



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 07:53 PM UTC

PDB ID : 5VPO / pdb_00005vpo
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 ⓘ symbol.

The types of validation reports are described at

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

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

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

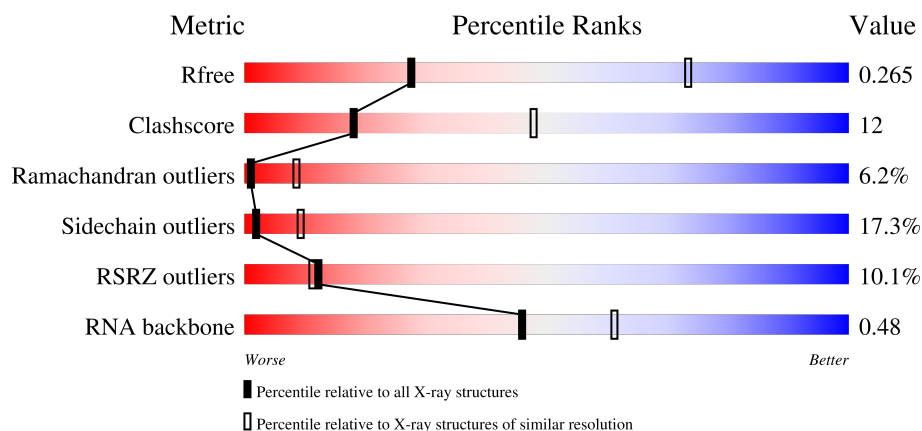
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.34 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}	180053	1434 (3.38-3.30)
Clashscore	190562	1479 (3.38-3.30)
Ramachandran outliers	187476	1456 (3.38-3.30)
Sidechain outliers	187428	1455 (3.38-3.30)
RSRZ outliers	180081	1434 (3.38-3.30)
RNA backbone	3983	1083 (3.68-3.00)

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

Mol	Chain	Length	Quality of chain
1	QX	19	5% 16% 5% 79%
1	XX	19	5% 16% 5% 79%
2	QA	1521	5% 56% 34% 8%
2	XA	1521	4% 55% 34% 9%

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Mol	Chain	Length	Quality of chain
3	QB	256	
3	XB	256	
4	QC	239	
4	XC	239	
5	QD	209	
5	XD	209	
6	QE	162	
6	XE	162	
7	QF	101	
7	XF	101	
8	QG	156	
8	XG	156	
9	QH	138	
9	XH	138	
10	QI	128	
10	XI	128	
11	QJ	105	
11	XJ	105	
12	QK	129	
12	XK	129	
13	QL	132	
13	XL	132	
14	QM	126	
14	XM	126	
15	QN	61	

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Mol	Chain	Length	Quality of chain
15	XN	61	
16	QO	89	
16	XO	89	
17	QP	88	
17	XP	88	
18	QQ	105	
18	XQ	105	
19	QR	88	
19	XR	88	
20	QS	93	
20	XS	93	
21	QT	106	
21	XT	106	
22	QU	27	
22	XU	27	
23	RA	2915	
23	YA	2915	
24	RB	122	
24	YB	122	
25	RD	276	
25	YD	276	
26	RE	206	
26	YE	206	
27	RF	210	
27	YF	210	

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Mol	Chain	Length	Quality of chain
28	RG	182	
28	YG	182	
29	RH	180	
29	YH	180	
30	RI	148	
30	YI	148	
31	RN	140	
31	YN	140	
32	RO	122	
32	YO	122	
33	RP	150	
33	YP	150	
34	RQ	141	
34	YQ	141	
35	RR	118	
35	YR	118	
36	RS	112	
36	YS	112	
37	RT	146	
37	YT	146	
38	RU	118	
38	YU	118	
39	RV	101	
39	YV	101	
40	RW	113	

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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	
53	Y9	37	
54	QV	18	
54	XV	18	

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	1603	-	-	-	X
55	MG	QA	1604	-	-	-	X
55	MG	QA	1613	-	-	-	X
55	MG	QA	1618	-	-	-	X
55	MG	QA	1619	-	-	-	X
55	MG	QA	1625	-	-	-	X
55	MG	QA	1631	-	-	-	X
55	MG	QA	1639	-	-	-	X
55	MG	QA	1641	-	-	-	X
55	MG	QA	1652	-	-	-	X
55	MG	QA	1665	-	-	-	X
55	MG	RA	3112	-	-	-	X
55	MG	RA	3122	-	-	-	X
55	MG	RA	3126	-	-	-	X
55	MG	RA	3152	-	-	-	X
55	MG	RA	3219	-	-	-	X
55	MG	RA	3220	-	-	-	X
55	MG	RA	3230	-	-	-	X
55	MG	RA	3242	-	-	-	X
55	MG	XA	1602	-	-	-	X
55	MG	XA	1609	-	-	-	X
55	MG	XA	1614	-	-	-	X
55	MG	XA	1617	-	-	-	X
55	MG	XA	1620	-	-	-	X
55	MG	XA	1623	-	-	-	X
55	MG	XA	1634	-	-	-	X
55	MG	XA	1635	-	-	-	X
55	MG	XA	1641	-	-	-	X
55	MG	XA	1645	-	-	-	X
55	MG	XA	1662	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
55	MG	YA	3126	-	-	-	X
55	MG	YA	3131	-	-	-	X
55	MG	YP	202	-	-	-	X

2 Entry composition

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			
			1010	639	197	174	0	0	0

- 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		
			801	504	157	139	1	0	0
11	XJ	99	Total	C	N	O	S		
			801	504	157	139	1	0	0

- 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		
			885	549	168	165	3	0	0
12	XK	119	Total	C	N	O	S		
			885	549	168	165	3	0	0

- 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		
			975	614	196	164	1	0	0
13	XL	125	Total	C	N	O	S		
			975	614	196	164	1	0	0

- 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		
			964	597	199	166	2	0	0
14	XM	121	Total	C	N	O	S		
			964	597	199	166	2	0	0

- 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		
			492	312	104	72	4	0	0
15	XN	60	Total	C	N	O	S		
			492	312	104	72	4	0	0

- 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	C	N	O	S	0	0	0
			307	188	68	47	4			
53	Y9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

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

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

- Molecule 55 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

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

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

- Molecule 56 is ZINC ION (CCD ID: ZN) (formula: Zn).

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

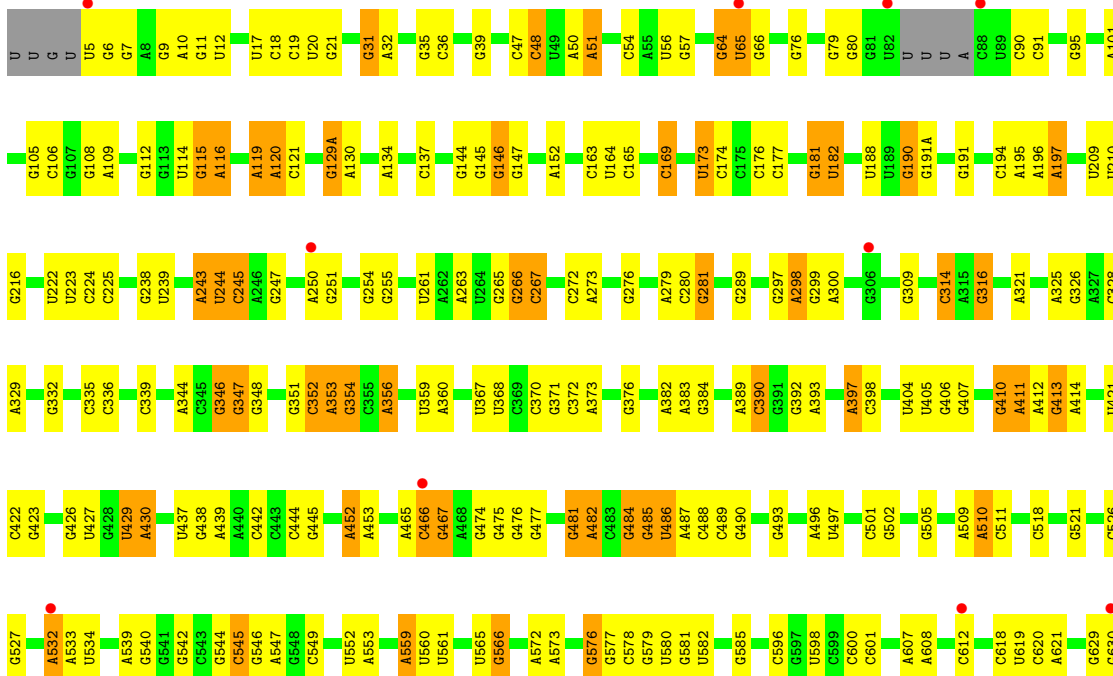
• Molecule 1: messenger RNA

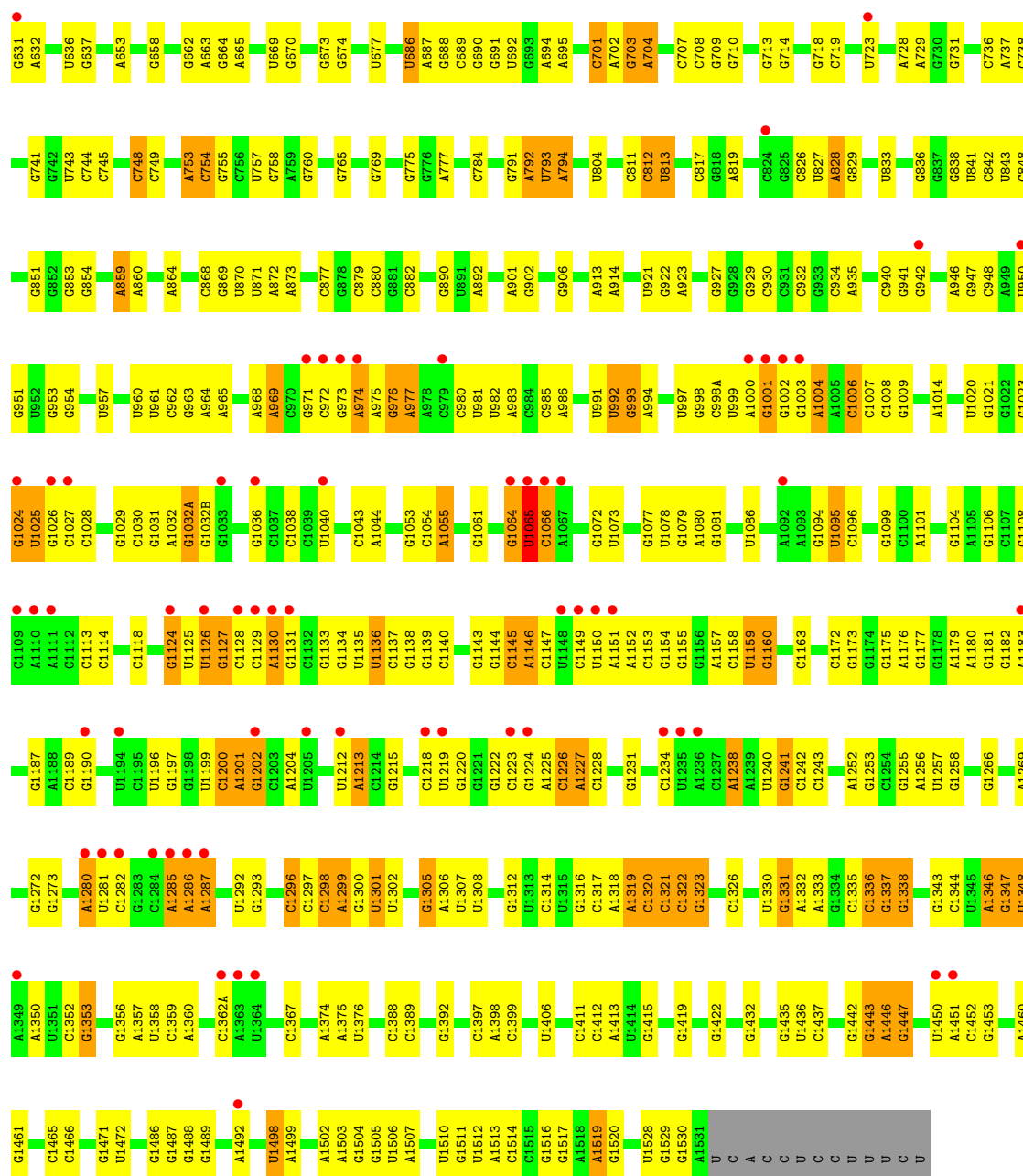


• Molecule 1: messenger RNA



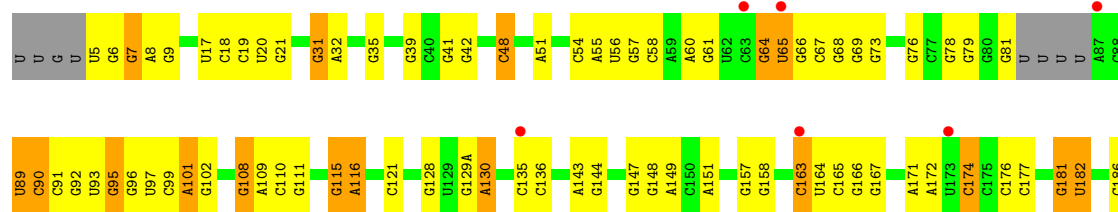
• Molecule 2: 16S rRNA





• Molecule 2: 16S rRNA

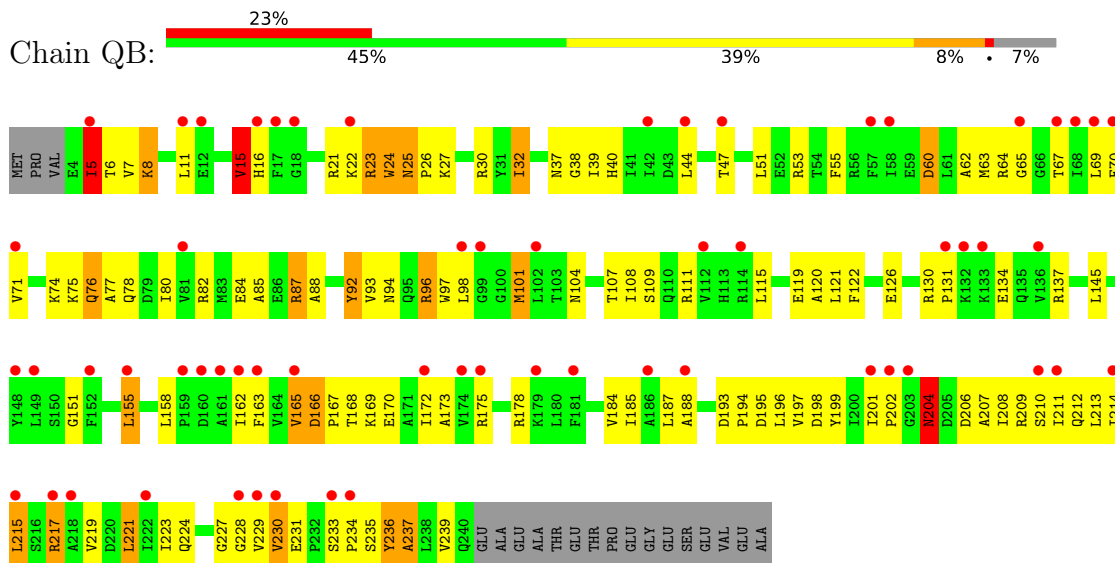
Chain XA: 4% 55% 34% 9%



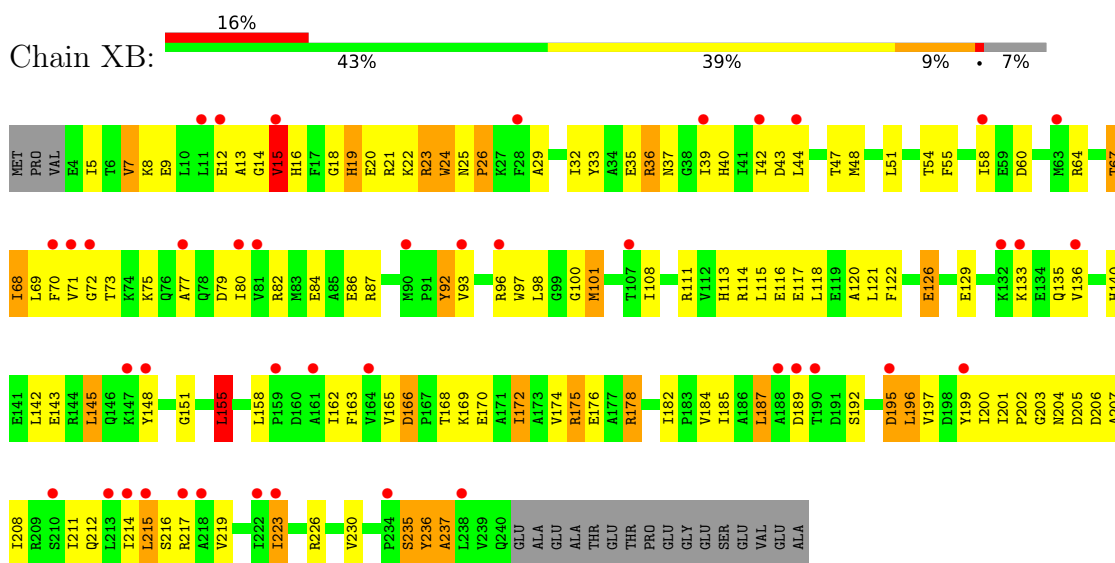
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A1333	C1336	C1340	U1341	C1342	C1343	C1344	U1345	A1346	C1347	U1348	C1352	C1353	C1356	A1357	U1358	C1359	C1362A	C1363	C1364	C1365	C1368	U1372	C1373	C1374	A1375	U1376	C1377	C1388	C1389	U1390	U1391	U1392	C1393	C1397	C1398	C1399	G1410	C1411	C1412	A1413	U1414	G1419	C1422	C1423	C1424	C1427	A1428	C1429							
A1245	A1256	U1257	G1258	C1263	C1264	G1265	A1269	C1270	G1271	G1272	G1273	G1274	C1277	U1278	A1279	C1280	U1281	C1282	A1285	A1286	A1287	C1296	C1297	C1298	C1299	G1300	U1301	U1302	C1303	G1304	C1305	A1306	U1307	U1308	U1313	C1314	U1315	C1316	C1317	A1319	C1320	C1321	C1322	G1323	A1324	C1325	C1326	C1327	G1331	A1332					
A1176	G1177	G1178	A1179	U1180	C1181	G1182	A1183	G1184	G1187	A1188	C1189	G1190	A1191	C1192	G1193	U1196	U1199	C1200	A1201	C1202	C1203	A1204	U1205	G1207	C1210	U1211	U1212	C1213	C1214	C1215	C1218	U1219	C1220	G1221	C1222	C1223	G1224	A1225	C1226	C1227	C1228	U1232	A1236	C1237	A1238	A1239	C1240	G1241	C1242	C1243	C1244	C1247			
C1098	G1099	C1100	A1101	C1102	C1103	G1104	A1105	C1106	C1107	G1108	C1112	C1113	C1114	G1117	U1122	A1123	U1125	U1126	G1127	C1128	C1129	A1130	C1131	C1132	C1133	G1134	U1135	U1136	C1137	G1138	C1139	G1143	C1144	C1145	C1146	C1147	U1148	C1149	U1150	A1151	A1152	A1157	C1158	U1159	G1160	C1161	C1162	A1169	U1170	G1171	G1175				
G1021	G1022	G1023	G1024	U1025	C1026	C1027	C1028	G1029	G1032A	G1034	A1035	G1036	C1037	C1038	C1039	U1040	U1041	G1042	U1043	A1044	G1053	C1054	A1055	C1060	G1061	U1062	C1063	G1064	U1065	C1066	C1067	G1068	C1069	U1070	C1071	G1074	G1077	U1078	G1079	A1080	G1081	U1086	U1090	U1091	A1092	A1093	G1094	U1095	C1096	C1097					
A935	C940	A949	U950	C951	U952	G953	U954	U955	U960	U961	C962	G963	A964	A965	G966	C967	A968	A969	C970	G971	C972	G973	A974	C975	G976	A977	A978	C984	C985	C986	C990	U991	U992	G993	A994	A1000	G1001	G1002	G1003	A1004	A1005	C1006	C1007	C1008	G1009	A1014	A1015	A1016	A1017	C1018	C1019				
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	G907	A913	A914	U920	U921	G922	A923	C924	C925	G926	G927	C934												
G691	A702	C703	A704	C707	G714	A715	G718	C719	U723	G724	C725	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	U792	A793	A794	G799	C804										
A572	A573	A574	C575	C576	C577	C578	C579	U580	C581	G587	U598	C599	C600	C601	G606	A611	C612	C618	U619	A622	C629	G631	A632	G633	U636	G637	U646	C647	A648	G649	A653	G662	A663	G664	A665	G666	G673	G674	A675	U686	A687	C688	C689	G690											
C477	A478	C479	U480	C484	C485	U486	A487	C493	A496	U497	C501	C502	A509	A510	C511	C518	C522	A523	C524	C525	C526	U527	G530	U531	A532	A533	G537	C538	A539	C540	U541	C542	A547	G548	C555	C556	C557	C558	A559	U560	U561	C562	A563	C564	U565	C566	C567	C568							
G376	G380	C381	C382	A383	G384	C388	C389	C390	G396	A397	C398	G406	G410	A411	A412	G413	A414	C422	C423	G424	C425	C426	U427	G428	U429	A430	A431	A432	U437	C438	A439	A440	C442	G445	G446	C447	A448	A452	A453	C454	C458	G464	A465	U367	A466	C369	C372	A373	A374	U375					
G285	G289	G292	G293	A298	C299	A300	A303	U304	A305	G306	C312	A313	C316	G317	A321	C322	A327	C328	A329	C332	A337	A338	C342	U343	A344	C345	G346	G347	G348	G351	C352	A353	G354	C355	A356	U359	A360	U367	A465	C369	C372	A373	A374	U375											
C186A	C186F	C187	U188	U189	G190	G191	U192	C193	C194	A195	A196	A197	G200	C201	U208	U209	U210	C216	C217	C218	C219	G220	C221	U222	C224	C225	G231	A243	U244	C245	A246	G247	A250	G251	G255	U261	A262	A263	C266	C267	C268	C272	A273	C280	G281	G284									

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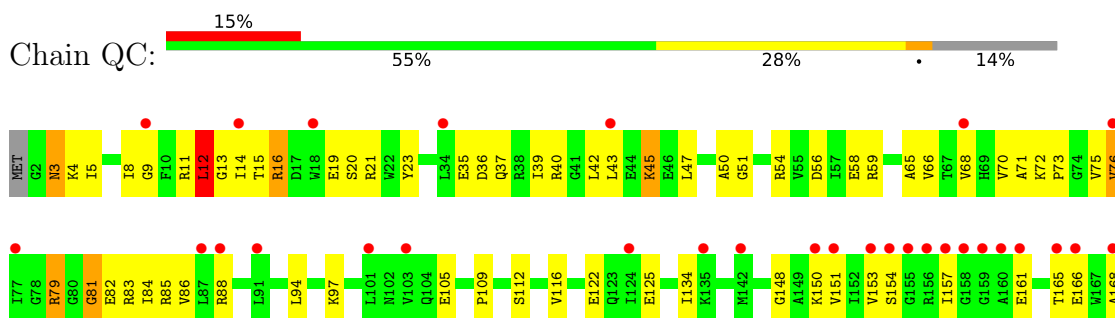
• Molecule 3: 30S ribosomal protein S2

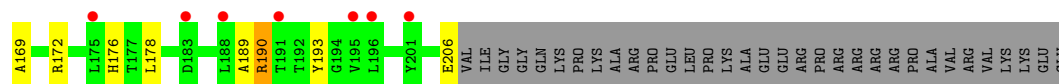


• Molecule 3: 30S ribosomal protein S2

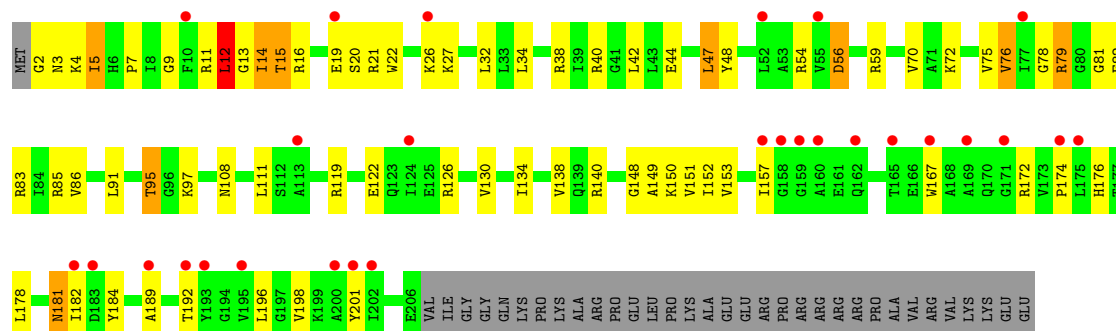


• Molecule 4: 30S ribosomal protein S3

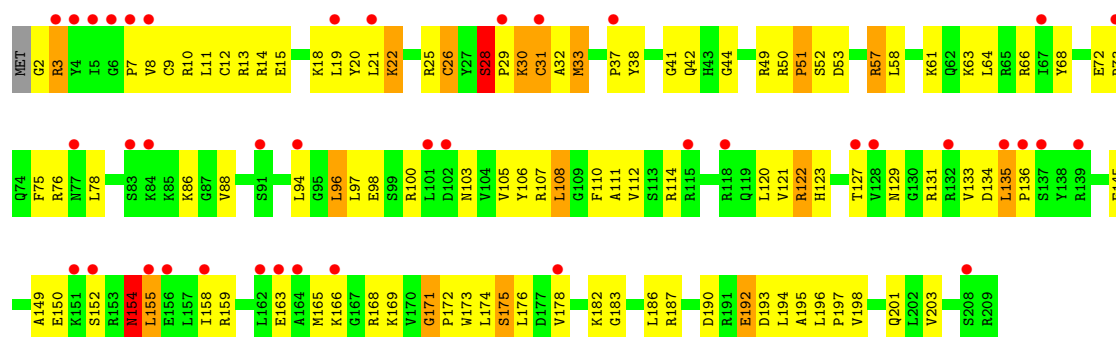




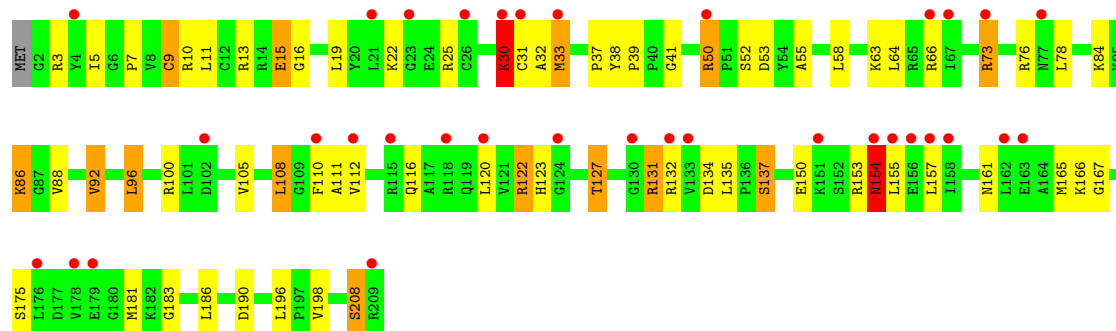
• Molecule 4: 30S ribosomal protein S3



• Molecule 5: 30S ribosomal protein S4

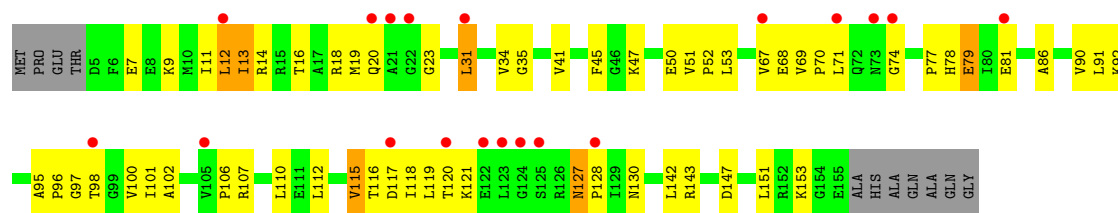


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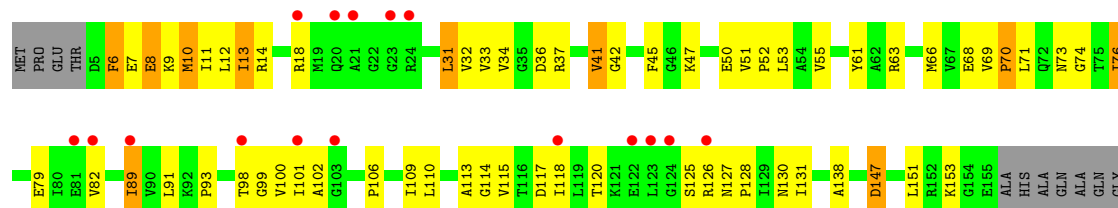


• Molecule 6: 30S ribosomal protein S5

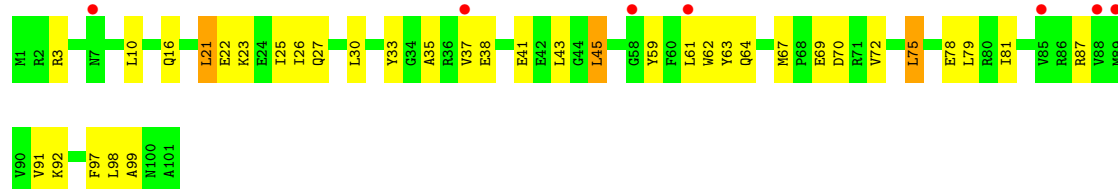




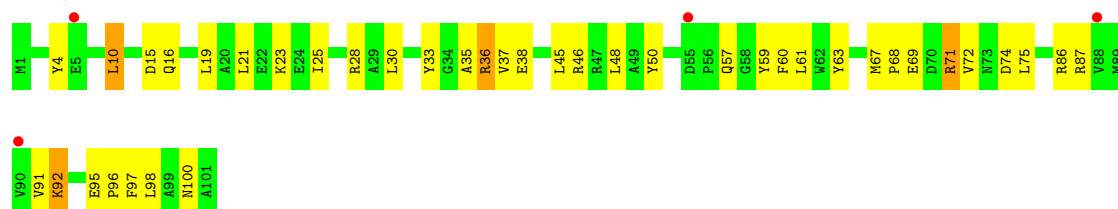
• Molecule 6: 30S ribosomal protein S5



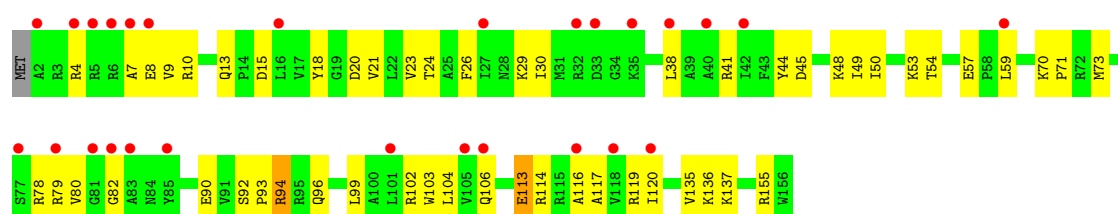
• Molecule 7: 30S ribosomal protein S6



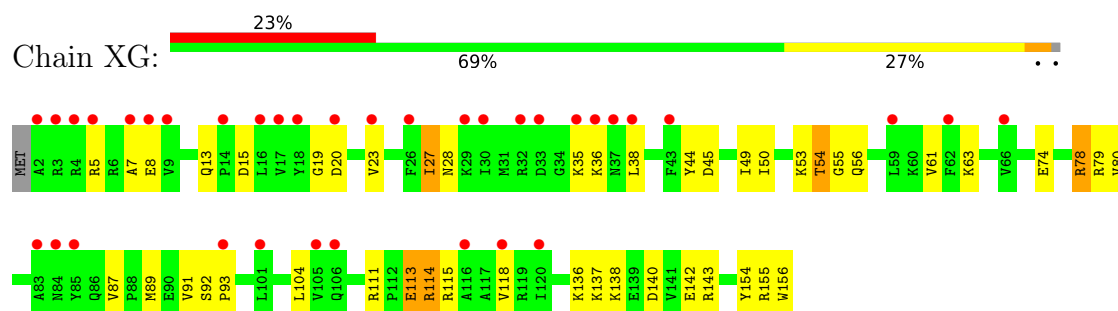
• Molecule 7: 30S ribosomal protein S6



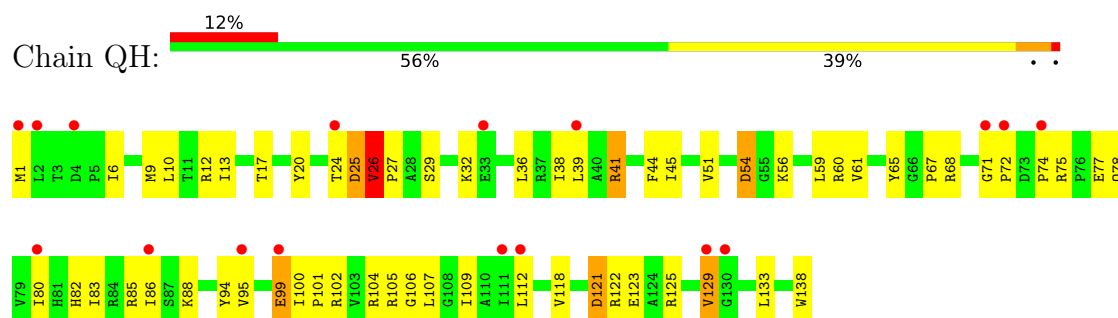
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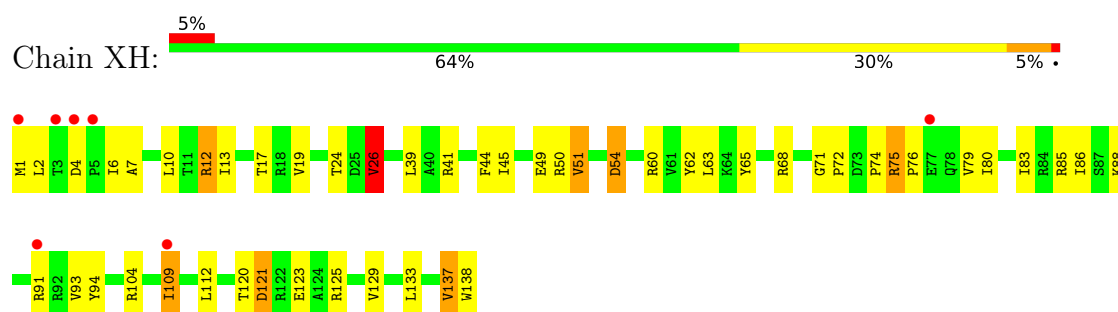
- Molecule 8: 30S ribosomal protein S7



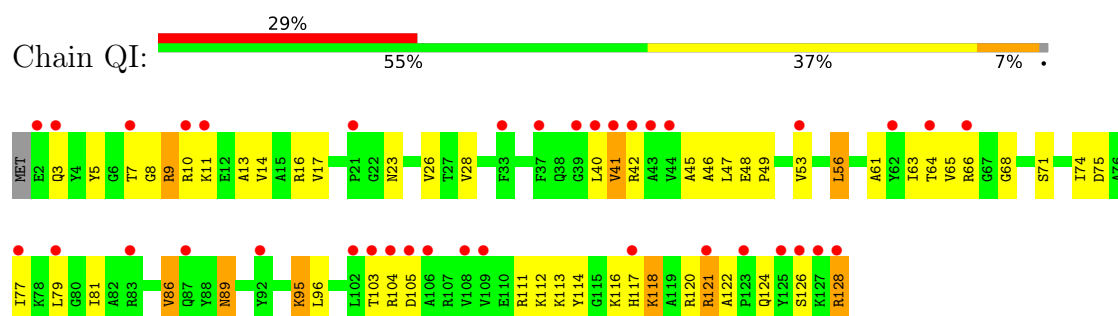
- Molecule 9: 30S ribosomal protein S8



- Molecule 9: 30S ribosomal protein S8

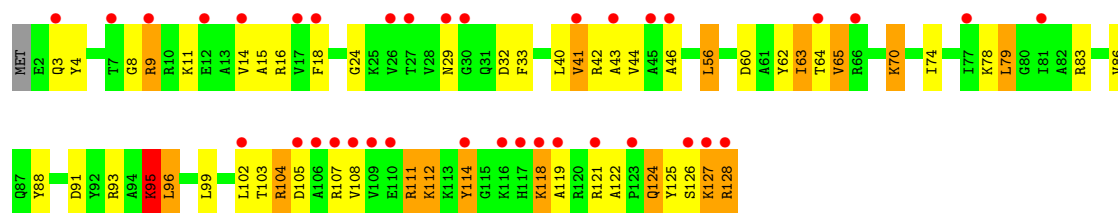


- Molecule 10: 30S ribosomal protein S9

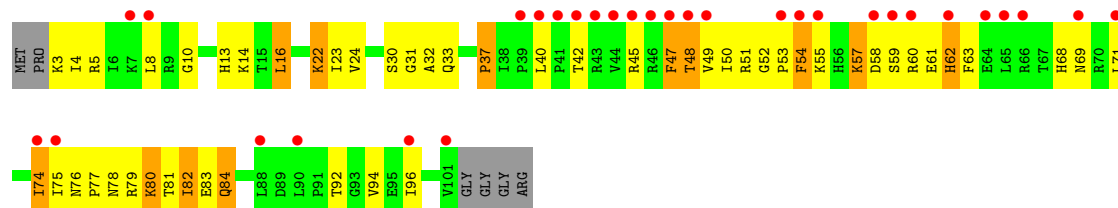


- Molecule 10: 30S ribosomal protein S9

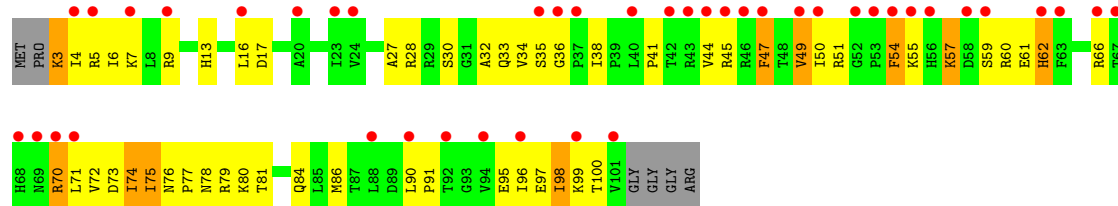
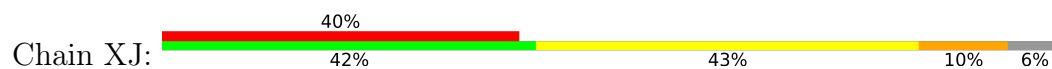




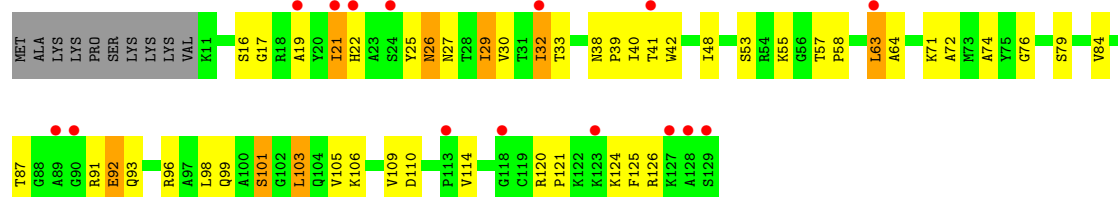
• Molecule 11: 30S ribosomal protein S10



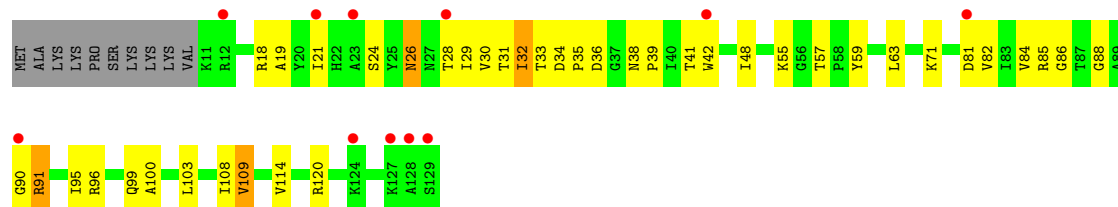
• Molecule 11: 30S ribosomal protein S10



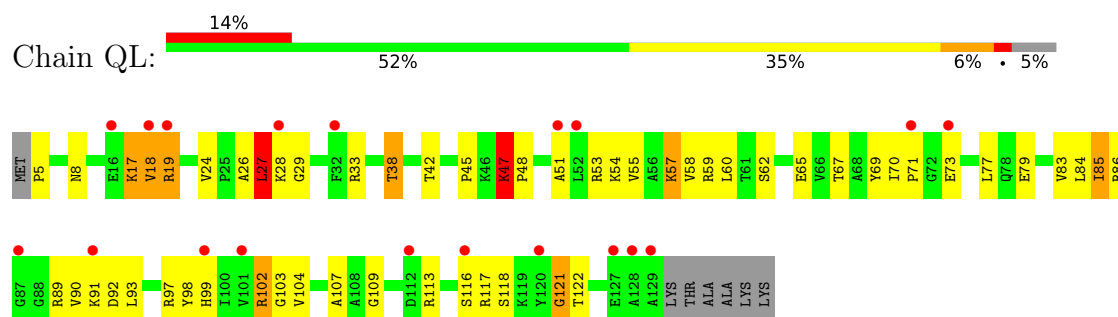
• Molecule 12: 30S ribosomal protein S11



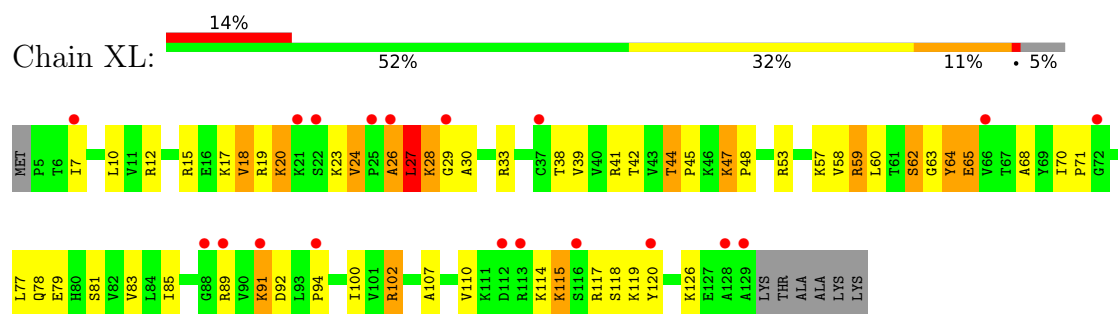
• Molecule 12: 30S ribosomal protein S11



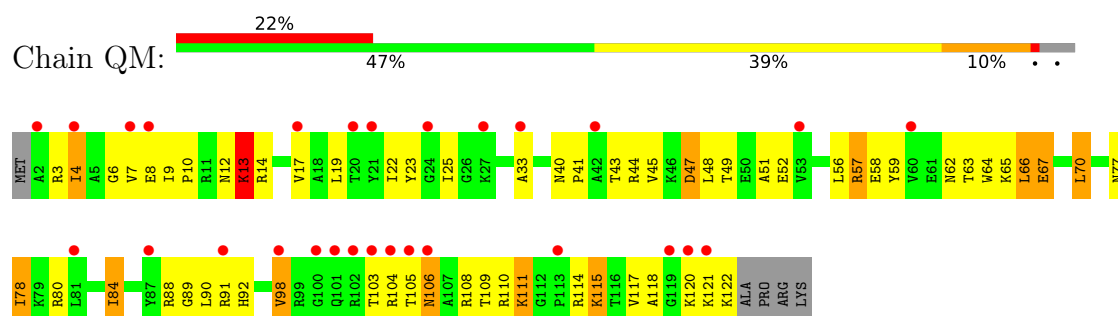
- Molecule 13: 30S ribosomal protein S12



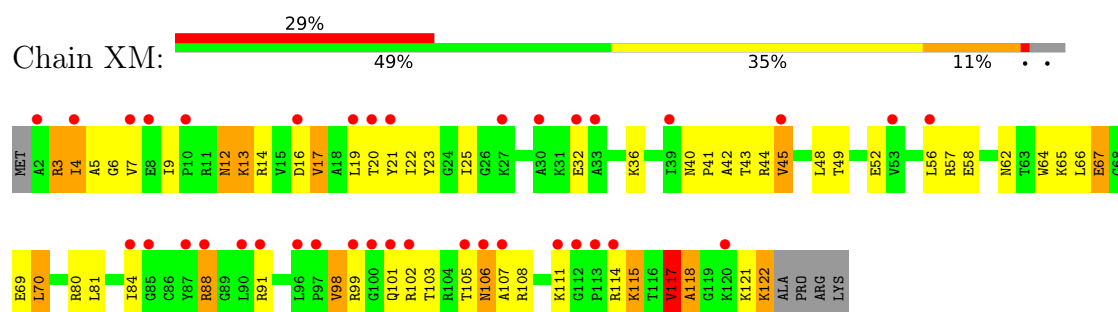
- Molecule 13: 30S ribosomal protein S12



- Molecule 14: 30S ribosomal protein S13

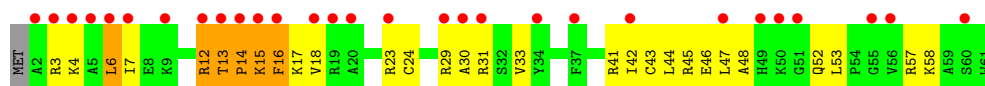


- Molecule 14: 30S ribosomal protein S13



- Molecule 15: 30S ribosomal protein S14 type Z

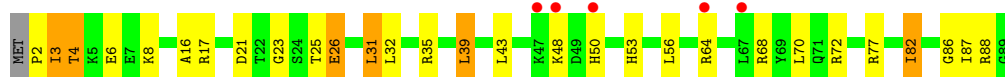




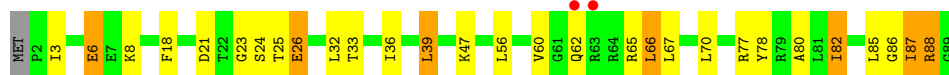
- Molecule 15: 30S ribosomal protein S14 type Z



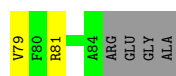
- Molecule 16: 30S ribosomal protein S15



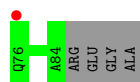
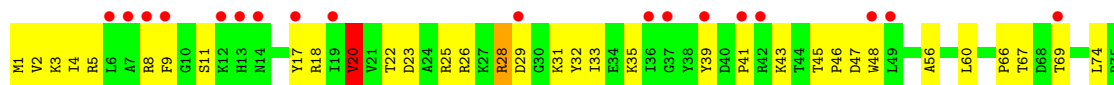
- Molecule 16: 30S ribosomal protein S15



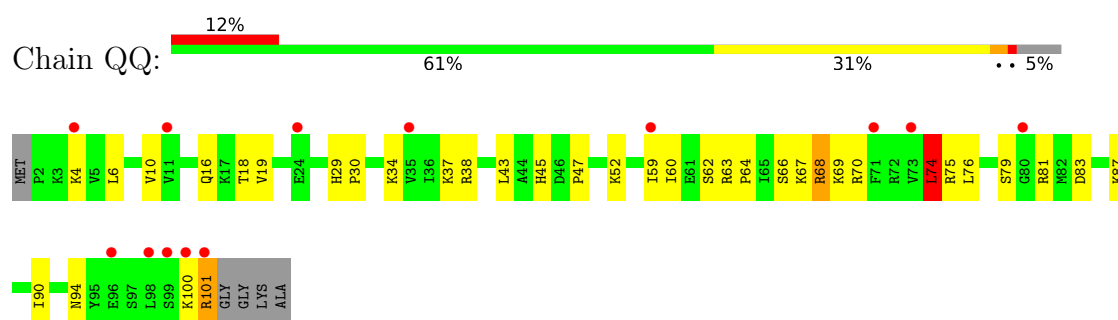
- Molecule 17: 30S ribosomal protein S16



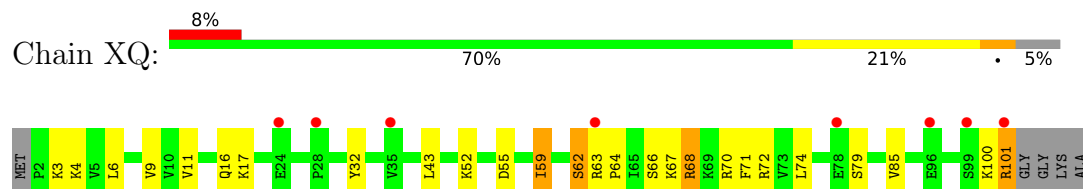
- Molecule 17: 30S ribosomal protein S16



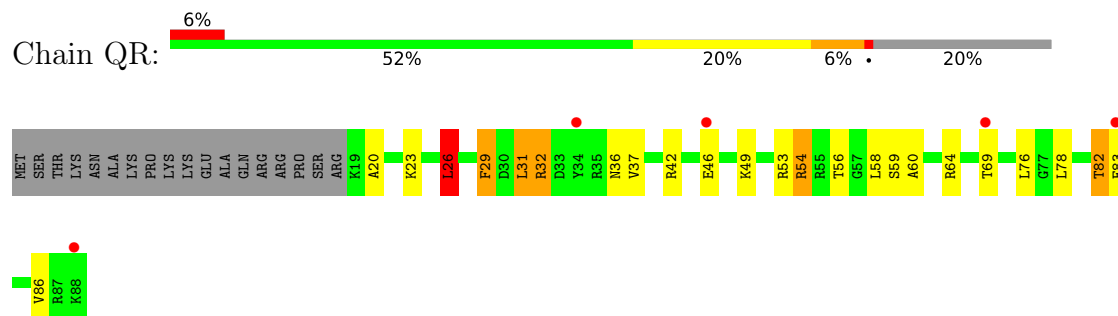
- Molecule 18: 30S ribosomal protein S17



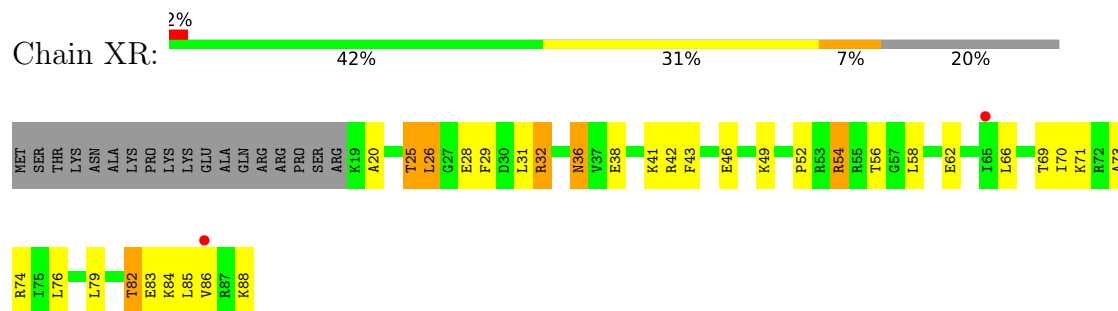
- Molecule 18: 30S ribosomal protein S17



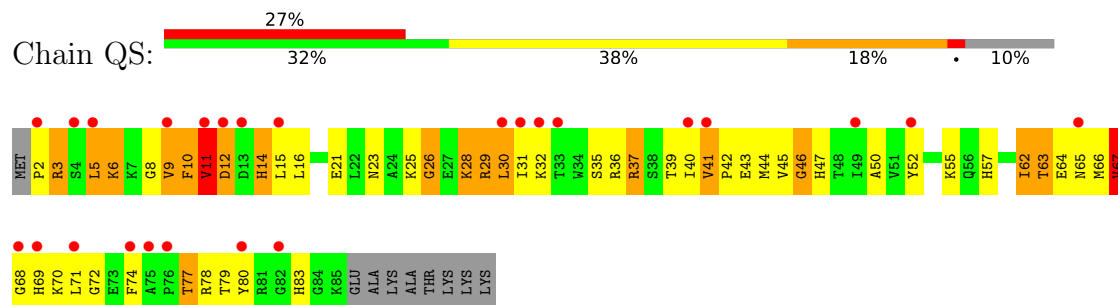
- Molecule 19: 30S ribosomal protein S18



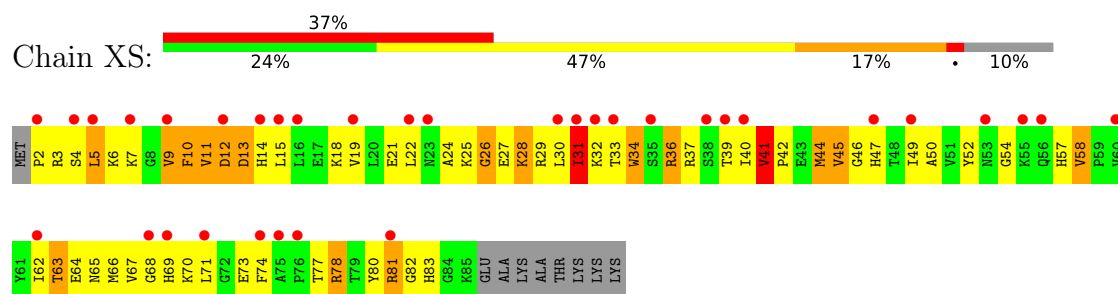
- Molecule 19: 30S ribosomal protein S18



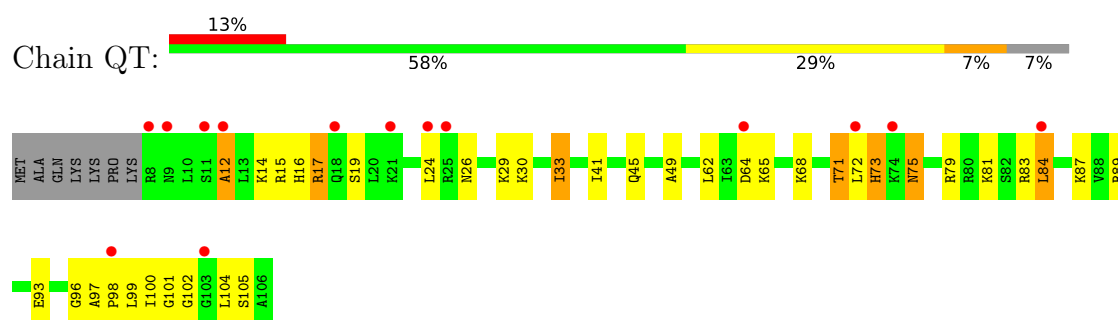
- Molecule 20: 30S ribosomal protein S19



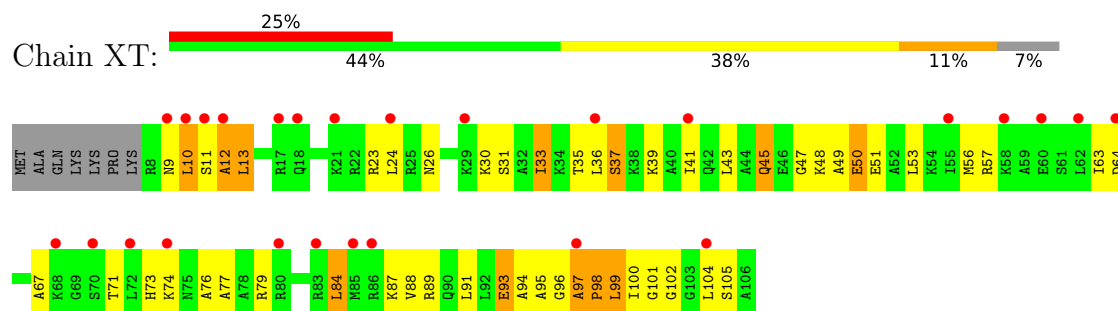
- Molecule 20: 30S ribosomal protein S19



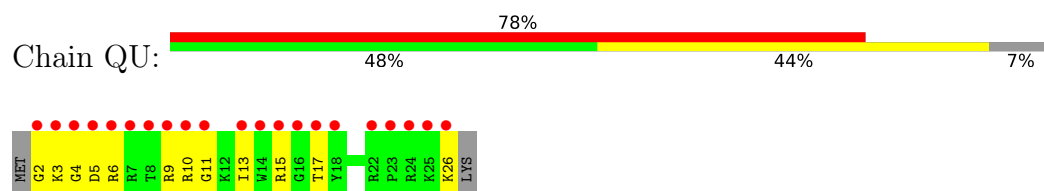
- Molecule 21: 30S ribosomal protein S20



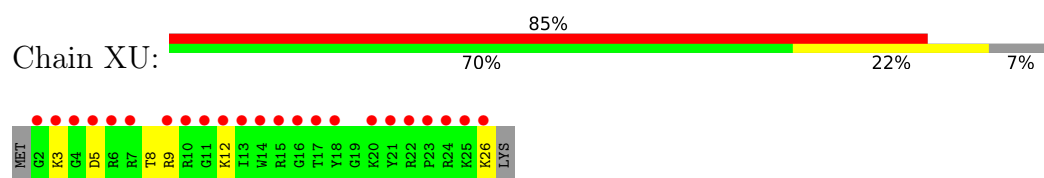
- Molecule 21: 30S ribosomal protein S20



- Molecule 22: 30S ribosomal protein Thx

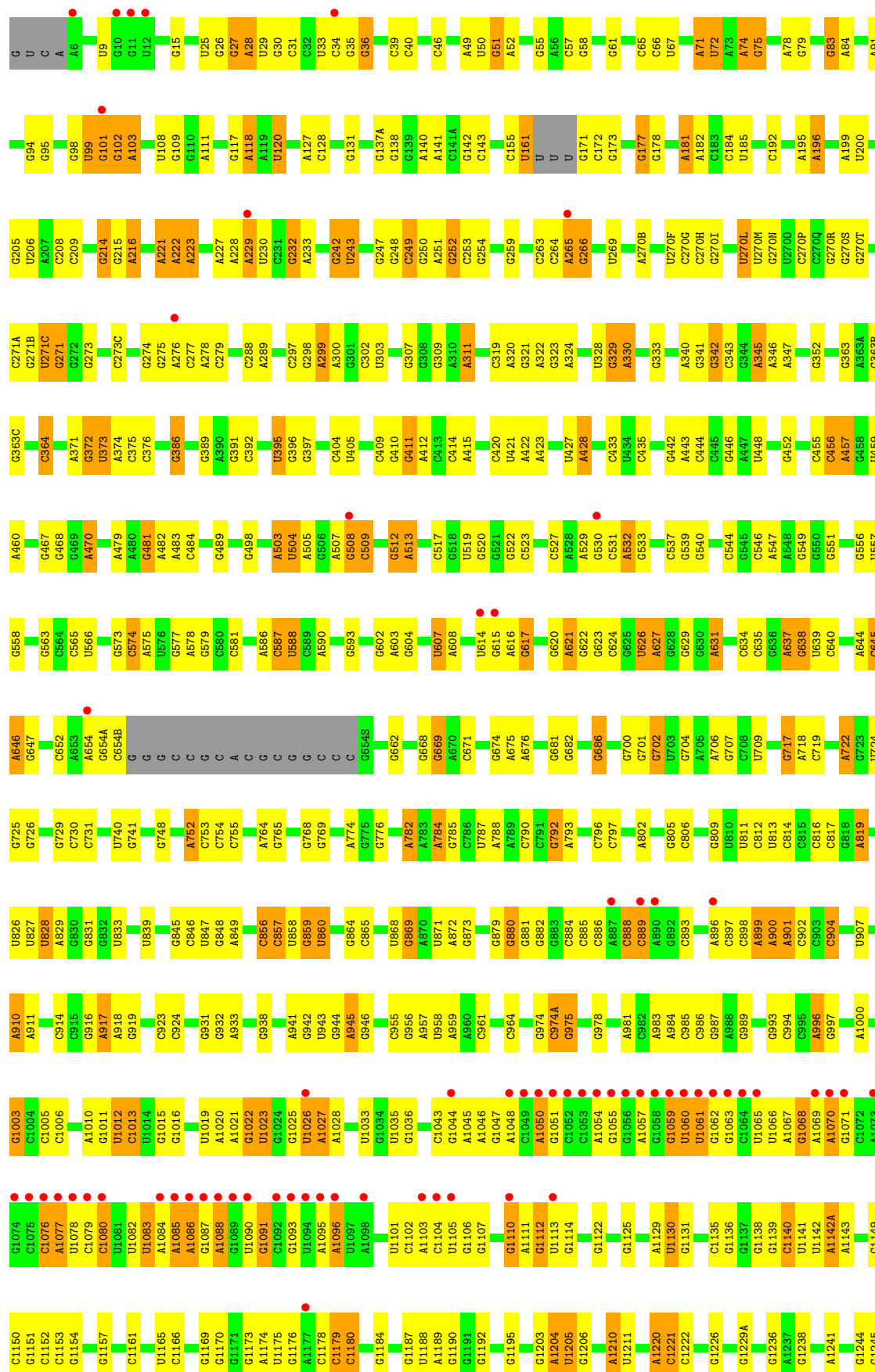


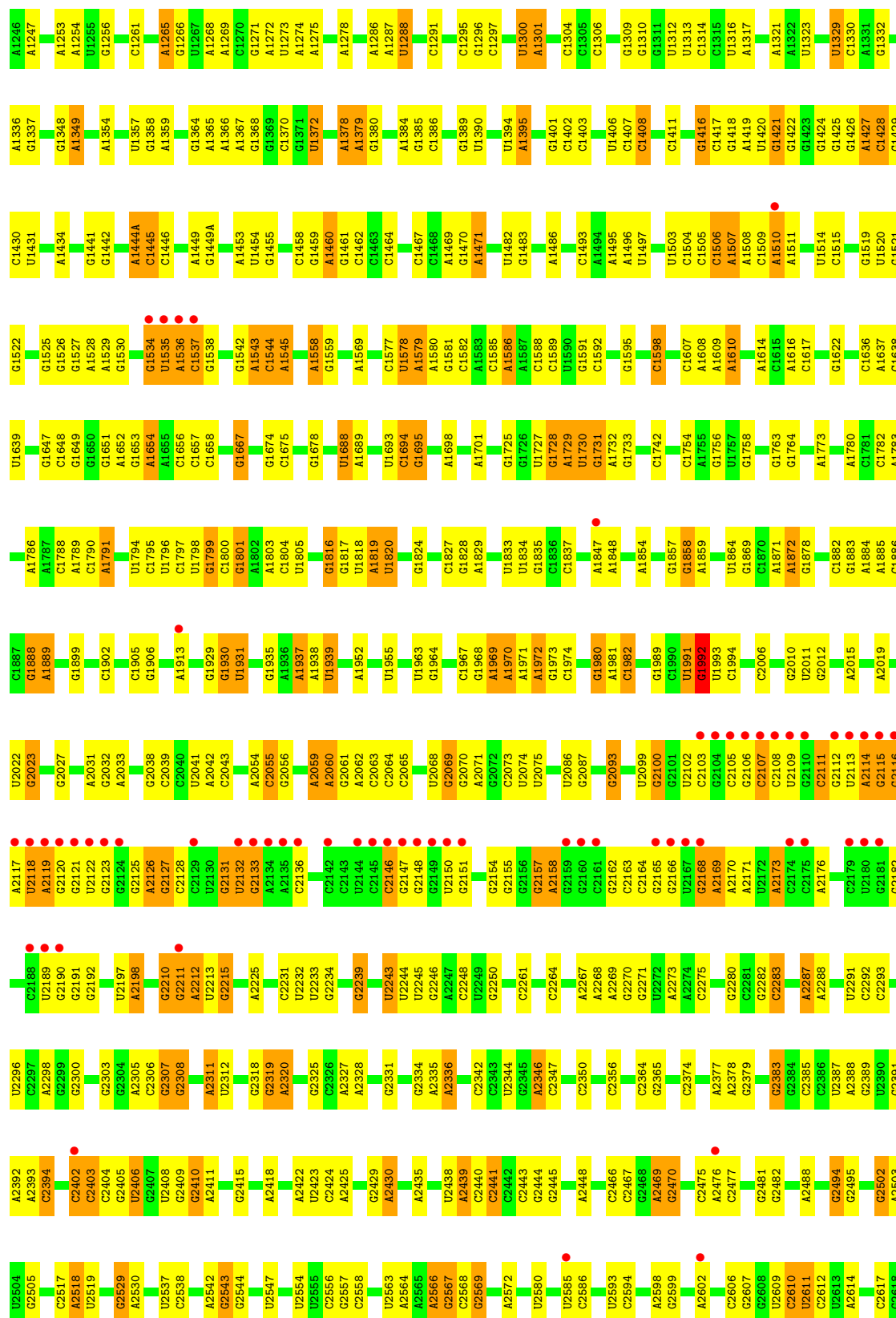
- Molecule 22: 30S ribosomal protein Thx

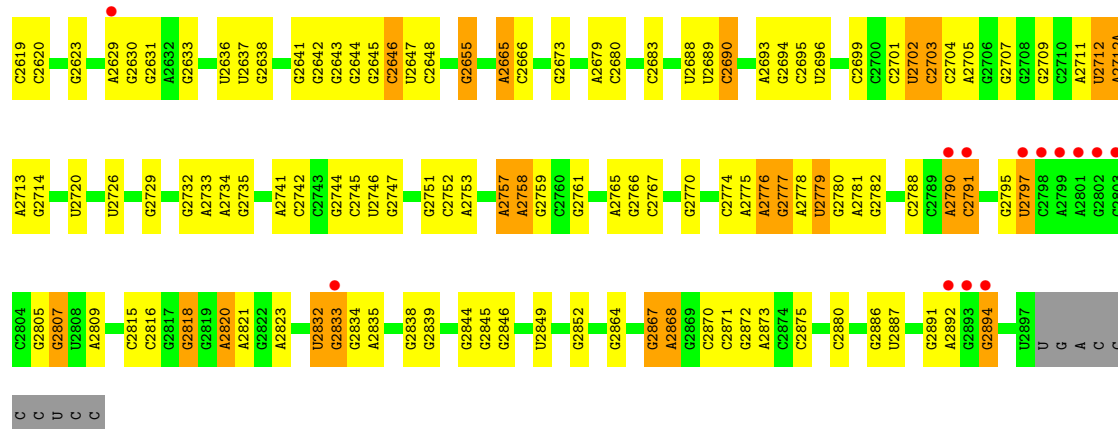


- Molecule 23: 23S rRNA

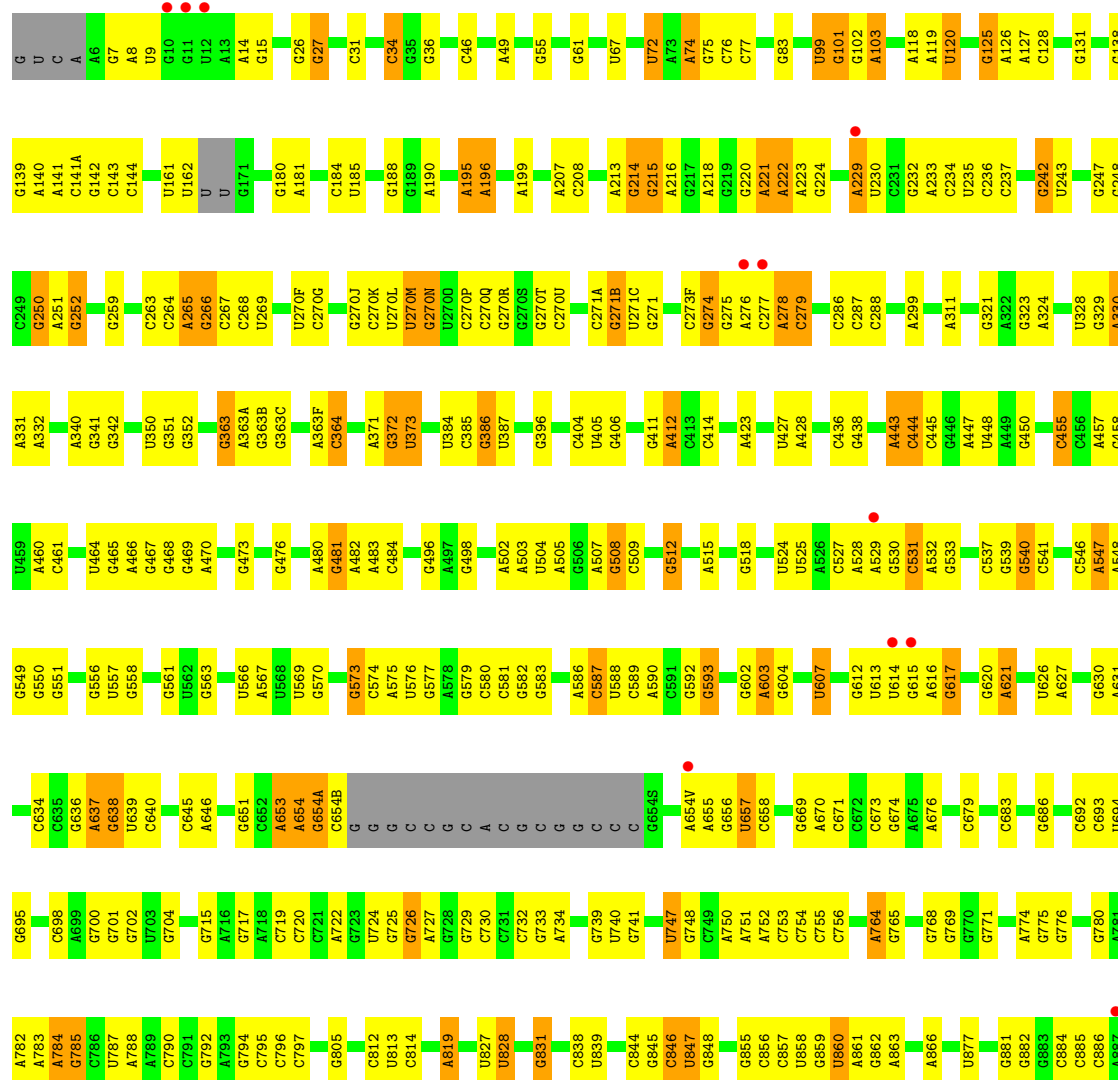




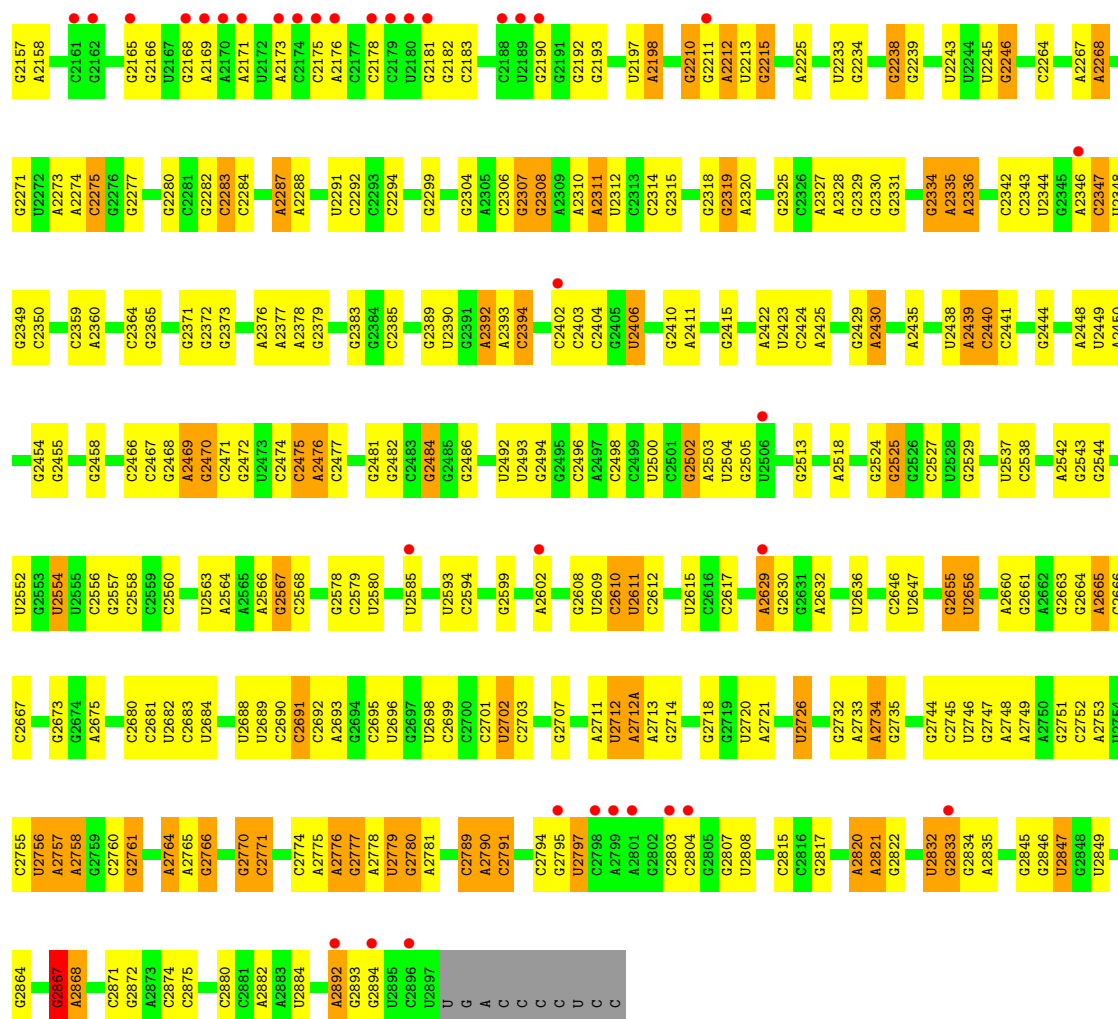




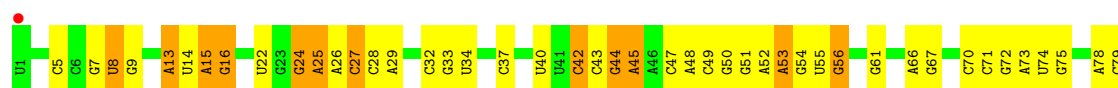
• Molecule 23: 23S rRNA



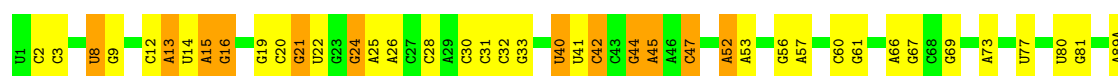




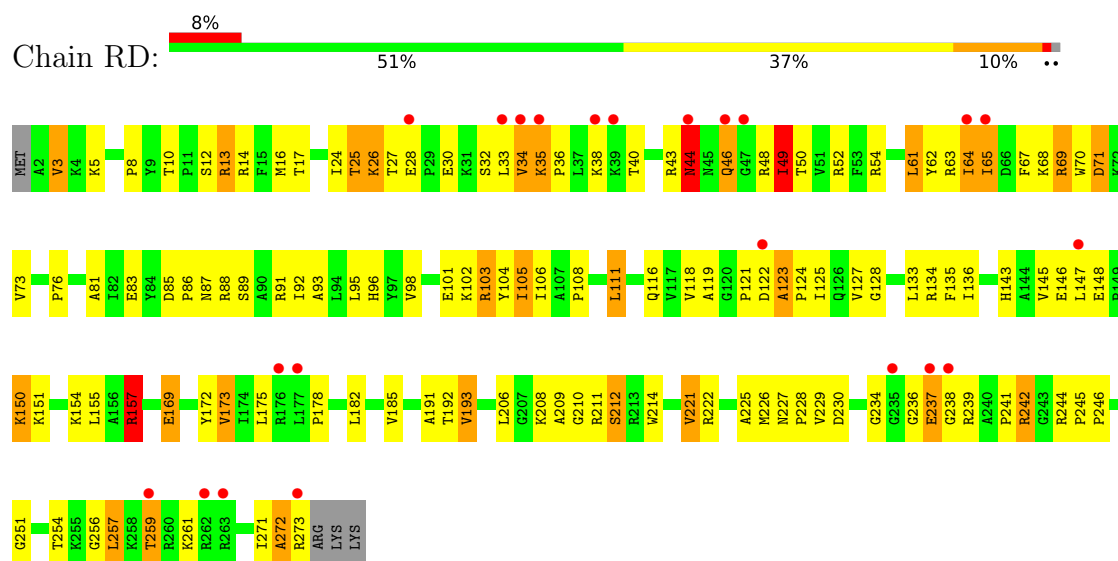
• Molecule 24: 5S rRNA



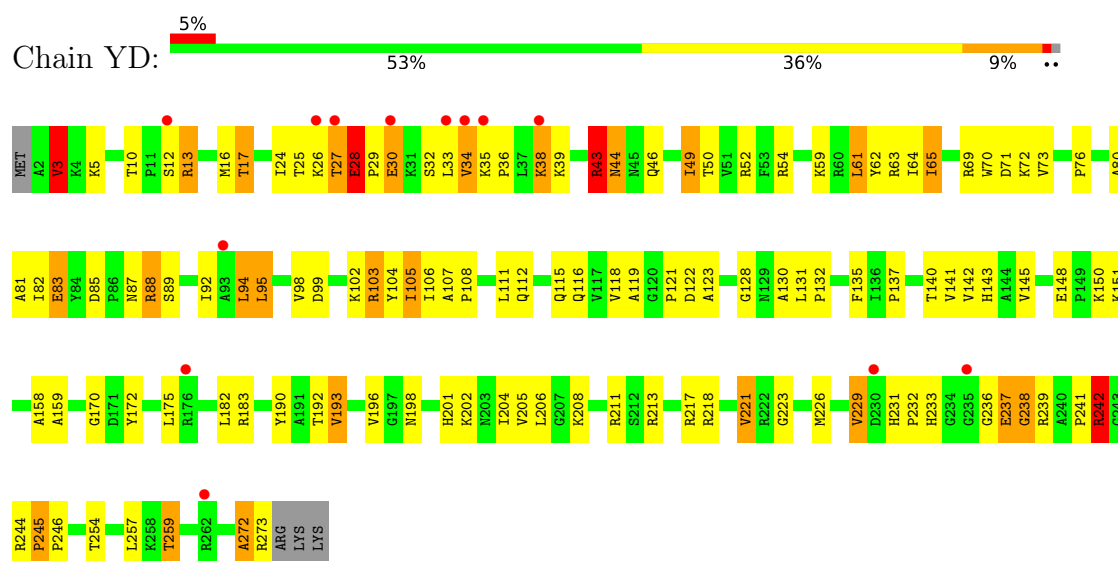
• Molecule 24: 5S rRNA



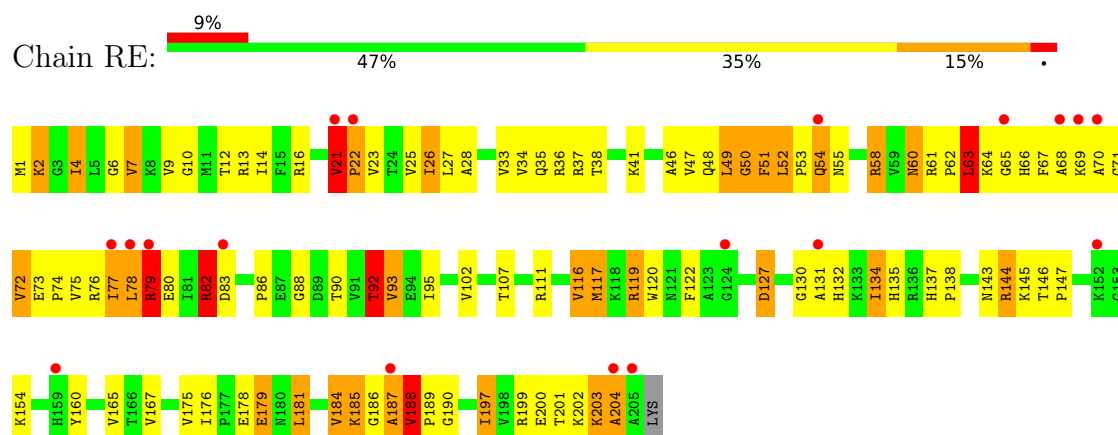
• Molecule 25: 50S ribosomal protein L2



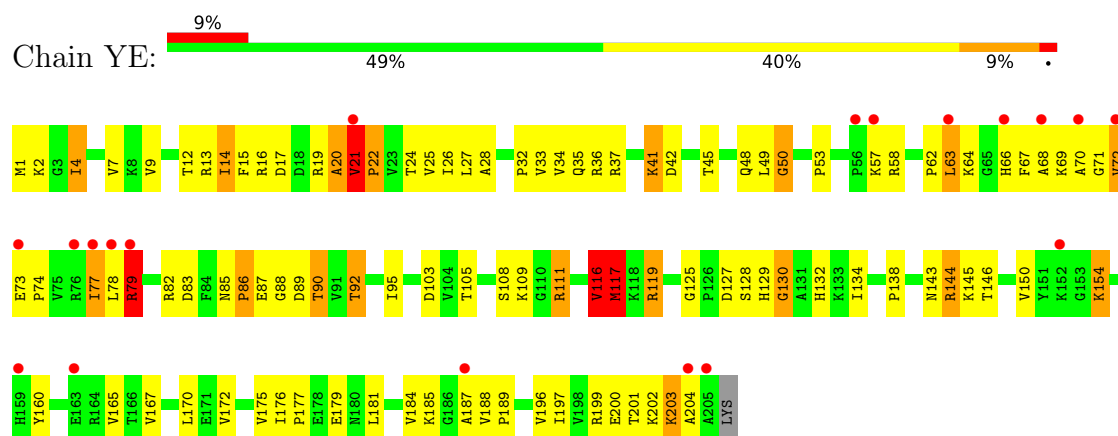
• Molecule 25: 50S ribosomal protein L2



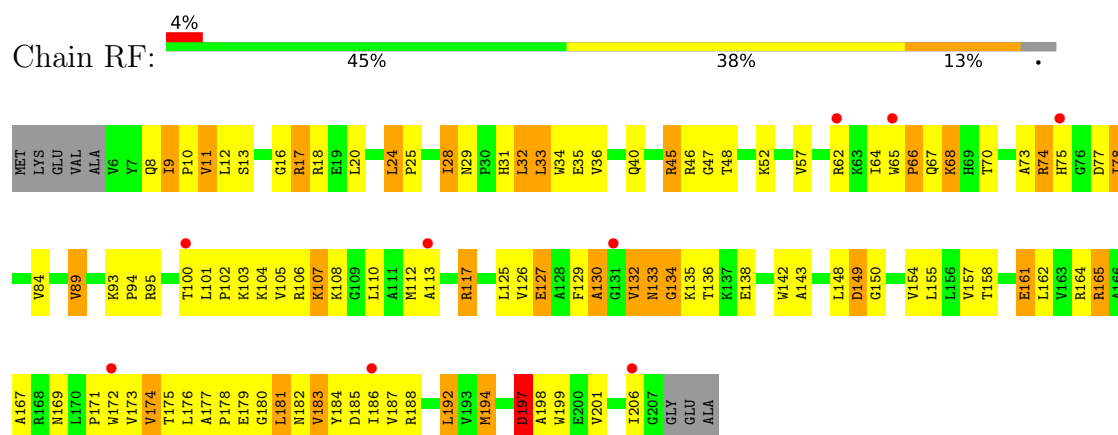
• Molecule 26: 50S ribosomal protein L3



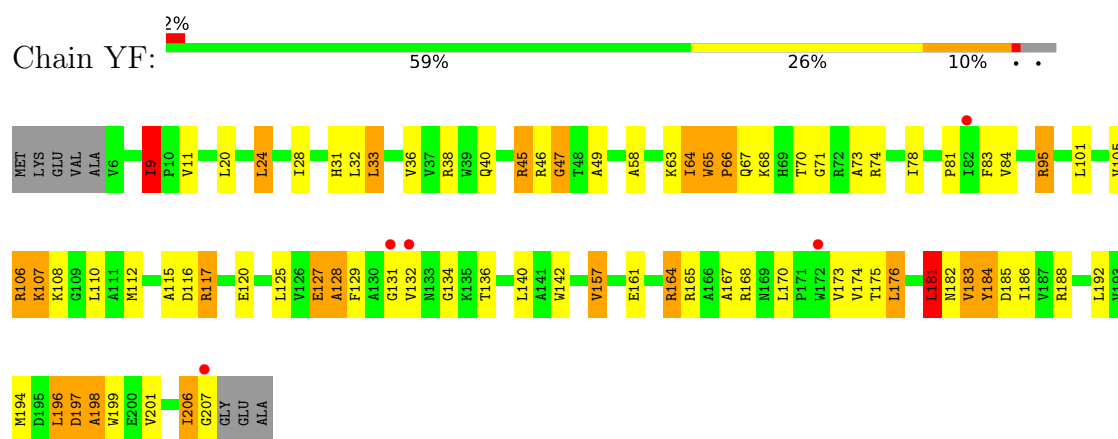
- Molecule 26: 50S ribosomal protein L3



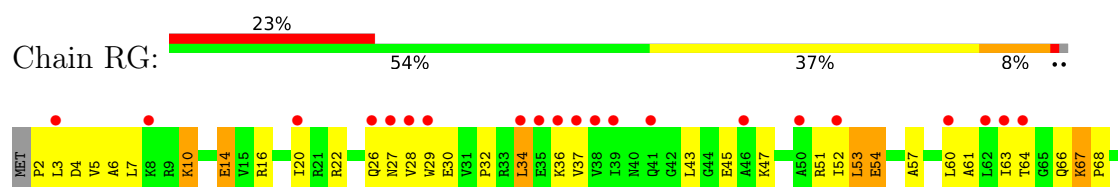
- Molecule 27: 50S ribosomal protein L4

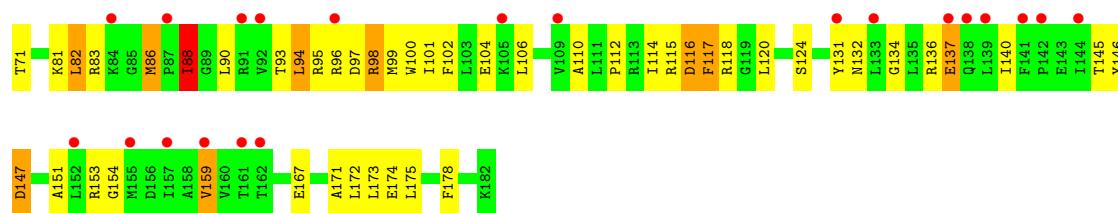


- Molecule 27: 50S ribosomal protein L4

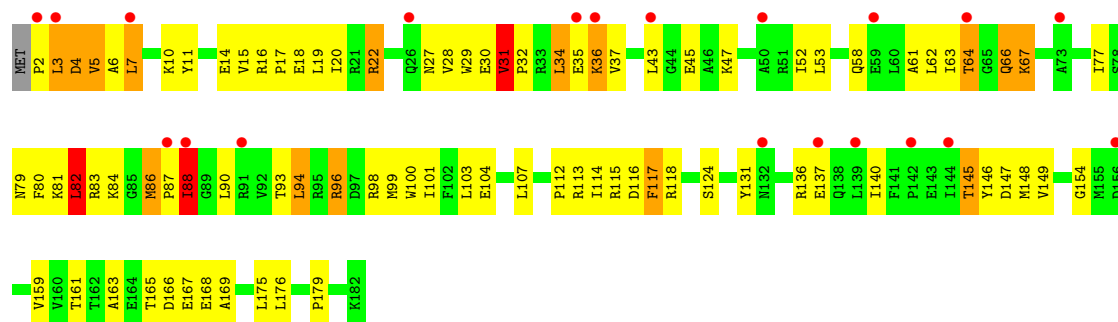


- Molecule 28: 50S ribosomal protein L5

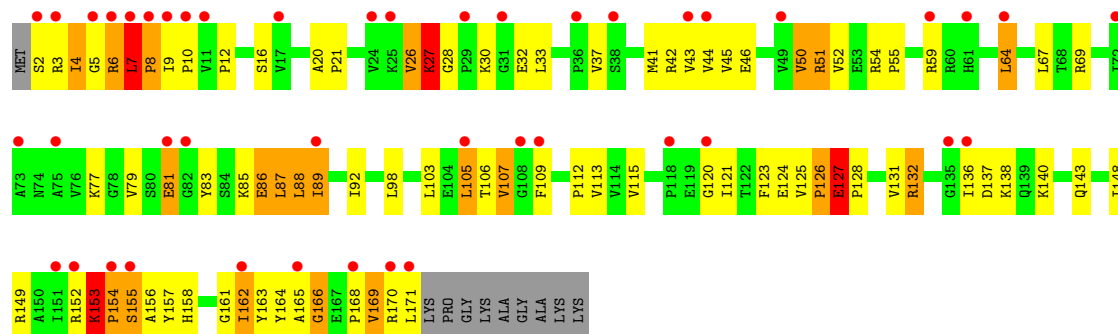




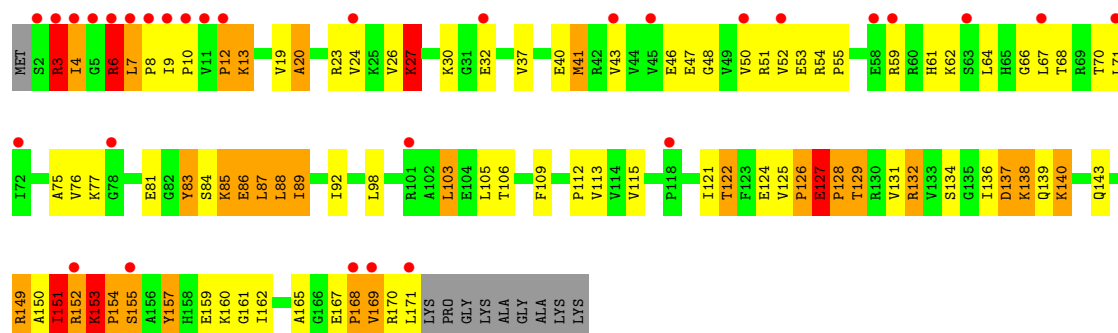
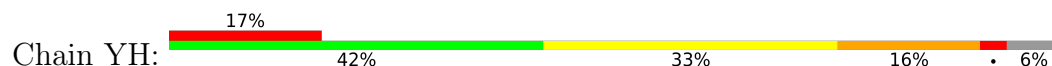
• Molecule 28: 50S ribosomal protein L5



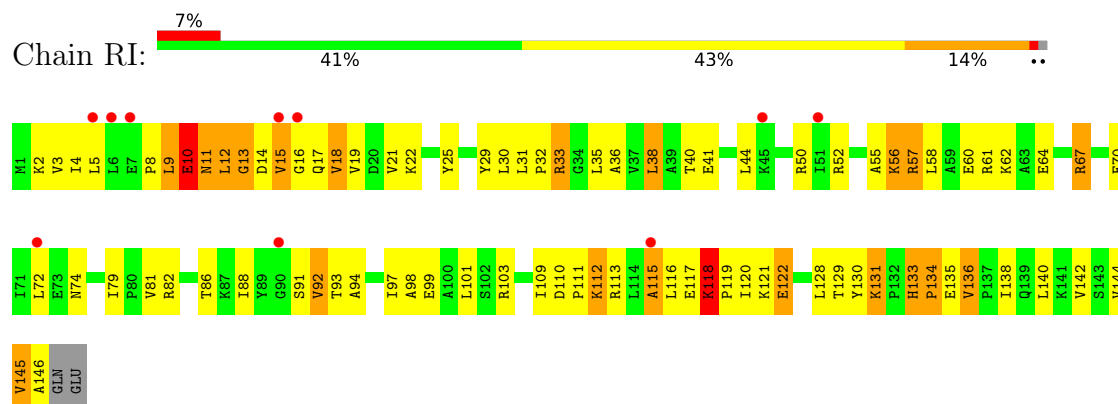
• Molecule 29: 50S ribosomal protein L6



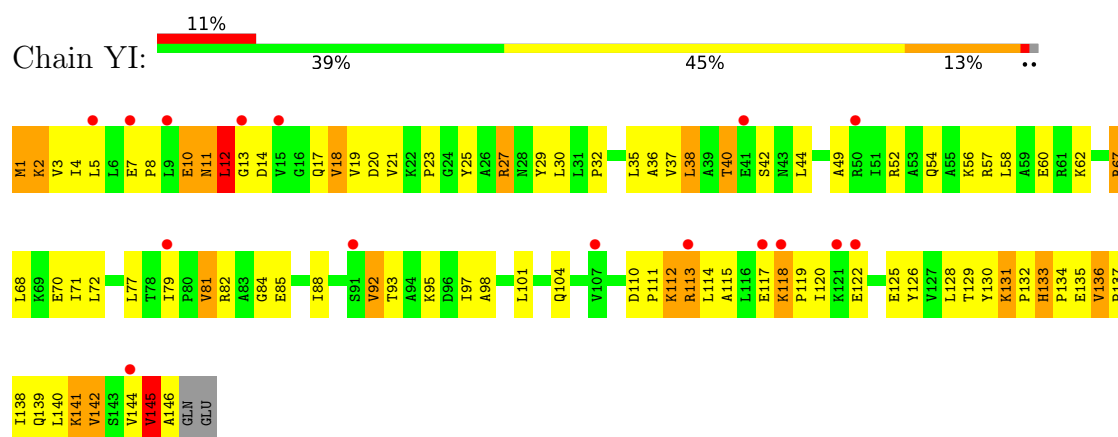
• Molecule 29: 50S ribosomal protein L6



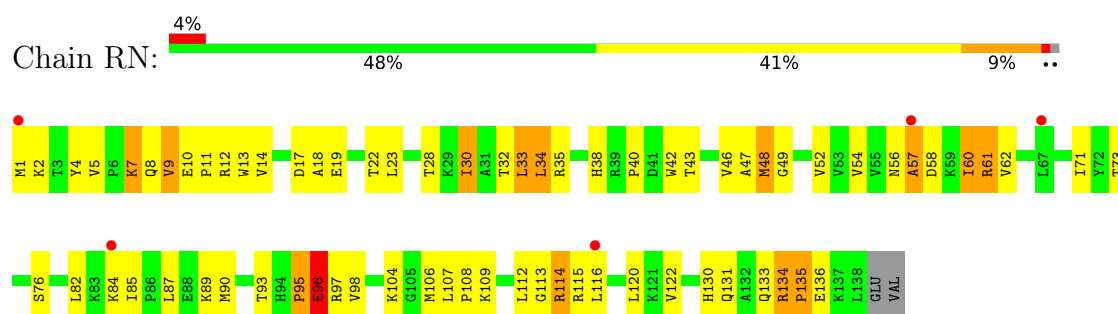
- Molecule 30: 50S ribosomal protein L9



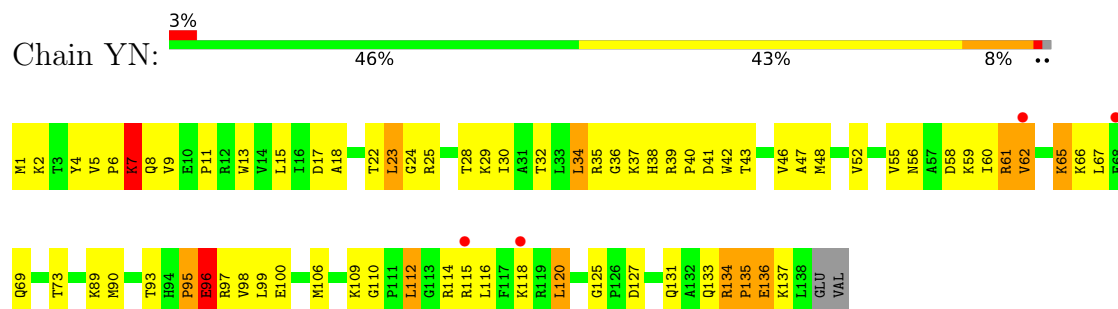
- Molecule 30: 50S ribosomal protein L9



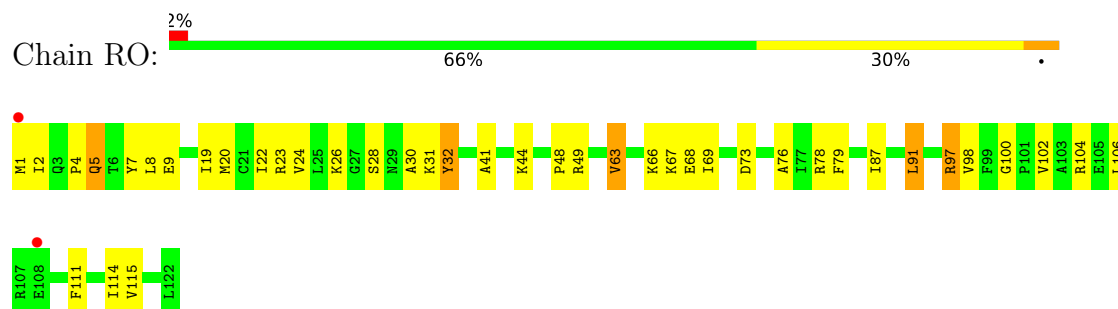
- Molecule 31: 50S ribosomal protein L13



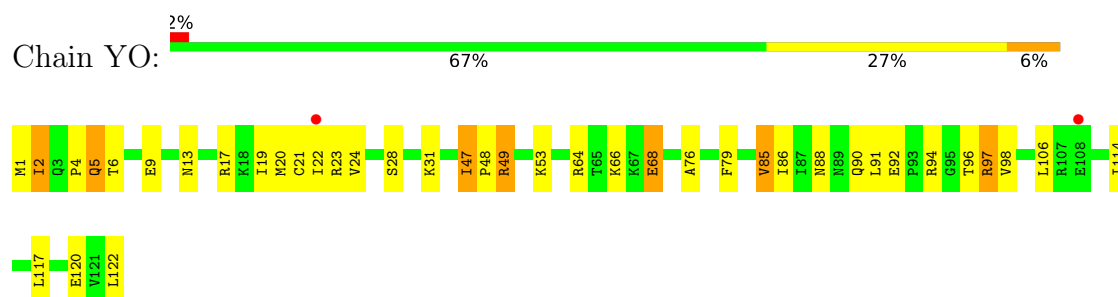
- Molecule 31: 50S ribosomal protein L13



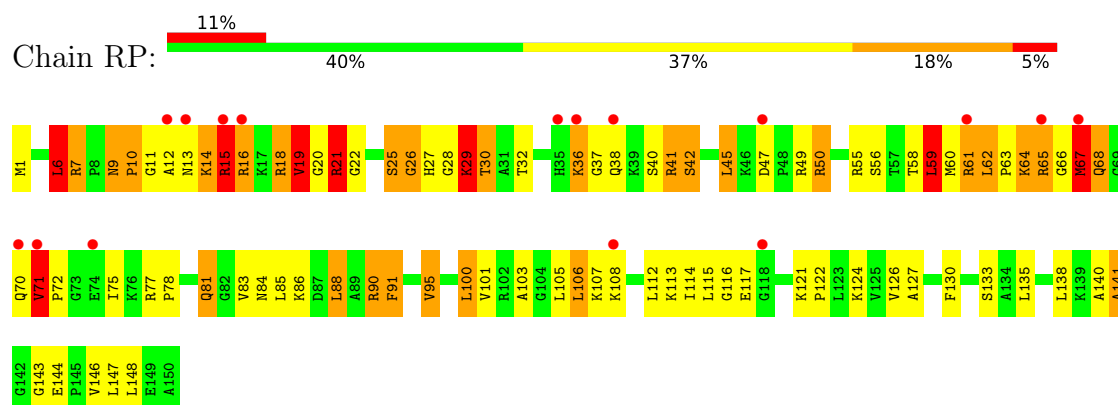
- Molecule 32: 50S ribosomal protein L14



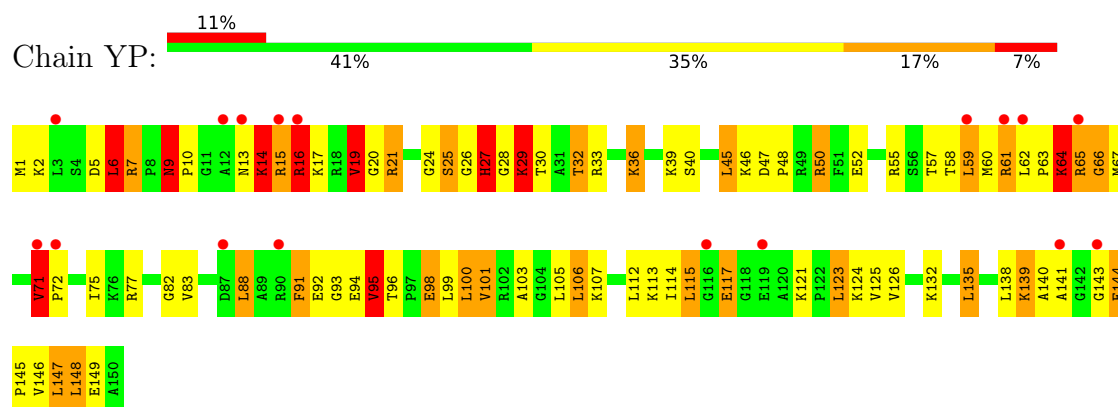
- Molecule 32: 50S ribosomal protein L14



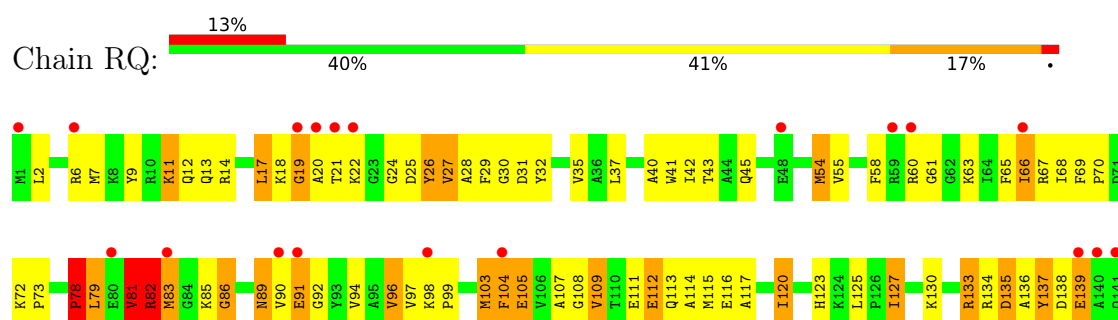
- Molecule 33: 50S ribosomal protein L15



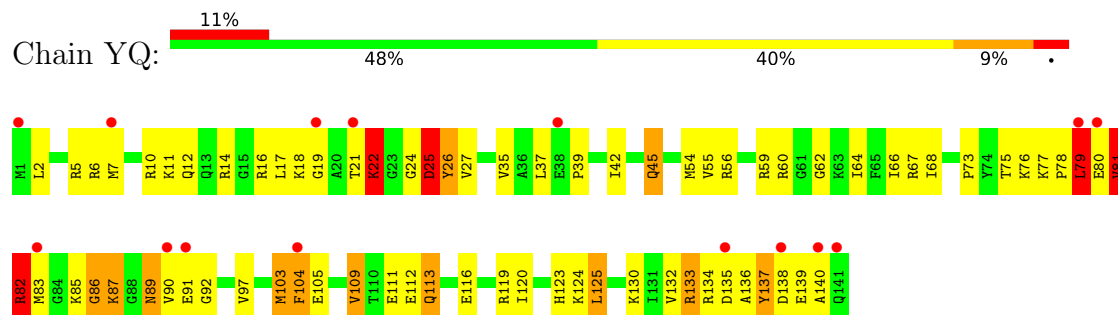
- Molecule 33: 50S ribosomal protein L15



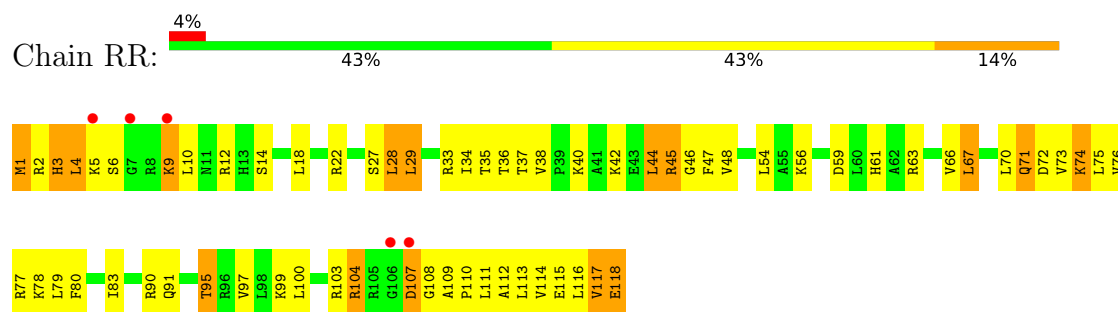
- Molecule 34: 50S ribosomal protein L16



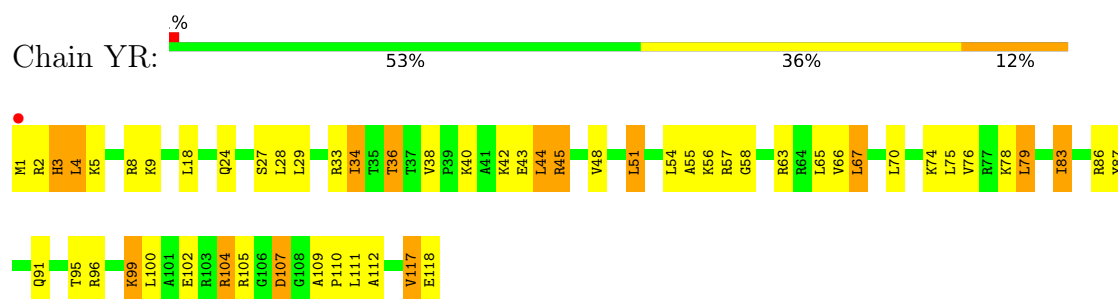
• Molecule 34: 50S ribosomal protein L16



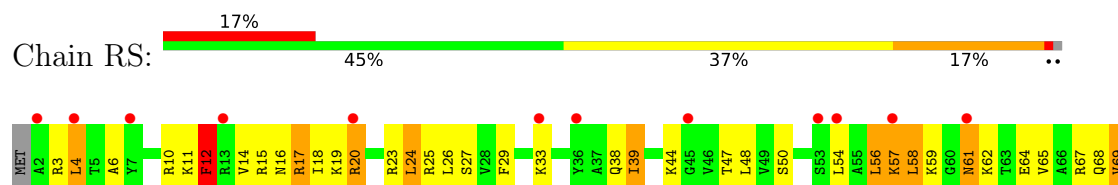
• Molecule 35: 50S ribosomal protein L17

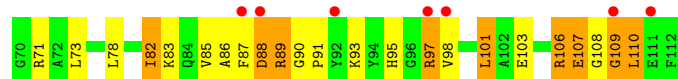


• Molecule 35: 50S ribosomal protein L17

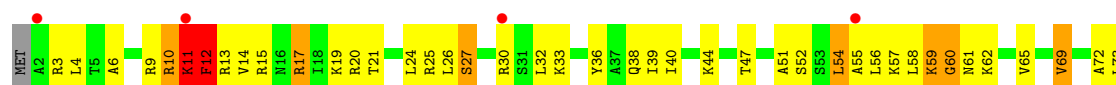


• Molecule 36: 50S ribosomal protein L18

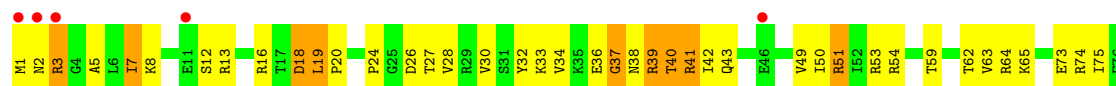
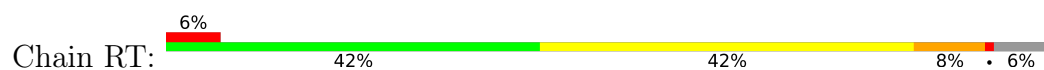




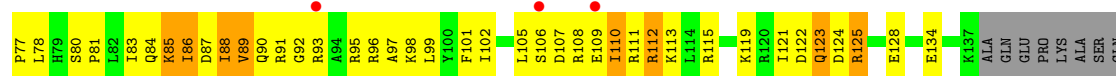
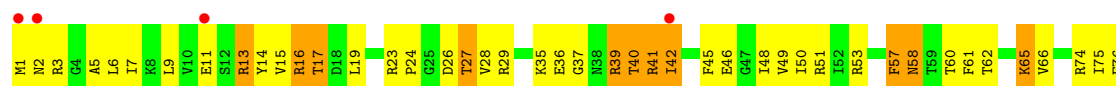
- Molecule 36: 50S ribosomal protein L18



- Molecule 37: 50S ribosomal protein L19

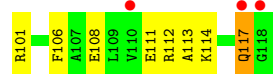
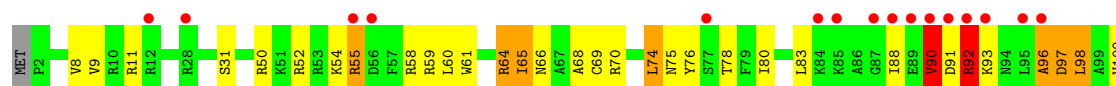


- Molecule 37: 50S ribosomal protein L19



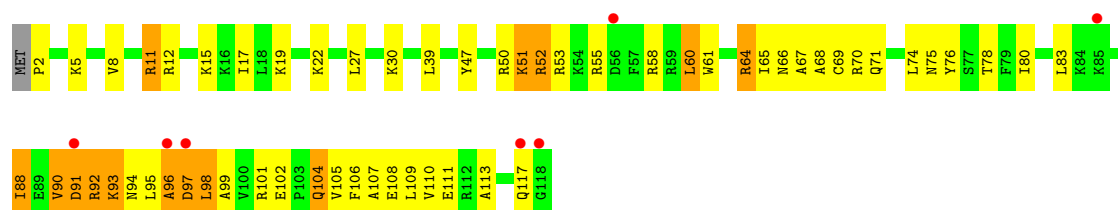
GLU

- Molecule 38: 50S ribosomal protein L20



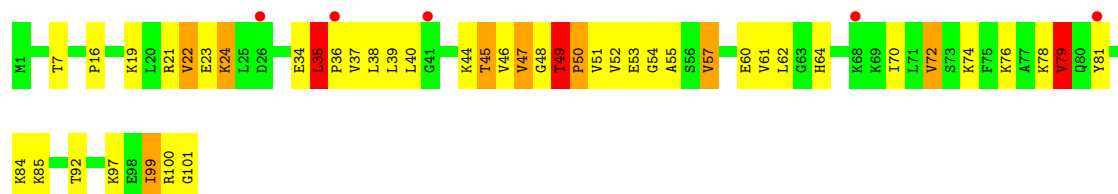
- Molecule 38: 50S ribosomal protein L20

Chain YU: 

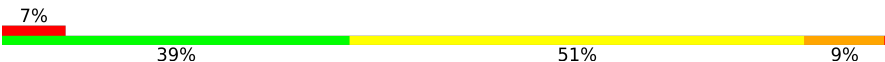


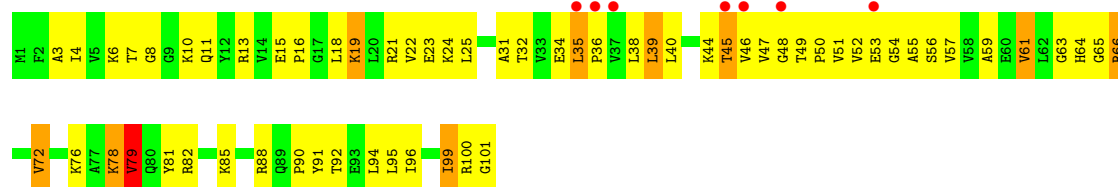
- Molecule 39: 50S ribosomal protein L21

Chain RV: 



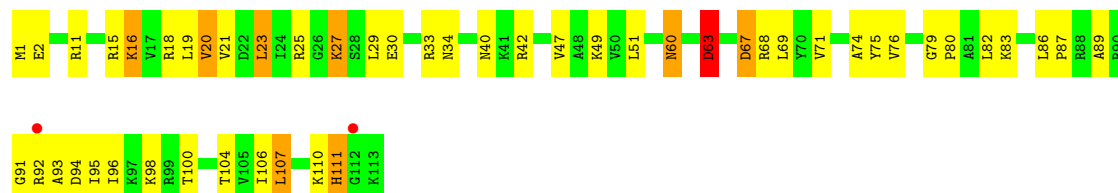
- Molecule 39: 50S ribosomal protein L21

Chain YV: 



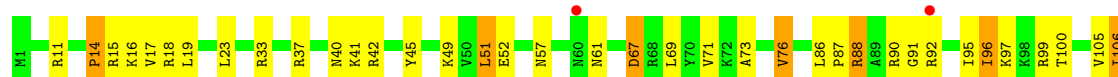
- Molecule 40: 50S ribosomal protein L22

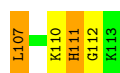
Chain RW: 



- Molecule 40: 50S ribosomal protein L22

Chain YW: 

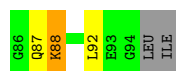
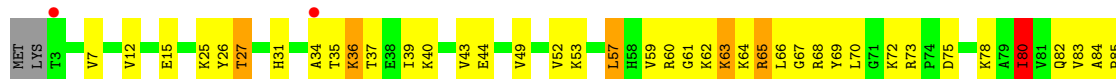




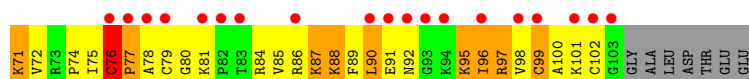
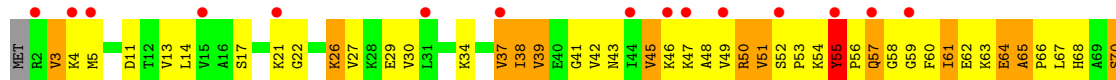
- Molecule 41: 50S ribosomal protein L23



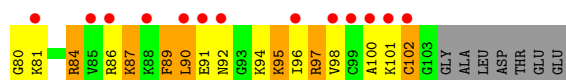
- Molecule 41: 50S ribosomal protein L23



- Molecule 42: 50S ribosomal protein L24

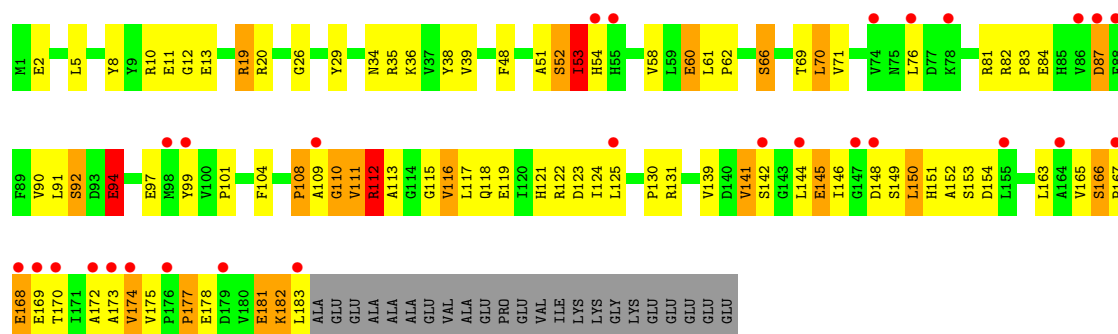


- Molecule 42: 50S ribosomal protein L24

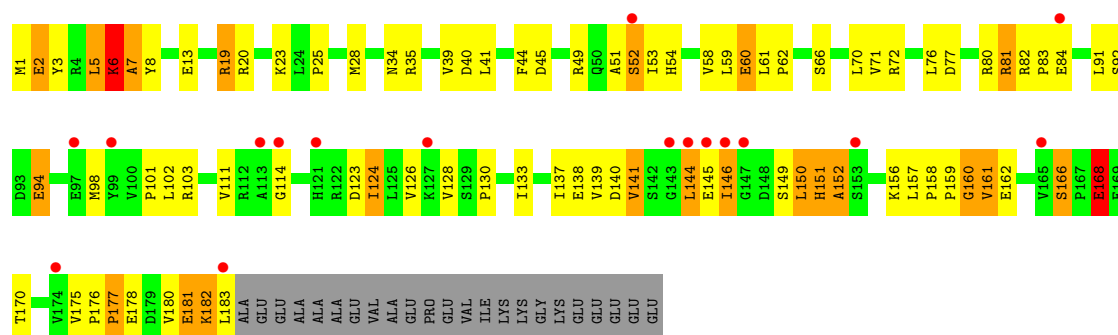


- Molecule 43: 50S ribosomal protein L25





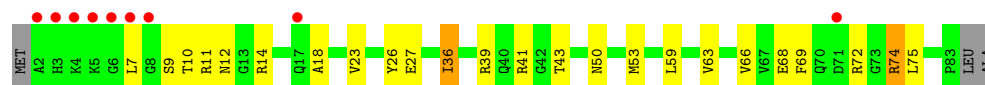
- Molecule 43: 50S ribosomal protein L25



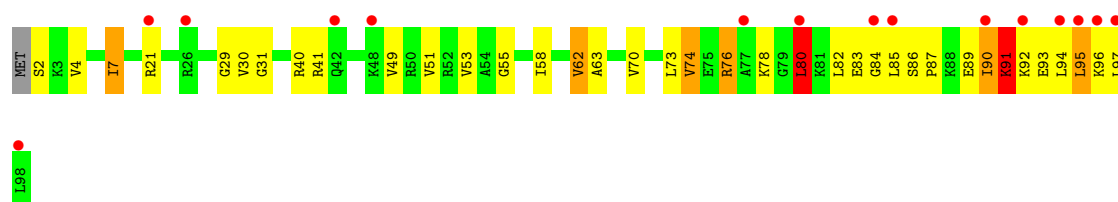
- Molecule 44: 50S ribosomal protein L27



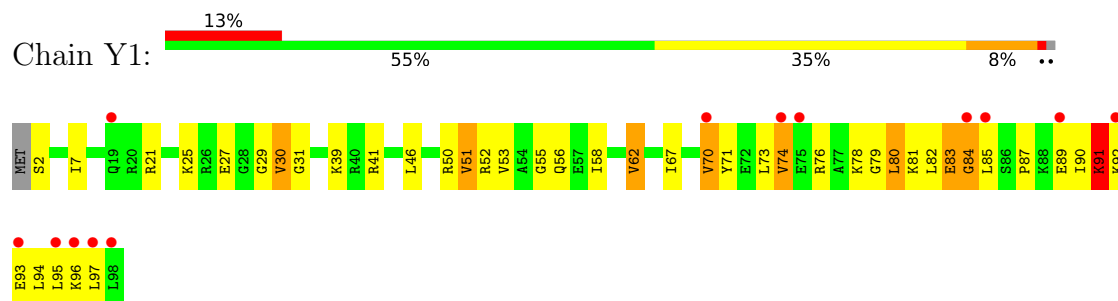
- Molecule 44: 50S ribosomal protein L27



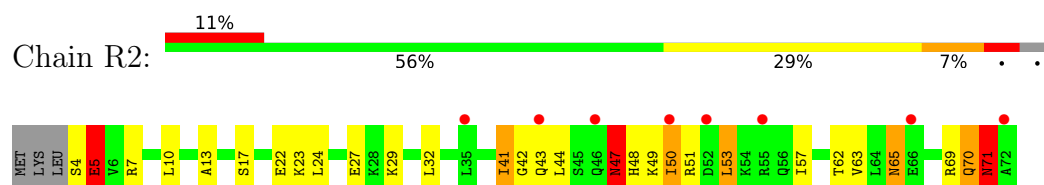
- Molecule 45: 50S ribosomal protein L28



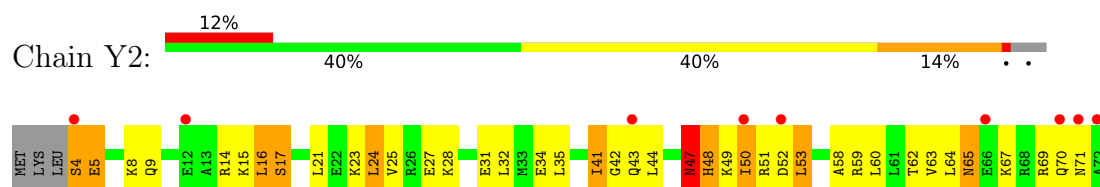
- Molecule 45: 50S ribosomal protein L28



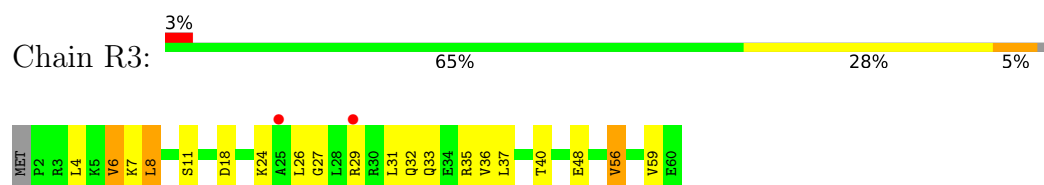
- Molecule 46: 50S ribosomal protein L29



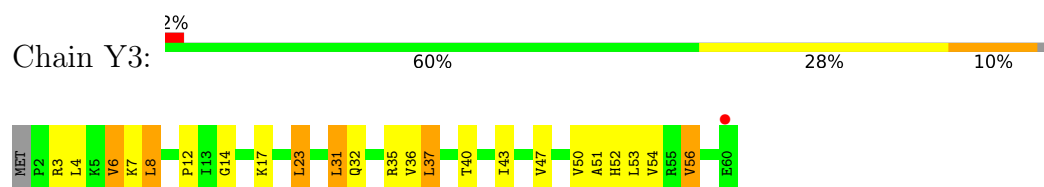
- Molecule 46: 50S ribosomal protein L29



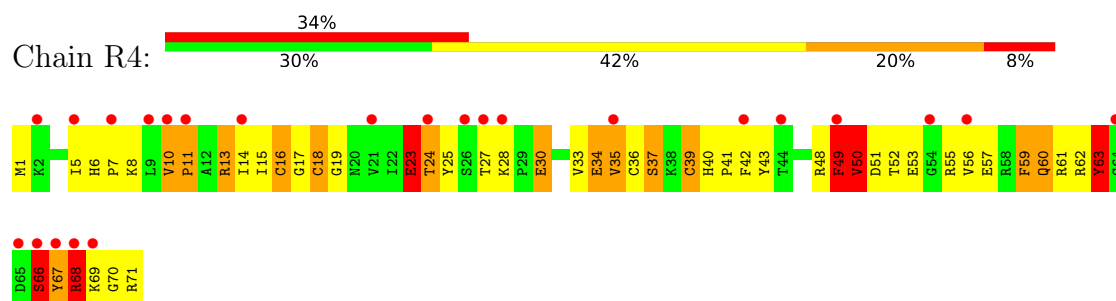
- Molecule 47: 50S ribosomal protein L30



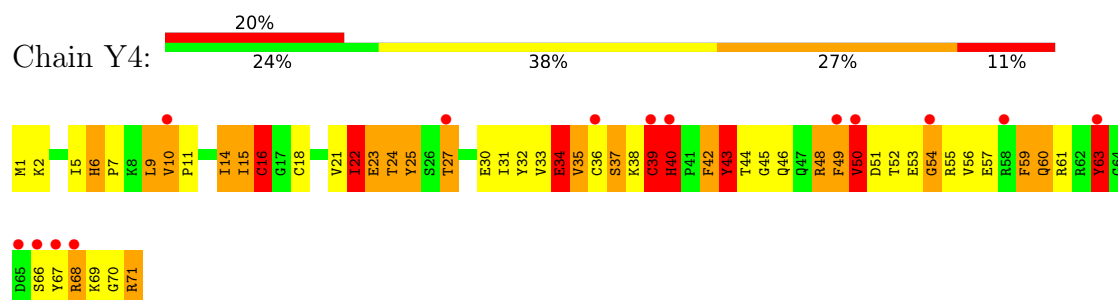
- Molecule 47: 50S ribosomal protein L30



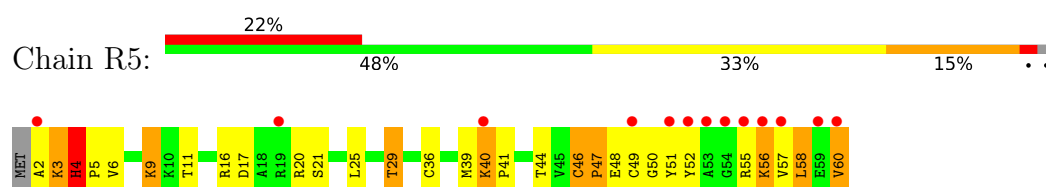
- Molecule 48: 50S ribosomal protein L31



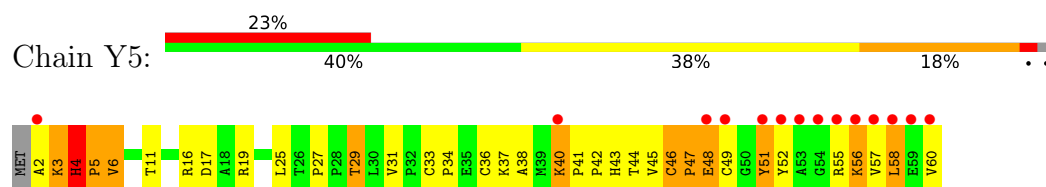
- Molecule 48: 50S ribosomal protein L31



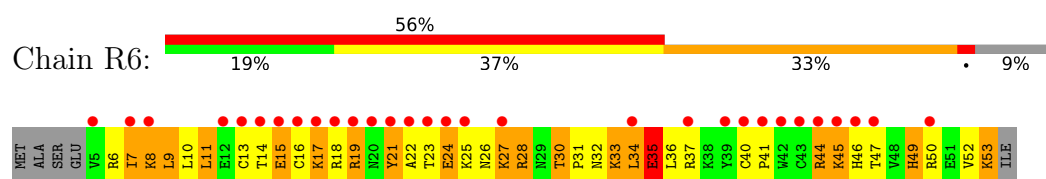
- Molecule 49: 50S ribosomal protein L32



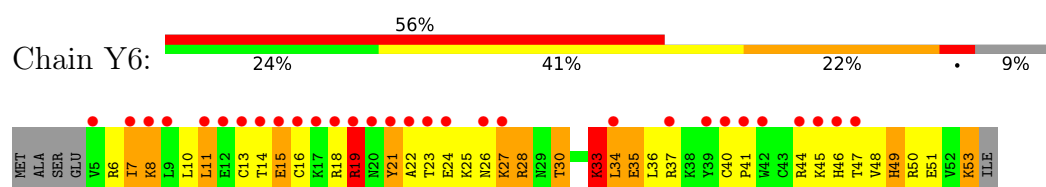
- Molecule 49: 50S ribosomal protein L32



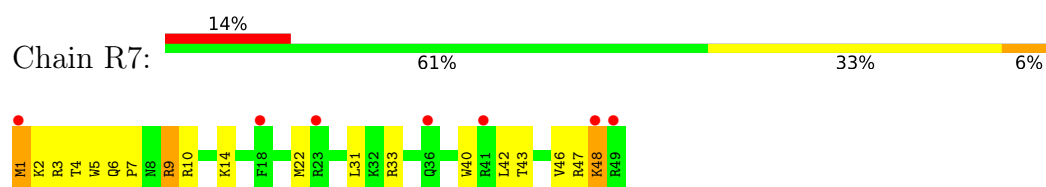
- Molecule 50: 50S ribosomal protein L33



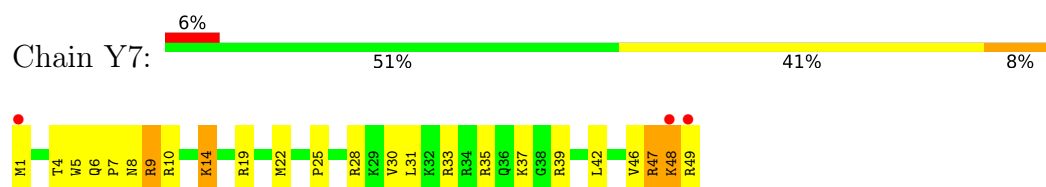
- Molecule 50: 50S ribosomal protein L33



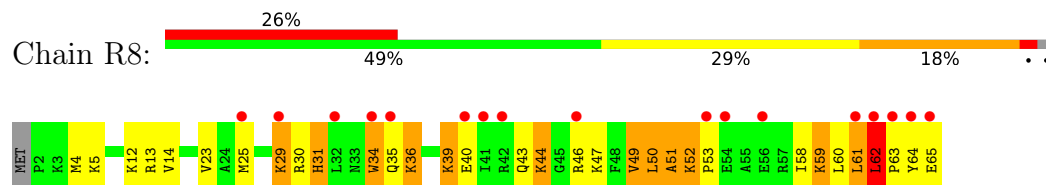
- Molecule 51: 50S ribosomal protein L34



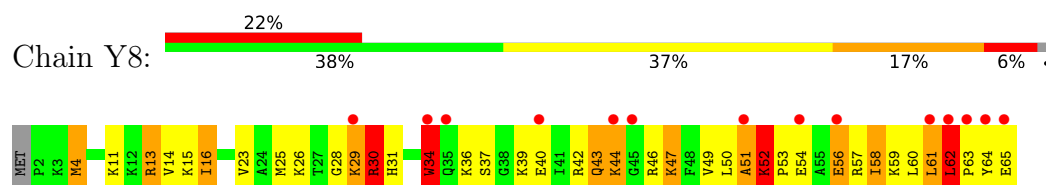
- Molecule 51: 50S ribosomal protein L34



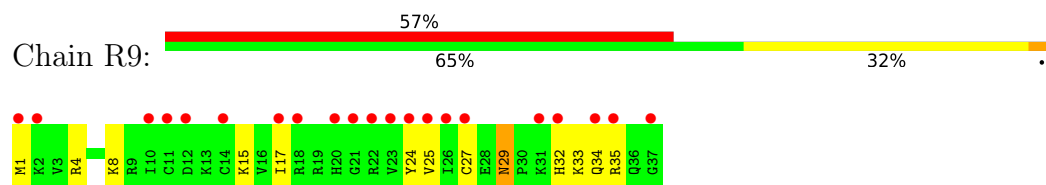
- Molecule 52: 50S ribosomal protein L35



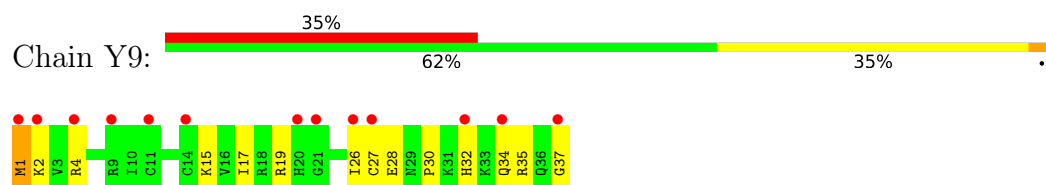
- Molecule 52: 50S ribosomal protein L35



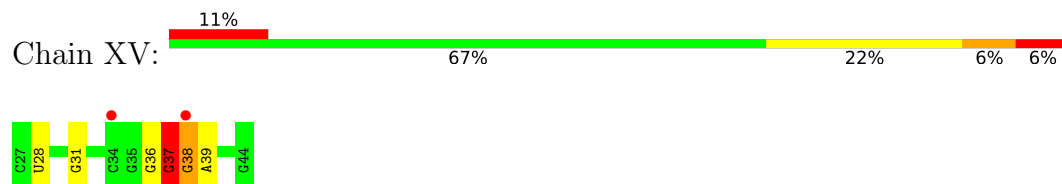
- Molecule 53: 50S ribosomal protein L36



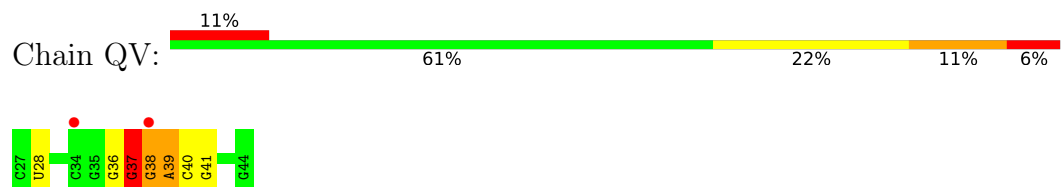
- Molecule 53: 50S ribosomal protein L36



- Molecule 54: P-site ASL SufA6



- Molecule 54: P-site ASL SufA6



4 Data and refinement statistics

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 – 3.34	Depositor EDS
% Data completeness (in resolution range)	96.5 (34.99-3.34) 96.4 (34.99-3.34)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.57 (at 3.18Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.237 , 0.267 0.236 , 0.265	Depositor DCC
R_{free} test set	43433 reflections (4.56%)	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 , 45.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.42$, $\langle L^2 \rangle = 0.24$	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.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: 1MG, MG, ZN

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	0.30	0/87	0.66	0/132
1	XX	0.32	0/87	0.58	0/132
2	QA	0.17	0/36098	0.35	1/56341 (0.0%)
2	XA	0.18	0/36101	0.36	0/56346
3	QB	0.39	0/1959	0.86	4/2642 (0.2%)
3	XB	0.40	0/1959	0.89	4/2642 (0.2%)
4	QC	0.44	0/1629	0.86	0/2195
4	XC	0.48	0/1629	0.85	0/2195
5	QD	0.48	0/1733	0.97	3/2318 (0.1%)
5	XD	0.51	0/1733	0.97	5/2318 (0.2%)
6	QE	0.46	0/1171	0.95	6/1576 (0.4%)
6	XE	0.52	0/1171	0.94	0/1576
7	QF	0.45	0/856	0.80	0/1154
7	XF	0.51	0/856	0.88	0/1154
8	QG	0.43	0/1276	0.85	0/1709
8	XG	0.46	0/1276	0.86	1/1709 (0.1%)
9	QH	0.43	0/1136	0.93	2/1527 (0.1%)
9	XH	0.47	0/1136	0.92	4/1527 (0.3%)
10	QI	0.41	0/1029	0.90	3/1379 (0.2%)
10	XI	0.42	0/1029	0.89	1/1379 (0.1%)
11	QJ	0.43	0/814	0.92	2/1095 (0.2%)
11	XJ	0.48	0/814	1.00	3/1095 (0.3%)
12	QK	0.48	0/900	0.91	1/1213 (0.1%)
12	XK	0.51	0/900	0.94	0/1213
13	QL	0.47	0/991	0.96	3/1327 (0.2%)
13	XL	0.58	0/991	1.14	9/1327 (0.7%)
14	QM	0.42	0/974	0.98	0/1303
14	XM	0.47	0/974	0.98	1/1303 (0.1%)
15	QN	0.48	0/501	0.90	0/664
15	XN	0.57	0/501	1.04	3/664 (0.5%)
16	QO	0.45	0/745	0.80	0/992
16	XO	0.49	0/745	0.89	0/992

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
17	QP	0.48	0/721	0.93	2/970 (0.2%)
17	XP	0.48	0/721	0.88	1/970 (0.1%)
18	QQ	0.42	0/847	0.85	0/1131
18	XQ	0.42	0/847	0.83	0/1131
19	QR	0.44	0/579	0.89	0/768
19	XR	0.47	0/579	0.85	1/768 (0.1%)
20	QS	0.45	0/689	0.99	3/926 (0.3%)
20	XS	0.47	0/689	1.01	6/926 (0.6%)
21	QT	0.46	0/765	0.96	2/1007 (0.2%)
21	XT	0.42	0/765	0.97	3/1007 (0.3%)
22	QU	0.36	0/221	0.79	0/288
22	XU	0.37	0/221	0.82	0/288
23	RA	0.21	0/69521	0.40	3/108529 (0.0%)
23	YA	0.26	0/69543	0.44	3/108563 (0.0%)
24	RB	0.18	0/2878	0.35	0/4490
24	YB	0.21	0/2878	0.41	0/4490
25	RD	0.63	0/2165	1.07	8/2919 (0.3%)
25	YD	0.73	0/2165	1.13	13/2919 (0.4%)
26	RE	0.57	0/1601	1.07	6/2160 (0.3%)
26	YE	0.60	0/1601	1.11	10/2160 (0.5%)
27	RF	0.53	0/1620	0.95	4/2194 (0.2%)
27	YF	0.60	0/1620	1.08	9/2194 (0.4%)
28	RG	0.41	0/1499	0.91	0/2016
28	YG	0.50	0/1499	0.91	2/2016 (0.1%)
29	RH	0.41	0/1332	1.02	9/1802 (0.5%)
29	YH	0.59	0/1332	1.10	7/1802 (0.4%)
30	RI	0.26	0/1151	0.58	0/1558
30	YI	0.27	0/1151	0.61	0/1558
31	RN	0.52	0/1131	1.01	2/1525 (0.1%)
31	YN	0.56	0/1131	0.94	1/1525 (0.1%)
32	RO	0.55	0/943	0.98	3/1269 (0.2%)
32	YO	0.60	0/943	0.97	0/1269
33	RP	0.61	0/1162	1.20	11/1544 (0.7%)
33	YP	0.67	0/1162	1.28	9/1544 (0.6%)
34	RQ	0.63	0/1143	1.09	4/1527 (0.3%)
34	YQ	0.74	1/1143 (0.1%)	1.13	8/1527 (0.5%)
35	RR	0.55	0/982	0.99	1/1312 (0.1%)
35	YR	0.56	0/982	1.04	3/1312 (0.2%)
36	RS	0.43	0/892	0.88	0/1187
36	YS	0.51	0/892	0.99	1/1187 (0.1%)
37	RT	0.53	0/1155	0.98	3/1542 (0.2%)
37	YT	0.58	0/1155	1.05	7/1542 (0.5%)
38	RU	0.54	0/982	1.04	6/1306 (0.5%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
38	YU	0.62	0/982	1.05	3/1306 (0.2%)
39	RV	0.47	0/790	0.97	5/1057 (0.5%)
39	YV	0.58	0/790	1.01	2/1057 (0.2%)
40	RW	0.64	0/911	0.98	0/1220
40	YW	0.60	0/911	1.00	0/1220
41	RX	0.59	0/739	0.96	4/993 (0.4%)
41	YX	0.61	0/739	1.00	2/993 (0.2%)
42	RY	0.54	0/798	1.07	6/1064 (0.6%)
42	YY	0.59	0/798	1.09	5/1064 (0.5%)
43	RZ	0.32	1/1493 (0.1%)	0.54	2/2026 (0.1%)
43	YZ	0.28	0/1493	0.54	0/2026
44	R0	0.45	1/657 (0.2%)	0.51	0/874
44	Y0	0.30	0/657	0.50	0/874
45	R1	0.55	0/770	0.97	0/1022
45	Y1	0.58	0/770	0.96	1/1022 (0.1%)
46	R2	0.46	0/583	1.01	1/771 (0.1%)
46	Y2	0.60	0/583	1.05	1/771 (0.1%)
47	R3	0.46	0/474	0.91	0/635
47	Y3	0.53	0/474	0.86	0/635
48	R4	0.45	0/594	1.18	8/795 (1.0%)
48	Y4	0.48	0/594	1.16	6/795 (0.8%)
49	R5	0.62	0/473	1.22	4/639 (0.6%)
49	Y5	0.64	0/473	1.33	9/639 (1.4%)
50	R6	0.53	0/431	1.01	2/575 (0.3%)
50	Y6	0.56	0/431	1.00	2/575 (0.3%)
51	R7	0.63	0/438	1.04	2/575 (0.3%)
51	Y7	0.70	0/438	1.02	3/575 (0.5%)
52	R8	0.69	0/525	1.17	4/691 (0.6%)
52	Y8	0.75	0/525	1.15	5/691 (0.7%)
53	R9	0.35	0/310	0.81	0/407
53	Y9	0.45	0/310	0.80	0/407
54	QV	0.36	1/403 (0.2%)	0.34	0/627
54	XV	0.33	1/403 (0.2%)	0.33	0/627
All	All	0.34	5/312559 (0.0%)	0.61	284/467055 (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 (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	R0	12	ASN	CA-C	9.05	1.58	1.53
43	RZ	11	GLU	CA-C	7.50	1.62	1.52
54	QV	37	1MG	O3'-P	5.83	1.62	1.56
34	YQ	82	ARG	N-CA	5.51	1.51	1.46
54	XV	37	1MG	O3'-P	5.39	1.61	1.56

All (284) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	RQ	82	ARG	N-CA-C	11.95	124.51	110.41
49	Y5	4	HIS	CA-C-N	-11.22	108.54	119.76
49	Y5	4	HIS	C-N-CA	-11.22	108.54	119.76
33	YP	59	LEU	N-CA-C	-10.61	99.87	112.92
5	QD	28	SER	CA-C-N	-10.42	108.88	120.45
5	QD	28	SER	C-N-CA	-10.42	108.88	120.45
48	R4	39	CYS	N-CA-C	-10.31	100.12	111.36
33	YP	64	LYS	N-CA-C	-10.31	101.01	114.31
29	RH	127	GLU	CA-C-N	-10.30	106.96	119.84
29	RH	127	GLU	C-N-CA	-10.30	106.96	119.84
13	XL	47	LYS	CA-C-N	9.99	132.32	119.84
13	XL	47	LYS	C-N-CA	9.99	132.32	119.84
31	RN	114	ARG	N-CA-C	-9.79	97.91	110.53
5	QD	31	CYS	N-CA-C	-9.63	102.76	112.97
48	Y4	39	CYS	N-CA-C	-9.43	101.32	112.92
33	RP	19	VAL	N-CA-C	9.26	118.99	107.70
38	YU	96	ALA	N-CA-C	-9.06	98.85	112.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	RP	25	SER	N-CA-C	-8.98	101.27	113.30
20	QS	6	LYS	N-CA-C	-8.96	102.75	114.31
27	YF	9	ILE	N-CA-C	8.78	115.55	107.56
33	RP	59	LEU	N-CA-C	-8.67	100.82	112.26
34	YQ	82	ARG	N-CA-C	8.33	126.40	112.99
33	RP	22	GLY	N-CA-C	8.25	122.21	112.23
20	QS	8	GLY	N-CA-C	8.16	119.70	111.21
33	YP	9	ASN	CA-C-N	8.06	129.91	119.84
33	YP	9	ASN	C-N-CA	8.06	129.91	119.84
48	Y4	63	TYR	N-CA-C	-7.93	103.74	113.50
26	RE	188	VAL	N-CA-C	7.81	115.35	108.63
12	QK	40	ILE	N-CA-C	-7.75	105.63	111.90
35	YR	9	LYS	N-CA-C	-7.62	98.21	110.32
26	YE	58	ARG	N-CA-C	-7.61	104.02	113.38
49	R5	4	HIS	CA-C-N	-7.58	112.18	119.76
49	R5	4	HIS	C-N-CA	-7.58	112.18	119.76
51	Y7	6	GLN	CA-C-N	7.53	127.57	119.89
51	Y7	6	GLN	C-N-CA	7.53	127.57	119.89
29	YH	157	TYR	N-CA-C	-7.53	103.94	113.72
46	Y2	5	GLU	N-CA-C	-7.50	102.03	112.45
5	XD	31	CYS	N-CA-C	-7.48	104.19	112.72
38	YU	92	ARG	N-CA-C	-7.47	101.66	111.74
29	YH	127	GLU	CA-C-N	-7.44	110.55	119.84
29	YH	127	GLU	C-N-CA	-7.44	110.55	119.84
13	XL	119	LYS	N-CA-C	-7.42	100.05	110.50
49	R5	46	CYS	CA-C-N	7.41	129.10	119.84
49	R5	46	CYS	C-N-CA	7.41	129.10	119.84
26	YE	125	GLY	CA-C-N	7.36	127.34	119.76
26	YE	125	GLY	C-N-CA	7.36	127.34	119.76
25	RD	244	ARG	CA-C-N	-7.30	112.86	120.38
25	RD	244	ARG	C-N-CA	-7.30	112.86	120.38
25	RD	272	ALA	N-CA-C	7.20	118.16	108.23
32	RO	100	GLY	CA-C-N	7.16	127.12	120.03
32	RO	100	GLY	C-N-CA	7.16	127.12	120.03
26	YE	21	VAL	C-N-CD	-7.15	104.87	120.60
34	YQ	113	GLN	N-CA-C	-7.13	105.20	114.04
51	R7	6	GLN	CA-C-N	7.12	127.16	119.90
51	R7	6	GLN	C-N-CA	7.12	127.16	119.90
31	RN	85	ILE	N-CA-C	7.04	115.76	107.73
27	RF	24	LEU	CA-C-N	7.03	128.63	119.84
27	RF	24	LEU	C-N-CA	7.03	128.63	119.84
33	YP	25	SER	N-CA-C	-6.99	95.91	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	XP	20	VAL	N-CA-C	6.90	118.29	108.42
26	RE	58	ARG	N-CA-C	-6.86	104.11	113.30
33	RP	9	ASN	CA-C-N	6.81	128.35	119.84
33	RP	9	ASN	C-N-CA	6.81	128.35	119.84
48	Y4	59	PHE	N-CA-C	-6.80	103.63	112.68
29	YH	7	LEU	CA-C-N	-6.80	111.34	119.84
29	YH	7	LEU	C-N-CA	-6.80	111.34	119.84
38	RU	76	TYR	N-CA-C	-6.78	103.97	111.36
6	QE	23	GLY	N-CA-C	6.78	120.59	110.97
38	RU	96	ALA	N-CA-C	-6.75	103.35	112.26
21	QT	12	ALA	N-CA-C	-6.70	102.43	112.54
26	YE	116	VAL	N-CA-C	-6.70	99.99	109.63
26	RE	132	HIS	N-CA-C	6.67	119.36	111.02
52	Y8	28	GLY	N-CA-C	-6.63	103.44	112.52
3	QB	166	ASP	CA-C-N	6.61	126.23	119.56
3	QB	166	ASP	C-N-CA	6.61	126.23	119.56
38	RU	97	ASP	N-CA-C	-6.59	103.76	112.72
49	Y5	46	CYS	CA-C-N	6.58	128.06	119.84
49	Y5	46	CYS	C-N-CA	6.58	128.06	119.84
21	XT	12	ALA	N-CA-C	-6.57	104.90	113.17
26	RE	21	VAL	C-N-CD	-6.54	106.20	120.60
48	Y4	40	HIS	CA-C-N	-6.53	113.05	119.78
48	Y4	40	HIS	C-N-CA	-6.53	113.05	119.78
27	YF	24	LEU	CA-C-N	6.53	126.56	119.90
27	YF	24	LEU	C-N-CA	6.53	126.56	119.90
48	Y4	45	GLY	N-CA-C	-6.53	106.23	115.30
20	QS	67	VAL	N-CA-C	6.52	117.31	110.72
34	YQ	26	TYR	N-CA-C	6.46	123.39	113.19
33	RP	64	LYS	N-CA-C	-6.44	105.44	113.55
38	YU	97	ASP	N-CA-C	-6.43	105.42	113.20
29	RH	162	ILE	N-CA-C	6.42	113.08	106.21
37	YT	111	ARG	N-CA-C	-6.39	102.55	110.41
27	RF	75	HIS	N-CA-C	6.35	117.81	108.86
42	RY	65	ALA	CA-C-N	6.34	126.36	119.89
42	RY	65	ALA	C-N-CA	6.34	126.36	119.89
17	QP	71	ARG	N-CA-C	-6.29	104.50	111.36
50	R6	24	GLU	N-CA-C	6.26	116.26	108.19
48	R4	10	VAL	CA-C-N	6.26	127.66	119.84
48	R4	10	VAL	C-N-CA	6.26	127.66	119.84
38	RU	92	ARG	N-CA-C	-6.22	104.28	112.24
38	RU	9	VAL	N-CA-C	6.22	116.39	110.42
41	YX	80	ILE	CB-CA-C	6.17	119.01	110.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	YT	14	TYR	N-CA-C	-6.17	105.81	113.15
27	YF	9	ILE	CA-C-N	6.16	126.64	119.99
27	YF	9	ILE	C-N-CA	6.16	126.64	119.99
33	YP	71	VAL	CA-C-N	-6.16	113.28	119.56
33	YP	71	VAL	C-N-CA	-6.16	113.28	119.56
38	RU	74	LEU	N-CA-C	6.15	116.36	108.24
39	YV	35	LEU	CA-C-N	6.14	127.52	119.84
39	YV	35	LEU	C-N-CA	6.14	127.52	119.84
41	RX	31	HIS	CA-C-N	6.12	126.01	119.28
41	RX	31	HIS	C-N-CA	6.12	126.01	119.28
48	R4	67	TYR	N-CA-C	6.11	114.62	108.75
37	YT	57	PHE	N-CA-C	-6.08	102.93	110.41
26	YE	85	ASN	CA-C-N	6.06	127.42	119.84
26	YE	85	ASN	C-N-CA	6.06	127.42	119.84
25	RD	49	ILE	N-CA-CB	6.05	117.13	110.53
25	YD	28	GLU	CA-C-N	-6.05	113.44	119.92
25	YD	28	GLU	C-N-CA	-6.05	113.44	119.92
25	YD	245	PRO	CA-C-N	6.05	126.40	119.93
25	YD	245	PRO	C-N-CA	6.05	126.40	119.93
52	R8	64	TYR	CB-CA-C	-6.03	109.60	116.54
28	YG	31	VAL	CA-C-N	6.03	127.37	119.84
28	YG	31	VAL	C-N-CA	6.03	127.37	119.84
3	XB	25	ASN	CA-C-N	6.02	127.37	119.84
3	XB	25	ASN	C-N-CA	6.02	127.37	119.84
13	XL	26	ALA	N-CA-C	-6.00	106.21	112.93
48	R4	59	PHE	N-CA-C	-5.99	106.00	113.55
50	R6	28	ARG	N-CA-C	5.98	118.27	109.24
23	RA	1130	U	C2'-C3'-O3'	5.96	118.44	109.50
35	RR	9	LYS	N-CA-C	-5.96	100.83	109.59
39	RV	35	LEU	CA-C-N	5.95	127.27	119.84
39	RV	35	LEU	C-N-CA	5.95	127.27	119.84
11	XJ	75	ILE	N-CA-C	5.92	116.09	110.53
13	XL	44	THR	CA-C-N	5.91	126.11	120.31
13	XL	44	THR	C-N-CA	5.91	126.11	120.31
42	YY	11	ASP	N-CA-C	5.90	117.91	110.24
43	RZ	110	GLY	CA-C-N	5.90	132.31	121.70
43	RZ	110	GLY	C-N-CA	5.90	132.31	121.70
37	RT	19	LEU	CA-C-N	5.89	125.80	119.85
37	RT	19	LEU	C-N-CA	5.89	125.80	119.85
27	YF	157	VAL	N-CA-C	5.88	114.82	106.53
6	QE	127	ASN	CA-C-N	5.87	126.01	119.32
6	QE	127	ASN	C-N-CA	5.87	126.01	119.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	Y5	6	VAL	N-CA-CB	-5.87	106.68	111.67
37	YT	89	VAL	N-CA-C	-5.86	107.04	113.43
15	XN	13	THR	CA-C-N	5.84	127.14	119.84
15	XN	13	THR	C-N-CA	5.84	127.14	119.84
26	YE	185	LYS	N-CA-C	5.84	117.30	110.41
39	RV	49	THR	CA-C-N	-5.80	112.59	119.84
39	RV	49	THR	C-N-CA	-5.80	112.59	119.84
25	RD	13	ARG	N-CA-C	-5.80	106.25	113.38
20	XS	41	VAL	CA-C-N	5.79	140.91	127.00
20	XS	41	VAL	C-N-CA	5.79	140.91	127.00
26	YE	130	GLY	N-CA-C	5.79	119.65	112.64
42	YY	89	PHE	N-CA-C	-5.76	104.44	113.02
5	XD	39	PRO	CA-C-N	5.76	125.73	120.03
5	XD	39	PRO	C-N-CA	5.76	125.73	120.03
25	YD	229	VAL	CB-CA-C	-5.75	100.80	111.79
52	Y8	61	LEU	N-CA-C	-5.69	101.21	110.20
25	RD	44	ASN	N-CA-C	5.69	116.79	108.14
9	XH	26	VAL	CA-C-N	5.69	126.95	119.84
9	XH	26	VAL	C-N-CA	5.69	126.95	119.84
41	RX	6	ASP	N-CA-C	-5.68	106.39	113.55
48	R4	63	TYR	N-CA-C	-5.68	105.85	112.89
49	Y5	27	PRO	O-C-N	5.66	123.91	121.31
48	R4	8	LYS	N-CA-C	5.63	117.87	111.11
23	YA	2867	G	C2'-C3'-O3'	5.63	117.94	109.50
29	RH	157	TYR	N-CA-C	-5.62	106.00	112.92
25	YD	223	GLY	N-CA-C	-5.62	105.99	112.73
11	XJ	28	ARG	N-CA-C	-5.61	106.39	113.18
25	YD	196	VAL	N-CA-C	5.60	116.25	110.82
9	XH	75	ARG	CA-C-N	5.60	126.84	119.84
9	XH	75	ARG	C-N-CA	5.60	126.84	119.84
52	Y8	54	GLU	N-CA-C	-5.59	105.18	111.28
50	Y6	24	GLU	N-CA-C	5.58	115.48	108.45
23	YA	1992	G	C2'-C3'-O3'	5.57	117.85	109.50
11	QJ	52	GLY	CA-C-N	5.56	124.91	118.85
11	QJ	52	GLY	C-N-CA	5.56	124.91	118.85
52	R8	36	LYS	N-CA-C	-5.56	102.25	110.48
15	XN	47	LEU	N-CA-C	5.56	117.34	111.28
27	YF	95	ARG	N-CA-C	5.56	117.30	108.79
29	RH	20	ALA	CA-C-N	5.56	126.79	119.84
29	RH	20	ALA	C-N-CA	5.56	126.79	119.84
10	XI	63	ILE	N-CA-C	5.56	116.06	107.78
42	RY	76	CYS	CA-C-N	5.55	126.78	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
42	RY	76	CYS	C-N-CA	5.55	126.78	119.84
52	R8	61	LEU	N-CA-C	-5.55	101.64	109.96
10	QI	86	VAL	N-CA-C	-5.54	107.35	112.83
27	RF	64	ILE	N-CA-C	5.53	115.72	110.53
19	XR	25	THR	N-CA-C	-5.53	106.54	113.72
20	XS	58	VAL	N-CA-C	5.50	113.88	107.89
36	YS	62	LYS	N-CA-C	5.47	117.95	111.33
31	YN	24	GLY	N-CA-C	-5.47	106.05	113.37
33	YP	19	VAL	N-CA-C	5.46	120.69	109.34
25	YD	13	ARG	N-CA-C	-5.44	106.62	113.20
37	YT	16	ARG	N-CA-C	-5.41	102.19	110.14
13	XL	24	VAL	CA-C-N	-5.41	113.08	119.84
13	XL	24	VAL	C-N-CA	-5.41	113.08	119.84
29	RH	7	LEU	CA-C-N	-5.40	113.09	119.84
29	RH	7	LEU	C-N-CA	-5.40	113.09	119.84
52	R8	50	LEU	N-CA-C	5.39	117.19	108.41
32	RO	32	TYR	N-CA-C	5.39	117.38	109.24
25	YD	83	GLU	N-CA-C	5.37	118.03	109.81
52	Y8	62	LEU	CA-C-N	-5.35	113.41	118.97
52	Y8	62	LEU	C-N-CA	-5.35	113.41	118.97
27	YF	184	TYR	N-CA-C	-5.34	105.35	111.07
49	Y5	5	PRO	N-CA-C	5.34	119.58	111.19
3	QB	25	ASN	CA-C-N	5.34	126.51	119.84
3	QB	25	ASN	C-N-CA	5.34	126.51	119.84
23	RA	1992	G	C2'-C3'-O3'	5.33	117.50	109.50
13	XL	60	LEU	N-CA-C	5.33	117.62	109.95
34	RQ	120	ILE	CB-CA-C	-5.31	105.09	112.04
13	QL	26	ALA	N-CA-C	-5.30	106.99	112.93
23	RA	1130	U	P-O3'-C3'	5.29	128.14	120.20
25	YD	107	ALA	CA-C-N	5.29	125.27	120.03
25	YD	107	ALA	C-N-CA	5.29	125.27	120.03
35	YR	43	GLU	N-CA-C	-5.28	107.00	113.50
37	RT	13	ARG	N-CA-C	-5.28	106.43	112.92
33	RP	42	SER	N-CA-C	5.28	116.72	110.97
26	RE	51	PHE	N-CA-C	5.27	116.52	108.30
25	RD	157	ARG	N-CA-C	-5.26	106.76	114.39
23	YA	271(B)	G	P-O3'-C3'	5.26	126.01	119.70
8	XG	27	ILE	N-CA-C	-5.25	105.59	110.53
35	YR	58	GLY	N-CA-C	5.25	122.34	115.36
21	QT	33	ILE	CB-CA-C	-5.24	105.17	111.88
27	YF	71	GLY	N-CA-C	-5.22	108.43	115.21
37	YT	13	ARG	N-CA-C	-5.21	99.70	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	XS	34	TRP	N-CA-C	-5.21	106.95	113.72
29	YH	20	ALA	N-CA-C	-5.21	104.06	110.31
20	XS	41	VAL	C-N-CD	-5.20	109.15	120.60
26	YE	132	HIS	N-CA-C	5.20	121.88	110.80
20	XS	36	ARG	N-CA-C	-5.19	106.97	113.72
29	RH	6	ARG	N-CA-C	-5.17	108.72	114.62
41	RX	5	TYR	N-CA-C	-5.17	107.14	112.93
5	XD	31	CYS	CA-C-N	5.17	131.41	121.54
5	XD	31	CYS	C-N-CA	5.17	131.41	121.54
34	YQ	125	LEU	CA-C-N	5.17	126.30	119.84
34	YQ	125	LEU	C-N-CA	5.17	126.30	119.84
34	RQ	89	ASN	N-CA-C	-5.16	107.03	113.38
46	R2	5	GLU	N-CA-C	-5.16	105.72	112.23
2	QA	1065	U	P-O3'-C3'	5.16	127.93	120.20
6	QE	95	ALA	CA-C-N	5.16	126.28	119.84
6	QE	95	ALA	C-N-CA	5.16	126.28	119.84
25	YD	43	ARG	N-CA-C	5.15	119.43	113.20
9	QH	26	VAL	CA-C-N	5.15	126.28	119.84
9	QH	26	VAL	C-N-CA	5.15	126.28	119.84
21	XT	9	ASN	N-CA-C	5.14	118.09	110.48
42	YY	60	PHE	N-CA-C	5.13	116.99	109.24
34	YQ	25	ASP	N-CA-C	5.12	121.70	110.80
37	YT	108	ARG	N-CA-C	-5.11	107.18	113.41
42	YY	76	CYS	CA-C-N	5.11	126.23	119.84
42	YY	76	CYS	C-N-CA	5.11	126.23	119.84
33	RP	71	VAL	CA-C-N	-5.11	113.78	119.19
33	RP	71	VAL	C-N-CA	-5.11	113.78	119.19
33	RP	26	GLY	N-CA-C	-5.10	101.15	112.17
45	Y1	70	VAL	CB-CA-C	-5.10	105.44	111.97
34	RQ	78	PRO	N-CA-C	5.10	122.98	112.47
42	RY	55	TYR	CA-C-N	5.10	126.21	119.84
42	RY	55	TYR	C-N-CA	5.10	126.21	119.84
14	XM	117	VAL	N-CA-C	5.10	117.07	108.81
17	QP	39	TYR	N-CA-C	5.09	116.33	107.93
34	YQ	89	ASN	N-CA-C	-5.09	106.85	113.16
25	RD	256	GLY	N-CA-C	5.09	119.74	113.79
33	YP	95	VAL	N-CA-C	5.08	119.91	109.34
50	Y6	28	ARG	N-CA-C	5.06	117.07	109.23
26	RE	102	VAL	N-CA-C	5.06	116.18	108.80
11	XJ	54	PHE	CB-CA-C	-5.05	108.08	114.40
29	YH	6	ARG	N-CA-C	-5.05	107.19	113.55
13	QL	47	LYS	CA-C-N	-5.05	113.53	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	QL	47	LYS	C-N-CA	-5.05	113.53	119.84
3	XB	166	ASP	CA-C-N	5.05	124.77	119.82
3	XB	166	ASP	C-N-CA	5.05	124.77	119.82
48	R4	49	PHE	N-CA-C	5.05	121.55	110.80
51	Y7	30	VAL	CB-CA-C	-5.04	105.42	111.88
49	Y5	6	VAL	CA-C-N	-5.04	114.55	119.99
49	Y5	6	VAL	C-N-CA	-5.04	114.55	119.99
6	QE	67	VAL	N-CA-C	5.03	114.82	107.88
39	RV	70	ILE	CB-CA-C	-5.03	104.00	110.84
25	YD	272	ALA	N-CA-C	5.03	121.51	110.80
21	XT	33	ILE	CB-CA-C	-5.03	105.54	111.97
34	YQ	22	LYS	N-CA-C	5.02	121.50	110.80
10	QI	89	ASN	CA-C-N	5.01	125.08	119.87
10	QI	89	ASN	C-N-CA	5.01	125.08	119.87
41	YX	7	VAL	N-CA-C	-5.00	107.51	111.81

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

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
1	XX	80	0	44	1	0
2	QA	32247	0	16278	443	0
2	XA	32249	0	16279	462	1
3	QB	1924	0	1975	83	0
3	XB	1924	0	1975	99	0
4	QC	1605	0	1668	61	0
4	XC	1605	0	1668	56	0
5	QD	1703	0	1763	75	0
5	XD	1703	0	1763	49	0
6	QE	1155	0	1213	39	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	55	0
9	XH	1116	0	1177	38	0
10	QI	1010	0	1037	37	0
10	XI	1010	0	1037	43	0
11	QJ	801	0	849	48	0
11	XJ	801	0	849	44	0
12	QK	885	0	904	30	0
12	XK	885	0	904	44	0
13	QL	975	0	1062	35	0
13	XL	975	0	1062	39	0
14	QM	964	0	1034	65	0
14	XM	964	0	1034	58	0
15	QN	492	0	529	22	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	155	0
20	XS	674	0	698	147	0
21	QT	763	0	860	21	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
21	XT	763	0	861	42	0
22	QU	217	0	234	10	0
22	XU	217	0	234	4	0
23	RA	62071	0	31291	772	0
23	YA	62091	0	31298	753	0
24	RB	2573	0	1306	41	0
24	YB	2573	0	1306	29	0
25	RD	2115	0	2195	105	0
25	YD	2115	0	2195	101	0
26	RE	1568	0	1634	70	0
26	YE	1568	0	1634	61	0
27	RF	1585	0	1632	82	0
27	YF	1585	0	1632	69	0
28	RG	1474	0	1535	59	0
28	YG	1474	0	1535	61	0
29	RH	1307	0	1382	61	0
29	YH	1307	0	1382	70	0
30	RI	1136	0	1223	58	1
30	YI	1136	0	1223	47	0
31	RN	1104	0	1180	41	0
31	YN	1104	0	1180	52	0
32	RO	933	0	996	25	0
32	YO	933	0	996	29	0
33	RP	1145	0	1227	86	0
33	YP	1145	0	1228	89	0
34	RQ	1122	0	1179	60	0
34	YQ	1122	0	1179	46	0
35	RR	968	0	1033	48	0
35	YR	968	0	1033	38	0
36	RS	882	0	943	48	0
36	YS	882	0	943	41	0
37	RT	1141	0	1202	54	0
37	YT	1141	0	1202	52	0
38	RU	964	0	1022	30	0
38	YU	964	0	1022	57	0
39	RV	779	0	852	21	0
39	YV	779	0	852	45	0
40	RW	900	0	964	30	0
40	YW	900	0	964	27	0
41	RX	725	0	778	30	0
41	YX	725	0	778	25	0
42	RY	785	0	878	53	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
42	YY	785	0	878	42	0
43	RZ	1461	0	1493	53	0
43	YZ	1461	0	1493	47	0
44	R0	648	0	672	19	0
44	Y0	648	0	672	20	0
45	R1	763	0	848	26	0
45	Y1	763	0	848	32	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	161	0
48	Y4	581	0	569	167	0
49	R5	459	0	480	26	0
49	Y5	459	0	480	34	0
50	R6	424	0	450	26	0
50	Y6	424	0	450	31	0
51	R7	430	0	480	16	0
51	Y7	430	0	480	20	0
52	R8	517	0	582	32	0
52	Y8	517	0	582	48	0
53	R9	307	0	338	8	0
53	Y9	307	0	338	12	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

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
55	XL	1	0	0	0	0
55	XM	1	0	0	0	0
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	5800	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 (5800) 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
20:XS:65:ASN:C	48:Y4:59:PHE:HE2	1.23	1.45
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
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
20:XS:65:ASN:C	48:Y4:59:PHE:CE2	1.99	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
14:QM:80:ARG:HD3	48:R4:71:ARG:NH1	1.38	1.35

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:64:GLU:CD	48:R4:55:ARG:HH12	1.38	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
20:QS:68:GLY:C	48:R4:68:ARG:HD3	1.79	1.07
14:XM:7:VAL:HG22	48:Y4:34:GLU:OE1	1.53	1.07
20:QS:64:GLU:CD	48:R4:55:ARG:NH1	2.11	1.06
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:XS:70:LYS:HZ3	48:Y4:68:ARG:NH2	1.39	1.04
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:XS:68:GLY:HA3	48:Y4:69:LYS:CA	1.88	1.02
20:XS:39:THR:CG2	48:Y4:68:ARG:HG2	1.90	1.02
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
23:YA:1138:G:H21	31:YN:106:MET:HE3	1.22	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:XS:65:ASN:CA	48:Y4:59:PHE:CE2	2.37	0.97
20:XS:68:GLY:HA3	48:Y4:68:ARG:C	1.88	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
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
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: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
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
20:XS:65:ASN:C	48:Y4:59:PHE:CZ	2.50	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	0.87
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
20:XS:67:VAL:HG11	48:Y4:59:PHE:C	2.00	0.86
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
8:XG:89:MET:HE1	8:XG:156:TRP:H	1.40	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
23:RA:2867:G:HO2'	23:RA:2868:A:H8	1.25	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:Y5:16:ARG:NH1	49:Y5:17:ASP:OD1	2.13	0.81
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

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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	1.49	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
23:RA:2404:C:H1'	33:RP:67:MET:HE1	1.67	0.77
25:YD:35:LYS:HZ1	25:YD:104:TYR:HB2	1.50	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
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
29:YH:41:MET:HE1	29:YH:64:LEU:HB3	1.67	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XD:33:MET:HE2	5:XD:37:PRO:HA	1.68	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
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
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
20:QS:67:VAL:C	48:R4:59:PHE:CE1	2.64	0.74
20:XS:66:MET:N	48:Y4:59:PHE:CZ	2.54	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
33:YP:64:LYS:C	33:YP:66:GLY:H	1.96	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:XJ:3:GLN:NE2	2.19	0.73
7:XF:50:TYR:OH	19:XR:74:ARG:O	2.06	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
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
27:YF:192:LEU:HD21	27:YF:194:MET:HE3	1.72	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
45:R1:7:ILE:HG12	45:R1:91:LYS:HZ1	1.55	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:O	29:YH:129:THR:OG1	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
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
10:XJ: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
20:QS:65:ASN:C	48:R4:59:PHE:HE2	1.99	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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:YA:1138:G:N2	31:YN:106:MET:HE3	2.04	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
20:XS:68:GLY:N	48:Y4:59:PHE:HE1	1.58	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
3:XB:178:ARG:HD2	9:XH:71:GLY:C	2.17	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: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
23:YA:2726:U:H4'	32:YO:1:MET:HE1	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YF:184:TYR:O	27:YF:188:ARG:HG3	1.93	0.69
3:QB:178:ARG:HG3	9:QH:71:GLY:C	2.18	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
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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:YG:67:LYS:HZ1	48:Y4:1:MET:HB2	1.57	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
33:YP:64:LYS:C	33:YP:66:GLY:N	2.48	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
43:RZ:110:GLY:HA2	43:RZ:111:VAL:C	2.19	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
23:YA:2392:A:H1'	33:YP:60:MET:HE3	1.76	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
25:YD:221:VAL:HG22	25:YD:226:MET:HE3	1.77	0.67
37:YT:16:ARG:NH2	37:YT:83:ILE:O	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
20:XS:64:GLU:C	48:Y4:55:ARG:HG2	2.20	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:692:U:OP1	12:QK:124:LYS:NZ	2.28	0.67
2:QA:953:G:H5'	2:QA:965:A:H61	1.60	0.67
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
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
20:XS:70:LYS:HZ3	48:Y4:68:ARG:HH21	0.71	0.66
36:YS:83:LYS:C	36:YS:109:GLY:HA3	2.21	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
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
5:QD:30:LYS:C	5:QD:32:ALA:H	2.02	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
2:XA:975:A:HO2'	15:XN:32:SER:HG	1.43	0.65
23:YA:67:U:N3	23:YA:74:A:H2	1.89	0.65
31:YN:1:MET:HE1	38:YU:95:LEU:HD21	1.76	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
23:YA:220:G:O2'	23:YA:233:A:N3	2.26	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
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
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
2:QA:664:G:H22	2:QA:741:G:H1	1.45	0.64
20:QS:68:GLY:H	48:R4:59:PHE:HE1	1.44	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
23:YA:1028:A:N3	23:YA:2486:G:O2'	2.28	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
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
49:Y5:40:LYS:HZ1	49:Y5:48:GLU:HB2	1.62	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:751:A:H5'	40:YW:90:ARG:HA	1.79	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
3:XB:235:SER:OG	3:XB:236:TYR:N	2.25	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
23:RA:2392:A:H1'	33:RP:60:MET:HE3	1.80	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
46:R2:4:SER:OG	46:R2:5:GLU:OE2	2.16	0.62
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QA:1346:A:H5''	10:QI:120:ARG:HH12	1.63	0.62
3:QB:24:TRP:H	3:QB:24:TRP:CD1	2.15	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
14:XM:23:TYR:HB3	14:XM:67:GLU:HA	1.81	0.62
23:YA:1833:U:O2'	23:YA:1969:A:N1	2.30	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
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:498:G:N3	42:RY:47:LYS:NZ	2.46	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
23:YA:1266:G:O2'	23:YA:2012:G:O6	2.16	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
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
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: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
33:RP:58:THR:C	33:RP:61:ARG:HE	2.06	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
34:YQ:81:VAL:C	34:YQ:82:ARG:HG2	2.25	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
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
27:YF:197:ASP:OD2	27:YF:197:ASP:N	2.33	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
50:Y6:25:LYS:HZ2	52:Y8:34:TRP:HZ2	1.46	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
2:QA:1147:C:HO2'	10:QI:5:TYR:HH	1.48	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1094:U:O2'	23:YA:1096:A:OP1	2.18	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:592:G:H2'	52:Y8:4:MET:HE2	1.82	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
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
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
24:RB:55:U:HO2'	28:RG:29:TRP:CD1	2.19	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
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
32:YO:96:THR:O	32:YO:97:ARG:HB3	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
23:YA:987:G:O2'	23:YA:1000:A:N3	2.30	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
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
23:RA:1543:A:HO2'	23:RA:1544:C:H3'	1.65	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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: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
2:XA:973:G:H3'	2:XA:974:A:H5''	1.83	0.59
23:YA:1326:U:HO2'	23:YA:2010:G:HO2'	1.51	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
33:YP:147:LEU:O	33:YP:148:LEU:HB2	2.02	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:67:C:O2'	2:XA:171:A:N3	2.29	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:1056:G:HO2'	23:YA:1086:A:HO2'	1.45	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
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
51:R7:22:MET:HE2	51:R7:31:LEU:HD12	1.85	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:XB:93:VAL:HG11	3:XB:97:TRP:HD1	1.68	0.58
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:181:G:HO2'	2:XA:182:U:H6	1.51	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:573:G:OP2	39:YV:78:LYS:NZ	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
23:RA:1833:U:O2'	23:RA:1969:A:N1	2.28	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
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:116:ASP:OD2	33:YP:1:MET:N	2.26	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
5:XD:13:ARG:HA	5:XD:33:MET:HE3	1.84	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
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
10:QI:95:LYS:HZ1	10:QI:96:LEU:HD13	1.68	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:152:ARG:HH21	29:RH:153:LYS:HZ1	1.51	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: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
2:QA:1305:G:HO2'	2:QA:1306:A:H8	1.52	0.57
10:XI:15:ALA:HB2	10:XI:65:VAL:HG23	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:2331:G:O2'	23:RA:2336:A:N1	2.38	0.57
23:RA:2633:G:O2'	26:RE:60:ASN:ND2	2.37	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
2:QA:986:A:N3	20:QS:52:TYR:OH	2.36	0.57
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
28:RG:83:ARG:HG3	28:RG:86:MET:HE3	1.87	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
24:YB:13:A:N1	24:YB:69:G:O2'	2.30	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
2:QA:1226:C:OP2	14:QM:103:THR:OG1	2.14	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
35:RR:117:VAL:O	35:RR:118:GLU:HB2	2.05	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
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
23:RA:1783:A:HO2'	23:RA:2607:G:HO2'	1.52	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
42:RY:81:LYS:HZ3	42:RY:98:VAL:HG11	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: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
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: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
37:RT:111:ARG:C	37:RT:113:LYS:H	2.12	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:1275:A:N1	23:RA:1295:C:O2'	2.38	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
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
2:XA:789:U:O2'	2:XA:791:G:N7	2.36	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
29:RH:86:GLU:H	29:RH:86:GLU:CD	2.12	0.56
2:XA:565:U:OP2	2:XA:566:G:O2'	2.22	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
20:XS:70:LYS:HZ1	48:Y4:68:ARG:NH2	1.97	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
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
29:RH:89:ILE:O	29:RH:89:ILE:HG12	2.04	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:259:G:HO2'	23:RA:621:A:HO2'	1.51	0.56
23:RA:764:A:H5'	25:RD:210:GLY:HA2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
3:QB:101:MET:HE2	3:QB:108:ILE:HG21	1.88	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: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
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
31:RN:42:TRP:HA	31:RN:48:MET:HE1	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
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
7:QF:69:GLU:CD	7:QF:69:GLU:H	2.15	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
32:RO:1:MET:HE3	32:RO:67:LYS:HG2	1.88	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
29:RH:41:MET:HE1	29:RH:64:LEU:HD22	1.88	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
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
43:RZ:110:GLY:HA2	43:RZ:111:VAL:O	2.04	0.55
48:R4:16:CYS:SG	48:R4:36:CYS:N	2.79	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:356:A:N3	2:XA:368:U:O2'	2.36	0.55
2:XA:811:C:O2'	2:XA:901:A:N1	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:192:C:O2'	23:RA:802:A:N3	2.39	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
25:YD:12:SER:O	25:YD:16:MET:HB2	2.08	0.54
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
11:QJ:22:LYS:HZ1	11:QJ:23:ILE:HG12	1.72	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
31:YN:39:ARG:HD3	31:YN:48:MET:HE2	1.88	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
23:RA:2818:G:OP2	35:RR:42:LYS:NZ	2.40	0.54
24:RB:5:C:OP1	24:RB:61:G:O2'	2.22	0.54
24:RB:44:G:OP1	48:R4:1:MET:N	2.37	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
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:1496:A:H8	23:YA:1577:C:O2'	1.89	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
50:R6:15:GLU:CD	50:R6:41:PRO:HB3	2.32	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
10:XI:40:LEU:C	10:XI:42:ARG:H	2.15	0.54
14:XM:20:THR:C	14:XM:22:ILE:H	2.16	0.54
48:Y4:54:GLY:O	48:Y4:59:PHE:HB2	2.07	0.54
2:QA:426:G:OP1	5:QD:38:TYR:OH	2.19	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:2441:C:OP2	23:RA:2586:C:O2'	2.26	0.54
25:RD:228:PRO:HD3	25:RD:234:GLY:C	2.33	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
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
20:XS:73:GLU:CD	48:Y4:69:LYS:HE2	2.33	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YD:70:TRP:CH2	25:YD:150:LYS:HA	2.43	0.53
25:YD:170:GLY:C	25:YD:172:TYR:H	2.16	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
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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:QB:178:ARG:CD	9:QH:71:GLY:C	2.81	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: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:577:G:OP1	23:YA:2502:G:O2'	2.23	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
2:QA:565:U:OP2	2:QA:566:G:O2'	2.25	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:QN:24:CYS:HB3	15:QN:29:ARG:N	2.23	0.52
34:RQ:97:VAL:HG11	34:RQ:103:MET:HE3	1.90	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:1097:C:O2'	2:XA:1169:A:N3	2.37	0.52
2:XA:1264:C:H2'	2:XA:1265:G:C8	2.43	0.52
20:XS:67:VAL:C	48:Y4:68:ARG:HB2	2.34	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
20:QS:15:LEU:HD12	20:QS:44:MET:HE1	1.90	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
2:XA:17:U:H2'	2:XA:18:C:C6	2.44	0.52
2:XA:300:A:O2'	2:XA:564:C:N3	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:XA:1327:C:OP2	22:XU:12:LYS:NZ	2.42	0.52
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
34:RQ:136:ALA:C	34:RQ:138:ASP:H	2.18	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
23:RA:2705:A:O2'	23:RA:2852:G:OP1	2.26	0.52
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
20:XS:70:LYS:HZ1	48:Y4:68:ARG:HH22	1.55	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
27:RF:150:GLY:HA2	27:RF:172:TRP:CE3	2.44	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
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
45:Y1:83:GLU:HG2	45:Y1:84:GLY:N	2.24	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RD:12:SER:HB2	25:RD:208:LYS:HB3	1.92	0.51
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:566:U:OP1	33:YP:29:LYS:NZ	2.43	0.51
23:YA:2422:A:N7	52:Y8:31:HIS:NE2	2.52	0.51
27:YF:182:ASN:HD21	27:YF:185:ASP:CG	2.14	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
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:249:C:OP2	23:RA:2394:C:O2'	2.29	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
25:RD:43:ARG:HH11	25:RD:44:ASN:CG	2.16	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XA:1226:C:OP2	14:XM:103:THR:OG1	2.26	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
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
21:QT:64:ASP:CG	21:QT:81:LYS:HZ2	2.18	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
51:R7:22:MET:HE2	51:R7:31:LEU:CD1	2.40	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
20:XS:64:GLU:C	48:Y4:59:PHE:CE2	2.89	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:2477:C:H3'	53:Y9:1:MET:HE3	1.92	0.51
23:YA:2537:U:H2'	23:YA:2538:C:C6	2.45	0.51
23:YA:2757:A:N1	29:YH:67:LEU:HD22	2.25	0.51
25:YD:35:LYS:HE3	25:YD:63:ARG:C	2.36	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
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:30:LYS:C	5:XD:32:ALA:H	2.18	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:593:G:C4'	52:Y8:4:MET:HE1	2.41	0.51
23:YA:2698:U:H2'	23:YA:2699:C:C6	2.46	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:QB:162:ILE:HD11	3:QB:184:VAL:HG22	1.93	0.50
5:QD:30:LYS:C	5:QD:32:ALA:N	2.69	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
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
52:R8:50:LEU:C	52:R8:53:PRO:HD2	2.36	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
2:QA:890:G:O2'	2:QA:906:G:O6	2.28	0.50
2:QA:964:A:N3	2:QA:969:A:O2'	2.40	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:81:VAL:C	34:RQ:82:ARG:HG2	2.37	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:2372:G:O2'	50:Y6:46:HIS:NE2	2.33	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:1019:U:O2'	23:RA:1021:A:H2	1.93	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
26:RE:176:ILE:HG23	26:RE:178:GLU:OE2	2.11	0.50
27:RF:172:TRP:CD1	27:RF:172:TRP:H	2.29	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
2:XA:102:G:O2'	2:XA:151:A:N3	2.43	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:1019:U:O2'	23:YA:1021:A:H2	1.94	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
23:YA:2777:G:OP2	23:YA:2781:A:O2'	2.26	0.50
26:YE:111:ARG:HA	35:YR:1:MET:CG	2.40	0.50
27:YF:129:PHE:C	27:YF:131:GLY:H	2.18	0.50
39:YV:52:VAL:HG23	39:YV:55:ALA:H	1.76	0.50
3:QB:178:ARG:CG	9:QH:71:GLY:C	2.83	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:XM:36:LYS:C	14:XM:36:LYS:HD3	2.36	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:690:G:H22	12:QK:55:LYS:HZ1	1.58	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
33:YP:138:LEU:C	33:YP:140:ALA:H	2.18	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
23:YA:128:C:H4'	51:Y7:49:ARG:HH12	1.75	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
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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
4:QC:79:ARG:CZ	12:XK:99:GLN:C	2.85	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
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
34:YQ:68:ILE:HD13	34:YQ:103:MET:HE2	1.94	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
23:RA:1582:C:O2'	23:RA:1586:A:H8	1.92	0.49
30:RI:9:LEU:O	30:RI:10:GLU:HG3	2.11	0.49
34:RQ:111:GLU:C	34:RQ:113:GLN:H	2.19	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
20:QS:65:ASN:C	48:R4:59:PHE:CE2	2.85	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
23:YA:414:C:O2	23:YA:1864:U:O2'	2.29	0.49
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
16:XO:6:GLU:H	16:XO:6:GLU:CD	2.15	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
13:XL:62:SER:HB2	13:XL:64:TYR:HD1	1.76	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
28:YG:179:PRO:HG3	48:Y4:38:LYS:HZ1	1.76	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
48:Y4:35:VAL:C	48:Y4:37:SER:H	2.20	0.49
50:Y6:15:GLU:CD	50:Y6:41:PRO:HB3	2.37	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
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
31:RN:7:LYS:H	31:RN:7:LYS:HZ3	1.59	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
23:YA:2655:G:HO2'	23:YA:2664:G:H1	1.57	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:946:A:O2'	2:QA:1333:A:N3	2.38	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:12:GLU:C	3:XB:14:GLY:H	2.21	0.49
3:XB:73:THR:OG1	3:XB:170:GLU:OE2	2.23	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
29:YH:98:LEU:HD13	29:YH:125:VAL:HB	1.94	0.49
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
23:YA:918:A:N3	24:YB:80:U:O2'	2.44	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
25:YD:35:LYS:HZ2	25:YD:64:ILE:C	2.15	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
53:Y9:1:MET:HE1	53:Y9:32:HIS:CE1	2.48	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
30:YI:62:LYS:HE3	30:YI:134:PRO:HG2	1.94	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
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:593:G:O2'	52:Y8:61:LEU:HD13	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
23:YA:1649:G:O2'	35:YR:107:ASP:OD1	2.28	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
32:YO:4:PRO:O	32:YO:5:GLN:HB2	2.11	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
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
10:XI:91:ASP:C	10:XI:93:ARG:H	2.21	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
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:1659:U:O2'	23:YA:2712(A):A:N1	2.44	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:130:A:N3	2:QA:263:A:O2'	2.43	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QA:753:A:H4'	2:QA:754:C:O5'	2.13	0.48
2:QA:1065:U:O2'	2:QA:1066:C:OP2	2.26	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
33:RP:37:GLY:O	33:RP:40:SER:OG	2.26	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:1301:U:H3'	2:XA:1302:U:H5'	1.94	0.48
3:XB:37:ASN:C	3:XB:39:ILE:H	2.20	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:X1:9:ARG:HB2	10:X1:14: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
25:YD:35:LYS:NZ	25:YD:104:TYR:HB2	2.26	0.48
25:YD:254:THR:O	25:YD:254:THR:OG1	2.30	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
24:YB:44:G:OP1	48:Y4:1:MET:N	2.47	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
13:XL:62:SER:C	13:XL:64:TYR:H	2.21	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
45:Y1:25:LYS:C	45:Y1:27:GLU:H	2.22	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
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:36:G:N3	23:YA:450:G:O2'	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:589:C:H2'	23:YA:590:A:C8	2.49	0.48
23:YA:726:G:O2'	23:YA:727:A:OP2	2.32	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
48:Y4:43:TYR:C	48:Y4:43:TYR:CD2	2.92	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:690:G:H22	12:XK:55:LYS:HZ1	1.60	0.48
2:XA:859:A:H2'	2:XA:860:A:O4'	2.14	0.48
21:XT:98:PRO:C	21:XT:100:ILE:H	2.21	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:1269:A:N1	2:QA:1312:G:O2'	2.43	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:196:A:HO2'	23:RA:2068:U:H5	1.61	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
34:YQ:45:GLN:H	34:YQ:45:GLN:CD	2.22	0.48
38:YU:90:VAL:HG22	39:YV:39:LEU:HB3	1.96	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
9:QH:82:HIS:HD1	9:QH:138:TRP:NE1	2.11	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
42:YY:44:ILE:HG13	42:YY:45:VAL:N	2.28	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
25:RD:35:LYS:HE3	25:RD:64:ILE:C	2.39	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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:792:A:O2'	2:XA:794:A:N7	2.42	0.47
2:XA:1157:A:H1'	2:XA:1158:C:C4	2.49	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
28:RG:95:ARG:C	28:RG:99:MET:HG2	2.39	0.47
36:RS:88:ASP:CG	36:RS:89:ARG:H	2.21	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:593:G:H4'	52:Y8:4:MET:HE1	1.97	0.47
23:YA:612:G:O2'	23:YA:616:A:N1	2.40	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
33:YP:5:ASP:O	33:YP:6:LEU:C	2.57	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:52:SER:C	43:YZ:54:HIS:H	2.23	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:890:G:O2'	2:XA:906:G:O6	2.22	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YT:58:ASN:C	37:YT:58:ASN:HD22	2.23	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:578:C:O2'	2:QA:728:A:N3	2.46	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
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:1266:G:O2'	23:RA:2012:G:O6	2.27	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YA:2299:G:N2	23:YA:2318:G:H1'	2.30	0.47
25:YD:16:MET:HE3	25:YD:211:ARG:HD2	1.95	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
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:1139:G:O2'	23:RA:1143:A:N1	2.37	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: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:34:VAL:C	25:RD:35:LYS:HG3	2.40	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
11:QJ:81:THR:C	11:QJ:83:GLU:H	2.23	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
52:Y8:60:LEU:C	52:Y8:63:PRO:HD2	2.40	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:104:ASN:OD1	3:QB:107:THR:OG1	2.30	0.46
3:QB:166:ASP:OD1	3:QB:169:LYS:HB2	2.15	0.46
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:X1:83:ARG:O	10:X1:86: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
20:XS:64:GLU:C	48:Y4:59:PHE:CD2	2.89	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
23:RA:1022:G:O2'	23:RA:1023:U:OP2	2.25	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
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
27:YF:127:GLU:C	27:YF:129:PHE:H	2.22	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
34:YQ:85:LYS:O	34:YQ:86:GLY:C	2.58	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
19:QR:53:ARG:HE	19:QR:59:SER:C	2.22	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
23:RA:1543:A:O2'	23:RA:1544:C:O5'	2.30	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
23:YA:630:G:OP2	52:Y8:15:LYS:NZ	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:1296:G:OP1	23:RA:2709:G:O2'	2.32	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
41:RX:40:LYS:C	41:RX:42:ALA:H	2.23	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
8:XG:74:GLU:HG2	8:XG:91:VAL:HG22	1.98	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: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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:639:U:H2'	23:RA:640:C:C6	2.51	0.46
25:RD:35:LYS:HE3	25:RD:63:ARG:C	2.41	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
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
17:XP:8:ARG:C	17:XP:9:PHE:HD2	2.24	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
2:QA:1350:A:OP2	10:QI:118:LYS:NZ	2.49	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
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:637:A:H2'	33:YP:117:GLU:CD	2.41	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
25:YD:102:LYS:C	25:YD:103:ARG:HG2	2.40	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:792:A:O2'	2:QA:794:A:N7	2.46	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
26:YE:70:ALA:O	26:YE:72:VAL:N	2.49	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: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
35:RR:70:LEU:C	35:RR:72:ASP:H	2.21	0.45
37:RT:26:ASP:HB2	37:RT:90:GLN:O	2.16	0.45
49:R5:39:MET:HE3	49:R5:39:MET:HB3	1.88	0.45
2:XA:920:U:H2'	2:XA:921:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:XJ:62:HIS:H	11:XJ:62:HIS:CD2	2.34	0.45
23:YA:250:G:H2'	23:YA:251:A:C8	2.51	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:2032:G:OP2	23:YA:2454:G:O2'	2.32	0.45
23:YA:2359:C:H2'	23:YA:2360:A:O4'	2.15	0.45
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
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:QL:3:GLN:NE2	2.31	0.45
2:QA:1320:C:C2	20:QS:72:GLY:HA3	2.51	0.45
3:QB:120:ALA:C	3:QB:122:PHE:H	2.23	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
31:RN:57:ALA:C	31:RN:60:ILE:HD11	2.40	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
12:XK:88:GLY:C	12:XK:90:GLY:H	2.23	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:2439:A:O2'	23:YA:2440:C:OP2	2.30	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
24:YB:20:C:H2'	24:YB:21:G:O4'	2.17	0.45
25:YD:130:ALA:C	25:YD:131:LEU:HD12	2.42	0.45
25:YD:137:PRO:O	25:YD:140:THR:HG23	2.16	0.45
33:YP:101:VAL:C	33:YP:103:ALA:H	2.23	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: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
2:XA:991:U:O4	2:XA:1212:U:O2'	2.25	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
24:YB:28:C:OP1	36:YS:36:TYR:OH	2.26	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
51:Y7:22:MET:HE2	51:Y7:31:LEU:CD1	2.47	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
23:RA:911:A:H2'	34:RQ:9:TYR:OH	2.17	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
36:RS:83:LYS:C	36:RS:109:GLY:HA3	2.41	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
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:Y1:83:GLU:C	45:Y1:85:LEU:H	2.24	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
11:QJ:31:GLY:HA3	11:QJ:78:ASN:CG	2.41	0.45
23:RA:265:A:O2'	23:RA:266:G:H4'	2.16	0.45
23:RA:918:A:N3	24:RB:80:U:O2'	2.43	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
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
41:RX:67:GLY:C	41:RX:69:TYR:H	2.23	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
26:YE:116:VAL:O	26:YE:117:MET:HB3	2.16	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
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
2:QA:1343:G:H2'	2:QA:1344:C:C6	2.51	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
16:QO:4:THR:HB	16:QO:6:GLU:CD	2.41	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
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
3:XB:120:ALA:C	3:XB:122:PHE:H	2.24	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YU:58:ARG:HA	38:YU:61:TRP:CE3	2.52	0.45
42:YY:89:PHE:C	42:YY:90:LEU:HD13	2.42	0.45
54:QV:37:IMG: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
38:RU:66:ASN:CG	38:RU:70:ARG:HH21	2.21	0.45
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:Y6:28:ARG:HB3	50:Y6:30:THR:C	2.41	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
23:RA:2073:C:O2'	23:RA:2598:A:O2'	2.33	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
25:YD:237:GLU:O	25:YD:238:GLY:C	2.59	0.45
28:YG:146:TYR:O	28:YG:149:VAL:HG22	2.16	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
5:XD:33:MET:HE2	5:XD:37:PRO:CA	2.43	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
23:YA:1399:C:OP1	41:YX:25:LYS:NZ	2.46	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
30:YI:110:ASP:N	30:YI:130:TYR:OH	2.50	0.45
48:Y4:43:TYR:C	48:Y4:43:TYR:HD2	2.25	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: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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
34:YQ:97:VAL:HG11	34:YQ:103:MET:HE3	1.98	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
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:321:G:OP1	27:RF:135:LYS:NZ	2.50	0.44
23:RA:581:C:OP1	38:RU:31:SER:OG	2.28	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:7:MET:HE2	34:RQ:7:MET:HB3	1.90	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
52:R8:60:LEU:C	52:R8:63:PRO:HD2	2.42	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
9:XH:83:ILE:HB	9:XH:137:VAL:HG13	1.99	0.44
23:YA:1680:U:O2'	23:YA:1763:G:N7	2.39	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
32:YO:68:GLU:H	32:YO:68:GLU:CD	2.24	0.44
52:Y8:4:MET:HB2	52:Y8:4:MET:HE3	1.54	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
41:RX:15:GLU:H	41:RX:15:GLU:CD	2.25	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
23:YA:2500:U:O2'	23:YA:2504:U:OP1	2.30	0.44
26:YE:64:LYS:C	26:YE:66:HIS:H	2.24	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:1190:G:OP1	33:RP:30:THR:OG1	2.25	0.44
23:RA:1591:G:H2'	23:RA:1592:C:C6	2.52	0.44
23:RA:2006:C:O2'	23:RA:2823:A:N3	2.50	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
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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
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
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
26:RE:93:VAL:C	26:RE:95:ILE:H	2.25	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
34:RQ:112:GLU:CD	34:RQ:112:GLU:H	2.25	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
40:RW:1:MET:HE3	40:RW:2:GLU:H	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RX:67:GLY:O	41:RX:69:TYR:N	2.43	0.44
2:XA:396:G:O2'	2:XA:398:C:OP1	2.28	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:2031:A:N3	23:YA:2455:G:O2'	2.44	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
29:YH:12:PRO:O	29:YH:13:LYS:HB2	2.17	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
49:Y5:40:LYS:HZ3	49:Y5:46:CYS:C	2.26	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
2:QA:947:G:O3'	14:QM:109:THR:OG1	2.34	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
47:Y3:31:LEU:O	47:Y3:32:GLN:HB2	2.17	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:37:ASN:C	3:QB:39:ILE:H	2.26	0.43
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
25:RD:30:GLU:CD	25:RD:63:ARG:HH21	2.26	0.43
25:RD:70:TRP:CD1	25:RD:70:TRP:C	2.96	0.43
26:RE:178:GLU:H	26:RE:178:GLU:CD	2.26	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
30:RI:74:ASN:OD1	30:RI:74:ASN:N	2.48	0.43
34:RQ:115:MET:HE2	34:RQ:115:MET:HB3	1.88	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:593:G:O4'	52:Y8:4:MET:HE1	2.18	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:602:G:O2'	23:RA:604:G:O2'	2.32	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
40:YW:14:PRO:C	40:YW:18:ARG:HD2	2.43	0.43
45:Y1:83:GLU:C	45:Y1:85:LEU:N	2.76	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
23:RA:372:G:O2'	23:RA:373:U:P	2.76	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:2122:U:H2'	23:RA:2123:G:C8	2.53	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
41:RX:40:LYS:C	41:RX:42:ALA:N	2.76	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
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
28:YG:83:ARG:HG3	28:YG:86:MET:HE3	1.99	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:O	31:YN:112:LEU:HG	2.17	0.43
32:YO:64:ARG:HG2	32:YO:79:PHE:CD1	2.53	0.43
33:YP:57:THR:C	33:YP:59:LEU:H	2.26	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
32:RO:20:MET:HE3	32:RO:44:LYS:HE3	2.01	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
2:XA:1190:G:H5'	4:XC:176:HIS:NE2	2.34	0.43
3:XB:178:ARG:CD	9:XH:71:GLY:C	2.90	0.43
4:XC:82:GLU:O	4:XC:86:VAL:HG13	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:YN:6:LEU:HD23	15:YN:23:ARG:HH22	1.83	0.43
15:YN:27:CYS:SG	15:YN:29:ARG:HB2	2.58	0.43
15:YN:29:ARG:HD3	15:YN:40:CYS:HB2	1.99	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: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
4:QC:42:LEU:HD12	4:QC:45:LYS:HZ2	1.83	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
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:118:LYS:O	10:XI:119:ALA:HB3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1496:A:C8	23:YA:1577:C:O2'	2.71	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
28:YG:99:MET:HB2	28:YG:99:MET:HE3	1.66	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
26:YE:177:PRO:C	26:YE:179:GLU:H	2.26	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
39:YV:81:TYR:C	39:YV:82:ARG:HD2	2.43	0.43
42:YY:87:LYS:HB2	42:YY:87:LYS:NZ	2.33	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
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
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:9:GLU:H	3:XB:9:GLU:CD	2.26	0.43
3:XB:212:GLN:NE2	3:XB:216:SER:HB2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1326:U:O2'	23:YA:2010:G:O2'	2.29	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
35:YR:91:GLN:H	35:YR:91:GLN:CD	2.26	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:66:MET:C	48:R4:59:PHE:HZ	2.09	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:2019:A:OP2	49:R5:9:LYS:NZ	2.52	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
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
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
12:QK:53:SER:C	12:QK:55:LYS:H	2.27	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
24:RB:42:C:O2'	28:RG:67:LYS:O	2.30	0.43
25:RD:169:GLU:N	25:RD:172:TYR:O	2.52	0.43
27:RF:29:ASN:O	27:RF:112:MET:HE1	2.18	0.43
27:RF:180:GLY:O	27:RF:181:LEU:C	2.61	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
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:197:A:N1	2:XA:220:G:O2'	2.50	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
14:XM:117:VAL:O	14:XM:118:ALA:C	2.62	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:1782:C:O2	23:YA:2608:G:O2'	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
39:YV:52:VAL:C	39:YV:54:GLY:H	2.26	0.42
48:Y4:38:LYS:C	48:Y4:40:HIS:H	2.23	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:856:C:O2'	23:RA:857:C:OP1	2.35	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
25:RD:28:GLU:H	25:RD:28:GLU:CD	2.27	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
3:XB:19:HIS:HD2	3:XB:20:GLU:CD	2.27	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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: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
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:391:G:O2'	23:RA:410:G:OP1	2.35	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
30:RI:130:TYR:C	30:RI:131:LYS:HD2	2.45	0.42
32:RO:104:ARG:HH22	37:RT:43:GLN:CD	2.26	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
3:XB:98:LEU:HG	3:XB:101:MET:HE3	2.01	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
33:YP:48:PRO:C	33:YP:50:ARG:H	2.27	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
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
52:Y8:43:GLN:C	52:Y8:44:LYS:HD2	2.44	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
9:QH:25:ASP:N	9:QH:25:ASP:OD1	2.50	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:1464:C:O2'	23:RA:1528:A:H8	2.01	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
12:XK:24:SER:C	12:XK:26:ASN:H	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
29:YH:41:MET:HE2	29:YH:41:MET:HB2	1.57	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
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
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:98:LEU:HD12	3:QB:101:MET:HE3	2.01	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
13:XL:27:LEU:C	13:XL:29:GLY:H	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
23:YA:2718:G:O2'	23:YA:2847:U:OP1	2.37	0.42
25:YD:25:THR:HG22	25:YD:82:ILE:H	1.84	0.42
26:YE:188:VAL:O	26:YE:188:VAL:HG13	2.18	0.42
27:YF:45:ARG:HH11	27:YF:45:ARG:CG	2.33	0.42
27:YF:196:LEU:C	27:YF:197:ASP:O	2.61	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
41:YX:87:GLN:C	41:YX:88:LYS:HG3	2.42	0.42
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
13:QL:27:LEU:C	13:QL:29:GLY:N	2.77	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
31:RN:17:ASP:C	31:RN:19:GLU:H	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RN:56:ASN:C	31:RN:58:ASP:H	2.27	0.42
35:RR:63:ARG:HA	35:RR:80:PHE:CZ	2.54	0.42
42:RY:79:CYS:HG	42:RY:80:GLY:N	2.16	0.42
46:R2:70:GLN:O	46:R2:71:ASN:HB2	2.19	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
5:XD:16:GLY:HA2	5:XD:33:MET:HE1	2.00	0.42
6:XE:69:VAL:HA	6:XE:70:PRO:HD2	1.76	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
25:YD:231:HIS:C	25:YD:233:HIS:H	2.28	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
5:QD:63:LYS:HB2	5:QD:63:LYS:HE3	1.77	0.42
13:QL:27:LEU:HG	13:QL:62:SER:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
48:R4:35:VAL:C	48:R4:37:SER:H	2.26	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
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
3:XB:212:GLN:CD	3:XB:235:SER:HB2	2.44	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
23:RA:265:A:H2'	23:RA:266:G:O4'	2.19	0.42
23:RA:270(B):A:N1	23:RA:273:G:O2'	2.49	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
27:RF:127:GLU:C	27:RF:129:PHE:H	2.27	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
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
28:YG:62:LEU:HD23	28:YG:148:MET:HE1	2.01	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
3:XB:24:TRP:H	3:XB:24:TRP:CD1	2.38	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:76:LYS:HG3	34:YQ:77:LYS:N	2.35	0.42
38:YU:92:ARG:C	38:YU:94:ASN:N	2.78	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:Y4:15:ILE:C	48:Y4:16:CYS:SG	3.02	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:O	9:QH:56:LYS:HG3	2.20	0.41
9:QH:54:ASP:OD1	9:QH:54:ASP:N	2.53	0.41
13:QL:27:LEU:C	13:QL:29:GLY:H	2.27	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
30:RI:13:GLY:HA3	30:RI:17:GLN:CD	2.45	0.41
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
34:RQ:125:LEU:C	34:RQ:127:ILE:H	2.28	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:XG:36:LYS:HB2	8:XG:36:LYS:HZ2	1.85	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:1398:C:H5''	41:YX:53:LYS:HZ1	1.85	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
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
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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:221:VAL:HG22	25:YD:226:MET:CE	2.49	0.41
25:YD:232:PRO:HB3	25:YD:244:ARG:CZ	2.50	0.41
29:YH:86:GLU:CD	29:YH:86:GLU:H	2.27	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
36:YS:83:LYS:HZ1	36:YS:109:GLY:HA2	1.85	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
25:YD:34:VAL:C	25:YD:35:LYS:HG3	2.44	0.41
25:YD:70:TRP:CD1	25:YD:70:TRP:C	2.97	0.41
26:YE:87:GLU:C	26:YE:89:ASP:H	2.29	0.41
26:YE:134:ILE:HD12	26:YE:134:ILE:C	2.46	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QA:272:C:H2'	2:QA:273:A:C8	2.56	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
3:QB:178:ARG:HD2	9:QH:71:GLY:C	2.46	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:221:VAL:HG22	25:RD:226:MET:HE3	2.03	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:47:ASP:CG	33:RP:49:ARG:HH11	2.28	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: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:YN:51:GLY:O	15:YN:53:LEU:N	2.53	0.41
17:XP:17:TYR:HE1	17:XP:41:PRO:HG3	1.85	0.41
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
6:QE:143:ARG:HH21	9:QH:77:GLU:CD	2.29	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: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
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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
4:QC:189:ALA:O	4:QC:190:ARG:C	2.62	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
30:RI:29:TYR:C	30:RI:32:PRO:HD2	2.45	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
2:XA:1210:C:HO2'	2:XA:1213:A:HO2'	1.57	0.41
3:XB:166:ASP:HB3	3:XB:169:LYS:HB2	2.02	0.41
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:1625:C:H2'	23:YA:1626:G:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YB:89(A):A:C5	24:YB:90:C:H1'	2.55	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
42:YY:32:PRO:C	42:YY:34:LYS:H	2.29	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
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
29:RH:41:MET:HE2	29:RH:41:MET:HB2	1.93	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
9:XH:44:PHE:HE2	9:XH:109:ILE:CG2	2.34	0.41
23:YA:250:G:P	52:Y8:13:ARG:NH2	2.93	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
25:YD:158:ALA:O	25:YD:159:ALA:C	2.64	0.41
26:YE:41:LYS:HA	26:YE:41:LYS:HE2	2.02	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:163:GLU:C	5:QD:165:MET:H	2.29	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:182:A:N3	23:RA:433:C:O2'	2.49	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: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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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: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:51:ARG:HG3	11:QJ:60:ARG:C	2.45	0.41
11:QJ:76:ASN:HA	11:QJ:77:PRO:HD2	1.85	0.41
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
20:QS:23:ASN:C	20:QS:25:LYS:H	2.29	0.41
23:RA:65:C:O2'	23:RA:456:C:N3	2.48	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:RF:179:GLU:CD	27:RF:179:GLU:H	2.27	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: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
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: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
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
21:XT:74:LYS:C	21:XT:76:ALA:H	2.29	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
27:YF:28:ILE:H	27:YF:28:ILE:HG13	1.68	0.41
27:YF:67:GLN:O	27:YF:67:GLN:HG3	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
28:YG:146:TYR:C	28:YG:148:MET:H	2.29	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:7:MET:HE2	34:YQ:7:MET:HB3	1.89	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
36:YS:19:LYS:C	36:YS:21:THR:H	2.29	0.41
38:YU:17:ILE:HG23	38:YU:39:LEU:HD12	2.02	0.41
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
42:YY:67:LEU:O	42:YY:68:HIS:C	2.62	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
52:Y8:42:ARG:C	52:Y8:44:LYS:H	2.27	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
14:QM:40:ASN:O	14:QM:43:THR:OG1	2.29	0.41
23:RA:297:C:H2'	23:RA:298:G:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
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: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:62:TYR:HA	25:YD:87:ASN:OD1	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
29:YH:4:ILE:C	29:YH:6:ARG:H	2.30	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
43:YZ:98:MET:HB2	43:YZ:98:MET:HE3	1.82	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
12:QK:124:LYS:C	12:QK:126:ARG:H	2.29	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: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
33:RP:64:LYS:C	33:RP:66:GLY:N	2.78	0.40
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:964:A:N3	2:XA:969:A:O2'	2.48	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
33:YP:1:MET:HB3	33:YP:1:MET:HE2	1.70	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
12:QK:74:ALA:C	12:QK:76:GLY:H	2.30	0.40
20:QS:67:VAL:HG11	48:R4:59:PHE:C	2.45	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:2320:A:H2'	23:RA:2320:A:N3	2.35	0.40
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
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:576:G:O6	2:XA:880:C:O2'	2.35	0.40
2:XA:743:U:H2'	2:XA:744:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XA:1446:A:O2'	2:XA:1447:G:P	2.79	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
30:YI:29:TYR:C	30:YI:32:PRO:HD2	2.46	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
2:QA:1231:G:O3'	10:QI:126:SER:OG	2.34	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
10:QI:40:LEU:C	10:QI:42:ARG:H	2.30	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
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
26:RE:7:VAL:HG11	37:RT:1:MET:HE3	2.03	0.40
29:RH:126:PRO:HB2	29:RH:127:GLU:H	1.63	0.40
31:RN:104:LYS:C	31:RN:106:MET:H	2.28	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RA:1129:A:N1	23:RA:2569:G:O2'	2.49	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
32:RO:68:GLU:H	32:RO:68:GLU:CD	2.29	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
2:XA:55:A:C5	2:XA:56:U:C5	3.09	0.40
2:XA:261:U:O2'	2:XA:263:A:N7	2.48	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:48:MET:HE2	3:XB:48:MET:HB3	1.94	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:550:G:O2'	23:YA:1220:A:N3	2.46	0.40
23:YA:602:G:N2	23:YA:656:G:C5	2.90	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
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 sym-

metry 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

5.3.1 Protein backbone

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	6
3	XB	235/256 (92%)	178 (76%)	42 (18%)	15 (6%)	1	8
4	QC	203/239 (85%)	163 (80%)	34 (17%)	6 (3%)	3	21
4	XC	203/239 (85%)	171 (84%)	29 (14%)	3 (2%)	8	33
5	QD	206/209 (99%)	175 (85%)	25 (12%)	6 (3%)	3	21
5	XD	206/209 (99%)	177 (86%)	24 (12%)	5 (2%)	4	24
6	QE	149/162 (92%)	136 (91%)	8 (5%)	5 (3%)	3	19
6	XE	149/162 (92%)	133 (89%)	13 (9%)	3 (2%)	6	28
7	QF	99/101 (98%)	95 (96%)	4 (4%)	0	100	100
7	XF	99/101 (98%)	94 (95%)	5 (5%)	0	100	100
8	QG	153/156 (98%)	135 (88%)	16 (10%)	2 (1%)	9	35
8	XG	153/156 (98%)	138 (90%)	13 (8%)	2 (1%)	9	35
9	QH	136/138 (99%)	121 (89%)	14 (10%)	1 (1%)	18	49
9	XH	136/138 (99%)	120 (88%)	12 (9%)	4 (3%)	3	21
10	QI	125/128 (98%)	103 (82%)	17 (14%)	5 (4%)	2	16
10	XI	125/128 (98%)	97 (78%)	24 (19%)	4 (3%)	3	19
11	QJ	97/105 (92%)	75 (77%)	19 (20%)	3 (3%)	3	20
11	XJ	97/105 (92%)	78 (80%)	14 (14%)	5 (5%)	1	11
12	QK	117/129 (91%)	100 (86%)	14 (12%)	3 (3%)	4	23
12	XK	117/129 (91%)	100 (86%)	15 (13%)	2 (2%)	7	30

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	QL	123/132 (93%)	98 (80%)	18 (15%)	7 (6%)	1	9
13	XL	123/132 (93%)	98 (80%)	15 (12%)	10 (8%)	1	5
14	QM	119/126 (94%)	95 (80%)	15 (13%)	9 (8%)	1	6
14	XM	119/126 (94%)	94 (79%)	16 (13%)	9 (8%)	1	6
15	QN	58/61 (95%)	48 (83%)	6 (10%)	4 (7%)	1	7
15	XN	58/61 (95%)	46 (79%)	6 (10%)	6 (10%)	0	2
16	QO	86/89 (97%)	80 (93%)	5 (6%)	1 (1%)	10	37
16	XO	86/89 (97%)	80 (93%)	4 (5%)	2 (2%)	5	25
17	QP	82/88 (93%)	73 (89%)	8 (10%)	1 (1%)	10	37
17	XP	82/88 (93%)	71 (87%)	10 (12%)	1 (1%)	10	37
18	QQ	98/105 (93%)	91 (93%)	5 (5%)	2 (2%)	6	28
18	XQ	98/105 (93%)	88 (90%)	10 (10%)	0	100	100
19	QR	68/88 (77%)	56 (82%)	9 (13%)	3 (4%)	2	14
19	XR	68/88 (77%)	61 (90%)	6 (9%)	1 (2%)	8	33
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	8
21	XT	97/106 (92%)	75 (77%)	16 (16%)	6 (6%)	1	8
22	QU	23/27 (85%)	19 (83%)	3 (13%)	1 (4%)	2	14
22	XU	23/27 (85%)	18 (78%)	4 (17%)	1 (4%)	2	14
25	RD	270/276 (98%)	226 (84%)	32 (12%)	12 (4%)	2	14
25	YD	270/276 (98%)	227 (84%)	34 (13%)	9 (3%)	3	19
26	RE	203/206 (98%)	147 (72%)	36 (18%)	20 (10%)	0	3
26	YE	203/206 (98%)	142 (70%)	41 (20%)	20 (10%)	0	3
27	RF	200/210 (95%)	167 (84%)	20 (10%)	13 (6%)	1	8
27	YF	200/210 (95%)	167 (84%)	25 (12%)	8 (4%)	2	16
28	RG	179/182 (98%)	139 (78%)	26 (14%)	14 (8%)	1	5
28	YG	179/182 (98%)	142 (79%)	25 (14%)	12 (7%)	1	7
29	RH	168/180 (93%)	114 (68%)	33 (20%)	21 (12%)	0	1
29	YH	168/180 (93%)	121 (72%)	23 (14%)	24 (14%)	0	1
30	RI	144/148 (97%)	107 (74%)	25 (17%)	12 (8%)	0	5

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	YI	144/148 (97%)	108 (75%)	23 (16%)	13 (9%)	0	4
31	RN	136/140 (97%)	104 (76%)	20 (15%)	12 (9%)	0	4
31	YN	136/140 (97%)	105 (77%)	17 (12%)	14 (10%)	0	2
32	RO	120/122 (98%)	109 (91%)	9 (8%)	2 (2%)	7	30
32	YO	120/122 (98%)	108 (90%)	10 (8%)	2 (2%)	7	30
33	RP	148/150 (99%)	107 (72%)	27 (18%)	14 (10%)	0	3
33	YP	148/150 (99%)	108 (73%)	23 (16%)	17 (12%)	0	2
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	14
35	YR	116/118 (98%)	99 (85%)	11 (10%)	6 (5%)	1	11
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%)	0	4
37	YT	135/146 (92%)	108 (80%)	17 (13%)	10 (7%)	1	6
38	RU	115/118 (98%)	102 (89%)	9 (8%)	4 (4%)	3	18
38	YU	115/118 (98%)	101 (88%)	10 (9%)	4 (4%)	3	18
39	RV	99/101 (98%)	82 (83%)	11 (11%)	6 (6%)	1	9
39	YV	99/101 (98%)	79 (80%)	12 (12%)	8 (8%)	1	5
40	RW	111/113 (98%)	99 (89%)	8 (7%)	4 (4%)	2	18
40	YW	111/113 (98%)	100 (90%)	9 (8%)	2 (2%)	6	30
41	RX	90/96 (94%)	77 (86%)	11 (12%)	2 (2%)	5	26
41	YX	90/96 (94%)	82 (91%)	6 (7%)	2 (2%)	5	26
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	3
43	YZ	181/206 (88%)	133 (74%)	31 (17%)	17 (9%)	0	3
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	3
45	Y1	95/98 (97%)	72 (76%)	17 (18%)	6 (6%)	1	8

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
46	R2	67/72 (93%)	53 (79%)	9 (13%)	5 (8%)	1	6
46	Y2	67/72 (93%)	55 (82%)	6 (9%)	6 (9%)	0	4
47	R3	57/60 (95%)	52 (91%)	3 (5%)	2 (4%)	3	18
47	Y3	57/60 (95%)	52 (91%)	4 (7%)	1 (2%)	6	30
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	18
49	Y5	57/60 (95%)	46 (81%)	9 (16%)	2 (4%)	3	18
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	0
51	R7	47/49 (96%)	45 (96%)	1 (2%)	1 (2%)	5	27
51	Y7	47/49 (96%)	43 (92%)	3 (6%)	1 (2%)	5	27
52	R8	62/65 (95%)	51 (82%)	6 (10%)	5 (8%)	1	5
52	Y8	62/65 (95%)	48 (77%)	10 (16%)	4 (6%)	1	8
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	8

All (707) Ramachandran outliers are listed below:

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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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 ⓘ

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%)	169 (82%)	36 (18%)	2	9
3	XB	205/220 (93%)	181 (88%)	24 (12%)	5	21
4	QC	159/188 (85%)	147 (92%)	12 (8%)	12	39
4	XC	159/188 (85%)	145 (91%)	14 (9%)	9	33
5	QD	180/181 (99%)	155 (86%)	25 (14%)	3	15
5	XD	180/181 (99%)	155 (86%)	25 (14%)	3	15
6	QE	116/123 (94%)	102 (88%)	14 (12%)	5	20
6	XE	116/123 (94%)	100 (86%)	16 (14%)	3	15

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	QF	90/90 (100%)	79 (88%)	11 (12%)	5	20
7	XF	90/90 (100%)	79 (88%)	11 (12%)	5	20
8	QG	126/127 (99%)	115 (91%)	11 (9%)	9	33
8	XG	126/127 (99%)	112 (89%)	14 (11%)	6	23
9	QH	119/119 (100%)	105 (88%)	14 (12%)	5	21
9	XH	119/119 (100%)	106 (89%)	13 (11%)	6	24
10	QI	98/99 (99%)	80 (82%)	18 (18%)	1	7
10	XI	98/99 (99%)	77 (79%)	21 (21%)	1	5
11	QJ	89/92 (97%)	75 (84%)	14 (16%)	2	12
11	XJ	89/92 (97%)	74 (83%)	15 (17%)	2	10
12	QK	90/99 (91%)	79 (88%)	11 (12%)	5	20
12	XK	90/99 (91%)	81 (90%)	9 (10%)	7	28
13	QL	104/109 (95%)	91 (88%)	13 (12%)	4	19
13	XL	104/109 (95%)	90 (86%)	14 (14%)	4	16
14	QM	97/101 (96%)	73 (75%)	24 (25%)	1	3
14	XM	97/101 (96%)	79 (81%)	18 (19%)	1	7
15	QN	49/50 (98%)	40 (82%)	9 (18%)	1	7
15	XN	49/50 (98%)	42 (86%)	7 (14%)	3	14
16	QO	79/80 (99%)	72 (91%)	7 (9%)	9	32
16	XO	79/80 (99%)	68 (86%)	11 (14%)	3	15
17	QP	72/74 (97%)	62 (86%)	10 (14%)	3	15
17	XP	72/74 (97%)	66 (92%)	6 (8%)	10	35
18	QQ	95/97 (98%)	86 (90%)	9 (10%)	8	30
18	XQ	95/97 (98%)	88 (93%)	7 (7%)	13	39
19	QR	61/77 (79%)	50 (82%)	11 (18%)	2	8
19	XR	61/77 (79%)	50 (82%)	11 (18%)	2	8
20	QS	73/80 (91%)	59 (81%)	14 (19%)	1	6
20	XS	73/80 (91%)	56 (77%)	17 (23%)	1	3
21	QT	76/82 (93%)	66 (87%)	10 (13%)	4	17
21	XT	76/82 (93%)	66 (87%)	10 (13%)	4	17
22	QU	20/22 (91%)	20 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
22	XU	20/22 (91%)	20 (100%)	0	100	100
25	RD	214/218 (98%)	170 (79%)	44 (21%)	1	5
25	YD	214/218 (98%)	176 (82%)	38 (18%)	2	8
26	RE	165/166 (99%)	122 (74%)	43 (26%)	0	2
26	YE	165/166 (99%)	134 (81%)	31 (19%)	1	7
27	RF	161/166 (97%)	127 (79%)	34 (21%)	1	5
27	YF	161/166 (97%)	134 (83%)	27 (17%)	2	10
28	RG	155/156 (99%)	135 (87%)	20 (13%)	4	18
28	YG	155/156 (99%)	131 (84%)	24 (16%)	2	12
29	RH	142/148 (96%)	116 (82%)	26 (18%)	2	7
29	YH	142/148 (96%)	111 (78%)	31 (22%)	1	4
30	RI	122/124 (98%)	99 (81%)	23 (19%)	1	7
30	YI	122/124 (98%)	90 (74%)	32 (26%)	0	2
31	RN	117/119 (98%)	94 (80%)	23 (20%)	1	6
31	YN	117/119 (98%)	94 (80%)	23 (20%)	1	6
32	RO	100/100 (100%)	91 (91%)	9 (9%)	9	32
32	YO	100/100 (100%)	85 (85%)	15 (15%)	3	13
33	RP	116/116 (100%)	83 (72%)	33 (28%)	0	1
33	YP	116/116 (100%)	81 (70%)	35 (30%)	0	1
34	RQ	111/111 (100%)	90 (81%)	21 (19%)	1	7
34	YQ	111/111 (100%)	94 (85%)	17 (15%)	3	12
35	RR	101/101 (100%)	81 (80%)	20 (20%)	1	6
35	YR	101/101 (100%)	80 (79%)	21 (21%)	1	5
36	RS	87/88 (99%)	67 (77%)	20 (23%)	1	3
36	YS	87/88 (99%)	65 (75%)	22 (25%)	0	2
37	RT	120/127 (94%)	101 (84%)	19 (16%)	2	11
37	YT	120/127 (94%)	93 (78%)	27 (22%)	1	4
38	RU	93/94 (99%)	79 (85%)	14 (15%)	3	13
38	YU	93/94 (99%)	79 (85%)	14 (15%)	3	13
39	RV	82/82 (100%)	63 (77%)	19 (23%)	1	3
39	YV	82/82 (100%)	66 (80%)	16 (20%)	1	6

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
40	RW	92/92 (100%)	73 (79%)	19 (21%)	1	5
40	YW	92/92 (100%)	76 (83%)	16 (17%)	2	9
41	RX	74/78 (95%)	61 (82%)	13 (18%)	2	9
41	YX	74/78 (95%)	59 (80%)	15 (20%)	1	5
42	RY	85/91 (93%)	56 (66%)	29 (34%)	0	1
42	YY	85/91 (93%)	62 (73%)	23 (27%)	0	2
43	RZ	162/179 (90%)	135 (83%)	27 (17%)	2	11
43	YZ	162/179 (90%)	131 (81%)	31 (19%)	1	6
44	R0	65/67 (97%)	57 (88%)	8 (12%)	4	20
44	Y0	65/67 (97%)	60 (92%)	5 (8%)	12	38
45	R1	82/83 (99%)	74 (90%)	8 (10%)	7	29
45	Y1	82/83 (99%)	69 (84%)	13 (16%)	2	11
46	R2	64/67 (96%)	49 (77%)	15 (23%)	1	3
46	Y2	64/67 (96%)	48 (75%)	16 (25%)	0	2
47	R3	51/52 (98%)	43 (84%)	8 (16%)	2	12
47	Y3	51/52 (98%)	44 (86%)	7 (14%)	3	16
48	R4	63/63 (100%)	44 (70%)	19 (30%)	0	1
48	Y4	63/63 (100%)	42 (67%)	21 (33%)	0	1
49	R5	51/52 (98%)	35 (69%)	16 (31%)	0	1
49	Y5	51/52 (98%)	37 (72%)	14 (28%)	0	2
50	R6	48/52 (92%)	32 (67%)	16 (33%)	0	1
50	Y6	48/52 (92%)	34 (71%)	14 (29%)	0	1
51	R7	42/42 (100%)	35 (83%)	7 (17%)	2	11
51	Y7	42/42 (100%)	35 (83%)	7 (17%)	2	11
52	R8	54/55 (98%)	43 (80%)	11 (20%)	1	5
52	Y8	54/55 (98%)	37 (68%)	17 (32%)	0	1
53	R9	34/34 (100%)	30 (88%)	4 (12%)	5	21
53	Y9	34/34 (100%)	31 (91%)	3 (9%)	9	33
All	All	9702/10066 (96%)	8023 (83%)	1679 (17%)	2	9

All (1679) 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	53	ARG
3	QB	60	ASP
3	QB	63	MET
3	QB	67	THR
3	QB	75	LYS
3	QB	76	GLN
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	155	LEU
3	QB	158	LEU
3	QB	165	VAL
3	QB	168	THR
3	QB	170	GLU
3	QB	172	ILE
3	QB	175	ARG
3	QB	187	LEU
3	QB	196	LEU
3	QB	204	ASN
3	QB	213	LEU
3	QB	215	LEU
3	QB	217	ARG
3	QB	221	LEU
3	QB	239	VAL
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	76	VAL

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Mol	Chain	Res	Type
4	QC	94	LEU
4	QC	154	SER
4	QC	165	THR
4	QC	178	LEU
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	57	ARG
5	QD	58	LEU
5	QD	73	ARG
5	QD	76	ARG
5	QD	86	LYS
5	QD	88	VAL
5	QD	94	LEU
5	QD	96	LEU
5	QD	108	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	190	ASP
5	QD	192	GLU
5	QD	196	LEU
6	QE	12	LEU
6	QE	13	ILE
6	QE	31	LEU
6	QE	34	VAL
6	QE	41	VAL
6	QE	51	VAL
6	QE	68	GLU
6	QE	79	GLU
6	QE	81	GLU
6	QE	90	VAL
6	QE	98	THR
6	QE	101	ILE

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Mol	Chain	Res	Type
6	QE	115	VAL
6	QE	153	LYS
7	QF	16	GLN
7	QF	21	LEU
7	QF	37	VAL
7	QF	43	LEU
7	QF	45	LEU
7	QF	70	ASP
7	QF	72	VAL
7	QF	75	LEU
7	QF	81	ILE
7	QF	91	VAL
7	QF	98	LEU
8	QG	8	GLU
8	QG	38	LEU
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	135	VAL
8	QG	136	LYS
8	QG	137	LYS
9	QH	1	MET
9	QH	24	THR
9	QH	25	ASP
9	QH	26	VAL
9	QH	39	LEU
9	QH	41	ARG
9	QH	45	ILE
9	QH	54	ASP
9	QH	99	GLU
9	QH	109	ILE
9	QH	112	LEU
9	QH	121	ASP
9	QH	125	ARG
9	QH	129	VAL
10	QI	7	THR
10	QI	9	ARG
10	QI	10	ARG
10	QI	11	LYS

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Mol	Chain	Res	Type
10	QI	23	ASN
10	QI	41	VAL
10	QI	47	LEU
10	QI	56	LEU
10	QI	64	THR
10	QI	65	VAL
10	QI	75	ASP
10	QI	86	VAL
10	QI	95	LYS
10	QI	104	ARG
10	QI	105	ASP
10	QI	114	TYR
10	QI	118	LYS
10	QI	128	ARG
11	QJ	3	LYS
11	QJ	16	LEU
11	QJ	22	LYS
11	QJ	47	PHE
11	QJ	48	THR
11	QJ	54	PHE
11	QJ	57	LYS
11	QJ	58	ASP
11	QJ	62	HIS
11	QJ	74	ILE
11	QJ	80	LYS
11	QJ	84	GLN
11	QJ	92	THR
11	QJ	96	ILE
12	QK	21	ILE
12	QK	26	ASN
12	QK	29	ILE
12	QK	30	VAL
12	QK	32	ILE
12	QK	57	THR
12	QK	63	LEU
12	QK	92	GLU
12	QK	103	LEU
12	QK	109	VAL
12	QK	114	VAL
13	QL	17	LYS
13	QL	18	VAL
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	57	LYS
13	QL	59	ARG
13	QL	60	LEU
13	QL	73	GLU
13	QL	83	VAL
13	QL	85	ILE
13	QL	102	ARG
14	QM	8	GLU
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	78	ILE
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
15	QN	43	CYS
15	QN	44	LEU
15	QN	46	GLU

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Mol	Chain	Res	Type
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	82	ILE
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
17	QP	74	LEU
18	QQ	37	LYS
18	QQ	38	ARG
18	QQ	43	LEU
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	11	VAL
20	QS	12	ASP

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Mol	Chain	Res	Type
20	QS	21	GLU
20	QS	29	ARG
20	QS	30	LEU
20	QS	37	ARG
20	QS	43	GLU
20	QS	62	ILE
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	41	ILE
21	QT	45	GLN
21	QT	72	LEU
21	QT	73	HIS
21	QT	75	ASN
21	QT	84	LEU
21	QT	93	GLU
21	QT	99	LEU
25	RD	3	VAL
25	RD	5	LYS
25	RD	10	THR
25	RD	17	THR
25	RD	25	THR
25	RD	34	VAL
25	RD	40	THR
25	RD	44	ASN
25	RD	46	GLN
25	RD	49	ILE
25	RD	61	LEU
25	RD	64	ILE
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	89	SER
25	RD	95	LEU
25	RD	98	VAL
25	RD	103	ARG

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Mol	Chain	Res	Type
25	RD	105	ILE
25	RD	106	ILE
25	RD	111	LEU
25	RD	134	ARG
25	RD	136	ILE
25	RD	147	LEU
25	RD	150	LYS
25	RD	155	LEU
25	RD	157	ARG
25	RD	169	GLU
25	RD	173	VAL
25	RD	192	THR
25	RD	193	VAL
25	RD	212	SER
25	RD	221	VAL
25	RD	229	VAL
25	RD	237	GLU
25	RD	257	LEU
25	RD	259	THR
25	RD	261	LYS
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	14	ILE
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	47	VAL
26	RE	49	LEU
26	RE	52	LEU
26	RE	54	GLN
26	RE	63	LEU
26	RE	75	VAL
26	RE	77	ILE

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Mol	Chain	Res	Type
26	RE	79	ARG
26	RE	80	GLU
26	RE	82	ARG
26	RE	92	THR
26	RE	116	VAL
26	RE	117	MET
26	RE	119	ARG
26	RE	127	ASP
26	RE	134	ILE
26	RE	144	ARG
26	RE	146	THR
26	RE	154	LYS
26	RE	167	VAL
26	RE	175	VAL
26	RE	179	GLU
26	RE	181	LEU
26	RE	184	VAL
26	RE	185	LYS
26	RE	188	VAL
26	RE	197	ILE
26	RE	200	GLU
26	RE	202	LYS
26	RE	203	LYS
27	RF	9	ILE
27	RF	11	VAL
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	52	LYS
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

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Mol	Chain	Res	Type
27	RF	108	LYS
27	RF	117	ARG
27	RF	127	GLU
27	RF	149	ASP
27	RF	154	VAL
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	183	VAL
27	RF	192	LEU
27	RF	194	MET
27	RF	197	ASP
28	RG	7	LEU
28	RG	10	LYS
28	RG	20	ILE
28	RG	26	GLN
28	RG	34	LEU
28	RG	43	LEU
28	RG	45	GLU
28	RG	53	LEU
28	RG	54	GLU
28	RG	63	ILE
28	RG	67	LYS
28	RG	71	THR
28	RG	88	ILE
28	RG	94	LEU
28	RG	98	ARG
28	RG	118	ARG
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	26	VAL
29	RH	27	LYS
29	RH	37	VAL

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Mol	Chain	Res	Type
29	RH	42	ARG
29	RH	43	VAL
29	RH	44	VAL
29	RH	45	VAL
29	RH	50	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	143	GLN
29	RH	153	LYS
29	RH	158	HIS
29	RH	169	VAL
30	RI	2	LYS
30	RI	9	LEU
30	RI	10	GLU
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	72	LEU
30	RI	81	VAL
30	RI	86	THR
30	RI	92	VAL
30	RI	101	LEU
30	RI	112	LYS
30	RI	118	LYS
30	RI	129	THR
30	RI	131	LYS
30	RI	134	PRO
30	RI	135	GLU
30	RI	136	VAL
30	RI	142	VAL

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Mol	Chain	Res	Type
31	RN	1	MET
31	RN	2	LYS
31	RN	5	VAL
31	RN	7	LYS
31	RN	12	ARG
31	RN	14	VAL
31	RN	30	ILE
31	RN	32	THR
31	RN	33	LEU
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	107	LEU
31	RN	109	LYS
31	RN	120	LEU
31	RN	136	GLU
32	RO	9	GLU
32	RO	19	ILE
32	RO	24	VAL
32	RO	63	VAL
32	RO	69	ILE
32	RO	91	LEU
32	RO	98	VAL
32	RO	102	VAL
32	RO	115	VAL
33	RP	6	LEU
33	RP	7	ARG
33	RP	14	LYS
33	RP	15	ARG
33	RP	16	ARG
33	RP	18	ARG
33	RP	19	VAL
33	RP	21	ARG
33	RP	29	LYS
33	RP	30	THR

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Mol	Chain	Res	Type
33	RP	36	LYS
33	RP	41	ARG
33	RP	45	LEU
33	RP	50	ARG
33	RP	56	SER
33	RP	59	LEU
33	RP	61	ARG
33	RP	62	LEU
33	RP	67	MET
33	RP	68	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	112	LEU
33	RP	133	SER
33	RP	135	LEU
33	RP	138	LEU
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	55	VAL
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	91	GLU
34	RQ	96	VAL
34	RQ	103	MET
34	RQ	109	VAL
34	RQ	112	GLU
34	RQ	127	ILE

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Mol	Chain	Res	Type
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	28	LEU
35	RR	29	LEU
35	RR	35	THR
35	RR	44	LEU
35	RR	45	ARG
35	RR	67	LEU
35	RR	71	GLN
35	RR	73	VAL
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	117	VAL
35	RR	118	GLU
36	RS	4	LEU
36	RS	12	PHE
36	RS	17	ARG
36	RS	18	ILE
36	RS	20	ARG
36	RS	24	LEU
36	RS	27	SER
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	69	VAL
36	RS	98	VAL
36	RS	101	LEU
36	RS	103	GLU
36	RS	106	ARG

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Mol	Chain	Res	Type
37	RT	7	ILE
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	63	VAL
37	RT	65	LYS
37	RT	74	ARG
37	RT	78	LEU
37	RT	88	ILE
37	RT	89	VAL
37	RT	99	LEU
37	RT	112	ARG
37	RT	125	ARG
37	RT	128	GLU
38	RU	55	ARG
38	RU	59	ARG
38	RU	60	LEU
38	RU	64	ARG
38	RU	65	ILE
38	RU	74	LEU
38	RU	90	VAL
38	RU	92	ARG
38	RU	98	LEU
38	RU	100	VAL
38	RU	108	GLU
38	RU	111	GLU
38	RU	114	LYS
38	RU	117	GLN
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	38	LEU
39	RV	45	THR
39	RV	46	VAL

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Mol	Chain	Res	Type
39	RV	47	VAL
39	RV	49	THR
39	RV	57	VAL
39	RV	61	VAL
39	RV	62	LEU
39	RV	72	VAL
39	RV	74	LYS
39	RV	78	LYS
39	RV	79	VAL
39	RV	99	ILE
40	RW	11	ARG
40	RW	16	LYS
40	RW	19	LEU
40	RW	20	VAL
40	RW	21	VAL
40	RW	23	LEU
40	RW	27	LYS
40	RW	30	GLU
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	95	ILE
40	RW	100	THR
40	RW	106	ILE
40	RW	107	LEU
41	RX	12	VAL
41	RX	15	GLU
41	RX	23	GLU
41	RX	27	THR
41	RX	30	VAL
41	RX	35	THR
41	RX	49	VAL
41	RX	52	VAL
41	RX	54	VAL
41	RX	65	ARG
41	RX	73	ARG
41	RX	80	ILE
41	RX	81	VAL

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Mol	Chain	Res	Type
42	RY	3	VAL
42	RY	13	VAL
42	RY	14	LEU
42	RY	26	LYS
42	RY	27	VAL
42	RY	30	VAL
42	RY	34	LYS
42	RY	37	VAL
42	RY	38	ILE
42	RY	39	VAL
42	RY	43	ASN
42	RY	45	VAL
42	RY	51	VAL
42	RY	55	TYR
42	RY	57	GLN
42	RY	61	ILE
42	RY	64	GLU
42	RY	67	LEU
42	RY	70	SER
42	RY	71	LYS
42	RY	75	ILE
42	RY	76	CYS
42	RY	87	LYS
42	RY	88	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	94	GLU

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Mol	Chain	Res	Type
43	RZ	112	ARG
43	RZ	117	LEU
43	RZ	119	GLU
43	RZ	121	HIS
43	RZ	131	ARG
43	RZ	141	VAL
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	41	ARG
44	R0	64	ASP
44	R0	66	VAL
44	R0	74	ARG
45	R1	7	ILE
45	R1	21	ARG
45	R1	41	ARG
45	R1	51	VAL
45	R1	62	VAL
45	R1	80	LEU
45	R1	90	ILE
45	R1	91	LYS
46	R2	5	GLU
46	R2	17	SER
46	R2	22	GLU
46	R2	23	LYS
46	R2	24	LEU
46	R2	27	GLU
46	R2	32	LEU
46	R2	41	ILE
46	R2	47	ASN
46	R2	50	ILE
46	R2	53	LEU
46	R2	62	THR

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Mol	Chain	Res	Type
46	R2	63	VAL
46	R2	65	ASN
46	R2	71	ASN
47	R3	6	VAL
47	R3	8	LEU
47	R3	18	ASP
47	R3	32	GLN
47	R3	40	THR
47	R3	48	GLU
47	R3	56	VAL
47	R3	59	VAL
48	R4	13	ARG
48	R4	15	ILE
48	R4	23	GLU
48	R4	33	VAL
48	R4	34	GLU
48	R4	35	VAL
48	R4	37	SER
48	R4	42	PHE
48	R4	49	PHE
48	R4	50	VAL
48	R4	52	THR
48	R4	57	GLU
48	R4	60	GLN
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	3	LYS
49	R5	4	HIS
49	R5	6	VAL
49	R5	9	LYS
49	R5	11	THR
49	R5	21	SER
49	R5	25	LEU
49	R5	29	THR
49	R5	36	CYS
49	R5	40	LYS
49	R5	49	CYS
49	R5	51	TYR

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Mol	Chain	Res	Type
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	35	GLU
50	R6	37	ARG
50	R6	44	ARG
50	R6	47	THR
50	R6	53	LYS
51	R7	1	MET
51	R7	2	LYS
51	R7	4	THR
51	R7	9	ARG
51	R7	14	LYS
51	R7	43	THR
51	R7	46	VAL
52	R8	14	VAL
52	R8	29	LYS
52	R8	34	TRP
52	R8	39	LYS
52	R8	44	LYS
52	R8	47	LYS
52	R8	49	VAL
52	R8	52	LYS
52	R8	59	LYS
52	R8	62	LEU
52	R8	65	GLU
53	R9	1	MET
53	R9	17	ILE
53	R9	29	ASN
53	R9	33	LYS

Continued on next page...

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Mol	Chain	Res	Type
3	XB	5	ILE
3	XB	7	VAL
3	XB	8	LYS
3	XB	15	VAL
3	XB	23	ARG
3	XB	36	ARG
3	XB	67	THR
3	XB	68	ILE
3	XB	71	VAL
3	XB	75	LYS
3	XB	92	TYR
3	XB	136	VAL
3	XB	145	LEU
3	XB	155	LEU
3	XB	172	ILE
3	XB	175	ARG
3	XB	178	ARG
3	XB	187	LEU
3	XB	195	ASP
3	XB	196	LEU
3	XB	200	ILE
3	XB	215	LEU
3	XB	223	ILE
3	XB	235	SER
4	XC	3	ASN
4	XC	5	ILE
4	XC	12	LEU
4	XC	14	ILE
4	XC	15	THR
4	XC	21	ARG
4	XC	27	LYS
4	XC	47	LEU
4	XC	56	ASP
4	XC	76	VAL
4	XC	95	THR
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

Continued on next page...

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Mol	Chain	Res	Type
5	XD	30	LYS
5	XD	33	MET
5	XD	50	ARG
5	XD	53	ASP
5	XD	58	LEU
5	XD	76	ARG
5	XD	84	LYS
5	XD	86	LYS
5	XD	88	VAL
5	XD	92	VAL
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	190	ASP
5	XD	208	SER
6	XE	6	PHE
6	XE	7	GLU
6	XE	8	GLU
6	XE	10	MET
6	XE	11	ILE
6	XE	13	ILE
6	XE	18	ARG
6	XE	31	LEU
6	XE	41	VAL
6	XE	73	ASN
6	XE	76	ILE
6	XE	79	GLU
6	XE	89	ILE
6	XE	101	ILE
6	XE	147	ASP
6	XE	153	LYS
7	XF	10	LEU
7	XF	21	LEU
7	XF	23	LYS
7	XF	36	ARG
7	XF	37	VAL

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Mol	Chain	Res	Type
7	XF	45	LEU
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	13	GLN
8	XG	27	ILE
8	XG	35	LYS
8	XG	54	THR
8	XG	63	LYS
8	XG	78	ARG
8	XG	80	VAL
8	XG	104	LEU
8	XG	113	GLU
8	XG	114	ARG
8	XG	136	LYS
8	XG	137	LYS
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
9	XH	109	ILE
9	XH	112	LEU
9	XH	121	ASP
9	XH	137	VAL
10	XI	9	ARG
10	XI	41	VAL
10	XI	44	VAL
10	XI	56	LEU
10	XI	63	ILE
10	XI	65	VAL
10	XI	70	LYS
10	XI	79	LEU
10	XI	95	LYS

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Mol	Chain	Res	Type
10	XI	96	LEU
10	XI	99	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	118	LYS
10	XI	124	GLN
10	XI	128	ARG
11	XJ	3	LYS
11	XJ	17	ASP
11	XJ	45	ARG
11	XJ	47	PHE
11	XJ	49	VAL
11	XJ	57	LYS
11	XJ	62	HIS
11	XJ	70	ARG
11	XJ	72	VAL
11	XJ	74	ILE
11	XJ	80	LYS
11	XJ	84	GLN
11	XJ	90	LEU
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
12	XK	57	THR
12	XK	96	ARG
12	XK	109	VAL
12	XK	114	VAL
13	XL	17	LYS
13	XL	18	VAL
13	XL	20	LYS
13	XL	23	LYS
13	XL	27	LEU
13	XL	33	ARG

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Mol	Chain	Res	Type
13	XL	59	ARG
13	XL	62	SER
13	XL	81	SER
13	XL	83	VAL
13	XL	89	ARG
13	XL	91	LYS
13	XL	102	ARG
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	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
16	XO	6	GLU
16	XO	8	LYS
16	XO	24	SER
16	XO	26	GLU
16	XO	39	LEU
16	XO	47	LYS
16	XO	65	ARG
16	XO	66	LEU

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Mol	Chain	Res	Type
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	67	THR
17	XP	69	THR
18	XQ	9	VAL
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	32	ARG
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	83	GLU
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	22	LEU
20	XS	29	ARG
20	XS	30	LEU
20	XS	31	ILE
20	XS	37	ARG
20	XS	44	MET
20	XS	58	VAL
20	XS	63	THR
20	XS	78	ARG
20	XS	81	ARG

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Mol	Chain	Res	Type
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
25	YD	3	VAL
25	YD	5	LYS
25	YD	17	THR
25	YD	24	ILE
25	YD	27	THR
25	YD	28	GLU
25	YD	30	GLU
25	YD	34	VAL
25	YD	38	LYS
25	YD	43	ARG
25	YD	44	ASN
25	YD	49	ILE
25	YD	61	LEU
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	115	GLN
25	YD	116	GLN
25	YD	141	VAL
25	YD	192	THR
25	YD	193	VAL
25	YD	202	LYS
25	YD	217	ARG
25	YD	218	ARG

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Mol	Chain	Res	Type
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	14	ILE
26	YE	16	ARG
26	YE	17	ASP
26	YE	26	ILE
26	YE	27	LEU
26	YE	33	VAL
26	YE	34	VAL
26	YE	41	LYS
26	YE	42	ASP
26	YE	49	LEU
26	YE	77	ILE
26	YE	79	ARG
26	YE	92	THR
26	YE	111	ARG
26	YE	116	VAL
26	YE	117	MET
26	YE	119	ARG
26	YE	127	ASP
26	YE	144	ARG
26	YE	146	THR
26	YE	154	LYS
26	YE	172	VAL
26	YE	175	VAL
26	YE	196	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

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Mol	Chain	Res	Type
27	YF	45	ARG
27	YF	64	ILE
27	YF	65	TRP
27	YF	70	THR
27	YF	78	ILE
27	YF	84	VAL
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	186	ILE
27	YF	196	LEU
27	YF	197	ASP
27	YF	206	ILE
28	YG	3	LEU
28	YG	7	LEU
28	YG	19	LEU
28	YG	22	ARG
28	YG	31	VAL
28	YG	34	LEU
28	YG	37	VAL
28	YG	43	LEU
28	YG	45	GLU
28	YG	58	GLN
28	YG	63	ILE
28	YG	64	THR
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

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Mol	Chain	Res	Type
28	YG	94	LEU
28	YG	118	ARG
28	YG	145	THR
28	YG	159	VAL
28	YG	167	GLU
29	YH	3	ARG
29	YH	4	ILE
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	43	VAL
29	YH	47	GLU
29	YH	53	GLU
29	YH	59	ARG
29	YH	76	VAL
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	140	LYS
29	YH	143	GLN
29	YH	149	ARG
29	YH	151	ILE
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

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Mol	Chain	Res	Type
30	YI	35	LEU
30	YI	37	VAL
30	YI	38	LEU
30	YI	40	THR
30	YI	56	LYS
30	YI	67	ARG
30	YI	70	GLU
30	YI	72	LEU
30	YI	77	LEU
30	YI	81	VAL
30	YI	85	GLU
30	YI	92	VAL
30	YI	95	LYS
30	YI	97	ILE
30	YI	101	LEU
30	YI	112	LYS
30	YI	118	LYS
30	YI	131	LYS
30	YI	135	GLU
30	YI	136	VAL
30	YI	138	ILE
30	YI	139	GLN
30	YI	140	LEU
30	YI	141	LYS
30	YI	142	VAL
30	YI	145	VAL
31	YN	2	LYS
31	YN	5	VAL
31	YN	7	LYS
31	YN	8	GLN
31	YN	15	LEU
31	YN	32	THR
31	YN	34	LEU
31	YN	43	THR
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

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Mol	Chain	Res	Type
31	YN	98	VAL
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	2	ILE
32	YO	9	GLU
32	YO	19	ILE
32	YO	20	MET
32	YO	23	ARG
32	YO	24	VAL
32	YO	47	ILE
32	YO	49	ARG
32	YO	53	LYS
32	YO	66	LYS
32	YO	68	GLU
32	YO	85	VAL
32	YO	91	LEU
32	YO	98	VAL
32	YO	106	LEU
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	46	LYS
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

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Mol	Chain	Res	Type
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	139	LYS
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	42	ILE
34	YQ	45	GLN
34	YQ	55	VAL
34	YQ	59	ARG
34	YQ	75	THR
34	YQ	79	LEU
34	YQ	81	VAL
34	YQ	82	ARG
34	YQ	87	LYS
34	YQ	103	MET
34	YQ	109	VAL
34	YQ	112	GLU
34	YQ	132	VAL
34	YQ	139	GLU
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

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Mol	Chain	Res	Type
35	YR	65	LEU
35	YR	67	LEU
35	YR	75	LEU
35	YR	79	LEU
35	YR	83	ILE
35	YR	95	THR
35	YR	99	LYS
35	YR	100	LEU
35	YR	102	GLU
35	YR	104	ARG
35	YR	105	ARG
36	YS	10	ARG
36	YS	11	LYS
36	YS	12	PHE
36	YS	14	VAL
36	YS	15	ARG
36	YS	17	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
36	YS	59	LYS
36	YS	69	VAL
36	YS	73	LEU
36	YS	78	LEU
36	YS	83	LYS
36	YS	85	VAL
36	YS	103	GLU
36	YS	106	ARG
36	YS	111	GLU
37	YT	15	VAL
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	50	ILE

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Mol	Chain	Res	Type
37	YT	58	ASN
37	YT	65	LYS
37	YT	66	VAL
37	YT	74	ARG
37	YT	78	LEU
37	YT	85	LYS
37	YT	86	ILE
37	YT	87	ASP
37	YT	88	ILE
37	YT	89	VAL
37	YT	99	LEU
37	YT	110	ILE
37	YT	112	ARG
37	YT	115	ARG
37	YT	121	ILE
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	74	LEU
38	YU	88	ILE
38	YU	91	ASP
38	YU	98	LEU
38	YU	104	GLN
38	YU	108	GLU
38	YU	111	GLU
39	YV	6	LYS
39	YV	7	THR
39	YV	10	LYS
39	YV	19	LYS
39	YV	32	THR
39	YV	35	LEU
39	YV	39	LEU
39	YV	45	THR
39	YV	47	VAL
39	YV	57	VAL

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Mol	Chain	Res	Type
39	YV	61	VAL
39	YV	66	ARG
39	YV	72	VAL
39	YV	78	LYS
39	YV	79	VAL
39	YV	99	ILE
40	YW	11	ARG
40	YW	16	LYS
40	YW	19	LEU
40	YW	23	LEU
40	YW	37	ARG
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	12	VAL
41	YX	15	GLU
41	YX	27	THR
41	YX	36	LYS
41	YX	43	VAL
41	YX	49	VAL
41	YX	52	VAL
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	83	VAL
41	YX	88	LYS
42	YY	14	LEU
42	YY	26	LYS
42	YY	27	VAL
42	YY	28	LYS
42	YY	29	GLU

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Mol	Chain	Res	Type
42	YY	34	LYS
42	YY	38	ILE
42	YY	44	ILE
42	YY	45	VAL
42	YY	51	VAL
42	YY	52	SER
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	84	ARG
42	YY	87	LYS
42	YY	90	LEU
42	YY	95	LYS
42	YY	97	ARG
43	YZ	2	GLU
43	YZ	5	LEU
43	YZ	6	LYS
43	YZ	19	ARG
43	YZ	20	ARG
43	YZ	35	ARG
43	YZ	41	LEU
43	YZ	52	SER
43	YZ	60	GLU
43	YZ	71	VAL
43	YZ	76	LEU
43	YZ	81	ARG
43	YZ	91	LEU
43	YZ	94	GLU
43	YZ	124	ILE
43	YZ	133	ILE
43	YZ	137	ILE
43	YZ	139	VAL
43	YZ	140	ASP
43	YZ	141	VAL
43	YZ	144	LEU
43	YZ	146	ILE
43	YZ	150	LEU
43	YZ	151	HIS

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Mol	Chain	Res	Type
43	YZ	156	LYS
43	YZ	161	VAL
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	41	ARG
44	Y0	66	VAL
44	Y0	74	ARG
45	Y1	21	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	67	ILE
45	Y1	78	LYS
45	Y1	80	LEU
45	Y1	82	LEU
45	Y1	83	GLU
45	Y1	91	LYS
46	Y2	4	SER
46	Y2	9	GLN
46	Y2	16	LEU
46	Y2	23	LYS
46	Y2	24	LEU
46	Y2	27	GLU
46	Y2	28	LYS
46	Y2	32	LEU
46	Y2	34	GLU
46	Y2	41	ILE
46	Y2	47	ASN
46	Y2	50	ILE
46	Y2	52	ASP
46	Y2	53	LEU
46	Y2	64	LEU
46	Y2	65	ASN
47	Y3	6	VAL

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Mol	Chain	Res	Type
47	Y3	8	LEU
47	Y3	23	LEU
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	21	VAL
48	Y4	22	ILE
48	Y4	27	THR
48	Y4	34	GLU
48	Y4	35	VAL
48	Y4	39	CYS
48	Y4	42	PHE
48	Y4	43	TYR
48	Y4	48	ARG
48	Y4	49	PHE
48	Y4	50	VAL
48	Y4	53	GLU
48	Y4	57	GLU
48	Y4	61	ARG
48	Y4	63	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
49	Y5	58	LEU
50	Y6	6	ARG

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Mol	Chain	Res	Type
50	Y6	8	LYS
50	Y6	10	LEU
50	Y6	11	LEU
50	Y6	18	ARG
50	Y6	19	ARG
50	Y6	23	THR
50	Y6	27	LYS
50	Y6	30	THR
50	Y6	33	LYS
50	Y6	34	LEU
50	Y6	37	ARG
50	Y6	44	ARG
50	Y6	53	LYS
51	Y7	1	MET
51	Y7	4	THR
51	Y7	8	ASN
51	Y7	9	ARG
51	Y7	14	LYS
51	Y7	46	VAL
51	Y7	47	ARG
52	Y8	4	MET
52	Y8	13	ARG
52	Y8	14	VAL
52	Y8	16	ILE
52	Y8	29	LYS
52	Y8	30	ARG
52	Y8	34	TRP
52	Y8	39	LYS
52	Y8	43	GLN
52	Y8	44	LYS
52	Y8	47	LYS
52	Y8	52	LYS
52	Y8	56	GLU
52	Y8	58	ILE
52	Y8	59	LYS
52	Y8	64	TYR
52	Y8	65	GLU
53	Y9	1	MET
53	Y9	17	ILE
53	Y9	26	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (73) such sidechains are listed below:

Mol	Chain	Res	Type
3	QB	19	HIS
3	QB	94	ASN
3	QB	204	ASN
3	QB	212	GLN
4	QC	139	GLN
5	QD	45	GLN
6	QE	127	ASN
8	QG	11	GLN
8	QG	64	GLN
8	QG	97	GLN
11	QJ	13	HIS
11	QJ	78	ASN
12	QK	13	GLN
12	QK	116	HIS
14	QM	77	ASN
14	QM	92	HIS
20	QS	47	HIS
20	QS	57	HIS
20	QS	83	HIS
21	QT	90	GLN
26	RE	55	ASN
26	RE	135	HIS
28	RG	40	ASN
28	RG	123	ASN
31	RN	69	GLN
31	RN	130	HIS
32	RO	89	ASN
33	RP	81	GLN
36	RS	68	GLN
37	RT	79	HIS
37	RT	84	GLN
38	RU	72	HIS
38	RU	75	ASN
42	RY	57	GLN
43	RZ	132	ASN
46	R2	43	GLN
46	R2	47	ASN
46	R2	56	GLN
48	R4	60	GLN
52	R8	33	ASN
53	R9	29	ASN
53	R9	32	HIS
3	XB	204	ASN

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Mol	Chain	Res	Type
3	XB	212	GLN
4	XC	3	ASN
4	XC	102	ASN
5	XD	119	GLN
5	XD	123	HIS
6	XE	65	ASN
6	XE	141	GLN
7	XF	16	GLN
7	XF	27	GLN
7	XF	73	ASN
8	XG	106	GLN
11	XJ	76	ASN
11	XJ	78	ASN
17	XP	13	HIS
25	YD	96	HIS
25	YD	164	GLN
26	YE	54	GLN
28	YG	40	ASN
31	YN	133	GLN
32	YO	90	GLN
33	YP	84	ASN
34	YQ	57	HIS
35	YR	71	GLN
37	YT	58	ASN
40	YW	40	ASN
42	YY	57	GLN
43	YZ	151	HIS
44	Y0	12	ASN
44	Y0	29	GLN
53	Y9	29	ASN

5.3.3 RNA ⓘ

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%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

Continued on next page...

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

Continued on next page...

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

Continued on next page...

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Mol	Chain	Res	Type
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
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

Continued on next page...

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Mol	Chain	Res	Type
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
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

Continued on next page...

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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 ⓘ

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	XV	37	54	23,26,27	1.34	3 (13%)	33,39,42	1.74	4 (12%)
54	1MG	QV	37	54	23,26,27	1.36	3 (13%)	33,39,42	1.78	3 (9%)

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	XV	37	54	-	2/7/25/26	0/3/3/3
54	1MG	QV	37	54	-	2/7/25/26	0/3/3/3

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
54	XV	37	1MG	C5-C4	3.68	1.48	1.38
54	QV	37	1MG	C5-C4	3.65	1.48	1.38
54	QV	37	1MG	C2-N1	3.04	1.42	1.37
54	XV	37	1MG	C2-N1	2.78	1.42	1.37
54	XV	37	1MG	C5-N7	-2.28	1.34	1.39
54	QV	37	1MG	C5-N7	-2.28	1.34	1.39

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
54	XV	37	1MG	C5-C4-N3	-5.83	119.11	128.39
54	QV	37	1MG	C5-C4-N3	-5.82	119.13	128.39
54	QV	37	1MG	N9-C4-N3	4.75	135.44	125.95
54	XV	37	1MG	N9-C4-N3	4.51	134.98	125.95
54	QV	37	1MG	C2-N3-C4	4.35	121.75	111.98
54	XV	37	1MG	C2-N3-C4	4.31	121.68	111.98
54	XV	37	1MG	C4-C5-N7	-2.05	107.42	110.67

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	XV	37	1MG	3	0
54	QV	37	1MG	4	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides 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, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	QX	4/19 (21%)	1.26	1 (25%) 2 2	111, 112, 113, 116	0
1	XX	4/19 (21%)	1.14	1 (25%) 2 2	97, 97, 99, 102	0
2	QA	1500/1521 (98%)	0.48	75 (5%) 34 23	68, 108, 190, 262	0
2	XA	1500/1521 (98%)	0.48	61 (4%) 41 27	54, 105, 188, 260	0
3	QB	237/256 (92%)	1.44	60 (25%) 1 2	139, 160, 171, 173	0
3	XB	237/256 (92%)	1.24	42 (17%) 4 4	123, 144, 157, 164	0
4	QC	205/239 (85%)	1.23	37 (18%) 3 4	136, 150, 164, 168	0
4	XC	205/239 (85%)	1.04	28 (13%) 6 6	129, 140, 155, 160	0
5	QD	208/209 (99%)	1.30	40 (19%) 3 3	106, 117, 124, 127	0
5	XD	208/209 (99%)	1.13	34 (16%) 4 5	96, 110, 119, 122	0
6	QE	151/162 (93%)	1.04	19 (12%) 8 7	99, 113, 122, 125	0
6	XE	151/162 (93%)	0.98	16 (10%) 11 10	88, 104, 117, 127	0
7	QF	101/101 (100%)	0.83	7 (6%) 23 16	97, 104, 109, 120	0
7	XF	101/101 (100%)	0.72	4 (3%) 42 28	89, 98, 108, 114	0
8	QG	155/156 (99%)	1.16	27 (17%) 4 4	137, 158, 164, 166	0
8	XG	155/156 (99%)	1.22	36 (23%) 2 2	124, 150, 160, 163	0
9	QH	138/138 (100%)	1.04	17 (12%) 8 8	97, 115, 130, 139	0
9	XH	138/138 (100%)	0.81	7 (5%) 33 23	87, 105, 116, 124	0
10	QI	127/128 (99%)	1.54	37 (29%) 1 1	138, 176, 181, 183	0
10	XI	127/128 (99%)	1.59	36 (28%) 1 1	129, 167, 174, 177	0
11	QJ	99/105 (94%)	1.66	31 (31%) 1 1	148, 174, 179, 181	0
11	XJ	99/105 (94%)	1.81	42 (42%) 0 0	140, 166, 173, 174	0
12	QK	119/129 (92%)	1.00	15 (12%) 8 7	86, 113, 124, 142	0
12	XK	119/129 (92%)	0.97	11 (9%) 14 12	75, 101, 116, 124	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2		OWAB(Å²)	Q<0.9	
13	QL	125/132 (94%)	1.17	19 (15%)	5	5	86, 94, 105, 125	0
13	XL	125/132 (94%)	1.18	19 (15%)	5	5	78, 92, 99, 125	0
14	QM	121/126 (96%)	1.48	28 (23%)	2	2	153, 176, 181, 183	0
14	XM	121/126 (96%)	1.66	37 (30%)	1	1	155, 177, 180, 184	0
15	QN	60/61 (98%)	2.30	29 (48%)	0	0	154, 160, 174, 177	0
15	XN	60/61 (98%)	1.91	21 (35%)	1	1	145, 152, 171, 172	0
16	QO	88/89 (98%)	0.80	5 (5%)	29	20	90, 109, 117, 118	0
16	XO	88/89 (98%)	0.68	2 (2%)	61	42	79, 95, 102, 103	0
17	QP	84/88 (95%)	1.25	18 (21%)	2	3	93, 102, 117, 139	0
17	XP	84/88 (95%)	1.24	19 (22%)	2	2	96, 112, 126, 151	0
18	QQ	100/105 (95%)	1.11	13 (13%)	7	7	90, 99, 105, 106	0
18	XQ	100/105 (95%)	0.97	8 (8%)	18	14	83, 98, 104, 105	0
19	QR	70/88 (79%)	0.78	5 (7%)	22	15	99, 109, 118, 121	0
19	XR	70/88 (79%)	0.70	2 (2%)	53	36	90, 101, 111, 113	0
20	QS	84/93 (90%)	1.45	25 (29%)	1	1	159, 181, 184, 185	0
20	XS	84/93 (90%)	1.76	34 (40%)	0	0	165, 185, 190, 191	0
21	QT	99/106 (93%)	1.15	14 (14%)	6	6	91, 104, 115, 118	0
21	XT	99/106 (93%)	1.47	26 (26%)	1	2	101, 117, 128, 131	0
22	QU	25/27 (92%)	3.60	21 (84%)	0	0	164, 170, 171, 173	0
22	XU	25/27 (92%)	3.44	23 (92%)	0	0	164, 169, 172, 173	0
23	RA	2882/2915 (98%)	0.07	144 (4%)	34	23	45, 71, 200, 279	0
23	YA	2883/2915 (98%)	-0.20	103 (3%)	46	31	29, 49, 175, 271	0
24	RB	120/122 (98%)	0.48	1 (0%)	82	69	82, 117, 139, 156	0
24	YB	120/122 (98%)	-0.09	0	100	100	50, 71, 89, 104	0
25	RD	272/276 (98%)	0.72	22 (8%)	18	14	46, 67, 79, 83	0
25	YD	272/276 (98%)	0.63	13 (4%)	35	24	33, 53, 65, 73	0
26	RE	205/206 (99%)	0.79	18 (8%)	15	13	47, 76, 96, 102	0
26	YE	205/206 (99%)	0.68	19 (9%)	14	12	34, 59, 80, 91	0
27	RF	202/210 (96%)	0.60	9 (4%)	38	25	48, 89, 108, 118	0
27	YF	202/210 (96%)	0.39	5 (2%)	58	40	31, 58, 82, 95	0
28	RG	181/182 (99%)	1.46	42 (23%)	2	2	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%)	1.00	20 (11%)	10 10	79, 114, 136, 149	0
29	RH	170/180 (94%)	1.45	44 (25%)	1 2	113, 136, 151, 182	0
29	YH	170/180 (94%)	1.24	31 (18%)	3 4	64, 75, 84, 135	0
30	RI	146/148 (98%)	0.72	10 (6%)	23 16	80, 117, 131, 133	0
30	YI	146/148 (98%)	0.84	16 (10%)	10 10	65, 108, 118, 121	0
31	RN	138/140 (98%)	0.66	5 (3%)	46 31	59, 82, 101, 108	0
31	YN	138/140 (98%)	0.48	4 (2%)	53 36	40, 54, 77, 82	0
32	RO	122/122 (100%)	0.27	2 (1%)	70 52	57, 71, 81, 84	0
32	YO	122/122 (100%)	0.30	2 (1%)	70 52	44, 57, 72, 77	0
33	RP	150/150 (100%)	0.92	16 (10%)	11 10	53, 85, 108, 123	0
33	YP	150/150 (100%)	0.89	17 (11%)	10 9	33, 59, 83, 104	0
34	RQ	141/141 (100%)	1.04	19 (13%)	7 6	66, 89, 104, 117	0
34	YQ	141/141 (100%)	0.87	15 (10%)	11 10	45, 59, 74, 86	0
35	RR	118/118 (100%)	0.54	5 (4%)	40 26	55, 68, 77, 80	0
35	YR	118/118 (100%)	0.43	1 (0%)	82 69	41, 54, 62, 66	0
36	RS	111/112 (99%)	1.18	19 (17%)	4 4	99, 115, 123, 126	0
36	YS	111/112 (99%)	0.73	7 (6%)	26 18	64, 73, 80, 84	0
37	RT	137/146 (93%)	0.66	9 (6%)	24 16	68, 79, 123, 139	0
37	YT	137/146 (93%)	0.63	7 (5%)	33 23	51, 64, 108, 131	0
38	RU	117/118 (99%)	0.93	19 (16%)	4 5	57, 78, 95, 108	0
38	YU	117/118 (99%)	0.56	7 (5%)	27 19	35, 46, 63, 75	0
39	RV	101/101 (100%)	0.75	5 (4%)	34 23	56, 96, 104, 108	0
39	YV	101/101 (100%)	0.55	7 (6%)	23 16	33, 63, 74, 80	0
40	RW	113/113 (100%)	0.32	2 (1%)	67 49	49, 62, 83, 105	0
40	YW	113/113 (100%)	0.10	2 (1%)	67 49	37, 45, 63, 93	0
41	RX	92/96 (95%)	0.82	6 (6%)	25 17	63, 74, 84, 88	0
41	YX	92/96 (95%)	0.26	2 (2%)	62 44	43, 49, 60, 62	0
42	RY	102/110 (92%)	1.70	34 (33%)	1 1	79, 89, 108, 115	0
42	YY	102/110 (92%)	1.21	25 (24%)	2 2	55, 63, 85, 93	0
43	RZ	183/206 (88%)	1.20	28 (15%)	5 5	98, 118, 129, 133	0
43	YZ	183/206 (88%)	0.76	17 (9%)	14 12	64, 83, 100, 107	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å²)	Q<0.9
44	R0	82/85 (96%)	0.66	9 (10%)	10	10	66, 80, 88, 93	0
44	Y0	82/85 (96%)	0.23	9 (10%)	10	10	44, 52, 62, 65	0
45	R1	97/98 (98%)	0.99	15 (15%)	5	5	55, 71, 105, 108	0
45	Y1	97/98 (98%)	0.94	13 (13%)	7	7	40, 53, 90, 94	0
46	R2	69/72 (95%)	0.91	8 (11%)	9	9	81, 88, 95, 103	0
46	Y2	69/72 (95%)	0.81	9 (13%)	7	7	52, 59, 66, 78	0
47	R3	59/60 (98%)	0.61	2 (3%)	48	32	68, 81, 97, 104	0
47	Y3	59/60 (98%)	0.38	1 (1%)	69	51	42, 53, 70, 78	0
48	R4	71/71 (100%)	1.64	24 (33%)	1	1	154, 183, 185, 185	0
48	Y4	71/71 (100%)	1.25	14 (19%)	3	3	106, 147, 190, 191	0
49	R5	59/60 (98%)	1.17	13 (22%)	2	2	48, 72, 95, 106	0
49	Y5	59/60 (98%)	1.29	14 (23%)	2	2	32, 59, 84, 87	0
50	R6	49/54 (90%)	2.52	30 (61%)	0	0	84, 95, 102, 105	0
50	Y6	49/54 (90%)	2.90	30 (61%)	0	0	63, 74, 83, 88	0
51	R7	49/49 (100%)	0.93	7 (14%)	6	6	47, 52, 59, 70	0
51	Y7	49/49 (100%)	0.51	3 (6%)	27	19	33, 36, 46, 55	0
52	R8	64/65 (98%)	1.30	17 (26%)	1	2	63, 72, 80, 92	0
52	Y8	64/65 (98%)	1.01	14 (21%)	2	2	40, 49, 57, 66	0
53	R9	37/37 (100%)	2.27	21 (56%)	0	0	83, 96, 106, 108	0
53	Y9	37/37 (100%)	1.92	13 (35%)	1	1	54, 61, 67, 71	0
54	QV	17/18 (94%)	0.64	2 (11%)	9	9	124, 139, 156, 157	0
54	XV	17/18 (94%)	0.77	2 (11%)	9	9	112, 131, 151, 152	0
All	All	20713/21318 (97%)	0.62	2101 (10%)	12	11	29, 88, 176, 279	0

All (2101) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
22	QU	2	GLY	12.0
15	QN	55	GLY	10.2
23	YA	2116	G	9.8
49	Y5	2	ALA	9.7
50	Y6	22	ALA	9.1
50	Y6	42	TRP	9.0
34	YQ	140	ALA	8.6

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Mol	Chain	Res	Type	RSRZ
23	YA	2175	C	8.4
48	R4	67	TYR	8.3
29	YH	171	LEU	8.1
48	R4	66	SER	8.0
14	QM	102	ARG	7.9
50	R6	24	GLU	7.8
23	RA	1059	G	7.7
14	XM	101	GLN	7.7
23	YA	2602	A	7.6
30	YI	117	GLU	7.6
34	YQ	141	GLN	7.5
49	R5	2	ALA	7.4
49	Y5	54	GLY	7.2
38	YU	118	GLY	7.1
42	RY	79	CYS	7.1
38	YU	117	GLN	7.0
23	YA	1536	A	7.0
22	XU	6	ARG	6.9
53	R9	1	MET	6.9
29	RH	171	LEU	6.8
23	RA	1536	A	6.7
33	YP	13	ASN	6.7
50	R6	42	TRP	6.6
53	Y9	1	MET	6.4
22	QU	5	ASP	6.4
22	XU	17	THR	6.4
37	RT	1	MET	6.4
23	YA	2107	C	6.3
23	YA	2189	U	6.3
34	RQ	140	ALA	6.2
28	RG	139	LEU	6.1
26	YE	205	ALA	6.1
14	XM	102	ARG	6.0
50	Y6	20	ASN	6.0
50	Y6	15	GLU	6.0
49	R5	54	GLY	6.0
51	Y7	48	LYS	6.0
50	R6	20	ASN	6.0
45	R1	95	LEU	6.0
23	RA	1058	G	5.9
28	RG	157	ILE	5.9
15	XN	2	ALA	5.9

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Mol	Chain	Res	Type	RSRZ
14	QM	101	GLN	5.9
29	YH	3	ARG	5.9
48	Y4	67	TYR	5.9
37	RT	2	ASN	5.9
23	YA	1061	U	5.8
3	QB	215	LEU	5.8
51	R7	49	ARG	5.8
34	YQ	138	ASP	5.8
42	RY	86	ARG	5.7
22	QU	6	ARG	5.7
44	R0	5	LYS	5.7
50	R6	39	TYR	5.7
15	QN	14	PRO	5.7
15	XN	30	ALA	5.7
50	Y6	23	THR	5.6
12	XK	129	SER	5.6
23	YA	2188	C	5.6
4	QC	157	ILE	5.6
17	QP	68	ASP	5.5
11	QJ	65	LEU	5.5
50	R6	22	ALA	5.5
13	XL	89	ARG	5.5
2	XA	1224	G	5.5
13	XL	72	GLY	5.4
51	Y7	49	ARG	5.4
42	RY	52	SER	5.4
23	RA	2104	G	5.4
44	Y0	3	HIS	5.3
4	XC	158	GLY	5.3
50	R6	15	GLU	5.3
22	QU	10	ARG	5.3
11	XJ	68	HIS	5.3
23	YA	2174	C	5.3
26	YE	204	ALA	5.3
42	RY	96	ILE	5.3
21	XT	55	ILE	5.3
42	RY	91	GLU	5.2
45	R1	98	LEU	5.2
6	QE	20	GLN	5.2
20	QS	31	ILE	5.2
22	XU	10	ARG	5.2
22	QU	14	TRP	5.2

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Mol	Chain	Res	Type	RSRZ
8	XG	26	PHE	5.1
22	QU	11	GLY	5.1
3	XB	12	GLU	5.1
50	Y6	24	GLU	5.1
10	QI	108	VAL	5.1
23	YA	1060	U	5.1
23	RA	1103	A	5.0
37	YT	1	MET	5.0
25	YD	33	LEU	5.0
23	RA	2174	C	5.0
5	XD	163	GLU	5.0
3	XB	81	VAL	5.0
3	XB	148	TYR	5.0
14	XM	2	ALA	5.0
39	YV	45	THR	5.0
42	RY	5	MET	5.0
5	QD	102	ASP	5.0
10	QI	66	ARG	5.0
33	RP	71	VAL	5.0
28	RG	26	GLN	5.0
26	RE	204	ALA	4.9
33	RP	13	ASN	4.9
23	RA	2602	A	4.9
20	XS	76	PRO	4.9
23	RA	1060	U	4.9
25	YD	34	VAL	4.9
11	QJ	40	LEU	4.9
42	YY	91	GLU	4.9
28	RG	39	ILE	4.9
36	YS	2	ALA	4.9
39	YV	36	PRO	4.9
42	RY	77	PRO	4.9
2	QA	1286	A	4.9
50	R6	47	THR	4.8
14	XM	113	PRO	4.8
23	YA	1537	C	4.8
38	RU	118	GLY	4.8
49	Y5	53	ALA	4.8
34	YQ	21	THR	4.8
11	XJ	46	ARG	4.8
10	QI	106	ALA	4.8
34	RQ	141	GLN	4.8

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Mol	Chain	Res	Type	RSRZ
11	QJ	47	PHE	4.8
29	RH	11	VAL	4.8
18	QQ	24	GLU	4.8
43	RZ	169	GLU	4.8
47	R3	25	ALA	4.8
23	RA	2114	A	4.7
23	YA	2179	C	4.7
28	RG	159	VAL	4.7
50	Y6	39	TYR	4.7
12	QK	128	ALA	4.7
51	R7	48	LYS	4.7
3	QB	136	VAL	4.7
5	QD	163	GLU	4.7
23	RA	2585	U	4.7
23	RA	1088	A	4.7
23	RA	2149	G	4.7
23	YA	2178	C	4.7
45	Y1	98	LEU	4.6
23	YA	2402	C	4.6
50	Y6	18	ARG	4.6
4	QC	158	GLY	4.6
15	QN	2	ALA	4.6
33	RP	35	HIS	4.6
3	XB	71	VAL	4.6
10	XI	128	ARG	4.6
23	RA	2189	U	4.6
23	RA	1069	A	4.6
12	QK	129	SER	4.6
23	RA	1062	G	4.6
23	RA	1104	C	4.6
52	Y8	35	GLN	4.6
10	XI	41	VAL	4.6
4	QC	175	LEU	4.5
53	Y9	37	GLY	4.5
15	XN	7	ILE	4.5
23	RA	2402	C	4.5
10	XI	3	GLN	4.5
3	QB	218	ALA	4.5
45	Y1	97	LEU	4.5
5	QD	6	GLY	4.5
9	XH	1	MET	4.5
23	RA	2160	G	4.5

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Mol	Chain	Res	Type	RSRZ
23	YA	2104	G	4.5
49	R5	53	ALA	4.5
22	XU	23	PRO	4.5
22	QU	3	LYS	4.5
42	YY	79	CYS	4.5
20	XS	39	THR	4.4
23	RA	2117	A	4.4
29	YH	50	VAL	4.4
3	XB	214	ILE	4.4
23	RA	2798	C	4.4
13	QL	16	GLU	4.4
50	R6	23	THR	4.4
23	YA	2190	G	4.4
43	YZ	97	GLU	4.4
42	YY	96	ILE	4.4
23	RA	2188	C	4.4
23	RA	2150	U	4.4
15	QN	50	LYS	4.3
23	YA	2165	G	4.3
50	Y6	40	CYS	4.3
26	YE	187	ALA	4.3
10	XI	110	GLU	4.3
26	RE	79	ARG	4.3
2	QA	1224	G	4.3
11	QJ	7	LYS	4.3
50	Y6	13	CYS	4.3
20	QS	15	LEU	4.3
26	YE	63	LEU	4.3
34	YQ	38	GLU	4.3
9	QH	1	MET	4.3
42	RY	78	ALA	4.3
22	XU	13	ILE	4.3
23	YA	2173	A	4.3
10	XI	106	ALA	4.3
46	R2	52	ASP	4.3
23	RA	2175	C	4.2
34	RQ	21	THR	4.2
30	RI	90	GLY	4.2
36	YS	111	GLU	4.2
25	YD	26	LYS	4.2
42	RY	4	LYS	4.2
23	RA	1070	A	4.2

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Mol	Chain	Res	Type	RSRZ
23	RA	2121	G	4.2
23	YA	2108	C	4.2
18	QQ	100	LYS	4.2
23	RA	1065	U	4.2
23	RA	2135	A	4.2
23	YA	2801	A	4.2
9	QH	2	LEU	4.2
23	RA	1064	C	4.2
34	YQ	83	MET	4.2
8	QG	7	ALA	4.2
15	QN	7	ILE	4.2
53	Y9	32	HIS	4.2
8	QG	81	GLY	4.2
50	Y6	27	LYS	4.2
15	QN	30	ALA	4.2
50	Y6	21	TYR	4.2
11	QJ	45	ARG	4.2
4	QC	91	LEU	4.1
10	XI	66	ARG	4.1
11	XJ	90	LEU	4.1
45	R1	26	ARG	4.1
2	QA	1281	U	4.1
23	YA	2180	U	4.1
28	RG	133	LEU	4.1
34	RQ	80	GLU	4.1
37	YT	109	GLU	4.1
3	XB	188	ALA	4.1
11	XJ	69	ASN	4.1
14	QM	106	ASN	4.1
10	XI	30	GLY	4.1
29	RH	5	GLY	4.1
5	XD	31	CYS	4.1
5	QD	5	ILE	4.1
14	XM	90	LEU	4.1
53	Y9	11	CYS	4.1
12	XK	128	ALA	4.1
39	RV	36	PRO	4.1
3	QB	179	LYS	4.0
45	Y1	96	LYS	4.0
44	R0	55	ARG	4.0
32	RO	1	MET	4.0
2	XA	1286	A	4.0

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Mol	Chain	Res	Type	RSRZ
5	QD	7	PRO	4.0
10	XI	17	VAL	4.0
50	Y6	44	ARG	4.0
25	RD	259	THR	4.0
2	QA	1202	G	4.0
23	YA	1176	G	4.0
23	YA	2106	G	4.0
8	XG	5	ARG	4.0
11	XJ	5	ARG	4.0
43	RZ	76	LEU	4.0
2	XA	380	G	4.0
15	XN	3	ARG	4.0
23	RA	2799	A	4.0
23	YA	2119	A	4.0
11	QJ	59	SER	4.0
13	XL	120	TYR	4.0
28	RG	131	TYR	4.0
22	QU	26	LYS	4.0
25	RD	33	LEU	4.0
25	YD	35	LYS	4.0
11	QJ	41	PRO	3.9
18	QQ	73	VAL	3.9
8	QG	85	TYR	3.9
8	XG	38	LEU	3.9
13	QL	120	TYR	3.9
49	R5	57	VAL	3.9
4	QC	160	ALA	3.9
21	XT	72	LEU	3.9
21	QT	9	ASN	3.9
3	QB	81	VAL	3.9
6	XE	23	GLY	3.9
10	XI	123	PRO	3.9
21	XT	18	GLN	3.9
26	RE	77	ILE	3.9
11	XJ	47	PHE	3.9
15	QN	15	LYS	3.9
10	XI	109	VAL	3.9
15	XN	6	LEU	3.9
22	QU	15	ARG	3.9
7	QF	88	VAL	3.9
45	Y1	84	GLY	3.9
14	XM	105	THR	3.8

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Mol	Chain	Res	Type	RSRZ
17	XP	69	THR	3.8
23	RA	1087	G	3.8
23	YA	11	G	3.8
23	YA	1059	G	3.8
11	QJ	43	ARG	3.8
42	RY	49	VAL	3.8
11	XJ	53	PRO	3.8
43	RZ	147	GLY	3.8
52	Y8	45	GLY	3.8
11	QJ	69	ASN	3.8
2	QA	1110	A	3.8
23	RA	1052	C	3.8
23	RA	1535	U	3.8
29	YH	11	VAL	3.8
34	RQ	83	MET	3.8
28	RG	63	ILE	3.8
14	XM	107	ALA	3.8
22	XU	14	TRP	3.8
11	XJ	96	ILE	3.8
15	QN	29	ARG	3.8
17	QP	67	THR	3.8
29	YH	152	ARG	3.8
4	XC	195	VAL	3.8
5	QD	84	LYS	3.8
15	QN	9	LYS	3.8
18	XQ	99	SER	3.8
22	XU	26	LYS	3.8
25	RD	34	VAL	3.8
10	QI	128	ARG	3.8
34	YQ	79	LEU	3.8
42	RY	82	PRO	3.8
48	R4	7	PRO	3.8
50	Y6	41	PRO	3.8
52	R8	64	TYR	3.8
5	QD	155	LEU	3.8
2	QA	82	U	3.8
23	RA	1061	U	3.8
23	RA	2801	A	3.8
50	Y6	16	CYS	3.8
8	QG	35	LYS	3.7
8	QG	77	SER	3.7
11	QJ	71	LEU	3.7

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Mol	Chain	Res	Type	RSRZ
20	XS	16	LEU	3.7
45	R1	85	LEU	3.7
53	Y9	27	CYS	3.7
3	XB	136	VAL	3.7
24	RB	1	U	3.7
38	RU	117	GLN	3.7
43	RZ	86	VAL	3.7
4	QC	34	LEU	3.7
5	QD	21	LEU	3.7
20	QS	30	LEU	3.7
15	XN	34	TYR	3.7
29	YH	58	GLU	3.7
26	YE	68	ALA	3.7
28	YG	26	GLN	3.7
53	R9	11	CYS	3.7
2	XA	1451	A	3.7
23	YA	2117	A	3.7
14	XM	100	GLY	3.7
41	RX	33	LYS	3.7
52	R8	29	LYS	3.7
8	XG	4	ARG	3.7
3	XB	222	ILE	3.7
23	RA	2802	G	3.7
23	RA	1057	A	3.7
23	RA	2119	A	3.7
28	RG	28	VAL	3.7
48	R4	5	ILE	3.7
42	RY	76	CYS	3.7
14	QM	120	LYS	3.7
25	RD	44	ASN	3.7
37	YT	2	ASN	3.7
50	R6	27	LYS	3.7
29	RH	109	PHE	3.7
43	RZ	87	ASP	3.6
49	Y5	59	GLU	3.6
23	RA	2120	G	3.6
23	YA	2121	G	3.6
4	QC	156	ARG	3.6
23	RA	2118	U	3.6
28	RG	155	MET	3.6
23	YA	1070	A	3.6
45	Y1	85	LEU	3.6

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Mol	Chain	Res	Type	RSRZ
8	XG	35	LYS	3.6
23	RA	2146	C	3.6
23	YA	2161	C	3.6
5	XD	77	ASN	3.6
20	QS	76	PRO	3.6
33	YP	141	ALA	3.6
46	Y2	66	GLU	3.6
22	XU	21	TYR	3.6
10	QI	102	LEU	3.6
20	XS	71	LEU	3.6
49	Y5	58	LEU	3.6
42	RY	101	LYS	3.6
23	RA	11	G	3.6
23	RA	1055	G	3.6
27	RF	131	GLY	3.6
37	RT	115	ARG	3.6
48	Y4	66	SER	3.6
22	XU	5	ASP	3.6
14	QM	105	THR	3.6
45	R1	48	LYS	3.6
22	QU	4	GLY	3.6
17	QP	8	ARG	3.6
40	RW	92	ARG	3.6
23	RA	1051	G	3.6
23	YA	1534	G	3.6
2	QA	1092	A	3.6
20	QS	71	LEU	3.6
2	QA	1129	C	3.6
14	XM	20	THR	3.6
6	QE	74	GLY	3.6
11	XJ	45	ARG	3.6
15	XN	31	ARG	3.6
22	QU	24	ARG	3.6
22	XU	15	ARG	3.6
22	XU	22	ARG	3.6
27	RF	62	ARG	3.6
17	XP	41	PRO	3.6
26	RE	205	ALA	3.6
14	XM	106	ASN	3.6
18	QQ	4	LYS	3.6
48	R4	69	LYS	3.6
49	Y5	52	TYR	3.6

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Mol	Chain	Res	Type	RSRZ
46	Y2	52	ASP	3.6
23	RA	2190	G	3.5
33	RP	15	ARG	3.5
33	YP	15	ARG	3.5
42	YY	101	LYS	3.5
8	QG	38	LEU	3.5
13	QL	52	LEU	3.5
28	YG	43	LEU	3.5
8	XG	85	TYR	3.5
5	QD	118	ARG	3.5
12	XK	28	THR	3.5
20	XS	38	SER	3.5
23	RA	1073	A	3.5
52	Y8	34	TRP	3.5
23	RA	2159	G	3.5
2	QA	824	C	3.5
2	QA	1362(A)	C	3.5
4	XC	193	TYR	3.5
22	QU	9	ARG	3.5
11	XJ	59	SER	3.5
23	RA	2113	U	3.5
12	QK	127	LYS	3.5
3	QB	214	ILE	3.5
14	XM	91	ARG	3.5
48	Y4	63	TYR	3.5
1	XX	0	C	3.5
10	XI	18	PHE	3.5
8	XG	16	LEU	3.5
20	XS	15	LEU	3.5
21	XT	64	ASP	3.5
23	RA	2122	U	3.5
52	Y8	40	GLU	3.5
5	QD	4	TYR	3.5
52	Y8	64	TYR	3.5
21	XT	21	LYS	3.5
8	QG	118	VAL	3.5
6	XE	20	GLN	3.5
23	RA	1054	A	3.5
29	YH	5	GLY	3.5
40	RW	112	GLY	3.5
53	R9	14	CYS	3.5
9	QH	72	PRO	3.5

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Mol	Chain	Res	Type	RSRZ
23	RA	1537	C	3.5
8	QG	4	ARG	3.5
21	XT	17	ARG	3.5
23	RA	1093	G	3.5
23	RA	2115	G	3.5
54	XV	38	G	3.5
8	XG	118	VAL	3.4
13	XL	29	GLY	3.4
13	QL	116	SER	3.4
21	XT	11	SER	3.4
37	RT	112	ARG	3.4
38	RU	88	ILE	3.4
11	XJ	7	LYS	3.4
13	QL	127	GLU	3.4
5	XD	133	VAL	3.4
23	RA	2151	G	3.4
23	RA	2894	G	3.4
23	YA	2123	G	3.4
23	YA	2168	G	3.4
15	QN	6	LEU	3.4
10	XI	64	THR	3.4
15	XN	4	LYS	3.4
21	QT	74	LYS	3.4
4	XC	10	PHE	3.4
18	XQ	24	GLU	3.4
23	YA	2176	A	3.4
6	XE	82	VAL	3.4
30	RI	15	VAL	3.4
4	QC	155	GLY	3.4
22	XU	4	GLY	3.4
48	R4	68	ARG	3.4
50	Y6	19	ARG	3.4
28	RG	64	THR	3.4
10	XI	81	ILE	3.4
15	XN	14	PRO	3.4
20	XS	2	PRO	3.4
50	Y6	8	LYS	3.4
23	RA	1074	G	3.4
10	QI	109	VAL	3.4
18	QQ	101	ARG	3.4
22	XU	16	GLY	3.4
4	XC	124	ILE	3.4

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Mol	Chain	Res	Type	RSRZ
4	XC	182	ILE	3.4
12	QK	32	ILE	3.4
53	R9	32	HIS	3.4
2	XA	345	C	3.4
23	YA	1535	U	3.4
7	QF	61	LEU	3.4
13	QL	18	VAL	3.4
2	QA	1026	G	3.4
23	RA	615	G	3.4
23	YA	1058	G	3.4
29	YH	4	ILE	3.4
11	QJ	39	PRO	3.4
11	XJ	37	PRO	3.4
14	QM	60	VAL	3.3
21	QT	72	LEU	3.3
45	Y1	95	LEU	3.3
27	YF	207	GLY	3.3
35	RR	9	LYS	3.3
53	R9	2	LYS	3.3
53	Y9	2	LYS	3.3
29	RH	72	ILE	3.3
29	YH	6	ARG	3.3
30	YI	113	ARG	3.3
3	XB	238	LEU	3.3
48	R4	21	VAL	3.3
19	QR	88	LYS	3.3
35	RR	5	LYS	3.3
38	RU	84	LYS	3.3
23	RA	1092	C	3.3
23	RA	2179	C	3.3
11	QJ	53	PRO	3.3
20	QS	11	VAL	3.3
2	QA	973	G	3.3
10	XI	45	ALA	3.3
29	RH	82	GLY	3.3
36	YS	55	ALA	3.3
22	XU	18	TYR	3.3
26	RE	159	HIS	3.3
28	RG	96	ARG	3.3
53	R9	20	HIS	3.3
2	QA	1149	C	3.3
2	XA	985	C	3.3

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Mol	Chain	Res	Type	RSRZ
3	QB	11	LEU	3.3
10	QI	11	LYS	3.3
30	YI	15	VAL	3.3
15	XN	61	TRP	3.3
3	QB	161	ALA	3.3
13	XL	128	ALA	3.3
43	RZ	173	ALA	3.3
53	R9	37	GLY	3.3
22	XU	9	ARG	3.3
26	YE	79	ARG	3.3
6	QE	123	LEU	3.3
11	QJ	42	THR	3.3
23	RA	2147	G	3.3
15	XN	37	PHE	3.3
10	QI	41	VAL	3.3
23	YA	2629	A	3.3
5	QD	67	ILE	3.3
8	XG	8	GLU	3.3
34	YQ	80	GLU	3.3
52	R8	65	GLU	3.3
53	R9	17	ILE	3.3
29	RH	108	GLY	3.3
33	RP	118	GLY	3.3
10	QI	123	PRO	3.2
50	Y6	17	LYS	3.2
20	XS	9	VAL	3.2
11	XJ	50	ILE	3.2
14	XM	33	ALA	3.2
21	XT	9	ASN	3.2
5	XD	156	GLU	3.2
23	RA	1056	G	3.2
23	RA	1089	G	3.2
23	YA	1026	U	3.2
8	QG	5	ARG	3.2
13	QL	19	ARG	3.2
23	RA	1084	A	3.2
5	QD	162	LEU	3.2
21	QT	84	LEU	3.2
28	YG	87	PRO	3.2
10	QI	37	PHE	3.2
43	RZ	74	VAL	3.2
34	YQ	1	MET	3.2

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Mol	Chain	Res	Type	RSRZ
51	R7	1	MET	3.2
7	QF	7	ASN	3.2
8	QG	8	GLU	3.2
36	RS	20	ARG	3.2
43	YZ	145	GLU	3.2
23	RA	2109	U	3.2
5	QD	152	SER	3.2
10	QI	126	SER	3.2
13	XL	22	SER	3.2
17	QP	9	PHE	3.2
23	RA	1096	A	3.2
23	RA	2166	G	3.2
23	YA	2115	G	3.2
23	RA	2108	C	3.2
50	R6	40	CYS	3.2
5	XD	115	ARG	3.2
10	QI	43	ALA	3.2
13	QL	129	ALA	3.2
30	YI	118	LYS	3.2
4	QC	195	VAL	3.2
28	RG	138	GLN	3.2
5	QD	73	ARG	3.2
11	QJ	46	ARG	3.2
25	RD	176	ARG	3.2
25	YD	27	THR	3.2
28	YG	156	ASP	3.2
29	YH	72	ILE	3.2
38	RU	92	ARG	3.2
23	RA	1095	A	3.2
43	RZ	172	ALA	3.2
2	XA	630	G	3.2
3	XB	147	LYS	3.2
10	XI	127	LYS	3.2
12	QK	118	GLY	3.2
23	RA	1063	G	3.2
53	R9	24	TYR	3.2
11	QJ	62	HIS	3.2
3	QB	211	ILE	3.2
7	QF	89	MET	3.2
20	QS	40	ILE	3.2
2	XA	1281	U	3.1
4	XC	171	GLY	3.1

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Mol	Chain	Res	Type	RSRZ
36	RS	45	GLY	3.1
6	XE	81	GLU	3.1
45	Y1	93	GLU	3.1
2	QA	1280	A	3.1
20	QS	80	TYR	3.1
22	QU	23	PRO	3.1
23	RA	1076	C	3.1
23	RA	2833	G	3.1
23	YA	2112	G	3.1
5	XD	50	ARG	3.1
28	RG	91	ARG	3.1
18	QQ	59	ILE	3.1
28	RG	144	ILE	3.1
5	XD	151	LYS	3.1
14	QM	27	LYS	3.1
21	XT	74	LYS	3.1
42	RY	81	LYS	3.1
46	Y2	72	ALA	3.1
4	QC	153	VAL	3.1
10	QI	92	TYR	3.1
46	Y2	71	ASN	3.1
3	QB	133	LYS	3.1
42	YY	81	LYS	3.1
6	XE	21	ALA	3.1
16	XO	62	GLN	3.1
23	RA	1053	C	3.1
23	YA	2798	C	3.1
23	YA	2896	C	3.1
2	QA	1036	G	3.1
23	RA	2106	G	3.1
23	RA	2123	G	3.1
19	QR	46	GLU	3.1
13	XL	25	PRO	3.1
42	RY	90	LEU	3.1
2	XA	344	A	3.1
23	RA	654	A	3.1
23	YA	887	A	3.1
3	XB	217	ARG	3.1
23	YA	277	C	3.1
34	YQ	90	VAL	3.1
40	YW	92	ARG	3.1
3	QB	163	PHE	3.1

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Mol	Chain	Res	Type	RSRZ
36	RS	87	PHE	3.1
42	RY	37	VAL	3.1
28	RG	105	LYS	3.1
29	YH	8	PRO	3.1
42	RY	99	CYS	3.1
42	YY	88	LYS	3.1
23	RA	2110	G	3.1
26	YE	159	HIS	3.1
28	RG	3	LEU	3.1
35	RR	106	GLY	3.1
5	QD	115	ARG	3.1
15	QN	3	ARG	3.1
42	YY	98	VAL	3.1
45	Y1	92	LYS	3.1
50	Y6	45	LYS	3.1
3	QB	58	ILE	3.1
8	XG	120	ILE	3.1
53	R9	26	ILE	3.1
26	YE	78	LEU	3.0
36	RS	2	ALA	3.0
5	XD	73	ARG	3.0
15	QN	51	GLY	3.0
23	YA	1110	G	3.0
33	YP	71	VAL	3.0
15	XN	32	SER	3.0
36	RS	111	GLU	3.0
10	QI	105	ASP	3.0
4	XC	201	TYR	3.0
13	XL	129	ALA	3.0
43	RZ	155	LEU	3.0
52	R8	32	LEU	3.0
23	RA	1086	A	3.0
23	YA	2799	A	3.0
44	R0	3	HIS	3.0
10	XI	9	ARG	3.0
33	YP	16	ARG	3.0
53	Y9	34	GLN	3.0
23	YA	2803	C	3.0
4	QC	151	VAL	3.0
12	XK	127	LYS	3.0
38	RU	90	VAL	3.0
19	QR	83	GLU	3.0

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Mol	Chain	Res	Type	RSRZ
41	RX	38	GLU	3.0
5	XD	67	ILE	3.0
6	QE	125	SER	3.0
30	YI	91	SER	3.0
2	QA	1024	G	3.0
23	RA	2133	G	3.0
42	YY	90	LEU	3.0
43	YZ	113	ALA	3.0
3	QB	217	ARG	3.0
10	XI	117	HIS	3.0
42	YY	99	CYS	3.0
8	XG	84	ASN	3.0
45	Y1	19	GLN	3.0
49	R5	56	LYS	3.0
14	XM	45	VAL	3.0
23	YA	2105	C	3.0
3	QB	202	PRO	3.0
20	XS	22	LEU	3.0
2	QA	1450	U	3.0
4	QC	183	ASP	3.0
23	YA	2150	U	3.0
44	R0	4	LYS	3.0
8	QG	82	GLY	3.0
12	XK	90	GLY	3.0
13	XL	88	GLY	3.0
23	RA	2116	G	3.0
33	RP	70	GLN	3.0
42	RY	98	VAL	3.0
3	QB	57	PHE	3.0
26	YE	163	GLU	3.0
2	QA	1363	A	3.0
2	XA	1280	A	3.0
23	RA	6	A	3.0
53	R9	18	ARG	3.0
5	QD	137	SER	3.0
15	XN	5	ALA	3.0
42	YY	100	ALA	3.0
13	QL	28	LYS	3.0
23	RA	1079	C	3.0
45	R1	96	LYS	3.0
50	R6	8	LYS	3.0
50	R6	21	TYR	3.0

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Mol	Chain	Res	Type	RSRZ
8	QG	33	ASP	3.0
14	QM	17	VAL	3.0
33	YP	143	GLY	3.0
53	R9	21	GLY	3.0
3	QB	152	PHE	3.0
9	QH	86	ILE	3.0
5	QD	135	LEU	2.9
21	XT	62	LEU	2.9
5	QD	3	ARG	2.9
5	QD	156	GLU	2.9
23	YA	276	A	2.9
3	QB	16	HIS	2.9
3	QB	18	GLY	2.9
4	QC	159	GLY	2.9
6	QE	124	GLY	2.9
2	XA	1018	C	2.9
4	QC	14	ILE	2.9
3	QB	44	LEU	2.9
3	QB	67	THR	2.9
21	XT	80	ARG	2.9
21	XT	86	ARG	2.9
50	R6	50	ARG	2.9
10	XI	118	LYS	2.9
13	QL	73	GLU	2.9
31	YN	68	GLU	2.9
52	R8	63	PRO	2.9
52	Y8	44	LYS	2.9
46	R2	72	ALA	2.9
11	XJ	49	VAL	2.9
53	R9	25	VAL	2.9
14	XM	85	GLY	2.9
23	YA	2120	G	2.9
23	YA	2181	G	2.9
43	RZ	88	PHE	2.9
17	QP	29	ASP	2.9
2	QA	1349	A	2.9
23	RA	1085	A	2.9
23	RA	1913	A	2.9
10	XI	29	ASN	2.9
11	XJ	99	LYS	2.9
28	RG	84	LYS	2.9
53	R9	27	CYS	2.9

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Mol	Chain	Res	Type	RSRZ
23	YA	1104	C	2.9
25	YD	30	GLU	2.9
28	YG	142	PRO	2.9
2	QA	723	U	2.9
2	XA	723	U	2.9
23	YA	2109	U	2.9
11	QJ	75	ILE	2.9
3	QB	69	LEU	2.9
11	XJ	66	ARG	2.9
14	XM	19	LEU	2.9
29	RH	3	ARG	2.9
43	YZ	183	LEU	2.9
46	R2	46	GLN	2.9
50	R6	18	ARG	2.9
8	XG	20	ASP	2.9
13	XL	91	LYS	2.9
27	RF	100	THR	2.9
4	QC	166	GLU	2.9
4	XC	169	ALA	2.9
10	QI	21	PRO	2.9
14	XM	97	PRO	2.9
8	XG	105	VAL	2.9
2	QA	466	C	2.9
2	XA	63	C	2.9
21	QT	8	ARG	2.9
29	YH	59	ARG	2.9
10	XI	116	LYS	2.9
20	QS	32	LYS	2.9
26	RE	54	GLN	2.9
9	XH	4	ASP	2.9
48	R4	65	ASP	2.9
13	XL	26	ALA	2.9
25	YD	93	ALA	2.9
44	Y0	2	ALA	2.9
6	QE	105	VAL	2.9
36	RS	98	VAL	2.9
2	QA	1000	A	2.9
22	QU	18	TYR	2.9
22	XU	24	ARG	2.9
26	YE	76	ARG	2.9
15	QN	4	LYS	2.9
22	XU	25	LYS	2.9

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Mol	Chain	Res	Type	RSRZ
23	RA	1847	A	2.9
25	RD	64	ILE	2.9
45	R1	97	LEU	2.9
50	Y6	46	HIS	2.8
2	QA	1040	U	2.8
3	QB	210	SER	2.8
46	Y2	43	GLN	2.8
4	XC	200	ALA	2.8
14	QM	2	ALA	2.8
29	RH	8	PRO	2.8
5	QD	8	VAL	2.8
33	RP	61	ARG	2.8
49	Y5	55	ARG	2.8
52	R8	46	ARG	2.8
50	R6	13	CYS	2.8
4	QC	9	GLY	2.8
13	QL	32	PHE	2.8
36	RS	33	LYS	2.8
52	R8	41	ILE	2.8
23	RA	2629	A	2.8
4	QC	168	ALA	2.8
8	XG	83	ALA	2.8
2	QA	1150	U	2.8
2	QA	1364	U	2.8
23	RA	2132	U	2.8
23	YA	2894	G	2.8
29	YH	118	PRO	2.8
2	QA	88	C	2.8
2	XA	1362(A)	C	2.8
3	XB	15	VAL	2.8
6	XE	122	GLU	2.8
34	RQ	48	GLU	2.8
34	RQ	139	GLU	2.8
48	R4	27	THR	2.8
50	Y6	47	THR	2.8
23	YA	1914	C	2.8
4	XC	167	TRP	2.8
3	QB	201	ILE	2.8
5	XD	110	PHE	2.8
5	XD	120	LEU	2.8
10	XI	77	ILE	2.8
29	RH	31	GLY	2.8

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Mol	Chain	Res	Type	RSRZ
43	RZ	183	LEU	2.8
17	QP	39	TYR	2.8
42	RY	102	CYS	2.8
6	QE	21	ALA	2.8
29	YH	155	SER	2.8
6	XE	18	ARG	2.8
22	XU	7	ARG	2.8
3	XB	93	VAL	2.8
26	YE	21	VAL	2.8
2	QA	1111	A	2.8
5	XD	102	ASP	2.8
10	XI	105	ASP	2.8
23	RA	1177	A	2.8
3	QB	172	ILE	2.8
14	QM	100	GLY	2.8
14	QM	119	GLY	2.8
17	XP	39	TYR	2.8
23	RA	2803	C	2.8
23	YA	2804	C	2.8
49	R5	52	TYR	2.8
20	XS	69	HIS	2.8
15	QN	5	ALA	2.8
14	XM	99	ARG	2.8
15	QN	12	ARG	2.8
14	QM	113	PRO	2.8
14	XM	27	LYS	2.8
37	YT	106	SER	2.8
9	QH	99	GLU	2.8
3	QB	222	ILE	2.8
9	XH	109	ILE	2.8
14	XM	16	ASP	2.8
20	XS	31	ILE	2.8
43	RZ	148	ASP	2.8
52	R8	34	TRP	2.8
3	QB	99	GLY	2.8
25	RD	235	GLY	2.8
2	XA	87	A	2.8
23	RA	890	A	2.8
23	YA	2122	U	2.8
11	QJ	60	ARG	2.8
18	XQ	101	ARG	2.8
2	XA	984	C	2.8

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Mol	Chain	Res	Type	RSRZ
8	QG	2	ALA	2.8
8	QG	116	ALA	2.8
42	YY	50	ARG	2.8
8	XG	106	GLN	2.8
23	RA	2161	C	2.8
42	YY	63	LYS	2.8
2	QA	1003	G	2.8
2	XA	220	G	2.8
2	XA	1131	G	2.8
7	QF	85	VAL	2.8
14	QM	7	VAL	2.8
23	RA	2893	G	2.8
34	RQ	90	VAL	2.8
4	QC	196	LEU	2.8
4	XC	52	LEU	2.8
26	RE	78	LEU	2.8
8	QG	27	ILE	2.8
11	QJ	74	ILE	2.8
20	XS	40	ILE	2.8
22	QU	13	ILE	2.8
21	XT	85	MET	2.7
20	XS	68	GLY	2.7
17	XP	14	ASN	2.7
42	RY	55	TYR	2.7
11	XJ	43	ARG	2.7
43	RZ	54	HIS	2.7
10	XI	46	ALA	2.7
36	RS	57	LYS	2.7
44	R0	2	ALA	2.7
2	QA	1126	U	2.7
2	XA	1159	U	2.7
2	XA	1302	U	2.7
23	YA	2114	A	2.7
9	XH	5	PRO	2.7
38	RU	95	LEU	2.7
25	RD	28	GLU	2.7
28	YG	137	GLU	2.7
29	YH	2	SER	2.7
10	QI	64	THR	2.7
11	XJ	42	THR	2.7
32	YO	108	GLU	2.7
5	XD	124	GLY	2.7

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Mol	Chain	Res	Type	RSRZ
27	YF	131	GLY	2.7
23	RA	10	G	2.7
23	RA	2181	G	2.7
44	Y0	5	LYS	2.7
20	XS	75	ALA	2.7
38	RU	96	ALA	2.7
29	RH	17	VAL	2.7
44	R0	7	LEU	2.7
4	QC	124	ILE	2.7
6	XE	118	ILE	2.7
8	QG	42	ILE	2.7
43	YZ	146	ILE	2.7
48	R4	42	PHE	2.7
38	RU	89	GLU	2.7
52	R8	56	GLU	2.7
2	XA	532	A	2.7
4	QC	154	SER	2.7
5	QD	91	SER	2.7
10	XI	126	SER	2.7
18	QQ	99	SER	2.7
23	YA	654(V)	A	2.7
34	RQ	19	GLY	2.7
12	QK	123	LYS	2.7
25	RD	38	LYS	2.7
2	QA	1282	C	2.7
2	XA	219	C	2.7
3	XB	189	ASP	2.7
23	YA	1052	C	2.7
36	RS	92	TYR	2.7
20	QS	69	HIS	2.7
20	XS	23	ASN	2.7
29	RH	75	ALA	2.7
31	RN	57	ALA	2.7
3	QB	102	LEU	2.7
4	QC	87	LEU	2.7
4	XC	175	LEU	2.7
5	XD	155	LEU	2.7
17	XP	6	LEU	2.7
25	RD	177	LEU	2.7
29	RH	7	LEU	2.7
18	XQ	28	PRO	2.7
23	RA	2124	G	2.7

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Mol	Chain	Res	Type	RSRZ
23	RA	2168	G	2.7
23	YA	2125	G	2.7
23	YA	2149	G	2.7
50	R6	41	PRO	2.7
51	R7	36	GLN	2.7
11	XJ	4	ILE	2.7
42	YY	76	CYS	2.7
42	YY	102	CYS	2.7
5	XD	130	GLY	2.7
10	XI	107	ARG	2.7
29	RH	155	SER	2.7
23	YA	2585	U	2.7
3	XB	218	ALA	2.7
28	YG	50	ALA	2.7
38	RU	91	ASP	2.7
49	R5	51	TYR	2.7
7	QF	37	VAL	2.7
26	RE	21	VAL	2.7
26	YE	66	HIS	2.7
44	Y0	7	LEU	2.7
3	QB	131	PRO	2.7
3	QB	159	PRO	2.7
20	XS	56	GLN	2.7
28	RG	52	ILE	2.7
29	RH	136	ILE	2.7
33	YP	72	PRO	2.7
3	XB	28	PHE	2.7
10	QI	42	ARG	2.7
16	XO	63	ARG	2.7
28	YG	91	ARG	2.7
51	R7	41	ARG	2.7
8	XG	36	LYS	2.7
39	YV	53	GLU	2.7
42	RY	21	LYS	2.7
45	R1	84	GLY	2.7
23	RA	2165	G	2.7
2	XA	65	U	2.7
10	QI	62	TYR	2.7
11	QJ	101	VAL	2.7
14	QM	98	VAL	2.7
36	RS	54	LEU	2.7
43	RZ	125	LEU	2.7

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Mol	Chain	Res	Type	RSRZ
6	XE	89	ILE	2.6
12	QK	21	ILE	2.6
14	QM	4	ILE	2.6
23	YA	1379	A	2.6
28	RG	41	GLN	2.6
36	YS	30	ARG	2.6
41	RX	63	LYS	2.6
25	RD	238	GLY	2.6
44	Y0	6	GLY	2.6
2	QA	1223	C	2.6
23	RA	2791	C	2.6
5	QD	127	THR	2.6
19	QR	69	THR	2.6
3	QB	71	VAL	2.6
4	QC	103	VAL	2.6
14	XM	7	VAL	2.6
50	R6	34	LEU	2.6
15	QN	49	HIS	2.6
12	XK	81	ASP	2.6
48	Y4	65	ASP	2.6
2	QA	1148	U	2.6
3	XB	133	LYS	2.6
5	QD	151	LYS	2.6
12	XK	124	LYS	2.6
29	RH	170	ARG	2.6
37	YT	93	ARG	2.6
51	Y7	1	MET	2.6
22	XU	11	GLY	2.6
2	QA	974	A	2.6
2	QA	1236	A	2.6
28	YG	35	GLU	2.6
52	Y8	65	GLU	2.6
42	RY	83	THR	2.6
5	QD	94	LEU	2.6
5	QD	164	ALA	2.6
29	YH	24	VAL	2.6
48	R4	9	LEU	2.6
25	YD	12	SER	2.6
5	XD	118	ARG	2.6
13	QL	99	HIS	2.6
29	YH	9	ILE	2.6
34	RQ	22	LYS	2.6

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Mol	Chain	Res	Type	RSRZ
44	Y0	4	LYS	2.6
49	Y5	40	LYS	2.6
49	Y5	56	LYS	2.6
50	R6	7	ILE	2.6
53	R9	31	LYS	2.6
10	QI	33	PHE	2.6
20	QS	2	PRO	2.6
28	RG	142	PRO	2.6
43	RZ	167	PRO	2.6
3	XB	195	ASP	2.6
4	XC	183	ASP	2.6
5	XD	154	ASN	2.6
42	RY	57	GLN	2.6
35	RR	7	GLY	2.6
48	Y4	54	GLY	2.6
2	XA	1364	U	2.6
2	QA	630	G	2.6
3	XB	107	THR	2.6
28	RG	162	THR	2.6
30	YI	9	LEU	2.6
4	QC	76	VAL	2.6
29	YH	169	VAL	2.6
53	Y9	14	CYS	2.6
15	QN	31	ARG	2.6
17	XP	8	ARG	2.6
23	RA	1077	A	2.6
36	RS	13	ARG	2.6
37	RT	3	ARG	2.6
45	R1	92	LYS	2.6
48	Y4	68	ARG	2.6
50	R6	19	ARG	2.6
4	QC	77	ILE	2.6
5	QD	208	SER	2.6
5	XD	4	TYR	2.6
10	QI	125	TYR	2.6
20	QS	4	SER	2.6
12	QK	113	PRO	2.6
13	XL	94	PRO	2.6
2	XA	962	C	2.6
6	QE	117	ASP	2.6
46	Y2	70	GLN	2.6
26	RE	124	GLY	2.6

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Mol	Chain	Res	Type	RSRZ
29	RH	120	GLY	2.6
43	YZ	147	GLY	2.6
53	Y9	21	GLY	2.6
11	XJ	88	LEU	2.6
26	YE	73	GLU	2.6
34	RQ	91	GLU	2.6
3	QB	165	VAL	2.6
5	QD	128	VAL	2.6
7	XF	88	VAL	2.6
7	XF	90	VAL	2.6
10	XI	108	VAL	2.6
18	XQ	35	VAL	2.6
42	YY	85	VAL	2.6
12	XK	12	ARG	2.6
22	QU	17	THR	2.6
15	QN	42	ILE	2.6
27	RF	186	ILE	2.6
27	RF	206	ILE	2.6
17	XP	17	TYR	2.6
21	QT	11	SER	2.6
23	YA	2162	G	2.6
43	YZ	52	SER	2.6
14	QM	24	GLY	2.6
43	YZ	114	GLY	2.6
5	QD	77	ASN	2.6
20	XS	30	LEU	2.6
30	YI	7	GLU	2.6
34	YQ	91	GLU	2.6
4	XC	113	ALA	2.6
12	QK	89	ALA	2.6
22	XU	3	LYS	2.6
17	XP	19	ILE	2.5
46	Y2	50	ILE	2.5
5	QD	31	CYS	2.5
29	RH	10	PRO	2.5
9	QH	71	GLY	2.5
33	YP	116	GLY	2.5
11	XJ	71	LEU	2.5
20	XS	5	LEU	2.5
31	RN	116	LEU	2.5
5	XD	132	ARG	2.5
8	XG	37	ASN	2.5

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Mol	Chain	Res	Type	RSRZ
11	QJ	44	VAL	2.5
13	QL	91	LYS	2.5
13	QL	101	VAL	2.5
20	XS	55	LYS	2.5
2	QA	1151	A	2.5
4	XC	19	GLU	2.5
8	XG	66	VAL	2.5
23	YA	10	G	2.5
26	RE	69	LYS	2.5
30	YI	144	VAL	2.5
33	YP	61	ARG	2.5
38	YU	56	ASP	2.5
53	Y9	9	ARG	2.5
13	QL	51	ALA	2.5
43	RZ	109	ALA	2.5
6	XE	101	ILE	2.5
9	QH	80	ILE	2.5
14	XM	4	ILE	2.5
17	XP	48	TRP	2.5
2	XA	163	C	2.5
3	XB	70	PHE	2.5
17	XP	9	PHE	2.5
23	RA	2107	C	2.5
3	QB	234	PRO	2.5
15	XN	21	TYR	2.5
29	RH	118	PRO	2.5
5	XD	26	CYS	2.5
50	R6	16	CYS	2.5
5	QD	83	SER	2.5
2	XA	1020	U	2.5
8	QG	16	LEU	2.5
11	QJ	8	LEU	2.5
14	XM	112	GLY	2.5
22	QU	16	GLY	2.5
22	XU	2	GLY	2.5
23	RA	614	U	2.5
44	R0	8	GLY	2.5
52	R8	35	GLN	2.5
52	R8	61	LEU	2.5
5	QD	166	LYS	2.5
28	RG	8	LYS	2.5
30	RI	45	LYS	2.5

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Mol	Chain	Res	Type	RSRZ
33	RP	36	LYS	2.5
51	R7	23	ARG	2.5
49	Y5	57	VAL	2.5
3	XB	77	ALA	2.5
4	QC	161	GLU	2.5
8	XG	2	ALA	2.5
11	XJ	58	ASP	2.5
14	QM	42	ALA	2.5
30	YI	41	GLU	2.5
43	RZ	164	ALA	2.5
50	Y6	12	GLU	2.5
3	QB	42	ILE	2.5
5	XD	158	ILE	2.5
17	QP	36	ILE	2.5
3	QB	47	THR	2.5
3	XB	63	MET	2.5
4	QC	191	THR	2.5
34	RQ	1	MET	2.5
2	QA	1001	G	2.5
2	QA	1124	G	2.5
2	XA	963	G	2.5
8	XG	14	PRO	2.5
42	YY	77	PRO	2.5
43	RZ	99	TYR	2.5
11	QJ	90	LEU	2.5
21	QT	103	GLY	2.5
21	XT	68	LYS	2.5
23	RA	1049	C	2.5
25	RD	35	LYS	2.5
29	RH	6	ARG	2.5
50	Y6	9	LEU	2.5
50	Y6	11	LEU	2.5
53	R9	22	ARG	2.5
21	QT	18	GLN	2.5
46	Y2	4	SER	2.5
11	XJ	44	VAL	2.5
4	XC	160	ALA	2.5
6	QE	81	GLU	2.5
14	XM	32	GLU	2.5
23	RA	1105	U	2.5
28	YG	59	GLU	2.5
45	Y1	89	GLU	2.5

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Mol	Chain	Res	Type	RSRZ
17	XP	36	ILE	2.5
38	YU	97	ASP	2.5
50	Y6	26	ASN	2.5
8	XG	62	PHE	2.5
52	R8	53	PRO	2.5
52	Y8	63	PRO	2.5
3	XB	132	LYS	2.5
8	QG	79	ARG	2.5
8	XG	3	ARG	2.5
8	XG	32	ARG	2.5
10	QI	10	ARG	2.5
10	QI	79	LEU	2.5
14	XM	96	LEU	2.5
21	XT	24	LEU	2.5
2	QA	532	A	2.5
2	XA	611	A	2.5
23	RA	276	A	2.5
42	RY	93	GLY	2.5
29	RH	24	VAL	2.5
13	XL	116	SER	2.5
20	XS	4	SER	2.5
21	XT	70	SER	2.5
23	YA	2211	G	2.5
29	RH	38	SER	2.5
29	YH	63	SER	2.5
33	RP	74	GLU	2.5
8	XG	43	PHE	2.5
17	XP	29	ASP	2.5
42	YY	92	ASN	2.5
5	QD	19	LEU	2.5
5	XD	209	ARG	2.5
6	XE	126	ARG	2.5
11	XJ	40	LEU	2.5
15	XN	41	ARG	2.5
50	R6	45	LYS	2.5
52	Y8	29	LYS	2.5
43	RZ	144	LEU	2.5
11	XJ	62	HIS	2.5
12	QK	22	HIS	2.5
17	QP	13	HIS	2.5
3	QB	228	GLY	2.5
3	XB	72	GLY	2.5

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Mol	Chain	Res	Type	RSRZ
10	QI	39	GLY	2.5
11	XJ	24	VAL	2.5
26	RE	131	ALA	2.4
28	YG	73	ALA	2.4
13	XL	37	CYS	2.4
28	YG	88	ILE	2.4
50	Y6	7	ILE	2.4
2	QA	1287	A	2.4
2	XA	1000	A	2.4
9	XH	77	GLU	2.4
14	QM	8	GLU	2.4
23	YA	2169	A	2.4
28	RG	137	GLU	2.4
11	QJ	54	PHE	2.4
3	QB	132	LYS	2.4
4	XC	26	LYS	2.4
6	QE	73	ASN	2.4
14	XM	88	ARG	2.4
15	QN	23	ARG	2.4
18	XQ	63	ARG	2.4
22	QU	25	LYS	2.4
28	RG	36	LYS	2.4
39	RV	68	LYS	2.4
42	YY	2	ARG	2.4
50	Y6	37	ARG	2.4
14	QM	103	THR	2.4
1	QX	0	C	2.4
2	QA	971	G	2.4
2	QA	1284	C	2.4
2	XA	347	G	2.4
9	QH	39	LEU	2.4
9	QH	112	LEU	2.4
21	XT	10	LEU	2.4
23	RA	1071	G	2.4
42	YY	53	PRO	2.4
14	QM	87	TYR	2.4
28	RG	109	VAL	2.4
44	Y0	8	GLY	2.4
10	QI	87	GLN	2.4
8	XG	30	ILE	2.4
11	XJ	23	ILE	2.4
38	RU	77	SER	2.4

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Mol	Chain	Res	Type	RSRZ
46	R2	66	GLU	2.4
17	XP	12	LYS	2.4
29	RH	25	LYS	2.4
48	R4	2	LYS	2.4
6	QE	12	LEU	2.4
11	XJ	16	LEU	2.4
28	RG	152	LEU	2.4
45	R1	80	LEU	2.4
4	QC	165	THR	2.4
15	QN	13	THR	2.4
20	QS	65	ASN	2.4
40	YW	60	ASN	2.4
23	RA	2790	A	2.4
23	YA	229	A	2.4
23	YA	896	A	2.4
3	QB	65	GLY	2.4
6	QE	67	VAL	2.4
29	YH	45	VAL	2.4
2	QA	1027	C	2.4
2	XA	1149	C	2.4
8	XG	7	ALA	2.4
2	QA	631	G	2.4
2	QA	950	U	2.4
2	QA	1194	U	2.4
12	XK	21	ILE	2.4
9	QH	33	GLU	2.4
11	XJ	63	PHE	2.4
15	QN	16	PHE	2.4
16	QO	64	ARG	2.4
21	XT	58	LYS	2.4
34	RQ	98	LYS	2.4
47	Y3	60	GLU	2.4
11	XJ	35	SER	2.4
9	QH	24	THR	2.4
28	RG	27	ASN	2.4
29	YH	168	PRO	2.4
10	XI	14	VAL	2.4
19	XR	86	VAL	2.4
20	QS	41	VAL	2.4
21	QT	64	ASP	2.4
27	YF	132	VAL	2.4
28	RG	37	VAL	2.4

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Mol	Chain	Res	Type	RSRZ
3	QB	148	TYR	2.4
8	XG	18	TYR	2.4
16	QO	50	HIS	2.4
20	QS	82	GLY	2.4
48	R4	64	GLY	2.4
12	XK	23	ALA	2.4
21	QT	12	ALA	2.4
2	XA	1092	A	2.4
29	RH	89	ILE	2.4
5	XD	30	LYS	2.4
33	RP	38	GLN	2.4
8	QG	32	ARG	2.4
42	RY	94	LYS	2.4
49	R5	19	ARG	2.4
2	QA	972	C	2.4
2	QA	1218	C	2.4
2	QA	1235	U	2.4
3	QB	155	LEU	2.4
23	RA	2105	C	2.4
23	YA	2118	U	2.4
23	YA	2129	C	2.4
29	YH	32	GLU	2.4
52	Y8	54	GLU	2.4
48	R4	26	SER	2.4
2	XA	1001	G	2.4
23	RA	530	G	2.4
23	YA	2133	G	2.4
4	QC	68	VAL	2.4
4	XC	165	THR	2.4
4	XC	174	PRO	2.4
9	XH	3	THR	2.4
11	XJ	67	THR	2.4
48	R4	24	THR	2.4
3	QB	203	GLY	2.4
18	QQ	80	GLY	2.4
20	QS	13	ASP	2.4
33	YP	87	ASP	2.4
53	R9	12	ASP	2.4
53	Y9	20	HIS	2.4
13	QL	128	ALA	2.4
26	YE	77	ILE	2.4
30	RI	115	ALA	2.4

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Mol	Chain	Res	Type	RSRZ
34	RQ	66	ILE	2.4
41	YX	34	ALA	2.4
21	QT	21	LYS	2.4
36	YS	11	LYS	2.4
10	QI	104	ARG	2.4
17	QP	42	ARG	2.4
22	QU	7	ARG	2.4
22	QU	22	ARG	2.4
29	RH	152	ARG	2.4
3	QB	149	LEU	2.4
3	XB	11	LEU	2.4
16	QO	67	LEU	2.4
29	RH	64	LEU	2.4
23	YA	1510	A	2.4
20	XS	35	SER	2.4
23	RA	1094	U	2.4
23	YA	1097	U	2.4
23	YA	2113	U	2.4
28	RG	38	VAL	2.4
39	YV	37	VAL	2.4
42	YY	15	VAL	2.4
2	XA	1244	C	2.3
12	QK	41	THR	2.3
23	RA	889	C	2.3
13	QL	87	GLY	2.3
36	RS	109	GLY	2.3
3	QB	188	ALA	2.3
4	QC	150	LYS	2.3
11	XJ	55	LYS	2.3
14	XM	39	ILE	2.3
15	XN	20	ALA	2.3
17	QP	16	HIS	2.3
17	QP	75	ARG	2.3
20	QS	75	ALA	2.3
25	RD	263	ARG	2.3
26	RE	187	ALA	2.3
29	RH	73	ALA	2.3
29	RH	162	ILE	2.3
36	RS	61	ASN	2.3
50	R6	46	HIS	2.3
25	RD	122	ASP	2.3
33	RP	16	ARG	2.3

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Mol	Chain	Res	Type	RSRZ
36	RS	7	TYR	2.3
41	RX	65	ARG	2.3
2	QA	1131	G	2.3
23	YA	2795	G	2.3
5	XD	157	LEU	2.3
8	QG	59	LEU	2.3
34	RQ	104	PHE	2.3
46	R2	35	LEU	2.3
46	Y2	12	GLU	2.3
5	XD	112	VAL	2.3
29	YH	52	VAL	2.3
48	R4	56	VAL	2.3
29	RH	154	PRO	2.3
48	R4	11	PRO	2.3
2	XA	1183	A	2.3
14	XM	120	LYS	2.3
16	QO	48	LYS	2.3
23	RA	1050	A	2.3
3	QB	68	ILE	2.3
3	XB	96	ARG	2.3
6	XE	98	THR	2.3
42	RY	46	LYS	2.3
33	YP	90	ARG	2.3
42	RY	59	GLY	2.3
43	RZ	170	THR	2.3
44	R0	6	GLY	2.3
48	R4	28	LYS	2.3
8	XG	116	ALA	2.3
21	XT	41	ILE	2.3
48	R4	14	ILE	2.3
50	R6	14	THR	2.3
41	RX	4	ALA	2.3
43	RZ	55	HIS	2.3
2	QA	1065	U	2.3
4	QC	201	TYR	2.3
23	RA	1090	U	2.3
33	RP	67	MET	2.3
2	QA	1128	C	2.3
23	YA	2145	C	2.3
38	YU	91	ASP	2.3
3	QB	98	LEU	2.3
48	Y4	49	PHE	2.3

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Mol	Chain	Res	Type	RSRZ
2	XA	1024	G	2.3
3	QB	229	VAL	2.3
23	RA	101	G	2.3
23	RA	1110	G	2.3
23	RA	2148	G	2.3
53	R9	23	VAL	2.3
54	QV	38	G	2.3
8	XG	29	LYS	2.3
11	QJ	55	LYS	2.3
5	QD	139	ARG	2.3
8	QG	6	ARG	2.3
14	QM	104	ARG	2.3
14	XM	114	ARG	2.3
29	YH	12	PRO	2.3
53	Y9	4	ARG	2.3
3	QB	233	SER	2.3
12	XK	42	TRP	2.3
32	YO	22	ILE	2.3
14	QM	33	ALA	2.3
28	RG	50	ALA	2.3
43	YZ	153	SER	2.3
14	XM	87	TYR	2.3
49	Y5	51	TYR	2.3
20	XS	53	ASN	2.3
28	RG	62	LEU	2.3
50	Y6	34	LEU	2.3
2	XA	977	A	2.3
23	RA	2892	A	2.3
3	QB	160	ASP	2.3
13	XL	112	ASP	2.3
14	XM	8	GLU	2.3
49	Y5	48	GLU	2.3
3	QB	174	VAL	2.3
15	QN	18	VAL	2.3
15	QN	56	VAL	2.3
23	YA	889	C	2.3
23	YA	2103	C	2.3
29	RH	43	VAL	2.3
31	YN	62	VAL	2.3
48	R4	10	VAL	2.3
48	Y4	50	VAL	2.3
21	XT	83	ARG	2.3

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Mol	Chain	Res	Type	RSRZ
20	XS	49	ILE	2.3
10	XI	119	ALA	2.3
4	XC	192	THR	2.3
17	QP	44	THR	2.3
29	RH	2	SER	2.3
21	XT	104	LEU	2.3
29	RH	61	HIS	2.3
39	YV	35	LEU	2.3
2	XA	1300	G	2.3
15	QN	34	TYR	2.3
23	RA	1534	G	2.3
3	QB	114	ARG	2.3
6	QE	122	GLU	2.3
14	XM	53	VAL	2.3
18	XQ	78	GLU	2.3
23	RA	1048	A	2.3
23	YA	2892	A	2.3
26	YE	72	VAL	2.3
39	YV	46	VAL	2.3
42	YY	86	ARG	2.3
43	YZ	165	VAL	2.3
50	R6	37	ARG	2.3
2	XA	1301	U	2.3
23	RA	1026	U	2.3
23	RA	2180	U	2.3
23	YA	2506	U	2.3
29	RH	36	PRO	2.3
14	XM	30	ALA	2.3
25	YD	235	GLY	2.3
33	RP	12	ALA	2.3
39	YV	48	GLY	2.3
2	XA	1325	C	2.3
23	RA	2103	C	2.3
4	QC	101	LEU	2.3
22	QU	8	THR	2.3
48	Y4	27	THR	2.3
3	XB	210	SER	2.3
33	RP	108	LYS	2.3
50	R6	25	LYS	2.3
10	XI	121	ARG	2.3
31	YN	115	ARG	2.3
42	RY	2	ARG	2.3

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Mol	Chain	Res	Type	RSRZ
3	QB	230	VAL	2.3
9	QH	95	VAL	2.3
10	XI	26	VAL	2.3
11	QJ	49	VAL	2.3
26	RE	83	ASP	2.3
38	RU	56	ASP	2.3
11	QJ	64	GLU	2.2
17	QP	54	GLU	2.2
30	RI	7	GLU	2.2
43	YZ	84	GLU	2.2
23	YA	1071	G	2.2
5	QD	29	PRO	2.2
17	QP	10	GLY	2.2
20	QS	68	GLY	2.2
38	RU	87	GLY	2.2
38	YU	96	ALA	2.2
2	QA	1212	U	2.2
2	XA	974	A	2.2
2	XA	1025	U	2.2
2	XA	1201	A	2.2
11	QJ	88	LEU	2.2
17	XP	49	LEU	2.2
23	RA	1510	A	2.2
23	YA	614	U	2.2
23	YA	2132	U	2.2
52	Y8	62	LEU	2.2
3	QB	70	PHE	2.2
10	QI	7	THR	2.2
28	RG	161	THR	2.2
22	XU	12	LYS	2.2
10	QI	121	ARG	2.2
11	XJ	70	ARG	2.2
23	RA	34	C	2.2
23	RA	1075	C	2.2
23	RA	2136	C	2.2
23	YA	897	C	2.2
23	YA	1053	C	2.2
25	RD	262	ARG	2.2
25	RD	273	ARG	2.2
48	Y4	58	ARG	2.2
3	QB	112	VAL	2.2
10	QI	53	VAL	2.2

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Mol	Chain	Res	Type	RSRZ
14	QM	53	VAL	2.2
20	QS	9	VAL	2.2
38	RU	110	VAL	2.2
43	YZ	174	VAL	2.2
45	Y1	74	VAL	2.2
53	R9	34	GLN	2.2
49	Y5	49	CYS	2.2
20	QS	12	ASP	2.2
32	RO	108	GLU	2.2
3	QB	162	ILE	2.2
3	XB	80	ILE	2.2
19	XR	65	ILE	2.2
37	YT	42	ILE	2.2
3	XB	90	MET	2.2
5	QD	136	PRO	2.2
4	QC	43	LEU	2.2
6	QE	71	LEU	2.2
12	QK	63	LEU	2.2
17	XP	7	ALA	2.2
29	RH	165	ALA	2.2
29	YH	78	GLY	2.2
30	RI	6	LEU	2.2
42	RY	103	GLY	2.2
48	R4	54	GLY	2.2
2	XA	1108	G	2.2
16	QO	47	LYS	2.2
23	YA	615	G	2.2
23	YA	2141	G	2.2
23	YA	2833	G	2.2
25	RD	39	LYS	2.2
26	RE	152	LYS	2.2
48	Y4	40	HIS	2.2
2	QA	65	U	2.2
3	XB	199	TYR	2.2
4	QC	88	ARG	2.2
5	XD	66	ARG	2.2
23	RA	12	U	2.2
23	RA	1078	U	2.2
25	YD	176	ARG	2.2
2	QA	1130	A	2.2
2	XA	949	A	2.2
23	RA	1098	A	2.2

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Mol	Chain	Res	Type	RSRZ
23	YA	1088	A	2.2
9	QH	129	VAL	2.2
10	QI	44	VAL	2.2
20	XS	19	VAL	2.2
29	RH	49	VAL	2.2
49	R5	60	VAL	2.2
4	XC	162	GLN	2.2
44	Y0	17	GLN	2.2
42	RY	92	ASN	2.2
37	YT	11	GLU	2.2
50	R6	43	CYS	2.2
2	QA	979	C	2.2
4	QC	142	MET	2.2
9	QH	4	ASP	2.2
8	XG	93	PRO	2.2
10	XI	43	ALA	2.2
20	QS	5	LEU	2.2
20	XS	12	ASP	2.2
27	RF	113	ALA	2.2
29	RH	135	GLY	2.2
36	YS	86	ALA	2.2
15	XN	15	LYS	2.2
38	RU	93	LYS	2.2
18	QQ	71	PHE	2.2
27	RF	172	TRP	2.2
34	YQ	104	PHE	2.2
11	QJ	66	ARG	2.2
13	XL	113	ARG	2.2
29	RH	59	ARG	2.2
38	RU	28	ARG	2.2
10	XI	27	THR	2.2
17	XP	13	HIS	2.2
41	YX	3	THR	2.2
14	QM	21	TYR	2.2
36	YS	92	TYR	2.2
5	QD	178	VAL	2.2
50	Y6	5	VAL	2.2
15	QN	60	SER	2.2
17	XP	76	GLN	2.2
23	RA	2144	U	2.2
3	XB	58	ILE	2.2
2	XA	1207	G	2.2

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Mol	Chain	Res	Type	RSRZ
23	YA	2148	G	2.2
23	YA	2151	G	2.2
6	XE	123	LEU	2.2
14	QM	81	LEU	2.2
25	RD	237	GLU	2.2
28	YG	3	LEU	2.2
36	RS	4	LEU	2.2
43	YZ	144	LEU	2.2
45	Y1	75	GLU	2.2
52	R8	54	GLU	2.2
52	Y8	61	LEU	2.2
3	XB	159	PRO	2.2
17	XP	37	GLY	2.2
21	XT	12	ALA	2.2
42	YY	41	GLY	2.2
13	XL	21	LYS	2.2
43	YZ	127	LYS	2.2
3	QB	17	PHE	2.2
15	QN	37	PHE	2.2
17	QP	28	ARG	2.2
17	XP	42	ARG	2.2
20	QS	74	PHE	2.2
21	QT	25	ARG	2.2
50	R6	44	ARG	2.2
2	QA	612	C	2.2
17	QP	69	THR	2.2
27	RF	75	HIS	2.2
30	YI	107	VAL	2.2
3	QB	5	ILE	2.2
5	QD	158	ILE	2.2
12	QK	24	SER	2.2
36	RS	53	SER	2.2
10	XI	12	GLU	2.2
18	QQ	96	GLU	2.2
14	XM	111	LYS	2.2
2	QA	1205	U	2.2
5	XD	23	GLY	2.2
9	QH	74	PRO	2.2
25	RD	47	GLY	2.2
29	YH	10	PRO	2.2
43	RZ	78	LYS	2.2
43	YZ	143	GLY	2.2

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Mol	Chain	Res	Type	RSRZ
50	R6	17	LYS	2.2
15	XN	29	ARG	2.2
20	XS	81	ARG	2.2
25	YD	262	ARG	2.2
34	RQ	59	ARG	2.2
3	QB	181	PHE	2.2
11	QJ	58	ASP	2.2
43	RZ	179	ASP	2.2
48	Y4	36	CYS	2.2
2	QA	1183	A	2.2
23	YA	529	A	2.2
23	YA	2101	G	2.2
20	XS	47	HIS	2.2
5	XD	178	VAL	2.1
6	QE	98	THR	2.1
10	XI	7	THR	2.1
11	QJ	48	THR	2.1
18	QQ	35	VAL	2.1
20	QS	33	THR	2.1
20	XS	33	THR	2.1
20	XS	60	VAL	2.1
42	YY	42	VAL	2.1
49	Y5	60	VAL	2.1
10	XI	114	TYR	2.1
20	QS	52	TYR	2.1
4	XC	202	ILE	2.1
10	QI	77	ILE	2.1
20	QS	49	ILE	2.1
23	RA	1080	C	2.1
53	R9	10	ILE	2.1
25	RD	46	GLN	2.1
33	YP	59	LEU	2.1
33	YP	62	LEU	2.1
37	RT	90	GLN	2.1
20	XS	7	LYS	2.1
26	YE	152	LYS	2.1
28	YG	36	LYS	2.1
35	YR	1	MET	2.1
42	YY	46	LYS	2.1
4	XC	189	ALA	2.1
15	QN	20	ALA	2.1
15	XN	12	ARG	2.1

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Mol	Chain	Res	Type	RSRZ
30	YI	122	GLU	2.1
46	R2	55	ARG	2.1
52	R8	40	GLU	2.1
26	RE	65	GLY	2.1
52	R8	42	ARG	2.1
28	YG	132	ASN	2.1
20	XS	74	PHE	2.1
23	YA	12	U	2.1
39	RV	26	ASP	2.1
11	XJ	94	VAL	2.1
18	QQ	11	VAL	2.1
27	YF	172	TRP	2.1
28	RG	92	VAL	2.1
11	XJ	92	THR	2.1
14	XM	84	ILE	2.1
23	RA	2476	A	2.1
27	YF	82	ILE	2.1
30	RI	51	ILE	2.1
30	YI	79	ILE	2.1
4	QC	135	LYS	2.1
4	QC	188	LEU	2.1
5	XD	176	LEU	2.1
6	QE	31	LEU	2.1
15	QN	47	LEU	2.1
28	YG	139	LEU	2.1
30	YI	121	LYS	2.1
42	RY	47	LYS	2.1
49	R5	40	LYS	2.1
2	QA	1190	G	2.1
2	XA	388	G	2.1
2	XA	631	G	2.1
2	XA	1453	G	2.1
34	YQ	7	MET	2.1
46	R2	43	GLN	2.1
52	R8	25	MET	2.1
3	QB	175	ARG	2.1
8	QG	40	ALA	2.1
11	XJ	20	ALA	2.1
28	RG	46	ALA	2.1
34	RQ	20	ALA	2.1
37	RT	91	ARG	2.1
9	QH	130	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
26	RE	22	PRO	2.1
30	RI	16	GLY	2.1
43	RZ	168	GLU	2.1
52	Y8	56	GLU	2.1
2	XA	1112	C	2.1
23	RA	2145	C	2.1
54	QV	34	C	2.1
8	XG	9	VAL	2.1
33	RP	47	ASP	2.1
48	R4	35	VAL	2.1
49	R5	49	CYS	2.1
50	R6	5	VAL	2.1
10	QI	117	HIS	2.1
11	XJ	56	HIS	2.1
2	QA	5	U	2.1
2	XA	173	U	2.1
10	QI	103	THR	2.1
13	XL	7	ILE	2.1
21	XT	29	LYS	2.1
22	XU	20	LYS	2.1
28	RG	20	ILE	2.1
28	RG	34	LEU	2.1
29	RH	9	ILE	2.1
29	YH	71	LEU	2.1
30	RI	5	LEU	2.1
38	YU	85	LYS	2.1
48	R4	44	THR	2.1
5	XD	33	MET	2.1
29	YH	101	ARG	2.1
30	YI	50	ARG	2.1
10	QI	3	GLN	2.1
33	YP	12	ALA	2.1
3	QB	12	GLU	2.1
14	XM	10	PRO	2.1
21	XT	60	GLU	2.1
23	RA	896	A	2.1
28	RG	35	GLU	2.1
29	RH	81	GLU	2.1
11	XJ	54	PHE	2.1
2	QA	306	G	2.1
2	QA	942	G	2.1
2	QA	1033	G	2.1

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Mol	Chain	Res	Type	RSRZ
2	XA	351	G	2.1
8	QG	105	VAL	2.1
11	XJ	101	VAL	2.1
29	RH	44	VAL	2.1
45	Y1	70	VAL	2.1
48	Y4	10	VAL	2.1
3	QB	22	LYS	2.1
20	XS	32	LYS	2.1
27	RF	65	TRP	2.1
8	QG	120	ILE	2.1
8	XG	59	LEU	2.1
8	XG	101	LEU	2.1
10	QI	40	LEU	2.1
17	QP	60	LEU	2.1
34	YQ	135	ASP	2.1
42	RY	31	LEU	2.1
44	Y0	71	ASP	2.1
45	R1	94	LEU	2.1
46	R2	50	ILE	2.1
48	Y4	39	CYS	2.1
6	QE	120	THR	2.1
14	QM	20	THR	2.1
38	RU	55	ARG	2.1
31	RN	1	MET	2.1
36	RS	36	TYR	2.1
3	QB	186	ALA	2.1
6	XE	124	GLY	2.1
11	XJ	36	GLY	2.1
3	XB	234	PRO	2.1
6	QE	128	PRO	2.1
13	QL	71	PRO	2.1
15	XN	16	PHE	2.1
28	RG	87	PRO	2.1
43	RZ	176	PRO	2.1
48	R4	49	PHE	2.1
49	R5	59	GLU	2.1
51	R7	18	PHE	2.1
4	XC	55	VAL	2.1
43	RZ	174	VAL	2.1
2	QA	1451	A	2.1
2	XA	1363	A	2.1
23	RA	265	A	2.1

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Mol	Chain	Res	Type	RSRZ
23	RA	887	A	2.1
23	RA	2134	A	2.1
23	YA	1177	A	2.1
23	YA	2170	A	2.1
38	RU	85	LYS	2.1
3	XB	44	LEU	2.1
5	QD	132	ARG	2.1
10	QI	83	ARG	2.1
14	QM	91	ARG	2.1
15	QN	19	ARG	2.1
15	XN	47	LEU	2.1
28	RG	29	TRP	2.1
29	YH	7	LEU	2.1
31	RN	67	LEU	2.1
34	RQ	60	ARG	2.1
36	RS	97	ARG	2.1
47	R3	29	ARG	2.1
49	R5	55	ARG	2.1
52	R8	62	LEU	2.1
53	R9	35	ARG	2.1
53	Y9	26	ILE	2.1
20	XS	14	HIS	2.1
42	YY	68	HIS	2.1
7	XF	55	ASP	2.1
8	XG	33	ASP	2.1
35	RR	107	ASP	2.1
41	RX	3	THR	2.1
43	RZ	98	MET	2.1
50	Y6	14	THR	2.1
2	QA	1109	C	2.1
23	RA	2142	C	2.1
2	QA	1002	G	2.1
2	XA	1323	G	2.1
2	XA	1365	G	2.1
26	RE	68	ALA	2.1
26	YE	70	ALA	2.1
45	R1	77	ALA	2.1
4	XC	159	GLY	2.1
6	XE	103	GLY	2.1
12	QK	90	GLY	2.1
34	YQ	19	GLY	2.1
5	QD	37	PRO	2.1

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Mol	Chain	Res	Type	RSRZ
7	XF	5	GLU	2.1
28	YG	2	PRO	2.1
29	RH	168	PRO	2.1
33	YP	119	GLU	2.1
37	RT	11	GLU	2.1
8	XG	17	VAL	2.0
13	XL	66	VAL	2.0
23	RA	2167	U	2.0
25	YD	38	LYS	2.0
26	YE	57	LYS	2.0
29	YH	43	VAL	2.0
42	RY	15	VAL	2.0
43	RZ	142	SER	2.0
3	XB	213	LEU	2.0
4	XC	77	ILE	2.0
5	XD	162	LEU	2.0
8	QG	101	LEU	2.0
10	XI	102	LEU	2.0
11	XJ	9	ARG	2.0
18	QQ	98	LEU	2.0
25	RD	147	LEU	2.0
29	RH	105	LEU	2.0
29	RH	151	ILE	2.0
29	YH	67	LEU	2.0
33	YP	3	LEU	2.0
38	RU	12	ARG	2.0
4	QC	18	TRP	2.0
43	YZ	121	HIS	2.0
2	QA	250	A	2.0
2	QA	1067	A	2.0
2	QA	1492	A	2.0
2	XA	1333	A	2.0
3	XB	190	THR	2.0
12	QK	19	ALA	2.0
13	QL	112	ASP	2.0
19	QR	34	TYR	2.0
21	XT	97	ALA	2.0
23	YA	1069	A	2.0
23	YA	2171	A	2.0
23	YA	2346	A	2.0
25	YD	230	ASP	2.0
26	RE	70	ALA	2.0

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Mol	Chain	Res	Type	RSRZ
36	RS	88	ASP	2.0
6	QE	22	GLY	2.0
7	QF	58	GLY	2.0
8	QG	106	GLN	2.0
11	XJ	52	GLY	2.0
30	YI	13	GLY	2.0
39	RV	41	GLY	2.0
44	R0	17	GLN	2.0
45	R1	42	GLN	2.0
17	QP	15	PRO	2.0
5	XD	179	GLU	2.0
10	QI	2	GLU	2.0
2	QA	1066	C	2.0
2	XA	135	C	2.0
2	XA	1320	C	2.0
14	QM	121	LYS	2.0
18	XQ	96	GLU	2.0
23	RA	2129	C	2.0
23	YA	2146	C	2.0
31	YN	118	LYS	2.0
37	RT	46	GLU	2.0
50	R6	12	GLU	2.0
2	QA	1064	G	2.0
3	XB	215	LEU	2.0
6	XE	24	ARG	2.0
21	XT	36	LEU	2.0
23	RA	508	G	2.0
23	RA	1044	G	2.0
23	RA	2112	G	2.0
23	RA	2211	G	2.0
28	YG	7	LEU	2.0
33	YP	65	ARG	2.0
34	RQ	6	ARG	2.0
45	R1	21	ARG	2.0
3	XB	39	ILE	2.0
3	XB	42	ILE	2.0
9	QH	111	ILE	2.0
20	XS	62	ILE	2.0
25	RD	65	ILE	2.0
42	RY	44	ILE	2.0
45	R1	90	ILE	2.0
2	QA	1219	U	2.0

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Mol	Chain	Res	Type	RSRZ
23	RA	1113	U	2.0
23	RA	2797	U	2.0
3	XB	161	ALA	2.0
8	QG	83	ALA	2.0
28	YG	64	THR	2.0
52	Y8	51	ALA	2.0
14	XM	21	TYR	2.0
39	RV	81	TYR	2.0
43	YZ	99	TYR	2.0
28	RG	141	PHE	2.0
10	QI	127	LYS	2.0
21	QT	98	PRO	2.0
26	YE	56	PRO	2.0
29	RH	29	PRO	2.0
31	RN	84	LYS	2.0
2	QA	1285	A	2.0
2	XA	994	A	2.0
3	XB	164	VAL	2.0
8	XG	23	VAL	2.0
23	RA	229	A	2.0
9	XH	91	ARG	2.0
33	RP	65	ARG	2.0
5	QD	101	LEU	2.0
5	XD	21	LEU	2.0
14	XM	56	LEU	2.0
21	QT	24	LEU	2.0
28	RG	60	LEU	2.0
30	RI	72	LEU	2.0
30	YI	5	LEU	2.0
3	XB	223	ILE	2.0
4	XC	157	ILE	2.0
11	QJ	96	ILE	2.0
28	YG	144	ILE	2.0
2	QA	1234	C	2.0
2	XA	1129	C	2.0
54	XV	34	C	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column

labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
54	1MG	QV	37	24/25	0.58	0.14	127,127,127,127	0
54	1MG	XV	37	24/25	0.79	0.13	117,117,117,117	0

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	XA	1644	1/1	-0.36	0.38	155,155,155,155	0
55	MG	QA	1619	1/1	-0.19	0.47	146,146,146,146	0
55	MG	XA	1667	1/1	0.09	0.32	127,127,127,127	0
55	MG	XA	1634	1/1	0.11	0.46	154,154,154,154	0
55	MG	XA	1663	1/1	0.17	0.34	103,103,103,103	0
55	MG	XM	201	1/1	0.22	0.19	168,168,168,168	0
55	MG	XA	1671	1/1	0.28	0.19	94,94,94,94	0
55	MG	XA	1623	1/1	0.28	0.44	121,121,121,121	0
55	MG	XA	1629	1/1	0.31	0.23	129,129,129,129	0
55	MG	QA	1631	1/1	0.33	0.65	124,124,124,124	0
55	MG	QA	1647	1/1	0.35	0.36	156,156,156,156	0
55	MG	XA	1643	1/1	0.39	0.34	125,125,125,125	0
55	MG	XA	1625	1/1	0.39	0.29	143,143,143,143	0
55	MG	XA	1602	1/1	0.44	0.47	133,133,133,133	0
55	MG	QA	1603	1/1	0.46	0.46	83,83,83,83	0
55	MG	QA	1639	1/1	0.47	0.41	103,103,103,103	0
55	MG	QA	1622	1/1	0.52	0.20	140,140,140,140	0
55	MG	QA	1665	1/1	0.53	0.54	93,93,93,93	0
55	MG	QA	1625	1/1	0.53	0.59	92,92,92,92	0
55	MG	QA	1652	1/1	0.53	0.47	152,152,152,152	0
55	MG	QA	1660	1/1	0.53	0.32	146,146,146,146	0
55	MG	XA	1624	1/1	0.54	0.23	133,133,133,133	0
55	MG	QA	1618	1/1	0.54	0.47	95,95,95,95	0
55	MG	XA	1637	1/1	0.55	0.19	85,85,85,85	0
55	MG	XA	1653	1/1	0.55	0.40	91,91,91,91	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	XA	1652	1/1	0.56	0.18	101,101,101,101	0
55	MG	QA	1616	1/1	0.56	0.20	108,108,108,108	0
55	MG	XA	1622	1/1	0.56	0.26	130,130,130,130	0
55	MG	XA	1666	1/1	0.56	0.36	85,85,85,85	0
55	MG	QA	1644	1/1	0.56	0.29	108,108,108,108	0
55	MG	RA	3210	1/1	0.56	0.36	85,85,85,85	0
55	MG	RB	201	1/1	0.56	0.24	125,125,125,125	0
55	MG	XA	1641	1/1	0.57	0.72	146,146,146,146	0
55	MG	QA	1617	1/1	0.57	0.26	98,98,98,98	0
55	MG	QA	1662	1/1	0.58	0.25	118,118,118,118	0
55	MG	QA	1653	1/1	0.59	0.31	108,108,108,108	0
55	MG	QA	1613	1/1	0.59	0.70	76,76,76,76	0
55	MG	RB	202	1/1	0.59	0.19	123,123,123,123	0
55	MG	XA	1650	1/1	0.60	0.13	166,166,166,166	0
55	MG	QA	1626	1/1	0.60	0.28	102,102,102,102	0
55	MG	XA	1636	1/1	0.61	0.16	165,165,165,165	0
55	MG	XA	1661	1/1	0.62	0.23	108,108,108,108	0
55	MG	RA	3223	1/1	0.62	0.15	76,76,76,76	0
55	MG	RA	3111	1/1	0.62	0.30	77,77,77,77	0
55	MG	QA	1658	1/1	0.63	0.12	82,82,82,82	0
55	MG	XA	1662	1/1	0.64	0.48	85,85,85,85	0
55	MG	RA	3081	1/1	0.64	0.40	68,68,68,68	0
55	MG	QA	1604	1/1	0.65	0.44	74,74,74,74	0
55	MG	XA	1659	1/1	0.65	0.24	98,98,98,98	0
55	MG	RA	3230	1/1	0.65	0.51	72,72,72,72	0
55	MG	QA	1641	1/1	0.66	0.41	87,87,87,87	0
55	MG	QA	1657	1/1	0.66	0.23	160,160,160,160	0
55	MG	QA	1635	1/1	0.66	0.33	142,142,142,142	0
55	MG	QF	201	1/1	0.67	0.28	98,98,98,98	0
55	MG	RA	3154	1/1	0.67	0.32	65,65,65,65	0
55	MG	RA	3186	1/1	0.67	0.31	78,78,78,78	0
55	MG	XA	1635	1/1	0.67	0.58	79,79,79,79	0
55	MG	QA	1623	1/1	0.68	0.23	140,140,140,140	0
55	MG	RA	3152	1/1	0.68	0.46	62,62,62,62	0
55	MG	QA	1661	1/1	0.68	0.31	103,103,103,103	0
55	MG	XA	1645	1/1	0.69	0.40	92,92,92,92	0
55	MG	XA	1620	1/1	0.69	0.53	68,68,68,68	0
55	MG	R0	101	1/1	0.69	0.18	62,62,62,62	0
55	MG	XA	1638	1/1	0.69	0.19	101,101,101,101	0
55	MG	YP	202	1/1	0.69	0.78	38,38,38,38	0
55	MG	RA	3216	1/1	0.70	0.29	70,70,70,70	0
55	MG	QM	201	1/1	0.70	0.12	170,170,170,170	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	QH	201	1/1	0.71	0.33	92,92,92,92	0
55	MG	QA	1624	1/1	0.71	0.23	95,95,95,95	0
55	MG	RA	3227	1/1	0.71	0.36	68,68,68,68	0
55	MG	QA	1627	1/1	0.71	0.32	87,87,87,87	0
55	MG	YA	3178	1/1	0.71	0.30	59,59,59,59	0
55	MG	QA	1649	1/1	0.71	0.33	96,96,96,96	0
55	MG	QA	1630	1/1	0.72	0.28	80,80,80,80	0
55	MG	XA	1632	1/1	0.72	0.35	96,96,96,96	0
55	MG	XA	1668	1/1	0.72	0.21	91,91,91,91	0
55	MG	RA	3063	1/1	0.72	0.32	91,91,91,91	0
55	MG	RA	3218	1/1	0.72	0.24	68,68,68,68	0
55	MG	YA	3059	1/1	0.72	0.30	50,50,50,50	0
55	MG	RA	3162	1/1	0.72	0.29	55,55,55,55	0
55	MG	RA	3126	1/1	0.72	0.64	61,61,61,61	0
55	MG	RA	3121	1/1	0.73	0.29	55,55,55,55	0
55	MG	RA	3220	1/1	0.73	0.84	57,57,57,57	0
55	MG	XA	1664	1/1	0.73	0.21	166,166,166,166	0
55	MG	QA	1650	1/1	0.73	0.29	78,78,78,78	0
55	MG	XA	1627	1/1	0.73	0.18	63,63,63,63	0
55	MG	QA	1614	1/1	0.73	0.38	81,81,81,81	0
55	MG	XA	1608	1/1	0.73	0.21	105,105,105,105	0
55	MG	XA	1611	1/1	0.73	0.34	79,79,79,79	0
55	MG	XA	1619	1/1	0.73	0.24	76,76,76,76	0
55	MG	RA	3058	1/1	0.73	0.29	52,52,52,52	0
55	MG	RA	3242	1/1	0.73	0.40	52,52,52,52	0
55	MG	QA	1610	1/1	0.74	0.24	75,75,75,75	0
55	MG	XB	301	1/1	0.74	0.29	119,119,119,119	0
55	MG	XA	1647	1/1	0.75	0.24	101,101,101,101	0
55	MG	RA	3076	1/1	0.75	0.30	42,42,42,42	0
55	MG	QA	1645	1/1	0.75	0.33	70,70,70,70	0
55	MG	RA	3192	1/1	0.75	0.20	103,103,103,103	0
55	MG	QA	1663	1/1	0.75	0.17	105,105,105,105	0
55	MG	RA	3116	1/1	0.75	0.38	53,53,53,53	0
55	MG	QA	1637	1/1	0.76	0.29	71,71,71,71	0
55	MG	RA	3056	1/1	0.76	0.26	47,47,47,47	0
55	MG	QA	1642	1/1	0.76	0.38	84,84,84,84	0
55	MG	YA	3126	1/1	0.76	0.53	61,61,61,61	0
55	MG	XA	1617	1/1	0.76	0.42	60,60,60,60	0
55	MG	YA	3216	1/1	0.76	0.24	51,51,51,51	0
55	MG	RA	3087	1/1	0.76	0.30	75,75,75,75	0
55	MG	RA	3009	1/1	0.77	0.27	53,53,53,53	0
55	MG	RA	3219	1/1	0.77	0.44	79,79,79,79	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	RA	3010	1/1	0.77	0.37	64,64,64,64	0
55	MG	XA	1609	1/1	0.77	0.41	66,66,66,66	0
55	MG	RA	3165	1/1	0.77	0.30	80,80,80,80	0
55	MG	RA	3183	1/1	0.77	0.34	59,59,59,59	0
55	MG	QA	1609	1/1	0.77	0.14	104,104,104,104	0
55	MG	YA	3122	1/1	0.77	0.32	40,40,40,40	0
55	MG	RA	3234	1/1	0.77	0.32	56,56,56,56	0
55	MG	YA	3169	1/1	0.77	0.31	61,61,61,61	0
55	MG	QA	1656	1/1	0.77	0.33	79,79,79,79	0
55	MG	RA	3142	1/1	0.77	0.13	72,72,72,72	0
55	MG	YA	3236	1/1	0.77	0.25	53,53,53,53	0
55	MG	YB	204	1/1	0.77	0.23	71,71,71,71	0
55	MG	RA	3093	1/1	0.77	0.31	46,46,46,46	0
55	MG	XA	1614	1/1	0.78	0.47	54,54,54,54	0
55	MG	QA	1621	1/1	0.78	0.21	84,84,84,84	0
55	MG	XA	1651	1/1	0.78	0.24	89,89,89,89	0
55	MG	XA	1610	1/1	0.78	0.25	63,63,63,63	0
55	MG	RA	3228	1/1	0.78	0.21	69,69,69,69	0
55	MG	RA	3123	1/1	0.79	0.34	63,63,63,63	0
55	MG	YA	3131	1/1	0.79	0.45	62,62,62,62	0
55	MG	XA	1612	1/1	0.79	0.28	75,75,75,75	0
55	MG	RA	3112	1/1	0.79	0.44	73,73,73,73	0
55	MG	YA	3027	1/1	0.79	0.30	32,32,32,32	0
55	MG	YA	3221	1/1	0.79	0.17	53,53,53,53	0
55	MG	QA	1632	1/1	0.79	0.17	90,90,90,90	0
55	MG	YA	3089	1/1	0.79	0.31	28,28,28,28	0
55	MG	QA	1646	1/1	0.79	0.14	94,94,94,94	0
55	MG	XA	1628	1/1	0.80	0.11	66,66,66,66	0
55	MG	YA	3110	1/1	0.80	0.28	54,54,54,54	0
55	MG	RA	3196	1/1	0.80	0.21	72,72,72,72	0
55	MG	XA	1630	1/1	0.80	0.34	68,68,68,68	0
55	MG	RA	3017	1/1	0.80	0.29	44,44,44,44	0
55	MG	XA	1649	1/1	0.80	0.37	72,72,72,72	0
55	MG	RA	3139	1/1	0.80	0.37	68,68,68,68	0
55	MG	RA	3122	1/1	0.80	0.49	65,65,65,65	0
55	MG	RA	3151	1/1	0.80	0.28	56,56,56,56	0
55	MG	RA	3024	1/1	0.80	0.27	50,50,50,50	0
55	MG	RA	3153	1/1	0.80	0.38	79,79,79,79	0
55	MG	RR	201	1/1	0.80	0.30	52,52,52,52	0
55	MG	RF	301	1/1	0.81	0.29	84,84,84,84	0
55	MG	RA	3184	1/1	0.81	0.14	54,54,54,54	0
55	MG	RA	3119	1/1	0.81	0.31	70,70,70,70	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	RA	3048	1/1	0.81	0.37	46,46,46,46	0
55	MG	RA	3141	1/1	0.81	0.44	72,72,72,72	0
55	MG	RA	3051	1/1	0.81	0.37	52,52,52,52	0
55	MG	RA	3212	1/1	0.81	0.35	55,55,55,55	0
55	MG	RA	3145	1/1	0.81	0.36	56,56,56,56	0
55	MG	RA	3173	1/1	0.81	0.14	46,46,46,46	0
55	MG	YA	3050	1/1	0.81	0.32	27,27,27,27	0
55	MG	RA	3030	1/1	0.81	0.30	41,41,41,41	0
55	MG	YA	3068	1/1	0.81	0.37	45,45,45,45	0
55	MG	YA	3018	1/1	0.82	0.36	28,28,28,28	0
55	MG	QA	1612	1/1	0.82	0.37	62,62,62,62	0
55	MG	RA	3127	1/1	0.82	0.25	77,77,77,77	0
55	MG	R3	101	1/1	0.82	0.31	62,62,62,62	0
55	MG	RA	3171	1/1	0.82	0.35	61,61,61,61	0
55	MG	YA	3087	1/1	0.82	0.29	39,39,39,39	0
55	MG	RA	3060	1/1	0.82	0.31	45,45,45,45	0
55	MG	RA	3174	1/1	0.82	0.26	75,75,75,75	0
55	MG	YA	3121	1/1	0.82	0.36	49,49,49,49	0
55	MG	RA	3225	1/1	0.82	0.22	61,61,61,61	0
55	MG	RA	3032	1/1	0.82	0.29	47,47,47,47	0
55	MG	RA	3114	1/1	0.82	0.26	76,76,76,76	0
55	MG	YA	3140	1/1	0.82	0.30	38,38,38,38	0
55	MG	YA	3152	1/1	0.82	0.12	44,44,44,44	0
55	MG	RA	3229	1/1	0.82	0.11	61,61,61,61	0
55	MG	RA	3023	1/1	0.82	0.77	45,45,45,45	0
55	MG	RA	3079	1/1	0.82	0.24	60,60,60,60	0
55	MG	QA	1634	1/1	0.82	0.55	69,69,69,69	0
55	MG	YA	3234	1/1	0.82	0.34	66,66,66,66	0
55	MG	RA	3200	1/1	0.82	0.17	65,65,65,65	0
55	MG	RA	3084	1/1	0.82	0.28	56,56,56,56	0
55	MG	RA	3028	1/1	0.82	0.13	73,73,73,73	0
55	MG	RA	3103	1/1	0.83	0.18	58,58,58,58	0
55	MG	RA	3067	1/1	0.83	0.55	43,43,43,43	0
55	MG	YA	3117	1/1	0.83	0.21	36,36,36,36	0
55	MG	RA	3026	1/1	0.83	0.24	45,45,45,45	0
55	MG	RA	3130	1/1	0.83	0.17	69,69,69,69	0
55	MG	RA	3163	1/1	0.83	0.28	62,62,62,62	0
55	MG	XA	1670	1/1	0.83	0.44	77,77,77,77	0
55	MG	RA	3133	1/1	0.83	0.20	67,67,67,67	0
55	MG	QA	1655	1/1	0.83	0.19	91,91,91,91	0
55	MG	YA	3165	1/1	0.83	0.39	50,50,50,50	0
55	MG	XA	1633	1/1	0.83	0.22	72,72,72,72	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	RA	3172	1/1	0.83	0.23	54,54,54,54	0
55	MG	QA	1638	1/1	0.83	0.35	78,78,78,78	0
55	MG	XA	1658	1/1	0.83	0.16	88,88,88,88	0
55	MG	QA	1664	1/1	0.83	0.13	111,111,111,111	0
55	MG	YA	3064	1/1	0.83	0.27	38,38,38,38	0
55	MG	RA	3039	1/1	0.83	0.29	45,45,45,45	0
55	MG	RA	3044	1/1	0.83	0.30	49,49,49,49	0
55	MG	RA	3042	1/1	0.84	0.41	46,46,46,46	0
55	MG	YA	3023	1/1	0.84	0.52	27,27,27,27	0
55	MG	RA	3043	1/1	0.84	0.34	42,42,42,42	0
55	MG	RA	3239	1/1	0.84	0.26	47,47,47,47	0
55	MG	YA	3155	1/1	0.84	0.43	58,58,58,58	0
55	MG	RA	3202	1/1	0.84	0.12	53,53,53,53	0
55	MG	RA	3224	1/1	0.84	0.24	61,61,61,61	0
55	MG	QA	1608	1/1	0.84	0.19	91,91,91,91	0
55	MG	YA	3188	1/1	0.84	0.23	43,43,43,43	0
55	MG	YA	3201	1/1	0.84	0.14	46,46,46,46	0
55	MG	YA	3207	1/1	0.84	0.15	55,55,55,55	0
55	MG	QA	1651	1/1	0.84	0.38	81,81,81,81	0
55	MG	QA	1666	1/1	0.84	0.18	100,100,100,100	0
55	MG	XA	1616	1/1	0.84	0.36	68,68,68,68	0
55	MG	XL	201	1/1	0.84	0.14	97,97,97,97	0
55	MG	QA	1602	1/1	0.84	0.47	74,74,74,74	0
55	MG	YD	302	1/1	0.84	0.26	30,30,30,30	0
55	MG	YA	3016	1/1	0.84	0.28	30,30,30,30	0
55	MG	YA	3106	1/1	0.85	0.23	40,40,40,40	0
55	MG	XA	1618	1/1	0.85	0.23	72,72,72,72	0
55	MG	RA	3089	1/1	0.85	0.36	55,55,55,55	0
55	MG	RA	3075	1/1	0.85	0.27	62,62,62,62	0
55	MG	XA	1642	1/1	0.85	0.18	134,134,134,134	0
55	MG	RA	3168	1/1	0.85	0.16	59,59,59,59	0
55	MG	QA	1628	1/1	0.85	0.24	71,71,71,71	0
55	MG	YA	3136	1/1	0.85	0.29	39,39,39,39	0
55	MG	R8	101	1/1	0.85	0.43	57,57,57,57	0
55	MG	RA	3035	1/1	0.85	0.38	49,49,49,49	0
55	MG	XA	1648	1/1	0.85	0.36	85,85,85,85	0
55	MG	XA	1626	1/1	0.85	0.25	53,53,53,53	0
55	MG	XA	1606	1/1	0.85	0.35	68,68,68,68	0
55	MG	YA	3172	1/1	0.85	0.26	67,67,67,67	0
55	MG	RA	3211	1/1	0.85	0.24	67,67,67,67	0
55	MG	RA	3125	1/1	0.85	0.29	75,75,75,75	0
55	MG	YA	3198	1/1	0.85	0.31	29,29,29,29	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	RA	3231	1/1	0.85	0.23	54,54,54,54	0
55	MG	RA	3214	1/1	0.85	0.15	71,71,71,71	0
55	MG	YA	3063	1/1	0.85	0.29	35,35,35,35	0
55	MG	RA	3004	1/1	0.85	0.35	68,68,68,68	0
55	MG	RA	3113	1/1	0.85	0.50	70,70,70,70	0
55	MG	RA	3012	1/1	0.85	0.25	42,42,42,42	0
55	MG	RA	3054	1/1	0.85	0.33	44,44,44,44	0
55	MG	YA	3091	1/1	0.85	0.29	40,40,40,40	0
55	MG	YA	3094	1/1	0.85	0.34	39,39,39,39	0
55	MG	RA	3029	1/1	0.86	0.30	50,50,50,50	0
55	MG	YA	3015	1/1	0.86	0.16	28,28,28,28	0
55	MG	RA	3217	1/1	0.86	0.36	78,78,78,78	0
55	MG	QA	1605	1/1	0.86	0.58	71,71,71,71	0
55	MG	YA	3135	1/1	0.86	0.16	48,48,48,48	0
55	MG	RA	3014	1/1	0.86	0.30	39,39,39,39	0
55	MG	YA	3024	1/1	0.86	0.37	36,36,36,36	0
55	MG	XA	1615	1/1	0.86	0.37	56,56,56,56	0
55	MG	YA	3038	1/1	0.86	0.18	32,32,32,32	0
55	MG	YA	3049	1/1	0.86	0.37	37,37,37,37	0
55	MG	RA	3061	1/1	0.86	0.32	42,42,42,42	0
55	MG	RA	3222	1/1	0.86	0.18	53,53,53,53	0
55	MG	RP	201	1/1	0.86	0.93	60,60,60,60	0
55	MG	RA	3140	1/1	0.86	0.28	51,51,51,51	0
55	MG	YA	3192	1/1	0.86	0.35	48,48,48,48	0
55	MG	RA	3033	1/1	0.86	0.39	61,61,61,61	0
55	MG	YA	3079	1/1	0.86	0.25	34,34,34,34	0
55	MG	YA	3203	1/1	0.86	0.19	34,34,34,34	0
55	MG	RA	3170	1/1	0.86	0.11	66,66,66,66	0
55	MG	YA	3213	1/1	0.86	0.15	37,37,37,37	0
55	MG	RA	3204	1/1	0.86	0.18	61,61,61,61	0
55	MG	YA	3219	1/1	0.86	0.27	52,52,52,52	0
55	MG	RA	3050	1/1	0.86	0.28	47,47,47,47	0
55	MG	XA	1603	1/1	0.86	0.50	49,49,49,49	0
55	MG	QA	1615	1/1	0.86	0.34	70,70,70,70	0
55	MG	YA	3250	1/1	0.86	0.23	40,40,40,40	0
55	MG	YA	3258	1/1	0.86	0.31	42,42,42,42	0
55	MG	RA	3022	1/1	0.86	0.36	42,42,42,42	0
55	MG	YD	301	1/1	0.86	0.43	34,34,34,34	0
55	MG	YA	3114	1/1	0.86	0.29	38,38,38,38	0
55	MG	RA	3078	1/1	0.86	0.29	43,43,43,43	0
55	MG	RA	3181	1/1	0.87	0.15	60,60,60,60	0
55	MG	YA	3085	1/1	0.87	0.37	29,29,29,29	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	RA	3073	1/1	0.87	0.20	51,51,51,51	0
55	MG	QA	1611	1/1	0.87	0.41	67,67,67,67	0
55	MG	XA	1654	1/1	0.87	0.37	69,69,69,69	0
55	MG	XA	1657	1/1	0.87	0.26	78,78,78,78	0
55	MG	YA	3102	1/1	0.87	0.30	52,52,52,52	0
55	MG	YA	3197	1/1	0.87	0.34	36,36,36,36	0
55	MG	XA	1605	1/1	0.87	0.51	76,76,76,76	0
55	MG	QA	1648	1/1	0.87	0.24	83,83,83,83	0
55	MG	YA	3113	1/1	0.87	0.29	31,31,31,31	0
55	MG	QA	1601	1/1	0.87	0.41	88,88,88,88	0
55	MG	RA	3193	1/1	0.87	0.34	77,77,77,77	0
55	MG	RA	3194	1/1	0.87	0.26	80,80,80,80	0
55	MG	YA	3045	1/1	0.87	0.30	29,29,29,29	0
55	MG	RA	3117	1/1	0.87	0.24	43,43,43,43	0
55	MG	RA	3146	1/1	0.87	0.29	69,69,69,69	0
55	MG	YA	3133	1/1	0.87	0.33	49,49,49,49	0
55	MG	RA	3150	1/1	0.87	0.24	63,63,63,63	0
55	MG	RA	3129	1/1	0.87	0.23	50,50,50,50	0
55	MG	RA	3020	1/1	0.87	0.27	42,42,42,42	0
55	MG	YA	3148	1/1	0.87	0.24	32,32,32,32	0
55	MG	RA	3069	1/1	0.87	0.36	56,56,56,56	0
55	MG	YA	3153	1/1	0.87	0.27	54,54,54,54	0
55	MG	RA	3083	1/1	0.88	0.26	44,44,44,44	0
55	MG	XA	1669	1/1	0.88	0.37	73,73,73,73	0
55	MG	QA	1606	1/1	0.88	0.20	89,89,89,89	0
55	MG	RA	3085	1/1	0.88	0.23	49,49,49,49	0
55	MG	XA	1640	1/1	0.88	0.40	56,56,56,56	0
55	MG	RA	3160	1/1	0.88	0.13	61,61,61,61	0
55	MG	RA	3086	1/1	0.88	0.33	49,49,49,49	0
55	MG	YA	3212	1/1	0.88	0.27	40,40,40,40	0
55	MG	YA	3069	1/1	0.88	0.23	34,34,34,34	0
55	MG	YA	3011	1/1	0.88	0.31	27,27,27,27	0
55	MG	YA	3137	1/1	0.88	0.29	41,41,41,41	0
55	MG	RA	3008	1/1	0.88	0.28	60,60,60,60	0
55	MG	YA	3230	1/1	0.88	0.21	39,39,39,39	0
55	MG	RA	3164	1/1	0.88	0.28	47,47,47,47	0
55	MG	YA	3235	1/1	0.88	0.08	60,60,60,60	0
55	MG	XA	1631	1/1	0.88	0.35	63,63,63,63	0
55	MG	RA	3055	1/1	0.88	0.28	47,47,47,47	0
55	MG	RE	302	1/1	0.88	0.35	42,42,42,42	0
55	MG	QA	1607	1/1	0.88	0.18	101,101,101,101	0
55	MG	YA	3032	1/1	0.88	0.35	39,39,39,39	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	RA	3082	1/1	0.88	0.26	72,72,72,72	0
55	MG	YA	3039	1/1	0.88	0.32	30,30,30,30	0
55	MG	YA	3040	1/1	0.89	0.34	25,25,25,25	0
55	MG	QA	1629	1/1	0.89	0.37	80,80,80,80	0
55	MG	RA	3148	1/1	0.89	0.30	55,55,55,55	0
55	MG	YA	3146	1/1	0.89	0.22	34,34,34,34	0
55	MG	RA	3149	1/1	0.89	0.14	60,60,60,60	0
55	MG	RA	3180	1/1	0.89	0.27	61,61,61,61	0
55	MG	RA	3091	1/1	0.89	0.33	44,44,44,44	0
55	MG	RA	3221	1/1	0.89	0.22	56,56,56,56	0
55	MG	YA	3161	1/1	0.89	0.36	47,47,47,47	0
55	MG	YA	3065	1/1	0.89	0.26	43,43,43,43	0
55	MG	RA	3047	1/1	0.89	0.27	52,52,52,52	0
55	MG	RA	3095	1/1	0.89	0.36	47,47,47,47	0
55	MG	YA	3176	1/1	0.89	0.24	59,59,59,59	0
55	MG	YA	3177	1/1	0.89	0.14	45,45,45,45	0
55	MG	YA	3074	1/1	0.89	0.22	38,38,38,38	0
55	MG	YA	3183	1/1	0.89	0.35	53,53,53,53	0
55	MG	YA	3184	1/1	0.89	0.21	53,53,53,53	0
55	MG	YA	3075	1/1	0.89	0.26	37,37,37,37	0
55	MG	YA	3189	1/1	0.89	0.23	47,47,47,47	0
55	MG	RA	3100	1/1	0.89	0.26	53,53,53,53	0
55	MG	RA	3019	1/1	0.89	0.28	40,40,40,40	0
55	MG	YA	3003	1/1	0.89	0.31	29,29,29,29	0
55	MG	YA	3009	1/1	0.89	0.38	34,34,34,34	0
55	MG	RA	3156	1/1	0.89	0.30	57,57,57,57	0
55	MG	RA	3158	1/1	0.89	0.27	51,51,51,51	0
55	MG	RA	3027	1/1	0.89	0.48	44,44,44,44	0
55	MG	QA	1643	1/1	0.89	0.40	72,72,72,72	0
55	MG	RA	3052	1/1	0.89	0.21	54,54,54,54	0
55	MG	RA	3053	1/1	0.89	0.43	40,40,40,40	0
55	MG	YA	3026	1/1	0.89	0.17	59,59,59,59	0
55	MG	YA	3222	1/1	0.89	0.20	56,56,56,56	0
55	MG	YA	3228	1/1	0.89	0.18	41,41,41,41	0
55	MG	YA	3115	1/1	0.89	0.18	35,35,35,35	0
55	MG	YA	3231	1/1	0.89	0.15	38,38,38,38	0
55	MG	RA	3115	1/1	0.89	0.21	45,45,45,45	0
55	MG	YA	3031	1/1	0.89	0.38	33,33,33,33	0
55	MG	QA	1640	1/1	0.89	0.16	85,85,85,85	0
55	MG	YA	3239	1/1	0.89	0.12	51,51,51,51	0
55	MG	YA	3242	1/1	0.89	0.13	49,49,49,49	0
55	MG	YA	3243	1/1	0.89	0.10	50,50,50,50	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	YA	3125	1/1	0.89	0.23	29,29,29,29	0
55	MG	YA	3033	1/1	0.89	0.32	31,31,31,31	0
55	MG	YA	3263	1/1	0.89	0.24	48,48,48,48	0
55	MG	YA	3129	1/1	0.89	0.38	44,44,44,44	0
55	MG	YA	3037	1/1	0.89	0.27	25,25,25,25	0
55	MG	RA	3074	1/1	0.89	0.23	51,51,51,51	0
55	MG	QA	1633	1/1	0.89	0.15	110,110,110,110	0
55	MG	RA	3203	1/1	0.90	0.25	58,58,58,58	0
55	MG	RD	301	1/1	0.90	0.21	47,47,47,47	0
55	MG	YA	3006	1/1	0.90	0.41	36,36,36,36	0
55	MG	YA	3211	1/1	0.90	0.18	29,29,29,29	0
55	MG	YA	3099	1/1	0.90	0.36	32,32,32,32	0
55	MG	YA	3007	1/1	0.90	0.28	28,28,28,28	0
55	MG	YA	3103	1/1	0.90	0.21	24,24,24,24	0
55	MG	YA	3217	1/1	0.90	0.13	39,39,39,39	0
55	MG	YA	3047	1/1	0.90	0.31	30,30,30,30	0
55	MG	YA	3220	1/1	0.90	0.26	37,37,37,37	0
55	MG	RA	3101	1/1	0.90	0.15	46,46,46,46	0
55	MG	YA	3164	1/1	0.90	0.14	59,59,59,59	0
55	MG	YA	3225	1/1	0.90	0.25	27,27,27,27	0
55	MG	RA	3206	1/1	0.90	0.30	46,46,46,46	0
55	MG	YA	3229	1/1	0.90	0.32	38,38,38,38	0
55	MG	RA	3102	1/1	0.90	0.18	51,51,51,51	0
55	MG	YA	3171	1/1	0.90	0.18	48,48,48,48	0
55	MG	RA	3001	1/1	0.90	0.30	58,58,58,58	0
55	MG	YA	3175	1/1	0.90	0.31	30,30,30,30	0
55	MG	RA	3187	1/1	0.90	0.26	59,59,59,59	0
55	MG	RA	3045	1/1	0.90	0.31	61,61,61,61	0
55	MG	YA	3067	1/1	0.90	0.22	37,37,37,37	0
55	MG	RA	3031	1/1	0.90	0.31	44,44,44,44	0
55	MG	RA	3021	1/1	0.90	0.30	44,44,44,44	0
55	MG	RA	3176	1/1	0.90	0.22	63,63,63,63	0
55	MG	RA	3199	1/1	0.90	0.17	70,70,70,70	0
55	MG	RA	3099	1/1	0.90	0.39	40,40,40,40	0
55	MG	RA	3015	1/1	0.90	0.17	44,44,44,44	0
55	MG	XA	1656	1/1	0.90	0.39	67,67,67,67	0
55	MG	YA	3200	1/1	0.90	0.09	37,37,37,37	0
56	ZN	QN	101	1/1	0.90	0.07	158,158,158,158	0
55	MG	RA	3107	1/1	0.91	0.18	52,52,52,52	0
55	MG	YA	3014	1/1	0.91	0.30	25,25,25,25	0
55	MG	YA	3160	1/1	0.91	0.26	37,37,37,37	0
55	MG	RA	3132	1/1	0.91	0.45	52,52,52,52	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	YA	3052	1/1	0.91	0.22	33,33,33,33	0
55	MG	YA	3056	1/1	0.91	0.22	32,32,32,32	0
55	MG	RA	3068	1/1	0.91	0.31	44,44,44,44	0
55	MG	YA	3061	1/1	0.91	0.24	35,35,35,35	0
55	MG	RA	3137	1/1	0.91	0.41	46,46,46,46	0
55	MG	YA	3174	1/1	0.91	0.37	47,47,47,47	0
55	MG	RA	3036	1/1	0.91	0.35	47,47,47,47	0
55	MG	RA	3070	1/1	0.91	0.18	56,56,56,56	0
55	MG	RA	3124	1/1	0.91	0.38	56,56,56,56	0
55	MG	RA	3046	1/1	0.91	0.28	42,42,42,42	0
55	MG	YA	3179	1/1	0.91	0.25	33,33,33,33	0
55	MG	YA	3128	1/1	0.91	0.23	42,42,42,42	0
55	MG	YA	3029	1/1	0.91	0.37	26,26,26,26	0
55	MG	RA	3144	1/1	0.91	0.47	45,45,45,45	0
55	MG	QA	1620	1/1	0.91	0.19	76,76,76,76	0
55	MG	RA	3185	1/1	0.91	0.21	75,75,75,75	0
55	MG	RA	3041	1/1	0.91	0.28	44,44,44,44	0
55	MG	RA	3128	1/1	0.91	0.24	53,53,53,53	0
55	MG	YA	3199	1/1	0.91	0.30	44,44,44,44	0
55	MG	RA	3191	1/1	0.91	0.33	72,72,72,72	0
55	MG	RA	3092	1/1	0.91	0.22	50,50,50,50	0
55	MG	YA	3041	1/1	0.91	0.27	30,30,30,30	0
55	MG	YA	3206	1/1	0.91	0.31	45,45,45,45	0
55	MG	XA	1607	1/1	0.91	0.21	86,86,86,86	0
55	MG	YA	3001	1/1	0.92	0.28	27,27,27,27	0
55	MG	YA	3002	1/1	0.92	0.35	30,30,30,30	0
55	MG	YA	3202	1/1	0.92	0.06	44,44,44,44	0
55	MG	YA	3139	1/1	0.92	0.33	34,34,34,34	0
55	MG	YA	3204	1/1	0.92	0.09	43,43,43,43	0
55	MG	YA	3083	1/1	0.92	0.35	35,35,35,35	0
55	MG	YA	3143	1/1	0.92	0.23	43,43,43,43	0
55	MG	YA	3209	1/1	0.92	0.19	38,38,38,38	0
55	MG	YA	3084	1/1	0.92	0.27	29,29,29,29	0
55	MG	XA	1639	1/1	0.92	0.55	66,66,66,66	0
55	MG	RA	3205	1/1	0.92	0.17	60,60,60,60	0
55	MG	YA	3215	1/1	0.92	0.20	40,40,40,40	0
55	MG	RA	3104	1/1	0.92	0.25	43,43,43,43	0
55	MG	YA	3008	1/1	0.92	0.26	36,36,36,36	0
55	MG	YA	3157	1/1	0.92	0.26	45,45,45,45	0
55	MG	YA	3044	1/1	0.92	0.42	28,28,28,28	0
55	MG	RE	301	1/1	0.92	0.22	37,37,37,37	0
55	MG	RA	3209	1/1	0.92	0.12	58,58,58,58	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	YA	3224	1/1	0.92	0.10	25,25,25,25	0
55	MG	YA	3048	1/1	0.92	0.34	36,36,36,36	0
55	MG	YA	3105	1/1	0.92	0.33	32,32,32,32	0
55	MG	YA	3012	1/1	0.92	0.27	20,20,20,20	0
55	MG	RA	3105	1/1	0.92	0.25	50,50,50,50	0
55	MG	QA	1636	1/1	0.92	0.18	87,87,87,87	0
55	MG	YA	3055	1/1	0.92	0.33	31,31,31,31	0
55	MG	RA	3038	1/1	0.92	0.24	39,39,39,39	0
55	MG	RA	3197	1/1	0.92	0.27	67,67,67,67	0
55	MG	YA	3020	1/1	0.92	0.29	26,26,26,26	0
55	MG	YA	3062	1/1	0.92	0.22	30,30,30,30	0
55	MG	RA	3080	1/1	0.92	0.43	53,53,53,53	0
55	MG	R5	101	1/1	0.92	0.29	45,45,45,45	0
55	MG	YA	3254	1/1	0.92	0.29	35,35,35,35	0
55	MG	RA	3134	1/1	0.92	0.22	52,52,52,52	0
55	MG	RA	3201	1/1	0.92	0.38	58,58,58,58	0
55	MG	YB	201	1/1	0.92	0.13	63,63,63,63	0
55	MG	YA	3130	1/1	0.92	0.21	31,31,31,31	0
55	MG	YA	3195	1/1	0.92	0.20	54,54,54,54	0
55	MG	RA	3077	1/1	0.92	0.33	46,46,46,46	0
55	MG	RA	3190	1/1	0.92	0.38	64,64,64,64	0
55	MG	Y5	101	1/1	0.92	0.17	33,33,33,33	0
55	MG	RA	3178	1/1	0.92	0.16	47,47,47,47	0
55	MG	YA	3186	1/1	0.93	0.21	65,65,65,65	0
55	MG	RA	3006	1/1	0.93	0.38	46,46,46,46	0
55	MG	YA	3010	1/1	0.93	0.24	35,35,35,35	0
55	MG	XA	1655	1/1	0.93	0.41	69,69,69,69	0
55	MG	RA	3235	1/1	0.93	0.35	53,53,53,53	0
55	MG	YA	3013	1/1	0.93	0.33	27,27,27,27	0
55	MG	YA	3123	1/1	0.93	0.24	36,36,36,36	0
55	MG	YA	3124	1/1	0.93	0.39	27,27,27,27	0
55	MG	RA	3236	1/1	0.93	0.41	49,49,49,49	0
55	MG	RA	3237	1/1	0.93	0.48	56,56,56,56	0
55	MG	RA	3175	1/1	0.93	0.18	48,48,48,48	0
55	MG	XA	1660	1/1	0.93	0.36	66,66,66,66	0
55	MG	RA	3195	1/1	0.93	0.10	52,52,52,52	0
55	MG	RA	3159	1/1	0.93	0.30	54,54,54,54	0
55	MG	YA	3132	1/1	0.93	0.12	60,60,60,60	0
55	MG	RA	3088	1/1	0.93	0.40	42,42,42,42	0
55	MG	XA	1613	1/1	0.93	0.13	75,75,75,75	0
55	MG	YA	3070	1/1	0.93	0.08	36,36,36,36	0
55	MG	YA	3071	1/1	0.93	0.07	47,47,47,47	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	RA	3147	1/1	0.93	0.17	49,49,49,49	0
55	MG	YA	3028	1/1	0.93	0.18	29,29,29,29	0
55	MG	YA	3142	1/1	0.93	0.07	32,32,32,32	0
55	MG	YA	3078	1/1	0.93	0.27	31,31,31,31	0
55	MG	YA	3145	1/1	0.93	0.21	44,44,44,44	0
55	MG	RA	3097	1/1	0.93	0.28	48,48,48,48	0
55	MG	YA	3030	1/1	0.93	0.36	42,42,42,42	0
55	MG	YA	3223	1/1	0.93	0.26	55,55,55,55	0
55	MG	RA	3182	1/1	0.93	0.15	49,49,49,49	0
55	MG	RA	3066	1/1	0.93	0.22	51,51,51,51	0
55	MG	YA	3154	1/1	0.93	0.12	31,31,31,31	0
55	MG	RA	3138	1/1	0.93	0.26	44,44,44,44	0
55	MG	RA	3106	1/1	0.93	0.21	46,46,46,46	0
55	MG	RA	3169	1/1	0.93	0.20	50,50,50,50	0
55	MG	XA	1621	1/1	0.93	0.16	77,77,77,77	0
55	MG	YA	3163	1/1	0.93	0.25	43,43,43,43	0
55	MG	YA	3095	1/1	0.93	0.29	40,40,40,40	0
55	MG	YA	3097	1/1	0.93	0.20	35,35,35,35	0
55	MG	YA	3240	1/1	0.93	0.30	40,40,40,40	0
55	MG	YA	3166	1/1	0.93	0.10	41,41,41,41	0
55	MG	RA	3011	1/1	0.93	0.45	54,54,54,54	0
55	MG	YA	3244	1/1	0.93	0.34	39,39,39,39	0
55	MG	YA	3248	1/1	0.93	0.21	42,42,42,42	0
55	MG	YA	3100	1/1	0.93	0.28	26,26,26,26	0
55	MG	YA	3101	1/1	0.93	0.33	38,38,38,38	0
55	MG	RA	3208	1/1	0.93	0.12	73,73,73,73	0
55	MG	YA	3261	1/1	0.93	0.25	34,34,34,34	0
55	MG	RA	3110	1/1	0.93	0.08	50,50,50,50	0
55	MG	XA	1601	1/1	0.93	0.39	55,55,55,55	0
55	MG	RA	3120	1/1	0.93	0.31	48,48,48,48	0
55	MG	YA	3108	1/1	0.93	0.31	28,28,28,28	0
55	MG	RA	3040	1/1	0.93	0.27	45,45,45,45	0
55	MG	YA	3180	1/1	0.93	0.14	48,48,48,48	0
55	MG	YA	3112	1/1	0.93	0.24	44,44,44,44	0
55	MG	XA	1604	1/1	0.93	0.55	75,75,75,75	0
55	MG	RA	3025	1/1	0.94	0.20	43,43,43,43	0
55	MG	RA	3090	1/1	0.94	0.26	47,47,47,47	0
55	MG	RA	3016	1/1	0.94	0.39	41,41,41,41	0
55	MG	RA	3049	1/1	0.94	0.25	41,41,41,41	0
55	MG	RA	3166	1/1	0.94	0.23	54,54,54,54	0
55	MG	RA	3167	1/1	0.94	0.13	56,56,56,56	0
55	MG	QA	1659	1/1	0.94	0.13	69,69,69,69	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	RA	3226	1/1	0.94	0.14	62,62,62,62	0
55	MG	YA	3004	1/1	0.94	0.20	30,30,30,30	0
55	MG	YA	3118	1/1	0.94	0.41	33,33,33,33	0
55	MG	YA	3120	1/1	0.94	0.27	29,29,29,29	0
55	MG	RA	3094	1/1	0.94	0.23	45,45,45,45	0
55	MG	YA	3073	1/1	0.94	0.32	35,35,35,35	0
55	MG	YA	3226	1/1	0.94	0.39	40,40,40,40	0
55	MG	YA	3036	1/1	0.94	0.25	32,32,32,32	0
55	MG	RA	3189	1/1	0.94	0.13	58,58,58,58	0
55	MG	RA	3136	1/1	0.94	0.09	46,46,46,46	0
55	MG	RA	3057	1/1	0.94	0.46	40,40,40,40	0
55	MG	YA	3233	1/1	0.94	0.23	42,42,42,42	0
55	MG	YA	3082	1/1	0.94	0.32	31,31,31,31	0
55	MG	RA	3108	1/1	0.94	0.14	49,49,49,49	0
55	MG	YA	3182	1/1	0.94	0.26	38,38,38,38	0
55	MG	RA	3233	1/1	0.94	0.32	28,28,28,28	0
55	MG	RA	3109	1/1	0.94	0.17	48,48,48,48	0
55	MG	RA	3096	1/1	0.94	0.28	39,39,39,39	0
55	MG	YA	3088	1/1	0.94	0.28	34,34,34,34	0
55	MG	XA	1665	1/1	0.94	0.32	70,70,70,70	0
55	MG	YA	3247	1/1	0.94	0.15	39,39,39,39	0
55	MG	YA	3090	1/1	0.94	0.24	39,39,39,39	0
55	MG	QA	1654	1/1	0.94	0.07	98,98,98,98	0
55	MG	YA	3093	1/1	0.94	0.31	26,26,26,26	0
55	MG	YA	3256	1/1	0.94	0.36	28,28,28,28	0
55	MG	RA	3003	1/1	0.94	0.64	47,47,47,47	0
55	MG	YA	3017	1/1	0.94	0.35	31,31,31,31	0
55	MG	RA	3238	1/1	0.94	0.35	51,51,51,51	0
55	MG	YA	3266	1/1	0.94	0.47	39,39,39,39	0
55	MG	YA	3144	1/1	0.94	0.18	38,38,38,38	0
55	MG	YA	3053	1/1	0.94	0.28	25,25,25,25	0
55	MG	RA	3072	1/1	0.94	0.29	61,61,61,61	0
55	MG	YA	3021	1/1	0.94	0.26	28,28,28,28	0
55	MG	YA	3150	1/1	0.94	0.15	61,61,61,61	0
55	MG	YA	3022	1/1	0.94	0.26	30,30,30,30	0
55	MG	YA	3060	1/1	0.94	0.20	39,39,39,39	0
55	MG	RA	3177	1/1	0.95	0.18	61,61,61,61	0
55	MG	YA	3191	1/1	0.95	0.24	42,42,42,42	0
55	MG	RA	3161	1/1	0.95	0.40	67,67,67,67	0
55	MG	YA	3193	1/1	0.95	0.17	39,39,39,39	0
55	MG	YA	3245	1/1	0.95	0.14	39,39,39,39	0
55	MG	YA	3035	1/1	0.95	0.27	26,26,26,26	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	YA	3147	1/1	0.95	0.20	36,36,36,36	0
55	MG	YA	3092	1/1	0.95	0.21	35,35,35,35	0
55	MG	RA	3071	1/1	0.95	0.31	49,49,49,49	0
55	MG	YA	3134	1/1	0.95	0.20	42,42,42,42	0
55	MG	RA	3002	1/1	0.95	0.31	45,45,45,45	0
55	MG	YA	3107	1/1	0.95	0.29	32,32,32,32	0
55	MG	YA	3262	1/1	0.95	0.34	27,27,27,27	0
55	MG	YA	3046	1/1	0.95	0.32	24,24,24,24	0
55	MG	YA	3156	1/1	0.95	0.40	51,51,51,51	0
55	MG	YA	3138	1/1	0.95	0.14	39,39,39,39	0
55	MG	YB	202	1/1	0.95	0.30	49,49,49,49	0
55	MG	YB	203	1/1	0.95	0.24	45,45,45,45	0
55	MG	YA	3159	1/1	0.95	0.21	36,36,36,36	0
55	MG	YA	3109	1/1	0.95	0.12	33,33,33,33	0
55	MG	YA	3210	1/1	0.95	0.23	38,38,38,38	0
55	MG	YP	201	1/1	0.95	0.06	56,56,56,56	0
55	MG	RA	3157	1/1	0.95	0.22	43,43,43,43	0
55	MG	YX	101	1/1	0.95	0.09	53,53,53,53	0
55	MG	YA	3098	1/1	0.95	0.28	29,29,29,29	0
55	MG	YA	3066	1/1	0.95	0.32	34,34,34,34	0
55	MG	YA	3237	1/1	0.96	0.19	34,34,34,34	0
55	MG	YA	3043	1/1	0.96	0.27	32,32,32,32	0
55	MG	RA	3207	1/1	0.96	0.17	48,48,48,48	0
55	MG	YA	3241	1/1	0.96	0.25	47,47,47,47	0
55	MG	YA	3208	1/1	0.96	0.15	36,36,36,36	0
55	MG	RA	3018	1/1	0.96	0.18	50,50,50,50	0
55	MG	RP	202	1/1	0.96	0.07	62,62,62,62	0
55	MG	RA	3131	1/1	0.96	0.25	51,51,51,51	0
55	MG	RA	3241	1/1	0.96	0.38	48,48,48,48	0
55	MG	RA	3062	1/1	0.96	0.30	41,41,41,41	0
55	MG	YA	3111	1/1	0.96	0.08	38,38,38,38	0
55	MG	YA	3251	1/1	0.96	0.34	31,31,31,31	0
55	MG	YA	3252	1/1	0.96	0.31	23,23,23,23	0
55	MG	YA	3185	1/1	0.96	0.19	37,37,37,37	0
55	MG	YA	3158	1/1	0.96	0.22	43,43,43,43	0
55	MG	YA	3005	1/1	0.96	0.18	37,37,37,37	0
55	MG	YA	3259	1/1	0.96	0.33	32,32,32,32	0
55	MG	YA	3260	1/1	0.96	0.07	40,40,40,40	0
55	MG	YA	3051	1/1	0.96	0.20	32,32,32,32	0
55	MG	YA	3019	1/1	0.96	0.35	25,25,25,25	0
55	MG	YA	3072	1/1	0.96	0.18	55,55,55,55	0
55	MG	YA	3264	1/1	0.96	0.30	29,29,29,29	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	RA	3005	1/1	0.96	0.42	35,35,35,35	0
55	MG	YA	3267	1/1	0.96	0.21	37,37,37,37	0
55	MG	YA	3194	1/1	0.96	0.29	44,44,44,44	0
55	MG	YA	3096	1/1	0.96	0.23	30,30,30,30	0
55	MG	YA	3196	1/1	0.96	0.20	52,52,52,52	0
55	MG	RA	3013	1/1	0.96	0.16	47,47,47,47	0
55	MG	YA	3167	1/1	0.96	0.14	52,52,52,52	0
55	MG	YA	3168	1/1	0.96	0.25	38,38,38,38	0
55	MG	YE	301	1/1	0.96	0.24	32,32,32,32	0
55	MG	RA	3135	1/1	0.96	0.14	45,45,45,45	0
55	MG	YA	3077	1/1	0.96	0.26	32,32,32,32	0
55	MG	XA	1646	1/1	0.96	0.26	52,52,52,52	0
55	MG	RA	3007	1/1	0.96	0.32	39,39,39,39	0
55	MG	RA	3098	1/1	0.96	0.41	43,43,43,43	0
56	ZN	XN	101	1/1	0.96	0.05	152,152,152,152	0
55	MG	RA	3064	1/1	0.97	0.50	32,32,32,32	0
55	MG	RA	3198	1/1	0.97	0.15	49,49,49,49	0
55	MG	YA	3246	1/1	0.97	0.37	32,32,32,32	0
55	MG	YA	3214	1/1	0.97	0.08	42,42,42,42	0
55	MG	YA	3042	1/1	0.97	0.16	35,35,35,35	0
55	MG	RA	3065	1/1	0.97	0.53	47,47,47,47	0
55	MG	RA	3118	1/1	0.97	0.16	55,55,55,55	0
55	MG	YA	3218	1/1	0.97	0.17	38,38,38,38	0
55	MG	YA	3253	1/1	0.97	0.17	35,35,35,35	0
55	MG	YA	3190	1/1	0.97	0.22	43,43,43,43	0
55	MG	RA	3155	1/1	0.97	0.07	60,60,60,60	0
55	MG	YA	3257	1/1	0.97	0.40	28,28,28,28	0
55	MG	YA	3116	1/1	0.97	0.28	44,44,44,44	0
55	MG	RA	3037	1/1	0.97	0.22	41,41,41,41	0
55	MG	YA	3080	1/1	0.97	0.37	28,28,28,28	0
55	MG	YA	3119	1/1	0.97	0.27	45,45,45,45	0
55	MG	YA	3081	1/1	0.97	0.25	26,26,26,26	0
55	MG	RA	3188	1/1	0.97	0.15	50,50,50,50	0
55	MG	YA	3170	1/1	0.97	0.26	34,34,34,34	0
55	MG	YA	3034	1/1	0.97	0.36	31,31,31,31	0
55	MG	RA	3034	1/1	0.97	0.42	38,38,38,38	0
55	MG	YA	3173	1/1	0.97	0.24	45,45,45,45	0
55	MG	YA	3232	1/1	0.97	0.11	45,45,45,45	0
55	MG	RA	3243	1/1	0.97	0.28	51,51,51,51	0
55	MG	YA	3104	1/1	0.97	0.27	30,30,30,30	0
55	MG	YA	3149	1/1	0.97	0.19	40,40,40,40	0
55	MG	YA	3205	1/1	0.97	0.28	40,40,40,40	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
55	MG	YA	3086	1/1	0.97	0.34	30,30,30,30	0
55	MG	YA	3238	1/1	0.97	0.10	36,36,36,36	0
55	MG	YA	3127	1/1	0.97	0.25	32,32,32,32	0
55	MG	RA	3232	1/1	0.97	0.34	37,37,37,37	0
55	MG	YA	3025	1/1	0.97	0.42	24,24,24,24	0
56	ZN	QD	301	1/1	0.97	0.09	116,116,116,116	0
55	MG	RA	3213	1/1	0.97	0.06	61,61,61,61	0
55	MG	YA	3054	1/1	0.97	0.21	41,41,41,41	0
55	MG	YA	3141	1/1	0.98	0.27	31,31,31,31	0
55	MG	RA	3215	1/1	0.98	0.20	52,52,52,52	0
55	MG	YA	3151	1/1	0.98	0.30	29,29,29,29	0
55	MG	YA	3255	1/1	0.98	0.30	30,30,30,30	0
55	MG	YA	3181	1/1	0.98	0.26	32,32,32,32	0
55	MG	RA	3240	1/1	0.98	0.21	51,51,51,51	0
55	MG	YA	3162	1/1	0.98	0.12	39,39,39,39	0
55	MG	RA	3179	1/1	0.98	0.06	45,45,45,45	0
55	MG	RA	3059	1/1	0.98	0.12	43,43,43,43	0
55	MG	YA	3057	1/1	0.98	0.31	38,38,38,38	0
55	MG	YA	3187	1/1	0.98	0.17	41,41,41,41	0
55	MG	YA	3249	1/1	0.98	0.25	26,26,26,26	0
55	MG	YA	3076	1/1	0.98	0.29	21,21,21,21	0
55	MG	YA	3265	1/1	0.98	0.21	35,35,35,35	0
55	MG	YA	3058	1/1	0.98	0.36	29,29,29,29	0
55	MG	RA	3143	1/1	0.99	0.12	51,51,51,51	0
56	ZN	XD	301	1/1	0.99	0.17	99,99,99,99	0
55	MG	YA	3227	1/1	0.99	0.09	37,37,37,37	0

6.5 Other polymers [i](#)

There are no such residues in this entry.