP1	2.21	0.40
23:YA:2406:U:H2'	23:YA:2406:U:H6	1.72	0.40
23:YA:2439:A:O2'	23:YA:2440:C:OP2	2.30	0.40
23:YA:2472:G:H2'	23:YA:2475:C:H42	1.86	0.40
23:YA:2692:C:H2'	23:YA:2693:A:H8	1.86	0.40
24:YB:30:C:OP2	36:YS:32:LEU:HD11	2.21	0.40
34:YQ:80:GLU:HB2	34:YQ:81:VAL:H	1.69	0.40
43:YZ:23:LYS:HD3	43:YZ:40:ASP:HA	2.03	0.40
43:YZ:70:LEU:HD23	43:YZ:70:LEU:HA	1.93	0.40
48:Y4:14:ILE:HG23	48:Y4:14:ILE:O	2.21	0.40
50:Y6:11:LEU:HD13	50:Y6:11:LEU:HA	1.86	0.40
50:Y6:13:CYS:HB2	50:Y6:22:ALA:HB3	2.03	0.40
2:QA:1346:A:C4	8:QG:10:ARG:NH1	2.90	0.40
2:QA:1348:U:C4	2:QA:1374:A:H2	2.39	0.40
2:QA:1388:C:H2'	2:QA:1389:C:C6	2.56	0.40
4:QC:43:LEU:HD22	4:QC:47:LEU:HD22	2.02	0.40
6:QE:50:GLU:HG3	6:QE:52:PRO:HD2	2.04	0.40
6:QE:147:ASP:O	6:QE:151:LEU:HG	2.21	0.40
9:QH:100:ILE:HA	9:QH:101:PRO:HD3	1.89	0.40
10:QI:111:ARG:HG2	10:QI:112:LYS:N	2.35	0.40
23:RA:27:G:C2	23:RA:512:G:N3	2.89	0.40
23:RA:422:A:C6	23:RA:423:A:C6	3.09	0.40
23:RA:1085:A:O2'	23:RA:1086:A:OP1	2.33	0.40
23:RA:1152:C:H5"	38:RU:80:ILE:CG2	2.52	0.40
23:RA:2018:G:P	49:R5:9:LYS:HZ3	2.44	0.40
23:RA:2320:A:H2'	23:RA:2320:A:N3	2.35	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:2886:G:H2'	23:RA:2887:U:C6	2.56	0.40
25:RD:26:LYS:H	25:RD:26:LYS:HD2	1.87	0.40
26:RE:36:ARG:HB3	26:RE:36:ARG:HH11	1.86	0.40
26:RE:49:LEU:HD12	26:RE:49:LEU:HA	1.93	0.40
26:RE:55:ASN:HD22	26:RE:58:ARG:HB2	1.87	0.40
27:RF:107:LYS:HE3	27:RF:206:ILE:HD12	2.03	0.40
28:RG:117:PHE:HE1	28:RG:120:LEU:HD23	1.87	0.40
31:RN:108:PRO:O	31:RN:113:GLY:HA3	2.21	0.40
37:RT:51:ARG:CG	37:RT:98:LYS:HG3	2.52	0.40
41:RX:67:GLY:C	41:RX:69:TYR:H	2.23	0.40
51:R7:31:LEU:HD23	51:R7:31:LEU:HA	1.86	0.40
2:XA:337:C:H2'	2:XA:338:A:C8	2.56	0.40
2:XA:743:U:H2'	2:XA:744:C:C6	2.56	0.40
2:XA:1446:A:O2'	2:XA:1447:G:P	2.79	0.40
3:XB:120:ALA:C	3:XB:122:PHE:H	2.24	0.40
5:XD:186:LEU:HD23	5:XD:186:LEU:HA	1.95	0.40
9:XH:6:ILE:HB	9:XH:85:ARG:NH1	2.36	0.40
11:XJ:77:PRO:O	11:XJ:79:ARG:NH1	2.54	0.40
23:YA:287:C:H2'	23:YA:288:C:C6	2.56	0.40
23:YA:321:G:H5"	27:YF:136:THR:HG23	2.02	0.40
23:YA:328:U:H4'	42:YY:68:HIS:CD2	2.56	0.40
23:YA:476:G:H4'	23:YA:502:A:N1	2.36	0.40
23:YA:747:U:H1'	49:Y5:2:ALA:HB3	2.03	0.40
23:YA:2064:C:H2'	23:YA:2065:C:C6	2.56	0.40
25:YD:150:LYS:HA	25:YD:150:LYS:HD3	1.94	0.40
27:YF:168:ARG:HG3	27:YF:175:THR:HG21	2.02	0.40
27:YF:184:TYR:CD2	27:YF:188:ARG:HD2	2.56	0.40
29:YH:109:PHE:HZ	29:YH:152:ARG:HG2	1.86	0.40
29:YH:125:VAL:HG22	29:YH:131:VAL:HG13	2.02	0.40
38:YU:19:LYS:O	38:YU:22:LYS:HB2	2.22	0.40
39:YV:3:ALA:HA	39:YV:40:LEU:O	2.21	0.40
47:Y3:12:PRO:O	47:Y3:14:GLY:N	2.54	0.40
48:Y4:43:TYR:O	48:Y4:46:GLN:HA	2.20	0.40
54:QV:37:1MG:H5"	54:QV:37:1MG:H8	1.86	0.40
2:QA:607:A:H2'	2:QA:608:A:H8	1.87	0.40
2:QA:1079:G:H5"	6:QE:45:PHE:HE2	1.85	0.40
4:QC:71:ALA:HB2	4:QC:109:PRO:HB3	2.04	0.40
7:QF:21:LEU:O	7:QF:25:ILE:HG12	2.21	0.40
8:QG:117:ALA:HA	8:QG:120:ILE:HG12	2.03	0.40
14:QM:13:LYS:HG3	14:QM:44:ARG:NH1	2.36	0.40
23:RA:460:A:C2	23:RA:470:A:C4	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:626:U:H5"	23:RA:627:A:C5'	2.50	0.40
23:RA:764:A:H5'	25:RD:210:GLY:CA	2.51	0.40
23:RA:1336:A:H2'	23:RA:1337:G:C8	2.56	0.40
23:RA:1827:C:O2'	23:RA:1970:A:N3	2.41	0.40
23:RA:2408:U:H2'	23:RA:2409:G:H8	1.84	0.40
25:RD:35:LYS:HB3	25:RD:63:ARG:HA	2.04	0.40
25:RD:96:HIS:CD2	25:RD:102:LYS:HG2	2.56	0.40
25:RD:209:ALA:O	25:RD:212:SER:HB2	2.22	0.40
29:RH:126:PRO:HB2	29:RH:127:GLU:H	1.63	0.40
32:RO:66:LYS:HA	32:RO:79:PHE:O	2.21	0.40
33:RP:62:LEU:O	52:R8:13:ARG:HB2	2.22	0.40
33:RP:114:ILE:HD11	33:RP:130:PHE:CD1	2.57	0.40
36:RS:23:ARG:HB2	36:RS:86:ALA:HB2	2.03	0.40
42:RY:11:ASP:O	42:RY:26:LYS:HG3	2.21	0.40
42:RY:64:GLU:H	42:RY:64:GLU:HG2	1.64	0.40
45:R1:87:PRO:O	45:R1:91:LYS:HB2	2.21	0.40
45:R1:95:LEU:HD23	45:R1:95:LEU:HA	1.94	0.40
52:R8:49:VAL:HG23	52:R8:53:PRO:HB3	2.04	0.40
2:XA:1410:G:H2'	2:XA:1411:C:H6	1.85	0.40
2:XA:1427:U:H2'	2:XA:1428:A:C8	2.57	0.40
2:XA:1454:G:H2'	2:XA:1455:G:C8	2.56	0.40
5:XD:108:LEU:HB3	5:XD:110:PHE:CD1	2.57	0.40
6:XE:51:VAL:HB	6:XE:52:PRO:HD3	2.04	0.40
9:XH:44:PHE:HE2	9:XH:109:ILE:HG21	1.85	0.40
11:XJ:61:GLU:HG3	15:XN:58:LYS:HE2	2.04	0.40
14:XM:41:PRO:O	14:XM:43:THR:N	2.55	0.40
23:YA:813:U:H2'	23:YA:814:C:C6	2.57	0.40
23:YA:910:A:C6	23:YA:911:A:C6	3.09	0.40
23:YA:1171:G:O6	23:YA:1174:A:N6	2.55	0.40
23:YA:1387:C:C2	23:YA:1388:G:C8	3.10	0.40
23:YA:1444(A):A:H5'	23:YA:1445:C:OP2	2.22	0.40
23:YA:2108:C:H2'	23:YA:2109:U:C6	2.57	0.40
23:YA:2502:G:H5"	23:YA:2503:A:H5"	2.02	0.40
25:YD:237:GLU:O	25:YD:238:GLY:C	2.59	0.40
28:YG:99:MET:HG3	28:YG:100:TRP:N	2.36	0.40
31:YN:65:LYS:H	31:YN:65:LYS:HG2	1.60	0.40
42:YY:89:PHE:C	42:YY:90:LEU:HD13	2.42	0.40
43:YZ:124:ILE:HG22	43:YZ:126:VAL:HG13	2.03	0.40
2:QA:281:G:H8	2:QA:281:G:OP2	2.05	0.40
2:QA:669:U:H2'	2:QA:670:G:C8	2.57	0.40
2:QA:946:A:N6	2:QA:1234:C:H42	2.19	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QA:1144:G:N2	2:QA:1146:A:H62	2.20	0.40
2:QA:1322:C:H2'	2:QA:1322:C:O2	2.21	0.40
3:QB:184:VAL:N	3:QB:198:ASP:OD1	2.44	0.40
5:QD:176:LEU:HD12	5:QD:182:LYS:O	2.21	0.40
7:QF:79:LEU:HD23	7:QF:79:LEU:HA	1.93	0.40
14:QM:4:ILE:H	14:QM:9:ILE:CG2	2.35	0.40
23:RA:270(R):G:H1'	45:R1:78:LYS:HZ1	1.86	0.40
23:RA:270(R):G:H2'	23:RA:270(S):G:C8	2.56	0.40
23:RA:768:G:C6	23:RA:769:G:C5	3.09	0.40
23:RA:796:C:H2'	23:RA:797:C:H6	1.86	0.40
23:RA:864:G:C6	23:RA:865:C:N4	2.90	0.40
23:RA:868:U:H2'	23:RA:869:G:O4'	2.21	0.40
23:RA:1357:U:H2'	23:RA:1358:G:O4'	2.21	0.40
23:RA:2038:G:H2'	23:RA:2039:C:O4'	2.22	0.40
23:RA:2439:A:H3'	23:RA:2439:A:P	2.62	0.40
23:RA:2815:C:H5'	49:R5:29:THR:HG21	2.04	0.40
25:RD:44:ASN:HB2	25:RD:49:ILE:HA	2.02	0.40
25:RD:222:ARG:HH11	25:RD:222:ARG:HD2	1.76	0.40
26:RE:26:ILE:O	26:RE:26:ILE:HG12	2.19	0.40
31:RN:17:ASP:O	31:RN:19:GLU:N	2.54	0.40
33:RP:25:SER:OG	33:RP:26:GLY:O	2.38	0.40
36:RS:69:VAL:HG13	36:RS:101:LEU:HD22	2.03	0.40
38:RU:66:ASN:CG	38:RU:70:ARG:HH21	2.21	0.40
2:XA:55:A:C5	2:XA:56:U:C5	3.09	0.40
2:XA:951:G:OP2	14:XM:102:ARG:NH2	2.54	0.40
2:XA:1226:C:H4'	20:XS:80:TYR:CZ	2.57	0.40
2:XA:1363:A:H4'	2:XA:1364:U:H2'	2.03	0.40
3:XB:51:LEU:HD23	3:XB:51:LEU:HA	1.84	0.40
5:XD:131:ARG:H	5:XD:131:ARG:HG2	1.67	0.40
20:XS:15:LEU:HA	20:XS:18:LYS:HB3	2.04	0.40
20:XS:36:ARG:HA	20:XS:71:LEU:HB2	2.02	0.40
23:YA:76:C:H1'	46:Y2:62:THR:HG21	2.04	0.40
23:YA:125:G:H4'	23:YA:126:A:OP2	2.20	0.40
23:YA:602:G:N2	23:YA:656:G:C5	2.90	0.40
23:YA:637:A:H2'	33:YP:117:GLU:CD	2.41	0.40
23:YA:692:C:C2	23:YA:771:G:C2	3.09	0.40
23:YA:719:C:H2'	23:YA:720:C:H6	1.87	0.40
23:YA:845:G:H8	23:YA:845:G:OP2	2.05	0.40
23:YA:969:U:O3'	47:Y3:14:GLY:HA2	2.22	0.40
23:YA:1265:A:H3'	49:Y5:19:ARG:NH1	2.37	0.40
23:YA:1445:C:H2'	23:YA:1446:C:H6	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YE:77:ILE:H	26:YE:77:ILE:HG13	1.70	0.40
27:YF:198:ALA:HA	27:YF:201:VAL:HG12	2.03	0.40
29:YH:46:GLU:OE1	29:YH:51:ARG:NH1	2.54	0.40
30:YI:113:ARG:HB3	30:YI:131:LYS:HD3	2.04	0.40
38:YU:61:TRP:O	38:YU:65:ILE:HG13	2.22	0.40
43:YZ:7:ALA:HB2	43:YZ:39:VAL:HG12	2.03	0.40
45:Y1:87:PRO:O	45:Y1:91:LYS:HB2	2.20	0.40
47:Y3:52:HIS:CD2	47:Y3:53:LEU:HG	2.57	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RI:91:SER:OG	2:XA:368:U:OP1[4_555]	2.13	0.07

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
3	QB	235/256 (92%)	173 (74%)	45 (19%)	17 (7%)	1 8
3	XB	235/256 (92%)	178 (76%)	42 (18%)	15 (6%)	1 10
4	QC	203/239 (85%)	163 (80%)	34 (17%)	6 (3%)	4 27
4	XC	203/239 (85%)	171 (84%)	29 (14%)	3 (2%)	10 40
5	QD	206/209 (99%)	175 (85%)	25 (12%)	6 (3%)	4 27
5	XD	206/209 (99%)	177 (86%)	24 (12%)	5 (2%)	6 31
6	QE	149/162 (92%)	136 (91%)	8 (5%)	5 (3%)	3 24
6	XE	149/162 (92%)	133 (89%)	13 (9%)	3 (2%)	7 34
7	QF	99/101 (98%)	95 (96%)	4 (4%)	0	100 100
7	XF	99/101 (98%)	94 (95%)	5 (5%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	QG	153/156 (98%)	135 (88%)	16 (10%)	2 (1%)	12	43
8	XG	153/156 (98%)	138 (90%)	13 (8%)	2 (1%)	12	43
9	QH	136/138 (99%)	121 (89%)	14 (10%)	1 (1%)	22	57
9	XH	136/138 (99%)	120 (88%)	12 (9%)	4 (3%)	4	27
10	QI	125/128 (98%)	103 (82%)	17 (14%)	5 (4%)	3	20
10	XI	125/128 (98%)	97 (78%)	24 (19%)	4 (3%)	4	25
11	QJ	97/105 (92%)	75 (77%)	19 (20%)	3 (3%)	4	26
11	XJ	97/105 (92%)	78 (80%)	14 (14%)	5 (5%)	2	14
12	QK	117/129 (91%)	100 (86%)	14 (12%)	3 (3%)	5	29
12	XK	117/129 (91%)	100 (86%)	15 (13%)	2 (2%)	9	37
13	QL	123/132 (93%)	98 (80%)	18 (15%)	7 (6%)	1	12
13	XL	123/132 (93%)	98 (80%)	15 (12%)	10 (8%)	1	6
14	QM	119/126 (94%)	95 (80%)	15 (13%)	9 (8%)	1	7
14	XM	119/126 (94%)	94 (79%)	16 (13%)	9 (8%)	1	7
15	QN	58/61 (95%)	48 (83%)	6 (10%)	4 (7%)	1	9
15	XN	58/61 (95%)	46 (79%)	6 (10%)	6 (10%)	0	3
16	QO	86/89 (97%)	80 (93%)	5 (6%)	1 (1%)	13	45
16	XO	86/89 (97%)	80 (93%)	4 (5%)	2 (2%)	6	32
17	QP	82/88 (93%)	73 (89%)	8 (10%)	1 (1%)	13	45
17	XP	82/88 (93%)	71 (87%)	10 (12%)	1 (1%)	13	45
18	QQ	98/105 (93%)	91 (93%)	5 (5%)	2 (2%)	7	34
18	XQ	98/105 (93%)	88 (90%)	10 (10%)	0	100	100
19	QR	68/88 (77%)	56 (82%)	9 (13%)	3 (4%)	2	18
19	XR	68/88 (77%)	61 (90%)	6 (9%)	1 (2%)	10	40
20	QS	82/93 (88%)	55 (67%)	16 (20%)	11 (13%)	0	1
20	XS	82/93 (88%)	54 (66%)	17 (21%)	11 (13%)	0	1
21	QT	97/106 (92%)	76 (78%)	15 (16%)	6 (6%)	1	11
21	XT	97/106 (92%)	75 (77%)	16 (16%)	6 (6%)	1	11
22	QU	23/27 (85%)	19 (83%)	3 (13%)	1 (4%)	2	19
22	XU	23/27 (85%)	18 (78%)	4 (17%)	1 (4%)	2	19
25	RD	270/276 (98%)	226 (84%)	32 (12%)	12 (4%)	2	18

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
25	YD	270/276 (98%)	227 (84%)	34 (13%)	9 (3%)	4 24
26	RE	203/206 (98%)	147 (72%)	36 (18%)	20 (10%)	0 4
26	YE	203/206 (98%)	142 (70%)	41 (20%)	20 (10%)	0 4
27	RF	200/210 (95%)	167 (84%)	20 (10%)	13 (6%)	1 10
27	YF	200/210 (95%)	167 (84%)	25 (12%)	8 (4%)	3 20
28	RG	179/182 (98%)	139 (78%)	26 (14%)	14 (8%)	1 7
28	YG	179/182 (98%)	142 (79%)	25 (14%)	12 (7%)	1 9
29	RH	168/180 (93%)	114 (68%)	33 (20%)	21 (12%)	0 2
29	YH	168/180 (93%)	121 (72%)	23 (14%)	24 (14%)	0 1
30	RI	144/148 (97%)	107 (74%)	25 (17%)	12 (8%)	1 6
30	YI	144/148 (97%)	108 (75%)	23 (16%)	13 (9%)	1 5
31	RN	136/140 (97%)	104 (76%)	20 (15%)	12 (9%)	1 5
31	YN	136/140 (97%)	105 (77%)	17 (12%)	14 (10%)	0 3
32	RO	120/122 (98%)	109 (91%)	9 (8%)	2 (2%)	9 37
32	YO	120/122 (98%)	108 (90%)	10 (8%)	2 (2%)	9 37
33	RP	148/150 (99%)	107 (72%)	27 (18%)	14 (10%)	0 4
33	YP	148/150 (99%)	108 (73%)	23 (16%)	17 (12%)	0 3
34	RQ	139/141 (99%)	99 (71%)	22 (16%)	18 (13%)	0 1
34	YQ	139/141 (99%)	98 (70%)	22 (16%)	19 (14%)	0 1
35	RR	116/118 (98%)	106 (91%)	5 (4%)	5 (4%)	2 19
35	YR	116/118 (98%)	99 (85%)	11 (10%)	6 (5%)	2 14
36	RS	109/112 (97%)	76 (70%)	22 (20%)	11 (10%)	0 3
36	YS	109/112 (97%)	78 (72%)	18 (16%)	13 (12%)	0 2
37	RT	135/146 (92%)	106 (78%)	17 (13%)	12 (9%)	1 5
37	YT	135/146 (92%)	108 (80%)	17 (13%)	10 (7%)	1 8
38	RU	115/118 (98%)	102 (89%)	9 (8%)	4 (4%)	3 24
38	YU	115/118 (98%)	101 (88%)	10 (9%)	4 (4%)	3 24
39	RV	99/101 (98%)	82 (83%)	11 (11%)	6 (6%)	1 11
39	YV	99/101 (98%)	79 (80%)	12 (12%)	8 (8%)	1 6
40	RW	111/113 (98%)	99 (89%)	8 (7%)	4 (4%)	3 23
40	YW	111/113 (98%)	100 (90%)	9 (8%)	2 (2%)	8 37

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
41	RX	90/96 (94%)	77 (86%)	11 (12%)	2 (2%)	6 33
41	YX	90/96 (94%)	82 (91%)	6 (7%)	2 (2%)	6 33
42	RY	100/110 (91%)	71 (71%)	13 (13%)	16 (16%)	0 1
42	YY	100/110 (91%)	70 (70%)	18 (18%)	12 (12%)	0 2
43	RZ	181/206 (88%)	127 (70%)	37 (20%)	17 (9%)	0 4
43	YZ	181/206 (88%)	133 (74%)	31 (17%)	17 (9%)	0 4
44	R0	80/85 (94%)	70 (88%)	10 (12%)	0	100 100
44	Y0	80/85 (94%)	73 (91%)	7 (9%)	0	100 100
45	R1	95/98 (97%)	75 (79%)	11 (12%)	9 (10%)	0 4
45	Y1	95/98 (97%)	72 (76%)	17 (18%)	6 (6%)	1 11
46	R2	67/72 (93%)	53 (79%)	9 (13%)	5 (8%)	1 8
46	Y2	67/72 (93%)	55 (82%)	6 (9%)	6 (9%)	1 5
47	R3	57/60 (95%)	52 (91%)	3 (5%)	2 (4%)	3 24
47	Y3	57/60 (95%)	52 (91%)	4 (7%)	1 (2%)	8 37
48	R4	69/71 (97%)	35 (51%)	18 (26%)	16 (23%)	0 0
48	Y4	69/71 (97%)	35 (51%)	15 (22%)	19 (28%)	0 0
49	R5	57/60 (95%)	44 (77%)	11 (19%)	2 (4%)	3 24
49	Y5	57/60 (95%)	46 (81%)	9 (16%)	2 (4%)	3 24
50	R6	47/54 (87%)	23 (49%)	14 (30%)	10 (21%)	0 0
50	Y6	47/54 (87%)	22 (47%)	17 (36%)	8 (17%)	0 1
51	R7	47/49 (96%)	45 (96%)	1 (2%)	1 (2%)	7 34
51	Y7	47/49 (96%)	43 (92%)	3 (6%)	1 (2%)	7 34
52	R8	62/65 (95%)	51 (82%)	6 (10%)	5 (8%)	1 6
52	Y8	62/65 (95%)	48 (77%)	10 (16%)	4 (6%)	1 10
53	R9	35/37 (95%)	35 (100%)	0	0	100 100
53	Y9	35/37 (95%)	31 (89%)	4 (11%)	0	100 100
All	All	11470/12128 (95%)	9239 (80%)	1524 (13%)	707 (6%)	1 11

All (707) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	QB	236	TYR
4	QC	12	LEU

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Mol	Chain	Res	Type
4	QC	190	ARG
5	QD	28	SER
14	QM	67	GLU
14	QM	106	ASN
14	QM	118	ALA
15	QN	16	PHE
20	QS	12	ASP
20	QS	45	VAL
21	QT	49	ALA
25	RD	26	LYS
25	RD	122	ASP
25	RD	242	ARG
26	RE	22	PRO
26	RE	53	PRO
26	RE	63	LEU
26	RE	68	ALA
26	RE	71	GLY
26	RE	93	VAL
29	RH	12	PRO
29	RH	86	GLU
29	RH	126	PRO
29	RH	127	GLU
29	RH	154	PRO
29	RH	168	PRO
29	RH	169	VAL
30	RI	115	ALA
30	RI	117	GLU
30	RI	133	HIS
30	RI	145	VAL
31	RN	9	VAL
31	RN	22	THR
31	RN	96	GLU
31	RN	131	GLN
32	RO	5	GLN
33	RP	6	LEU
33	RP	10	PRO
33	RP	15	ARG
33	RP	65	ARG
33	RP	95	VAL
33	RP	141	ALA
33	RP	148	LEU
34	RQ	22	LYS

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

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Mol	Chain	Res	Type
52	R8	62	LEU
3	XB	230	VAL
3	XB	236	TYR
4	XC	12	LEU
4	XC	79	ARG
5	XD	154	ASN
12	XK	91	ARG
13	XL	48	PRO
13	XL	64	TYR
14	XM	67	GLU
14	XM	106	ASN
14	XM	118	ALA
15	XN	14	PRO
15	XN	16	PHE
15	XN	52	GLN
20	XS	3	ARG
20	XS	12	ASP
21	XT	48	LYS
21	XT	96	GLY
25	YD	26	LYS
25	YD	28	GLU
25	YD	122	ASP
25	YD	123	ALA
26	YE	2	LYS
26	YE	19	ARG
26	YE	22	PRO
26	YE	53	PRO
26	YE	63	LEU
26	YE	71	GLY
27	YF	73	ALA
27	YF	134	GLY
28	YG	96	ARG
29	YH	3	ARG
29	YH	12	PRO
29	YH	13	LYS
29	YH	86	GLU
29	YH	126	PRO
29	YH	127	GLU
29	YH	128	PRO
29	YH	168	PRO
29	YH	169	VAL
30	YI	133	HIS

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Mol	Chain	Res	Type
30	YI	145	VAL
31	YN	9	VAL
31	YN	22	THR
31	YN	36	GLY
33	YP	6	LEU
33	YP	10	PRO
33	YP	14	LYS
33	YP	15	ARG
33	YP	25	SER
33	YP	27	HIS
33	YP	95	VAL
33	YP	106	LEU
33	YP	148	LEU
34	YQ	18	LYS
34	YQ	22	LYS
34	YQ	25	ASP
34	YQ	79	LEU
34	YQ	86	GLY
34	YQ	90	VAL
34	YQ	134	ARG
35	YR	3	HIS
36	YS	82	ILE
36	YS	88	ASP
36	YS	107	GLU
37	YT	2	ASN
37	YT	123	GLN
37	YT	124	ASP
38	YU	90	VAL
38	YU	91	ASP
38	YU	93	LYS
39	YV	45	THR
41	YX	68	ARG
42	YY	50	ARG
42	YY	57	GLN
42	YY	77	PRO
42	YY	78	ALA
45	Y1	30	VAL
45	Y1	84	GLY
45	Y1	91	LYS
45	Y1	95	LEU
46	Y2	16	LEU
46	Y2	43	GLN

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Mol	Chain	Res	Type
46	Y2	47	ASN
46	Y2	48	HIS
48	Y4	24	THR
48	Y4	40	HIS
48	Y4	49	PHE
49	Y5	4	HIS
50	Y6	15	GLU
51	Y7	48	LYS
52	Y8	52	LYS
52	Y8	62	LEU
3	QB	15	VAL
3	QB	96	ARG
3	QB	229	VAL
3	QB	230	VAL
3	QB	237	ALA
4	QC	79	ARG
5	QD	154	ASN
6	QE	115	VAL
9	QH	129	VAL
10	QI	41	VAL
10	QI	117	HIS
12	QK	101	SER
13	QL	47	LYS
13	QL	91	LYS
14	QM	12	ASN
15	QN	12	ARG
18	QQ	74	LEU
18	QQ	81	ARG
20	QS	3	ARG
20	QS	11	VAL
20	QS	26	GLY
20	QS	31	ILE
20	QS	41	VAL
25	RD	32	SER
26	RE	50	GLY
26	RE	60	ASN
26	RE	66	HIS
26	RE	72	VAL
26	RE	90	THR
26	RE	92	THR
26	RE	187	ALA
27	RF	17	ARG

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Mol	Chain	Res	Type
27	RF	67	GLN
27	RF	73	ALA
27	RF	89	VAL
27	RF	134	GLY
27	RF	198	ALA
28	RG	4	ASP
28	RG	5	VAL
28	RG	14	GLU
28	RG	96	ARG
28	RG	137	GLU
28	RG	146	TYR
29	RH	8	PRO
29	RH	128	PRO
29	RH	137	ASP
29	RH	153	LYS
29	RH	155	SER
33	RP	11	GLY
33	RP	90	ARG
33	RP	103	ALA
33	RP	106	LEU
34	RQ	6	ARG
34	RQ	25	ASP
34	RQ	27	VAL
34	RQ	133	ARG
35	RR	107	ASP
36	RS	4	LEU
36	RS	107	GLU
37	RT	37	GLY
38	RU	90	VAL
39	RV	49	THR
39	RV	79	VAL
41	RX	41	ASN
42	RY	45	VAL
42	RY	48	ALA
42	RY	63	LYS
43	RZ	51	ALA
43	RZ	66	SER
43	RZ	112	ARG
43	RZ	153	SER
43	RZ	177	PRO
45	R1	30	VAL
45	R1	80	LEU

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Mol	Chain	Res	Type
45	R1	84	GLY
45	R1	91	LYS
45	R1	95	LEU
46	R2	43	GLN
47	R3	26	LEU
48	R4	24	THR
48	R4	30	GLU
48	R4	51	ASP
48	R4	66	SER
50	R6	7	ILE
50	R6	45	LYS
3	XB	15	VAL
5	XD	30	LYS
5	XD	166	LYS
6	XE	115	VAL
8	XG	55	GLY
9	XH	50	ARG
10	XI	41	VAL
10	XI	127	LYS
11	XJ	30	SER
11	XJ	86	MET
13	XL	63	GLY
13	XL	91	LYS
13	XL	115	LYS
14	XM	6	GLY
14	XM	21	TYR
20	XS	41	VAL
20	XS	45	VAL
21	XT	99	LEU
25	YD	238	GLY
25	YD	242	ARG
26	YE	7	VAL
26	YE	204	ALA
27	YF	128	ALA
27	YF	132	VAL
27	YF	181	LEU
28	YG	4	ASP
28	YG	36	LYS
29	YH	27	LYS
29	YH	50	VAL
29	YH	85	LYS
29	YH	152	ARG

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Mol	Chain	Res	Type
29	YH	155	SER
30	YI	12	LEU
31	YN	23	LEU
31	YN	96	GLU
32	YO	5	GLN
33	YP	66	GLY
33	YP	93	GLY
33	YP	141	ALA
34	YQ	6	ARG
34	YQ	60	ARG
34	YQ	137	TYR
35	YR	4	LEU
35	YR	45	ARG
35	YR	107	ASP
36	YS	12	PHE
36	YS	57	LYS
36	YS	109	GLY
37	YT	13	ARG
37	YT	39	ARG
37	YT	106	SER
39	YV	31	ALA
39	YV	48	GLY
39	YV	79	VAL
40	YW	111	HIS
42	YY	58	GLY
42	YY	102	CYS
43	YZ	6	LYS
43	YZ	51	ALA
43	YZ	152	ALA
43	YZ	159	PRO
46	Y2	70	GLN
46	Y2	71	ASN
48	Y4	5	ILE
48	Y4	18	CYS
48	Y4	22	ILE
48	Y4	37	SER
48	Y4	43	TYR
48	Y4	50	VAL
50	Y6	7	ILE
50	Y6	16	CYS
50	Y6	33	LYS
3	QB	26	PRO

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Mol	Chain	Res	Type
3	QB	87	ARG
3	QB	204	ASN
3	QB	207	ALA
4	QC	4	LYS
4	QC	51	GLY
5	QD	51	PRO
5	QD	155	LEU
6	QE	77	PRO
11	QJ	30	SER
12	QK	103	LEU
12	QK	125	PHE
13	QL	28	LYS
14	QM	13	LYS
14	QM	120	LYS
15	QN	14	PRO
16	QO	23	GLY
20	QS	9	VAL
20	QS	14	HIS
20	QS	28	LYS
21	QT	96	GLY
25	RD	46	GLN
25	RD	239	ARG
26	RE	79	ARG
26	RE	204	ALA
27	RF	133	ASN
28	RG	32	PRO
28	RG	116	ASP
29	RH	5	GLY
29	RH	27	LYS
29	RH	55	PRO
29	RH	87	LEU
29	RH	138	LYS
30	RI	10	GLU
30	RI	11	ASN
30	RI	12	LEU
30	RI	122	GLU
31	RN	8	GLN
31	RN	23	LEU
31	RN	95	PRO
31	RN	130	HIS
32	RO	97	ARG
33	RP	29	LYS

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Mol	Chain	Res	Type
33	RP	67	MET
34	RQ	11	LYS
34	RQ	19	GLY
34	RQ	137	TYR
35	RR	74	LYS
36	RS	12	PHE
36	RS	61	ASN
37	RT	12	SER
37	RT	97	ALA
38	RU	117	GLN
41	RX	67	GLY
42	RY	58	GLY
43	RZ	92	SER
45	R1	76	ARG
47	R3	27	GLY
50	R6	33	LYS
50	R6	35	GLU
50	R6	49	HIS
52	R8	31	HIS
52	R8	51	ALA
3	XB	13	ALA
3	XB	22	LYS
3	XB	24	TRP
3	XB	135	GLN
3	XB	207	ALA
5	XD	73	ARG
5	XD	155	LEU
8	XG	7	ALA
9	XH	2	LEU
10	XI	56	LEU
10	XI	95	LYS
11	XJ	59	SER
12	XK	103	LEU
14	XM	4	ILE
14	XM	12	ASN
14	XM	42	ALA
20	XS	27	GLU
20	XS	28	LYS
25	YD	32	SER
26	YE	20	ALA
26	YE	50	GLY
26	YE	79	ARG

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Mol	Chain	Res	Type
26	YE	90	THR
26	YE	92	THR
26	YE	117	MET
26	YE	184	VAL
27	YF	198	ALA
29	YH	8	PRO
29	YH	10	PRO
29	YH	87	LEU
29	YH	137	ASP
29	YH	138	LYS
29	YH	153	LYS
29	YH	154	PRO
30	YI	11	ASN
30	YI	104	GLN
30	YI	113	ARG
31	YN	7	LYS
31	YN	131	GLN
33	YP	16	ARG
33	YP	29	LYS
33	YP	65	ARG
34	YQ	19	GLY
34	YQ	105	GLU
34	YQ	133	ARG
35	YR	86	ARG
36	YS	4	LEU
36	YS	11	LYS
37	YT	97	ALA
39	YV	49	THR
39	YV	53	GLU
39	YV	100	ARG
42	YY	42	VAL
42	YY	63	LYS
43	YZ	13	GLU
43	YZ	53	ILE
43	YZ	81	ARG
43	YZ	166	SER
47	Y3	3	ARG
48	Y4	23	GLU
48	Y4	30	GLU
48	Y4	34	GLU
48	Y4	66	SER
49	Y5	47	PRO

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Mol	Chain	Res	Type
50	Y6	19	ARG
50	Y6	49	HIS
52	Y8	30	ARG
52	Y8	34	TRP
3	QB	22	LYS
3	QB	126	GLU
5	QD	171	GLY
10	QI	56	LEU
13	QL	27	LEU
13	QL	48	PRO
14	QM	6	GLY
19	QR	20	ALA
19	QR	54	ARG
21	QT	71	THR
22	QU	9	ARG
25	RD	3	VAL
25	RD	123	ALA
25	RD	237	GLU
26	RE	78	LEU
27	RF	66	PRO
27	RF	197	ASP
28	RG	36	LYS
28	RG	86	MET
29	RH	92	ILE
30	RI	15	VAL
30	RI	118	LYS
33	RP	21	ARG
34	RQ	21	THR
34	RQ	28	ALA
34	RQ	86	GLY
34	RQ	104	PHE
34	RQ	105	GLU
35	RR	71	GLN
36	RS	109	GLY
37	RT	38	ASN
37	RT	39	ARG
38	RU	98	LEU
40	RW	18	ARG
40	RW	63	ASP
40	RW	68	ARG
42	RY	4	LYS
42	RY	53	PRO

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Mol	Chain	Res	Type
42	RY	99	CYS
43	RZ	62	PRO
43	RZ	116	VAL
43	RZ	166	SER
50	R6	16	CYS
51	R7	48	LYS
3	XB	19	HIS
3	XB	101	MET
3	XB	155	LEU
6	XE	70	PRO
9	XH	129	VAL
13	XL	19	ARG
13	XL	28	LYS
15	XN	15	LYS
15	XN	32	SER
16	XO	88	ARG
19	XR	20	ALA
20	XS	9	VAL
21	XT	84	LEU
21	XT	98	PRO
22	XU	9	ARG
28	YG	14	GLU
28	YG	82	LEU
28	YG	86	MET
28	YG	116	ASP
29	YH	83	TYR
30	YI	10	GLU
31	YN	11	PRO
31	YN	28	THR
31	YN	47	ALA
34	YQ	104	PHE
34	YQ	140	ALA
36	YS	89	ARG
36	YS	96	GLY
37	YT	17	THR
41	YX	40	LYS
42	YY	51	VAL
42	YY	53	PRO
43	YZ	7	ALA
43	YZ	92	SER
43	YZ	160	GLY
43	YZ	168	GLU

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Mol	Chain	Res	Type
48	Y4	9	LEU
48	Y4	16	CYS
48	Y4	25	TYR
48	Y4	54	GLY
48	Y4	60	GLN
50	Y6	35	GLU
3	QB	209	ARG
3	QB	234	PRO
5	QD	42	GLN
6	QE	70	PRO
6	QE	96	PRO
8	QG	7	ALA
10	QI	121	ARG
13	QL	19	ARG
13	QL	121	GLY
14	QM	4	ILE
19	QR	26	LEU
21	QT	73	HIS
21	QT	97	ALA
25	RD	238	GLY
26	RE	54	GLN
27	RF	8	GLN
28	RG	82	LEU
28	RG	117	PHE
29	RH	21	PRO
29	RH	83	TYR
30	RI	13	GLY
31	RN	18	ALA
31	RN	57	ALA
31	RN	135	PRO
36	RS	97	ARG
36	RS	110	LEU
37	RT	40	THR
42	RY	5	MET
42	RY	39	VAL
42	RY	41	GLY
42	RY	62	GLU
43	RZ	53	ILE
43	RZ	61	LEU
45	R1	74	VAL
45	R1	82	LEU
48	R4	5	ILE

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Mol	Chain	Res	Type
48	R4	23	GLU
48	R4	28	LYS
48	R4	68	ARG
50	R6	9	LEU
50	R6	19	ARG
3	XB	121	LEU
4	XC	181	ASN
11	XJ	27	ALA
13	XL	27	LEU
13	XL	65	GLU
14	XM	101	GLN
16	XO	23	GLY
21	XT	97	ALA
25	YD	3	VAL
25	YD	46	GLN
26	YE	68	ALA
26	YE	82	ARG
26	YE	86	PRO
28	YG	5	VAL
28	YG	53	LEU
28	YG	117	PHE
29	YH	151	ILE
30	YI	117	GLU
31	YN	95	PRO
31	YN	127	ASP
31	YN	134	ARG
31	YN	135	PRO
34	YQ	11	LYS
34	YQ	27	VAL
36	YS	94	TYR
36	YS	110	LEU
37	YT	86	ILE
38	YU	117	GLN
39	YV	50	PRO
42	YY	39	VAL
43	YZ	59	LEU
43	YZ	61	LEU
43	YZ	62	PRO
45	Y1	74	VAL
48	Y4	14	ILE
50	Y6	21	TYR
3	QB	155	LEU

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Mol	Chain	Res	Type
11	QJ	82	ILE
14	QM	10	PRO
15	QN	15	LYS
21	QT	98	PRO
25	RD	125	ILE
26	RE	82	ARG
27	RF	130	ALA
28	RG	52	ILE
28	RG	88	ILE
36	RS	82	ILE
43	RZ	108	PRO
45	R1	55	GLY
48	R4	11	PRO
50	R6	21	TYR
3	XB	126	GLU
3	XB	237	ALA
11	XJ	91	PRO
15	XN	60	SER
20	XS	7	LYS
26	YE	72	VAL
27	YF	58	ALA
30	YI	13	GLY
30	YI	18	VAL
30	YI	114	LEU
32	YO	97	ARG
33	YP	7	ARG
34	YQ	62	GLY
34	YQ	81	VAL
42	YY	3	VAL
43	YZ	177	PRO
45	Y1	55	GLY
3	QB	5	ILE
17	QP	46	PRO
26	RE	21	VAL
26	RE	86	PRO
27	RF	25	PRO
29	RH	166	GLY
3	XB	26	PRO
6	XE	74	GLY
13	XL	18	VAL
30	YI	118	LYS
4	QC	81	GLY

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Mol	Chain	Res	Type
6	QE	74	GLY
20	QS	46	GLY
25	RD	35	LYS
30	RI	18	VAL
43	RZ	12	GLY
20	XS	26	GLY
20	XS	46	GLY
27	YF	66	PRO
37	YT	37	GLY
8	QG	50	ILE
10	QI	89	ASN
11	QJ	37	PRO
31	RN	134	ARG
34	RQ	81	VAL
37	RT	86	ILE
9	XH	51	VAL
17	XP	46	PRO
20	XS	31	ILE
26	YE	21	VAL
30	YI	84	GLY
40	YW	14	PRO
43	YZ	111	VAL
27	RF	132	VAL
39	RV	54	GLY
43	RZ	94	GLU
28	YG	52	ILE
28	YG	88	ILE
29	YH	7	LEU
33	YP	24	GLY
35	YR	117	VAL
3	QB	227	GLY
43	RZ	39	VAL
36	YS	60	GLY

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
3	QB	205/220 (93%)	172 (84%)	33 (16%)	2 11
3	XB	205/220 (93%)	180 (88%)	25 (12%)	5 20
4	QC	159/188 (85%)	145 (91%)	14 (9%)	10 36
4	XC	159/188 (85%)	146 (92%)	13 (8%)	11 39
5	QD	180/181 (99%)	157 (87%)	23 (13%)	4 18
5	XD	180/181 (99%)	154 (86%)	26 (14%)	3 15
6	QE	116/123 (94%)	104 (90%)	12 (10%)	7 28
6	XE	116/123 (94%)	104 (90%)	12 (10%)	7 28
7	QF	90/90 (100%)	78 (87%)	12 (13%)	4 17
7	XF	90/90 (100%)	82 (91%)	8 (9%)	9 35
8	QG	126/127 (99%)	114 (90%)	12 (10%)	8 32
8	XG	126/127 (99%)	114 (90%)	12 (10%)	8 32
9	QH	119/119 (100%)	109 (92%)	10 (8%)	11 38
9	XH	119/119 (100%)	106 (89%)	13 (11%)	6 26
10	QI	98/99 (99%)	81 (83%)	17 (17%)	2 9
10	XI	98/99 (99%)	80 (82%)	18 (18%)	1 7
11	QJ	89/92 (97%)	77 (86%)	12 (14%)	4 17
11	XJ	89/92 (97%)	74 (83%)	15 (17%)	2 9
12	QK	90/99 (91%)	81 (90%)	9 (10%)	7 29
12	XK	90/99 (91%)	81 (90%)	9 (10%)	7 29
13	QL	104/109 (95%)	87 (84%)	17 (16%)	2 10
13	XL	104/109 (95%)	93 (89%)	11 (11%)	6 27
14	QM	97/101 (96%)	73 (75%)	24 (25%)	0 2
14	XM	97/101 (96%)	78 (80%)	19 (20%)	1 6
15	QN	49/50 (98%)	40 (82%)	9 (18%)	1 7
15	XN	49/50 (98%)	42 (86%)	7 (14%)	3 15
16	QO	79/80 (99%)	72 (91%)	7 (9%)	9 35
16	XO	79/80 (99%)	69 (87%)	10 (13%)	4 19
17	QP	72/74 (97%)	63 (88%)	9 (12%)	4 19
17	XP	72/74 (97%)	64 (89%)	8 (11%)	6 25
18	QQ	95/97 (98%)	87 (92%)	8 (8%)	11 38
18	XQ	95/97 (98%)	89 (94%)	6 (6%)	18 49

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
19	QR	61/77 (79%)	50 (82%)	11 (18%)	1 8
19	XR	61/77 (79%)	52 (85%)	9 (15%)	3 14
20	QS	73/80 (91%)	59 (81%)	14 (19%)	1 6
20	XS	73/80 (91%)	57 (78%)	16 (22%)	1 4
21	QT	76/82 (93%)	67 (88%)	9 (12%)	5 22
21	XT	76/82 (93%)	66 (87%)	10 (13%)	4 18
22	QU	20/22 (91%)	20 (100%)	0	100 100
22	XU	20/22 (91%)	19 (95%)	1 (5%)	24 57
25	RD	214/218 (98%)	175 (82%)	39 (18%)	1 7
25	YD	214/218 (98%)	181 (85%)	33 (15%)	2 13
26	RE	165/166 (99%)	126 (76%)	39 (24%)	1 3
26	YE	165/166 (99%)	137 (83%)	28 (17%)	2 9
27	RF	161/166 (97%)	132 (82%)	29 (18%)	1 8
27	YF	161/166 (97%)	137 (85%)	24 (15%)	3 13
28	RG	155/156 (99%)	134 (86%)	21 (14%)	4 17
28	YG	155/156 (99%)	133 (86%)	22 (14%)	3 16
29	RH	142/148 (96%)	121 (85%)	21 (15%)	3 14
29	YH	142/148 (96%)	115 (81%)	27 (19%)	1 6
30	RI	122/124 (98%)	98 (80%)	24 (20%)	1 6
30	YI	122/124 (98%)	96 (79%)	26 (21%)	1 4
31	RN	117/119 (98%)	97 (83%)	20 (17%)	2 9
31	YN	117/119 (98%)	96 (82%)	21 (18%)	2 8
32	RO	100/100 (100%)	90 (90%)	10 (10%)	7 29
32	YO	100/100 (100%)	88 (88%)	12 (12%)	5 21
33	RP	116/116 (100%)	85 (73%)	31 (27%)	0 2
33	YP	116/116 (100%)	82 (71%)	34 (29%)	0 1
34	RQ	111/111 (100%)	95 (86%)	16 (14%)	3 15
34	YQ	111/111 (100%)	92 (83%)	19 (17%)	2 9
35	RR	101/101 (100%)	83 (82%)	18 (18%)	2 8
35	YR	101/101 (100%)	81 (80%)	20 (20%)	1 5
36	RS	87/88 (99%)	69 (79%)	18 (21%)	1 4

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
36	YS	87/88 (99%)	68 (78%)	19 (22%)	1 4
37	RT	120/127 (94%)	102 (85%)	18 (15%)	3 13
37	YT	120/127 (94%)	98 (82%)	22 (18%)	1 7
38	RU	93/94 (99%)	79 (85%)	14 (15%)	3 13
38	YU	93/94 (99%)	77 (83%)	16 (17%)	2 9
39	RV	82/82 (100%)	66 (80%)	16 (20%)	1 6
39	YV	82/82 (100%)	67 (82%)	15 (18%)	1 7
40	RW	92/92 (100%)	73 (79%)	19 (21%)	1 4
40	YW	92/92 (100%)	76 (83%)	16 (17%)	2 8
41	RX	74/78 (95%)	64 (86%)	10 (14%)	4 17
41	YX	74/78 (95%)	60 (81%)	14 (19%)	1 6
42	RY	85/91 (93%)	63 (74%)	22 (26%)	0 2
42	YY	85/91 (93%)	64 (75%)	21 (25%)	0 2
43	RZ	162/179 (90%)	137 (85%)	25 (15%)	2 13
43	YZ	162/179 (90%)	137 (85%)	25 (15%)	2 13
44	R0	65/67 (97%)	57 (88%)	8 (12%)	4 20
44	Y0	65/67 (97%)	62 (95%)	3 (5%)	27 60
45	R1	82/83 (99%)	73 (89%)	9 (11%)	6 25
45	Y1	82/83 (99%)	70 (85%)	12 (15%)	3 14
46	R2	64/67 (96%)	57 (89%)	7 (11%)	6 26
46	Y2	64/67 (96%)	47 (73%)	17 (27%)	0 2
47	R3	51/52 (98%)	45 (88%)	6 (12%)	5 22
47	Y3	51/52 (98%)	43 (84%)	8 (16%)	2 12
48	R4	63/63 (100%)	45 (71%)	18 (29%)	0 1
48	Y4	63/63 (100%)	43 (68%)	20 (32%)	0 1
49	R5	51/52 (98%)	37 (72%)	14 (28%)	0 1
49	Y5	51/52 (98%)	37 (72%)	14 (28%)	0 1
50	R6	48/52 (92%)	35 (73%)	13 (27%)	0 1
50	Y6	48/52 (92%)	38 (79%)	10 (21%)	1 4
51	R7	42/42 (100%)	34 (81%)	8 (19%)	1 6
51	Y7	42/42 (100%)	35 (83%)	7 (17%)	2 10

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
52	R8	54/55 (98%)	44 (82%)	10 (18%)	1 7
52	Y8	54/55 (98%)	41 (76%)	13 (24%)	0 3
53	R9	34/34 (100%)	32 (94%)	2 (6%)	19 52
53	Y9	34/34 (100%)	32 (94%)	2 (6%)	19 52
All	All	9702/10066 (96%)	8167 (84%)	1535 (16%)	2 12

All (1535) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	QB	5	ILE
3	QB	6	THR
3	QB	7	VAL
3	QB	8	LYS
3	QB	15	VAL
3	QB	23	ARG
3	QB	24	TRP
3	QB	32	ILE
3	QB	33	TYR
3	QB	53	ARG
3	QB	60	ASP
3	QB	67	THR
3	QB	82	ARG
3	QB	87	ARG
3	QB	92	TYR
3	QB	94	ASN
3	QB	101	MET
3	QB	109	SER
3	QB	119	GLU
3	QB	121	LEU
3	QB	150	SER
3	QB	155	LEU
3	QB	158	LEU
3	QB	163	PHE
3	QB	165	VAL
3	QB	168	THR
3	QB	172	ILE
3	QB	175	ARG
3	QB	187	LEU
3	QB	196	LEU
3	QB	204	ASN
3	QB	215	LEU

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Mol	Chain	Res	Type
3	QB	217	ARG
4	QC	3	ASN
4	QC	5	ILE
4	QC	12	LEU
4	QC	16	ARG
4	QC	21	ARG
4	QC	45	LYS
4	QC	52	LEU
4	QC	76	VAL
4	QC	94	LEU
4	QC	127	ARG
4	QC	131	ARG
4	QC	154	SER
4	QC	165	THR
4	QC	206	GLU
5	QD	3	ARG
5	QD	14	ARG
5	QD	22	LYS
5	QD	26	CYS
5	QD	30	LYS
5	QD	33	MET
5	QD	50	ARG
5	QD	58	LEU
5	QD	73	ARG
5	QD	76	ARG
5	QD	86	LYS
5	QD	94	LEU
5	QD	96	LEU
5	QD	122	ARG
5	QD	127	THR
5	QD	131	ARG
5	QD	135	LEU
5	QD	154	ASN
5	QD	175	SER
5	QD	187	ARG
5	QD	190	ASP
5	QD	191	ARG
5	QD	192	GLU
6	QE	10	MET
6	QE	12	LEU
6	QE	31	LEU
6	QE	34	VAL

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Mol	Chain	Res	Type
6	QE	41	VAL
6	QE	51	VAL
6	QE	68	GLU
6	QE	79	GLU
6	QE	81	GLU
6	QE	98	THR
6	QE	101	ILE
6	QE	153	LYS
7	QF	16	GLN
7	QF	21	LEU
7	QF	23	LYS
7	QF	43	LEU
7	QF	45	LEU
7	QF	47	ARG
7	QF	55	ASP
7	QF	69	GLU
7	QF	70	ASP
7	QF	72	VAL
7	QF	75	LEU
7	QF	98	LEU
8	QG	8	GLU
8	QG	54	THR
8	QG	80	VAL
8	QG	92	SER
8	QG	94	ARG
8	QG	104	LEU
8	QG	113	GLU
8	QG	114	ARG
8	QG	135	VAL
8	QG	136	LYS
8	QG	137	LYS
8	QG	155	ARG
9	QH	1	MET
9	QH	24	THR
9	QH	25	ASP
9	QH	26	VAL
9	QH	41	ARG
9	QH	99	GLU
9	QH	109	ILE
9	QH	112	LEU
9	QH	125	ARG
9	QH	129	VAL

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Mol	Chain	Res	Type
10	QI	9	ARG
10	QI	10	ARG
10	QI	11	LYS
10	QI	23	ASN
10	QI	47	LEU
10	QI	56	LEU
10	QI	64	THR
10	QI	65	VAL
10	QI	75	ASP
10	QI	95	LYS
10	QI	104	ARG
10	QI	105	ASP
10	QI	113	LYS
10	QI	114	TYR
10	QI	121	ARG
10	QI	125	TYR
10	QI	128	ARG
11	QJ	22	LYS
11	QJ	47	PHE
11	QJ	54	PHE
11	QJ	57	LYS
11	QJ	58	ASP
11	QJ	62	HIS
11	QJ	73	ASP
11	QJ	74	ILE
11	QJ	80	LYS
11	QJ	84	GLN
11	QJ	92	THR
11	QJ	96	ILE
12	QK	26	ASN
12	QK	29	ILE
12	QK	32	ILE
12	QK	34	ASP
12	QK	63	LEU
12	QK	92	GLU
12	QK	103	LEU
12	QK	109	VAL
12	QK	127	LYS
13	QL	17	LYS
13	QL	18	VAL
13	QL	20	LYS
13	QL	27	LEU

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Mol	Chain	Res	Type
13	QL	33	ARG
13	QL	38	THR
13	QL	42	THR
13	QL	50	SER
13	QL	54	LYS
13	QL	59	ARG
13	QL	60	LEU
13	QL	73	GLU
13	QL	83	VAL
13	QL	85	ILE
13	QL	89	ARG
13	QL	102	ARG
13	QL	113	ARG
14	QM	8	GLU
14	QM	11	ARG
14	QM	13	LYS
14	QM	17	VAL
14	QM	19	LEU
14	QM	45	VAL
14	QM	47	ASP
14	QM	48	LEU
14	QM	56	LEU
14	QM	57	ARG
14	QM	64	TRP
14	QM	66	LEU
14	QM	70	LEU
14	QM	77	ASN
14	QM	84	ILE
14	QM	88	ARG
14	QM	90	LEU
14	QM	98	VAL
14	QM	108	ARG
14	QM	111	LYS
14	QM	114	ARG
14	QM	115	LYS
14	QM	117	VAL
14	QM	122	LYS
15	QN	6	LEU
15	QN	12	ARG
15	QN	13	THR
15	QN	18	VAL
15	QN	33	VAL

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Mol	Chain	Res	Type
15	QN	43	CYS
15	QN	44	LEU
15	QN	46	GLU
15	QN	57	ARG
16	QO	3	ILE
16	QO	4	THR
16	QO	26	GLU
16	QO	31	LEU
16	QO	39	LEU
16	QO	64	ARG
16	QO	84	LYS
17	QP	2	VAL
17	QP	20	VAL
17	QP	26	ARG
17	QP	28	ARG
17	QP	33	ILE
17	QP	53	VAL
17	QP	67	THR
17	QP	69	THR
17	QP	71	ARG
18	QQ	37	LYS
18	QQ	38	ARG
18	QQ	52	LYS
18	QQ	59	ILE
18	QQ	62	SER
18	QQ	68	ARG
18	QQ	74	LEU
18	QQ	101	ARG
19	QR	26	LEU
19	QR	29	PHE
19	QR	31	LEU
19	QR	32	ARG
19	QR	36	ASN
19	QR	46	GLU
19	QR	54	ARG
19	QR	76	LEU
19	QR	82	THR
19	QR	83	GLU
19	QR	86	VAL
20	QS	5	LEU
20	QS	10	PHE
20	QS	12	ASP

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Mol	Chain	Res	Type
20	QS	21	GLU
20	QS	28	LYS
20	QS	29	ARG
20	QS	30	LEU
20	QS	37	ARG
20	QS	43	GLU
20	QS	44	MET
20	QS	63	THR
20	QS	67	VAL
20	QS	77	THR
20	QS	83	HIS
21	QT	17	ARG
21	QT	24	LEU
21	QT	45	GLN
21	QT	72	LEU
21	QT	73	HIS
21	QT	75	ASN
21	QT	80	ARG
21	QT	84	LEU
21	QT	93	GLU
25	RD	10	THR
25	RD	17	THR
25	RD	25	THR
25	RD	40	THR
25	RD	43	ARG
25	RD	44	ASN
25	RD	46	GLN
25	RD	49	ILE
25	RD	61	LEU
25	RD	65	ILE
25	RD	69	ARG
25	RD	71	ASP
25	RD	73	VAL
25	RD	83	GLU
25	RD	87	ASN
25	RD	88	ARG
25	RD	95	LEU
25	RD	103	ARG
25	RD	105	ILE
25	RD	106	ILE
25	RD	111	LEU
25	RD	134	ARG

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Mol	Chain	Res	Type
25	RD	150	LYS
25	RD	155	LEU
25	RD	157	ARG
25	RD	173	VAL
25	RD	192	THR
25	RD	211	ARG
25	RD	212	SER
25	RD	221	VAL
25	RD	229	VAL
25	RD	237	GLU
25	RD	242	ARG
25	RD	257	LEU
25	RD	259	THR
25	RD	261	LYS
25	RD	268	ARG
25	RD	271	ILE
25	RD	273	ARG
26	RE	2	LYS
26	RE	4	ILE
26	RE	7	VAL
26	RE	12	THR
26	RE	13	ARG
26	RE	16	ARG
26	RE	26	ILE
26	RE	27	LEU
26	RE	33	VAL
26	RE	34	VAL
26	RE	38	THR
26	RE	41	LYS
26	RE	42	ASP
26	RE	47	VAL
26	RE	49	LEU
26	RE	52	LEU
26	RE	54	GLN
26	RE	63	LEU
26	RE	77	ILE
26	RE	79	ARG
26	RE	80	GLU
26	RE	82	ARG
26	RE	92	THR
26	RE	101	ARG
26	RE	113	PHE

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Mol	Chain	Res	Type
26	RE	116	VAL
26	RE	119	ARG
26	RE	127	ASP
26	RE	144	ARG
26	RE	146	THR
26	RE	167	VAL
26	RE	175	VAL
26	RE	179	GLU
26	RE	181	LEU
26	RE	184	VAL
26	RE	197	ILE
26	RE	200	GLU
26	RE	202	LYS
26	RE	203	LYS
27	RF	9	ILE
27	RF	13	SER
27	RF	24	LEU
27	RF	28	ILE
27	RF	32	LEU
27	RF	33	LEU
27	RF	45	ARG
27	RF	57	VAL
27	RF	65	TRP
27	RF	68	LYS
27	RF	70	THR
27	RF	74	ARG
27	RF	77	ASP
27	RF	78	ILE
27	RF	84	VAL
27	RF	104	LYS
27	RF	107	LYS
27	RF	117	ARG
27	RF	127	GLU
27	RF	149	ASP
27	RF	158	THR
27	RF	161	GLU
27	RF	165	ARG
27	RF	174	VAL
27	RF	176	LEU
27	RF	181	LEU
27	RF	192	LEU
27	RF	194	MET

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Mol	Chain	Res	Type
27	RF	197	ASP
28	RG	7	LEU
28	RG	10	LYS
28	RG	20	ILE
28	RG	26	GLN
28	RG	33	ARG
28	RG	34	LEU
28	RG	43	LEU
28	RG	53	LEU
28	RG	54	GLU
28	RG	67	LYS
28	RG	71	THR
28	RG	88	ILE
28	RG	94	LEU
28	RG	98	ARG
28	RG	116	ASP
28	RG	118	ARG
28	RG	133	LEU
28	RG	147	ASP
28	RG	159	VAL
28	RG	167	GLU
28	RG	174	GLU
29	RH	3	ARG
29	RH	4	ILE
29	RH	7	LEU
29	RH	9	ILE
29	RH	27	LYS
29	RH	42	ARG
29	RH	43	VAL
29	RH	51	ARG
29	RH	59	ARG
29	RH	64	LEU
29	RH	77	LYS
29	RH	81	GLU
29	RH	88	LEU
29	RH	89	ILE
29	RH	105	LEU
29	RH	107	VAL
29	RH	132	ARG
29	RH	152	ARG
29	RH	153	LYS
29	RH	158	HIS

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Mol	Chain	Res	Type
29	RH	169	VAL
30	RI	2	LYS
30	RI	9	LEU
30	RI	10	GLU
30	RI	27	ARG
30	RI	31	LEU
30	RI	33	ARG
30	RI	38	LEU
30	RI	56	LYS
30	RI	57	ARG
30	RI	67	ARG
30	RI	70	GLU
30	RI	81	VAL
30	RI	86	THR
30	RI	92	VAL
30	RI	101	LEU
30	RI	112	LYS
30	RI	113	ARG
30	RI	118	LYS
30	RI	129	THR
30	RI	130	TYR
30	RI	131	LYS
30	RI	134	PRO
30	RI	135	GLU
30	RI	142	VAL
31	RN	1	MET
31	RN	2	LYS
31	RN	5	VAL
31	RN	7	LYS
31	RN	12	ARG
31	RN	32	THR
31	RN	34	LEU
31	RN	43	THR
31	RN	48	MET
31	RN	60	ILE
31	RN	61	ARG
31	RN	62	VAL
31	RN	87	LEU
31	RN	90	MET
31	RN	96	GLU
31	RN	98	VAL
31	RN	109	LYS

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Mol	Chain	Res	Type
31	RN	120	LEU
31	RN	127	ASP
31	RN	136	GLU
32	RO	3	GLN
32	RO	9	GLU
32	RO	19	ILE
32	RO	24	VAL
32	RO	31	LYS
32	RO	49	ARG
32	RO	53	LYS
32	RO	69	ILE
32	RO	91	LEU
32	RO	102	VAL
33	RP	5	ASP
33	RP	6	LEU
33	RP	9	ASN
33	RP	14	LYS
33	RP	15	ARG
33	RP	16	ARG
33	RP	19	VAL
33	RP	21	ARG
33	RP	30	THR
33	RP	36	LYS
33	RP	41	ARG
33	RP	45	LEU
33	RP	50	ARG
33	RP	56	SER
33	RP	61	ARG
33	RP	62	LEU
33	RP	64	LYS
33	RP	70	GLN
33	RP	71	VAL
33	RP	75	ILE
33	RP	81	GLN
33	RP	88	LEU
33	RP	91	PHE
33	RP	100	LEU
33	RP	105	LEU
33	RP	107	LYS
33	RP	112	LEU
33	RP	133	SER
33	RP	138	LEU

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Mol	Chain	Res	Type
33	RP	144	GLU
33	RP	146	VAL
34	RQ	17	LEU
34	RQ	26	TYR
34	RQ	27	VAL
34	RQ	35	VAL
34	RQ	45	GLN
34	RQ	54	MET
34	RQ	60	ARG
34	RQ	79	LEU
34	RQ	81	VAL
34	RQ	82	ARG
34	RQ	83	MET
34	RQ	85	LYS
34	RQ	96	VAL
34	RQ	112	GLU
34	RQ	135	ASP
34	RQ	139	GLU
35	RR	1	MET
35	RR	6	SER
35	RR	9	LYS
35	RR	18	LEU
35	RR	29	LEU
35	RR	35	THR
35	RR	44	LEU
35	RR	63	ARG
35	RR	71	GLN
35	RR	75	LEU
35	RR	79	LEU
35	RR	91	GLN
35	RR	95	THR
35	RR	100	LEU
35	RR	104	ARG
35	RR	105	ARG
35	RR	117	VAL
35	RR	118	GLU
36	RS	3	ARG
36	RS	4	LEU
36	RS	12	PHE
36	RS	17	ARG
36	RS	20	ARG
36	RS	27	SER

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Mol	Chain	Res	Type
36	RS	39	ILE
36	RS	44	LYS
36	RS	50	SER
36	RS	54	LEU
36	RS	56	LEU
36	RS	57	LYS
36	RS	58	LEU
36	RS	59	LYS
36	RS	98	VAL
36	RS	101	LEU
36	RS	103	GLU
36	RS	106	ARG
37	RT	18	ASP
37	RT	27	THR
37	RT	30	VAL
37	RT	41	ARG
37	RT	42	ILE
37	RT	50	ILE
37	RT	51	ARG
37	RT	62	THR
37	RT	65	LYS
37	RT	74	ARG
37	RT	88	ILE
37	RT	89	VAL
37	RT	99	LEU
37	RT	105	LEU
37	RT	107	ASP
37	RT	112	ARG
37	RT	125	ARG
37	RT	128	GLU
38	RU	52	ARG
38	RU	55	ARG
38	RU	59	ARG
38	RU	60	LEU
38	RU	64	ARG
38	RU	69	CYS
38	RU	74	LEU
38	RU	90	VAL
38	RU	92	ARG
38	RU	98	LEU
38	RU	108	GLU
38	RU	111	GLU

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Mol	Chain	Res	Type
38	RU	114	LYS
38	RU	117	GLN
39	RV	13	ARG
39	RV	19	LYS
39	RV	21	ARG
39	RV	22	VAL
39	RV	24	LYS
39	RV	35	LEU
39	RV	37	VAL
39	RV	45	THR
39	RV	47	VAL
39	RV	57	VAL
39	RV	61	VAL
39	RV	62	LEU
39	RV	64	HIS
39	RV	78	LYS
39	RV	79	VAL
39	RV	99	ILE
40	RW	11	ARG
40	RW	16	LYS
40	RW	18	ARG
40	RW	19	LEU
40	RW	20	VAL
40	RW	23	LEU
40	RW	27	LYS
40	RW	30	GLU
40	RW	40	ASN
40	RW	51	LEU
40	RW	60	ASN
40	RW	63	ASP
40	RW	67	ASP
40	RW	76	VAL
40	RW	82	LEU
40	RW	92	ARG
40	RW	100	THR
40	RW	106	ILE
40	RW	107	LEU
41	RX	12	VAL
41	RX	23	GLU
41	RX	27	THR
41	RX	30	VAL
41	RX	35	THR

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Mol	Chain	Res	Type
41	RX	49	VAL
41	RX	65	ARG
41	RX	70	LEU
41	RX	80	ILE
41	RX	81	VAL
42	RY	2	ARG
42	RY	13	VAL
42	RY	14	LEU
42	RY	27	VAL
42	RY	34	LYS
42	RY	37	VAL
42	RY	38	ILE
42	RY	43	ASN
42	RY	45	VAL
42	RY	55	TYR
42	RY	57	GLN
42	RY	61	ILE
42	RY	67	LEU
42	RY	70	SER
42	RY	75	ILE
42	RY	76	CYS
42	RY	87	LYS
42	RY	90	LEU
42	RY	95	LYS
42	RY	96	ILE
42	RY	97	ARG
42	RY	102	CYS
43	RZ	2	GLU
43	RZ	5	LEU
43	RZ	19	ARG
43	RZ	20	ARG
43	RZ	52	SER
43	RZ	53	ILE
43	RZ	60	GLU
43	RZ	70	LEU
43	RZ	71	VAL
43	RZ	81	ARG
43	RZ	87	ASP
43	RZ	92	SER
43	RZ	93	ASP
43	RZ	94	GLU
43	RZ	112	ARG

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Mol	Chain	Res	Type
43	RZ	117	LEU
43	RZ	131	ARG
43	RZ	145	GLU
43	RZ	150	LEU
43	RZ	163	LEU
43	RZ	168	GLU
43	RZ	174	VAL
43	RZ	181	GLU
43	RZ	182	LYS
43	RZ	183	LEU
44	R0	5	LYS
44	R0	7	LEU
44	R0	10	THR
44	R0	36	ILE
44	R0	55	ARG
44	R0	64	ASP
44	R0	66	VAL
44	R0	74	ARG
45	R1	21	ARG
45	R1	41	ARG
45	R1	51	VAL
45	R1	62	VAL
45	R1	78	LYS
45	R1	80	LEU
45	R1	90	ILE
45	R1	91	LYS
45	R1	92	LYS
46	R2	17	SER
46	R2	24	LEU
46	R2	27	GLU
46	R2	32	LEU
46	R2	50	ILE
46	R2	53	LEU
46	R2	62	THR
47	R3	6	VAL
47	R3	8	LEU
47	R3	18	ASP
47	R3	32	GLN
47	R3	40	THR
47	R3	56	VAL
48	R4	13	ARG
48	R4	15	ILE

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Mol	Chain	Res	Type
48	R4	23	GLU
48	R4	33	VAL
48	R4	34	GLU
48	R4	37	SER
48	R4	42	PHE
48	R4	48	ARG
48	R4	49	PHE
48	R4	50	VAL
48	R4	52	THR
48	R4	57	GLU
48	R4	61	ARG
48	R4	62	ARG
48	R4	63	TYR
48	R4	66	SER
48	R4	67	TYR
48	R4	68	ARG
49	R5	4	HIS
49	R5	6	VAL
49	R5	11	THR
49	R5	21	SER
49	R5	23	HIS
49	R5	25	LEU
49	R5	29	THR
49	R5	36	CYS
49	R5	40	LYS
49	R5	51	TYR
49	R5	52	TYR
49	R5	56	LYS
49	R5	58	LEU
49	R5	60	VAL
50	R6	6	ARG
50	R6	8	LYS
50	R6	9	LEU
50	R6	10	LEU
50	R6	11	LEU
50	R6	17	LYS
50	R6	19	ARG
50	R6	23	THR
50	R6	27	LYS
50	R6	30	THR
50	R6	34	LEU
50	R6	37	ARG

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Mol	Chain	Res	Type
50	R6	44	ARG
51	R7	1	MET
51	R7	2	LYS
51	R7	4	THR
51	R7	9	ARG
51	R7	10	ARG
51	R7	14	LYS
51	R7	43	THR
51	R7	46	VAL
52	R8	14	VAL
52	R8	15	LYS
52	R8	34	TRP
52	R8	35	GLN
52	R8	44	LYS
52	R8	47	LYS
52	R8	49	VAL
52	R8	52	LYS
52	R8	64	TYR
52	R8	65	GLU
53	R9	1	MET
53	R9	29	ASN
3	XB	5	ILE
3	XB	7	VAL
3	XB	8	LYS
3	XB	15	VAL
3	XB	23	ARG
3	XB	24	TRP
3	XB	33	TYR
3	XB	36	ARG
3	XB	67	THR
3	XB	71	VAL
3	XB	82	ARG
3	XB	92	TYR
3	XB	113	HIS
3	XB	145	LEU
3	XB	155	LEU
3	XB	163	PHE
3	XB	172	ILE
3	XB	175	ARG
3	XB	178	ARG
3	XB	187	LEU
3	XB	195	ASP

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Mol	Chain	Res	Type
3	XB	196	LEU
3	XB	204	ASN
3	XB	215	LEU
3	XB	235	SER
4	XC	3	ASN
4	XC	5	ILE
4	XC	12	LEU
4	XC	21	ARG
4	XC	45	LYS
4	XC	47	LEU
4	XC	56	ASP
4	XC	94	LEU
4	XC	95	THR
4	XC	131	ARG
4	XC	178	LEU
4	XC	184	TYR
4	XC	192	THR
5	XD	3	ARG
5	XD	9	CYS
5	XD	15	GLU
5	XD	19	LEU
5	XD	30	LYS
5	XD	33	MET
5	XD	50	ARG
5	XD	53	ASP
5	XD	58	LEU
5	XD	73	ARG
5	XD	76	ARG
5	XD	84	LYS
5	XD	86	LYS
5	XD	96	LEU
5	XD	108	LEU
5	XD	122	ARG
5	XD	127	THR
5	XD	131	ARG
5	XD	137	SER
5	XD	150	GLU
5	XD	154	ASN
5	XD	175	SER
5	XD	187	ARG
5	XD	190	ASP
5	XD	193	ASP

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Mol	Chain	Res	Type
5	XD	208	SER
6	XE	6	PHE
6	XE	7	GLU
6	XE	10	MET
6	XE	11	ILE
6	XE	18	ARG
6	XE	31	LEU
6	XE	41	VAL
6	XE	73	ASN
6	XE	79	GLU
6	XE	101	ILE
6	XE	147	ASP
6	XE	153	LYS
7	XF	21	LEU
7	XF	23	LYS
7	XF	36	ARG
7	XF	71	ARG
7	XF	74	ASP
7	XF	91	VAL
7	XF	92	LYS
7	XF	98	LEU
8	XG	5	ARG
8	XG	8	GLU
8	XG	35	LYS
8	XG	54	THR
8	XG	63	LYS
8	XG	78	ARG
8	XG	104	LEU
8	XG	113	GLU
8	XG	114	ARG
8	XG	136	LYS
8	XG	137	LYS
8	XG	155	ARG
9	XH	1	MET
9	XH	12	ARG
9	XH	19	VAL
9	XH	24	THR
9	XH	26	VAL
9	XH	41	ARG
9	XH	54	ASP
9	XH	63	LEU
9	XH	80	ILE

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Mol	Chain	Res	Type
9	XH	85	ARG
9	XH	109	ILE
9	XH	112	LEU
9	XH	137	VAL
10	XI	9	ARG
10	XI	38	GLN
10	XI	44	VAL
10	XI	56	LEU
10	XI	65	VAL
10	XI	95	LYS
10	XI	96	LEU
10	XI	102	LEU
10	XI	104	ARG
10	XI	105	ASP
10	XI	108	VAL
10	XI	111	ARG
10	XI	112	LYS
10	XI	114	TYR
10	XI	121	ARG
10	XI	124	GLN
10	XI	125	TYR
10	XI	128	ARG
11	XJ	3	LYS
11	XJ	17	ASP
11	XJ	22	LYS
11	XJ	45	ARG
11	XJ	47	PHE
11	XJ	49	VAL
11	XJ	54	PHE
11	XJ	57	LYS
11	XJ	62	HIS
11	XJ	70	ARG
11	XJ	74	ILE
11	XJ	80	LYS
11	XJ	84	GLN
11	XJ	96	ILE
11	XJ	98	ILE
12	XK	26	ASN
12	XK	29	ILE
12	XK	31	THR
12	XK	32	ILE
12	XK	36	ASP

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Mol	Chain	Res	Type
12	XK	57	THR
12	XK	96	ARG
12	XK	114	VAL
12	XK	116	HIS
13	XL	17	LYS
13	XL	18	VAL
13	XL	20	LYS
13	XL	27	LEU
13	XL	33	ARG
13	XL	59	ARG
13	XL	62	SER
13	XL	81	SER
13	XL	89	ARG
13	XL	91	LYS
13	XL	126	LYS
14	XM	3	ARG
14	XM	13	LYS
14	XM	17	VAL
14	XM	19	LEU
14	XM	32	GLU
14	XM	45	VAL
14	XM	48	LEU
14	XM	56	LEU
14	XM	64	TRP
14	XM	66	LEU
14	XM	70	LEU
14	XM	84	ILE
14	XM	88	ARG
14	XM	98	VAL
14	XM	108	ARG
14	XM	114	ARG
14	XM	115	LYS
14	XM	117	VAL
14	XM	122	LYS
15	XN	6	LEU
15	XN	12	ARG
15	XN	32	SER
15	XN	33	VAL
15	XN	40	CYS
15	XN	41	ARG
15	XN	44	LEU
16	XO	3	ILE

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Mol	Chain	Res	Type
16	XO	8	LYS
16	XO	24	SER
16	XO	26	GLU
16	XO	39	LEU
16	XO	62	GLN
16	XO	64	ARG
16	XO	66	LEU
16	XO	82	ILE
16	XO	87	ILE
17	XP	2	VAL
17	XP	11	SER
17	XP	20	VAL
17	XP	28	ARG
17	XP	32	TYR
17	XP	67	THR
17	XP	69	THR
17	XP	72	ARG
18	XQ	52	LYS
18	XQ	59	ILE
18	XQ	62	SER
18	XQ	68	ARG
18	XQ	74	LEU
18	XQ	101	ARG
19	XR	26	LEU
19	XR	29	PHE
19	XR	36	ASN
19	XR	41	LYS
19	XR	46	GLU
19	XR	54	ARG
19	XR	76	LEU
19	XR	82	THR
19	XR	86	VAL
20	XS	5	LEU
20	XS	10	PHE
20	XS	11	VAL
20	XS	12	ASP
20	XS	13	ASP
20	XS	21	GLU
20	XS	28	LYS
20	XS	29	ARG
20	XS	30	LEU
20	XS	31	ILE

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Mol	Chain	Res	Type
20	XS	37	ARG
20	XS	44	MET
20	XS	63	THR
20	XS	78	ARG
20	XS	81	ARG
20	XS	83	HIS
21	XT	10	LEU
21	XT	13	LEU
21	XT	24	LEU
21	XT	37	SER
21	XT	41	ILE
21	XT	45	GLN
21	XT	50	GLU
21	XT	73	HIS
21	XT	84	LEU
21	XT	93	GLU
22	XU	6	ARG
25	YD	5	LYS
25	YD	17	THR
25	YD	27	THR
25	YD	28	GLU
25	YD	30	GLU
25	YD	38	LYS
25	YD	43	ARG
25	YD	44	ASN
25	YD	49	ILE
25	YD	65	ILE
25	YD	73	VAL
25	YD	88	ARG
25	YD	94	LEU
25	YD	95	LEU
25	YD	103	ARG
25	YD	105	ILE
25	YD	106	ILE
25	YD	111	LEU
25	YD	112	GLN
25	YD	141	VAL
25	YD	192	THR
25	YD	200	ASP
25	YD	202	LYS
25	YD	212	SER
25	YD	217	ARG

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Mol	Chain	Res	Type
25	YD	218	ARG
25	YD	221	VAL
25	YD	229	VAL
25	YD	237	GLU
25	YD	242	ARG
25	YD	257	LEU
25	YD	259	THR
25	YD	273	ARG
26	YE	4	ILE
26	YE	12	THR
26	YE	13	ARG
26	YE	16	ARG
26	YE	17	ASP
26	YE	26	ILE
26	YE	27	LEU
26	YE	41	LYS
26	YE	42	ASP
26	YE	49	LEU
26	YE	77	ILE
26	YE	79	ARG
26	YE	82	ARG
26	YE	92	THR
26	YE	113	PHE
26	YE	116	VAL
26	YE	117	MET
26	YE	119	ARG
26	YE	127	ASP
26	YE	128	SER
26	YE	144	ARG
26	YE	146	THR
26	YE	154	LYS
26	YE	175	VAL
26	YE	197	ILE
26	YE	200	GLU
26	YE	202	LYS
26	YE	203	LYS
27	YF	9	ILE
27	YF	32	LEU
27	YF	33	LEU
27	YF	38	ARG
27	YF	45	ARG
27	YF	65	TRP

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Mol	Chain	Res	Type
27	YF	70	THR
27	YF	78	ILE
27	YF	105	VAL
27	YF	106	ARG
27	YF	107	LYS
27	YF	117	ARG
27	YF	127	GLU
27	YF	161	GLU
27	YF	164	ARG
27	YF	165	ARG
27	YF	170	LEU
27	YF	174	VAL
27	YF	176	LEU
27	YF	181	LEU
27	YF	183	VAL
27	YF	196	LEU
27	YF	197	ASP
27	YF	206	ILE
28	YG	3	LEU
28	YG	7	LEU
28	YG	22	ARG
28	YG	31	VAL
28	YG	34	LEU
28	YG	43	LEU
28	YG	45	GLU
28	YG	58	GLN
28	YG	63	ILE
28	YG	66	GLN
28	YG	67	LYS
28	YG	80	PHE
28	YG	82	LEU
28	YG	84	LYS
28	YG	88	ILE
28	YG	90	LEU
28	YG	94	LEU
28	YG	116	ASP
28	YG	118	ARG
28	YG	145	THR
28	YG	147	ASP
28	YG	167	GLU
29	YH	3	ARG
29	YH	4	ILE

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Mol	Chain	Res	Type
29	YH	6	ARG
29	YH	9	ILE
29	YH	27	LYS
29	YH	32	GLU
29	YH	37	VAL
29	YH	40	GLU
29	YH	41	MET
29	YH	53	GLU
29	YH	59	ARG
29	YH	77	LYS
29	YH	88	LEU
29	YH	89	ILE
29	YH	103	LEU
29	YH	105	LEU
29	YH	122	THR
29	YH	129	THR
29	YH	132	ARG
29	YH	136	ILE
29	YH	139	GLN
29	YH	143	GLN
29	YH	149	ARG
29	YH	152	ARG
29	YH	153	LYS
29	YH	155	SER
29	YH	169	VAL
30	YI	1	MET
30	YI	2	LYS
30	YI	7	GLU
30	YI	10	GLU
30	YI	12	LEU
30	YI	27	ARG
30	YI	33	ARG
30	YI	35	LEU
30	YI	38	LEU
30	YI	40	THR
30	YI	56	LYS
30	YI	67	ARG
30	YI	70	GLU
30	YI	81	VAL
30	YI	85	GLU
30	YI	92	VAL
30	YI	101	LEU

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Mol	Chain	Res	Type
30	YI	112	LYS
30	YI	113	ARG
30	YI	121	LYS
30	YI	131	LYS
30	YI	135	GLU
30	YI	136	VAL
30	YI	139	GLN
30	YI	140	LEU
30	YI	142	VAL
31	YN	2	LYS
31	YN	5	VAL
31	YN	7	LYS
31	YN	32	THR
31	YN	34	LEU
31	YN	43	THR
31	YN	48	MET
31	YN	60	ILE
31	YN	61	ARG
31	YN	62	VAL
31	YN	65	LYS
31	YN	67	LEU
31	YN	73	THR
31	YN	90	MET
31	YN	96	GLU
31	YN	99	LEU
31	YN	109	LYS
31	YN	112	LEU
31	YN	116	LEU
31	YN	120	LEU
31	YN	136	GLU
32	YO	9	GLU
32	YO	19	ILE
32	YO	20	MET
32	YO	23	ARG
32	YO	24	VAL
32	YO	28	SER
32	YO	31	LYS
32	YO	47	ILE
32	YO	49	ARG
32	YO	53	LYS
32	YO	66	LYS
32	YO	91	LEU

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Mol	Chain	Res	Type
33	YP	6	LEU
33	YP	7	ARG
33	YP	9	ASN
33	YP	14	LYS
33	YP	16	ARG
33	YP	19	VAL
33	YP	21	ARG
33	YP	27	HIS
33	YP	29	LYS
33	YP	32	THR
33	YP	36	LYS
33	YP	45	LEU
33	YP	49	ARG
33	YP	50	ARG
33	YP	61	ARG
33	YP	64	LYS
33	YP	65	ARG
33	YP	71	VAL
33	YP	75	ILE
33	YP	88	LEU
33	YP	91	PHE
33	YP	94	GLU
33	YP	98	GLU
33	YP	100	LEU
33	YP	101	VAL
33	YP	112	LEU
33	YP	115	LEU
33	YP	117	GLU
33	YP	123	LEU
33	YP	135	LEU
33	YP	144	GLU
33	YP	146	VAL
33	YP	147	LEU
33	YP	149	GLU
34	YQ	5	ARG
34	YQ	10	ARG
34	YQ	25	ASP
34	YQ	45	GLN
34	YQ	55	VAL
34	YQ	59	ARG
34	YQ	71	ASP
34	YQ	75	THR

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Mol	Chain	Res	Type
34	YQ	76	LYS
34	YQ	79	LEU
34	YQ	81	VAL
34	YQ	82	ARG
34	YQ	83	MET
34	YQ	87	LYS
34	YQ	103	MET
34	YQ	112	GLU
34	YQ	132	VAL
34	YQ	135	ASP
34	YQ	139	GLU
35	YR	1	MET
35	YR	18	LEU
35	YR	28	LEU
35	YR	29	LEU
35	YR	34	ILE
35	YR	36	THR
35	YR	40	LYS
35	YR	44	LEU
35	YR	51	LEU
35	YR	54	LEU
35	YR	57	ARG
35	YR	63	ARG
35	YR	65	LEU
35	YR	79	LEU
35	YR	83	ILE
35	YR	95	THR
35	YR	100	LEU
35	YR	102	GLU
35	YR	104	ARG
35	YR	105	ARG
36	YS	10	ARG
36	YS	12	PHE
36	YS	14	VAL
36	YS	15	ARG
36	YS	20	ARG
36	YS	25	ARG
36	YS	27	SER
36	YS	44	LYS
36	YS	54	LEU
36	YS	56	LEU
36	YS	58	LEU

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Mol	Chain	Res	Type
36	YS	69	VAL
36	YS	78	LEU
36	YS	83	LYS
36	YS	85	VAL
36	YS	89	ARG
36	YS	103	GLU
36	YS	106	ARG
36	YS	111	GLU
37	YT	17	THR
37	YT	23	ARG
37	YT	27	THR
37	YT	28	VAL
37	YT	40	THR
37	YT	41	ARG
37	YT	42	ILE
37	YT	51	ARG
37	YT	58	ASN
37	YT	65	LYS
37	YT	66	VAL
37	YT	74	ARG
37	YT	86	ILE
37	YT	87	ASP
37	YT	88	ILE
37	YT	89	VAL
37	YT	110	ILE
37	YT	112	ARG
37	YT	115	ARG
37	YT	125	ARG
37	YT	128	GLU
37	YT	134	GLU
38	YU	5	LYS
38	YU	11	ARG
38	YU	27	LEU
38	YU	51	LYS
38	YU	52	ARG
38	YU	60	LEU
38	YU	64	ARG
38	YU	70	ARG
38	YU	74	LEU
38	YU	88	ILE
38	YU	91	ASP
38	YU	98	LEU

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Mol	Chain	Res	Type
38	YU	104	GLN
38	YU	111	GLU
38	YU	112	ARG
38	YU	114	LYS
39	YV	7	THR
39	YV	10	LYS
39	YV	13	ARG
39	YV	19	LYS
39	YV	35	LEU
39	YV	39	LEU
39	YV	40	LEU
39	YV	45	THR
39	YV	61	VAL
39	YV	66	ARG
39	YV	72	VAL
39	YV	73	SER
39	YV	78	LYS
39	YV	79	VAL
39	YV	99	ILE
40	YW	11	ARG
40	YW	16	LYS
40	YW	23	LEU
40	YW	37	ARG
40	YW	40	ASN
40	YW	51	LEU
40	YW	67	ASP
40	YW	69	LEU
40	YW	76	VAL
40	YW	88	ARG
40	YW	92	ARG
40	YW	95	ILE
40	YW	96	ILE
40	YW	100	THR
40	YW	106	ILE
40	YW	107	LEU
41	YX	6	ASP
41	YX	12	VAL
41	YX	15	GLU
41	YX	27	THR
41	YX	36	LYS
41	YX	43	VAL
41	YX	49	VAL

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Mol	Chain	Res	Type
41	YX	57	LEU
41	YX	59	VAL
41	YX	63	LYS
41	YX	65	ARG
41	YX	66	LEU
41	YX	80	ILE
41	YX	88	LYS
42	YY	14	LEU
42	YY	26	LYS
42	YY	27	VAL
42	YY	28	LYS
42	YY	29	GLU
42	YY	34	LYS
42	YY	38	ILE
42	YY	44	ILE
42	YY	57	GLN
42	YY	61	ILE
42	YY	64	GLU
42	YY	67	LEU
42	YY	71	LYS
42	YY	73	ARG
42	YY	75	ILE
42	YY	86	ARG
42	YY	87	LYS
42	YY	89	PHE
42	YY	90	LEU
42	YY	95	LYS
42	YY	97	ARG
43	YZ	2	GLU
43	YZ	5	LEU
43	YZ	8	TYR
43	YZ	19	ARG
43	YZ	20	ARG
43	YZ	35	ARG
43	YZ	41	LEU
43	YZ	52	SER
43	YZ	71	VAL
43	YZ	76	LEU
43	YZ	81	ARG
43	YZ	94	GLU
43	YZ	122	ARG
43	YZ	133	ILE

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Mol	Chain	Res	Type
43	YZ	139	VAL
43	YZ	140	ASP
43	YZ	144	LEU
43	YZ	150	LEU
43	YZ	151	HIS
43	YZ	156	LYS
43	YZ	166	SER
43	YZ	168	GLU
43	YZ	175	VAL
43	YZ	178	GLU
43	YZ	182	LYS
44	Y0	9	SER
44	Y0	36	ILE
44	Y0	74	ARG
45	Y1	30	VAL
45	Y1	46	LEU
45	Y1	50	ARG
45	Y1	51	VAL
45	Y1	56	GLN
45	Y1	62	VAL
45	Y1	78	LYS
45	Y1	80	LEU
45	Y1	82	LEU
45	Y1	83	GLU
45	Y1	91	LYS
45	Y1	92	LYS
46	Y2	4	SER
46	Y2	7	ARG
46	Y2	9	GLN
46	Y2	16	LEU
46	Y2	23	LYS
46	Y2	24	LEU
46	Y2	27	GLU
46	Y2	32	LEU
46	Y2	34	GLU
46	Y2	41	ILE
46	Y2	47	ASN
46	Y2	50	ILE
46	Y2	51	ARG
46	Y2	52	ASP
46	Y2	53	LEU
46	Y2	64	LEU

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Mol	Chain	Res	Type
46	Y2	65	ASN
47	Y3	6	VAL
47	Y3	8	LEU
47	Y3	23	LEU
47	Y3	30	ARG
47	Y3	31	LEU
47	Y3	36	VAL
47	Y3	37	LEU
47	Y3	56	VAL
48	Y4	6	HIS
48	Y4	10	VAL
48	Y4	15	ILE
48	Y4	16	CYS
48	Y4	22	ILE
48	Y4	27	THR
48	Y4	34	GLU
48	Y4	39	CYS
48	Y4	42	PHE
48	Y4	43	TYR
48	Y4	48	ARG
48	Y4	49	PHE
48	Y4	53	GLU
48	Y4	57	GLU
48	Y4	58	ARG
48	Y4	61	ARG
48	Y4	63	TYR
48	Y4	67	TYR
48	Y4	68	ARG
48	Y4	71	ARG
49	Y5	3	LYS
49	Y5	4	HIS
49	Y5	6	VAL
49	Y5	11	THR
49	Y5	29	THR
49	Y5	36	CYS
49	Y5	37	LYS
49	Y5	40	LYS
49	Y5	48	GLU
49	Y5	49	CYS
49	Y5	51	TYR
49	Y5	52	TYR
49	Y5	56	LYS

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Mol	Chain	Res	Type
49	Y5	58	LEU
50	Y6	6	ARG
50	Y6	8	LYS
50	Y6	11	LEU
50	Y6	19	ARG
50	Y6	23	THR
50	Y6	30	THR
50	Y6	33	LYS
50	Y6	34	LEU
50	Y6	37	ARG
50	Y6	44	ARG
51	Y7	1	MET
51	Y7	4	THR
51	Y7	8	ASN
51	Y7	9	ARG
51	Y7	10	ARG
51	Y7	14	LYS
51	Y7	47	ARG
52	Y8	13	ARG
52	Y8	14	VAL
52	Y8	15	LYS
52	Y8	29	LYS
52	Y8	30	ARG
52	Y8	34	TRP
52	Y8	43	GLN
52	Y8	44	LYS
52	Y8	47	LYS
52	Y8	56	GLU
52	Y8	58	ILE
52	Y8	64	TYR
52	Y8	65	GLU
53	Y9	1	MET
53	Y9	17	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (21) such sidechains are listed below:

Mol	Chain	Res	Type
3	QB	19	HIS
3	QB	204	ASN
3	QB	212	GLN
11	QJ	13	HIS
11	QJ	78	ASN

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Mol	Chain	Res	Type
14	QM	92	HIS
20	QS	47	HIS
25	RD	227	ASN
36	RS	34	HIS
43	RZ	34	ASN
46	R2	47	ASN
48	R4	60	GLN
53	R9	29	ASN
53	R9	32	HIS
3	XB	19	HIS
3	XB	204	ASN
3	XB	212	GLN
7	XF	16	GLN
11	XJ	78	ASN
26	YE	143	ASN
37	YT	58	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QX	3/19 (15%)	1 (33%)	0
1	XX	3/19 (15%)	0	0
2	QA	1499/1521 (98%)	274 (18%)	46 (3%)
2	XA	1499/1521 (98%)	272 (18%)	40 (2%)
23	RA	2879/2915 (98%)	580 (20%)	62 (2%)
23	YA	2880/2915 (98%)	586 (20%)	62 (2%)
24	RB	119/122 (97%)	22 (18%)	2 (1%)
24	YB	119/122 (97%)	25 (21%)	2 (1%)
54	QV	17/18 (94%)	4 (23%)	1 (5%)
54	XV	17/18 (94%)	4 (23%)	1 (5%)
All	All	9035/9190 (98%)	1768 (19%)	216 (2%)

All (1768) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QX	1	C
2	QA	6	G
2	QA	9	G
2	QA	32	A
2	QA	39	G
2	QA	47	C

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Mol	Chain	Res	Type
2	QA	48	C
2	QA	50	A
2	QA	51	A
2	QA	64	G
2	QA	65	U
2	QA	66	G
2	QA	76	G
2	QA	79	G
2	QA	80	G
2	QA	90	C
2	QA	91	C
2	QA	95	G
2	QA	101	A
2	QA	108	G
2	QA	116	A
2	QA	120	A
2	QA	121	C
2	QA	129(A)	G
2	QA	144	G
2	QA	146	G
2	QA	147	G
2	QA	163	C
2	QA	169	C
2	QA	173	U
2	QA	174	C
2	QA	182	U
2	QA	190	G
2	QA	191(A)	G
2	QA	195	A
2	QA	197	A
2	QA	209	U
2	QA	210	U
2	QA	216	G
2	QA	244	U
2	QA	245	C
2	QA	247	G
2	QA	251	G
2	QA	267	C
2	QA	279	A
2	QA	281	G
2	QA	289	G
2	QA	298	A

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Mol	Chain	Res	Type
2	QA	314	C
2	QA	316	G
2	QA	321	A
2	QA	328	C
2	QA	329	A
2	QA	332	G
2	QA	344	A
2	QA	346	G
2	QA	347	G
2	QA	352	C
2	QA	353	A
2	QA	354	G
2	QA	356	A
2	QA	367	U
2	QA	372	C
2	QA	373	A
2	QA	384	G
2	QA	390	C
2	QA	397	A
2	QA	398	C
2	QA	406	G
2	QA	411	A
2	QA	412	A
2	QA	413	G
2	QA	414	A
2	QA	421	U
2	QA	422	C
2	QA	423	G
2	QA	429	U
2	QA	430	A
2	QA	442	C
2	QA	452	A
2	QA	465	A
2	QA	466	C
2	QA	467	G
2	QA	482	A
2	QA	485	G
2	QA	486	U
2	QA	496	A
2	QA	497	U
2	QA	505	G
2	QA	509	A

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Mol	Chain	Res	Type
2	QA	510	A
2	QA	511	C
2	QA	518	C
2	QA	521	G
2	QA	527	G
2	QA	532	A
2	QA	533	A
2	QA	534	U
2	QA	545	C
2	QA	547	A
2	QA	559	A
2	QA	561	U
2	QA	566	G
2	QA	572	A
2	QA	573	A
2	QA	576	G
2	QA	577	G
2	QA	596	C
2	QA	618	C
2	QA	630	G
2	QA	631	G
2	QA	632	A
2	QA	653	A
2	QA	665	A
2	QA	686	U
2	QA	687	A
2	QA	688	G
2	QA	701	C
2	QA	702	A
2	QA	703	G
2	QA	704	A
2	QA	723	U
2	QA	731	G
2	QA	748	C
2	QA	754	C
2	QA	755	G
2	QA	760	G
2	QA	777	A
2	QA	792	A
2	QA	793	U
2	QA	794	A
2	QA	813	U

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Mol	Chain	Res	Type
2	QA	817	C
2	QA	819	A
2	QA	828	A
2	QA	841	U
2	QA	843	U
2	QA	848	C
2	QA	859	A
2	QA	870	U
2	QA	871	U
2	QA	872	A
2	QA	873	A
2	QA	902	G
2	QA	914	A
2	QA	927	G
2	QA	934	C
2	QA	935	A
2	QA	960	U
2	QA	961	U
2	QA	968	A
2	QA	969	A
2	QA	971	G
2	QA	974	A
2	QA	975	A
2	QA	976	G
2	QA	977	A
2	QA	980	C
2	QA	982	U
2	QA	991	U
2	QA	992	U
2	QA	993	G
2	QA	994	A
2	QA	1001	G
2	QA	1004	A
2	QA	1006	C
2	QA	1008	C
2	QA	1009	G
2	QA	1020	U
2	QA	1021	G
2	QA	1024	G
2	QA	1025	U
2	QA	1026	G
2	QA	1028	C

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Mol	Chain	Res	Type
2	QA	1029	G
2	QA	1032(A)	G
2	QA	1036	G
2	QA	1040	U
2	QA	1054	C
2	QA	1055	A
2	QA	1064	G
2	QA	1065	U
2	QA	1066	C
2	QA	1094	G
2	QA	1095	U
2	QA	1101	A
2	QA	1124	G
2	QA	1125	U
2	QA	1126	U
2	QA	1127	G
2	QA	1130	A
2	QA	1131	G
2	QA	1136	U
2	QA	1137	C
2	QA	1138	G
2	QA	1139	G
2	QA	1140	C
2	QA	1145	C
2	QA	1146	A
2	QA	1157	A
2	QA	1158	C
2	QA	1159	U
2	QA	1160	G
2	QA	1163	C
2	QA	1180	A
2	QA	1181	G
2	QA	1182	G
2	QA	1183	A
2	QA	1187	G
2	QA	1196	U
2	QA	1197	G
2	QA	1200	C
2	QA	1201	A
2	QA	1202	G
2	QA	1212	U
2	QA	1213	A

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Mol	Chain	Res	Type
2	QA	1226	C
2	QA	1227	A
2	QA	1238	A
2	QA	1241	G
2	QA	1256	A
2	QA	1257	U
2	QA	1258	G
2	QA	1272	G
2	QA	1273	G
2	QA	1280	A
2	QA	1281	U
2	QA	1282	C
2	QA	1286	A
2	QA	1287	A
2	QA	1296	C
2	QA	1297	C
2	QA	1298	C
2	QA	1299	A
2	QA	1300	G
2	QA	1301	U
2	QA	1302	U
2	QA	1305	G
2	QA	1319	A
2	QA	1320	C
2	QA	1321	C
2	QA	1322	C
2	QA	1323	G
2	QA	1331	G
2	QA	1335	C
2	QA	1336	C
2	QA	1337	G
2	QA	1338	G
2	QA	1346	A
2	QA	1347	G
2	QA	1348	U
2	QA	1353	G
2	QA	1359	C
2	QA	1362(A)	C
2	QA	1397	C
2	QA	1398	A
2	QA	1406	U
2	QA	1419	G

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Mol	Chain	Res	Type
2	QA	1442	G
2	QA	1443	G
2	QA	1446	A
2	QA	1447	G
2	QA	1452	C
2	QA	1453	G
2	QA	1487	G
2	QA	1492	A
2	QA	1499	A
2	QA	1504	G
2	QA	1506	U
2	QA	1507	A
2	QA	1517	G
2	QA	1519	A
2	QA	1520	G
2	QA	1529	G
2	QA	1530	G
23	RA	9	U
23	RA	15	G
23	RA	28	A
23	RA	34	C
23	RA	36	G
23	RA	46	C
23	RA	51	G
23	RA	55	G
23	RA	61	G
23	RA	71	A
23	RA	72	U
23	RA	74	A
23	RA	75	G
23	RA	83	G
23	RA	91	A
23	RA	95	G
23	RA	101	G
23	RA	102	G
23	RA	103	A
23	RA	118	A
23	RA	120	U
23	RA	131	G
23	RA	138	G
23	RA	161	U
23	RA	177	G

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Mol	Chain	Res	Type
23	RA	181	A
23	RA	196	A
23	RA	199	A
23	RA	205	G
23	RA	206	U
23	RA	214	G
23	RA	215	G
23	RA	216	A
23	RA	221	A
23	RA	222	A
23	RA	223	A
23	RA	228	A
23	RA	229	A
23	RA	230	U
23	RA	232	G
23	RA	233	A
23	RA	242	G
23	RA	243	U
23	RA	248	G
23	RA	249	C
23	RA	252	G
23	RA	265	A
23	RA	266	G
23	RA	269	U
23	RA	270(L)	U
23	RA	270(M)	U
23	RA	270(N)	G
23	RA	270(P)	C
23	RA	271(A)	C
23	RA	271(B)	G
23	RA	271(C)	U
23	RA	271	G
23	RA	275	G
23	RA	276	A
23	RA	277	C
23	RA	278	A
23	RA	279	C
23	RA	299	A
23	RA	311	A
23	RA	323	G
23	RA	324	A
23	RA	329	G

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Mol	Chain	Res	Type
23	RA	330	A
23	RA	333	G
23	RA	342	G
23	RA	343	C
23	RA	346	A
23	RA	352	G
23	RA	364	C
23	RA	371	A
23	RA	372	G
23	RA	373	U
23	RA	386	G
23	RA	395	U
23	RA	405	U
23	RA	411	G
23	RA	412	A
23	RA	428	A
23	RA	444	C
23	RA	448	U
23	RA	455	C
23	RA	456	C
23	RA	457	A
23	RA	470	A
23	RA	481	G
23	RA	503	A
23	RA	504	U
23	RA	505	A
23	RA	509	C
23	RA	513	A
23	RA	527	C
23	RA	529	A
23	RA	532	A
23	RA	533	G
23	RA	537	C
23	RA	539	G
23	RA	540	G
23	RA	544	C
23	RA	546	C
23	RA	547	A
23	RA	549	G
23	RA	556	G
23	RA	563	G
23	RA	573	G

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Mol	Chain	Res	Type
23	RA	574	C
23	RA	575	A
23	RA	588	U
23	RA	603	A
23	RA	607	U
23	RA	614	U
23	RA	615	G
23	RA	617	G
23	RA	621	A
23	RA	626	U
23	RA	627	A
23	RA	629	G
23	RA	631	A
23	RA	637	A
23	RA	638	G
23	RA	645	C
23	RA	646	A
23	RA	652	C
23	RA	654	A
23	RA	654(A)	G
23	RA	654(B)	C
23	RA	668	G
23	RA	669	G
23	RA	686	G
23	RA	702	G
23	RA	717	G
23	RA	722	A
23	RA	730	C
23	RA	753	C
23	RA	765	G
23	RA	776	G
23	RA	782	A
23	RA	784	A
23	RA	785	G
23	RA	790	C
23	RA	792	G
23	RA	805	G
23	RA	812	C
23	RA	819	A
23	RA	827	U
23	RA	828	U
23	RA	846	C

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Mol	Chain	Res	Type
23	RA	847	U
23	RA	856	C
23	RA	857	C
23	RA	859	G
23	RA	860	U
23	RA	869	G
23	RA	871	U
23	RA	872	A
23	RA	880	G
23	RA	881	G
23	RA	882	G
23	RA	884	C
23	RA	885	C
23	RA	886	C
23	RA	888	C
23	RA	889	C
23	RA	893	C
23	RA	896	A
23	RA	897	C
23	RA	899	A
23	RA	900	A
23	RA	901	A
23	RA	902	C
23	RA	904	C
23	RA	907	U
23	RA	910	A
23	RA	914	C
23	RA	917	A
23	RA	932	G
23	RA	933	A
23	RA	938	G
23	RA	941	A
23	RA	945	A
23	RA	946	G
23	RA	959	A
23	RA	961	C
23	RA	974	G
23	RA	974(A)	C
23	RA	975	G
23	RA	983	A
23	RA	996	A
23	RA	1003	G

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Mol	Chain	Res	Type
23	RA	1011	G
23	RA	1012	U
23	RA	1013	C
23	RA	1015	G
23	RA	1016	G
23	RA	1022	G
23	RA	1023	U
23	RA	1025	G
23	RA	1026	U
23	RA	1027	A
23	RA	1033	U
23	RA	1044	G
23	RA	1045	A
23	RA	1046	A
23	RA	1050	A
23	RA	1054	A
23	RA	1055	G
23	RA	1057	A
23	RA	1059	G
23	RA	1060	U
23	RA	1061	U
23	RA	1065	U
23	RA	1066	U
23	RA	1067	A
23	RA	1068	G
23	RA	1069	A
23	RA	1070	A
23	RA	1071	G
23	RA	1076	C
23	RA	1077	A
23	RA	1078	U
23	RA	1079	C
23	RA	1080	C
23	RA	1082	U
23	RA	1083	U
23	RA	1084	A
23	RA	1085	A
23	RA	1086	A
23	RA	1087	G
23	RA	1088	A
23	RA	1091	G
23	RA	1093	G

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Mol	Chain	Res	Type
23	RA	1095	A
23	RA	1096	A
23	RA	1104	C
23	RA	1105	U
23	RA	1110	G
23	RA	1111	A
23	RA	1112	G
23	RA	1122	G
23	RA	1130	U
23	RA	1131	G
23	RA	1135	C
23	RA	1136	G
23	RA	1140	C
23	RA	1142	U
23	RA	1142(A)	A
23	RA	1151	G
23	RA	1157	G
23	RA	1170	G
23	RA	1173	G
23	RA	1174	A
23	RA	1175	U
23	RA	1176	G
23	RA	1178	C
23	RA	1179	C
23	RA	1180	C
23	RA	1195	G
23	RA	1204	A
23	RA	1205	U
23	RA	1210	A
23	RA	1211	U
23	RA	1220	A
23	RA	1221	C
23	RA	1236	G
23	RA	1238	G
23	RA	1253	A
23	RA	1256	G
23	RA	1265	A
23	RA	1271	G
23	RA	1272	A
23	RA	1273	U
23	RA	1288	U
23	RA	1300	U

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Mol	Chain	Res	Type
23	RA	1301	A
23	RA	1304	C
23	RA	1306	C
23	RA	1312	U
23	RA	1313	U
23	RA	1314	C
23	RA	1321	A
23	RA	1329	U
23	RA	1349	A
23	RA	1365	A
23	RA	1368	G
23	RA	1370	C
23	RA	1372	U
23	RA	1378	A
23	RA	1379	A
23	RA	1380	G
23	RA	1384	A
23	RA	1385	G
23	RA	1386	C
23	RA	1389	G
23	RA	1390	U
23	RA	1395	A
23	RA	1406	U
23	RA	1407	C
23	RA	1408	C
23	RA	1411	C
23	RA	1416	G
23	RA	1419	A
23	RA	1420	U
23	RA	1421	G
23	RA	1428	C
23	RA	1444(A)	A
23	RA	1445	C
23	RA	1449	A
23	RA	1449(A)	G
23	RA	1455	G
23	RA	1458	C
23	RA	1460	A
23	RA	1461	G
23	RA	1467	C
23	RA	1471	A
23	RA	1482	U

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Mol	Chain	Res	Type
23	RA	1483	G
23	RA	1486	A
23	RA	1493	C
23	RA	1495	A
23	RA	1497	U
23	RA	1503	U
23	RA	1504	C
23	RA	1505	C
23	RA	1506	C
23	RA	1507	A
23	RA	1508	A
23	RA	1510	A
23	RA	1514	U
23	RA	1515	C
23	RA	1519	G
23	RA	1522	G
23	RA	1534	G
23	RA	1535	U
23	RA	1536	A
23	RA	1537	C
23	RA	1538	G
23	RA	1543	A
23	RA	1544	C
23	RA	1545	A
23	RA	1558	A
23	RA	1559	G
23	RA	1569	A
23	RA	1578	U
23	RA	1579	A
23	RA	1581	G
23	RA	1585	C
23	RA	1586	A
23	RA	1598	C
23	RA	1608	A
23	RA	1609	A
23	RA	1610	A
23	RA	1616	A
23	RA	1617	C
23	RA	1647	G
23	RA	1648	C
23	RA	1654	A
23	RA	1667	G

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Mol	Chain	Res	Type
23	RA	1674	G
23	RA	1675	C
23	RA	1688	U
23	RA	1695	G
23	RA	1725	G
23	RA	1728	G
23	RA	1729	A
23	RA	1730	U
23	RA	1731	G
23	RA	1732	A
23	RA	1733	G
23	RA	1742	C
23	RA	1756	G
23	RA	1758	G
23	RA	1763	G
23	RA	1764	G
23	RA	1773	A
23	RA	1780	A
23	RA	1782	C
23	RA	1791	A
23	RA	1799	G
23	RA	1800	C
23	RA	1801	G
23	RA	1816	G
23	RA	1820	U
23	RA	1829	A
23	RA	1835	G
23	RA	1847	A
23	RA	1848	A
23	RA	1858	G
23	RA	1869	G
23	RA	1872	A
23	RA	1878	G
23	RA	1882	C
23	RA	1888	G
23	RA	1889	A
23	RA	1905	C
23	RA	1906	G
23	RA	1913	A
23	RA	1929	G
23	RA	1930	G
23	RA	1931	U

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Mol	Chain	Res	Type
23	RA	1937	A
23	RA	1938	A
23	RA	1939	U
23	RA	1955	U
23	RA	1963	U
23	RA	1967	C
23	RA	1969	A
23	RA	1970	A
23	RA	1971	A
23	RA	1972	A
23	RA	1981	A
23	RA	1982	C
23	RA	1991	U
23	RA	1992	G
23	RA	1993	U
23	RA	2023	G
23	RA	2031	A
23	RA	2033	A
23	RA	2043	C
23	RA	2055	C
23	RA	2056	G
23	RA	2059	A
23	RA	2060	A
23	RA	2061	G
23	RA	2062	A
23	RA	2063	C
23	RA	2069	G
23	RA	2093	G
23	RA	2099	U
23	RA	2100	G
23	RA	2107	C
23	RA	2111	C
23	RA	2113	U
23	RA	2114	A
23	RA	2115	G
23	RA	2116	G
23	RA	2117	A
23	RA	2118	U
23	RA	2119	A
23	RA	2126	A
23	RA	2127	G
23	RA	2128	C

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Mol	Chain	Res	Type
23	RA	2131	G
23	RA	2132	U
23	RA	2133	G
23	RA	2136	C
23	RA	2146	C
23	RA	2148	G
23	RA	2157	G
23	RA	2158	A
23	RA	2166	G
23	RA	2168	G
23	RA	2169	A
23	RA	2173	A
23	RA	2176	A
23	RA	2190	G
23	RA	2191	G
23	RA	2192	G
23	RA	2198	A
23	RA	2210	G
23	RA	2211	G
23	RA	2212	A
23	RA	2213	U
23	RA	2215	G
23	RA	2225	A
23	RA	2239	G
23	RA	2243	U
23	RA	2275	C
23	RA	2280	G
23	RA	2283	C
23	RA	2287	A
23	RA	2288	A
23	RA	2300	G
23	RA	2307	G
23	RA	2308	G
23	RA	2311	A
23	RA	2312	U
23	RA	2319	G
23	RA	2320	A
23	RA	2325	G
23	RA	2334	G
23	RA	2336	A
23	RA	2342	C
23	RA	2346	A

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Mol	Chain	Res	Type
23	RA	2347	C
23	RA	2350	C
23	RA	2379	G
23	RA	2383	G
23	RA	2385	C
23	RA	2388	A
23	RA	2391	G
23	RA	2394	C
23	RA	2402	C
23	RA	2403	C
23	RA	2406	U
23	RA	2410	G
23	RA	2423	U
23	RA	2425	A
23	RA	2429	G
23	RA	2430	A
23	RA	2435	A
23	RA	2439	A
23	RA	2440	C
23	RA	2441	C
23	RA	2448	A
23	RA	2469	A
23	RA	2470	G
23	RA	2475	C
23	RA	2482	G
23	RA	2494	G
23	RA	2502	G
23	RA	2505	G
23	RA	2518	A
23	RA	2519	U
23	RA	2529	G
23	RA	2542	A
23	RA	2543	G
23	RA	2554	U
23	RA	2564	A
23	RA	2567	G
23	RA	2569	G
23	RA	2585	U
23	RA	2602	A
23	RA	2609	U
23	RA	2611	U
23	RA	2612	C

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Mol	Chain	Res	Type
23	RA	2614	A
23	RA	2623	G
23	RA	2629	A
23	RA	2641	G
23	RA	2646	C
23	RA	2655	G
23	RA	2665	A
23	RA	2673	G
23	RA	2689	U
23	RA	2690	C
23	RA	2702	U
23	RA	2703	C
23	RA	2707	G
23	RA	2712	U
23	RA	2712(A)	A
23	RA	2713	A
23	RA	2714	G
23	RA	2726	U
23	RA	2732	G
23	RA	2733	A
23	RA	2744	G
23	RA	2752	C
23	RA	2757	A
23	RA	2758	A
23	RA	2761	G
23	RA	2765	A
23	RA	2766	G
23	RA	2770	G
23	RA	2777	G
23	RA	2778	A
23	RA	2779	U
23	RA	2780	G
23	RA	2790	A
23	RA	2791	C
23	RA	2797	U
23	RA	2807	G
23	RA	2818	G
23	RA	2820	A
23	RA	2821	A
23	RA	2833	G
23	RA	2834	G
23	RA	2835	A

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Mol	Chain	Res	Type
23	RA	2846	G
23	RA	2867	G
23	RA	2868	A
23	RA	2872	G
23	RA	2873	A
23	RA	2880	C
23	RA	2891	G
23	RA	2892	A
23	RA	2894	G
24	RB	8	U
24	RB	9	G
24	RB	13	A
24	RB	15	A
24	RB	16	G
24	RB	22	U
24	RB	25	A
24	RB	26	A
24	RB	27	C
24	RB	32	C
24	RB	34	U
24	RB	42	C
24	RB	44	G
24	RB	45	A
24	RB	53	A
24	RB	56	G
24	RB	67	G
24	RB	73	A
24	RB	81	G
24	RB	101	A
24	RB	105	G
24	RB	109	G
2	XA	6	G
2	XA	7	G
2	XA	9	G
2	XA	32	A
2	XA	39	G
2	XA	48	C
2	XA	51	A
2	XA	54	C
2	XA	61	G
2	XA	65	U
2	XA	66	G

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Mol	Chain	Res	Type
2	XA	76	G
2	XA	78	G
2	XA	79	G
2	XA	81	G
2	XA	89	U
2	XA	90	C
2	XA	91	C
2	XA	92	G
2	XA	95	G
2	XA	101	A
2	XA	108	G
2	XA	116	A
2	XA	121	C
2	XA	130	A
2	XA	144	G
2	XA	147	G
2	XA	163	C
2	XA	172	A
2	XA	174	C
2	XA	182	U
2	XA	190	G
2	XA	195	A
2	XA	197	A
2	XA	201	C
2	XA	209	U
2	XA	216	G
2	XA	222	U
2	XA	231	G
2	XA	244	U
2	XA	245	C
2	XA	247	G
2	XA	251	G
2	XA	267	C
2	XA	281	G
2	XA	289	G
2	XA	306	G
2	XA	316	G
2	XA	317	G
2	XA	321	A
2	XA	328	C
2	XA	329	A
2	XA	332	G

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Mol	Chain	Res	Type
2	XA	342	C
2	XA	345	C
2	XA	346	G
2	XA	347	G
2	XA	348	G
2	XA	352	C
2	XA	353	A
2	XA	354	G
2	XA	356	A
2	XA	367	U
2	XA	372	C
2	XA	373	A
2	XA	384	G
2	XA	388	G
2	XA	389	A
2	XA	390	C
2	XA	397	A
2	XA	398	C
2	XA	406	G
2	XA	410	G
2	XA	411	A
2	XA	412	A
2	XA	413	G
2	XA	414	A
2	XA	422	C
2	XA	423	G
2	XA	424	G
2	XA	429	U
2	XA	430	A
2	XA	442	C
2	XA	466	C
2	XA	485	G
2	XA	486	U
2	XA	496	A
2	XA	497	U
2	XA	509	A
2	XA	510	A
2	XA	511	C
2	XA	518	C
2	XA	527	G
2	XA	531	U
2	XA	532	A

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Mol	Chain	Res	Type
2	XA	533	A
2	XA	547	A
2	XA	548	G
2	XA	559	A
2	XA	561	U
2	XA	564	C
2	XA	568	G
2	XA	572	A
2	XA	573	A
2	XA	576	G
2	XA	577	G
2	XA	579	G
2	XA	618	C
2	XA	630	G
2	XA	631	G
2	XA	633	G
2	XA	649	G
2	XA	653	A
2	XA	665	A
2	XA	666	G
2	XA	688	G
2	XA	702	A
2	XA	704	A
2	XA	723	U
2	XA	731	G
2	XA	749	C
2	XA	753	A
2	XA	754	C
2	XA	755	G
2	XA	774	G
2	XA	777	A
2	XA	792	A
2	XA	793	U
2	XA	794	A
2	XA	799	G
2	XA	813	U
2	XA	817	C
2	XA	818	G
2	XA	821	G
2	XA	828	A
2	XA	836	G
2	XA	841	U

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Mol	Chain	Res	Type
2	XA	843	U
2	XA	848	C
2	XA	859	A
2	XA	871	U
2	XA	872	A
2	XA	902	G
2	XA	914	A
2	XA	927	G
2	XA	934	C
2	XA	935	A
2	XA	940	C
2	XA	960	U
2	XA	961	U
2	XA	966	G
2	XA	968	A
2	XA	969	A
2	XA	972	C
2	XA	974	A
2	XA	975	A
2	XA	976	G
2	XA	977	A
2	XA	991	U
2	XA	992	U
2	XA	993	G
2	XA	1001	G
2	XA	1004	A
2	XA	1006	C
2	XA	1008	C
2	XA	1009	G
2	XA	1021	G
2	XA	1024	G
2	XA	1025	U
2	XA	1028	C
2	XA	1029	G
2	XA	1032(A)	G
2	XA	1036	G
2	XA	1039	C
2	XA	1040	U
2	XA	1042	G
2	XA	1054	C
2	XA	1055	A
2	XA	1081	G

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Mol	Chain	Res	Type
2	XA	1094	G
2	XA	1095	U
2	XA	1101	A
2	XA	1124	G
2	XA	1125	U
2	XA	1126	U
2	XA	1127	G
2	XA	1130	A
2	XA	1131	G
2	XA	1136	U
2	XA	1137	C
2	XA	1138	G
2	XA	1139	G
2	XA	1146	A
2	XA	1157	A
2	XA	1158	C
2	XA	1159	U
2	XA	1160	G
2	XA	1162	C
2	XA	1171	G
2	XA	1176	A
2	XA	1177	G
2	XA	1181	G
2	XA	1182	G
2	XA	1183	A
2	XA	1184	G
2	XA	1187	G
2	XA	1188	A
2	XA	1190	G
2	XA	1193	G
2	XA	1196	U
2	XA	1200	C
2	XA	1201	A
2	XA	1212	U
2	XA	1225	A
2	XA	1236	A
2	XA	1238	A
2	XA	1240	U
2	XA	1241	G
2	XA	1256	A
2	XA	1257	U
2	XA	1258	G

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Mol	Chain	Res	Type
2	XA	1263	C
2	XA	1270	C
2	XA	1272	G
2	XA	1273	G
2	XA	1280	A
2	XA	1281	U
2	XA	1282	C
2	XA	1286	A
2	XA	1287	A
2	XA	1298	C
2	XA	1299	A
2	XA	1300	G
2	XA	1301	U
2	XA	1302	U
2	XA	1303	C
2	XA	1305	G
2	XA	1320	C
2	XA	1321	C
2	XA	1322	C
2	XA	1323	G
2	XA	1331	G
2	XA	1336	C
2	XA	1347	G
2	XA	1348	U
2	XA	1353	G
2	XA	1362(A)	C
2	XA	1363	A
2	XA	1364	U
2	XA	1365	G
2	XA	1397	C
2	XA	1419	G
2	XA	1442	G
2	XA	1446	A
2	XA	1447	G
2	XA	1452	C
2	XA	1453	G
2	XA	1454	G
2	XA	1487	G
2	XA	1492	A
2	XA	1494	G
2	XA	1497	G
2	XA	1499	A

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Mol	Chain	Res	Type
2	XA	1502	A
2	XA	1503	A
2	XA	1504	G
2	XA	1506	U
2	XA	1517	G
2	XA	1519	A
2	XA	1520	G
2	XA	1529	G
2	XA	1530	G
23	YA	9	U
23	YA	14	A
23	YA	15	G
23	YA	27	G
23	YA	34	C
23	YA	46	C
23	YA	55	G
23	YA	61	G
23	YA	72	U
23	YA	74	A
23	YA	75	G
23	YA	99	U
23	YA	101	G
23	YA	102	G
23	YA	103	A
23	YA	118	A
23	YA	119	A
23	YA	120	U
23	YA	125	G
23	YA	131	G
23	YA	161	U
23	YA	162	U
23	YA	181	A
23	YA	188	G
23	YA	196	A
23	YA	199	A
23	YA	214	G
23	YA	215	G
23	YA	216	A
23	YA	221	A
23	YA	222	A
23	YA	223	A
23	YA	224	G

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Mol	Chain	Res	Type
23	YA	229	A
23	YA	230	U
23	YA	232	G
23	YA	242	G
23	YA	243	U
23	YA	248	G
23	YA	250	G
23	YA	252	G
23	YA	265	A
23	YA	266	G
23	YA	269	U
23	YA	270(L)	U
23	YA	270(M)	U
23	YA	270(N)	G
23	YA	270(P)	C
23	YA	271(A)	C
23	YA	271(B)	G
23	YA	271(C)	U
23	YA	271	G
23	YA	274	G
23	YA	275	G
23	YA	276	A
23	YA	278	A
23	YA	279	C
23	YA	299	A
23	YA	311	A
23	YA	323	G
23	YA	324	A
23	YA	329	G
23	YA	330	A
23	YA	332	A
23	YA	342	G
23	YA	352	G
23	YA	363	G
23	YA	364	C
23	YA	371	A
23	YA	372	G
23	YA	373	U
23	YA	386	G
23	YA	387	U
23	YA	396	G
23	YA	405	U

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Mol	Chain	Res	Type
23	YA	406	G
23	YA	411	G
23	YA	412	A
23	YA	428	A
23	YA	443	A
23	YA	444	C
23	YA	448	U
23	YA	455	C
23	YA	457	A
23	YA	470	A
23	YA	481	G
23	YA	496	G
23	YA	503	A
23	YA	504	U
23	YA	505	A
23	YA	509	C
23	YA	512	G
23	YA	518	G
23	YA	531	C
23	YA	532	A
23	YA	533	G
23	YA	537	C
23	YA	539	G
23	YA	540	G
23	YA	546	C
23	YA	547	A
23	YA	549	G
23	YA	563	G
23	YA	573	G
23	YA	575	A
23	YA	586	A
23	YA	588	U
23	YA	593	G
23	YA	603	A
23	YA	607	U
23	YA	613	U
23	YA	614	U
23	YA	615	G
23	YA	617	G
23	YA	621	A
23	YA	626	U
23	YA	627	A

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Mol	Chain	Res	Type
23	YA	634	C
23	YA	637	A
23	YA	638	G
23	YA	645	C
23	YA	646	A
23	YA	651	G
23	YA	654	A
23	YA	654(A)	G
23	YA	654(B)	C
23	YA	654(V)	A
23	YA	657	U
23	YA	669	G
23	YA	670	A
23	YA	686	G
23	YA	695	G
23	YA	702	G
23	YA	717	G
23	YA	722	A
23	YA	726	G
23	YA	730	C
23	YA	739	G
23	YA	747	U
23	YA	753	C
23	YA	764	A
23	YA	765	G
23	YA	776	G
23	YA	782	A
23	YA	784	A
23	YA	785	G
23	YA	790	C
23	YA	792	G
23	YA	805	G
23	YA	812	C
23	YA	819	A
23	YA	827	U
23	YA	828	U
23	YA	831	G
23	YA	847	U
23	YA	856	C
23	YA	857	C
23	YA	860	U
23	YA	866	A

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Mol	Chain	Res	Type
23	YA	881	G
23	YA	882	G
23	YA	884	C
23	YA	885	C
23	YA	886	C
23	YA	888	C
23	YA	889	C
23	YA	890	A
23	YA	896	A
23	YA	899	A
23	YA	900	A
23	YA	901	A
23	YA	907	U
23	YA	910	A
23	YA	915	C
23	YA	917	A
23	YA	932	G
23	YA	938	G
23	YA	941	A
23	YA	945	A
23	YA	946	G
23	YA	959	A
23	YA	961	C
23	YA	974	G
23	YA	974(A)	C
23	YA	975	G
23	YA	980	A
23	YA	983	A
23	YA	990	A
23	YA	991	C
23	YA	996	A
23	YA	1003	G
23	YA	1005	C
23	YA	1010	A
23	YA	1011	G
23	YA	1012	U
23	YA	1013	C
23	YA	1016	G
23	YA	1022	G
23	YA	1023	U
23	YA	1025	G
23	YA	1026	U

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Mol	Chain	Res	Type
23	YA	1027	A
23	YA	1033	U
23	YA	1045	A
23	YA	1046	A
23	YA	1047	G
23	YA	1050	A
23	YA	1054	A
23	YA	1055	G
23	YA	1059	G
23	YA	1060	U
23	YA	1061	U
23	YA	1065	U
23	YA	1066	U
23	YA	1067	A
23	YA	1068	G
23	YA	1070	A
23	YA	1071	G
23	YA	1076	C
23	YA	1077	A
23	YA	1078	U
23	YA	1079	C
23	YA	1082	U
23	YA	1083	U
23	YA	1084	A
23	YA	1085	A
23	YA	1086	A
23	YA	1088	A
23	YA	1089	G
23	YA	1090	U
23	YA	1095	A
23	YA	1096	A
23	YA	1097	U
23	YA	1099	G
23	YA	1103	A
23	YA	1104	C
23	YA	1105	U
23	YA	1110	G
23	YA	1111	A
23	YA	1122	G
23	YA	1129	A
23	YA	1130	U
23	YA	1131	G

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Mol	Chain	Res	Type
23	YA	1135	C
23	YA	1136	G
23	YA	1139	G
23	YA	1142	U
23	YA	1142(A)	A
23	YA	1170	G
23	YA	1173	G
23	YA	1174	A
23	YA	1175	U
23	YA	1176	G
23	YA	1178	C
23	YA	1179	C
23	YA	1180	C
23	YA	1195	G
23	YA	1204	A
23	YA	1205	U
23	YA	1211	U
23	YA	1218	C
23	YA	1220	A
23	YA	1221	C
23	YA	1238	G
23	YA	1244	G
23	YA	1250	G
23	YA	1253	A
23	YA	1256	G
23	YA	1265	A
23	YA	1271	G
23	YA	1272	A
23	YA	1273	U
23	YA	1300	U
23	YA	1301	A
23	YA	1306	C
23	YA	1313	U
23	YA	1329	U
23	YA	1349	A
23	YA	1352	U
23	YA	1365	A
23	YA	1368	G
23	YA	1370	C
23	YA	1379	A
23	YA	1384	A
23	YA	1385	G

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Mol	Chain	Res	Type
23	YA	1386	C
23	YA	1395	A
23	YA	1407	C
23	YA	1411	C
23	YA	1412	A
23	YA	1416	G
23	YA	1417	C
23	YA	1419	A
23	YA	1420	U
23	YA	1421	G
23	YA	1428	C
23	YA	1444(A)	A
23	YA	1445	C
23	YA	1449	A
23	YA	1449(A)	G
23	YA	1453	A
23	YA	1455	G
23	YA	1458	C
23	YA	1459	G
23	YA	1460	A
23	YA	1461	G
23	YA	1467	C
23	YA	1471	A
23	YA	1480	G
23	YA	1482	U
23	YA	1483	G
23	YA	1485	G
23	YA	1493	C
23	YA	1495	A
23	YA	1497	U
23	YA	1506	C
23	YA	1507	A
23	YA	1508	A
23	YA	1510	A
23	YA	1514	U
23	YA	1522	G
23	YA	1525	G
23	YA	1534	G
23	YA	1535	U
23	YA	1536	A
23	YA	1537	C
23	YA	1543	A

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Mol	Chain	Res	Type
23	YA	1544	C
23	YA	1545	A
23	YA	1558	A
23	YA	1559	G
23	YA	1566	A
23	YA	1569	A
23	YA	1578	U
23	YA	1579	A
23	YA	1581	G
23	YA	1585	C
23	YA	1586	A
23	YA	1591	G
23	YA	1592	C
23	YA	1598	C
23	YA	1608	A
23	YA	1609	A
23	YA	1610	A
23	YA	1617	C
23	YA	1618	A
23	YA	1640	C
23	YA	1646	C
23	YA	1647	G
23	YA	1648	C
23	YA	1654	A
23	YA	1667	G
23	YA	1668	A
23	YA	1674	G
23	YA	1678	G
23	YA	1695	G
23	YA	1699	G
23	YA	1700	A
23	YA	1701	A
23	YA	1725	G
23	YA	1728	G
23	YA	1729	A
23	YA	1730	U
23	YA	1731	G
23	YA	1733	G
23	YA	1742	C
23	YA	1743	G
23	YA	1750	G
23	YA	1754	C

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Mol	Chain	Res	Type
23	YA	1756	G
23	YA	1762	A
23	YA	1763	G
23	YA	1764	G
23	YA	1773	A
23	YA	1776	G
23	YA	1780	A
23	YA	1787	A
23	YA	1791	A
23	YA	1799	G
23	YA	1800	C
23	YA	1801	G
23	YA	1816	G
23	YA	1829	A
23	YA	1835	G
23	YA	1836	C
23	YA	1847	A
23	YA	1849	G
23	YA	1858	G
23	YA	1869	G
23	YA	1870	C
23	YA	1872	A
23	YA	1878	G
23	YA	1882	C
23	YA	1889	A
23	YA	1896	G
23	YA	1903	G
23	YA	1906	G
23	YA	1919	A
23	YA	1930	G
23	YA	1931	U
23	YA	1936	A
23	YA	1938	A
23	YA	1939	U
23	YA	1955	U
23	YA	1956	U
23	YA	1960	A
23	YA	1963	U
23	YA	1964	G
23	YA	1965	C
23	YA	1967	C
23	YA	1969	A

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Mol	Chain	Res	Type
23	YA	1970	A
23	YA	1971	A
23	YA	1972	A
23	YA	1982	C
23	YA	1991	U
23	YA	1992	G
23	YA	1993	U
23	YA	2020	A
23	YA	2023	G
23	YA	2031	A
23	YA	2033	A
23	YA	2043	C
23	YA	2055	C
23	YA	2056	G
23	YA	2059	A
23	YA	2060	A
23	YA	2061	G
23	YA	2062	A
23	YA	2069	G
23	YA	2093	G
23	YA	2099	U
23	YA	2100	G
23	YA	2111	C
23	YA	2112	G
23	YA	2113	U
23	YA	2114	A
23	YA	2115	G
23	YA	2116	G
23	YA	2117	A
23	YA	2120	G
23	YA	2126	A
23	YA	2127	G
23	YA	2128	C
23	YA	2131	G
23	YA	2132	U
23	YA	2133	G
23	YA	2136	C
23	YA	2146	C
23	YA	2148	G
23	YA	2158	A
23	YA	2166	G
23	YA	2168	G

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Mol	Chain	Res	Type
23	YA	2169	A
23	YA	2173	A
23	YA	2176	A
23	YA	2178	C
23	YA	2181	G
23	YA	2190	G
23	YA	2192	G
23	YA	2198	A
23	YA	2210	G
23	YA	2211	G
23	YA	2212	A
23	YA	2215	G
23	YA	2225	A
23	YA	2238	G
23	YA	2239	G
23	YA	2243	U
23	YA	2246	G
23	YA	2268	A
23	YA	2275	C
23	YA	2280	G
23	YA	2283	C
23	YA	2287	A
23	YA	2288	A
23	YA	2307	G
23	YA	2308	G
23	YA	2311	A
23	YA	2319	G
23	YA	2320	A
23	YA	2325	G
23	YA	2334	G
23	YA	2335	A
23	YA	2336	A
23	YA	2342	C
23	YA	2346	A
23	YA	2347	C
23	YA	2350	C
23	YA	2379	G
23	YA	2383	G
23	YA	2385	C
23	YA	2392	A
23	YA	2394	C
23	YA	2402	C

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Mol	Chain	Res	Type
23	YA	2403	C
23	YA	2406	U
23	YA	2410	G
23	YA	2423	U
23	YA	2425	A
23	YA	2429	G
23	YA	2430	A
23	YA	2435	A
23	YA	2439	A
23	YA	2440	C
23	YA	2441	C
23	YA	2448	A
23	YA	2450	A
23	YA	2469	A
23	YA	2470	G
23	YA	2471	C
23	YA	2474	C
23	YA	2475	C
23	YA	2476	A
23	YA	2484	G
23	YA	2494	G
23	YA	2502	G
23	YA	2505	G
23	YA	2518	A
23	YA	2525	G
23	YA	2529	G
23	YA	2542	A
23	YA	2554	U
23	YA	2558	C
23	YA	2567	G
23	YA	2585	U
23	YA	2602	A
23	YA	2609	U
23	YA	2611	U
23	YA	2612	C
23	YA	2615	U
23	YA	2629	A
23	YA	2632	A
23	YA	2655	G
23	YA	2656	U
23	YA	2665	A
23	YA	2673	G

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Mol	Chain	Res	Type
23	YA	2675	A
23	YA	2682	U
23	YA	2689	U
23	YA	2690	C
23	YA	2691	C
23	YA	2702	U
23	YA	2703	C
23	YA	2707	G
23	YA	2712	U
23	YA	2712(A)	A
23	YA	2713	A
23	YA	2714	G
23	YA	2726	U
23	YA	2733	A
23	YA	2734	A
23	YA	2744	G
23	YA	2748	A
23	YA	2752	C
23	YA	2757	A
23	YA	2758	A
23	YA	2761	G
23	YA	2764	A
23	YA	2765	A
23	YA	2766	G
23	YA	2770	G
23	YA	2771	C
23	YA	2777	G
23	YA	2778	A
23	YA	2779	U
23	YA	2780	G
23	YA	2789	C
23	YA	2790	A
23	YA	2791	C
23	YA	2794	C
23	YA	2797	U
23	YA	2807	G
23	YA	2808	U
23	YA	2820	A
23	YA	2821	A
23	YA	2833	G
23	YA	2834	G
23	YA	2835	A

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Mol	Chain	Res	Type
23	YA	2847	U
23	YA	2867	G
23	YA	2868	A
23	YA	2872	G
23	YA	2880	C
23	YA	2892	A
23	YA	2894	G
24	YB	8	U
24	YB	9	G
24	YB	13	A
24	YB	15	A
24	YB	16	G
24	YB	19	G
24	YB	21	G
24	YB	22	U
24	YB	24	G
24	YB	25	A
24	YB	31	C
24	YB	32	C
24	YB	40	U
24	YB	41	U
24	YB	42	C
24	YB	44	G
24	YB	45	A
24	YB	47	C
24	YB	52	A
24	YB	53	A
24	YB	56	G
24	YB	67	G
24	YB	73	A
24	YB	108	C
24	YB	109	G
54	XV	28	U
54	XV	37	1MG
54	XV	38	G
54	XV	39	A
54	QV	28	U
54	QV	37	1MG
54	QV	38	G
54	QV	39	A

All (216) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
2	QA	5	U
2	QA	31	G
2	QA	64	G
2	QA	115	G
2	QA	119	A
2	QA	181	G
2	QA	243	A
2	QA	244	U
2	QA	250	A
2	QA	266	G
2	QA	328	C
2	QA	410	G
2	QA	412	A
2	QA	421	U
2	QA	429	U
2	QA	481	G
2	QA	484	G
2	QA	485	G
2	QA	509	A
2	QA	533	A
2	QA	687	A
2	QA	701	C
2	QA	703	G
2	QA	753	A
2	QA	792	A
2	QA	812	C
2	QA	913	A
2	QA	934	C
2	QA	960	U
2	QA	991	U
2	QA	992	U
2	QA	1025	U
2	QA	1027	C
2	QA	1064	G
2	QA	1065	U
2	QA	1200	C
2	QA	1201	A
2	QA	1285	A
2	QA	1297	C
2	QA	1336	C
2	QA	1346	A
2	QA	1347	G
2	QA	1446	A

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Mol	Chain	Res	Type
2	QA	1498	U
2	QA	1503	A
2	QA	1528	U
23	RA	27	G
23	RA	74	A
23	RA	99	U
23	RA	102	G
23	RA	195	A
23	RA	205	G
23	RA	221	A
23	RA	222	A
23	RA	227	A
23	RA	229	A
23	RA	242	G
23	RA	271(B)	G
23	RA	271(C)	U
23	RA	277	C
23	RA	345	A
23	RA	372	G
23	RA	404	C
23	RA	503	A
23	RA	508	G
23	RA	512	G
23	RA	587	C
23	RA	637	A
23	RA	752	A
23	RA	846	C
23	RA	856	C
23	RA	859	G
23	RA	974(A)	C
23	RA	1012	U
23	RA	1022	G
23	RA	1026	U
23	RA	1045	A
23	RA	1078	U
23	RA	1085	A
23	RA	1130	U
23	RA	1178	C
23	RA	1204	A
23	RA	1210	A
23	RA	1312	U
23	RA	1427	A

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Mol	Chain	Res	Type
23	RA	1543	A
23	RA	1558	A
23	RA	1653	G
23	RA	1694	C
23	RA	1799	G
23	RA	1819	A
23	RA	1930	G
23	RA	1980	G
23	RA	1992	G
23	RA	2060	A
23	RA	2126	A
23	RA	2212	A
23	RA	2405	G
23	RA	2439	A
23	RA	2481	G
23	RA	2518	A
23	RA	2566	A
23	RA	2610	C
23	RA	2689	U
23	RA	2712	U
23	RA	2776	A
23	RA	2832	U
23	RA	2867	G
24	RB	24	G
24	RB	66	A
2	XA	5	U
2	XA	31	G
2	XA	60	A
2	XA	64	G
2	XA	78	G
2	XA	89	U
2	XA	115	G
2	XA	181	G
2	XA	243	A
2	XA	244	U
2	XA	250	A
2	XA	266	G
2	XA	328	C
2	XA	345	C
2	XA	410	G
2	XA	412	A
2	XA	428	G

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Mol	Chain	Res	Type
2	XA	429	U
2	XA	484	G
2	XA	485	G
2	XA	509	A
2	XA	560	U
2	XA	687	A
2	XA	703	G
2	XA	753	A
2	XA	812	C
2	XA	913	A
2	XA	960	U
2	XA	965	A
2	XA	991	U
2	XA	992	U
2	XA	1027	C
2	XA	1126	U
2	XA	1200	C
2	XA	1285	A
2	XA	1297	C
2	XA	1347	G
2	XA	1446	A
2	XA	1498	U
2	XA	1503	A
23	YA	99	U
23	YA	102	G
23	YA	195	A
23	YA	196	A
23	YA	221	A
23	YA	222	A
23	YA	229	A
23	YA	242	G
23	YA	271(B)	G
23	YA	278	A
23	YA	372	G
23	YA	404	C
23	YA	503	A
23	YA	508	G
23	YA	587	C
23	YA	637	A
23	YA	653	A
23	YA	654	A
23	YA	669	G

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Mol	Chain	Res	Type
23	YA	752	A
23	YA	846	C
23	YA	856	C
23	YA	859	G
23	YA	974(A)	C
23	YA	1012	U
23	YA	1022	G
23	YA	1026	U
23	YA	1045	A
23	YA	1078	U
23	YA	1085	A
23	YA	1109	C
23	YA	1130	U
23	YA	1141	U
23	YA	1178	C
23	YA	1204	A
23	YA	1210	A
23	YA	1427	A
23	YA	1460	A
23	YA	1558	A
23	YA	1608	A
23	YA	1653	G
23	YA	1694	C
23	YA	1698	A
23	YA	1799	G
23	YA	1929	G
23	YA	1930	G
23	YA	1939	U
23	YA	1955	U
23	YA	1992	G
23	YA	2126	A
23	YA	2406	U
23	YA	2439	A
23	YA	2566	A
23	YA	2610	C
23	YA	2655	G
23	YA	2681	C
23	YA	2689	U
23	YA	2712	U
23	YA	2756	U
23	YA	2776	A
23	YA	2832	U

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Mol	Chain	Res	Type
23	YA	2867	G
24	YB	24	G
24	YB	66	A
54	XV	37	1MG
54	QV	37	1MG

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	$\#\|Z\| > 2$
54	1MG	QV	37	54	18,26,27	0.91	1 (5%)	19,39,42	1.24	3 (15%)
54	1MG	XV	37	54	18,26,27	0.90	1 (5%)	19,39,42	1.13	1 (5%)

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
54	1MG	QV	37	54	-	2/3/25/26	0/3/3/3
54	1MG	XV	37	54	-	2/3/25/26	0/3/3/3

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
54	XV	37	1MG	C5-C4	2.26	1.48	1.43
54	QV	37	1MG	C5-C4	2.23	1.48	1.43

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
54	QV	37	1MG	C5-C6-N1	2.25	117.29	113.90
54	XV	37	1MG	C5-C6-N1	2.06	117.00	113.90
54	QV	37	1MG	O6-C6-C5	-2.03	120.59	124.19
54	QV	37	1MG	C3'-C2'-C1'	2.01	104.01	100.98

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
54	XV	37	1MG	O4'-C4'-C5'-O5'
54	QV	37	1MG	O4'-C4'-C5'-O5'
54	XV	37	1MG	C3'-C4'-C5'-O5'
54	QV	37	1MG	C3'-C4'-C5'-O5'

There are no ring outliers.

2 monomers are involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
54	QV	37	1MG	4	0
54	XV	37	1MG	3	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 681 ligands modelled in this entry, 681 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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	QX	4/19 (21%)	1.36	2 (50%) 0 0	111, 112, 113, 116	0
1	XX	4/19 (21%)	1.45	1 (25%) 0 0	97, 97, 99, 102	0
2	QA	1500/1521 (98%)	0.47	128 (8%) 10 11	68, 108, 190, 262	0
2	XA	1500/1521 (98%)	0.35	105 (7%) 16 17	54, 105, 188, 260	0
3	QB	237/256 (92%)	0.97	37 (15%) 2 1	139, 160, 171, 173	0
3	XB	237/256 (92%)	0.61	18 (7%) 13 14	123, 144, 157, 164	0
4	QC	205/239 (85%)	1.00	39 (19%) 1 1	136, 150, 164, 168	0
4	XC	205/239 (85%)	0.71	20 (9%) 7 7	129, 140, 155, 160	0
5	QD	208/209 (99%)	0.43	11 (5%) 26 27	106, 117, 124, 127	0
5	XD	208/209 (99%)	0.30	7 (3%) 45 44	96, 110, 119, 122	0
6	QE	151/162 (93%)	0.35	5 (3%) 46 45	99, 113, 122, 125	0
6	XE	151/162 (93%)	0.32	6 (3%) 38 37	88, 104, 117, 127	0
7	QF	101/101 (100%)	0.10	1 (0%) 82 83	97, 104, 109, 120	0
7	XF	101/101 (100%)	0.19	1 (0%) 82 83	89, 98, 108, 114	0
8	QG	155/156 (99%)	1.37	34 (21%) 0 0	137, 158, 164, 166	0
8	XG	155/156 (99%)	0.87	27 (17%) 1 1	124, 150, 160, 163	0
9	QH	138/138 (100%)	0.37	8 (5%) 23 24	97, 115, 130, 139	0
9	XH	138/138 (100%)	0.12	1 (0%) 87 90	87, 105, 116, 124	0
10	QI	127/128 (99%)	1.40	41 (32%) 0 0	138, 176, 181, 183	0
10	XI	127/128 (99%)	1.16	24 (18%) 1 1	129, 167, 174, 177	0
11	QJ	99/105 (94%)	1.99	46 (46%) 0 0	148, 174, 179, 181	0
11	XJ	99/105 (94%)	1.74	40 (40%) 0 0	140, 166, 173, 174	0
12	QK	119/129 (92%)	0.60	9 (7%) 13 14	86, 113, 124, 142	0
12	XK	119/129 (92%)	0.48	8 (6%) 17 19	75, 101, 116, 124	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
13	QL	125/132 (94%)	0.59	10 (8%) 12 12	86, 94, 105, 125	0
13	XL	125/132 (94%)	0.37	6 (4%) 30 31	78, 92, 99, 125	0
14	QM	121/126 (96%)	1.53	30 (24%) 0 0	153, 176, 181, 183	0
14	XM	121/126 (96%)	1.54	37 (30%) 0 0	155, 177, 180, 184	0
15	QN	60/61 (98%)	1.23	13 (21%) 0 0	154, 160, 174, 177	0
15	XN	60/61 (98%)	1.04	9 (15%) 2 2	145, 152, 171, 172	0
16	QO	88/89 (98%)	0.20	2 (2%) 60 60	90, 109, 117, 118	0
16	XO	88/89 (98%)	0.07	1 (1%) 80 81	79, 95, 102, 103	0
17	QP	84/88 (95%)	0.27	1 (1%) 79 79	93, 102, 117, 139	0
17	XP	84/88 (95%)	0.46	3 (3%) 42 41	96, 112, 126, 151	0
18	QQ	100/105 (95%)	0.38	7 (7%) 16 17	90, 99, 105, 106	0
18	XQ	100/105 (95%)	0.30	4 (4%) 38 37	83, 98, 104, 105	0
19	QR	70/88 (79%)	0.42	5 (7%) 16 17	99, 109, 118, 121	0
19	XR	70/88 (79%)	0.24	1 (1%) 75 75	90, 101, 111, 113	0
20	QS	84/93 (90%)	2.05	39 (46%) 0 0	159, 181, 184, 185	0
20	XS	84/93 (90%)	2.61	45 (53%) 0 0	165, 185, 190, 191	0
21	QT	99/106 (93%)	0.24	2 (2%) 65 64	91, 104, 115, 118	0
21	XT	99/106 (93%)	0.56	8 (8%) 12 12	101, 117, 128, 131	0
22	QU	25/27 (92%)	2.88	16 (64%) 0 0	164, 170, 171, 173	0
22	XU	25/27 (92%)	3.72	21 (84%) 0 0	164, 169, 172, 173	0
23	RA	2882/2915 (98%)	0.23	202 (7%) 16 17	45, 71, 200, 279	0
23	YA	2883/2915 (98%)	-0.01	150 (5%) 27 27	29, 49, 175, 271	0
24	RB	120/122 (98%)	0.26	1 (0%) 86 87	82, 117, 139, 156	0
24	YB	120/122 (98%)	-0.27	0 100 100	50, 71, 89, 104	0
25	RD	272/276 (98%)	0.03	2 (0%) 87 90	46, 67, 79, 83	0
25	YD	272/276 (98%)	-0.12	1 (0%) 92 94	33, 53, 65, 73	0
26	RE	205/206 (99%)	0.02	4 (1%) 65 64	47, 76, 96, 102	0
26	YE	205/206 (99%)	-0.05	3 (1%) 73 72	34, 59, 80, 91	0
27	RF	202/210 (96%)	-0.06	1 (0%) 91 91	48, 89, 108, 118	0
27	YF	202/210 (96%)	-0.19	0 100 100	31, 58, 82, 95	0
28	RG	181/182 (99%)	1.18	34 (18%) 1 1	134, 164, 177, 182	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
28	YG	181/182 (99%)	0.36	13 (7%) 15 16	79, 114, 136, 149	0
29	RH	170/180 (94%)	1.00	31 (18%) 1 1	113, 136, 151, 182	0
29	YH	170/180 (94%)	0.23	4 (2%) 59 57	64, 75, 84, 135	0
30	RI	146/148 (98%)	0.23	6 (4%) 37 36	80, 117, 131, 133	0
30	YI	146/148 (98%)	0.09	4 (2%) 54 53	65, 108, 118, 121	0
31	RN	138/140 (98%)	-0.00	1 (0%) 87 90	59, 82, 101, 108	0
31	YN	138/140 (98%)	-0.24	0 100 100	40, 54, 77, 82	0
32	RO	122/122 (100%)	-0.29	0 100 100	57, 71, 81, 84	0
32	YO	122/122 (100%)	-0.25	0 100 100	44, 57, 72, 77	0
33	RP	150/150 (100%)	0.22	7 (4%) 31 32	53, 85, 108, 123	0
33	YP	150/150 (100%)	0.00	3 (2%) 65 64	33, 59, 83, 104	0
34	RQ	141/141 (100%)	0.19	6 (4%) 35 36	66, 89, 104, 117	0
34	YQ	141/141 (100%)	-0.01	4 (2%) 53 52	45, 59, 74, 86	0
35	RR	118/118 (100%)	-0.10	0 100 100	55, 68, 77, 80	0
35	YR	118/118 (100%)	-0.18	0 100 100	41, 54, 62, 66	0
36	RS	111/112 (99%)	0.45	10 (9%) 9 10	99, 115, 123, 126	0
36	YS	111/112 (99%)	-0.06	2 (1%) 68 67	64, 73, 80, 84	0
37	RT	137/146 (93%)	0.11	8 (5%) 23 24	68, 79, 123, 139	0
37	YT	137/146 (93%)	0.01	5 (3%) 42 41	51, 64, 108, 131	0
38	RU	117/118 (99%)	0.18	3 (2%) 56 54	57, 78, 95, 108	0
38	YU	117/118 (99%)	-0.09	2 (1%) 70 69	35, 46, 63, 75	0
39	RV	101/101 (100%)	0.06	1 (0%) 82 83	56, 96, 104, 108	0
39	YV	101/101 (100%)	-0.19	2 (1%) 65 64	33, 63, 74, 80	0
40	RW	113/113 (100%)	-0.09	4 (3%) 44 43	49, 62, 83, 105	0
40	YW	113/113 (100%)	-0.28	1 (0%) 84 85	37, 45, 63, 93	0
41	RX	92/96 (95%)	-0.08	0 100 100	63, 74, 84, 88	0
41	YX	92/96 (95%)	-0.27	0 100 100	43, 49, 60, 62	0
42	RY	102/110 (92%)	0.62	15 (14%) 2 2	79, 89, 108, 115	0
42	YY	102/110 (92%)	0.26	6 (5%) 22 23	55, 63, 85, 93	0
43	RZ	183/206 (88%)	0.49	10 (5%) 25 26	98, 118, 129, 133	0
43	YZ	183/206 (88%)	-0.00	2 (1%) 80 81	64, 83, 100, 107	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
44	R0	82/85 (96%)	0.36	7 (8%) 10 11	66, 80, 88, 93	0
44	Y0	82/85 (96%)	-0.09	5 (6%) 21 22	44, 52, 62, 65	0
45	R1	97/98 (98%)	0.33	6 (6%) 20 21	55, 71, 105, 108	0
45	Y1	97/98 (98%)	0.27	4 (4%) 37 36	40, 53, 90, 94	0
46	R2	69/72 (95%)	0.18	2 (2%) 51 51	81, 88, 95, 103	0
46	Y2	69/72 (95%)	0.10	2 (2%) 51 51	52, 59, 66, 78	0
47	R3	59/60 (98%)	0.21	2 (3%) 45 44	68, 81, 97, 104	0
47	Y3	59/60 (98%)	-0.15	1 (1%) 70 69	42, 53, 70, 78	0
48	R4	71/71 (100%)	1.97	29 (40%) 0 0	154, 183, 185, 185	0
48	Y4	71/71 (100%)	1.46	19 (26%) 0 0	106, 147, 190, 191	0
49	R5	59/60 (98%)	0.29	6 (10%) 6 7	48, 72, 95, 106	0
49	Y5	59/60 (98%)	0.50	7 (11%) 4 3	32, 59, 84, 87	0
50	R6	49/54 (90%)	1.25	13 (26%) 0 0	84, 95, 102, 105	0
50	Y6	49/54 (90%)	1.24	10 (20%) 1 1	63, 74, 83, 88	0
51	R7	49/49 (100%)	0.04	2 (4%) 37 36	47, 52, 59, 70	0
51	Y7	49/49 (100%)	-0.08	2 (4%) 37 36	33, 36, 46, 55	0
52	R8	64/65 (98%)	0.33	3 (4%) 31 32	63, 72, 80, 92	0
52	Y8	64/65 (98%)	0.09	1 (1%) 72 71	40, 49, 57, 66	0
53	R9	37/37 (100%)	1.61	9 (24%) 0 0	83, 96, 106, 108	0
53	Y9	37/37 (100%)	0.74	3 (8%) 12 12	54, 61, 67, 71	0
54	QV	17/18 (94%)	1.36	3 (17%) 1 1	124, 139, 156, 157	0
54	XV	17/18 (94%)	1.22	3 (17%) 1 1	112, 131, 151, 152	0
All	All	20713/21318 (97%)	0.33	1566 (7%) 13 14	29, 88, 176, 279	0

All (1566) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
23	YA	2175	C	23.2
23	YA	2116	G	19.7
23	RA	1059	G	18.9
23	YA	2112	G	17.7
23	RA	2113	U	16.6
23	RA	1060	U	14.9
23	RA	1070	A	14.0

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Mol	Chain	Res	Type	RSRZ
23	RA	2114	A	13.6
23	RA	2147	G	13.5
23	RA	2166	G	13.0
23	RA	2160	G	13.0
23	RA	2109	U	13.0
23	RA	1058	G	12.9
23	YA	2161	C	12.6
23	YA	2179	C	12.6
23	RA	2120	G	12.6
22	QU	26	LYS	12.2
23	RA	1095	A	12.1
23	YA	2178	C	12.1
23	RA	2121	G	12.1
23	RA	2110	G	12.0
23	RA	2116	G	11.9
23	YA	2165	G	11.7
23	RA	1065	U	11.7
23	RA	2112	G	11.7
23	RA	2175	C	11.6
2	QA	1026	G	11.4
23	RA	1088	A	11.2
23	YA	2180	U	11.0
23	RA	1089	G	10.9
23	RA	2117	A	10.8
23	YA	2104	G	10.7
48	R4	67	TYR	10.7
14	QM	120	LYS	10.6
23	RA	2104	G	10.5
23	RA	2146	C	10.4
23	RA	1536	A	10.4
23	RA	2122	U	10.4
23	RA	2174	C	10.3
23	YA	2117	A	10.2
38	RU	118	GLY	10.1
23	RA	2135	A	10.0
48	R4	66	SER	9.9
23	RA	2123	G	9.8
2	QA	1000	A	9.7
2	QA	1286	A	9.7
23	RA	1064	C	9.5
23	RA	2168	G	9.4
8	QG	79	ARG	9.4

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Mol	Chain	Res	Type	RSRZ
23	RA	1062	G	9.3
20	XS	39	THR	9.3
23	RA	2148	G	9.3
23	YA	2113	U	9.2
23	RA	1092	C	9.1
23	YA	2106	G	9.0
23	YA	2173	A	9.0
23	RA	2145	C	9.0
23	RA	2108	C	9.0
23	RA	2159	G	9.0
23	RA	2136	C	8.9
23	RA	1096	A	8.9
23	YA	2107	C	8.9
23	RA	2165	G	8.8
23	RA	2167	U	8.7
23	YA	2105	C	8.6
23	RA	2169	A	8.6
23	YA	1060	U	8.6
48	Y4	67	TYR	8.5
10	XI	30	GLY	8.5
12	QK	129	SER	8.5
23	RA	1100	C	8.5
23	RA	2144	U	8.5
23	RA	1098	A	8.4
23	RA	2179	C	8.4
23	YA	2188	C	8.4
23	YA	2109	U	8.4
23	YA	2176	A	8.4
23	RA	2799	A	8.3
23	YA	2162	G	8.3
23	YA	1058	G	8.1
23	YA	1070	A	8.1
23	YA	2125	G	8.1
8	QG	81	GLY	8.0
23	RA	2798	C	7.9
23	YA	1061	U	7.9
23	RA	2124	G	7.9
10	XI	3	GLN	7.8
22	XU	25	LYS	7.8
23	RA	2111	C	7.7
23	YA	2146	C	7.7
23	YA	2168	G	7.7

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Mol	Chain	Res	Type	RSRZ
23	YA	2801	A	7.6
45	R1	96	LYS	7.6
23	RA	1061	U	7.6
20	XS	56	GLN	7.5
23	RA	1066	U	7.5
38	YU	117	GLN	7.5
45	Y1	98	LEU	7.5
23	RA	2129	C	7.4
20	XS	57	HIS	7.4
23	RA	2134	A	7.3
23	RA	1093	G	7.2
23	RA	1099	G	7.2
23	YA	2148	G	7.2
23	RA	2118	U	7.2
8	QG	82	GLY	7.2
23	YA	1536	A	7.1
23	YA	2114	A	7.1
12	QK	11	LYS	7.0
20	XS	30	LEU	7.0
14	XM	121	LYS	7.0
8	QG	77	SER	7.0
20	QS	7	LYS	7.0
44	R0	5	LYS	6.9
2	QA	1036	G	6.9
23	RA	2181	G	6.9
2	QA	1029	G	6.9
11	QJ	45	ARG	6.9
38	YU	118	GLY	6.9
53	R9	1	MET	6.8
23	RA	1084	A	6.8
26	YE	205	ALA	6.8
45	Y1	96	LYS	6.8
49	Y5	2	ALA	6.8
19	QR	88	LYS	6.7
23	YA	2189	U	6.7
54	XV	38	G	6.7
23	YA	2144	U	6.7
45	Y1	97	LEU	6.7
23	RA	2178	C	6.6
23	YA	2174	C	6.6
22	XU	26	LYS	6.6
23	RA	890	A	6.6

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Mol	Chain	Res	Type	RSRZ
23	YA	2119	A	6.6
23	RA	2180	U	6.5
23	YA	2108	C	6.5
20	XS	6	LYS	6.5
22	XU	18	TYR	6.5
28	RG	2	PRO	6.5
45	R1	98	LEU	6.5
49	Y5	54	GLY	6.4
28	RG	26	GLN	6.4
29	YH	3	ARG	6.4
14	QM	8	GLU	6.4
23	YA	2167	U	6.4
12	XK	129	SER	6.4
2	QA	1031	G	6.3
48	R4	68	ARG	6.3
23	RA	2801	A	6.2
48	Y4	68	ARG	6.2
23	RA	2107	C	6.2
48	Y4	63	TYR	6.2
14	QM	6	GLY	6.2
23	YA	1057	A	6.2
20	QS	8	GLY	6.2
23	YA	2166	G	6.2
8	QG	85	TYR	6.2
22	XU	22	ARG	6.2
22	XU	5	ASP	6.1
23	RA	1094	U	6.1
23	YA	2123	G	6.1
38	RU	117	GLN	6.1
14	QM	122	LYS	6.1
8	QG	78	ARG	6.1
23	RA	889	C	6.1
2	XA	1025	U	6.1
23	RA	2189	U	6.0
48	Y4	64	GLY	6.0
2	QA	1024	G	6.0
23	RA	2106	G	6.0
23	RA	2802	G	6.0
23	YA	2181	G	6.0
2	QA	1129	C	5.9
2	QA	1149	C	5.9
23	RA	2105	C	5.9

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Mol	Chain	Res	Type	RSRZ
2	QA	1032(B)	G	5.9
13	XL	129	ALA	5.9
23	YA	2799	A	5.9
3	QB	240	GLN	5.8
23	RA	2158	A	5.8
23	RA	1177	A	5.8
20	XS	77	THR	5.8
23	RA	2151	G	5.8
14	QM	2	ALA	5.8
2	QA	1131	G	5.8
10	QI	92	TYR	5.8
23	RA	1082	U	5.7
23	RA	1053	C	5.7
2	QA	1035	A	5.7
12	QK	128	ALA	5.7
20	XS	61	TYR	5.7
8	QG	84	ASN	5.7
11	QJ	101	VAL	5.6
48	Y4	71	ARG	5.6
23	YA	1096	A	5.6
20	XS	38	SER	5.6
2	XA	1002	G	5.6
20	QS	12	ASP	5.6
14	XM	122	LYS	5.6
23	YA	2103	C	5.6
2	XA	999	U	5.6
23	RA	2177	C	5.5
2	XA	1030	C	5.5
23	RA	1068	G	5.5
14	QM	121	LYS	5.5
20	XS	69	HIS	5.5
12	XK	12	ARG	5.4
22	QU	5	ASP	5.4
2	XA	1031	G	5.4
23	RA	1063	G	5.4
23	YA	2121	G	5.4
2	QA	1027	C	5.4
22	XU	17	THR	5.4
12	XK	11	LYS	5.4
23	RA	2142	C	5.4
23	RA	2797	U	5.4
23	YA	2115	G	5.4

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Mol	Chain	Res	Type	RSRZ
2	XA	1286	A	5.3
23	RA	2128	C	5.3
23	YA	2139	C	5.3
23	YA	1059	G	5.3
44	Y0	3	HIS	5.3
23	RA	1057	A	5.3
23	YA	2140	C	5.3
8	QG	80	VAL	5.3
14	QM	119	GLY	5.3
11	XJ	5	ARG	5.3
23	RA	2141	G	5.3
2	QA	1030	C	5.2
49	R5	2	ALA	5.2
49	R5	54	GLY	5.2
23	RA	2133	G	5.2
23	RA	2156	G	5.2
20	QS	6	LYS	5.2
2	XA	1001	G	5.2
23	YA	2129	C	5.2
23	YA	2602	A	5.2
12	QK	127	LYS	5.2
4	QC	71	ALA	5.2
20	XS	32	LYS	5.2
23	RA	1085	A	5.2
23	YA	2169	A	5.2
13	QL	127	GLU	5.2
23	RA	2188	C	5.2
20	QS	9	VAL	5.2
23	RA	2138	C	5.1
23	RA	1086	A	5.1
14	XM	65	LYS	5.1
20	XS	12	ASP	5.1
48	Y4	66	SER	5.1
23	RA	1083	U	5.1
2	QA	1032(A)	G	5.0
11	QJ	62	HIS	5.0
53	R9	12	ASP	5.0
20	QS	79	THR	5.0
28	RG	138	GLN	5.0
11	XJ	4	ILE	5.0
23	RA	887	A	5.0
2	QA	1040	U	5.0

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Mol	Chain	Res	Type	RSRZ
30	YI	117	GLU	5.0
14	QM	7	VAL	5.0
21	XT	9	ASN	4.9
48	R4	1	MET	4.9
2	XA	1260	C	4.9
23	RA	2894	G	4.9
14	XM	40	ASN	4.9
8	XG	81	GLY	4.9
23	YA	2147	G	4.9
37	RT	2	ASN	4.9
23	RA	1054	A	4.9
14	QM	5	ALA	4.9
48	R4	52	THR	4.9
42	RY	86	ARG	4.9
2	QA	1033	G	4.9
2	QA	1005	A	4.9
23	YA	2118	U	4.9
23	RA	2103	C	4.8
23	RA	2115	G	4.8
23	YA	2795	G	4.8
28	RG	131	TYR	4.8
2	QA	1150	U	4.8
14	QM	61	GLU	4.8
23	YA	1097	U	4.8
20	QS	11	VAL	4.8
11	XJ	33	GLN	4.8
23	RA	2130	U	4.8
49	R5	60	VAL	4.8
23	RA	1074	G	4.8
2	QA	1285	A	4.8
11	QJ	100	THR	4.8
8	QG	83	ALA	4.8
43	YZ	113	ALA	4.8
23	YA	1082	U	4.8
8	QG	76	ARG	4.8
23	YA	2120	G	4.8
26	RE	204	ALA	4.7
23	RA	2140	C	4.7
23	YA	2160	G	4.7
4	QC	159	GLY	4.7
23	RA	1081	U	4.7
26	YE	68	ALA	4.7

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Mol	Chain	Res	Type	RSRZ
48	Y4	60	GLN	4.7
23	YA	2798	C	4.7
49	Y5	53	ALA	4.7
11	XJ	45	ARG	4.7
23	RA	1103	A	4.7
52	R8	64	TYR	4.7
48	R4	71	ARG	4.7
23	RA	1055	G	4.7
23	RA	2150	U	4.7
53	Y9	1	MET	4.6
2	XA	1028(B)	C	4.6
10	QI	88	TYR	4.6
23	RA	2137	C	4.6
2	XA	1032	A	4.6
23	RA	1067	A	4.6
48	R4	51	ASP	4.6
23	YA	889	C	4.6
23	RA	2149	G	4.6
2	XA	1020	U	4.6
2	XA	1000	A	4.6
11	QJ	26	ALA	4.6
23	RA	2170	A	4.6
23	RA	1087	G	4.6
2	QA	999	U	4.5
2	QA	1020	U	4.5
2	QA	1181	G	4.5
20	QS	69	HIS	4.5
11	XJ	36	GLY	4.5
2	QA	1028(A)	C	4.5
23	YA	2110	G	4.5
48	R4	69	LYS	4.5
23	YA	2124	G	4.5
2	QA	1019	C	4.5
22	QU	11	GLY	4.5
2	XA	1036	G	4.5
10	QI	90	PRO	4.5
23	RA	1069	A	4.5
30	YI	113	ARG	4.5
4	XC	193	TYR	4.5
2	QA	1034	G	4.5
23	YA	1088	A	4.5
23	RA	2127	G	4.5

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Mol	Chain	Res	Type	RSRZ
23	YA	1537	C	4.5
3	QB	234	PRO	4.4
28	RG	41	GLN	4.4
28	RG	72	ARG	4.4
42	RY	91	GLU	4.4
11	QJ	47	PHE	4.4
2	XA	1024	G	4.4
8	XG	112	PRO	4.4
48	R4	11	PRO	4.4
8	XG	80	VAL	4.4
12	XK	128	ALA	4.4
23	YA	2164	C	4.4
44	R0	3	HIS	4.4
8	XG	5	ARG	4.4
48	Y4	40	HIS	4.4
49	Y5	59	GLU	4.4
4	QC	91	LEU	4.3
2	XA	1018	C	4.3
10	QI	7	THR	4.3
23	YA	2804	C	4.3
10	QI	115	GLY	4.3
11	QJ	48	THR	4.3
14	XM	43	THR	4.3
50	R6	20	ASN	4.3
13	XL	128	ALA	4.3
14	XM	96	LEU	4.3
3	QB	33	TYR	4.3
5	QD	152	SER	4.3
8	QG	2	ALA	4.3
48	Y4	56	VAL	4.3
20	XS	9	VAL	4.3
14	XM	47	ASP	4.3
20	XS	3	ARG	4.3
23	RA	654	A	4.3
23	RA	2164	C	4.3
8	QG	52	GLU	4.3
23	RA	2795	G	4.3
22	QU	7	ARG	4.3
2	XA	1035	A	4.2
23	YA	2138	C	4.2
50	Y6	42	TRP	4.2
13	QL	129	ALA	4.2

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Mol	Chain	Res	Type	RSRZ
23	YA	887	A	4.2
11	QJ	59	SER	4.2
14	XM	41	PRO	4.2
2	QA	1156	G	4.2
10	QI	125	TYR	4.2
39	YV	45	THR	4.2
28	RG	139	LEU	4.2
11	QJ	46	ARG	4.2
4	QC	160	ALA	4.2
23	YA	2131	G	4.2
2	XA	1029	G	4.2
2	XA	1451	A	4.2
23	RA	1535	U	4.2
29	RH	31	GLY	4.2
36	YS	2	ALA	4.2
22	XU	11	GLY	4.2
33	RP	13	ASN	4.1
23	YA	1064	C	4.1
2	XA	1138	G	4.1
28	RG	145	THR	4.1
20	XS	60	VAL	4.1
42	RY	79	CYS	4.1
23	YA	1099	G	4.1
42	YY	50	ARG	4.1
15	QN	17	LYS	4.1
11	QJ	65	LEU	4.1
48	R4	64	GLY	4.1
14	XM	94	ARG	4.1
48	R4	8	LYS	4.1
8	QG	5	ARG	4.1
11	XJ	35	SER	4.1
22	XU	14	TRP	4.1
23	RA	2173	A	4.1
8	QG	74	GLU	4.1
23	YA	2122	U	4.1
53	R9	32	HIS	4.1
2	QA	630	G	4.1
1	XX	0	C	4.0
20	XS	75	ALA	4.0
15	QN	35	ARG	4.0
20	XS	7	LYS	4.0
22	XU	12	LYS	4.0

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Mol	Chain	Res	Type	RSRZ
3	QB	232	PRO	4.0
23	YA	2803	C	4.0
2	QA	1124	G	4.0
29	RH	170	ARG	4.0
20	XS	33	THR	4.0
2	XA	1243	C	4.0
42	RY	103	GLY	4.0
2	QA	1287	A	4.0
48	R4	7	PRO	4.0
53	R9	31	LYS	4.0
23	RA	2161	C	4.0
28	RG	27	ASN	4.0
33	RP	150	ALA	4.0
2	QA	1001	G	4.0
20	QS	48	THR	4.0
19	QR	46	GLU	3.9
8	QG	91	VAL	3.9
29	RH	25	LYS	3.9
29	RH	29	PRO	3.9
2	QA	1110	A	3.9
2	QA	1025	U	3.9
23	RA	2182	G	3.9
36	RS	111	GLU	3.9
10	QI	53	VAL	3.9
11	XJ	71	LEU	3.9
28	RG	152	LEU	3.9
28	YG	87	PRO	3.9
8	QG	4	ARG	3.9
23	RA	2119	A	3.9
23	YA	2145	C	3.9
29	RH	3	ARG	3.9
10	QI	99	LEU	3.9
22	XU	24	ARG	3.9
28	RG	182	LYS	3.9
22	QU	22	ARG	3.9
33	YP	13	ASN	3.9
2	XA	87	A	3.9
23	YA	890	A	3.9
2	XA	1131	G	3.9
11	XJ	101	VAL	3.9
8	XG	85	TYR	3.9
28	RG	75	LYS	3.9

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Mol	Chain	Res	Type	RSRZ
36	RS	61	ASN	3.9
28	RG	118	ARG	3.8
48	Y4	52	THR	3.8
20	QS	59	PRO	3.8
37	RT	137	LYS	3.8
2	QA	1092	A	3.8
13	QL	19	ARG	3.8
22	QU	9	ARG	3.8
15	XN	18	VAL	3.8
10	QI	103	THR	3.8
8	QG	73	MET	3.8
13	QL	128	ALA	3.8
23	YA	2802	G	3.8
18	QQ	100	LYS	3.8
22	QU	25	LYS	3.8
42	RY	52	SER	3.8
42	YY	52	SER	3.8
23	RA	1077	A	3.8
28	RG	137	GLU	3.8
3	QB	37	ASN	3.8
8	QG	62	PHE	3.8
23	RA	2154	G	3.8
14	XM	8	GLU	3.8
20	QS	52	TYR	3.8
8	XG	62	PHE	3.8
4	QC	147	LYS	3.8
54	QV	38	G	3.8
22	XU	9	ARG	3.7
29	YH	2	SER	3.7
12	QK	12	ARG	3.7
22	QU	2	GLY	3.7
23	RA	2125	G	3.7
23	YA	2101	G	3.7
26	RE	205	ALA	3.7
26	YE	204	ALA	3.7
20	XS	55	LYS	3.7
2	XA	1032(B)	G	3.7
2	XA	1037	C	3.7
3	QB	57	PHE	3.7
23	RA	1052	C	3.7
23	YA	2102	U	3.7
8	QG	10	ARG	3.7

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Mol	Chain	Res	Type	RSRZ
48	Y4	61	ARG	3.7
23	RA	1078	U	3.7
20	QS	29	ARG	3.7
11	QJ	89	ASP	3.7
37	YT	2	ASN	3.7
20	XS	8	GLY	3.7
6	XE	155	GLU	3.7
18	QQ	101	ARG	3.7
2	XA	843	U	3.7
23	RA	1097	U	3.7
2	XA	88	C	3.7
11	QJ	85	LEU	3.7
11	QJ	9	ARG	3.7
23	YA	2797	U	3.7
15	QN	15	LYS	3.7
2	XA	1033	G	3.6
23	RA	1176	G	3.6
23	YA	1534	G	3.6
34	YQ	140	ALA	3.6
2	XA	1038	C	3.6
20	QS	80	TYR	3.6
23	YA	2794	C	3.6
2	XA	1302	U	3.6
12	XK	81	ASP	3.6
23	RA	1056	G	3.6
23	RA	1046	A	3.6
11	XJ	100	THR	3.6
3	XB	96	ARG	3.6
2	QA	1128	C	3.6
40	RW	113	LYS	3.6
12	XK	127	LYS	3.6
2	QA	1041	A	3.6
14	QM	50	GLU	3.6
20	XS	27	GLU	3.6
4	XC	78	GLY	3.6
8	XG	156	TRP	3.6
14	XM	119	GLY	3.6
2	QA	1214	C	3.6
20	XS	4	SER	3.6
23	RA	2143	C	3.6
23	RA	2153	G	3.6
23	YA	1069	A	3.6

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Mol	Chain	Res	Type	RSRZ
10	XI	20	ARG	3.6
21	QT	9	ASN	3.6
23	RA	2131	G	3.6
37	YT	1	MET	3.6
5	QD	163	GLU	3.6
23	RA	1075	C	3.6
5	XD	23	GLY	3.6
23	RA	2126	A	3.6
53	R9	37	GLY	3.6
23	YA	2141	G	3.6
17	XP	84	ALA	3.6
29	RH	75	ALA	3.6
44	R0	6	GLY	3.6
2	QA	1018	C	3.5
8	QG	18	TYR	3.5
18	XQ	101	ARG	3.5
20	QS	4	SER	3.5
2	XA	1040	U	3.5
29	RH	59	ARG	3.5
45	R1	95	LEU	3.5
2	QA	1021	G	3.5
4	QC	99	VAL	3.5
4	QC	108	ASN	3.5
12	QK	89	ALA	3.5
22	XU	7	ARG	3.5
3	XB	148	TYR	3.5
23	RA	1080	C	3.5
48	Y4	51	ASP	3.5
4	QC	84	ILE	3.5
8	XG	37	ASN	3.5
23	RA	1534	G	3.5
10	QI	89	ASN	3.5
20	QS	53	ASN	3.5
22	QU	10	ARG	3.5
2	QA	1037	C	3.5
14	XM	107	ALA	3.5
10	XI	110	GLU	3.5
48	R4	10	VAL	3.5
2	QA	1224	G	3.5
28	RG	73	ALA	3.5
33	RP	108	LYS	3.5
23	RA	1101	U	3.5

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Mol	Chain	Res	Type	RSRZ
2	QA	1006	C	3.5
23	RA	2139	C	3.5
23	YA	2896	C	3.5
23	RA	879	G	3.5
30	YI	118	LYS	3.5
28	YG	80	PHE	3.5
13	QL	16	GLU	3.4
20	XS	76	PRO	3.4
20	QS	43	GLU	3.4
2	QA	466	C	3.4
4	XC	124	ILE	3.4
2	QA	1032	A	3.4
2	QA	1202	G	3.4
15	QN	16	PHE	3.4
5	XD	156	GLU	3.4
34	YQ	141	GLN	3.4
20	QS	33	THR	3.4
23	RA	2803	C	3.4
29	RH	43	VAL	3.4
23	YA	1084	A	3.4
23	YA	1095	A	3.4
23	YA	1177	A	3.4
28	RG	87	PRO	3.4
2	XA	1224	G	3.4
4	XC	26	LYS	3.4
23	RA	2833	G	3.4
4	QC	170	GLN	3.4
11	XJ	21	GLN	3.4
43	RZ	155	LEU	3.4
28	YG	75	LYS	3.4
2	XA	958	A	3.4
2	XA	1026	G	3.4
14	XM	45	VAL	3.4
33	YP	150	ALA	3.4
23	RA	2897	U	3.4
2	XA	1295	G	3.4
20	XS	2	PRO	3.4
11	QJ	64	GLU	3.4
4	QC	103	VAL	3.4
28	RG	82	LEU	3.4
23	YA	2894	G	3.4
2	QA	1130	A	3.4

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Mol	Chain	Res	Type	RSRZ
11	XJ	70	ARG	3.4
2	XA	1129	C	3.4
4	QC	142	MET	3.4
37	RT	1	MET	3.4
22	XU	2	GLY	3.3
30	RI	90	GLY	3.3
3	QB	233	SER	3.3
23	YA	2163	C	3.3
3	XB	229	VAL	3.3
49	Y5	58	LEU	3.3
3	XB	234	PRO	3.3
48	R4	29	PRO	3.3
11	QJ	10	GLY	3.3
28	RG	116	ASP	3.3
44	R0	4	LYS	3.3
42	RY	92	ASN	3.3
2	QA	218	C	3.3
10	QI	126	SER	3.3
10	QI	104	ARG	3.3
2	QA	88	C	3.3
42	RY	102	CYS	3.3
44	R0	2	ALA	3.3
20	QS	68	GLY	3.3
2	QA	1141	C	3.3
23	YA	1068	G	3.3
10	QI	20	ARG	3.3
50	Y6	18	ARG	3.3
2	XA	1032(A)	G	3.3
23	RA	11	G	3.3
28	YG	73	ALA	3.3
48	R4	30	GLU	3.3
2	XA	1322	C	3.3
22	XU	4	GLY	3.3
10	XI	128	ARG	3.3
23	RA	886	C	3.3
23	YA	884	C	3.3
23	YA	1065	U	3.3
13	QL	17	LYS	3.3
20	QS	27	GLU	3.3
4	QC	88	ARG	3.3
23	YA	277	C	3.3
14	XM	120	LYS	3.3

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Mol	Chain	Res	Type	RSRZ
23	YA	2132	U	3.3
23	YA	2172	U	3.3
2	XA	1320	C	3.3
29	RH	36	PRO	3.2
48	R4	46	GLN	3.2
2	XA	630	G	3.2
15	XN	30	ALA	3.2
49	R5	53	ALA	3.2
21	XT	55	ILE	3.2
15	XN	32	SER	3.2
15	XN	19	ARG	3.2
52	Y8	64	TYR	3.2
23	YA	2128	C	3.2
4	QC	77	ILE	3.2
8	XG	133	GLY	3.2
23	YA	2133	G	3.2
50	Y6	22	ALA	3.2
49	Y5	60	VAL	3.2
4	QC	44	GLU	3.2
37	RT	135	ALA	3.2
8	XG	77	SER	3.2
11	QJ	42	THR	3.2
20	XS	48	THR	3.2
29	RH	34	GLU	3.2
36	RS	2	ALA	3.2
2	QA	1028(B)	C	3.2
2	XA	1028(A)	C	3.2
20	XS	53	ASN	3.2
23	RA	885	C	3.2
14	QM	43	THR	3.2
8	XG	16	LEU	3.2
11	QJ	6	ILE	3.2
2	QA	412	A	3.2
23	YA	1094	U	3.2
11	XJ	53	PRO	3.2
51	Y7	49	ARG	3.2
6	XE	154	GLY	3.2
2	QA	1450	U	3.2
50	R6	42	TRP	3.2
23	RA	2155	G	3.2
3	QB	96	ARG	3.2
11	XJ	68	HIS	3.2

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Mol	Chain	Res	Type	RSRZ
49	R5	59	GLU	3.2
33	RP	118	GLY	3.2
14	QM	51	ALA	3.2
48	R4	47	GLN	3.2
50	R6	5	VAL	3.2
52	R8	65	GLU	3.2
2	XA	210	U	3.1
26	RE	69	LYS	3.1
2	QA	1116	C	3.1
2	QA	1148	U	3.1
3	XB	10	LEU	3.1
3	QB	4	GLU	3.1
14	QM	72	ALA	3.1
23	RA	277	C	3.1
11	QJ	71	LEU	3.1
2	QA	1028	C	3.1
11	QJ	68	HIS	3.1
40	RW	112	GLY	3.1
44	Y0	4	LYS	3.1
30	RI	12	LEU	3.1
23	RA	2190	G	3.1
4	QC	87	LEU	3.1
9	QH	58	TYR	3.1
11	XJ	61	GLU	3.1
3	QB	133	LYS	3.1
10	XI	102	LEU	3.1
2	QA	532	A	3.1
12	QK	13	GLN	3.1
28	RG	77	ILE	3.1
46	R2	72	ALA	3.1
3	QB	114	ARG	3.1
2	QA	1111	A	3.1
10	QI	52	ALA	3.1
2	XA	1257	U	3.1
15	XN	13	THR	3.1
20	XS	79	THR	3.1
23	RA	1044	G	3.1
23	YA	1093	G	3.1
23	RA	2790	A	3.1
50	R6	19	ARG	3.1
50	Y6	19	ARG	3.1
22	XU	21	TYR	3.0

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Mol	Chain	Res	Type	RSRZ
11	QJ	96	ILE	3.0
10	QI	64	THR	3.0
14	XM	15	VAL	3.0
50	R6	13	CYS	3.0
14	QM	55	ARG	3.0
23	YA	2153	G	3.0
15	QN	8	GLU	3.0
2	XA	89	U	3.0
2	XA	723	U	3.0
44	R0	7	LEU	3.0
50	Y6	13	CYS	3.0
2	QA	1142	G	3.0
23	YA	1176	G	3.0
2	XA	1333	A	3.0
11	QJ	70	ARG	3.0
28	YG	26	GLN	3.0
4	QC	157	ILE	3.0
14	XM	3	ARG	3.0
2	XA	1023	G	3.0
3	XB	63	MET	3.0
10	QI	113	LYS	3.0
15	XN	61	TRP	3.0
22	XU	6	ARG	3.0
29	RH	32	GLU	3.0
14	XM	101	GLN	3.0
40	RW	92	ARG	3.0
11	XJ	6	ILE	3.0
10	QI	117	HIS	3.0
23	RA	1076	C	3.0
2	XA	1017	G	3.0
23	RA	2162	G	3.0
23	RA	2793	G	3.0
4	QC	89	GLU	3.0
11	XJ	64	GLU	3.0
20	QS	62	ILE	3.0
20	QS	5	LEU	3.0
23	RA	2804	C	3.0
8	XG	82	GLY	3.0
29	RH	18	GLU	3.0
14	QM	42	ALA	3.0
2	XA	994	A	3.0
23	RA	2152	G	3.0

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Mol	Chain	Res	Type	RSRZ
11	XJ	86	MET	3.0
46	Y2	43	GLN	3.0
4	QC	155	GLY	3.0
4	QC	158	GLY	3.0
10	QI	106	ALA	3.0
44	Y0	2	ALA	3.0
23	YA	1100	C	3.0
28	RG	76	SER	3.0
20	XS	73	GLU	3.0
23	RA	2157	G	2.9
2	XA	208	U	2.9
6	QE	34	VAL	2.9
36	RS	57	LYS	2.9
3	QB	67	THR	2.9
3	QB	226	ARG	2.9
8	XG	4	ARG	2.9
14	XM	29	ARG	2.9
23	YA	276	A	2.9
11	XJ	34	VAL	2.9
3	QB	53	ARG	2.9
10	QI	128	ARG	2.9
2	XA	1321	C	2.9
28	YG	52	ILE	2.9
48	R4	28	LYS	2.9
53	R9	13	LYS	2.9
2	QA	1492	A	2.9
20	XS	21	GLU	2.9
54	XV	44	G	2.9
8	QG	17	VAL	2.9
11	XJ	62	HIS	2.9
14	XM	97	PRO	2.9
48	R4	40	HIS	2.9
50	R6	50	ARG	2.9
4	QC	81	GLY	2.9
8	QG	37	ASN	2.9
15	QN	2	ALA	2.9
11	XJ	47	PHE	2.9
10	XI	17	VAL	2.9
21	XT	104	LEU	2.9
29	RH	72	ILE	2.9
11	QJ	39	PRO	2.9
3	QB	231	GLU	2.9

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Mol	Chain	Res	Type	RSRZ
23	YA	1076	C	2.9
4	QC	183	ASP	2.9
11	QJ	8	LEU	2.9
11	QJ	24	VAL	2.9
28	RG	90	LEU	2.9
3	QB	40	HIS	2.9
8	XG	18	TYR	2.9
50	Y6	20	ASN	2.9
11	XJ	60	ARG	2.9
51	Y7	48	LYS	2.9
48	R4	6	HIS	2.9
2	QA	1257	U	2.9
23	YA	1066	U	2.9
48	Y4	53	GLU	2.9
4	QC	101	LEU	2.9
34	RQ	140	ALA	2.9
3	XB	4	GLU	2.9
2	QA	208	U	2.9
19	XR	88	LYS	2.9
23	RA	880	G	2.9
23	YA	1071	G	2.9
28	RG	134	GLY	2.9
3	XB	230	VAL	2.9
50	R6	24	GLU	2.9
25	YD	26	LYS	2.9
29	RH	30	LYS	2.9
2	XA	1046	A	2.9
50	R6	22	ALA	2.9
10	XI	29	ASN	2.8
2	QA	1039	C	2.8
23	RA	2896	C	2.8
42	RY	89	PHE	2.8
8	XG	110	GLN	2.8
14	QM	30	ALA	2.8
21	XT	106	ALA	2.8
2	XA	1004	A	2.8
2	XA	1266	G	2.8
23	RA	6	A	2.8
13	QL	50	SER	2.8
6	XE	23	GLY	2.8
11	QJ	58	ASP	2.8
11	XJ	10	GLY	2.8

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Mol	Chain	Res	Type	RSRZ
50	Y6	34	LEU	2.8
10	XI	95	LYS	2.8
20	QS	32	LYS	2.8
2	QA	81	G	2.8
23	RA	2792	G	2.8
14	XM	48	LEU	2.8
23	YA	1081	U	2.8
2	QA	998(A)	C	2.8
2	XA	985	C	2.8
3	XB	130	ARG	2.8
4	XC	103	VAL	2.8
11	XJ	72	VAL	2.8
29	RH	89	ILE	2.8
36	YS	111	GLU	2.8
5	QD	35	ARG	2.8
23	YA	2792	G	2.8
2	XA	1028	C	2.8
3	XB	217	ARG	2.8
11	XJ	52	GLY	2.8
2	XA	1300	G	2.8
2	QA	1284	C	2.8
2	XA	1039	C	2.8
6	XE	153	LYS	2.8
14	QM	101	GLN	2.8
23	RA	2791	C	2.8
23	YA	1075	C	2.8
20	XS	10	PHE	2.8
20	XS	40	ILE	2.8
23	RA	2602	A	2.8
10	XI	96	LEU	2.8
23	YA	883	G	2.8
20	XS	41	VAL	2.8
2	QA	1182	G	2.8
2	XA	1207	G	2.8
14	XM	57	ARG	2.8
20	XS	81	ARG	2.8
5	XD	180	GLY	2.8
3	QB	152	PHE	2.8
3	QB	130	ARG	2.8
11	QJ	23	ILE	2.8
23	RA	2629	A	2.8
48	Y4	48	ARG	2.8

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Mol	Chain	Res	Type	RSRZ
2	QA	1239	A	2.8
20	QS	34	TRP	2.7
2	XA	1034	G	2.7
23	RA	2184	G	2.7
23	RA	2893	G	2.7
23	YA	2151	G	2.7
23	YA	2187	G	2.7
34	RQ	1	MET	2.7
42	RY	5	MET	2.7
11	QJ	88	LEU	2.7
2	XA	1332	A	2.7
18	XQ	99	SER	2.7
22	QU	23	PRO	2.7
10	XI	2	GLU	2.7
5	QD	30	LYS	2.7
44	Y0	5	LYS	2.7
51	R7	48	LYS	2.7
5	QD	84	LYS	2.7
11	QJ	3	LYS	2.7
23	YA	2177	C	2.7
36	RS	45	GLY	2.7
44	Y0	6	GLY	2.7
2	QA	723	U	2.7
2	QA	1212	U	2.7
30	YI	91	SER	2.7
33	RP	149	GLU	2.7
2	QA	994	A	2.7
2	QA	1004	A	2.7
11	XJ	17	ASP	2.7
20	XS	29	ARG	2.7
2	XA	1244	C	2.7
20	QS	61	TYR	2.7
11	QJ	69	ASN	2.7
2	XA	1005	A	2.7
23	RA	2176	A	2.7
23	RA	2187	G	2.7
5	QD	83	SER	2.7
23	YA	885	C	2.7
4	QC	192	THR	2.7
11	XJ	89	ASP	2.7
43	RZ	2	GLU	2.7
23	YA	882	G	2.7

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Mol	Chain	Res	Type	RSRZ
15	QN	32	SER	2.7
45	R1	97	LEU	2.7
1	QX	3	U	2.7
14	XM	64	TRP	2.7
14	XM	32	GLU	2.7
38	RU	89	GLU	2.7
50	R6	39	TYR	2.7
2	XA	1323	G	2.7
10	QI	16	ARG	2.7
10	QI	127	LYS	2.7
42	RY	88	LYS	2.7
44	R0	8	GLY	2.7
11	XJ	38	ILE	2.7
48	R4	2	LYS	2.7
2	QA	1493	A	2.7
3	XB	112	VAL	2.7
13	XL	112	ASP	2.7
2	XA	81	G	2.7
9	QH	116	LYS	2.7
22	XU	19	GLY	2.7
4	QC	154	SER	2.7
4	QC	163	ALA	2.7
22	QU	18	TYR	2.7
50	R6	47	THR	2.7
23	YA	2111	C	2.7
2	XA	631	G	2.7
10	XI	126	SER	2.6
46	Y2	71	ASN	2.6
15	XN	17	LYS	2.6
39	RV	36	PRO	2.6
23	RA	654(A)	G	2.6
10	QI	105	ASP	2.6
4	QC	78	GLY	2.6
22	QU	16	GLY	2.6
23	YA	1510	A	2.6
23	RA	884	C	2.6
20	XS	74	PHE	2.6
29	RH	56	SER	2.6
2	QA	1138	G	2.6
42	RY	55	TYR	2.6
2	QA	1157	A	2.6
48	R4	49	PHE	2.6

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Mol	Chain	Res	Type	RSRZ
2	XA	91	C	2.6
20	QS	36	ARG	2.6
23	RA	1049	C	2.6
2	QA	973	G	2.6
2	QA	1220	G	2.6
3	XB	133	LYS	2.6
4	QC	72	LYS	2.6
6	XE	6	PHE	2.6
36	RS	60	GLY	2.6
37	RT	115	ARG	2.6
21	XT	85	MET	2.6
43	YZ	142	SER	2.6
2	QA	842	C	2.6
10	QI	30	GLY	2.6
10	QI	35	GLU	2.6
14	XM	95	GLY	2.6
37	YT	106	SER	2.6
10	QI	91	ASP	2.6
15	XN	7	ILE	2.6
2	QA	1322	C	2.6
3	QB	65	GLY	2.6
10	XI	56	LEU	2.6
4	XC	160	ALA	2.6
20	QS	3	ARG	2.6
2	XA	1137	C	2.6
4	QC	153	VAL	2.6
5	QD	130	GLY	2.6
10	XI	94	ALA	2.6
29	RH	2	SER	2.6
11	QJ	34	VAL	2.6
23	YA	892	G	2.6
23	YA	2793	G	2.6
2	QA	1451	A	2.6
20	QS	44	MET	2.6
20	XS	35	SER	2.6
14	XM	6	GLY	2.6
29	RH	50	VAL	2.6
22	XU	8	THR	2.6
2	XA	1044	A	2.6
2	XA	1271	G	2.6
23	YA	2149	G	2.6
23	YA	2182	G	2.6

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Mol	Chain	Res	Type	RSRZ
2	QA	1336	C	2.6
23	YA	2143	C	2.6
22	XU	3	LYS	2.6
37	YT	137	LYS	2.6
5	XD	2	GLY	2.6
15	QN	55	GLY	2.6
3	QB	21	ARG	2.6
51	R7	49	ARG	2.6
11	QJ	41	PRO	2.6
29	RH	88	LEU	2.6
23	RA	1847	A	2.5
2	XA	1274	G	2.5
11	XJ	59	SER	2.5
23	RA	1051	G	2.5
23	YA	654(A)	G	2.5
8	XG	84	ASN	2.5
34	RQ	21	THR	2.5
50	Y6	16	CYS	2.5
11	XJ	46	ARG	2.5
29	RH	6	ARG	2.5
8	QG	132	GLY	2.5
8	XG	53	LYS	2.5
2	QA	1002	G	2.5
10	QI	123	PRO	2.5
11	XJ	39	PRO	2.5
13	QL	111	LYS	2.5
21	XT	54	LYS	2.5
23	YA	1087	G	2.5
20	QS	38	SER	2.5
33	RP	91	PHE	2.5
2	QA	1243	C	2.5
2	QA	1354	C	2.5
23	RA	1913	A	2.5
23	YA	2137	C	2.5
4	QC	100	ALA	2.5
2	XA	1276	G	2.5
23	YA	2805	G	2.5
50	Y6	17	LYS	2.5
15	QN	3	ARG	2.5
34	YQ	138	ASP	2.5
11	QJ	95	GLU	2.5
2	XA	1112	C	2.5

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Mol	Chain	Res	Type	RSRZ
2	XA	1297	C	2.5
3	QB	6	THR	2.5
3	QB	239	VAL	2.5
22	XU	16	GLY	2.5
20	QS	30	LEU	2.5
2	QA	1258	G	2.5
2	QA	1205	U	2.5
3	XB	132	LYS	2.5
13	XL	72	GLY	2.5
43	RZ	113	ALA	2.5
8	XG	59	LEU	2.5
8	XG	73	MET	2.5
10	QI	95	LYS	2.5
11	QJ	32	ALA	2.5
2	QA	82	U	2.5
37	RT	112	ARG	2.5
10	QI	70	LYS	2.5
2	QA	1045	C	2.5
2	XA	1492	A	2.5
23	RA	2402	C	2.5
23	YA	2402	C	2.5
10	QI	32	ASP	2.5
29	RH	152	ARG	2.5
13	XL	28	LYS	2.5
18	QQ	4	LYS	2.5
23	YA	11	G	2.5
48	R4	20	ASN	2.5
10	QI	110	GLU	2.5
36	RS	5	THR	2.5
43	RZ	169	GLU	2.5
4	QC	53	ALA	2.5
10	XI	90	PRO	2.5
14	XM	42	ALA	2.5
28	RG	146	TYR	2.5
18	QQ	98	LEU	2.5
20	XS	26	GLY	2.5
20	XS	82	GLY	2.5
23	RA	1042	G	2.5
2	QA	1234	C	2.5
23	YA	654(T)	C	2.5
10	XI	16	ARG	2.5
11	XJ	25	GLU	2.5

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Mol	Chain	Res	Type	RSRZ
28	YG	137	GLU	2.5
53	R9	11	CYS	2.5
2	QA	1235	U	2.5
30	RI	86	THR	2.5
36	RS	109	GLY	2.5
7	XF	55	ASP	2.5
23	RA	2191	G	2.5
2	XA	1027	C	2.4
2	QA	974	A	2.4
2	QA	1280	A	2.4
23	RA	2585	U	2.4
4	QC	85	ARG	2.4
10	QI	9	ARG	2.4
14	XM	111	LYS	2.4
23	RA	615	G	2.4
23	RA	881	G	2.4
23	RA	883	G	2.4
42	RY	78	ALA	2.4
49	Y5	55	ARG	2.4
11	QJ	38	ILE	2.4
20	XS	18	LYS	2.4
14	QM	54	VAL	2.4
21	XT	72	LEU	2.4
10	QI	62	TYR	2.4
11	XJ	20	ALA	2.4
3	QB	128	GLU	2.4
8	XG	52	GLU	2.4
11	QJ	25	GLU	2.4
43	RZ	156	LYS	2.4
42	RY	59	GLY	2.4
43	RZ	87	ASP	2.4
10	XI	62	TYR	2.4
14	QM	118	ALA	2.4
11	QJ	60	ARG	2.4
2	QA	1166	G	2.4
14	QM	24	GLY	2.4
23	RA	2171	A	2.4
9	QH	98	LYS	2.4
48	Y4	47	GLN	2.4
2	XA	1450	U	2.4
4	XC	189	ALA	2.4
15	QN	34	TYR	2.4

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Mol	Chain	Res	Type	RSRZ
28	YG	116	ASP	2.4
23	RA	352	G	2.4
6	QE	20	GLN	2.4
4	XC	197	GLY	2.4
48	R4	50	VAL	2.4
2	QA	1135	U	2.4
2	XA	841	U	2.4
6	XE	24	ARG	2.4
10	QI	83	ARG	2.4
23	YA	1067	A	2.4
23	RA	2100	G	2.4
25	RD	40	THR	2.4
10	QI	54	ASP	2.4
11	QJ	17	ASP	2.4
20	XS	47	HIS	2.4
2	XA	1125	U	2.4
4	XC	64	VAL	2.4
23	YA	1092	C	2.4
28	RG	159	VAL	2.4
29	RH	10	PRO	2.4
3	XB	6	THR	2.4
22	QU	8	THR	2.4
48	Y4	55	ARG	2.4
8	QG	103	TRP	2.4
10	QI	56	LEU	2.4
11	QJ	86	MET	2.4
29	RH	110	SER	2.4
2	QA	1248	A	2.4
13	QL	13	LYS	2.4
8	QG	16	LEU	2.4
2	QA	855	G	2.4
2	XA	610	G	2.4
23	RA	2172	U	2.4
23	YA	1074	G	2.4
23	YA	2127	G	2.4
50	R6	18	ARG	2.4
3	QB	9	GLU	2.4
2	XA	1019	C	2.4
5	QD	149	ALA	2.4
20	XS	59	PRO	2.4
52	R8	63	PRO	2.4
11	XJ	48	THR	2.4

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Mol	Chain	Res	Type	RSRZ
2	XA	532	A	2.3
3	QB	135	GLN	2.3
22	QU	20	LYS	2.3
2	XA	1174	G	2.3
10	QI	21	PRO	2.3
23	RA	654(S)	G	2.3
42	YY	53	PRO	2.3
28	RG	3	LEU	2.3
23	YA	2136	C	2.3
11	XJ	55	LYS	2.3
28	RG	45	GLU	2.3
14	XM	59	TYR	2.3
14	QM	94	ARG	2.3
14	XM	55	ARG	2.3
14	QM	37	THR	2.3
14	QM	89	GLY	2.3
23	RA	1071	G	2.3
23	RA	2805	G	2.3
23	YA	1062	G	2.3
4	QC	104	GLN	2.3
19	QR	83	GLU	2.3
45	Y1	93	GLU	2.3
15	QN	50	LYS	2.3
20	XS	68	GLY	2.3
29	RH	58	GLU	2.3
2	QA	1132	C	2.3
23	RA	546	C	2.3
23	RA	2186	G	2.3
29	RH	97	ARG	2.3
8	QG	27	ILE	2.3
8	XG	61	VAL	2.3
42	RY	46	LYS	2.3
4	XC	145	GLY	2.3
23	YA	1026	U	2.3
11	QJ	61	GLU	2.3
20	QS	66	MET	2.3
28	RG	136	ARG	2.3
34	RQ	141	GLN	2.3
4	QC	146	ALA	2.3
2	QA	979	C	2.3
2	QA	1007	C	2.3
2	XA	90	C	2.3

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Mol	Chain	Res	Type	RSRZ
2	XA	984	C	2.3
4	XC	68	VAL	2.3
23	RA	1043	C	2.3
23	RA	1079	C	2.3
2	QA	1023	G	2.3
2	QA	1323	G	2.3
10	QI	93	ARG	2.3
8	QG	51	GLN	2.3
23	YA	654	A	2.3
29	RH	49	VAL	2.3
22	QU	24	ARG	2.3
14	XM	46	LYS	2.3
2	QA	1353	G	2.3
23	RA	101	G	2.3
23	YA	2190	G	2.3
24	RB	16	G	2.3
8	QG	39	ALA	2.3
23	YA	654(V)	A	2.3
45	R1	26	ARG	2.3
34	YQ	1	MET	2.3
14	XM	90	LEU	2.3
4	QC	124	ILE	2.3
43	RZ	55	HIS	2.3
3	QB	7	VAL	2.3
2	QA	1047	G	2.3
14	XM	100	GLY	2.3
8	QG	131	LYS	2.3
34	RQ	80	GLU	2.3
11	QJ	33	GLN	2.3
2	QA	1260	C	2.3
2	XA	1136	U	2.3
3	QB	8	LYS	2.3
4	XC	192	THR	2.3
10	XI	7	THR	2.3
23	RA	2102	U	2.3
42	YY	91	GLU	2.3
2	QA	1183	A	2.3
20	XS	37	ARG	2.3
23	RA	10	G	2.3
4	QC	193	TYR	2.3
9	QH	55	GLY	2.3
18	QQ	24	GLU	2.3

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Mol	Chain	Res	Type	RSRZ
2	XA	63	C	2.3
2	XA	998(A)	C	2.3
12	QK	117	ASN	2.3
23	RA	888	C	2.3
54	QV	34	C	2.3
6	QE	31	LEU	2.3
11	QJ	20	ALA	2.3
2	QA	89	U	2.2
28	RG	155	MET	2.2
28	YG	43	LEU	2.2
2	QA	1321	C	2.2
20	XS	49	ILE	2.2
23	RA	1537	C	2.2
39	YV	36	PRO	2.2
3	QB	181	PHE	2.2
48	R4	22	ILE	2.2
48	R4	25	TYR	2.2
53	Y9	37	GLY	2.2
4	XC	87	LEU	2.2
20	QS	25	LYS	2.2
2	XA	1148	U	2.2
23	YA	1535	U	2.2
2	QA	1218	C	2.2
5	QD	156	GLU	2.2
46	R2	43	GLN	2.2
20	QS	47	HIS	2.2
22	XU	10	ARG	2.2
3	QB	215	LEU	2.2
2	XA	196	A	2.2
2	XA	1324	A	2.2
40	RW	1	MET	2.2
4	XC	128	PHE	2.2
8	XG	20	ASP	2.2
11	XJ	69	ASN	2.2
20	QS	74	PHE	2.2
12	XK	119	CYS	2.2
18	QQ	73	VAL	2.2
2	QA	993	G	2.2
8	QG	13	GLN	2.2
14	XM	72	ALA	2.2
19	QR	87	ARG	2.2
54	XV	27	C	2.2

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Mol	Chain	Res	Type	RSRZ
14	XM	16	ASP	2.2
21	QT	103	GLY	2.2
28	YG	115	ARG	2.2
15	XN	2	ALA	2.2
47	R3	25	ALA	2.2
2	QA	1087	G	2.2
6	QE	25	ARG	2.2
8	XG	48	LYS	2.2
12	QK	51	LYS	2.2
13	QL	126	LYS	2.2
48	R4	45	GLY	2.2
43	RZ	54	HIS	2.2
3	XB	27	LYS	2.2
3	XB	36	ARG	2.2
9	QH	95	VAL	2.2
2	QA	1338	G	2.2
2	XA	1158	C	2.2
10	XI	19	LEU	2.2
15	QN	41	ARG	2.2
18	XQ	100	LYS	2.2
37	RT	39	ARG	2.2
23	RA	2132	U	2.2
54	QV	39	A	2.2
2	XA	456	C	2.2
28	YG	152	LEU	2.2
53	R9	30	PRO	2.2
2	QA	1068	G	2.2
2	XA	1048	G	2.2
4	QC	102	ASN	2.2
10	XI	89	ASN	2.2
14	QM	57	ARG	2.2
50	Y6	37	ARG	2.2
29	RH	109	PHE	2.2
29	RH	107	VAL	2.2
33	RP	71	VAL	2.2
3	QB	192	SER	2.2
2	QA	1044	A	2.2
8	QG	154	TYR	2.2
3	XB	64	ARG	2.2
4	QC	135	LYS	2.2
4	QC	162	GLN	2.2
8	QG	86	GLN	2.2

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Mol	Chain	Res	Type	RSRZ
19	QR	85	LEU	2.2
26	RE	54	GLN	2.2
10	XI	101	PHE	2.2
8	QG	156	TRP	2.2
22	QU	14	TRP	2.2
2	XA	1283	G	2.2
23	YA	1063	G	2.2
13	XL	19	ARG	2.2
28	RG	8	LYS	2.2
30	RI	121	LYS	2.2
2	QA	1046	A	2.2
2	XA	1285	A	2.2
5	QD	37	PRO	2.2
20	QS	41	VAL	2.2
10	QI	97	LYS	2.2
23	RA	1178	C	2.2
2	QA	843	U	2.2
27	RF	15	SER	2.2
8	QG	96	GLN	2.2
5	QD	102	ASP	2.2
14	QM	10	PRO	2.2
2	QA	1151	A	2.2
2	XA	1275	A	2.2
11	QJ	15	THR	2.2
28	RG	42	GLY	2.2
20	QS	15	LEU	2.1
8	XG	7	ALA	2.1
42	RY	57	GLN	2.1
28	RG	17	PRO	2.1
29	RH	52	VAL	2.1
2	QA	1304	G	2.1
4	XC	25	GLY	2.1
16	XO	89	GLY	2.1
23	YA	2159	G	2.1
2	XA	977	A	2.1
3	QB	19	HIS	2.1
23	RA	229	A	2.1
23	RA	2892	A	2.1
43	RZ	183	LEU	2.1
2	QA	1223	C	2.1
4	XC	39	ILE	2.1
8	XG	74	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
23	YA	897	C	2.1
28	RG	35	GLU	2.1
23	YA	270(L)	U	2.1
14	QM	81	LEU	2.1
29	RH	33	LEU	2.1
4	XC	110	ASN	2.1
2	QA	929	G	2.1
23	YA	1054	A	2.1
23	YA	1086	A	2.1
33	YP	90	ARG	2.1
40	YW	92	ARG	2.1
14	XM	39	ILE	2.1
14	QM	48	LEU	2.1
4	XC	88	ARG	2.1
11	QJ	55	LYS	2.1
20	QS	83	HIS	2.1
48	Y4	18	CYS	2.1
30	RI	15	VAL	2.1
2	QA	1067	A	2.1
5	XD	181	MET	2.1
6	QE	93	PRO	2.1
23	RA	896	A	2.1
29	RH	5	GLY	2.1
2	QA	1008	C	2.1
3	QB	122	PHE	2.1
12	XK	91	ARG	2.1
53	Y9	32	HIS	2.1
10	QI	124	GLN	2.1
42	YY	103	GLY	2.1
53	R9	14	CYS	2.1
2	XA	988	G	2.1
3	QB	16	HIS	2.1
23	YA	2154	G	2.1
11	XJ	24	VAL	2.1
18	QQ	78	GLU	2.1
23	YA	1914	C	2.1
31	RN	10	GLU	2.1
50	R6	23	THR	2.1
11	XJ	65	LEU	2.1
14	QM	56	LEU	2.1
2	XA	1042	G	2.1
10	XI	99	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
23	YA	2186	G	2.1
48	Y4	62	ARG	2.1
50	R6	34	LEU	2.1
10	QI	5	TYR	2.1
47	Y3	60	GLU	2.1
18	XQ	14	LYS	2.1
20	QS	40	ILE	2.1
2	XA	65	U	2.1
3	QB	69	LEU	2.1
37	RT	136	GLN	2.1
2	QA	856	C	2.1
2	QA	1117	G	2.1
2	XA	1160	G	2.1
2	XA	1202	G	2.1
3	QB	12	GLU	2.1
48	Y4	57	GLU	2.1
16	QO	70	LEU	2.1
5	XD	33	MET	2.1
2	QA	841	U	2.1
8	XG	26	PHE	2.1
2	QA	996	A	2.1
15	QN	57	ARG	2.1
17	QP	84	ALA	2.1
20	QS	24	ALA	2.1
47	R3	60	GLU	2.1
48	R4	53	GLU	2.1
28	RG	38	VAL	2.1
2	XA	380	G	2.1
23	RA	2101	G	2.1
10	XI	18	PHE	2.1
11	QJ	97	GLU	2.1
21	XT	8	ARG	2.1
20	XS	42	PRO	2.1
23	RA	2895	U	2.1
49	R5	55	ARG	2.1
11	XJ	32	ALA	2.1
11	XJ	37	PRO	2.1
8	XG	22	LEU	2.1
20	XS	71	LEU	2.1
17	XP	48	TRP	2.0
43	RZ	1	MET	2.1
2	XA	485	G	2.0

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Mol	Chain	Res	Type	RSRZ
11	XJ	95	GLU	2.0
29	YH	152	ARG	2.0
14	XM	118	ALA	2.0
4	XC	101	LEU	2.0
20	QS	31	ILE	2.0
34	RQ	19	GLY	2.0
2	QA	1363	A	2.0
5	XD	50	ARG	2.0
10	XI	124	GLN	2.0
14	QM	11	ARG	2.0
1	QX	0	C	2.0
7	QF	95	GLU	2.0
3	XB	33	TYR	2.0
42	YY	79	CYS	2.0
23	RA	2808	U	2.0
25	RD	167	GLY	2.0
28	YG	74	LYS	2.0
45	R1	92	LYS	2.0
48	R4	61	ARG	2.0
3	QB	160	ASP	2.0
9	QH	99	GLU	2.0
9	XH	4	ASP	2.0
28	RG	30	GLU	2.0
30	RI	85	GLU	2.0
4	QC	94	LEU	2.0
11	QJ	27	ALA	2.0
17	XP	4	ILE	2.0
23	RA	898	C	2.0
37	YT	135	ALA	2.0
36	RS	33	LYS	2.0
10	QI	121	ARG	2.0
36	RS	20	ARG	2.0
23	RA	1106	G	2.0
2	QA	1016	A	2.0
28	YG	118	ARG	2.0
2	XA	1006	C	2.0
9	QH	24	THR	2.0
11	QJ	21	GLN	2.0
29	YH	58	GLU	2.0
16	QO	46	HIS	2.0
4	XC	91	LEU	2.0
9	QH	71	GLY	2.0

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Mol	Chain	Res	Type	RSRZ
23	YA	2152	G	2.0
2	QA	1531	A	2.0
2	QA	980	C	2.0
3	QB	22	LYS	2.0
14	XM	7	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
54	1MG	QV	37	24/25	0.77	0.28	127,127,127,127	0
54	1MG	XV	37	24/25	0.80	0.30	117,117,117,117	0

6.3 Carbohydrates (i)

There are no monosaccharides 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
55	MG	XA	1644	1/1	-0.22	0.69	155,155,155,155	0
55	MG	XM	201	1/1	0.28	0.82	168,168,168,168	0
55	MG	QA	1662	1/1	0.29	0.48	118,118,118,118	0
55	MG	XA	1661	1/1	0.33	0.81	108,108,108,108	0
55	MG	QA	1619	1/1	0.36	1.15	146,146,146,146	0
55	MG	QA	1647	1/1	0.41	1.42	156,156,156,156	0
55	MG	XA	1665	1/1	0.44	0.52	70,70,70,70	0
55	MG	QA	1623	1/1	0.45	0.56	140,140,140,140	0
55	MG	QA	1631	1/1	0.47	1.54	124,124,124,124	0
55	MG	XA	1652	1/1	0.49	0.60	101,101,101,101	0
55	MG	XA	1671	1/1	0.49	0.92	94,94,94,94	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	XB	301	1/1	0.49	0.66	119,119,119,119	0
55	MG	XA	1663	1/1	0.49	0.64	103,103,103,103	0
55	MG	QA	1651	1/1	0.51	0.40	81,81,81,81	0
55	MG	XA	1636	1/1	0.56	0.31	165,165,165,165	0
55	MG	QA	1666	1/1	0.56	0.92	100,100,100,100	0
55	MG	RA	3223	1/1	0.56	0.44	76,76,76,76	0
55	MG	XA	1629	1/1	0.57	0.46	129,129,129,129	0
55	MG	QA	1657	1/1	0.59	0.42	160,160,160,160	0
55	MG	XA	1648	1/1	0.60	0.52	85,85,85,85	0
55	MG	XL	201	1/1	0.61	0.56	97,97,97,97	0
55	MG	XA	1660	1/1	0.61	0.71	66,66,66,66	0
55	MG	QA	1607	1/1	0.62	0.17	101,101,101,101	0
55	MG	XA	1628	1/1	0.64	0.27	66,66,66,66	0
55	MG	XA	1623	1/1	0.65	0.87	121,121,121,121	0
55	MG	QA	1644	1/1	0.66	0.28	108,108,108,108	0
55	MG	QA	1629	1/1	0.66	0.95	80,80,80,80	0
55	MG	XA	1662	1/1	0.67	0.65	85,85,85,85	0
55	MG	XA	1655	1/1	0.68	0.80	69,69,69,69	0
55	MG	QM	201	1/1	0.69	0.23	170,170,170,170	0
55	MG	XA	1624	1/1	0.69	0.55	133,133,133,133	0
55	MG	YA	3122	1/1	0.69	1.05	40,40,40,40	0
55	MG	YA	3143	1/1	0.69	0.58	43,43,43,43	0
55	MG	YA	3169	1/1	0.69	0.16	61,61,61,61	0
55	MG	RA	3230	1/1	0.70	0.74	72,72,72,72	0
55	MG	QA	1609	1/1	0.70	0.39	104,104,104,104	0
55	MG	YA	3198	1/1	0.71	0.55	29,29,29,29	0
55	MG	XA	1651	1/1	0.72	0.37	89,89,89,89	0
55	MG	RA	3156	1/1	0.72	0.44	57,57,57,57	0
55	MG	RA	3184	1/1	0.73	0.57	54,54,54,54	0
55	MG	RA	3181	1/1	0.73	0.26	60,60,60,60	0
55	MG	YA	3207	1/1	0.73	0.28	55,55,55,55	0
55	MG	RA	3204	1/1	0.74	0.18	61,61,61,61	0
55	MG	QA	1622	1/1	0.74	0.69	140,140,140,140	0
55	MG	QA	1605	1/1	0.74	1.02	71,71,71,71	0
55	MG	YA	3250	1/1	0.74	0.38	40,40,40,40	0
55	MG	RA	3009	1/1	0.75	0.47	53,53,53,53	0
55	MG	XA	1637	1/1	0.75	0.29	85,85,85,85	0
55	MG	RA	3117	1/1	0.76	0.27	43,43,43,43	0
55	MG	RA	3174	1/1	0.76	0.17	75,75,75,75	0
55	MG	RA	3200	1/1	0.76	0.21	65,65,65,65	0
55	MG	RA	3178	1/1	0.76	0.37	47,47,47,47	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	YP	202	1/1	0.76	0.79	38,38,38,38	0
55	MG	XA	1634	1/1	0.77	1.29	154,154,154,154	0
55	MG	QA	1624	1/1	0.77	0.50	95,95,95,95	0
55	MG	QA	1635	1/1	0.77	0.36	142,142,142,142	0
55	MG	RA	3010	1/1	0.77	0.24	64,64,64,64	0
55	MG	RA	3225	1/1	0.77	0.52	61,61,61,61	0
55	MG	RA	3228	1/1	0.77	0.37	69,69,69,69	0
55	MG	QA	1639	1/1	0.78	1.07	103,103,103,103	0
55	MG	RA	3205	1/1	0.78	0.27	60,60,60,60	0
55	MG	YA	3144	1/1	0.78	0.44	38,38,38,38	0
55	MG	QA	1661	1/1	0.78	0.88	103,103,103,103	0
55	MG	RA	3004	1/1	0.79	1.03	68,68,68,68	0
55	MG	QA	1658	1/1	0.79	0.33	82,82,82,82	0
55	MG	XA	1609	1/1	0.79	0.34	66,66,66,66	0
55	MG	RA	3160	1/1	0.79	0.30	61,61,61,61	0
55	MG	QA	1663	1/1	0.79	0.17	105,105,105,105	0
55	MG	XA	1669	1/1	0.79	0.38	73,73,73,73	0
55	MG	RA	3185	1/1	0.80	0.48	75,75,75,75	0
55	MG	QA	1603	1/1	0.80	1.55	83,83,83,83	0
55	MG	RA	3149	1/1	0.80	0.39	60,60,60,60	0
55	MG	RA	3111	1/1	0.81	0.46	77,77,77,77	0
55	MG	YA	3135	1/1	0.81	0.14	48,48,48,48	0
55	MG	QA	1618	1/1	0.81	0.68	95,95,95,95	0
55	MG	RA	3176	1/1	0.82	0.29	63,63,63,63	0
55	MG	XA	1666	1/1	0.82	0.73	85,85,85,85	0
55	MG	XA	1618	1/1	0.82	0.34	72,72,72,72	0
55	MG	YA	3164	1/1	0.82	0.40	59,59,59,59	0
55	MG	RA	3224	1/1	0.82	0.34	61,61,61,61	0
55	MG	QA	1638	1/1	0.82	0.45	78,78,78,78	0
55	MG	QA	1656	1/1	0.82	0.59	79,79,79,79	0
55	MG	QA	1632	1/1	0.82	0.30	90,90,90,90	0
55	MG	XA	1664	1/1	0.82	0.75	166,166,166,166	0
55	MG	QA	1621	1/1	0.83	0.35	84,84,84,84	0
55	MG	RA	3202	1/1	0.83	0.52	53,53,53,53	0
55	MG	YA	3182	1/1	0.83	0.21	38,38,38,38	0
55	MG	RA	3168	1/1	0.83	0.28	59,59,59,59	0
55	MG	RA	3199	1/1	0.83	0.28	70,70,70,70	0
55	MG	YA	3249	1/1	0.83	0.52	26,26,26,26	0
55	MG	RA	3221	1/1	0.83	0.43	56,56,56,56	0
55	MG	XA	1608	1/1	0.83	0.27	105,105,105,105	0
55	MG	QA	1637	1/1	0.84	0.35	71,71,71,71	0
55	MG	RA	3118	1/1	0.84	0.29	55,55,55,55	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	YA	3158	1/1	0.84	0.31	43,43,43,43	0
55	MG	R3	101	1/1	0.84	0.48	62,62,62,62	0
55	MG	XA	1633	1/1	0.84	0.34	72,72,72,72	0
55	MG	RA	3177	1/1	0.84	0.39	61,61,61,61	0
55	MG	RA	3130	1/1	0.84	0.14	69,69,69,69	0
55	MG	RA	3142	1/1	0.84	0.32	72,72,72,72	0
55	MG	YA	3216	1/1	0.84	0.28	51,51,51,51	0
55	MG	YA	3223	1/1	0.84	0.21	55,55,55,55	0
55	MG	XA	1643	1/1	0.84	0.79	125,125,125,125	0
55	MG	YA	3126	1/1	0.84	0.81	61,61,61,61	0
55	MG	YB	203	1/1	0.84	0.37	45,45,45,45	0
55	MG	RA	3203	1/1	0.84	0.56	58,58,58,58	0
55	MG	RA	3211	1/1	0.85	0.28	67,67,67,67	0
55	MG	RA	3060	1/1	0.85	0.40	45,45,45,45	0
55	MG	YA	3059	1/1	0.85	0.35	50,50,50,50	0
55	MG	RA	3167	1/1	0.85	0.19	56,56,56,56	0
55	MG	YA	3214	1/1	0.85	0.35	42,42,42,42	0
55	MG	QA	1653	1/1	0.85	0.36	108,108,108,108	0
55	MG	QA	1613	1/1	0.85	0.85	76,76,76,76	0
55	MG	QA	1652	1/1	0.85	1.35	152,152,152,152	0
55	MG	RA	3188	1/1	0.85	0.24	50,50,50,50	0
55	MG	RA	3238	1/1	0.85	0.41	51,51,51,51	0
55	MG	RA	3210	1/1	0.85	0.17	85,85,85,85	0
55	MG	RA	3182	1/1	0.86	0.32	49,49,49,49	0
55	MG	RA	3150	1/1	0.86	0.36	63,63,63,63	0
55	MG	XA	1649	1/1	0.86	0.83	72,72,72,72	0
55	MG	QA	1665	1/1	0.86	0.85	93,93,93,93	0
55	MG	RA	3063	1/1	0.86	0.29	91,91,91,91	0
55	MG	RA	3195	1/1	0.86	0.25	52,52,52,52	0
55	MG	RA	3147	1/1	0.86	0.25	49,49,49,49	0
55	MG	RE	302	1/1	0.86	0.26	42,42,42,42	0
55	MG	RA	3216	1/1	0.86	0.50	70,70,70,70	0
55	MG	YA	3231	1/1	0.86	0.24	38,38,38,38	0
55	MG	XA	1602	1/1	0.86	0.97	133,133,133,133	0
55	MG	XA	1606	1/1	0.86	0.41	68,68,68,68	0
55	MG	RA	3103	1/1	0.86	0.17	58,58,58,58	0
55	MG	YA	3151	1/1	0.86	0.55	29,29,29,29	0
55	MG	QA	1620	1/1	0.87	0.26	76,76,76,76	0
55	MG	YA	3106	1/1	0.87	0.36	40,40,40,40	0
55	MG	RA	3113	1/1	0.87	0.57	70,70,70,70	0
55	MG	QA	1616	1/1	0.87	0.16	108,108,108,108	0
55	MG	YA	3131	1/1	0.87	0.43	62,62,62,62	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	RA	3081	1/1	0.87	0.47	68,68,68,68	0
55	MG	YA	3217	1/1	0.87	0.18	39,39,39,39	0
55	MG	RA	3193	1/1	0.87	0.46	77,77,77,77	0
55	MG	QA	1660	1/1	0.87	0.83	146,146,146,146	0
55	MG	YA	3242	1/1	0.87	0.25	49,49,49,49	0
55	MG	RA	3132	1/1	0.87	0.62	52,52,52,52	0
55	MG	YA	3152	1/1	0.87	0.25	44,44,44,44	0
55	MG	RA	3165	1/1	0.87	0.23	80,80,80,80	0
55	MG	YA	3021	1/1	0.87	0.27	28,28,28,28	0
55	MG	YX	101	1/1	0.87	0.22	53,53,53,53	0
55	MG	RA	3217	1/1	0.88	0.43	78,78,78,78	0
55	MG	XA	1631	1/1	0.88	0.44	63,63,63,63	0
55	MG	QA	1626	1/1	0.88	0.13	102,102,102,102	0
55	MG	YA	3056	1/1	0.88	0.30	32,32,32,32	0
55	MG	YA	3227	1/1	0.88	0.20	37,37,37,37	0
55	MG	RA	3173	1/1	0.88	0.17	46,46,46,46	0
55	MG	YA	3235	1/1	0.88	0.51	60,60,60,60	0
55	MG	XA	1650	1/1	0.88	0.78	166,166,166,166	0
55	MG	XA	1635	1/1	0.88	0.58	79,79,79,79	0
55	MG	RA	3187	1/1	0.88	0.30	59,59,59,59	0
55	MG	YA	3190	1/1	0.88	0.24	43,43,43,43	0
55	MG	RA	3242	1/1	0.88	0.47	52,52,52,52	0
55	MG	XA	1639	1/1	0.88	0.68	66,66,66,66	0
55	MG	R0	101	1/1	0.89	0.22	62,62,62,62	0
55	MG	RA	3214	1/1	0.89	0.25	71,71,71,71	0
55	MG	YA	3192	1/1	0.89	0.47	48,48,48,48	0
55	MG	YA	3194	1/1	0.89	0.51	44,44,44,44	0
55	MG	XA	1627	1/1	0.89	0.25	63,63,63,63	0
55	MG	YA	3200	1/1	0.89	0.26	37,37,37,37	0
55	MG	RA	3028	1/1	0.89	0.59	73,73,73,73	0
55	MG	XA	1641	1/1	0.89	0.72	146,146,146,146	0
55	MG	XA	1642	1/1	0.89	0.30	134,134,134,134	0
55	MG	RA	3101	1/1	0.89	0.36	46,46,46,46	0
55	MG	RA	3158	1/1	0.89	0.27	51,51,51,51	0
55	MG	RA	3172	1/1	0.89	0.19	54,54,54,54	0
55	MG	YA	3228	1/1	0.89	0.18	41,41,41,41	0
55	MG	YA	3159	1/1	0.89	0.33	36,36,36,36	0
55	MG	YA	3162	1/1	0.89	0.38	39,39,39,39	0
55	MG	YA	3099	1/1	0.89	0.48	32,32,32,32	0
55	MG	YA	3243	1/1	0.89	0.24	50,50,50,50	0
55	MG	YA	3165	1/1	0.89	0.60	50,50,50,50	0
55	MG	RA	3051	1/1	0.89	0.49	52,52,52,52	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	YA	3171	1/1	0.89	0.17	48,48,48,48	0
55	MG	YA	3176	1/1	0.89	0.23	59,59,59,59	0
55	MG	YA	3180	1/1	0.89	0.19	48,48,48,48	0
56	ZN	QN	101	1/1	0.89	0.11	158,158,158,158	0
56	ZN	XN	101	1/1	0.89	0.11	152,152,152,152	0
55	MG	RD	301	1/1	0.90	0.31	47,47,47,47	0
55	MG	QA	1615	1/1	0.90	0.44	70,70,70,70	0
55	MG	RP	201	1/1	0.90	1.03	60,60,60,60	0
55	MG	QA	1643	1/1	0.90	0.48	72,72,72,72	0
55	MG	RA	3126	1/1	0.90	0.91	61,61,61,61	0
55	MG	YA	3184	1/1	0.90	0.28	53,53,53,53	0
55	MG	QA	1601	1/1	0.90	0.45	88,88,88,88	0
55	MG	XA	1604	1/1	0.90	0.98	75,75,75,75	0
55	MG	QA	1646	1/1	0.90	0.17	94,94,94,94	0
55	MG	YA	3071	1/1	0.90	0.20	47,47,47,47	0
55	MG	XA	1607	1/1	0.90	0.17	86,86,86,86	0
55	MG	RA	3135	1/1	0.90	0.21	45,45,45,45	0
55	MG	YA	3210	1/1	0.90	0.39	38,38,38,38	0
55	MG	YA	3113	1/1	0.90	0.33	31,31,31,31	0
55	MG	RA	3139	1/1	0.90	0.50	68,68,68,68	0
55	MG	XA	1611	1/1	0.90	0.52	79,79,79,79	0
55	MG	QA	1627	1/1	0.90	0.18	87,87,87,87	0
55	MG	RA	3110	1/1	0.90	0.15	50,50,50,50	0
55	MG	YA	3139	1/1	0.90	0.36	34,34,34,34	0
55	MG	XA	1659	1/1	0.90	0.28	98,98,98,98	0
55	MG	RA	3227	1/1	0.90	0.51	68,68,68,68	0
55	MG	QA	1649	1/1	0.90	0.47	96,96,96,96	0
55	MG	RA	3229	1/1	0.90	0.14	61,61,61,61	0
55	MG	YA	3153	1/1	0.90	0.34	54,54,54,54	0
55	MG	YA	3156	1/1	0.90	0.50	51,51,51,51	0
55	MG	YA	3264	1/1	0.90	0.53	29,29,29,29	0
55	MG	RA	3112	1/1	0.90	0.78	73,73,73,73	0
55	MG	RA	3179	1/1	0.90	0.24	45,45,45,45	0
55	MG	RA	3239	1/1	0.90	0.34	47,47,47,47	0
55	MG	RA	3055	1/1	0.90	0.34	47,47,47,47	0
55	MG	XA	1668	1/1	0.90	0.15	91,91,91,91	0
55	MG	QA	1602	1/1	0.91	0.78	74,74,74,74	0
55	MG	RA	3106	1/1	0.91	0.31	46,46,46,46	0
55	MG	RA	3026	1/1	0.91	0.27	45,45,45,45	0
55	MG	QA	1614	1/1	0.91	0.44	81,81,81,81	0
55	MG	RA	3039	1/1	0.91	0.37	45,45,45,45	0
55	MG	YA	3004	1/1	0.91	0.31	30,30,30,30	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	RA	3041	1/1	0.91	0.42	44,44,44,44	0
55	MG	RA	3215	1/1	0.91	0.27	52,52,52,52	0
55	MG	RA	3114	1/1	0.91	0.28	76,76,76,76	0
55	MG	YA	3065	1/1	0.91	0.27	43,43,43,43	0
55	MG	QA	1630	1/1	0.91	0.24	80,80,80,80	0
55	MG	YA	3202	1/1	0.91	0.09	44,44,44,44	0
55	MG	RA	3219	1/1	0.91	0.62	79,79,79,79	0
55	MG	XA	1647	1/1	0.91	0.28	101,101,101,101	0
55	MG	RA	3220	1/1	0.91	0.88	57,57,57,57	0
55	MG	RA	3161	1/1	0.91	0.27	67,67,67,67	0
55	MG	QA	1625	1/1	0.91	0.94	92,92,92,92	0
55	MG	RA	3191	1/1	0.91	0.29	72,72,72,72	0
55	MG	QF	201	1/1	0.91	0.55	98,98,98,98	0
55	MG	XA	1654	1/1	0.91	0.76	69,69,69,69	0
55	MG	XA	1613	1/1	0.91	0.18	75,75,75,75	0
55	MG	XA	1658	1/1	0.91	0.21	88,88,88,88	0
55	MG	RA	3226	1/1	0.91	0.24	62,62,62,62	0
55	MG	XA	1621	1/1	0.91	0.09	77,77,77,77	0
55	MG	QA	1659	1/1	0.91	0.19	69,69,69,69	0
55	MG	YA	3155	1/1	0.91	0.55	58,58,58,58	0
55	MG	YA	3258	1/1	0.91	0.40	42,42,42,42	0
55	MG	QA	1642	1/1	0.91	0.49	84,84,84,84	0
55	MG	XA	1625	1/1	0.91	0.77	143,143,143,143	0
55	MG	RA	3133	1/1	0.91	0.15	67,67,67,67	0
55	MG	QA	1611	1/1	0.91	0.53	67,67,67,67	0
55	MG	RA	3233	1/1	0.91	0.51	28,28,28,28	0
55	MG	RA	3234	1/1	0.91	0.38	56,56,56,56	0
55	MG	RA	3008	1/1	0.92	0.41	60,60,60,60	0
55	MG	RA	3057	1/1	0.92	0.85	40,40,40,40	0
55	MG	RA	3002	1/1	0.92	0.53	45,45,45,45	0
55	MG	RA	3213	1/1	0.92	0.08	61,61,61,61	0
55	MG	QA	1664	1/1	0.92	0.11	111,111,111,111	0
55	MG	RA	3011	1/1	0.92	0.58	54,54,54,54	0
55	MG	RA	3192	1/1	0.92	0.15	103,103,103,103	0
55	MG	RA	3090	1/1	0.92	0.73	47,47,47,47	0
55	MG	YA	3115	1/1	0.92	0.27	35,35,35,35	0
55	MG	YA	3234	1/1	0.92	0.34	66,66,66,66	0
55	MG	RA	3092	1/1	0.92	0.52	50,50,50,50	0
55	MG	YA	3172	1/1	0.92	0.24	67,67,67,67	0
55	MG	YA	3125	1/1	0.92	0.46	29,29,29,29	0
55	MG	XA	1622	1/1	0.92	0.23	130,130,130,130	0
55	MG	RB	202	1/1	0.92	0.14	123,123,123,123	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	RA	3196	1/1	0.92	0.51	72,72,72,72	0
55	MG	YA	3261	1/1	0.92	0.42	34,34,34,34	0
55	MG	YA	3263	1/1	0.92	0.32	48,48,48,48	0
55	MG	RA	3122	1/1	0.92	0.71	65,65,65,65	0
55	MG	YA	3142	1/1	0.92	0.14	32,32,32,32	0
55	MG	RA	3020	1/1	0.92	0.35	42,42,42,42	0
55	MG	RA	3052	1/1	0.92	0.34	54,54,54,54	0
55	MG	RA	3053	1/1	0.92	0.55	40,40,40,40	0
55	MG	RA	3164	1/1	0.92	0.97	47,47,47,47	0
55	MG	YA	3178	1/1	0.93	0.36	59,59,59,59	0
55	MG	YA	3179	1/1	0.93	0.49	33,33,33,33	0
55	MG	YA	3074	1/1	0.93	0.28	38,38,38,38	0
55	MG	RA	3201	1/1	0.93	0.62	58,58,58,58	0
55	MG	RA	3046	1/1	0.93	0.48	42,42,42,42	0
55	MG	YA	3187	1/1	0.93	0.28	41,41,41,41	0
55	MG	YA	3112	1/1	0.93	0.45	44,44,44,44	0
55	MG	XA	1630	1/1	0.93	0.46	68,68,68,68	0
55	MG	RA	3145	1/1	0.93	0.52	56,56,56,56	0
55	MG	YA	3121	1/1	0.93	0.41	49,49,49,49	0
55	MG	RA	3089	1/1	0.93	0.65	55,55,55,55	0
55	MG	XA	1605	1/1	0.93	0.52	76,76,76,76	0
55	MG	RA	3171	1/1	0.93	0.60	61,61,61,61	0
55	MG	RA	3208	1/1	0.93	0.23	73,73,73,73	0
55	MG	RA	3209	1/1	0.93	0.10	58,58,58,58	0
55	MG	XA	1638	1/1	0.93	0.21	101,101,101,101	0
55	MG	XA	1667	1/1	0.93	0.21	127,127,127,127	0
55	MG	RA	3129	1/1	0.93	0.43	50,50,50,50	0
55	MG	RA	3056	1/1	0.93	0.35	47,47,47,47	0
55	MG	YA	3146	1/1	0.93	0.31	34,34,34,34	0
55	MG	YA	3149	1/1	0.93	0.28	40,40,40,40	0
55	MG	XA	1670	1/1	0.93	0.58	77,77,77,77	0
55	MG	QA	1640	1/1	0.93	0.26	85,85,85,85	0
55	MG	YA	3236	1/1	0.93	0.14	53,53,53,53	0
55	MG	YA	3239	1/1	0.93	0.11	51,51,51,51	0
55	MG	XA	1614	1/1	0.93	0.57	54,54,54,54	0
55	MG	QA	1655	1/1	0.93	0.36	91,91,91,91	0
55	MG	YA	3247	1/1	0.93	0.18	39,39,39,39	0
55	MG	XA	1619	1/1	0.93	0.46	76,76,76,76	0
55	MG	RA	3194	1/1	0.93	0.22	80,80,80,80	0
55	MG	RA	3044	1/1	0.93	0.34	49,49,49,49	0
55	MG	YA	3029	1/1	0.93	0.43	26,26,26,26	0
55	MG	YA	3038	1/1	0.93	0.21	32,32,32,32	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	YA	3052	1/1	0.93	0.31	33,33,33,33	0
55	MG	RA	3136	1/1	0.93	0.16	46,46,46,46	0
55	MG	RA	3197	1/1	0.93	0.13	67,67,67,67	0
55	MG	RA	3162	1/1	0.93	0.43	55,55,55,55	0
55	MG	RA	3071	1/1	0.93	0.52	49,49,49,49	0
55	MG	YA	3177	1/1	0.93	0.20	45,45,45,45	0
55	MG	RA	3131	1/1	0.94	0.24	51,51,51,51	0
55	MG	RA	3097	1/1	0.94	0.46	48,48,48,48	0
55	MG	RA	3099	1/1	0.94	0.67	40,40,40,40	0
55	MG	YA	3157	1/1	0.94	0.43	45,45,45,45	0
55	MG	RA	3100	1/1	0.94	0.16	53,53,53,53	0
55	MG	RA	3241	1/1	0.94	0.75	48,48,48,48	0
55	MG	RA	3058	1/1	0.94	0.51	52,52,52,52	0
55	MG	RA	3243	1/1	0.94	0.33	51,51,51,51	0
55	MG	YA	3006	1/1	0.94	0.53	36,36,36,36	0
55	MG	YA	3018	1/1	0.94	0.56	28,28,28,28	0
55	MG	YA	3170	1/1	0.94	0.58	34,34,34,34	0
55	MG	RA	3138	1/1	0.94	0.39	44,44,44,44	0
55	MG	RA	3025	1/1	0.94	0.32	43,43,43,43	0
55	MG	YA	3030	1/1	0.94	0.60	42,42,42,42	0
55	MG	RA	3140	1/1	0.94	0.40	51,51,51,51	0
55	MG	YA	3047	1/1	0.94	0.35	30,30,30,30	0
55	MG	QA	1650	1/1	0.94	0.39	78,78,78,78	0
55	MG	RP	202	1/1	0.94	0.30	62,62,62,62	0
55	MG	RA	3180	1/1	0.94	0.30	61,61,61,61	0
55	MG	RA	3066	1/1	0.94	0.26	51,51,51,51	0
55	MG	YA	3185	1/1	0.94	0.30	37,37,37,37	0
55	MG	R8	101	1/1	0.94	0.36	57,57,57,57	0
55	MG	XA	1646	1/1	0.94	0.40	52,52,52,52	0
55	MG	YA	3075	1/1	0.94	0.22	37,37,37,37	0
55	MG	YA	3076	1/1	0.94	0.43	21,21,21,21	0
55	MG	YA	3077	1/1	0.94	0.23	32,32,32,32	0
55	MG	YA	3078	1/1	0.94	0.41	31,31,31,31	0
55	MG	YA	3082	1/1	0.94	0.32	31,31,31,31	0
55	MG	YA	3203	1/1	0.94	0.24	34,34,34,34	0
55	MG	YA	3085	1/1	0.94	0.47	29,29,29,29	0
55	MG	YA	3092	1/1	0.94	0.40	35,35,35,35	0
55	MG	QA	1634	1/1	0.94	0.59	69,69,69,69	0
55	MG	RA	3183	1/1	0.94	0.34	59,59,59,59	0
55	MG	YA	3108	1/1	0.94	0.31	28,28,28,28	0
55	MG	YA	3221	1/1	0.94	0.21	53,53,53,53	0
55	MG	RA	3074	1/1	0.94	0.34	51,51,51,51	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	YA	3224	1/1	0.94	0.26	25,25,25,25	0
55	MG	YA	3226	1/1	0.94	0.39	40,40,40,40	0
55	MG	RA	3080	1/1	0.94	0.50	53,53,53,53	0
55	MG	RA	3218	1/1	0.94	0.29	68,68,68,68	0
55	MG	YA	3116	1/1	0.94	0.29	44,44,44,44	0
55	MG	YA	3117	1/1	0.94	0.28	36,36,36,36	0
55	MG	YA	3119	1/1	0.94	0.34	45,45,45,45	0
55	MG	RA	3151	1/1	0.94	0.22	56,56,56,56	0
55	MG	YA	3238	1/1	0.94	0.25	36,36,36,36	0
55	MG	RA	3035	1/1	0.94	0.48	49,49,49,49	0
55	MG	YA	3241	1/1	0.94	0.52	47,47,47,47	0
55	MG	RA	3189	1/1	0.94	0.21	58,58,58,58	0
55	MG	RA	3222	1/1	0.94	0.34	53,53,53,53	0
55	MG	YA	3244	1/1	0.94	0.49	39,39,39,39	0
55	MG	RA	3084	1/1	0.94	0.58	56,56,56,56	0
55	MG	YA	3132	1/1	0.94	0.12	60,60,60,60	0
55	MG	YA	3133	1/1	0.94	0.59	49,49,49,49	0
55	MG	YA	3253	1/1	0.94	0.25	35,35,35,35	0
55	MG	RA	3159	1/1	0.94	0.56	54,54,54,54	0
55	MG	YA	3260	1/1	0.94	0.22	40,40,40,40	0
55	MG	QA	1648	1/1	0.94	0.21	83,83,83,83	0
55	MG	QA	1628	1/1	0.94	0.16	71,71,71,71	0
55	MG	RA	3091	1/1	0.94	0.67	44,44,44,44	0
55	MG	YA	3266	1/1	0.94	0.49	39,39,39,39	0
55	MG	YB	202	1/1	0.94	0.33	49,49,49,49	0
55	MG	RA	3127	1/1	0.94	0.52	77,77,77,77	0
55	MG	RA	3006	1/1	0.94	0.55	46,46,46,46	0
55	MG	RA	3095	1/1	0.94	0.55	47,47,47,47	0
55	MG	XA	1626	1/1	0.94	0.21	53,53,53,53	0
55	MG	RA	3231	1/1	0.94	0.24	54,54,54,54	0
55	MG	YA	3054	1/1	0.95	0.28	41,41,41,41	0
55	MG	RA	3128	1/1	0.95	0.29	53,53,53,53	0
55	MG	RA	3032	1/1	0.95	0.35	47,47,47,47	0
55	MG	RA	3034	1/1	0.95	0.63	38,38,38,38	0
55	MG	YA	3068	1/1	0.95	0.54	45,45,45,45	0
55	MG	YA	3070	1/1	0.95	0.10	36,36,36,36	0
55	MG	QA	1604	1/1	0.95	0.62	74,74,74,74	0
55	MG	RA	3061	1/1	0.95	0.45	42,42,42,42	0
55	MG	RA	3036	1/1	0.95	0.62	47,47,47,47	0
55	MG	RA	3134	1/1	0.95	0.27	52,52,52,52	0
55	MG	YA	3181	1/1	0.95	0.38	32,32,32,32	0
55	MG	XA	1616	1/1	0.95	0.48	68,68,68,68	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	XA	1657	1/1	0.95	0.33	78,78,78,78	0
55	MG	XA	1617	1/1	0.95	0.51	60,60,60,60	0
55	MG	YA	3186	1/1	0.95	0.20	65,65,65,65	0
55	MG	RA	3169	1/1	0.95	0.41	50,50,50,50	0
55	MG	RA	3102	1/1	0.95	0.23	51,51,51,51	0
55	MG	YA	3094	1/1	0.95	0.55	39,39,39,39	0
55	MG	YA	3097	1/1	0.95	0.32	35,35,35,35	0
55	MG	YA	3195	1/1	0.95	0.22	54,54,54,54	0
55	MG	RA	3232	1/1	0.95	0.71	37,37,37,37	0
55	MG	YA	3101	1/1	0.95	0.60	38,38,38,38	0
55	MG	YA	3201	1/1	0.95	0.12	46,46,46,46	0
55	MG	YA	3104	1/1	0.95	0.47	30,30,30,30	0
55	MG	RA	3007	1/1	0.95	0.81	39,39,39,39	0
55	MG	YA	3205	1/1	0.95	0.22	40,40,40,40	0
55	MG	YA	3206	1/1	0.95	0.42	45,45,45,45	0
55	MG	RA	3137	1/1	0.95	0.43	46,46,46,46	0
55	MG	RA	3235	1/1	0.95	0.59	53,53,53,53	0
55	MG	RA	3236	1/1	0.95	0.52	49,49,49,49	0
55	MG	YA	3215	1/1	0.95	0.24	40,40,40,40	0
55	MG	RA	3237	1/1	0.95	0.58	56,56,56,56	0
55	MG	QA	1617	1/1	0.95	0.34	98,98,98,98	0
55	MG	YA	3218	1/1	0.95	0.46	38,38,38,38	0
55	MG	RA	3175	1/1	0.95	0.41	48,48,48,48	0
55	MG	YA	3222	1/1	0.95	0.27	56,56,56,56	0
55	MG	RA	3073	1/1	0.95	0.28	51,51,51,51	0
55	MG	QA	1608	1/1	0.95	0.30	91,91,91,91	0
55	MG	RA	3141	1/1	0.95	1.03	72,72,72,72	0
55	MG	QA	1641	1/1	0.95	0.47	87,87,87,87	0
55	MG	RA	3143	1/1	0.95	0.12	51,51,51,51	0
55	MG	YA	3229	1/1	0.95	0.50	38,38,38,38	0
55	MG	YA	3129	1/1	0.95	0.31	44,44,44,44	0
55	MG	YA	3233	1/1	0.95	0.45	42,42,42,42	0
55	MG	RA	3048	1/1	0.95	0.57	46,46,46,46	0
55	MG	QA	1606	1/1	0.95	0.26	89,89,89,89	0
55	MG	RA	3088	1/1	0.95	0.52	42,42,42,42	0
55	MG	YA	3237	1/1	0.95	0.20	34,34,34,34	0
55	MG	YA	3134	1/1	0.95	0.22	42,42,42,42	0
55	MG	YA	3007	1/1	0.95	0.41	28,28,28,28	0
55	MG	YA	3240	1/1	0.95	0.30	40,40,40,40	0
55	MG	YA	3138	1/1	0.95	0.17	39,39,39,39	0
55	MG	YA	3013	1/1	0.95	0.55	27,27,27,27	0
55	MG	YA	3014	1/1	0.95	0.59	25,25,25,25	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	YA	3015	1/1	0.95	0.17	28,28,28,28	0
55	MG	QA	1636	1/1	0.95	0.26	87,87,87,87	0
55	MG	YA	3145	1/1	0.95	0.26	44,44,44,44	0
55	MG	RA	3119	1/1	0.95	0.46	70,70,70,70	0
55	MG	YA	3023	1/1	0.95	0.54	27,27,27,27	0
55	MG	YA	3150	1/1	0.95	0.14	61,61,61,61	0
55	MG	YA	3026	1/1	0.95	0.66	59,59,59,59	0
55	MG	R5	101	1/1	0.95	0.42	45,45,45,45	0
55	MG	RA	3152	1/1	0.95	0.68	62,62,62,62	0
55	MG	YA	3033	1/1	0.95	0.36	31,31,31,31	0
55	MG	YA	3034	1/1	0.95	0.43	31,31,31,31	0
55	MG	RA	3001	1/1	0.95	0.69	58,58,58,58	0
55	MG	YA	3041	1/1	0.95	0.29	30,30,30,30	0
55	MG	YB	204	1/1	0.95	0.18	71,71,71,71	0
55	MG	YD	301	1/1	0.95	0.59	34,34,34,34	0
55	MG	QA	1610	1/1	0.95	0.38	75,75,75,75	0
55	MG	YA	3160	1/1	0.95	0.27	37,37,37,37	0
55	MG	YA	3048	1/1	0.95	0.34	36,36,36,36	0
55	MG	QA	1645	1/1	0.95	0.25	70,70,70,70	0
55	MG	YA	3183	1/1	0.96	0.34	53,53,53,53	0
55	MG	RA	3148	1/1	0.96	0.52	55,55,55,55	0
55	MG	YA	3103	1/1	0.96	0.40	24,24,24,24	0
55	MG	XA	1632	1/1	0.96	0.38	96,96,96,96	0
55	MG	YA	3105	1/1	0.96	0.40	32,32,32,32	0
55	MG	YA	3188	1/1	0.96	0.16	43,43,43,43	0
55	MG	YA	3001	1/1	0.96	0.48	27,27,27,27	0
55	MG	YA	3002	1/1	0.96	0.53	30,30,30,30	0
55	MG	RF	301	1/1	0.96	0.49	84,84,84,84	0
55	MG	RA	3121	1/1	0.96	0.41	55,55,55,55	0
55	MG	YA	3197	1/1	0.96	0.50	36,36,36,36	0
55	MG	RA	3094	1/1	0.96	0.42	45,45,45,45	0
55	MG	RR	201	1/1	0.96	0.32	52,52,52,52	0
55	MG	RA	3124	1/1	0.96	0.41	56,56,56,56	0
55	MG	RA	3072	1/1	0.96	0.39	61,61,61,61	0
55	MG	RA	3154	1/1	0.96	0.30	65,65,65,65	0
55	MG	YA	3204	1/1	0.96	0.20	43,43,43,43	0
55	MG	YA	3019	1/1	0.96	0.65	25,25,25,25	0
55	MG	RA	3186	1/1	0.96	0.59	78,78,78,78	0
55	MG	XA	1601	1/1	0.96	0.60	55,55,55,55	0
55	MG	YA	3208	1/1	0.96	0.23	36,36,36,36	0
55	MG	RA	3155	1/1	0.96	0.15	60,60,60,60	0
55	MG	YA	3130	1/1	0.96	0.24	31,31,31,31	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	XA	1603	1/1	0.96	0.51	49,49,49,49	0
55	MG	XA	1645	1/1	0.96	0.41	92,92,92,92	0
55	MG	RA	3096	1/1	0.96	0.54	39,39,39,39	0
55	MG	RA	3005	1/1	0.96	0.58	35,35,35,35	0
55	MG	RA	3012	1/1	0.96	0.32	42,42,42,42	0
55	MG	YA	3137	1/1	0.96	0.37	41,41,41,41	0
55	MG	YA	3039	1/1	0.96	0.35	30,30,30,30	0
55	MG	YA	3040	1/1	0.96	0.43	25,25,25,25	0
55	MG	YA	3140	1/1	0.96	0.42	38,38,38,38	0
55	MG	RA	3075	1/1	0.96	0.24	62,62,62,62	0
55	MG	YA	3043	1/1	0.96	0.46	32,32,32,32	0
55	MG	RA	3076	1/1	0.96	0.31	42,42,42,42	0
55	MG	RA	3078	1/1	0.96	0.49	43,43,43,43	0
55	MG	XA	1610	1/1	0.96	0.36	63,63,63,63	0
55	MG	YA	3147	1/1	0.96	0.19	36,36,36,36	0
55	MG	RA	3163	1/1	0.96	0.19	62,62,62,62	0
55	MG	RA	3027	1/1	0.96	0.61	44,44,44,44	0
55	MG	YA	3057	1/1	0.96	0.69	38,38,38,38	0
55	MG	RA	3104	1/1	0.96	0.38	43,43,43,43	0
55	MG	RA	3166	1/1	0.96	0.28	54,54,54,54	0
55	MG	RA	3042	1/1	0.96	0.60	46,46,46,46	0
55	MG	YA	3069	1/1	0.96	0.37	34,34,34,34	0
55	MG	RA	3108	1/1	0.96	0.23	49,49,49,49	0
55	MG	RA	3014	1/1	0.96	0.41	39,39,39,39	0
55	MG	XA	1620	1/1	0.96	0.69	68,68,68,68	0
55	MG	RA	3085	1/1	0.96	0.30	49,49,49,49	0
55	MG	YA	3248	1/1	0.96	0.33	42,42,42,42	0
55	MG	RA	3029	1/1	0.96	0.35	50,50,50,50	0
55	MG	RA	3047	1/1	0.96	0.35	52,52,52,52	0
55	MG	RA	3018	1/1	0.96	0.24	50,50,50,50	0
55	MG	YA	3255	1/1	0.96	0.41	30,30,30,30	0
55	MG	YA	3166	1/1	0.96	0.18	41,41,41,41	0
55	MG	YA	3259	1/1	0.96	0.44	32,32,32,32	0
55	MG	YA	3168	1/1	0.96	0.32	38,38,38,38	0
55	MG	RA	3240	1/1	0.96	0.19	51,51,51,51	0
55	MG	RA	3115	1/1	0.96	0.21	45,45,45,45	0
55	MG	YA	3089	1/1	0.96	0.50	28,28,28,28	0
55	MG	YA	3090	1/1	0.96	0.33	39,39,39,39	0
55	MG	YB	201	1/1	0.96	0.17	63,63,63,63	0
55	MG	YA	3173	1/1	0.96	0.12	45,45,45,45	0
55	MG	RA	3003	1/1	0.96	0.89	47,47,47,47	0
55	MG	YA	3093	1/1	0.96	0.48	26,26,26,26	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	RA	3023	1/1	0.96	0.67	45,45,45,45	0
55	MG	YE	301	1/1	0.96	0.28	32,32,32,32	0
55	MG	YA	3095	1/1	0.96	0.39	40,40,40,40	0
55	MG	RA	3146	1/1	0.96	0.41	69,69,69,69	0
56	ZN	QD	301	1/1	0.96	0.19	116,116,116,116	0
55	MG	YA	3098	1/1	0.96	0.37	29,29,29,29	0
55	MG	RA	3093	1/1	0.96	0.51	46,46,46,46	0
55	MG	YA	3196	1/1	0.97	0.20	52,52,52,52	0
55	MG	RA	3033	1/1	0.97	0.55	61,61,61,61	0
55	MG	RA	3083	1/1	0.97	0.46	44,44,44,44	0
55	MG	QA	1612	1/1	0.97	0.58	62,62,62,62	0
55	MG	YA	3060	1/1	0.97	0.34	39,39,39,39	0
55	MG	YA	3062	1/1	0.97	0.37	30,30,30,30	0
55	MG	RA	3212	1/1	0.97	0.26	55,55,55,55	0
55	MG	YA	3066	1/1	0.97	0.48	34,34,34,34	0
55	MG	YA	3136	1/1	0.97	0.34	39,39,39,39	0
55	MG	RA	3107	1/1	0.97	0.31	52,52,52,52	0
55	MG	XA	1615	1/1	0.97	0.51	56,56,56,56	0
55	MG	YA	3003	1/1	0.97	0.32	29,29,29,29	0
55	MG	YA	3209	1/1	0.97	0.24	38,38,38,38	0
55	MG	RA	3021	1/1	0.97	0.62	44,44,44,44	0
55	MG	YA	3212	1/1	0.97	0.26	40,40,40,40	0
55	MG	YA	3141	1/1	0.97	0.49	31,31,31,31	0
55	MG	YA	3073	1/1	0.97	0.53	35,35,35,35	0
55	MG	YA	3005	1/1	0.97	0.29	37,37,37,37	0
55	MG	RA	3086	1/1	0.97	0.33	49,49,49,49	0
55	MG	RA	3087	1/1	0.97	0.39	75,75,75,75	0
55	MG	YA	3220	1/1	0.97	0.27	37,37,37,37	0
55	MG	YA	3009	1/1	0.97	0.68	34,34,34,34	0
55	MG	RB	201	1/1	0.97	0.17	125,125,125,125	0
55	MG	YA	3079	1/1	0.97	0.34	34,34,34,34	0
55	MG	RA	3065	1/1	0.97	0.65	47,47,47,47	0
55	MG	YA	3083	1/1	0.97	0.60	35,35,35,35	0
55	MG	YA	3084	1/1	0.97	0.24	29,29,29,29	0
55	MG	RA	3049	1/1	0.97	0.66	41,41,41,41	0
55	MG	YA	3154	1/1	0.97	0.13	31,31,31,31	0
55	MG	RA	3190	1/1	0.97	0.50	64,64,64,64	0
55	MG	YA	3232	1/1	0.97	0.10	45,45,45,45	0
55	MG	XA	1653	1/1	0.97	0.82	91,91,91,91	0
55	MG	RA	3067	1/1	0.97	0.52	43,43,43,43	0
55	MG	YA	3022	1/1	0.97	0.53	30,30,30,30	0
55	MG	RA	3070	1/1	0.97	0.21	56,56,56,56	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	YA	3025	1/1	0.97	0.58	24,24,24,24	0
55	MG	YA	3096	1/1	0.97	0.29	30,30,30,30	0
55	MG	YA	3163	1/1	0.97	0.31	43,43,43,43	0
55	MG	RA	3050	1/1	0.97	0.50	47,47,47,47	0
55	MG	RA	3022	1/1	0.97	0.40	42,42,42,42	0
55	MG	RA	3017	1/1	0.97	0.52	44,44,44,44	0
55	MG	YA	3167	1/1	0.97	0.23	52,52,52,52	0
55	MG	YA	3032	1/1	0.97	0.46	39,39,39,39	0
55	MG	YA	3245	1/1	0.97	0.16	39,39,39,39	0
55	MG	YA	3102	1/1	0.97	0.35	52,52,52,52	0
55	MG	RA	3144	1/1	0.97	0.57	45,45,45,45	0
55	MG	RA	3120	1/1	0.97	0.41	48,48,48,48	0
55	MG	RA	3198	1/1	0.97	0.23	49,49,49,49	0
55	MG	RA	3040	1/1	0.97	0.33	45,45,45,45	0
55	MG	YA	3254	1/1	0.97	0.48	35,35,35,35	0
55	MG	RA	3030	1/1	0.97	0.55	41,41,41,41	0
55	MG	YA	3109	1/1	0.97	0.28	33,33,33,33	0
55	MG	YA	3110	1/1	0.97	0.36	54,54,54,54	0
55	MG	RA	3031	1/1	0.97	0.38	44,44,44,44	0
55	MG	YA	3042	1/1	0.97	0.29	35,35,35,35	0
55	MG	YA	3114	1/1	0.97	0.39	38,38,38,38	0
55	MG	RA	3125	1/1	0.97	0.41	75,75,75,75	0
55	MG	YA	3265	1/1	0.97	0.34	35,35,35,35	0
55	MG	YA	3045	1/1	0.97	0.54	29,29,29,29	0
55	MG	YA	3267	1/1	0.97	0.43	37,37,37,37	0
55	MG	YA	3046	1/1	0.97	0.48	24,24,24,24	0
55	MG	RA	3077	1/1	0.97	0.49	46,46,46,46	0
55	MG	YA	3120	1/1	0.97	0.41	29,29,29,29	0
55	MG	RA	3043	1/1	0.97	0.50	42,42,42,42	0
55	MG	YA	3049	1/1	0.97	0.49	37,37,37,37	0
55	MG	YA	3189	1/1	0.97	0.20	47,47,47,47	0
55	MG	YA	3123	1/1	0.97	0.25	36,36,36,36	0
55	MG	YA	3191	1/1	0.97	0.38	42,42,42,42	0
55	MG	YA	3124	1/1	0.97	0.42	27,27,27,27	0
55	MG	RA	3079	1/1	0.97	0.41	60,60,60,60	0
56	ZN	XD	301	1/1	0.97	0.30	99,99,99,99	0
55	MG	QA	1633	1/1	0.97	0.08	110,110,110,110	0
55	MG	YA	3050	1/1	0.98	0.46	27,27,27,27	0
55	MG	YA	3051	1/1	0.98	0.32	32,32,32,32	0
55	MG	RA	3082	1/1	0.98	0.85	72,72,72,72	0
55	MG	YA	3053	1/1	0.98	0.32	25,25,25,25	0
55	MG	RA	3157	1/1	0.98	0.33	43,43,43,43	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	YA	3219	1/1	0.98	0.37	52,52,52,52	0
55	MG	YA	3107	1/1	0.98	0.50	32,32,32,32	0
55	MG	YA	3161	1/1	0.98	0.33	47,47,47,47	0
55	MG	YA	3055	1/1	0.98	0.38	31,31,31,31	0
55	MG	RA	3015	1/1	0.98	0.38	44,44,44,44	0
55	MG	YA	3016	1/1	0.98	0.38	30,30,30,30	0
55	MG	YA	3225	1/1	0.98	0.36	27,27,27,27	0
55	MG	YA	3017	1/1	0.98	0.54	31,31,31,31	0
55	MG	XA	1640	1/1	0.98	0.39	56,56,56,56	0
55	MG	RA	3016	1/1	0.98	0.65	41,41,41,41	0
55	MG	YA	3063	1/1	0.98	0.41	35,35,35,35	0
55	MG	YA	3230	1/1	0.98	0.15	39,39,39,39	0
55	MG	YA	3064	1/1	0.98	0.33	38,38,38,38	0
55	MG	YA	3020	1/1	0.98	0.45	26,26,26,26	0
55	MG	YA	3118	1/1	0.98	0.47	33,33,33,33	0
55	MG	QA	1654	1/1	0.98	0.10	98,98,98,98	0
55	MG	RA	3098	1/1	0.98	0.51	43,43,43,43	0
55	MG	YA	3174	1/1	0.98	0.36	47,47,47,47	0
55	MG	QH	201	1/1	0.98	0.49	92,92,92,92	0
55	MG	RA	3062	1/1	0.98	0.35	41,41,41,41	0
55	MG	RA	3116	1/1	0.98	0.58	53,53,53,53	0
55	MG	YA	3072	1/1	0.98	0.20	55,55,55,55	0
55	MG	YA	3027	1/1	0.98	0.29	32,32,32,32	0
55	MG	YA	3028	1/1	0.98	0.21	29,29,29,29	0
55	MG	YA	3127	1/1	0.98	0.49	32,32,32,32	0
55	MG	YA	3128	1/1	0.98	0.38	42,42,42,42	0
55	MG	RA	3024	1/1	0.98	0.43	50,50,50,50	0
55	MG	YA	3246	1/1	0.98	0.51	32,32,32,32	0
55	MG	RA	3064	1/1	0.98	0.65	32,32,32,32	0
55	MG	RA	3045	1/1	0.98	0.44	61,61,61,61	0
55	MG	RA	3054	1/1	0.98	0.36	44,44,44,44	0
55	MG	RA	3105	1/1	0.98	0.32	50,50,50,50	0
55	MG	YA	3252	1/1	0.98	0.51	23,23,23,23	0
55	MG	YA	3081	1/1	0.98	0.50	26,26,26,26	0
55	MG	YA	3035	1/1	0.98	0.46	26,26,26,26	0
55	MG	YA	3036	1/1	0.98	0.36	32,32,32,32	0
55	MG	YA	3257	1/1	0.98	0.53	28,28,28,28	0
55	MG	YA	3037	1/1	0.98	0.45	25,25,25,25	0
55	MG	YA	3193	1/1	0.98	0.23	39,39,39,39	0
55	MG	RA	3206	1/1	0.98	0.47	46,46,46,46	0
55	MG	YA	3086	1/1	0.98	0.47	30,30,30,30	0
55	MG	YA	3262	1/1	0.98	0.39	27,27,27,27	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
55	MG	YA	3087	1/1	0.98	0.36	39,39,39,39	0
55	MG	RA	3170	1/1	0.98	0.16	66,66,66,66	0
55	MG	RE	301	1/1	0.98	0.28	37,37,37,37	0
55	MG	YA	3199	1/1	0.98	0.37	44,44,44,44	0
55	MG	YA	3091	1/1	0.98	0.42	40,40,40,40	0
55	MG	XA	1612	1/1	0.98	0.33	75,75,75,75	0
55	MG	XA	1656	1/1	0.98	0.64	67,67,67,67	0
55	MG	RA	3153	1/1	0.98	0.37	79,79,79,79	0
55	MG	YA	3044	1/1	0.98	0.31	28,28,28,28	0
55	MG	YA	3148	1/1	0.98	0.30	32,32,32,32	0
55	MG	YD	302	1/1	0.98	0.20	30,30,30,30	0
55	MG	RA	3037	1/1	0.98	0.42	41,41,41,41	0
55	MG	YP	201	1/1	0.98	0.10	56,56,56,56	0
55	MG	YA	3008	1/1	0.98	0.39	36,36,36,36	0
55	MG	RA	3019	1/1	0.98	0.41	40,40,40,40	0
55	MG	Y5	101	1/1	0.98	0.27	33,33,33,33	0
55	MG	YA	3010	1/1	0.98	0.46	35,35,35,35	0
55	MG	YA	3100	1/1	0.98	0.48	26,26,26,26	0
55	MG	YA	3211	1/1	0.98	0.23	29,29,29,29	0
55	MG	YA	3011	1/1	0.98	0.37	27,27,27,27	0
55	MG	YA	3024	1/1	0.99	0.46	36,36,36,36	0
55	MG	YA	3080	1/1	0.99	0.49	28,28,28,28	0
55	MG	YA	3175	1/1	0.99	0.41	30,30,30,30	0
55	MG	YA	3111	1/1	0.99	0.15	38,38,38,38	0
55	MG	YA	3067	1/1	0.99	0.33	37,37,37,37	0
55	MG	RA	3068	1/1	0.99	0.47	44,44,44,44	0
55	MG	YA	3213	1/1	0.99	0.21	37,37,37,37	0
55	MG	RA	3109	1/1	0.99	0.25	48,48,48,48	0
55	MG	YA	3251	1/1	0.99	0.52	31,31,31,31	0
55	MG	RA	3069	1/1	0.99	0.57	56,56,56,56	0
55	MG	YA	3058	1/1	0.99	0.47	29,29,29,29	0
55	MG	RA	3123	1/1	0.99	0.45	63,63,63,63	0
55	MG	YA	3012	1/1	0.99	0.58	20,20,20,20	0
55	MG	YA	3256	1/1	0.99	0.54	28,28,28,28	0
55	MG	YA	3088	1/1	0.99	0.41	34,34,34,34	0
55	MG	YA	3061	1/1	0.99	0.33	35,35,35,35	0
55	MG	RA	3059	1/1	0.99	0.36	43,43,43,43	0
55	MG	YA	3031	1/1	0.99	0.61	33,33,33,33	0
55	MG	RA	3013	1/1	0.99	0.23	47,47,47,47	0
55	MG	RA	3038	1/1	0.99	0.42	39,39,39,39	0
55	MG	RA	3207	1/1	1.00	0.23	48,48,48,48	0

6.5 Other polymers (i)

There are no such residues in this entry.