



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 10, 2026 – 08:28 AM UTC

PDB ID : 4YPB / pdb_00004ypb
Title : Precleavage 70S structure of the P. vulgaris HigB DeltaH92 toxin bound to the AAA codon
Authors : Schureck, M.A.; Dunkle, J.A.; Maehigashi, T.; Dunham, C.M.
Deposited on : 2015-03-12
Resolution : 3.40 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

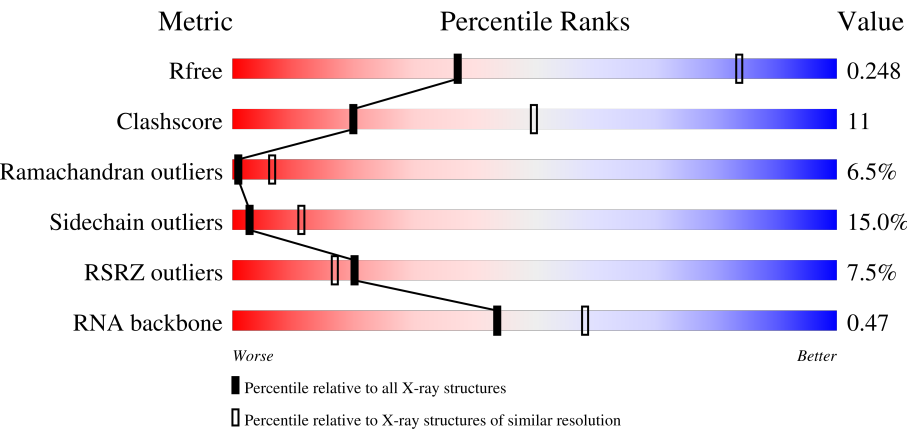
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.40 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	1001 (3.44-3.36)
Clashscore	190562	1022 (3.44-3.36)
Ramachandran outliers	187476	1012 (3.44-3.36)
Sidechain outliers	187428	1012 (3.44-3.36)
RSRZ outliers	180081	1001 (3.44-3.36)
RNA backbone	3983	1157 (3.80-3.00)

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	QA	1522	55%34%10% .
1	XA	1522	55%35%9% .
2	QB	256	10% 52%31%9%8%
2	XB	256	9% 49%35%8%8%

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

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Mol	Chain	Length	Quality of chain
15	XO	89	
16	QP	88	
16	XP	88	
17	QQ	105	
17	XQ	105	
18	QR	88	
18	XR	88	
19	QS	93	
19	XS	93	
20	QT	106	
20	XT	106	
21	QU	27	
21	XU	27	
22	QV	77	
22	QW	77	
22	XV	77	
22	XW	77	
23	QX	25	
23	XX	25	
24	QY	117	
24	XY	117	
25	RA	2916	
25	YA	2916	
26	RB	124	
26	YB	124	

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

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

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

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
56	MG	QA	1627	-	-	-	X
56	MG	QA	1663	-	-	-	X
56	MG	RA	3005	-	-	-	X
56	MG	YA	3280	-	-	-	X

2 Entry composition

There are 57 unique types of molecules in this entry. The entry contains 297549 atoms, of which 18 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	QA	1511	Total	C	N	O	P	0	0	0
			32472	14453	6011	10497	1511			
1	XA	1508	Total	C	N	O	P	0	0	0
			32409	14425	6001	10475	1508			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	QB	236	Total	C	N	O	S	0	0	0
			1915	1223	343	344	5			
2	XB	236	Total	C	N	O	S	0	0	0
			1915	1223	343	344	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	QC	206	Total	C	N	O	S	0	0	0
			1612	1016	314	281	1			
3	XC	206	Total	C	N	O	S	0	0	0
			1612	1016	314	281	1			

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	QE	154	Total	C	N	O	S	0	0	0
			1178	743	221	210	4			
5	XE	154	Total	C	N	O	S	0	0	0
			1178	743	221	210	4			

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

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

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

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

- Molecule 8 is a protein called 30S ribosomal protein S8.

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

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	QI	128	Total	C	N	O	S	0	0	0
			1018	644	198	175	1			
9	XI	128	Total	C	N	O	S	0	0	0
			1018	644	198	175	1			

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	QK	121	Total	C	N	O	S	0	0	0
			901	560	171	167	3			
11	XK	121	Total	C	N	O	S	0	0	0
			901	560	171	167	3			

- Molecule 12 is a protein called 30S ribosomal protein S12.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	QM	118	Total	C	N	O	S	0	0	0
			937	579	193	163	2			
13	XM	118	Total	C	N	O	S	0	0	0
			937	579	193	163	2			

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

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

- Molecule 15 is a protein called 30S ribosomal protein S15.

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

- Molecule 16 is a protein called 30S ribosomal protein S16.

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

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

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

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	QR	71	Total	C	N	O	0	0	0
			585	373	116	96			
18	XR	71	Total	C	N	O	0	0	0
			585	373	116	96			

- Molecule 19 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	QS	82	Total	C	N	O	S	0	0	0
			656	419	121	114	2			
19	XS	82	Total	C	N	O	S	0	0	0
			656	419	121	114	2			

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

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

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

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

- Molecule 22 is a RNA chain called tRNA fMet.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	QV	77	Total	C	N	O	P	0	0	0
			1640	732	297	535	76			
22	QW	77	Total	C	N	O	P	0	0	0
			1640	732	297	535	76			
22	XV	77	Total	C	N	O	P	0	0	0
			1640	732	297	535	76			
22	XW	77	Total	C	N	O	P	0	0	0
			1640	732	297	535	76			

- Molecule 23 is a RNA chain called messenger RNA.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
23	QX	20	Total	C	H	N	O	P	0	0	0
			449	199	9	89	132	20			
23	XX	20	Total	C	H	N	O	P	0	0	0
			449	199	9	89	132	20			

- Molecule 24 is a protein called Host inhibition of growth B.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
24	QY	91	Total	C	N	O	0	0	0
			746	478	131	137			
24	XY	91	Total	C	N	O	0	0	0
			746	478	131	137			

There are 54 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
QY	0	MET	-	initiating methionine	UNP Q7A225
QY	1	GLY	-	expression tag	UNP Q7A225
QY	92	LYS	-	expression tag	UNP Q7A225
QY	93	LEU	-	expression tag	UNP Q7A225
QY	94	GLY	-	expression tag	UNP Q7A225
QY	95	PRO	-	expression tag	UNP Q7A225
QY	96	GLU	-	expression tag	UNP Q7A225

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Chain	Residue	Modelled	Actual	Comment	Reference
QY	97	GLN	-	expression tag	UNP Q7A225
QY	98	LYS	-	expression tag	UNP Q7A225
QY	99	LEU	-	expression tag	UNP Q7A225
QY	100	ILE	-	expression tag	UNP Q7A225
QY	101	SER	-	expression tag	UNP Q7A225
QY	102	GLU	-	expression tag	UNP Q7A225
QY	103	GLU	-	expression tag	UNP Q7A225
QY	104	ASP	-	expression tag	UNP Q7A225
QY	105	LEU	-	expression tag	UNP Q7A225
QY	106	ASN	-	expression tag	UNP Q7A225
QY	107	SER	-	expression tag	UNP Q7A225
QY	108	ALA	-	expression tag	UNP Q7A225
QY	109	VAL	-	expression tag	UNP Q7A225
QY	110	ASP	-	expression tag	UNP Q7A225
QY	111	HIS	-	expression tag	UNP Q7A225
QY	112	HIS	-	expression tag	UNP Q7A225
QY	113	HIS	-	expression tag	UNP Q7A225
QY	114	HIS	-	expression tag	UNP Q7A225
QY	115	HIS	-	expression tag	UNP Q7A225
QY	116	HIS	-	expression tag	UNP Q7A225
XY	0	MET	-	initiating methionine	UNP Q7A225
XY	1	GLY	-	expression tag	UNP Q7A225
XY	92	LYS	-	expression tag	UNP Q7A225
XY	93	LEU	-	expression tag	UNP Q7A225
XY	94	GLY	-	expression tag	UNP Q7A225
XY	95	PRO	-	expression tag	UNP Q7A225
XY	96	GLU	-	expression tag	UNP Q7A225
XY	97	GLN	-	expression tag	UNP Q7A225
XY	98	LYS	-	expression tag	UNP Q7A225
XY	99	LEU	-	expression tag	UNP Q7A225
XY	100	ILE	-	expression tag	UNP Q7A225
XY	101	SER	-	expression tag	UNP Q7A225
XY	102	GLU	-	expression tag	UNP Q7A225
XY	103	GLU	-	expression tag	UNP Q7A225
XY	104	ASP	-	expression tag	UNP Q7A225
XY	105	LEU	-	expression tag	UNP Q7A225
XY	106	ASN	-	expression tag	UNP Q7A225
XY	107	SER	-	expression tag	UNP Q7A225
XY	108	ALA	-	expression tag	UNP Q7A225
XY	109	VAL	-	expression tag	UNP Q7A225
XY	110	ASP	-	expression tag	UNP Q7A225
XY	111	HIS	-	expression tag	UNP Q7A225

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Chain	Residue	Modelled	Actual	Comment	Reference
XY	112	HIS	-	expression tag	UNP Q7A225
XY	113	HIS	-	expression tag	UNP Q7A225
XY	114	HIS	-	expression tag	UNP Q7A225
XY	115	HIS	-	expression tag	UNP Q7A225
XY	116	HIS	-	expression tag	UNP Q7A225

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	RA	2891	Total	C	N	O	P	0	0	0
			62269	27713	11649	20016	2891			
25	YA	2875	Total	C	N	O	P	0	0	0
			61924	27560	11583	19906	2875			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	RB	122	Total	C	N	O	P	0	0	0
			2617	1166	486	844	121			
26	YB	122	Total	C	N	O	P	0	0	0
			2617	1166	486	844	121			

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	RF	208	Total	C	N	O	S	0	0	0
			1627	1037	304	283	3			
29	YF	208	Total	C	N	O	S	0	0	0
			1627	1037	304	283	3			

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	RQ	140	Total	C	N	O	S	0	0	0
			1112	710	210	185	7			
36	YQ	139	Total	C	N	O	S	0	0	0
			1107	707	209	184	7			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	RR	117	Total	C	N	O		0	0	0
			960	599	202	159				
37	YR	117	Total	C	N	O		0	0	0
			960	599	202	159				

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	RZ	176	Total	C	N	O	S	0	0	0
			1404	897	252	252	3			
45	YZ	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	R0	83	Total	C	N	O	S	0	0	0
			657	407	139	110	1			
46	Y0	83	Total	C	N	O	S	0	0	0
			657	407	139	110	1			

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	R4	70	Total	C	N	O	S	0	0	0
			573	359	107	103	4			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	Y4	70	Total	C	N	O	S	0	0	0
			573	359	107	103	4			

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	R6	48	Total	C	N	O	S	0	0	0
			417	259	86	68	4			
52	Y6	48	Total	C	N	O	S	0	0	0
			417	259	86	68	4			

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	R9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
55	Y9	36	Total	C	N	O	S	0	0	0
			299	183	67	46	3			

- Molecule 56 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	QA	150	Total 150	Mg 150	0	0
56	QD	2	Total 2	Mg 2	0	0
56	QL	1	Total 1	Mg 1	0	0
56	QV	4	Total 4	Mg 4	0	0
56	QX	1	Total 1	Mg 1	0	0
56	RA	441	Total 441	Mg 441	0	0
56	RB	4	Total 4	Mg 4	0	0
56	RD	2	Total 2	Mg 2	0	0
56	RE	1	Total 1	Mg 1	0	0
56	RF	1	Total 1	Mg 1	0	0
56	RP	3	Total 3	Mg 3	0	0
56	RQ	2	Total 2	Mg 2	0	0
56	RR	1	Total 1	Mg 1	0	0
56	RT	1	Total 1	Mg 1	0	0
56	RV	1	Total 1	Mg 1	0	0
56	RY	1	Total 1	Mg 1	0	0
56	R0	3	Total 3	Mg 3	0	0
56	R1	1	Total 1	Mg 1	0	0
56	R2	1	Total 1	Mg 1	0	0
56	R5	3	Total 3	Mg 3	0	0
56	XA	163	Total 163	Mg 163	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	XD	1	Total 1	Mg 1	0	0
56	XF	1	Total 1	Mg 1	0	0
56	XL	1	Total 1	Mg 1	0	0
56	XS	1	Total 1	Mg 1	0	0
56	XV	3	Total 3	Mg 3	0	0
56	YA	487	Total 487	Mg 487	0	0
56	YB	6	Total 6	Mg 6	0	0
56	YD	1	Total 1	Mg 1	0	0
56	YE	1	Total 1	Mg 1	0	0
56	YF	1	Total 1	Mg 1	0	0
56	YG	1	Total 1	Mg 1	0	0
56	YH	1	Total 1	Mg 1	0	0
56	YN	1	Total 1	Mg 1	0	0
56	YO	1	Total 1	Mg 1	0	0
56	YP	1	Total 1	Mg 1	0	0
56	YQ	2	Total 2	Mg 2	0	0
56	YV	1	Total 1	Mg 1	0	0
56	YW	1	Total 1	Mg 1	0	0
56	YY	1	Total 1	Mg 1	0	0
56	Y0	3	Total 3	Mg 3	0	0
56	Y1	1	Total 1	Mg 1	0	0

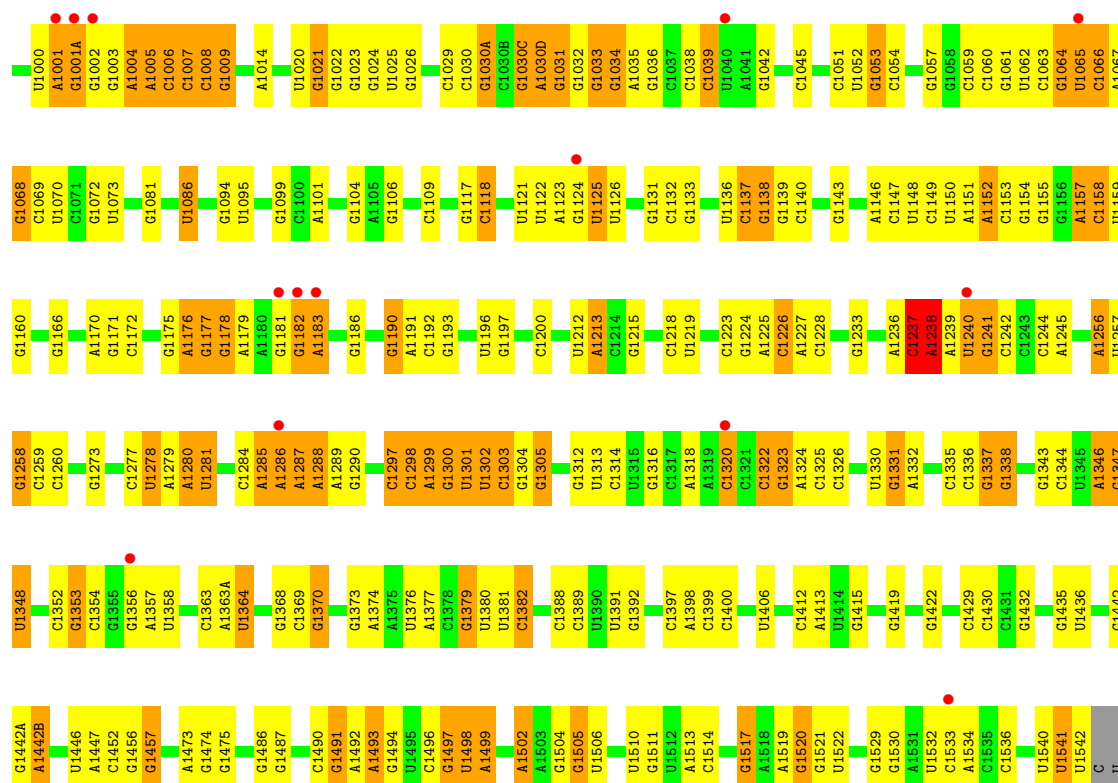
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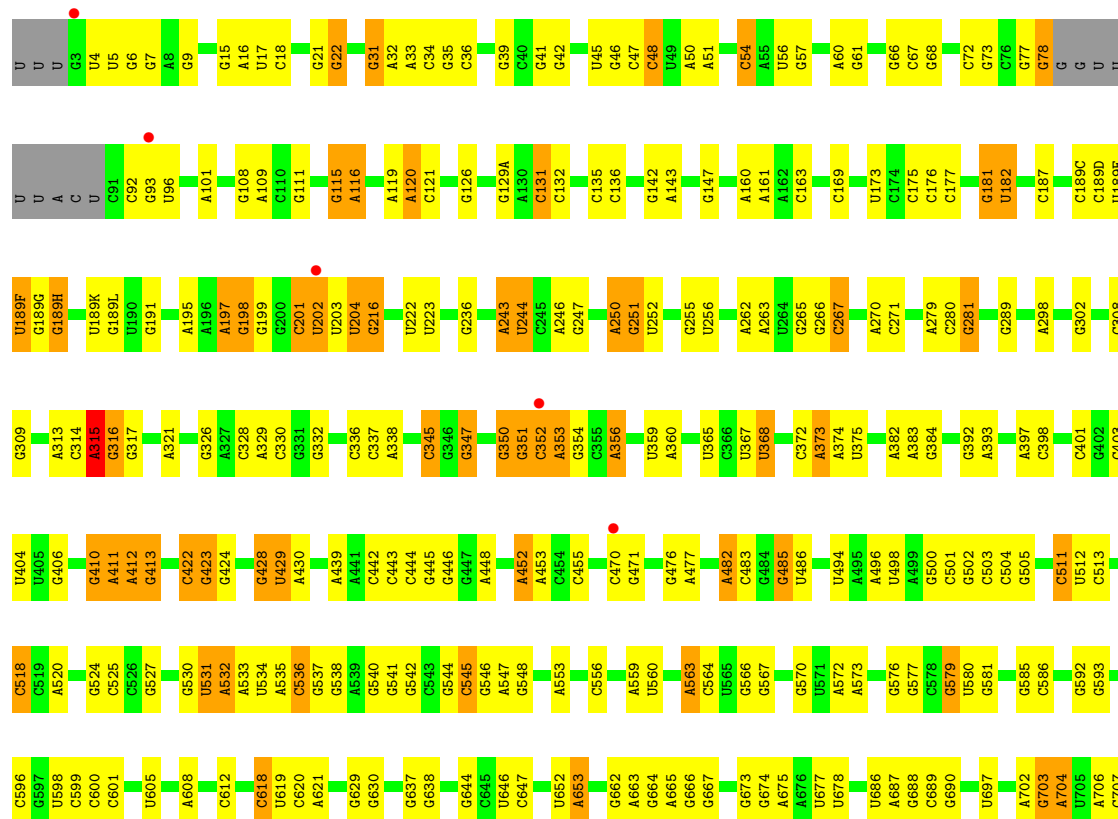
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	Y5	3	Total 3	Mg 3	0	0
56	Y7	1	Total 1	Mg 1	0	0

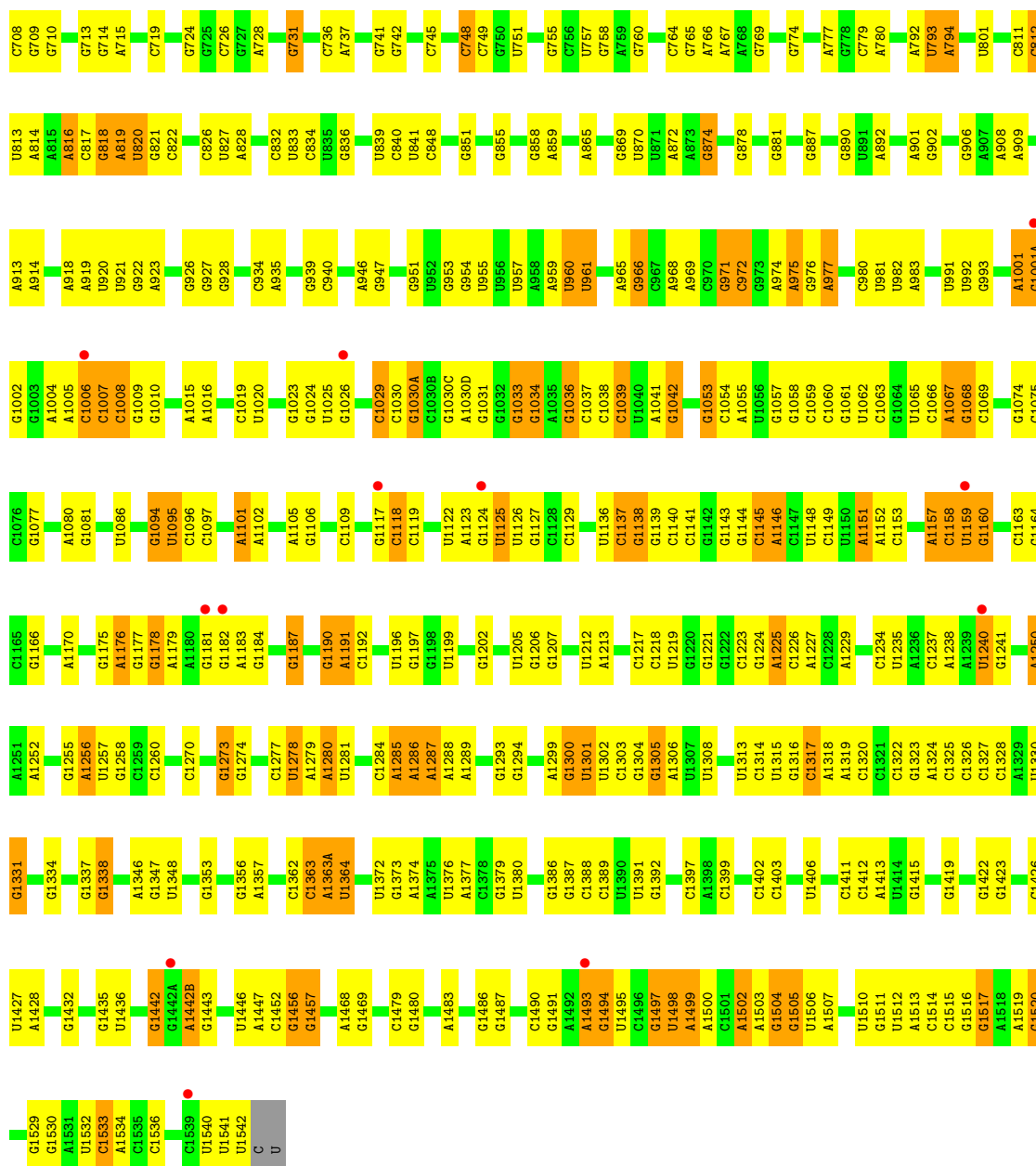
- Molecule 57 is ZINC ION (CCD ID: ZN) (formula: Zn).

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

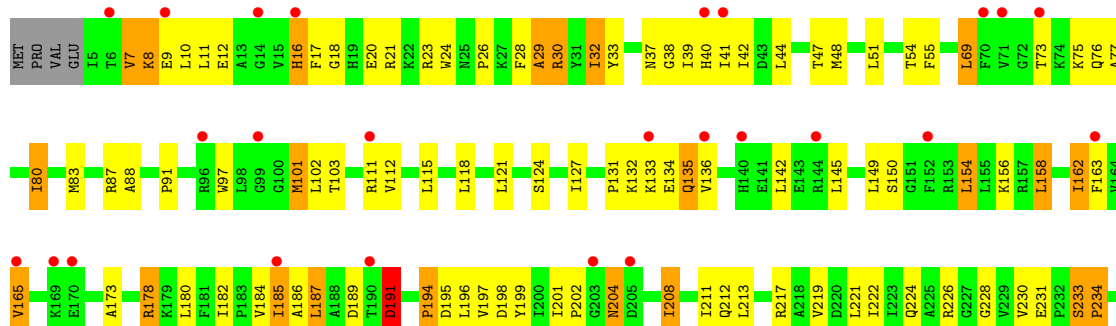


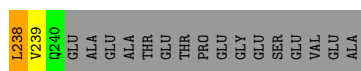
• Molecule 1: 16S rRNA



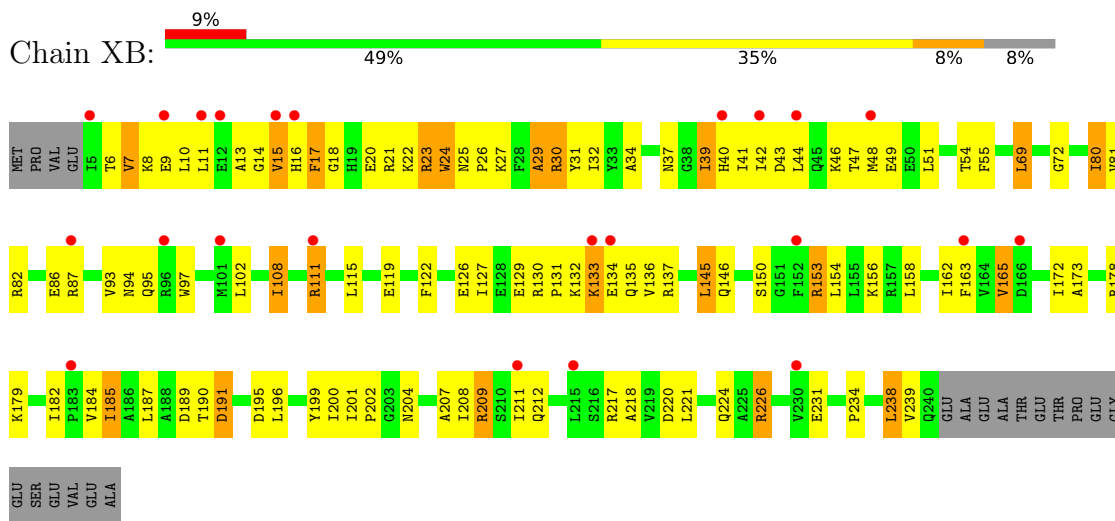


• Molecule 2: 30S ribosomal protein S2

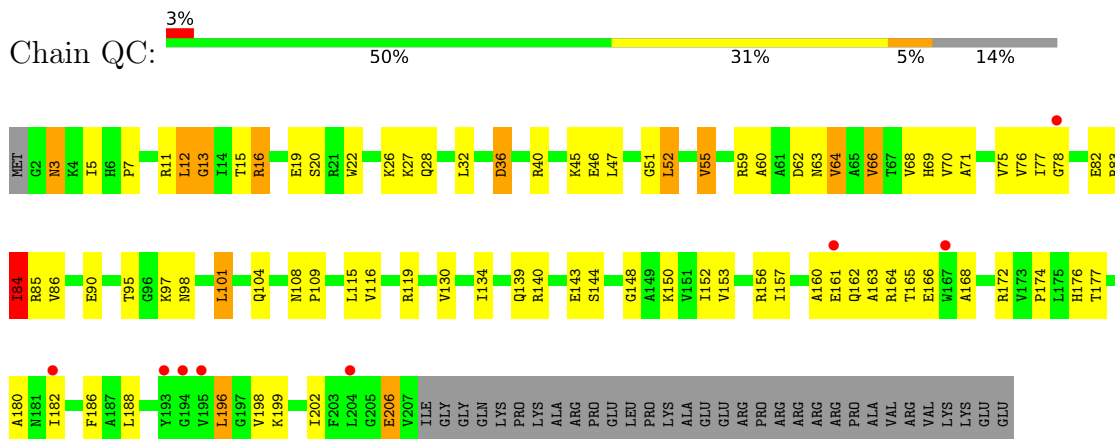




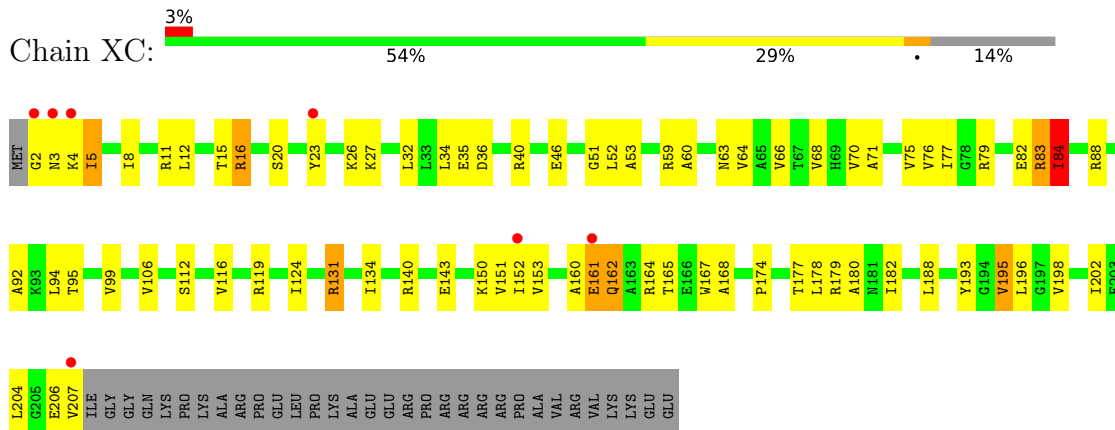
- Molecule 2: 30S ribosomal protein S2



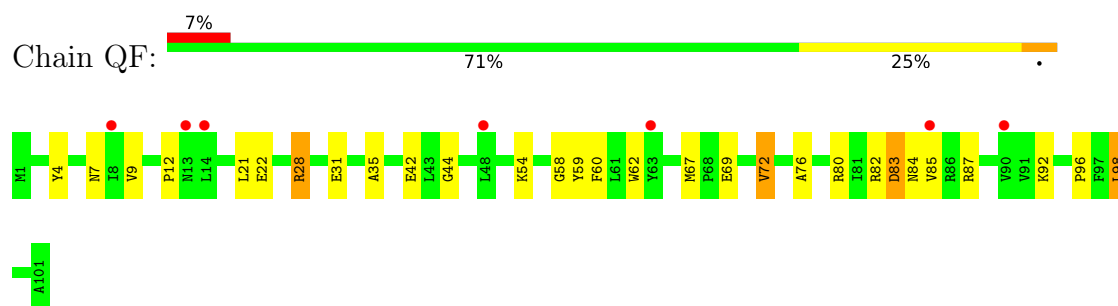
- Molecule 3: 30S ribosomal protein S3



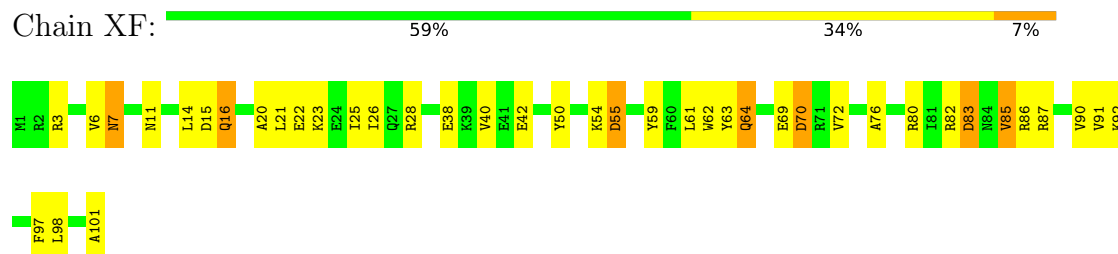
- Molecule 3: 30S ribosomal protein S3



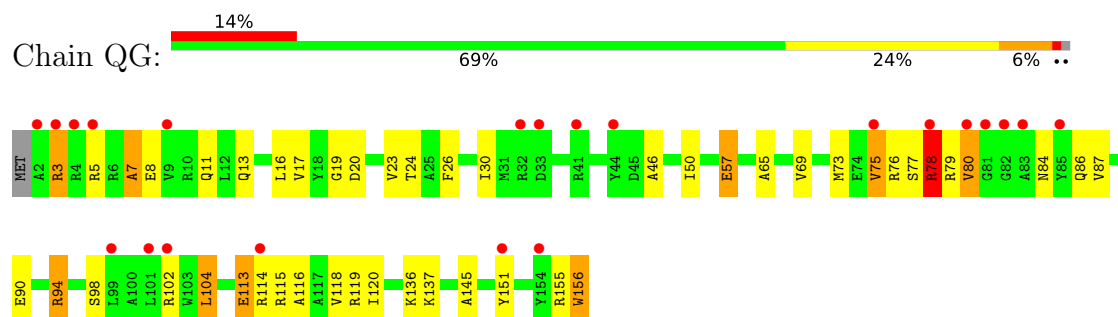
- Molecule 4: 30S ribosomal protein S4



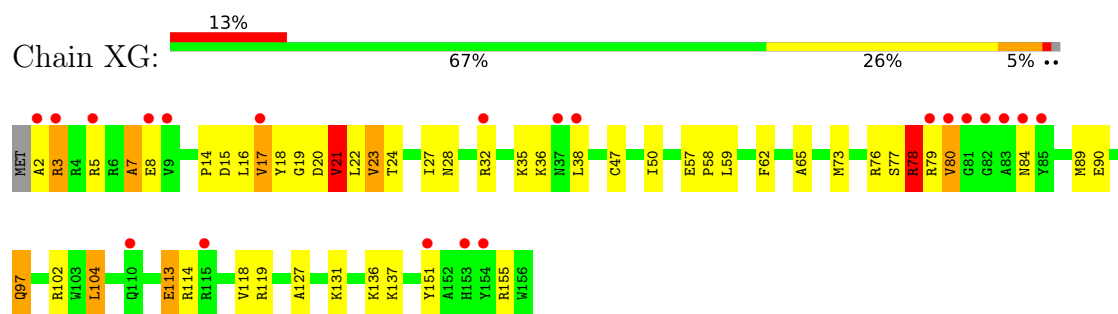
- Molecule 6: 30S ribosomal protein S6



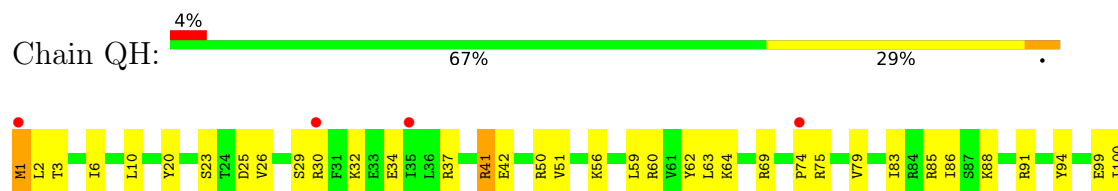
- Molecule 7: 30S ribosomal protein S7



- Molecule 7: 30S ribosomal protein S7

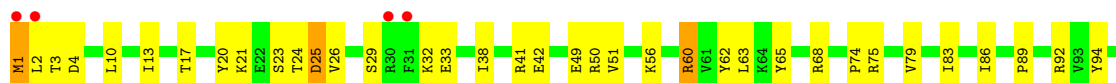


- Molecule 8: 30S ribosomal protein S8

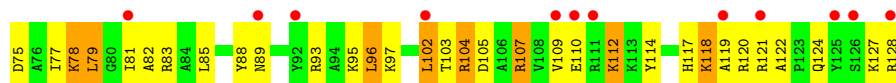
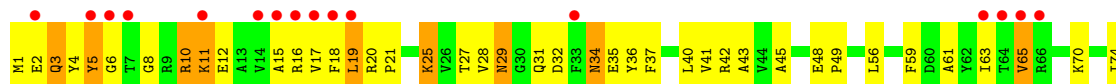
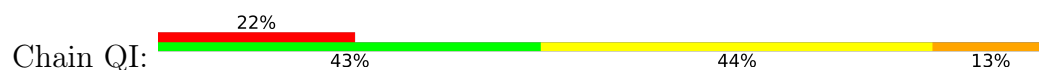




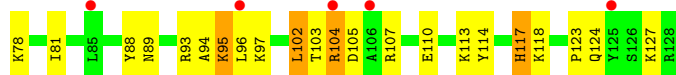
- Molecule 8: 30S ribosomal protein S8



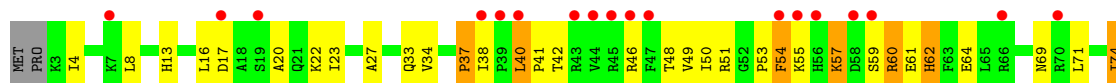
- Molecule 9: 30S ribosomal protein S9



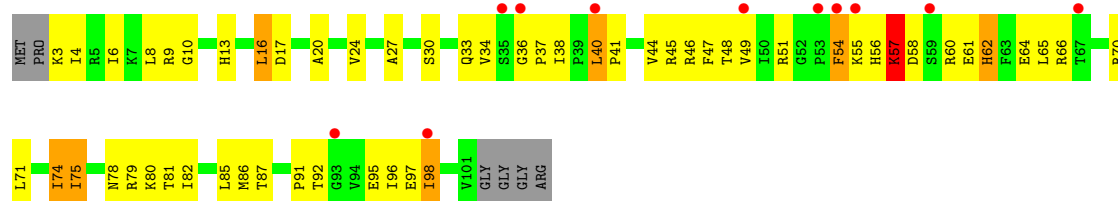
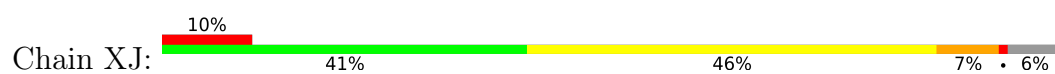
- Molecule 9: 30S ribosomal protein S9



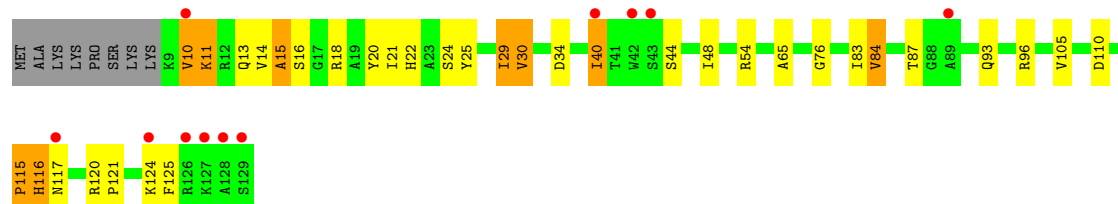
- Molecule 10: 30S ribosomal protein S10



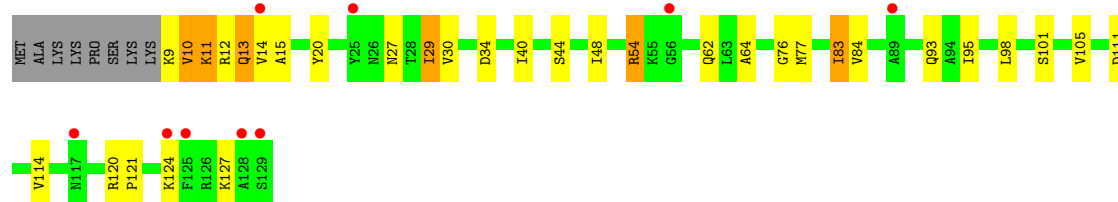
- Molecule 10: 30S ribosomal protein S10



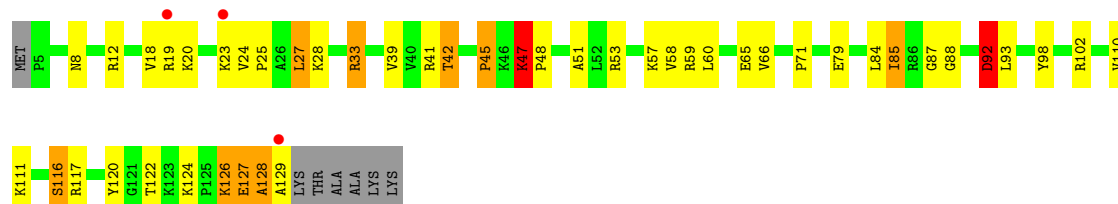
- Molecule 11: 30S ribosomal protein S11



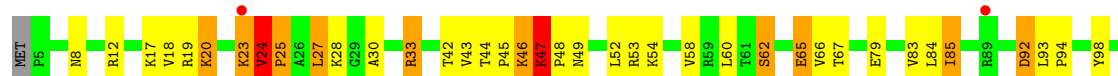
- Molecule 11: 30S ribosomal protein S11



- Molecule 12: 30S ribosomal protein S12

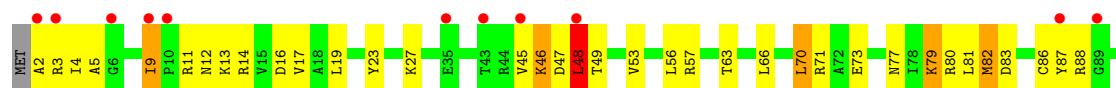


- Molecule 12: 30S ribosomal protein S12

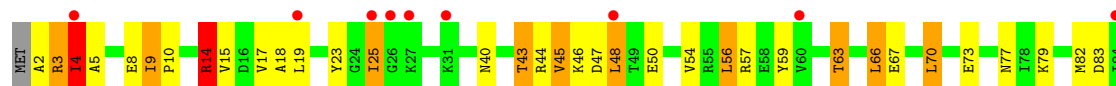




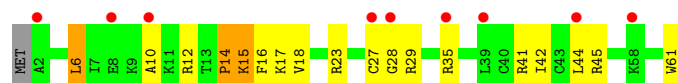
- Molecule 13: 30S ribosomal protein S13



- Molecule 13: 30S ribosomal protein S13



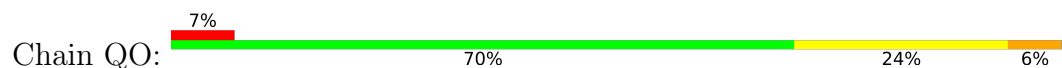
- Molecule 14: 30S ribosomal protein S14



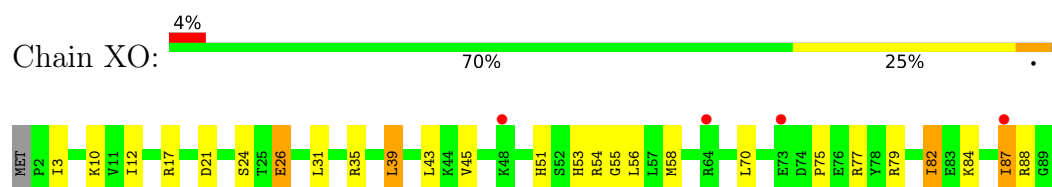
- Molecule 14: 30S ribosomal protein S14



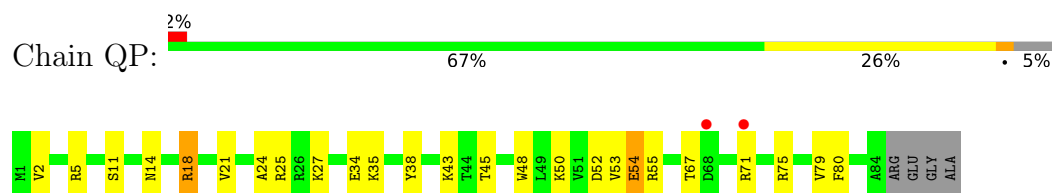
- Molecule 15: 30S ribosomal protein S15



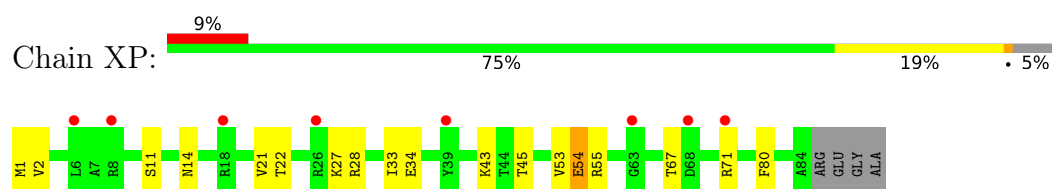
- Molecule 15: 30S ribosomal protein S15



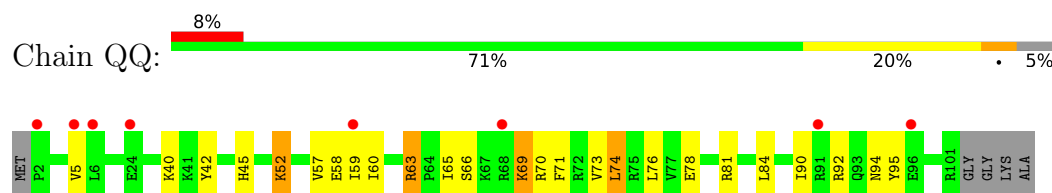
- Molecule 16: 30S ribosomal protein S16



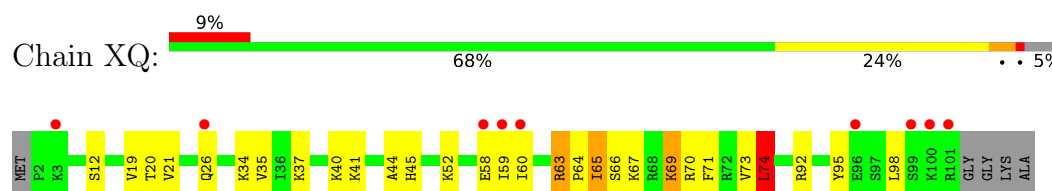
- Molecule 16: 30S ribosomal protein S16



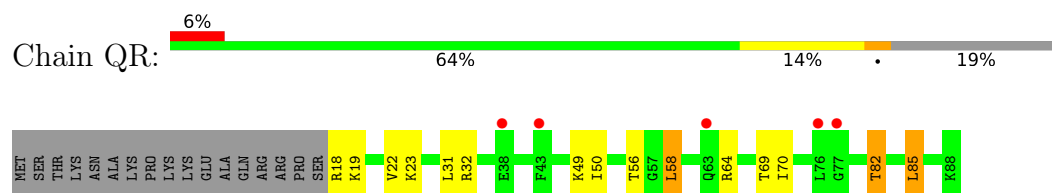
- Molecule 17: 30S ribosomal protein S17



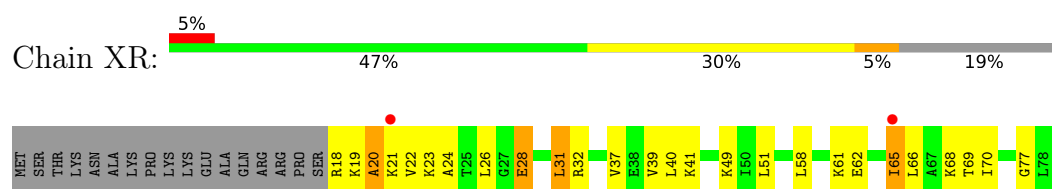
- Molecule 17: 30S ribosomal protein S17



- Molecule 18: 30S ribosomal protein S18



- Molecule 18: 30S ribosomal protein S18

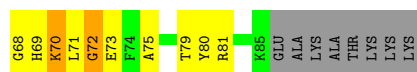




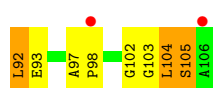
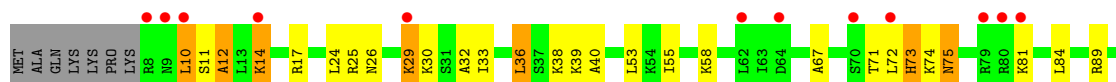
• Molecule 19: 30S ribosomal protein S19



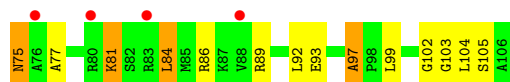
• Molecule 19: 30S ribosomal protein S19



• Molecule 20: 30S ribosomal protein S20



• Molecule 20: 30S ribosomal protein S20

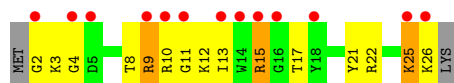


• Molecule 21: 30S ribosomal protein Thx





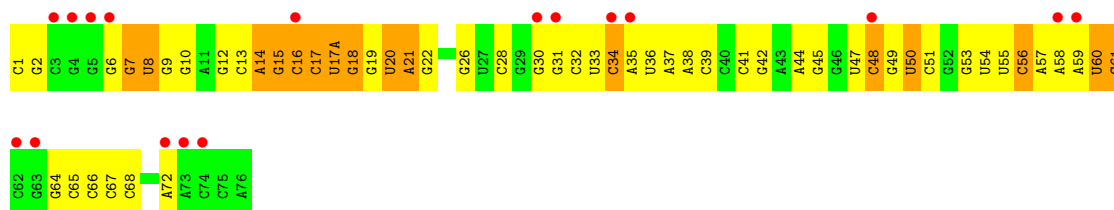
- Molecule 21: 30S ribosomal protein Thx



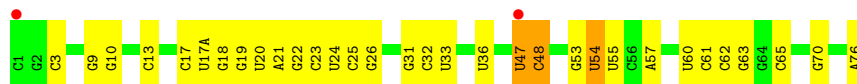
- Molecule 22: tRNA fMet



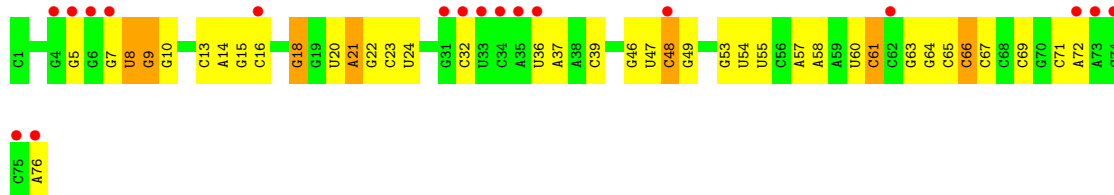
- Molecule 22: tRNA fMet



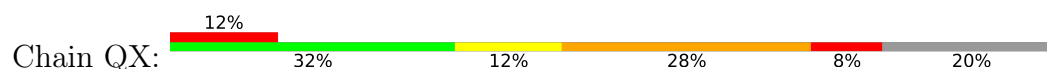
- Molecule 22: tRNA fMet

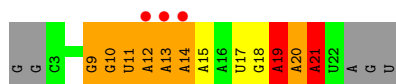


- Molecule 22: tRNA fMet

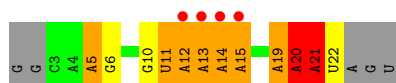
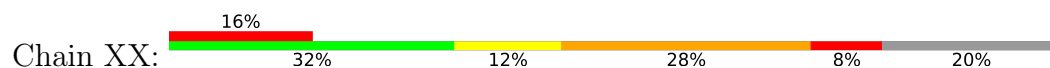


- Molecule 23: messenger RNA

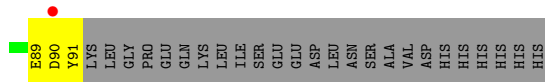




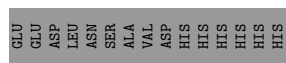
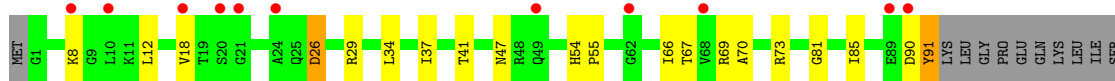
- Molecule 23: messenger RNA



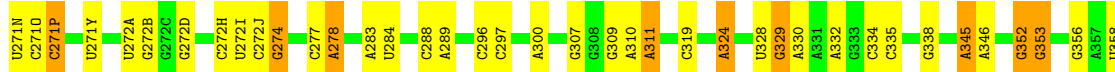
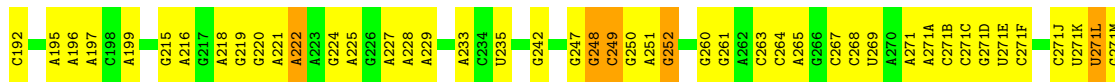
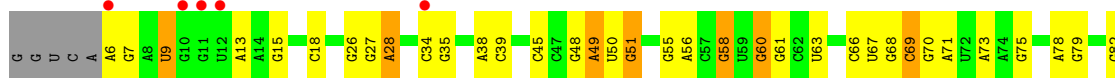
- Molecule 24: Host inhibition of growth B



- Molecule 24: Host inhibition of growth B



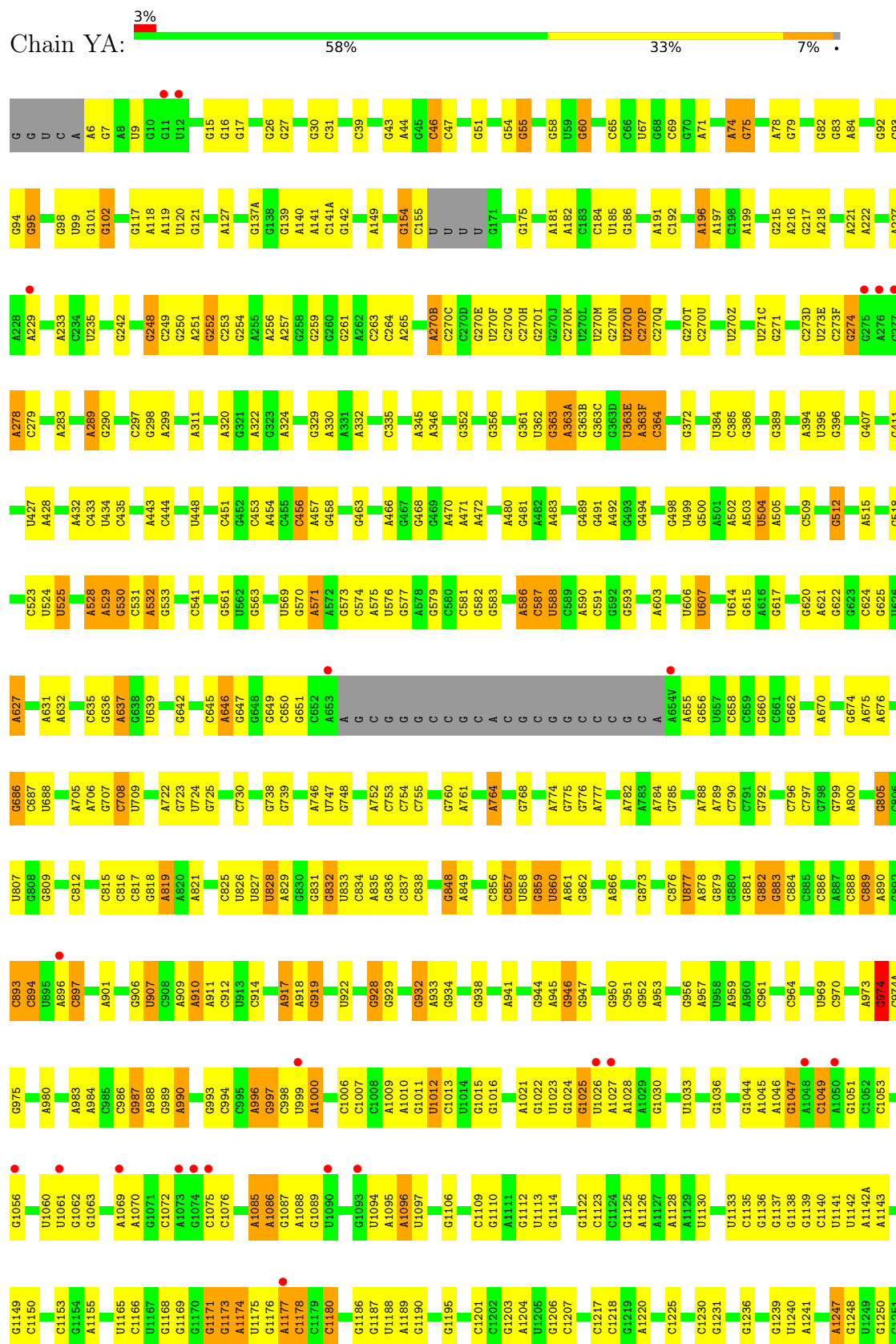
- Molecule 25: 23S rRNA



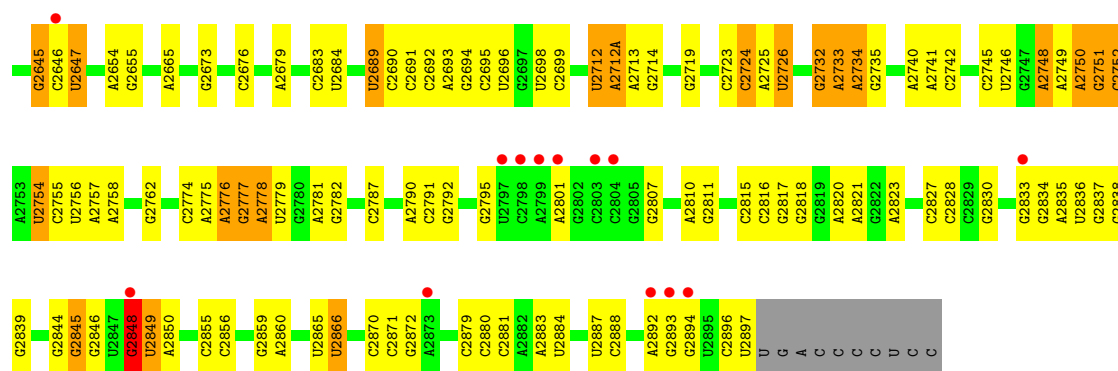
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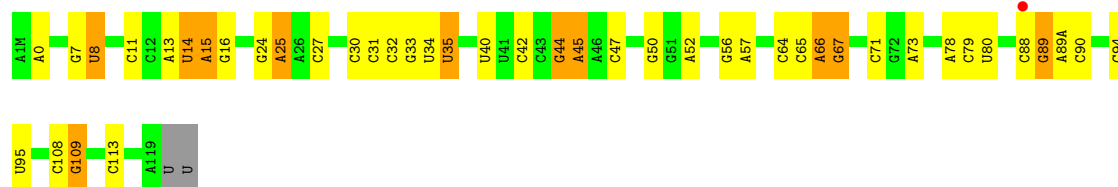
• Molecule 25: 23S rRNA



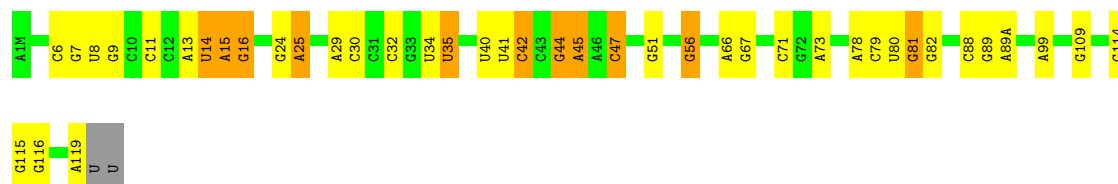
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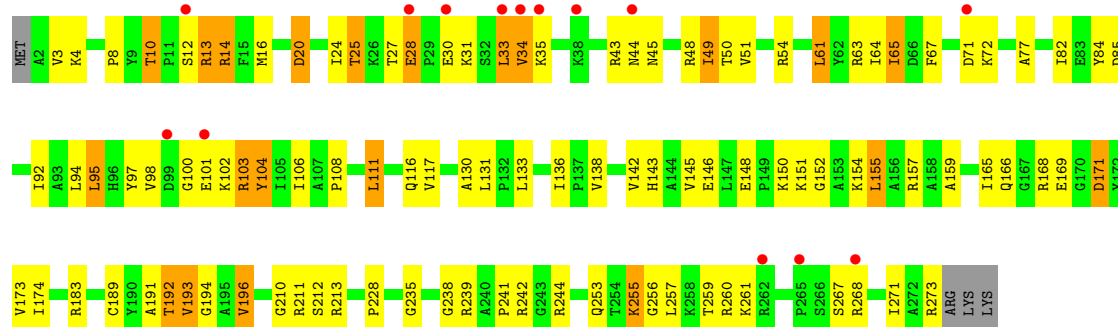
• Molecule 26: 5S rRNA



• Molecule 26: 5S rRNA

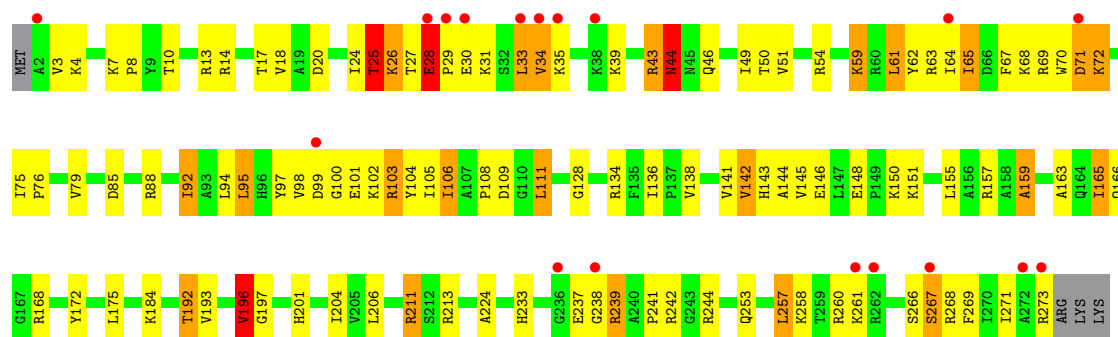


• Molecule 27: 50S ribosomal protein L2

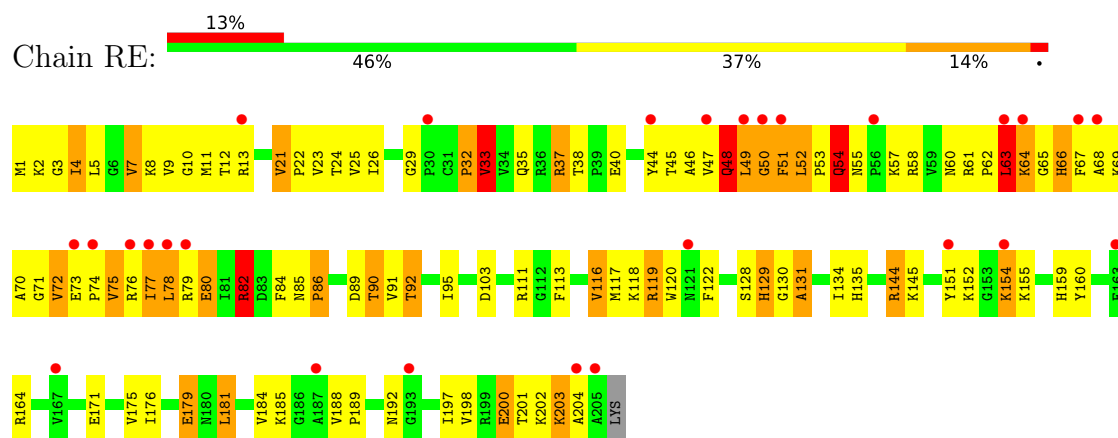


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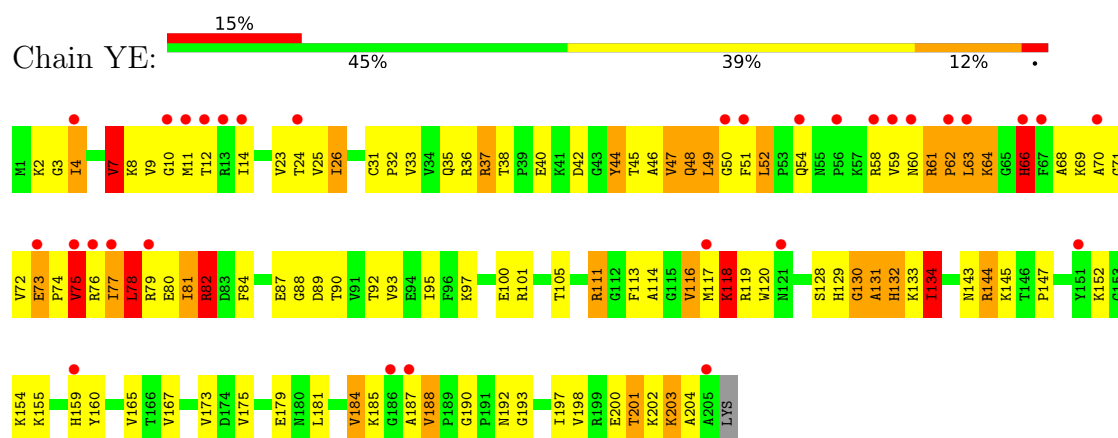




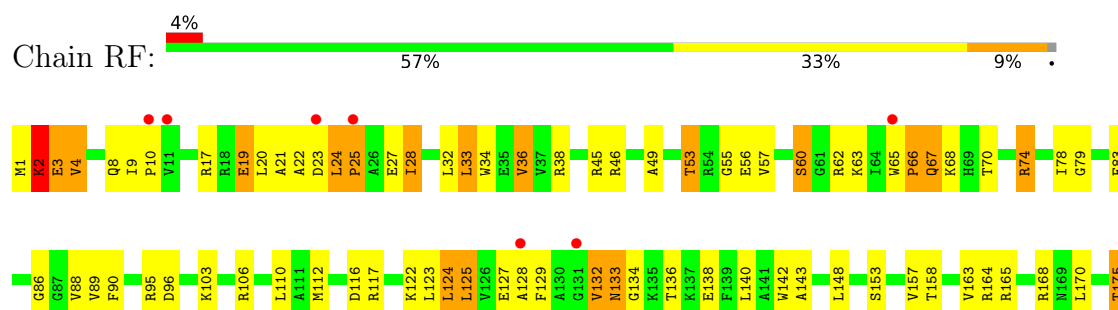
• Molecule 28: 50S ribosomal protein L3

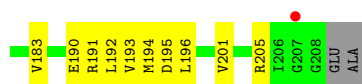


• Molecule 28: 50S ribosomal protein L3

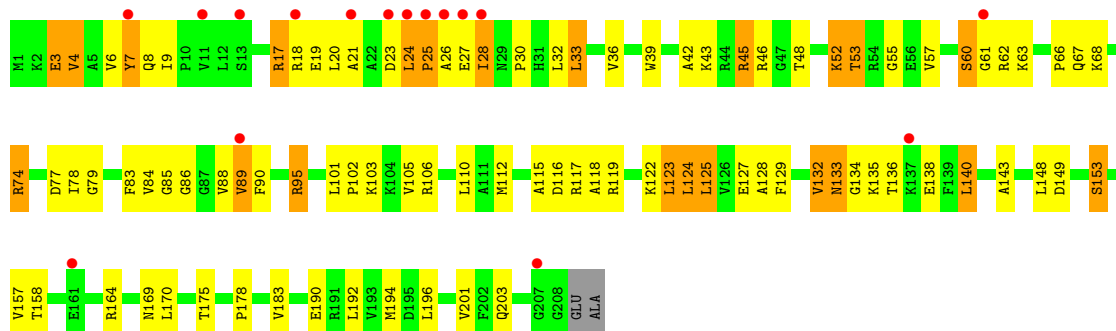


• Molecule 29: 50S ribosomal protein L4

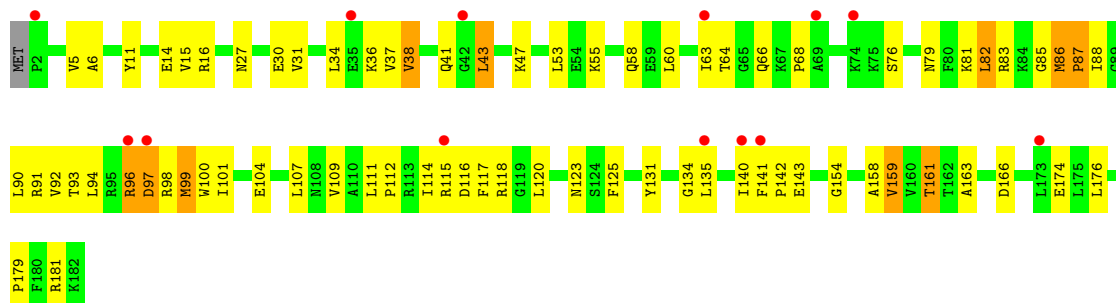




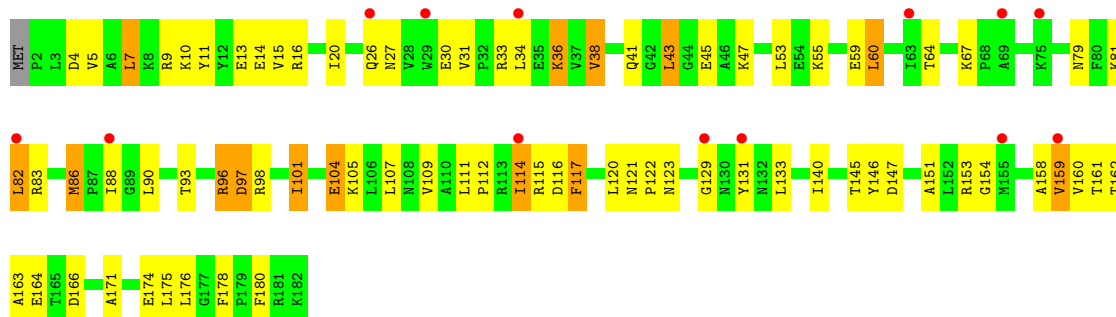
• Molecule 29: 50S ribosomal protein L4



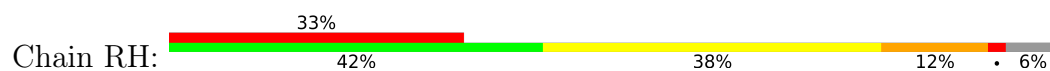
• Molecule 30: 50S ribosomal protein L5

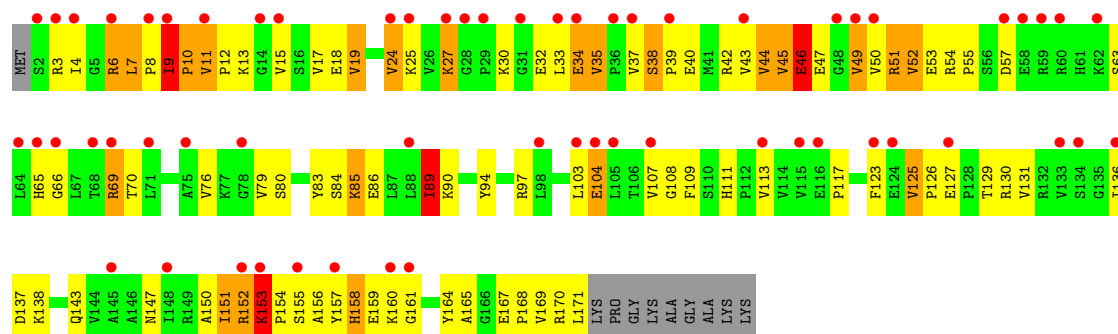


• Molecule 30: 50S ribosomal protein L5

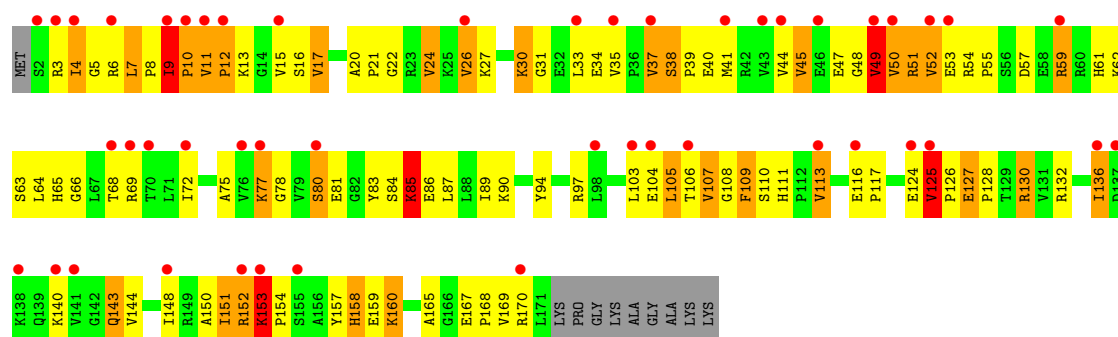


• Molecule 31: 50S ribosomal protein L6

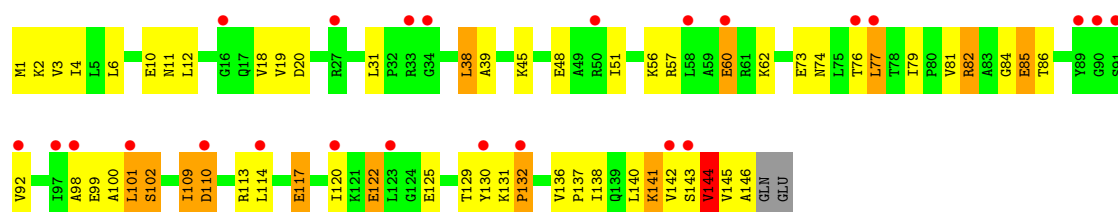




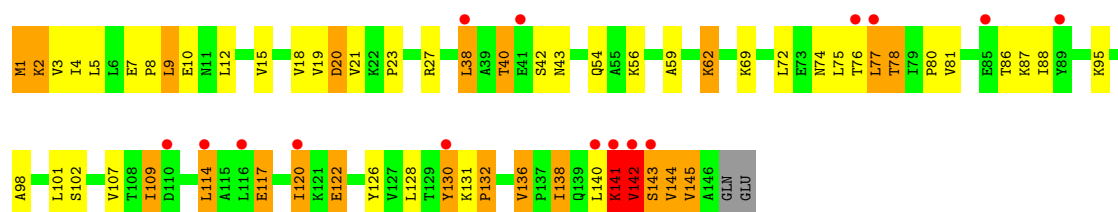
• Molecule 31: 50S ribosomal protein L6



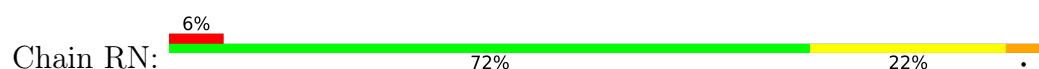
• Molecule 32: 50S ribosomal protein L9

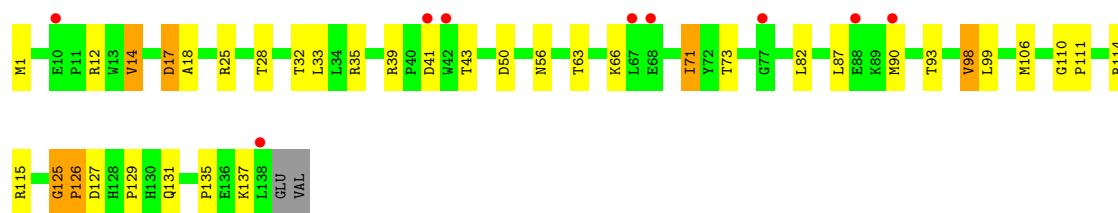


• Molecule 32: 50S ribosomal protein L9

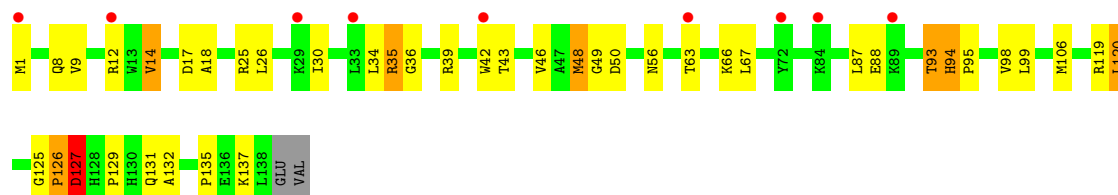


• Molecule 33: 50S ribosomal protein L13

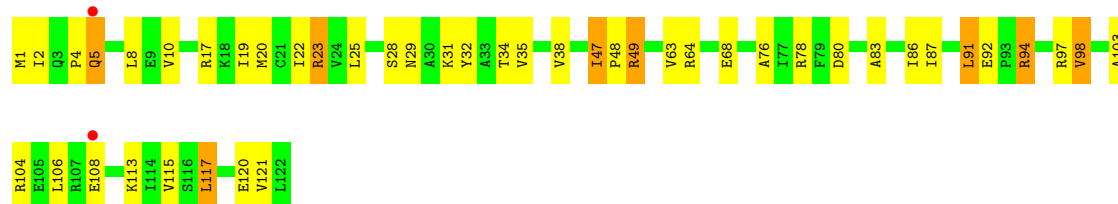




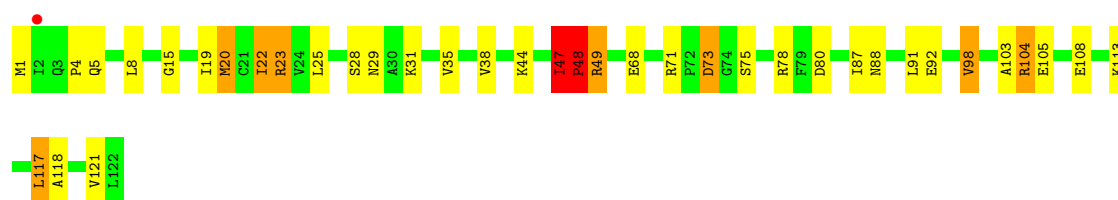
• Molecule 33: 50S ribosomal protein L13



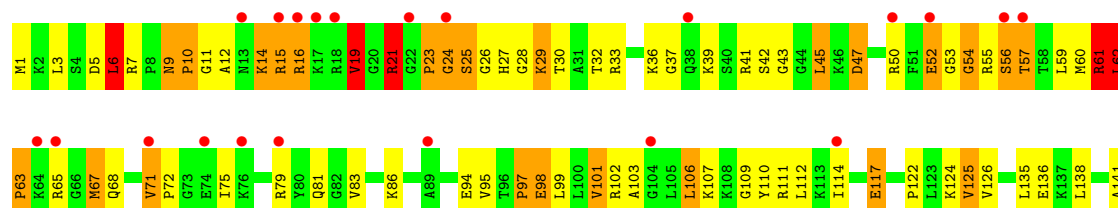
• Molecule 34: 50S ribosomal protein L14



• Molecule 34: 50S ribosomal protein L14

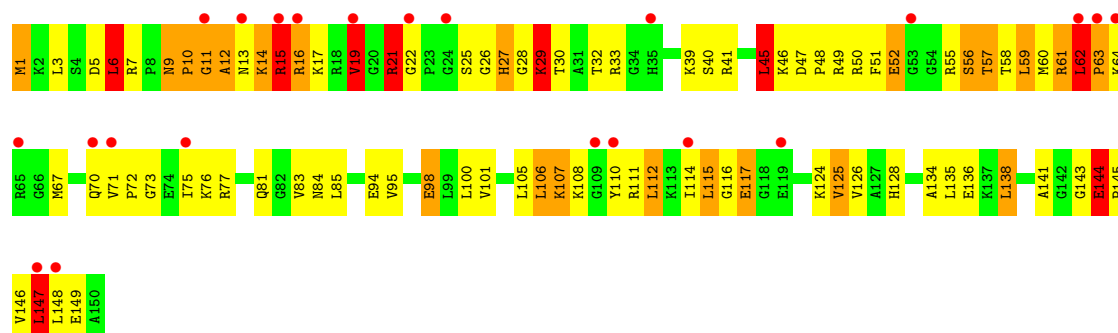


• Molecule 35: 50S ribosomal protein L15

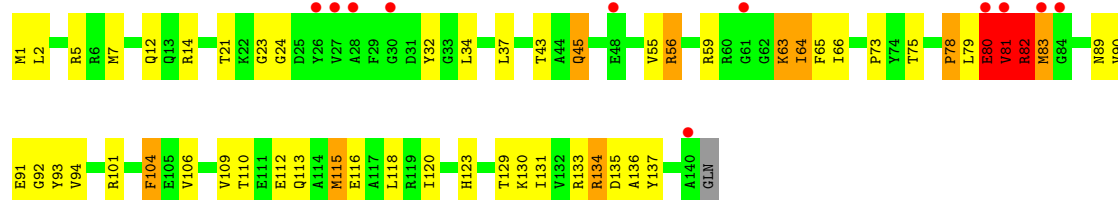




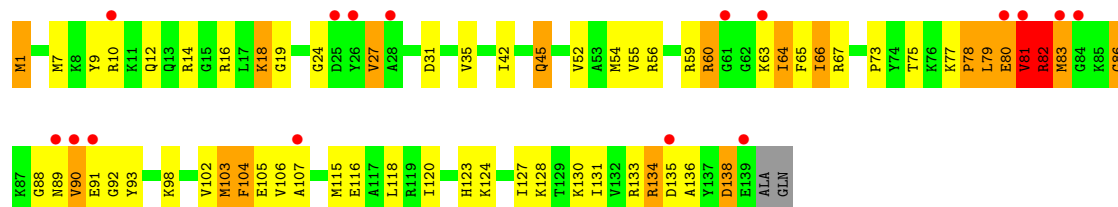
• Molecule 35: 50S ribosomal protein L15



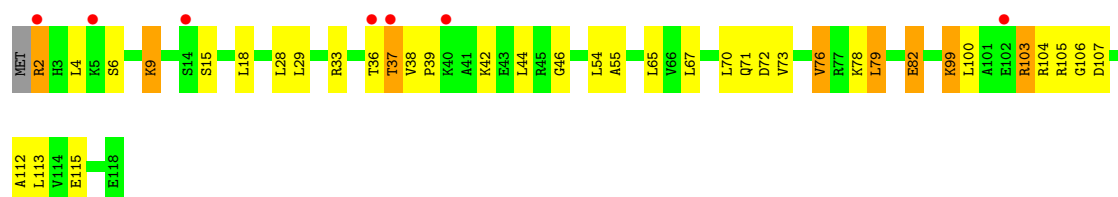
• Molecule 36: 50S ribosomal protein L16



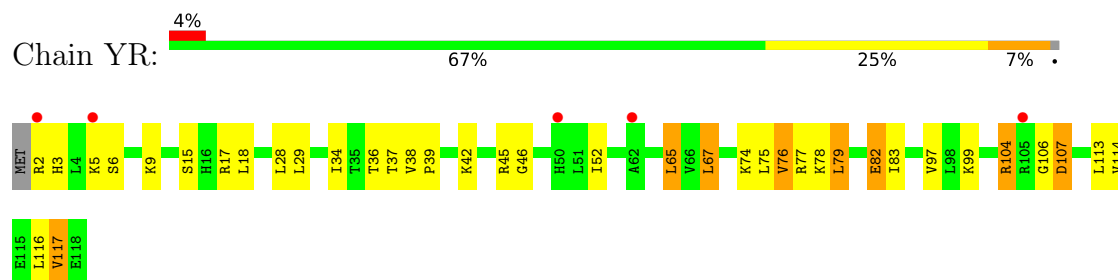
• Molecule 36: 50S ribosomal protein L16



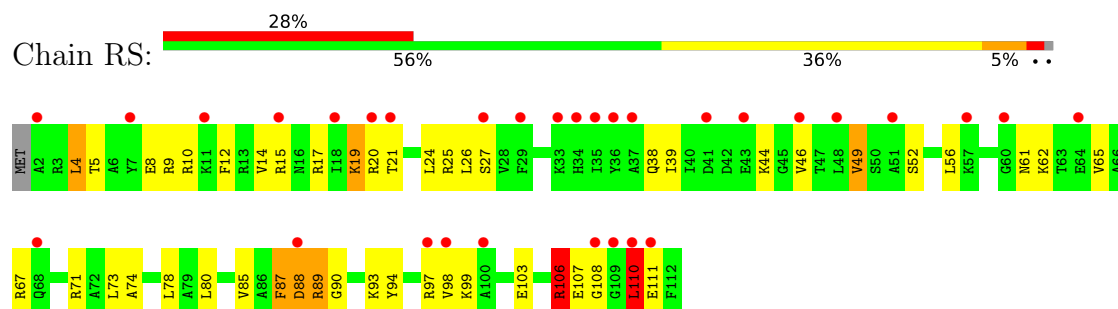
• Molecule 37: 50S ribosomal protein L17



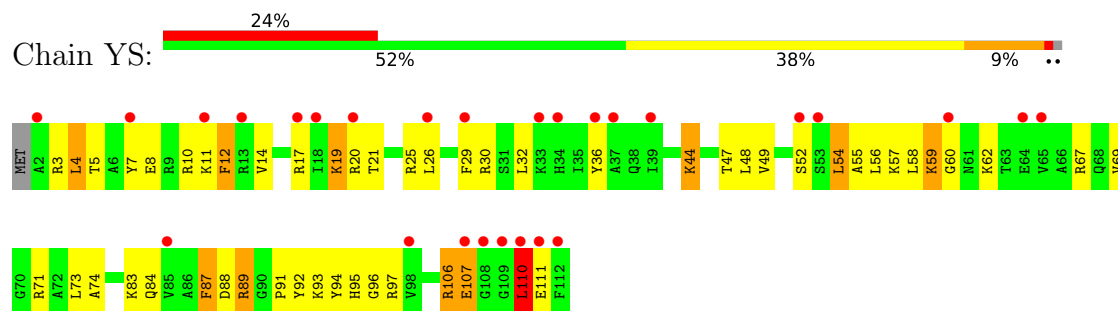
- Molecule 37: 50S ribosomal protein L17



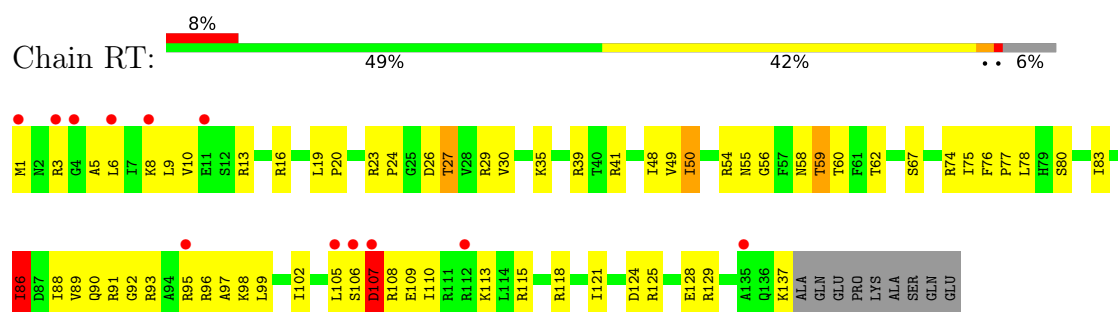
- Molecule 38: 50S ribosomal protein L18



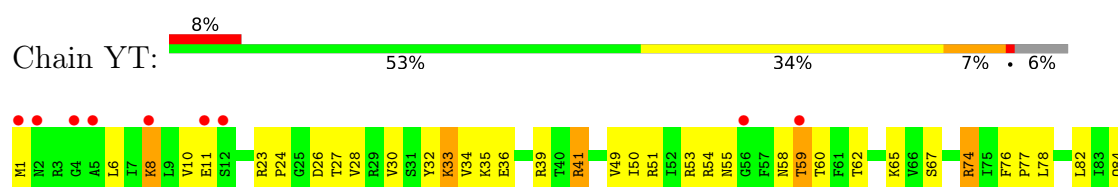
- Molecule 38: 50S ribosomal protein L18



- Molecule 39: 50S ribosomal protein L19



- Molecule 39: 50S ribosomal protein L19

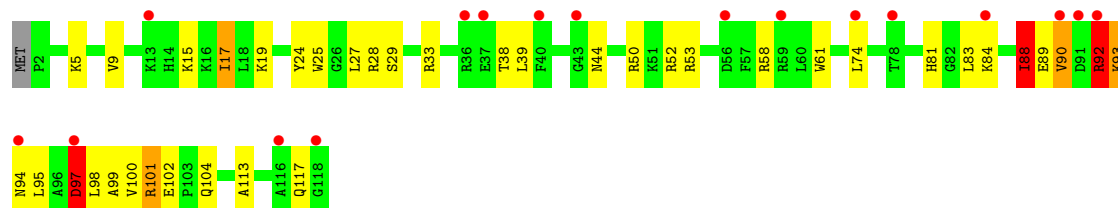




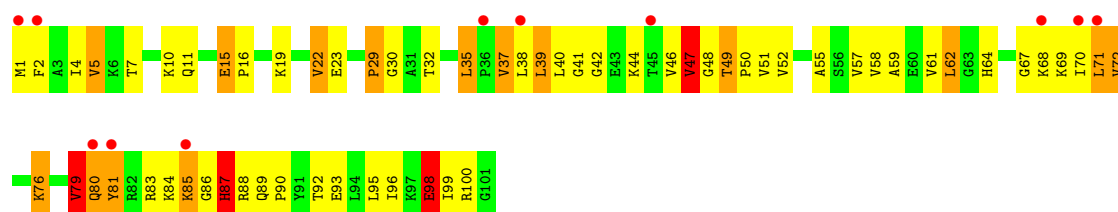
- Molecule 40: 50S ribosomal protein L20



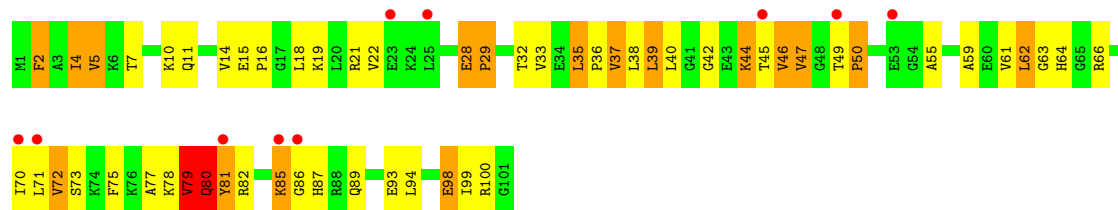
- Molecule 40: 50S ribosomal protein L20



- Molecule 41: 50S ribosomal protein L21

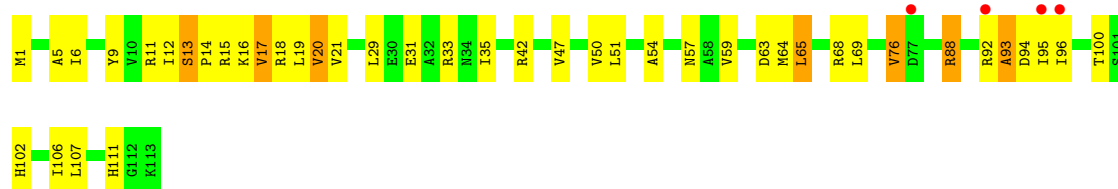


- Molecule 41: 50S ribosomal protein L21

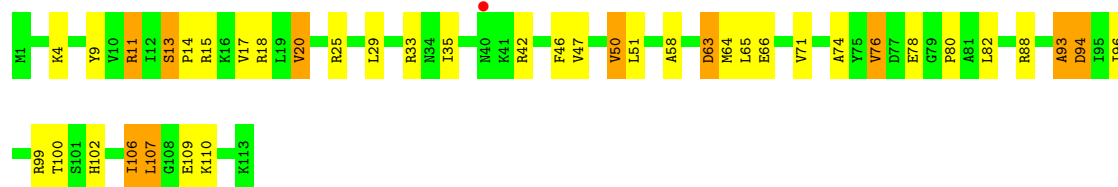


- Molecule 42: 50S ribosomal protein L22

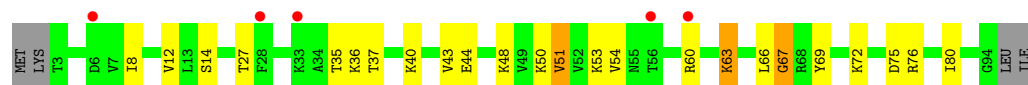
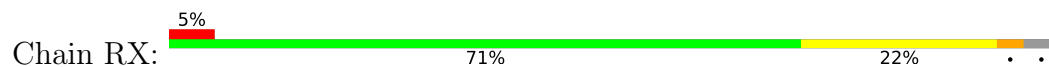




- Molecule 42: 50S ribosomal protein L22



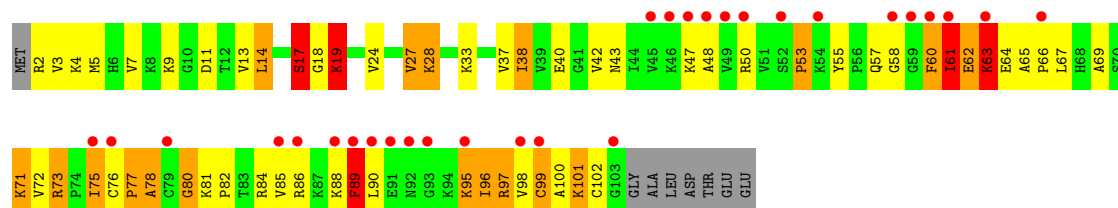
- Molecule 43: 50S ribosomal protein L23



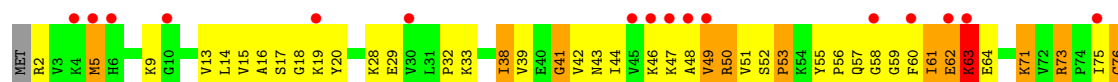
- Molecule 43: 50S ribosomal protein L23

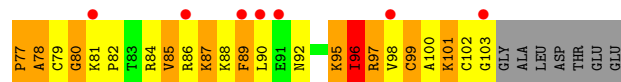


- Molecule 44: 50S ribosomal protein L24

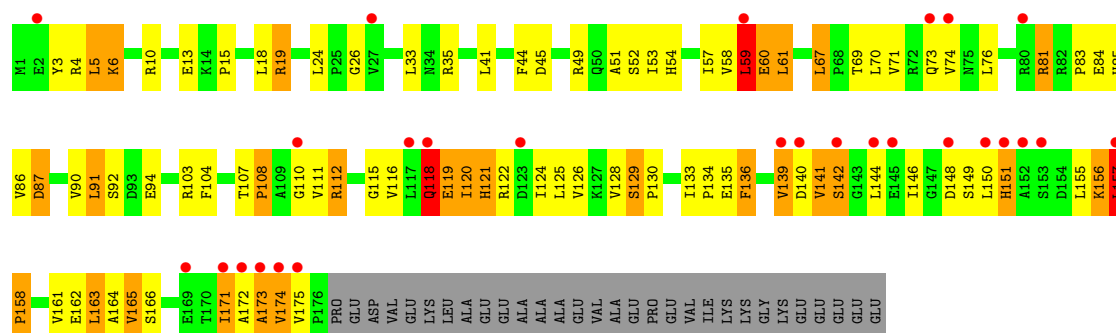
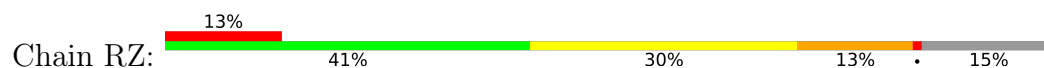


- Molecule 44: 50S ribosomal protein L24

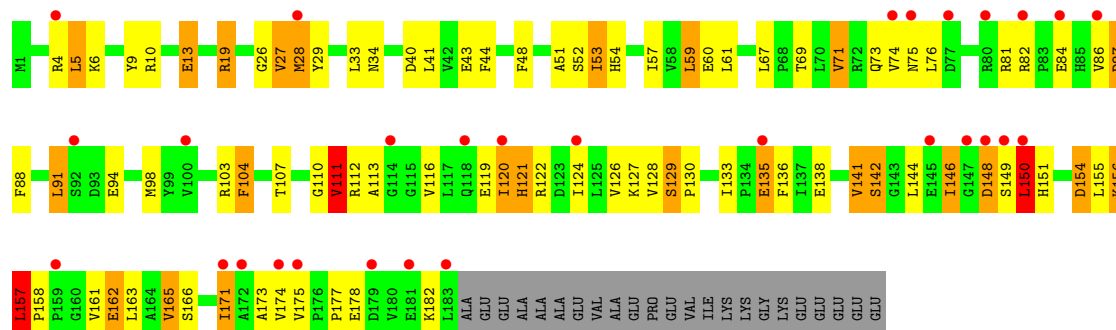




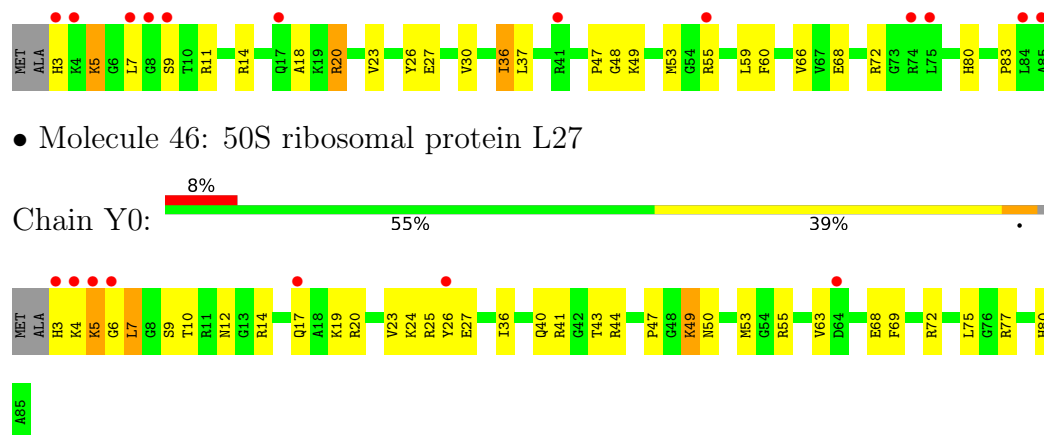
• Molecule 45: 50S ribosomal protein L25



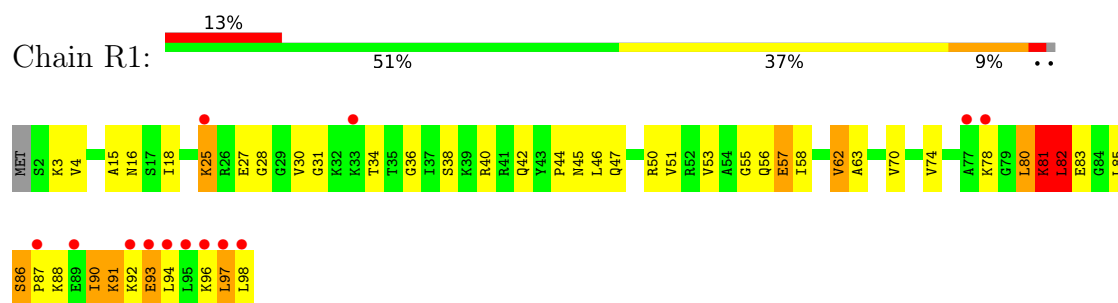
• Molecule 45: 50S ribosomal protein L25



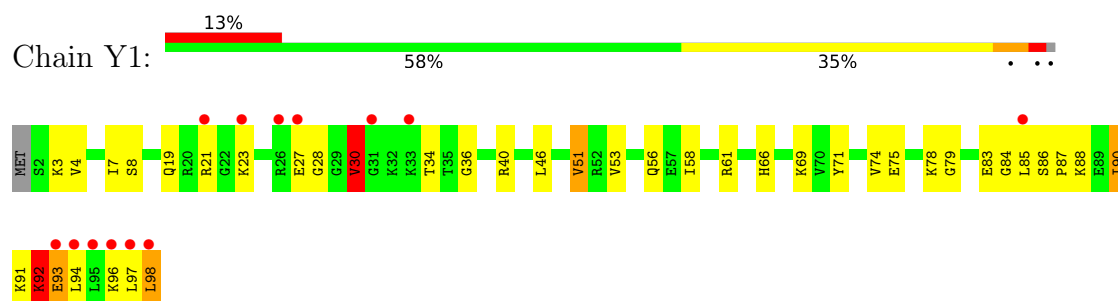
• Molecule 46: 50S ribosomal protein L27



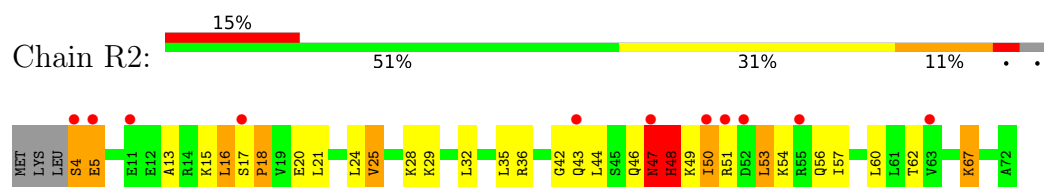
- Molecule 47: 50S ribosomal protein L28



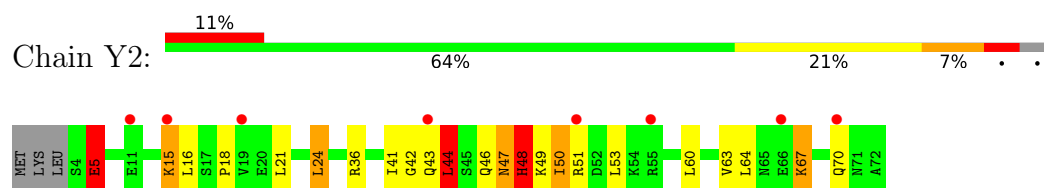
- Molecule 47: 50S ribosomal protein L28



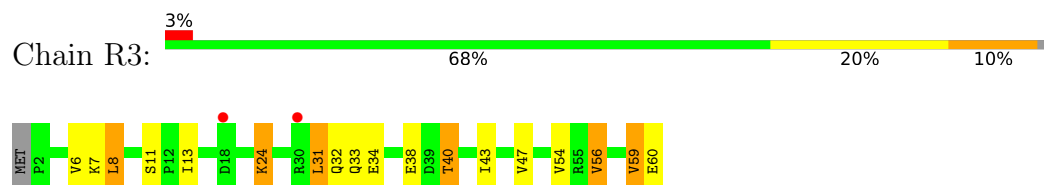
- Molecule 48: 50S ribosomal protein L29



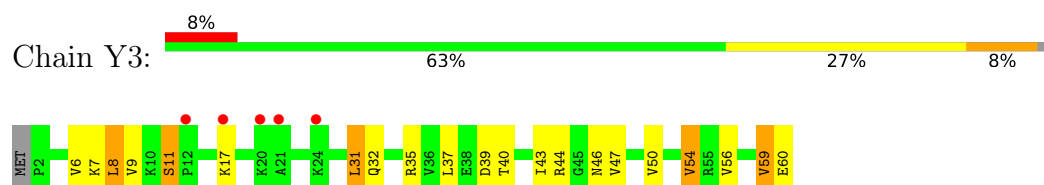
- Molecule 48: 50S ribosomal protein L29



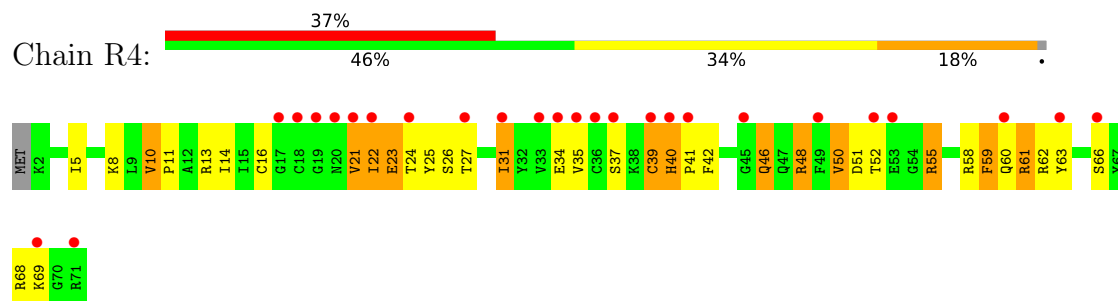
- Molecule 49: 50S ribosomal protein L30



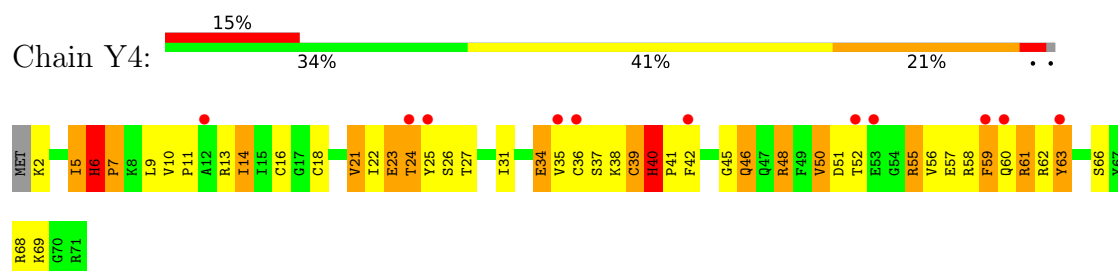
- Molecule 49: 50S ribosomal protein L30



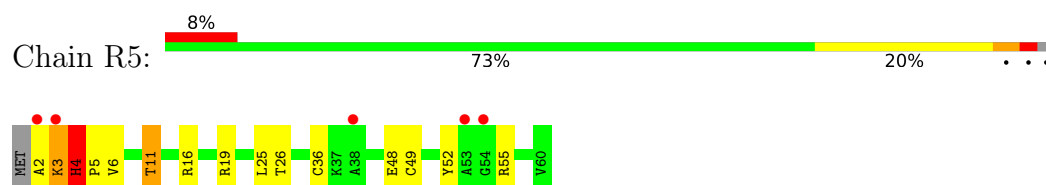
- Molecule 50: 50S ribosomal protein L31



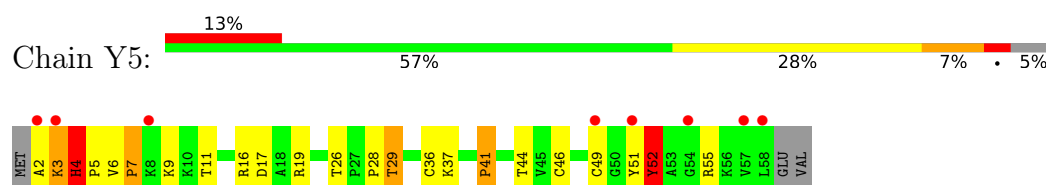
- Molecule 50: 50S ribosomal protein L31



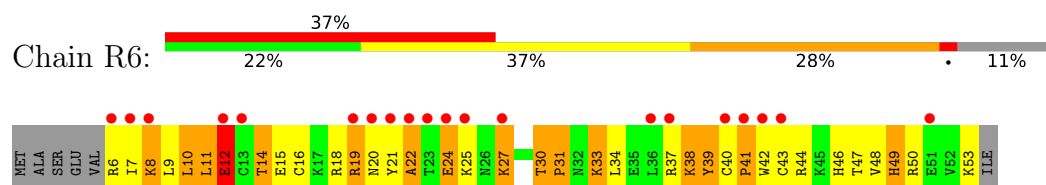
- Molecule 51: 50S ribosomal protein L32



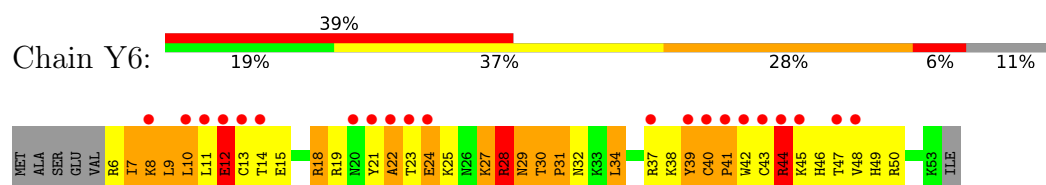
- Molecule 51: 50S ribosomal protein L32



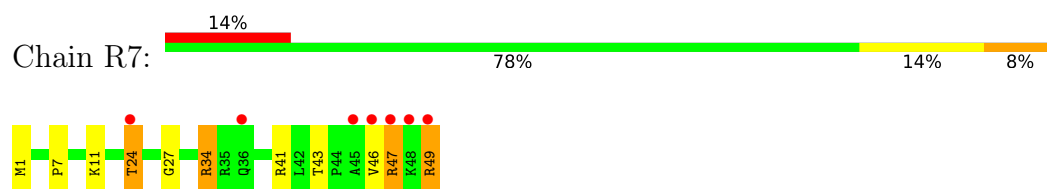
- Molecule 52: 50S ribosomal protein L33



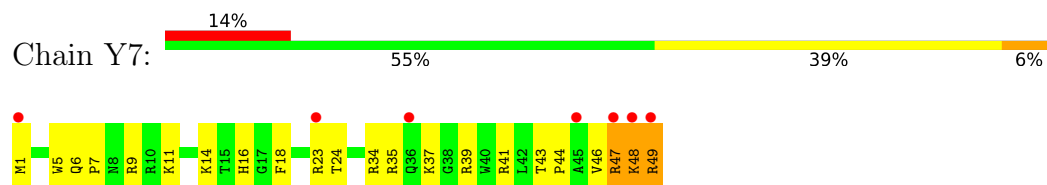
- Molecule 52: 50S ribosomal protein L33



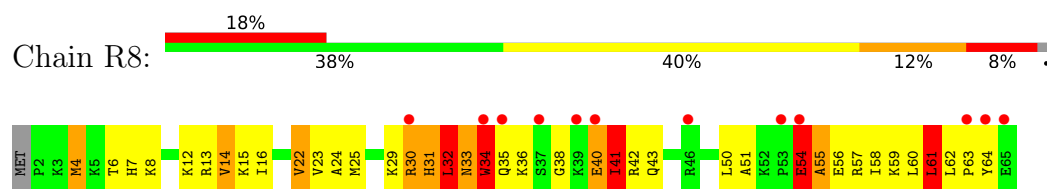
- Molecule 53: 50S ribosomal protein L34



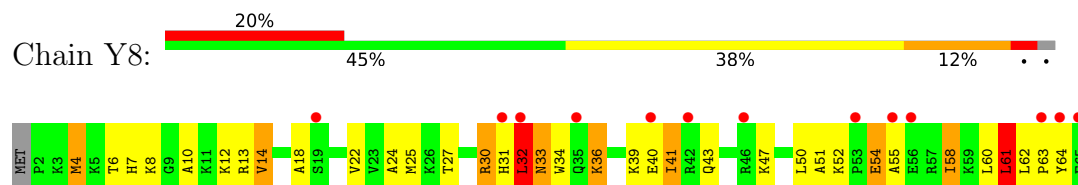
- Molecule 53: 50S ribosomal protein L34



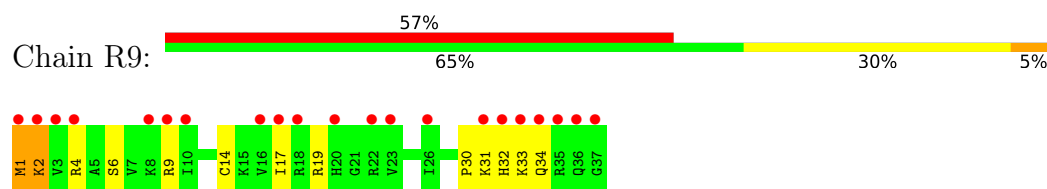
- Molecule 54: 50S ribosomal protein L35



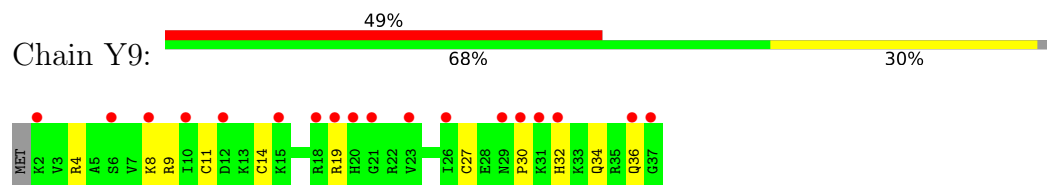
- Molecule 54: 50S ribosomal protein L35



- Molecule 55: 50S ribosomal protein L36



- Molecule 55: 50S ribosomal protein L36



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	214.11Å 453.88Å 607.59Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	34.93 – 3.40 34.93 – 3.40	Depositor EDS
% Data completeness (in resolution range)	99.3 (34.93-3.40) 98.8 (34.93-3.40)	Depositor EDS
R_{merge}	0.21	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.55 (at 3.18Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.2_1309)	Depositor
R, R_{free}	0.202 , 0.234 0.214 , 0.248	Depositor DCC
R_{free} test set	44426 reflections (4.62%)	wwPDB-VP
Wilson B-factor (Å ²)	72.8	Xtriage
Anisotropy	0.176	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.27 , 79.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.44$, $\langle L^2 \rangle = 0.26$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	297549	wwPDB-VP
Average B, all atoms (Å ²)	91.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.42% 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: A2M, 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	QA	0.18	0/36346	0.37	6/56724 (0.0%)
1	XA	0.18	0/36276	0.36	1/56615 (0.0%)
2	QB	0.33	0/1950	0.81	2/2630 (0.1%)
2	XB	0.33	0/1950	0.82	2/2630 (0.1%)
3	QC	0.33	0/1636	0.77	0/2205
3	XC	0.36	0/1636	0.79	0/2205
4	QD	0.36	0/1733	0.84	2/2318 (0.1%)
4	XD	0.36	0/1733	0.83	3/2318 (0.1%)
5	QE	0.37	0/1195	0.87	0/1609
5	XE	0.41	0/1195	0.80	0/1609
6	QF	0.31	0/856	0.74	0/1154
6	XF	0.33	0/856	0.75	0/1154
7	QG	0.33	0/1276	0.80	2/1709 (0.1%)
7	XG	0.36	0/1276	0.85	2/1709 (0.1%)
8	QH	0.33	0/1136	0.82	0/1527
8	XH	0.36	0/1136	0.81	2/1527 (0.1%)
9	QI	0.34	0/1037	0.84	1/1389 (0.1%)
9	XI	0.35	0/1037	0.83	2/1389 (0.1%)
10	QJ	0.31	0/814	0.77	0/1095
10	XJ	0.32	0/814	0.78	0/1095
11	QK	0.39	0/916	0.82	1/1234 (0.1%)
11	XK	0.38	0/916	0.86	1/1234 (0.1%)
12	QL	0.39	0/991	0.89	2/1327 (0.2%)
12	XL	0.43	1/991 (0.1%)	0.92	8/1327 (0.6%)
13	QM	0.37	0/947	0.85	0/1270
13	XM	0.35	0/947	0.85	0/1270
14	QN	0.32	0/501	0.80	0/664
14	XN	0.35	0/501	0.80	0/664
15	QO	0.31	0/745	0.70	0/992
15	XO	0.35	0/745	0.75	0/992
16	QP	0.33	0/721	0.75	0/970
16	XP	0.34	0/721	0.75	0/970

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
17	QQ	0.32	0/847	0.79	0/1131
17	XQ	0.34	0/847	0.74	0/1131
18	QR	0.33	0/590	0.78	0/782
18	XR	0.33	0/590	0.77	0/782
19	QS	0.37	0/670	0.86	1/901 (0.1%)
19	XS	0.41	0/670	0.88	0/901
20	QT	0.35	0/765	0.79	1/1007 (0.1%)
20	XT	0.34	0/765	0.80	1/1007 (0.1%)
21	QU	0.29	0/221	0.78	0/288
21	XU	0.28	0/221	0.74	0/288
22	QV	0.19	0/1832	0.36	0/2855
22	QW	0.13	0/1832	0.29	0/2855
22	XV	0.20	0/1832	0.36	0/2855
22	XW	0.12	0/1832	0.28	0/2855
23	QX	0.37	0/417	0.51	0/649
23	XX	0.34	0/417	0.50	0/649
24	QY	0.43	0/762	0.73	1/1028 (0.1%)
24	XY	0.34	0/762	0.73	0/1028
25	RA	0.23	0/69742	0.41	10/108874 (0.0%)
25	YA	0.22	1/69356 (0.0%)	0.40	6/108271 (0.0%)
26	RB	0.18	0/2928	0.36	0/4568
26	YB	0.18	0/2928	0.36	0/4568
27	RD	0.43	0/2165	0.88	4/2919 (0.1%)
27	YD	0.47	0/2165	0.93	5/2919 (0.2%)
28	RE	0.44	0/1601	0.95	7/2160 (0.3%)
28	YE	0.44	0/1601	0.94	6/2160 (0.3%)
29	RF	0.45	0/1662	0.92	4/2249 (0.2%)
29	YF	0.41	0/1662	0.91	2/2249 (0.1%)
30	RG	0.34	0/1499	0.78	2/2016 (0.1%)
30	YG	0.35	0/1499	0.78	0/2016
31	RH	0.38	0/1332	1.03	10/1802 (0.6%)
31	YH	0.43	0/1332	1.01	8/1802 (0.4%)
32	RI	0.35	0/1151	0.85	1/1558 (0.1%)
32	YI	0.40	0/1151	0.93	4/1558 (0.3%)
33	RN	0.36	0/1131	0.85	3/1525 (0.2%)
33	YN	0.38	0/1131	0.87	2/1525 (0.1%)
34	RO	0.39	0/943	0.87	2/1269 (0.2%)
34	YO	0.43	0/943	0.87	2/1269 (0.2%)
35	RP	0.45	0/1162	0.98	6/1544 (0.4%)
35	YP	0.47	0/1162	0.97	3/1544 (0.2%)
36	RQ	0.45	0/1133	0.88	1/1515 (0.1%)
36	YQ	0.46	0/1128	0.91	2/1508 (0.1%)
37	RR	0.39	0/974	0.80	0/1302

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
37	YR	0.42	0/974	0.80	1/1302 (0.1%)
38	RS	0.32	0/892	0.77	1/1187 (0.1%)
38	YS	0.36	0/892	0.83	1/1187 (0.1%)
39	RT	0.35	0/1155	0.79	2/1542 (0.1%)
39	YT	0.39	0/1155	0.81	0/1542
40	RU	0.42	0/982	0.86	3/1306 (0.2%)
40	YU	0.41	0/982	0.91	4/1306 (0.3%)
41	RV	0.52	0/790	1.01	4/1057 (0.4%)
41	YV	0.48	0/790	1.02	5/1057 (0.5%)
42	RW	0.43	0/911	0.84	3/1220 (0.2%)
42	YW	0.42	0/911	0.82	2/1220 (0.2%)
43	RX	0.40	0/739	0.85	0/993
43	YX	0.45	0/739	0.89	1/993 (0.1%)
44	RY	0.45	0/798	0.97	0/1064
44	YY	0.45	0/798	0.94	0/1064
45	RZ	0.46	2/1435 (0.1%)	0.95	4/1947 (0.2%)
45	YZ	0.43	0/1493	0.96	6/2026 (0.3%)
46	R0	0.40	0/666	0.86	0/885
46	Y0	0.40	0/666	0.87	1/885 (0.1%)
47	R1	0.42	0/770	0.85	0/1022
47	Y1	0.49	0/770	0.84	0/1022
48	R2	0.33	0/583	0.92	1/771 (0.1%)
48	Y2	0.41	0/583	0.90	1/771 (0.1%)
49	R3	0.37	0/474	0.77	0/635
49	Y3	0.37	0/474	0.81	0/635
50	R4	0.34	0/586	0.77	0/785
50	Y4	0.43	0/586	0.82	1/785 (0.1%)
51	R5	0.44	0/473	1.06	2/639 (0.3%)
51	Y5	0.42	0/456	0.99	5/617 (0.8%)
52	R6	0.41	0/424	0.98	2/565 (0.4%)
52	Y6	0.56	0/424	1.09	2/565 (0.4%)
53	R7	0.42	0/438	0.80	0/575
53	Y7	0.44	0/438	0.83	2/575 (0.3%)
54	R8	0.56	0/525	1.13	5/691 (0.7%)
54	Y8	0.54	0/525	1.13	3/691 (0.4%)
55	R9	0.34	0/310	0.72	0/407
55	Y9	0.31	0/302	0.71	0/397
All	All	0.28	4/321792 (0.0%)	0.56	193/481138 (0.0%)

All (4) bond length outliers are listed below:

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	RZ	157	LEU	C-N	6.51	1.41	1.33
25	YA	1545	A	O3'-P	5.37	1.67	1.61
12	XL	25	PRO	N-CD	5.10	1.54	1.47
45	RZ	158	PRO	N-CD	5.06	1.54	1.47

All (193) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
54	Y8	41	ILE	N-CA-C	-12.63	101.71	113.71
54	R8	41	ILE	N-CA-C	-11.89	102.42	113.71
31	YH	9	ILE	C-N-CD	-11.87	94.49	120.60
36	YQ	82	ARG	N-CA-C	11.20	124.88	109.54
25	RA	859	G	C1'-C2'-O2'	-10.35	96.28	111.80
32	YI	144	VAL	N-CA-C	9.02	119.01	110.53
25	RA	1980	G	C4'-C3'-O3'	8.83	122.65	109.40
12	QL	47	LYS	CA-C-N	-8.74	110.98	120.94
12	QL	47	LYS	C-N-CA	-8.74	110.98	120.94
51	R5	4	HIS	CA-C-N	-8.59	111.17	119.85
51	R5	4	HIS	C-N-CA	-8.59	111.17	119.85
7	XG	78	ARG	N-CA-C	8.43	116.84	108.75
25	RA	1036	G	C1'-C2'-O2'	-8.19	96.11	108.40
40	YU	89	GLU	N-CA-C	-7.88	103.46	113.23
41	RV	81	TYR	N-CA-C	7.66	120.55	109.14
48	R2	5	GLU	N-CA-C	-7.60	104.14	113.41
25	RA	614(A)	U	P-O3'-C3'	7.53	128.74	119.70
36	RQ	82	ARG	N-CA-C	7.51	123.52	107.67
40	YU	97	ASP	N-CA-C	-7.31	103.83	112.89
25	YA	974	G	C2'-C3'-O3'	-7.18	102.92	113.70
48	Y2	5	GLU	N-CA-C	-7.15	103.22	112.23
28	YE	26	ILE	N-CA-C	7.09	118.08	112.12
33	RN	110	GLY	CA-C-N	6.91	126.15	118.97
33	RN	110	GLY	C-N-CA	6.91	126.15	118.97
31	RH	153	LYS	CA-C-N	-6.83	113.87	120.83
31	RH	153	LYS	C-N-CA	-6.83	113.87	120.83
45	RZ	157	LEU	CA-C-N	-6.82	113.35	120.38
45	RZ	157	LEU	C-N-CA	-6.82	113.35	120.38
28	RE	58	ARG	N-CA-C	-6.81	104.17	113.30
41	RV	39	LEU	N-CA-C	-6.80	104.88	113.72
25	RA	2602	A	C2'-C3'-O3'	-6.79	99.31	109.50
4	QD	38	TYR	CA-C-N	6.72	127.31	120.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	QD	38	TYR	C-N-CA	6.72	127.31	120.38
41	YV	81	TYR	N-CA-C	6.71	120.12	109.65
27	RD	13	ARG	N-CA-C	-6.70	104.81	114.12
31	RH	89	ILE	N-CA-C	6.69	117.32	111.90
34	YO	47	ILE	CA-C-N	6.64	128.14	119.84
34	YO	47	ILE	C-N-CA	6.64	128.14	119.84
1	QA	350	G	C3'-C2'-O2'	-6.57	100.84	110.70
9	XI	89	ASN	CA-C-N	6.53	126.22	119.82
9	XI	89	ASN	C-N-CA	6.53	126.22	119.82
54	Y8	54	GLU	N-CA-C	-6.47	105.31	113.72
28	RE	26	ILE	N-CA-C	6.46	117.13	111.90
12	XL	47	LYS	CA-C-N	-6.43	113.61	120.94
12	XL	47	LYS	C-N-CA	-6.43	113.61	120.94
27	YD	28	GLU	CA-C-N	-6.42	114.02	120.31
27	YD	28	GLU	C-N-CA	-6.42	114.02	120.31
20	XT	12	ALA	N-CA-C	-6.30	105.23	113.17
1	QA	1237	C	C2'-C3'-O3'	-6.29	104.27	113.70
25	RA	2849	U	C4'-C3'-O3'	-6.29	103.57	113.00
45	YZ	157	LEU	CA-C-N	6.27	126.84	120.38
45	YZ	157	LEU	C-N-CA	6.27	126.84	120.38
7	XG	155	ARG	CB-CA-C	-6.24	109.36	116.54
32	RI	113	ARG	N-CA-C	-6.23	102.97	111.56
28	RE	21	VAL	CA-C-N	6.22	126.17	119.76
28	RE	21	VAL	C-N-CA	6.22	126.17	119.76
28	YE	75	VAL	N-CA-C	-6.19	104.29	110.30
31	YH	38	SER	CA-C-N	6.14	127.52	119.84
31	YH	38	SER	C-N-CA	6.14	127.52	119.84
31	RH	38	SER	CA-C-N	6.13	127.50	119.84
31	RH	38	SER	C-N-CA	6.13	127.50	119.84
35	YP	25	SER	N-CA-C	-6.08	104.28	113.89
34	RO	47	ILE	CA-C-N	6.07	127.43	119.84
34	RO	47	ILE	C-N-CA	6.07	127.43	119.84
25	RA	859	G	C2'-C3'-O3'	6.07	118.60	109.50
42	RW	57	ASN	N-CA-C	-6.00	105.98	113.55
29	RF	65	TRP	CA-C-N	5.98	127.31	119.84
29	RF	65	TRP	C-N-CA	5.98	127.31	119.84
7	QG	78	ARG	N-CA-C	5.96	117.11	108.34
20	QT	12	ALA	N-CA-C	-5.96	105.77	113.16
25	RA	1035	U	C1'-C2'-O2'	-5.95	99.47	108.40
29	RF	4	VAL	N-CA-C	5.92	115.88	106.88
28	YE	73	GLU	CA-C-N	5.90	126.25	119.93
28	YE	73	GLU	C-N-CA	5.90	126.25	119.93

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
50	Y4	45	GLY	N-CA-C	-5.90	107.67	114.69
9	QI	5	TYR	CB-CA-C	-5.86	109.83	116.63
25	YA	974(A)	C	O3'-P-O5'	5.83	112.75	104.00
1	XA	315	A	P-O3'-C3'	5.82	128.93	120.20
32	YI	120	ILE	N-CA-C	5.82	115.89	110.42
41	YV	46	VAL	N-CA-C	-5.82	107.59	113.47
12	XL	124	LYS	CA-C-N	5.79	125.80	119.89
12	XL	124	LYS	C-N-CA	5.79	125.80	119.89
52	Y6	12	GLU	N-CA-C	5.78	118.45	109.60
38	YS	110	LEU	CB-CA-C	-5.78	109.89	116.54
42	RW	13	SER	CA-C-N	5.77	125.46	119.05
42	RW	13	SER	C-N-CA	5.77	125.46	119.05
11	XK	11	LYS	N-CA-C	5.76	115.12	108.49
31	RH	6	ARG	N-CA-C	-5.76	106.09	113.23
28	YE	190	GLY	CA-C-N	5.74	125.72	120.03
28	YE	190	GLY	C-N-CA	5.74	125.72	120.03
25	YA	974	G	C4'-C3'-O3'	-5.73	104.40	113.00
29	RF	168	ARG	N-CA-C	5.72	117.51	111.28
40	RU	9	VAL	N-CA-C	5.70	115.89	110.42
28	RE	131	ALA	CB-CA-C	-5.66	110.07	116.63
46	Y0	53	MET	N-CA-C	5.65	117.86	108.99
52	Y6	32	ASN	N-CA-C	-5.65	105.80	114.16
4	XD	38	TYR	CA-C-N	5.64	126.19	120.38
4	XD	38	TYR	C-N-CA	5.64	126.19	120.38
25	YA	1992	G	C2'-C3'-O3'	5.62	117.92	109.50
54	R8	42	ARG	N-CA-C	-5.61	106.10	113.12
27	YD	44	ASN	N-CA-C	5.61	117.32	108.96
41	YV	28	GLU	CA-C-N	5.60	126.84	119.84
41	YV	28	GLU	C-N-CA	5.60	126.84	119.84
52	R6	12	GLU	N-CA-C	5.58	117.11	110.19
40	RU	96	ALA	N-CA-C	-5.54	105.66	113.20
2	QB	158	LEU	CA-C-N	5.53	125.84	119.93
2	QB	158	LEU	C-N-CA	5.53	125.84	119.93
12	XL	30	ALA	CA-C-N	5.52	125.04	119.19
12	XL	30	ALA	C-N-CA	5.52	125.04	119.19
31	RH	153	LYS	N-CA-C	5.50	121.97	109.81
11	QK	40	ILE	N-CA-C	-5.50	107.46	112.96
1	QA	351	G	C1'-C2'-O2'	-5.48	103.58	111.80
8	XH	103	VAL	N-CA-C	5.46	115.43	108.12
25	RA	1992	G	C2'-C3'-O3'	5.44	117.66	109.50
35	RP	62	LEU	CA-C-N	5.44	126.64	119.84
35	RP	62	LEU	C-N-CA	5.44	126.64	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	974	G	C3'-C2'-O2'	-5.43	102.55	110.70
32	YI	143	SER	N-CA-C	5.43	118.08	109.50
54	R8	54	GLU	N-CA-C	-5.43	106.33	113.17
40	YU	9	VAL	N-CA-C	5.42	116.05	110.36
1	QA	1238	A	C1'-C2'-O2'	-5.41	100.28	108.40
43	YX	5	TYR	N-CA-C	-5.41	106.26	112.92
2	XB	158	LEU	CA-C-N	5.41	125.40	119.89
2	XB	158	LEU	C-N-CA	5.41	125.40	119.89
27	RD	28	GLU	CA-C-N	-5.38	114.80	120.66
27	RD	28	GLU	C-N-CA	-5.38	114.80	120.66
51	Y5	52	TYR	N-CA-C	-5.34	106.64	114.39
28	RE	51	PHE	N-CA-C	5.32	116.60	108.30
52	R6	21	TYR	N-CA-C	5.32	118.22	109.76
8	XH	79	VAL	N-CA-C	-5.31	105.95	111.58
1	QA	1238	A	C2'-C3'-O3'	-5.30	105.74	113.70
33	YN	132	ALA	CA-C-O	5.30	121.02	117.94
35	YP	144	GLU	CA-C-N	5.30	125.72	119.99
35	YP	144	GLU	C-N-CA	5.30	125.72	119.99
29	YF	95	ARG	N-CA-C	5.30	116.33	108.86
42	YW	13	SER	CA-C-N	5.30	125.36	119.32
42	YW	13	SER	C-N-CA	5.30	125.36	119.32
12	XL	24	VAL	CA-C-N	-5.30	113.22	119.84
12	XL	24	VAL	C-N-CA	-5.30	113.22	119.84
35	RP	54	GLY	N-CA-C	-5.28	108.06	114.92
28	RE	23	VAL	N-CA-C	5.28	120.32	109.34
35	RP	25	SER	N-CA-C	-5.25	106.26	113.30
30	RG	141	PHE	CA-C-N	5.23	125.53	119.47
30	RG	141	PHE	C-N-CA	5.23	125.53	119.47
40	RU	97	ASP	N-CA-C	-5.22	106.17	112.54
25	YA	2848	G	C2'-C3'-O3'	5.22	117.33	109.50
40	YU	88	ILE	N-CA-C	5.22	115.61	107.99
31	RH	35	VAL	CA-C-N	5.21	126.35	119.84
31	RH	35	VAL	C-N-CA	5.21	126.35	119.84
41	RV	15	GLU	CA-C-N	-5.21	115.21	120.31
41	RV	15	GLU	C-N-CA	-5.21	115.21	120.31
7	QG	80	VAL	N-CA-C	5.19	120.14	109.34
19	QS	58	VAL	N-CA-C	5.19	113.00	107.76
54	R8	31	HIS	N-CA-C	-5.19	99.74	110.80
32	YI	62	LYS	N-CA-C	-5.18	107.00	113.38
45	RZ	129	SER	CA-C-N	5.18	126.31	119.84
45	RZ	129	SER	C-N-CA	5.18	126.31	119.84
27	YD	136	ILE	CA-C-N	5.18	126.31	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
27	YD	136	ILE	C-N-CA	5.18	126.31	119.84
36	YQ	83	MET	N-CA-C	5.18	116.96	108.52
39	RT	13	ARG	N-CA-C	-5.17	106.56	112.92
31	RH	9	ILE	C-N-CD	-5.16	109.24	120.60
35	RP	71	VAL	CA-C-N	-5.16	113.22	118.85
35	RP	71	VAL	C-N-CA	-5.16	113.22	118.85
41	YV	39	LEU	N-CA-C	-5.16	105.73	113.89
45	YZ	82	ARG	CA-C-N	5.16	125.40	119.83
45	YZ	82	ARG	C-N-CA	5.16	125.40	119.83
54	R8	34	TRP	N-CA-C	5.15	121.78	110.80
38	RS	110	LEU	CB-CA-C	-5.15	110.65	116.63
25	RA	1912	A	C4'-C3'-O3'	-5.15	105.27	113.00
45	YZ	129	SER	CA-C-N	5.15	125.44	119.47
45	YZ	129	SER	C-N-CA	5.15	125.44	119.47
31	YH	153	LYS	N-CA-C	5.14	121.17	109.81
31	YH	31	GLY	N-CA-C	5.13	122.40	112.04
4	XD	180	GLY	N-CA-C	-5.13	107.96	114.16
39	RT	108	ARG	N-CA-C	-5.12	107.03	113.28
51	Y5	41	PRO	CA-C-N	5.09	125.09	119.89
51	Y5	41	PRO	C-N-CA	5.09	125.09	119.89
37	YR	3	HIS	N-CA-C	5.09	117.60	109.96
54	Y8	50	LEU	N-CA-C	5.09	119.84	113.43
27	RD	100	GLY	N-CA-C	-5.08	107.65	114.25
29	YF	4	VAL	N-CA-C	5.07	114.49	106.32
51	Y5	46	CYS	CA-C-N	5.07	124.68	119.56
51	Y5	46	CYS	C-N-CA	5.07	124.68	119.56
24	QY	70	ALA	CB-CA-C	-5.06	110.72	116.54
33	RN	71	ILE	N-CA-C	5.04	115.17	108.11
53	Y7	6	GLN	CA-C-N	5.04	125.04	119.90
53	Y7	6	GLN	C-N-CA	5.04	125.04	119.90
31	YH	113	VAL	N-CA-C	5.04	115.56	108.36
31	YH	125	VAL	CA-C-N	5.02	139.04	127.00
31	YH	125	VAL	C-N-CA	5.02	139.04	127.00
33	YN	35	ARG	N-CA-C	-5.02	103.78	110.55
1	QA	181	G	C2'-C3'-O3'	5.01	117.02	109.50

There are no chirality outliers.

There are no planarity outliers.

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	QA	32472	0	16393	493	0
1	XA	32409	0	16361	457	0
2	QB	1915	0	1969	58	0
2	XB	1915	0	1969	63	0
3	QC	1612	0	1677	50	0
3	XC	1612	0	1677	50	0
4	QD	1703	0	1765	47	0
4	XD	1703	0	1765	44	0
5	QE	1178	0	1234	28	0
5	XE	1178	0	1234	23	0
6	QF	843	0	857	18	0
6	XF	843	0	857	23	0
7	QG	1257	0	1296	31	0
7	XG	1257	0	1296	37	0
8	QH	1116	0	1177	30	0
8	XH	1116	0	1177	27	0
9	QI	1018	0	1049	52	0
9	XI	1018	0	1049	45	0
10	QJ	801	0	849	35	0
10	XJ	801	0	849	46	0
11	QK	901	0	926	28	0
11	XK	901	0	926	24	0
12	QL	975	0	1062	27	0
12	XL	975	0	1062	24	0
13	QM	937	0	995	29	0
13	XM	937	0	995	56	0
14	QN	492	0	528	15	0
14	XN	492	0	528	21	0
15	QO	734	0	771	16	0
15	XO	734	0	771	16	0
16	QP	705	0	725	15	0
16	XP	705	0	725	11	0
17	QQ	834	0	904	16	0
17	XQ	834	0	904	19	0
18	QR	585	0	657	11	0
18	XR	585	0	657	20	0
19	QS	656	0	678	48	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	XS	656	0	678	46	0
20	QT	763	0	861	23	0
20	XT	763	0	861	28	0
21	QU	217	0	234	12	0
21	XU	217	0	234	16	0
22	QV	1640	0	837	26	0
22	QW	1640	0	837	45	0
22	XV	1640	0	837	18	0
22	XW	1640	0	837	23	0
23	QX	440	9	224	18	0
23	XX	440	9	224	16	0
24	QY	746	0	742	16	0
24	XY	746	0	742	17	0
25	RA	62269	0	31392	834	0
25	YA	61924	0	31213	697	0
26	RB	2617	0	1328	29	0
26	YB	2617	0	1328	34	0
27	RD	2115	0	2195	66	0
27	YD	2115	0	2195	83	0
28	RE	1568	0	1634	123	0
28	YE	1568	0	1634	83	0
29	RF	1627	0	1680	56	0
29	YF	1627	0	1680	59	0
30	RG	1474	0	1535	52	0
30	YG	1474	0	1535	52	0
31	RH	1307	0	1382	89	0
31	YH	1307	0	1382	69	0
32	RI	1136	0	1223	32	0
32	YI	1136	0	1223	62	0
33	RN	1104	0	1180	15	0
33	YN	1104	0	1180	24	0
34	RO	933	0	996	31	0
34	YO	933	0	996	28	0
35	RP	1145	0	1228	98	0
35	YP	1145	0	1228	101	0
36	RQ	1112	0	1170	41	0
36	YQ	1107	0	1166	44	0
37	RR	960	0	1021	18	0
37	YR	960	0	1021	23	0
38	RS	882	0	943	31	0
38	YS	882	0	943	36	0
39	RT	1141	0	1202	46	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
39	YT	1141	0	1202	39	0
40	RU	964	0	1022	42	0
40	YU	964	0	1022	32	0
41	RV	779	0	852	64	0
41	YV	779	0	852	54	0
42	RW	900	0	964	25	0
42	YW	900	0	964	21	0
43	RX	725	0	778	15	0
43	YX	725	0	778	16	0
44	RY	785	0	878	52	0
44	YY	785	0	878	57	0
45	RZ	1404	0	1437	81	0
45	YZ	1461	0	1493	51	0
46	R0	657	0	683	17	0
46	Y0	657	0	683	26	0
47	R1	763	0	848	31	0
47	Y1	763	0	848	24	0
48	R2	581	0	629	19	0
48	Y2	581	0	629	15	0
49	R3	469	0	518	11	0
49	Y3	469	0	518	9	0
50	R4	573	0	565	26	0
50	Y4	573	0	565	44	0
51	R5	459	0	480	10	0
51	Y5	442	0	465	25	0
52	R6	417	0	441	29	0
52	Y6	417	0	441	49	0
53	R7	430	0	480	6	0
53	Y7	430	0	480	13	0
54	R8	517	0	582	42	0
54	Y8	517	0	582	38	0
55	R9	307	0	338	11	0
55	Y9	299	0	326	7	0
56	QA	150	0	0	0	0
56	QD	2	0	0	0	0
56	QL	1	0	0	0	0
56	QV	4	0	0	0	0
56	QX	1	0	0	0	0
56	R0	3	0	0	0	0
56	R1	1	0	0	0	0
56	R2	1	0	0	0	0
56	R5	3	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
56	RA	441	0	0	0	0
56	RB	4	0	0	0	0
56	RD	2	0	0	0	0
56	RE	1	0	0	0	0
56	RF	1	0	0	0	0
56	RP	3	0	0	0	0
56	RQ	2	0	0	0	0
56	RR	1	0	0	0	0
56	RT	1	0	0	0	0
56	RV	1	0	0	0	0
56	RY	1	0	0	0	0
56	XA	163	0	0	0	0
56	XD	1	0	0	0	0
56	XF	1	0	0	0	0
56	XL	1	0	0	0	0
56	XS	1	0	0	0	0
56	XV	3	0	0	0	0
56	Y0	3	0	0	0	0
56	Y1	1	0	0	0	0
56	Y5	3	0	0	0	0
56	Y7	1	0	0	0	0
56	YA	487	0	0	0	0
56	YB	6	0	0	0	0
56	YD	1	0	0	0	0
56	YE	1	0	0	0	0
56	YF	1	0	0	0	0
56	YG	1	0	0	0	0
56	YH	1	0	0	0	0
56	YN	1	0	0	0	0
56	YO	1	0	0	0	0
56	YP	1	0	0	0	0
56	YQ	2	0	0	0	0
56	YV	1	0	0	0	0
56	YW	1	0	0	0	0
56	YY	1	0	0	0	0
57	QD	1	0	0	0	0
57	QN	1	0	0	0	0
57	XD	1	0	0	0	0
57	XN	1	0	0	0	0
All	All	297531	18	201516	5466	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 11.

All (5466) 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)
41:YV:49:THR:CG2	41:YV:50:PRO:HD3	1.35	1.56
44:RY:76:CYS:SG	44:RY:77:PRO:HD2	1.44	1.55
31:RH:9:ILE:CG2	31:RH:10:PRO:HA	1.36	1.51
41:RV:49:THR:CG2	41:RV:50:PRO:HD3	1.50	1.41
32:YI:77:LEU:HB2	32:YI:142:VAL:CG2	1.54	1.37
32:YI:78:THR:H	32:YI:142:VAL:CG2	1.39	1.35
50:Y4:6:HIS:HB2	50:Y4:7:PRO:CD	1.37	1.34
3:XC:3:ASN:O	3:XC:4:LYS:HG3	1.26	1.32
41:YV:49:THR:CB	41:YV:50:PRO:HD3	1.57	1.32
28:RE:78:LEU:HD23	28:RE:79:ARG:CG	1.59	1.31
31:RH:9:ILE:HB	31:RH:10:PRO:CB	1.61	1.31
13:XM:8:GLU:O	13:XM:9:ILE:HG22	1.09	1.26
32:YI:78:THR:N	32:YI:142:VAL:HG23	1.52	1.25
1:XA:1157:A:O2'	1:XA:1158:C:H5''	1.34	1.24
51:Y5:4:HIS:HB3	51:Y5:5:PRO:CD	1.61	1.24
28:RE:78:LEU:CD2	28:RE:79:ARG:CG	2.15	1.24
35:RP:60:MET:O	35:RP:61:ARG:HG2	1.37	1.23
1:XA:1158:C:O2	1:XA:1158:C:H3'	1.40	1.20
35:RP:59:LEU:HD22	54:R8:59:LYS:NZ	1.56	1.20
35:YP:62:LEU:HD12	54:Y8:25:MET:O	1.39	1.19
44:YY:76:CYS:SG	44:YY:77:PRO:HD2	1.83	1.19
44:RY:76:CYS:SG	44:RY:77:PRO:CD	2.30	1.18
45:YZ:155:LEU:HD12	45:YZ:155:LEU:O	1.42	1.16
28:RE:78:LEU:CD2	28:RE:79:ARG:HG3	1.74	1.15
32:YI:77:LEU:HD12	32:YI:142:VAL:HG21	1.22	1.15
41:YV:49:THR:HG22	41:YV:50:PRO:CD	1.75	1.15
41:RV:49:THR:HB	41:RV:50:PRO:HD2	1.20	1.14
51:Y5:4:HIS:CB	51:Y5:5:PRO:HD3	1.78	1.13
30:YG:67:LYS:H	50:Y4:6:HIS:CD2	1.65	1.13
31:RH:9:ILE:HG22	31:RH:10:PRO:CA	1.78	1.13
45:RZ:59:LEU:O	45:RZ:60:GLU:HG3	1.48	1.11
41:RV:49:THR:HB	41:RV:50:PRO:CD	1.79	1.10
50:Y4:6:HIS:CB	50:Y4:7:PRO:HD3	1.80	1.10
50:Y4:6:HIS:CB	50:Y4:7:PRO:CD	2.30	1.10
41:RV:49:THR:CB	41:RV:50:PRO:CD	2.30	1.10
13:XM:9:ILE:HG13	13:XM:10:PRO:HD2	1.33	1.10
45:RZ:59:LEU:CG	45:RZ:60:GLU:H	1.65	1.10
13:XM:8:GLU:O	13:XM:9:ILE:CG2	1.97	1.10
28:YE:60:ASN:C	28:YE:62:PRO:HD2	1.76	1.10
31:RH:9:ILE:HB	31:RH:10:PRO:CA	1.82	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:63:LEU:HD12	28:RE:64:LYS:H	1.16	1.09
41:RV:49:THR:HG22	41:RV:50:PRO:CD	1.82	1.09
31:RH:9:ILE:CG2	31:RH:10:PRO:CA	2.30	1.09
25:RA:2446:G:C2'	25:RA:2447:G:H5''	1.82	1.09
41:RV:49:THR:CG2	41:RV:50:PRO:CD	2.30	1.09
41:YV:49:THR:CB	41:YV:50:PRO:CD	2.30	1.09
31:RH:9:ILE:CB	31:RH:10:PRO:HA	1.80	1.09
45:RZ:155:LEU:O	45:RZ:156:LYS:HG2	1.53	1.08
1:QA:1490:C:H2'	1:QA:1491:G:H5'	1.33	1.08
28:RE:78:LEU:HD23	28:RE:79:ARG:HG3	1.08	1.07
31:RH:9:ILE:CB	31:RH:10:PRO:CA	2.30	1.07
25:RA:2701:C:H3'	25:RA:2702:U:H5''	1.35	1.07
45:RZ:59:LEU:HG	45:RZ:60:GLU:H	1.17	1.07
45:RZ:157:LEU:O	45:RZ:161:VAL:HB	1.55	1.06
41:YV:49:THR:CG2	41:YV:50:PRO:CD	2.30	1.05
41:YV:49:THR:HB	41:YV:50:PRO:CD	1.87	1.05
25:RA:2446:G:H2'	25:RA:2447:G:C5'	1.86	1.04
32:RI:125:GLU:HA	32:RI:141:LYS:HB3	1.36	1.04
32:YI:77:LEU:CB	32:YI:142:VAL:HG22	1.86	1.04
31:RH:9:ILE:HB	31:RH:10:PRO:HB3	1.08	1.03
1:QA:1158:C:O2	1:QA:1158:C:H2'	1.57	1.03
35:RP:60:MET:C	35:RP:61:ARG:HG2	1.77	1.03
41:RV:47:VAL:O	41:RV:47:VAL:HG22	1.56	1.03
41:YV:49:THR:HG22	41:YV:50:PRO:HD3	1.06	1.02
25:RA:1301:A:O2'	25:RA:1302:A:H3'	1.56	1.02
30:RG:60:LEU:HD23	30:RG:68:PRO:HB3	1.39	1.02
35:YP:61:ARG:O	35:YP:62:LEU:HB2	1.53	1.02
3:XC:3:ASN:O	3:XC:4:LYS:CG	2.08	1.02
41:RV:49:THR:HG22	41:RV:50:PRO:HD3	1.02	1.01
45:RZ:59:LEU:C	45:RZ:60:GLU:HG3	1.74	1.01
28:YE:63:LEU:O	28:YE:64:LYS:HB2	1.57	1.00
32:YI:141:LYS:HB3	32:YI:142:VAL:HG22	1.40	1.00
25:RA:2446:G:H2'	25:RA:2447:G:H5'	1.40	1.00
45:RZ:155:LEU:C	45:RZ:156:LYS:HG2	1.84	1.00
32:YI:144:VAL:O	32:YI:145:VAL:HG12	1.62	0.99
31:RH:7:LEU:HD11	31:RH:66:GLY:HA2	1.43	0.99
45:RZ:59:LEU:HD12	45:RZ:60:GLU:N	1.77	0.99
28:RE:78:LEU:CD2	28:RE:79:ARG:HG2	1.91	0.99
25:RA:1224:C:H4'	41:RV:85:LYS:HB2	1.42	0.99
7:QG:86:GLN:NE2	22:QW:31:G:H21	1.61	0.99
28:RE:47:VAL:HG12	28:RE:49:LEU:CD1	1.93	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RP:9:ASN:HB2	35:RP:10:PRO:HD2	1.46	0.98
1:QA:1490:C:C2'	1:QA:1491:G:H5'	1.94	0.98
10:XJ:49:VAL:HG13	14:YN:41:ARG:HD2	1.43	0.97
35:RP:59:LEU:HD13	54:R8:56:GLU:HG3	1.45	0.97
25:RA:1548:C:C2	25:RA:1549:C:C5	2.53	0.97
45:YZ:121:HIS:H	45:YZ:171:ILE:HG13	1.28	0.96
25:RA:68:G:H3'	25:RA:69:C:O2	1.65	0.96
31:RH:8:PRO:C	31:RH:9:ILE:HG12	1.90	0.96
1:XA:1158:C:O2	1:XA:1158:C:C3'	2.12	0.96
32:RI:79:ILE:C	32:RI:142:VAL:HG21	1.91	0.95
47:Y1:87:PRO:HA	47:Y1:90:ILE:HG22	1.45	0.95
44:YY:76:CYS:CB	44:YY:77:PRO:HD2	1.96	0.95
35:RP:9:ASN:CB	35:RP:10:PRO:HD2	1.95	0.94
51:Y5:4:HIS:CB	51:Y5:5:PRO:CD	2.40	0.94
52:Y6:28:ARG:HA	52:Y6:29:ASN:HB3	1.49	0.94
19:XS:67:VAL:HG21	50:Y4:59:PHE:HB3	1.47	0.94
50:Y4:6:HIS:HB2	50:Y4:7:PRO:HD2	1.50	0.94
13:XM:9:ILE:CG1	13:XM:10:PRO:HD2	1.98	0.94
25:RA:2446:G:C2'	25:RA:2447:G:C5'	2.44	0.93
1:QA:353:A:H5'	1:QA:353:A:H8	1.33	0.93
32:RI:79:ILE:O	32:RI:142:VAL:HG21	1.69	0.93
25:RA:2446:G:O2'	25:RA:2447:G:H5''	1.69	0.93
32:YI:77:LEU:CB	32:YI:142:VAL:CG2	2.46	0.93
1:QA:1302:U:C5	13:QM:17:VAL:HG21	2.05	0.92
1:QA:1490:C:H2'	1:QA:1491:G:C5'	1.99	0.92
23:QX:12:A:H3'	23:QX:13:A:H5''	1.50	0.91
52:Y6:28:ARG:HD2	52:Y6:29:ASN:HB3	1.51	0.90
44:RY:76:CYS:CB	44:RY:77:PRO:HD2	1.96	0.90
45:RZ:59:LEU:CD1	45:RZ:60:GLU:H	1.84	0.90
32:YI:77:LEU:HB2	32:YI:142:VAL:HG22	0.92	0.90
50:Y4:6:HIS:HB2	50:Y4:7:PRO:HD3	0.91	0.90
1:QA:1491:G:O2'	1:QA:1492:A:H5'	1.71	0.90
30:YG:67:LYS:N	50:Y4:6:HIS:HD2	1.68	0.90
25:YA:1138:G:H21	33:YN:106:MET:HE3	1.37	0.90
28:YE:60:ASN:C	28:YE:62:PRO:CD	2.45	0.89
32:YI:78:THR:H	32:YI:142:VAL:HG23	0.72	0.89
41:YV:49:THR:HB	41:YV:50:PRO:HD3	1.44	0.89
44:YY:76:CYS:SG	44:YY:77:PRO:CD	2.60	0.89
5:QE:50:GLU:HG3	5:QE:52:PRO:HD2	1.55	0.88
35:RP:59:LEU:HD22	54:R8:59:LYS:HZ1	1.33	0.88
32:YI:77:LEU:CD1	32:YI:142:VAL:HG21	2.03	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:QI:11:LYS:HD2	9:QI:107:ARG:O	1.73	0.88
45:RZ:58:VAL:O	45:RZ:59:LEU:HG	1.73	0.88
32:YI:141:LYS:HB3	32:YI:142:VAL:CG2	2.04	0.88
35:YP:62:LEU:HD12	54:Y8:25:MET:C	1.99	0.88
45:YZ:148:ASP:HB3	45:YZ:149:SER:HA	1.56	0.88
25:YA:987:G:H2'	25:YA:988:A:H5'	1.54	0.88
45:RZ:59:LEU:CG	45:RZ:60:GLU:N	2.36	0.88
25:YA:2404:C:H1'	35:YP:67:MET:HE1	1.56	0.87
45:RZ:59:LEU:CD1	45:RZ:60:GLU:N	2.35	0.87
35:RP:63:PRO:HB3	54:R8:13:ARG:HG2	1.55	0.87
44:RY:17:SER:HB2	44:RY:71:LYS:HE2	1.56	0.87
25:RA:857:C:H4'	46:R0:23:VAL:HG21	1.57	0.87
25:YA:2777:G:H5''	25:YA:2778:A:H5'	1.54	0.87
7:QG:77:SER:OG	22:QW:32:C:H4'	1.75	0.86
31:RH:9:ILE:CB	31:RH:10:PRO:HB3	2.01	0.86
1:QA:1490:C:C2'	1:QA:1491:G:C5'	2.52	0.86
32:YI:77:LEU:HD12	32:YI:142:VAL:CG2	2.05	0.86
44:YY:19:LYS:HE3	44:YY:71:LYS:HZ1	1.40	0.86
52:Y6:30:THR:HA	52:Y6:31:PRO:C	2.01	0.86
28:RE:48:GLN:O	28:RE:49:LEU:HD12	1.76	0.86
45:YZ:155:LEU:O	45:YZ:155:LEU:CD1	2.22	0.86
32:YI:141:LYS:CB	32:YI:142:VAL:HG22	2.04	0.86
11:QK:124:LYS:HD2	11:QK:125:PHE:CE1	2.10	0.85
9:QI:10:ARG:HH21	9:QI:11:LYS:HD3	1.41	0.85
45:RZ:157:LEU:HB3	45:RZ:161:VAL:HG11	1.56	0.85
25:RA:2420:C:H41	54:R8:31:HIS:HB3	1.38	0.85
1:XA:1380:U:C5	7:XG:2:ALA:O	2.29	0.85
35:RP:57:THR:CG2	35:RP:60:MET:HB2	2.06	0.85
1:QA:664:G:H22	1:QA:741:G:H1	1.22	0.85
28:RE:78:LEU:CG	28:RE:79:ARG:HG3	2.07	0.85
39:YT:54:ARG:HA	39:YT:59:THR:HB	1.57	0.85
35:RP:57:THR:HG21	35:RP:60:MET:CG	2.06	0.85
51:Y5:4:HIS:HB3	51:Y5:5:PRO:HD3	0.86	0.85
19:QS:36:ARG:HD2	19:QS:71:LEU:H	1.42	0.85
31:YH:9:ILE:HG22	31:YH:10:PRO:HA	1.58	0.85
52:Y6:28:ARG:HA	52:Y6:29:ASN:CB	2.07	0.84
1:XA:353:A:H5'	1:XA:353:A:H8	1.40	0.84
1:XA:1191:A:H5'	3:XC:4:LYS:CE	2.07	0.84
2:XB:185:ILE:HG22	2:XB:199:TYR:HB2	1.58	0.84
1:XA:1502:A:H2	1:XA:1505:G:H1	1.24	0.84
22:XV:53:G:O2'	22:XV:54:U:H5'	1.77	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:9:ILE:HG22	31:RH:10:PRO:HA	0.86	0.84
25:RA:2712:U:O2'	25:RA:2712(A):A:C8	2.30	0.84
28:RE:63:LEU:HD12	28:RE:64:LYS:N	1.92	0.84
35:RP:59:LEU:HD22	54:R8:59:LYS:HZ2	1.43	0.84
25:RA:2393:A:H5'	35:RP:62:LEU:HD23	1.60	0.84
25:RA:1913:A:OP1	25:RA:1913:A:H4'	1.78	0.83
1:XA:1493:A:C6	25:YA:1913:A:H1'	2.12	0.83
28:YE:63:LEU:O	28:YE:64:LYS:CB	2.24	0.83
1:XA:1497:G:H2'	1:XA:1498:U:H5'	1.60	0.83
25:YA:273(E):U:H3	25:YA:363(A):A:H61	1.24	0.83
25:RA:1300:U:H4'	25:RA:1301:A:O5'	1.78	0.83
35:YP:52:GLU:HG2	35:YP:55:ARG:HE	1.42	0.83
54:R8:40:GLU:H	54:R8:43:GLN:HG3	1.44	0.83
25:YA:6:A:C2	25:YA:7:G:C4	2.67	0.83
25:YA:2712:U:O2'	25:YA:2712(A):A:C8	2.30	0.83
28:RE:78:LEU:CG	28:RE:79:ARG:CG	2.57	0.83
25:RA:58:G:H22	25:RA:69:C:H5	1.25	0.83
28:RE:78:LEU:HD23	28:RE:79:ARG:NE	1.94	0.83
51:R5:4:HIS:HB3	51:R5:5:PRO:HD3	1.58	0.83
13:XM:10:PRO:CG	13:XM:18:ALA:HA	2.08	0.83
1:QA:1502:A:H2	1:QA:1505:G:H1	1.23	0.82
25:RA:1342:A:H2	25:RA:1602:U:H3	1.27	0.82
25:YA:2287:A:H62	25:YA:2344:U:H3	1.26	0.82
25:YA:242:G:H5''	54:Y8:62:LEU:HD13	1.61	0.82
32:YI:144:VAL:O	32:YI:145:VAL:CG1	2.26	0.82
31:YH:7:LEU:HD11	31:YH:66:GLY:HA2	1.62	0.82
45:RZ:59:LEU:HG	45:RZ:60:GLU:N	1.95	0.82
25:RA:2712:U:O2'	25:RA:2712(A):A:H8	1.63	0.82
41:YV:85:LYS:HG3	41:YV:87:HIS:H	1.44	0.82
35:RP:57:THR:HG23	35:RP:60:MET:HB2	1.62	0.82
4:XD:31:CYS:SG	4:XD:32:ALA:N	2.52	0.82
35:RP:60:MET:O	35:RP:61:ARG:CG	2.26	0.81
44:YY:17:SER:HB2	44:YY:71:LYS:HE2	1.60	0.81
28:RE:78:LEU:HD23	28:RE:79:ARG:CD	2.10	0.81
45:RZ:58:VAL:HG12	45:RZ:60:GLU:HG2	1.59	0.81
25:YA:1204:A:H62	25:YA:1241:A:H2	1.25	0.81
22:QV:2:G:H2'	22:QV:3:C:H6	1.43	0.81
32:YI:78:THR:N	32:YI:142:VAL:CG2	2.25	0.81
35:RP:19:VAL:HG13	35:RP:21:ARG:H	1.44	0.81
25:RA:1548:C:H2'	25:RA:1549:C:H6	1.44	0.81
25:YA:986:C:H2'	25:YA:987:G:H5''	1.62	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:272(I):U:H3	25:RA:363(A):A:H61	1.29	0.81
25:RA:2701:C:H3'	25:RA:2702:U:C5'	2.11	0.81
45:RZ:156:LYS:C	45:RZ:158:PRO:HD3	2.06	0.81
23:XX:12:A:H3'	23:XX:13:A:H5''	1.61	0.81
19:XS:36:ARG:HD2	19:XS:71:LEU:H	1.44	0.81
41:YV:5:VAL:HG23	41:YV:37:VAL:HG11	1.63	0.81
35:RP:59:LEU:HD13	54:R8:56:GLU:CG	2.11	0.80
25:YA:2712:U:O2'	25:YA:2712(A):A:H8	1.64	0.80
25:YA:2343:C:H6	25:YA:2343:C:C5'	1.95	0.80
35:YP:62:LEU:CD1	54:Y8:25:MET:O	2.28	0.80
28:RE:78:LEU:HD23	28:RE:79:ARG:HE	1.45	0.80
25:RA:1138:G:H21	33:RN:106:MET:HE3	1.46	0.80
1:QA:353:A:H5'	1:QA:353:A:C8	2.17	0.80
25:RA:1598:C:H5'	43:RX:36:LYS:HB3	1.64	0.80
28:RE:50:GLY:HA2	28:RE:77:ILE:HA	1.64	0.80
25:YA:986:C:C2'	25:YA:987:G:H5''	2.11	0.80
1:QA:1493:A:H2'	1:QA:1494:G:H5'	1.64	0.79
25:RA:748:G:H2'	25:RA:750:A:OP2	1.81	0.79
25:RA:2580:U:H4'	28:RE:130:GLY:HA3	1.62	0.79
44:RY:97:ARG:HH21	44:RY:98:VAL:HB	1.45	0.79
25:YA:141:A:H8	25:YA:1595:G:H21	1.29	0.79
4:QD:26:CYS:SG	4:QD:26:CYS:O	2.39	0.79
1:QA:1491:G:H2'	1:QA:1492:A:C8	2.16	0.79
50:Y4:6:HIS:N	50:Y4:6:HIS:ND1	2.30	0.79
1:QA:1491:G:O2'	1:QA:1492:A:C5'	2.30	0.79
25:RA:1695:G:O2'	25:RA:1696:G:H5'	1.82	0.79
31:YH:8:PRO:O	31:YH:10:PRO:HD3	1.82	0.79
1:QA:1223:C:H5''	1:QA:1224:G:H5''	1.65	0.79
29:RF:3:GLU:HA	29:RF:24:LEU:HG	1.65	0.79
25:YA:2103:C:H42	25:YA:2186:G:H1	1.28	0.79
1:QA:960:U:O2	1:QA:960:U:H2'	1.79	0.79
4:QD:31:CYS:SG	4:QD:32:ALA:N	2.56	0.79
30:RG:60:LEU:HD23	30:RG:68:PRO:CB	2.13	0.79
10:QJ:79:ARG:HA	10:QJ:82:ILE:HB	1.64	0.78
9:XI:10:ARG:HD3	9:XI:75:ASP:HB3	1.65	0.78
25:YA:987:G:H2'	25:YA:988:A:C5'	2.13	0.78
25:YA:1225:C:H4'	41:YV:85:LYS:HB2	1.64	0.78
28:RE:47:VAL:HG12	28:RE:48:GLN:O	1.82	0.78
25:RA:883:G:H1	25:RA:893:C:H42	1.30	0.78
1:XA:953:G:H5'	1:XA:965:A:H61	1.48	0.78
32:YI:141:LYS:HB3	32:YI:142:VAL:CA	2.13	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:660:G:H21	35:RP:12:ALA:HB2	1.47	0.78
44:RY:17:SER:OG	44:RY:18:GLY:N	2.14	0.78
1:XA:960:U:O2	1:XA:960:U:H2'	1.84	0.77
45:RZ:59:LEU:O	45:RZ:60:GLU:CG	2.30	0.77
1:XA:1178:G:H5'	9:XI:93:ARG:HH21	1.49	0.77
35:YP:9:ASN:CB	35:YP:10:PRO:HD2	2.14	0.77
44:YY:97:ARG:HH21	44:YY:98:VAL:HB	1.48	0.77
52:Y6:28:ARG:HB3	52:Y6:31:PRO:O	1.85	0.77
1:QA:1491:G:H21	25:RA:1913:A:H61	1.30	0.77
15:QO:39:LEU:HD12	15:QO:56:LEU:HB2	1.67	0.77
45:RZ:58:VAL:O	45:RZ:59:LEU:CG	2.32	0.77
22:XV:54:U:C2'	22:XV:55:U:H5'	2.13	0.77
25:YA:987:G:C2'	25:YA:988:A:H5'	2.15	0.77
45:RZ:59:LEU:C	45:RZ:60:GLU:CG	2.55	0.77
40:RU:92:ARG:HD2	40:RU:94:ASN:HB3	1.67	0.76
12:XL:53:ARG:HG3	12:XL:93:LEU:HD21	1.67	0.76
25:YA:2580:U:H4'	28:YE:130:GLY:HA3	1.66	0.76
1:QA:1346:A:H4'	1:QA:1347:G:C5'	2.14	0.76
1:QA:1346:A:H4'	1:QA:1347:G:O5'	1.85	0.76
25:RA:593:G:H4'	54:R8:61:LEU:HD22	1.67	0.76
28:RE:48:GLN:O	28:RE:49:LEU:CD1	2.33	0.76
29:RF:4:VAL:HA	29:RF:19:GLU:HB3	1.67	0.76
36:RQ:75:THR:HA	36:RQ:89:ASN:H	1.49	0.76
54:R8:56:GLU:HA	54:R8:59:LYS:HE2	1.67	0.76
22:XV:54:U:O2'	22:XV:55:U:H5'	1.86	0.76
2:QB:77:ALA:HB2	2:QB:211:ILE:HD13	1.67	0.76
44:YY:102:CYS:SG	44:YY:103:GLY:N	2.59	0.76
13:QM:87:TYR:HB3	19:QS:73:GLU:HG2	1.67	0.76
5:XE:50:GLU:HG3	5:XE:52:PRO:HD2	1.66	0.76
35:YP:62:LEU:CD1	54:Y8:25:MET:C	2.59	0.76
25:RA:242:G:H5''	54:R8:62:LEU:HD13	1.68	0.76
1:QA:1492:A:N3	25:RA:1913:A:C2	2.54	0.76
27:YD:206:LEU:HD22	27:YD:211:ARG:HG2	1.66	0.76
29:YF:4:VAL:HA	29:YF:19:GLU:HB3	1.66	0.76
25:RA:143:G:H4'	43:RX:35:THR:HG21	1.68	0.75
35:RP:57:THR:HG21	35:RP:60:MET:HG3	1.69	0.75
35:RP:125:VAL:HG13	35:RP:144:GLU:HB3	1.68	0.75
54:R8:30:ARG:O	54:R8:31:HIS:ND1	2.20	0.75
31:YH:11:VAL:HG23	31:YH:13:LYS:HG2	1.66	0.75
28:RE:78:LEU:HG	28:RE:79:ARG:CG	2.16	0.75
25:YA:2306:C:H5'	25:YA:2307:G:H2'	1.67	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:328:C:H4'	1:QA:329:A:O5'	1.86	0.75
28:RE:78:LEU:CD2	28:RE:79:ARG:HE	1.99	0.75
30:RG:60:LEU:HD21	30:RG:92:VAL:HG12	1.66	0.75
45:RZ:118:GLN:HG3	45:RZ:173:ALA:H	1.49	0.75
1:XA:1493:A:C2'	1:XA:1494:G:H5'	2.16	0.75
25:YA:818:G:HO2'	25:YA:838:C:HO2'	1.32	0.75
40:YU:95:LEU:HD13	41:YV:4:ILE:HG13	1.69	0.75
25:RA:1548:C:H2'	25:RA:1549:C:C6	2.22	0.75
44:RY:95:LYS:NZ	44:RY:96:ILE:O	2.20	0.75
19:QS:62:ILE:HA	19:QS:66:MET:HE1	1.69	0.74
32:YI:141:LYS:HB3	32:YI:142:VAL:CB	2.17	0.74
28:RE:38:THR:HG22	28:RE:40:GLU:H	1.51	0.74
5:XE:71:LEU:HD11	5:XE:114:GLY:HA3	1.69	0.74
1:QA:1086:U:H3	1:QA:1099:G:H22	1.35	0.74
19:QS:67:VAL:HG21	50:R4:59:PHE:HB3	1.69	0.74
25:RA:910:A:H62	36:RQ:12:GLN:HA	1.49	0.74
43:RX:35:THR:HG22	43:RX:37:THR:H	1.52	0.74
40:YU:90:VAL:HG22	41:YV:39:LEU:HB3	1.69	0.74
2:QB:8:LYS:HB3	2:QB:217:ARG:HD3	1.69	0.74
37:RR:33:ARG:HG2	37:RR:115:GLU:HG2	1.69	0.74
25:RA:1981:A:H5''	25:RA:1982:C:OP2	1.88	0.74
10:QJ:79:ARG:NE	9:XI:94:ALA:O	2.21	0.74
25:RA:833:U:O2	35:RP:55:ARG:NH1	2.21	0.74
31:RH:7:LEU:HD22	31:RH:69:ARG:HG2	1.69	0.74
1:XA:255:G:OP1	17:XQ:69:LYS:NZ	2.21	0.74
44:YY:95:LYS:NZ	44:YY:99:CYS:O	2.21	0.74
2:QB:54:THR:HG21	2:QB:201:ILE:HD11	1.70	0.74
22:QW:54:U:H3	22:QW:58:A:H62	1.34	0.74
25:YA:857:C:OP2	46:Y0:77:ARG:NH2	2.21	0.74
12:XL:25:PRO:HD2	12:XL:98:TYR:OH	1.87	0.74
38:YS:106:ARG:NH1	38:YS:106:ARG:O	2.21	0.73
40:YU:92:ARG:HD2	40:YU:94:ASN:HB3	1.70	0.73
22:QV:54:U:C2'	22:QV:55:U:H5'	2.18	0.73
35:RP:14:LYS:O	35:RP:16:ARG:N	2.21	0.73
27:YD:44:ASN:HB3	27:YD:49:ILE:HA	1.68	0.73
38:RS:62:LYS:HB3	38:RS:97:ARG:HD3	1.71	0.73
39:RT:55:ASN:H	39:RT:59:THR:HB	1.52	0.73
27:YD:85:ASP:HB2	27:YD:92:ILE:HD13	1.71	0.73
11:QK:124:LYS:HZ2	11:QK:125:PHE:HE1	1.35	0.73
52:Y6:28:ARG:CD	52:Y6:29:ASN:HB3	2.18	0.73
5:QE:78:HIS:HE2	5:QE:142:LEU:HA	1.54	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1254:A:H5'	25:RA:1255:U:H5'	1.70	0.73
1:XA:1305:G:H22	1:XA:1331:G:H2'	1.52	0.73
1:QA:350:G:C5'	1:QA:350:G:H8	2.02	0.73
35:YP:61:ARG:O	35:YP:62:LEU:CB	2.35	0.73
52:Y6:6:ARG:HG2	52:Y6:8:LYS:H	1.52	0.73
2:QB:48:MET:HA	2:QB:51:LEU:HD12	1.71	0.73
23:QX:14:A:C2'	23:QX:15:A:H5'	2.19	0.73
1:XA:677:U:H3	1:XA:713:G:H22	1.35	0.73
25:RA:1169:G:H1	25:RA:1180:C:H42	1.37	0.73
47:R1:83:GLU:HG2	47:R1:85:LEU:H	1.52	0.73
25:YA:1981:A:H5''	25:YA:1982:C:OP2	1.88	0.73
28:RE:78:LEU:HD21	28:RE:79:ARG:HG2	1.70	0.73
25:YA:986:C:H2'	25:YA:987:G:C5'	2.18	0.73
25:YA:2294:C:OP1	38:YS:89:ARG:NH2	2.22	0.73
25:RA:655:A:H4'	25:RA:656:G:H5'	1.71	0.72
25:RA:1548:C:O2'	25:RA:1549:C:H5'	1.88	0.72
1:XA:530:G:C4	23:XX:21:A2M:H2	2.24	0.72
13:XM:8:GLU:C	13:XM:9:ILE:HG22	2.10	0.72
25:YA:259:G:H21	25:YA:621:A:H8	1.37	0.72
35:YP:14:LYS:O	35:YP:16:ARG:N	2.22	0.72
28:RE:1:MET:N	28:RE:200:GLU:OE2	2.23	0.72
47:Y1:83:GLU:HG2	47:Y1:85:LEU:H	1.54	0.72
23:QX:12:A:H3'	23:QX:13:A:C5'	2.20	0.72
37:RR:100:LEU:HD21	37:RR:113:LEU:HD13	1.71	0.72
2:XB:69:LEU:HB3	2:XB:162:ILE:HG22	1.70	0.72
24:XY:12:LEU:HB3	24:XY:18:VAL:HB	1.72	0.72
35:YP:9:ASN:HB2	35:YP:10:PRO:HD2	1.71	0.72
29:RF:153:SER:HB2	29:RF:190:GLU:H	1.55	0.72
1:XA:1157:A:O2'	1:XA:1158:C:C5'	2.28	0.72
22:QV:2:G:H2'	22:QV:3:C:C6	2.24	0.72
34:RO:92:GLU:OE1	34:RO:113:LYS:NZ	2.22	0.72
19:XS:65:ASN:HA	50:Y4:55:ARG:HD2	1.71	0.72
19:XS:65:ASN:OD1	50:Y4:55:ARG:NH1	2.21	0.72
25:YA:987:G:H8	25:YA:987:G:H5'	1.54	0.72
35:YP:62:LEU:CD1	54:Y8:25:MET:HB3	2.20	0.72
2:QB:185:ILE:HG22	2:QB:199:TYR:HB2	1.70	0.72
25:RA:2134:A:OP2	25:RA:2157:G:N2	2.23	0.72
28:RE:47:VAL:HG12	28:RE:49:LEU:HD12	1.70	0.72
25:YA:84:A:N1	25:YA:98:G:O2'	2.23	0.72
45:YZ:146:ILE:HA	45:YZ:174:VAL:HG23	1.72	0.72
25:RA:613:G:H2'	25:RA:614:U:O2	1.90	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:YT:60:THR:HG22	39:YT:77:PRO:HA	1.72	0.72
52:Y6:28:ARG:CA	52:Y6:29:ASN:HB3	2.20	0.72
1:QA:591:U:OP2	8:QH:30:ARG:NH1	2.22	0.72
22:QW:50:U:H3	22:QW:64:G:H1	1.38	0.72
35:RP:59:LEU:HD22	54:R8:59:LYS:CE	2.20	0.72
25:YA:1728:G:H8	25:YA:1732:A:H62	1.38	0.72
25:YA:2781:A:H5''	25:YA:2782:G:H5'	1.72	0.71
29:YF:3:GLU:HA	29:YF:24:LEU:HG	1.70	0.71
41:RV:71:LEU:HD11	41:RV:83:ARG:HE	1.54	0.71
52:Y6:30:THR:N	52:Y6:31:PRO:O	2.22	0.71
4:XD:3:ARG:NE	4:XD:118:ARG:HD3	2.04	0.71
32:YI:77:LEU:HB3	32:YI:141:LYS:HB2	1.72	0.71
45:YZ:150:LEU:HB2	45:YZ:171:ILE:HG22	1.72	0.71
52:Y6:30:THR:CA	52:Y6:31:PRO:O	2.38	0.71
1:XA:353:A:H5'	1:XA:353:A:C8	2.25	0.71
1:XA:971:G:N2	1:XA:1363(A):A:OP2	2.23	0.71
22:QW:19:G:N1	25:RA:2112:G:N2	2.38	0.71
25:RA:252:G:OP2	35:RP:50:ARG:NH2	2.23	0.71
3:XC:3:ASN:C	3:XC:4:LYS:HG3	2.13	0.71
25:RA:1024:G:H3'	25:RA:1025:G:H5''	1.71	0.71
1:QA:1491:G:N2	25:RA:1913:A:H61	1.89	0.71
54:Y8:14:VAL:HG13	54:Y8:24:ALA:HB2	1.72	0.71
1:QA:1346:A:C4'	1:QA:1347:G:O5'	2.39	0.71
34:RO:25:LEU:HB2	34:RO:38:VAL:HG23	1.72	0.71
31:YH:44:VAL:O	31:YH:51:ARG:NH1	2.24	0.71
32:YI:144:VAL:C	32:YI:145:VAL:HG12	2.15	0.71
13:XM:10:PRO:HG3	13:XM:18:ALA:HA	1.70	0.71
41:YV:15:GLU:HG3	41:YV:16:PRO:HD2	1.72	0.71
1:QA:673:G:H2'	1:QA:674:G:C8	2.26	0.70
25:RA:907:U:OP1	36:RQ:24:GLY:N	2.22	0.70
25:RA:2134:A:N6	25:RA:2157:G:O2'	2.24	0.70
25:RA:2420:C:N4	54:R8:31:HIS:HB3	2.06	0.70
36:RQ:89:ASN:O	36:RQ:91:GLU:N	2.24	0.70
25:RA:2119:A:N6	25:RA:2170:A:N7	2.39	0.70
29:RF:24:LEU:HD13	29:RF:25:PRO:HD2	1.71	0.70
31:RH:9:ILE:CB	31:RH:10:PRO:CB	2.53	0.70
1:QA:353:A:H8	1:QA:353:A:C5'	2.02	0.70
25:RA:58:G:H1	25:RA:69:C:H41	1.36	0.70
25:RA:1548:C:C4	25:RA:1549:C:N4	2.59	0.70
41:RV:47:VAL:O	41:RV:47:VAL:CG2	2.30	0.70
32:YI:141:LYS:HB3	32:YI:142:VAL:HA	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1177:G:OP2	9:XI:97:LYS:NZ	2.24	0.70
3:XC:84:ILE:HD12	3:XC:88:ARG:HH21	1.56	0.70
20:XT:67:ALA:HA	20:XT:73:HIS:H	1.57	0.70
27:YD:35:LYS:HG2	27:YD:64:ILE:N	2.05	0.70
36:RQ:89:ASN:O	36:RQ:92:GLY:N	2.25	0.70
1:XA:1380:U:H5	7:XG:2:ALA:O	1.71	0.70
25:YA:2343:C:H6	25:YA:2343:C:H5''	1.57	0.70
1:QA:974:A:OP2	14:QN:29:ARG:NH2	2.25	0.70
25:RA:1171:G:H1	25:RA:1178:C:H42	1.39	0.70
52:R6:14:THR:OG1	52:R6:15:GLU:N	2.25	0.70
19:XS:50:ALA:HB1	19:XS:57:HIS:HB3	1.71	0.70
25:YA:571:A:H5'	25:YA:2030:A:H62	1.57	0.70
19:QS:36:ARG:NH1	19:QS:73:GLU:HB2	2.06	0.70
23:QX:10:G:H2'	23:QX:11:U:H5''	1.74	0.70
28:RE:47:VAL:C	28:RE:48:GLN:O	2.33	0.70
30:RG:60:LEU:CD2	30:RG:68:PRO:HB3	2.18	0.70
28:YE:60:ASN:O	28:YE:61:ARG:HB2	1.92	0.70
28:YE:61:ARG:N	28:YE:62:PRO:HD2	2.06	0.70
29:YF:53:THR:HG23	29:YF:55:GLY:H	1.56	0.70
31:YH:17:VAL:HG21	31:YH:49:VAL:HG23	1.73	0.70
34:YO:98:VAL:HG13	34:YO:117:LEU:HB3	1.73	0.70
4:QD:20:TYR:HA	4:QD:26:CYS:SG	2.31	0.70
25:YA:389:G:H22	35:YP:72:PRO:HD3	1.56	0.70
41:YV:49:THR:HG22	41:YV:50:PRO:CG	2.22	0.70
48:Y2:42:GLY:O	48:Y2:44:LEU:N	2.25	0.70
9:QI:10:ARG:HD3	9:QI:75:ASP:HB3	1.73	0.70
11:QK:10:VAL:HG12	11:QK:11:LYS:HG2	1.71	0.70
17:XQ:26:GLN:HG2	17:XQ:37:LYS:HG2	1.74	0.70
25:YA:2011:U:C2'	25:YA:2012:G:H5'	2.22	0.70
35:YP:29:LYS:HD2	35:YP:30:THR:HG23	1.74	0.70
44:YY:50:ARG:HB3	44:YY:53:PRO:HG3	1.74	0.70
11:QK:54:ARG:NH2	22:QW:39:C:O3'	2.23	0.70
12:QL:60:LEU:HD21	12:QL:66:VAL:HG22	1.72	0.70
54:R8:54:GLU:HG3	54:R8:57:ARG:HH21	1.55	0.70
25:RA:2635:C:H5''	28:RE:78:LEU:HD12	1.74	0.69
52:Y6:6:ARG:CD	52:Y6:8:LYS:HB3	2.22	0.69
28:RE:63:LEU:CD1	28:RE:65:GLY:H	2.05	0.69
1:XA:542:G:OP1	4:XD:10:ARG:NH2	2.25	0.69
35:YP:62:LEU:HG	54:Y8:27:THR:HG22	1.74	0.69
3:QC:19:GLU:O	3:QC:40:ARG:NH2	2.25	0.69
5:QE:11:ILE:HG22	5:QE:12:LEU:HG	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:53:ARG:HG3	12:QL:93:LEU:HD21	1.74	0.69
28:RE:63:LEU:HD13	28:RE:65:GLY:H	1.57	0.69
35:YP:94:GLU:HG3	35:YP:124:LYS:HB3	1.73	0.69
19:QS:5:LEU:HD13	19:QS:9:VAL:HA	1.75	0.69
25:RA:394:A:H2'	25:RA:395:U:H5''	1.73	0.69
1:XA:1001(A):G:N1	1:XA:1039:C:N3	2.38	0.69
27:YD:34:VAL:HG22	27:YD:35:LYS:HG3	1.73	0.69
22:QV:53:G:O2'	22:QV:54:U:H5'	1.92	0.69
25:RA:1204:A:H62	25:RA:1241:A:H2	1.38	0.69
28:RE:47:VAL:HG23	28:RE:84:PHE:O	1.92	0.69
27:YD:25:THR:O	27:YD:27:THR:N	2.25	0.69
29:YF:60:SER:O	29:YF:60:SER:OG	2.06	0.69
25:RA:136:G:H1	25:RA:143(A):C:H42	1.41	0.69
29:RF:53:THR:HG23	29:RF:55:GLY:H	1.57	0.69
52:R6:9:LEU:H	52:R6:27:LYS:HA	1.58	0.69
1:XA:422:C:O2'	1:XA:423:G:N2	2.26	0.69
1:XA:960:U:OP1	24:XY:8:LYS:HE3	1.93	0.69
1:XA:1493:A:H2'	1:XA:1494:G:H5'	1.75	0.69
25:YA:1728:G:N1	25:YA:1730:U:OP2	2.25	0.69
25:YA:2245:U:H5'	25:YA:2246:G:H5'	1.72	0.69
30:YG:83:ARG:H	30:YG:86:MET:HG3	1.58	0.69
52:Y6:6:ARG:HD3	52:Y6:8:LYS:HB3	1.73	0.69
31:RH:69:ARG:HG3	31:RH:70:THR:N	2.08	0.69
42:RW:18:ARG:HD3	42:RW:76:VAL:HG13	1.75	0.69
28:YE:60:ASN:CA	28:YE:62:PRO:HD2	2.23	0.69
29:YF:103:LYS:HA	29:YF:106:ARG:HG3	1.75	0.69
45:YZ:28:MET:HE1	45:YZ:67:LEU:HD13	1.73	0.69
1:QA:345:C:H1'	1:QA:346:G:C2	2.28	0.69
25:RA:2583:G:C2'	25:RA:2584:U:H5'	2.23	0.69
25:YA:2751:G:H1'	31:YH:4:ILE:HG13	1.74	0.69
31:YH:158:HIS:HA	31:YH:170:ARG:HG2	1.75	0.69
32:YI:80:PRO:CB	32:YI:143:SER:O	2.41	0.69
43:YX:43:VAL:HG23	43:YX:51:VAL:HG21	1.74	0.69
17:QQ:45:HIS:HB2	17:QQ:65:ILE:HD13	1.75	0.68
22:XV:53:G:C2'	22:XV:54:U:H5'	2.22	0.68
4:QD:13:ARG:O	4:QD:15:GLU:N	2.26	0.68
30:RG:16:ARG:HE	30:RG:31:VAL:HG11	1.57	0.68
23:XX:20:A2M:N3	23:XX:20:A2M:H5''	2.08	0.68
25:YA:747:U:OP1	51:Y5:3:LYS:HG2	1.93	0.68
38:YS:106:ARG:NH1	38:YS:107:GLU:OE2	2.23	0.68
25:RA:2602:A:H4'	25:RA:2603:G:O5'	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RV:49:THR:O	41:RV:50:PRO:C	2.36	0.68
13:XM:3:ARG:O	50:Y4:34:GLU:HG3	1.93	0.68
25:YA:2712:U:OP1	25:YA:2714:G:H4'	1.92	0.68
1:QA:1491:G:C2'	1:QA:1492:A:O5'	2.41	0.68
12:XL:117:ARG:HB3	12:XL:122:THR:HB	1.73	0.68
12:QL:47:LYS:HB3	12:QL:48:PRO:HD3	1.76	0.68
25:RA:2343:C:C5'	25:RA:2343:C:H6	2.07	0.68
25:RA:2438:U:O3'	25:RA:2439:A:H3'	1.93	0.68
30:RG:66:GLN:NE2	30:RG:93:THR:O	2.26	0.68
25:YA:651:G:H5''	54:Y8:18:ALA:HB3	1.75	0.68
25:YA:1300:U:H4'	25:YA:1301:A:H5''	1.74	0.68
32:RI:110:ASP:OD1	32:RI:110:ASP:N	2.26	0.68
34:RO:68:GLU:OE2	34:RO:78:ARG:NH1	2.26	0.68
25:YA:2228:G:OP1	27:YD:261:LYS:NZ	2.26	0.68
52:Y6:30:THR:CA	52:Y6:31:PRO:C	2.67	0.68
25:RA:61:G:H1	25:RA:94:C:H42	1.42	0.68
25:RA:1614:A:N1	42:RW:93:ALA:HB2	2.09	0.68
23:QX:14:A:O2'	23:QX:15:A:H5'	1.94	0.68
35:YP:62:LEU:HD13	54:Y8:25:MET:HB3	1.76	0.68
31:RH:125:VAL:HG22	31:RH:126:PRO:HA	1.76	0.68
25:YA:1728:G:N7	25:YA:1731:G:N2	2.39	0.68
52:Y6:40:CYS:HB3	52:Y6:46:HIS:CE1	2.27	0.68
2:QB:115:LEU:HD13	2:QB:145:LEU:HB3	1.76	0.67
4:QD:191:ARG:NH1	4:QD:200:GLU:OE1	2.27	0.67
25:RA:2602:A:H4'	25:RA:2603:G:C5'	2.22	0.67
10:XJ:51:ARG:HB2	10:XJ:60:ARG:HA	1.73	0.67
23:XX:5:A:H2'	23:XX:6:G:H8	1.60	0.67
25:YA:2646:C:H6	25:YA:2646:C:O5'	1.78	0.67
1:QA:718:G:C8	11:QK:116:HIS:HB3	2.29	0.67
3:QC:164:ARG:NH2	3:QC:166:GLU:OE2	2.27	0.67
33:YN:125:GLY:HA3	33:YN:126:PRO:O	1.93	0.67
1:QA:1346:A:H4'	1:QA:1347:G:H5'	1.74	0.67
2:QB:204:ASN:OD1	2:QB:204:ASN:N	2.24	0.67
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.26	0.67
49:Y3:8:LEU:HD13	49:Y3:31:LEU:HD12	1.76	0.67
25:YA:2438:U:O3'	25:YA:2439:A:H3'	1.94	0.67
30:YG:161:THR:HG22	30:YG:163:ALA:H	1.57	0.67
1:QA:1491:G:H2'	1:QA:1492:A:H8	1.58	0.67
22:QW:33:U:H6	22:QW:33:U:O5'	1.78	0.67
35:RP:60:MET:C	35:RP:61:ARG:CG	2.63	0.67
54:R8:56:GLU:OE1	54:R8:56:GLU:N	2.24	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XI:27:THR:OG1	9:XI:28:VAL:N	2.27	0.67
28:YE:37:ARG:HG3	28:YE:46:ALA:HB3	1.77	0.67
25:RA:1753:G:OP1	39:RT:95:ARG:NE	2.25	0.67
28:RE:179:GLU:HB3	28:RE:181:LEU:HD22	1.77	0.67
13:XM:9:ILE:CG1	13:XM:10:PRO:CD	2.71	0.67
25:YA:1309:G:H4'	53:Y7:7:PRO:HB2	1.77	0.67
1:QA:1060:C:H2'	1:QA:1061:G:H8	1.60	0.67
31:RH:19:VAL:HG13	31:RH:43:VAL:HG22	1.77	0.67
1:XA:1179:A:H5'	9:XI:102:LEU:HD22	1.76	0.67
22:XW:54:U:H3	22:XW:58:A:H62	1.40	0.67
30:YG:67:LYS:N	50:Y4:6:HIS:CD2	2.51	0.67
1:XA:531:U:OP2	24:XY:69:ARG:NH1	2.25	0.67
25:YA:857:C:H4'	46:Y0:23:VAL:HG21	1.76	0.67
31:YH:9:ILE:CG2	31:YH:10:PRO:HA	2.24	0.67
52:Y6:12:GLU:HB2	52:Y6:22:ALA:HB3	1.77	0.67
28:RE:78:LEU:HG	28:RE:79:ARG:HA	1.77	0.67
11:XK:54:ARG:NH2	22:XW:39:C:O2'	2.28	0.67
12:XL:27:LEU:HD12	12:XL:33:ARG:HB2	1.77	0.67
24:XY:90:ASP:O	24:XY:91:TYR:HD2	1.78	0.67
54:Y8:6:THR:HG21	54:Y8:63:PRO:HD3	1.77	0.67
30:RG:161:THR:HG22	30:RG:163:ALA:H	1.60	0.67
10:XJ:79:ARG:HA	10:XJ:82:ILE:HB	1.77	0.67
41:RV:48:GLY:H	41:RV:52:VAL:HG22	1.61	0.66
54:R8:8:LYS:HB3	54:R8:12:LYS:HE3	1.77	0.66
20:XT:60:GLU:HG3	20:XT:81:LYS:HD2	1.76	0.66
25:YA:1762:A:H4'	25:YA:1763:G:OP2	1.92	0.66
36:YQ:89:ASN:O	36:YQ:91:GLU:N	2.27	0.66
1:QA:1490:C:O2'	1:QA:1491:G:C5'	2.43	0.66
10:QJ:8:LEU:HG	10:QJ:96:ILE:HG22	1.76	0.66
28:RE:47:VAL:CG1	28:RE:49:LEU:CD1	2.71	0.66
29:YF:122:LYS:O	29:YF:124:LEU:N	2.27	0.66
32:YI:141:LYS:CB	32:YI:142:VAL:HA	2.25	0.66
32:RI:120:ILE:HG22	32:RI:122:GLU:H	1.60	0.66
19:XS:62:ILE:HA	19:XS:66:MET:HE1	1.76	0.66
31:YH:80:SER:OG	31:YH:81:GLU:N	2.29	0.66
20:QT:75:ASN:OD1	20:QT:75:ASN:N	2.29	0.66
25:RA:1019:U:HO2'	25:RA:1021:A:H2	1.44	0.66
31:RH:7:LEU:HD13	31:RH:69:ARG:HB3	1.77	0.66
52:R6:15:GLU:OE1	52:R6:44:ARG:NH2	2.28	0.66
5:XE:19:MET:HE1	5:XE:24:ARG:HH21	1.60	0.66
1:QA:1030:C:H3'	1:QA:1030(A):G:H4'	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:RZ:10:ARG:NH1	45:RZ:26:GLY:O	2.28	0.66
25:YA:1007:C:OP1	33:YN:35:ARG:NH1	2.29	0.66
22:QV:53:G:H2'	22:QV:54:U:C6	2.31	0.66
35:RP:23:PRO:O	35:RP:25:SER:N	2.28	0.66
3:XC:71:ALA:HA	3:XC:106:VAL:HB	1.76	0.66
31:YH:86:GLU:HG3	31:YH:165:ALA:HB2	1.78	0.66
30:RG:96:ARG:O	30:RG:98:ARG:N	2.28	0.66
35:RP:146:VAL:HG22	35:RP:147:LEU:HD13	1.78	0.66
54:R8:14:VAL:HG13	54:R8:24:ALA:HB2	1.78	0.66
2:XB:178:ARG:HH12	8:XH:68:ARG:HH22	1.41	0.66
25:YA:833:U:O2	35:YP:55:ARG:NH1	2.29	0.66
31:YH:45:VAL:HG23	31:YH:49:VAL:HA	1.78	0.66
31:RH:10:PRO:C	31:RH:11:VAL:HG12	2.21	0.66
44:RY:33:LYS:H	44:RY:33:LYS:HD3	1.61	0.66
44:RY:50:ARG:HB3	44:RY:53:PRO:HG3	1.78	0.66
25:YA:2287:A:N6	25:YA:2344:U:H3	1.93	0.66
1:QA:1490:C:O2'	1:QA:1491:G:H5'	1.95	0.66
36:RQ:64:ILE:HG22	36:RQ:106:VAL:HG12	1.76	0.66
46:R0:48:GLY:O	46:R0:80:HIS:ND1	2.29	0.66
47:R1:51:VAL:HG11	47:R1:74:VAL:HG21	1.76	0.66
4:XD:13:ARG:O	4:XD:15:GLU:N	2.29	0.66
25:YA:2011:U:H2'	25:YA:2012:G:H5'	1.75	0.66
1:QA:189(F):U:O2	17:QQ:63:ARG:NH1	2.29	0.66
1:QA:218:C:H5'	1:QA:470:C:H42	1.59	0.66
25:RA:1917:U:O2'	25:RA:1918:A:H5'	1.96	0.66
1:XA:664:G:H22	1:XA:741:G:H1	1.42	0.66
23:XX:10:G:N2	23:XX:11:U:O3'	2.29	0.66
29:YF:132:VAL:HG22	29:YF:133:ASN:H	1.61	0.66
53:Y7:34:ARG:NH1	53:Y7:41:ARG:O	2.29	0.66
44:RY:89:PHE:HB2	44:RY:90:LEU:HD22	1.78	0.65
1:XA:954:G:H21	1:XA:1227:A:H62	1.45	0.65
29:YF:66:PRO:O	29:YF:68:LYS:N	2.29	0.65
2:QB:194:PRO:O	2:QB:196:LEU:N	2.29	0.65
12:QL:117:ARG:HB3	12:QL:122:THR:HB	1.78	0.65
38:RS:26:LEU:HB3	38:RS:87:PHE:HA	1.79	0.65
44:RY:88:LYS:O	44:RY:90:LEU:N	2.27	0.65
49:Y3:39:ASP:OD2	49:Y3:44:ARG:NH2	2.29	0.65
2:XB:195:ASP:O	8:XH:68:ARG:NH2	2.29	0.65
25:YA:2105:C:H2'	25:YA:2106:G:H8	1.61	0.65
25:RA:1694:C:H4'	25:RA:1695:G:O5'	1.95	0.65
35:RP:97:PRO:O	35:RP:99:LEU:N	2.27	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:RY:61:ILE:HG22	44:RY:62:GLU:HG3	1.78	0.65
1:XA:189(F):U:O2	17:XQ:63:ARG:NH1	2.30	0.65
1:XA:960:U:H1'	1:XA:961:U:OP2	1.95	0.65
1:XA:1191:A:H5'	3:XC:4:LYS:HE2	1.76	0.65
13:XM:97:PRO:HA	13:XM:110:ARG:HD3	1.79	0.65
28:YE:61:ARG:N	28:YE:62:PRO:CD	2.59	0.65
28:RE:78:LEU:CD2	28:RE:79:ARG:NE	2.56	0.65
44:RY:13:VAL:HG21	44:RY:72:VAL:HB	1.77	0.65
1:XA:1289:A:OP1	21:XU:9:ARG:NH2	2.29	0.65
1:XA:1442:G:O6	1:XA:1442(B):A:N6	2.29	0.65
32:YI:80:PRO:HB3	32:YI:143:SER:O	1.96	0.65
40:YU:92:ARG:HH22	41:YV:10:LYS:HA	1.61	0.65
20:QT:67:ALA:HA	20:QT:73:HIS:H	1.62	0.65
25:RA:2128:C:N4	25:RA:2159:G:O6	2.30	0.65
31:RH:10:PRO:O	31:RH:11:VAL:CG1	2.44	0.65
1:XA:1316:G:N1	1:XA:1319:A:OP2	2.27	0.65
2:XB:43:ASP:HB3	2:XB:46:LYS:HB2	1.78	0.65
32:YI:120:ILE:HG22	32:YI:122:GLU:H	1.61	0.65
7:QG:73:MET:HG2	7:QG:90:GLU:HA	1.79	0.65
25:RA:1021:A:H8	25:RA:1021:A:H3'	1.60	0.65
45:RZ:87:ASP:OD2	45:RZ:87:ASP:N	2.30	0.65
13:XM:10:PRO:HG2	13:XM:18:ALA:HA	1.79	0.65
22:XV:54:U:H2'	22:XV:55:U:H5'	1.78	0.65
25:YA:2445:G:OP1	29:YF:74:ARG:NH2	2.28	0.65
44:YY:76:CYS:O	44:YY:77:PRO:C	2.39	0.65
28:RE:8:LYS:HB3	28:RE:192:ASN:HA	1.77	0.65
29:RF:79:GLY:HA2	29:RF:86:GLY:HA2	1.78	0.65
44:RY:76:CYS:O	44:RY:78:ALA:N	2.30	0.65
48:R2:17:SER:HB2	48:R2:18:PRO:HA	1.78	0.65
25:YA:2016:U:H1'	51:Y5:6:VAL:CG1	2.27	0.65
26:YB:80:U:H2'	26:YB:81:G:H21	1.60	0.65
41:YV:49:THR:HB	41:YV:50:PRO:HD2	1.74	0.65
52:Y6:30:THR:HA	52:Y6:31:PRO:O	1.96	0.65
1:XA:455:C:H42	1:XA:476:G:H1	1.44	0.65
7:XG:15:ASP:HB3	7:XG:24:THR:HG22	1.79	0.65
9:XI:28:VAL:HG21	9:XI:63:ILE:N	2.09	0.65
1:QA:1302:U:C5	13:QM:17:VAL:CG2	2.80	0.65
25:RA:1657:C:H2'	25:RA:1658:C:H6	1.62	0.65
31:RH:8:PRO:O	31:RH:9:ILE:CG1	2.45	0.65
41:RV:49:THR:HG21	41:RV:50:PRO:HD3	1.71	0.65
25:YA:1403:C:H5''	25:YA:1471:A:H1'	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YH:24:VAL:HG22	31:YH:35:VAL:HB	1.79	0.65
36:YQ:64:ILE:HG22	36:YQ:106:VAL:HG12	1.79	0.65
38:YS:26:LEU:HB3	38:YS:87:PHE:HA	1.77	0.65
47:Y1:34:THR:HG22	47:Y1:36:GLY:H	1.61	0.65
11:QK:124:LYS:HD2	11:QK:125:PHE:CD1	2.31	0.64
22:QV:54:U:H2'	22:QV:55:U:H5'	1.79	0.64
27:RD:171:ASP:OD2	27:RD:171:ASP:N	2.29	0.64
3:XC:11:ARG:HE	3:XC:180:ALA:HB3	1.62	0.64
27:YD:35:LYS:HD2	27:YD:104:TYR:CE1	2.32	0.64
44:YY:76:CYS:O	44:YY:78:ALA:N	2.30	0.64
7:QG:16:LEU:HD23	9:QI:41:VAL:HG12	1.80	0.64
25:RA:68:G:C3'	25:RA:69:C:O2	2.45	0.64
28:RE:78:LEU:CG	28:RE:79:ARG:HG2	2.24	0.64
1:XA:350:G:C6	1:XA:351:G:O6	2.50	0.64
28:YE:80:GLU:O	28:YE:82:ARG:N	2.30	0.64
13:XM:99:ARG:O	13:XM:101:GLN:NE2	2.30	0.64
33:YN:49:GLY:O	33:YN:119:ARG:NH1	2.29	0.64
25:RA:271(P):C:H5'	32:RI:45:LYS:HE3	1.79	0.64
27:YD:39:LYS:HB2	27:YD:62:TYR:HB2	1.78	0.64
36:YQ:18:LYS:HB2	36:YQ:98:LYS:HZ1	1.63	0.64
44:YY:17:SER:OG	44:YY:18:GLY:N	2.28	0.64
1:QA:1491:G:H2'	1:QA:1492:A:O5'	1.98	0.64
9:QI:34:ASN:O	9:QI:36:TYR:N	2.30	0.64
28:RE:63:LEU:CD1	28:RE:64:LYS:H	2.02	0.64
4:XD:23:GLY:O	4:XD:24:GLU:HB2	1.97	0.64
4:XD:148:VAL:HG11	4:XD:158:ILE:HG21	1.79	0.64
25:YA:1247:A:OP1	29:YF:95:ARG:NH2	2.30	0.64
27:YD:44:ASN:OD1	27:YD:44:ASN:N	2.29	0.64
1:QA:1318:A:H4'	19:QS:10:PHE:CE2	2.33	0.64
2:QB:24:TRP:CD1	2:QB:24:TRP:H	2.16	0.64
1:XA:673:G:H2'	1:XA:674:G:C8	2.33	0.64
7:XG:35:LYS:HB3	7:XG:38:LEU:HD13	1.79	0.64
13:XM:67:GLU:OE2	30:YG:115:ARG:NH2	2.30	0.64
29:YF:135:LYS:HB3	29:YF:138:GLU:HG3	1.79	0.64
14:QN:12:ARG:HG2	14:QN:14:PRO:HD3	1.79	0.64
25:RA:2091:U:O2'	47:R1:47:GLN:HG3	1.97	0.64
25:RA:2788:C:O2'	25:RA:2809:A:N3	2.30	0.64
42:RW:65:LEU:HD13	42:RW:68:ARG:HD2	1.79	0.64
2:XB:111:ARG:HA	2:XB:111:ARG:HH11	1.63	0.64
4:XD:109:GLY:O	4:XD:111:ALA:N	2.30	0.64
25:YA:458:G:C8	53:Y7:37:LYS:HG2	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1171:G:H1	25:YA:1178:C:H42	1.46	0.64
45:YZ:121:HIS:N	45:YZ:171:ILE:HG13	2.08	0.64
25:RA:586:A:H5'	29:RF:89:VAL:HG21	1.78	0.64
25:RA:1112:G:OP1	31:RH:3:ARG:NH2	2.30	0.64
28:RE:47:VAL:HG21	28:RE:86:PRO:HD2	1.78	0.64
31:RH:158:HIS:HA	31:RH:170:ARG:HG2	1.80	0.64
34:RO:86:ILE:HG22	34:RO:94:ARG:HG3	1.79	0.64
35:RP:52:GLU:OE1	35:RP:54:GLY:N	2.20	0.64
9:XI:25:LYS:HD3	9:XI:25:LYS:H	1.61	0.64
20:XT:56:MET:HG3	20:XT:84:LEU:HD12	1.79	0.64
23:XX:13:A:O2'	23:XX:14:A:H5''	1.98	0.64
25:YA:320:A:N3	29:YF:169:ASN:ND2	2.46	0.64
35:YP:146:VAL:HG22	35:YP:147:LEU:H	1.62	0.64
38:YS:17:ARG:HG3	38:YS:17:ARG:HH11	1.63	0.64
1:QA:1177:G:OP2	9:QI:97:LYS:NZ	2.28	0.64
11:QK:124:LYS:NZ	11:QK:125:PHE:HE1	1.96	0.64
31:RH:51:ARG:HH21	31:RH:53:GLU:H	1.44	0.64
25:YA:265:A:N1	25:YA:427:U:O2'	2.30	0.64
25:YA:660:G:H21	35:YP:12:ALA:HB2	1.62	0.64
25:YA:2439:A:C8	25:YA:2439:A:H5'	2.33	0.64
1:QA:1178:G:H5'	9:QI:93:ARG:HH21	1.62	0.64
25:RA:642:G:H21	25:RA:646:A:H2	1.46	0.64
1:XA:1497:G:C2'	1:XA:1498:U:H5'	2.28	0.64
32:YI:77:LEU:CB	32:YI:141:LYS:HB2	2.27	0.64
44:YY:73:ARG:HH21	44:YY:82:PRO:HD3	1.63	0.64
1:QA:1158:C:O2	1:QA:1158:C:C2'	2.34	0.63
25:YA:483:A:H5'	44:YY:49:VAL:HA	1.81	0.63
25:YA:2012:G:OP1	42:YW:11:ARG:NH2	2.26	0.63
26:YB:15:A:H5'	26:YB:16:G:C8	2.33	0.63
30:YG:114:ILE:HG22	30:YG:117:PHE:HB2	1.78	0.63
38:YS:62:LYS:HB3	38:YS:97:ARG:HD3	1.79	0.63
39:RT:19:LEU:HD22	39:RT:86:ILE:HG22	1.80	0.63
1:XA:951:G:OP2	13:XM:102:ARG:NH2	2.31	0.63
4:XD:25:ARG:O	4:XD:27:TYR:N	2.31	0.63
25:YA:993:G:OP1	40:YU:50:ARG:NH2	2.28	0.63
25:YA:1930:G:O2'	25:YA:1931:U:P	2.56	0.63
30:YG:47:LYS:HD3	30:YG:81:LYS:HB2	1.80	0.63
32:YI:77:LEU:CD1	32:YI:142:VAL:CG2	2.72	0.63
1:QA:448:A:OP2	1:QA:485:G:N2	2.22	0.63
21:QU:7:ARG:HG2	21:QU:21:TYR:CE1	2.34	0.63
22:QW:33:U:H2'	22:QW:35:A:OP2	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:247:G:H4'	25:RA:386:G:C5	2.34	0.63
25:RA:2384:G:OP2	46:R0:55:ARG:NH2	2.27	0.63
50:R4:22:ILE:HG12	50:R4:23:GLU:H	1.63	0.63
25:YA:819:A:OP2	25:YA:1187:G:N2	2.23	0.63
25:YA:1300:U:H4'	25:YA:1301:A:C5'	2.28	0.63
28:YE:31:CYS:HB3	28:YE:49:LEU:HB3	1.80	0.63
31:YH:3:ARG:HH11	31:YH:6:ARG:HE	1.44	0.63
35:YP:146:VAL:HG22	35:YP:147:LEU:HD13	1.80	0.63
36:YQ:67:ARG:NH1	36:YQ:105:GLU:OE2	2.32	0.63
3:QC:156:ARG:H	3:QC:163:ALA:HA	1.64	0.63
31:RH:44:VAL:H	31:RH:51:ARG:HH12	1.45	0.63
39:RT:125:ARG:O	39:RT:129:ARG:NH1	2.32	0.63
41:RV:35:LEU:O	41:RV:37:VAL:HG22	1.99	0.63
1:XA:1191:A:H5'	3:XC:4:LYS:NZ	2.14	0.63
2:XB:51:LEU:HD23	2:XB:201:ILE:HD12	1.80	0.63
13:XM:9:ILE:HG13	13:XM:10:PRO:CD	2.21	0.63
16:XP:22:THR:HA	16:XP:33:ILE:HG12	1.80	0.63
25:YA:480:A:H1'	44:YY:44:ILE:HD13	1.80	0.63
8:QH:42:GLU:HG3	8:QH:109:ILE:HD12	1.79	0.63
10:XJ:46:ARG:HG2	10:XJ:64:GLU:HB3	1.81	0.63
25:YA:1400:G:H2'	25:YA:1401:G:C8	2.34	0.63
34:YO:68:GLU:OE2	34:YO:78:ARG:NH1	2.31	0.63
1:QA:1150:U:O4	1:QA:1151:A:N6	2.31	0.63
25:RA:345:A:O2'	25:RA:346:A:N7	2.31	0.63
31:RH:97:ARG:HB2	31:RH:104:GLU:HB2	1.79	0.63
5:XE:78:HIS:HA	8:XH:105:ARG:HG3	1.81	0.63
50:Y4:37:SER:OG	50:Y4:38:LYS:N	2.28	0.63
1:QA:1302:U:H5	13:QM:17:VAL:HG21	1.63	0.63
25:RA:643:A:N1	25:RA:2369:A:O2'	2.31	0.63
28:RE:47:VAL:HG12	28:RE:49:LEU:HD13	1.80	0.63
29:RF:116:ASP:OD2	35:RP:1:MET:N	2.32	0.63
42:RW:68:ARG:NH1	42:RW:111:HIS:O	2.32	0.63
49:R3:11:SER:OG	49:R3:13:ILE:HG12	1.99	0.63
52:R6:39:TYR:HB3	52:R6:41:PRO:HD3	1.80	0.63
25:YA:1230:C:H2'	25:YA:1231:G:H8	1.64	0.63
30:YG:67:LYS:H	50:Y4:6:HIS:HD2	0.84	0.63
38:YS:83:LYS:HE2	38:YS:84:GLN:HG3	1.80	0.63
50:Y4:61:ARG:HB3	50:Y4:62:ARG:HH21	1.62	0.63
25:RA:993:G:OP1	40:RU:50:ARG:NH2	2.32	0.63
25:RA:2822:G:OP1	28:RE:159:HIS:NE2	2.28	0.63
36:RQ:37:LEU:HD21	36:RQ:130:LYS:HD3	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:RU:90:VAL:HG22	41:RV:39:LEU:HB3	1.81	0.63
45:RZ:119:GLU:OE1	45:RZ:122:ARG:NH2	2.31	0.63
45:RZ:156:LYS:N	45:RZ:156:LYS:HE3	2.14	0.63
25:YA:498:G:N3	44:YY:47:LYS:NZ	2.46	0.63
52:Y6:28:ARG:CA	52:Y6:29:ASN:CB	2.77	0.63
1:QA:1006:C:N3	1:QA:1023:G:N2	2.47	0.62
9:QI:63:ILE:HG21	9:QI:77:ILE:HG12	1.81	0.62
16:QP:71:ARG:HG3	16:QP:80:PHE:HE1	1.63	0.62
25:RA:2200:C:O5'	25:RA:2200:C:H6	1.81	0.62
2:XB:32:ILE:HD11	2:XB:40:HIS:HB3	1.80	0.62
25:YA:1024:G:H3'	25:YA:1025:G:H5''	1.80	0.62
31:YH:125:VAL:HG22	31:YH:126:PRO:HA	1.81	0.62
1:QA:1030(C):G:H21	1:QA:1030(D):A:H1'	1.64	0.62
9:QI:103:THR:HG22	9:QI:105:ASP:H	1.63	0.62
25:RA:1753:G:OP2	39:RT:115:ARG:NH2	2.33	0.62
25:RA:1930:G:O2'	25:RA:1931:U:P	2.57	0.62
28:RE:51:PHE:CD1	28:RE:52:LEU:HG	2.34	0.62
28:RE:78:LEU:HG	28:RE:79:ARG:HG2	1.79	0.62
1:XA:1178:G:H5'	9:XI:93:ARG:NH2	2.14	0.62
25:YA:1639:U:H2'	25:YA:1640:C:H5''	1.81	0.62
25:RA:2527:C:H5'	55:R9:30:PRO:HB2	1.79	0.62
32:RI:82:ARG:HD2	32:RI:146:ALA:HB3	1.81	0.62
1:XA:1006:C:N3	1:XA:1023:G:N2	2.44	0.62
45:YZ:87:ASP:OD2	45:YZ:87:ASP:N	2.32	0.62
46:Y0:6:GLY:HA3	46:Y0:7:LEU:HD22	1.82	0.62
50:Y4:40:HIS:H	50:Y4:41:PRO:HD2	1.64	0.62
52:Y6:28:ARG:HB3	52:Y6:30:THR:H	1.64	0.62
9:QI:25:LYS:H	9:QI:25:LYS:HD3	1.63	0.62
10:QJ:79:ARG:H	10:QJ:79:ARG:HD3	1.64	0.62
25:RA:1266:G:O5'	42:RW:15:ARG:NH2	2.32	0.62
1:XA:1129:C:H5''	9:XI:16:ARG:HH22	1.64	0.62
19:XS:16:LEU:HA	19:XS:19:VAL:HG12	1.81	0.62
45:YZ:138:GLU:OE1	45:YZ:138:GLU:N	2.30	0.62
2:QB:184:VAL:N	2:QB:198:ASP:OD1	2.33	0.62
25:RA:2208:A:H1'	25:RA:2219:G:C4	2.35	0.62
25:RA:2447:G:H4'	25:RA:2448:A:C5'	2.29	0.62
31:RH:8:PRO:O	31:RH:9:ILE:HG12	1.97	0.62
46:R0:27:GLU:HG3	46:R0:68:GLU:HA	1.81	0.62
25:YA:2134:A:N6	25:YA:2157:G:O2'	2.32	0.62
4:QD:23:GLY:O	4:QD:24:GLU:HB2	1.99	0.62
4:QD:64:LEU:HD13	4:QD:198:VAL:HG21	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:QI:27:THR:OG1	9:QI:28:VAL:N	2.22	0.62
28:RE:49:LEU:HD21	28:RE:91:VAL:HG11	1.81	0.62
40:RU:76:TYR:OH	40:RU:93:LYS:HE2	1.98	0.62
1:XA:560:U:H5'	1:XA:566:G:N2	2.14	0.62
25:YA:637:A:H5''	35:YP:117:GLU:HG3	1.81	0.62
28:YE:70:ALA:O	28:YE:72:VAL:N	2.32	0.62
41:YV:85:LYS:HG3	41:YV:87:HIS:N	2.13	0.62
6:QF:28:ARG:NH2	6:QF:31:GLU:OE1	2.33	0.62
9:QI:8:GLY:HA2	9:QI:79:LEU:HD12	1.82	0.62
9:QI:17:VAL:HG11	9:QI:81:ILE:HA	1.81	0.62
25:RA:1548:C:N3	25:RA:1549:C:C5	2.68	0.62
1:XA:1379:G:O6	7:XG:3:ARG:HD3	2.00	0.62
19:XS:36:ARG:NH1	19:XS:73:GLU:HB2	2.14	0.62
25:YA:2134:A:OP2	25:YA:2157:G:N2	2.33	0.62
26:YB:8:U:O3'	38:YS:25:ARG:NH2	2.32	0.62
39:YT:105:LEU:HD22	39:YT:109:GLU:HG3	1.80	0.62
45:YZ:19:ARG:NH1	45:YZ:84:GLU:O	2.33	0.62
25:RA:1007:C:OP1	33:RN:35:ARG:NH1	2.32	0.62
25:RA:2445:G:OP1	29:RF:74:ARG:NH2	2.31	0.62
25:RA:2564:A:C2	25:RA:2647:U:H4'	2.35	0.62
29:RF:157:VAL:HB	29:RF:194:MET:HB3	1.82	0.62
31:RH:42:ARG:O	31:RH:51:ARG:NH2	2.32	0.62
13:XM:2:ALA:O	13:XM:4:ILE:N	2.32	0.62
15:XO:82:ILE:HD11	15:XO:88:ARG:HB2	1.81	0.62
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.81	0.62
9:QI:17:VAL:HG22	9:QI:63:ILE:HG12	1.81	0.62
9:QI:96:LEU:HD23	9:QI:102:LEU:HD12	1.81	0.62
52:R6:9:LEU:HB3	52:R6:27:LYS:HA	1.82	0.62
25:YA:686:G:H21	25:YA:788:A:H61	1.47	0.62
25:YA:1056:G:H4'	25:YA:1086:A:H1'	1.82	0.62
1:QA:1297:C:O2'	7:QG:114:ARG:NH2	2.33	0.62
1:QA:1347:G:H1'	1:QA:1348:U:OP2	2.00	0.62
10:QJ:34:VAL:HG22	10:QJ:74:ILE:HG22	1.80	0.62
23:QX:12:A:H2'	23:QX:13:A:C8	2.35	0.62
1:XA:17:U:H2'	1:XA:18:C:C6	2.35	0.62
2:XB:24:TRP:HD1	2:XB:24:TRP:H	1.46	0.62
45:YZ:150:LEU:HD21	45:YZ:155:LEU:HD23	1.80	0.62
9:QI:4:TYR:HB2	9:QI:18:PHE:O	2.00	0.61
48:R2:15:LYS:HA	48:R2:67:LYS:HZ1	1.64	0.61
1:XA:422:C:HO2'	1:XA:423:G:N2	1.97	0.61
1:XA:1126:U:H3	10:XJ:40:LEU:HD21	1.63	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1152:A:H5''	10:XJ:13:HIS:CD2	2.34	0.61
31:YH:51:ARG:HH21	31:YH:53:GLU:H	1.48	0.61
25:RA:2875:C:H4'	39:RT:5:ALA:HB2	1.82	0.61
45:RZ:118:GLN:HG3	45:RZ:173:ALA:N	2.14	0.61
1:XA:1314:C:H2'	1:XA:1315:U:C6	2.35	0.61
25:RA:1329:U:H5''	25:RA:1330:C:H5	1.65	0.61
25:RA:2848:G:O2'	25:RA:2867:G:N2	2.33	0.61
29:RF:132:VAL:O	29:RF:134:GLY:N	2.30	0.61
35:RP:62:LEU:HD12	54:R8:25:MET:HB3	1.82	0.61
50:Y4:66:SER:HA	50:Y4:68:ARG:HH11	1.65	0.61
1:QA:728:A:H2'	1:QA:729:A:C8	2.33	0.61
1:QA:1352:C:OP1	21:QU:3:LYS:NZ	2.28	0.61
3:QC:153:VAL:HG22	3:QC:198:VAL:HG22	1.82	0.61
15:QO:56:LEU:HA	15:QO:59:MET:HE2	1.82	0.61
19:QS:50:ALA:HB1	19:QS:57:HIS:HB3	1.82	0.61
2:XB:47:THR:HA	2:XB:202:PRO:HG2	1.81	0.61
10:XJ:49:VAL:HG13	14:XN:41:ARG:CD	2.27	0.61
27:YD:35:LYS:NZ	27:YD:64:ILE:O	2.27	0.61
25:RA:1021:A:H3'	25:RA:1021:A:C8	2.35	0.61
27:RD:35:LYS:HG2	27:RD:64:ILE:N	2.15	0.61
32:RI:31:LEU:HD21	32:RI:38:LEU:HG	1.82	0.61
1:XA:974:A:OP1	14:XN:29:ARG:NH2	2.33	0.61
8:XH:33:GLU:OE1	8:XH:50:ARG:NH1	2.34	0.61
25:YA:1112:G:OP1	31:YH:3:ARG:NH2	2.33	0.61
25:YA:1907:G:O2'	25:YA:1908:C:H5'	2.00	0.61
1:QA:354:G:N1	1:QA:355:C:C4	2.69	0.61
1:QA:422:C:O2'	1:QA:423:G:N2	2.34	0.61
2:QB:29:ALA:HB1	2:QB:30:ARG:HH21	1.65	0.61
23:QX:13:A:O2'	23:QX:14:A:H5''	2.00	0.61
25:RA:2232:U:P	47:R1:40:ARG:HH12	2.22	0.61
31:YH:26:VAL:HG11	31:YH:75:ALA:HB1	1.83	0.61
52:Y6:15:GLU:OE1	52:Y6:44:ARG:NH2	2.28	0.61
54:Y8:8:LYS:HB3	54:Y8:12:LYS:HE3	1.83	0.61
1:QA:973:G:OP1	10:QJ:57:LYS:NZ	2.33	0.61
1:QA:1123:A:H4'	10:QJ:37:PRO:HD2	1.82	0.61
1:QA:1152:A:H5''	10:QJ:13:HIS:CD2	2.36	0.61
23:XX:14:A:O2'	23:XX:15:A:H5'	2.01	0.61
25:YA:907:U:OP1	36:YQ:24:GLY:N	2.31	0.61
29:YF:79:GLY:HA2	29:YF:86:GLY:HA2	1.82	0.61
34:YO:20:MET:HE3	34:YO:44:LYS:HE3	1.83	0.61
1:QA:1289:A:OP1	21:QU:9:ARG:NH2	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:XU:25:LYS:HG2	21:XU:26:LYS:HG2	1.82	0.61
25:YA:747:U:OP2	51:Y5:3:LYS:HD3	2.00	0.61
25:YA:832:G:H5'	35:YP:45:LEU:HD21	1.81	0.61
52:Y6:34:LEU:HD23	52:Y6:34:LEU:H	1.65	0.61
8:QH:110:ALA:HB3	8:QH:121:ASP:HB3	1.81	0.61
7:XG:113:GLU:HB2	7:XG:119:ARG:HG2	1.83	0.61
8:XH:25:ASP:N	8:XH:25:ASP:OD1	2.33	0.61
25:YA:969:U:H2'	25:YA:970:C:C6	2.36	0.61
25:YA:1028:A:N3	25:YA:2486:G:O2'	2.27	0.61
1:QA:436:C:H2'	1:QA:437:U:H6	1.66	0.61
24:QY:90:ASP:OD1	24:QY:91:TYR:N	2.33	0.61
25:RA:128:C:H2'	25:RA:129:C:C6	2.36	0.61
27:RD:44:ASN:HB3	27:RD:49:ILE:HA	1.82	0.61
31:RH:18:GLU:HB2	31:RH:25:LYS:HB2	1.83	0.61
49:R3:6:VAL:HG22	49:R3:56:VAL:HG23	1.83	0.61
34:YO:92:GLU:OE1	34:YO:113:LYS:NZ	2.33	0.61
1:QA:350:G:C5'	1:QA:350:G:C8	2.84	0.60
1:QA:1305:G:H22	1:QA:1331:G:H2'	1.65	0.60
2:QB:55:PHE:HD1	2:QB:221:LEU:HD21	1.66	0.60
25:RA:654(D):G:H1	25:RA:654(Q):C:H42	1.47	0.60
25:RA:686:G:H5''	53:R7:11:LYS:HE2	1.83	0.60
25:RA:2472:G:N1	25:RA:2477:C:OP1	2.28	0.60
50:R4:40:HIS:H	50:R4:41:PRO:HD2	1.66	0.60
1:XA:814:A:H2'	1:XA:816:A:H5''	1.83	0.60
2:QB:24:TRP:H	2:QB:24:TRP:HD1	1.48	0.60
4:QD:107:ARG:HH21	4:QD:194:LEU:HD12	1.66	0.60
25:RA:764:A:N3	27:RD:213:ARG:NH1	2.49	0.60
7:XG:73:MET:HE2	7:XG:90:GLU:HG2	1.83	0.60
13:XM:10:PRO:HG2	13:XM:18:ALA:CB	2.31	0.60
1:QA:662:G:H2'	1:QA:663:A:C8	2.36	0.60
1:QA:1379:G:C8	7:QG:3:ARG:HD3	2.36	0.60
2:QB:32:ILE:HD11	2:QB:40:HIS:HB3	1.82	0.60
2:QB:47:THR:HA	2:QB:202:PRO:HG2	1.83	0.60
12:QL:88:GLY:H	12:QL:98:TYR:HA	1.65	0.60
22:QV:54:U:O2'	22:QV:55:U:H5'	2.00	0.60
25:RA:1862:G:H1	25:RA:1880:C:H42	1.48	0.60
1:XA:1435:G:H2'	1:XA:1436:U:C6	2.36	0.60
25:YA:65:C:O2'	25:YA:456:C:N3	2.31	0.60
28:YE:92:THR:OG1	28:YE:93:VAL:N	2.31	0.60
3:QC:60:ALA:O	3:QC:63:ASN:ND2	2.34	0.60
25:RA:2685:G:H1'	25:RA:2726:U:H5	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:R3:8:LEU:HD13	49:R3:31:LEU:HD12	1.82	0.60
52:R6:33:LYS:HD2	52:R6:34:LEU:H	1.66	0.60
4:XD:127:THR:HA	4:XD:132:ARG:HA	1.83	0.60
25:YA:655:A:H4'	25:YA:656:G:H5'	1.83	0.60
25:RA:583:G:OP2	40:RU:10:ARG:NH1	2.31	0.60
1:XA:677:U:H2'	1:XA:678:U:H6	1.66	0.60
19:XS:9:VAL:HG11	50:Y4:63:TYR:HB2	1.83	0.60
27:YD:95:LEU:HD11	27:YD:105:ILE:HG23	1.82	0.60
1:QA:350:G:H8	1:QA:350:G:H5'	1.65	0.60
25:RA:1418:G:OP1	25:RA:1588:C:O2'	2.20	0.60
27:RD:35:LYS:HG2	27:RD:64:ILE:H	1.67	0.60
32:RI:4:ILE:HG12	32:RI:18:VAL:HG22	1.82	0.60
41:RV:69:LYS:HD2	41:RV:85:LYS:HD2	1.82	0.60
41:RV:71:LEU:N	41:RV:86:GLY:HA3	2.16	0.60
44:RY:13:VAL:HG23	44:RY:73:ARG:O	2.00	0.60
21:XU:12:LYS:HB3	21:XU:22:ARG:HD2	1.83	0.60
25:RA:1695:G:H2'	25:RA:1696:G:C5'	2.32	0.60
25:RA:1918:A:O2'	25:RA:1920:C:N4	2.35	0.60
27:RD:35:LYS:HD2	27:RD:104:TYR:CE1	2.37	0.60
32:RI:143:SER:O	32:RI:144:VAL:HG12	2.02	0.60
20:XT:75:ASN:OD1	20:XT:75:ASN:N	2.31	0.60
25:YA:686:G:N2	25:YA:788:A:H61	2.00	0.60
25:YA:2646:C:H2'	25:YA:2647:U:O4'	2.02	0.60
32:YI:131:LYS:HB3	32:YI:132:PRO:HA	1.84	0.60
18:QR:22:VAL:HG12	18:QR:56:THR:HA	1.82	0.60
25:RA:614(A):U:O2'	25:RA:614(B):G:H5'	2.01	0.60
27:RD:108:PRO:HG2	27:RD:111:LEU:HB2	1.83	0.60
28:RE:67:PHE:O	28:RE:69:LYS:N	2.33	0.60
1:XA:1380:U:C4	7:XG:2:ALA:HA	2.36	0.60
25:YA:956:G:OP2	36:YQ:14:ARG:NH2	2.35	0.60
25:YA:1322:A:N1	25:YA:1333:C:O2'	2.29	0.60
25:YA:1454:U:OP1	37:YR:77:ARG:NH1	2.34	0.60
25:YA:2016:U:O4'	51:Y5:6:VAL:HG11	2.02	0.60
12:QL:23:LYS:H	12:QL:23:LYS:HD3	1.67	0.60
25:RA:2583:G:H2'	25:RA:2584:U:H5'	1.82	0.60
29:RF:1:MET:O	29:RF:2:LYS:O	2.20	0.60
1:XA:957:U:H2'	1:XA:959:A:OP2	2.02	0.60
9:XI:110:GLU:OE2	9:XI:113:LYS:NZ	2.33	0.60
27:YD:17:THR:O	27:YD:211:ARG:NH2	2.35	0.60
25:RA:857:C:H1'	46:R0:26:TYR:HE2	1.66	0.60
54:R8:29:LYS:O	54:R8:31:HIS:N	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1060:C:H3'	3:XC:3:ASN:ND2	2.16	0.60
26:YB:51:G:N7	38:YS:62:LYS:NZ	2.44	0.60
1:QA:677:U:H3	1:QA:713:G:H22	1.47	0.59
1:QA:1227:A:C4	13:QM:117:VAL:HG21	2.37	0.59
1:QA:1442(A):G:H3'	1:QA:1442(B):A:H5''	1.84	0.59
2:QB:87:ARG:HH21	2:QB:233:SER:HB2	1.67	0.59
25:RA:2466:C:H5''	55:R9:6:SER:HB2	1.83	0.59
31:RH:84:SER:OG	31:RH:85:LYS:N	2.32	0.59
44:RY:42:VAL:HG13	44:RY:65:ALA:HB3	1.83	0.59
45:RZ:157:LEU:N	45:RZ:158:PRO:HD3	2.17	0.59
52:R6:11:LEU:HD12	52:R6:53:LYS:HB3	1.83	0.59
2:XB:25:ASN:O	2:XB:27:LYS:N	2.34	0.59
5:XE:137:GLU:OE1	5:XE:141:GLN:NE2	2.35	0.59
13:XM:99:ARG:HD3	13:XM:101:GLN:HG3	1.84	0.59
27:YD:237:GLU:O	27:YD:239:ARG:N	2.36	0.59
1:QA:717:C:H4'	11:QK:117:ASN:CB	2.32	0.59
25:RA:873:G:H1	25:RA:904:C:H42	1.49	0.59
39:RT:27:THR:HG23	39:RT:90:GLN:HB3	1.84	0.59
44:RY:14:LEU:HA	44:RY:24:VAL:HA	1.83	0.59
1:XA:1105:A:H2'	1:XA:1106:G:H8	1.67	0.59
10:XJ:61:GLU:OE2	14:YN:45:ARG:NH1	2.35	0.59
19:XS:48:THR:HG22	19:XS:61:TYR:HD1	1.67	0.59
31:YH:152:ARG:HG3	31:YH:153:LYS:HG2	1.83	0.59
39:YT:118:ARG:HA	39:YT:121:ILE:HB	1.83	0.59
2:QB:132:LYS:O	2:QB:134:GLU:N	2.35	0.59
4:QD:111:ALA:HB2	4:QD:120:LEU:HD12	1.84	0.59
22:QW:19:G:C6	25:RA:2112:G:N2	2.70	0.59
25:RA:1548:C:N3	25:RA:1549:C:C4	2.70	0.59
25:RA:2010:G:H5''	42:RW:42:ARG:HB2	1.82	0.59
25:RA:2096:U:H3	25:RA:2193:G:H1	1.50	0.59
42:RW:19:LEU:HB3	51:R5:25:LEU:HD12	1.85	0.59
7:XG:73:MET:HG2	7:XG:90:GLU:HA	1.84	0.59
10:XJ:49:VAL:CG1	14:YN:41:ARG:HD2	2.26	0.59
25:YA:298:G:OP1	44:YY:84:ARG:O	2.20	0.59
25:YA:2401:U:H5'	52:Y6:18:ARG:HH12	1.67	0.59
28:YE:111:ARG:HA	37:YR:2:ARG:NH1	2.16	0.59
29:YF:116:ASP:OD2	35:YP:1:MET:N	2.36	0.59
52:Y6:14:THR:OG1	52:Y6:15:GLU:N	2.34	0.59
1:QA:345:C:O2'	1:QA:346:G:O5'	2.21	0.59
25:RA:1266:G:OP2	51:R5:19:ARG:NH1	2.35	0.59
25:RA:2093:G:N2	25:RA:2197:U:C2	2.70	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:7:G:H5'	1:XA:298:A:O4'	2.02	0.59
1:XA:544:G:OP1	4:XD:59:ARG:NH2	2.27	0.59
1:XA:1379:G:O6	7:XG:3:ARG:CD	2.50	0.59
2:XB:115:LEU:HD13	2:XB:145:LEU:HB3	1.85	0.59
25:YA:1932:A:H2'	25:YA:1933:G:O4'	2.01	0.59
34:YO:35:VAL:HG11	34:YO:103:ALA:HB3	1.82	0.59
35:YP:9:ASN:OD1	35:YP:9:ASN:N	2.32	0.59
35:YP:83:VAL:HG12	35:YP:112:LEU:HD21	1.84	0.59
7:QG:5:ARG:HH21	7:QG:7:ALA:HA	1.67	0.59
25:RA:1548:C:N4	25:RA:1549:C:H41	2.00	0.59
39:YT:106:SER:HA	39:YT:110:ILE:HG13	1.84	0.59
46:Y0:27:GLU:HG3	46:Y0:68:GLU:HA	1.84	0.59
3:QC:108:ASN:HD21	3:QC:144:SER:HB2	1.68	0.59
1:XA:345:C:OP2	39:YT:39:ARG:NH2	2.35	0.59
1:XA:1157:A:HO2'	1:XA:1158:C:H5''	1.65	0.59
28:YE:63:LEU:HG	28:YE:64:LYS:N	2.16	0.59
1:QA:1347:G:C8	9:QI:107:ARG:HB3	2.38	0.59
1:XA:1151:A:H2'	1:XA:1152:A:C8	2.37	0.59
3:XC:150:LYS:HE2	3:XC:152:ILE:HD11	1.84	0.59
29:YF:143:ALA:HB1	29:YF:148:LEU:HB2	1.84	0.59
25:RA:2786:U:O2	28:RE:62:PRO:HB3	2.03	0.59
1:XA:1158:C:C4	1:XA:1160:G:C8	2.91	0.59
2:XB:24:TRP:H	2:XB:24:TRP:CD1	2.19	0.59
16:XP:11:SER:HB2	16:XP:14:ASN:HB3	1.84	0.59
26:YB:11:C:OP2	46:Y0:72:ARG:NH1	2.35	0.59
29:YF:132:VAL:O	29:YF:134:GLY:N	2.34	0.59
30:YG:129:GLY:HA2	30:YG:166:ASP:HA	1.85	0.59
55:Y9:8:LYS:O	55:Y9:34:GLN:NE2	2.35	0.59
25:RA:185:U:H4'	25:RA:218:A:H4'	1.85	0.59
31:RH:44:VAL:H	31:RH:51:ARG:NH1	2.01	0.59
31:RH:44:VAL:HG22	31:RH:51:ARG:HH11	1.68	0.59
39:RT:24:PRO:HA	39:RT:49:VAL:HG13	1.84	0.59
1:XA:1061:G:OP2	3:XC:3:ASN:ND2	2.31	0.59
1:XA:1306:A:N6	1:XA:1331:G:O2'	2.36	0.59
15:XO:87:ILE:HG22	15:XO:88:ARG:H	1.67	0.59
25:YA:67:U:N3	25:YA:74:A:C2	2.71	0.59
25:YA:142:G:H4'	43:YX:35:THR:HG21	1.84	0.59
27:YD:35:LYS:HB3	27:YD:63:ARG:HA	1.83	0.59
35:YP:11:GLY:C	35:YP:13:ASN:H	2.11	0.59
52:Y6:13:CYS:H	52:Y6:22:ALA:HB3	1.67	0.59
1:QA:148:G:H2'	1:QA:149:A:H8	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:XS:5:LEU:HD13	19:XS:9:VAL:HA	1.83	0.59
19:XS:45:VAL:HG13	19:XS:62:ILE:HG22	1.85	0.59
28:YE:37:ARG:HD3	28:YE:44:TYR:OH	2.03	0.59
35:YP:128:HIS:O	35:YP:147:LEU:HB3	2.03	0.59
48:Y2:41:ILE:HD11	48:Y2:44:LEU:HD12	1.85	0.59
1:QA:675:A:H1'	11:QK:116:HIS:CE1	2.38	0.58
20:QT:53:LEU:HB3	20:QT:102:GLY:HA3	1.85	0.58
25:RA:2776:A:OP1	25:RA:2776:A:H3'	2.03	0.58
35:RP:26:GLY:O	35:RP:28:GLY:N	2.35	0.58
42:RW:59:VAL:HG23	42:RW:65:LEU:H	1.68	0.58
43:RX:63:LYS:HZ2	43:RX:63:LYS:H	1.51	0.58
45:RZ:125:LEU:HG	45:RZ:164:ALA:HB3	1.84	0.58
1:XA:1513:A:H2'	1:XA:1514:C:C6	2.37	0.58
11:XK:54:ARG:HG2	11:XK:54:ARG:NH1	2.17	0.58
25:YA:2010:G:C6	25:YA:2011:U:C4	2.91	0.58
25:YA:2692:C:H2'	25:YA:2693:A:H8	1.68	0.58
44:YY:33:LYS:H	44:YY:33:LYS:HD3	1.68	0.58
1:QA:309:G:O2'	1:QA:607:A:N1	2.35	0.58
1:XA:677:U:H2'	1:XA:678:U:C6	2.38	0.58
22:XW:58:A:H1'	22:XW:60:U:C5	2.38	0.58
45:YZ:27:VAL:HG13	45:YZ:87:ASP:HB3	1.84	0.58
1:QA:349:A:H3'	1:QA:350:G:H5''	1.83	0.58
9:QI:28:VAL:HG11	9:QI:63:ILE:H	1.67	0.58
25:RA:530:G:N1	25:RA:2023:G:OP1	2.31	0.58
25:RA:709:U:H2'	25:RA:710:G:C8	2.39	0.58
25:RA:2415:G:H4'	35:RP:67:MET:N	2.19	0.58
25:RA:2712(A):A:H5''	25:RA:2713:A:OP2	2.03	0.58
29:RF:2:LYS:HB2	29:RF:24:LEU:HD12	1.83	0.58
13:XM:86:CYS:HB2	19:XS:73:GLU:HB3	1.85	0.58
45:YZ:5:LEU:HB3	45:YZ:59:LEU:HA	1.85	0.58
1:QA:8:A:N6	4:QD:205:GLU:O	2.36	0.58
1:QA:666:G:H5'	1:QA:726:C:H1'	1.85	0.58
25:RA:882:G:H1	25:RA:894:C:H42	1.51	0.58
25:RA:1227:G:OP2	40:RU:16:LYS:NZ	2.28	0.58
36:RQ:80:GLU:HG3	46:R0:5:LYS:HB3	1.84	0.58
51:R5:4:HIS:HB3	51:R5:5:PRO:CD	2.31	0.58
1:XA:1125:U:H2'	1:XA:1126:U:H2'	1.85	0.58
1:XA:1229:A:OP2	13:XM:114:ARG:HD3	2.03	0.58
25:YA:6:A:C2	25:YA:7:G:N9	2.71	0.58
41:YV:2:PHE:CD2	41:YV:42:GLY:HA2	2.38	0.58
19:QS:65:ASN:HA	50:R4:55:ARG:HD2	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:942:G:OP2	35:RP:39:LYS:NZ	2.36	0.58
25:RA:2823:A:OP1	28:RE:113:PHE:HB2	2.03	0.58
50:R4:66:SER:HA	50:R4:68:ARG:HH11	1.68	0.58
1:XA:1322:C:H5''	13:XM:100:GLY:HA3	1.84	0.58
1:XA:1493:A:H1'	24:XY:55:PRO:HD3	1.86	0.58
6:XF:70:ASP:OD1	6:XF:70:ASP:N	2.37	0.58
13:XM:23:TYR:HB3	13:XM:67:GLU:HA	1.85	0.58
25:YA:747:U:C5	51:Y5:3:LYS:HB2	2.39	0.58
27:YD:148:GLU:HB2	27:YD:151:LYS:HD2	1.86	0.58
44:YY:79:CYS:O	44:YY:80:GLY:O	2.21	0.58
50:Y4:55:ARG:HE	50:Y4:56:VAL:H	1.51	0.58
2:QB:32:ILE:HG12	2:QB:33:TYR:H	1.67	0.58
6:QF:83:ASP:N	6:QF:83:ASP:OD2	2.36	0.58
9:QI:10:ARG:NH2	9:QI:11:LYS:HD3	2.14	0.58
25:RA:1695:G:H2'	25:RA:1696:G:O4'	2.03	0.58
26:RB:56:G:H5'	30:RG:27:ASN:HD21	1.68	0.58
35:RP:55:ARG:HG2	35:RP:56:SER:N	2.18	0.58
44:RY:47:LYS:HA	44:RY:60:PHE:HB3	1.84	0.58
44:RY:76:CYS:HB3	44:RY:96:ILE:HD11	1.86	0.58
7:XG:20:ASP:OD2	7:XG:23:VAL:N	2.35	0.58
9:XI:2:GLU:O	9:XI:20:ARG:NH1	2.37	0.58
25:YA:1482:U:H5'	25:YA:1483:G:OP2	2.03	0.58
25:YA:2830:G:H5'	28:YE:58:ARG:HH11	1.69	0.58
28:YE:60:ASN:HB3	28:YE:62:PRO:HD2	1.84	0.58
28:YE:95:ILE:H	28:YE:95:ILE:HD12	1.68	0.58
25:RA:2092:U:OP1	25:RA:2199:A:O2'	2.22	0.58
27:RD:169:GLU:HG2	27:RD:174:ILE:HD11	1.85	0.58
35:RP:62:LEU:CD1	54:R8:25:MET:HB3	2.34	0.58
1:XA:1227:A:C4	13:XM:117:VAL:HG21	2.38	0.58
2:XB:14:GLY:O	2:XB:209:ARG:NH1	2.35	0.58
25:YA:1614:A:H62	42:YW:93:ALA:HB2	1.68	0.58
28:YE:132:HIS:O	28:YE:134:ILE:HG23	2.03	0.58
13:QM:97:PRO:HA	13:QM:110:ARG:HD3	1.86	0.58
28:RE:11:MET:HA	28:RE:24:THR:HA	1.86	0.58
28:YE:52:LEU:O	28:YE:74:PRO:HA	2.04	0.58
52:Y6:28:ARG:HB3	52:Y6:30:THR:N	2.18	0.58
19:QS:67:VAL:HG11	50:R4:55:ARG:HB2	1.86	0.58
21:QU:6:ARG:CZ	21:QU:15:ARG:HH21	2.17	0.58
25:RA:463:G:N2	25:RA:466:A:OP2	2.34	0.58
40:RU:98:LEU:C	40:RU:100:VAL:H	2.11	0.58
52:R6:42:TRP:HD1	52:R6:44:ARG:HG2	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:55:PHE:HD1	2:XB:221:LEU:HD21	1.68	0.58
13:XM:19:LEU:HB3	13:XM:25:ILE:HG21	1.86	0.58
19:XS:72:GLY:HA2	19:XS:75:ALA:HB3	1.86	0.58
25:YA:620:G:H5'	25:YA:620:G:N3	2.19	0.58
25:RA:559:G:H22	40:RU:49:HIS:CE1	2.22	0.58
29:RF:132:VAL:HG22	29:RF:133:ASN:H	1.69	0.58
42:RW:88:ARG:HB3	42:RW:92:ARG:HB3	1.86	0.58
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.86	0.58
8:XH:41:ARG:NH2	8:XH:123:GLU:OE2	2.37	0.58
25:YA:637:A:O5'	35:YP:116:GLY:HA2	2.04	0.58
25:YA:1174:A:H62	25:YA:1177:A:H4'	1.69	0.58
30:YG:67:LYS:HD2	50:Y4:5:ILE:HG12	1.86	0.58
45:YZ:165:VAL:HG22	45:YZ:166:SER:H	1.68	0.58
52:Y6:10:LEU:HA	52:Y6:24:GLU:OE1	2.04	0.58
8:QH:10:LEU:HD22	8:QH:83:ILE:HD11	1.86	0.57
27:RD:8:PRO:HB3	27:RD:14:ARG:HB2	1.85	0.57
29:RF:122:LYS:O	29:RF:124:LEU:N	2.37	0.57
35:RP:57:THR:CG2	35:RP:60:MET:CB	2.79	0.57
35:RP:94:GLU:HG3	35:RP:124:LYS:HB3	1.86	0.57
41:RV:29:PRO:HA	41:RV:61:VAL:HG13	1.86	0.57
1:XA:666:G:H5'	1:XA:726:C:H1'	1.85	0.57
25:YA:910:A:H62	36:YQ:12:GLN:HA	1.69	0.57
25:YA:2056:G:N2	51:Y5:4:HIS:O	2.36	0.57
25:YA:2365:G:N7	54:Y8:39:LYS:NZ	2.51	0.57
1:QA:1313:U:P	19:QS:6:LYS:HD3	2.44	0.57
19:QS:36:ARG:O	19:QS:38:SER:N	2.36	0.57
25:RA:927:G:H5'	25:RA:928:G:OP2	2.04	0.57
28:RE:62:PRO:O	28:RE:63:LEU:C	2.47	0.57
30:RG:6:ALA:N	50:R4:23:GLU:OE2	2.31	0.57
35:RP:106:LEU:HD11	35:RP:112:LEU:HG	1.85	0.57
28:RE:61:ARG:O	28:RE:63:LEU:HG	2.04	0.57
1:XA:448:A:OP2	1:XA:485:G:N2	2.36	0.57
1:XA:1300:G:O2'	1:XA:1301:U:O5'	2.21	0.57
3:XC:2:GLY:O	3:XC:3:ASN:HB2	2.05	0.57
3:XC:26:LYS:HD3	10:XJ:45:ARG:HH22	1.69	0.57
24:XY:37:ILE:HD11	24:XY:66:ILE:HD11	1.85	0.57
25:YA:2467:C:H4'	36:YQ:123:HIS:ND1	2.19	0.57
25:RA:1427:A:H4'	25:RA:1428:C:O5'	2.04	0.57
25:RA:2327:A:H2'	25:RA:2328:A:C8	2.40	0.57
45:RZ:91:LEU:H	45:RZ:91:LEU:HD23	1.69	0.57
47:R1:50:ARG:NH1	47:R1:57:GLU:OE1	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:XQ:60:ILE:HB	17:XQ:74:LEU:HD23	1.86	0.57
25:YA:994:C:OP1	40:YU:53:ARG:NH2	2.38	0.57
25:YA:1388:G:HO2'	25:YA:1525:G:HO2'	1.52	0.57
29:YF:178:PRO:HB2	29:YF:201:VAL:HG11	1.86	0.57
1:QA:971:G:N2	1:QA:1233:G:H1'	2.19	0.57
1:QA:1298:C:H4'	1:QA:1299:A:C8	2.39	0.57
1:QA:1346:A:OP1	9:QI:120:ARG:NH1	2.34	0.57
24:QY:12:LEU:HB3	24:QY:18:VAL:HB	1.85	0.57
25:RA:1548:C:N4	25:RA:1549:C:N4	2.52	0.57
27:RD:85:ASP:HB2	27:RD:92:ILE:HD13	1.87	0.57
28:RE:128:SER:OG	28:RE:129:HIS:N	2.37	0.57
45:RZ:19:ARG:NH1	45:RZ:84:GLU:O	2.37	0.57
1:XA:1483:A:H1'	25:YA:1948:G:H1'	1.87	0.57
19:XS:5:LEU:HA	19:XS:6:LYS:HE3	1.85	0.57
27:YD:79:VAL:HG21	27:YD:111:LEU:HD11	1.87	0.57
32:YI:140:LEU:O	32:YI:141:LYS:HD2	2.03	0.57
1:QA:354:G:C6	1:QA:355:C:C4	2.93	0.57
1:QA:501:C:H1'	1:QA:549:C:H1'	1.86	0.57
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.40	0.57
29:RF:143:ALA:HB1	29:RF:148:LEU:HB2	1.86	0.57
25:YA:956:G:H5''	36:YQ:77:LYS:HD2	1.87	0.57
25:YA:2315:G:OP1	30:YG:36:LYS:NZ	2.37	0.57
1:QA:973:G:H3'	1:QA:974:A:H5''	1.85	0.57
1:QA:1497:G:C2'	1:QA:1498:U:H5'	2.34	0.57
25:YA:1252:G:N3	40:YU:33:ARG:HD2	2.19	0.57
35:YP:105:LEU:O	35:YP:107:LYS:N	2.36	0.57
39:YT:115:ARG:H	39:YT:115:ARG:HD3	1.70	0.57
1:QA:520:A:N1	1:QA:536:C:H1'	2.19	0.57
1:QA:1492:A:N3	25:RA:1913:A:H2	2.01	0.57
25:RA:709:U:H2'	25:RA:710:G:H8	1.70	0.57
25:RA:1882:C:H5'	25:RA:1883:G:OP2	2.05	0.57
25:RA:2310:A:N6	30:RG:79:ASN:OD1	2.37	0.57
31:RH:117:PRO:HB3	31:RH:123:PHE:CE1	2.40	0.57
1:XA:1002:G:N2	1:XA:1039:C:O2	2.36	0.57
1:XA:1157:A:H62	1:XA:1178:G:N2	2.03	0.57
9:XI:15:ALA:HB2	9:XI:65:VAL:HG23	1.86	0.57
19:XS:36:ARG:O	19:XS:38:SER:N	2.37	0.57
22:XW:76:A:O2'	25:YA:2394:C:N3	2.32	0.57
25:YA:1247:A:OP2	35:YP:15:ARG:NH1	2.34	0.57
29:YF:153:SER:HB2	29:YF:190:GLU:H	1.70	0.57
1:QA:737:A:H5''	6:QF:92:LYS:HG3	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:125:HIS:ND1	4:QD:152:SER:OG	2.29	0.57
13:QM:53:VAL:HG12	13:QM:57:ARG:HD3	1.87	0.57
25:RA:521:G:H2'	25:RA:522:G:H8	1.70	0.57
46:R0:36:ILE:HA	46:R0:60:PHE:HA	1.87	0.57
1:XA:975:A:O2'	14:YN:32:SER:HB3	2.04	0.57
4:XD:108:LEU:HD21	4:XD:183:GLY:HA3	1.86	0.57
30:YG:96:ARG:O	30:YG:98:ARG:N	2.37	0.57
36:YQ:89:ASN:O	36:YQ:92:GLY:N	2.35	0.57
1:QA:1228:C:H4'	13:QM:116:THR:HA	1.87	0.57
1:QA:1347:G:N2	1:QA:1373:G:H2'	2.20	0.57
25:RA:521:G:H2'	25:RA:522:G:C8	2.39	0.57
35:RP:12:ALA:C	35:RP:14:LYS:H	2.12	0.57
35:RP:52:GLU:HB2	35:RP:55:ARG:HB3	1.86	0.57
1:XA:833:U:H2'	1:XA:834:C:C6	2.40	0.57
8:XH:10:LEU:HD22	8:XH:83:ILE:HD11	1.86	0.57
25:YA:1270:C:H5''	25:YA:1271:G:H5'	1.87	0.57
25:YA:1405:U:H2'	25:YA:1406:U:C6	2.39	0.57
25:YA:2357:U:OP1	46:Y0:20:ARG:NH1	2.36	0.57
31:YH:126:PRO:HB2	31:YH:127:GLU:HA	1.86	0.57
39:YT:26:ASP:HB3	39:YT:92:GLY:H	1.69	0.57
42:YW:35:ILE:HG23	51:Y5:28:PRO:HD2	1.87	0.57
28:RE:37:ARG:HG3	28:RE:46:ALA:HB3	1.85	0.56
38:RS:49:VAL:HG22	38:RS:80:LEU:HD12	1.87	0.56
39:RT:74:ARG:HD3	39:RT:76:PHE:CZ	2.40	0.56
39:RT:125:ARG:NH1	39:RT:128:GLU:OE1	2.38	0.56
47:R1:87:PRO:HA	47:R1:90:ILE:HG22	1.87	0.56
3:XC:131:ARG:NH2	3:XC:167:TRP:O	2.38	0.56
6:XF:101:ALA:HA	18:XR:28:GLU:HB3	1.84	0.56
8:XH:103:VAL:HG21	8:XH:110:ALA:HB2	1.87	0.56
14:YN:12:ARG:HG2	14:YN:14:PRO:HD3	1.86	0.56
25:YA:74:A:H4'	25:YA:75:G:O5'	2.05	0.56
19:QS:64:GLU:O	19:QS:66:MET:N	2.37	0.56
25:RA:247:G:OP2	25:RA:249:C:N4	2.37	0.56
25:RA:1223:G:H5'	25:RA:1224:C:OP2	2.05	0.56
25:RA:1907:G:O2'	25:RA:1908:C:H5'	2.05	0.56
25:RA:2271:G:OP1	46:R0:18:ALA:HB1	2.05	0.56
1:XA:531:U:O4	24:XY:29:ARG:NH2	2.28	0.56
1:XA:1075:C:OP1	2:XB:179:LYS:HE2	2.05	0.56
1:XA:1391:U:H2'	1:XA:1392:G:C8	2.39	0.56
14:YN:41:ARG:CZ	14:YN:42:ILE:HD11	2.36	0.56
25:YA:530:G:N1	25:YA:2023:G:OP1	2.25	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2010:G:H5''	42:YW:42:ARG:HB2	1.87	0.56
28:YE:74:PRO:HG2	28:YE:78:LEU:HD23	1.87	0.56
41:YV:4:ILE:HG22	41:YV:39:LEU:HD13	1.86	0.56
1:QA:382:A:H2'	1:QA:383:A:H8	1.70	0.56
1:QA:1131:G:H1	1:QA:1143:G:H21	1.52	0.56
1:QA:1379:G:N2	1:QA:1381:U:O4	2.37	0.56
4:QD:195:ALA:O	6:XF:16:GLN:HB3	2.05	0.56
25:RA:576:U:H2'	25:RA:577:G:C8	2.41	0.56
25:RA:848:G:H2'	25:RA:849:A:C8	2.40	0.56
25:RA:974(A):C:OP2	25:RA:974(A):C:H4'	2.05	0.56
25:RA:1027:A:C2	25:RA:2488:A:H5'	2.39	0.56
25:RA:1265:A:H8	25:RA:1265:A:OP1	1.88	0.56
43:RX:8:ILE:O	48:R2:36:ARG:NH2	2.38	0.56
45:RZ:157:LEU:CB	45:RZ:161:VAL:HG11	2.33	0.56
1:XA:972:C:O3'	10:XJ:57:LYS:HG2	2.06	0.56
2:XB:119:GLU:OE2	2:XB:153:ARG:NH2	2.38	0.56
2:XB:189:ASP:O	2:XB:191:ASP:N	2.38	0.56
5:XE:19:MET:HA	5:XE:24:ARG:HA	1.86	0.56
9:XI:32:ASP:HB2	9:XI:35:GLU:HB2	1.87	0.56
10:XJ:48:THR:HA	10:XJ:62:HIS:HB3	1.87	0.56
11:XK:54:ARG:HG2	11:XK:54:ARG:HH11	1.70	0.56
25:YA:1845:G:OP1	27:YD:258:LYS:NZ	2.37	0.56
46:Y0:4:LYS:H	46:Y0:5:LYS:HB3	1.69	0.56
1:QA:67:C:H2'	1:QA:68:G:C8	2.41	0.56
1:QA:1493:A:H8	1:QA:1493:A:O5'	1.88	0.56
10:QJ:38:ILE:HB	10:QJ:71:LEU:HB3	1.86	0.56
17:QQ:90:ILE:O	17:QQ:94:ASN:ND2	2.39	0.56
25:RA:987:G:O2'	25:RA:1000:A:N3	2.37	0.56
25:RA:1142(A):A:H4'	33:RN:25:ARG:HH22	1.68	0.56
25:RA:1270:C:H5''	25:RA:1271:G:H5'	1.87	0.56
25:YA:574:C:O2	28:YE:145:LYS:NZ	2.36	0.56
25:YA:2232:U:OP2	47:Y1:40:ARG:NH2	2.37	0.56
31:YH:7:LEU:HD22	31:YH:69:ARG:HG2	1.88	0.56
32:YI:98:ALA:HA	32:YI:109:ILE:HD11	1.87	0.56
36:YQ:54:MET:HE1	36:YQ:118:LEU:HD23	1.85	0.56
40:YU:93:LYS:HD3	40:YU:93:LYS:N	2.21	0.56
51:Y5:6:VAL:O	51:Y5:7:PRO:C	2.47	0.56
12:QL:126:LYS:HD3	12:QL:126:LYS:H	1.70	0.56
25:RA:1094:U:O2'	25:RA:1096:A:OP1	2.24	0.56
25:RA:2346:A:H2	52:R6:25:LYS:HB3	1.70	0.56
25:RA:2356:C:H4'	46:R0:20:ARG:HG3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2414:G:H21	35:RP:67:MET:HE1	1.70	0.56
27:RD:146:GLU:HB2	27:RD:189:CYS:HB3	1.87	0.56
3:XC:82:GLU:HG3	3:XC:83:ARG:H	1.70	0.56
5:XE:8:GLU:HG2	5:XE:34:VAL:HG22	1.87	0.56
10:XJ:34:VAL:HG22	10:XJ:74:ILE:HG22	1.87	0.56
22:XW:54:U:H3	22:XW:58:A:N6	2.04	0.56
25:YA:1096:A:C5	25:YA:1097:U:H1'	2.41	0.56
1:QA:279:A:H5''	1:QA:281:G:O4'	2.06	0.56
1:QA:436:C:H2'	1:QA:437:U:C6	2.41	0.56
1:QA:1224:G:O2'	1:QA:1322:C:OP1	2.23	0.56
11:QK:84:VAL:HG23	11:QK:110:ASP:HA	1.88	0.56
24:QY:89:GLU:HG3	24:QY:90:ASP:O	2.06	0.56
25:RA:1657:C:H2'	25:RA:1658:C:C6	2.39	0.56
25:RA:2091:U:C5'	25:RA:2092:U:H5''	2.36	0.56
31:RH:24:VAL:HG22	31:RH:35:VAL:HB	1.88	0.56
35:RP:9:ASN:O	35:RP:11:GLY:N	2.39	0.56
45:RZ:59:LEU:HD12	45:RZ:60:GLU:CA	2.36	0.56
52:R6:34:LEU:HD11	52:R6:50:ARG:HH21	1.71	0.56
6:XF:55:ASP:HB2	6:XF:86:ARG:HH12	1.69	0.56
25:YA:911:A:H2'	36:YQ:9:TYR:OH	2.06	0.56
25:YA:1761:C:C4	25:YA:1762:A:N1	2.73	0.56
1:QA:985:C:H2'	1:QA:986:A:H8	1.70	0.56
1:QA:1316:G:H5''	14:QN:17:LYS:HE3	1.87	0.56
25:RA:1056:G:H4'	25:RA:1086:A:H1'	1.87	0.56
25:RA:1721:G:H8	25:RA:1741:A:H62	1.53	0.56
25:RA:2291:U:H2'	25:RA:2292:C:C6	2.41	0.56
25:RA:2712:U:OP1	25:RA:2714:G:H4'	2.05	0.56
28:RE:37:ARG:HD3	28:RE:44:TYR:OH	2.06	0.56
29:RF:125:LEU:HD23	29:RF:125:LEU:H	1.70	0.56
45:RZ:116:VAL:O	45:RZ:118:GLN:NE2	2.39	0.56
45:RZ:124:ILE:HD11	45:RZ:165:VAL:HG11	1.87	0.56
4:XD:199:ASN:O	4:XD:201:GLN:N	2.35	0.56
25:YA:6:A:N1	25:YA:7:G:C5	2.74	0.56
28:YE:66:HIS:C	28:YE:68:ALA:H	2.14	0.56
29:YF:132:VAL:C	29:YF:134:GLY:H	2.13	0.56
35:YP:52:GLU:HG2	35:YP:55:ARG:NE	2.16	0.56
44:YY:39:VAL:HG23	44:YY:41:GLY:H	1.70	0.56
1:QA:982:U:H5''	14:QN:6:LEU:HD11	1.86	0.56
1:QA:1236:A:C2	1:QA:1237:C:C2	2.93	0.56
1:XA:173:U:O2	1:XA:197:A:N6	2.37	0.56
27:YD:35:LYS:HG2	27:YD:64:ILE:H	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:8:LYS:HB3	28:YE:193:GLY:H	1.71	0.56
1:QA:382:A:H2'	1:QA:383:A:C8	2.41	0.56
1:QA:1322:C:O2'	1:QA:1323:G:OP2	2.21	0.56
13:QM:23:TYR:CD1	13:QM:71:ARG:HD2	2.40	0.56
19:QS:42:PRO:HG3	50:R4:60:GLN:HG3	1.87	0.56
25:RA:58:G:H1	25:RA:69:C:N4	2.02	0.56
25:RA:58:G:N2	25:RA:69:C:H5	2.00	0.56
25:RA:854:G:H5'	25:RA:855:G:OP2	2.06	0.56
36:RQ:7:MET:HE1	36:RQ:93:TYR:HE2	1.70	0.56
1:XA:1158:C:N4	1:XA:1160:G:C5	2.74	0.56
2:XB:80:ILE:HD11	2:XB:211:ILE:HG22	1.88	0.56
25:YA:2472:G:H5'	25:YA:2473:U:H5''	1.85	0.56
27:YD:159:ALA:H	27:YD:196:VAL:HG11	1.71	0.56
31:YH:12:PRO:HG3	31:YH:48:GLY:HA2	1.88	0.56
31:YH:127:GLU:HG3	31:YH:128:PRO:HD2	1.87	0.56
1:QA:1492:A:O5'	1:QA:1492:A:H8	1.89	0.56
10:QJ:4:ILE:HA	10:QJ:100:THR:HG22	1.87	0.56
10:QJ:50:ILE:HD13	10:QJ:60:ARG:HD3	1.88	0.56
18:QR:22:VAL:HG22	18:QR:23:LYS:H	1.70	0.56
22:QW:15:G:H2'	22:QW:59:A:C2	2.40	0.56
25:RA:990:A:C6	25:RA:1186:G:H1'	2.40	0.56
28:RE:47:VAL:O	28:RE:49:LEU:HD13	2.06	0.56
30:RG:68:PRO:HA	30:RG:92:VAL:HB	1.88	0.56
31:RH:30:LYS:HB3	31:RH:136:ILE:HG21	1.86	0.56
10:XJ:10:GLY:HA3	10:XJ:16:LEU:HD21	1.88	0.56
25:YA:1336:A:P	43:YX:64:LYS:HZ2	2.28	0.56
26:YB:56:G:H5'	30:YG:27:ASN:ND2	2.21	0.56
31:YH:6:ARG:HB3	31:YH:54:ARG:HH12	1.71	0.56
42:YW:29:LEU:HD21	42:YW:33:ARG:HH21	1.70	0.56
1:QA:250:A:H4'	1:QA:251:G:O5'	2.05	0.55
1:QA:750:G:N3	15:QO:23:GLY:HA3	2.22	0.55
4:QD:73:ARG:O	4:QD:77:ASN:ND2	2.40	0.55
26:RB:64:C:H2'	26:RB:65:C:C6	2.42	0.55
40:RU:95:LEU:C	40:RU:97:ASP:H	2.14	0.55
1:XA:612:C:O2	1:XA:629:G:N2	2.39	0.55
5:XE:13:ILE:HD13	5:XE:13:ILE:H	1.70	0.55
18:XR:31:LEU:HD13	18:XR:65:ILE:HD13	1.88	0.55
25:YA:975:G:N2	25:YA:990:A:O4'	2.38	0.55
25:YA:2406:U:N3	35:YP:73:GLY:O	2.37	0.55
45:YZ:151:HIS:O	45:YZ:154:ASP:HB3	2.05	0.55
1:QA:1008:C:H42	1:QA:1021:G:H1	1.55	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.41	0.55
25:RA:958:U:OP2	36:RQ:14:ARG:NH1	2.39	0.55
25:RA:2420:C:OP2	54:R8:33:ASN:HA	2.05	0.55
31:RH:10:PRO:C	31:RH:11:VAL:CG1	2.79	0.55
36:RQ:80:GLU:HG2	36:RQ:81:VAL:H	1.72	0.55
17:XQ:12:SER:HB3	17:XQ:20:THR:HB	1.89	0.55
25:YA:1025:G:H8	25:YA:1025:G:OP1	1.88	0.55
25:YA:2144:U:O2'	25:YA:2145:C:O5'	2.22	0.55
42:YW:64:MET:HE3	42:YW:109:GLU:HG3	1.88	0.55
1:QA:349:A:C3'	1:QA:350:G:H5''	2.35	0.55
1:QA:501:C:H2'	1:QA:502:G:H8	1.71	0.55
9:QI:2:GLU:H	9:QI:20:ARG:HH11	1.51	0.55
25:RA:2680:C:H5'	28:RE:189:PRO:HA	1.87	0.55
27:RD:101:GLU:OE1	27:RD:103:ARG:NH1	2.39	0.55
31:RH:45:VAL:HG13	31:RH:46:GLU:H	1.71	0.55
31:RH:86:GLU:HG3	31:RH:165:ALA:HB2	1.88	0.55
1:XA:267:C:OP1	17:XQ:67:LYS:HB2	2.07	0.55
1:XA:1074:G:O2'	1:XA:1101:A:N1	2.34	0.55
2:XB:9:GLU:HG2	2:XB:48:MET:HG3	1.88	0.55
25:YA:1230:C:H2'	25:YA:1231:G:C8	2.40	0.55
38:YS:19:LYS:O	38:YS:21:THR:N	2.35	0.55
38:YS:93:LYS:HG2	38:YS:95:HIS:HB2	1.88	0.55
1:QA:17:U:H2'	1:QA:18:C:C6	2.42	0.55
1:QA:765:G:N2	1:QA:813:U:OP2	2.38	0.55
1:QA:960:U:O2'	1:QA:1223:C:H4'	2.06	0.55
3:QC:52:LEU:HD23	3:QC:52:LEU:H	1.72	0.55
25:RA:629:G:N3	25:RA:639:U:O2'	2.38	0.55
25:RA:1416:G:N2	25:RA:1582:C:O2	2.36	0.55
27:RD:44:ASN:N	27:RD:44:ASN:OD1	2.39	0.55
42:RW:59:VAL:HA	42:RW:64:MET:H	1.72	0.55
44:RY:96:ILE:HG12	44:RY:101:LYS:HG3	1.87	0.55
15:XO:26:GLU:OE2	15:XO:77:ARG:NH1	2.39	0.55
28:YE:37:ARG:HA	28:YE:42:ASP:OD2	2.06	0.55
30:YG:27:ASN:HB3	30:YG:30:GLU:HG3	1.88	0.55
30:YG:131:TYR:HB3	30:YG:159:VAL:HG13	1.88	0.55
36:YQ:31:ASP:H	36:YQ:107:ALA:HB2	1.70	0.55
1:QA:404:U:H2'	1:QA:405:U:H6	1.72	0.55
1:QA:718:G:N2	18:QR:82:THR:HG23	2.22	0.55
9:QI:28:VAL:HG21	9:QI:63:ILE:N	2.22	0.55
15:QO:87:ILE:HG22	15:QO:88:ARG:H	1.72	0.55
25:RA:1190:G:H5'	35:RP:32:THR:HA	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:9:ILE:O	31:RH:69:ARG:NE	2.39	0.55
45:RZ:69:THR:HG22	45:RZ:90:VAL:HA	1.89	0.55
45:RZ:121:HIS:H	45:RZ:171:ILE:HG12	1.72	0.55
1:XA:1122:U:O4	1:XA:1123:A:N6	2.40	0.55
12:XL:126:LYS:H	12:XL:126:LYS:HD3	1.72	0.55
25:YA:532:A:N1	25:YA:2035:G:N2	2.54	0.55
25:YA:1693:U:O2'	27:YD:14:ARG:NH2	2.40	0.55
25:YA:2128:C:N4	25:YA:2159:G:O6	2.40	0.55
26:YB:44:G:H1'	26:YB:47:C:N4	2.21	0.55
27:YD:26:LYS:H	27:YD:26:LYS:HD2	1.71	0.55
29:YF:102:PRO:HB2	29:YF:105:VAL:HG23	1.89	0.55
1:QA:1348:U:H3	1:QA:1374:A:H2	1.52	0.55
9:QI:27:THR:HG21	9:QI:32:ASP:HA	1.88	0.55
15:QO:3:ILE:H	15:QO:3:ILE:HD13	1.72	0.55
25:RA:2144:U:O2'	25:RA:2145:C:O5'	2.23	0.55
25:RA:2790:A:H2'	25:RA:2791:C:H5'	1.89	0.55
25:RA:2867:G:HO2'	25:RA:2868:A:H8	1.53	0.55
32:RI:125:GLU:CA	32:RI:141:LYS:HB3	2.24	0.55
3:XC:134:ILE:HG23	3:XC:151:VAL:HB	1.89	0.55
32:YI:128:LEU:HD22	32:YI:140:LEU:HD22	1.89	0.55
2:QB:187:LEU:HA	2:QB:201:ILE:HB	1.87	0.55
2:QB:219:VAL:HA	2:QB:222:ILE:HD12	1.89	0.55
9:QI:15:ALA:HB2	9:QI:65:VAL:HG23	1.88	0.55
23:QX:13:A:C3'	23:QX:14:A:H5''	2.36	0.55
39:RT:3:ARG:HG2	39:RT:6:LEU:HB2	1.88	0.55
47:R1:80:LEU:H	47:R1:80:LEU:HD13	1.72	0.55
31:YH:64:LEU:O	31:YH:68:THR:OG1	2.23	0.55
32:YI:76:THR:OG1	32:YI:77:LEU:N	2.39	0.55
1:QA:1060:C:H5''	10:QJ:51:ARG:HG2	1.88	0.55
1:QA:1348:U:N3	1:QA:1374:A:H2	2.05	0.55
2:QB:76:GLN:HG3	2:QB:208:ILE:HG12	1.89	0.55
25:RA:1375:C:H2'	25:RA:1376:C:H6	1.71	0.55
25:RA:1403:C:H5''	25:RA:1471:A:H1'	1.89	0.55
20:XT:29:LYS:O	20:XT:33:ILE:HG12	2.06	0.55
25:YA:1762:A:C4'	25:YA:1763:G:OP2	2.54	0.55
32:YI:3:VAL:HG12	32:YI:38:LEU:HA	1.88	0.55
32:YI:86:THR:HG22	32:YI:122:GLU:HG3	1.89	0.55
40:YU:92:ARG:HH12	41:YV:11:GLN:H	1.53	0.55
48:Y2:18:PRO:HA	48:Y2:21:LEU:HB2	1.88	0.55
25:RA:465:G:H2'	25:RA:466:A:C8	2.42	0.55
25:RA:517:C:OP1	51:R5:16:ARG:NH2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2031:A:O2'	25:RA:2454:G:N2	2.34	0.55
28:RE:80:GLU:O	28:RE:82:ARG:N	2.39	0.55
31:RH:3:ARG:HH11	31:RH:6:ARG:HE	1.54	0.55
47:R1:53:VAL:HG22	47:R1:74:VAL:HG13	1.88	0.55
1:XA:534:U:H5'	1:XA:535:A:OP2	2.06	0.55
2:XB:7:VAL:HG13	2:XB:8:LYS:H	1.72	0.55
3:XC:92:ALA:HA	3:XC:95:THR:HB	1.88	0.55
12:XL:23:LYS:HD3	12:XL:23:LYS:H	1.72	0.55
20:XT:26:ASN:HB2	20:XT:71:THR:HG23	1.87	0.55
25:YA:1755:A:N6	25:YA:2694:G:O2'	2.40	0.55
28:YE:60:ASN:CB	28:YE:62:PRO:HD2	2.37	0.55
1:QA:1497:G:H2'	1:QA:1498:U:H5'	1.88	0.55
2:QB:102:LEU:HD23	2:QB:182:ILE:HD12	1.88	0.55
8:QH:69:ARG:NH1	8:QH:75:ARG:O	2.40	0.55
25:RA:455:C:N3	25:RA:473:G:H5'	2.21	0.55
25:RA:661:C:H1'	35:RP:12:ALA:HA	1.88	0.55
25:RA:807:U:OP2	35:RP:41:ARG:NH1	2.40	0.55
25:RA:878:A:N6	25:RA:899:A:O2'	2.40	0.55
25:RA:1693:U:O2'	27:RD:14:ARG:NH2	2.40	0.55
25:RA:2275:C:C2	36:RQ:83:MET:HE3	2.42	0.55
30:RG:125:PHE:HB3	30:RG:166:ASP:HB2	1.89	0.55
31:RH:11:VAL:HG23	31:RH:13:LYS:HG2	1.89	0.55
42:RW:18:ARG:NH1	42:RW:76:VAL:O	2.40	0.55
44:RY:43:ASN:HB3	44:RY:64:GLU:HA	1.89	0.55
1:XA:736:C:OP1	18:XR:68:LYS:NZ	2.33	0.55
1:XA:1137:C:H4'	1:XA:1138:G:O5'	2.07	0.55
6:XF:11:ASN:HB3	6:XF:14:LEU:HG	1.89	0.55
11:XK:98:LEU:O	11:XK:101:SER:OG	2.21	0.55
16:XP:71:ARG:HG3	16:XP:80:PHE:HE1	1.72	0.55
25:YA:1400:G:H2'	25:YA:1401:G:H8	1.71	0.55
25:YA:2404:C:H1'	35:YP:67:MET:CE	2.32	0.55
27:YD:106:ILE:HD11	27:YD:196:VAL:HG13	1.89	0.55
27:YD:267:SER:C	27:YD:269:PHE:H	2.15	0.55
30:YG:16:ARG:HE	30:YG:31:VAL:HG11	1.72	0.55
32:YI:2:LYS:HA	32:YI:20:ASP:HA	1.89	0.55
25:RA:6:A:H2'	25:RA:7:G:H8	1.71	0.54
25:RA:907:U:HO2'	36:RQ:101:ARG:HH22	1.51	0.54
25:RA:1688:U:O2	25:RA:1700:A:H5'	2.06	0.54
25:RA:2689:U:H5''	25:RA:2713:A:C2	2.42	0.54
25:RA:2816:C:O2	25:RA:2883:A:O2'	2.23	0.54
28:RE:35:GLN:HG3	28:RE:64:LYS:HZ2	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:89:ILE:HD12	31:RH:129:THR:HA	1.90	0.54
45:RZ:58:VAL:CG1	45:RZ:60:GLU:HG2	2.36	0.54
25:YA:883:G:H1	25:YA:893:C:H42	1.53	0.54
35:YP:59:LEU:HD21	54:Y8:10:ALA:HA	1.89	0.54
47:Y1:8:SER:HB3	47:Y1:66:HIS:CD2	2.42	0.54
1:QA:354:G:C2	1:QA:355:C:C6	2.95	0.54
1:QA:1152:A:H2'	1:QA:1153:C:C6	2.41	0.54
1:QA:1392:G:H21	1:QA:1502:A:H8	1.56	0.54
9:QI:121:ARG:NH1	9:QI:122:ALA:O	2.40	0.54
19:QS:72:GLY:HA2	19:QS:75:ALA:HB3	1.88	0.54
25:RA:373:U:H2'	25:RA:374:A:H8	1.72	0.54
25:RA:1754:C:P	39:RT:96:ARG:HH12	2.30	0.54
30:RG:41:GLN:NE2	30:RG:154:GLY:O	2.34	0.54
31:RH:150:ALA:O	31:RH:152:ARG:N	2.39	0.54
6:XF:7:ASN:HD22	6:XF:7:ASN:N	2.06	0.54
7:XG:2:ALA:O	7:XG:3:ARG:HB2	2.07	0.54
21:XU:8:THR:HG22	21:XU:10:ARG:H	1.71	0.54
25:YA:2467:C:O2	36:YQ:124:LYS:NZ	2.40	0.54
54:Y8:61:LEU:HD12	54:Y8:62:LEU:H	1.72	0.54
7:QG:86:GLN:NE2	22:QW:31:G:N2	2.44	0.54
9:QI:2:GLU:HG3	9:QI:3:GLN:H	1.72	0.54
20:QT:10:LEU:HD22	20:QT:11:SER:N	2.22	0.54
25:RA:2445:G:H2'	25:RA:2446:G:H5'	1.89	0.54
41:RV:59:ALA:HB2	41:RV:96:ILE:HD13	1.89	0.54
42:RW:12:ILE:HD13	42:RW:17:VAL:HG13	1.89	0.54
45:RZ:155:LEU:C	45:RZ:156:LYS:CG	2.68	0.54
50:R4:39:CYS:O	50:R4:40:HIS:ND1	2.40	0.54
1:XA:960:U:O2'	1:XA:961:U:P	2.65	0.54
1:XA:1145:C:H4'	1:XA:1146:A:H5'	1.88	0.54
6:XF:22:GLU:O	6:XF:26:ILE:HG13	2.07	0.54
10:XJ:4:ILE:HB	10:XJ:74:ILE:HD11	1.88	0.54
15:XO:54:ARG:HG2	15:XO:58:MET:HE2	1.89	0.54
25:YA:760:G:H2'	25:YA:761:A:O4'	2.07	0.54
25:YA:1903:G:OP2	27:YD:241:PRO:HB2	2.07	0.54
25:YA:2393:A:H4'	35:YP:62:LEU:H	1.73	0.54
25:YA:2692:C:H2'	25:YA:2693:A:C8	2.42	0.54
28:YE:8:LYS:HG2	28:YE:192:ASN:HA	1.88	0.54
29:YF:42:ALA:O	29:YF:45:ARG:HB2	2.07	0.54
1:QA:701:C:OP1	1:QA:701:C:H4'	2.08	0.54
1:QA:1493:A:H1'	24:QY:55:PRO:HD2	1.88	0.54
27:RD:130:ALA:HA	27:RD:192:THR:HA	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:R6:8:LYS:HB2	52:R6:27:LYS:HB2	1.88	0.54
1:XA:652:U:H1'	1:XA:653:A:C2	2.43	0.54
1:XA:1255:G:OP1	10:XJ:45:ARG:NH2	2.41	0.54
25:YA:518:G:H4'	42:YW:18:ARG:NH1	2.21	0.54
25:YA:876:C:H2'	25:YA:877:U:O4'	2.06	0.54
25:YA:1112:G:H5'	31:YH:3:ARG:HE	1.72	0.54
25:YA:1401:G:H2'	25:YA:1402:C:C6	2.43	0.54
44:YY:62:GLU:CD	44:YY:63:LYS:H	2.15	0.54
48:Y2:47:ASN:O	48:Y2:49:LYS:N	2.32	0.54
1:QA:735:C:H2'	1:QA:736:C:H6	1.72	0.54
2:QB:80:ILE:HD13	2:QB:212:GLN:HA	1.89	0.54
3:QC:11:ARG:O	3:QC:13:GLY:N	2.39	0.54
22:QW:16:C:H4'	22:QW:60:U:H4'	1.88	0.54
23:QX:10:G:C2'	23:QX:11:U:H5''	2.38	0.54
32:RI:131:LYS:HB3	32:RI:132:PRO:HA	1.88	0.54
33:RN:39:ARG:HH21	33:RN:41:ASP:HB2	1.73	0.54
45:RZ:118:GLN:O	45:RZ:120:ILE:HG22	2.07	0.54
1:XA:1191:A:C5'	3:XC:4:LYS:HE2	2.37	0.54
5:XE:33:VAL:HG12	5:XE:112:LEU:HD12	1.90	0.54
5:XE:101:ILE:HG13	5:XE:119:LEU:HD23	1.88	0.54
13:XM:44:ARG:HB3	13:XM:46:LYS:HB3	1.88	0.54
25:YA:986:C:C2'	25:YA:987:G:C5'	2.82	0.54
43:YX:36:LYS:HD3	43:YX:56:THR:HG23	1.90	0.54
44:YY:88:LYS:O	44:YY:90:LEU:N	2.39	0.54
1:QA:412:A:C6	4:QD:35:ARG:HG2	2.43	0.54
1:QA:1227:A:OP1	19:QS:80:TYR:OH	2.20	0.54
1:QA:1301:U:O2	1:QA:1301:U:H2'	2.08	0.54
1:QA:1305:G:N2	1:QA:1331:G:H2'	2.22	0.54
25:RA:1330:C:H2'	25:RA:1331:A:H8	1.72	0.54
25:RA:1614:A:H61	42:RW:88:ARG:H	1.55	0.54
25:RA:2787:C:O2'	28:RE:61:ARG:HB3	2.06	0.54
25:RA:2849:U:O2'	25:RA:2868:A:N3	2.40	0.54
36:RQ:12:GLN:HG2	36:RQ:73:PRO:HD2	1.90	0.54
44:RY:76:CYS:O	44:RY:77:PRO:C	2.50	0.54
1:XA:78:G:H1	1:XA:92:C:H42	1.56	0.54
1:XA:1240:U:C4	7:XG:32:ARG:HG3	2.42	0.54
25:YA:825:C:H1'	35:YP:55:ARG:HH21	1.73	0.54
25:YA:2572:A:N7	28:YE:144:ARG:HD2	2.22	0.54
29:YF:101:LEU:O	29:YF:106:ARG:NH1	2.40	0.54
45:YZ:27:VAL:HG22	45:YZ:29:TYR:HD2	1.73	0.54
45:YZ:120:ILE:HG23	45:YZ:171:ILE:HA	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y1:23:LYS:HE3	47:Y1:28:GLY:HA3	1.88	0.54
49:Y3:59:VAL:HG12	49:Y3:60:GLU:H	1.72	0.54
1:QA:642:A:N3	8:QH:113:SER:OG	2.41	0.54
1:QA:1492:A:O2'	1:QA:1493:A:N7	2.31	0.54
5:QE:75:THR:OG1	5:QE:76:ILE:N	2.40	0.54
20:QT:67:ALA:O	20:QT:73:HIS:ND1	2.40	0.54
25:RA:78:A:H2'	25:RA:79:G:H8	1.73	0.54
25:RA:2091:U:H5''	25:RA:2092:U:H5''	1.89	0.54
27:RD:65:ILE:HD11	27:RD:67:PHE:CE2	2.43	0.54
18:XR:62:GLU:HA	18:XR:65:ILE:HD11	1.90	0.54
35:YP:100:LEU:HB3	35:YP:106:LEU:HD13	1.88	0.54
36:YQ:12:GLN:HG2	36:YQ:73:PRO:HD2	1.88	0.54
1:QA:1033:G:O2'	1:QA:1034:G:OP1	2.23	0.54
25:RA:1695:G:C2'	25:RA:1696:G:C5'	2.86	0.54
25:RA:2477:C:H2'	55:R9:1:MET:HG3	1.88	0.54
25:RA:2562:U:O2'	34:RO:23:ARG:NH1	2.40	0.54
25:RA:2584:U:H2'	25:RA:2585:U:H2'	1.89	0.54
28:RE:63:LEU:O	28:RE:64:LYS:HB2	2.06	0.54
28:RE:79:ARG:NH1	28:RE:164:ARG:HH12	2.06	0.54
34:RO:97:ARG:HG3	34:RO:97:ARG:HH11	1.72	0.54
1:XA:452:A:OP1	16:XP:43:LYS:NZ	2.41	0.54
1:XA:1237:C:O2'	1:XA:1300:G:N2	2.38	0.54
25:YA:6:A:C2	25:YA:7:G:C5	2.96	0.54
25:YA:2105:C:H2'	25:YA:2106:G:C8	2.41	0.54
41:YV:7:THR:HG23	41:YV:22:VAL:HG21	1.90	0.54
45:YZ:10:ARG:NH1	45:YZ:26:GLY:O	2.41	0.54
1:QA:1062:U:H2'	1:QA:1063:C:C6	2.43	0.54
4:QD:26:CYS:HA	4:QD:31:CYS:HB2	1.89	0.54
25:RA:139(A):G:H22	43:RX:44:GLU:CD	2.16	0.54
25:RA:1569:A:H5'	27:RD:61:LEU:HD21	1.90	0.54
25:RA:2344:U:O5'	25:RA:2344:U:H6	1.91	0.54
25:RA:2563:U:H4'	34:RO:28:SER:HA	1.90	0.54
54:R8:34:TRP:C	54:R8:36:LYS:H	2.16	0.54
1:XA:136:C:H4'	16:XP:1:MET:HE2	1.90	0.54
1:XA:1308:U:OP1	13:XM:98:VAL:N	2.30	0.54
25:YA:250:G:H2'	25:YA:251:A:C8	2.42	0.54
25:YA:1786:A:H1'	25:YA:1938:A:N6	2.23	0.54
31:YH:97:ARG:HB2	31:YH:104:GLU:HB2	1.90	0.54
39:YT:24:PRO:HA	39:YT:49:VAL:HG13	1.90	0.54
41:YV:35:LEU:O	41:YV:37:VAL:HG22	2.08	0.54
45:YZ:69:THR:HB	45:YZ:88:PHE:HB3	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:78:LEU:HD22	4:QD:96:LEU:HB3	1.90	0.54
13:QM:79:LYS:HE3	13:QM:82:MET:HE2	1.90	0.54
25:RA:39:C:O2	29:RF:46:ARG:NH2	2.41	0.54
25:RA:2343:C:H6	25:RA:2343:C:H5''	1.72	0.54
35:RP:146:VAL:HG22	35:RP:147:LEU:H	1.72	0.54
1:XA:243:A:H4'	1:XA:244:U:O5'	2.06	0.54
3:XC:60:ALA:O	3:XC:63:ASN:ND2	2.40	0.54
13:XM:46:LYS:O	13:XM:48:LEU:N	2.40	0.54
25:YA:2838:G:H1'	37:YR:45:ARG:HH12	1.73	0.54
1:QA:314:C:O2'	1:QA:315:A:H5'	2.06	0.53
1:QA:501:C:H2'	1:QA:502:G:C8	2.42	0.53
1:QA:1259:C:N4	1:QA:1260:C:O2	2.42	0.53
25:RA:755:C:H2'	25:RA:756:C:C6	2.44	0.53
25:RA:1696:G:H2'	25:RA:1697:G:O5'	2.08	0.53
25:RA:2346:A:C2	52:R6:25:LYS:HB3	2.43	0.53
34:RO:115:VAL:HG13	34:RO:121:VAL:HG21	1.90	0.53
37:RR:33:ARG:HD2	51:R5:55:ARG:HD2	1.88	0.53
38:RS:99:LYS:O	38:RS:103:GLU:HG2	2.08	0.53
40:RU:97:ASP:OD2	40:RU:101:ARG:NH2	2.41	0.53
44:RY:97:ARG:H	44:RY:97:ARG:HD3	1.72	0.53
1:XA:1287:A:H2'	1:XA:1288:A:C8	2.44	0.53
1:XA:1302:U:C5	13:XM:17:VAL:HG21	2.43	0.53
19:XS:43:GLU:HB3	19:XS:44:MET:HE3	1.90	0.53
20:XT:89:ARG:HB2	20:XT:104:LEU:HD21	1.90	0.53
22:XW:36:U:O4	22:XW:37:A:N6	2.40	0.53
24:XY:67:THR:HA	24:XY:73:ARG:HD3	1.89	0.53
25:YA:796:C:H2'	25:YA:797:C:C6	2.44	0.53
25:YA:2059:A:H5'	25:YA:2060:A:OP2	2.07	0.53
27:YD:99:ASP:OD2	27:YD:101:GLU:N	2.32	0.53
29:YF:39:TRP:O	29:YF:43:LYS:HG2	2.07	0.53
36:YQ:66:ILE:HD13	36:YQ:66:ILE:H	1.72	0.53
47:Y1:3:LYS:H	47:Y1:61:ARG:HH12	1.55	0.53
1:QA:1004:A:O2'	1:QA:1005:A:O5'	2.24	0.53
4:QD:33:MET:O	4:QD:34:GLU:HG2	2.08	0.53
22:QV:19:G:O6	30:RG:83:ARG:NH2	2.40	0.53
25:RA:918:A:N3	26:RB:80:U:O2'	2.41	0.53
25:RA:1562:A:H2'	25:RA:1563:G:C8	2.43	0.53
25:RA:2306:C:H3'	25:RA:2307:G:H5''	1.89	0.53
28:RE:3:GLY:HA2	28:RE:198:VAL:O	2.08	0.53
28:RE:7:VAL:HG21	39:RT:1:MET:HE1	1.90	0.53
1:XA:976:G:N2	1:XA:1363:C:OP2	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XD:150:GLU:HG2	4:XD:151:LYS:H	1.72	0.53
7:XG:77:SER:HB2	22:XW:32:C:H4'	1.90	0.53
18:XR:18:ARG:HG2	18:XR:20:ALA:H	1.72	0.53
25:YA:2291:U:H2'	25:YA:2292:C:C6	2.44	0.53
25:YA:2774:C:H2'	25:YA:2775:A:O4'	2.09	0.53
25:YA:2795:G:H21	25:YA:2801:A:H62	1.56	0.53
48:Y2:46:GLN:HB2	48:Y2:49:LYS:HZ1	1.73	0.53
1:QA:518:C:H4'	1:QA:519:C:O5'	2.08	0.53
1:QA:1125:U:H2'	1:QA:1126:U:H2'	1.90	0.53
3:QC:22:TRP:CG	3:QC:59:ARG:HD2	2.44	0.53
3:QC:82:GLU:HG3	3:QC:83:ARG:H	1.74	0.53
25:RA:1250:G:OP2	35:RP:21:ARG:NH1	2.42	0.53
25:RA:2291:U:O2'	25:RA:2374:C:O2	2.25	0.53
25:RA:2344:U:OP1	52:R6:38:LYS:HD3	2.09	0.53
25:RA:2786:U:H5''	28:RE:66:HIS:HD2	1.73	0.53
1:XA:757:U:H2'	1:XA:758:G:O4'	2.09	0.53
6:XF:82:ARG:O	6:XF:85:VAL:HG23	2.08	0.53
25:YA:54:G:O2'	53:Y7:35:ARG:HD3	2.07	0.53
25:YA:78:A:H2'	25:YA:79:G:C8	2.44	0.53
25:YA:2870:C:H5''	37:YR:65:LEU:HD21	1.90	0.53
35:YP:125:VAL:HG13	35:YP:144:GLU:HB3	1.89	0.53
40:YU:92:ARG:HG3	40:YU:95:LEU:H	1.73	0.53
7:QG:77:SER:HB2	22:QW:32:C:O2'	2.08	0.53
25:RA:250:G:H2'	25:RA:251:A:C8	2.42	0.53
25:RA:469:G:P	29:RF:60:SER:HB3	2.48	0.53
25:RA:644:A:H4'	25:RA:645:C:H5	1.74	0.53
25:RA:775:G:H4'	25:RA:776:G:H5'	1.89	0.53
25:RA:2091:U:H1'	47:R1:47:GLN:HE21	1.73	0.53
25:RA:2848:G:C8	39:RT:97:ALA:HB2	2.44	0.53
31:RH:107:VAL:HB	31:RH:153:LYS:HG3	1.91	0.53
1:XA:187:C:H5''	20:XT:86:ARG:HG3	1.90	0.53
1:XA:960:U:C1'	1:XA:961:U:OP2	2.57	0.53
1:XA:1033:G:O2'	1:XA:1034:G:OP1	2.25	0.53
25:YA:888:C:H4'	25:YA:889:C:H5	1.72	0.53
25:YA:974:G:O2'	25:YA:975:G:N7	2.35	0.53
25:YA:1598:C:H5'	43:YX:36:LYS:HB3	1.90	0.53
25:YA:2210:G:H3'	25:YA:2211:G:C8	2.43	0.53
47:Y1:56:GLN:N	47:Y1:56:GLN:OE1	2.41	0.53
1:QA:411:A:C8	1:QA:413:G:H1'	2.43	0.53
1:QA:444:C:H2'	1:QA:445:G:H8	1.74	0.53
1:QA:736:C:H2'	1:QA:737:A:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1148:U:H2'	1:QA:1149:C:O4'	2.09	0.53
8:QH:86:ILE:HG13	8:QH:133:LEU:HD22	1.91	0.53
25:RA:307:G:N1	25:RA:310:A:OP2	2.42	0.53
25:RA:783:A:O2'	25:RA:785:G:OP1	2.22	0.53
25:RA:1028:A:N3	25:RA:2486:G:O2'	2.35	0.53
30:RG:60:LEU:O	30:RG:64:THR:HG22	2.08	0.53
45:RZ:155:LEU:O	45:RZ:156:LYS:CG	2.42	0.53
47:R1:82:LEU:HD11	47:R1:86:SER:HB3	1.91	0.53
1:XA:928:G:O2'	1:XA:1533:C:O2'	2.26	0.53
1:XA:1007:C:H3'	1:XA:1008:C:H5''	1.91	0.53
1:XA:1187:G:H21	14:YN:60:SER:HB3	1.72	0.53
9:XI:2:GLU:H	9:XI:20:ARG:HD3	1.73	0.53
18:XR:19:LYS:O	18:XR:21:LYS:N	2.40	0.53
25:YA:1379:A:H4'	25:YA:1380:G:OP2	2.09	0.53
35:YP:60:MET:C	35:YP:61:ARG:HG2	2.32	0.53
37:YR:37:THR:HG22	37:YR:39:PRO:HD2	1.89	0.53
42:YW:80:PRO:O	42:YW:100:THR:HG22	2.08	0.53
1:QA:716:A:C5	1:QA:717:C:C5	2.96	0.53
1:QA:922:G:H4'	5:QE:20:GLN:HA	1.90	0.53
1:QA:985:C:H2'	1:QA:986:A:C8	2.44	0.53
1:QA:1152:A:H5''	10:QJ:13:HIS:HD2	1.73	0.53
13:QM:11:ARG:O	13:QM:13:LYS:N	2.41	0.53
13:QM:46:LYS:O	13:QM:48:LEU:N	2.42	0.53
25:RA:1628:G:H2'	25:RA:1629:U:C6	2.44	0.53
25:RA:2091:U:H3'	25:RA:2092:U:C5'	2.38	0.53
1:XA:1060:C:C5	3:XC:3:ASN:OD1	2.62	0.53
6:XF:6:VAL:HG13	6:XF:90:VAL:HG22	1.88	0.53
10:XJ:49:VAL:O	10:XJ:60:ARG:HB2	2.08	0.53
25:YA:582:G:H2'	25:YA:583:G:C8	2.43	0.53
25:YA:997:G:H5''	40:YU:58:ARG:HH12	1.74	0.53
28:YE:117:MET:O	28:YE:118:LYS:HB2	2.08	0.53
25:RA:637:A:H5''	35:RP:117:GLU:HG3	1.89	0.53
27:RD:34:VAL:HG22	27:RD:35:LYS:HG3	1.89	0.53
44:RY:62:GLU:CD	44:RY:63:LYS:H	2.17	0.53
1:XA:382:A:H2'	1:XA:383:A:C8	2.44	0.53
1:XA:1055:A:H4'	3:XC:161:GLU:CD	2.33	0.53
25:YA:242:G:C5'	54:Y8:62:LEU:HD13	2.35	0.53
32:YI:145:VAL:HG13	32:YI:145:VAL:O	2.09	0.53
36:YQ:1:MET:HE3	36:YQ:45:GLN:HB3	1.91	0.53
36:YQ:78:PRO:O	36:YQ:79:LEU:HG	2.08	0.53
52:Y6:28:ARG:HG3	52:Y6:30:THR:H	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1493:A:C2'	1:QA:1494:G:H5'	2.37	0.53
2:QB:162:ILE:HD11	2:QB:184:VAL:HG22	1.90	0.53
3:QC:164:ARG:NH1	3:QC:166:GLU:OE1	2.38	0.53
6:QF:22:GLU:OE1	6:QF:84:ASN:ND2	2.37	0.53
8:QH:51:VAL:HG11	8:QH:60:ARG:HH11	1.74	0.53
25:RA:630:G:N2	25:RA:633:A:OP2	2.39	0.53
45:RZ:118:GLN:HG3	45:RZ:174:VAL:H	1.73	0.53
1:XA:1060:C:H5''	10:XJ:51:ARG:HG2	1.91	0.53
1:XA:1325:C:H4'	21:XU:17:THR:HG21	1.89	0.53
19:XS:42:PRO:HG3	50:Y4:60:GLN:HE21	1.74	0.53
25:YA:270(B):A:H5'	25:YA:270(C):C:OP2	2.09	0.53
25:YA:1109:C:N3	25:YA:1110:G:N2	2.57	0.53
46:Y0:17:GLN:O	46:Y0:19:LYS:NZ	2.42	0.53
1:QA:946:A:H2'	1:QA:947:G:C8	2.44	0.53
1:QA:1363(A):A:H4'	1:QA:1364:U:H5''	1.91	0.53
1:QA:1442(A):G:N2	25:RA:2863:C:O3'	2.41	0.53
3:QC:52:LEU:HD12	3:QC:55:VAL:HG22	1.90	0.53
4:QD:57:ARG:HB3	4:QD:206:PHE:HB2	1.90	0.53
4:QD:199:ASN:O	4:QD:201:GLN:N	2.39	0.53
10:QJ:40:LEU:HG	10:QJ:41:PRO:HD2	1.90	0.53
11:QK:24:SER:OG	11:QK:25:TYR:N	2.42	0.53
25:RA:601:C:O2'	25:RA:605:C:H5''	2.08	0.53
25:RA:1309:G:H4'	53:R7:7:PRO:HB2	1.91	0.53
25:RA:1754:C:OP1	39:RT:96:ARG:NH1	2.42	0.53
28:RE:131:ALA:HB1	28:RE:135:HIS:HE1	1.74	0.53
31:RH:113:VAL:HG11	31:RH:151:ILE:HG21	1.91	0.53
50:R4:10:VAL:O	50:R4:25:TYR:HA	2.09	0.53
3:XC:180:ALA:HB1	3:XC:182:ILE:HG13	1.90	0.53
10:XJ:56:HIS:O	10:XJ:58:ASP:N	2.41	0.53
25:YA:686:G:H5''	53:Y7:11:LYS:HE2	1.91	0.53
35:YP:26:GLY:O	35:YP:28:GLY:N	2.42	0.53
54:Y8:14:VAL:HG11	54:Y8:22:VAL:HG12	1.91	0.53
1:QA:389:A:C6	1:QA:390:C:H1'	2.44	0.53
1:QA:560:U:H4'	1:QA:561:U:H5''	1.91	0.53
1:QA:920:U:H2'	1:QA:921:U:C6	2.43	0.53
25:RA:1571:A:H2'	25:RA:1572:A:C8	2.44	0.53
25:RA:2124:G:H1	25:RA:2174:C:H42	1.57	0.53
25:RA:2262:U:H2'	25:RA:2263:C:C6	2.44	0.53
34:RO:113:LYS:O	34:RO:117:LEU:HB2	2.08	0.53
36:RQ:80:GLU:HG2	46:R0:7:LEU:HD21	1.91	0.53
48:R2:47:ASN:O	48:R2:49:LYS:N	2.36	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:359:U:H2'	1:XA:360:A:C8	2.44	0.53
1:XA:1151:A:H2'	1:XA:1152:A:H8	1.73	0.53
6:XF:62:TRP:CH2	6:XF:64:GLN:HB2	2.44	0.53
22:XV:9:G:O2'	22:XV:10:G:N7	2.38	0.53
25:YA:2887:U:H2'	25:YA:2888:C:C6	2.44	0.53
1:QA:411:A:C4	1:QA:413:G:H1'	2.44	0.52
1:QA:530:G:C4	23:QX:21:A2M:H2	2.44	0.52
13:QM:4:ILE:HA	13:QM:57:ARG:HG2	1.90	0.52
22:QW:58:A:H1'	22:QW:60:U:C5	2.44	0.52
25:RA:1695:G:H2'	25:RA:1696:G:C4'	2.39	0.52
25:RA:1695:G:C2'	25:RA:1696:G:H5'	2.39	0.52
27:RD:148:GLU:HB2	27:RD:151:LYS:HD2	1.90	0.52
28:RE:37:ARG:N	28:RE:46:ALA:O	2.37	0.52
30:RG:53:LEU:HG	30:RG:90:LEU:HD21	1.90	0.52
30:RG:55:LYS:HD2	30:RG:58:GLN:HE21	1.74	0.52
1:XA:35:G:N3	12:XL:118:SER:OG	2.42	0.52
13:XM:4:ILE:HG23	13:XM:5:ALA:H	1.74	0.52
13:XM:88:ARG:HG3	13:XM:98:VAL:HG13	1.91	0.52
25:YA:2469:A:H2	25:YA:2481:G:H21	1.56	0.52
1:QA:1223:C:P	19:QS:78:ARG:HH21	2.32	0.52
19:QS:67:VAL:HG13	19:QS:68:GLY:H	1.73	0.52
21:QU:12:LYS:HB3	21:QU:22:ARG:HD2	1.91	0.52
23:QX:9:G:H4'	23:QX:10:G:OP2	2.08	0.52
25:RA:614(A):U:H4'	25:RA:614(B):G:H5''	1.91	0.52
25:RA:1273:U:O2'	25:RA:1275:A:OP1	2.27	0.52
25:RA:1562:A:H2'	25:RA:1563:G:H8	1.74	0.52
25:RA:2032:G:O2'	28:RE:145:LYS:NZ	2.42	0.52
27:RD:228:PRO:HD3	27:RD:235:GLY:CA	2.40	0.52
35:RP:57:THR:CG2	35:RP:60:MET:CG	2.85	0.52
1:XA:689:C:H2'	1:XA:690:G:O4'	2.09	0.52
22:XV:55:U:O2'	22:XV:57:A:N7	2.43	0.52
24:XY:91:TYR:C	24:XY:91:TYR:CD2	2.86	0.52
25:YA:764:A:O4'	27:YD:213:ARG:HG3	2.09	0.52
25:YA:1754:C:OP1	39:YT:96:ARG:NH1	2.42	0.52
25:YA:2415:G:H4'	35:YP:67:MET:N	2.25	0.52
45:YZ:94:GLU:HG3	45:YZ:129:SER:HB3	1.89	0.52
1:QA:437:U:H5'	4:QD:155:LEU:HD21	1.91	0.52
25:RA:1496:A:H8	25:RA:1577:C:O2'	1.92	0.52
25:RA:2836:U:H2'	25:RA:2837:G:C8	2.44	0.52
1:XA:707:C:H2'	1:XA:708:C:C6	2.45	0.52
1:XA:960:U:O2	1:XA:960:U:C2'	2.54	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1077:G:N2	1:XA:1080:A:OP2	2.39	0.52
25:YA:299:A:N1	25:YA:322:A:O2'	2.36	0.52
25:YA:587:C:OP2	35:YP:21:ARG:NH2	2.42	0.52
25:YA:859:G:N2	25:YA:917:A:OP2	2.43	0.52
25:YA:1190:G:OP1	35:YP:30:THR:OG1	2.23	0.52
1:QA:350:G:C8	1:QA:350:G:H5'	2.43	0.52
1:QA:353:A:C8	1:QA:353:A:C5'	2.86	0.52
1:QA:716:A:C6	1:QA:717:C:C4	2.98	0.52
1:QA:1034:G:H2'	1:QA:1035:A:C8	2.44	0.52
8:QH:41:ARG:NH2	8:QH:123:GLU:OE2	2.41	0.52
29:RF:66:PRO:O	29:RF:67:GLN:HB3	2.10	0.52
45:RZ:91:LEU:HD12	45:RZ:130:PRO:HB3	1.90	0.52
1:XA:890:G:O2'	1:XA:906:G:O6	2.26	0.52
25:YA:2393:A:H2'	25:YA:2394:C:O4'	2.10	0.52
29:YF:33:LEU:HD13	29:YF:112:MET:HE2	1.91	0.52
41:YV:2:PHE:HE1	41:YV:4:ILE:HD13	1.74	0.52
47:Y1:85:LEU:HD22	47:Y1:88:LYS:HG3	1.90	0.52
8:QH:34:GLU:OE1	8:QH:37:ARG:NH1	2.43	0.52
25:RA:686:G:H21	25:RA:788:A:H61	1.58	0.52
25:RA:2207:G:N3	25:RA:2207:G:H2'	2.24	0.52
25:RA:2746:U:H5''	31:RH:138:LYS:HE3	1.92	0.52
25:RA:2774:C:H2'	25:RA:2775:A:O4'	2.09	0.52
29:RF:2:LYS:HG3	29:RF:24:LEU:HD12	1.92	0.52
49:R3:7:LYS:HB2	49:R3:34:GLU:HG2	1.90	0.52
1:XA:736:C:H2'	1:XA:737:A:C8	2.45	0.52
4:XD:22:LYS:HB2	4:XD:26:CYS:HB2	1.90	0.52
25:YA:2420:C:H41	54:Y8:31:HIS:HA	1.75	0.52
31:YH:97:ARG:N	31:YH:104:GLU:O	2.40	0.52
1:QA:103:C:P	20:QT:17:ARG:HH21	2.33	0.52
2:QB:73:THR:HG21	2:QB:97:TRP:HB2	1.91	0.52
25:RA:674:G:O2'	29:RF:74:ARG:HG3	2.10	0.52
25:RA:708:C:H5'	25:RA:709:U:OP2	2.10	0.52
25:RA:2091:U:O2'	47:R1:47:GLN:CG	2.58	0.52
28:RE:63:LEU:O	28:RE:64:LYS:CB	2.57	0.52
31:RH:10:PRO:O	31:RH:11:VAL:HG12	2.08	0.52
45:RZ:157:LEU:HB3	45:RZ:161:VAL:CG1	2.33	0.52
8:XH:29:SER:HB3	8:XH:32:LYS:HG3	1.91	0.52
25:YA:1049:C:N4	25:YA:2751:G:O6	2.43	0.52
25:YA:1217:C:OP1	40:YU:15:LYS:HE3	2.09	0.52
25:YA:1889:A:N1	25:YA:2234:G:H1'	2.24	0.52
25:YA:2502:G:H5''	25:YA:2503:A:H5''	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2579:C:H4'	28:YE:134:ILE:HG21	1.92	0.52
25:YA:2646:C:OP2	25:YA:2732:G:O2'	2.23	0.52
25:YA:2836:U:H2'	25:YA:2837:G:C8	2.45	0.52
40:YU:28:ARG:NH1	40:YU:38:THR:OG1	2.36	0.52
52:Y6:28:ARG:HD2	52:Y6:29:ASN:CB	2.34	0.52
54:Y8:40:GLU:H	54:Y8:43:GLN:HG3	1.75	0.52
1:QA:1051:C:H2'	1:QA:1052:U:C6	2.45	0.52
9:QI:45:ALA:O	9:QI:78:LYS:NZ	2.42	0.52
15:QO:64:ARG:HH11	15:QO:68:ARG:HH21	1.58	0.52
22:QV:1:C:O2	22:QV:1:C:H2'	2.08	0.52
25:RA:1988:C:H2'	25:RA:1989:G:H8	1.75	0.52
25:RA:2015:A:H1'	51:R5:2:ALA:HA	1.90	0.52
25:RA:2037:G:H2'	25:RA:2038:G:C8	2.45	0.52
25:RA:2789:C:O2	25:RA:2894:G:N2	2.39	0.52
30:RG:118:ARG:HB3	30:RG:181:ARG:HG3	1.91	0.52
32:RI:129:THR:HA	32:RI:137:PRO:HA	1.92	0.52
33:RN:14:VAL:HA	33:RN:135:PRO:HD2	1.92	0.52
45:RZ:156:LYS:CA	45:RZ:158:PRO:HD3	2.40	0.52
47:R1:56:GLN:OE1	47:R1:56:GLN:N	2.43	0.52
1:XA:403:C:H2'	1:XA:404:U:H6	1.74	0.52
1:XA:1001:A:H3'	1:XA:1001(A):G:H5''	1.91	0.52
1:XA:1166:G:N2	1:XA:1170:A:OP2	2.43	0.52
1:XA:1293:G:H2'	1:XA:1294:G:C8	2.44	0.52
13:XM:19:LEU:HD21	13:XM:56:LEU:HD11	1.91	0.52
25:YA:1790:C:H5''	25:YA:1791:A:OP1	2.10	0.52
27:YD:4:LYS:HE3	27:YD:20:ASP:HA	1.91	0.52
38:YS:67:ARG:O	38:YS:71:ARG:HG3	2.09	0.52
44:YY:95:LYS:HA	44:YY:101:LYS:HB2	1.91	0.52
1:QA:1301:U:C4	1:QA:1303:C:C6	2.98	0.52
2:QB:97:TRP:HZ2	2:QB:102:LEU:HD13	1.74	0.52
16:QP:18:ARG:HD3	16:QP:35:LYS:HD2	1.92	0.52
25:RA:1021:A:C8	25:RA:1021:A:C3'	2.93	0.52
25:RA:2097:C:H42	25:RA:2192:G:H1	1.58	0.52
25:RA:2558:C:H2'	25:RA:2559:C:H6	1.75	0.52
25:RA:2572:A:C8	28:RE:144:ARG:HD2	2.45	0.52
44:RY:99:CYS:SG	44:RY:100:ALA:N	2.83	0.52
1:XA:563:A:H2'	1:XA:567:G:C8	2.45	0.52
1:XA:714:G:H2'	1:XA:715:A:C8	2.45	0.52
1:XA:1117:G:H4'	9:XI:104:ARG:HD2	1.91	0.52
10:XJ:44:VAL:HG22	10:XJ:66:ARG:HG2	1.92	0.52
15:XO:55:GLY:HA2	15:XO:58:MET:HE3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:389:G:H1	35:YP:71:VAL:HG12	1.75	0.52
25:YA:910:A:N1	25:YA:2277:G:H1'	2.25	0.52
25:YA:1027:A:C2	25:YA:2488:A:H5'	2.44	0.52
25:YA:2734:A:H5'	25:YA:2735:G:OP2	2.10	0.52
35:YP:63:PRO:HD2	54:Y8:30:ARG:HH21	1.75	0.52
2:QB:118:LEU:HB3	2:QB:142:LEU:HD12	1.92	0.52
3:QC:95:THR:HG22	3:QC:97:LYS:H	1.75	0.52
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.43	0.52
19:QS:16:LEU:HD11	19:QS:41:VAL:HG11	1.90	0.52
25:RA:1800:C:OP2	27:RD:183:ARG:NH2	2.43	0.52
25:RA:1903:G:OP2	27:RD:241:PRO:HB2	2.10	0.52
27:RD:35:LYS:HZ1	27:RD:104:TYR:HB2	1.74	0.52
30:RG:47:LYS:HD3	30:RG:81:LYS:HB2	1.91	0.52
31:RH:10:PRO:O	31:RH:11:VAL:HG13	2.10	0.52
40:RU:81:HIS:HD2	40:RU:84:LYS:HD3	1.75	0.52
45:RZ:151:HIS:ND1	45:RZ:151:HIS:O	2.43	0.52
55:R9:9:ARG:NH1	55:R9:14:CYS:O	2.42	0.52
1:XA:250:A:H4'	1:XA:251:G:O5'	2.10	0.52
1:XA:413:G:H21	1:XA:428:G:H1'	1.75	0.52
1:XA:545:C:OP2	4:XD:62:GLN:NE2	2.42	0.52
1:XA:1411:C:H2'	1:XA:1412:C:C6	2.45	0.52
1:XA:1493:A:N6	25:YA:1913:A:H1'	2.24	0.52
25:YA:443:A:H1'	25:YA:1201:C:O4'	2.09	0.52
32:YI:27:ARG:HD2	47:Y1:71:TYR:CE1	2.44	0.52
33:YN:34:LEU:O	33:YN:49:GLY:HA3	2.10	0.52
43:YX:3:THR:HA	43:YX:6:ASP:OD2	2.10	0.52
1:QA:243:A:H4'	1:QA:244:U:O5'	2.08	0.52
1:QA:482:A:H5'	1:QA:483:C:OP2	2.10	0.52
25:RA:923:C:H2'	25:RA:924:C:H6	1.74	0.52
25:RA:1254:A:H5'	25:RA:1255:U:C5'	2.39	0.52
41:RV:4:ILE:HG22	41:RV:39:LEU:HD13	1.92	0.52
1:XA:1412:C:H2'	1:XA:1413:A:C8	2.45	0.52
9:XI:17:VAL:HG11	9:XI:81:ILE:HA	1.92	0.52
25:YA:1568:G:H4'	27:YD:59:LYS:HB3	1.92	0.52
25:YA:2591:C:H2'	25:YA:2592:G:C8	2.45	0.52
25:YA:2724:C:OP1	28:YE:118:LYS:NZ	2.39	0.52
27:YD:8:PRO:HB3	27:YD:14:ARG:HB2	1.92	0.52
48:Y2:24:LEU:HD13	48:Y2:60:LEU:HD21	1.92	0.52
1:QA:805:C:H2'	1:QA:806:C:H6	1.74	0.51
1:QA:1288:A:H2'	1:QA:1289:A:H8	1.75	0.51
1:QA:1498:U:O2'	1:QA:1499:A:OP2	2.23	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1329:U:H5''	25:RA:1330:C:C5	2.45	0.51
25:RA:2469:A:O2'	36:RQ:56:ARG:HG2	2.10	0.51
28:RE:32:PRO:HD2	28:RE:50:GLY:O	2.11	0.51
36:RQ:64:ILE:HD13	36:RQ:64:ILE:H	1.74	0.51
1:XA:119:A:H4'	1:XA:120:A:C8	2.45	0.51
1:XA:126:G:OP1	1:XA:605:U:O2'	2.26	0.51
3:XC:20:SER:OG	3:XC:40:ARG:NH2	2.40	0.51
24:XY:26:ASP:OD1	24:XY:69:ARG:NE	2.41	0.51
25:YA:2306:C:N4	25:YA:2307:G:O6	2.44	0.51
25:YA:2690:C:OP2	37:YR:17:ARG:NH1	2.39	0.51
27:YD:76:PRO:HG2	27:YD:98:VAL:HG21	1.92	0.51
28:YE:24:THR:HG21	28:YE:188:VAL:HG12	1.92	0.51
41:YV:87:HIS:NE2	41:YV:89:GLN:OE1	2.33	0.51
1:QA:708:C:H2'	1:QA:709:G:H8	1.75	0.51
2:QB:69:LEU:HD23	2:QB:91:PRO:HB2	1.92	0.51
13:QM:88:ARG:HG3	13:QM:98:VAL:HG13	1.92	0.51
26:RB:32:C:O2	26:RB:50:G:N2	2.28	0.51
1:XA:67:C:H2'	1:XA:68:G:C8	2.45	0.51
1:XA:769:G:H4'	1:XA:1513:A:H4'	1.91	0.51
5:XE:33:VAL:HG21	5:XE:109:ILE:HG12	1.93	0.51
23:XX:12:A:H2'	23:XX:13:A:C8	2.45	0.51
25:YA:631:A:OP2	54:Y8:47:LYS:NZ	2.43	0.51
37:YR:78:LYS:O	37:YR:82:GLU:HB3	2.10	0.51
45:YZ:5:LEU:HD21	45:YZ:44:PHE:HA	1.92	0.51
48:Y2:5:GLU:H	48:Y2:5:GLU:CD	2.18	0.51
1:QA:1001(A):G:N1	1:QA:1039:C:N3	2.55	0.51
1:QA:1068:G:OP2	1:QA:1068:G:H8	1.92	0.51
15:QO:54:ARG:HG2	15:QO:58:MET:HE2	1.93	0.51
25:RA:2111:C:C2	25:RA:2118:U:H1'	2.45	0.51
25:RA:2659:G:N2	25:RA:2662:A:OP2	2.43	0.51
33:RN:125:GLY:HA3	33:RN:126:PRO:O	2.10	0.51
1:XA:1328:C:OP1	21:XU:21:TYR:OH	2.22	0.51
5:XE:48:ALA:HB2	5:XE:57:LYS:HD3	1.91	0.51
9:XI:2:GLU:H	9:XI:20:ARG:HH11	1.57	0.51
25:YA:1171:G:O2'	25:YA:1173:G:O5'	2.28	0.51
27:YD:99:ASP:OD2	27:YD:101:GLU:CB	2.59	0.51
52:Y6:28:ARG:CG	52:Y6:30:THR:H	2.23	0.51
54:Y8:60:LEU:O	54:Y8:62:LEU:N	2.43	0.51
1:QA:250:A:H5'	1:QA:252:U:O4'	2.10	0.51
20:QT:40:ALA:HB2	20:QT:55:ILE:HG22	1.93	0.51
23:QX:14:A:H2'	23:QX:15:A:H5'	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:877:U:H2'	25:RA:878:A:H5''	1.91	0.51
25:RA:1062:G:H2'	25:RA:1063:G:H8	1.75	0.51
25:RA:1504:C:H2'	25:RA:1505:C:H5''	1.92	0.51
25:RA:1865:G:H5'	25:RA:1866:C:OP2	2.10	0.51
25:RA:2822:G:H2'	25:RA:2823:A:H5''	1.92	0.51
29:RF:192:LEU:HD21	29:RF:194:MET:HE3	1.91	0.51
30:RG:15:VAL:HG21	30:RG:176:LEU:HD23	1.93	0.51
43:RX:63:LYS:HA	43:RX:72:LYS:HA	1.92	0.51
45:RZ:149:SER:OG	45:RZ:150:LEU:N	2.42	0.51
1:XA:77:G:O6	1:XA:92:C:N4	2.43	0.51
19:XS:67:VAL:HG21	50:Y4:59:PHE:CB	2.32	0.51
25:YA:270(F):U:H2'	25:YA:270(G):C:C6	2.45	0.51
25:YA:2343:C:H5''	25:YA:2343:C:C6	2.42	0.51
30:YG:151:ALA:HB3	30:YG:153:ARG:NH1	2.25	0.51
1:QA:404:U:H2'	1:QA:405:U:C6	2.46	0.51
1:QA:975:A:H5''	1:QA:976:G:H5'	1.92	0.51
25:RA:272(J):C:H3'	25:RA:274:G:H5''	1.92	0.51
25:RA:1795:C:O2	27:RD:255:LYS:HE3	2.11	0.51
25:RA:2748:A:H2'	25:RA:2749:A:O4'	2.10	0.51
35:RP:23:PRO:C	35:RP:25:SER:H	2.19	0.51
37:RR:38:VAL:HG22	37:RR:112:ALA:HB2	1.92	0.51
44:RY:95:LYS:NZ	44:RY:99:CYS:O	2.42	0.51
49:R3:59:VAL:HG12	49:R3:60:GLU:H	1.75	0.51
1:XA:811:C:O2'	1:XA:901:A:N1	2.40	0.51
1:XA:1314:C:H2'	1:XA:1315:U:H6	1.73	0.51
25:YA:857:C:H5''	46:Y0:77:ARG:NH2	2.25	0.51
25:YA:2393:A:H4'	35:YP:62:LEU:N	2.26	0.51
52:Y6:28:ARG:CB	52:Y6:30:THR:H	2.22	0.51
2:QB:51:LEU:HD23	2:QB:201:ILE:HD12	1.93	0.51
25:RA:380:U:O3'	47:R1:16:ASN:HB2	2.10	0.51
25:RA:709:U:H3	25:RA:722:A:H61	1.58	0.51
25:RA:1278:A:OP1	37:RR:36:THR:HG22	2.11	0.51
28:RE:119:ARG:HG2	28:RE:160:TYR:HB2	1.93	0.51
31:RH:137:ASP:OD1	31:RH:138:LYS:N	2.39	0.51
41:RV:71:LEU:HD11	41:RV:83:ARG:NE	2.25	0.51
1:XA:674:G:H2'	1:XA:675:A:H8	1.76	0.51
9:XI:17:VAL:HG22	9:XI:63:ILE:HG12	1.92	0.51
12:XL:27:LEU:HD11	12:XL:85:ILE:HG22	1.93	0.51
25:YA:593:G:O4'	54:Y8:4:MET:HE1	2.11	0.51
28:YE:134:ILE:HD13	28:YE:134:ILE:C	2.36	0.51
31:YH:33:LEU:HD21	31:YH:140:LYS:HE2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:278:G:N2	17:QQ:95:TYR:HB3	2.25	0.51
2:QB:9:GLU:O	2:QB:12:GLU:HG3	2.10	0.51
3:QC:150:LYS:HE2	3:QC:152:ILE:HD11	1.92	0.51
12:QL:59:ARG:HA	12:QL:65:GLU:HA	1.91	0.51
25:RA:363(F):A:H1'	25:RA:364:C:H5	1.75	0.51
25:RA:373:U:C2	25:RA:374:A:C8	2.99	0.51
39:RT:26:ASP:O	39:RT:49:VAL:HG12	2.10	0.51
1:XA:45:U:H2'	1:XA:46:G:C8	2.45	0.51
1:XA:532:A:N6	3:XC:193:TYR:HB3	2.25	0.51
20:XT:48:LYS:HB3	20:XT:51:GLU:HG3	1.93	0.51
25:YA:990:A:C6	25:YA:1186:G:H1'	2.46	0.51
25:YA:1982:C:O2	25:YA:1982:C:H2'	2.10	0.51
28:YE:101:ARG:O	28:YE:201:THR:OG1	2.29	0.51
30:YG:60:LEU:O	30:YG:64:THR:HG22	2.10	0.51
35:YP:19:VAL:HG13	35:YP:21:ARG:H	1.76	0.51
1:QA:612:C:O2	1:QA:629:G:N2	2.44	0.51
1:QA:674:G:H2'	1:QA:675:A:C8	2.46	0.51
25:RA:547:A:H2'	25:RA:548:A:C8	2.46	0.51
25:RA:2529:G:N3	25:RA:2529:G:H5''	2.26	0.51
32:RI:77:LEU:HA	32:RI:140:LEU:HD12	1.92	0.51
39:RT:54:ARG:HA	39:RT:59:THR:HB	1.92	0.51
47:R1:44:PRO:O	47:R1:46:LEU:N	2.43	0.51
1:XA:375:U:O2'	16:XP:28:ARG:HD2	2.10	0.51
1:XA:592:G:H2'	1:XA:593:G:H8	1.74	0.51
1:XA:1499:A:H1'	1:XA:1520:G:H5'	1.93	0.51
2:XB:72:GLY:HA3	2:XB:81:VAL:HG21	1.93	0.51
21:XU:12:LYS:HG2	21:XU:22:ARG:HB3	1.92	0.51
25:YA:1007:C:H5''	33:YN:35:ARG:HH11	1.75	0.51
25:YA:1239:G:H2'	25:YA:1240:U:O4'	2.11	0.51
25:YA:1488:G:H5'	25:YA:1489:U:OP2	2.11	0.51
25:YA:1681:G:H8	25:YA:1681:G:OP2	1.94	0.51
30:YG:11:TYR:HA	30:YG:15:VAL:HB	1.92	0.51
37:YR:97:VAL:HG22	37:YR:114:VAL:HG22	1.93	0.51
42:YW:78:GLU:OE1	42:YW:99:ARG:NH1	2.41	0.51
54:Y8:31:HIS:CG	54:Y8:32:LEU:H	2.27	0.51
54:Y8:33:ASN:HB2	54:Y8:36:LYS:HD3	1.92	0.51
1:QA:258:G:H2'	1:QA:259:G:H8	1.75	0.51
1:QA:404:U:H5'	4:QD:122:ARG:HD2	1.93	0.51
1:QA:1106:G:H5''	3:QC:172:ARG:HG2	1.93	0.51
1:QA:1314:C:OP2	19:QS:6:LYS:HD2	2.11	0.51
1:QA:1323:G:H2'	1:QA:1324:A:C8	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QH:20:TYR:CE2	8:QH:75:ARG:HB3	2.46	0.51
25:RA:352:G:O2'	25:RA:353:G:OP1	2.26	0.51
25:RA:411:G:OP2	25:RA:2406:U:O2'	2.28	0.51
25:RA:494:G:HO2'	42:RW:6:ILE:H	1.59	0.51
25:RA:659:C:H2'	25:RA:660:G:H8	1.74	0.51
35:RP:9:ASN:O	35:RP:10:PRO:C	2.54	0.51
45:RZ:157:LEU:N	45:RZ:158:PRO:CD	2.74	0.51
1:XA:646:U:H2'	1:XA:647:C:C6	2.46	0.51
1:XA:1280:A:H1'	10:XJ:41:PRO:HG3	1.91	0.51
22:XV:23:C:H2'	22:XV:24:U:C6	2.45	0.51
25:YA:297:C:H5''	44:YY:85:VAL:HG11	1.92	0.51
25:YA:582:G:H2'	25:YA:583:G:H8	1.76	0.51
25:YA:987:G:O2'	25:YA:988:A:H5'	2.11	0.51
25:YA:1030:G:OP2	36:YQ:128:LYS:HE3	2.11	0.51
25:YA:1766:U:H2'	25:YA:1767:C:H6	1.75	0.51
25:YA:2343:C:C5'	25:YA:2343:C:C6	2.85	0.51
26:YB:24:G:O6	26:YB:56:G:O2'	2.29	0.51
27:YD:35:LYS:HZ1	27:YD:65:ILE:HA	1.76	0.51
36:YQ:115:MET:HG3	36:YQ:131:ILE:HG21	1.91	0.51
42:YW:25:ARG:NH2	42:YW:74:ALA:O	2.44	0.51
49:Y3:6:VAL:HG13	49:Y3:54:VAL:HG11	1.93	0.51
1:QA:329:A:C5	1:QA:332:G:C6	2.99	0.51
1:QA:1325:C:H4'	21:QU:17:THR:HG21	1.92	0.51
1:QA:1347:G:H4'	1:QA:1348:U:C6	2.46	0.51
16:QP:53:VAL:HG12	16:QP:79:VAL:HG22	1.92	0.51
20:QT:10:LEU:HD22	20:QT:11:SER:H	1.74	0.51
25:RA:1570:A:H2'	25:RA:1571:A:C8	2.46	0.51
30:RG:131:TYR:HB3	30:RG:159:VAL:HG13	1.92	0.51
32:RI:101:LEU:HD23	32:RI:101:LEU:H	1.76	0.51
44:RY:69:ALA:O	44:RY:72:VAL:HG22	2.11	0.51
52:R6:12:GLU:HB2	52:R6:22:ALA:HB3	1.93	0.51
1:XA:115:G:H4'	1:XA:116:A:O5'	2.11	0.51
1:XA:392:G:H2'	1:XA:393:A:C8	2.46	0.51
1:XA:960:U:OP1	24:XY:8:LYS:CE	2.59	0.51
6:XF:76:ALA:O	6:XF:80:ARG:HG3	2.11	0.51
9:XI:37:PHE:HE2	9:XI:70:LYS:HG3	1.76	0.51
22:XW:53:G:H1	22:XW:61:C:H42	1.57	0.51
25:YA:2219:G:OP1	27:YD:172:TYR:OH	2.22	0.51
26:YB:56:G:H5'	30:YG:27:ASN:HD21	1.75	0.51
51:Y5:2:ALA:O	51:Y5:3:LYS:HD2	2.10	0.51
1:QA:376:G:H5''	16:QP:5:ARG:HD3	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:9:CYS:HA	4:QD:12:CYS:HB2	1.93	0.50
5:QE:147:ASP:OD2	5:QE:147:ASP:N	2.24	0.50
7:QG:20:ASP:OD2	7:QG:23:VAL:N	2.45	0.50
10:QJ:49:VAL:O	10:QJ:60:ARG:HB2	2.11	0.50
25:RA:839:U:H2'	25:RA:840:C:C6	2.46	0.50
25:RA:1341:U:H3'	25:RA:1397:U:O2	2.11	0.50
25:RA:2572:A:N7	28:RE:144:ARG:HD2	2.26	0.50
26:RB:64:C:H2'	26:RB:65:C:H6	1.76	0.50
28:RE:33:VAL:HG12	28:RE:90:THR:H	1.75	0.50
31:RH:126:PRO:HB2	31:RH:127:GLU:HA	1.94	0.50
39:RT:62:THR:HG22	39:RT:75:ILE:HG23	1.92	0.50
41:RV:40:LEU:HD21	41:RV:47:VAL:HB	1.93	0.50
22:XW:21:A:H61	22:XW:46:G:H2'	1.75	0.50
25:YA:1578:U:H2'	25:YA:1579:A:H5'	1.93	0.50
25:YA:2208:U:H4'	27:YD:151:LYS:HG2	1.92	0.50
25:YA:2572:A:C8	28:YE:144:ARG:HD2	2.46	0.50
25:YA:2584:U:O5'	25:YA:2584:U:O2	2.30	0.50
36:YQ:19:GLY:H	36:YQ:98:LYS:NZ	2.08	0.50
47:Y1:94:LEU:HD23	47:Y1:94:LEU:H	1.76	0.50
1:QA:748:C:H4'	1:QA:749:C:O5'	2.11	0.50
25:RA:388:G:H5'	47:R1:25:LYS:HB2	1.92	0.50
25:RA:613:G:O2'	25:RA:614(C):A:N1	2.39	0.50
25:RA:2262:U:H2'	25:RA:2263:C:H6	1.75	0.50
25:RA:2439:A:H5'	25:RA:2439:A:C8	2.47	0.50
26:RB:79:C:C2'	26:RB:80:U:H5'	2.41	0.50
36:RQ:34:LEU:HB2	36:RQ:118:LEU:HD22	1.92	0.50
1:XA:1148:U:H2'	1:XA:1149:C:O4'	2.11	0.50
1:XA:1411:C:H2'	1:XA:1412:C:H6	1.76	0.50
13:XM:10:PRO:CG	13:XM:18:ALA:CA	2.86	0.50
21:XU:9:ARG:HH21	21:XU:10:ARG:HE	1.59	0.50
25:YA:579:G:O2'	25:YA:2019:A:OP1	2.26	0.50
25:YA:1805:U:O2	27:YD:50:THR:HB	2.11	0.50
26:YB:6:C:HO2'	38:YS:29:PHE:HE1	1.57	0.50
27:YD:43:ARG:HH11	27:YD:44:ASN:ND2	2.09	0.50
32:YI:78:THR:CA	32:YI:142:VAL:HG23	2.38	0.50
43:YX:36:LYS:HG3	43:YX:54:VAL:HB	1.92	0.50
51:Y5:2:ALA:C	51:Y5:3:LYS:HD2	2.36	0.50
1:QA:1286:A:H8	1:QA:1287:A:H4'	1.76	0.50
2:QB:18:GLY:HA2	2:QB:40:HIS:O	2.11	0.50
9:QI:82:ALA:HB1	9:QI:96:LEU:HD21	1.93	0.50
11:QK:20:TYR:CE2	11:QK:83:ILE:HD12	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:QY:55:PRO:HD3	24:QY:64:TRP:CZ3	2.47	0.50
25:RA:296:C:H2'	25:RA:297:C:C6	2.47	0.50
25:RA:859:G:HO2'	25:RA:860:U:H6	1.57	0.50
25:RA:1625:C:H2'	25:RA:1626:G:O4'	2.10	0.50
25:RA:2313:C:H4'	30:RG:91:ARG:HG3	1.92	0.50
39:RT:107:ASP:N	39:RT:107:ASP:OD1	2.43	0.50
40:RU:74:LEU:HD13	40:RU:79:PHE:HB2	1.92	0.50
44:RY:48:ALA:O	44:RY:50:ARG:N	2.44	0.50
2:XB:48:MET:HA	2:XB:51:LEU:HD12	1.94	0.50
2:XB:132:LYS:O	2:XB:134:GLU:N	2.44	0.50
9:XI:27:THR:HG21	9:XI:32:ASP:HA	1.94	0.50
10:XJ:79:ARG:HD3	10:XJ:79:ARG:H	1.76	0.50
13:XM:10:PRO:HG2	13:XM:18:ALA:CA	2.40	0.50
25:YA:817:C:H4'	25:YA:932:G:C5	2.46	0.50
25:YA:1858:G:H1'	25:YA:1884:A:H61	1.76	0.50
25:YA:2404:C:O3'	35:YP:77:ARG:NH2	2.45	0.50
35:YP:9:ASN:O	35:YP:10:PRO:C	2.53	0.50
41:YV:62:LEU:HB3	41:YV:93:GLU:O	2.12	0.50
1:QA:674:G:H2'	1:QA:675:A:H8	1.75	0.50
1:QA:954:G:H21	1:QA:1227:A:H62	1.59	0.50
1:QA:960:U:H4'	1:QA:961:U:OP2	2.12	0.50
1:QA:1286:A:C8	1:QA:1287:A:H4'	2.47	0.50
25:RA:764:A:H5''	27:RD:210:GLY:HA2	1.93	0.50
25:RA:1070:A:H5'	25:RA:1071:G:H5''	1.91	0.50
25:RA:2233:U:H2'	25:RA:2234:G:C8	2.46	0.50
30:RG:107:LEU:HA	30:RG:111:LEU:HD12	1.93	0.50
46:R0:37:LEU:N	46:R0:59:LEU:O	2.32	0.50
1:XA:1293:G:H2'	1:XA:1294:G:H8	1.75	0.50
3:XC:23:TYR:HD2	10:XJ:10:GLY:HA2	1.76	0.50
9:XI:28:VAL:HG22	9:XI:29:ASN:N	2.26	0.50
13:XM:8:GLU:O	13:XM:8:GLU:HG3	2.10	0.50
30:YG:36:LYS:HD2	30:YG:160:VAL:HG21	1.93	0.50
31:YH:86:GLU:CD	31:YH:86:GLU:H	2.19	0.50
45:YZ:74:VAL:HG13	45:YZ:86:VAL:HG22	1.94	0.50
4:QD:195:ALA:HB3	6:XF:16:GLN:O	2.11	0.50
19:QS:45:VAL:HG13	19:QS:62:ILE:HG22	1.94	0.50
20:QT:89:ARG:HB2	20:QT:104:LEU:HD21	1.94	0.50
25:RA:271(A):A:H5'	25:RA:271(B):C:OP2	2.10	0.50
25:RA:614:U:O2	25:RA:614:U:O5'	2.30	0.50
25:RA:1759:A:C8	25:RA:2696:U:H1'	2.46	0.50
28:RE:29:GLY:O	28:RE:51:PHE:HE2	1.95	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RF:4:VAL:HG13	29:RF:19:GLU:CD	2.36	0.50
31:RH:7:LEU:HD12	31:RH:65:HIS:CE1	2.47	0.50
44:RY:73:ARG:HH21	44:RY:82:PRO:HD3	1.77	0.50
1:XA:512:U:H2'	1:XA:513:C:C6	2.47	0.50
4:XD:127:THR:HG23	4:XD:147:ALA:HB3	1.92	0.50
10:XJ:9:ARG:HB2	10:XJ:95:GLU:HB3	1.92	0.50
11:XK:20:TYR:CE2	11:XK:83:ILE:HD12	2.47	0.50
13:XM:9:ILE:HG12	13:XM:10:PRO:N	2.26	0.50
23:XX:5:A:H2'	23:XX:6:G:C8	2.42	0.50
25:YA:2148:G:H2'	25:YA:2149:G:C8	2.47	0.50
33:YN:12:ARG:O	33:YN:50:ASP:HB2	2.11	0.50
52:Y6:8:LYS:HA	52:Y6:27:LYS:HA	1.93	0.50
52:Y6:28:ARG:HG3	52:Y6:30:THR:C	2.35	0.50
52:Y6:42:TRP:CD1	52:Y6:44:ARG:HH11	2.29	0.50
10:QJ:53:PRO:HA	14:QN:42:ILE:HD12	1.93	0.50
19:QS:21:GLU:HG3	19:QS:22:LEU:HD22	1.93	0.50
25:RA:1963:U:O2	25:RA:1963:U:C2'	2.60	0.50
25:RA:2130:U:O2	25:RA:2133:G:O2'	2.30	0.50
25:RA:2245:U:H5'	25:RA:2246:G:H5'	1.94	0.50
36:RQ:7:MET:HE1	36:RQ:93:TYR:CE2	2.45	0.50
41:RV:5:VAL:HB	41:RV:37:VAL:HG21	1.93	0.50
1:XA:315:A:O2'	1:XA:316:G:OP2	2.29	0.50
1:XA:745:C:OP1	1:XA:851:G:O2'	2.29	0.50
5:XE:82:VAL:HG21	5:XE:138:ALA:HA	1.93	0.50
11:XK:10:VAL:HG12	11:XK:11:LYS:HG2	1.94	0.50
13:XM:73:GLU:O	13:XM:77:ASN:N	2.43	0.50
18:XR:40:LEU:HB3	18:XR:79:LEU:HD11	1.93	0.50
25:YA:363(E):U:H3'	25:YA:363(F):A:C8	2.46	0.50
25:YA:2712:U:O2'	25:YA:2712(A):A:O5'	2.30	0.50
28:YE:116:VAL:O	28:YE:117:MET:HB3	2.12	0.50
35:YP:52:GLU:HG2	35:YP:55:ARG:HH11	1.77	0.50
35:YP:63:PRO:HB3	54:Y8:13:ARG:HG2	1.94	0.50
52:Y6:23:THR:OG1	54:Y8:34:TRP:O	2.29	0.50
1:QA:37:U:O2'	1:QA:500:G:H4'	2.11	0.50
1:QA:328:C:C4'	1:QA:329:A:O5'	2.58	0.50
1:QA:518:C:H2'	1:QA:530:G:H8	1.77	0.50
25:RA:1281:G:H5'	25:RA:1282:U:OP2	2.11	0.50
25:RA:1863:G:HO2'	25:RA:2411:A:HO2'	1.55	0.50
25:RA:2393:A:H62	25:RA:2422:A:H61	1.58	0.50
25:RA:2529:G:OP2	25:RA:2530:A:H8	1.94	0.50
25:RA:2712:U:O2'	25:RA:2712(A):A:O5'	2.30	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RG:47:LYS:HG3	30:RG:82:LEU:HG	1.93	0.50
31:RH:10:PRO:O	31:RH:11:VAL:O	2.30	0.50
33:RN:73:THR:HB	33:RN:82:LEU:HD11	1.94	0.50
2:XB:17:PHE:HA	2:XB:204:ASN:OD1	2.12	0.50
4:XD:162:LEU:HD13	4:XD:181:MET:HG2	1.92	0.50
25:YA:964:C:O2'	25:YA:2273:A:N3	2.40	0.50
26:YB:89:G:C6	26:YB:89(A):A:C6	3.00	0.50
27:YD:267:SER:O	27:YD:269:PHE:N	2.45	0.50
33:YN:26:LEU:O	33:YN:30:ILE:HG13	2.11	0.50
35:YP:138:LEU:HD11	35:YP:144:GLU:HG2	1.93	0.50
1:QA:354:G:N2	1:QA:355:C:C2	2.79	0.50
1:QA:1072:G:H2'	1:QA:1073:U:C6	2.47	0.50
1:QA:1316:G:H4'	14:QN:18:VAL:HG11	1.93	0.50
22:QW:65:C:H2'	22:QW:66:C:C6	2.47	0.50
25:RA:94(A):G:H2'	25:RA:95:G:O4'	2.12	0.50
25:RA:519:U:H2'	25:RA:520:G:H8	1.76	0.50
25:RA:2867:G:O2'	25:RA:2868:A:H8	1.94	0.50
30:RG:43:LEU:HD22	30:RG:90:LEU:HD23	1.94	0.50
31:RH:54:ARG:H	31:RH:54:ARG:HD3	1.77	0.50
39:RT:20:PRO:HD2	39:RT:86:ILE:HG23	1.94	0.50
43:RX:63:LYS:H	43:RX:63:LYS:NZ	2.10	0.50
45:RZ:45:ASP:O	45:RZ:49:ARG:HG2	2.12	0.50
54:R8:6:THR:HG21	54:R8:63:PRO:HD3	1.94	0.50
54:R8:34:TRP:O	54:R8:36:LYS:HG3	2.12	0.50
1:XA:142:G:H2'	1:XA:143:A:H8	1.77	0.50
1:XA:337:C:H2'	1:XA:338:A:H8	1.77	0.50
1:XA:1260:C:O5'	1:XA:1284:C:H4'	2.12	0.50
7:XG:131:LYS:HB2	7:XG:131:LYS:HZ2	1.77	0.50
11:XK:48:ILE:HD11	11:XK:64:ALA:HA	1.94	0.50
13:XM:9:ILE:HG12	13:XM:10:PRO:HD2	1.91	0.50
19:XS:40:ILE:HG12	19:XS:69:HIS:O	2.12	0.50
25:YA:1264:G:H3'	25:YA:1265:A:H5''	1.93	0.50
25:YA:2115:G:O2'	25:YA:2171:A:N6	2.44	0.50
25:YA:2467:C:H4'	36:YQ:123:HIS:CE1	2.47	0.50
25:YA:2472:G:N1	25:YA:2477:C:OP1	2.30	0.50
35:YP:11:GLY:O	35:YP:13:ASN:N	2.42	0.50
40:YU:92:ARG:HH22	41:YV:10:LYS:CA	2.25	0.50
40:YU:113:ALA:O	40:YU:117:GLN:HB2	2.12	0.50
45:YZ:110:GLY:C	45:YZ:112:ARG:H	2.20	0.50
47:Y1:7:ILE:HD13	47:Y1:69:LYS:HB3	1.92	0.50
1:QA:530:G:N3	23:QX:21:A2M:H2	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:534:U:H5'	1:QA:535:A:OP2	2.12	0.50
1:QA:1065:U:OP2	1:QA:1190:G:N2	2.41	0.50
19:QS:40:ILE:HG21	19:QS:66:MET:O	2.12	0.50
25:RA:1165:U:H2'	25:RA:1166:C:C6	2.47	0.50
25:RA:1285:G:N2	25:RA:1328:G:H5''	2.27	0.50
25:RA:2345:G:N3	25:RA:2381:C:H2'	2.26	0.50
41:RV:48:GLY:O	41:RV:49:THR:O	2.30	0.50
1:XA:35:G:H2'	1:XA:36:C:C6	2.47	0.50
1:XA:586:C:OP1	17:XQ:34:LYS:NZ	2.44	0.50
7:XG:76:ARG:HD2	7:XG:89:MET:HG3	1.94	0.50
10:XJ:38:ILE:HB	10:XJ:71:LEU:HB3	1.94	0.50
25:YA:78:A:H2'	25:YA:79:G:H8	1.75	0.50
25:YA:263:C:H2'	25:YA:264:C:O4'	2.12	0.50
27:YD:109:ASP:N	27:YD:196:VAL:O	2.44	0.50
28:YE:120:TRP:CD1	28:YE:155:LYS:HB3	2.47	0.50
29:YF:83:PHE:O	29:YF:85:GLY:N	2.45	0.50
44:YY:52:SER:HA	44:YY:56:PRO:HA	1.94	0.50
44:YY:77:PRO:O	44:YY:78:ALA:HB2	2.12	0.50
1:QA:1226:C:H4'	19:QS:80:TYR:CZ	2.47	0.49
1:QA:1330:U:H3'	1:QA:1331:G:O4'	2.12	0.49
1:QA:1490:C:O2'	1:QA:1491:G:H5''	2.12	0.49
2:QB:103:THR:HA	2:QB:180:LEU:HD11	1.93	0.49
4:QD:166:LYS:HD2	27:YD:134:ARG:NH1	2.26	0.49
10:QJ:48:THR:HA	10:QJ:62:HIS:HB3	1.93	0.49
25:RA:2091:U:H1'	47:R1:47:GLN:NE2	2.27	0.49
25:RA:2445:G:C2'	25:RA:2446:G:H5'	2.42	0.49
26:RB:89(A):A:N7	26:RB:90:C:H1'	2.27	0.49
31:RH:147:ASN:O	31:RH:151:ILE:HG12	2.12	0.49
31:RH:153:LYS:HB3	31:RH:161:GLY:HA2	1.94	0.49
34:RO:104:ARG:HG2	34:RO:121:VAL:HG12	1.94	0.49
45:RZ:156:LYS:C	45:RZ:157:LEU:HG	2.37	0.49
1:XA:1101:A:H4'	1:XA:1102:A:O5'	2.12	0.49
1:XA:1490:C:O2'	1:XA:1491:G:H5'	2.12	0.49
2:XB:146:GLN:O	2:XB:150:SER:HB3	2.12	0.49
25:YA:363(F):A:H1'	25:YA:364:C:H5	1.75	0.49
25:YA:2046:G:H5'	51:Y5:19:ARG:HG3	1.93	0.49
25:YA:2855:C:H2'	25:YA:2856:C:C6	2.47	0.49
45:YZ:126:VAL:HG12	45:YZ:163:LEU:HA	1.94	0.49
46:Y0:3:HIS:ND1	46:Y0:3:HIS:O	2.43	0.49
1:QA:652:U:O4	1:QA:752:G:O2'	2.25	0.49
1:QA:1213:A:N6	1:QA:1215:G:N3	2.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:QE:12:LEU:HD12	5:QE:128:PRO:CB	2.41	0.49
7:QG:113:GLU:HB2	7:QG:119:ARG:HG2	1.94	0.49
25:RA:1113:U:H2'	25:RA:1114:G:C8	2.47	0.49
25:RA:2199:A:C5	25:RA:2225:A:C5	3.01	0.49
25:RA:2446:G:C3'	25:RA:2447:G:C5'	2.90	0.49
25:RA:2876:G:O2'	39:RT:3:ARG:NH1	2.45	0.49
40:RU:92:ARG:HG3	40:RU:95:LEU:H	1.76	0.49
41:RV:2:PHE:CD2	41:RV:42:GLY:HA2	2.46	0.49
45:RZ:165:VAL:HG13	45:RZ:166:SER:H	1.76	0.49
1:XA:7:G:H2'	5:XE:119:LEU:HD22	1.93	0.49
1:XA:41:G:H2'	1:XA:42:G:C8	2.48	0.49
1:XA:222:U:H2'	1:XA:223:U:C6	2.47	0.49
1:XA:1273:G:H3'	1:XA:1274:G:H8	1.76	0.49
1:XA:1456:G:N1	20:XT:55:ILE:HD11	2.27	0.49
1:XA:1512:U:H2'	1:XA:1513:A:H8	1.76	0.49
2:XB:82:ARG:O	2:XB:86:GLU:HG2	2.12	0.49
4:XD:111:ALA:HB2	4:XD:120:LEU:HD12	1.94	0.49
6:XF:83:ASP:OD2	6:XF:83:ASP:N	2.45	0.49
7:XG:20:ASP:OD1	7:XG:23:VAL:HB	2.12	0.49
25:YA:270(I):G:H1	25:YA:270(Q):C:H42	1.60	0.49
25:YA:1384:A:N3	25:YA:1405:U:H1'	2.28	0.49
25:YA:1907:G:C2'	25:YA:1908:C:H5'	2.42	0.49
25:YA:2527:C:H5'	55:Y9:30:PRO:HB2	1.92	0.49
25:YA:2748:A:H2	25:YA:2754:U:H3	1.58	0.49
25:YA:2776:A:OP1	25:YA:2776:A:H3'	2.12	0.49
38:YS:71:ARG:HH12	38:YS:106:ARG:HH21	1.60	0.49
45:YZ:124:ILE:HD11	45:YZ:165:VAL:HG11	1.94	0.49
1:QA:766:A:H2'	1:QA:767:A:O4'	2.11	0.49
1:QA:1137:C:H4'	1:QA:1138:G:O5'	2.11	0.49
5:QE:79:GLU:HG3	5:QE:93:PRO:HD2	1.94	0.49
5:QE:87:SER:HB3	5:QE:131:ILE:HD13	1.94	0.49
7:QG:86:GLN:CD	22:QW:31:G:H21	2.19	0.49
19:QS:42:PRO:CG	50:R4:60:GLN:HG3	2.42	0.49
25:RA:2207:G:H3'	25:RA:2208:A:N3	2.26	0.49
31:RH:6:ARG:HB3	31:RH:54:ARG:HH12	1.77	0.49
52:R6:15:GLU:OE1	52:R6:18:ARG:HB2	2.12	0.49
23:XX:20:A2M:HM'2	24:XY:91:TYR:HB2	1.94	0.49
25:YA:918:A:N3	26:YB:80:U:O2'	2.44	0.49
25:YA:928:G:H3'	25:YA:929:G:C8	2.47	0.49
25:YA:2442:C:H2'	25:YA:2443:C:H6	1.77	0.49
25:YA:2562:U:H1'	34:YO:23:ARG:HH11	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:65:ILE:HD11	27:YD:67:PHE:CZ	2.47	0.49
52:Y6:7:ILE:HD13	52:Y6:7:ILE:H	1.77	0.49
1:QA:222:U:H2'	1:QA:223:U:C6	2.47	0.49
1:QA:555:C:H2'	1:QA:556:C:C6	2.47	0.49
1:QA:707:C:H2'	1:QA:708:C:H6	1.78	0.49
1:QA:793:U:H5'	1:QA:794:A:O5'	2.13	0.49
3:QC:116:VAL:HG21	3:QC:202:ILE:HD11	1.93	0.49
25:RA:1917:U:C2'	25:RA:1918:A:H5'	2.42	0.49
25:RA:2059:A:H5'	25:RA:2060:A:OP2	2.12	0.49
25:RA:2529:G:H22	55:R9:31:LYS:NZ	2.09	0.49
30:RG:114:ILE:HD11	30:RG:140:ILE:HD13	1.94	0.49
30:RG:135:LEU:HD23	30:RG:140:ILE:HD11	1.93	0.49
31:RH:94:TYR:CD2	31:RH:107:VAL:HG12	2.47	0.49
41:RV:76:LYS:HB3	41:RV:79:VAL:HG23	1.94	0.49
2:XB:24:TRP:CD1	2:XB:24:TRP:N	2.80	0.49
15:XO:39:LEU:HD12	15:XO:56:LEU:HB2	1.94	0.49
25:YA:6:A:N3	25:YA:7:G:C8	2.80	0.49
25:YA:278:A:H61	25:YA:362:U:H3	1.59	0.49
25:YA:2750:A:H2'	25:YA:2752:C:N4	2.27	0.49
25:YA:2844:G:H3'	25:YA:2845:G:H8	1.77	0.49
27:YD:43:ARG:HB3	27:YD:54:ARG:HB2	1.94	0.49
31:YH:105:LEU:HD12	31:YH:113:VAL:HB	1.95	0.49
45:YZ:91:LEU:HD12	45:YZ:130:PRO:HB3	1.95	0.49
52:Y6:6:ARG:HG2	52:Y6:8:LYS:N	2.24	0.49
1:QA:422:C:HO2'	1:QA:423:G:N2	2.10	0.49
1:QA:1109:C:OP2	3:QC:176:HIS:ND1	2.41	0.49
1:QA:1517:G:H1'	25:RA:1919:A:O3'	2.13	0.49
2:QB:112:VAL:HG22	2:QB:149:LEU:HD13	1.95	0.49
4:QD:79:PHE:HE1	4:QD:204:ILE:HD13	1.76	0.49
6:QF:42:GLU:OE2	6:QF:59:TYR:OH	2.29	0.49
15:QO:16:ALA:HB1	15:QO:21:ASP:HB3	1.94	0.49
25:RA:192:C:O2'	25:RA:802:A:N3	2.45	0.49
25:RA:620:G:N3	25:RA:620:G:H5'	2.27	0.49
37:RR:37:THR:HG22	37:RR:39:PRO:HD2	1.95	0.49
38:RS:24:LEU:HB2	38:RS:85:VAL:HG12	1.93	0.49
53:R7:24:THR:HG23	53:R7:27:GLY:HA3	1.95	0.49
1:XA:878:G:H5'	8:XH:89:PRO:HG2	1.94	0.49
4:XD:7:PRO:HB2	4:XD:10:ARG:HD2	1.94	0.49
19:XS:40:ILE:HG21	19:XS:66:MET:O	2.12	0.49
25:YA:250:G:P	35:YP:60:MET:HE1	2.51	0.49
25:YA:1281:G:H5'	25:YA:1282:U:OP2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2232:U:P	47:Y1:40:ARG:HH12	2.34	0.49
30:YG:145:THR:O	30:YG:147:ASP:N	2.43	0.49
31:YH:107:VAL:HG23	31:YH:108:GLY:H	1.76	0.49
36:YQ:19:GLY:H	36:YQ:98:LYS:HZ1	1.59	0.49
44:YY:20:TYR:CZ	44:YY:42:VAL:HA	2.47	0.49
44:YY:87:LYS:HB3	44:YY:92:ASN:HB3	1.95	0.49
1:QA:611:A:H61	1:QA:629:G:H1	1.59	0.49
3:QC:108:ASN:ND2	3:QC:144:SER:HB2	2.27	0.49
25:RA:69:C:O2	25:RA:69:C:O4'	2.29	0.49
25:RA:1814:G:H4'	27:RD:51:VAL:HG21	1.93	0.49
39:RT:16:ARG:NH2	39:RT:19:LEU:HD21	2.28	0.49
39:RT:26:ASP:CB	39:RT:91:ARG:HA	2.42	0.49
45:RZ:110:GLY:O	45:RZ:112:ARG:N	2.44	0.49
1:XA:1152:A:H2'	1:XA:1153:C:C6	2.46	0.49
14:YN:41:ARG:NE	14:YN:42:ILE:CD1	2.76	0.49
25:YA:1266:G:O5'	42:YW:15:ARG:NH2	2.45	0.49
25:YA:2540:C:O2'	25:YA:2740:A:N3	2.44	0.49
28:YE:128:SER:OG	28:YE:129:HIS:N	2.44	0.49
30:YG:9:ARG:O	30:YG:13:GLU:HG2	2.12	0.49
31:YH:54:ARG:NE	31:YH:57:ASP:OD1	2.42	0.49
35:YP:64:LYS:HB3	54:Y8:25:MET:HG2	1.94	0.49
50:Y4:55:ARG:HH21	50:Y4:56:VAL:HG12	1.77	0.49
1:QA:523:A:H61	12:QL:53:ARG:NH1	2.09	0.49
1:QA:1070:U:OP1	5:QE:18:ARG:NH1	2.46	0.49
1:QA:1541:U:O2'	18:QR:18:ARG:NH2	2.44	0.49
9:QI:19:LEU:HB3	9:QI:59:PHE:HB3	1.94	0.49
11:QK:21:ILE:HG12	11:QK:30:VAL:HG12	1.94	0.49
25:RA:1019:U:O2'	25:RA:1021:A:H2	1.95	0.49
25:RA:1224:C:H5''	41:RV:85:LYS:HE2	1.94	0.49
28:RE:70:ALA:O	28:RE:72:VAL:N	2.46	0.49
45:RZ:58:VAL:O	45:RZ:59:LEU:CB	2.61	0.49
52:R6:12:GLU:HA	52:R6:24:GLU:HB3	1.94	0.49
1:XA:706:A:O4'	11:XK:29:ILE:HD11	2.13	0.49
1:XA:1305:G:N2	1:XA:1331:G:H2'	2.22	0.49
10:XJ:40:LEU:HG	10:XJ:41:PRO:HD2	1.94	0.49
11:XK:13:GLN:NE2	11:XK:76:GLY:HA3	2.28	0.49
25:YA:833:U:H5''	35:YP:48:PRO:HB2	1.94	0.49
25:YA:2563:U:H4'	34:YO:28:SER:HA	1.95	0.49
29:YF:24:LEU:HD13	29:YF:25:PRO:HD2	1.93	0.49
32:YI:8:PRO:HD3	32:YI:15:VAL:HG22	1.95	0.49
37:YR:42:LYS:HA	37:YR:45:ARG:HE	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:YU:98:LEU:C	40:YU:100:VAL:H	2.19	0.49
1:QA:579:G:H5'	1:QA:728:A:H1'	1.94	0.49
1:QA:1380:U:H5	7:QG:3:ARG:HG2	1.76	0.49
4:QD:163:GLU:OE1	4:QD:166:LYS:NZ	2.45	0.49
6:QF:42:GLU:HG2	6:QF:42:GLU:O	2.11	0.49
10:QJ:46:ARG:HG2	10:QJ:64:GLU:HB3	1.94	0.49
15:QO:24:SER:OG	15:QO:25:THR:N	2.46	0.49
16:QP:52:ASP:OD2	16:QP:54:GLU:HG2	2.13	0.49
22:QW:32:C:C5	22:QW:33:U:C4	3.01	0.49
22:QW:34:C:H42	23:QX:14:A:N6	2.11	0.49
24:QY:41:THR:N	24:QY:45:GLU:OE1	2.41	0.49
25:RA:1904:G:H2'	25:RA:1905:C:O4'	2.13	0.49
25:RA:2091:U:H5''	25:RA:2092:U:C5'	2.43	0.49
29:RF:1:MET:HE2	29:RF:2:LYS:HE3	1.93	0.49
30:RG:120:LEU:N	30:RG:179:PRO:O	2.43	0.49
32:RI:2:LYS:HD2	32:RI:20:ASP:HB3	1.94	0.49
34:RO:98:VAL:CG1	34:RO:117:LEU:HB3	2.43	0.49
40:RU:81:HIS:CD2	40:RU:84:LYS:HD3	2.48	0.49
1:XA:50:A:N1	1:XA:360:A:O2'	2.39	0.49
1:XA:337:C:H2'	1:XA:338:A:C8	2.47	0.49
1:XA:356:A:N3	1:XA:368:U:O2'	2.42	0.49
1:XA:708:C:H2'	1:XA:709:G:H8	1.78	0.49
1:XA:960:U:C2'	1:XA:961:U:OP2	2.61	0.49
25:YA:453:C:O2	25:YA:457:A:O2'	2.29	0.49
25:YA:807:U:OP2	35:YP:41:ARG:NH1	2.46	0.49
28:YE:36:ARG:HH21	28:YE:88:GLY:HA3	1.77	0.49
30:YG:97:ASP:O	30:YG:101:ILE:HG23	2.13	0.49
30:YG:104:GLU:HG2	50:Y4:23:GLU:HG3	1.94	0.49
34:YO:25:LEU:HB2	34:YO:38:VAL:HG23	1.93	0.49
34:YO:71:ARG:NH1	39:YT:74:ARG:HH21	2.10	0.49
1:QA:1001(A):G:H4'	1:QA:1001(A):G:OP1	2.13	0.49
3:QC:148:GLY:HA3	3:QC:172:ARG:O	2.12	0.49
9:QI:19:LEU:HD23	9:QI:61:ALA:HA	1.94	0.49
10:QJ:79:ARG:CZ	9:XI:94:ALA:HB1	2.42	0.49
18:QR:23:LYS:HD2	18:QR:58:LEU:HB3	1.93	0.49
25:RA:1923:U:H2'	25:RA:1924:C:C6	2.48	0.49
25:RA:2166:G:O2'	25:RA:2167:U:OP1	2.26	0.49
30:RG:60:LEU:HD21	30:RG:92:VAL:CG1	2.41	0.49
39:RT:106:SER:HA	39:RT:110:ILE:HG13	1.95	0.49
43:RX:36:LYS:HG3	43:RX:54:VAL:HB	1.95	0.49
54:R8:34:TRP:O	54:R8:36:LYS:N	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1330:U:H3'	1:XA:1331:G:O4'	2.13	0.49
1:XA:1512:U:H2'	1:XA:1513:A:C8	2.48	0.49
1:XA:1515:C:H2'	1:XA:1516:G:H8	1.77	0.49
2:XB:129:GLU:HB3	2:XB:130:ARG:NH1	2.27	0.49
10:XJ:8:LEU:HD22	10:XJ:20:ALA:HB2	1.94	0.49
25:YA:389:G:N1	35:YP:71:VAL:HG12	2.28	0.49
25:YA:528:A:O2'	25:YA:529:A:H5''	2.12	0.49
25:YA:1999:C:H5''	25:YA:2723:C:O2'	2.12	0.49
25:YA:2016:U:C1'	51:Y5:6:VAL:CG1	2.90	0.49
25:YA:2320:A:H2'	25:YA:2320:A:N3	2.28	0.49
7:QG:13:GLN:O	7:QG:24:THR:HG21	2.13	0.49
25:RA:588:U:H1'	29:RF:90:PHE:CG	2.48	0.49
25:RA:722:A:H5'	25:RA:723:G:OP2	2.13	0.49
25:RA:1697:G:H2'	25:RA:1698:A:OP1	2.13	0.49
35:RP:57:THR:HG21	35:RP:60:MET:CB	2.42	0.49
47:R1:85:LEU:HA	47:R1:87:PRO:HD2	1.94	0.49
1:XA:401:C:O2'	1:XA:621:A:N3	2.38	0.49
5:XE:72:GLN:O	5:XE:75:THR:HG22	2.12	0.49
15:XO:10:LYS:HA	15:XO:10:LYS:HD2	1.69	0.49
25:YA:227:A:H5''	35:YP:76:LYS:NZ	2.27	0.49
25:YA:1094:U:O2'	25:YA:1096:A:OP1	2.29	0.49
25:YA:1171:G:H1	25:YA:1178:C:N4	2.10	0.49
25:YA:2306:C:H5	30:YG:45:GLU:OE1	1.96	0.49
25:YA:2881:C:H5''	37:YR:117:VAL:HG21	1.95	0.49
26:YB:114:G:H2'	26:YB:115:G:H8	1.78	0.49
27:YD:71:ASP:HB3	27:YD:103:ARG:HH22	1.78	0.49
33:YN:36:GLY:H	33:YN:42:TRP:HZ3	1.60	0.49
36:YQ:27:VAL:HG13	45:YZ:81:ARG:HH22	1.78	0.49
36:YQ:63:LYS:H	45:YZ:178:GLU:HG2	1.78	0.49
39:YT:26:ASP:CB	39:YT:91:ARG:HA	2.43	0.49
1:QA:134:A:H61	16:QP:25:ARG:NH1	2.11	0.48
1:QA:1002:G:N2	1:QA:1039:C:O2	2.45	0.48
3:QC:76:VAL:HG13	3:QC:84:ILE:HG13	1.94	0.48
13:QM:2:ALA:O	13:QM:4:ILE:N	2.46	0.48
22:QV:52:G:C2'	22:QV:53:G:H5'	2.42	0.48
22:QV:53:G:H2'	22:QV:54:U:H6	1.76	0.48
25:RA:614:U:O2	25:RA:614:U:O4'	2.29	0.48
25:RA:1550:C:OP1	25:RA:1720:U:O2'	2.31	0.48
26:RB:34:U:H5''	26:RB:35:U:OP1	2.13	0.48
28:RE:47:VAL:O	28:RE:48:GLN:C	2.56	0.48
37:RR:73:VAL:O	37:RR:76:VAL:HG12	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:RY:97:ARG:NH2	44:RY:98:VAL:HB	2.19	0.48
1:XA:960:U:O2'	1:XA:961:U:OP2	2.30	0.48
1:XA:1095:U:H5''	1:XA:1109:C:O2	2.13	0.48
5:XE:11:ILE:HD11	5:XE:33:VAL:HG23	1.96	0.48
11:XK:44:SER:O	11:XK:48:ILE:HG12	2.13	0.48
25:YA:259:G:N2	25:YA:621:A:H8	2.07	0.48
25:YA:451:C:H4'	29:YF:52:LYS:NZ	2.28	0.48
25:YA:815:C:H2'	25:YA:816:C:C6	2.48	0.48
25:YA:1133:U:H2'	25:YA:1137:G:OP1	2.13	0.48
25:YA:1204:A:H61	25:YA:1240:U:H2'	1.78	0.48
25:YA:2356:C:H4'	46:Y0:20:ARG:HG3	1.94	0.48
25:YA:2406:U:C2	35:YP:72:PRO:HB2	2.48	0.48
25:YA:2870:C:H2'	25:YA:2871:C:O4'	2.12	0.48
26:YB:34:U:H5''	26:YB:35:U:OP1	2.12	0.48
40:YU:100:VAL:O	40:YU:101:ARG:HG2	2.13	0.48
43:YX:26:TYR:HB3	43:YX:92:LEU:HD12	1.94	0.48
46:Y0:50:ASN:HB3	46:Y0:63:VAL:HG22	1.94	0.48
1:QA:345:C:OP2	39:RT:39:ARG:NH2	2.46	0.48
1:QA:769:G:H4'	1:QA:1513:A:H4'	1.94	0.48
1:QA:877:C:H5''	8:QH:88:LYS:HD2	1.94	0.48
1:QA:1118:C:H1'	1:QA:1179:A:C4	2.48	0.48
1:QA:1368:G:H5''	9:QI:112:LYS:HB3	1.95	0.48
25:RA:310:A:OP1	44:RY:18:GLY:HA2	2.13	0.48
25:RA:1982:C:O2	25:RA:1982:C:H2'	2.11	0.48
25:RA:2393:A:H4'	35:RP:62:LEU:N	2.27	0.48
28:RE:176:ILE:HB	28:RE:181:LEU:HB2	1.94	0.48
1:XA:111:G:O6	1:XA:330:C:N4	2.45	0.48
1:XA:129(A):G:C6	1:XA:189(E):U:H4'	2.48	0.48
1:XA:410:G:H3'	4:XD:25:ARG:HH21	1.78	0.48
1:XA:511:C:HO2'	1:XA:512:U:H6	1.59	0.48
1:XA:1158:C:N4	1:XA:1160:G:C8	2.80	0.48
4:XD:194:LEU:HB3	4:XD:196:LEU:HD12	1.95	0.48
6:XF:69:GLU:H	6:XF:69:GLU:CD	2.21	0.48
7:XG:28:ASN:OD1	7:XG:36:LYS:NZ	2.46	0.48
22:XV:3:C:H42	22:XV:70:G:H1	1.61	0.48
25:YA:620:G:H4'	25:YA:621:A:H5''	1.95	0.48
25:YA:2144:U:H4'	25:YA:2145:C:OP1	2.13	0.48
25:YA:2336:A:H61	46:Y0:43:THR:HG22	1.78	0.48
27:YD:30:GLU:HG3	27:YD:63:ARG:CZ	2.42	0.48
27:YD:196:VAL:HG12	27:YD:197:GLY:H	1.78	0.48
38:YS:74:ALA:HB1	38:YS:107:GLU:HB3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:YY:48:ALA:N	44:YY:59:GLY:O	2.46	0.48
1:QA:277:C:H2'	1:QA:278:G:H8	1.78	0.48
1:QA:1001:A:H3'	1:QA:1001(A):G:H5''	1.95	0.48
1:QA:1132:C:H2'	1:QA:1133:G:H8	1.77	0.48
1:QA:1521:G:H2'	1:QA:1522:U:H6	1.78	0.48
22:QV:54:U:H6	22:QV:54:U:O5'	1.95	0.48
25:RA:1914:C:O3'	25:RA:1914:C:OP1	2.31	0.48
25:RA:2444:G:OP2	29:RF:68:LYS:NZ	2.29	0.48
27:RD:10:THR:HG23	27:RD:13:ARG:HB2	1.94	0.48
28:RE:111:ARG:HA	37:RR:2:ARG:HH12	1.78	0.48
29:RF:33:LEU:HD23	35:RP:1:MET:HE2	1.94	0.48
32:RI:84:GLY:O	32:RI:86:THR:N	2.46	0.48
33:RN:90:MET:HB3	33:RN:98:VAL:HG12	1.95	0.48
34:RO:97:ARG:HG3	34:RO:97:ARG:NH1	2.28	0.48
1:XA:308:C:H2'	1:XA:309:G:H8	1.78	0.48
1:XA:579:G:H5'	1:XA:728:A:H1'	1.95	0.48
1:XA:1285:A:O2'	1:XA:1286:A:H5''	2.12	0.48
2:XB:207:ALA:O	2:XB:211:ILE:HG13	2.13	0.48
10:XJ:54:PHE:CD1	10:XJ:55:LYS:HG3	2.48	0.48
15:XO:17:ARG:HD3	15:XO:26:GLU:HG3	1.94	0.48
19:XS:67:VAL:HG13	19:XS:68:GLY:H	1.78	0.48
25:YA:1686:C:H2'	25:YA:1687:G:O4'	2.13	0.48
25:YA:1929:G:H4'	25:YA:1930:G:OP1	2.13	0.48
28:YE:38:THR:HG22	28:YE:40:GLU:H	1.78	0.48
30:YG:166:ASP:OD1	30:YG:166:ASP:N	2.35	0.48
39:YT:26:ASP:O	39:YT:49:VAL:HG12	2.13	0.48
47:Y1:58:ILE:HG23	47:Y1:87:PRO:HG3	1.95	0.48
54:Y8:6:THR:O	54:Y8:6:THR:OG1	2.26	0.48
55:Y9:9:ARG:NH1	55:Y9:14:CYS:O	2.47	0.48
1:QA:560:U:O2'	1:QA:561:U:OP2	2.27	0.48
1:QA:974:A:OP2	14:QN:41:ARG:NH1	2.46	0.48
25:RA:2127:G:O2'	25:RA:2173:A:N1	2.38	0.48
25:RA:2267:A:H5''	25:RA:2268:A:H5'	1.94	0.48
25:RA:2777:G:OP2	25:RA:2781:A:O2'	2.20	0.48
29:RF:78:ILE:HA	29:RF:83:PHE:CD1	2.48	0.48
30:RG:104:GLU:HG2	50:R4:23:GLU:HG3	1.94	0.48
31:RH:52:VAL:HG12	31:RH:65:HIS:CD2	2.48	0.48
35:RP:16:ARG:HA	35:RP:16:ARG:HE	1.78	0.48
44:RY:19:LYS:HD2	44:RY:67:LEU:HD11	1.96	0.48
45:RZ:118:GLN:HG2	45:RZ:172:ALA:HA	1.95	0.48
1:XA:31:G:O2'	1:XA:48:C:N4	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:33:A:H2'	1:XA:34:C:C6	2.49	0.48
2:XB:54:THR:HG21	2:XB:201:ILE:HD11	1.96	0.48
5:XE:7:GLU:HG2	5:XE:112:LEU:HD22	1.95	0.48
6:XF:50:TYR:CE1	18:XR:77:GLY:HA2	2.48	0.48
10:XJ:86:MET:HG2	10:XJ:87:THR:HG23	1.95	0.48
18:XR:22:VAL:O	18:XR:24:ALA:N	2.42	0.48
25:YA:748:G:OP1	25:YA:2612:C:N4	2.46	0.48
26:YB:44:G:H1'	26:YB:47:C:H42	1.79	0.48
28:YE:50:GLY:HA2	28:YE:74:PRO:HG3	1.94	0.48
31:YH:124:GLU:HB2	31:YH:132:ARG:HG3	1.95	0.48
44:YY:19:LYS:HB2	44:YY:20:TYR:H	1.34	0.48
1:QA:114:U:H1'	1:QA:353:A:H1'	1.95	0.48
1:QA:376:G:H5''	16:QP:5:ARG:HB2	1.94	0.48
1:QA:950:U:H2'	1:QA:951:G:C8	2.49	0.48
1:QA:1068:G:N2	1:QA:1191:A:N3	2.59	0.48
1:QA:1347:G:O2'	1:QA:1348:U:OP2	2.30	0.48
8:QH:85:ARG:HG2	8:QH:88:LYS:HG2	1.95	0.48
10:QJ:23:ILE:HG23	10:QJ:85:LEU:HD22	1.95	0.48
25:RA:1062:G:H2'	25:RA:1063:G:C8	2.49	0.48
25:RA:1171:G:O2'	25:RA:1173:G:O5'	2.29	0.48
25:RA:1952:A:C6	34:RO:22:ILE:HD12	2.48	0.48
25:RA:2106:G:N2	25:RA:2183:C:O2	2.47	0.48
28:RE:47:VAL:O	28:RE:48:GLN:O	2.30	0.48
36:RQ:116:GLU:O	36:RQ:120:ILE:HG12	2.13	0.48
1:XA:542:G:H5'	4:XD:41:GLY:HA3	1.94	0.48
1:XA:1015:A:H2'	1:XA:1016:A:C8	2.49	0.48
4:XD:3:ARG:HE	4:XD:118:ARG:NE	2.11	0.48
13:XM:9:ILE:HG12	13:XM:10:PRO:CD	2.43	0.48
22:XW:66:C:H2'	22:XW:67:C:C6	2.49	0.48
25:YA:635:C:O2'	25:YA:639:U:OP1	2.31	0.48
25:YA:1870:C:H2'	25:YA:1871:A:O4'	2.13	0.48
25:YA:1999:C:H4'	25:YA:2723:C:O2	2.13	0.48
25:YA:2150:U:H2'	25:YA:2151:G:C8	2.48	0.48
25:YA:2422:A:H4'	25:YA:2423:U:OP1	2.13	0.48
25:YA:2725:A:O2'	25:YA:2726:U:OP2	2.24	0.48
25:YA:2823:A:OP1	28:YE:159:HIS:NE2	2.46	0.48
29:YF:7:TYR:HB3	29:YF:18:ARG:HB2	1.96	0.48
33:YN:30:ILE:HG21	33:YN:120:LEU:HD13	1.95	0.48
52:Y6:34:LEU:HD11	52:Y6:50:ARG:HH21	1.78	0.48
53:Y7:16:HIS:HB2	53:Y7:44:PRO:HG2	1.96	0.48
54:Y8:31:HIS:CG	54:Y8:32:LEU:N	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:316:G:H8	1:QA:316:G:O5'	1.97	0.48
1:QA:694:A:O2'	22:QW:38:A:O2'	2.29	0.48
1:QA:738:C:OP1	6:QF:92:LYS:HD2	2.13	0.48
1:QA:1237:C:N4	1:QA:1336:C:O2	2.46	0.48
12:QL:27:LEU:HD13	12:QL:33:ARG:HB2	1.95	0.48
19:QS:42:PRO:HG3	50:R4:60:GLN:HE21	1.79	0.48
22:QW:67:C:H2'	22:QW:68:C:C6	2.49	0.48
25:RA:250:G:H5'	35:RP:60:MET:HE1	1.95	0.48
25:RA:360:G:H2'	25:RA:361:G:H8	1.79	0.48
25:RA:1374:G:H2'	25:RA:1375:C:C6	2.48	0.48
25:RA:2732:G:H3'	25:RA:2733:A:H5'	1.95	0.48
27:RD:145:VAL:HB	27:RD:155:LEU:HB2	1.95	0.48
32:RI:57:ARG:HA	32:RI:60:GLU:HB3	1.95	0.48
34:RO:4:PRO:O	34:RO:5:GLN:HB2	2.13	0.48
41:RV:10:LYS:NZ	41:RV:23:GLU:OE1	2.46	0.48
41:RV:98:GLU:OE2	41:RV:100:ARG:NH1	2.47	0.48
1:XA:501:C:OP1	12:XL:117:ARG:NH2	2.41	0.48
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.48	0.48
1:XA:1422:G:O3'	34:YO:49:ARG:NH1	2.44	0.48
11:XK:54:ARG:HH11	11:XK:54:ARG:CG	2.25	0.48
25:YA:570:G:H2'	25:YA:2030:A:C5	2.47	0.48
25:YA:986:C:H2'	25:YA:987:G:H5'	1.96	0.48
25:YA:1385:G:O2'	25:YA:1396:U:O2	2.32	0.48
25:YA:2016:U:H1'	51:Y5:6:VAL:HG12	1.95	0.48
25:YA:2693:A:H2'	25:YA:2694:G:H8	1.79	0.48
34:YO:73:ASP:OD1	39:YT:32:TYR:OH	2.30	0.48
52:Y6:15:GLU:OE2	52:Y6:44:ARG:NH1	2.43	0.48
1:QA:73:G:H1	1:QA:96:U:H3	1.62	0.48
1:QA:1029:C:H2'	1:QA:1030:C:C6	2.48	0.48
19:QS:38:SER:O	19:QS:70:LYS:HB3	2.14	0.48
25:RA:1930:G:HO2'	25:RA:1931:U:P	2.35	0.48
31:RH:8:PRO:O	31:RH:9:ILE:CB	2.61	0.48
36:RQ:34:LEU:HD11	36:RQ:129:THR:HB	1.96	0.48
1:XA:1062:U:H2'	1:XA:1063:C:C6	2.49	0.48
2:XB:18:GLY:HA2	2:XB:40:HIS:O	2.13	0.48
25:YA:675:A:OP1	29:YF:63:LYS:NZ	2.37	0.48
25:YA:1578:U:C2'	25:YA:1579:A:H5'	2.44	0.48
39:YT:39:ARG:NH2	39:YT:41:ARG:HG2	2.28	0.48
40:YU:50:ARG:HH11	41:YV:72:VAL:HG11	1.78	0.48
1:QA:193:C:H2'	1:QA:194:C:C6	2.49	0.48
1:QA:1061:G:OP2	3:QC:3:ASN:ND2	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:QT:26:ASN:HB3	20:QT:71:THR:OG1	2.14	0.48
25:RA:1085:A:H2'	25:RA:1086:A:C8	2.49	0.48
25:RA:1698:A:C8	25:RA:1700:A:O4'	2.66	0.48
32:RI:98:ALA:HA	32:RI:109:ILE:HD11	1.95	0.48
39:RT:26:ASP:HB2	39:RT:91:ARG:HA	1.96	0.48
41:RV:38:LEU:HD12	41:RV:55:ALA:HB1	1.95	0.48
44:RY:84:ARG:NH2	44:RY:97:ARG:HB2	2.28	0.48
45:RZ:52:SER:O	45:RZ:54:HIS:N	2.46	0.48
1:XA:445:G:H2'	1:XA:446:G:H8	1.79	0.48
1:XA:520:A:OP1	12:XL:52:LEU:HB2	2.14	0.48
1:XA:901:A:C5	1:XA:902:G:H1'	2.49	0.48
1:XA:1399:C:C2	1:XA:1502:A:N6	2.81	0.48
3:XC:23:TYR:CD2	10:XJ:10:GLY:HA2	2.49	0.48
9:XI:20:ARG:O	9:XI:60:ASP:N	2.46	0.48
14:YN:41:ARG:NE	14:YN:42:ILE:HD11	2.28	0.48
20:XT:14:LYS:HA	20:XT:17:ARG:HE	1.78	0.48
25:YA:363:G:H5'	25:YA:363(A):A:OP2	2.14	0.48
25:YA:1141:U:H4'	25:YA:1142(A):A:O4'	2.13	0.48
25:YA:1203:G:H5'	35:YP:3:LEU:HD12	1.96	0.48
25:YA:1725:G:O6	25:YA:1735:C:N4	2.34	0.48
25:YA:2884:U:O2	51:Y5:52:TYR:OH	2.32	0.48
27:YD:97:TYR:HB3	27:YD:99:ASP:OD1	2.13	0.48
36:YQ:138:ASP:OD2	36:YQ:138:ASP:N	2.46	0.48
41:YV:49:THR:HG22	41:YV:50:PRO:HG3	1.93	0.48
52:Y6:28:ARG:HB2	52:Y6:31:PRO:HB2	1.96	0.48
1:QA:4:U:O2	8:QH:102:ARG:NH1	2.47	0.48
1:QA:974:A:O2'	1:QA:976:G:H5''	2.13	0.48
1:QA:1347:G:O2'	9:QI:109:VAL:HA	2.14	0.48
16:QP:71:ARG:HG3	16:QP:80:PHE:CE1	2.47	0.48
22:QW:17:C:H2'	22:QW:17(A):U:C6	2.49	0.48
25:RA:362:U:H5'	25:RA:363:G:OP2	2.13	0.48
25:RA:545:C:H2'	25:RA:547:A:O4'	2.14	0.48
25:RA:1548:C:N3	25:RA:1549:C:N4	2.61	0.48
25:RA:2447:G:H4'	25:RA:2448:A:O5'	2.14	0.48
31:RH:51:ARG:H	31:RH:51:ARG:HG3	1.32	0.48
33:RN:17:ASP:OD2	33:RN:56:ASN:ND2	2.29	0.48
39:RT:105:LEU:HD13	39:RT:109:GLU:HG3	1.95	0.48
1:XA:265:G:H5'	17:XQ:64:PRO:O	2.12	0.48
1:XA:403:C:H2'	1:XA:404:U:C6	2.48	0.48
1:XA:503:C:OP2	12:XL:116:SER:HB3	2.13	0.48
1:XA:1175:G:H2'	1:XA:1176:A:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:XK:34:ASP:HB3	11:XK:40:ILE:HD11	1.96	0.48
12:XL:53:ARG:NH2	12:XL:92:ASP:OD2	2.33	0.48
13:XM:10:PRO:O	13:XM:45:VAL:HG11	2.14	0.48
22:XW:18:G:H1'	22:XW:58:A:C2	2.48	0.48
25:YA:345:A:O2'	25:YA:346:A:N7	2.43	0.48
25:YA:1274:A:N3	25:YA:1297:C:H1'	2.29	0.48
25:YA:1278:A:H2'	25:YA:1279:G:H8	1.79	0.48
28:YE:68:ALA:O	28:YE:70:ALA:N	2.47	0.48
28:YE:75:VAL:O	28:YE:77:ILE:N	2.47	0.48
36:YQ:116:GLU:O	36:YQ:120:ILE:HG12	2.13	0.48
1:QA:115:G:H4'	1:QA:116:A:O5'	2.13	0.48
1:QA:262:A:C6	1:QA:263:A:C6	3.02	0.48
3:QC:20:SER:HB2	3:QC:40:ARG:HH12	1.78	0.48
11:QK:30:VAL:HG21	11:QK:65:ALA:HA	1.94	0.48
25:RA:78:A:H2'	25:RA:79:G:C8	2.49	0.48
25:RA:729:G:H2'	25:RA:1775:U:H1'	1.96	0.48
25:RA:921:G:H4'	25:RA:2269:A:C5	2.49	0.48
25:RA:946:G:H2'	25:RA:947:G:C8	2.49	0.48
25:RA:1149:G:H2'	25:RA:1150:C:C6	2.49	0.48
25:RA:1268:A:H2'	25:RA:1269:A:O4'	2.13	0.48
25:RA:2654:A:O2'	25:RA:2655:G:H4'	2.14	0.48
41:RV:58:VAL:HB	41:RV:98:GLU:HB2	1.95	0.48
54:R8:33:ASN:OD1	54:R8:33:ASN:N	2.47	0.48
1:XA:580:U:H2'	1:XA:581:G:O4'	2.13	0.48
1:XA:674:G:H2'	1:XA:675:A:C8	2.49	0.48
1:XA:1068:G:H8	1:XA:1068:G:OP2	1.96	0.48
1:XA:1348:U:H3	1:XA:1374:A:H2	1.59	0.48
6:XF:42:GLU:OE1	6:XF:59:TYR:OH	2.20	0.48
7:XG:20:ASP:CG	7:XG:23:VAL:HB	2.39	0.48
22:XV:53:G:H2'	22:XV:54:U:H5'	1.96	0.48
25:YA:185:U:H4'	25:YA:218:A:H4'	1.95	0.48
25:YA:2887:U:H2'	25:YA:2888:C:H6	1.77	0.48
28:YE:52:LEU:HD21	39:YT:1:MET:HE3	1.95	0.48
28:YE:87:GLU:HG3	28:YE:89:ASP:H	1.78	0.48
29:YF:25:PRO:HD3	29:YF:115:ALA:HB1	1.96	0.48
1:QA:717:C:H4'	11:QK:117:ASN:HB3	1.96	0.47
3:QC:66:VAL:HG13	3:QC:101:LEU:HA	1.96	0.47
3:QC:130:VAL:O	3:QC:134:ILE:HG12	2.13	0.47
25:RA:55:G:H2'	25:RA:56:A:H8	1.79	0.47
25:RA:686:G:N2	25:RA:788:A:H61	2.12	0.47
25:RA:996:A:H4'	40:RU:92:ARG:CZ	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2144:U:H4'	25:RA:2145:C:OP1	2.14	0.47
25:RA:2328:A:H2'	25:RA:2329:G:C8	2.49	0.47
25:RA:2696:U:H2'	25:RA:2697:G:C8	2.49	0.47
25:RA:2701:C:C3'	25:RA:2702:U:H5''	2.25	0.47
28:RE:33:VAL:HG23	28:RE:47:VAL:HG13	1.96	0.47
44:RY:75:ILE:HG13	44:RY:80:GLY:H	1.79	0.47
1:XA:1234:C:H4'	1:XA:1364:U:H1'	1.96	0.47
18:XR:26:LEU:HD22	18:XR:39:VAL:HG13	1.96	0.47
19:XS:36:ARG:NH2	19:XS:73:GLU:OE2	2.45	0.47
19:XS:44:MET:HG2	19:XS:47:HIS:NE2	2.28	0.47
19:XS:66:MET:HA	19:XS:69:HIS:HD2	1.79	0.47
25:YA:515:A:H1'	25:YA:581:C:H1'	1.96	0.47
25:YA:607:U:OP1	29:YF:102:PRO:HA	2.14	0.47
25:YA:642:G:H21	25:YA:646:A:H2	1.59	0.47
25:YA:1188:U:H4'	41:YV:79:VAL:HG12	1.95	0.47
25:YA:2695:C:H2'	25:YA:2696:U:C6	2.48	0.47
28:YE:8:LYS:HB3	28:YE:193:GLY:N	2.29	0.47
31:YH:38:SER:O	31:YH:40:GLU:N	2.47	0.47
37:YR:52:ILE:HD13	37:YR:79:LEU:HD21	1.95	0.47
1:QA:1300:G:HO2'	1:QA:1301:U:H5	1.52	0.47
1:QA:1337:G:H5''	1:QA:1338:G:OP1	2.14	0.47
4:QD:15:GLU:O	4:QD:17:VAL:N	2.46	0.47
4:QD:178:VAL:O	4:QD:180:GLY:N	2.45	0.47
10:QJ:51:ARG:HB2	10:QJ:60:ARG:HA	1.95	0.47
10:QJ:51:ARG:HE	10:QJ:61:GLU:HB2	1.78	0.47
19:QS:45:VAL:O	19:QS:62:ILE:HB	2.14	0.47
25:RA:300:A:H2'	25:RA:334:C:H1'	1.96	0.47
25:RA:1831:G:H2'	25:RA:1832:C:C6	2.50	0.47
25:RA:2287:A:N6	25:RA:2344:U:H3	2.12	0.47
25:RA:2296:U:OP2	38:RS:9:ARG:NH1	2.45	0.47
33:RN:63:THR:O	33:RN:66:LYS:HG3	2.13	0.47
1:XA:1127:G:H1'	1:XA:1280:A:C6	2.48	0.47
1:XA:1217:C:OP1	14:YN:9:LYS:HD2	2.14	0.47
25:YA:197:A:N6	25:YA:2430:A:H2'	2.27	0.47
25:YA:1858:G:OP2	25:YA:1858:G:H8	1.97	0.47
25:YA:2645:G:H3'	25:YA:2646:C:H5'	1.96	0.47
26:YB:14:U:O2'	26:YB:15:A:OP1	2.31	0.47
28:YE:130:GLY:O	28:YE:131:ALA:HB3	2.14	0.47
28:YE:200:GLU:HG2	28:YE:201:THR:H	1.79	0.47
29:YF:24:LEU:CD1	29:YF:25:PRO:HD2	2.44	0.47
39:YT:26:ASP:HB2	39:YT:90:GLN:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:YV:29:PRO:HA	41:YV:61:VAL:HG13	1.96	0.47
45:YZ:103:ARG:HB3	45:YZ:104:PHE:H	1.47	0.47
1:QA:57:G:H2'	1:QA:58:C:C6	2.50	0.47
1:QA:909:A:H2'	1:QA:910:C:O4'	2.14	0.47
1:QA:1347:G:C6	9:QI:107:ARG:NH2	2.82	0.47
8:QH:64:LYS:HG2	8:QH:79:VAL:HG21	1.96	0.47
25:RA:271(C):C:H2'	25:RA:271(D):G:C8	2.49	0.47
25:RA:1047:G:H2'	25:RA:1110:G:N1	2.30	0.47
25:RA:1375:C:H2'	25:RA:1376:C:C6	2.49	0.47
25:RA:1550:C:O5'	25:RA:1550:C:H6	1.97	0.47
25:RA:2098:U:H3	25:RA:2191:G:H1	1.62	0.47
34:RO:35:VAL:HG11	34:RO:103:ALA:HB3	1.96	0.47
43:RX:43:VAL:HG23	43:RX:51:VAL:HG21	1.97	0.47
44:RY:40:GLU:N	44:RY:40:GLU:OE2	2.46	0.47
52:R6:14:THR:HG1	52:R6:15:GLU:H	1.57	0.47
1:XA:742:G:OP2	15:XO:35:ARG:NH2	2.47	0.47
1:XA:793:U:H5'	1:XA:794:A:O5'	2.13	0.47
1:XA:1096:C:H2'	1:XA:1097:C:C6	2.50	0.47
10:XJ:27:ALA:HB2	10:XJ:85:LEU:HD11	1.94	0.47
10:XJ:54:PHE:CG	10:XJ:55:LYS:N	2.83	0.47
13:XM:99:ARG:O	13:XM:101:GLN:N	2.47	0.47
20:XT:53:LEU:HB3	20:XT:102:GLY:HA3	1.94	0.47
25:YA:1141:U:O2	25:YA:1142(A):A:N6	2.47	0.47
25:YA:2191:G:O2'	25:YA:2192:G:OP1	2.26	0.47
25:YA:2610:C:H4'	25:YA:2611:U:OP2	2.13	0.47
27:YD:35:LYS:HZ1	27:YD:104:TYR:HB2	1.80	0.47
37:YR:78:LYS:HE2	37:YR:83:ILE:HD11	1.95	0.47
45:YZ:48:PHE:HE2	45:YZ:71:VAL:HG21	1.80	0.47
45:YZ:51:ALA:HB1	45:YZ:57:ILE:HD11	1.97	0.47
50:Y4:14:ILE:HG23	50:Y4:21:VAL:HG23	1.96	0.47
50:Y4:58:ARG:NH2	50:Y4:62:ARG:HG3	2.29	0.47
1:QA:964:A:N3	1:QA:969:A:O2'	2.41	0.47
1:QA:1521:G:H2'	1:QA:1522:U:C6	2.49	0.47
8:QH:102:ARG:H	8:QH:102:ARG:HG3	1.41	0.47
22:QV:50:U:H2'	22:QV:51:C:C6	2.49	0.47
22:QW:36:U:H2'	22:QW:37:A:C8	2.49	0.47
25:RA:971:C:O2'	25:RA:983:A:N3	2.44	0.47
25:RA:1174:A:H62	25:RA:1177:A:H4'	1.80	0.47
25:RA:1221(A):C:C2	25:RA:1229:G:C2	3.03	0.47
26:RB:7:G:N2	38:RS:38:GLN:OE1	2.39	0.47
27:RD:92:ILE:HD12	27:RD:104:TYR:CD2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:RD:131:LEU:HB2	27:RD:136:ILE:HD11	1.97	0.47
36:RQ:21:THR:OG1	36:RQ:23:GLY:O	2.32	0.47
43:RX:40:LYS:HG3	43:RX:51:VAL:HB	1.97	0.47
1:XA:975:A:H61	10:XJ:48:THR:HB	1.78	0.47
1:XA:1327:C:H2'	1:XA:1328:C:C6	2.50	0.47
3:XC:32:LEU:HD22	3:XC:59:ARG:NH1	2.30	0.47
3:XC:116:VAL:HG21	3:XC:202:ILE:HD11	1.96	0.47
7:XG:18:TYR:HD2	7:XG:59:LEU:HD22	1.79	0.47
9:XI:117:HIS:CD2	9:XI:123:PRO:HA	2.49	0.47
25:YA:264:C:O2'	25:YA:265:A:H2'	2.14	0.47
25:YA:859:G:O2'	25:YA:860:U:P	2.72	0.47
25:YA:1427:A:H4'	25:YA:1428:C:O5'	2.13	0.47
25:YA:1544:C:O2	25:YA:1544:C:C2'	2.62	0.47
25:YA:2405:G:OP1	35:YP:77:ARG:NH2	2.46	0.47
27:YD:34:VAL:C	27:YD:35:LYS:HG3	2.40	0.47
28:YE:120:TRP:CD2	28:YE:155:LYS:HD3	2.48	0.47
29:YF:4:VAL:HG11	29:YF:17:ARG:HE	1.78	0.47
31:YH:9:ILE:HG23	31:YH:51:ARG:HA	1.95	0.47
33:YN:95:PRO:O	33:YN:98:VAL:HG22	2.14	0.47
35:YP:84:ASN:HA	35:YP:115:LEU:O	2.14	0.47
38:YS:3:ARG:HD3	38:YS:4:LEU:HB2	1.96	0.47
48:Y2:15:LYS:HE3	48:Y2:67:LYS:HE2	1.95	0.47
1:QA:1147:C:H2'	9:QI:16:ARG:HD3	1.95	0.47
1:QA:1166:G:N2	1:QA:1170:A:OP2	2.44	0.47
11:QK:22:HIS:HB3	11:QK:29:ILE:HG12	1.97	0.47
12:QL:127:GLU:O	12:QL:129:ALA:N	2.48	0.47
25:RA:389:G:H22	35:RP:72:PRO:HD3	1.79	0.47
25:RA:774:A:H2	25:RA:787:U:O2'	1.97	0.47
25:RA:859:G:O2'	25:RA:860:U:C6	2.67	0.47
25:RA:1198:U:H2'	25:RA:1199:U:C6	2.50	0.47
25:RA:2481:G:O2'	25:RA:2482:G:O5'	2.30	0.47
25:RA:2689:U:H4'	25:RA:2690:C:H5'	1.96	0.47
36:RQ:83:MET:HB2	46:R0:7:LEU:HD13	1.96	0.47
52:R6:9:LEU:HD22	52:R6:10:LEU:H	1.80	0.47
1:XA:719:C:O2'	18:XR:49:LYS:HB3	2.14	0.47
1:XA:1118:C:H2'	1:XA:1119:C:C6	2.50	0.47
1:XA:1137:C:H5'	1:XA:1138:G:C4	2.49	0.47
1:XA:1403:C:H1'	1:XA:1500:A:N1	2.29	0.47
10:XJ:56:HIS:O	10:XJ:57:LYS:C	2.57	0.47
25:YA:270(E):G:H1	25:YA:270(U):C:H42	1.61	0.47
25:YA:468:G:N7	53:Y7:39:ARG:NH2	2.56	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1688:U:O2	25:YA:1700:A:H5'	2.14	0.47
25:YA:1882:C:H5'	25:YA:1883:G:OP2	2.15	0.47
25:YA:2155:G:H2'	25:YA:2156:G:O4'	2.14	0.47
26:YB:45:A:OP2	30:YG:96:ARG:NH1	2.46	0.47
38:YS:7:TYR:CZ	38:YS:91:PRO:HG3	2.49	0.47
40:YU:100:VAL:C	40:YU:102:GLU:H	2.22	0.47
41:YV:85:LYS:HD2	41:YV:86:GLY:H	1.79	0.47
1:QA:1008:C:H3'	1:QA:1009:G:H5''	1.95	0.47
1:QA:1347:G:H4'	1:QA:1348:U:H6	1.79	0.47
2:QB:97:TRP:CH2	2:QB:173:ALA:HA	2.50	0.47
9:QI:28:VAL:HG22	9:QI:29:ASN:N	2.30	0.47
13:QM:118:ALA:HB2	22:QV:29:G:H5'	1.96	0.47
22:QW:20:U:H3'	22:QW:21:A:H5''	1.94	0.47
25:RA:551:G:O2'	25:RA:1220:A:N3	2.41	0.47
25:RA:2786:U:C5'	28:RE:66:HIS:HD2	2.27	0.47
33:RN:39:ARG:HH21	33:RN:41:ASP:CB	2.27	0.47
35:RP:14:LYS:C	35:RP:16:ARG:N	2.73	0.47
38:RS:108:GLY:O	38:RS:110:LEU:N	2.48	0.47
41:RV:85:LYS:HG3	41:RV:87:HIS:N	2.29	0.47
1:XA:620:C:C2	4:XD:135:LEU:HG	2.49	0.47
1:XA:836:G:OP1	18:XR:61:LYS:NZ	2.46	0.47
1:XA:908:A:H2'	1:XA:909:A:H8	1.78	0.47
3:XC:76:VAL:HG13	3:XC:84:ILE:HG13	1.97	0.47
10:XJ:30:SER:OG	10:XJ:81:THR:HG22	2.15	0.47
21:XU:9:ARG:HH21	21:XU:10:ARG:HH21	1.61	0.47
25:YA:491:G:H2'	25:YA:492:A:C8	2.49	0.47
25:YA:576:U:H2'	25:YA:577:G:C8	2.49	0.47
25:YA:1869:G:H5'	25:YA:1870:C:OP2	2.14	0.47
25:YA:2591:C:H2'	25:YA:2592:G:H8	1.78	0.47
29:YF:157:VAL:HB	29:YF:194:MET:HB3	1.97	0.47
30:YG:107:LEU:HD11	30:YG:178:PHE:CE1	2.49	0.47
33:YN:93:THR:HB	33:YN:94:HIS:CE1	2.50	0.47
38:YS:30:ARG:HH21	38:YS:92:TYR:HD1	1.63	0.47
45:YZ:127:LYS:O	45:YZ:162:GLU:HG2	2.14	0.47
46:Y0:24:LYS:C	46:Y0:25:ARG:HD2	2.40	0.47
52:Y6:42:TRP:HD1	52:Y6:44:ARG:HG2	1.79	0.47
1:QA:204:U:O2'	1:QA:216:G:O4'	2.31	0.47
1:QA:323:U:H2'	1:QA:324:G:O4'	2.15	0.47
1:QA:411:A:N6	1:QA:413:G:H21	2.13	0.47
1:QA:1226:C:OP2	13:QM:103:THR:OG1	2.30	0.47
1:QA:1237:C:O2'	1:QA:1300:G:N2	2.41	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1304:G:N1	1:QA:1332:A:OP2	2.42	0.47
4:QD:33:MET:HE3	4:QD:37:PRO:HA	1.97	0.47
5:QE:101:ILE:HD11	5:QE:119:LEU:HD23	1.97	0.47
10:QJ:49:VAL:HG22	14:QN:41:ARG:HB2	1.95	0.47
10:QJ:54:PHE:CG	10:QJ:55:LYS:N	2.83	0.47
22:QW:19:G:C6	25:RA:2112:G:C2	3.03	0.47
22:QW:56:C:H2'	22:QW:57:A:C8	2.50	0.47
25:RA:49:A:H4'	25:RA:50:U:H5''	1.97	0.47
25:RA:264:C:O2'	25:RA:265:A:H2'	2.15	0.47
25:RA:582:G:H2'	25:RA:583:G:C8	2.50	0.47
25:RA:708:C:H42	25:RA:723:G:H1	1.63	0.47
25:RA:876:C:H2'	25:RA:877:U:O4'	2.15	0.47
25:RA:931:G:H4'	49:R3:24:LYS:HE3	1.95	0.47
25:RA:1416:G:H2'	25:RA:1417:C:C6	2.49	0.47
25:RA:1766:U:H2'	25:RA:1767:C:H6	1.80	0.47
25:RA:2150:U:H2'	25:RA:2151:G:C8	2.49	0.47
25:RA:2286:A:H8	25:RA:2287:A:N6	2.13	0.47
25:RA:2307:G:H8	25:RA:2307:G:OP1	1.97	0.47
25:RA:2756:U:OP2	55:R9:19:ARG:NE	2.46	0.47
26:RB:79:C:H2'	26:RB:80:U:O4'	2.14	0.47
27:RD:260:ARG:NH1	27:RD:267:SER:OG	2.48	0.47
28:RE:35:GLN:HE22	28:RE:37:ARG:NH2	2.12	0.47
28:RE:73:GLU:HG3	28:RE:74:PRO:HD2	1.95	0.47
28:RE:111:ARG:HA	37:RR:2:ARG:NH1	2.29	0.47
30:RG:94:LEU:HD12	30:RG:99:MET:HA	1.95	0.47
31:RH:32:GLU:HG2	31:RH:34:GLU:H	1.80	0.47
31:RH:76:VAL:O	31:RH:79:VAL:HG22	2.14	0.47
32:RI:2:LYS:HB2	32:RI:39:ALA:HB3	1.97	0.47
45:RZ:118:GLN:HE21	45:RZ:174:VAL:HA	1.78	0.47
45:RZ:130:PRO:O	45:RZ:133:ILE:HD11	2.14	0.47
49:R3:38:GLU:HB3	49:R3:40:THR:HG23	1.97	0.47
1:XA:181:G:O2'	1:XA:182:U:O5'	2.28	0.47
1:XA:598:U:H4'	8:XH:94:TYR:CD2	2.49	0.47
1:XA:1126:U:O2	1:XA:1280:A:H5''	2.15	0.47
1:XA:1205:U:H4'	3:XC:195:VAL:HG21	1.96	0.47
2:XB:21:ARG:HA	2:XB:39:ILE:H	1.78	0.47
2:XB:82:ARG:HB3	2:XB:94:ASN:ND2	2.29	0.47
7:XG:47:CYS:HB3	7:XG:58:PRO:HG3	1.96	0.47
10:XJ:48:THR:HG22	10:XJ:60:ARG:HD2	1.97	0.47
23:XX:12:A:H5'	23:XX:13:A:OP2	2.15	0.47
25:YA:137(A):G:H1	25:YA:141(A):C:H42	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:196:A:O2'	25:YA:805:G:O6	2.22	0.47
25:YA:483:A:C5'	44:YY:49:VAL:HA	2.45	0.47
25:YA:873:G:O2'	36:YQ:63:LYS:NZ	2.48	0.47
25:YA:2120:G:H1	25:YA:2178:C:H42	1.62	0.47
25:YA:2298:A:H2'	25:YA:2299:G:O4'	2.13	0.47
25:YA:2683:C:OP1	39:YT:53:ARG:NH2	2.47	0.47
27:YD:68:LYS:HB2	27:YD:70:TRP:CE2	2.49	0.47
30:YG:15:VAL:HG21	30:YG:176:LEU:HD23	1.96	0.47
31:YH:54:ARG:HD3	31:YH:54:ARG:H	1.80	0.47
31:YH:150:ALA:O	31:YH:152:ARG:N	2.47	0.47
33:YN:14:VAL:HA	33:YN:135:PRO:HD2	1.96	0.47
34:YO:87:ILE:HG21	34:YO:91:LEU:HD13	1.95	0.47
38:YS:10:ARG:O	38:YS:14:VAL:HG12	2.15	0.47
45:YZ:119:GLU:OE1	45:YZ:122:ARG:NH2	2.44	0.47
46:Y0:4:LYS:HB2	46:Y0:5:LYS:HA	1.96	0.47
46:Y0:27:GLU:HB2	46:Y0:69:PHE:HD1	1.80	0.47
47:Y1:51:VAL:HG11	47:Y1:74:VAL:HG21	1.97	0.47
50:Y4:46:GLN:HE21	50:Y4:48:ARG:HD3	1.80	0.47
1:QA:258:G:H2'	1:QA:259:G:C8	2.49	0.47
1:QA:648:A:H2'	1:QA:649:G:H8	1.79	0.47
1:QA:657:G:H4'	15:QO:28:GLN:HG2	1.97	0.47
17:QQ:59:ILE:HG23	17:QQ:71:PHE:HB3	1.97	0.47
19:QS:64:GLU:C	19:QS:66:MET:H	2.22	0.47
25:RA:85:G:O2'	25:RA:103:A:N1	2.40	0.47
25:RA:271(L):U:H5''	25:RA:271(M):G:C2	2.50	0.47
25:RA:1790:C:H5''	25:RA:1791:A:OP1	2.14	0.47
25:RA:1794:U:H1'	25:RA:1900:A:N3	2.30	0.47
28:RE:116:VAL:O	28:RE:117:MET:HB3	2.14	0.47
35:RP:59:LEU:CD1	54:R8:56:GLU:HG3	2.32	0.47
1:XA:142:G:H2'	1:XA:143:A:C8	2.50	0.47
1:XA:1219:U:OP1	14:XN:19:ARG:NH1	2.46	0.47
5:XE:80:ILE:HD11	5:XE:138:ALA:HB1	1.97	0.47
9:XI:28:VAL:HG11	9:XI:63:ILE:H	1.79	0.47
17:XQ:41:LYS:HB2	17:XQ:41:LYS:HE3	1.66	0.47
25:YA:141:A:C8	25:YA:1408:C:H1'	2.50	0.47
25:YA:1168:G:H2'	25:YA:1169:G:C8	2.50	0.47
25:YA:1711:C:H2'	25:YA:1712:C:C6	2.50	0.47
28:YE:111:ARG:HA	37:YR:2:ARG:HH12	1.79	0.47
32:YI:69:LYS:HG2	32:YI:136:VAL:HB	1.97	0.47
34:YO:98:VAL:HG22	34:YO:118:ALA:HA	1.96	0.47
50:Y4:39:CYS:O	50:Y4:40:HIS:ND1	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:Y6:9:LEU:HD22	52:Y6:10:LEU:H	1.80	0.47
1:QA:201:C:O2'	1:QA:202:U:OP1	2.30	0.47
1:QA:559:A:H4'	1:QA:560:U:H5''	1.96	0.47
1:QA:692:U:O2'	1:QA:694:A:N7	2.39	0.47
5:QE:11:ILE:HG21	5:QE:105:VAL:HG22	1.97	0.47
9:QI:37:PHE:CE2	9:QI:70:LYS:HG3	2.50	0.47
10:QJ:50:ILE:HA	10:QJ:60:ARG:HB3	1.97	0.47
25:RA:252:G:P	35:RP:50:ARG:NH2	2.88	0.47
25:RA:627:A:H4'	25:RA:628:G:H5'	1.96	0.47
25:RA:1523:U:H2'	25:RA:1524:G:C8	2.50	0.47
25:RA:1930:G:O2'	25:RA:1931:U:OP2	2.30	0.47
35:RP:65:ARG:HH22	54:R8:23:VAL:HG12	1.79	0.47
37:RR:55:ALA:HB2	37:RR:79:LEU:HD13	1.96	0.47
40:RU:95:LEU:HD13	41:RV:4:ILE:HG13	1.96	0.47
45:RZ:126:VAL:HB	45:RZ:161:VAL:HG13	1.97	0.47
48:R2:47:ASN:HB2	48:R2:48:HIS:H	1.56	0.47
49:R3:40:THR:OG1	49:R3:43:ILE:HG12	2.15	0.47
1:XA:618:C:H5'	1:XA:619:U:H5''	1.97	0.47
1:XA:881:G:P	12:XL:12:ARG:HH22	2.37	0.47
1:XA:1191:A:C5'	3:XC:4:LYS:CE	2.87	0.47
14:YN:23:ARG:HD2	14:YN:28:GLY:O	2.14	0.47
18:XR:22:VAL:HG22	18:XR:23:LYS:H	1.80	0.47
25:YA:270(N):G:O2'	25:YA:270(P):C:H5''	2.13	0.47
25:YA:471:A:H2'	25:YA:472:A:O4'	2.14	0.47
25:YA:1225:C:O3'	41:YV:85:LYS:HD3	2.15	0.47
25:YA:1357:U:H2'	25:YA:1358:G:O4'	2.15	0.47
25:YA:1424:G:H2'	25:YA:1425:G:O4'	2.14	0.47
25:YA:1465:G:H5'	25:YA:1528:A:O2'	2.15	0.47
25:YA:2732:G:H3'	25:YA:2733:A:O4'	2.15	0.47
35:YP:15:ARG:O	35:YP:17:LYS:N	2.48	0.47
40:YU:81:HIS:HD2	40:YU:84:LYS:HD3	1.79	0.47
42:YW:94:ASP:OD1	42:YW:94:ASP:N	2.47	0.47
50:Y4:23:GLU:O	50:Y4:25:TYR:N	2.47	0.47
1:QA:60:A:H4'	1:QA:61:G:O5'	2.15	0.47
1:QA:224:C:H2'	1:QA:225:C:C6	2.50	0.47
1:QA:790:A:OP1	22:QV:38:A:O2'	2.28	0.47
1:QA:1442(A):G:N7	39:RT:118:ARG:HB3	2.30	0.47
17:QQ:40:LYS:HD3	17:QQ:42:TYR:CZ	2.50	0.47
20:QT:29:LYS:O	20:QT:33:ILE:HG12	2.15	0.47
25:RA:38:A:H2'	25:RA:39:C:C6	2.50	0.47
25:RA:1722:A:N7	25:RA:1740:G:N1	2.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2827:C:H5'	25:RA:2828:C:OP2	2.15	0.47
27:RD:44:ASN:HB2	27:RD:48:ARG:O	2.15	0.47
28:RE:78:LEU:CD2	28:RE:79:ARG:CD	2.83	0.47
34:RO:76:ALA:HB3	39:RT:75:ILE:HB	1.96	0.47
9:XI:28:VAL:HG22	9:XI:29:ASN:H	1.78	0.47
9:XI:43:ALA:HA	9:XI:74:ILE:HD13	1.97	0.47
17:XQ:21:VAL:HG21	17:XQ:59:ILE:HD11	1.97	0.47
19:XS:45:VAL:O	19:XS:47:HIS:N	2.44	0.47
25:YA:1916:A:H5'	25:YA:1917:U:OP2	2.14	0.47
25:YA:2056:G:H22	51:Y5:4:HIS:C	2.23	0.47
27:YD:35:LYS:HD3	27:YD:63:ARG:HG3	1.97	0.47
31:YH:9:ILE:CB	31:YH:10:PRO:HA	2.44	0.47
32:YI:9:LEU:HD11	32:YI:12:LEU:HD22	1.97	0.47
1:QA:1005:A:H3'	1:QA:1006:C:O4'	2.14	0.46
1:QA:1053:G:N7	1:QA:1200:C:H5''	2.29	0.46
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.50	0.46
1:QA:1491:G:N2	25:RA:1913:A:N6	2.60	0.46
13:QM:23:TYR:CG	13:QM:71:ARG:HD2	2.50	0.46
22:QW:37:A:H2'	22:QW:38:A:O4'	2.15	0.46
25:RA:978:G:C2	25:RA:986:C:C2	3.03	0.46
25:RA:2439:A:H3'	25:RA:2439:A:P	2.55	0.46
25:RA:2593:U:H2'	25:RA:2594:C:C6	2.50	0.46
28:RE:79:ARG:NH1	28:RE:164:ARG:NH1	2.63	0.46
29:RF:192:LEU:HD23	29:RF:193:VAL:N	2.29	0.46
44:RY:76:CYS:SG	44:RY:77:PRO:HD3	2.44	0.46
47:R1:70:VAL:O	47:R1:74:VAL:HG23	2.15	0.46
52:R6:30:THR:HA	52:R6:31:PRO:C	2.40	0.46
1:XA:703:G:H4'	1:XA:704:A:O5'	2.15	0.46
1:XA:779:C:H2'	1:XA:780:A:O4'	2.15	0.46
1:XA:1305:G:H5'	21:XU:4:GLY:HA3	1.96	0.46
7:XG:104:LEU:HD13	7:XG:104:LEU:HA	1.81	0.46
8:XH:20:TYR:HE2	8:XH:75:ARG:HD2	1.80	0.46
9:XI:2:GLU:HG3	9:XI:3:GLN:H	1.79	0.46
19:XS:19:VAL:HG22	19:XS:44:MET:SD	2.55	0.46
25:YA:817:C:H4'	25:YA:932:G:C6	2.51	0.46
25:YA:1779:U:OP2	25:YA:1784:A:N6	2.45	0.46
25:YA:2115:G:OP1	25:YA:2167:U:N3	2.32	0.46
25:YA:2396:G:H4'	47:Y1:30:VAL:H	1.80	0.46
25:YA:2404:C:C1'	35:YP:67:MET:HE1	2.38	0.46
25:YA:2584:U:O2	25:YA:2584:U:O4'	2.30	0.46
25:YA:2865:U:H5''	25:YA:2866:U:H2'	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YB:116:G:H4'	38:YS:54:LEU:HD13	1.97	0.46
28:YE:11:MET:HA	28:YE:24:THR:HA	1.96	0.46
29:YF:61:GLY:C	29:YF:77:ASP:HB3	2.40	0.46
38:YS:71:ARG:NH1	38:YS:106:ARG:HH21	2.13	0.46
45:YZ:111:VAL:O	45:YZ:113:ALA:N	2.42	0.46
1:QA:473:G:OP2	16:QP:75:ARG:NH1	2.48	0.46
1:QA:543:C:OP1	4:QD:14:ARG:NE	2.49	0.46
4:QD:195:ALA:HB2	6:XF:20:ALA:HB2	1.98	0.46
11:QK:34:ASP:HB3	11:QK:40:ILE:HD11	1.96	0.46
25:RA:18:C:O2'	25:RA:554:U:OP1	2.30	0.46
25:RA:626:U:O4	35:RP:107:LYS:HD3	2.16	0.46
25:RA:1476:C:H2'	25:RA:1477:A:C8	2.50	0.46
26:RB:44:G:O2'	26:RB:47:C:N4	2.48	0.46
35:RP:65:ARG:HE	54:R8:15:LYS:HB2	1.80	0.46
39:RT:95:ARG:O	39:RT:96:ARG:HB2	2.16	0.46
42:RW:13:SER:HB3	42:RW:16:LYS:HD2	1.98	0.46
1:XA:1057:G:H2'	1:XA:1058:G:O4'	2.14	0.46
1:XA:1379:G:O6	7:XG:3:ARG:HD2	2.15	0.46
25:YA:2267:A:H5''	25:YA:2268:A:H5'	1.97	0.46
25:YA:2646:C:N4	25:YA:2732:G:N1	2.64	0.46
27:YD:43:ARG:NH1	27:YD:44:ASN:HD21	2.13	0.46
29:YF:23:ASP:OD2	29:YF:203:GLN:NE2	2.47	0.46
31:YH:22:GLY:C	31:YH:37:VAL:HB	2.39	0.46
31:YH:41:MET:HE3	31:YH:64:LEU:HB2	1.97	0.46
36:YQ:35:VAL:CG1	36:YQ:130:LYS:HB3	2.45	0.46
39:YT:74:ARG:HD3	39:YT:76:PHE:CE2	2.50	0.46
44:YY:88:LYS:C	44:YY:90:LEU:H	2.21	0.46
52:Y6:27:LYS:HE2	52:Y6:27:LYS:HB2	1.23	0.46
3:QC:32:LEU:O	3:QC:36:ASP:HB2	2.15	0.46
10:QJ:40:LEU:HB3	10:QJ:69:ASN:HB2	1.98	0.46
18:QR:32:ARG:HA	18:QR:69:THR:HG21	1.97	0.46
25:RA:848:G:O6	25:RA:928:G:H2'	2.15	0.46
25:RA:1224:C:C4'	41:RV:85:LYS:HB2	2.29	0.46
25:RA:1312:U:OP2	43:RX:63:LYS:HD3	2.15	0.46
25:RA:2577:A:H5''	25:RA:2578:G:H5'	1.97	0.46
28:RE:35:GLN:HG3	28:RE:64:LYS:NZ	2.30	0.46
30:RG:142:PRO:HB2	50:R4:31:ILE:HD12	1.96	0.46
43:RX:63:LYS:H	43:RX:63:LYS:CE	2.28	0.46
44:RY:81:LYS:HD3	44:RY:97:ARG:CZ	2.45	0.46
47:R1:94:LEU:HD23	47:R1:94:LEU:H	1.80	0.46
1:XA:316:G:P	1:XA:351:G:O2'	2.74	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:865:A:H2	1:XA:918:A:H4'	1.80	0.46
25:YA:6:A:C2	25:YA:7:G:C8	3.03	0.46
25:YA:606:U:H4'	25:YA:658:C:H4'	1.96	0.46
25:YA:861:A:N3	26:YB:79:C:O2'	2.44	0.46
25:YA:1206:G:C6	25:YA:1207:C:C4	3.04	0.46
25:YA:2855:C:H2'	25:YA:2856:C:H6	1.80	0.46
27:YD:102:LYS:C	27:YD:103:ARG:HG2	2.41	0.46
32:YI:7:GLU:HG3	32:YI:8:PRO:HD2	1.96	0.46
1:QA:41:G:H2'	1:QA:42:G:C8	2.49	0.46
1:QA:716:A:N6	1:QA:717:C:N4	2.64	0.46
3:QC:157:ILE:HD12	3:QC:164:ARG:HB3	1.97	0.46
20:QT:26:ASN:HB2	20:QT:71:THR:HG23	1.98	0.46
22:QW:8:U:O4'	22:QW:48:C:O2'	2.33	0.46
25:RA:570:G:H2'	25:RA:2030:A:C5	2.49	0.46
25:RA:593:G:O4'	54:R8:4:MET:HE1	2.15	0.46
25:RA:994:C:OP1	40:RU:53:ARG:NH2	2.48	0.46
25:RA:2811:G:N2	25:RA:2891:G:H1'	2.31	0.46
29:RF:122:LYS:HD2	29:RF:191:ARG:HG2	1.97	0.46
34:RO:120:GLU:OE1	39:RT:67:SER:OG	2.32	0.46
40:RU:92:ARG:HH22	41:RV:11:GLN:N	2.14	0.46
44:RY:4:LYS:HE2	44:RY:4:LYS:HA	1.96	0.46
47:R1:91:LYS:C	47:R1:93:GLU:H	2.23	0.46
1:XA:21:G:H2'	1:XA:22:G:C8	2.50	0.46
1:XA:953:G:H2'	1:XA:954:G:O4'	2.15	0.46
4:XD:18:LYS:HE2	4:XD:20:TYR:CE2	2.51	0.46
6:XF:61:LEU:HB3	6:XF:63:TYR:HE2	1.79	0.46
19:XS:44:MET:HG2	19:XS:47:HIS:CE1	2.50	0.46
25:YA:248:G:H5'	25:YA:250:G:N7	2.31	0.46
25:YA:826:U:H2'	25:YA:828:U:O4'	2.15	0.46
25:YA:848:G:H2'	25:YA:849:A:C8	2.50	0.46
25:YA:1125:G:C6	25:YA:1126:A:N6	2.83	0.46
25:YA:2749:A:H4'	31:YH:62:LYS:HD3	1.97	0.46
27:YD:43:ARG:HD2	27:YD:44:ASN:OD1	2.15	0.46
28:YE:14:ILE:HD11	28:YE:173:VAL:HG11	1.97	0.46
41:YV:35:LEU:HB2	41:YV:37:VAL:HG13	1.96	0.46
1:QA:565:U:OP2	1:QA:566:G:O2'	2.33	0.46
1:QA:1256:A:OP2	3:QC:26:LYS:NZ	2.37	0.46
13:QM:93:ARG:HD3	13:QM:93:ARG:HA	1.53	0.46
25:RA:779:U:OP1	27:RD:49:ILE:HG23	2.16	0.46
25:RA:1518:U:H2'	25:RA:1519:G:O4'	2.16	0.46
25:RA:2446:G:O2'	25:RA:2448:A:H5''	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RB:15:A:H5'	26:RB:16:G:C8	2.51	0.46
34:RO:8:LEU:HB2	34:RO:19:ILE:HG13	1.96	0.46
35:RP:65:ARG:O	35:RP:68:GLN:NE2	2.41	0.46
40:RU:98:LEU:C	40:RU:100:VAL:N	2.74	0.46
1:XA:858:G:O6	1:XA:869:G:H3'	2.15	0.46
1:XA:908:A:H2'	1:XA:909:A:C8	2.50	0.46
1:XA:946:A:H2'	1:XA:947:G:C8	2.50	0.46
1:XA:977:A:O2'	1:XA:981:U:N3	2.46	0.46
1:XA:1001(A):G:H4'	1:XA:1001(A):G:OP1	2.14	0.46
1:XA:1426:C:H2'	1:XA:1427:U:C6	2.51	0.46
22:XW:23:C:H2'	22:XW:24:U:C6	2.50	0.46
25:YA:252:G:OP2	35:YP:50:ARG:NH2	2.48	0.46
25:YA:708:C:H42	25:YA:723:G:H1	1.62	0.46
25:YA:754:C:H2'	25:YA:755:C:C6	2.50	0.46
25:YA:1053:C:H42	25:YA:1106:G:H1	1.62	0.46
25:YA:1301:A:O2'	25:YA:1302:A:H3'	2.15	0.46
30:YG:83:ARG:N	30:YG:86:MET:HG3	2.30	0.46
33:YN:9:VAL:HG11	33:YN:39:ARG:HH22	1.80	0.46
35:YP:46:LYS:HG2	35:YP:51:PHE:CG	2.50	0.46
40:YU:24:TYR:HB2	40:YU:29:SER:HB3	1.97	0.46
46:Y0:12:ASN:HA	46:Y0:14:ARG:HH21	1.79	0.46
51:Y5:41:PRO:O	51:Y5:44:THR:OG1	2.23	0.46
1:QA:160:A:H2'	1:QA:161:A:O4'	2.14	0.46
1:QA:518:C:H2'	1:QA:530:G:C8	2.50	0.46
1:QA:1237:C:H2'	1:QA:1238:A:OP1	2.16	0.46
2:QB:194:PRO:O	2:QB:197:VAL:N	2.48	0.46
7:QG:86:GLN:HE22	22:QW:31:G:H21	1.57	0.46
12:QL:47:LYS:HB3	12:QL:48:PRO:CD	2.44	0.46
19:QS:5:LEU:H	19:QS:5:LEU:HD12	1.80	0.46
22:QW:18:G:H4'	22:QW:60:U:C2	2.50	0.46
25:RA:492:A:H2'	25:RA:493:G:O4'	2.14	0.46
25:RA:1342:A:H2	25:RA:1602:U:N3	2.04	0.46
25:RA:1754:C:H2'	25:RA:1755:A:C8	2.51	0.46
25:RA:1991:U:H2'	25:RA:1992:G:H5''	1.98	0.46
25:RA:2022:U:O2'	25:RA:2617:C:H5'	2.15	0.46
26:RB:89:G:H2'	26:RB:89(A):A:C8	2.50	0.46
27:RD:77:ALA:HB2	27:RD:97:TYR:CD2	2.50	0.46
28:RE:35:GLN:HB2	28:RE:48:GLN:HB2	1.97	0.46
41:RV:30:GLY:H	41:RV:61:VAL:CG1	2.29	0.46
45:RZ:59:LEU:HD12	45:RZ:60:GLU:C	2.41	0.46
1:XA:598:U:H2'	1:XA:599:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:620:C:H2'	1:XA:621:A:O4'	2.15	0.46
1:XA:1256:A:OP2	3:XC:26:LYS:NZ	2.39	0.46
25:YA:674:G:O2'	29:YF:74:ARG:HG3	2.16	0.46
25:YA:1935:G:H1'	25:YA:1964:G:N2	2.31	0.46
30:YG:171:ALA:O	30:YG:175:LEU:HG	2.15	0.46
53:Y7:5:TRP:NE1	53:Y7:7:PRO:HG3	2.31	0.46
1:QA:31:G:O2'	1:QA:48:C:N4	2.48	0.46
1:QA:216:G:H2'	1:QA:217:C:C6	2.51	0.46
1:QA:313:A:H2'	1:QA:314:C:C6	2.51	0.46
1:QA:675:A:H1'	11:QK:116:HIS:NE2	2.31	0.46
2:QB:91:PRO:HA	2:QB:154:LEU:HD11	1.97	0.46
19:QS:36:ARG:NH1	19:QS:73:GLU:H	2.14	0.46
25:RA:580:C:H2'	25:RA:581:C:C6	2.51	0.46
25:RA:1024:G:H8	25:RA:1024:G:O5'	1.98	0.46
31:RH:38:SER:O	31:RH:40:GLU:N	2.49	0.46
35:RP:98:GLU:HA	35:RP:101:VAL:HG12	1.98	0.46
40:RU:92:ARG:HH22	41:RV:10:LYS:HA	1.79	0.46
54:R8:16:ILE:HD11	54:R8:60:LEU:HD12	1.98	0.46
1:XA:160:A:H2'	1:XA:161:A:O4'	2.16	0.46
1:XA:412:A:C6	4:XD:35:ARG:HG2	2.51	0.46
1:XA:1515:C:H2'	1:XA:1516:G:C8	2.50	0.46
17:XQ:58:GLU:O	17:XQ:74:LEU:N	2.46	0.46
22:XW:9:G:N7	22:XW:23:C:N4	2.63	0.46
25:YA:117:G:H4'	53:Y7:18:PHE:CE2	2.50	0.46
25:YA:121:G:H4'	25:YA:149:A:H5'	1.97	0.46
25:YA:289:A:H5'	25:YA:290:G:OP2	2.16	0.46
25:YA:1012:U:O4	33:YN:25:ARG:HA	2.15	0.46
28:YE:134:ILE:N	28:YE:134:ILE:CD1	2.78	0.46
35:YP:12:ALA:C	35:YP:14:LYS:H	2.23	0.46
35:YP:57:THR:HG23	35:YP:60:MET:HB2	1.97	0.46
42:YW:58:ALA:HB1	42:YW:64:MET:HB2	1.98	0.46
4:QD:22:LYS:O	4:QD:113:SER:HB2	2.16	0.46
22:QW:9:G:N2	22:QW:45:G:N7	2.64	0.46
22:QW:26:G:H1	22:QW:44:A:H61	1.64	0.46
25:RA:128:C:O2'	25:RA:129:C:OP1	2.30	0.46
25:RA:623:G:H2'	25:RA:624:C:C6	2.51	0.46
25:RA:639:U:H2'	25:RA:640:C:C6	2.51	0.46
25:RA:857:C:H1'	46:R0:26:TYR:CE2	2.49	0.46
25:RA:1268:A:C2	25:RA:1269:A:H1'	2.51	0.46
26:RB:30:C:H1'	26:RB:57:A:H61	1.81	0.46
32:RI:76:THR:H	32:RI:77:LEU:HD23	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RO:2:ILE:HG21	34:RO:8:LEU:HD21	1.98	0.46
38:RS:26:LEU:HD22	38:RS:87:PHE:HD1	1.81	0.46
50:R4:58:ARG:O	50:R4:62:ARG:N	2.49	0.46
1:XA:1060:C:H3'	3:XC:3:ASN:HD21	1.80	0.46
1:XA:1495:U:O2'	25:YA:1919:A:N1	2.39	0.46
13:XM:73:GLU:OE1	13:XM:77:ASN:ND2	2.48	0.46
25:YA:99:U:O2	25:YA:102:G:N1	2.49	0.46
25:YA:363(B):G:H2'	25:YA:363(C):G:H8	1.80	0.46
25:YA:443:A:N7	29:YF:45:ARG:HG3	2.31	0.46
27:YD:27:THR:O	27:YD:28:GLU:HB2	2.15	0.46
31:YH:7:LEU:HD13	31:YH:69:ARG:CB	2.46	0.46
32:YI:12:LEU:HG	32:YI:19:VAL:HG11	1.97	0.46
34:YO:88:ASN:OD1	34:YO:92:GLU:N	2.49	0.46
38:YS:29:PHE:HB3	38:YS:36:TYR:HB2	1.98	0.46
1:QA:354:G:C6	1:QA:355:C:N4	2.84	0.46
11:QK:116:HIS:O	11:QK:117:ASN:HB2	2.15	0.46
19:QS:33:THR:OG1	19:QS:34:TRP:N	2.48	0.46
24:QY:33:ARG:O	24:QY:37:ILE:HG13	2.16	0.46
25:RA:443:A:H5''	25:RA:444:C:OP1	2.16	0.46
25:RA:644:A:H4'	25:RA:645:C:C5	2.51	0.46
25:RA:1809:A:H2'	25:RA:1810:A:C8	2.51	0.46
25:RA:2557:G:H2'	25:RA:2558:C:C6	2.51	0.46
28:RE:144:ARG:HB3	28:RE:145:LYS:H	1.44	0.46
42:RW:13:SER:HA	42:RW:14:PRO:HD3	1.83	0.46
52:R6:9:LEU:N	52:R6:27:LYS:HA	2.29	0.46
1:XA:54:C:N4	1:XA:353:A:OP2	2.43	0.46
1:XA:359:U:H2'	1:XA:360:A:H8	1.80	0.46
1:XA:757:U:OP1	1:XA:822:C:O2'	2.28	0.46
10:XJ:45:ARG:HB3	10:XJ:65:LEU:HB3	1.98	0.46
13:XM:14:ARG:HA	13:XM:43:THR:O	2.16	0.46
16:XP:54:GLU:H	16:XP:54:GLU:CD	2.23	0.46
17:XQ:59:ILE:HG22	17:XQ:71:PHE:CD1	2.51	0.46
19:XS:38:SER:HB2	19:XS:39:THR:H	1.63	0.46
25:YA:1075:C:H2'	25:YA:1076:C:C6	2.51	0.46
25:YA:2516:G:C6	25:YA:2517:C:C4	3.04	0.46
25:YA:2757:A:OP1	55:Y9:19:ARG:HA	2.16	0.46
38:YS:59:LYS:HD3	38:YS:60:GLY:H	1.81	0.46
47:Y1:92:LYS:HE2	47:Y1:92:LYS:HB3	1.78	0.46
51:Y5:51:TYR:HB3	51:Y5:52:TYR:H	1.51	0.46
1:QA:7:G:H5'	1:QA:298:A:O4'	2.16	0.46
1:QA:757:U:O2'	1:QA:879:C:O2	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:7:PRO:O	3:QC:11:ARG:NH1	2.49	0.46
3:QC:62:ASP:HA	3:QC:97:LYS:HD2	1.96	0.46
3:QC:71:ALA:HB1	3:QC:109:PRO:HG3	1.97	0.46
6:QF:4:TYR:CE1	6:QF:92:LYS:HG2	2.51	0.46
9:QI:43:ALA:HA	9:QI:74:ILE:HD13	1.97	0.46
25:RA:969:U:H2'	25:RA:970:C:C6	2.51	0.46
25:RA:1814:G:C4'	27:RD:51:VAL:HG21	2.46	0.46
26:RB:14:U:H5''	26:RB:71:C:O4'	2.15	0.46
35:RP:37:GLY:O	35:RP:41:ARG:HG2	2.16	0.46
41:RV:50:PRO:C	41:RV:51:VAL:HG23	2.41	0.46
44:RY:96:ILE:HD12	44:RY:98:VAL:HG12	1.96	0.46
45:RZ:150:LEU:O	45:RZ:155:LEU:HD21	2.16	0.46
54:R8:54:GLU:O	54:R8:57:ARG:N	2.40	0.46
1:XA:410:G:H2'	1:XA:429:U:C4	2.51	0.46
1:XA:413:G:N2	1:XA:428:G:H1'	2.31	0.46
1:XA:865:A:C2	1:XA:918:A:H4'	2.51	0.46
1:XA:1235:U:O2'	1:XA:1305:G:O5'	2.34	0.46
1:XA:1337:G:H5''	1:XA:1338:G:OP1	2.16	0.46
11:XK:13:GLN:HE21	11:XK:76:GLY:HA3	1.81	0.46
16:XP:71:ARG:HG3	16:XP:80:PHE:CE1	2.50	0.46
22:XV:54:U:H2'	22:XV:55:U:C5'	2.46	0.46
25:YA:952:G:OP1	36:YQ:16:ARG:NH1	2.40	0.46
25:YA:2183:C:H2'	25:YA:2184:G:C8	2.51	0.46
25:YA:2748:A:H8	31:YH:63:SER:HB3	1.79	0.46
26:YB:80:U:H2'	26:YB:81:G:N2	2.29	0.46
27:YD:27:THR:C	27:YD:29:PRO:HD2	2.40	0.46
35:YP:62:LEU:O	54:Y8:13:ARG:HG2	2.15	0.46
38:YS:17:ARG:HG3	38:YS:17:ARG:NH1	2.28	0.46
40:YU:44:ASN:HD21	41:YV:75:PHE:HB3	1.80	0.46
44:YY:46:LYS:HD3	44:YY:63:LYS:HB3	1.97	0.46
1:QA:1118:C:OP1	9:QI:104:ARG:NH1	2.48	0.45
1:QA:1497:G:O2'	1:QA:1498:U:H5'	2.17	0.45
7:QG:78:ARG:HB3	7:QG:79:ARG:H	1.57	0.45
17:QQ:92:ARG:HA	17:QQ:95:TYR:CE2	2.50	0.45
25:RA:55:G:O2'	25:RA:127:A:N1	2.44	0.45
25:RA:888:C:H4'	25:RA:889:C:H5	1.81	0.45
25:RA:956:G:OP2	36:RQ:14:ARG:NH2	2.46	0.45
25:RA:1999:C:H4'	25:RA:2723:C:O2	2.15	0.45
25:RA:2129:C:H3'	25:RA:2130:U:C5'	2.46	0.45
31:RH:9:ILE:O	31:RH:69:ARG:CD	2.64	0.45
31:RH:86:GLU:H	31:RH:86:GLU:CD	2.24	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RR:78:LYS:O	37:RR:82:GLU:HB3	2.15	0.45
45:RZ:35:ARG:HH12	45:RZ:61:LEU:HD22	1.80	0.45
45:RZ:94:GLU:HG3	45:RZ:129:SER:OG	2.17	0.45
1:XA:176:C:H2'	1:XA:177:C:C6	2.51	0.45
1:XA:501:C:H2'	1:XA:502:G:C8	2.51	0.45
1:XA:1316:G:N2	1:XA:1318:A:H3'	2.31	0.45
8:XH:51:VAL:HG11	8:XH:60:ARG:HH11	1.80	0.45
23:XX:14:A:C2'	23:XX:15:A:H5'	2.46	0.45
25:YA:394:A:C6	25:YA:395:U:C4	3.04	0.45
25:YA:1190:G:H5'	35:YP:32:THR:HA	1.97	0.45
25:YA:2394:C:OP1	35:YP:63:PRO:CD	2.63	0.45
27:YD:43:ARG:NH1	27:YD:44:ASN:ND2	2.64	0.45
30:YG:174:GLU:HG2	30:YG:180:PHE:HD1	1.81	0.45
31:YH:59:ARG:C	31:YH:61:HIS:H	2.23	0.45
39:YT:51:ARG:HG2	39:YT:98:LYS:HE2	1.98	0.45
44:YY:99:CYS:SG	44:YY:100:ALA:N	2.86	0.45
46:Y0:80:HIS:CD2	46:Y0:82:ARG:HH21	2.34	0.45
47:Y1:53:VAL:HB	47:Y1:58:ILE:HD12	1.99	0.45
52:Y6:8:LYS:CG	52:Y6:27:LYS:HG2	2.46	0.45
1:QA:485:G:O2'	1:QA:486:U:O5'	2.33	0.45
1:QA:1457:G:OP1	20:QT:39:LYS:NZ	2.39	0.45
8:QH:23:SER:HB3	8:QH:62:TYR:CD1	2.51	0.45
12:QL:87:GLY:HA2	12:QL:98:TYR:HD2	1.80	0.45
17:QQ:69:LYS:H	17:QQ:70:ARG:HD2	1.81	0.45
21:QU:25:LYS:HG2	21:QU:26:LYS:HG2	1.97	0.45
25:RA:370:G:H4'	25:RA:371:A:OP2	2.16	0.45
25:RA:380:U:H5'	47:R1:18:ILE:HD12	1.98	0.45
25:RA:2286:A:C8	25:RA:2287:A:C6	3.04	0.45
25:RA:2844:G:H3'	25:RA:2845:G:H8	1.81	0.45
27:RD:12:SER:O	27:RD:16:MET:HE3	2.15	0.45
38:RS:39:ILE:HD12	38:RS:85:VAL:HG11	1.99	0.45
38:RS:61:ASN:O	38:RS:65:VAL:N	2.46	0.45
44:RY:28:LYS:O	44:RY:38:ILE:HG23	2.15	0.45
45:RZ:24:LEU:HD22	45:RZ:41:LEU:HD23	1.97	0.45
45:RZ:110:GLY:H	45:RZ:142:SER:HB2	1.80	0.45
54:R8:30:ARG:HG3	54:R8:31:HIS:HB2	1.96	0.45
1:XA:176:C:H2'	1:XA:177:C:H6	1.81	0.45
1:XA:352:C:H2'	1:XA:353:A:OP2	2.16	0.45
1:XA:686:U:O4	1:XA:703:G:H1'	2.16	0.45
1:XA:1069:C:O2'	1:XA:1192:C:H1'	2.16	0.45
1:XA:1386:G:H2'	1:XA:1387:G:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1468:A:H2'	1:XA:1469:G:O4'	2.17	0.45
2:XB:162:ILE:HD11	2:XB:184:VAL:HG22	1.97	0.45
3:XC:161:GLU:O	3:XC:162:GLN:HB2	2.16	0.45
9:XI:16:ARG:O	9:XI:63:ILE:HA	2.16	0.45
25:YA:16:G:H2'	25:YA:17:G:H8	1.82	0.45
25:YA:17:G:H4'	40:YU:25:TRP:CH2	2.51	0.45
25:YA:586:A:N1	25:YA:809:G:O2'	2.34	0.45
25:YA:988:A:H3'	49:Y3:11:SER:OG	2.16	0.45
26:YB:14:U:H5''	26:YB:71:C:O4'	2.16	0.45
31:YH:77:LYS:HD2	31:YH:77:LYS:HA	1.72	0.45
38:YS:4:LEU:HD23	38:YS:8:GLU:HG3	1.97	0.45
1:QA:45:U:H2'	1:QA:46:G:C8	2.51	0.45
1:QA:540:G:H2'	1:QA:541:G:O4'	2.16	0.45
1:QA:760:G:N2	17:QQ:94:ASN:OD1	2.49	0.45
10:QJ:61:GLU:OE2	14:QN:45:ARG:NH1	2.49	0.45
14:QN:23:ARG:HD2	14:QN:28:GLY:O	2.16	0.45
19:QS:11:VAL:HG13	19:QS:39:THR:H	1.81	0.45
25:RA:49:A:H5''	25:RA:51:G:O4'	2.17	0.45
25:RA:128:C:H2'	25:RA:129:C:H6	1.81	0.45
25:RA:574:C:N3	28:RE:145:LYS:NZ	2.63	0.45
25:RA:2286:A:H4'	25:RA:2287:A:O4'	2.17	0.45
28:RE:151:TYR:HD2	28:RE:154:LYS:HZ2	1.64	0.45
29:RF:2:LYS:CB	29:RF:24:LEU:HD12	2.47	0.45
36:RQ:1:MET:HE3	36:RQ:45:GLN:HB3	1.97	0.45
40:RU:50:ARG:HH22	41:RV:72:VAL:HG23	1.80	0.45
1:XA:313:A:H2'	1:XA:314:C:C6	2.51	0.45
2:XB:7:VAL:O	2:XB:217:ARG:NH2	2.48	0.45
7:XG:20:ASP:OD2	7:XG:22:LEU:N	2.49	0.45
14:XN:6:LEU:HD23	14:XN:9:LYS:HD3	1.98	0.45
25:YA:746:A:C5	25:YA:2611:U:H5''	2.51	0.45
25:YA:2849:U:OP1	39:YT:95:ARG:NH1	2.49	0.45
26:YB:114:G:H2'	26:YB:115:G:C8	2.51	0.45
29:YF:25:PRO:HB2	29:YF:26:ALA:H	1.62	0.45
31:YH:7:LEU:HD12	31:YH:65:HIS:CE1	2.51	0.45
31:YH:50:VAL:HG22	31:YH:52:VAL:H	1.81	0.45
34:YO:75:SER:HB2	39:YT:74:ARG:HH12	1.81	0.45
45:YZ:52:SER:O	45:YZ:54:HIS:N	2.49	0.45
52:Y6:12:GLU:CD	52:Y6:12:GLU:H	2.25	0.45
52:Y6:39:TYR:HB3	52:Y6:41:PRO:HD2	1.98	0.45
54:Y8:60:LEU:O	54:Y8:63:PRO:HD2	2.16	0.45
1:QA:1496:C:H2'	1:QA:1497:G:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:177:THR:HG23	3:QC:180:ALA:HB2	1.98	0.45
22:QW:6:G:H2'	22:QW:7:G:H8	1.80	0.45
25:RA:185:U:H2'	25:RA:186:G:C8	2.50	0.45
25:RA:749:C:O2	25:RA:1618:A:H2'	2.16	0.45
25:RA:1762:A:H8	25:RA:1762:A:O5'	1.99	0.45
25:RA:2393:A:H2'	25:RA:2394:C:O4'	2.16	0.45
25:RA:2447:G:O2'	25:RA:2500:U:OP2	2.25	0.45
28:RE:131:ALA:HB1	28:RE:135:HIS:CE1	2.51	0.45
31:RH:159:GLU:HG3	31:RH:170:ARG:NH1	2.31	0.45
35:RP:36:LYS:HB3	35:RP:37:GLY:HA2	1.97	0.45
35:RP:63:PRO:C	35:RP:65:ARG:H	2.24	0.45
41:RV:49:THR:HG22	41:RV:50:PRO:N	2.29	0.45
55:R9:1:MET:SD	55:R9:1:MET:N	2.89	0.45
2:XB:25:ASN:C	2:XB:27:LYS:H	2.24	0.45
25:YA:154:G:H5'	25:YA:155:C:OP2	2.17	0.45
25:YA:724:U:H2'	25:YA:725:G:O4'	2.17	0.45
25:YA:1441:G:O2'	25:YA:1628:G:OP1	2.33	0.45
25:YA:1657:C:H2'	25:YA:1658:C:C6	2.51	0.45
25:YA:1797:C:H4'	27:YD:257:LEU:O	2.16	0.45
25:YA:2030:A:H4'	25:YA:2031:A:C8	2.51	0.45
31:YH:94:TYR:OH	31:YH:153:LYS:HE2	2.16	0.45
32:YI:77:LEU:HB2	32:YI:141:LYS:CB	2.47	0.45
39:YT:104:ASN:O	39:YT:106:SER:N	2.49	0.45
43:YX:67:GLY:O	43:YX:69:TYR:N	2.42	0.45
1:QA:192:U:H2'	1:QA:193:C:H6	1.82	0.45
1:QA:585:G:C6	1:QA:586:C:C4	3.05	0.45
1:QA:926:G:C6	1:QA:1505:G:C6	3.05	0.45
1:QA:979:C:OP1	1:QA:1223:C:N4	2.49	0.45
1:QA:1051:C:H2'	1:QA:1052:U:H6	1.82	0.45
8:QH:1:MET:HE3	8:QH:3:THR:HG23	1.99	0.45
9:QI:5:TYR:HB3	9:QI:6:GLY:H	1.47	0.45
23:QX:12:A:H8	23:QX:13:A:C8	2.34	0.45
25:RA:70:G:O4'	25:RA:73:A:H1'	2.17	0.45
25:RA:394:A:C2'	25:RA:395:U:H5''	2.44	0.45
25:RA:657:U:H2'	25:RA:658:C:C6	2.50	0.45
25:RA:748:G:C2'	25:RA:750:A:OP2	2.60	0.45
25:RA:1316:U:H2'	25:RA:1317:A:C8	2.52	0.45
25:RA:1956:U:H1'	25:RA:2552:U:OP1	2.16	0.45
25:RA:2645:G:H3'	25:RA:2646:C:C5'	2.46	0.45
27:RD:30:GLU:HG3	27:RD:63:ARG:CZ	2.47	0.45
28:RE:21:VAL:HA	28:RE:22:PRO:HD2	1.74	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RF:33:LEU:HD12	29:RF:33:LEU:HA	1.80	0.45
31:RH:3:ARG:HH11	31:RH:6:ARG:NE	2.14	0.45
34:RO:64:ARG:HB2	34:RO:83:ALA:HB3	1.99	0.45
35:RP:6:LEU:HD13	35:RP:6:LEU:HA	1.72	0.45
42:RW:18:ARG:HD3	42:RW:76:VAL:CG1	2.44	0.45
48:R2:25:VAL:O	48:R2:29:LYS:HG3	2.17	0.45
55:R9:1:MET:HB3	55:R9:4:ARG:CZ	2.46	0.45
1:XA:960:U:O2'	1:XA:1223:C:H4'	2.17	0.45
4:XD:178:VAL:O	4:XD:180:GLY:N	2.42	0.45
7:XG:5:ARG:HH21	7:XG:7:ALA:HA	1.81	0.45
9:XI:28:VAL:HG21	9:XI:63:ILE:H	1.81	0.45
13:XM:15:VAL:HG12	13:XM:45:VAL:HG22	1.99	0.45
20:XT:14:LYS:O	20:XT:18:GLN:HG3	2.16	0.45
25:YA:463:G:N2	25:YA:466:A:OP2	2.39	0.45
25:YA:799:G:C6	25:YA:800:A:C6	3.05	0.45
25:YA:858:U:O2	25:YA:2268:A:H2'	2.16	0.45
25:YA:1846:G:H5'	25:YA:1847:A:OP2	2.17	0.45
25:YA:2080:G:H5'	47:Y1:19:GLN:HG3	1.98	0.45
32:YI:40:THR:OG1	32:YI:43:ASN:OD1	2.33	0.45
41:YV:4:ILE:HB	41:YV:40:LEU:HB2	1.98	0.45
44:YY:84:ARG:CZ	44:YY:97:ARG:HB2	2.46	0.45
45:YZ:150:LEU:CB	45:YZ:171:ILE:H	2.29	0.45
1:QA:814:A:H2'	1:QA:816:A:H5''	1.99	0.45
1:QA:876:G:H2'	1:QA:877:C:C6	2.52	0.45
2:QB:37:ASN:O	2:QB:37:ASN:ND2	2.49	0.45
3:QC:180:ALA:HB1	3:QC:182:ILE:HG13	1.98	0.45
13:QM:118:ALA:HB1	22:QV:28:C:O3'	2.17	0.45
25:RA:814:C:H5	35:RP:24:GLY:O	1.99	0.45
25:RA:1386:C:OP2	25:RA:1396:U:N3	2.50	0.45
25:RA:2563:U:H2'	25:RA:2565:A:OP2	2.17	0.45
25:RA:2590:A:OP2	27:RD:238:GLY:HA2	2.17	0.45
28:RE:61:ARG:N	28:RE:62:PRO:HD2	2.31	0.45
32:RI:100:ALA:O	32:RI:102:SER:N	2.49	0.45
54:R8:4:MET:HE3	54:R8:4:MET:HB2	1.65	0.45
1:XA:553:A:H5''	12:XL:24:VAL:HG21	1.98	0.45
1:XA:748:C:O5'	1:XA:748:C:H6	2.00	0.45
2:XB:172:ILE:H	2:XB:172:ILE:HD12	1.82	0.45
4:XD:199:ASN:HD22	4:XD:199:ASN:C	2.24	0.45
25:YA:2580:U:H4'	28:YE:130:GLY:CA	2.42	0.45
32:YI:74:ASN:HB2	32:YI:75:LEU:H	1.65	0.45
33:YN:63:THR:O	33:YN:66:LYS:HG3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YQ:65:PHE:O	36:YQ:104:PHE:HA	2.17	0.45
41:YV:38:LEU:HD23	41:YV:38:LEU:HA	1.71	0.45
43:YX:49:VAL:HB	43:YX:83:VAL:HG23	1.98	0.45
1:QA:67:C:H2'	1:QA:68:G:H8	1.80	0.45
1:QA:401:C:H2'	1:QA:402:G:H8	1.82	0.45
1:QA:957:U:H4'	19:QS:79:THR:OG1	2.17	0.45
3:QC:59:ARG:HG2	3:QC:64:VAL:HG12	1.99	0.45
5:QE:57:LYS:O	5:QE:61:TYR:HD2	1.99	0.45
5:QE:78:HIS:HA	8:QH:105:ARG:HG3	1.98	0.45
6:QF:9:VAL:HB	6:QF:87:ARG:HB2	1.97	0.45
12:QL:58:VAL:O	12:QL:65:GLU:HA	2.16	0.45
23:QX:18:G:O3'	23:QX:19:A2M:H8	2.17	0.45
25:RA:26:G:N2	25:RA:513:A:OP2	2.42	0.45
25:RA:142:A:O2'	25:RA:1407:C:O2'	2.24	0.45
25:RA:271(E):U:H2'	25:RA:271(F):C:C6	2.52	0.45
25:RA:1901:A:OP2	25:RA:1901:A:H4'	2.16	0.45
28:RE:61:ARG:H	28:RE:62:PRO:HD2	1.81	0.45
29:RF:133:ASN:HB2	29:RF:138:GLU:OE1	2.16	0.45
37:RR:70:LEU:C	37:RR:72:ASP:H	2.23	0.45
1:XA:191:G:H1'	20:XT:104:LEU:O	2.16	0.45
1:XA:373:A:H2'	1:XA:374:A:H8	1.82	0.45
1:XA:482:A:H3'	1:XA:483:C:H6	1.80	0.45
25:YA:587:C:N3	35:YP:33:ARG:NH1	2.64	0.45
25:YA:957:A:N1	25:YA:2458:G:H4'	2.32	0.45
49:Y3:7:LYS:HG2	49:Y3:9:VAL:HG13	1.97	0.45
1:QA:298:A:H2'	1:QA:299:G:O4'	2.17	0.45
1:QA:570:G:H1'	1:QA:820:U:C4	2.52	0.45
1:QA:1278:U:H5'	1:QA:1279:A:O4'	2.17	0.45
3:QC:139:GLN:O	3:QC:143:GLU:N	2.49	0.45
8:QH:51:VAL:HG11	8:QH:60:ARG:NH1	2.31	0.45
19:QS:32:LYS:HE2	19:QS:32:LYS:HB2	1.76	0.45
22:QV:52:G:H2'	22:QV:53:G:H5'	1.97	0.45
25:RA:631:A:O2'	35:RP:67:MET:HB3	2.17	0.45
25:RA:654(T):C:H2'	25:RA:654(U):A:O4'	2.16	0.45
25:RA:2286:A:H8	25:RA:2287:A:C6	2.34	0.45
27:RD:35:LYS:HD3	27:RD:63:ARG:HG3	1.99	0.45
28:RE:116:VAL:HG13	28:RE:122:PHE:HB2	1.97	0.45
29:RF:136:THR:HG23	29:RF:170:LEU:HD11	1.99	0.45
52:R6:41:PRO:HD2	52:R6:49:HIS:NE2	2.32	0.45
1:XA:135:C:N3	16:XP:1:MET:N	2.64	0.45
1:XA:689:C:OP1	11:XK:27:ASN:ND2	2.43	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:707:C:H2'	1:XA:708:C:H6	1.82	0.45
1:XA:1432:G:OP1	39:YT:107:ASP:HB2	2.17	0.45
4:XD:9:CYS:O	4:XD:13:ARG:HG3	2.16	0.45
10:XJ:3:LYS:N	10:XJ:74:ILE:O	2.50	0.45
13:XM:44:ARG:C	13:XM:46:LYS:H	2.25	0.45
25:YA:270(F):U:H3	25:YA:270(T):G:H1	1.63	0.45
25:YA:503:A:H4'	25:YA:504:U:H5''	1.99	0.45
25:YA:909:A:H2'	25:YA:912:C:C5	2.52	0.45
25:YA:1843:C:H5'	27:YD:253:GLN:OE1	2.17	0.45
25:YA:2102:U:H2'	25:YA:2103:C:C6	2.51	0.45
31:YH:151:ILE:O	31:YH:152:ARG:HG2	2.15	0.45
35:YP:3:LEU:HA	35:YP:6:LEU:HD23	1.98	0.45
53:Y7:1:MET:HE2	53:Y7:1:MET:HB3	1.91	0.45
1:QA:103:C:O2'	1:QA:172:A:N1	2.47	0.45
1:QA:583:A:H2'	1:QA:584:G:O4'	2.17	0.45
1:QA:1171:G:H2'	1:QA:1172:C:C6	2.52	0.45
1:QA:1376:U:H2'	1:QA:1377:A:C8	2.51	0.45
2:QB:33:TYR:HB3	2:QB:41:ILE:O	2.16	0.45
13:QM:77:ASN:O	13:QM:80:ARG:HB2	2.16	0.45
17:QQ:81:ARG:HE	17:QQ:84:LEU:HD12	1.82	0.45
24:QY:37:ILE:HD11	24:QY:66:ILE:HD11	1.99	0.45
25:RA:859:G:O2'	25:RA:860:U:P	2.75	0.45
25:RA:1112:G:H2'	25:RA:1113:U:C6	2.52	0.45
25:RA:2593:U:H2'	25:RA:2594:C:H6	1.82	0.45
25:RA:2876:G:O5'	39:RT:3:ARG:HA	2.17	0.45
26:RB:15:A:H1'	26:RB:109:G:N9	2.32	0.45
26:RB:94:C:H2'	26:RB:95:U:H6	1.81	0.45
27:RD:102:LYS:C	27:RD:103:ARG:HG2	2.41	0.45
32:RI:79:ILE:O	32:RI:142:VAL:CG2	2.52	0.45
36:RQ:78:PRO:O	36:RQ:79:LEU:HG	2.17	0.45
38:RS:27:SER:HA	38:RS:88:ASP:HB2	1.99	0.45
41:RV:40:LEU:CD2	41:RV:47:VAL:HB	2.47	0.45
41:RV:46:VAL:O	41:RV:48:GLY:N	2.50	0.45
45:RZ:107:THR:OG1	45:RZ:108:PRO:HD3	2.17	0.45
1:XA:255:G:C6	1:XA:256:U:C4	3.05	0.45
1:XA:619:U:N3	4:XD:134:ASP:OD2	2.36	0.45
1:XA:1324:A:H4'	1:XA:1362:C:H4'	1.98	0.45
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.52	0.45
2:XB:97:TRP:CH2	2:XB:173:ALA:HA	2.52	0.45
3:XC:35:GLU:CD	3:XC:59:ARG:HH22	2.25	0.45
7:XG:65:ALA:HB1	7:XG:127:ALA:HB3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:XG:78:ARG:HB3	7:XG:79:ARG:H	1.50	0.45
8:XH:102:ARG:H	8:XH:102:ARG:HG3	1.66	0.45
25:YA:218:A:H2	25:YA:235:U:H4'	1.82	0.45
25:YA:910:A:H2'	25:YA:911:A:C8	2.51	0.45
25:YA:1015:G:H2'	25:YA:1016:G:H8	1.82	0.45
25:YA:1113:U:H2'	25:YA:1114:G:C8	2.52	0.45
25:YA:1445:C:H2'	25:YA:1446:C:H6	1.81	0.45
25:YA:2496:C:P	36:YQ:81:VAL:HG13	2.57	0.45
28:YE:4:ILE:HD13	28:YE:95:ILE:HD13	1.99	0.45
32:YI:12:LEU:HD12	32:YI:12:LEU:HA	1.79	0.45
39:YT:26:ASP:HB2	39:YT:91:ARG:HA	1.98	0.45
43:YX:26:TYR:O	43:YX:81:VAL:HG22	2.17	0.45
44:YY:5:MET:HE3	44:YY:5:MET:HB2	1.79	0.45
1:QA:707:C:H2'	1:QA:708:C:C6	2.52	0.45
1:QA:716:A:H2'	1:QA:717:C:O5'	2.17	0.45
4:QD:13:ARG:HB3	4:QD:14:ARG:H	1.51	0.45
5:QE:12:LEU:HD12	5:QE:128:PRO:HB3	1.99	0.45
25:RA:66:C:H2'	25:RA:67:U:H6	1.82	0.45
25:RA:534:U:H5'	40:RU:42:ALA:HB1	1.99	0.45
25:RA:2591:C:H2'	25:RA:2592:G:C8	2.52	0.45
35:RP:57:THR:HG23	35:RP:60:MET:CB	2.37	0.45
40:RU:92:ARG:HH12	41:RV:11:GLN:H	1.64	0.45
41:RV:7:THR:HG23	41:RV:22:VAL:HG21	1.99	0.45
45:RZ:3:TYR:HB2	45:RZ:57:ILE:HA	1.99	0.45
51:R5:3:LYS:HA	51:R5:3:LYS:HE3	1.98	0.45
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.52	0.45
13:XM:102:ARG:HD3	13:XM:105:THR:OG1	2.17	0.45
22:XW:8:U:O4'	22:XW:48:C:O2'	2.35	0.45
25:YA:1688:U:H1'	25:YA:1701:A:C6	2.52	0.45
25:YA:1754:C:H2'	25:YA:1755:A:C8	2.52	0.45
25:YA:1813:G:H1'	27:YD:50:THR:OG1	2.17	0.45
25:YA:2111:C:N4	25:YA:2118:U:O2	2.50	0.45
26:YB:29:A:OP2	38:YS:32:LEU:HG	2.17	0.45
29:YF:46:ARG:HB3	29:YF:48:THR:HG23	1.98	0.45
29:YF:127:GLU:O	29:YF:129:PHE:N	2.49	0.45
30:YG:16:ARG:O	30:YG:20:ILE:HG12	2.17	0.45
47:Y1:91:LYS:C	47:Y1:93:GLU:H	2.25	0.45
51:Y5:36:CYS:HB3	51:Y5:37:LYS:H	1.67	0.45
1:QA:444:C:H2'	1:QA:445:G:C8	2.51	0.44
9:QI:85:LEU:O	9:QI:89:ASN:HB2	2.16	0.44
18:QR:50:ILE:HD11	18:QR:70:ILE:HG21	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:QS:70:LYS:HB2	19:QS:71:LEU:H	1.68	0.44
20:QT:92:LEU:HD13	20:QT:92:LEU:HA	1.83	0.44
21:QU:8:THR:HG22	21:QU:10:ARG:H	1.82	0.44
25:RA:69:C:H6	25:RA:73:A:O2'	1.99	0.44
25:RA:1020:A:N6	25:RA:1141:U:O2'	2.50	0.44
25:RA:1025:G:H8	25:RA:1025:G:OP1	2.00	0.44
25:RA:2019:A:O4'	40:RU:34:LYS:HD2	2.18	0.44
25:RA:2769:C:H2'	25:RA:2770:G:C8	2.52	0.44
26:RB:94:C:H2'	26:RB:95:U:C6	2.52	0.44
29:RF:128:ALA:O	29:RF:142:TRP:NE1	2.49	0.44
31:RH:54:ARG:NE	31:RH:57:ASP:OD1	2.50	0.44
32:RI:56:LYS:HE3	32:RI:57:ARG:HG3	1.99	0.44
41:RV:67:GLY:O	41:RV:88:ARG:HD2	2.16	0.44
48:R2:4:SER:HB2	48:R2:5:GLU:H	1.45	0.44
48:R2:50:ILE:HD12	48:R2:51:ARG:H	1.82	0.44
50:R4:26:SER:OG	50:R4:27:THR:N	2.48	0.44
50:R4:60:GLN:HB3	50:R4:61:ARG:NH2	2.32	0.44
52:R6:15:GLU:OE2	52:R6:44:ARG:NH1	2.49	0.44
7:XG:22:LEU:HG	7:XG:62:PHE:HE2	1.81	0.44
9:XI:65:VAL:HG21	9:XI:73:GLN:HB3	1.99	0.44
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.98	0.44
25:YA:434:U:H1'	25:YA:435:C:H5	1.81	0.44
25:YA:928:G:H3'	25:YA:929:G:H8	1.82	0.44
25:YA:1165:U:H2'	25:YA:1166:C:C6	2.51	0.44
41:YV:61:VAL:HA	41:YV:94:LEU:HD22	1.99	0.44
1:QA:109:A:C6	1:QA:326:G:C6	3.05	0.44
1:QA:189(D):C:H1'	1:QA:189(H):G:N2	2.32	0.44
1:QA:738:C:H5''	6:QF:69:GLU:HB2	1.98	0.44
1:QA:1086:U:O5'	1:QA:1086:U:H6	2.00	0.44
1:QA:1399:C:C2	1:QA:1502:A:N6	2.86	0.44
3:QC:119:ARG:HH22	3:QC:140:ARG:HG2	1.81	0.44
14:QN:27:CYS:HB3	14:QN:28:GLY:H	1.44	0.44
20:QT:14:LYS:HB2	20:QT:17:ARG:NH2	2.32	0.44
25:RA:263:C:O2'	25:RA:429:A:N3	2.50	0.44
25:RA:374:A:C2	25:RA:401:A:C4	3.05	0.44
25:RA:2082:A:H2'	25:RA:2083:G:O4'	2.16	0.44
25:RA:2429:G:N7	35:RP:56:SER:OG	2.50	0.44
25:RA:2740:A:H62	25:RA:2763:G:H2'	1.83	0.44
25:RA:2824:C:H2'	25:RA:2825:C:O4'	2.17	0.44
25:RA:2876:G:H1'	39:RT:3:ARG:CZ	2.46	0.44
40:RU:76:TYR:CZ	40:RU:80:ILE:HG13	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:RY:17:SER:HB2	44:RY:71:LYS:HB3	1.98	0.44
1:XA:316:G:C2	1:XA:317:G:C5	3.05	0.44
1:XA:501:C:H2'	1:XA:502:G:H8	1.82	0.44
1:XA:1105:A:H2'	1:XA:1106:G:C8	2.50	0.44
1:XA:1493:A:N6	25:YA:1913:A:N3	2.65	0.44
2:XB:80:ILE:HD13	2:XB:212:GLN:HA	1.99	0.44
11:XK:9:LYS:HB2	11:XK:9:LYS:HE2	1.75	0.44
19:XS:6:LYS:HG2	19:XS:7:LYS:H	1.81	0.44
25:YA:987:G:O6	25:YA:988:A:C2	2.70	0.44
25:YA:1496:A:H8	25:YA:1577:C:O2'	2.00	0.44
25:YA:1625:C:H2'	25:YA:1626:G:O4'	2.17	0.44
25:YA:2039:C:H2'	25:YA:2040:C:H6	1.81	0.44
29:YF:117:ARG:HD2	29:YF:190:GLU:O	2.16	0.44
31:YH:144:VAL:O	31:YH:148:ILE:HG12	2.17	0.44
35:YP:11:GLY:C	35:YP:13:ASN:N	2.74	0.44
49:Y3:43:ILE:O	49:Y3:47:VAL:HG23	2.17	0.44
52:Y6:40:CYS:N	52:Y6:41:PRO:HD2	2.32	0.44
1:QA:110:C:H2'	1:QA:111:G:O4'	2.17	0.44
1:QA:269:C:H2'	1:QA:270:A:C8	2.53	0.44
1:QA:512:U:H2'	1:QA:513:C:C6	2.53	0.44
1:QA:839:U:O2'	1:QA:840:C:OP1	2.33	0.44
6:QF:44:GLY:O	6:QF:60:PHE:N	2.47	0.44
7:QG:26:PHE:O	7:QG:30:ILE:HG12	2.17	0.44
7:QG:57:GLU:H	7:QG:57:GLU:CD	2.25	0.44
8:QH:83:ILE:HB	8:QH:137:VAL:HG13	1.99	0.44
9:QI:48:GLU:N	9:QI:49:PRO:HD2	2.32	0.44
12:QL:41:ARG:HB3	12:QL:42:THR:H	1.56	0.44
22:QV:13:C:O2'	25:RA:1924:C:H4'	2.17	0.44
22:QW:56:C:H2'	22:QW:57:A:H8	1.83	0.44
25:RA:197:A:N6	25:RA:2430:A:H2'	2.33	0.44
25:RA:581:C:OP1	40:RU:33:ARG:HG3	2.18	0.44
25:RA:1085:A:H2'	25:RA:1086:A:H8	1.81	0.44
25:RA:1653:G:C6	37:RR:9:LYS:HG3	2.53	0.44
25:RA:1767:C:H2'	25:RA:1768:U:C6	2.51	0.44
25:RA:1827:C:H2'	25:RA:1828:G:O4'	2.18	0.44
25:RA:2208:A:H4'	25:RA:2218:U:H5	1.82	0.44
25:RA:2446:G:HO2'	25:RA:2447:G:H5''	1.78	0.44
26:RB:66:A:O2'	26:RB:67:G:O5'	2.35	0.44
27:RD:143:HIS:HD2	27:RD:194:GLY:C	2.25	0.44
37:RR:38:VAL:HB	37:RR:39:PRO:HD3	1.99	0.44
38:RS:14:VAL:HG21	38:RS:89:ARG:HD3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:RZ:6:LYS:HE3	45:RZ:6:LYS:HB2	1.76	0.44
45:RZ:52:SER:C	45:RZ:54:HIS:H	2.26	0.44
47:R1:40:ARG:NH2	47:R1:42:GLN:HG2	2.32	0.44
1:XA:503:C:H2'	1:XA:504:C:H6	1.82	0.44
1:XA:793:U:OP2	1:XA:794:A:C8	2.70	0.44
8:XH:4:ASP:OD2	8:XH:89:PRO:HD3	2.17	0.44
11:XK:111:ASP:OD2	18:XR:84:LYS:HD2	2.17	0.44
23:XX:12:A:H3'	23:XX:13:A:C5'	2.38	0.44
25:YA:1266:G:O2'	25:YA:2012:G:O6	2.27	0.44
25:YA:1541:U:H2'	25:YA:1542:G:O4'	2.16	0.44
25:YA:1861:G:H1	25:YA:1881:C:H42	1.66	0.44
25:YA:2370:G:C6	25:YA:2371:G:C6	3.05	0.44
26:YB:78:A:C2	26:YB:99:A:C4	3.05	0.44
27:YD:43:ARG:CB	27:YD:54:ARG:HB2	2.48	0.44
29:YF:149:ASP:OD1	29:YF:149:ASP:N	2.43	0.44
31:YH:20:ALA:O	31:YH:22:GLY:N	2.51	0.44
32:YI:114:LEU:HA	32:YI:130:TYR:HB2	1.98	0.44
34:YO:87:ILE:HG22	34:YO:88:ASN:O	2.18	0.44
36:YQ:103:MET:H	36:YQ:103:MET:HG3	1.53	0.44
40:YU:50:ARG:HH11	41:YV:72:VAL:CG1	2.31	0.44
42:YW:46:PHE:O	42:YW:50:VAL:HG12	2.17	0.44
44:YY:76:CYS:HB3	44:YY:77:PRO:HD2	1.92	0.44
45:YZ:29:TYR:CE2	45:YZ:87:ASP:HB2	2.52	0.44
1:QA:329:A:N6	1:QA:332:G:C2	2.85	0.44
1:QA:406:G:H2'	1:QA:407:G:H8	1.82	0.44
2:QB:189:ASP:O	2:QB:191:ASP:N	2.50	0.44
15:QO:26:GLU:OE2	15:QO:77:ARG:HD2	2.18	0.44
24:QY:50:ILE:HG13	24:QY:51:TYR:CD1	2.53	0.44
25:RA:484:C:H2'	25:RA:485:C:H6	1.82	0.44
25:RA:512:G:OP1	25:RA:1234:U:O2'	2.28	0.44
25:RA:1246:A:H4'	29:RF:45:ARG:HH12	1.83	0.44
25:RA:1766:U:H2'	25:RA:1767:C:C6	2.51	0.44
25:RA:2561:A:H2'	25:RA:2562:U:O4'	2.17	0.44
26:RB:11:C:OP2	46:R0:72:ARG:NH1	2.50	0.44
27:RD:4:LYS:NZ	27:RD:20:ASP:HA	2.32	0.44
27:RD:97:TYR:HE1	27:RD:103:ARG:HG3	1.83	0.44
28:RE:5:LEU:CD1	28:RE:78:LEU:O	2.66	0.44
30:RG:86:MET:HA	30:RG:87:PRO:HD2	1.74	0.44
40:RU:99:ALA:HB2	40:RU:106:PHE:CD1	2.52	0.44
44:RY:7:VAL:HG21	44:RY:37:VAL:HG11	1.99	0.44
1:XA:316:G:OP2	1:XA:351:G:O2'	2.28	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1157:A:N3	1:XA:1157:A:H2'	2.31	0.44
2:XB:178:ARG:NH2	8:XH:74:PRO:HB3	2.32	0.44
3:XC:179:ARG:NH1	3:XC:207:VAL:HG22	2.33	0.44
8:XH:21:LYS:O	8:XH:65:TYR:OH	2.20	0.44
12:XL:45:PRO:HG2	12:XL:49:ASN:O	2.17	0.44
25:YA:27:G:N2	25:YA:512:G:H1'	2.33	0.44
25:YA:1273:U:H5'	25:YA:1274:A:OP1	2.18	0.44
25:YA:1573:G:H2'	25:YA:1574:C:H5'	1.98	0.44
25:YA:1930:G:HO2'	25:YA:1931:U:P	2.35	0.44
25:YA:2252:G:C6	25:YA:2253:G:C5	3.05	0.44
25:YA:2512:C:H2'	25:YA:2513:G:O4'	2.17	0.44
25:YA:2689:U:P	25:YA:2719:G:H22	2.40	0.44
26:YB:42:C:O2	30:YG:93:THR:N	2.49	0.44
26:YB:116:G:H5''	38:YS:55:ALA:HA	2.00	0.44
27:YD:69:ARG:NH1	27:YD:128:GLY:O	2.46	0.44
29:YF:18:ARG:HG2	29:YF:19:GLU:H	1.82	0.44
36:YQ:55:VAL:HG23	36:YQ:64:ILE:HD11	1.98	0.44
50:Y4:55:ARG:HE	50:Y4:56:VAL:N	2.16	0.44
52:Y6:15:GLU:CD	52:Y6:44:ARG:HH12	2.25	0.44
1:QA:1473:A:H2'	1:QA:1474:G:C8	2.51	0.44
2:QB:21:ARG:NH2	2:QB:38:GLY:HA3	2.32	0.44
2:QB:163:PHE:HA	2:QB:185:ILE:HG13	1.98	0.44
3:QC:71:ALA:HB2	3:QC:115:LEU:HD13	1.99	0.44
5:QE:92:LYS:HA	5:QE:93:PRO:HD2	1.89	0.44
8:QH:29:SER:HB3	8:QH:32:LYS:HG3	1.99	0.44
10:QJ:99:LYS:HD3	10:QJ:100:THR:H	1.83	0.44
12:QL:53:ARG:NH1	12:QL:92:ASP:OD2	2.40	0.44
25:RA:139:G:H2'	25:RA:140:G:N7	2.33	0.44
25:RA:218:A:H2	25:RA:235:U:H4'	1.82	0.44
25:RA:796:C:H2'	25:RA:797:C:C6	2.52	0.44
25:RA:1798:U:H5'	27:RD:259:THR:OG1	2.17	0.44
25:RA:2275:C:O2	36:RQ:83:MET:HG3	2.18	0.44
25:RA:2280:G:C2	25:RA:2281:C:C6	3.04	0.44
25:RA:2394:C:OP1	35:RP:63:PRO:HD2	2.17	0.44
25:RA:2528:U:OP1	55:R9:30:PRO:HG2	2.17	0.44
25:RA:2543:G:H2'	25:RA:2544:G:C8	2.52	0.44
30:RG:99:MET:HE3	30:RG:99:MET:HB2	1.62	0.44
42:RW:29:LEU:HD21	42:RW:33:ARG:NH2	2.32	0.44
1:XA:556:C:OP2	12:XL:20:LYS:NZ	2.43	0.44
1:XA:1498:U:H1'	1:XA:1499:A:OP2	2.17	0.44
13:XM:93:ARG:HA	13:XM:93:ARG:HD3	1.64	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:XT:10:LEU:HD22	20:XT:11:SER:N	2.32	0.44
25:YA:270(N):G:O2'	25:YA:270(O):U:H5'	2.18	0.44
25:YA:523:C:H4'	25:YA:541:C:O2	2.16	0.44
25:YA:1112:G:H2'	25:YA:1113:U:C6	2.52	0.44
25:YA:1534:G:N2	25:YA:1537:C:N3	2.66	0.44
25:YA:1731:G:N1	25:YA:1732:A:N7	2.65	0.44
25:YA:1931:U:H2'	25:YA:1932:A:C8	2.53	0.44
25:YA:2330:G:O2'	46:Y0:41:ARG:O	2.33	0.44
25:YA:2679:A:H4'	28:YE:165:VAL:HG11	1.98	0.44
27:YD:144:ALA:HB3	27:YD:192:THR:HG23	2.00	0.44
27:YD:206:LEU:HD23	27:YD:206:LEU:HA	1.82	0.44
34:YO:104:ARG:NE	39:YT:34:VAL:HG11	2.32	0.44
45:YZ:40:ASP:HB3	45:YZ:43:GLU:HG3	2.00	0.44
45:YZ:135:GLU:H	45:YZ:135:GLU:HG2	1.60	0.44
50:Y4:5:ILE:HD12	50:Y4:5:ILE:HA	1.88	0.44
50:Y4:13:ARG:N	50:Y4:24:THR:OG1	2.51	0.44
1:QA:354:G:C2	1:QA:355:C:C5	3.06	0.44
1:QA:411:A:N9	1:QA:413:G:H1'	2.33	0.44
1:QA:452:A:O2'	1:QA:453:A:O4'	2.33	0.44
1:QA:719:C:O2'	18:QR:49:LYS:HB3	2.18	0.44
1:QA:1004:A:HO2'	1:QA:1005:A:P	2.40	0.44
1:QA:1226:C:N4	13:QM:104:ARG:HD2	2.32	0.44
1:QA:1358:U:OP1	14:QN:35:ARG:HG2	2.17	0.44
1:QA:1499:A:H1'	1:QA:1520:G:H5'	2.00	0.44
2:QB:87:ARG:NH2	2:QB:233:SER:HB2	2.33	0.44
6:QF:82:ARG:HB2	6:QF:85:VAL:HG22	2.00	0.44
20:QT:32:ALA:O	20:QT:36:LEU:HB2	2.18	0.44
22:QW:15:G:H2'	22:QW:59:A:H2	1.80	0.44
25:RA:460:A:H2'	25:RA:461:C:O4'	2.16	0.44
25:RA:1557:C:H5''	25:RA:1558:A:OP2	2.18	0.44
25:RA:1999:C:H5''	25:RA:2723:C:O2'	2.17	0.44
25:RA:2015:A:H5'	42:RW:92:ARG:HH21	1.83	0.44
27:RD:108:PRO:HA	27:RD:196:VAL:HA	1.99	0.44
28:RE:63:LEU:HD12	28:RE:65:GLY:H	1.82	0.44
40:RU:100:VAL:O	40:RU:101:ARG:HG2	2.17	0.44
1:XA:136:C:C4'	16:XP:1:MET:HE2	2.47	0.44
1:XA:1008:C:H4'	1:XA:1008:C:OP1	2.18	0.44
1:XA:1376:U:H2'	1:XA:1377:A:C8	2.53	0.44
3:XC:52:LEU:HD23	3:XC:52:LEU:H	1.82	0.44
7:XG:97:GLN:HE21	7:XG:97:GLN:HB2	1.60	0.44
8:XH:42:GLU:HG3	8:XH:109:ILE:HD12	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:9:ILE:CG1	13:XM:10:PRO:N	2.81	0.44
16:XP:34:GLU:OE2	16:XP:55:ARG:HD3	2.17	0.44
22:XV:33:U:N3	22:XV:36:U:OP2	2.42	0.44
25:YA:185:U:H2'	25:YA:186:G:H8	1.83	0.44
25:YA:593:G:C1'	54:Y8:4:MET:HE1	2.48	0.44
25:YA:1800:C:OP2	27:YD:266:SER:OG	2.33	0.44
28:YE:11:MET:SD	28:YE:24:THR:HG22	2.58	0.44
34:YO:47:ILE:HG13	34:YO:48:PRO:HD2	1.98	0.44
47:Y1:93:GLU:HG2	47:Y1:98:LEU:HD11	1.99	0.44
53:Y7:9:ARG:HH12	53:Y7:47:ARG:HH12	1.65	0.44
1:QA:316:G:C2	1:QA:338:A:C2	3.06	0.44
1:QA:1117:G:H4'	9:QI:104:ARG:HD2	1.98	0.44
1:QA:1244:C:H2'	1:QA:1245:A:C8	2.53	0.44
1:QA:1326:C:OP2	21:QU:6:ARG:HD3	2.18	0.44
2:QB:178:ARG:HH22	8:QH:74:PRO:HB3	1.83	0.44
2:QB:184:VAL:HG12	2:QB:197:VAL:HG13	2.00	0.44
4:QD:9:CYS:SG	4:QD:32:ALA:HB2	2.58	0.44
12:QL:110:VAL:HG23	12:QL:120:TYR:HB3	2.00	0.44
20:QT:25:ARG:HG2	20:QT:29:LYS:NZ	2.33	0.44
22:QW:41:C:H2'	22:QW:42:G:C8	2.52	0.44
25:RA:141:A:H8	25:RA:1408:C:O2'	2.01	0.44
25:RA:614(A):U:H3'	25:RA:614(A):U:H6	1.83	0.44
25:RA:907:U:O2'	36:RQ:101:ARG:NH2	2.33	0.44
25:RA:1476:C:H2'	25:RA:1477:A:H8	1.82	0.44
25:RA:1639:U:H4'	25:RA:2699:C:H4'	2.00	0.44
25:RA:1911:U:H2'	25:RA:1918:A:N1	2.33	0.44
25:RA:2313:C:H2'	25:RA:2314:C:H6	1.82	0.44
25:RA:2696:U:H2'	25:RA:2697:G:H8	1.83	0.44
25:RA:2748:A:O2'	31:RH:66:GLY:HA3	2.18	0.44
26:RB:44:G:H5''	26:RB:45:A:OP1	2.18	0.44
32:RI:12:LEU:HG	32:RI:19:VAL:HG11	2.00	0.44
34:RO:68:GLU:HB3	34:RO:78:ARG:HB2	1.98	0.44
35:RP:52:GLU:CD	35:RP:52:GLU:H	2.26	0.44
41:RV:40:LEU:HD23	41:RV:40:LEU:HA	1.86	0.44
1:XA:262:A:C6	1:XA:263:A:C6	3.04	0.44
1:XA:832:C:H2'	1:XA:833:U:O4'	2.18	0.44
1:XA:1300:G:O2'	1:XA:1301:U:P	2.76	0.44
4:XD:3:ARG:NE	4:XD:118:ARG:CD	2.79	0.44
13:XM:3:ARG:HA	13:XM:8:GLU:HA	1.99	0.44
19:XS:45:VAL:C	19:XS:47:HIS:H	2.24	0.44
25:YA:184:C:O2'	25:YA:217:G:N3	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:746:A:C6	25:YA:2611:U:H5''	2.53	0.44
25:YA:828:U:H4'	25:YA:831:G:N1	2.32	0.44
25:YA:2191:G:HO2'	25:YA:2192:G:P	2.39	0.44
25:YA:2287:A:O2'	25:YA:2288:A:H5''	2.17	0.44
25:YA:2698:U:H2'	25:YA:2699:C:C6	2.53	0.44
26:YB:81:G:C6	26:YB:82:G:C5	3.05	0.44
31:YH:52:VAL:O	31:YH:65:HIS:NE2	2.42	0.44
34:YO:8:LEU:HB2	34:YO:19:ILE:HG13	2.00	0.44
41:YV:71:LEU:H	41:YV:86:GLY:CA	2.30	0.44
44:YY:56:PRO:O	44:YY:57:GLN:HB2	2.17	0.44
50:Y4:5:ILE:HG13	50:Y4:6:HIS:HA	2.00	0.44
1:QA:524:G:H2'	1:QA:525:C:C6	2.53	0.44
1:QA:778:G:H2'	1:QA:779:C:O4'	2.18	0.44
1:QA:1347:G:C1'	1:QA:1348:U:OP2	2.65	0.44
6:QF:76:ALA:O	6:QF:80:ARG:HG3	2.17	0.44
12:QL:85:ILE:HD12	12:QL:85:ILE:HA	1.85	0.44
25:RA:583:G:H5''	40:RU:10:ARG:HH12	1.83	0.44
25:RA:878:A:H3'	25:RA:879:G:C8	2.52	0.44
25:RA:1096:A:C5	25:RA:1097:U:H1'	2.53	0.44
25:RA:1810:A:H2'	25:RA:1811:G:O4'	2.18	0.44
25:RA:2109:U:H2'	25:RA:2110:G:C8	2.53	0.44
25:RA:2287:A:H62	25:RA:2344:U:H3	1.63	0.44
25:RA:2294:C:P	38:RS:89:ARG:HH22	2.41	0.44
29:RF:34:TRP:HB2	35:RP:6:LEU:HD12	1.99	0.44
29:RF:140:LEU:HD13	29:RF:170:LEU:HD21	1.98	0.44
46:R0:11:ARG:O	46:R0:14:ARG:NH1	2.37	0.44
1:XA:46:G:O2'	1:XA:365:U:H1'	2.18	0.44
1:XA:1223:C:H5''	1:XA:1224:G:H5''	1.99	0.44
1:XA:1252:A:H61	1:XA:1285:A:H61	1.65	0.44
1:XA:1278:U:H5'	1:XA:1279:A:O4'	2.18	0.44
2:XB:15:VAL:HG21	2:XB:209:ARG:HB3	1.99	0.44
3:XC:164:ARG:HG2	3:XC:165:THR:H	1.83	0.44
6:XF:86:ARG:O	6:XF:87:ARG:HG2	2.18	0.44
6:XF:97:PHE:HD2	18:XR:31:LEU:HD11	1.83	0.44
15:XO:70:LEU:HD11	15:XO:77:ARG:HG3	1.98	0.44
25:YA:55:G:O2'	25:YA:127:A:N1	2.37	0.44
25:YA:483:A:H4'	44:YY:49:VAL:O	2.18	0.44
25:YA:705:A:O3'	27:YD:7:LYS:HD2	2.17	0.44
25:YA:1802:A:N1	25:YA:1822:G:H1'	2.32	0.44
27:YD:260:ARG:NH1	27:YD:267:SER:OG	2.51	0.44
30:YG:55:LYS:O	30:YG:59:GLU:HB2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YI:95:LYS:HE2	32:YI:95:LYS:HB3	1.86	0.44
38:YS:62:LYS:HD3	38:YS:97:ARG:NH1	2.33	0.44
50:Y4:5:ILE:HA	50:Y4:6:HIS:HA	1.78	0.44
1:QA:452:A:O2'	1:QA:453:A:O5'	2.36	0.44
1:QA:503:C:OP2	12:QL:116:SER:HB3	2.18	0.44
1:QA:749:C:H2'	1:QA:750:G:H8	1.83	0.44
1:QA:1007:C:H3'	1:QA:1008:C:H5''	1.98	0.44
1:QA:1239:A:H4'	1:QA:1240:U:H5''	2.00	0.44
1:QA:1343:G:H2'	1:QA:1344:C:C6	2.53	0.44
4:QD:102:ASP:OD2	4:QD:103:ASN:N	2.51	0.44
11:QK:115:PRO:C	11:QK:117:ASN:H	2.26	0.44
15:QO:55:GLY:HA2	15:QO:58:MET:HE3	1.99	0.44
17:QQ:57:VAL:HG12	17:QQ:76:LEU:HA	2.00	0.44
25:RA:105:C:O2'	44:RY:2:ARG:NE	2.51	0.44
25:RA:654(A):G:C6	25:RA:654(U):A:C2	3.06	0.44
25:RA:2746:U:H4'	31:RH:138:LYS:HG3	1.99	0.44
26:RB:113:C:H4'	38:RS:46:VAL:HG22	2.00	0.44
27:RD:142:VAL:HG23	27:RD:193:VAL:HA	1.99	0.44
31:RH:86:GLU:OE1	31:RH:86:GLU:N	2.51	0.44
32:RI:92:VAL:HB	32:RI:120:ILE:HB	1.99	0.44
35:RP:62:LEU:HD21	54:R8:30:ARG:HD2	1.99	0.44
35:RP:97:PRO:HD3	35:RP:126:VAL:O	2.18	0.44
1:XA:147:G:H1	1:XA:175:C:H42	1.65	0.44
1:XA:175:C:H4'	20:XT:25:ARG:NH1	2.33	0.44
1:XA:920:U:H2'	1:XA:921:U:C6	2.52	0.44
1:XA:1225:A:N3	1:XA:1225:A:H2'	2.32	0.44
1:XA:1347:G:C8	9:XI:107:ARG:HB3	2.53	0.44
2:XB:135:GLN:HG3	2:XB:136:VAL:HG23	1.98	0.44
4:XD:111:ALA:HB1	4:XD:116:GLN:HG2	2.00	0.44
9:XI:29:ASN:HB3	9:XI:30:GLY:H	1.65	0.44
17:XQ:45:HIS:HB2	17:XQ:65:ILE:HD12	1.98	0.44
21:XU:2:GLY:O	21:XU:4:GLY:N	2.51	0.44
24:XY:41:THR:O	24:XY:81:GLY:HA2	2.18	0.44
25:YA:46:C:H2'	25:YA:47:C:C6	2.53	0.44
25:YA:499:U:H2'	25:YA:500:G:C8	2.53	0.44
25:YA:815:C:H2'	25:YA:816:C:H6	1.82	0.44
25:YA:1085:A:O2'	25:YA:1086:A:OP1	2.32	0.44
29:YF:140:LEU:HD13	29:YF:170:LEU:HD21	1.99	0.44
44:YY:97:ARG:NH2	44:YY:98:VAL:HB	2.24	0.44
48:Y2:47:ASN:HB2	48:Y2:48:HIS:H	1.55	0.44
1:QA:1289:A:H2'	1:QA:1290:G:H5'	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1388:C:H2'	1:QA:1389:C:C6	2.53	0.43
1:QA:1412:C:H2'	1:QA:1413:A:C8	2.53	0.43
25:RA:388:G:H4'	47:R1:25:LYS:HE2	2.00	0.43
25:RA:389:G:N1	35:RP:71:VAL:HG12	2.33	0.43
25:RA:606:U:H4'	25:RA:658:C:H4'	2.00	0.43
25:RA:659:C:H2'	25:RA:660:G:C8	2.51	0.43
25:RA:706:A:H2'	25:RA:707:G:O4'	2.18	0.43
25:RA:1675:C:H2'	25:RA:1676:A:O4'	2.17	0.43
25:RA:1988:C:H2'	25:RA:1989:G:C8	2.52	0.43
25:RA:2116:G:N2	25:RA:2165:G:O6	2.51	0.43
25:RA:2537:U:H2'	25:RA:2538:C:C6	2.53	0.43
25:RA:2580:U:H4'	28:RE:130:GLY:CA	2.41	0.43
28:RE:8:LYS:O	28:RE:10:GLY:N	2.50	0.43
28:RE:61:ARG:N	28:RE:62:PRO:CD	2.81	0.43
35:RP:52:GLU:OE1	35:RP:53:GLY:N	2.51	0.43
35:RP:126:VAL:HG22	35:RP:145:PRO:HG2	2.00	0.43
38:RS:110:LEU:HB3	38:RS:111:GLU:H	1.51	0.43
45:RZ:171:ILE:HD13	45:RZ:172:ALA:N	2.33	0.43
47:R1:62:VAL:HG23	47:R1:63:ALA:O	2.18	0.43
48:R2:47:ASN:C	48:R2:49:LYS:H	2.26	0.43
54:R8:34:TRP:CG	54:R8:35:GLN:N	2.83	0.43
54:R8:54:GLU:OE2	54:R8:55:ALA:N	2.50	0.43
1:XA:262:A:H2'	1:XA:263:A:C8	2.53	0.43
1:XA:827:U:H3	1:XA:872:A:H62	1.66	0.43
1:XA:1363:C:H5'	1:XA:1363(A):A:OP1	2.18	0.43
2:XB:93:VAL:HG11	2:XB:97:TRP:CD1	2.53	0.43
10:XJ:57:LYS:HD3	10:XJ:57:LYS:HA	1.81	0.43
12:XL:47:LYS:HB3	12:XL:48:PRO:HD3	2.00	0.43
14:XN:3:ARG:O	14:XN:7:ILE:HG23	2.18	0.43
18:XR:41:LYS:HE3	18:XR:41:LYS:HB3	1.84	0.43
25:YA:30:G:H2'	25:YA:31:C:C6	2.53	0.43
25:YA:39:C:O2	29:YF:46:ARG:NH2	2.50	0.43
25:YA:92:G:H2'	25:YA:93:C:C6	2.53	0.43
25:YA:590:A:H2'	25:YA:591:C:C6	2.53	0.43
25:YA:774:A:H2'	25:YA:774:A:N3	2.33	0.43
25:YA:1931:U:H2'	25:YA:1932:A:H8	1.82	0.43
28:YE:23:VAL:O	28:YE:24:THR:OG1	2.34	0.43
29:YF:28:ILE:O	29:YF:30:PRO:HD3	2.17	0.43
30:YG:53:LEU:HG	30:YG:90:LEU:HD21	2.00	0.43
32:YI:56:LYS:HA	32:YI:59:ALA:HB3	1.99	0.43
32:YI:77:LEU:HB2	32:YI:142:VAL:HG21	1.79	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YP:101:VAL:HG21	35:YP:108:LYS:HG2	1.99	0.43
42:YW:20:VAL:HG22	42:YW:47:VAL:HG21	2.00	0.43
51:Y5:16:ARG:NH1	51:Y5:17:ASP:OD1	2.51	0.43
52:Y6:12:GLU:HA	52:Y6:24:GLU:HG2	2.00	0.43
54:Y8:25:MET:SD	54:Y8:47:LYS:HG2	2.58	0.43
1:QA:392:G:H2'	1:QA:393:A:H8	1.83	0.43
1:QA:1502:A:H2	1:QA:1505:G:N1	2.03	0.43
3:QC:7:PRO:O	3:QC:11:ARG:HG2	2.18	0.43
15:QO:23:GLY:O	15:QO:27:VAL:HB	2.18	0.43
22:QV:2:G:C2'	22:QV:3:C:O5'	2.66	0.43
25:RA:2330:G:H2'	25:RA:2331:G:O4'	2.18	0.43
28:RE:79:ARG:O	28:RE:80:GLU:HG3	2.18	0.43
31:RH:152:ARG:C	31:RH:154:PRO:HD3	2.43	0.43
32:RI:48:GLU:HA	32:RI:51:ILE:HB	2.00	0.43
34:RO:10:VAL:HG22	34:RO:17:ARG:O	2.19	0.43
35:RP:39:LYS:HG3	35:RP:45:LEU:HD22	1.99	0.43
39:RT:125:ARG:HA	39:RT:125:ARG:HD3	1.78	0.43
1:XA:540:G:C6	1:XA:541:G:C5	3.07	0.43
1:XA:892:A:O2'	1:XA:1415:G:H4'	2.19	0.43
1:XA:939:G:H5''	7:XG:102:ARG:NH2	2.32	0.43
2:XB:119:GLU:CD	2:XB:153:ARG:HH22	2.24	0.43
25:YA:270(G):C:H2'	25:YA:270(H):C:C6	2.53	0.43
25:YA:273(F):C:H3'	25:YA:274:G:H5''	1.99	0.43
25:YA:768:G:O2'	25:YA:1379:A:N6	2.50	0.43
25:YA:919:G:N2	25:YA:2269:A:OP2	2.49	0.43
25:YA:1009:A:N3	25:YA:1153:C:O2'	2.44	0.43
25:YA:1047:G:H2'	25:YA:1110:G:N1	2.33	0.43
25:YA:1149:G:H2'	25:YA:1150:C:C6	2.53	0.43
25:YA:1895:C:H2'	25:YA:1896:G:O4'	2.18	0.43
25:YA:2345:G:N3	25:YA:2381:C:H2'	2.33	0.43
25:YA:2684:U:OP1	39:YT:53:ARG:HD3	2.18	0.43
33:YN:46:VAL:HG13	33:YN:48:MET:HG3	2.00	0.43
35:YP:21:ARG:HB3	35:YP:22:GLY:H	1.66	0.43
40:YU:52:ARG:HB3	40:YU:52:ARG:NH1	2.33	0.43
1:QA:349:A:C5'	1:QA:350:G:OP2	2.66	0.43
1:QA:664:G:N2	1:QA:741:G:H1	2.02	0.43
1:QA:697:U:H3'	1:QA:698:G:H8	1.84	0.43
1:QA:860:A:H2'	1:QA:861:G:O4'	2.18	0.43
1:QA:1064:G:H1'	1:QA:1066:C:C6	2.54	0.43
6:QF:35:ALA:HA	6:QF:67:MET:HB3	2.00	0.43
12:QL:71:PRO:HD2	12:QL:102:ARG:HD2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:QS:16:LEU:HA	19:QS:19:VAL:HG12	1.98	0.43
19:QS:71:LEU:O	19:QS:73:GLU:N	2.51	0.43
25:RA:1484:G:H2'	25:RA:1485:G:H5''	2.00	0.43
25:RA:1906:G:O2'	25:RA:1907:G:H5'	2.18	0.43
25:RA:2199:A:C8	25:RA:2225:A:N6	2.86	0.43
25:RA:2231:C:H2'	25:RA:2232:U:O4'	2.18	0.43
25:RA:2390:U:O2'	25:RA:2391:G:H5'	2.19	0.43
25:RA:2747:G:O6	25:RA:2755:C:H5''	2.18	0.43
25:RA:2769:C:H2'	25:RA:2770:G:H8	1.83	0.43
28:RE:117:MET:O	28:RE:117:MET:HG2	2.19	0.43
29:RF:33:LEU:HD13	29:RF:112:MET:HE2	1.99	0.43
29:RF:46:ARG:HG2	29:RF:46:ARG:HH11	1.83	0.43
35:RP:52:GLU:HB2	35:RP:53:GLY:H	1.49	0.43
44:RY:17:SER:CB	44:RY:71:LYS:HB3	2.48	0.43
54:R8:38:GLY:O	54:R8:41:ILE:HG22	2.18	0.43
1:XA:667:G:H4'	15:XO:51:HIS:ND1	2.32	0.43
1:XA:1324:A:C4'	1:XA:1362:C:H4'	2.49	0.43
1:XA:1327:C:OP2	21:XU:12:LYS:NZ	2.51	0.43
7:XG:113:GLU:H	7:XG:113:GLU:HG2	1.57	0.43
8:XH:99:GLU:OE1	8:XH:99:GLU:N	2.51	0.43
9:XI:20:ARG:HB2	9:XI:60:ASP:HB2	1.99	0.43
25:YA:6:A:H8	25:YA:6:A:O5'	2.01	0.43
25:YA:528:A:H2'	25:YA:528:A:N3	2.33	0.43
25:YA:987:G:C2'	25:YA:988:A:C5'	2.86	0.43
25:YA:1566:A:OP1	27:YD:211:ARG:NH1	2.50	0.43
25:YA:2406:U:C4	35:YP:72:PRO:HD2	2.53	0.43
25:YA:2414:G:H21	35:YP:67:MET:CE	2.31	0.43
25:YA:2815:C:H5'	51:Y5:29:THR:HG21	1.99	0.43
29:YF:117:ARG:HD3	29:YF:117:ARG:HA	1.71	0.43
1:QA:1280:A:H5'	1:QA:1281:U:OP2	2.18	0.43
1:QA:1301:U:O4	1:QA:1303:C:N1	2.51	0.43
25:RA:1085:A:O2'	25:RA:1086:A:OP1	2.35	0.43
25:RA:1688:U:H1'	25:RA:1701:A:C6	2.54	0.43
25:RA:1721:G:H8	25:RA:1741:A:N6	2.16	0.43
25:RA:2140:C:H42	25:RA:2151:G:H1	1.66	0.43
25:RA:2287:A:H2	25:RA:2346:A:H62	1.65	0.43
25:RA:2635:C:OP1	28:RE:78:LEU:HD13	2.17	0.43
32:RI:2:LYS:HA	32:RI:20:ASP:HA	1.99	0.43
35:RP:14:LYS:C	35:RP:16:ARG:H	2.26	0.43
2:XB:6:THR:HG23	2:XB:217:ARG:HB3	2.00	0.43
3:XC:153:VAL:HG22	3:XC:198:VAL:HG22	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:XT:77:ALA:O	20:XT:81:LYS:HB2	2.18	0.43
22:XW:5:G:N2	22:XW:69:C:O2	2.51	0.43
24:XY:91:TYR:O	24:XY:91:TYR:CG	2.70	0.43
25:YA:635:C:H2'	25:YA:636:G:O4'	2.17	0.43
25:YA:754:C:H2'	25:YA:755:C:H6	1.84	0.43
25:YA:1328:G:O5'	25:YA:1328:G:H8	2.02	0.43
25:YA:1819:A:H4'	25:YA:1820:U:O5'	2.19	0.43
25:YA:1843:C:H2'	25:YA:1844:C:H6	1.84	0.43
25:YA:2247:A:H2'	25:YA:2248:C:C6	2.53	0.43
25:YA:2755:C:O2'	25:YA:2756:U:H2'	2.19	0.43
32:YI:4:ILE:HG12	32:YI:18:VAL:HG22	2.00	0.43
32:YI:140:LEU:HD12	32:YI:140:LEU:HA	1.87	0.43
41:YV:71:LEU:H	41:YV:86:GLY:HA3	1.83	0.43
45:YZ:150:LEU:HG	45:YZ:171:ILE:HG22	2.00	0.43
1:QA:142:G:H2'	1:QA:143:A:H8	1.83	0.43
1:QA:321:A:C8	1:QA:328:C:O2	2.71	0.43
1:QA:1175:G:H2'	1:QA:1176:A:C8	2.52	0.43
1:QA:1429:C:H2'	1:QA:1430:C:H6	1.84	0.43
2:QB:135:GLN:HE21	2:QB:135:GLN:HB2	1.70	0.43
7:QG:16:LEU:HD21	9:QI:42:ARG:HA	2.00	0.43
15:QO:36:ILE:HG23	15:QO:56:LEU:HD11	2.00	0.43
16:QP:43:LYS:HG2	16:QP:48:TRP:CD2	2.53	0.43
22:QW:12:G:H2'	22:QW:13:C:C6	2.54	0.43
25:RA:28:A:H1'	25:RA:513:A:C2	2.53	0.43
25:RA:271:A:OP1	47:R1:97:LEU:HD22	2.19	0.43
25:RA:716:A:C2	25:RA:717:G:H1'	2.52	0.43
25:RA:943:U:C4	25:RA:944:G:N7	2.86	0.43
25:RA:1020:A:N1	25:RA:1141:U:H2'	2.33	0.43
25:RA:2183:C:H2'	25:RA:2184:G:C8	2.53	0.43
25:RA:2208:A:N3	25:RA:2219:G:C2	2.87	0.43
28:RE:48:GLN:O	28:RE:49:LEU:HD13	2.13	0.43
29:RF:129:PHE:CG	29:RF:163:VAL:HG21	2.53	0.43
30:RG:82:LEU:HA	30:RG:86:MET:SD	2.57	0.43
31:RH:10:PRO:HB2	31:RH:11:VAL:H	1.61	0.43
41:RV:5:VAL:HG23	41:RV:37:VAL:HG11	2.00	0.43
42:RW:5:ALA:HB3	42:RW:54:ALA:HB2	2.00	0.43
44:RY:95:LYS:O	44:RY:95:LYS:HD3	2.18	0.43
48:R2:42:GLY:O	48:R2:44:LEU:N	2.40	0.43
1:XA:302:G:O2'	1:XA:556:C:H5''	2.18	0.43
1:XA:392:G:H2'	1:XA:393:A:H8	1.83	0.43
1:XA:443:C:H2'	1:XA:444:C:H6	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:601:C:H42	1:XA:637:G:H1	1.67	0.43
1:XA:1067:A:O2'	1:XA:1094:G:H5'	2.17	0.43
1:XA:1190:G:OP1	3:XC:5:ILE:HG23	2.16	0.43
1:XA:1250:A:H4'	9:XI:68:GLY:N	2.33	0.43
1:XA:1326:C:H2'	1:XA:1327:C:C6	2.52	0.43
1:XA:1423:G:OP1	34:YO:49:ARG:NH2	2.51	0.43
7:XG:47:CYS:O	7:XG:50:ILE:HB	2.18	0.43
9:XI:103:THR:HG22	9:XI:105:ASP:H	1.83	0.43
10:XJ:33:GLN:H	10:XJ:75:ILE:HD11	1.83	0.43
13:XM:59:TYR:O	13:XM:63:THR:OG1	2.27	0.43
19:XS:5:LEU:H	19:XS:5:LEU:HD12	1.84	0.43
22:XW:16:C:H4'	22:XW:60:U:H4'	2.00	0.43
25:YA:270(F):U:H2'	25:YA:270(G):C:H6	1.84	0.43
25:YA:833:U:H2'	25:YA:834:C:C6	2.54	0.43
25:YA:836:G:C5	25:YA:837:C:C4	3.07	0.43
25:YA:1769:G:O2'	25:YA:1958:C:OP1	2.24	0.43
25:YA:2109:U:H2'	25:YA:2110:G:H8	1.83	0.43
25:YA:2556:C:H2'	25:YA:2557:G:O4'	2.18	0.43
25:YA:2633:G:H1'	28:YE:62:PRO:HG3	2.01	0.43
25:YA:2745:C:C4	25:YA:2746:U:C4	3.07	0.43
25:YA:2839:G:H5'	37:YR:46:GLY:HA2	2.00	0.43
27:YD:10:THR:OG1	27:YD:13:ARG:HB2	2.18	0.43
28:YE:60:ASN:O	28:YE:62:PRO:HD3	2.18	0.43
30:YG:114:ILE:HG12	30:YG:140:ILE:HD13	2.00	0.43
37:YR:116:LEU:HD23	37:YR:116:LEU:HA	1.83	0.43
38:YS:110:LEU:HB3	38:YS:111:GLU:H	1.52	0.43
1:QA:56:U:H2'	1:QA:57:G:C8	2.53	0.43
1:QA:490:G:H2'	1:QA:491:G:H8	1.84	0.43
1:QA:1014:A:C2	1:QA:1219:U:H1'	2.54	0.43
3:QC:40:ARG:NH2	3:QC:55:VAL:O	2.51	0.43
5:QE:35:GLY:HA3	5:QE:112:LEU:HB3	1.99	0.43
11:QK:15:ALA:HB2	11:QK:76:GLY:O	2.19	0.43
11:QK:29:ILE:HB	11:QK:44:SER:HB3	1.99	0.43
13:QM:96:LEU:C	13:QM:110:ARG:HE	2.26	0.43
17:QQ:58:GLU:O	17:QQ:74:LEU:N	2.50	0.43
19:QS:48:THR:HG22	19:QS:61:TYR:HD1	1.82	0.43
24:QY:76:PHE:HB3	24:QY:86:LEU:HD13	1.99	0.43
25:RA:48:G:N2	25:RA:49:A:N1	2.67	0.43
25:RA:1441:G:O2'	25:RA:1442:G:H5'	2.19	0.43
25:RA:1712:C:H2'	25:RA:1713:U:H6	1.83	0.43
25:RA:1813:G:H1'	27:RD:50:THR:OG1	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RB:30:C:H2'	26:RB:31:C:O4'	2.19	0.43
28:RE:154:LYS:HA	28:RE:154:LYS:HE3	1.99	0.43
31:RH:44:VAL:HG22	31:RH:51:ARG:NH1	2.33	0.43
35:RP:98:GLU:O	35:RP:101:VAL:HG12	2.18	0.43
41:RV:2:PHE:HD2	41:RV:42:GLY:HA2	1.82	0.43
54:R8:22:VAL:HB	54:R8:50:LEU:HD12	2.00	0.43
1:XA:524:G:H2'	1:XA:525:C:C6	2.53	0.43
1:XA:954:G:H2'	1:XA:955:U:O4'	2.18	0.43
1:XA:966:G:O2'	9:XI:127:LYS:O	2.37	0.43
1:XA:1221:G:OP1	1:XA:1320:C:N4	2.49	0.43
2:XB:13:ALA:C	2:XB:15:VAL:H	2.27	0.43
2:XB:163:PHE:HA	2:XB:185:ILE:HG13	2.01	0.43
14:XN:41:ARG:HG3	14:XN:42:ILE:N	2.33	0.43
20:XT:23:ARG:O	20:XT:27:LYS:HB2	2.18	0.43
23:XX:21:A2M:HM'2	23:XX:21:A2M:H1'	1.82	0.43
25:YA:829:A:N7	25:YA:2248:C:H5'	2.33	0.43
25:YA:1648:C:H2'	25:YA:1649:G:O4'	2.18	0.43
29:YF:125:LEU:HD12	29:YF:196:LEU:HD23	2.00	0.43
35:YP:49:ARG:HD2	54:Y8:58:ILE:CG2	2.49	0.43
39:YT:65:LYS:HE3	39:YT:67:SER:HB2	2.00	0.43
43:YX:8:ILE:O	48:Y2:36:ARG:NH2	2.52	0.43
44:YY:84:ARG:NH2	44:YY:97:ARG:HB2	2.33	0.43
46:Y0:3:HIS:O	46:Y0:4:LYS:HG3	2.19	0.43
1:QA:28:G:O2'	1:QA:296:U:OP1	2.30	0.43
1:QA:429:U:H1'	1:QA:430:A:H5''	2.00	0.43
1:QA:966:G:C2	22:QV:34:C:H5'	2.54	0.43
4:QD:171:GLY:HA2	4:QD:172:PRO:HD3	1.87	0.43
13:QM:16:ASP:OD2	13:QM:16:ASP:N	2.50	0.43
24:QY:46:LEU:O	24:QY:53:LEU:HD22	2.18	0.43
25:RA:9:U:H5'	33:RN:115:ARG:HH12	1.84	0.43
25:RA:1186:G:H2'	25:RA:1187:G:O4'	2.18	0.43
25:RA:1345:C:H2'	25:RA:1346:G:H8	1.84	0.43
25:RA:2343:C:O2'	25:RA:2373:G:O2'	2.29	0.43
25:RA:2660:A:H2'	25:RA:2661:G:O4'	2.19	0.43
27:RD:35:LYS:HB3	27:RD:63:ARG:HA	2.01	0.43
37:RR:103:ARG:HD3	37:RR:103:ARG:HA	1.82	0.43
41:RV:89:GLN:HA	41:RV:90:PRO:HD3	1.89	0.43
53:R7:47:ARG:HH11	53:R7:47:ARG:H	1.66	0.43
1:XA:637:G:H2'	1:XA:638:G:C8	2.54	0.43
1:XA:1219:U:P	14:XN:19:ARG:HH12	2.40	0.43
2:XB:17:PHE:CD2	2:XB:41:ILE:HG23	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XE:5:ASP:N	5:XE:5:ASP:OD1	2.52	0.43
12:XL:58:VAL:O	12:XL:65:GLU:HA	2.18	0.43
25:YA:335:C:H4'	44:YY:73:ARG:HD2	2.00	0.43
25:YA:394:A:N6	25:YA:395:U:O4	2.52	0.43
25:YA:489:G:H2'	25:YA:491:G:O4'	2.19	0.43
25:YA:607:U:H3	25:YA:621:A:H2	1.61	0.43
25:YA:922:U:H1'	46:Y0:26:TYR:CD1	2.54	0.43
25:YA:1021:A:O2'	25:YA:1123:C:OP1	2.36	0.43
25:YA:1973:G:H2'	25:YA:1974:C:C6	2.54	0.43
25:YA:2281:C:O2'	25:YA:2282:G:H5'	2.19	0.43
25:YA:2394:C:OP1	35:YP:63:PRO:HD2	2.19	0.43
25:YA:2557:G:H2'	25:YA:2558:C:C6	2.54	0.43
31:YH:7:LEU:HD13	31:YH:69:ARG:HB3	1.99	0.43
34:YO:68:GLU:H	34:YO:68:GLU:CD	2.26	0.43
37:YR:38:VAL:HB	37:YR:39:PRO:HD3	2.00	0.43
46:Y0:40:GLN:OE1	46:Y0:44:ARG:N	2.51	0.43
47:Y1:84:GLY:O	47:Y1:87:PRO:HD2	2.19	0.43
1:QA:304:U:H2'	1:QA:305:G:C8	2.53	0.43
1:QA:717:C:H4'	11:QK:117:ASN:HB2	2.01	0.43
1:QA:939:G:H5''	7:QG:102:ARG:NH2	2.34	0.43
1:QA:1121:U:H2'	1:QA:1122:U:C6	2.54	0.43
1:QA:1218:C:H2'	1:QA:1219:U:C6	2.53	0.43
3:QC:22:TRP:CD1	3:QC:59:ARG:HD2	2.53	0.43
25:RA:484:C:H2'	25:RA:485:C:C6	2.54	0.43
25:RA:1060:U:H3	25:RA:1088:A:H8	1.66	0.43
25:RA:1138:G:N2	33:RN:106:MET:HE3	2.25	0.43
25:RA:1576:U:H2'	25:RA:1577:C:H6	1.84	0.43
25:RA:1668:A:H5''	34:RO:5:GLN:HG2	2.01	0.43
28:RE:12:THR:HB	28:RE:13:ARG:H	1.59	0.43
30:RG:112:PRO:HG2	50:R4:37:SER:CB	2.49	0.43
30:RG:143:GLU:HG2	50:R4:26:SER:HB2	2.01	0.43
33:RN:12:ARG:O	33:RN:50:ASP:HB2	2.18	0.43
36:RQ:32:TYR:CD2	36:RQ:115:MET:HE1	2.54	0.43
36:RQ:65:PHE:O	36:RQ:104:PHE:HA	2.19	0.43
36:RQ:81:VAL:HG23	46:R0:7:LEU:HD11	2.00	0.43
38:RS:19:LYS:O	38:RS:21:THR:N	2.50	0.43
44:RY:11:ASP:O	44:RY:27:VAL:HG23	2.19	0.43
52:R6:11:LEU:C	52:R6:24:GLU:HG2	2.43	0.43
52:R6:40:CYS:HB3	52:R6:46:HIS:CG	2.53	0.43
1:XA:445:G:H2'	1:XA:446:G:C8	2.53	0.43
1:XA:1163:C:H2'	1:XA:1164:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XI:37:PHE:CE2	9:XI:70:LYS:HG3	2.54	0.43
19:XS:32:LYS:HE2	19:XS:32:LYS:HB2	1.60	0.43
19:XS:36:ARG:HH12	19:XS:73:GLU:HB2	1.82	0.43
20:XT:58:LYS:HE2	20:XT:62:LEU:HD21	2.00	0.43
21:XU:15:ARG:HD3	21:XU:15:ARG:HA	1.82	0.43
25:YA:676:A:H1'	25:YA:2443:C:H1'	2.01	0.43
25:YA:862:G:O2'	26:YB:78:A:N3	2.48	0.43
25:YA:1357:U:H4'	53:Y7:23:ARG:HH21	1.84	0.43
25:YA:1500:G:H21	27:YD:100:GLY:HA3	1.83	0.43
25:YA:2741:A:H2'	25:YA:2742:C:O4'	2.19	0.43
34:YO:104:ARG:HG2	34:YO:121:VAL:HG12	2.01	0.43
36:YQ:63:LYS:HD2	45:YZ:175:VAL:HG21	2.01	0.43
39:YT:6:LEU:O	39:YT:10:VAL:HG23	2.19	0.43
39:YT:102:ILE:O	39:YT:106:SER:HB3	2.19	0.43
43:YX:25:LYS:NZ	43:YX:82:GLN:OE1	2.51	0.43
44:YY:5:MET:HE1	44:YY:32:PRO:HA	2.01	0.43
1:QA:108:G:N2	20:QT:12:ALA:HB1	2.34	0.43
1:QA:833:U:H2'	1:QA:834:C:H6	1.84	0.43
1:QA:885:G:H8	1:QA:885:G:OP2	2.00	0.43
1:QA:1033:G:HO2'	1:QA:1034:G:P	2.39	0.43
8:QH:37:ARG:O	8:QH:41:ARG:HB2	2.19	0.43
10:QJ:4:ILE:HB	10:QJ:74:ILE:HG12	2.01	0.43
13:QM:4:ILE:HG23	13:QM:5:ALA:H	1.82	0.43
20:QT:55:ILE:HD13	20:QT:55:ILE:HA	1.87	0.43
23:QX:13:A:O2'	23:QX:14:A:H3'	2.18	0.43
25:RA:300:A:H1'	25:RA:319:C:H1'	2.01	0.43
25:RA:1264:G:H3'	25:RA:1265:A:H5''	2.00	0.43
25:RA:1374:G:H2'	25:RA:1375:C:H6	1.84	0.43
25:RA:1912:A:C2'	25:RA:1913:A:O5'	2.67	0.43
25:RA:2695:C:H2'	25:RA:2696:U:C6	2.53	0.43
27:RD:24:ILE:HD11	27:RD:84:TYR:HB2	2.01	0.43
29:RF:117:ARG:HA	29:RF:117:ARG:HD3	1.57	0.43
31:RH:42:ARG:HA	31:RH:42:ARG:HD2	1.78	0.43
34:RO:87:ILE:CG2	34:RO:91:LEU:HA	2.49	0.43
40:RU:8:VAL:HG12	40:RU:11:ARG:NH2	2.34	0.43
1:XA:530:G:H2'	24:XY:70:ALA:HA	2.01	0.43
1:XA:1140:C:H2'	1:XA:1141:C:C6	2.54	0.43
8:XH:121:ASP:OD2	8:XH:122:ARG:HG3	2.19	0.43
13:XM:10:PRO:HD2	13:XM:18:ALA:HB1	2.00	0.43
25:YA:738:G:H3'	25:YA:739:G:C8	2.54	0.43
25:YA:821:A:H2'	25:YA:946:G:H5''	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:999:U:H2'	25:YA:1000:A:H5''	2.01	0.43
25:YA:1681:G:HO2'	25:YA:1762:A:HO2'	1.66	0.43
28:YE:3:GLY:HA2	28:YE:198:VAL:O	2.18	0.43
30:YG:10:LYS:HE2	30:YG:175:LEU:O	2.19	0.43
1:QA:1137:C:H5'	1:QA:1138:G:C2	2.53	0.43
1:QA:1347:G:N7	9:QI:107:ARG:HB3	2.34	0.43
1:QA:1429:C:H2'	1:QA:1430:C:C6	2.53	0.43
2:QB:7:VAL:HG13	2:QB:8:LYS:H	1.84	0.43
9:QI:128:ARG:NH2	22:QV:33:U:OP2	2.52	0.43
10:QJ:33:GLN:H	10:QJ:75:ILE:HG12	1.84	0.43
16:QP:5:ARG:NH2	16:QP:24:ALA:HA	2.34	0.43
16:QP:11:SER:HB2	16:QP:14:ASN:HB3	2.01	0.43
21:QU:9:ARG:O	21:QU:13:ILE:HG13	2.19	0.43
25:RA:324:A:N6	25:RA:338:G:O2'	2.50	0.43
25:RA:827:U:H1'	25:RA:2246:G:HO2'	1.84	0.43
25:RA:1105:U:H2'	25:RA:1106:G:H8	1.83	0.43
25:RA:2078:C:H1'	25:RA:2434:A:N3	2.34	0.43
25:RA:2467:C:H4'	36:RQ:123:HIS:CD2	2.54	0.43
25:RA:2666:C:N3	31:RH:152:ARG:NH2	2.67	0.43
25:RA:2785:C:O2'	28:RE:64:LYS:HD3	2.19	0.43
25:RA:2811:G:H8	25:RA:2811:G:OP2	2.02	0.43
30:RG:134:GLY:C	30:RG:135:LEU:HD12	2.44	0.43
36:RQ:2:LEU:H	36:RQ:2:LEU:HD12	1.83	0.43
40:RU:50:ARG:O	40:RU:54:LYS:NZ	2.40	0.43
40:RU:92:ARG:NH2	41:RV:11:GLN:HG3	2.34	0.43
50:R4:14:ILE:O	50:R4:21:VAL:HG23	2.19	0.43
50:R4:55:ARG:H	50:R4:55:ARG:NE	2.17	0.43
1:XA:443:C:H2'	1:XA:444:C:C6	2.54	0.43
1:XA:662:G:H2'	1:XA:663:A:C8	2.54	0.43
1:XA:1318:A:O2'	19:XS:37:ARG:HG2	2.19	0.43
9:XI:18:PHE:HB2	9:XI:62:TYR:HB3	2.01	0.43
11:XK:98:LEU:HD23	11:XK:98:LEU:HA	1.87	0.43
25:YA:2130:U:O2	25:YA:2133:G:O2'	2.36	0.43
25:YA:2645:G:H3'	25:YA:2646:C:C5'	2.49	0.43
25:YA:2838:G:O2'	37:YR:45:ARG:NH1	2.52	0.43
28:YE:23:VAL:HA	28:YE:184:VAL:O	2.19	0.43
31:YH:33:LEU:HD12	31:YH:33:LEU:HA	1.78	0.43
42:YW:18:ARG:NH1	42:YW:76:VAL:O	2.52	0.43
1:QA:16:A:N1	1:QA:919:A:H2	2.17	0.42
7:QG:46:ALA:O	7:QG:50:ILE:HG12	2.19	0.42
10:QJ:8:LEU:HD22	10:QJ:20:ALA:HB2	1.99	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:859:G:H1'	25:RA:860:U:H5	1.83	0.42
25:RA:1036:G:H2'	25:RA:1037:G:O4'	2.18	0.42
25:RA:1429:G:H2'	25:RA:1430:C:C6	2.54	0.42
25:RA:1503:U:H2'	25:RA:1504:C:C6	2.53	0.42
25:RA:2102:U:H2'	25:RA:2103:C:C6	2.53	0.42
25:RA:2496:C:OP1	36:RQ:81:VAL:HG12	2.18	0.42
25:RA:2786:U:H5''	28:RE:66:HIS:CD2	2.54	0.42
25:RA:2817:G:OP1	37:RR:99:LYS:HE2	2.19	0.42
29:RF:32:LEU:O	29:RF:36:VAL:HG23	2.19	0.42
39:RT:26:ASP:HB3	39:RT:92:GLY:H	1.83	0.42
47:R1:34:THR:HG22	47:R1:36:GLY:H	1.84	0.42
48:R2:46:GLN:HB2	48:R2:49:LYS:HZ1	1.84	0.42
55:R9:32:HIS:O	55:R9:34:GLN:HG3	2.19	0.42
1:XA:131:C:H2'	1:XA:132:C:C6	2.53	0.42
1:XA:281:G:OP2	1:XA:281:G:H8	2.01	0.42
1:XA:500:G:N2	1:XA:546:G:H1'	2.33	0.42
1:XA:922:G:C6	1:XA:923:A:C6	3.06	0.42
1:XA:1029:C:H2'	1:XA:1030:C:C6	2.54	0.42
1:XA:1179:A:H4'	9:XI:103:THR:HA	2.00	0.42
2:XB:133:LYS:HD2	2:XB:137:ARG:NH1	2.34	0.42
3:XC:179:ARG:HH11	3:XC:207:VAL:HG22	1.84	0.42
10:XJ:6:ILE:HG22	10:XJ:98:ILE:HA	2.00	0.42
12:XL:46:LYS:HB3	12:XL:46:LYS:HE2	1.81	0.42
25:YA:1278:A:H2'	25:YA:1279:G:C8	2.54	0.42
25:YA:1666:G:H2'	25:YA:1667:G:H1'	2.00	0.42
25:YA:2516:G:C6	25:YA:2517:C:N4	2.87	0.42
25:YA:2543:G:H21	25:YA:2646:C:H5''	1.83	0.42
25:YA:2589:A:H2'	25:YA:2590:A:C8	2.54	0.42
26:YB:114:G:O4'	38:YS:47:THR:HB	2.19	0.42
32:YI:128:LEU:O	32:YI:138:ILE:N	2.52	0.42
40:YU:98:LEU:O	40:YU:99:ALA:HB3	2.19	0.42
51:Y5:9:LYS:HD3	51:Y5:9:LYS:HA	1.86	0.42
52:Y6:42:TRP:CG	52:Y6:43:CYS:H	2.37	0.42
1:QA:56:U:H2'	1:QA:57:G:H8	1.84	0.42
1:QA:664:G:P	18:QR:64:ARG:HH21	2.42	0.42
1:QA:923:A:OP1	5:QE:21:ALA:HB2	2.19	0.42
1:QA:1256:A:H1'	1:QA:1258:G:C6	2.54	0.42
3:QC:19:GLU:HG2	3:QC:40:ARG:NH2	2.34	0.42
4:QD:92:VAL:O	4:QD:96:LEU:HD22	2.19	0.42
12:QL:39:VAL:HG12	12:QL:41:ARG:HG3	2.01	0.42
25:RA:248:G:H5'	25:RA:250:G:N7	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:444:C:H4'	29:RF:49:ALA:HB2	2.01	0.42
25:RA:862:G:H2'	25:RA:863:A:O4'	2.19	0.42
25:RA:878:A:H3'	25:RA:879:G:H8	1.84	0.42
25:RA:1675:C:O2	28:RE:128:SER:OG	2.37	0.42
25:RA:1805:U:O2	27:RD:50:THR:HB	2.19	0.42
25:RA:1939:U:OP1	25:RA:2604:U:O2'	2.30	0.42
25:RA:2314:C:C5'	30:RG:38:VAL:HG11	2.49	0.42
30:RG:99:MET:HG3	30:RG:100:TRP:N	2.34	0.42
38:RS:62:LYS:HD3	38:RS:97:ARG:NH1	2.35	0.42
48:R2:53:LEU:O	48:R2:56:GLN:HB2	2.18	0.42
1:XA:1010:G:H1	1:XA:1019:C:H42	1.66	0.42
1:XA:1206:G:C6	1:XA:1207:G:C5	3.07	0.42
1:XA:1277:C:O2'	1:XA:1279:A:H8	2.02	0.42
1:XA:1427:U:H2'	1:XA:1428:A:C8	2.53	0.42
5:XE:69:VAL:HA	5:XE:70:PRO:HD2	1.90	0.42
7:XG:20:ASP:O	7:XG:21:VAL:HG22	2.19	0.42
22:XW:65:C:H2'	22:XW:66:C:C6	2.54	0.42
25:YA:649:G:H2'	25:YA:650:C:C6	2.55	0.42
25:YA:1006:C:C2	25:YA:1138:G:N2	2.87	0.42
25:YA:1313:U:H2'	25:YA:1610:A:C2	2.54	0.42
25:YA:2676:C:OP1	34:YO:31:LYS:NZ	2.51	0.42
27:YD:108:PRO:HB3	27:YD:143:HIS:NE2	2.34	0.42
30:YG:7:LEU:HB2	30:YG:104:GLU:OE1	2.18	0.42
35:YP:146:VAL:HG13	35:YP:147:LEU:HD22	2.01	0.42
42:YW:9:TYR:H	42:YW:102:HIS:CE1	2.37	0.42
47:Y1:86:SER:N	47:Y1:87:PRO:HD2	2.34	0.42
50:Y4:60:GLN:HB3	50:Y4:61:ARG:NH2	2.34	0.42
1:QA:781:A:H4'	1:QA:1522:U:O2'	2.18	0.42
4:QD:96:LEU:HD12	4:QD:139:ARG:NH1	2.34	0.42
25:RA:871:U:OP1	36:RQ:5:ARG:N	2.51	0.42
25:RA:993:G:H1'	41:RV:87:HIS:CE1	2.54	0.42
25:RA:1028:A:N6	25:RA:1125:G:H2'	2.34	0.42
25:RA:1423:G:H2'	25:RA:1424:G:H8	1.84	0.42
25:RA:1796:U:H2'	25:RA:1797:C:H6	1.85	0.42
25:RA:2115:G:N7	25:RA:2117:A:H5''	2.33	0.42
25:RA:2343:C:C5'	25:RA:2343:C:C6	2.96	0.42
25:RA:2364:C:H2'	25:RA:2365:G:O4'	2.20	0.42
29:RF:103:LYS:HG2	29:RF:106:ARG:NH2	2.34	0.42
29:RF:164:ARG:HG3	29:RF:175:THR:OG1	2.19	0.42
34:RO:34:THR:OG1	34:RO:35:VAL:N	2.52	0.42
39:RT:91:ARG:HD2	39:RT:124:ASP:OD2	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:RU:92:ARG:HH22	41:RV:11:GLN:H	1.67	0.42
45:RZ:59:LEU:HD21	45:RZ:67:LEU:HB2	2.01	0.42
1:XA:267:C:P	17:XQ:67:LYS:HB2	2.59	0.42
13:XM:18:ALA:HB2	13:XM:45:VAL:HG21	2.01	0.42
20:XT:67:ALA:HA	20:XT:73:HIS:N	2.30	0.42
25:YA:1049:C:O2	25:YA:1113:U:O2'	2.30	0.42
25:YA:2328:A:H2'	25:YA:2329:G:C8	2.55	0.42
25:YA:2336:A:H61	46:Y0:43:THR:CG2	2.32	0.42
25:YA:2477:C:H1'	25:YA:2481:G:O6	2.18	0.42
25:YA:2577:A:H5''	25:YA:2578:G:H5'	2.00	0.42
25:YA:2633:G:H1'	28:YE:62:PRO:CB	2.50	0.42
25:YA:2848:G:O2'	25:YA:2849:U:OP2	2.29	0.42
29:YF:25:PRO:HB3	29:YF:28:ILE:HG12	2.01	0.42
34:YO:15:GLY:O	34:YO:47:ILE:N	2.47	0.42
40:YU:83:LEU:HG	40:YU:88:ILE:HD11	2.01	0.42
41:YV:70:ILE:HG13	41:YV:86:GLY:O	2.19	0.42
41:YV:85:LYS:CG	41:YV:87:HIS:H	2.24	0.42
1:QA:272:C:H2'	1:QA:273:A:H8	1.85	0.42
1:QA:316:G:O5'	1:QA:316:G:C8	2.72	0.42
1:QA:834:C:C4	1:QA:835:U:C4	3.07	0.42
1:QA:881:G:OP2	12:QL:12:ARG:NH2	2.51	0.42
1:QA:1059:C:O2'	10:QJ:53:PRO:HD3	2.19	0.42
1:QA:1277:C:O2'	1:QA:1279:A:H1'	2.19	0.42
1:QA:1369:C:H2'	1:QA:1370:G:C8	2.55	0.42
9:QI:16:ARG:O	9:QI:63:ILE:HA	2.18	0.42
25:RA:569:U:C4	25:RA:570:G:C6	3.07	0.42
25:RA:910:A:N1	25:RA:2277:G:H1'	2.34	0.42
25:RA:1963:U:O2	25:RA:1963:U:H3'	2.19	0.42
25:RA:1999:C:O2	25:RA:2687:U:O2'	2.34	0.42
25:RA:2199:A:C5	25:RA:2225:A:C6	3.08	0.42
25:RA:2376:A:H2'	25:RA:2377:A:O4'	2.19	0.42
30:RG:11:TYR:HA	30:RG:15:VAL:HB	2.00	0.42
32:RI:145:VAL:HG12	32:RI:146:ALA:N	2.33	0.42
35:RP:86:LYS:HB3	35:RP:117:GLU:O	2.19	0.42
1:XA:236:G:OP1	17:XQ:40:LYS:NZ	2.49	0.42
1:XA:518:C:H2'	1:XA:530:G:C8	2.54	0.42
1:XA:1030:C:H3'	1:XA:1030(A):G:H4'	2.00	0.42
1:XA:1159:U:O2'	1:XA:1160:G:N7	2.53	0.42
1:XA:1314:C:OP2	19:XS:6:LYS:HD2	2.19	0.42
2:XB:102:LEU:HD23	2:XB:182:ILE:HD12	2.02	0.42
3:XC:8:ILE:HG23	3:XC:16:ARG:HG2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:34:LEU:HD13	14:XN:25:VAL:HG11	2.00	0.42
11:XK:124:LYS:HE2	11:XK:124:LYS:HB3	1.71	0.42
13:XM:54:VAL:HG22	13:XM:57:ARG:NH2	2.34	0.42
19:XS:79:THR:O	19:XS:81:ARG:N	2.52	0.42
21:XU:9:ARG:O	21:XU:13:ILE:HG13	2.19	0.42
22:XV:25:C:H2'	22:XV:26:G:O4'	2.19	0.42
25:YA:569:U:C4	25:YA:570:G:C6	3.07	0.42
25:YA:909:A:H2'	25:YA:912:C:H5	1.83	0.42
25:YA:1036:G:OP1	31:YH:59:ARG:HB2	2.19	0.42
25:YA:1169:G:H1	25:YA:1180:C:H42	1.68	0.42
25:YA:2022:U:O2'	25:YA:2617:C:H5'	2.19	0.42
27:YD:92:ILE:HD12	27:YD:104:TYR:CD2	2.54	0.42
28:YE:97:LYS:N	28:YE:100:GLU:OE1	2.48	0.42
33:YN:34:LEU:HD22	33:YN:119:ARG:HB2	2.00	0.42
36:YQ:77:LYS:HG3	36:YQ:86:GLY:HA2	2.02	0.42
44:YY:79:CYS:O	44:YY:80:GLY:C	2.62	0.42
44:YY:96:ILE:HD12	44:YY:98:VAL:HG12	2.00	0.42
48:Y2:50:ILE:HD12	48:Y2:51:ARG:H	1.85	0.42
50:Y4:9:LEU:HD23	50:Y4:25:TYR:HB3	2.01	0.42
1:QA:277:C:H2'	1:QA:278:G:C8	2.54	0.42
1:QA:738:C:H2'	1:QA:739:C:H6	1.85	0.42
1:QA:892:A:O2'	1:QA:1415:G:H4'	2.19	0.42
1:QA:1182:G:O2'	1:QA:1183:A:OP2	2.35	0.42
1:QA:1391:U:H2'	1:QA:1392:G:C8	2.54	0.42
1:QA:1490:C:H2'	1:QA:1491:G:O5'	2.17	0.42
1:QA:1513:A:H2'	1:QA:1514:C:C6	2.54	0.42
2:QB:186:ALA:O	2:QB:201:ILE:N	2.50	0.42
5:QE:82:VAL:HG21	5:QE:138:ALA:HA	2.02	0.42
5:QE:127:ASN:HA	5:QE:128:PRO:HD3	1.85	0.42
12:QL:102:ARG:HE	12:QL:102:ARG:HB3	1.67	0.42
14:QN:6:LEU:HD22	14:QN:23:ARG:HH22	1.83	0.42
22:QV:12:G:H4'	25:RA:1908:C:O2	2.19	0.42
22:QW:28:C:H42	22:QW:42:G:H1	1.67	0.42
25:RA:389:G:H1	35:RP:71:VAL:HG12	1.83	0.42
25:RA:862:G:O2'	26:RB:78:A:N3	2.50	0.42
25:RA:1239:G:H2'	25:RA:1240:U:O4'	2.19	0.42
25:RA:1911:U:H2'	25:RA:1918:A:C2	2.54	0.42
25:RA:2389:G:H5''	25:RA:2390:U:O4'	2.19	0.42
25:RA:2645:G:H3'	25:RA:2646:C:H5'	2.01	0.42
36:RQ:43:THR:HG22	36:RQ:94:VAL:HG12	2.00	0.42
41:RV:68:LYS:HD3	41:RV:68:LYS:HA	1.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RV:71:LEU:HA	41:RV:71:LEU:HD12	1.64	0.42
44:RY:42:VAL:O	44:RY:65:ALA:N	2.38	0.42
45:RZ:139:VAL:HG13	45:RZ:139:VAL:O	2.19	0.42
48:R2:28:LYS:HD3	48:R2:28:LYS:HA	1.88	0.42
1:XA:538:G:H5'	12:XL:114:LYS:HB2	2.01	0.42
1:XA:637:G:H2'	1:XA:638:G:H8	1.85	0.42
1:XA:1388:C:H2'	1:XA:1389:C:C6	2.55	0.42
7:XG:14:PRO:HB2	7:XG:19:GLY:HA2	2.01	0.42
8:XH:1:MET:SD	8:XH:1:MET:N	2.77	0.42
8:XH:86:ILE:HG12	8:XH:135:CYS:HA	2.01	0.42
17:XQ:95:TYR:O	17:XQ:98:LEU:N	2.52	0.42
20:XT:58:LYS:O	20:XT:58:LYS:HD3	2.19	0.42
25:YA:6:A:C4	25:YA:7:G:C8	3.07	0.42
25:YA:26:G:C6	25:YA:27:G:N1	2.88	0.42
25:YA:1265:A:H8	25:YA:1265:A:OP1	2.02	0.42
25:YA:1912:A:O2'	25:YA:1913:A:OP1	2.34	0.42
25:YA:2040:C:H2'	25:YA:2041:U:C6	2.55	0.42
25:YA:2838:G:C1'	37:YR:45:ARG:HH12	2.32	0.42
27:YD:97:TYR:CB	27:YD:99:ASP:OD1	2.67	0.42
28:YE:144:ARG:HB3	28:YE:145:LYS:H	1.42	0.42
35:YP:39:LYS:HB2	35:YP:45:LEU:HD23	2.00	0.42
35:YP:101:VAL:HA	35:YP:105:LEU:O	2.20	0.42
35:YP:108:LYS:C	35:YP:110:TYR:N	2.78	0.42
36:YQ:7:MET:HE1	36:YQ:93:TYR:CE2	2.55	0.42
36:YQ:60:ARG:O	45:YZ:177:PRO:HB2	2.19	0.42
37:YR:104:ARG:HB3	37:YR:107:ASP:OD2	2.19	0.42
40:YU:58:ARG:HA	40:YU:61:TRP:CE3	2.54	0.42
42:YW:82:LEU:HD23	42:YW:82:LEU:HA	1.89	0.42
43:YX:14:SER:H	43:YX:17:ALA:HB3	1.84	0.42
1:QA:325:A:H2'	1:QA:326:G:O4'	2.20	0.42
1:QA:1157:A:H2'	1:QA:1157:A:N3	2.34	0.42
1:QA:1182:G:H4'	1:QA:1183:A:H5'	2.01	0.42
1:QA:1486:G:H2'	1:QA:1487:G:O4'	2.19	0.42
2:QB:69:LEU:HA	2:QB:91:PRO:HG2	2.01	0.42
4:QD:50:ARG:HH12	5:QE:10:MET:HB3	1.84	0.42
6:QF:96:PRO:HB2	6:QF:98:LEU:HD23	2.02	0.42
7:QG:76:ARG:HH11	7:QG:78:ARG:HH12	1.67	0.42
17:QQ:5:VAL:HG22	17:QQ:60:ILE:HG13	2.02	0.42
25:RA:129:C:H2'	25:RA:130:C:C6	2.55	0.42
25:RA:219:G:C6	25:RA:220:G:C6	3.08	0.42
25:RA:1224:C:HO2'	41:RV:85:LYS:H	1.62	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1414:G:H1	25:RA:1588:C:H42	1.68	0.42
25:RA:1488:G:H5'	25:RA:1489:U:OP2	2.20	0.42
25:RA:1899:G:H2'	25:RA:1899:G:N3	2.35	0.42
25:RA:1952:A:C2	34:RO:22:ILE:HG23	2.55	0.42
25:RA:2208:A:N3	25:RA:2219:G:N2	2.67	0.42
28:RE:120:TRP:CE3	28:RE:155:LYS:HE3	2.54	0.42
38:RS:5:THR:OG1	38:RS:8:GLU:HG2	2.19	0.42
40:RU:104:GLN:H	40:RU:104:GLN:CD	2.28	0.42
44:RY:65:ALA:HA	44:RY:66:PRO:HD3	1.90	0.42
45:RZ:81:ARG:HE	45:RZ:81:ARG:HB2	1.43	0.42
45:RZ:103:ARG:HG3	45:RZ:104:PHE:H	1.85	0.42
46:R0:30:VAL:HG22	46:R0:66:VAL:HG22	2.02	0.42
52:R6:18:ARG:HG3	52:R6:44:ARG:NH1	2.34	0.42
1:XA:600:C:H2'	1:XA:601:C:H6	1.84	0.42
2:XB:200:ILE:HG22	2:XB:202:PRO:HD3	2.02	0.42
4:XD:50:ARG:HA	4:XD:51:PRO:HD3	1.77	0.42
4:XD:190:ASP:OD1	4:XD:191:ARG:N	2.51	0.42
6:XF:23:LYS:HB3	6:XF:23:LYS:HE2	1.88	0.42
19:XS:66:MET:HE3	19:XS:66:MET:HB2	1.88	0.42
25:YA:1991:U:H2'	25:YA:1992:G:H5''	2.01	0.42
25:YA:2109:U:H2'	25:YA:2110:G:C8	2.55	0.42
25:YA:2579:C:C4'	28:YE:134:ILE:HG21	2.49	0.42
25:YA:2811:G:OP2	25:YA:2811:G:H8	2.03	0.42
30:YG:105:LYS:HD3	50:Y4:24:THR:O	2.19	0.42
31:YH:78:GLY:HA2	31:YH:83:TYR:CE1	2.54	0.42
41:YV:21:ARG:HG2	41:YV:93:GLU:HG3	2.01	0.42
44:YY:76:CYS:C	44:YY:78:ALA:N	2.77	0.42
44:YY:101:LYS:HE3	44:YY:101:LYS:O	2.20	0.42
46:Y0:7:LEU:HD13	46:Y0:7:LEU:HA	1.93	0.42
1:QA:953:G:H2'	1:QA:954:G:O4'	2.20	0.42
1:QA:1069:C:O2'	1:QA:1192:C:H1'	2.20	0.42
1:QA:1422:G:O3'	34:RO:49:ARG:NH1	2.53	0.42
2:QB:83:MET:HE1	2:QB:234:PRO:O	2.20	0.42
2:QB:213:LEU:HD21	2:QB:217:ARG:HH12	1.84	0.42
5:QE:48:ALA:HB2	5:QE:57:LYS:HD3	2.02	0.42
7:QG:20:ASP:CG	7:QG:23:VAL:HB	2.44	0.42
9:QI:11:LYS:CD	9:QI:107:ARG:O	2.57	0.42
19:QS:79:THR:O	19:QS:81:ARG:N	2.53	0.42
23:QX:10:G:C3'	23:QX:11:U:H5''	2.50	0.42
25:RA:590:A:OP1	29:RF:95:ARG:NH1	2.53	0.42
25:RA:614(A):U:H5''	25:RA:614(B):G:OP1	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:744:G:H2'	25:RA:745:G:O4'	2.20	0.42
25:RA:1184:G:C6	25:RA:1185:C:C4	3.07	0.42
25:RA:1628:G:H2'	25:RA:1629:U:H6	1.84	0.42
25:RA:2556:C:H2'	25:RA:2557:G:O4'	2.20	0.42
30:RG:27:ASN:HB3	30:RG:30:GLU:HG3	2.02	0.42
30:RG:123:ASN:C	30:RG:125:PHE:H	2.26	0.42
32:RI:142:VAL:HG22	32:RI:143:SER:N	2.34	0.42
34:RO:63:VAL:HG12	34:RO:106:LEU:HD11	2.02	0.42
45:RZ:26:GLY:HA2	45:RZ:85:HIS:CD2	2.55	0.42
49:R3:43:ILE:O	49:R3:47:VAL:HG23	2.19	0.42
1:XA:316:G:H2'	1:XA:317:G:H8	1.84	0.42
1:XA:644:G:H5'	8:XH:92:ARG:HH22	1.84	0.42
1:XA:1096:C:H2'	1:XA:1097:C:H6	1.84	0.42
20:XT:14:LYS:HA	20:XT:17:ARG:NE	2.34	0.42
22:XW:64:G:H2'	22:XW:65:C:O4'	2.20	0.42
25:YA:185:U:H2'	25:YA:186:G:C8	2.54	0.42
25:YA:1926:U:H2'	25:YA:1928:A:OP2	2.20	0.42
25:YA:2410:G:C2	25:YA:2411:A:H1'	2.54	0.42
27:YD:72:LYS:HE3	27:YD:99:ASP:OD1	2.19	0.42
28:YE:143:ASN:HB2	28:YE:147:PRO:HD2	2.02	0.42
33:YN:56:ASN:HA	33:YN:125:GLY:N	2.35	0.42
33:YN:127:ASP:OD1	33:YN:127:ASP:N	2.52	0.42
38:YS:44:LYS:HB2	38:YS:44:LYS:HE3	1.84	0.42
45:YZ:98:MET:HE3	45:YZ:98:MET:HB2	1.98	0.42
49:Y3:35:ARG:HE	49:Y3:37:LEU:HD21	1.84	0.42
1:QA:329:A:C6	1:QA:332:G:C2	3.07	0.42
3:QC:152:ILE:HB	3:QC:199:LYS:HB2	2.02	0.42
10:QJ:22:LYS:HB3	10:QJ:22:LYS:HE3	1.81	0.42
11:QK:120:ARG:HA	11:QK:121:PRO:HD3	1.91	0.42
16:QP:38:TYR:CZ	16:QP:50:LYS:HB3	2.55	0.42
19:QS:35:SER:HB3	19:QS:37:ARG:HB2	2.02	0.42
25:RA:26:G:C6	25:RA:27:G:N1	2.88	0.42
25:RA:61:G:H1	25:RA:94:C:N4	2.11	0.42
25:RA:111:A:H2'	25:RA:112:U:O4'	2.20	0.42
25:RA:383:U:H2'	25:RA:385:C:H5	1.85	0.42
25:RA:613:G:N2	25:RA:614(C):A:O2'	2.53	0.42
25:RA:872:A:OP2	36:RQ:5:ARG:NH2	2.53	0.42
25:RA:1576:U:H2'	25:RA:1577:C:C6	2.55	0.42
25:RA:2818:G:OP2	37:RR:42:LYS:NZ	2.51	0.42
26:RB:56:G:H4'	26:RB:57:A:O5'	2.19	0.42
27:RD:43:ARG:HB2	27:RD:54:ARG:HB2	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:RY:60:PHE:HD2	44:RY:60:PHE:H	1.66	0.42
45:RZ:74:VAL:HG22	45:RZ:86:VAL:HG13	2.01	0.42
53:R7:34:ARG:NH1	53:R7:41:ARG:O	2.53	0.42
54:R8:32:LEU:HA	54:R8:33:ASN:HA	1.88	0.42
1:XA:570:G:H1'	1:XA:820:U:C4	2.55	0.42
1:XA:1300:G:HO2'	1:XA:1301:U:P	2.43	0.42
1:XA:1304:G:C6	1:XA:1305:G:N1	2.88	0.42
3:XC:134:ILE:HG22	3:XC:168:ALA:HB3	2.01	0.42
9:XI:20:ARG:O	9:XI:22:GLY:N	2.47	0.42
17:XQ:63:ARG:HG2	17:XQ:64:PRO:HD2	2.02	0.42
25:YA:363(B):G:H2'	25:YA:363(C):G:C8	2.55	0.42
25:YA:706:A:H2'	25:YA:707:G:O4'	2.19	0.42
25:YA:933:A:H2'	25:YA:934:G:O4'	2.20	0.42
25:YA:2520:C:O2'	25:YA:2565:A:O2'	2.32	0.42
31:YH:49:VAL:HG22	31:YH:50:VAL:H	1.85	0.42
35:YP:134:ALA:O	35:YP:138:LEU:HD12	2.20	0.42
37:YR:5:LYS:HE2	37:YR:5:LYS:HB3	1.83	0.42
55:Y9:11:CYS:SG	55:Y9:27:CYS:SG	3.17	0.42
1:QA:4:U:O4	8:QH:105:ARG:HD3	2.20	0.42
1:QA:1154:G:H2'	1:QA:1155:G:H8	1.84	0.42
1:QA:1284:C:H3'	1:QA:1285:A:H8	1.83	0.42
1:QA:1300:G:O2'	1:QA:1301:U:P	2.78	0.42
4:QD:21:LEU:O	4:QD:23:GLY:N	2.53	0.42
5:QE:71:LEU:HD11	5:QE:114:GLY:HA3	2.01	0.42
7:QG:116:ALA:O	7:QG:120:ILE:HG12	2.19	0.42
9:QI:31:GLN:HB3	9:QI:32:ASP:H	1.52	0.42
20:QT:38:LYS:HB3	20:QT:38:LYS:HE2	1.73	0.42
22:QW:6:G:H2'	22:QW:7:G:C8	2.54	0.42
25:RA:60:G:C5	25:RA:63:U:C4	3.07	0.42
25:RA:519:U:H2'	25:RA:520:G:C8	2.54	0.42
25:RA:580:C:H2'	25:RA:581:C:H6	1.85	0.42
25:RA:1002:G:H2'	25:RA:1003:G:O4'	2.20	0.42
25:RA:1348:G:H1	25:RA:1598:C:H42	1.68	0.42
25:RA:1484:G:H1	25:RA:1505:C:H42	1.67	0.42
25:RA:2023:G:H5'	25:RA:2617:C:H4'	2.01	0.42
25:RA:2259:G:C2	25:RA:2282:G:C6	3.08	0.42
28:RE:78:LEU:HA	28:RE:79:ARG:HA	1.91	0.42
30:RG:55:LYS:HD2	30:RG:58:GLN:NE2	2.34	0.42
35:RP:23:PRO:C	35:RP:25:SER:N	2.78	0.42
39:RT:56:GLY:O	39:RT:59:THR:HG22	2.20	0.42
39:RT:80:SER:HB3	39:RT:83:ILE:HG13	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RW:31:GLU:O	42:RW:35:ILE:HG13	2.19	0.42
45:RZ:24:LEU:HB2	45:RZ:41:LEU:HG	2.02	0.42
1:XA:198:G:H2'	1:XA:199:G:H8	1.84	0.42
1:XA:1058:G:H2'	1:XA:1059:C:O4'	2.19	0.42
1:XA:1327:C:H2'	1:XA:1328:C:H6	1.84	0.42
2:XB:108:ILE:HD13	2:XB:108:ILE:HA	1.80	0.42
7:XG:18:TYR:CD2	7:XG:59:LEU:HD22	2.55	0.42
12:XL:52:LEU:HD23	12:XL:52:LEU:HA	1.89	0.42
15:XO:21:ASP:OD1	15:XO:24:SER:HB2	2.20	0.42
25:YA:947:G:N3	25:YA:984:A:H2	2.18	0.42
25:YA:2070:G:C2	25:YA:2071:A:C4	3.08	0.42
25:YA:2183:C:H2'	25:YA:2184:G:H8	1.85	0.42
25:YA:2314:C:H2'	25:YA:2315:G:H8	1.84	0.42
25:YA:2823:A:OP1	28:YE:113:PHE:HB2	2.18	0.42
26:YB:44:G:H5''	26:YB:45:A:OP1	2.20	0.42
28:YE:10:GLY:HA3	39:YT:8:LYS:HD2	2.02	0.42
30:YG:121:ASN:HA	30:YG:122:PRO:HD2	1.92	0.42
31:YH:3:ARG:C	31:YH:5:GLY:H	2.28	0.42
36:YQ:88:GLY:O	36:YQ:90:VAL:N	2.52	0.42
43:YX:49:VAL:HG23	43:YX:51:VAL:HG23	2.02	0.42
46:Y0:72:ARG:HB2	46:Y0:75:LEU:HB2	2.02	0.42
55:Y9:4:ARG:O	55:Y9:36:GLN:HA	2.20	0.42
1:QA:971:G:H21	1:QA:1233:G:H1'	1.84	0.42
1:QA:1057:G:H4'	3:QC:196:LEU:HA	2.02	0.42
1:QA:1353:G:H2'	1:QA:1354:C:H6	1.84	0.42
4:QD:200:GLU:O	4:QD:204:ILE:HG12	2.20	0.42
5:QE:112:LEU:HD23	5:QE:112:LEU:HA	1.86	0.42
22:QW:1:C:N4	22:QW:2:G:O6	2.53	0.42
24:QY:67:THR:HG23	24:QY:73:ARG:NH1	2.34	0.42
25:RA:13:A:N1	25:RA:525:U:H2'	2.35	0.42
25:RA:271(A):A:N1	25:RA:272(D):G:O2'	2.48	0.42
25:RA:634:C:H2'	25:RA:635:C:C6	2.55	0.42
25:RA:861:A:H2'	25:RA:862:G:O5'	2.19	0.42
25:RA:1853:A:N1	25:RA:2087:G:H1'	2.35	0.42
25:RA:2283:C:OP2	52:R6:6:ARG:HB2	2.20	0.42
25:RA:2476:A:H62	25:RA:2477:C:N4	2.18	0.42
26:RB:56:G:H4'	26:RB:57:A:H8	1.84	0.42
28:RE:76:ARG:N	28:RE:76:ARG:HD2	2.35	0.42
31:RH:7:LEU:HD13	31:RH:69:ARG:CB	2.45	0.42
36:RQ:80:GLU:N	36:RQ:80:GLU:CD	2.77	0.42
45:RZ:126:VAL:HG12	45:RZ:163:LEU:HD13	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:315:A:O2'	1:XA:316:G:P	2.78	0.42
1:XA:410:G:H4'	1:XA:411:A:OP1	2.19	0.42
1:XA:779:C:O2'	11:XK:120:ARG:HD3	2.19	0.42
1:XA:1143:G:H2'	1:XA:1144:G:H8	1.84	0.42
1:XA:1273:G:H3'	1:XA:1274:G:C8	2.53	0.42
2:XB:34:ALA:O	2:XB:41:ILE:HB	2.20	0.42
4:XD:187:ARG:NH2	4:XD:193:ASP:OD1	2.53	0.42
22:XW:7:G:H5''	22:XW:8:U:OP2	2.20	0.42
22:XW:36:U:H2'	22:XW:37:A:C8	2.55	0.42
25:YA:270(Q):C:O3'	32:YI:42:SER:OG	2.34	0.42
25:YA:996:A:O2'	40:YU:92:ARG:NE	2.52	0.42
30:YG:111:LEU:HB2	30:YG:112:PRO:HD3	2.02	0.42
35:YP:124:LYS:HA	35:YP:143:GLY:O	2.19	0.42
39:YT:88:ILE:O	39:YT:88:ILE:HG13	2.20	0.42
44:YY:29:GLU:HB3	44:YY:38:ILE:HG23	2.02	0.42
44:YY:76:CYS:HB3	44:YY:96:ILE:HD11	2.02	0.42
44:YY:89:PHE:O	44:YY:90:LEU:HD22	2.20	0.42
44:YY:101:LYS:HE2	44:YY:101:LYS:HB3	1.81	0.42
1:QA:21:G:H2'	1:QA:22:G:C8	2.55	0.41
7:QG:65:ALA:O	7:QG:69:VAL:HG23	2.20	0.41
8:QH:6:ILE:H	8:QH:6:ILE:HD12	1.85	0.41
25:RA:957:A:N1	25:RA:2458:G:H4'	2.35	0.41
28:RE:55:ASN:ND2	28:RE:75:VAL:HG22	2.36	0.41
30:RG:53:LEU:HD13	30:RG:87:PRO:HB2	2.01	0.41
32:RI:10:GLU:OE1	32:RI:11:ASN:N	2.53	0.41
35:RP:79:ARG:NE	35:RP:109:GLY:HA3	2.35	0.41
35:RP:144:GLU:OE1	35:RP:144:GLU:N	2.52	0.41
38:RS:93:LYS:HE3	38:RS:93:LYS:HB2	1.90	0.41
42:RW:17:VAL:O	42:RW:20:VAL:HG22	2.20	0.41
43:RX:60:ARG:O	43:RX:75:ASP:HB3	2.20	0.41
48:R2:13:ALA:HB1	48:R2:21:LEU:HD21	2.02	0.41
55:R9:2:LYS:HD2	55:R9:33:LYS:O	2.19	0.41
1:XA:33:A:H2'	1:XA:34:C:H6	1.84	0.41
1:XA:536:C:H2'	1:XA:537:G:C8	2.55	0.41
1:XA:585:G:H4'	12:XL:8:ASN:OD1	2.20	0.41
1:XA:818:G:O3'	1:XA:819:A:H4'	2.20	0.41
1:XA:1260:C:H6	1:XA:1260:C:H5''	1.85	0.41
1:XA:1372:U:H2'	1:XA:1373:G:O4'	2.19	0.41
3:XC:112:SER:O	3:XC:116:VAL:HG23	2.20	0.41
4:XD:104:VAL:O	4:XD:108:LEU:HB2	2.21	0.41
12:XL:33:ARG:HD3	12:XL:62:SER:OG	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:XO:12:ILE:HG12	15:XO:31:LEU:HD11	2.01	0.41
15:XO:43:LEU:HD11	15:XO:53:HIS:HA	2.01	0.41
22:XW:53:G:H1	22:XW:61:C:N4	2.18	0.41
25:YA:43:G:H2'	25:YA:44:A:O4'	2.20	0.41
25:YA:687:C:H2'	25:YA:688:U:O4'	2.20	0.41
25:YA:959:A:N6	36:YQ:82:ARG:HH12	2.18	0.41
25:YA:1007:C:H5''	33:YN:35:ARG:NH1	2.34	0.41
25:YA:1301:A:C8	25:YA:1303:G:C8	3.08	0.41
25:YA:1952:A:C2	34:YO:22:ILE:HG23	2.55	0.41
29:YF:46:ARG:HH11	29:YF:46:ARG:HG2	1.83	0.41
29:YF:116:ASP:OD1	29:YF:119:ARG:NH2	2.53	0.41
31:YH:51:ARG:H	31:YH:51:ARG:HG3	1.41	0.41
31:YH:152:ARG:C	31:YH:154:PRO:HD3	2.45	0.41
35:YP:70:GLN:HB3	35:YP:71:VAL:H	1.72	0.41
38:YS:5:THR:OG1	38:YS:8:GLU:HG2	2.20	0.41
41:YV:79:VAL:O	41:YV:80:GLN:HB2	2.19	0.41
1:QA:110:C:O2'	16:QP:25:ARG:O	2.33	0.41
1:QA:685:G:C2	1:QA:686:U:C4	3.08	0.41
1:QA:735:C:H2'	1:QA:736:C:C6	2.54	0.41
1:QA:812:C:H6	1:QA:812:C:H2'	1.62	0.41
2:QB:97:TRP:CE2	2:QB:101:MET:HG3	2.56	0.41
8:QH:50:ARG:HA	8:QH:59:LEU:HD23	2.02	0.41
12:QL:57:LYS:HE3	12:QL:65:GLU:HG2	2.01	0.41
19:QS:36:ARG:HH22	19:QS:69:HIS:HA	1.85	0.41
20:QT:26:ASN:O	20:QT:30:LYS:HB2	2.19	0.41
22:QW:50:U:H2'	22:QW:51:C:C6	2.55	0.41
25:RA:990:A:H5'	25:RA:990:A:H8	1.85	0.41
25:RA:2111:C:O2	25:RA:2118:U:O2'	2.31	0.41
27:RD:25:THR:HG21	27:RD:82:ILE:H	1.84	0.41
27:RD:92:ILE:HD12	27:RD:104:TYR:CE2	2.55	0.41
28:RE:57:LYS:HD2	28:RE:57:LYS:HA	1.84	0.41
28:RE:79:ARG:O	28:RE:80:GLU:CG	2.68	0.41
28:RE:103:ASP:OD1	28:RE:201:THR:HG23	2.19	0.41
30:RG:111:LEU:HD13	30:RG:120:LEU:HD21	2.01	0.41
35:RP:6:LEU:HB3	35:RP:7:ARG:H	1.61	0.41
36:RQ:137:TYR:CE1	45:RZ:83:PRO:HG3	2.55	0.41
38:RS:10:ARG:O	38:RS:14:VAL:HG12	2.20	0.41
39:RT:6:LEU:HD12	39:RT:6:LEU:HA	1.95	0.41
50:R4:13:ARG:HD3	50:R4:13:ARG:HA	1.86	0.41
1:XA:246:A:N6	1:XA:281:G:H1'	2.35	0.41
1:XA:1517:G:H1'	25:YA:1919:A:O3'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:17:PHE:HD2	2:XB:41:ILE:HG23	1.85	0.41
4:XD:20:TYR:CE2	4:XD:27:TYR:HA	2.55	0.41
4:XD:107:ARG:HH21	4:XD:194:LEU:HD12	1.85	0.41
11:XK:29:ILE:HD13	11:XK:29:ILE:HG21	1.80	0.41
13:XM:50:GLU:O	13:XM:54:VAL:HG23	2.20	0.41
21:XU:9:ARG:NH2	21:XU:10:ARG:HE	2.18	0.41
25:YA:154:G:C6	25:YA:155:C:N4	2.88	0.41
25:YA:708:C:H5'	25:YA:709:U:OP2	2.20	0.41
25:YA:882:G:H1	25:YA:894:C:H42	1.68	0.41
25:YA:1062:G:H2'	25:YA:1063:G:H8	1.85	0.41
25:YA:1270:C:C5'	25:YA:1271:G:H5'	2.49	0.41
25:YA:1278:A:H5''	37:YR:36:THR:HG22	2.02	0.41
25:YA:1726:G:C6	25:YA:1727:U:C4	3.08	0.41
25:YA:2103:C:N4	25:YA:2104:G:O6	2.52	0.41
25:YA:2145:C:H5''	25:YA:2146:C:C5	2.55	0.41
26:YB:29:A:H2'	26:YB:30:C:C6	2.55	0.41
28:YE:81:ILE:HG21	28:YE:84:PHE:CD1	2.55	0.41
28:YE:133:LYS:C	28:YE:134:ILE:HG23	2.44	0.41
31:YH:159:GLU:HB3	31:YH:160:LYS:H	1.55	0.41
32:YI:1:MET:HB3	32:YI:21:VAL:O	2.21	0.41
35:YP:144:GLU:HA	35:YP:145:PRO:HD3	1.80	0.41
36:YQ:81:VAL:HG12	36:YQ:82:ARG:HG2	2.02	0.41
38:YS:62:LYS:HB3	38:YS:97:ARG:CD	2.49	0.41
44:YY:43:ASN:HB3	44:YY:64:GLU:HA	2.03	0.41
1:QA:8:A:N6	4:QD:209:ARG:HB2	2.35	0.41
1:QA:186:C:H1'	20:QT:81:LYS:HE3	2.01	0.41
1:QA:411:A:H2'	1:QA:412:A:H4'	2.01	0.41
1:QA:590:C:H2'	1:QA:591:U:C6	2.54	0.41
1:QA:688:G:H2'	1:QA:689:C:H6	1.84	0.41
1:QA:1007:C:H42	1:QA:1022:G:H1	1.69	0.41
5:QE:51:VAL:O	5:QE:55:VAL:HG23	2.19	0.41
5:QE:70:PRO:O	5:QE:72:GLN:NE2	2.53	0.41
7:QG:76:ARG:O	7:QG:87:VAL:N	2.52	0.41
9:QI:2:GLU:O	9:QI:20:ARG:NH1	2.53	0.41
12:QL:45:PRO:HD3	12:QL:51:ALA:O	2.20	0.41
13:QM:86:CYS:HB2	19:QS:73:GLU:HB3	2.02	0.41
13:QM:118:ALA:CB	22:QV:29:G:H5'	2.49	0.41
24:QY:49:GLN:O	24:QY:52:LYS:HE3	2.20	0.41
25:RA:582:G:H2'	25:RA:583:G:H8	1.84	0.41
25:RA:638:G:C6	25:RA:639:U:C4	3.08	0.41
25:RA:724:U:H2'	25:RA:725:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:956:G:H2'	25:RA:957:A:H2'	2.02	0.41
25:RA:1358:G:O2'	25:RA:1359:A:H5''	2.20	0.41
25:RA:1362:C:O2'	25:RA:1363:C:H5'	2.20	0.41
25:RA:1385:G:OP1	25:RA:1385:G:H4'	2.21	0.41
25:RA:1408:C:C2	25:RA:1595:G:N2	2.88	0.41
25:RA:2198:A:O2'	25:RA:2199:A:C8	2.72	0.41
25:RA:2773:C:H2'	25:RA:2774:C:H6	1.85	0.41
26:RB:8:U:O3'	38:RS:25:ARG:NH2	2.53	0.41
27:RD:133:LEU:HD12	27:RD:189:CYS:HB2	2.01	0.41
31:RH:136:ILE:O	31:RH:137:ASP:HB2	2.21	0.41
31:RH:170:ARG:HB3	31:RH:171:LEU:H	1.57	0.41
32:RI:73:GLU:OE1	32:RI:137:PRO:HD2	2.21	0.41
36:RQ:115:MET:HE2	36:RQ:131:ILE:HG21	2.02	0.41
41:RV:85:LYS:HG3	41:RV:87:HIS:HA	2.02	0.41
43:RX:67:GLY:C	43:RX:69:TYR:H	2.27	0.41
47:R1:97:LEU:HD13	47:R1:97:LEU:HA	1.91	0.41
1:XA:56:U:H2'	1:XA:57:G:C8	2.54	0.41
1:XA:109:A:C6	1:XA:326:G:C6	3.08	0.41
1:XA:187:C:O2'	20:XT:89:ARG:NE	2.51	0.41
1:XA:201:C:O2'	1:XA:202:U:OP1	2.32	0.41
1:XA:765:G:N1	1:XA:812:C:H1'	2.36	0.41
1:XA:826:C:H2'	1:XA:827:U:C6	2.55	0.41
4:XD:64:LEU:HD23	4:XD:75:PHE:HZ	1.85	0.41
19:XS:35:SER:HB3	19:XS:37:ARG:HB2	2.02	0.41
19:XS:41:VAL:C	19:XS:43:GLU:H	2.27	0.41
25:YA:191:A:H2'	25:YA:192:C:C6	2.55	0.41
25:YA:1858:G:H1'	25:YA:1884:A:N6	2.34	0.41
25:YA:1885:A:H2'	25:YA:1886:C:O4'	2.21	0.41
27:YD:165:ILE:H	27:YD:165:ILE:HG12	1.61	0.41
28:YE:60:ASN:O	28:YE:62:PRO:CD	2.68	0.41
36:YQ:134:ARG:HH21	45:YZ:122:ARG:NH1	2.18	0.41
38:YS:93:LYS:HE3	38:YS:93:LYS:HB2	1.75	0.41
45:YZ:53:ILE:HA	45:YZ:71:VAL:HG13	2.02	0.41
48:Y2:47:ASN:C	48:Y2:49:LYS:H	2.26	0.41
1:QA:316:G:OP2	1:QA:351:G:O2'	2.37	0.41
2:QB:221:LEU:HA	2:QB:224:GLN:HB2	2.00	0.41
5:QE:69:VAL:HA	5:QE:70:PRO:HD2	1.92	0.41
7:QG:104:LEU:HD13	7:QG:104:LEU:HA	1.91	0.41
9:QI:118:LYS:O	9:QI:120:ARG:N	2.53	0.41
10:QJ:27:ALA:HB2	10:QJ:85:LEU:HD11	2.03	0.41
19:QS:36:ARG:HD2	19:QS:71:LEU:N	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:QV:23:C:H2'	22:QV:24:U:C6	2.55	0.41
25:RA:973:A:H5'	25:RA:1188:U:H1'	2.01	0.41
25:RA:1465:G:H5'	25:RA:1528:A:O2'	2.21	0.41
25:RA:1754:C:OP2	39:RT:113:LYS:HE3	2.20	0.41
25:RA:2061:G:H5''	25:RA:2503:A:C2	2.55	0.41
25:RA:2173:A:C5	25:RA:2174:C:H1'	2.54	0.41
25:RA:2712:U:H5	25:RA:2715:C:OP1	2.04	0.41
28:RE:203:LYS:HE3	28:RE:203:LYS:HB2	1.80	0.41
38:RS:14:VAL:HG21	38:RS:89:ARG:HB3	2.02	0.41
40:RU:28:ARG:NH1	40:RU:38:THR:OG1	2.45	0.41
41:RV:1:MET:N	41:RV:16:PRO:HD3	2.36	0.41
48:R2:15:LYS:HA	48:R2:15:LYS:HD3	1.93	0.41
51:R5:25:LEU:HD23	51:R5:25:LEU:HA	1.88	0.41
1:XA:1313:U:OP2	19:XS:6:LYS:HB3	2.19	0.41
1:XA:1317:C:OP1	14:XN:17:LYS:HG2	2.20	0.41
2:XB:22:LYS:HB3	2:XB:23:ARG:H	1.70	0.41
2:XB:29:ALA:HB1	2:XB:30:ARG:HH21	1.85	0.41
2:XB:93:VAL:HG11	2:XB:97:TRP:HD1	1.85	0.41
2:XB:126:GLU:O	2:XB:130:ARG:NH1	2.53	0.41
7:XG:76:ARG:HB3	7:XG:78:ARG:HH11	1.84	0.41
18:XR:51:LEU:HD23	18:XR:51:LEU:HA	1.92	0.41
22:XV:53:G:N2	22:XV:61:C:O2	2.53	0.41
25:YA:6:A:O5'	25:YA:6:A:C8	2.74	0.41
25:YA:627:A:H8	25:YA:627:A:OP2	2.02	0.41
25:YA:631:A:H2'	25:YA:632:A:O4'	2.20	0.41
25:YA:1069:A:O2'	25:YA:1072:C:OP2	2.33	0.41
25:YA:2074:U:H2'	25:YA:2075:U:C6	2.54	0.41
25:YA:2420:C:N4	54:Y8:31:HIS:HA	2.35	0.41
31:YH:85:LYS:HD2	31:YH:85:LYS:HA	1.62	0.41
34:YO:68:GLU:HB3	34:YO:78:ARG:HB2	2.02	0.41
35:YP:62:LEU:HD11	54:Y8:25:MET:C	2.45	0.41
38:YS:11:LYS:HD3	38:YS:91:PRO:HD3	2.02	0.41
44:YY:95:LYS:NZ	44:YY:95:LYS:HB2	2.35	0.41
45:YZ:142:SER:C	45:YZ:144:LEU:H	2.28	0.41
50:Y4:58:ARG:O	50:Y4:62:ARG:HG2	2.20	0.41
1:QA:374:A:C6	1:QA:375:U:C4	3.08	0.41
1:QA:793:U:OP2	1:QA:794:A:H8	2.03	0.41
9:QI:56:LEU:HD23	9:QI:56:LEU:H	1.85	0.41
16:QP:34:GLU:OE2	16:QP:55:ARG:HD3	2.21	0.41
25:RA:485:C:H2'	25:RA:486:C:C6	2.56	0.41
25:RA:996:A:H4'	40:RU:92:ARG:NE	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1354:A:H2'	25:RA:1355:G:O4'	2.21	0.41
25:RA:1794:U:H2'	25:RA:1795:C:C6	2.56	0.41
25:RA:2186:G:H2'	25:RA:2187:G:H8	1.85	0.41
25:RA:2748:A:H2	25:RA:2754:U:H3	1.65	0.41
27:RD:108:PRO:HB3	27:RD:143:HIS:NE2	2.35	0.41
27:RD:146:GLU:HG2	27:RD:152:GLY:C	2.45	0.41
28:RE:79:ARG:HH11	28:RE:164:ARG:HH12	1.68	0.41
29:RF:53:THR:HG22	29:RF:56:GLU:HG3	2.01	0.41
30:RG:76:SER:OG	30:RG:83:ARG:HA	2.19	0.41
1:XA:250:A:H5'	1:XA:252:U:O4'	2.20	0.41
1:XA:652:U:H1'	1:XA:653:A:H2	1.84	0.41
1:XA:1041:A:H2'	1:XA:1042:G:O4'	2.20	0.41
1:XA:1504:G:OP1	1:XA:1507:A:H4'	2.20	0.41
2:XB:217:ARG:HA	2:XB:220:ASP:HB2	2.02	0.41
4:XD:9:CYS:SG	4:XD:32:ALA:HB2	2.60	0.41
11:XK:77:MET:HE2	11:XK:77:MET:HB2	1.96	0.41
12:XL:93:LEU:HA	12:XL:94:PRO:HD2	1.91	0.41
13:XM:108:ARG:HA	13:XM:108:ARG:HD2	1.89	0.41
17:XQ:19:VAL:HG23	17:XQ:44:ALA:HB3	2.03	0.41
25:YA:256:A:H2'	25:YA:257:A:H8	1.85	0.41
25:YA:363(F):A:H8	25:YA:363(F):A:OP2	2.03	0.41
25:YA:897:C:P	25:YA:897:C:H6	2.43	0.41
25:YA:950:G:C6	25:YA:951:C:C4	3.09	0.41
25:YA:1284:A:H2'	25:YA:1285:G:O4'	2.21	0.41
25:YA:1604:C:O2'	25:YA:1610:A:N1	2.47	0.41
25:YA:2341:G:N2	25:YA:2374:C:O3'	2.54	0.41
27:YD:145:VAL:HG12	27:YD:146:GLU:O	2.20	0.41
27:YD:201:HIS:O	27:YD:204:ILE:HG12	2.21	0.41
28:YE:38:THR:O	28:YE:42:ASP:N	2.53	0.41
28:YE:114:ALA:HB3	28:YE:160:TYR:HB3	2.02	0.41
29:YF:7:TYR:HA	29:YF:125:LEU:O	2.21	0.41
29:YF:32:LEU:O	29:YF:36:VAL:HG23	2.21	0.41
30:YG:114:ILE:HG12	30:YG:140:ILE:HG21	2.02	0.41
35:YP:10:PRO:HB2	35:YP:11:GLY:H	1.66	0.41
39:YT:33:LYS:O	39:YT:82:LEU:HD23	2.20	0.41
40:YU:95:LEU:C	40:YU:97:ASP:H	2.29	0.41
41:YV:38:LEU:HD12	41:YV:55:ALA:HB1	2.03	0.41
48:Y2:21:LEU:HD11	48:Y2:63:VAL:HG12	2.03	0.41
54:Y8:4:MET:HE3	54:Y8:4:MET:HB2	1.69	0.41
1:QA:41:G:H2'	1:QA:42:G:H8	1.84	0.41
1:QA:345:C:H1'	1:QA:346:G:N1	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:554:C:OP2	12:QL:23:LYS:NZ	2.46	0.41
1:QA:598:U:H4'	8:QH:94:TYR:CG	2.56	0.41
1:QA:811:C:H4'	1:QA:900:A:N6	2.36	0.41
1:QA:858:G:O6	1:QA:869:G:H3'	2.20	0.41
1:QA:1347:G:C2'	1:QA:1348:U:OP2	2.68	0.41
3:QC:12:LEU:HD23	3:QC:12:LEU:HA	1.90	0.41
3:QC:47:LEU:HD21	3:QC:68:VAL:HG11	2.02	0.41
4:QD:61:LYS:HE3	4:QD:61:LYS:HB3	1.89	0.41
6:QF:12:PRO:HD3	6:QF:58:GLY:HA2	2.03	0.41
9:QI:83:ARG:HH21	9:QI:102:LEU:HD21	1.86	0.41
13:QM:23:TYR:CD2	13:QM:70:LEU:HD11	2.56	0.41
15:QO:29:VAL:HG11	15:QO:67:LEU:HD21	2.02	0.41
18:QR:22:VAL:CG1	18:QR:56:THR:HA	2.48	0.41
19:QS:36:ARG:HH11	19:QS:71:LEU:C	2.29	0.41
22:QW:19:G:C2	25:RA:2112:G:N2	2.88	0.41
24:QY:31:ASN:O	24:QY:35:GLN:HG2	2.20	0.41
25:RA:522:G:H2'	25:RA:523:C:C6	2.56	0.41
25:RA:997:G:OP1	40:RU:93:LYS:HD2	2.21	0.41
25:RA:1035:U:H2'	25:RA:1036:G:O5'	2.21	0.41
25:RA:1259:G:H2'	25:RA:1260:G:C8	2.55	0.41
25:RA:1321:A:H2'	25:RA:1322:A:O4'	2.21	0.41
25:RA:1696:G:H2'	25:RA:1697:G:C5'	2.50	0.41
25:RA:1952:A:C5	34:RO:22:ILE:HD12	2.56	0.41
25:RA:2091:U:H3'	25:RA:2092:U:H5''	2.03	0.41
25:RA:2635:C:OP1	28:RE:78:LEU:CD1	2.68	0.41
31:RH:103:LEU:HD13	31:RH:123:PHE:HB3	2.02	0.41
34:RO:1:MET:HB2	34:RO:32:TYR:HB3	2.02	0.41
38:RS:14:VAL:HG11	38:RS:90:GLY:O	2.20	0.41
38:RS:15:ARG:HD3	38:RS:15:ARG:HA	1.93	0.41
38:RS:78:LEU:HD11	38:RS:107:GLU:HG3	2.02	0.41
39:RT:50:ILE:HD12	39:RT:50:ILE:HA	1.88	0.41
41:RV:41:GLY:H	41:RV:46:VAL:HG13	1.85	0.41
45:RZ:15:PRO:O	45:RZ:19:ARG:HB2	2.21	0.41
52:R6:14:THR:OG1	52:R6:19:ARG:HA	2.19	0.41
1:XA:161:A:N1	1:XA:347:G:O2'	2.47	0.41
1:XA:1053:G:O6	1:XA:1199:U:H2'	2.21	0.41
1:XA:1313:U:P	19:XS:6:LYS:HD3	2.60	0.41
1:XA:1402:C:H2'	1:XA:1403:C:O4'	2.21	0.41
2:XB:55:PHE:CE1	2:XB:218:ALA:HA	2.56	0.41
8:XH:13:ILE:O	8:XH:17:THR:HG23	2.21	0.41
10:XJ:20:ALA:O	10:XJ:24:VAL:HG23	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:XJ:54:PHE:CG	10:XJ:55:LYS:HG3	2.55	0.41
13:XM:66:LEU:HA	13:XM:70:LEU:HD12	2.02	0.41
22:XV:17:C:OP1	22:XV:60:U:O2'	2.34	0.41
24:XY:34:LEU:HD23	24:XY:34:LEU:HA	1.90	0.41
25:YA:1188:U:O2'	25:YA:1189:A:H5'	2.21	0.41
25:YA:1380:G:N2	25:YA:1570:A:N1	2.64	0.41
25:YA:1421:G:C2	25:YA:1422:G:C8	3.09	0.41
25:YA:1586:A:C3'	25:YA:1587:A:H5'	2.51	0.41
25:YA:1587:A:H2'	25:YA:1588:C:C6	2.55	0.41
25:YA:2103:C:H2'	25:YA:2104:G:C8	2.55	0.41
32:YI:77:LEU:HB2	32:YI:141:LYS:HB2	2.03	0.41
35:YP:98:GLU:H	35:YP:98:GLU:HG3	1.34	0.41
39:YT:27:THR:CG2	39:YT:90:GLN:HB3	2.50	0.41
44:YY:88:LYS:HA	44:YY:88:LYS:HD3	1.93	0.41
50:Y4:40:HIS:H	50:Y4:41:PRO:CD	2.31	0.41
52:Y6:14:THR:HG22	52:Y6:50:ARG:O	2.20	0.41
1:QA:1104:G:O3'	2:QB:111:ARG:NH2	2.53	0.41
1:QA:1301:U:O4	1:QA:1303:C:C2	2.73	0.41
1:QA:1305:G:OP1	21:QU:2:GLY:HA2	2.21	0.41
2:QB:228:GLY:O	2:QB:230:VAL:HG23	2.21	0.41
11:QK:110:ASP:HB3	18:QR:85:LEU:HG	2.02	0.41
14:QN:10:ALA:HB2	14:QN:23:ARG:HE	1.84	0.41
22:QW:30:G:H2'	22:QW:31:G:H8	1.85	0.41
25:RA:121:G:H4'	25:RA:149:A:H5'	2.02	0.41
25:RA:307:G:N2	25:RA:309:G:H3'	2.36	0.41
25:RA:752:A:H4'	25:RA:753:C:O5'	2.20	0.41
25:RA:775:G:C4	25:RA:794:G:C8	3.09	0.41
25:RA:1105:U:H2'	25:RA:1106:G:C8	2.55	0.41
25:RA:1306:C:H2'	25:RA:1307:A:H8	1.85	0.41
25:RA:1863:G:H2'	25:RA:1864:U:O4'	2.20	0.41
25:RA:2142:C:H2'	25:RA:2143:C:C6	2.56	0.41
25:RA:2636:U:H2'	25:RA:2637:U:H6	1.86	0.41
29:RF:125:LEU:HD23	29:RF:125:LEU:N	2.36	0.41
29:RF:195:ASP:OD1	29:RF:196:LEU:N	2.54	0.41
31:RH:155:SER:O	31:RH:155:SER:OG	2.19	0.41
33:RN:111:PRO:HA	33:RN:114:ARG:NH1	2.35	0.41
38:RS:106:ARG:HB3	38:RS:110:LEU:HD21	2.03	0.41
41:RV:64:HIS:CE1	41:RV:92:THR:OG1	2.74	0.41
47:R1:15:ALA:O	47:R1:40:ARG:HG3	2.21	0.41
47:R1:81:LYS:HE3	47:R1:81:LYS:HB3	1.51	0.41
48:R2:44:LEU:HD23	48:R2:44:LEU:HA	1.93	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1457:G:OP1	20:XT:39:LYS:NZ	2.23	0.41
1:XA:1486:G:H2'	1:XA:1487:G:O4'	2.21	0.41
3:XC:206:GLU:HB3	3:XC:207:VAL:H	1.64	0.41
4:XD:199:ASN:O	4:XD:199:ASN:ND2	2.37	0.41
8:XH:49:GLU:HG2	8:XH:62:TYR:HE2	1.85	0.41
23:XX:22:U:H5''	23:XX:22:U:H6	1.86	0.41
25:YA:256:A:H2'	25:YA:257:A:C8	2.56	0.41
25:YA:524:U:H2'	25:YA:525:U:C6	2.56	0.41
25:YA:590:A:OP1	29:YF:95:ARG:NH1	2.54	0.41
25:YA:2086:U:H2'	25:YA:2087:G:C8	2.55	0.41
25:YA:2177:C:H2'	25:YA:2178:C:C6	2.56	0.41
25:YA:2327:A:H2'	25:YA:2328:A:C8	2.55	0.41
26:YB:9:G:OP1	38:YS:19:LYS:NZ	2.54	0.41
30:YG:38:VAL:HG13	30:YG:158:ALA:HB3	2.03	0.41
30:YG:105:LYS:NZ	50:Y4:26:SER:HB3	2.35	0.41
31:YH:109:PHE:CG	31:YH:110:SER:N	2.88	0.41
39:YT:36:GLU:CD	39:YT:41:ARG:HD2	2.45	0.41
41:YV:28:GLU:HA	41:YV:29:PRO:HD3	1.88	0.41
41:YV:33:VAL:N	41:YV:59:ALA:O	2.54	0.41
41:YV:44:LYS:O	41:YV:46:VAL:N	2.54	0.41
41:YV:71:LEU:N	41:YV:86:GLY:HA2	2.35	0.41
1:QA:1241:G:H2'	1:QA:1242:C:C6	2.56	0.41
2:QB:156:LYS:HD2	2:QB:156:LYS:HA	1.92	0.41
3:QC:186:PHE:HA	3:QC:198:VAL:O	2.21	0.41
17:QQ:52:LYS:HE3	17:QQ:52:LYS:HB3	1.81	0.41
19:QS:36:ARG:CZ	19:QS:73:GLU:HB2	2.51	0.41
25:RA:220:G:O2'	25:RA:233:A:N3	2.42	0.41
25:RA:277:C:H5''	25:RA:278:A:C8	2.55	0.41
25:RA:373:U:H2'	25:RA:374:A:O5'	2.21	0.41
25:RA:587:C:N3	35:RP:33:ARG:NH1	2.68	0.41
25:RA:990:A:N6	25:RA:1186:G:H1'	2.36	0.41
25:RA:1006:C:C2	25:RA:1138:G:N2	2.89	0.41
25:RA:1151:G:H5''	40:RU:81:HIS:NE2	2.36	0.41
25:RA:1424:G:OP1	27:RD:33:LEU:HD12	2.20	0.41
25:RA:1688:U:H5'	25:RA:1689:A:OP1	2.21	0.41
25:RA:1796:U:O2'	27:RD:256:GLY:N	2.53	0.41
25:RA:1854:A:H62	25:RA:1888:G:H8	1.68	0.41
25:RA:1857:G:C6	25:RA:1858:G:N1	2.89	0.41
25:RA:1877:A:H3'	25:RA:1878:G:O4'	2.21	0.41
25:RA:1954:G:O2'	25:RA:1956:U:O4	2.32	0.41
25:RA:2441:C:OP2	25:RA:2586:C:O2'	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2513:G:O2'	28:RE:154:LYS:NZ	2.45	0.41
25:RA:2654:A:H1'	25:RA:2656:U:C2	2.56	0.41
27:RD:35:LYS:HD2	27:RD:104:TYR:CD1	2.56	0.41
27:RD:71:ASP:OD2	27:RD:103:ARG:NH2	2.52	0.41
30:RG:47:LYS:HE3	30:RG:47:LYS:HB2	1.91	0.41
35:RP:59:LEU:CD2	54:R8:59:LYS:HE3	2.50	0.41
39:RT:118:ARG:HA	39:RT:121:ILE:HD12	2.02	0.41
1:XA:15:G:C4	1:XA:16:A:C8	3.08	0.41
1:XA:309:G:H1'	1:XA:608:A:C2	2.55	0.41
1:XA:731:G:H5'	1:XA:766:A:H4'	2.02	0.41
1:XA:764:C:H2'	1:XA:765:G:O4'	2.21	0.41
1:XA:1392:G:H21	1:XA:1502:A:H8	1.67	0.41
2:XB:37:ASN:O	2:XB:37:ASN:ND2	2.47	0.41
4:XD:149:ALA:O	4:XD:153:ARG:HG2	2.21	0.41
6:XF:91:VAL:HG12	6:XF:92:LYS:O	2.21	0.41
9:XI:48:GLU:N	9:XI:49:PRO:HD2	2.35	0.41
25:YA:586:A:H5'	29:YF:89:VAL:HG21	2.03	0.41
25:YA:835:A:N6	25:YA:836:G:C6	2.89	0.41
25:YA:1006:C:O2	33:YN:106:MET:HG2	2.21	0.41
25:YA:2565:A:H5''	25:YA:2566:A:OP2	2.21	0.41
25:YA:2745:C:H1'	31:YH:143:GLN:HG2	2.03	0.41
31:YH:30:LYS:HB3	31:YH:136:ILE:HG21	2.02	0.41
40:YU:104:GLN:CD	40:YU:104:GLN:H	2.28	0.41
42:YW:4:LYS:HB3	42:YW:106:ILE:HG22	2.03	0.41
45:YZ:52:SER:C	45:YZ:54:HIS:H	2.28	0.41
1:QA:224:C:H2'	1:QA:225:C:H6	1.86	0.41
1:QA:269:C:H2'	1:QA:270:A:H8	1.84	0.41
1:QA:396:G:O2'	1:QA:398:C:OP1	2.31	0.41
1:QA:398:C:H2'	1:QA:399:G:C8	2.56	0.41
1:QA:639:G:H2'	1:QA:640:A:H8	1.85	0.41
1:QA:742:G:H2'	1:QA:743:U:O4'	2.20	0.41
1:QA:834:C:H2'	1:QA:835:U:C6	2.56	0.41
1:QA:993:G:O6	1:QA:1045:C:N4	2.44	0.41
1:QA:1065:U:P	1:QA:1190:G:H22	2.43	0.41
1:QA:1288:A:H2'	1:QA:1289:A:C8	2.55	0.41
1:QA:1320:C:C4	19:QS:36:ARG:HG2	2.56	0.41
1:QA:1347:G:O2'	1:QA:1348:U:P	2.79	0.41
1:QA:1399:C:H4'	1:QA:1400:C:H5''	2.02	0.41
2:QB:16:HIS:HB2	2:QB:17:PHE:CD2	2.55	0.41
3:QC:134:ILE:HG22	3:QC:168:ALA:HB3	2.02	0.41
3:QC:174:PRO:O	3:QC:177:THR:HG22	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:94:ARG:NH1	7:QG:98:SER:OG	2.54	0.41
7:QG:115:ARG:O	7:QG:118:VAL:HG22	2.21	0.41
8:QH:25:ASP:N	8:QH:25:ASP:OD1	2.52	0.41
11:QK:93:GLN:OE1	11:QK:96:ARG:NH1	2.54	0.41
20:QT:104:LEU:HB3	20:QT:105:SER:H	1.51	0.41
22:QV:50:U:H2'	22:QV:51:C:H6	1.86	0.41
25:RA:139:G:C6	25:RA:140:G:H2'	2.56	0.41
25:RA:311:A:C6	25:RA:328:U:C4	3.09	0.41
25:RA:334:C:OP1	25:RA:335:C:N4	2.52	0.41
25:RA:725:G:C6	25:RA:726:G:N1	2.88	0.41
25:RA:1264:G:H5'	51:R5:11:THR:CG2	2.51	0.41
25:RA:1328:G:H2'	25:RA:1330:C:C5	2.56	0.41
25:RA:1330:C:H2'	25:RA:1331:A:C8	2.52	0.41
25:RA:1357:U:H2'	25:RA:1358:G:O4'	2.20	0.41
25:RA:1496:A:C8	25:RA:1577:C:O2'	2.73	0.41
25:RA:1877:A:H5'	25:RA:1878:G:OP2	2.21	0.41
25:RA:1980:G:N3	25:RA:1982:C:C5	2.88	0.41
25:RA:2528:U:O2'	25:RA:2530:A:OP1	2.29	0.41
25:RA:2661:G:H2'	25:RA:2662:A:O4'	2.20	0.41
26:RB:24:G:H5''	26:RB:25:A:OP1	2.21	0.41
27:RD:261:LYS:HE3	27:RD:261:LYS:HB2	1.91	0.41
30:RG:38:VAL:HG13	30:RG:158:ALA:HB3	2.03	0.41
31:RH:3:ARG:HD3	31:RH:6:ARG:HH21	1.85	0.41
31:RH:89:ILE:HD11	31:RH:129:THR:HG22	2.03	0.41
35:RP:45:LEU:HD12	35:RP:45:LEU:HA	1.83	0.41
36:RQ:81:VAL:C	36:RQ:82:ARG:HD2	2.45	0.41
39:RT:60:THR:HG22	39:RT:77:PRO:HA	2.02	0.41
44:RY:101:LYS:HE3	44:RY:101:LYS:HB3	1.93	0.41
48:R2:15:LYS:HD3	48:R2:67:LYS:HZ1	1.86	0.41
48:R2:16:LEU:O	48:R2:20:GLU:HB2	2.21	0.41
48:R2:32:LEU:HD21	48:R2:54:LYS:HG2	2.03	0.41
49:R3:31:LEU:C	49:R3:33:GLN:H	2.29	0.41
50:R4:46:GLN:HE21	50:R4:48:ARG:HD3	1.85	0.41
1:XA:204:U:O2'	1:XA:216:G:O4'	2.37	0.41
1:XA:1033:G:H2'	1:XA:1034:G:C8	2.56	0.41
1:XA:1202:G:H22	14:YN:46:GLU:CD	2.29	0.41
3:XC:23:TYR:HE1	10:XJ:92:THR:HG23	1.86	0.41
4:XD:9:CYS:SG	4:XD:26:CYS:SG	3.19	0.41
4:XD:39:PRO:HA	4:XD:40:PRO:HD3	1.90	0.41
5:XE:127:ASN:HA	5:XE:128:PRO:HD3	1.93	0.41
8:XH:38:ILE:HD12	8:XH:118:VAL:HG12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XI:53:VAL:HG13	9:XI:95:LYS:HE3	2.03	0.41
11:XK:120:ARG:HA	11:XK:121:PRO:HD3	1.86	0.41
19:XS:12:ASP:H	19:XS:38:SER:HB3	1.86	0.41
20:XT:97:ALA:O	20:XT:99:LEU:N	2.53	0.41
21:XU:8:THR:HB	21:XU:11:GLY:H	1.86	0.41
25:YA:253:C:H2'	25:YA:254:G:O4'	2.21	0.41
25:YA:500:G:N2	25:YA:502:A:H3'	2.36	0.41
25:YA:1300:U:H4'	25:YA:1301:A:O5'	2.20	0.41
25:YA:1338:G:N7	43:YX:62:LYS:NZ	2.50	0.41
25:YA:1816:G:N7	27:YD:62:TYR:CE1	2.89	0.41
25:YA:2314:C:H2'	25:YA:2315:G:C8	2.56	0.41
25:YA:2314:C:H5''	30:YG:38:VAL:HG11	2.02	0.41
25:YA:2439:A:H3'	25:YA:2439:A:P	2.61	0.41
25:YA:2439:A:H4'	25:YA:2440:C:O5'	2.21	0.41
26:YB:24:G:H5''	26:YB:25:A:OP1	2.21	0.41
27:YD:142:VAL:HG12	27:YD:163:ALA:HB3	2.03	0.41
28:YE:36:ARG:HH21	28:YE:88:GLY:CA	2.32	0.41
32:YI:117:GLU:H	32:YI:117:GLU:CD	2.28	0.41
33:YN:34:LEU:HD11	33:YN:120:LEU:HB2	2.02	0.41
35:YP:6:LEU:HD13	35:YP:6:LEU:HA	1.78	0.41
37:YR:67:LEU:HD13	37:YR:76:VAL:HG21	2.03	0.41
39:YT:11:GLU:OE1	39:YT:11:GLU:N	2.53	0.41
41:YV:61:VAL:O	41:YV:63:GLY:N	2.54	0.41
44:YY:15:VAL:HG12	44:YY:17:SER:OG	2.21	0.41
44:YY:96:ILE:HG12	44:YY:101:LYS:HG3	2.03	0.41
47:Y1:85:LEU:HD23	47:Y1:85:LEU:HA	1.90	0.41
48:Y2:46:GLN:HB2	48:Y2:49:LYS:NZ	2.34	0.41
50:Y4:26:SER:OG	50:Y4:27:THR:N	2.50	0.41
50:Y4:46:GLN:NE2	50:Y4:48:ARG:HD3	2.36	0.41
1:QA:350:G:C2'	1:QA:351:G:H5'	2.51	0.41
1:QA:512:U:H2'	1:QA:513:C:H6	1.86	0.41
1:QA:706:A:O4'	11:QK:29:ILE:HD11	2.21	0.41
1:QA:1118:C:H1'	1:QA:1179:A:C5	2.56	0.41
1:QA:1186:G:N2	14:QN:61:TRP:O	2.44	0.41
3:QC:68:VAL:HG12	3:QC:70:VAL:HG23	2.03	0.41
13:QM:9:ILE:H	13:QM:9:ILE:HG12	1.60	0.41
25:RA:394:A:N1	25:RA:395:U:N3	2.68	0.41
25:RA:559:G:N2	40:RU:49:HIS:CE1	2.88	0.41
25:RA:877:U:O2'	25:RA:878:A:OP1	2.35	0.41
25:RA:923:C:H2'	25:RA:924:C:C6	2.55	0.41
25:RA:1384:A:N3	25:RA:1405:U:H1'	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1971:A:C4	27:RD:241:PRO:HD3	2.55	0.41
25:RA:2018:G:H2'	25:RA:2019:A:C8	2.56	0.41
25:RA:2065:C:H1'	25:RA:2449:U:O2	2.21	0.41
25:RA:2075:U:C4	25:RA:2238:G:C6	3.09	0.41
25:RA:2702:U:H6	25:RA:2702:U:OP1	2.03	0.41
25:RA:2839:G:H5'	37:RR:46:GLY:HA2	2.03	0.41
29:RF:140:LEU:HA	29:RF:140:LEU:HD12	1.78	0.41
38:RS:10:ARG:C	38:RS:12:PHE:H	2.27	0.41
40:RU:37:GLU:HA	40:RU:40:PHE:CD1	2.56	0.41
41:RV:38:LEU:HD21	41:RV:57:VAL:HG23	2.03	0.41
42:RW:9:TYR:H	42:RW:102:HIS:CE1	2.39	0.41
47:R1:58:ILE:HG23	47:R1:87:PRO:HG3	2.03	0.41
1:XA:189(D):C:O2	1:XA:189(H):G:N1	2.54	0.41
1:XA:512:U:H2'	1:XA:513:C:H6	1.86	0.41
1:XA:922:G:H2'	1:XA:923:A:C8	2.57	0.41
1:XA:939:G:H2'	1:XA:940:C:C6	2.56	0.41
1:XA:1493:A:C3'	1:XA:1494:G:H5'	2.51	0.41
9:XI:20:ARG:HA	9:XI:21:PRO:HD3	1.85	0.41
20:XT:65:LYS:O	20:XT:68:LYS:HG2	2.21	0.41
20:XT:104:LEU:HB3	20:XT:105:SER:H	1.53	0.41
22:XW:63:G:H2'	22:XW:64:G:C8	2.56	0.41
25:YA:432:A:H2'	25:YA:433:C:C6	2.56	0.41
25:YA:2029:G:H2'	25:YA:2031:A:OP1	2.21	0.41
25:YA:2148:G:H2'	25:YA:2149:G:H8	1.86	0.41
27:YD:224:ALA:HA	27:YD:233:HIS:O	2.21	0.41
31:YH:9:ILE:HB	31:YH:10:PRO:CA	2.50	0.41
32:YI:122:GLU:HB3	32:YI:126:TYR:OH	2.21	0.41
41:YV:35:LEU:HD23	41:YV:37:VAL:HG21	2.03	0.41
48:Y2:21:LEU:HA	48:Y2:21:LEU:HD23	1.82	0.41
1:QA:254:G:OP1	17:QQ:66:SER:OG	2.31	0.40
1:QA:1031:G:H2'	1:QA:1032:G:C8	2.57	0.40
1:QA:1237:C:C4	1:QA:1336:C:O2	2.74	0.40
1:QA:1382:C:O2'	22:QW:34:C:OP1	2.36	0.40
4:QD:108:LEU:HD12	4:QD:108:LEU:HA	1.77	0.40
11:QK:44:SER:O	11:QK:48:ILE:HG12	2.21	0.40
22:QW:53:G:H1	22:QW:61:C:H42	1.68	0.40
25:RA:576:U:H4'	25:RA:2502:G:C8	2.57	0.40
25:RA:1224:C:O3'	41:RV:85:LYS:HD3	2.21	0.40
25:RA:1980:G:C2	25:RA:1982:C:C4	3.09	0.40
25:RA:2146:C:H4'	25:RA:2147:G:O4'	2.21	0.40
25:RA:2208:A:H1'	25:RA:2219:G:C5	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2292:C:P	38:RS:17:ARG:HH22	2.44	0.40
25:RA:2676:C:OP1	34:RO:31:LYS:NZ	2.50	0.40
28:RE:54:GLN:HB2	28:RE:55:ASN:H	1.68	0.40
28:RE:117:MET:HG3	28:RE:122:PHE:O	2.20	0.40
30:RG:97:ASP:O	30:RG:101:ILE:HG23	2.22	0.40
40:RU:58:ARG:HA	40:RU:61:TRP:CE3	2.56	0.40
41:RV:62:LEU:HB3	41:RV:93:GLU:O	2.21	0.40
42:RW:47:VAL:HA	42:RW:50:VAL:HG12	2.04	0.40
45:RZ:148:ASP:OD2	45:RZ:148:ASP:N	2.53	0.40
49:R3:8:LEU:CD1	49:R3:31:LEU:HD12	2.51	0.40
1:XA:270:A:C5	1:XA:271:C:C4	3.09	0.40
1:XA:751:U:H4'	15:XO:24:SER:HA	2.02	0.40
1:XA:1140:C:H2'	1:XA:1141:C:H6	1.86	0.40
1:XA:1318:A:H4'	19:XS:10:PHE:CE2	2.56	0.40
2:XB:221:LEU:HA	2:XB:224:GLN:HB2	2.02	0.40
3:XC:174:PRO:O	3:XC:177:THR:HG22	2.21	0.40
5:XE:7:GLU:HB3	5:XE:35:GLY:O	2.21	0.40
11:XK:62:GLN:OE1	11:XK:93:GLN:NE2	2.54	0.40
13:XM:40:ASN:HB3	13:XM:43:THR:HG23	2.04	0.40
15:XO:75:PRO:HB2	15:XO:79:ARG:HH21	1.86	0.40
18:XR:22:VAL:HG13	18:XR:23:LYS:N	2.36	0.40
25:YA:60:G:C2	25:YA:74:A:C5	3.10	0.40
25:YA:320:A:H4'	25:YA:322:A:N7	2.35	0.40
25:YA:826:U:H4'	35:YP:55:ARG:HA	2.03	0.40
25:YA:1140:C:H2'	25:YA:1141:U:H5'	2.03	0.40
25:YA:1425:G:N1	25:YA:1426:G:C2	2.89	0.40
25:YA:1525:G:H2'	25:YA:1526:G:H8	1.86	0.40
25:YA:1639:U:C2'	25:YA:1640:C:H5''	2.49	0.40
25:YA:1668:A:H4'	25:YA:1669:A:O5'	2.21	0.40
25:YA:2159:G:H2'	25:YA:2160:G:C8	2.56	0.40
25:YA:2395:C:H2'	25:YA:2396:G:O4'	2.21	0.40
25:YA:2816:C:O2	25:YA:2883:A:O2'	2.33	0.40
28:YE:52:LEU:HB3	28:YE:75:VAL:HG23	2.03	0.40
30:YG:33:ARG:H	30:YG:162:THR:HG1	1.65	0.40
31:YH:35:VAL:HG11	31:YH:72:ILE:HG13	2.03	0.40
34:YO:4:PRO:O	34:YO:5:GLN:HB2	2.21	0.40
34:YO:71:ARG:NE	34:YO:105:GLU:OE2	2.55	0.40
41:YV:77:ALA:O	41:YV:79:VAL:HG22	2.21	0.40
49:Y3:46:ASN:O	49:Y3:50:VAL:HG22	2.21	0.40
1:QA:1300:G:H1'	1:QA:1301:U:H5	1.85	0.40
1:QA:1432:G:OP1	39:RT:107:ASP:HB2	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1493:A:O2'	24:QY:55:PRO:HD2	2.22	0.40
8:QH:20:TYR:HE2	8:QH:75:ARG:HD2	1.86	0.40
15:QO:21:ASP:OD2	15:QO:24:SER:HB2	2.21	0.40
21:QU:7:ARG:HB3	21:QU:21:TYR:CE2	2.57	0.40
22:QV:3:C:O2	22:QV:3:C:H2'	2.21	0.40
25:RA:222:A:C6	25:RA:224:G:C2	3.10	0.40
25:RA:329:G:N7	44:RY:19:LYS:HE2	2.36	0.40
25:RA:739:G:N2	25:RA:740:U:O4	2.44	0.40
25:RA:1025:G:C4	25:RA:1135:C:H1'	2.57	0.40
25:RA:2748:A:H8	31:RH:63:SER:CB	2.33	0.40
26:RB:79:C:H2'	26:RB:80:U:H5'	2.02	0.40
28:RE:4:ILE:HG21	28:RE:92:THR:O	2.22	0.40
29:RF:10:PRO:HA	29:RF:127:GLU:HB3	2.03	0.40
29:RF:25:PRO:C	29:RF:27:GLU:H	2.28	0.40
30:RG:143:GLU:OE1	30:RG:143:GLU:N	2.50	0.40
31:RH:90:LYS:HE2	31:RH:90:LYS:HB3	1.91	0.40
42:RW:92:ARG:NH1	42:RW:94:ASP:OD2	2.54	0.40
1:XA:131:C:O2'	1:XA:262:A:N3	2.50	0.40
1:XA:336:C:H2'	1:XA:337:C:C6	2.56	0.40
1:XA:1036:G:H5'	1:XA:1037:C:C5	2.56	0.40
3:XC:68:VAL:HG12	3:XC:70:VAL:HG23	2.03	0.40
11:XK:127:LYS:HD3	11:XK:127:LYS:HA	1.92	0.40
18:XR:66:LEU:O	18:XR:70:ILE:HG13	2.21	0.40
25:YA:250:G:C6	25:YA:251:A:C6	3.09	0.40
25:YA:1814:G:H4'	27:YD:51:VAL:HG21	2.03	0.40
25:YA:2030:A:H4'	25:YA:2031:A:H8	1.86	0.40
28:YE:105:THR:HB	28:YE:197:ILE:HG12	2.03	0.40
33:YN:43:THR:HB	33:YN:46:VAL:HG12	2.03	0.40
36:YQ:80:GLU:HG2	36:YQ:81:VAL:N	2.35	0.40
50:Y4:2:LYS:HB2	50:Y4:2:LYS:HE3	1.84	0.40
55:Y9:11:CYS:HG	55:Y9:32:HIS:CE1	2.34	0.40
1:QA:35:G:H2'	1:QA:36:C:C6	2.56	0.40
1:QA:513:C:H2'	1:QA:514:C:C6	2.56	0.40
1:QA:560:U:H4'	1:QA:561:U:C5'	2.50	0.40
2:QB:29:ALA:HB1	2:QB:30:ARG:NH2	2.32	0.40
2:QB:121:LEU:HA	2:QB:124:SER:HB3	2.04	0.40
3:QC:69:HIS:HA	3:QC:104:GLN:HB2	2.03	0.40
3:QC:86:VAL:O	3:QC:90:GLU:N	2.55	0.40
6:QF:69:GLU:O	6:QF:72:VAL:HG12	2.21	0.40
25:RA:576:U:O5'	25:RA:576:U:H6	2.05	0.40
25:RA:1600:C:H1'	53:R7:49:ARG:HH21	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1843:C:H5'	27:RD:253:GLN:OE1	2.21	0.40
25:RA:2243:U:O2'	25:RA:2244:U:H5'	2.21	0.40
25:RA:2870:C:H2'	25:RA:2871:C:O4'	2.21	0.40
31:RH:33:LEU:HD12	31:RH:33:LEU:HA	1.96	0.40
31:RH:108:GLY:HA3	31:RH:152:ARG:NH2	2.36	0.40
31:RH:156:ALA:HB3	31:RH:159:GLU:O	2.21	0.40
35:RP:47:ASP:OD1	35:RP:50:ARG:NH1	2.55	0.40
38:RS:74:ALA:HB1	38:RS:107:GLU:CB	2.50	0.40
39:RT:6:LEU:O	39:RT:10:VAL:HG23	2.21	0.40
44:RY:84:ARG:HG3	44:RY:84:ARG:O	2.22	0.40
47:R1:88:LYS:O	47:R1:91:LYS:HB2	2.21	0.40
50:R4:58:ARG:NH2	50:R4:62:ARG:HG3	2.36	0.40
1:XA:482:A:H5'	1:XA:483:C:OP2	2.21	0.40
1:XA:1029:C:O2	1:XA:1033:G:N2	2.54	0.40
19:XS:29:ARG:HB2	19:XS:48:THR:OG1	2.22	0.40
20:XT:17:ARG:HA	20:XT:20:LEU:HD12	2.03	0.40
25:YA:137(A):G:H2'	25:YA:139:G:N7	2.37	0.40
25:YA:588:U:H1'	29:YF:90:PHE:HB3	2.03	0.40
25:YA:662:G:OP1	35:YP:15:ARG:NH2	2.55	0.40
25:YA:910:A:C6	25:YA:911:A:C6	3.08	0.40
25:YA:2533:A:H2'	25:YA:2534:A:O4'	2.20	0.40
28:YE:7:VAL:HG21	39:YT:1:MET:HE1	2.03	0.40
29:YF:132:VAL:C	29:YF:134:GLY:N	2.79	0.40
30:YG:82:LEU:HA	30:YG:86:MET:SD	2.62	0.40
32:YI:72:LEU:HD21	32:YI:107:VAL:HG11	2.03	0.40
35:YP:83:VAL:CG1	35:YP:112:LEU:HD21	2.50	0.40
40:YU:17:ILE:HG23	40:YU:39:LEU:HD12	2.03	0.40
42:YW:71:VAL:HA	42:YW:107:LEU:HD12	2.03	0.40
45:YZ:156:LYS:HB3	45:YZ:157:LEU:H	1.63	0.40
45:YZ:158:PRO:HB2	45:YZ:161:VAL:HG23	2.03	0.40
1:QA:6:G:H4'	1:QA:298:A:H4'	2.02	0.40
4:QD:73:ARG:HD2	4:QD:73:ARG:HA	1.86	0.40
4:QD:169:LYS:HE2	4:QD:169:LYS:HB3	1.85	0.40
7:QG:155:ARG:HB3	7:QG:156:TRP:H	1.54	0.40
10:QJ:54:PHE:C	10:QJ:55:LYS:HG3	2.45	0.40
12:QL:126:LYS:O	12:QL:128:ALA:N	2.54	0.40
19:QS:63:THR:H	19:QS:66:MET:CE	2.34	0.40
24:QY:79:ILE:HG22	24:QY:84:TYR:CE2	2.57	0.40
25:RA:55:G:H2'	25:RA:56:A:C8	2.56	0.40
25:RA:140:G:H1'	25:RA:141:A:C2	2.56	0.40
25:RA:363(F):A:H1'	25:RA:364:C:C5	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:873:G:H1	25:RA:904:C:N4	2.17	0.40
25:RA:885:C:H1'	25:RA:890:A:N6	2.36	0.40
25:RA:1001:A:H2'	25:RA:1002:G:O4'	2.22	0.40
25:RA:1154:G:OP1	40:RU:58:ARG:HD3	2.22	0.40
25:RA:1444:G:H2'	25:RA:1445(A):C:C5	2.56	0.40
25:RA:1568:G:P	27:RD:63:ARG:HH12	2.44	0.40
25:RA:1792:G:H2'	25:RA:1793:C:H6	1.87	0.40
25:RA:2065:C:O2	25:RA:2449:U:N3	2.52	0.40
25:RA:2072:G:H2'	25:RA:2073:C:O4'	2.21	0.40
25:RA:2750:A:OP2	31:RH:6:ARG:NH2	2.54	0.40
25:RA:2849:U:H2'	25:RA:2866:U:O2	2.21	0.40
28:RE:35:GLN:HE22	28:RE:37:ARG:HH21	1.69	0.40
35:RP:30:THR:O	35:RP:33:ARG:HB2	2.22	0.40
38:RS:67:ARG:O	38:RS:71:ARG:HG3	2.21	0.40
45:RZ:69:THR:HG22	45:RZ:90:VAL:HG22	2.04	0.40
50:R4:58:ARG:HG3	50:R4:59:PHE:N	2.37	0.40
50:R4:66:SER:C	50:R4:68:ARG:H	2.30	0.40
52:R6:42:TRP:CD1	52:R6:43:CYS:H	2.39	0.40
1:XA:316:G:C2	1:XA:317:G:N7	2.90	0.40
1:XA:710:G:OP1	6:XF:54:LYS:HE2	2.22	0.40
1:XA:1068:G:H5'	1:XA:1388:C:OP1	2.20	0.40
1:XA:1380:U:C5	7:XG:2:ALA:C	2.99	0.40
5:XE:152:ARG:NH2	8:XH:107:LEU:O	2.54	0.40
19:XS:39:THR:HA	19:XS:70:LYS:HA	2.02	0.40
22:XV:31:G:C5	22:XV:32:C:C5	3.10	0.40
22:XV:47:U:H3'	22:XV:48:C:H5'	2.03	0.40
22:XV:62:C:H2'	22:XV:63:G:C8	2.56	0.40
22:XW:71:C:O3'	25:YA:1851:U:O2'	2.40	0.40
24:XY:54:HIS:HA	24:XY:55:PRO:HD3	1.91	0.40
25:YA:94:G:H2'	25:YA:95:G:O4'	2.21	0.40
25:YA:1329:U:H5''	25:YA:1330:C:H5	1.86	0.40
25:YA:1608:A:H1'	25:YA:1610:A:OP2	2.21	0.40
25:YA:2031:A:N3	25:YA:2455:G:O2'	2.48	0.40
25:YA:2564:A:C2	25:YA:2647:U:H4'	2.57	0.40
25:YA:2600:A:H2'	25:YA:2601:C:C6	2.57	0.40
25:YA:2817:G:OP1	37:YR:99:LYS:HE2	2.21	0.40
26:YB:81:G:H5'	26:YB:81:G:N3	2.36	0.40
27:YD:61:LEU:HD12	27:YD:61:LEU:HA	1.78	0.40
27:YD:165:ILE:HD13	27:YD:175:LEU:HD21	2.02	0.40
27:YD:184:LYS:HE3	27:YD:269:PHE:HA	2.02	0.40
29:YF:118:ALA:HB2	29:YF:123:LEU:HD22	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YG:41:GLN:HB3	30:YG:43:LEU:HD13	2.02	0.40
31:YH:116:GLU:HA	31:YH:117:PRO:HD3	1.90	0.40
35:YP:45:LEU:HD22	35:YP:45:LEU:HA	1.78	0.40
35:YP:100:LEU:HD23	35:YP:100:LEU:HA	1.92	0.40
35:YP:106:LEU:C	35:YP:107:LYS:HG2	2.46	0.40
35:YP:126:VAL:HG22	35:YP:145:PRO:HG2	2.02	0.40
36:YQ:7:MET:HE1	36:YQ:93:TYR:HE2	1.85	0.40
42:YW:13:SER:HA	42:YW:14:PRO:HD3	1.87	0.40
44:YY:17:SER:CB	44:YY:71:LYS:HB3	2.50	0.40
45:YZ:182:LYS:HB3	45:YZ:182:LYS:HE3	1.95	0.40
53:Y7:48:LYS:HB2	53:Y7:49:ARG:H	1.62	0.40
1:QA:148:G:H2'	1:QA:149:A:C8	2.52	0.40
1:QA:1237:C:C2'	1:QA:1238:A:OP1	2.70	0.40
4:QD:111:ALA:HA	4:QD:161:ASN:ND2	2.37	0.40
6:QF:7:ASN:OD1	6:QF:62:TRP:HD1	2.04	0.40
7:QG:75:VAL:HG13	7:QG:145:ALA:HA	2.02	0.40
22:QW:14:A:H8	22:QW:14:A:OP1	2.04	0.40
25:RA:86:C:H4'	25:RA:104:U:H1'	2.02	0.40
25:RA:296:C:H2'	25:RA:297:C:H6	1.83	0.40
25:RA:413:C:H4'	25:RA:1880:C:O2'	2.22	0.40
25:RA:826:U:H4'	35:RP:55:ARG:HA	2.04	0.40
25:RA:859:G:C2'	25:RA:860:U:OP2	2.69	0.40
25:RA:1316:U:H2'	25:RA:1317:A:H8	1.87	0.40
25:RA:1345:C:H2'	25:RA:1346:G:C8	2.57	0.40
25:RA:1786:A:H1'	25:RA:1938:A:N6	2.37	0.40
25:RA:1812:A:O2'	27:RD:45:ASN:HB2	2.21	0.40
25:RA:1914:C:C2'	25:RA:1915:U:O5'	2.70	0.40
27:RD:95:LEU:HD22	27:RD:117:VAL:HG11	2.02	0.40
29:RF:22:ALA:C	29:RF:24:LEU:H	2.29	0.40
29:RF:63:LYS:HE2	29:RF:67:GLN:HB2	2.03	0.40
35:RP:3:LEU:HD23	35:RP:3:LEU:HA	1.95	0.40
39:RT:102:ILE:O	39:RT:106:SER:HB3	2.21	0.40
41:RV:86:GLY:O	41:RV:87:HIS:C	2.65	0.40
45:RZ:5:LEU:HD21	45:RZ:44:PHE:HA	2.04	0.40
45:RZ:110:GLY:N	45:RZ:142:SER:HB2	2.35	0.40
52:R6:40:CYS:N	52:R6:41:PRO:HD3	2.36	0.40
1:XA:16:A:N1	1:XA:919:A:H2	2.19	0.40
1:XA:108:G:H5'	1:XA:109:A:H5''	2.02	0.40
1:XA:482:A:H3'	1:XA:483:C:C6	2.57	0.40
1:XA:766:A:H2'	1:XA:767:A:O4'	2.21	0.40
1:XA:872:A:C4	1:XA:874:G:C8	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1479:C:H2'	1:XA:1480:G:C8	2.57	0.40
10:XJ:10:GLY:HA3	10:XJ:16:LEU:CD2	2.51	0.40
23:XX:11:U:O2'	23:XX:12:A:O5'	2.36	0.40
25:YA:384:U:H2'	25:YA:385:C:H6	1.87	0.40
25:YA:1418:G:OP1	25:YA:1588:C:O2'	2.37	0.40
25:YA:2261:C:OP1	46:Y0:17:GLN:HB2	2.22	0.40
25:YA:2733:A:C2	28:YE:203:LYS:HA	2.56	0.40
28:YE:203:LYS:HE3	28:YE:203:LYS:HB2	1.75	0.40
30:YG:41:GLN:HG2	30:YG:154:GLY:O	2.21	0.40
32:YI:1:MET:HG3	32:YI:23:PRO:HG3	2.03	0.40
32:YI:76:THR:HG21	32:YI:138:ILE:HD11	2.02	0.40
39:YT:55:ASN:H	39:YT:59:THR:HG22	1.85	0.40
39:YT:130:ALA:HA	39:YT:133:GLU:HG2	2.03	0.40
41:YV:5:VAL:HG11	41:YV:14:VAL:HG13	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	QB	234/256 (91%)	186 (80%)	29 (12%)	19 (8%)	1	4
2	XB	234/256 (91%)	189 (81%)	27 (12%)	18 (8%)	1	5
3	QC	204/239 (85%)	162 (79%)	26 (13%)	16 (8%)	1	4
3	XC	204/239 (85%)	159 (78%)	33 (16%)	12 (6%)	1	8
4	QD	206/209 (99%)	169 (82%)	26 (13%)	11 (5%)	1	10
4	XD	206/209 (99%)	168 (82%)	24 (12%)	14 (7%)	1	6
5	QE	152/162 (94%)	136 (90%)	12 (8%)	4 (3%)	4	21
5	XE	152/162 (94%)	137 (90%)	10 (7%)	5 (3%)	3	17
6	QF	99/101 (98%)	89 (90%)	10 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	XF	99/101 (98%)	95 (96%)	4 (4%)	0	100	100
7	QG	153/156 (98%)	136 (89%)	13 (8%)	4 (3%)	4	21
7	XG	153/156 (98%)	134 (88%)	15 (10%)	4 (3%)	4	21
8	QH	136/138 (99%)	126 (93%)	7 (5%)	3 (2%)	5	24
8	XH	136/138 (99%)	123 (90%)	10 (7%)	3 (2%)	5	24
9	QI	126/128 (98%)	94 (75%)	24 (19%)	8 (6%)	1	7
9	XI	126/128 (98%)	96 (76%)	23 (18%)	7 (6%)	1	9
10	QJ	97/105 (92%)	80 (82%)	13 (13%)	4 (4%)	2	15
10	XJ	97/105 (92%)	81 (84%)	11 (11%)	5 (5%)	1	10
11	QK	119/129 (92%)	100 (84%)	14 (12%)	5 (4%)	2	14
11	XK	119/129 (92%)	105 (88%)	10 (8%)	4 (3%)	3	17
12	QL	123/132 (93%)	99 (80%)	16 (13%)	8 (6%)	1	6
12	XL	123/132 (93%)	97 (79%)	18 (15%)	8 (6%)	1	6
13	QM	116/126 (92%)	88 (76%)	17 (15%)	11 (10%)	0	3
13	XM	116/126 (92%)	88 (76%)	17 (15%)	11 (10%)	0	3
14	QN	58/61 (95%)	51 (88%)	4 (7%)	3 (5%)	1	10
14	XN	58/61 (95%)	50 (86%)	5 (9%)	3 (5%)	1	10
15	QO	86/89 (97%)	81 (94%)	5 (6%)	0	100	100
15	XO	86/89 (97%)	79 (92%)	7 (8%)	0	100	100
16	QP	82/88 (93%)	72 (88%)	10 (12%)	0	100	100
16	XP	82/88 (93%)	76 (93%)	6 (7%)	0	100	100
17	QQ	98/105 (93%)	90 (92%)	7 (7%)	1 (1%)	12	40
17	XQ	98/105 (93%)	89 (91%)	7 (7%)	2 (2%)	6	25
18	QR	69/88 (78%)	61 (88%)	8 (12%)	0	100	100
18	XR	69/88 (78%)	62 (90%)	6 (9%)	1 (1%)	9	31
19	QS	80/93 (86%)	52 (65%)	18 (22%)	10 (12%)	0	1
19	XS	80/93 (86%)	52 (65%)	18 (22%)	10 (12%)	0	1
20	QT	97/106 (92%)	79 (81%)	15 (16%)	3 (3%)	3	18
20	XT	97/106 (92%)	80 (82%)	14 (14%)	3 (3%)	3	18
21	QU	23/27 (85%)	17 (74%)	5 (22%)	1 (4%)	2	13
21	XU	23/27 (85%)	18 (78%)	3 (13%)	2 (9%)	0	4

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
24	QY	89/117 (76%)	80 (90%)	9 (10%)	0	100	100
24	XY	89/117 (76%)	84 (94%)	5 (6%)	0	100	100
27	RD	270/276 (98%)	224 (83%)	38 (14%)	8 (3%)	3	18
27	YD	270/276 (98%)	229 (85%)	31 (12%)	10 (4%)	2	16
28	RE	203/206 (98%)	141 (70%)	36 (18%)	26 (13%)	0	1
28	YE	203/206 (98%)	133 (66%)	37 (18%)	33 (16%)	0	0
29	RF	206/210 (98%)	167 (81%)	26 (13%)	13 (6%)	1	7
29	YF	206/210 (98%)	168 (82%)	22 (11%)	16 (8%)	1	4
30	RG	179/182 (98%)	141 (79%)	26 (14%)	12 (7%)	1	6
30	YG	179/182 (98%)	147 (82%)	21 (12%)	11 (6%)	1	7
31	RH	168/180 (93%)	104 (62%)	37 (22%)	27 (16%)	0	0
31	YH	168/180 (93%)	98 (58%)	42 (25%)	28 (17%)	0	0
32	RI	144/148 (97%)	110 (76%)	28 (19%)	6 (4%)	2	14
32	YI	144/148 (97%)	116 (81%)	22 (15%)	6 (4%)	2	14
33	RN	136/140 (97%)	116 (85%)	13 (10%)	7 (5%)	1	10
33	YN	136/140 (97%)	110 (81%)	19 (14%)	7 (5%)	1	10
34	RO	120/122 (98%)	111 (92%)	8 (7%)	1 (1%)	16	44
34	YO	120/122 (98%)	109 (91%)	10 (8%)	1 (1%)	16	44
35	RP	148/150 (99%)	99 (67%)	23 (16%)	26 (18%)	0	0
35	YP	148/150 (99%)	103 (70%)	22 (15%)	23 (16%)	0	0
36	RQ	138/141 (98%)	110 (80%)	17 (12%)	11 (8%)	1	4
36	YQ	137/141 (97%)	111 (81%)	15 (11%)	11 (8%)	1	4
37	RR	115/118 (98%)	107 (93%)	4 (4%)	4 (4%)	3	16
37	YR	115/118 (98%)	109 (95%)	3 (3%)	3 (3%)	4	21
38	RS	109/112 (97%)	84 (77%)	17 (16%)	8 (7%)	1	5
38	YS	109/112 (97%)	85 (78%)	13 (12%)	11 (10%)	0	3
39	RT	135/146 (92%)	108 (80%)	25 (18%)	2 (2%)	8	30
39	YT	135/146 (92%)	113 (84%)	17 (13%)	5 (4%)	2	16
40	RU	115/118 (98%)	107 (93%)	6 (5%)	2 (2%)	7	28
40	YU	115/118 (98%)	103 (90%)	9 (8%)	3 (3%)	4	21
41	RV	99/101 (98%)	71 (72%)	13 (13%)	15 (15%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
41	YV	99/101 (98%)	70 (71%)	15 (15%)	14 (14%)	0	0
42	RW	111/113 (98%)	107 (96%)	1 (1%)	3 (3%)	4	20
42	YW	111/113 (98%)	104 (94%)	3 (3%)	4 (4%)	2	16
43	RX	90/96 (94%)	77 (86%)	11 (12%)	2 (2%)	5	24
43	YX	90/96 (94%)	77 (86%)	11 (12%)	2 (2%)	5	24
44	RY	100/110 (91%)	57 (57%)	28 (28%)	15 (15%)	0	0
44	YY	100/110 (91%)	58 (58%)	26 (26%)	16 (16%)	0	0
45	RZ	174/206 (84%)	119 (68%)	33 (19%)	22 (13%)	0	1
45	YZ	181/206 (88%)	122 (67%)	42 (23%)	17 (9%)	0	3
46	R0	81/85 (95%)	73 (90%)	5 (6%)	3 (4%)	2	16
46	Y0	81/85 (95%)	67 (83%)	11 (14%)	3 (4%)	2	16
47	R1	95/98 (97%)	71 (75%)	12 (13%)	12 (13%)	0	1
47	Y1	95/98 (97%)	76 (80%)	13 (14%)	6 (6%)	1	7
48	R2	67/72 (93%)	54 (81%)	8 (12%)	5 (8%)	1	5
48	Y2	67/72 (93%)	56 (84%)	5 (8%)	6 (9%)	0	3
49	R3	57/60 (95%)	51 (90%)	6 (10%)	0	100	100
49	Y3	57/60 (95%)	51 (90%)	6 (10%)	0	100	100
50	R4	68/71 (96%)	43 (63%)	12 (18%)	13 (19%)	0	0
50	Y4	68/71 (96%)	37 (54%)	15 (22%)	16 (24%)	0	0
51	R5	57/60 (95%)	46 (81%)	9 (16%)	2 (4%)	3	16
51	Y5	55/60 (92%)	48 (87%)	3 (6%)	4 (7%)	1	5
52	R6	46/54 (85%)	22 (48%)	15 (33%)	9 (20%)	0	0
52	Y6	46/54 (85%)	16 (35%)	17 (37%)	13 (28%)	0	0
53	R7	47/49 (96%)	47 (100%)	0	0	100	100
53	Y7	47/49 (96%)	44 (94%)	3 (6%)	0	100	100
54	R8	62/65 (95%)	48 (77%)	7 (11%)	7 (11%)	0	2
54	Y8	62/65 (95%)	48 (77%)	7 (11%)	7 (11%)	0	2
55	R9	35/37 (95%)	34 (97%)	0	1 (3%)	3	19
55	Y9	34/37 (92%)	33 (97%)	1 (3%)	0	100	100
All	All	11647/12362 (94%)	9400 (81%)	1486 (13%)	761 (6%)	1	6

All (761) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	QB	29	ALA
2	QB	165	VAL
2	QB	195	ASP
2	QB	238	LEU
3	QC	64	VAL
3	QC	77	ILE
4	QD	13	ARG
4	QD	14	ARG
4	QD	24	GLU
4	QD	34	GLU
4	QD	150	GLU
5	QE	115	VAL
7	QG	80	VAL
9	QI	34	ASN
9	QI	35	GLU
10	QJ	75	ILE
12	QL	47	LYS
12	QL	79	GLU
13	QM	12	ASN
13	QM	14	ARG
13	QM	47	ASP
13	QM	83	ASP
17	QQ	69	LYS
19	QS	37	ARG
19	QS	67	VAL
19	QS	70	LYS
19	QS	72	GLY
27	RD	28	GLU
28	RE	53	PRO
28	RE	63	LEU
28	RE	64	LYS
28	RE	68	ALA
28	RE	71	GLY
29	RF	2	LYS
29	RF	25	PRO
29	RF	132	VAL
30	RG	97	ASP
31	RH	9	ILE
31	RH	10	PRO
31	RH	12	PRO
31	RH	15	VAL
31	RH	49	VAL
31	RH	80	SER

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Mol	Chain	Res	Type
31	RH	152	ARG
31	RH	153	LYS
31	RH	164	TYR
31	RH	168	PRO
32	RI	144	VAL
33	RN	131	GLN
34	RO	48	PRO
35	RP	6	LEU
35	RP	10	PRO
35	RP	15	ARG
35	RP	27	HIS
35	RP	29	LYS
35	RP	42	SER
35	RP	56	SER
35	RP	57	THR
35	RP	62	LEU
35	RP	63	PRO
35	RP	98	GLU
36	RQ	78	PRO
36	RQ	90	VAL
36	RQ	133	ARG
38	RS	89	ARG
41	RV	47	VAL
41	RV	49	THR
44	RY	77	PRO
44	RY	78	ALA
44	RY	85	VAL
44	RY	89	PHE
45	RZ	53	ILE
45	RZ	157	LEU
46	R0	47	PRO
47	R1	30	VAL
47	R1	45	ASN
48	R2	47	ASN
50	R4	39	CYS
50	R4	40	HIS
51	R5	4	HIS
52	R6	19	ARG
52	R6	31	PRO
54	R8	32	LEU
54	R8	34	TRP
55	R9	2	LYS

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Mol	Chain	Res	Type
2	XB	15	VAL
2	XB	29	ALA
2	XB	165	VAL
2	XB	190	THR
2	XB	238	LEU
3	XC	12	LEU
3	XC	64	VAL
4	XD	14	ARG
4	XD	24	GLU
4	XD	26	CYS
4	XD	110	PHE
5	XE	115	VAL
7	XG	80	VAL
9	XI	118	LYS
10	XJ	54	PHE
10	XJ	57	LYS
10	XJ	75	ILE
12	XL	127	GLU
13	XM	3	ARG
13	XM	14	ARG
13	XM	47	ASP
13	XM	83	ASP
14	XN	15	LYS
18	XR	20	ALA
19	XS	37	ARG
19	XS	38	SER
19	XS	70	LYS
27	YD	26	LYS
27	YD	28	GLU
28	YE	54	GLN
28	YE	61	ARG
28	YE	64	LYS
28	YE	78	LEU
29	YF	25	PRO
29	YF	67	GLN
29	YF	123	LEU
29	YF	124	LEU
31	YH	9	ILE
31	YH	10	PRO
31	YH	15	VAL
31	YH	49	VAL
31	YH	84	SER

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Mol	Chain	Res	Type
31	YH	109	PHE
31	YH	152	ARG
31	YH	153	LYS
31	YH	168	PRO
32	YI	141	LYS
33	YN	17	ASP
33	YN	18	ALA
34	YO	48	PRO
35	YP	6	LEU
35	YP	10	PRO
35	YP	15	ARG
35	YP	16	ARG
35	YP	27	HIS
35	YP	45	LEU
35	YP	56	SER
35	YP	62	LEU
35	YP	63	PRO
36	YQ	18	LYS
36	YQ	59	ARG
36	YQ	78	PRO
36	YQ	133	ARG
38	YS	89	ARG
38	YS	107	GLU
41	YV	85	LYS
44	YY	77	PRO
44	YY	78	ALA
44	YY	80	GLY
44	YY	89	PHE
45	YZ	53	ILE
45	YZ	111	VAL
45	YZ	141	VAL
45	YZ	154	ASP
46	Y0	47	PRO
47	Y1	30	VAL
47	Y1	93	GLU
48	Y2	43	GLN
48	Y2	47	ASN
50	Y4	6	HIS
50	Y4	40	HIS
51	Y5	4	HIS
52	Y6	28	ARG
52	Y6	31	PRO

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Mol	Chain	Res	Type
54	Y8	30	ARG
54	Y8	33	ASN
54	Y8	51	ALA
54	Y8	61	LEU
2	QB	16	HIS
2	QB	20	GLU
2	QB	39	ILE
2	QB	194	PRO
3	QC	12	LEU
3	QC	78	GLY
3	QC	85	ARG
3	QC	160	ALA
3	QC	162	GLN
7	QG	17	VAL
8	QH	99	GLU
9	QI	119	ALA
9	QI	124	GLN
10	QJ	54	PHE
11	QK	10	VAL
11	QK	15	ALA
12	QL	45	PRO
12	QL	127	GLU
13	QM	3	ARG
13	QM	48	LEU
13	QM	63	THR
13	QM	100	GLY
13	QM	116	THR
14	QN	14	PRO
14	QN	15	LYS
19	QS	38	SER
19	QS	41	VAL
19	QS	80	TYR
27	RD	25	THR
27	RD	33	LEU
27	RD	159	ALA
27	RD	196	VAL
27	RD	239	ARG
28	RE	48	GLN
28	RE	50	GLY
28	RE	60	ASN
28	RE	66	HIS
28	RE	72	VAL

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Mol	Chain	Res	Type
29	RF	3	GLU
29	RF	28	ILE
29	RF	67	GLN
29	RF	123	LEU
29	RF	124	LEU
31	RH	11	VAL
31	RH	45	VAL
31	RH	55	PRO
31	RH	109	PHE
31	RH	151	ILE
32	RI	77	LEU
33	RN	18	ALA
35	RP	21	ARG
35	RP	24	GLY
35	RP	147	LEU
36	RQ	80	GLU
36	RQ	134	ARG
36	RQ	135	ASP
36	RQ	136	ALA
38	RS	4	LEU
38	RS	44	LYS
38	RS	88	ASP
38	RS	94	TYR
39	RT	86	ILE
40	RU	92	ARG
41	RV	72	VAL
41	RV	80	GLN
41	RV	84	LYS
41	RV	85	LYS
41	RV	87	HIS
41	RV	98	GLU
42	RW	63	ASP
43	RX	67	GLY
44	RY	61	ILE
44	RY	63	LYS
44	RY	80	GLY
44	RY	99	CYS
45	RZ	51	ALA
45	RZ	59	LEU
45	RZ	115	GLY
45	RZ	119	GLU
45	RZ	142	SER

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Mol	Chain	Res	Type
45	RZ	151	HIS
45	RZ	165	VAL
47	R1	27	GLU
47	R1	82	LEU
47	R1	92	LYS
47	R1	93	GLU
48	R2	48	HIS
50	R4	5	ILE
50	R4	48	ARG
50	R4	51	ASP
52	R6	14	THR
54	R8	30	ARG
54	R8	55	ALA
54	R8	61	LEU
2	XB	191	ASP
3	XC	84	ILE
3	XC	160	ALA
3	XC	162	GLN
4	XD	20	TYR
4	XD	23	GLY
4	XD	27	TYR
4	XD	29	PRO
7	XG	21	VAL
8	XH	99	GLU
9	XI	124	GLN
12	XL	19	ARG
12	XL	92	ASP
12	XL	128	ALA
13	XM	100	GLY
14	XN	14	PRO
14	XN	16	PHE
17	XQ	69	LYS
19	XS	25	LYS
19	XS	80	TYR
21	XU	25	LYS
27	YD	33	LEU
27	YD	196	VAL
27	YD	238	GLY
27	YD	267	SER
28	YE	9	VAL
28	YE	25	VAL
28	YE	59	VAL

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Mol	Chain	Res	Type
28	YE	69	LYS
28	YE	71	GLY
28	YE	76	ARG
28	YE	77	ILE
28	YE	118	LYS
28	YE	132	HIS
29	YF	3	GLU
29	YF	84	VAL
30	YG	14	GLU
30	YG	96	ARG
30	YG	97	ASP
31	YH	11	VAL
31	YH	55	PRO
31	YH	80	SER
32	YI	102	SER
32	YI	145	VAL
33	YN	126	PRO
35	YP	29	LYS
35	YP	57	THR
36	YQ	81	VAL
36	YQ	86	GLY
36	YQ	90	VAL
36	YQ	134	ARG
36	YQ	135	ASP
36	YQ	136	ALA
38	YS	19	LYS
38	YS	88	ASP
38	YS	94	TYR
38	YS	96	GLY
39	YT	84	GLN
39	YT	107	ASP
40	YU	90	VAL
40	YU	101	ARG
41	YV	44	LYS
41	YV	45	THR
41	YV	50	PRO
41	YV	62	LEU
41	YV	72	VAL
41	YV	80	GLN
42	YW	63	ASP
42	YW	93	ALA
44	YY	61	ILE

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Mol	Chain	Res	Type
44	YY	63	LYS
44	YY	99	CYS
45	YZ	60	GLU
45	YZ	142	SER
45	YZ	146	ILE
48	Y2	70	GLN
50	Y4	11	PRO
50	Y4	22	ILE
50	Y4	23	GLU
50	Y4	24	THR
50	Y4	39	CYS
50	Y4	42	PHE
50	Y4	48	ARG
50	Y4	51	ASP
51	Y5	55	ARG
52	Y6	19	ARG
52	Y6	27	LYS
52	Y6	29	ASN
54	Y8	7	HIS
54	Y8	55	ALA
2	QB	8	LYS
2	QB	28	PHE
2	QB	88	ALA
2	QB	133	LYS
2	QB	191	ASP
2	QB	239	VAL
3	QC	15	THR
4	QD	22	LYS
4	QD	32	ALA
5	QE	19	MET
8	QH	2	LEU
9	QI	21	PRO
9	QI	29	ASN
10	QJ	59	SER
12	QL	25	PRO
12	QL	128	ALA
14	QN	16	PHE
20	QT	97	ALA
20	QT	103	GLY
21	QU	25	LYS
28	RE	2	LYS
28	RE	25	VAL

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Mol	Chain	Res	Type
28	RE	32	PRO
28	RE	80	GLU
28	RE	92	THR
28	RE	204	ALA
29	RF	21	ALA
30	RG	82	LEU
30	RG	96	ARG
30	RG	116	ASP
31	RH	27	LYS
31	RH	47	GLU
31	RH	85	LYS
31	RH	160	LYS
32	RI	85	GLU
32	RI	102	SER
32	RI	117	GLU
33	RN	17	ASP
35	RP	103	ALA
35	RP	141	ALA
37	RR	107	ASP
39	RT	107	ASP
40	RU	98	LEU
41	RV	44	LYS
41	RV	62	LEU
41	RV	71	LEU
44	RY	3	VAL
44	RY	17	SER
44	RY	19	LYS
44	RY	53	PRO
45	RZ	13	GLU
45	RZ	163	LEU
46	R0	83	PRO
47	R1	55	GLY
47	R1	96	LYS
48	R2	43	GLN
50	R4	24	THR
50	R4	42	PHE
50	R4	52	THR
52	R6	49	HIS
54	R8	51	ALA
2	XB	16	HIS
2	XB	20	GLU
2	XB	26	PRO

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Mol	Chain	Res	Type
2	XB	39	ILE
2	XB	133	LYS
3	XC	15	THR
3	XC	51	GLY
3	XC	53	ALA
3	XC	77	ILE
4	XD	34	GLU
4	XD	150	GLU
5	XE	3	GLU
5	XE	7	GLU
5	XE	39	GLY
8	XH	2	LEU
10	XJ	91	PRO
11	XK	15	ALA
13	XM	82	MET
13	XM	116	THR
17	XQ	74	LEU
19	XS	67	VAL
20	XT	10	LEU
20	XT	103	GLY
21	XU	3	LYS
27	YD	25	THR
27	YD	159	ALA
28	YE	2	LYS
28	YE	48	GLN
28	YE	51	PHE
28	YE	131	ALA
28	YE	187	ALA
28	YE	204	ALA
29	YF	9	ILE
29	YF	17	ARG
29	YF	62	ARG
29	YF	128	ALA
29	YF	133	ASN
30	YG	5	VAL
31	YH	12	PRO
31	YH	21	PRO
31	YH	47	GLU
31	YH	90	LYS
31	YH	130	ARG
32	YI	77	LEU
33	YN	127	ASP

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Mol	Chain	Res	Type
33	YN	131	GLN
35	YP	5	ASP
35	YP	47	ASP
35	YP	107	LYS
35	YP	141	ALA
38	YS	12	PHE
38	YS	44	LYS
39	YT	86	ILE
40	YU	92	ARG
42	YW	110	LYS
44	YY	53	PRO
44	YY	58	GLY
45	YZ	6	LYS
45	YZ	13	GLU
45	YZ	73	GLN
45	YZ	136	PHE
45	YZ	150	LEU
45	YZ	173	ALA
46	Y0	83	PRO
47	Y1	79	GLY
47	Y1	96	LYS
48	Y2	48	HIS
50	Y4	34	GLU
50	Y4	52	THR
52	Y6	11	LEU
52	Y6	49	HIS
2	QB	131	PRO
2	QB	234	PRO
3	QC	13	GLY
3	QC	16	ARG
3	QC	206	GLU
4	QD	26	CYS
4	QD	149	ALA
5	QE	7	GLU
7	QG	7	ALA
8	QH	100	ILE
9	QI	19	LEU
11	QK	16	SER
12	QL	19	ARG
13	QM	82	MET
19	QS	43	GLU
19	QS	65	ASN

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Mol	Chain	Res	Type
27	RD	3	VAL
28	RE	9	VAL
28	RE	33	VAL
28	RE	45	THR
28	RE	86	PRO
28	RE	90	THR
28	RE	129	HIS
28	RE	200	GLU
29	RF	17	ARG
29	RF	133	ASN
30	RG	5	VAL
30	RG	14	GLU
30	RG	36	LYS
30	RG	86	MET
31	RH	7	LEU
31	RH	34	GLU
31	RH	39	PRO
31	RH	111	HIS
31	RH	169	VAL
32	RI	132	PRO
33	RN	126	PRO
33	RN	127	ASP
35	RP	61	ARG
35	RP	111	ARG
36	RQ	59	ARG
36	RQ	104	PHE
37	RR	82	GLU
38	RS	106	ARG
44	RY	57	GLN
44	RY	58	GLY
44	RY	73	ARG
45	RZ	6	LYS
45	RZ	118	GLN
45	RZ	136	PHE
46	R0	49	LYS
48	R2	16	LEU
50	R4	46	GLN
50	R4	50	VAL
51	R5	49	CYS
52	R6	22	ALA
54	R8	7	HIS
2	XB	95	GLN

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Mol	Chain	Res	Type
2	XB	122	PHE
2	XB	226	ARG
3	XC	79	ARG
4	XD	16	GLY
4	XD	25	ARG
4	XD	149	ALA
7	XG	7	ALA
8	XH	100	ILE
9	XI	19	LEU
11	XK	12	ARG
12	XL	47	LYS
13	XM	45	VAL
13	XM	63	THR
27	YD	46	GLN
27	YD	239	ARG
28	YE	32	PRO
28	YE	66	HIS
28	YE	90	THR
29	YF	21	ALA
29	YF	89	VAL
30	YG	36	LYS
30	YG	82	LEU
30	YG	109	VAL
30	YG	116	ASP
30	YG	117	PHE
31	YH	4	ILE
31	YH	30	LYS
31	YH	39	PRO
31	YH	85	LYS
31	YH	160	LYS
32	YI	132	PRO
35	YP	12	ALA
35	YP	21	ARG
35	YP	111	ARG
35	YP	147	LEU
36	YQ	104	PHE
37	YR	82	GLU
37	YR	107	ASP
38	YS	4	LEU
38	YS	57	LYS
39	YT	105	LEU
41	YV	79	VAL

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Mol	Chain	Res	Type
41	YV	98	GLU
42	YW	65	LEU
44	YY	50	ARG
44	YY	73	ARG
44	YY	96	ILE
45	YZ	157	LEU
46	Y0	49	LYS
47	Y1	92	LYS
50	Y4	46	GLN
51	Y5	7	PRO
51	Y5	49	CYS
52	Y6	25	LYS
52	Y6	44	ARG
2	QB	150	SER
3	QC	3	ASN
3	QC	45	LYS
3	QC	84	ILE
3	QC	98	ASN
4	QD	5	ILE
4	QD	39	PRO
7	QG	19	GLY
9	QI	107	ARG
10	QJ	37	PRO
11	QK	11	LYS
12	QL	92	ASP
13	QM	45	VAL
27	RD	191	ALA
28	RE	54	GLN
28	RE	82	ARG
29	RF	9	ILE
29	RF	66	PRO
30	RG	117	PHE
31	RH	46	GLU
31	RH	52	VAL
33	RN	125	GLY
33	RN	129	PRO
35	RP	16	ARG
35	RP	47	ASP
36	RQ	81	VAL
37	RR	103	ARG
37	RR	106	GLY
38	RS	19	LYS

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Mol	Chain	Res	Type
38	RS	87	PHE
41	RV	99	ILE
42	RW	93	ALA
43	RX	51	VAL
45	RZ	73	GLN
45	RZ	146	ILE
45	RZ	173	ALA
47	R1	81	LYS
50	R4	11	PRO
50	R4	23	GLU
52	R6	20	ASN
52	R6	27	LYS
2	XB	131	PRO
2	XB	231	GLU
2	XB	234	PRO
2	XB	239	VAL
3	XC	16	ARG
3	XC	99	VAL
4	XD	5	ILE
12	XL	17	LYS
12	XL	79	GLU
19	XS	41	VAL
28	YE	44	TYR
28	YE	45	THR
28	YE	47	VAL
28	YE	62	PRO
28	YE	73	GLU
28	YE	82	ARG
29	YF	27	GLU
29	YF	28	ILE
30	YG	86	MET
31	YH	7	LEU
31	YH	52	VAL
31	YH	87	LEU
31	YH	111	HIS
31	YH	169	VAL
33	YN	8	GLN
33	YN	129	PRO
35	YP	19	VAL
35	YP	106	LEU
38	YS	87	PHE
39	YT	97	ALA

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Mol	Chain	Res	Type
41	YV	29	PRO
41	YV	36	PRO
41	YV	99	ILE
43	YX	51	VAL
44	YY	16	ALA
44	YY	85	VAL
45	YZ	156	LYS
48	Y2	16	LEU
48	Y2	44	LEU
50	Y4	50	VAL
50	Y4	57	GLU
20	QT	98	PRO
36	RQ	63	LYS
41	RV	37	VAL
42	RW	65	LEU
45	RZ	67	LEU
47	R1	31	GLY
47	R1	86	SER
52	R6	11	LEU
9	XI	30	GLY
11	XK	10	VAL
11	XK	105	VAL
12	XL	65	GLU
19	XS	9	VAL
19	XS	72	GLY
28	YE	134	ILE
30	YG	146	TYR
31	YH	151	ILE
44	YY	41	GLY
45	YZ	59	LEU
45	YZ	165	VAL
47	Y1	27	GLU
50	Y4	7	PRO
52	Y6	12	GLU
52	Y6	22	ALA
52	Y6	30	THR
54	Y8	32	LEU
2	QB	231	GLU
5	QE	39	GLY
11	QK	115	PRO
30	RG	87	PRO
35	RP	23	PRO

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Mol	Chain	Res	Type
35	RP	122	PRO
41	RV	79	VAL
45	RZ	141	VAL
47	R1	28	GLY
28	YE	81	ILE
35	YP	11	GLY
41	YV	37	VAL
43	YX	67	GLY
52	Y6	41	PRO
35	RP	43	GLY
35	RP	97	PRO
45	RZ	108	PRO
45	RZ	139	VAL
52	R6	41	PRO
9	XI	53	VAL
13	XM	9	ILE
28	YE	52	LEU
35	YP	7	ARG
37	YR	106	GLY
44	YY	49	VAL
3	QC	51	GLY
30	RG	109	VAL
35	RP	19	VAL
41	RV	29	PRO
45	RZ	134	PRO
50	R4	22	ILE
5	XE	70	PRO
9	XI	21	PRO
19	XS	46	GLY
20	XT	97	ALA
28	YE	7	VAL
32	YI	142	VAL
2	QB	26	PRO
28	RE	7	VAL
30	RG	85	GLY
31	RH	4	ILE
7	XG	17	VAL
9	XI	28	VAL
10	XJ	37	PRO
13	XM	4	ILE
28	YE	130	GLY
19	QS	9	VAL

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Mol	Chain	Res	Type
35	RP	146	VAL
29	YF	132	VAL
41	YV	47	VAL
48	R2	18	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	QB	204/220 (93%)	176 (86%)	28 (14%)	3	14
2	XB	204/220 (93%)	175 (86%)	29 (14%)	3	13
3	QC	160/188 (85%)	143 (89%)	17 (11%)	6	23
3	XC	160/188 (85%)	140 (88%)	20 (12%)	4	18
4	QD	180/181 (99%)	156 (87%)	24 (13%)	4	15
4	XD	180/181 (99%)	153 (85%)	27 (15%)	3	11
5	QE	119/123 (97%)	107 (90%)	12 (10%)	7	25
5	XE	119/123 (97%)	106 (89%)	13 (11%)	6	22
6	QF	90/90 (100%)	84 (93%)	6 (7%)	15	41
6	XF	90/90 (100%)	74 (82%)	16 (18%)	2	7
7	QG	126/127 (99%)	112 (89%)	14 (11%)	6	21
7	XG	126/127 (99%)	107 (85%)	19 (15%)	3	11
8	QH	119/119 (100%)	108 (91%)	11 (9%)	8	29
8	XH	119/119 (100%)	106 (89%)	13 (11%)	6	22
9	QI	99/99 (100%)	78 (79%)	21 (21%)	1	3
9	XI	99/99 (100%)	83 (84%)	16 (16%)	2	10
10	QJ	89/92 (97%)	78 (88%)	11 (12%)	4	18
10	XJ	89/92 (97%)	76 (85%)	13 (15%)	3	12
11	QK	92/99 (93%)	83 (90%)	9 (10%)	7	27
11	XK	92/99 (93%)	83 (90%)	9 (10%)	7	27

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
12	QL	104/109 (95%)	89 (86%)	15 (14%)	3	13
12	XL	104/109 (95%)	82 (79%)	22 (21%)	1	3
13	QM	94/101 (93%)	80 (85%)	14 (15%)	3	12
13	XM	94/101 (93%)	83 (88%)	11 (12%)	5	20
14	QN	49/50 (98%)	46 (94%)	3 (6%)	17	43
14	XN	49/50 (98%)	44 (90%)	5 (10%)	7	25
15	QO	79/80 (99%)	71 (90%)	8 (10%)	7	25
15	XO	79/80 (99%)	72 (91%)	7 (9%)	9	31
16	QP	72/74 (97%)	65 (90%)	7 (10%)	8	28
16	XP	72/74 (97%)	65 (90%)	7 (10%)	8	28
17	QQ	95/97 (98%)	90 (95%)	5 (5%)	20	47
17	XQ	95/97 (98%)	88 (93%)	7 (7%)	13	38
18	QR	62/77 (80%)	57 (92%)	5 (8%)	11	36
18	XR	62/77 (80%)	55 (89%)	7 (11%)	5	21
19	QS	71/80 (89%)	52 (73%)	19 (27%)	0	1
19	XS	71/80 (89%)	56 (79%)	15 (21%)	1	3
20	QT	76/82 (93%)	61 (80%)	15 (20%)	1	5
20	XT	76/82 (93%)	63 (83%)	13 (17%)	2	9
21	QU	20/22 (91%)	19 (95%)	1 (5%)	22	49
21	XU	20/22 (91%)	18 (90%)	2 (10%)	7	26
24	QY	78/102 (76%)	76 (97%)	2 (3%)	40	61
24	XY	78/102 (76%)	74 (95%)	4 (5%)	21	48
27	RD	214/218 (98%)	175 (82%)	39 (18%)	2	7
27	YD	214/218 (98%)	173 (81%)	41 (19%)	1	6
28	RE	165/166 (99%)	133 (81%)	32 (19%)	1	5
28	YE	165/166 (99%)	131 (79%)	34 (21%)	1	4
29	RF	165/166 (99%)	139 (84%)	26 (16%)	2	10
29	YF	165/166 (99%)	141 (86%)	24 (14%)	3	13
30	RG	155/156 (99%)	144 (93%)	11 (7%)	13	39
30	YG	155/156 (99%)	138 (89%)	17 (11%)	6	22
31	RH	142/148 (96%)	120 (84%)	22 (16%)	2	10

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
31	YH	142/148 (96%)	114 (80%)	28 (20%)	1	5
32	RI	122/124 (98%)	100 (82%)	22 (18%)	2	7
32	YI	122/124 (98%)	98 (80%)	24 (20%)	1	5
33	RN	117/119 (98%)	105 (90%)	12 (10%)	7	24
33	YN	117/119 (98%)	105 (90%)	12 (10%)	7	24
34	RO	100/100 (100%)	88 (88%)	12 (12%)	5	19
34	YO	100/100 (100%)	86 (86%)	14 (14%)	3	13
35	RP	116/116 (100%)	85 (73%)	31 (27%)	0	1
35	YP	116/116 (100%)	82 (71%)	34 (29%)	0	1
36	RQ	110/111 (99%)	94 (86%)	16 (14%)	3	13
36	YQ	110/111 (99%)	90 (82%)	20 (18%)	2	7
37	RR	100/101 (99%)	81 (81%)	19 (19%)	1	6
37	YR	100/101 (99%)	84 (84%)	16 (16%)	2	10
38	RS	87/88 (99%)	78 (90%)	9 (10%)	7	24
38	YS	87/88 (99%)	74 (85%)	13 (15%)	3	12
39	RT	120/127 (94%)	99 (82%)	21 (18%)	2	8
39	YT	120/127 (94%)	99 (82%)	21 (18%)	2	8
40	RU	93/94 (99%)	85 (91%)	8 (9%)	10	33
40	YU	93/94 (99%)	84 (90%)	9 (10%)	8	28
41	RV	82/82 (100%)	67 (82%)	15 (18%)	2	7
41	YV	82/82 (100%)	64 (78%)	18 (22%)	1	3
42	RW	92/92 (100%)	78 (85%)	14 (15%)	3	10
42	YW	92/92 (100%)	79 (86%)	13 (14%)	3	13
43	RX	74/78 (95%)	64 (86%)	10 (14%)	4	15
43	YX	74/78 (95%)	66 (89%)	8 (11%)	6	22
44	RY	85/91 (93%)	63 (74%)	22 (26%)	0	1
44	YY	85/91 (93%)	62 (73%)	23 (27%)	0	1
45	RZ	155/179 (87%)	123 (79%)	32 (21%)	1	4
45	YZ	162/179 (90%)	132 (82%)	30 (18%)	1	7
46	R0	66/67 (98%)	60 (91%)	6 (9%)	9	30
46	Y0	66/67 (98%)	59 (89%)	7 (11%)	6	23

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
47	R1	82/83 (99%)	68 (83%)	14 (17%)	2	9
47	Y1	82/83 (99%)	71 (87%)	11 (13%)	4	15
48	R2	64/67 (96%)	52 (81%)	12 (19%)	1	6
48	Y2	64/67 (96%)	55 (86%)	9 (14%)	3	13
49	R3	51/52 (98%)	43 (84%)	8 (16%)	2	10
49	Y3	51/52 (98%)	42 (82%)	9 (18%)	2	8
50	R4	62/63 (98%)	49 (79%)	13 (21%)	1	4
50	Y4	62/63 (98%)	45 (73%)	17 (27%)	0	1
51	R5	51/52 (98%)	43 (84%)	8 (16%)	2	10
51	Y5	49/52 (94%)	43 (88%)	6 (12%)	5	19
52	R6	47/52 (90%)	34 (72%)	13 (28%)	0	1
52	Y6	47/52 (90%)	29 (62%)	18 (38%)	0	0
53	R7	42/42 (100%)	35 (83%)	7 (17%)	2	9
53	Y7	42/42 (100%)	35 (83%)	7 (17%)	2	9
54	R8	54/55 (98%)	43 (80%)	11 (20%)	1	4
54	Y8	54/55 (98%)	44 (82%)	10 (18%)	1	7
55	R9	34/34 (100%)	32 (94%)	2 (6%)	18	44
55	Y9	33/34 (97%)	33 (100%)	0	100	100
All	All	9854/10270 (96%)	8372 (85%)	1482 (15%)	3	11

All (1482) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	7	VAL
2	QB	10	LEU
2	QB	11	LEU
2	QB	23	ARG
2	QB	30	ARG
2	QB	32	ILE
2	QB	42	ILE
2	QB	44	LEU
2	QB	69	LEU
2	QB	75	LYS
2	QB	80	ILE
2	QB	101	MET
2	QB	127	ILE

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Mol	Chain	Res	Type
2	QB	135	GLN
2	QB	136	VAL
2	QB	154	LEU
2	QB	158	LEU
2	QB	162	ILE
2	QB	165	VAL
2	QB	178	ARG
2	QB	185	ILE
2	QB	187	LEU
2	QB	191	ASP
2	QB	204	ASN
2	QB	208	ILE
2	QB	226	ARG
2	QB	233	SER
2	QB	238	LEU
3	QC	5	ILE
3	QC	16	ARG
3	QC	27	LYS
3	QC	28	GLN
3	QC	36	ASP
3	QC	46	GLU
3	QC	52	LEU
3	QC	55	VAL
3	QC	66	VAL
3	QC	75	VAL
3	QC	84	ILE
3	QC	101	LEU
3	QC	161	GLU
3	QC	165	THR
3	QC	188	LEU
3	QC	196	LEU
3	QC	206	GLU
4	QD	12	CYS
4	QD	13	ARG
4	QD	15	GLU
4	QD	18	LYS
4	QD	19	LEU
4	QD	24	GLU
4	QD	26	CYS
4	QD	27	TYR
4	QD	31	CYS
4	QD	34	GLU

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Mol	Chain	Res	Type
4	QD	45	GLN
4	QD	58	LEU
4	QD	84	LYS
4	QD	86	LYS
4	QD	96	LEU
4	QD	108	LEU
4	QD	122	ARG
4	QD	127	THR
4	QD	135	LEU
4	QD	160	GLN
4	QD	178	VAL
4	QD	187	ARG
4	QD	191	ARG
4	QD	200	GLU
5	QE	6	PHE
5	QE	8	GLU
5	QE	41	VAL
5	QE	47	LYS
5	QE	51	VAL
5	QE	68	GLU
5	QE	72	GLN
5	QE	79	GLU
5	QE	101	ILE
5	QE	115	VAL
5	QE	126	ARG
5	QE	147	ASP
6	QF	21	LEU
6	QF	28	ARG
6	QF	54	LYS
6	QF	72	VAL
6	QF	83	ASP
6	QF	98	LEU
7	QG	3	ARG
7	QG	8	GLU
7	QG	11	GLN
7	QG	57	GLU
7	QG	75	VAL
7	QG	78	ARG
7	QG	84	ASN
7	QG	94	ARG
7	QG	104	LEU
7	QG	113	GLU

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Mol	Chain	Res	Type
7	QG	136	LYS
7	QG	137	LYS
7	QG	151	TYR
7	QG	156	TRP
8	QH	1	MET
8	QH	26	VAL
8	QH	41	ARG
8	QH	56	LYS
8	QH	63	LEU
8	QH	91	ARG
8	QH	102	ARG
8	QH	109	ILE
8	QH	112	LEU
8	QH	133	LEU
8	QH	137	VAL
9	QI	1	MET
9	QI	3	GLN
9	QI	10	ARG
9	QI	11	LYS
9	QI	12	GLU
9	QI	25	LYS
9	QI	40	LEU
9	QI	65	VAL
9	QI	78	LYS
9	QI	79	LEU
9	QI	88	TYR
9	QI	95	LYS
9	QI	96	LEU
9	QI	102	LEU
9	QI	104	ARG
9	QI	110	GLU
9	QI	112	LYS
9	QI	114	TYR
9	QI	117	HIS
9	QI	118	LYS
9	QI	127	LYS
10	QJ	16	LEU
10	QJ	17	ASP
10	QJ	40	LEU
10	QJ	42	THR
10	QJ	57	LYS
10	QJ	60	ARG

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Mol	Chain	Res	Type
10	QJ	62	HIS
10	QJ	74	ILE
10	QJ	79	ARG
10	QJ	80	LYS
10	QJ	96	ILE
11	QK	13	GLN
11	QK	14	VAL
11	QK	18	ARG
11	QK	29	ILE
11	QK	30	VAL
11	QK	84	VAL
11	QK	87	THR
11	QK	105	VAL
11	QK	116	HIS
12	QL	8	ASN
12	QL	18	VAL
12	QL	20	LYS
12	QL	24	VAL
12	QL	27	LEU
12	QL	28	LYS
12	QL	33	ARG
12	QL	42	THR
12	QL	84	LEU
12	QL	85	ILE
12	QL	92	ASP
12	QL	111	LYS
12	QL	116	SER
12	QL	124	LYS
12	QL	126	LYS
13	QM	9	ILE
13	QM	19	LEU
13	QM	27	LYS
13	QM	46	LYS
13	QM	48	LEU
13	QM	49	THR
13	QM	56	LEU
13	QM	66	LEU
13	QM	70	LEU
13	QM	73	GLU
13	QM	79	LYS
13	QM	81	LEU
13	QM	93	ARG

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Mol	Chain	Res	Type
13	QM	108	ARG
14	QN	6	LEU
14	QN	15	LYS
14	QN	44	LEU
15	QO	3	ILE
15	QO	4	THR
15	QO	26	GLU
15	QO	31	LEU
15	QO	39	LEU
15	QO	77	ARG
15	QO	82	ILE
15	QO	87	ILE
16	QP	2	VAL
16	QP	18	ARG
16	QP	21	VAL
16	QP	27	LYS
16	QP	45	THR
16	QP	54	GLU
16	QP	67	THR
17	QQ	52	LYS
17	QQ	63	ARG
17	QQ	73	VAL
17	QQ	74	LEU
17	QQ	78	GLU
18	QR	19	LYS
18	QR	31	LEU
18	QR	58	LEU
18	QR	82	THR
18	QR	85	LEU
19	QS	5	LEU
19	QS	6	LYS
19	QS	7	LYS
19	QS	10	PHE
19	QS	11	VAL
19	QS	12	ASP
19	QS	13	ASP
19	QS	16	LEU
19	QS	19	VAL
19	QS	27	GLU
19	QS	30	LEU
19	QS	31	ILE
19	QS	40	ILE

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Mol	Chain	Res	Type
19	QS	56	GLN
19	QS	60	VAL
19	QS	63	THR
19	QS	67	VAL
19	QS	69	HIS
19	QS	83	HIS
20	QT	10	LEU
20	QT	14	LYS
20	QT	24	LEU
20	QT	29	LYS
20	QT	36	LEU
20	QT	58	LYS
20	QT	72	LEU
20	QT	73	HIS
20	QT	74	LYS
20	QT	75	ASN
20	QT	84	LEU
20	QT	92	LEU
20	QT	93	GLU
20	QT	104	LEU
20	QT	105	SER
21	QU	9	ARG
24	QY	6	LYS
24	QY	49	GLN
27	RD	10	THR
27	RD	14	ARG
27	RD	20	ASP
27	RD	27	THR
27	RD	31	LYS
27	RD	34	VAL
27	RD	49	ILE
27	RD	61	LEU
27	RD	65	ILE
27	RD	72	LYS
27	RD	94	LEU
27	RD	95	LEU
27	RD	98	VAL
27	RD	103	ARG
27	RD	104	TYR
27	RD	106	ILE
27	RD	111	LEU
27	RD	116	GLN

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Mol	Chain	Res	Type
27	RD	138	VAL
27	RD	150	LYS
27	RD	154	LYS
27	RD	155	LEU
27	RD	157	ARG
27	RD	165	ILE
27	RD	166	GLN
27	RD	168	ARG
27	RD	171	ASP
27	RD	173	VAL
27	RD	192	THR
27	RD	193	VAL
27	RD	211	ARG
27	RD	212	SER
27	RD	242	ARG
27	RD	244	ARG
27	RD	255	LYS
27	RD	257	LEU
27	RD	268	ARG
27	RD	271	ILE
27	RD	273	ARG
28	RE	4	ILE
28	RE	33	VAL
28	RE	37	ARG
28	RE	48	GLN
28	RE	49	LEU
28	RE	52	LEU
28	RE	54	GLN
28	RE	63	LEU
28	RE	75	VAL
28	RE	77	ILE
28	RE	78	LEU
28	RE	82	ARG
28	RE	85	ASN
28	RE	89	ASP
28	RE	95	ILE
28	RE	116	VAL
28	RE	118	LYS
28	RE	119	ARG
28	RE	134	ILE
28	RE	144	ARG
28	RE	152	LYS

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Mol	Chain	Res	Type
28	RE	154	LYS
28	RE	171	GLU
28	RE	175	VAL
28	RE	179	GLU
28	RE	181	LEU
28	RE	184	VAL
28	RE	185	LYS
28	RE	188	VAL
28	RE	197	ILE
28	RE	202	LYS
28	RE	203	LYS
29	RF	2	LYS
29	RF	8	GLN
29	RF	19	GLU
29	RF	20	LEU
29	RF	23	ASP
29	RF	24	LEU
29	RF	28	ILE
29	RF	33	LEU
29	RF	36	VAL
29	RF	38	ARG
29	RF	53	THR
29	RF	57	VAL
29	RF	60	SER
29	RF	62	ARG
29	RF	70	THR
29	RF	74	ARG
29	RF	88	VAL
29	RF	96	ASP
29	RF	110	LEU
29	RF	125	LEU
29	RF	158	THR
29	RF	165	ARG
29	RF	175	THR
29	RF	183	VAL
29	RF	201	VAL
29	RF	205	ARG
30	RG	34	LEU
30	RG	37	VAL
30	RG	38	VAL
30	RG	43	LEU
30	RG	63	ILE

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Mol	Chain	Res	Type
30	RG	88	ILE
30	RG	99	MET
30	RG	115	ARG
30	RG	159	VAL
30	RG	161	THR
30	RG	174	GLU
31	RH	9	ILE
31	RH	17	VAL
31	RH	19	VAL
31	RH	24	VAL
31	RH	27	LYS
31	RH	37	VAL
31	RH	44	VAL
31	RH	46	GLU
31	RH	49	VAL
31	RH	50	VAL
31	RH	51	ARG
31	RH	69	ARG
31	RH	83	TYR
31	RH	89	ILE
31	RH	104	GLU
31	RH	125	VAL
31	RH	130	ARG
31	RH	131	VAL
31	RH	143	GLN
31	RH	157	TYR
31	RH	158	HIS
31	RH	167	GLU
32	RI	1	MET
32	RI	3	VAL
32	RI	6	LEU
32	RI	38	LEU
32	RI	60	GLU
32	RI	62	LYS
32	RI	74	ASN
32	RI	81	VAL
32	RI	82	ARG
32	RI	85	GLU
32	RI	99	GLU
32	RI	101	LEU
32	RI	109	ILE
32	RI	110	ASP

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Mol	Chain	Res	Type
32	RI	114	LEU
32	RI	117	GLU
32	RI	122	GLU
32	RI	130	TYR
32	RI	136	VAL
32	RI	138	ILE
32	RI	141	LYS
32	RI	144	VAL
33	RN	1	MET
33	RN	14	VAL
33	RN	28	THR
33	RN	32	THR
33	RN	33	LEU
33	RN	43	THR
33	RN	71	ILE
33	RN	87	LEU
33	RN	93	THR
33	RN	98	VAL
33	RN	99	LEU
33	RN	137	LYS
34	RO	5	GLN
34	RO	20	MET
34	RO	23	ARG
34	RO	29	ASN
34	RO	47	ILE
34	RO	49	ARG
34	RO	80	ASP
34	RO	91	LEU
34	RO	94	ARG
34	RO	98	VAL
34	RO	108	GLU
34	RO	117	LEU
35	RP	5	ASP
35	RP	6	LEU
35	RP	9	ASN
35	RP	14	LYS
35	RP	15	ARG
35	RP	19	VAL
35	RP	21	ARG
35	RP	29	LYS
35	RP	45	LEU
35	RP	52	GLU

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Mol	Chain	Res	Type
35	RP	61	ARG
35	RP	62	LEU
35	RP	67	MET
35	RP	75	ILE
35	RP	81	GLN
35	RP	83	VAL
35	RP	95	VAL
35	RP	101	VAL
35	RP	102	ARG
35	RP	106	LEU
35	RP	110	TYR
35	RP	114	ILE
35	RP	117	GLU
35	RP	125	VAL
35	RP	135	LEU
35	RP	136	GLU
35	RP	138	LEU
35	RP	144	GLU
35	RP	147	LEU
35	RP	148	LEU
35	RP	149	GLU
36	RQ	45	GLN
36	RQ	55	VAL
36	RQ	56	ARG
36	RQ	63	LYS
36	RQ	64	ILE
36	RQ	66	ILE
36	RQ	80	GLU
36	RQ	81	VAL
36	RQ	82	ARG
36	RQ	83	MET
36	RQ	109	VAL
36	RQ	110	THR
36	RQ	112	GLU
36	RQ	113	GLN
36	RQ	115	MET
36	RQ	134	ARG
37	RR	2	ARG
37	RR	4	LEU
37	RR	6	SER
37	RR	9	LYS
37	RR	15	SER

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Mol	Chain	Res	Type
37	RR	18	LEU
37	RR	28	LEU
37	RR	29	LEU
37	RR	37	THR
37	RR	44	LEU
37	RR	54	LEU
37	RR	65	LEU
37	RR	67	LEU
37	RR	71	GLN
37	RR	76	VAL
37	RR	79	LEU
37	RR	99	LYS
37	RR	104	ARG
37	RR	105	ARG
38	RS	4	LEU
38	RS	20	ARG
38	RS	49	VAL
38	RS	52	SER
38	RS	56	LEU
38	RS	73	LEU
38	RS	98	VAL
38	RS	106	ARG
38	RS	110	LEU
39	RT	8	LYS
39	RT	9	LEU
39	RT	23	ARG
39	RT	27	THR
39	RT	29	ARG
39	RT	30	VAL
39	RT	35	LYS
39	RT	41	ARG
39	RT	48	ILE
39	RT	50	ILE
39	RT	58	ASN
39	RT	59	THR
39	RT	78	LEU
39	RT	86	ILE
39	RT	88	ILE
39	RT	89	VAL
39	RT	93	ARG
39	RT	98	LYS
39	RT	99	LEU

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Mol	Chain	Res	Type
39	RT	107	ASP
39	RT	137	LYS
40	RU	31	SER
40	RU	37	GLU
40	RU	52	ARG
40	RU	59	ARG
40	RU	83	LEU
40	RU	92	ARG
40	RU	104	GLN
40	RU	117	GLN
41	RV	5	VAL
41	RV	15	GLU
41	RV	19	LYS
41	RV	22	VAL
41	RV	32	THR
41	RV	35	LEU
41	RV	47	VAL
41	RV	70	ILE
41	RV	76	LYS
41	RV	79	VAL
41	RV	80	GLN
41	RV	81	TYR
41	RV	87	HIS
41	RV	95	LEU
41	RV	98	GLU
42	RW	1	MET
42	RW	11	ARG
42	RW	17	VAL
42	RW	20	VAL
42	RW	21	VAL
42	RW	51	LEU
42	RW	69	LEU
42	RW	76	VAL
42	RW	88	ARG
42	RW	95	ILE
42	RW	96	ILE
42	RW	100	THR
42	RW	106	ILE
42	RW	107	LEU
43	RX	12	VAL
43	RX	14	SER
43	RX	27	THR

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Mol	Chain	Res	Type
43	RX	48	LYS
43	RX	50	LYS
43	RX	53	LYS
43	RX	63	LYS
43	RX	66	LEU
43	RX	76	ARG
43	RX	80	ILE
44	RY	5	MET
44	RY	9	LYS
44	RY	14	LEU
44	RY	17	SER
44	RY	19	LYS
44	RY	27	VAL
44	RY	28	LYS
44	RY	38	ILE
44	RY	55	TYR
44	RY	60	PHE
44	RY	61	ILE
44	RY	62	GLU
44	RY	63	LYS
44	RY	71	LYS
44	RY	75	ILE
44	RY	86	ARG
44	RY	89	PHE
44	RY	95	LYS
44	RY	96	ILE
44	RY	97	ARG
44	RY	101	LYS
44	RY	102	CYS
45	RZ	4	ARG
45	RZ	5	LEU
45	RZ	18	LEU
45	RZ	19	ARG
45	RZ	33	LEU
45	RZ	59	LEU
45	RZ	60	GLU
45	RZ	61	LEU
45	RZ	70	LEU
45	RZ	71	VAL
45	RZ	76	LEU
45	RZ	81	ARG
45	RZ	87	ASP

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Mol	Chain	Res	Type
45	RZ	91	LEU
45	RZ	92	SER
45	RZ	111	VAL
45	RZ	112	ARG
45	RZ	118	GLN
45	RZ	120	ILE
45	RZ	121	HIS
45	RZ	128	VAL
45	RZ	135	GLU
45	RZ	136	PHE
45	RZ	140	ASP
45	RZ	141	VAL
45	RZ	144	LEU
45	RZ	156	LYS
45	RZ	157	LEU
45	RZ	162	GLU
45	RZ	171	ILE
45	RZ	174	VAL
45	RZ	175	VAL
46	R0	3	HIS
46	R0	5	LYS
46	R0	9	SER
46	R0	20	ARG
46	R0	36	ILE
46	R0	53	MET
47	R1	3	LYS
47	R1	4	VAL
47	R1	25	LYS
47	R1	38	SER
47	R1	57	GLU
47	R1	62	VAL
47	R1	78	LYS
47	R1	80	LEU
47	R1	81	LYS
47	R1	82	LEU
47	R1	90	ILE
47	R1	91	LYS
47	R1	97	LEU
47	R1	98	LEU
48	R2	4	SER
48	R2	24	LEU
48	R2	25	VAL

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Mol	Chain	Res	Type
48	R2	35	LEU
48	R2	47	ASN
48	R2	48	HIS
48	R2	50	ILE
48	R2	53	LEU
48	R2	57	ILE
48	R2	60	LEU
48	R2	62	THR
48	R2	67	LYS
49	R3	8	LEU
49	R3	24	LYS
49	R3	31	LEU
49	R3	32	GLN
49	R3	40	THR
49	R3	54	VAL
49	R3	56	VAL
49	R3	59	VAL
50	R4	8	LYS
50	R4	10	VAL
50	R4	16	CYS
50	R4	21	VAL
50	R4	31	ILE
50	R4	34	GLU
50	R4	35	VAL
50	R4	50	VAL
50	R4	55	ARG
50	R4	59	PHE
50	R4	61	ARG
50	R4	63	TYR
50	R4	69	LYS
51	R5	3	LYS
51	R5	4	HIS
51	R5	6	VAL
51	R5	11	THR
51	R5	26	THR
51	R5	36	CYS
51	R5	48	GLU
51	R5	52	TYR
52	R6	7	ILE
52	R6	8	LYS
52	R6	10	LEU
52	R6	12	GLU

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Mol	Chain	Res	Type
52	R6	16	CYS
52	R6	24	GLU
52	R6	30	THR
52	R6	33	LYS
52	R6	37	ARG
52	R6	38	LYS
52	R6	39	TYR
52	R6	47	THR
52	R6	48	VAL
53	R7	1	MET
53	R7	24	THR
53	R7	34	ARG
53	R7	43	THR
53	R7	46	VAL
53	R7	47	ARG
53	R7	49	ARG
54	R8	4	MET
54	R8	14	VAL
54	R8	22	VAL
54	R8	32	LEU
54	R8	33	ASN
54	R8	40	GLU
54	R8	41	ILE
54	R8	54	GLU
54	R8	58	ILE
54	R8	61	LEU
54	R8	64	TYR
55	R9	1	MET
55	R9	17	ILE
2	XB	7	VAL
2	XB	10	LEU
2	XB	11	LEU
2	XB	17	PHE
2	XB	23	ARG
2	XB	24	TRP
2	XB	30	ARG
2	XB	31	TYR
2	XB	42	ILE
2	XB	44	LEU
2	XB	49	GLU
2	XB	69	LEU
2	XB	80	ILE

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Mol	Chain	Res	Type
2	XB	87	ARG
2	XB	108	ILE
2	XB	111	ARG
2	XB	127	ILE
2	XB	145	LEU
2	XB	153	ARG
2	XB	154	LEU
2	XB	156	LYS
2	XB	165	VAL
2	XB	185	ILE
2	XB	187	LEU
2	XB	196	LEU
2	XB	208	ILE
2	XB	209	ARG
2	XB	226	ARG
2	XB	238	LEU
3	XC	5	ILE
3	XC	27	LYS
3	XC	36	ASP
3	XC	46	GLU
3	XC	66	VAL
3	XC	75	VAL
3	XC	83	ARG
3	XC	84	ILE
3	XC	94	LEU
3	XC	119	ARG
3	XC	124	ILE
3	XC	131	ARG
3	XC	140	ARG
3	XC	143	GLU
3	XC	161	GLU
3	XC	178	LEU
3	XC	188	LEU
3	XC	195	VAL
3	XC	196	LEU
3	XC	204	LEU
4	XD	8	VAL
4	XD	10	ARG
4	XD	15	GLU
4	XD	18	LYS
4	XD	19	LEU
4	XD	24	GLU

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Mol	Chain	Res	Type
4	XD	28	SER
4	XD	30	LYS
4	XD	31	CYS
4	XD	45	GLN
4	XD	58	LEU
4	XD	76	ARG
4	XD	84	LYS
4	XD	86	LYS
4	XD	96	LEU
4	XD	122	ARG
4	XD	127	THR
4	XD	135	LEU
4	XD	160	GLN
4	XD	163	GLU
4	XD	168	ARG
4	XD	170	VAL
4	XD	178	VAL
4	XD	187	ARG
4	XD	191	ARG
4	XD	194	LEU
4	XD	199	ASN
5	XE	6	PHE
5	XE	12	LEU
5	XE	13	ILE
5	XE	41	VAL
5	XE	47	LYS
5	XE	51	VAL
5	XE	72	GLN
5	XE	79	GLU
5	XE	101	ILE
5	XE	115	VAL
5	XE	118	ILE
5	XE	126	ARG
5	XE	137	GLU
6	XF	3	ARG
6	XF	7	ASN
6	XF	15	ASP
6	XF	16	GLN
6	XF	21	LEU
6	XF	25	ILE
6	XF	28	ARG
6	XF	38	GLU

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Mol	Chain	Res	Type
6	XF	40	VAL
6	XF	55	ASP
6	XF	64	GLN
6	XF	70	ASP
6	XF	72	VAL
6	XF	83	ASP
6	XF	85	VAL
6	XF	98	LEU
7	XG	3	ARG
7	XG	8	GLU
7	XG	16	LEU
7	XG	17	VAL
7	XG	21	VAL
7	XG	23	VAL
7	XG	27	ILE
7	XG	57	GLU
7	XG	78	ARG
7	XG	80	VAL
7	XG	84	ASN
7	XG	97	GLN
7	XG	104	LEU
7	XG	113	GLU
7	XG	114	ARG
7	XG	118	VAL
7	XG	136	LYS
7	XG	137	LYS
7	XG	151	TYR
8	XH	1	MET
8	XH	3	THR
8	XH	23	SER
8	XH	24	THR
8	XH	25	ASP
8	XH	26	VAL
8	XH	56	LYS
8	XH	60	ARG
8	XH	63	LEU
8	XH	102	ARG
8	XH	109	ILE
8	XH	112	LEU
8	XH	133	LEU
9	XI	1	MET
9	XI	10	ARG

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Mol	Chain	Res	Type
9	XI	25	LYS
9	XI	31	GLN
9	XI	35	GLU
9	XI	38	GLN
9	XI	47	LEU
9	XI	70	LYS
9	XI	78	LYS
9	XI	88	TYR
9	XI	95	LYS
9	XI	96	LEU
9	XI	102	LEU
9	XI	104	ARG
9	XI	114	TYR
9	XI	117	HIS
10	XJ	16	LEU
10	XJ	17	ASP
10	XJ	40	LEU
10	XJ	47	PHE
10	XJ	57	LYS
10	XJ	62	HIS
10	XJ	70	ARG
10	XJ	74	ILE
10	XJ	78	ASN
10	XJ	80	LYS
10	XJ	96	ILE
10	XJ	97	GLU
10	XJ	98	ILE
11	XK	13	GLN
11	XK	14	VAL
11	XK	29	ILE
11	XK	30	VAL
11	XK	54	ARG
11	XK	83	ILE
11	XK	84	VAL
11	XK	95	ILE
11	XK	114	VAL
12	XL	18	VAL
12	XL	20	LYS
12	XL	23	LYS
12	XL	24	VAL
12	XL	27	LEU
12	XL	28	LYS

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Mol	Chain	Res	Type
12	XL	33	ARG
12	XL	42	THR
12	XL	43	VAL
12	XL	44	THR
12	XL	46	LYS
12	XL	54	LYS
12	XL	60	LEU
12	XL	62	SER
12	XL	66	VAL
12	XL	67	THR
12	XL	83	VAL
12	XL	84	LEU
12	XL	85	ILE
12	XL	111	LYS
12	XL	116	SER
12	XL	126	LYS
13	XM	4	ILE
13	XM	14	ARG
13	XM	25	ILE
13	XM	43	THR
13	XM	48	LEU
13	XM	56	LEU
13	XM	66	LEU
13	XM	70	LEU
13	XM	79	LYS
13	XM	93	ARG
13	XM	108	ARG
14	XN	15	LYS
14	XN	18	VAL
14	XN	32	SER
14	XN	41	ARG
14	XN	58	LYS
15	XO	3	ILE
15	XO	26	GLU
15	XO	39	LEU
15	XO	45	VAL
15	XO	82	ILE
15	XO	84	LYS
15	XO	87	ILE
16	XP	2	VAL
16	XP	21	VAL
16	XP	27	LYS

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Mol	Chain	Res	Type
16	XP	45	THR
16	XP	53	VAL
16	XP	54	GLU
16	XP	67	THR
17	XQ	35	VAL
17	XQ	52	LYS
17	XQ	63	ARG
17	XQ	65	ILE
17	XQ	73	VAL
17	XQ	74	LEU
17	XQ	92	ARG
18	XR	28	GLU
18	XR	31	LEU
18	XR	37	VAL
18	XR	58	LEU
18	XR	65	ILE
18	XR	82	THR
18	XR	85	LEU
19	XS	5	LEU
19	XS	6	LYS
19	XS	7	LYS
19	XS	10	PHE
19	XS	13	ASP
19	XS	15	LEU
19	XS	19	VAL
19	XS	27	GLU
19	XS	30	LEU
19	XS	31	ILE
19	XS	40	ILE
19	XS	60	VAL
19	XS	63	THR
19	XS	64	GLU
19	XS	67	VAL
20	XT	10	LEU
20	XT	14	LYS
20	XT	19	SER
20	XT	24	LEU
20	XT	35	THR
20	XT	58	LYS
20	XT	72	LEU
20	XT	74	LYS
20	XT	75	ASN

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Mol	Chain	Res	Type
20	XT	81	LYS
20	XT	84	LEU
20	XT	92	LEU
20	XT	93	GLU
21	XU	9	ARG
21	XU	15	ARG
24	XY	26	ASP
24	XY	47	ASN
24	XY	85	ILE
24	XY	91	TYR
27	YD	3	VAL
27	YD	18	VAL
27	YD	24	ILE
27	YD	25	THR
27	YD	31	LYS
27	YD	33	LEU
27	YD	34	VAL
27	YD	43	ARG
27	YD	44	ASN
27	YD	59	LYS
27	YD	61	LEU
27	YD	65	ILE
27	YD	71	ASP
27	YD	72	LYS
27	YD	75	ILE
27	YD	88	ARG
27	YD	92	ILE
27	YD	94	LEU
27	YD	95	LEU
27	YD	103	ARG
27	YD	106	ILE
27	YD	111	LEU
27	YD	138	VAL
27	YD	141	VAL
27	YD	142	VAL
27	YD	150	LYS
27	YD	155	LEU
27	YD	157	ARG
27	YD	165	ILE
27	YD	166	GLN
27	YD	168	ARG
27	YD	192	THR

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Mol	Chain	Res	Type
27	YD	193	VAL
27	YD	196	VAL
27	YD	211	ARG
27	YD	242	ARG
27	YD	244	ARG
27	YD	257	LEU
27	YD	268	ARG
27	YD	271	ILE
27	YD	273	ARG
28	YE	4	ILE
28	YE	7	VAL
28	YE	12	THR
28	YE	26	ILE
28	YE	33	VAL
28	YE	35	GLN
28	YE	37	ARG
28	YE	47	VAL
28	YE	48	GLN
28	YE	49	LEU
28	YE	63	LEU
28	YE	66	HIS
28	YE	75	VAL
28	YE	78	LEU
28	YE	79	ARG
28	YE	82	ARG
28	YE	111	ARG
28	YE	116	VAL
28	YE	118	LYS
28	YE	119	ARG
28	YE	134	ILE
28	YE	144	ARG
28	YE	152	LYS
28	YE	154	LYS
28	YE	167	VAL
28	YE	175	VAL
28	YE	179	GLU
28	YE	181	LEU
28	YE	184	VAL
28	YE	185	LYS
28	YE	188	VAL
28	YE	201	THR
28	YE	202	LYS

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Mol	Chain	Res	Type
28	YE	203	LYS
29	YF	6	VAL
29	YF	7	TYR
29	YF	8	GLN
29	YF	20	LEU
29	YF	24	LEU
29	YF	33	LEU
29	YF	45	ARG
29	YF	52	LYS
29	YF	53	THR
29	YF	57	VAL
29	YF	60	SER
29	YF	74	ARG
29	YF	78	ILE
29	YF	88	VAL
29	YF	110	LEU
29	YF	125	LEU
29	YF	136	THR
29	YF	140	LEU
29	YF	153	SER
29	YF	158	THR
29	YF	164	ARG
29	YF	175	THR
29	YF	183	VAL
29	YF	192	LEU
30	YG	4	ASP
30	YG	7	LEU
30	YG	26	GLN
30	YG	34	LEU
30	YG	38	VAL
30	YG	43	LEU
30	YG	60	LEU
30	YG	79	ASN
30	YG	88	ILE
30	YG	101	ILE
30	YG	104	GLU
30	YG	114	ILE
30	YG	120	LEU
30	YG	123	ASN
30	YG	133	LEU
30	YG	159	VAL
30	YG	164	GLU

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Mol	Chain	Res	Type
31	YH	9	ILE
31	YH	16	SER
31	YH	17	VAL
31	YH	24	VAL
31	YH	26	VAL
31	YH	27	LYS
31	YH	34	GLU
31	YH	37	VAL
31	YH	45	VAL
31	YH	49	VAL
31	YH	50	VAL
31	YH	51	ARG
31	YH	59	ARG
31	YH	77	LYS
31	YH	85	LYS
31	YH	89	ILE
31	YH	103	LEU
31	YH	105	LEU
31	YH	106	THR
31	YH	107	VAL
31	YH	125	VAL
31	YH	127	GLU
31	YH	130	ARG
31	YH	136	ILE
31	YH	143	GLN
31	YH	157	TYR
31	YH	158	HIS
31	YH	167	GLU
32	YI	1	MET
32	YI	2	LYS
32	YI	5	LEU
32	YI	9	LEU
32	YI	10	GLU
32	YI	20	ASP
32	YI	38	LEU
32	YI	40	THR
32	YI	54	GLN
32	YI	62	LYS
32	YI	78	THR
32	YI	81	VAL
32	YI	87	LYS
32	YI	88	ILE

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Mol	Chain	Res	Type
32	YI	101	LEU
32	YI	109	ILE
32	YI	114	LEU
32	YI	117	GLU
32	YI	122	GLU
32	YI	130	TYR
32	YI	136	VAL
32	YI	138	ILE
32	YI	141	LYS
32	YI	142	VAL
33	YN	1	MET
33	YN	14	VAL
33	YN	48	MET
33	YN	67	LEU
33	YN	87	LEU
33	YN	88	GLU
33	YN	93	THR
33	YN	94	HIS
33	YN	99	LEU
33	YN	120	LEU
33	YN	127	ASP
33	YN	137	LYS
34	YO	1	MET
34	YO	20	MET
34	YO	22	ILE
34	YO	23	ARG
34	YO	29	ASN
34	YO	47	ILE
34	YO	48	PRO
34	YO	49	ARG
34	YO	73	ASP
34	YO	80	ASP
34	YO	98	VAL
34	YO	104	ARG
34	YO	108	GLU
34	YO	117	LEU
35	YP	1	MET
35	YP	6	LEU
35	YP	9	ASN
35	YP	14	LYS
35	YP	15	ARG
35	YP	19	VAL

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Mol	Chain	Res	Type
35	YP	21	ARG
35	YP	27	HIS
35	YP	29	LYS
35	YP	40	SER
35	YP	45	LEU
35	YP	52	GLU
35	YP	56	SER
35	YP	58	THR
35	YP	59	LEU
35	YP	61	ARG
35	YP	62	LEU
35	YP	75	ILE
35	YP	81	GLN
35	YP	85	LEU
35	YP	95	VAL
35	YP	98	GLU
35	YP	112	LEU
35	YP	114	ILE
35	YP	115	LEU
35	YP	117	GLU
35	YP	125	VAL
35	YP	135	LEU
35	YP	136	GLU
35	YP	138	LEU
35	YP	144	GLU
35	YP	147	LEU
35	YP	148	LEU
35	YP	149	GLU
36	YQ	1	MET
36	YQ	10	ARG
36	YQ	27	VAL
36	YQ	42	ILE
36	YQ	45	GLN
36	YQ	52	VAL
36	YQ	56	ARG
36	YQ	60	ARG
36	YQ	64	ILE
36	YQ	66	ILE
36	YQ	75	THR
36	YQ	79	LEU
36	YQ	80	GLU
36	YQ	81	VAL

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Mol	Chain	Res	Type
36	YQ	82	ARG
36	YQ	83	MET
36	YQ	102	VAL
36	YQ	103	MET
36	YQ	127	ILE
36	YQ	138	ASP
37	YR	6	SER
37	YR	9	LYS
37	YR	15	SER
37	YR	18	LEU
37	YR	28	LEU
37	YR	29	LEU
37	YR	34	ILE
37	YR	65	LEU
37	YR	67	LEU
37	YR	74	LYS
37	YR	75	LEU
37	YR	76	VAL
37	YR	79	LEU
37	YR	104	ARG
37	YR	113	LEU
37	YR	117	VAL
38	YS	12	PHE
38	YS	20	ARG
38	YS	48	LEU
38	YS	49	VAL
38	YS	52	SER
38	YS	54	LEU
38	YS	56	LEU
38	YS	58	LEU
38	YS	59	LYS
38	YS	69	VAL
38	YS	73	LEU
38	YS	106	ARG
38	YS	110	LEU
39	YT	8	LYS
39	YT	23	ARG
39	YT	28	VAL
39	YT	30	VAL
39	YT	33	LYS
39	YT	35	LYS
39	YT	41	ARG

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Mol	Chain	Res	Type
39	YT	50	ILE
39	YT	58	ASN
39	YT	59	THR
39	YT	62	THR
39	YT	74	ARG
39	YT	78	LEU
39	YT	86	ILE
39	YT	88	ILE
39	YT	89	VAL
39	YT	98	LYS
39	YT	99	LEU
39	YT	102	ILE
39	YT	107	ASP
39	YT	137	LYS
40	YU	5	LYS
40	YU	17	ILE
40	YU	19	LYS
40	YU	27	LEU
40	YU	74	LEU
40	YU	88	ILE
40	YU	92	ARG
40	YU	93	LYS
40	YU	97	ASP
41	YV	2	PHE
41	YV	4	ILE
41	YV	5	VAL
41	YV	18	LEU
41	YV	19	LYS
41	YV	32	THR
41	YV	35	LEU
41	YV	47	VAL
41	YV	64	HIS
41	YV	66	ARG
41	YV	73	SER
41	YV	78	LYS
41	YV	79	VAL
41	YV	80	GLN
41	YV	81	TYR
41	YV	82	ARG
41	YV	98	GLU
41	YV	100	ARG
42	YW	11	ARG

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Mol	Chain	Res	Type
42	YW	17	VAL
42	YW	20	VAL
42	YW	50	VAL
42	YW	51	LEU
42	YW	63	ASP
42	YW	66	GLU
42	YW	76	VAL
42	YW	88	ARG
42	YW	94	ASP
42	YW	96	ILE
42	YW	106	ILE
42	YW	107	LEU
43	YX	12	VAL
43	YX	27	THR
43	YX	48	LYS
43	YX	50	LYS
43	YX	53	LYS
43	YX	66	LEU
43	YX	76	ARG
43	YX	80	ILE
44	YY	2	ARG
44	YY	5	MET
44	YY	9	LYS
44	YY	13	VAL
44	YY	14	LEU
44	YY	28	LYS
44	YY	38	ILE
44	YY	51	VAL
44	YY	55	TYR
44	YY	60	PHE
44	YY	61	ILE
44	YY	62	GLU
44	YY	63	LYS
44	YY	71	LYS
44	YY	75	ILE
44	YY	76	CYS
44	YY	81	LYS
44	YY	86	ARG
44	YY	87	LYS
44	YY	95	LYS
44	YY	96	ILE
44	YY	97	ARG

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Mol	Chain	Res	Type
44	YY	101	LYS
45	YZ	4	ARG
45	YZ	5	LEU
45	YZ	9	TYR
45	YZ	13	GLU
45	YZ	19	ARG
45	YZ	27	VAL
45	YZ	28	MET
45	YZ	33	LEU
45	YZ	34	ASN
45	YZ	41	LEU
45	YZ	61	LEU
45	YZ	71	VAL
45	YZ	75	ASN
45	YZ	76	LEU
45	YZ	87	ASP
45	YZ	91	LEU
45	YZ	104	PHE
45	YZ	107	THR
45	YZ	111	VAL
45	YZ	116	VAL
45	YZ	120	ILE
45	YZ	121	HIS
45	YZ	128	VAL
45	YZ	133	ILE
45	YZ	135	GLU
45	YZ	141	VAL
45	YZ	148	ASP
45	YZ	150	LEU
45	YZ	162	GLU
45	YZ	171	ILE
46	Y0	5	LYS
46	Y0	7	LEU
46	Y0	9	SER
46	Y0	10	THR
46	Y0	36	ILE
46	Y0	49	LYS
46	Y0	55	ARG
47	Y1	4	VAL
47	Y1	21	ARG
47	Y1	30	VAL
47	Y1	46	LEU

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Mol	Chain	Res	Type
47	Y1	51	VAL
47	Y1	75	GLU
47	Y1	78	LYS
47	Y1	90	ILE
47	Y1	92	LYS
47	Y1	97	LEU
47	Y1	98	LEU
48	Y2	5	GLU
48	Y2	15	LYS
48	Y2	24	LEU
48	Y2	44	LEU
48	Y2	48	HIS
48	Y2	50	ILE
48	Y2	53	LEU
48	Y2	64	LEU
48	Y2	67	LYS
49	Y3	8	LEU
49	Y3	11	SER
49	Y3	17	LYS
49	Y3	31	LEU
49	Y3	32	GLN
49	Y3	40	THR
49	Y3	54	VAL
49	Y3	56	VAL
49	Y3	59	VAL
50	Y4	5	ILE
50	Y4	6	HIS
50	Y4	10	VAL
50	Y4	14	ILE
50	Y4	16	CYS
50	Y4	18	CYS
50	Y4	21	VAL
50	Y4	31	ILE
50	Y4	35	VAL
50	Y4	36	CYS
50	Y4	40	HIS
50	Y4	50	VAL
50	Y4	55	ARG
50	Y4	59	PHE
50	Y4	61	ARG
50	Y4	63	TYR
50	Y4	69	LYS

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Mol	Chain	Res	Type
51	Y5	3	LYS
51	Y5	4	HIS
51	Y5	11	THR
51	Y5	26	THR
51	Y5	29	THR
51	Y5	52	TYR
52	Y6	7	ILE
52	Y6	8	LYS
52	Y6	9	LEU
52	Y6	10	LEU
52	Y6	12	GLU
52	Y6	18	ARG
52	Y6	21	TYR
52	Y6	24	GLU
52	Y6	28	ARG
52	Y6	34	LEU
52	Y6	37	ARG
52	Y6	38	LYS
52	Y6	39	TYR
52	Y6	40	CYS
52	Y6	44	ARG
52	Y6	45	LYS
52	Y6	47	THR
52	Y6	48	VAL
53	Y7	14	LYS
53	Y7	24	THR
53	Y7	43	THR
53	Y7	46	VAL
53	Y7	47	ARG
53	Y7	48	LYS
53	Y7	49	ARG
54	Y8	4	MET
54	Y8	14	VAL
54	Y8	32	LEU
54	Y8	36	LYS
54	Y8	41	ILE
54	Y8	52	LYS
54	Y8	54	GLU
54	Y8	58	ILE
54	Y8	61	LEU
54	Y8	64	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (69)

such sidechains are listed below:

Mol	Chain	Res	Type
2	QB	94	ASN
3	QC	28	GLN
3	QC	108	ASN
5	QE	65	ASN
6	QF	13	ASN
7	QG	86	GLN
9	QI	58	HIS
11	QK	104	GLN
16	QP	82	GLN
19	QS	83	HIS
24	QY	49	GLN
27	RD	143	HIS
27	RD	164	GLN
28	RE	48	GLN
28	RE	66	HIS
28	RE	169	ASN
28	RE	180	ASN
29	RF	40	GLN
30	RG	58	GLN
31	RH	61	HIS
32	RI	133	HIS
33	RN	69	GLN
36	RQ	45	GLN
36	RQ	113	GLN
37	RR	50	HIS
40	RU	75	ASN
42	RW	60	ASN
45	RZ	75	ASN
45	RZ	118	GLN
45	RZ	132	ASN
46	R0	29	GLN
48	R2	38	GLN
51	R5	4	HIS
51	R5	22	HIS
54	R8	43	GLN
2	XB	78	GLN
2	XB	94	ASN
3	XC	37	GLN
3	XC	102	ASN
3	XC	108	ASN
6	XF	73	ASN
7	XG	68	ASN

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Mol	Chain	Res	Type
7	XG	84	ASN
7	XG	97	GLN
9	XI	117	HIS
10	XJ	68	HIS
11	XK	13	GLN
24	XY	47	ASN
27	YD	96	HIS
27	YD	201	HIS
28	YE	169	ASN
29	YF	75	HIS
32	YI	74	ASN
33	YN	69	GLN
34	YO	89	ASN
35	YP	38	GLN
36	YQ	113	GLN
37	YR	3	HIS
45	YZ	50	GLN
45	YZ	118	GLN
45	YZ	132	ASN
48	Y2	65	ASN
50	Y4	6	HIS
50	Y4	46	GLN
50	Y4	60	GLN
51	Y5	23	HIS
52	Y6	32	ASN
53	Y7	36	GLN
55	Y9	29	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1509/1522 (99%)	296 (19%)	46 (3%)
1	XA	1506/1522 (98%)	290 (19%)	38 (2%)
22	QV	76/77 (98%)	13 (17%)	0
22	QW	76/77 (98%)	20 (26%)	2 (2%)
22	XV	76/77 (98%)	12 (15%)	1 (1%)
22	XW	76/77 (98%)	18 (23%)	0
23	QX	19/25 (76%)	8 (42%)	2 (10%)
23	XX	19/25 (76%)	9 (47%)	1 (5%)
25	RA	2888/2916 (99%)	591 (20%)	42 (1%)
25	YA	2872/2916 (98%)	567 (19%)	41 (1%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
26	RB	121/124 (97%)	20 (16%)	1 (0%)
26	YB	121/124 (97%)	21 (17%)	1 (0%)
All	All	9359/9482 (98%)	1865 (19%)	175 (1%)

All (1865) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	4	U
1	QA	5	U
1	QA	6	G
1	QA	9	G
1	QA	22	G
1	QA	32	A
1	QA	39	G
1	QA	47	C
1	QA	48	C
1	QA	50	A
1	QA	51	A
1	QA	61	G
1	QA	64	G
1	QA	65	U
1	QA	66	G
1	QA	78	G
1	QA	79	G
1	QA	91	C
1	QA	93	G
1	QA	96	U
1	QA	101	A
1	QA	116	A
1	QA	121	C
1	QA	131	C
1	QA	163	C
1	QA	182	U
1	QA	186	C
1	QA	189(E)	U
1	QA	189(F)	U
1	QA	189(G)	G
1	QA	189(H)	G
1	QA	189(K)	U
1	QA	189(L)	G
1	QA	195	A
1	QA	197	A

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Mol	Chain	Res	Type
1	QA	198	G
1	QA	201	C
1	QA	202	U
1	QA	203	U
1	QA	204	U
1	QA	216	G
1	QA	217	C
1	QA	243	A
1	QA	244	U
1	QA	247	G
1	QA	251	G
1	QA	266	G
1	QA	267	C
1	QA	280	C
1	QA	281	G
1	QA	289	G
1	QA	321	A
1	QA	328	C
1	QA	329	A
1	QA	332	G
1	QA	345	C
1	QA	346	G
1	QA	347	G
1	QA	350	G
1	QA	351	G
1	QA	352	C
1	QA	353	A
1	QA	354	G
1	QA	356	A
1	QA	367	U
1	QA	372	C
1	QA	373	A
1	QA	384	G
1	QA	397	A
1	QA	398	C
1	QA	406	G
1	QA	411	A
1	QA	412	A
1	QA	422	C
1	QA	423	G
1	QA	429	U
1	QA	430	A

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Mol	Chain	Res	Type
1	QA	439	A
1	QA	442	C
1	QA	470	C
1	QA	474	G
1	QA	477	A
1	QA	482	A
1	QA	485	G
1	QA	486	U
1	QA	494	U
1	QA	495	A
1	QA	498	U
1	QA	505	G
1	QA	511	C
1	QA	518	C
1	QA	519	C
1	QA	521	G
1	QA	527	G
1	QA	532	A
1	QA	533	A
1	QA	545	C
1	QA	547	A
1	QA	548	G
1	QA	559	A
1	QA	561	U
1	QA	572	A
1	QA	573	A
1	QA	576	G
1	QA	577	G
1	QA	579	G
1	QA	594	G
1	QA	595	G
1	QA	596	C
1	QA	617	G
1	QA	630	G
1	QA	653	A
1	QA	665	A
1	QA	688	G
1	QA	701	C
1	QA	702	A
1	QA	703	G
1	QA	704	A
1	QA	717	C

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Mol	Chain	Res	Type
1	QA	721	G
1	QA	722	A
1	QA	724	G
1	QA	731	G
1	QA	749	C
1	QA	755	G
1	QA	760	G
1	QA	777	A
1	QA	786	G
1	QA	792	A
1	QA	793	U
1	QA	794	A
1	QA	813	U
1	QA	815	A
1	QA	817	C
1	QA	821	G
1	QA	828	A
1	QA	839	U
1	QA	840	C
1	QA	841	U
1	QA	848	C
1	QA	859	A
1	QA	870	U
1	QA	871	U
1	QA	872	A
1	QA	874	G
1	QA	914	A
1	QA	926	G
1	QA	927	G
1	QA	934	C
1	QA	935	A
1	QA	960	U
1	QA	961	U
1	QA	966	G
1	QA	969	A
1	QA	971	G
1	QA	974	A
1	QA	977	A
1	QA	978	A
1	QA	980	C
1	QA	991	U
1	QA	992	U

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Mol	Chain	Res	Type
1	QA	993	G
1	QA	1000	U
1	QA	1001	A
1	QA	1001(A)	G
1	QA	1003	G
1	QA	1005	A
1	QA	1006	C
1	QA	1007	C
1	QA	1008	C
1	QA	1009	G
1	QA	1020	U
1	QA	1021	G
1	QA	1024	G
1	QA	1025	U
1	QA	1026	G
1	QA	1030(A)	G
1	QA	1030(C)	G
1	QA	1030(D)	A
1	QA	1031	G
1	QA	1033	G
1	QA	1034	G
1	QA	1036	G
1	QA	1038	C
1	QA	1039	C
1	QA	1042	G
1	QA	1053	G
1	QA	1054	C
1	QA	1064	G
1	QA	1065	U
1	QA	1066	C
1	QA	1067	A
1	QA	1068	G
1	QA	1081	G
1	QA	1086	U
1	QA	1094	G
1	QA	1095	U
1	QA	1101	A
1	QA	1118	C
1	QA	1124	G
1	QA	1125	U
1	QA	1136	U
1	QA	1137	C

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Mol	Chain	Res	Type
1	QA	1138	G
1	QA	1139	G
1	QA	1140	C
1	QA	1146	A
1	QA	1152	A
1	QA	1157	A
1	QA	1158	C
1	QA	1159	U
1	QA	1160	G
1	QA	1176	A
1	QA	1177	G
1	QA	1178	G
1	QA	1181	G
1	QA	1183	A
1	QA	1190	G
1	QA	1193	G
1	QA	1196	U
1	QA	1197	G
1	QA	1212	U
1	QA	1213	A
1	QA	1225	A
1	QA	1226	C
1	QA	1237	C
1	QA	1238	A
1	QA	1240	U
1	QA	1241	G
1	QA	1256	A
1	QA	1257	U
1	QA	1258	G
1	QA	1273	G
1	QA	1278	U
1	QA	1280	A
1	QA	1281	U
1	QA	1285	A
1	QA	1286	A
1	QA	1287	A
1	QA	1288	A
1	QA	1297	C
1	QA	1298	C
1	QA	1299	A
1	QA	1301	U
1	QA	1302	U

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Mol	Chain	Res	Type
1	QA	1303	C
1	QA	1305	G
1	QA	1312	G
1	QA	1320	C
1	QA	1322	C
1	QA	1323	G
1	QA	1331	G
1	QA	1335	C
1	QA	1337	G
1	QA	1338	G
1	QA	1346	A
1	QA	1347	G
1	QA	1348	U
1	QA	1353	G
1	QA	1363	C
1	QA	1364	U
1	QA	1370	G
1	QA	1379	G
1	QA	1382	C
1	QA	1397	C
1	QA	1398	A
1	QA	1406	U
1	QA	1419	G
1	QA	1442	G
1	QA	1442(B)	A
1	QA	1446	U
1	QA	1447	A
1	QA	1452	C
1	QA	1456	G
1	QA	1457	G
1	QA	1475	G
1	QA	1491	G
1	QA	1493	A
1	QA	1497	G
1	QA	1499	A
1	QA	1502	A
1	QA	1504	G
1	QA	1505	G
1	QA	1506	U
1	QA	1517	G
1	QA	1519	A
1	QA	1520	G

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Mol	Chain	Res	Type
1	QA	1529	G
1	QA	1530	G
1	QA	1532	U
1	QA	1533	C
1	QA	1534	A
1	QA	1536	C
1	QA	1540	U
1	QA	1541	U
1	QA	1542	U
22	QV	3	C
22	QV	8	U
22	QV	14	A
22	QV	17(A)	U
22	QV	18	G
22	QV	19	G
22	QV	20	U
22	QV	21	A
22	QV	47	U
22	QV	48	C
22	QV	49	G
22	QV	65	C
22	QV	76	A
22	QW	8	U
22	QW	10	G
22	QW	14	A
22	QW	15	G
22	QW	16	C
22	QW	17	C
22	QW	17(A)	U
22	QW	18	G
22	QW	20	U
22	QW	21	A
22	QW	22	G
22	QW	34	C
22	QW	47	U
22	QW	48	C
22	QW	49	G
22	QW	50	U
22	QW	55	U
22	QW	56	C
22	QW	61	C
22	QW	72	A

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Mol	Chain	Res	Type
23	QX	10	G
23	QX	12	A
23	QX	13	A
23	QX	14	A
23	QX	17	U
23	QX	19	A2M
23	QX	20	A2M
23	QX	21	A2M
25	RA	9	U
25	RA	15	G
25	RA	28	A
25	RA	34	C
25	RA	35	G
25	RA	45	C
25	RA	49	A
25	RA	51	G
25	RA	58	G
25	RA	60	G
25	RA	69	C
25	RA	71	A
25	RA	75	G
25	RA	82	G
25	RA	90	U
25	RA	92	A
25	RA	94	C
25	RA	95	G
25	RA	100	G
25	RA	102	G
25	RA	113	G
25	RA	118	A
25	RA	120	U
25	RA	129	C
25	RA	137	C
25	RA	139(A)	G
25	RA	140	G
25	RA	141	A
25	RA	142	A
25	RA	154	G
25	RA	154(A)	C
25	RA	174	C
25	RA	175	G
25	RA	181	A

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Mol	Chain	Res	Type
25	RA	196	A
25	RA	199	A
25	RA	215	G
25	RA	216	A
25	RA	221	A
25	RA	222	A
25	RA	225	A
25	RA	228	A
25	RA	229	A
25	RA	248	G
25	RA	249	C
25	RA	252	G
25	RA	260	G
25	RA	261	G
25	RA	267	C
25	RA	268	C
25	RA	269	U
25	RA	271(J)	C
25	RA	271(K)	U
25	RA	271(L)	U
25	RA	271(N)	U
25	RA	271(O)	C
25	RA	271(P)	C
25	RA	271(Y)	U
25	RA	272(A)	U
25	RA	272(B)	G
25	RA	272(H)	C
25	RA	274	G
25	RA	278	A
25	RA	283	A
25	RA	284	U
25	RA	288	C
25	RA	289	A
25	RA	311	A
25	RA	324	A
25	RA	329	G
25	RA	330	A
25	RA	332	A
25	RA	345	A
25	RA	352	G
25	RA	353	G
25	RA	356	G

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Mol	Chain	Res	Type
25	RA	358	U
25	RA	362	U
25	RA	363	G
25	RA	363(E)	U
25	RA	363(F)	A
25	RA	364	C
25	RA	371	A
25	RA	372	G
25	RA	373	U
25	RA	374	A
25	RA	386	G
25	RA	388	G
25	RA	396	G
25	RA	405	U
25	RA	407	G
25	RA	411	G
25	RA	412	A
25	RA	428	A
25	RA	443	A
25	RA	444	C
25	RA	448	U
25	RA	455	C
25	RA	457	A
25	RA	470	A
25	RA	481	G
25	RA	494	G
25	RA	505	A
25	RA	509	C
25	RA	512	G
25	RA	528	A
25	RA	530	G
25	RA	531	C
25	RA	532	A
25	RA	533	G
25	RA	544	G
25	RA	549	G
25	RA	556	G
25	RA	561	G
25	RA	562	U
25	RA	563	G
25	RA	573	G
25	RA	574	C

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Mol	Chain	Res	Type
25	RA	575	A
25	RA	586	A
25	RA	587	C
25	RA	588	U
25	RA	593	G
25	RA	603	A
25	RA	604	G
25	RA	607	U
25	RA	614	U
25	RA	614(A)	U
25	RA	614(B)	G
25	RA	615	G
25	RA	627	A
25	RA	637	A
25	RA	645	C
25	RA	646	A
25	RA	651	G
25	RA	654	A
25	RA	654(A)	G
25	RA	654(B)	C
25	RA	654(F)	C
25	RA	654(G)	C
25	RA	654(O)	G
25	RA	654(Q)	C
25	RA	654(R)	C
25	RA	654(S)	G
25	RA	654(T)	C
25	RA	657	U
25	RA	668	G
25	RA	686	G
25	RA	708	C
25	RA	717	G
25	RA	722	A
25	RA	726	G
25	RA	730	C
25	RA	739	G
25	RA	740	U
25	RA	748	G
25	RA	749	C
25	RA	753	C
25	RA	782	A
25	RA	784	A

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Mol	Chain	Res	Type
25	RA	785	G
25	RA	789	A
25	RA	792	G
25	RA	805	G
25	RA	812	C
25	RA	819	A
25	RA	827	U
25	RA	828	U
25	RA	845	G
25	RA	855	G
25	RA	856	C
25	RA	857	C
25	RA	859	G
25	RA	860	U
25	RA	862	G
25	RA	865	C
25	RA	866	A
25	RA	878	A
25	RA	879	G
25	RA	881	G
25	RA	882	G
25	RA	883	G
25	RA	884	C
25	RA	888	C
25	RA	889	C
25	RA	890	A
25	RA	894	C
25	RA	895	U
25	RA	896	A
25	RA	897	C
25	RA	901	A
25	RA	910	A
25	RA	917	A
25	RA	927	G
25	RA	932	G
25	RA	934	G
25	RA	941	A
25	RA	945	A
25	RA	946	G
25	RA	953	A
25	RA	961	C
25	RA	974	G

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Mol	Chain	Res	Type
25	RA	983	A
25	RA	989	G
25	RA	990	A
25	RA	991	C
25	RA	996	A
25	RA	1010	A
25	RA	1011	G
25	RA	1012	U
25	RA	1013	C
25	RA	1017	G
25	RA	1022	G
25	RA	1023	U
25	RA	1025	G
25	RA	1026	U
25	RA	1027	A
25	RA	1033	U
25	RA	1034	G
25	RA	1036	G
25	RA	1044	G
25	RA	1045	A
25	RA	1046	A
25	RA	1047	G
25	RA	1049	C
25	RA	1060	U
25	RA	1061	U
25	RA	1070	A
25	RA	1086	A
25	RA	1087	G
25	RA	1088	A
25	RA	1089	G
25	RA	1095	A
25	RA	1096	A
25	RA	1099	G
25	RA	1122	G
25	RA	1130	U
25	RA	1135	C
25	RA	1136	G
25	RA	1139	G
25	RA	1142	U
25	RA	1142(A)	A
25	RA	1155	A
25	RA	1167	U

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Mol	Chain	Res	Type
25	RA	1173	G
25	RA	1174	A
25	RA	1175	U
25	RA	1176	G
25	RA	1177	A
25	RA	1178	C
25	RA	1180	C
25	RA	1195	G
25	RA	1220	A
25	RA	1236	G
25	RA	1249	U
25	RA	1250	G
25	RA	1253	A
25	RA	1254	A
25	RA	1255	U
25	RA	1256	G
25	RA	1265	A
25	RA	1271	G
25	RA	1272	A
25	RA	1281	G
25	RA	1286	A
25	RA	1289	C
25	RA	1300	U
25	RA	1301	A
25	RA	1308	A
25	RA	1311	G
25	RA	1312	U
25	RA	1313	U
25	RA	1314	C
25	RA	1319	G
25	RA	1329	U
25	RA	1341	U
25	RA	1342	A
25	RA	1346	G
25	RA	1352	U
25	RA	1359	A
25	RA	1360	A
25	RA	1365	A
25	RA	1367	A
25	RA	1368	G
25	RA	1379	A
25	RA	1384	A

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Mol	Chain	Res	Type
25	RA	1385	G
25	RA	1392	A
25	RA	1406	U
25	RA	1407	C
25	RA	1416	G
25	RA	1420	U
25	RA	1421	G
25	RA	1428	C
25	RA	1432	C
25	RA	1437	C
25	RA	1445	A
25	RA	1449	A
25	RA	1450	G
25	RA	1452	A
25	RA	1455	G
25	RA	1459	G
25	RA	1460	A
25	RA	1461	G
25	RA	1467	C
25	RA	1471	A
25	RA	1475	G
25	RA	1476	C
25	RA	1477	A
25	RA	1481	U
25	RA	1482	G
25	RA	1485	G
25	RA	1488	G
25	RA	1490	A
25	RA	1493	C
25	RA	1505	C
25	RA	1509	C
25	RA	1509(A)	A
25	RA	1520	G
25	RA	1534	G
25	RA	1535	U
25	RA	1536	A
25	RA	1537	C
25	RA	1538	G
25	RA	1543	A
25	RA	1545	A
25	RA	1547	C
25	RA	1550	C

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Mol	Chain	Res	Type
25	RA	1554	A
25	RA	1558	A
25	RA	1566	A
25	RA	1569	A
25	RA	1578	U
25	RA	1581	G
25	RA	1584	C
25	RA	1586	A
25	RA	1588	C
25	RA	1598	C
25	RA	1608	A
25	RA	1640	C
25	RA	1648	C
25	RA	1654	A
25	RA	1674	G
25	RA	1681	G
25	RA	1695	G
25	RA	1696	G
25	RA	1700	A
25	RA	1701	A
25	RA	1717	G
25	RA	1718	G
25	RA	1721	G
25	RA	1722	A
25	RA	1740	G
25	RA	1744	C
25	RA	1746	G
25	RA	1756	G
25	RA	1763	G
25	RA	1764	G
25	RA	1773	A
25	RA	1780	A
25	RA	1791	A
25	RA	1800	C
25	RA	1801	G
25	RA	1816	G
25	RA	1820	U
25	RA	1829	A
25	RA	1835	G
25	RA	1839	G
25	RA	1847	A
25	RA	1860	G

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Mol	Chain	Res	Type
25	RA	1865	G
25	RA	1877	A
25	RA	1878	G
25	RA	1880	C
25	RA	1882	C
25	RA	1889	A
25	RA	1900	A
25	RA	1903	G
25	RA	1906	G
25	RA	1913	A
25	RA	1914	C
25	RA	1916	A
25	RA	1929	G
25	RA	1930	G
25	RA	1931	U
25	RA	1936	A
25	RA	1938	A
25	RA	1948	G
25	RA	1949	G
25	RA	1955	U
25	RA	1963	U
25	RA	1967	C
25	RA	1970	A
25	RA	1971	A
25	RA	1972	A
25	RA	1980	G
25	RA	1982	C
25	RA	1992	G
25	RA	1993	U
25	RA	2020	A
25	RA	2022	U
25	RA	2023	G
25	RA	2027	G
25	RA	2031	A
25	RA	2032	G
25	RA	2033	A
25	RA	2043	C
25	RA	2052	G
25	RA	2055	C
25	RA	2056	G
25	RA	2059	A
25	RA	2060	A

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Mol	Chain	Res	Type
25	RA	2061	G
25	RA	2062	A
25	RA	2063	C
25	RA	2069	G
25	RA	2092	U
25	RA	2093	G
25	RA	2096	U
25	RA	2099	U
25	RA	2108	C
25	RA	2111	C
25	RA	2112	G
25	RA	2113	U
25	RA	2114	A
25	RA	2116	G
25	RA	2117	A
25	RA	2120	G
25	RA	2123	G
25	RA	2128	C
25	RA	2130	U
25	RA	2131	G
25	RA	2132	U
25	RA	2140	C
25	RA	2145	C
25	RA	2147	G
25	RA	2148	G
25	RA	2165	G
25	RA	2167	U
25	RA	2168	G
25	RA	2169	A
25	RA	2171	A
25	RA	2173	A
25	RA	2190	G
25	RA	2192	G
25	RA	2198	A
25	RA	2199	A
25	RA	2203	U
25	RA	2206	G
25	RA	2207	G
25	RA	2208	A
25	RA	2218	U
25	RA	2219	G
25	RA	2225	A

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Mol	Chain	Res	Type
25	RA	2226	C
25	RA	2238	G
25	RA	2239	G
25	RA	2246	G
25	RA	2275	C
25	RA	2276	G
25	RA	2279	G
25	RA	2283	C
25	RA	2287	A
25	RA	2288	A
25	RA	2305	A
25	RA	2307	G
25	RA	2308	G
25	RA	2309	A
25	RA	2312	U
25	RA	2316	C
25	RA	2320	A
25	RA	2325	G
25	RA	2334	G
25	RA	2335	A
25	RA	2336	A
25	RA	2343	C
25	RA	2345	G
25	RA	2347	C
25	RA	2350	C
25	RA	2382	G
25	RA	2383	G
25	RA	2385	C
25	RA	2394	C
25	RA	2402	C
25	RA	2406	U
25	RA	2410	G
25	RA	2414	G
25	RA	2422	A
25	RA	2423	U
25	RA	2424	C
25	RA	2425	A
25	RA	2429	G
25	RA	2430	A
25	RA	2435	A
25	RA	2439	A
25	RA	2440	C

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Mol	Chain	Res	Type
25	RA	2441	C
25	RA	2445	G
25	RA	2447	G
25	RA	2448	A
25	RA	2468	G
25	RA	2469	A
25	RA	2470	G
25	RA	2471	C
25	RA	2472	G
25	RA	2474	C
25	RA	2475	C
25	RA	2476	A
25	RA	2482	G
25	RA	2484	G
25	RA	2494	G
25	RA	2502	G
25	RA	2505	G
25	RA	2518	A
25	RA	2519	U
25	RA	2529	G
25	RA	2535	G
25	RA	2541	A
25	RA	2542	A
25	RA	2543	G
25	RA	2546	U
25	RA	2554	U
25	RA	2566	A
25	RA	2567	G
25	RA	2569	G
25	RA	2572	A
25	RA	2573	C
25	RA	2601	C
25	RA	2602	A
25	RA	2603	G
25	RA	2609	U
25	RA	2610	C
25	RA	2611	U
25	RA	2612	C
25	RA	2615	U
25	RA	2629	A
25	RA	2630	G
25	RA	2646	C

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Mol	Chain	Res	Type
25	RA	2654	A
25	RA	2655	G
25	RA	2665	A
25	RA	2673	G
25	RA	2675	A
25	RA	2682	U
25	RA	2689	U
25	RA	2690	C
25	RA	2691	C
25	RA	2702	U
25	RA	2703	C
25	RA	2712	U
25	RA	2712(A)	A
25	RA	2713	A
25	RA	2714	G
25	RA	2726	U
25	RA	2732	G
25	RA	2733	A
25	RA	2744	G
25	RA	2748	A
25	RA	2758	A
25	RA	2762	G
25	RA	2765	A
25	RA	2766	G
25	RA	2770	G
25	RA	2777	G
25	RA	2778	A
25	RA	2790	A
25	RA	2791	C
25	RA	2792	G
25	RA	2807	G
25	RA	2808	U
25	RA	2818	G
25	RA	2820	A
25	RA	2821	A
25	RA	2823	A
25	RA	2827	C
25	RA	2833	G
25	RA	2834	G
25	RA	2845	G
25	RA	2849	U
25	RA	2850	A

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Mol	Chain	Res	Type
25	RA	2860	A
25	RA	2867	G
25	RA	2868	A
25	RA	2872	G
25	RA	2876	G
25	RA	2877	G
25	RA	2879	C
25	RA	2880	C
25	RA	2893	G
25	RA	2894	G
25	RA	2896	C
26	RB	0	A
26	RB	8	U
26	RB	13	A
26	RB	14	U
26	RB	15	A
26	RB	25	A
26	RB	27	C
26	RB	33	G
26	RB	35	U
26	RB	40	U
26	RB	42	C
26	RB	44	G
26	RB	45	A
26	RB	52	A
26	RB	67	G
26	RB	73	A
26	RB	88	C
26	RB	89	G
26	RB	108	C
26	RB	109	G
1	XA	4	U
1	XA	5	U
1	XA	6	G
1	XA	9	G
1	XA	22	G
1	XA	32	A
1	XA	39	G
1	XA	47	C
1	XA	48	C
1	XA	51	A
1	XA	54	C

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Mol	Chain	Res	Type
1	XA	61	G
1	XA	66	G
1	XA	72	C
1	XA	73	G
1	XA	78	G
1	XA	96	U
1	XA	101	A
1	XA	116	A
1	XA	120	A
1	XA	121	C
1	XA	131	C
1	XA	163	C
1	XA	169	C
1	XA	182	U
1	XA	189(C)	C
1	XA	189(F)	U
1	XA	189(G)	G
1	XA	189(H)	G
1	XA	189(K)	U
1	XA	189(L)	G
1	XA	195	A
1	XA	197	A
1	XA	198	G
1	XA	202	U
1	XA	203	U
1	XA	204	U
1	XA	216	G
1	XA	244	U
1	XA	247	G
1	XA	251	G
1	XA	266	G
1	XA	267	C
1	XA	280	C
1	XA	281	G
1	XA	289	G
1	XA	315	A
1	XA	316	G
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	332	G
1	XA	345	C

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Mol	Chain	Res	Type
1	XA	347	G
1	XA	350	G
1	XA	351	G
1	XA	352	C
1	XA	353	A
1	XA	354	G
1	XA	356	A
1	XA	367	U
1	XA	368	U
1	XA	372	C
1	XA	373	A
1	XA	384	G
1	XA	397	A
1	XA	398	C
1	XA	406	G
1	XA	411	A
1	XA	412	A
1	XA	413	G
1	XA	422	C
1	XA	423	G
1	XA	424	G
1	XA	429	U
1	XA	430	A
1	XA	439	A
1	XA	442	C
1	XA	452	A
1	XA	453	A
1	XA	470	C
1	XA	471	G
1	XA	477	A
1	XA	482	A
1	XA	485	G
1	XA	486	U
1	XA	494	U
1	XA	496	A
1	XA	498	U
1	XA	505	G
1	XA	511	C
1	XA	518	C
1	XA	527	G
1	XA	531	U
1	XA	532	A

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Mol	Chain	Res	Type
1	XA	533	A
1	XA	536	C
1	XA	545	C
1	XA	547	A
1	XA	548	G
1	XA	559	A
1	XA	563	A
1	XA	564	C
1	XA	572	A
1	XA	573	A
1	XA	576	G
1	XA	577	G
1	XA	579	G
1	XA	596	C
1	XA	618	C
1	XA	630	G
1	XA	653	A
1	XA	665	A
1	XA	687	A
1	XA	688	G
1	XA	697	U
1	XA	702	A
1	XA	703	G
1	XA	704	A
1	XA	724	G
1	XA	731	G
1	XA	749	C
1	XA	755	G
1	XA	760	G
1	XA	774	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	801	U
1	XA	812	C
1	XA	813	U
1	XA	816	A
1	XA	817	C
1	XA	818	G
1	XA	819	A
1	XA	820	U

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Mol	Chain	Res	Type
1	XA	821	G
1	XA	828	A
1	XA	839	U
1	XA	840	C
1	XA	841	U
1	XA	848	C
1	XA	855	G
1	XA	859	A
1	XA	870	U
1	XA	874	G
1	XA	887	G
1	XA	914	A
1	XA	926	G
1	XA	927	G
1	XA	934	C
1	XA	935	A
1	XA	960	U
1	XA	961	U
1	XA	966	G
1	XA	968	A
1	XA	969	A
1	XA	971	G
1	XA	972	C
1	XA	975	A
1	XA	977	A
1	XA	980	C
1	XA	982	U
1	XA	983	A
1	XA	991	U
1	XA	992	U
1	XA	993	G
1	XA	1001	A
1	XA	1001(A)	G
1	XA	1005	A
1	XA	1006	C
1	XA	1007	C
1	XA	1008	C
1	XA	1009	G
1	XA	1020	U
1	XA	1024	G
1	XA	1025	U
1	XA	1026	G

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Mol	Chain	Res	Type
1	XA	1029	C
1	XA	1030(A)	G
1	XA	1030(C)	G
1	XA	1030(D)	A
1	XA	1031	G
1	XA	1033	G
1	XA	1034	G
1	XA	1036	G
1	XA	1038	C
1	XA	1039	C
1	XA	1042	G
1	XA	1053	G
1	XA	1054	C
1	XA	1066	C
1	XA	1068	G
1	XA	1081	G
1	XA	1086	U
1	XA	1094	G
1	XA	1095	U
1	XA	1101	A
1	XA	1118	C
1	XA	1124	G
1	XA	1125	U
1	XA	1136	U
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1145	C
1	XA	1146	A
1	XA	1151	A
1	XA	1157	A
1	XA	1158	C
1	XA	1159	U
1	XA	1160	G
1	XA	1176	A
1	XA	1178	G
1	XA	1181	G
1	XA	1182	G
1	XA	1183	A
1	XA	1184	G
1	XA	1187	G
1	XA	1190	G

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Mol	Chain	Res	Type
1	XA	1191	A
1	XA	1196	U
1	XA	1197	G
1	XA	1212	U
1	XA	1213	A
1	XA	1225	A
1	XA	1226	C
1	XA	1238	A
1	XA	1240	U
1	XA	1241	G
1	XA	1250	A
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1270	C
1	XA	1273	G
1	XA	1278	U
1	XA	1280	A
1	XA	1281	U
1	XA	1285	A
1	XA	1286	A
1	XA	1287	A
1	XA	1299	A
1	XA	1300	G
1	XA	1301	U
1	XA	1303	C
1	XA	1305	G
1	XA	1317	C
1	XA	1323	G
1	XA	1331	G
1	XA	1334	G
1	XA	1338	G
1	XA	1346	A
1	XA	1353	G
1	XA	1363	C
1	XA	1363(A)	A
1	XA	1364	U
1	XA	1397	C
1	XA	1406	U
1	XA	1419	G
1	XA	1442	G
1	XA	1442(B)	A

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Mol	Chain	Res	Type
1	XA	1443	G
1	XA	1446	U
1	XA	1447	A
1	XA	1452	C
1	XA	1456	G
1	XA	1457	G
1	XA	1493	A
1	XA	1494	G
1	XA	1497	G
1	XA	1499	A
1	XA	1502	A
1	XA	1503	A
1	XA	1504	G
1	XA	1505	G
1	XA	1506	U
1	XA	1517	G
1	XA	1519	A
1	XA	1520	G
1	XA	1529	G
1	XA	1530	G
1	XA	1532	U
1	XA	1533	C
1	XA	1534	A
1	XA	1536	C
1	XA	1540	U
1	XA	1541	U
1	XA	1542	U
22	XV	13	C
22	XV	17(A)	U
22	XV	18	G
22	XV	19	G
22	XV	20	U
22	XV	21	A
22	XV	22	G
22	XV	47	U
22	XV	48	C
22	XV	54	U
22	XV	65	C
22	XV	76	A
22	XW	8	U
22	XW	9	G
22	XW	10	G

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Mol	Chain	Res	Type
22	XW	13	C
22	XW	14	A
22	XW	15	G
22	XW	18	G
22	XW	20	U
22	XW	21	A
22	XW	22	G
22	XW	47	U
22	XW	48	C
22	XW	49	G
22	XW	55	U
22	XW	57	A
22	XW	61	C
22	XW	66	C
22	XW	72	A
23	XX	5	A
23	XX	11	U
23	XX	12	A
23	XX	13	A
23	XX	14	A
23	XX	15	A
23	XX	19	A2M
23	XX	20	A2M
23	XX	21	A2M
25	YA	9	U
25	YA	15	G
25	YA	46	C
25	YA	51	G
25	YA	55	G
25	YA	58	G
25	YA	60	G
25	YA	69	C
25	YA	71	A
25	YA	74	A
25	YA	75	G
25	YA	82	G
25	YA	83	G
25	YA	95	G
25	YA	102	G
25	YA	118	A
25	YA	119	A
25	YA	120	U

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Mol	Chain	Res	Type
25	YA	140	A
25	YA	154	G
25	YA	175	G
25	YA	181	A
25	YA	182	A
25	YA	196	A
25	YA	199	A
25	YA	215	G
25	YA	216	A
25	YA	221	A
25	YA	222	A
25	YA	229	A
25	YA	233	A
25	YA	248	G
25	YA	249	C
25	YA	252	G
25	YA	261	G
25	YA	270(B)	A
25	YA	270(K)	C
25	YA	270(M)	U
25	YA	270(O)	U
25	YA	270(P)	C
25	YA	270(Z)	U
25	YA	271(C)	U
25	YA	271	G
25	YA	273(D)	C
25	YA	274	G
25	YA	278	A
25	YA	279	C
25	YA	283	A
25	YA	289	A
25	YA	311	A
25	YA	324	A
25	YA	329	G
25	YA	330	A
25	YA	332	A
25	YA	352	G
25	YA	356	G
25	YA	361	G
25	YA	363	G
25	YA	363(A)	A
25	YA	363(E)	U

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Mol	Chain	Res	Type
25	YA	363(F)	A
25	YA	364	C
25	YA	372	G
25	YA	386	G
25	YA	396	G
25	YA	407	G
25	YA	411	G
25	YA	428	A
25	YA	444	C
25	YA	448	U
25	YA	454	A
25	YA	456	C
25	YA	470	A
25	YA	481	G
25	YA	494	G
25	YA	504	U
25	YA	505	A
25	YA	509	C
25	YA	512	G
25	YA	525	U
25	YA	529	A
25	YA	530	G
25	YA	531	C
25	YA	532	A
25	YA	533	G
25	YA	561	G
25	YA	563	G
25	YA	571	A
25	YA	573	G
25	YA	575	A
25	YA	586	A
25	YA	588	U
25	YA	603	A
25	YA	607	U
25	YA	614	U
25	YA	615	G
25	YA	617	G
25	YA	622	G
25	YA	624	C
25	YA	625	G
25	YA	627	A
25	YA	637	A

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Mol	Chain	Res	Type
25	YA	645	C
25	YA	646	A
25	YA	647	G
25	YA	670	A
25	YA	686	G
25	YA	708	C
25	YA	722	A
25	YA	730	C
25	YA	753	C
25	YA	764	A
25	YA	775	G
25	YA	776	G
25	YA	777	A
25	YA	782	A
25	YA	784	A
25	YA	785	G
25	YA	789	A
25	YA	790	C
25	YA	792	G
25	YA	805	G
25	YA	812	C
25	YA	819	A
25	YA	827	U
25	YA	828	U
25	YA	832	G
25	YA	848	G
25	YA	856	C
25	YA	857	C
25	YA	859	G
25	YA	860	U
25	YA	866	A
25	YA	878	A
25	YA	879	G
25	YA	881	G
25	YA	882	G
25	YA	883	G
25	YA	884	C
25	YA	886	C
25	YA	889	C
25	YA	890	A
25	YA	893	C
25	YA	894	C

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Mol	Chain	Res	Type
25	YA	896	A
25	YA	897	C
25	YA	901	A
25	YA	906	G
25	YA	907	U
25	YA	910	A
25	YA	914	C
25	YA	917	A
25	YA	919	G
25	YA	928	G
25	YA	932	G
25	YA	938	G
25	YA	941	A
25	YA	944	G
25	YA	945	A
25	YA	946	G
25	YA	953	A
25	YA	961	C
25	YA	973	A
25	YA	974	G
25	YA	980	A
25	YA	983	A
25	YA	987	G
25	YA	989	G
25	YA	990	A
25	YA	996	A
25	YA	997	G
25	YA	998	C
25	YA	1000	A
25	YA	1010	A
25	YA	1011	G
25	YA	1012	U
25	YA	1013	C
25	YA	1022	G
25	YA	1023	U
25	YA	1025	G
25	YA	1026	U
25	YA	1033	U
25	YA	1044	G
25	YA	1045	A
25	YA	1046	A
25	YA	1047	G

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Mol	Chain	Res	Type
25	YA	1049	C
25	YA	1051	G
25	YA	1060	U
25	YA	1061	U
25	YA	1070	A
25	YA	1086	A
25	YA	1087	G
25	YA	1088	A
25	YA	1089	G
25	YA	1095	A
25	YA	1096	A
25	YA	1122	G
25	YA	1128	A
25	YA	1130	U
25	YA	1135	C
25	YA	1136	G
25	YA	1139	G
25	YA	1142	U
25	YA	1143	A
25	YA	1155	A
25	YA	1173	G
25	YA	1174	A
25	YA	1175	U
25	YA	1176	G
25	YA	1177	A
25	YA	1178	C
25	YA	1180	C
25	YA	1195	G
25	YA	1218	C
25	YA	1220	A
25	YA	1236	G
25	YA	1247	A
25	YA	1248	G
25	YA	1250	G
25	YA	1253	A
25	YA	1255	U
25	YA	1256	G
25	YA	1262	A
25	YA	1265	A
25	YA	1271	G
25	YA	1272	A
25	YA	1276	A

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Mol	Chain	Res	Type
25	YA	1281	G
25	YA	1289	C
25	YA	1300	U
25	YA	1301	A
25	YA	1303	G
25	YA	1314	C
25	YA	1319	G
25	YA	1329	U
25	YA	1352	U
25	YA	1359	A
25	YA	1360	A
25	YA	1365	A
25	YA	1368	G
25	YA	1380	G
25	YA	1384	A
25	YA	1385	G
25	YA	1391	U
25	YA	1406	U
25	YA	1407	C
25	YA	1416	G
25	YA	1417	C
25	YA	1419	A
25	YA	1420	U
25	YA	1421	G
25	YA	1428	C
25	YA	1434	A
25	YA	1437	C
25	YA	1444(A)	A
25	YA	1449	A
25	YA	1449(A)	G
25	YA	1451	C
25	YA	1453	A
25	YA	1455	G
25	YA	1458	C
25	YA	1460	A
25	YA	1461	G
25	YA	1467	C
25	YA	1471	A
25	YA	1475	G
25	YA	1476	C
25	YA	1477	A
25	YA	1482	U

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Mol	Chain	Res	Type
25	YA	1483	G
25	YA	1485	G
25	YA	1488	G
25	YA	1490	A
25	YA	1493	C
25	YA	1497	U
25	YA	1502	C
25	YA	1505	C
25	YA	1506	C
25	YA	1508	A
25	YA	1509	C
25	YA	1510	A
25	YA	1514	U
25	YA	1515	C
25	YA	1519	G
25	YA	1522	G
25	YA	1526	G
25	YA	1534	G
25	YA	1535	U
25	YA	1536	A
25	YA	1537	C
25	YA	1543	A
25	YA	1544	C
25	YA	1545	A
25	YA	1547	C
25	YA	1554	A
25	YA	1558	A
25	YA	1559	G
25	YA	1566	A
25	YA	1569	A
25	YA	1575	C
25	YA	1578	U
25	YA	1579	A
25	YA	1581	G
25	YA	1585	C
25	YA	1586	A
25	YA	1587	A
25	YA	1592	C
25	YA	1598	C
25	YA	1608	A
25	YA	1609	A
25	YA	1610	A

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Mol	Chain	Res	Type
25	YA	1616	A
25	YA	1618	A
25	YA	1634	A
25	YA	1640	C
25	YA	1648	C
25	YA	1654	A
25	YA	1667	G
25	YA	1674	G
25	YA	1675	C
25	YA	1695	G
25	YA	1696	G
25	YA	1700	A
25	YA	1701	A
25	YA	1703	G
25	YA	1725	G
25	YA	1729	A
25	YA	1733	G
25	YA	1735	C
25	YA	1742	C
25	YA	1750	G
25	YA	1754	C
25	YA	1756	G
25	YA	1763	G
25	YA	1764	G
25	YA	1773	A
25	YA	1780	A
25	YA	1791	A
25	YA	1800	C
25	YA	1801	G
25	YA	1816	G
25	YA	1820	U
25	YA	1829	A
25	YA	1835	G
25	YA	1838	C
25	YA	1839	G
25	YA	1847	A
25	YA	1848	A
25	YA	1858	G
25	YA	1869	G
25	YA	1870	C
25	YA	1872	A
25	YA	1878	G

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Mol	Chain	Res	Type
25	YA	1881	C
25	YA	1882	C
25	YA	1888	G
25	YA	1889	A
25	YA	1896	G
25	YA	1900	A
25	YA	1903	G
25	YA	1905	C
25	YA	1906	G
25	YA	1912	A
25	YA	1913	A
25	YA	1914	C
25	YA	1916	A
25	YA	1929	G
25	YA	1930	G
25	YA	1931	U
25	YA	1936	A
25	YA	1938	A
25	YA	1946	U
25	YA	1948	G
25	YA	1955	U
25	YA	1963	U
25	YA	1967	C
25	YA	1970	A
25	YA	1971	A
25	YA	1972	A
25	YA	1982	C
25	YA	1992	G
25	YA	1993	U
25	YA	2012	G
25	YA	2020	A
25	YA	2021	C
25	YA	2023	G
25	YA	2025	C
25	YA	2027	G
25	YA	2031	A
25	YA	2032	G
25	YA	2033	A
25	YA	2041	U
25	YA	2043	C
25	YA	2049	G
25	YA	2055	C

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Mol	Chain	Res	Type
25	YA	2056	G
25	YA	2059	A
25	YA	2060	A
25	YA	2061	G
25	YA	2062	A
25	YA	2069	G
25	YA	2093	G
25	YA	2099	U
25	YA	2108	C
25	YA	2111	C
25	YA	2112	G
25	YA	2113	U
25	YA	2114	A
25	YA	2116	G
25	YA	2117	A
25	YA	2120	G
25	YA	2126	A
25	YA	2128	C
25	YA	2130	U
25	YA	2131	G
25	YA	2132	U
25	YA	2134	A
25	YA	2140	C
25	YA	2145	C
25	YA	2148	G
25	YA	2161	C
25	YA	2167	U
25	YA	2168	G
25	YA	2169	A
25	YA	2170	A
25	YA	2171	A
25	YA	2173	A
25	YA	2186	G
25	YA	2190	G
25	YA	2191	G
25	YA	2192	G
25	YA	2198	A
25	YA	2210	G
25	YA	2211	G
25	YA	2212	A
25	YA	2215	G
25	YA	2225	A

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Mol	Chain	Res	Type
25	YA	2226	C
25	YA	2238	G
25	YA	2239	G
25	YA	2246	G
25	YA	2268	A
25	YA	2275	C
25	YA	2283	C
25	YA	2287	A
25	YA	2288	A
25	YA	2305	A
25	YA	2306	C
25	YA	2307	G
25	YA	2308	G
25	YA	2309	A
25	YA	2312	U
25	YA	2319	G
25	YA	2320	A
25	YA	2325	G
25	YA	2327	A
25	YA	2336	A
25	YA	2343	C
25	YA	2344	U
25	YA	2345	G
25	YA	2347	C
25	YA	2350	C
25	YA	2354	G
25	YA	2383	G
25	YA	2385	C
25	YA	2394	C
25	YA	2402	C
25	YA	2406	U
25	YA	2423	U
25	YA	2425	A
25	YA	2428	G
25	YA	2429	G
25	YA	2430	A
25	YA	2434	A
25	YA	2435	A
25	YA	2439	A
25	YA	2440	C
25	YA	2441	C
25	YA	2448	A

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Mol	Chain	Res	Type
25	YA	2450	A
25	YA	2465	C
25	YA	2468	G
25	YA	2469	A
25	YA	2472	G
25	YA	2475	C
25	YA	2476	A
25	YA	2478	A
25	YA	2484	G
25	YA	2490	G
25	YA	2494	G
25	YA	2502	G
25	YA	2505	G
25	YA	2518	A
25	YA	2529	G
25	YA	2535	G
25	YA	2554	U
25	YA	2558	C
25	YA	2566	A
25	YA	2567	G
25	YA	2569	G
25	YA	2573	C
25	YA	2578	G
25	YA	2582	G
25	YA	2585	U
25	YA	2586	C
25	YA	2602	A
25	YA	2609	U
25	YA	2611	U
25	YA	2612	C
25	YA	2623	G
25	YA	2629	A
25	YA	2630	G
25	YA	2645	G
25	YA	2647	U
25	YA	2654	A
25	YA	2655	G
25	YA	2665	A
25	YA	2673	G
25	YA	2689	U
25	YA	2691	C
25	YA	2712	U

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Mol	Chain	Res	Type
25	YA	2712(A)	A
25	YA	2713	A
25	YA	2724	C
25	YA	2726	U
25	YA	2732	G
25	YA	2733	A
25	YA	2734	A
25	YA	2748	A
25	YA	2750	A
25	YA	2751	G
25	YA	2752	C
25	YA	2754	U
25	YA	2758	A
25	YA	2762	G
25	YA	2777	G
25	YA	2778	A
25	YA	2779	U
25	YA	2787	C
25	YA	2790	A
25	YA	2791	C
25	YA	2792	G
25	YA	2807	G
25	YA	2810	A
25	YA	2818	G
25	YA	2820	A
25	YA	2821	A
25	YA	2827	C
25	YA	2828	C
25	YA	2833	G
25	YA	2834	G
25	YA	2835	A
25	YA	2845	G
25	YA	2846	G
25	YA	2849	U
25	YA	2850	A
25	YA	2860	A
25	YA	2866	U
25	YA	2872	G
25	YA	2879	C
25	YA	2880	C
25	YA	2892	A
25	YA	2893	G

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Mol	Chain	Res	Type
25	YA	2894	G
25	YA	2896	C
25	YA	2897	U
26	YB	7	G
26	YB	13	A
26	YB	14	U
26	YB	15	A
26	YB	16	G
26	YB	25	A
26	YB	32	C
26	YB	35	U
26	YB	40	U
26	YB	41	U
26	YB	42	C
26	YB	44	G
26	YB	45	A
26	YB	47	C
26	YB	56	G
26	YB	67	G
26	YB	73	A
26	YB	81	G
26	YB	88	C
26	YB	109	G
26	YB	119	A

All (175) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	QA	31	G
1	QA	60	A
1	QA	64	G
1	QA	115	G
1	QA	181	G
1	QA	189(G)	G
1	QA	197	A
1	QA	201	C
1	QA	243	A
1	QA	250	A
1	QA	279	A
1	QA	328	C
1	QA	329	A
1	QA	345	C

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Mol	Chain	Res	Type
1	QA	350	G
1	QA	353	A
1	QA	410	G
1	QA	428	G
1	QA	429	U
1	QA	484	G
1	QA	485	G
1	QA	496	A
1	QA	518	C
1	QA	547	A
1	QA	560	U
1	QA	687	A
1	QA	748	C
1	QA	792	A
1	QA	812	C
1	QA	839	U
1	QA	913	A
1	QA	960	U
1	QA	992	U
1	QA	1004	A
1	QA	1033	G
1	QA	1038	C
1	QA	1065	U
1	QA	1067	A
1	QA	1137	C
1	QA	1182	G
1	QA	1297	C
1	QA	1300	G
1	QA	1346	A
1	QA	1347	G
1	QA	1498	U
1	QA	1532	U
22	QW	7	G
22	QW	60	U
23	QX	9	G
23	QX	11	U
25	RA	90	U
25	RA	119	A
25	RA	128	C
25	RA	195	A
25	RA	227	A
25	RA	352	G

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Mol	Chain	Res	Type
25	RA	387	U
25	RA	404	C
25	RA	587	C
25	RA	603	A
25	RA	614(A)	U
25	RA	748	G
25	RA	752	A
25	RA	859	G
25	RA	877	U
25	RA	883	G
25	RA	1022	G
25	RA	1085	A
25	RA	1171	G
25	RA	1311	G
25	RA	1341	U
25	RA	1427	A
25	RA	1653	G
25	RA	1694	C
25	RA	1819	A
25	RA	1930	G
25	RA	1992	G
25	RA	2144	U
25	RA	2166	G
25	RA	2191	G
25	RA	2207	G
25	RA	2275	C
25	RA	2405	G
25	RA	2439	A
25	RA	2447	G
25	RA	2481	G
25	RA	2518	A
25	RA	2689	U
25	RA	2776	A
25	RA	2849	U
25	RA	2859	G
25	RA	2867	G
26	RB	66	A
1	XA	5	U
1	XA	31	G
1	XA	60	A
1	XA	93	G
1	XA	115	G

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Mol	Chain	Res	Type
1	XA	181	G
1	XA	197	A
1	XA	201	C
1	XA	243	A
1	XA	250	A
1	XA	279	A
1	XA	315	A
1	XA	328	C
1	XA	353	A
1	XA	410	G
1	XA	428	G
1	XA	429	U
1	XA	485	G
1	XA	547	A
1	XA	687	A
1	XA	703	G
1	XA	748	C
1	XA	792	A
1	XA	812	C
1	XA	818	G
1	XA	913	A
1	XA	960	U
1	XA	991	U
1	XA	992	U
1	XA	1004	A
1	XA	1033	G
1	XA	1038	C
1	XA	1065	U
1	XA	1067	A
1	XA	1137	C
1	XA	1300	G
1	XA	1498	U
1	XA	1532	U
22	XV	17(A)	U
23	XX	20	A2M
25	YA	74	A
25	YA	101	G
25	YA	119	A
25	YA	196	A
25	YA	528	A
25	YA	587	C
25	YA	752	A

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Mol	Chain	Res	Type
25	YA	856	C
25	YA	859	G
25	YA	877	U
25	YA	883	G
25	YA	1022	G
25	YA	1085	A
25	YA	1171	G
25	YA	1275	A
25	YA	1300	U
25	YA	1379	A
25	YA	1427	A
25	YA	1558	A
25	YA	1653	G
25	YA	1694	C
25	YA	1762	A
25	YA	1819	A
25	YA	1912	A
25	YA	1930	G
25	YA	1992	G
25	YA	2144	U
25	YA	2166	G
25	YA	2191	G
25	YA	2211	G
25	YA	2225	A
25	YA	2343	C
25	YA	2344	U
25	YA	2422	A
25	YA	2439	A
25	YA	2447	G
25	YA	2610	C
25	YA	2776	A
25	YA	2848	G
25	YA	2849	U
25	YA	2859	G
26	YB	66	A

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

6 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
23	A2M	XX	19	56,23	22,25,26	1.55	4 (18%)	30,36,39	2.20	12 (40%)
23	A2M	QX	21	1,23	22,25,26	1.50	4 (18%)	30,36,39	2.21	11 (36%)
23	A2M	QX	20	23	22,25,26	1.57	3 (13%)	30,36,39	2.25	9 (30%)
23	A2M	QX	19	23	22,25,26	1.51	5 (22%)	30,36,39	2.11	11 (36%)
23	A2M	XX	21	1,23	22,25,26	1.48	5 (22%)	30,36,39	2.18	12 (40%)
23	A2M	XX	20	23	22,25,26	1.49	4 (18%)	30,36,39	2.33	11 (36%)

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
23	A2M	XX	19	56,23	-	2/9/27/28	0/3/3/3
23	A2M	QX	21	1,23	-	5/9/27/28	0/3/3/3
23	A2M	QX	20	23	-	2/9/27/28	0/3/3/3
23	A2M	QX	19	23	-	2/9/27/28	0/3/3/3
23	A2M	XX	21	1,23	-	4/9/27/28	0/3/3/3
23	A2M	XX	20	23	-	0/9/27/28	0/3/3/3

All (25) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	QX	20	A2M	C5-C4	5.06	1.48	1.39
23	XX	19	A2M	C5-C4	4.67	1.47	1.39
23	QX	21	A2M	C5-C4	4.58	1.47	1.39
23	XX	21	A2M	C5-C4	4.49	1.47	1.39
23	XX	20	A2M	C5-C4	4.48	1.47	1.39
23	QX	19	A2M	C5-C4	4.42	1.47	1.39
23	XX	19	A2M	C5-C6	3.19	1.49	1.41
23	QX	20	A2M	C5-C6	3.14	1.49	1.41
23	QX	19	A2M	C5-C6	2.77	1.48	1.41
23	QX	21	A2M	C5-C6	2.75	1.48	1.41
23	XX	20	A2M	C5-C6	2.71	1.48	1.41
23	XX	21	A2M	C5-C6	2.60	1.48	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	QX	20	A2M	C8-N7	2.59	1.36	1.31
23	QX	19	A2M	C4-N9	-2.52	1.32	1.37
23	XX	19	A2M	C4-N9	-2.46	1.32	1.37
23	XX	19	A2M	C8-N7	2.44	1.36	1.31
23	XX	20	A2M	C5-N7	-2.44	1.34	1.39
23	QX	21	A2M	C8-N7	2.42	1.36	1.31
23	XX	20	A2M	C8-N7	2.32	1.36	1.31
23	XX	21	A2M	C8-N7	2.25	1.36	1.31
23	QX	19	A2M	C8-N7	2.25	1.36	1.31
23	XX	21	A2M	C5-N7	-2.16	1.35	1.39
23	QX	21	A2M	C5-N7	-2.15	1.35	1.39
23	XX	21	A2M	C4-N9	-2.10	1.33	1.37
23	QX	19	A2M	C5-N7	-2.06	1.35	1.39

All (66) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
23	QX	20	A2M	C5-C4-N3	-6.57	117.67	126.72
23	XX	20	A2M	C5-C4-N3	-6.29	118.05	126.72
23	QX	21	A2M	C5-C4-N3	-5.67	118.91	126.72
23	XX	21	A2M	C5-C4-N3	-5.09	119.71	126.72
23	QX	20	A2M	N3-C4-N9	4.84	135.40	127.17
23	XX	20	A2M	N3-C4-N9	4.82	135.36	127.17
23	QX	19	A2M	C5-C4-N3	-4.77	120.14	126.72
23	XX	19	A2M	C5-C4-N3	-4.64	120.33	126.72
23	XX	21	A2M	N3-C4-N9	4.38	134.62	127.17
23	QX	20	A2M	C4-C5-N7	-4.35	105.61	110.58
23	QX	21	A2M	N3-C4-N9	4.20	134.31	127.17
23	XX	19	A2M	C2'-C1'-N9	-4.03	107.12	113.75
23	XX	20	A2M	C2-N3-C4	3.93	121.44	111.83
23	XX	21	A2M	C4-N9-C8	3.83	109.76	105.74
23	QX	21	A2M	C4-C5-N7	-3.80	106.24	110.58
23	QX	20	A2M	C2-N3-C4	3.79	121.09	111.83
23	QX	19	A2M	N3-C4-N9	3.79	133.61	127.17
23	XX	19	A2M	N3-C4-N9	3.75	133.54	127.17
23	XX	20	A2M	C4-C5-N7	-3.75	106.30	110.58
23	QX	21	A2M	C2-N3-C4	3.74	120.96	111.83
23	QX	19	A2M	N3-C2-N1	-3.66	123.04	128.58
23	XX	19	A2M	C4-N9-C8	3.57	109.49	105.74
23	QX	19	A2M	C2-N3-C4	3.55	120.50	111.83
23	XX	19	A2M	C2-N3-C4	3.50	120.39	111.83
23	QX	19	A2M	C4-C5-N7	-3.49	106.59	110.58

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
23	QX	21	A2M	N3-C2-N1	-3.44	123.37	128.58
23	XX	21	A2M	C4-C5-N7	-3.40	106.69	110.58
23	QX	19	A2M	C4-N9-C8	3.39	109.30	105.74
23	XX	20	A2M	O4'-C1'-N9	3.38	114.59	108.09
23	XX	19	A2M	C4-C5-N7	-3.38	106.72	110.58
23	XX	20	A2M	N3-C2-N1	-3.34	123.52	128.58
23	XX	21	A2M	C2-N3-C4	3.33	119.97	111.83
23	XX	21	A2M	N3-C2-N1	-3.27	123.63	128.58
23	XX	20	A2M	C2'-C1'-N9	-3.21	108.47	113.75
23	XX	19	A2M	N3-C2-N1	-3.20	123.74	128.58
23	QX	20	A2M	C5-N7-C8	3.16	108.42	103.45
23	XX	19	A2M	O4'-C1'-N9	3.15	114.14	108.09
23	QX	21	A2M	C2'-C1'-N9	-3.12	108.62	113.75
23	XX	20	A2M	C5-N7-C8	3.00	108.16	103.45
23	QX	20	A2M	N3-C2-N1	-2.86	124.25	128.58
23	XX	19	A2M	C6-C5-N7	2.81	137.51	132.09
23	XX	21	A2M	C5-N7-C8	2.79	107.84	103.45
23	XX	21	A2M	N9-C8-N7	-2.75	110.04	113.94
23	QX	21	A2M	C5-N7-C8	2.64	107.59	103.45
23	QX	19	A2M	C6-C5-N7	2.61	137.13	132.09
23	QX	21	A2M	C4-N9-C8	2.50	108.36	105.74
23	QX	19	A2M	C5-N7-C8	2.47	107.33	103.45
23	XX	19	A2M	N9-C8-N7	-2.40	110.53	113.94
23	QX	19	A2M	N9-C8-N7	-2.39	110.54	113.94
23	QX	21	A2M	C6-C5-N7	2.37	136.66	132.09
23	XX	20	A2M	C4-N9-C8	2.36	108.22	105.74
23	XX	19	A2M	C5-N7-C8	2.34	107.13	103.45
23	QX	19	A2M	C2-N1-C6	2.34	122.58	118.73
23	XX	21	A2M	C2-N1-C6	2.34	122.57	118.73
23	XX	21	A2M	O4'-C1'-N9	2.30	112.51	108.09
23	QX	20	A2M	C4-N9-C8	2.30	108.15	105.74
23	XX	19	A2M	C4-N9-C1'	-2.30	121.26	126.63
23	XX	20	A2M	N9-C8-N7	-2.26	110.74	113.94
23	QX	20	A2M	C6-C5-N7	2.25	136.42	132.09
23	XX	21	A2M	C2'-C1'-N9	-2.21	110.12	113.75
23	QX	19	A2M	C2'-C1'-N9	-2.20	110.13	113.75
23	XX	21	A2M	C6-C5-N7	2.17	136.27	132.09
23	QX	20	A2M	N9-C8-N7	-2.15	110.89	113.94
23	XX	20	A2M	C6-C5-N7	2.14	136.21	132.09
23	QX	21	A2M	N9-C8-N7	-2.06	111.02	113.94
23	QX	21	A2M	C2-N1-C6	2.01	122.04	118.73

There are no chirality outliers.

All (15) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
23	QX	20	A2M	O4'-C4'-C5'-O5'
23	QX	20	A2M	C3'-C4'-C5'-O5'
23	QX	21	A2M	C1'-C2'-O2'-CM'
23	XX	21	A2M	C1'-C2'-O2'-CM'
23	QX	21	A2M	O4'-C4'-C5'-O5'
23	XX	21	A2M	C3'-C4'-C5'-O5'
23	QX	21	A2M	C3'-C4'-C5'-O5'
23	XX	21	A2M	O4'-C4'-C5'-O5'
23	QX	21	A2M	C3'-C2'-O2'-CM'
23	XX	19	A2M	O4'-C4'-C5'-O5'
23	QX	21	A2M	C4'-C5'-O5'-P
23	XX	21	A2M	C4'-C5'-O5'-P
23	QX	19	A2M	O4'-C4'-C5'-O5'
23	XX	19	A2M	C3'-C4'-C5'-O5'
23	QX	19	A2M	C3'-C4'-C5'-O5'

There are no ring outliers.

4 monomers are involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
23	QX	21	A2M	2	0
23	QX	19	A2M	1	0
23	XX	21	A2M	2	0
23	XX	20	A2M	2	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 1312 ligands modelled in this entry, 1312 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	QA	1511/1522 (99%)	-0.03	21 (1%) 73 59	39, 80, 190, 435	0
1	XA	1508/1522 (99%)	-0.08	17 (1%) 78 65	27, 78, 175, 487	0
2	QB	236/256 (92%)	0.83	25 (10%) 11 11	58, 138, 241, 336	0
2	XB	236/256 (92%)	0.86	23 (9%) 13 13	52, 119, 215, 332	0
3	QC	206/239 (86%)	0.56	8 (3%) 43 31	61, 111, 200, 469	0
3	XC	206/239 (86%)	0.47	7 (3%) 48 35	44, 103, 197, 564	0
4	QD	208/209 (99%)	0.51	18 (8%) 16 14	35, 66, 119, 173	0
4	XD	208/209 (99%)	0.70	25 (12%) 9 9	41, 82, 132, 198	0
5	QE	154/162 (95%)	0.39	3 (1%) 66 51	34, 74, 138, 244	0
5	XE	154/162 (95%)	0.30	6 (3%) 43 31	31, 68, 144, 340	0
6	QF	101/101 (100%)	0.68	7 (6%) 23 18	58, 117, 161, 183	0
6	XF	101/101 (100%)	0.24	0 100 100	29, 68, 110, 175	0
7	QG	155/156 (99%)	0.91	22 (14%) 6 8	80, 130, 214, 347	0
7	XG	155/156 (99%)	0.82	21 (13%) 7 8	54, 101, 179, 252	0
8	QH	138/138 (100%)	0.34	5 (3%) 46 33	41, 81, 119, 179	0
8	XH	138/138 (100%)	0.31	5 (3%) 46 33	48, 79, 128, 182	0
9	QI	128/128 (100%)	1.19	28 (21%) 2 4	78, 156, 267, 359	0
9	XI	128/128 (100%)	1.11	21 (16%) 4 6	61, 115, 202, 350	0
10	QJ	99/105 (94%)	1.37	22 (22%) 2 4	74, 149, 278, 339	0
10	XJ	99/105 (94%)	1.10	11 (11%) 10 11	63, 133, 253, 371	0
11	QK	121/129 (93%)	0.65	11 (9%) 15 14	43, 102, 182, 301	0
11	XK	121/129 (93%)	0.56	9 (7%) 20 17	32, 71, 159, 258	0
12	QL	125/132 (94%)	0.28	3 (2%) 59 45	27, 62, 103, 271	0
12	XL	125/132 (94%)	0.35	4 (3%) 50 37	30, 64, 103, 263	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
13	QM	118/126 (93%)	1.06	19 (16%) 4 6	75, 133, 248, 348	0
13	XM	118/126 (93%)	1.02	14 (11%) 9 10	64, 114, 183, 467	0
14	QN	60/61 (98%)	1.22	9 (15%) 5 7	79, 110, 169, 205	0
14	XN	60/61 (98%)	1.05	6 (10%) 12 12	60, 93, 133, 240	0
15	QO	88/89 (98%)	0.68	6 (6%) 23 19	37, 86, 136, 170	0
15	XO	88/89 (98%)	0.47	4 (4%) 38 28	34, 74, 110, 161	0
16	QP	84/88 (95%)	0.37	2 (2%) 59 45	38, 68, 111, 260	0
16	XP	84/88 (95%)	0.83	8 (9%) 14 13	63, 90, 138, 347	0
17	QQ	100/105 (95%)	0.51	8 (8%) 18 16	33, 79, 110, 133	0
17	XQ	100/105 (95%)	0.65	9 (9%) 15 14	35, 82, 118, 188	0
18	QR	71/88 (80%)	0.83	5 (7%) 22 18	64, 114, 191, 248	0
18	XR	71/88 (80%)	0.48	4 (5%) 30 23	33, 66, 181, 270	0
19	QS	82/93 (88%)	1.21	15 (18%) 3 5	78, 148, 306, 418	0
19	XS	82/93 (88%)	1.36	16 (19%) 3 4	57, 126, 215, 401	0
20	QT	99/106 (93%)	0.86	14 (14%) 6 8	54, 85, 160, 222	0
20	XT	99/106 (93%)	0.98	13 (13%) 7 8	61, 107, 176, 212	0
21	QU	25/27 (92%)	2.21	14 (56%) 0 0	94, 130, 197, 278	0
21	XU	25/27 (92%)	2.79	13 (52%) 0 0	74, 113, 170, 194	0
22	QV	77/77 (100%)	0.20	2 (2%) 57 42	46, 83, 132, 187	0
22	QW	77/77 (100%)	1.45	17 (22%) 2 4	86, 279, 383, 409	0
22	XV	77/77 (100%)	-0.08	2 (2%) 57 42	42, 79, 123, 172	0
22	XW	77/77 (100%)	1.43	18 (23%) 2 3	115, 271, 335, 411	0
23	QX	17/25 (68%)	1.09	3 (17%) 4 5	53, 218, 306, 334	0
23	XX	17/25 (68%)	1.05	4 (23%) 2 3	45, 237, 354, 390	0
24	QY	91/117 (77%)	0.84	13 (14%) 6 8	83, 126, 163, 188	0
24	XY	91/117 (77%)	0.72	11 (12%) 8 9	82, 127, 165, 185	0
25	RA	2891/2916 (99%)	0.00	72 (2%) 58 43	20, 56, 239, 588	0
25	YA	2875/2916 (98%)	-0.10	76 (2%) 57 42	20, 54, 248, 583	0
26	RB	122/124 (98%)	0.03	1 (0%) 82 71	46, 96, 148, 214	0
26	YB	122/124 (98%)	0.08	0 100 100	55, 86, 136, 215	0
27	RD	272/276 (98%)	0.51	14 (5%) 33 25	17, 54, 102, 322	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
27	YD	272/276 (98%)	0.28	18 (6%) 24 19	12, 35, 83, 212	0
28	RE	205/206 (99%)	0.88	27 (13%) 7 8	25, 73, 159, 362	0
28	YE	205/206 (99%)	0.87	31 (15%) 5 7	26, 73, 168, 563	0
29	RF	208/210 (99%)	0.26	8 (3%) 44 31	13, 44, 168, 316	0
29	YF	208/210 (99%)	0.60	16 (7%) 19 16	22, 67, 240, 535	0
30	RG	181/182 (99%)	0.73	13 (7%) 21 18	62, 110, 161, 194	0
30	YG	181/182 (99%)	0.64	13 (7%) 21 18	42, 97, 165, 199	0
31	RH	170/180 (94%)	1.76	60 (35%) 1 1	59, 182, 468, 582	0
31	YH	170/180 (94%)	1.61	47 (27%) 1 2	58, 146, 370, 574	0
32	RI	146/148 (98%)	1.03	24 (16%) 4 6	51, 113, 183, 290	0
32	YI	146/148 (98%)	0.86	15 (10%) 12 12	36, 92, 188, 341	0
33	RN	138/140 (98%)	0.56	9 (6%) 25 20	25, 75, 121, 188	0
33	YN	138/140 (98%)	0.55	9 (6%) 25 20	26, 81, 141, 196	0
34	RO	122/122 (100%)	0.21	2 (1%) 70 56	26, 58, 90, 120	0
34	YO	122/122 (100%)	0.12	1 (0%) 82 71	27, 58, 91, 116	0
35	RP	150/150 (100%)	0.94	22 (14%) 6 7	19, 68, 152, 324	0
35	YP	150/150 (100%)	0.98	22 (14%) 6 7	27, 66, 149, 278	0
36	RQ	140/141 (99%)	0.77	11 (7%) 18 16	30, 70, 115, 294	0
36	YQ	139/141 (98%)	0.73	16 (11%) 9 10	35, 70, 127, 273	0
37	RR	117/118 (99%)	0.43	7 (5%) 27 21	26, 65, 100, 156	0
37	YR	117/118 (99%)	0.56	5 (4%) 40 29	33, 65, 115, 161	0
38	RS	111/112 (99%)	1.30	31 (27%) 1 2	59, 112, 201, 486	0
38	YS	111/112 (99%)	1.23	27 (24%) 2 3	54, 93, 171, 315	0
39	RT	137/146 (93%)	0.62	12 (8%) 15 14	36, 78, 172, 561	0
39	YT	137/146 (93%)	0.61	12 (8%) 15 14	29, 80, 263, 460	0
40	RU	117/118 (99%)	0.50	5 (4%) 40 29	20, 56, 126, 223	0
40	YU	117/118 (99%)	0.90	17 (14%) 6 7	32, 74, 147, 342	0
41	RV	101/101 (100%)	0.59	11 (10%) 10 11	23, 79, 142, 406	0
41	YV	101/101 (100%)	0.86	10 (9%) 13 12	27, 102, 149, 576	0
42	RW	113/113 (100%)	0.25	4 (3%) 47 34	23, 53, 113, 248	0
42	YW	113/113 (100%)	0.30	1 (0%) 81 68	26, 61, 118, 368	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
43	RX	92/96 (95%)	0.61	5 (5%) 31 24	37, 69, 114, 140	0
43	YX	92/96 (95%)	0.28	2 (2%) 62 47	26, 55, 107, 126	0
44	RY	102/110 (92%)	1.53	29 (28%) 1 2	33, 78, 230, 539	0
44	YY	102/110 (92%)	1.43	23 (22%) 2 4	40, 95, 248, 579	0
45	RZ	176/206 (85%)	0.99	27 (15%) 5 7	54, 109, 230, 333	0
45	YZ	183/206 (88%)	0.98	29 (15%) 5 6	55, 111, 190, 333	0
46	R0	83/85 (97%)	0.79	12 (14%) 6 7	30, 69, 179, 363	0
46	Y0	83/85 (97%)	0.82	7 (8%) 17 15	29, 70, 166, 209	0
47	R1	97/98 (98%)	1.01	13 (13%) 7 8	27, 64, 206, 399	0
47	Y1	97/98 (98%)	0.88	13 (13%) 7 8	17, 46, 207, 422	0
48	R2	69/72 (95%)	0.87	11 (15%) 5 6	35, 87, 189, 288	0
48	Y2	69/72 (95%)	0.67	8 (11%) 9 10	28, 69, 119, 233	0
49	R3	59/60 (98%)	0.18	2 (3%) 48 35	36, 63, 116, 167	0
49	Y3	59/60 (98%)	0.50	5 (8%) 16 15	39, 80, 135, 184	0
50	R4	70/71 (98%)	1.80	26 (37%) 1 1	105, 280, 598, 608	0
50	Y4	70/71 (98%)	1.12	11 (15%) 5 6	92, 189, 571, 588	0
51	R5	59/60 (98%)	0.52	5 (8%) 16 15	21, 60, 201, 299	0
51	Y5	57/60 (95%)	1.06	8 (14%) 6 8	15, 71, 193, 303	0
52	R6	48/54 (88%)	2.19	20 (41%) 0 1	71, 128, 199, 285	0
52	Y6	48/54 (88%)	2.24	21 (43%) 0 1	60, 111, 181, 219	0
53	R7	49/49 (100%)	0.86	7 (14%) 6 8	15, 36, 127, 208	0
53	Y7	49/49 (100%)	0.75	7 (14%) 6 8	10, 29, 97, 215	0
54	R8	64/65 (98%)	1.26	12 (18%) 3 4	22, 50, 116, 225	0
54	Y8	64/65 (98%)	1.22	13 (20%) 3 4	22, 52, 96, 236	0
55	R9	37/37 (100%)	2.42	21 (56%) 0 0	99, 140, 190, 246	0
55	Y9	36/37 (97%)	2.19	18 (50%) 0 0	88, 155, 219, 248	0
All	All	21218/21844 (97%)	0.43	1595 (7%) 20 17	10, 78, 219, 608	0

All (1595) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
44	YY	91	GLU	11.3
52	Y6	41	PRO	10.4

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Mol	Chain	Res	Type	RSRZ
28	YE	59	VAL	10.4
11	QK	129	SER	10.0
21	XU	2	GLY	9.8
11	XK	129	SER	9.2
52	R6	41	PRO	8.6
35	YP	13	ASN	8.5
7	XG	2	ALA	8.4
54	R8	40	GLU	8.3
21	XU	5	ASP	8.3
28	RE	77	ILE	8.2
2	XB	9	GLU	8.1
7	XG	5	ARG	8.0
54	Y8	65	GLU	8.0
7	QG	32	ARG	7.9
52	Y6	21	TYR	7.8
14	XN	2	ALA	7.7
35	RP	65	ARG	7.7
8	XH	1	MET	7.6
7	QG	2	ALA	7.6
36	RQ	140	ALA	7.6
54	R8	65	GLU	7.6
47	Y1	97	LEU	7.5
31	RH	50	VAL	7.5
47	R1	96	LYS	7.4
14	QN	2	ALA	7.3
53	Y7	48	LYS	7.3
44	RY	86	ARG	7.3
39	YT	2	ASN	7.2
9	QI	64	THR	7.2
21	XU	4	GLY	7.2
27	YD	262	ARG	7.2
4	QD	26	CYS	7.0
31	RH	4	ILE	6.8
55	R9	1	MET	6.7
4	XD	3	ARG	6.7
4	XD	12	CYS	6.6
1	XA	1182	G	6.5
4	XD	26	CYS	6.5
50	R4	24	THR	6.5
31	YH	10	PRO	6.5
55	R9	2	LYS	6.4
11	XK	128	ALA	6.4

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Mol	Chain	Res	Type	RSRZ
54	Y8	40	GLU	6.4
21	QU	2	GLY	6.3
47	Y1	98	LEU	6.3
31	YH	153	LYS	6.3
44	RY	47	LYS	6.2
13	XM	102	ARG	6.2
31	YH	43	VAL	6.2
7	QG	80	VAL	6.2
22	XW	34	C	6.2
53	R7	49	ARG	6.1
11	QK	128	ALA	6.1
53	Y7	47	ARG	6.1
19	QS	38	SER	6.0
45	RZ	174	VAL	6.0
28	RE	79	ARG	6.0
28	YE	76	ARG	5.9
4	QD	12	CYS	5.9
20	QT	9	ASN	5.9
36	RQ	27	VAL	5.9
7	XG	32	ARG	5.9
31	YH	155	SER	5.9
47	Y1	96	LYS	5.9
40	RU	91	ASP	5.8
53	Y7	49	ARG	5.8
35	RP	64	LYS	5.8
35	YP	64	LYS	5.8
10	XJ	59	SER	5.8
31	YH	4	ILE	5.7
53	R7	48	LYS	5.7
27	YD	236	GLY	5.7
45	YZ	148	ASP	5.7
19	XS	5	LEU	5.7
55	Y9	26	ILE	5.7
25	YA	1762	A	5.6
28	YE	60	ASN	5.6
31	RH	136	ILE	5.6
9	XI	6	GLY	5.6
8	QH	1	MET	5.6
54	Y8	56	GLU	5.6
47	R1	95	LEU	5.6
44	RY	48	ALA	5.6
47	R1	97	LEU	5.6

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Mol	Chain	Res	Type	RSRZ
40	RU	90	VAL	5.5
44	YY	58	GLY	5.5
50	R4	35	VAL	5.5
31	RH	155	SER	5.5
38	YS	109	GLY	5.5
38	RS	33	LYS	5.5
31	RH	103	LEU	5.5
52	Y6	42	TRP	5.5
45	RZ	150	LEU	5.4
10	XJ	54	PHE	5.4
49	Y3	17	LYS	5.4
31	RH	104	GLU	5.4
31	YH	2	SER	5.4
35	RP	15	ARG	5.4
40	YU	90	VAL	5.3
50	Y4	24	THR	5.3
47	R1	94	LEU	5.3
38	RS	35	ILE	5.3
52	R6	21	TYR	5.3
55	R9	20	HIS	5.3
52	R6	12	GLU	5.3
50	R4	63	TYR	5.3
10	XJ	93	GLY	5.2
52	R6	43	CYS	5.2
52	R6	27	LYS	5.2
53	R7	46	VAL	5.2
31	RH	43	VAL	5.2
55	R9	37	GLY	5.1
3	XC	161	GLU	5.1
27	RD	99	ASP	5.1
38	RS	11	LYS	5.1
19	QS	41	VAL	5.1
17	XQ	101	ARG	5.1
46	R0	7	LEU	5.1
25	YA	2892	A	5.0
50	Y4	63	TYR	5.0
28	YE	63	LEU	5.0
54	R8	63	PRO	5.0
52	R6	23	THR	5.0
10	QJ	54	PHE	5.0
25	YA	2506	U	5.0
21	QU	9	ARG	5.0

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Mol	Chain	Res	Type	RSRZ
28	RE	63	LEU	5.0
31	YH	72	ILE	4.9
47	Y1	27	GLU	4.9
47	R1	98	LEU	4.9
13	QM	102	ARG	4.9
31	RH	6	ARG	4.9
22	XW	35	A	4.9
27	RD	268	ARG	4.9
51	R5	2	ALA	4.9
3	QC	161	GLU	4.9
28	RE	50	GLY	4.9
41	RV	36	PRO	4.9
55	R9	26	ILE	4.9
52	R6	40	CYS	4.9
36	YQ	83	MET	4.9
10	QJ	55	LYS	4.8
25	RA	2629	A	4.8
51	Y5	3	LYS	4.8
23	XX	12	A	4.8
44	RY	60	PHE	4.8
29	YF	25	PRO	4.8
29	YF	18	ARG	4.8
44	RY	103	GLY	4.7
35	RP	13	ASN	4.7
28	RE	193	GLY	4.7
47	Y1	26	ARG	4.7
47	R1	93	GLU	4.7
7	XG	82	GLY	4.7
19	XS	41	VAL	4.6
55	Y9	23	VAL	4.6
37	RR	102	GLU	4.6
54	R8	34	TRP	4.6
4	QD	9	CYS	4.6
32	YI	76	THR	4.6
46	R0	8	GLY	4.6
13	QM	9	ILE	4.6
25	RA	2506	U	4.6
50	R4	36	CYS	4.6
28	YE	151	TYR	4.6
52	R6	25	LYS	4.6
52	R6	42	TRP	4.5
4	XD	32	ALA	4.5

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Mol	Chain	Res	Type	RSRZ
2	QB	16	HIS	4.5
46	R0	3	HIS	4.5
53	R7	47	ARG	4.5
27	RD	38	LYS	4.5
38	YS	111	GLU	4.5
31	RH	2	SER	4.5
47	R1	77	ALA	4.5
22	QW	74	C	4.5
27	YD	38	LYS	4.5
19	QS	5	LEU	4.5
45	RZ	144	LEU	4.5
45	YZ	159	PRO	4.5
35	RP	52	GLU	4.5
31	YH	52	VAL	4.5
2	XB	96	ARG	4.5
38	YS	2	ALA	4.4
51	Y5	2	ALA	4.4
27	RD	44	ASN	4.4
27	YD	30	GLU	4.4
53	Y7	1	MET	4.4
22	QW	73	A	4.4
19	QS	35	SER	4.4
38	RS	36	TYR	4.4
31	YH	49	VAL	4.4
12	QL	23	LYS	4.4
36	RQ	80	GLU	4.4
52	Y6	45	LYS	4.4
29	RF	207	GLY	4.3
43	YX	60	ARG	4.3
25	RA	2803	C	4.3
44	YY	47	LYS	4.3
50	R4	17	GLY	4.3
39	RT	106	SER	4.3
45	RZ	59	LEU	4.3
39	YT	4	GLY	4.3
31	YH	50	VAL	4.3
44	YY	48	ALA	4.3
25	YA	2169	A	4.3
45	YZ	86	VAL	4.3
36	RQ	83	MET	4.3
18	QR	77	GLY	4.3
32	YI	110	ASP	4.3

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Mol	Chain	Res	Type	RSRZ
38	RS	111	GLU	4.3
44	RY	49	VAL	4.3
39	YT	105	LEU	4.2
32	RI	97	ILE	4.2
28	YE	54	GLN	4.2
39	YT	1	MET	4.2
35	YP	15	ARG	4.2
27	YD	35	LYS	4.2
32	RI	92	VAL	4.2
10	QJ	59	SER	4.2
31	RH	145	ALA	4.2
38	YS	11	LYS	4.2
54	R8	46	ARG	4.2
10	QJ	17	ASP	4.2
11	XK	117	ASN	4.2
25	RA	1026	U	4.2
2	XB	44	LEU	4.1
40	YU	91	ASP	4.1
2	QB	140	HIS	4.1
4	XD	22	LYS	4.1
44	RY	59	GLY	4.1
54	Y8	46	ARG	4.1
55	R9	35	ARG	4.1
28	RE	204	ALA	4.1
19	XS	11	VAL	4.1
7	QG	85	TYR	4.1
31	RH	105	LEU	4.1
25	YA	1536	A	4.1
44	YY	19	LYS	4.1
14	QN	10	ALA	4.1
10	QJ	66	ARG	4.1
9	QI	16	ARG	4.1
40	YU	92	ARG	4.1
44	YY	90	LEU	4.1
28	RE	151	TYR	4.1
7	QG	5	ARG	4.1
19	XS	55	LYS	4.0
19	XS	43	GLU	4.0
31	YH	170	ARG	4.0
47	Y1	95	LEU	4.0
35	YP	19	VAL	4.0
22	QW	34	C	4.0

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Mol	Chain	Res	Type	RSRZ
31	RH	115	VAL	4.0
38	YS	33	LYS	4.0
10	QJ	45	ARG	4.0
27	RD	262	ARG	4.0
43	RX	60	ARG	4.0
31	YH	68	THR	4.0
20	XT	12	ALA	4.0
35	YP	119	GLU	4.0
1	XA	1181	G	4.0
25	RA	100	G	4.0
31	YH	11	VAL	4.0
25	YA	2119	A	4.0
25	RA	1537	C	4.0
21	XU	10	ARG	4.0
37	YR	5	LYS	4.0
7	XG	80	VAL	4.0
52	Y6	40	CYS	4.0
30	YG	26	GLN	4.0
46	Y0	6	GLY	4.0
25	YA	2117	A	4.0
52	Y6	43	CYS	3.9
19	XS	38	SER	3.9
19	QS	75	ALA	3.9
31	YH	70	THR	3.9
1	QA	1183	A	3.9
25	YA	1026	U	3.9
31	YH	26	VAL	3.9
32	RI	34	GLY	3.9
32	RI	90	GLY	3.9
44	YY	46	LYS	3.9
52	Y6	11	LEU	3.9
45	YZ	80	ARG	3.9
48	R2	5	GLU	3.9
38	YS	108	GLY	3.9
30	YG	88	ILE	3.9
39	YT	12	SER	3.9
21	QU	10	ARG	3.8
35	YP	65	ARG	3.8
10	XJ	55	LYS	3.8
46	Y0	5	LYS	3.8
28	RE	78	LEU	3.8
35	RP	89	ALA	3.8

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Mol	Chain	Res	Type	RSRZ
32	RI	16	GLY	3.8
54	Y8	63	PRO	3.8
38	YS	110	LEU	3.8
52	Y6	22	ALA	3.8
9	XI	5	TYR	3.8
14	QN	27	CYS	3.8
44	YY	62	GLU	3.8
44	YY	60	PHE	3.8
38	RS	27	SER	3.8
38	YS	52	SER	3.8
54	Y8	31	HIS	3.8
23	QX	13	A	3.8
23	XX	14	A	3.8
25	YA	2803	C	3.8
41	YV	86	GLY	3.8
10	QJ	46	ARG	3.8
53	Y7	23	ARG	3.8
25	RA	2802	G	3.8
25	YA	2151	G	3.8
2	XB	133	LYS	3.8
44	RY	61	ILE	3.8
48	R2	11	GLU	3.8
48	Y2	51	ARG	3.8
44	RY	79	CYS	3.8
40	YU	56	ASP	3.7
2	QB	144	ARG	3.7
29	YF	61	GLY	3.7
7	QG	151	TYR	3.7
54	Y8	53	PRO	3.7
18	QR	76	LEU	3.7
9	XI	106	ALA	3.7
52	Y6	13	CYS	3.7
28	YE	77	ILE	3.7
23	QX	14	A	3.7
25	RA	2062	A	3.7
32	RI	76	THR	3.7
38	YS	37	ALA	3.7
31	YH	37	VAL	3.7
31	YH	141	VAL	3.7
35	YP	16	ARG	3.7
22	QW	31	G	3.7
55	Y9	2	LYS	3.7

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Mol	Chain	Res	Type	RSRZ
49	Y3	21	ALA	3.7
22	XW	74	C	3.7
4	QD	22	LYS	3.7
46	R0	4	LYS	3.7
2	QB	136	VAL	3.6
53	R7	45	ALA	3.6
25	RA	362	U	3.6
46	Y0	4	LYS	3.6
27	YD	34	VAL	3.6
50	R4	34	GLU	3.6
54	R8	30	ARG	3.6
45	RZ	148	ASP	3.6
35	RP	76	LYS	3.6
20	XT	73	HIS	3.6
55	Y9	37	GLY	3.6
4	QD	32	ALA	3.6
27	YD	272	ALA	3.6
32	RI	142	VAL	3.6
44	YY	10	GLY	3.6
20	XT	9	ASN	3.6
1	XA	1001(A)	G	3.6
4	QD	156	GLU	3.6
3	QC	193	TYR	3.6
51	Y5	51	TYR	3.6
2	XB	215	LEU	3.6
41	YV	70	ILE	3.6
36	RQ	28	ALA	3.6
31	RH	27	LYS	3.6
2	XB	5	ILE	3.6
2	XB	42	ILE	3.6
31	RH	57	ASP	3.6
25	RA	2801(A)	A	3.5
46	R0	55	ARG	3.5
35	YP	109	GLY	3.5
36	YQ	81	VAL	3.5
32	YI	140	LEU	3.5
52	Y6	47	THR	3.5
29	YF	207	GLY	3.5
21	XU	25	LYS	3.5
50	R4	21	VAL	3.5
9	XI	1	MET	3.5
22	XW	5	G	3.5

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Mol	Chain	Res	Type	RSRZ
39	RT	1	MET	3.5
4	XD	156	GLU	3.5
18	QR	38	GLU	3.5
45	RZ	151	HIS	3.5
46	Y0	3	HIS	3.5
55	R9	17	ILE	3.5
22	QW	35	A	3.5
19	XS	53	ASN	3.5
9	XI	18	PHE	3.5
4	QD	31	CYS	3.5
10	XJ	67	THR	3.5
20	QT	14	LYS	3.5
52	Y6	23	THR	3.5
55	Y9	15	LYS	3.5
15	QO	55	GLY	3.5
9	QI	17	VAL	3.5
25	YA	2801	A	3.5
31	RH	113	VAL	3.5
45	YZ	175	VAL	3.5
55	R9	36	GLN	3.5
27	RD	28	GLU	3.4
44	RY	91	GLU	3.4
7	XG	9	VAL	3.4
50	R4	33	VAL	3.4
38	RS	37	ALA	3.4
54	R8	35	GLN	3.4
19	XS	35	SER	3.4
31	YH	9	ILE	3.4
7	QG	82	GLY	3.4
13	XM	26	GLY	3.4
31	RH	48	GLY	3.4
21	QU	17	THR	3.4
9	QI	66	ARG	3.4
52	R6	22	ALA	3.4
22	XW	36	U	3.4
47	R1	92	LYS	3.4
25	RA	11	G	3.4
9	QI	18	PHE	3.4
47	R1	89	GLU	3.4
15	QO	70	LEU	3.4
22	XW	72	A	3.4
1	XA	352	C	3.4

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Mol	Chain	Res	Type	RSRZ
32	RI	89	TYR	3.4
54	R8	64	TYR	3.4
39	RT	8	LYS	3.4
45	YZ	171	ILE	3.4
38	RS	68	GLN	3.4
7	XG	17	VAL	3.3
22	XW	48	C	3.3
24	QY	68	VAL	3.3
45	RZ	140	ASP	3.3
4	QD	30	LYS	3.3
28	RE	205	ALA	3.3
38	RS	20	ARG	3.3
10	XJ	40	LEU	3.3
13	QM	100	GLY	3.3
30	RG	97	ASP	3.3
32	RI	110	ASP	3.3
28	RE	74	PRO	3.3
37	RR	36	THR	3.3
39	RT	112	ARG	3.3
55	R9	22	ARG	3.3
2	QB	70	PHE	3.3
35	YP	62	LEU	3.3
39	RT	105	LEU	3.3
45	YZ	149	SER	3.3
25	YA	2134	A	3.3
19	QS	79	THR	3.3
25	YA	2797	U	3.3
1	QA	89	C	3.3
22	XW	75	C	3.3
10	QJ	94	VAL	3.3
9	QI	81	ILE	3.3
17	XQ	59	ILE	3.3
31	RH	34	GLU	3.3
41	RV	70	ILE	3.3
7	QG	101	LEU	3.3
20	XT	72	LEU	3.3
40	YU	84	LYS	3.3
44	RY	45	VAL	3.3
25	RA	1536	A	3.3
22	QW	16	C	3.3
48	R2	51	ARG	3.2
4	XD	9	CYS	3.2

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Mol	Chain	Res	Type	RSRZ
19	QS	59	PRO	3.2
39	RT	6	LEU	3.2
45	RZ	157	LEU	3.2
47	R1	25	LYS	3.2
48	Y2	15	LYS	3.2
36	RQ	81	VAL	3.2
38	RS	46	VAL	3.2
41	YV	45	THR	3.2
7	XG	37	ASN	3.2
45	RZ	172	ALA	3.2
22	XW	33	U	3.2
28	YE	79	ARG	3.2
52	Y6	39	TYR	3.2
22	QV	1	C	3.2
33	YN	29	LYS	3.2
13	QM	101	GLN	3.2
31	RH	49	VAL	3.2
28	YE	12	THR	3.2
30	RG	140	ILE	3.2
27	YD	238	GLY	3.2
40	YU	94	ASN	3.2
7	XG	38	LEU	3.2
12	XL	114	LYS	3.2
55	R9	23	VAL	3.2
2	XB	16	HIS	3.2
45	RZ	118	GLN	3.2
31	RH	148	ILE	3.2
14	XN	3	ARG	3.2
20	XT	80	ARG	3.2
52	R6	37	ARG	3.2
51	Y5	58	LEU	3.2
30	YG	159	VAL	3.2
44	YY	30	VAL	3.2
50	Y4	42	PHE	3.2
16	QP	68	ASP	3.2
12	QL	129	ALA	3.2
32	RI	98	ALA	3.2
11	QK	124	LYS	3.2
21	QU	14	TRP	3.2
40	YU	118	GLY	3.2
51	R5	54	GLY	3.2
51	Y5	54	GLY	3.2

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Mol	Chain	Res	Type	RSRZ
55	R9	8	LYS	3.2
22	QW	48	C	3.2
31	RH	124	GLU	3.2
35	YP	148	LEU	3.2
36	YQ	80	GLU	3.2
41	YV	71	LEU	3.2
47	Y1	93	GLU	3.2
28	RE	67	PHE	3.2
29	YF	7	TYR	3.2
54	Y8	64	TYR	3.2
21	XU	9	ARG	3.2
55	Y9	20	HIS	3.2
24	XY	24	ALA	3.2
29	YF	26	ALA	3.2
45	YZ	172	ALA	3.2
1	QA	1001	A	3.1
9	QI	33	PHE	3.1
45	RZ	139	VAL	3.1
31	RH	8	PRO	3.1
31	RH	29	PRO	3.1
25	YA	1074	G	3.1
7	QG	3	ARG	3.1
7	QG	102	ARG	3.1
7	XG	3	ARG	3.1
11	QK	127	LYS	3.1
9	XI	7	THR	3.1
53	Y7	45	ALA	3.1
48	R2	52	ASP	3.1
33	RN	68	GLU	3.1
51	Y5	57	VAL	3.1
16	XP	8	ARG	3.1
35	YP	110	TYR	3.1
52	Y6	20	ASN	3.1
45	RZ	173	ALA	3.1
25	YA	2798	C	3.1
4	XD	21	LEU	3.1
2	QB	203	GLY	3.1
10	QJ	93	GLY	3.1
2	QB	163	PHE	3.1
9	QI	128	ARG	3.1
3	XC	23	TYR	3.1
25	RA	1078	U	3.1

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Mol	Chain	Res	Type	RSRZ
28	YE	121	ASN	3.1
37	RR	5	LYS	3.1
44	YY	4	LYS	3.1
14	QN	39	LEU	3.1
32	RI	91	SER	3.1
7	XG	79	ARG	3.1
11	XK	125	PHE	3.1
2	QB	185	ILE	3.1
11	XK	25	TYR	3.1
9	XI	29	ASN	3.1
46	R0	17	GLN	3.1
9	XI	17	VAL	3.1
24	XY	8	LYS	3.1
25	YA	1073	A	3.1
45	YZ	179	ASP	3.1
13	XM	84	ILE	3.1
38	YS	20	ARG	3.0
19	XS	51	VAL	3.0
31	YH	125	VAL	3.0
31	RH	153	LYS	3.0
27	RD	30	GLU	3.0
7	XG	151	TYR	3.0
7	XG	83	ALA	3.0
25	YA	229	A	3.0
36	YQ	89	ASN	3.0
38	YS	34	HIS	3.0
3	XC	2	GLY	3.0
24	XY	49	GLN	3.0
39	RT	4	GLY	3.0
9	XI	64	THR	3.0
41	RV	68	LYS	3.0
55	Y9	31	LYS	3.0
2	XB	134	GLU	3.0
15	XO	73	GLU	3.0
52	Y6	24	GLU	3.0
4	QD	29	PRO	3.0
28	YE	56	PRO	3.0
2	QB	205	ASP	3.0
30	RG	74	LYS	3.0
32	YI	141	LYS	3.0
27	RD	34	VAL	3.0
17	QQ	24	GLU	3.0

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Mol	Chain	Res	Type	RSRZ
25	RA	654(G)	C	3.0
31	YH	46	GLU	3.0
48	Y2	11	GLU	3.0
52	Y6	12	GLU	3.0
31	YH	12	PRO	3.0
3	QC	204	LEU	3.0
24	XY	20	SER	3.0
21	QU	21	TYR	3.0
28	RE	76	ARG	3.0
37	YR	105	ARG	3.0
2	XB	40	HIS	3.0
31	RH	160	LYS	3.0
25	RA	2751	G	3.0
44	YY	49	VAL	3.0
18	XR	83	GLU	3.0
32	YI	85	GLU	3.0
41	YV	53	GLU	3.0
25	YA	653	A	3.0
9	QI	126	SER	3.0
22	QW	62	C	3.0
25	YA	277	C	3.0
31	RH	24	VAL	3.0
35	YP	22	GLY	3.0
38	RS	34	HIS	3.0
45	RZ	27	VAL	3.0
22	XV	47	U	3.0
55	Y9	36	GLN	3.0
40	RU	75	ASN	3.0
31	YH	41	MET	3.0
46	R0	75	LEU	2.9
31	YH	104	GLU	2.9
33	YN	42	TRP	2.9
35	RP	145	PRO	2.9
45	YZ	135	GLU	2.9
1	XA	1026	G	2.9
9	QI	15	ALA	2.9
10	XJ	35	SER	2.9
25	YA	2602	A	2.9
55	Y9	32	HIS	2.9
22	XV	1	C	2.9
50	R4	22	ILE	2.9
4	XD	132	ARG	2.9

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Mol	Chain	Res	Type	RSRZ
17	QQ	91	ARG	2.9
20	XT	25	ARG	2.9
48	R2	55	ARG	2.9
31	RH	36	PRO	2.9
24	QY	24	ALA	2.9
45	RZ	152	ALA	2.9
9	XI	28	VAL	2.9
10	QJ	101	VAL	2.9
44	RY	85	VAL	2.9
20	QT	64	ASP	2.9
31	YH	69	ARG	2.9
39	RT	3	ARG	2.9
13	XM	103	THR	2.9
44	RY	95	LYS	2.9
50	R4	69	LYS	2.9
50	Y4	36	CYS	2.9
28	YE	62	PRO	2.9
1	XA	202	U	2.9
21	XU	11	GLY	2.9
38	RS	60	GLY	2.9
28	YE	13	ARG	2.9
31	YH	3	ARG	2.9
38	YS	39	ILE	2.9
45	YZ	82	ARG	2.9
7	QG	33	ASP	2.9
2	XB	183	PRO	2.9
25	RA	1051	G	2.9
29	RF	128	ALA	2.9
52	R6	20	ASN	2.9
30	RG	35	GLU	2.9
21	XU	14	TRP	2.9
22	XW	73	A	2.9
24	QY	18	VAL	2.9
16	XP	39	TYR	2.9
21	QU	16	GLY	2.9
25	YA	2174	C	2.9
2	XB	111	ARG	2.9
12	XL	89	ARG	2.9
10	QJ	40	LEU	2.9
20	XT	64	ASP	2.9
38	RS	21	THR	2.9
45	RZ	145	GLU	2.9

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Mol	Chain	Res	Type	RSRZ
31	YH	44	VAL	2.9
13	XM	99	ARG	2.9
38	RS	108	GLY	2.9
1	XA	93	G	2.9
12	XL	23	LYS	2.9
13	XM	4	ILE	2.9
19	XS	49	ILE	2.9
21	QU	25	LYS	2.9
25	RA	2135	A	2.9
25	YA	1913	A	2.9
38	YS	112	PHE	2.9
47	Y1	94	LEU	2.9
1	XA	1240	U	2.8
25	RA	1075	C	2.8
48	Y2	43	GLN	2.8
28	YE	73	GLU	2.8
50	R4	53	GLU	2.8
9	QI	14	VAL	2.8
28	RE	47	VAL	2.8
29	YF	11	VAL	2.8
4	XD	159	ARG	2.8
7	XG	115	ARG	2.8
13	QM	89	GLY	2.8
13	XM	31	LYS	2.8
31	RH	31	GLY	2.8
32	RI	120	ILE	2.8
38	YS	36	TYR	2.8
22	XW	76	A	2.8
25	RA	6	A	2.8
25	YA	654(V)	A	2.8
1	QA	1002	G	2.8
8	QH	74	PRO	2.8
7	QG	4	ARG	2.8
24	XY	18	VAL	2.8
31	RH	69	ARG	2.8
31	YH	15	VAL	2.8
31	YH	116	GLU	2.8
40	RU	92	ARG	2.8
9	QI	63	ILE	2.8
31	RH	14	GLY	2.8
45	YZ	147	GLY	2.8
7	QG	154	TYR	2.8

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Mol	Chain	Res	Type	RSRZ
41	YV	81	TYR	2.8
10	QJ	56	HIS	2.8
28	YE	66	HIS	2.8
20	XT	76	ALA	2.8
50	R4	66	SER	2.8
55	Y9	6	SER	2.8
37	YR	2	ARG	2.8
3	XC	207	VAL	2.8
31	RH	15	VAL	2.8
31	RH	107	VAL	2.8
41	RV	85	LYS	2.8
41	YV	49	THR	2.8
1	QA	1240	U	2.8
7	QG	99	LEU	2.8
31	YH	33	LEU	2.8
21	XU	13	ILE	2.8
28	YE	117	MET	2.8
35	YP	53	GLY	2.8
1	XA	1124	G	2.8
25	RA	1089	G	2.8
25	RA	2795	G	2.8
25	RA	2804	C	2.8
25	YA	1093	G	2.8
25	YA	2115	G	2.8
25	YA	2148	G	2.8
25	YA	2152	G	2.8
9	QI	109	VAL	2.8
45	YZ	74	VAL	2.8
41	RV	38	LEU	2.8
2	QB	41	ILE	2.8
24	QY	30	ILE	2.8
31	RH	123	PHE	2.8
30	YG	129	GLY	2.8
22	QW	59	A	2.8
7	QG	83	ALA	2.8
2	QB	133	LYS	2.8
25	YA	2160	G	2.8
24	XY	10	LEU	2.8
32	YI	143	SER	2.8
7	XG	8	GLU	2.8
31	YH	136	ILE	2.8
4	QD	2	GLY	2.7

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Mol	Chain	Res	Type	RSRZ
24	QY	9	GLY	2.7
38	YS	60	GLY	2.7
31	RH	60	ARG	2.7
45	RZ	80	ARG	2.7
13	QM	2	ALA	2.7
28	RE	68	ALA	2.7
23	QX	12	A	2.7
25	YA	999	U	2.7
44	RY	76	CYS	2.7
49	Y3	12	PRO	2.7
38	RS	48	LEU	2.7
1	QA	1320	C	2.7
9	QI	110	GLU	2.7
14	QN	8	GLU	2.7
25	YA	2161	C	2.7
43	RX	28	PHE	2.7
50	Y4	53	GLU	2.7
52	R6	51	GLU	2.7
25	RA	10	G	2.7
25	RA	2125	G	2.7
25	RA	2382	G	2.7
29	RF	23	ASP	2.7
47	Y1	21	ARG	2.7
31	RH	62	LYS	2.7
47	R1	78	LYS	2.7
46	R0	85	ALA	2.7
45	RZ	73	GLN	2.7
4	XD	31	CYS	2.7
5	QE	12	LEU	2.7
50	R4	18	CYS	2.7
40	YU	37	GLU	2.7
52	R6	24	GLU	2.7
3	QC	78	GLY	2.7
22	QW	72	A	2.7
31	YH	80	SER	2.7
35	RP	104	GLY	2.7
50	R4	45	GLY	2.7
4	QD	159	ARG	2.7
10	QJ	70	ARG	2.7
31	RH	59	ARG	2.7
55	R9	4	ARG	2.7
9	XI	125	TYR	2.7

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Mol	Chain	Res	Type	RSRZ
13	QM	87	TYR	2.7
36	YQ	107	ALA	2.7
10	QJ	44	VAL	2.7
28	YE	75	VAL	2.7
2	XB	11	LEU	2.7
31	YH	103	LEU	2.7
33	YN	1	MET	2.7
29	YF	27	GLU	2.7
13	QM	99	ARG	2.7
27	RD	12	SER	2.7
39	YT	106	SER	2.7
25	RA	896	A	2.7
25	YA	1048	A	2.7
25	YA	1177	A	2.7
31	RH	157	TYR	2.7
44	YY	6	HIS	2.7
50	Y4	35	VAL	2.7
44	RY	92	ASN	2.7
22	XW	16	C	2.7
41	RV	80	GLN	2.7
35	RP	79	ARG	2.7
52	Y6	37	ARG	2.7
21	XU	26	LYS	2.7
44	RY	46	LYS	2.7
44	YY	63	LYS	2.7
2	QB	6	THR	2.7
13	QM	98	VAL	2.7
14	XN	6	LEU	2.7
27	RD	33	LEU	2.7
32	YI	130	TYR	2.7
35	RP	71	VAL	2.7
45	YZ	150	LEU	2.7
37	YR	50	HIS	2.7
45	YZ	77	ASP	2.7
25	RA	1469	A	2.6
25	YA	2173	A	2.6
28	RE	64	LYS	2.6
52	R6	8	LYS	2.6
25	RA	1053	C	2.6
25	YA	1537	C	2.6
2	XB	230	VAL	2.6
31	RH	11	VAL	2.6

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Mol	Chain	Res	Type	RSRZ
45	YZ	100	VAL	2.6
51	R5	53	ALA	2.6
31	RH	65	HIS	2.6
16	QP	71	ARG	2.6
25	YA	2112	G	2.6
55	Y9	10	ILE	2.6
20	XT	14	LYS	2.6
29	RF	10	PRO	2.6
30	RG	2	PRO	2.6
32	RI	33	ARG	2.6
25	YA	2172	U	2.6
53	R7	36	GLN	2.6
24	XY	21	GLY	2.6
25	YA	2799	A	2.6
41	YV	23	GLU	2.6
20	XT	71	THR	2.6
5	XE	12	LEU	2.6
32	YI	38	LEU	2.6
52	Y6	10	LEU	2.6
31	RH	25	LYS	2.6
38	RS	15	ARG	2.6
44	RY	50	ARG	2.6
13	QM	10	PRO	2.6
53	Y7	36	GLN	2.6
31	RH	78	GLY	2.6
31	YH	124	GLU	2.6
32	YI	41	GLU	2.6
45	YZ	145	GLU	2.6
22	XW	4	G	2.6
25	YA	2104	G	2.6
31	YH	35	VAL	2.6
33	RN	42	TRP	2.6
37	YR	62	ALA	2.6
39	YT	5	ALA	2.6
48	R2	63	VAL	2.6
52	R6	13	CYS	2.6
7	QG	78	ARG	2.6
13	XM	27	LYS	2.6
20	QT	29	LYS	2.6
25	RA	2873	A	2.6
25	YA	2135	A	2.6
39	RT	95	ARG	2.6

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Mol	Chain	Res	Type	RSRZ
46	R0	41	ARG	2.6
9	QI	5	TYR	2.6
28	YE	14	ILE	2.6
35	RP	114	ILE	2.6
45	RZ	142	SER	2.6
50	R4	31	ILE	2.6
4	XD	29	PRO	2.6
55	Y9	30	PRO	2.6
24	QY	25	GLN	2.6
28	YE	186	GLY	2.6
4	XD	145	GLU	2.6
24	XY	89	GLU	2.6
25	RA	2796	U	2.6
25	YA	1535	U	2.6
49	Y3	24	LYS	2.6
1	QA	1124	G	2.6
1	QA	1181	G	2.6
17	XQ	99	SER	2.6
25	RA	2120	G	2.6
25	YA	11	G	2.6
50	R4	40	HIS	2.6
23	XX	13	A	2.6
46	Y0	17	GLN	2.6
2	QB	99	GLY	2.6
35	RP	22	GLY	2.6
17	XQ	96	GLU	2.6
15	QO	60	VAL	2.6
22	XW	62	C	2.6
25	YA	2136	C	2.6
25	YA	2646	C	2.6
39	YT	11	GLU	2.6
31	RH	3	ARG	2.6
55	R9	3	VAL	2.6
27	YD	261	LYS	2.6
49	Y3	20	LYS	2.6
13	QM	43	THR	2.6
4	XD	5	ILE	2.5
42	RW	95	ILE	2.5
44	RY	89	PHE	2.5
25	RA	2092	U	2.5
38	YS	7	TYR	2.5
10	XJ	53	PRO	2.5

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Mol	Chain	Res	Type	RSRZ
2	QB	14	GLY	2.5
45	YZ	118	GLN	2.5
4	QD	157	LEU	2.5
4	XD	134	ASP	2.5
9	QI	89	ASN	2.5
4	XD	150	GLU	2.5
19	XS	9	VAL	2.5
21	QU	3	LYS	2.5
28	RE	13	ARG	2.5
29	YF	89	VAL	2.5
31	RH	152	ARG	2.5
31	YH	137	ASP	2.5
38	YS	85	VAL	2.5
13	XM	25	ILE	2.5
31	RH	9	ILE	2.5
44	YY	5	MET	2.5
19	XS	52	TYR	2.5
20	QT	70	SER	2.5
1	QA	1040	U	2.5
9	XI	85	LEU	2.5
13	QM	48	LEU	2.5
30	RG	42	GLY	2.5
32	RI	143	SER	2.5
45	RZ	153	SER	2.5
25	RA	2895	U	2.5
9	QI	121	ARG	2.5
9	XI	11	LYS	2.5
21	QU	26	LYS	2.5
10	QJ	58	ASP	2.5
28	RE	121	ASN	2.5
29	YF	21	ALA	2.5
36	YQ	135	ASP	2.5
52	R6	7	ILE	2.5
22	XW	7	G	2.5
25	RA	2206	G	2.5
7	XG	153	HIS	2.5
9	QI	19	LEU	2.5
35	YP	11	GLY	2.5
36	YQ	63	LYS	2.5
45	RZ	117	LEU	2.5
11	XK	56	GLY	2.5
24	QY	81	GLY	2.5

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Mol	Chain	Res	Type	RSRZ
51	R5	3	LYS	2.5
55	Y9	18	ARG	2.5
31	RH	134	SER	2.5
35	RP	56	SER	2.5
35	YP	70	GLN	2.5
37	RR	14	SER	2.5
44	RY	52	SER	2.5
6	QF	85	VAL	2.5
31	YH	76	VAL	2.5
38	RS	64	GLU	2.5
40	YU	97	ASP	2.5
3	QC	167	TRP	2.5
28	YE	51	PHE	2.5
38	YS	29	PHE	2.5
9	QI	11	LYS	2.5
20	QT	10	LEU	2.5
20	XT	83	ARG	2.5
27	YD	33	LEU	2.5
28	RE	49	LEU	2.5
28	YE	159	HIS	2.5
35	YP	35	HIS	2.5
51	Y5	8	LYS	2.5
52	R6	6	ARG	2.5
36	YQ	61	GLY	2.5
38	RS	109	GLY	2.5
44	RY	58	GLY	2.5
2	QB	71	VAL	2.5
4	XD	152	SER	2.5
30	YG	69	ALA	2.5
1	QA	455	C	2.5
2	QB	170	GLU	2.5
2	XB	12	GLU	2.5
5	XE	50	GLU	2.5
11	QK	40	ILE	2.5
24	QY	8	LYS	2.5
28	YE	58	ARG	2.5
47	R1	33	LYS	2.5
45	YZ	183	LEU	2.5
2	QB	40	HIS	2.5
30	YG	131	TYR	2.5
7	XG	81	GLY	2.5
29	RF	131	GLY	2.5

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Mol	Chain	Res	Type	RSRZ
9	QI	65	VAL	2.5
20	XT	88	VAL	2.5
52	Y6	48	VAL	2.5
17	XQ	26	GLN	2.5
55	R9	34	GLN	2.5
11	QK	89	ALA	2.4
27	YD	2	ALA	2.4
28	RE	187	ALA	2.4
31	YH	148	ILE	2.4
46	R0	9	SER	2.4
50	R4	39	CYS	2.4
25	RA	2169	A	2.4
25	YA	2062	A	2.4
33	RN	90	MET	2.4
18	QR	43	PHE	2.4
18	XR	21	LYS	2.4
28	RE	154	LYS	2.4
52	Y6	8	LYS	2.4
10	QJ	85	LEU	2.4
30	RG	173	LEU	2.4
50	R4	52	THR	2.4
25	RA	2402	C	2.4
25	YA	2474	C	2.4
54	Y8	32	LEU	2.4
4	QD	123	HIS	2.4
21	QU	18	TYR	2.4
6	QF	90	VAL	2.4
7	QG	81	GLY	2.4
31	RH	66	GLY	2.4
40	YU	43	GLY	2.4
4	XD	42	GLN	2.4
39	RT	135	ALA	2.4
50	Y4	12	ALA	2.4
29	YF	28	ILE	2.4
35	YP	75	ILE	2.4
45	YZ	28	MET	2.4
2	QB	9	GLU	2.4
27	YD	28	GLU	2.4
44	RY	99	CYS	2.4
3	XC	4	LYS	2.4
4	XD	151	LYS	2.4
16	XP	18	ARG	2.4

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Mol	Chain	Res	Type	RSRZ
20	QT	81	LYS	2.4
35	RP	50	ARG	2.4
40	YU	59	ARG	2.4
44	RY	88	LYS	2.4
32	YI	77	LEU	2.4
47	Y1	85	LEU	2.4
38	RS	88	ASP	2.4
50	R4	27	THR	2.4
7	XG	154	TYR	2.4
28	RE	44	TYR	2.4
38	RS	7	TYR	2.4
45	RZ	175	VAL	2.4
28	YE	205	ALA	2.4
51	R5	38	ALA	2.4
1	XA	1117	G	2.4
1	XA	1442(A)	G	2.4
25	RA	2110	G	2.4
25	YA	2127	G	2.4
50	R4	60	GLN	2.4
12	QL	19	ARG	2.4
18	XR	84	LYS	2.4
21	QU	15	ARG	2.4
29	YF	137	LYS	2.4
44	YY	81	LYS	2.4
45	RZ	169	GLU	2.4
8	XH	2	LEU	2.4
19	XS	39	THR	2.4
4	XD	17	VAL	2.4
17	QQ	5	VAL	2.4
45	RZ	123	ASP	2.4
1	QA	532	A	2.4
32	RI	27	ARG	2.4
36	YQ	10	ARG	2.4
39	YT	8	LYS	2.4
48	Y2	70	GLN	2.4
13	QM	3	ARG	2.4
15	XO	64	ARG	2.4
19	XS	36	ARG	2.4
1	XA	470	C	2.4
1	XA	1159	U	2.4
13	QM	96	LEU	2.4
25	RA	1535	U	2.4

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Mol	Chain	Res	Type	RSRZ
31	RH	71	LEU	2.4
1	QA	1001(A)	G	2.4
22	XW	6	G	2.4
25	RA	1093	G	2.4
25	YA	2149	G	2.4
25	YA	2893	G	2.4
5	QE	33	VAL	2.4
11	QK	10	VAL	2.4
20	QT	98	PRO	2.4
27	YD	29	PRO	2.4
10	XJ	36	GLY	2.4
24	QY	21	GLY	2.4
3	XC	152	ILE	2.4
24	QY	74	ILE	2.4
31	YH	140	LYS	2.4
44	RY	54	LYS	2.4
55	R9	31	LYS	2.4
28	YE	11	MET	2.4
48	Y2	55	ARG	2.4
4	QD	42	GLN	2.4
2	XB	152	PHE	2.4
44	YY	89	PHE	2.4
9	XI	47	LEU	2.4
31	RH	98	LEU	2.4
4	XD	179	GLU	2.4
54	R8	37	SER	2.4
13	QM	45	VAL	2.4
36	YQ	90	VAL	2.4
22	XW	32	C	2.3
25	RA	1079	C	2.3
36	RQ	61	GLY	2.3
45	RZ	110	GLY	2.3
48	R2	47	ASN	2.3
21	XU	18	TYR	2.3
38	RS	97	ARG	2.3
38	YS	13	ARG	2.3
52	Y6	44	ARG	2.3
55	Y9	19	ARG	2.3
1	QA	1182	G	2.3
22	QW	6	G	2.3
25	RA	1099	G	2.3
25	YA	2848	G	2.3

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Mol	Chain	Res	Type	RSRZ
35	RP	38	GLN	2.3
28	RE	73	GLU	2.3
32	RI	60	GLU	2.3
31	RH	39	PRO	2.3
9	XI	70	LYS	2.3
17	XQ	100	LYS	2.3
25	RA	2117	A	2.3
25	YA	2873	A	2.3
8	QH	30	ARG	2.3
28	YE	10	GLY	2.3
44	RY	63	LYS	2.3
30	RG	115	ARG	2.3
38	YS	18	ILE	2.3
54	Y8	42	ARG	2.3
22	QV	47	U	2.3
25	RA	1049	C	2.3
25	YA	2105	C	2.3
25	YA	2108	C	2.3
33	RN	67	LEU	2.3
38	RS	110	LEU	2.3
29	YF	161	GLU	2.3
1	XA	3	G	2.3
25	YA	2191	G	2.3
45	YZ	174	VAL	2.3
33	YN	84	LYS	2.3
55	Y9	8	LYS	2.3
4	QD	37	PRO	2.3
9	QI	111	ARG	2.3
17	QQ	68	ARG	2.3
29	RF	25	PRO	2.3
31	YH	59	ARG	2.3
45	YZ	114	GLY	2.3
11	XK	89	ALA	2.3
48	R2	17	SER	2.3
2	XB	101	MET	2.3
41	RV	81	TYR	2.3
50	Y4	25	TYR	2.3
51	Y5	49	CYS	2.3
3	XC	3	ASN	2.3
6	QF	13	ASN	2.3
16	XP	6	LEU	2.3
32	RI	101	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
25	YA	276	A	2.3
36	YQ	25	ASP	2.3
1	QA	1065	U	2.3
25	RA	614(A)	U	2.3
54	Y8	35	GLN	2.3
25	RA	34	C	2.3
25	RA	2174	C	2.3
25	YA	2402	C	2.3
31	RH	37	VAL	2.3
55	R9	33	LYS	2.3
4	QD	73	ARG	2.3
4	XD	209	ARG	2.3
7	QG	114	ARG	2.3
19	QS	49	ILE	2.3
21	XU	16	GLY	2.3
44	YY	75	ILE	2.3
14	XN	30	ALA	2.3
28	YE	24	THR	2.3
53	R7	24	THR	2.3
54	Y8	19	SER	2.3
55	R9	32	HIS	2.3
1	QA	3	G	2.3
25	RA	2630	G	2.3
25	YA	1056	G	2.3
36	RQ	26	TYR	2.3
28	YE	67	PHE	2.3
40	YU	40	PHE	2.3
4	QD	160	GLN	2.3
11	XK	124	LYS	2.3
2	QB	96	ARG	2.3
2	QB	111	ARG	2.3
11	QK	126	ARG	2.3
14	QN	35	ARG	2.3
25	YA	1069	A	2.3
27	RD	101	GLU	2.3
31	YH	6	ARG	2.3
45	RZ	74	VAL	2.3
30	RG	63	ILE	2.3
50	R4	41	PRO	2.3
14	XN	10	ALA	2.3
24	XY	62	GLY	2.3
36	RQ	84	GLY	2.3

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Mol	Chain	Res	Type	RSRZ
44	RY	93	GLY	2.3
22	QW	3	C	2.3
25	YA	2804	C	2.3
31	YH	106	THR	2.3
35	RP	17	LYS	2.3
19	QS	36	ARG	2.3
35	RP	16	ARG	2.3
31	RH	133	VAL	2.3
55	R9	16	VAL	2.3
39	RT	11	GLU	2.2
22	QW	4	G	2.2
22	QW	30	G	2.2
22	XW	31	G	2.2
25	RA	1059	G	2.2
25	RA	1421	G	2.2
25	YA	2894	G	2.2
2	XB	211	ILE	2.2
27	YD	64	ILE	2.2
28	RE	30	PRO	2.2
33	RN	77	GLY	2.2
41	RV	1	MET	2.2
1	XA	1493	A	2.2
25	RA	1082	U	2.2
31	RH	33	LEU	2.2
32	RI	123	LEU	2.2
35	YP	147	LEU	2.2
40	YU	74	LEU	2.2
11	QK	42	TRP	2.2
30	YG	29	TRP	2.2
2	QB	73	THR	2.2
2	QB	152	PHE	2.2
2	QB	190	THR	2.2
10	QJ	47	PHE	2.2
2	QB	169	LYS	2.2
4	XD	137	SER	2.2
19	QS	70	LYS	2.2
2	XB	87	ARG	2.2
16	XP	71	ARG	2.2
20	QT	80	ARG	2.2
21	XU	15	ARG	2.2
32	RI	50	ARG	2.2
46	R0	74	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
4	XD	77	ASN	2.2
24	QY	22	VAL	2.2
31	YH	113	VAL	2.2
44	YY	45	VAL	2.2
31	YH	53	GLU	2.2
3	QC	182	ILE	2.2
15	XO	87	ILE	2.2
19	XS	62	ILE	2.2
19	QS	30	LEU	2.2
20	QT	62	LEU	2.2
20	QT	106	ALA	2.2
36	YQ	28	ALA	2.2
39	YT	56	GLY	2.2
29	RF	65	TRP	2.2
1	QA	631	G	2.2
25	RA	1068	G	2.2
25	RA	2168	G	2.2
43	RX	33	LYS	2.2
43	RX	56	THR	2.2
6	QF	63	TYR	2.2
14	XN	29	ARG	2.2
33	YN	72	TYR	2.2
36	YQ	26	TYR	2.2
37	RR	2	ARG	2.2
52	R6	19	ARG	2.2
11	QK	43	SER	2.2
29	YF	13	SER	2.2
50	R4	37	SER	2.2
5	QE	34	VAL	2.2
28	RE	167	VAL	2.2
35	YP	71	VAL	2.2
48	Y2	19	VAL	2.2
32	YI	120	ILE	2.2
42	RW	96	ILE	2.2
25	RA	1052	C	2.2
25	RA	2108	C	2.2
9	XI	67	GLY	2.2
20	QT	72	LEU	2.2
30	YG	155	MET	2.2
42	RW	77	ASP	2.2
43	RX	6	ASP	2.2
38	RS	51	ALA	2.2

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Mol	Chain	Res	Type	RSRZ
44	RY	66	PRO	2.2
12	XL	115	LYS	2.2
38	RS	57	LYS	2.2
9	XI	51	ARG	2.2
46	Y0	26	TYR	2.2
3	QC	195	VAL	2.2
13	XM	98	VAL	2.2
38	YS	98	VAL	2.2
19	XS	56	GLN	2.2
17	QQ	59	ILE	2.2
1	QA	971	G	2.2
11	QK	117	ASN	2.2
22	QW	63	G	2.2
25	RA	2151	G	2.2
6	QF	48	LEU	2.2
9	QI	102	LEU	2.2
13	XM	48	LEU	2.2
25	YA	896	A	2.2
25	YA	2116	G	2.2
45	YZ	75	ASN	2.2
25	YA	2176	A	2.2
30	YG	34	LEU	2.2
32	RI	114	LEU	2.2
54	R8	54	GLU	2.2
5	XE	17	ALA	2.2
13	QM	6	GLY	2.2
14	QN	28	GLY	2.2
28	YE	187	ALA	2.2
36	YQ	84	GLY	2.2
47	R1	87	PRO	2.2
15	QO	48	LYS	2.2
17	XQ	3	LYS	2.2
21	QU	5	ASP	2.2
24	QY	6	LYS	2.2
24	XY	90	ASP	2.2
27	YD	99	ASP	2.2
29	YF	23	ASP	2.2
10	QJ	43	ARG	2.2
39	YT	115	ARG	2.2
44	YY	86	ARG	2.2
50	R4	49	PHE	2.2
55	R9	9	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
1	QA	470	C	2.2
1	QA	1533	C	2.2
25	YA	2129	C	2.2
2	QB	165	VAL	2.2
32	YI	89	TYR	2.2
38	RS	98	VAL	2.2
5	XE	20	GLN	2.2
17	XQ	60	ILE	2.2
31	RH	88	LEU	2.2
32	RI	58	LEU	2.2
33	YN	33	LEU	2.2
38	YS	64	GLU	2.2
4	QD	44	GLY	2.2
8	XH	131	GLY	2.2
31	YH	138	LYS	2.2
47	Y1	33	LYS	2.2
25	RA	2849	U	2.2
25	YA	1090	U	2.2
4	XD	35	ARG	2.2
35	RP	18	ARG	2.2
42	RW	92	ARG	2.2
16	XP	68	ASP	2.2
50	Y4	59	PHE	2.2
1	QA	1286	A	2.2
25	YA	2833	G	2.2
13	XM	60	VAL	2.1
43	YX	3	THR	2.1
44	YY	98	VAL	2.1
7	XG	85	TYR	2.1
9	XI	4	TYR	2.1
25	YA	2137	C	2.1
25	YA	2179	C	2.1
28	YE	4	ILE	2.1
34	YO	2	ILE	2.1
9	XI	96	LEU	2.1
15	QO	71	GLN	2.1
38	YS	26	LEU	2.1
10	QJ	7	LYS	2.1
7	QG	41	ARG	2.1
19	QS	21	GLU	2.1
28	YE	70	ALA	2.1
30	RG	96	ARG	2.1

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Mol	Chain	Res	Type	RSRZ
38	RS	43	GLU	2.1
9	QI	6	GLY	2.1
35	YP	63	PRO	2.1
28	RE	51	PHE	2.1
38	RS	41	ASP	2.1
40	RU	97	ASP	2.1
2	XB	15	VAL	2.1
32	YI	142	VAL	2.1
6	QF	8	ILE	2.1
8	QH	35	ILE	2.1
15	QO	69	TYR	2.1
22	QW	58	A	2.1
30	YG	63	ILE	2.1
32	RI	130	TYR	2.1
5	XE	19	MET	2.1
5	XE	27	ARG	2.1
8	QH	102	ARG	2.1
20	QT	79	ARG	2.1
25	RA	2833	G	2.1
25	RA	2891	G	2.1
25	YA	2110	G	2.1
25	YA	2165	G	2.1
3	QC	194	GLY	2.1
13	QM	35	GLU	2.1
13	QM	119	GLY	2.1
19	QS	17	GLU	2.1
31	RH	161	GLY	2.1
35	RP	24	GLY	2.1
36	RQ	48	GLU	2.1
45	YZ	84	GLU	2.1
55	Y9	21	GLY	2.1
1	XA	1539	C	2.1
10	XJ	49	VAL	2.1
24	XY	68	VAL	2.1
29	RF	11	VAL	2.1
10	QJ	38	ILE	2.1
15	XO	48	LYS	2.1
25	RA	12	U	2.1
25	YA	12	U	2.1
30	YG	114	ILE	2.1
33	RN	138	LEU	2.1
45	YZ	124	ILE	2.1

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Mol	Chain	Res	Type	RSRZ
47	Y1	23	LYS	2.1
50	Y4	52	THR	2.1
52	Y6	14	THR	2.1
55	R9	10	ILE	2.1
8	XH	30	ARG	2.1
38	YS	17	ARG	2.1
40	YU	36	ARG	2.1
49	R3	30	ARG	2.1
50	R4	71	ARG	2.1
7	XG	110	GLN	2.1
9	QI	119	ALA	2.1
30	RG	69	ALA	2.1
31	RH	75	ALA	2.1
38	RS	100	ALA	2.1
10	QJ	39	PRO	2.1
16	XP	63	GLY	2.1
17	QQ	96	GLU	2.1
23	XX	15	A	2.1
25	RA	1913	A	2.1
27	RD	265	PRO	2.1
36	YQ	91	GLU	2.1
45	RZ	2	GLU	2.1
2	XB	163	PHE	2.1
8	XH	31	PHE	2.1
27	YD	267	SER	2.1
30	RG	141	PHE	2.1
7	XG	84	ASN	2.1
55	Y9	29	ASN	2.1
44	RY	98	VAL	2.1
1	XA	1006	C	2.1
25	RA	1080	C	2.1
25	RA	2129	C	2.1
25	RA	2136	C	2.1
25	RA	2293	C	2.1
25	YA	1075	C	2.1
24	QY	90	ASP	2.1
37	RR	40	LYS	2.1
41	YV	85	LYS	2.1
31	RH	64	LEU	2.1
41	YV	25	LEU	2.1
44	RY	75	ILE	2.1
49	R3	18	ASP	2.1

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Mol	Chain	Res	Type	RSRZ
13	QM	105	THR	2.1
20	QT	8	ARG	2.1
31	RH	68	THR	2.1
39	YT	59	THR	2.1
45	YZ	4	ARG	2.1
40	YU	116	ALA	2.1
18	QR	63	GLN	2.1
25	RA	1012	U	2.1
25	YA	1061	U	2.1
34	RO	5	GLN	2.1
31	RH	28	GLY	2.1
17	QQ	2	PRO	2.1
31	RH	58	GLU	2.1
33	RN	10	GLU	2.1
45	YZ	181	GLU	2.1
48	Y2	66	GLU	2.1
45	YZ	92	SER	2.1
19	QS	65	ASN	2.1
25	RA	2801	A	2.1
25	YA	1050	A	2.1
25	YA	2346	A	2.1
54	R8	39	LYS	2.1
16	XP	26	ARG	2.1
18	XR	65	ILE	2.1
29	YF	24	LEU	2.1
31	YH	98	LEU	2.1
31	YH	152	ARG	2.1
33	YN	12	ARG	2.1
41	RV	71	LEU	2.1
33	RN	41	ASP	2.1
55	Y9	12	ASP	2.1
9	QI	7	THR	2.1
37	RR	37	THR	2.1
41	RV	45	THR	2.1
25	RA	1072	C	2.1
25	RA	2139	C	2.1
26	RB	88	C	2.1
1	QA	1356	G	2.1
25	YA	275	G	2.1
28	YE	50	GLY	2.1
35	YP	24	GLY	2.1
47	Y1	31	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
50	R4	19	GLY	2.1
28	RE	56	PRO	2.1
31	RH	127	GLU	2.1
32	RI	132	PRO	2.1
38	RS	29	PHE	2.1
7	QG	9	VAL	2.0
11	XK	14	VAL	2.0
14	QN	58	LYS	2.0
25	RA	1060	U	2.0
30	YG	75	LYS	2.0
31	YH	77	LYS	2.0
33	YN	89	LYS	2.0
38	YS	53	SER	2.0
48	R2	4	SER	2.0
9	XI	104	ARG	2.0
13	XM	104	ARG	2.0
19	QS	71	LEU	2.0
30	YG	82	LEU	2.0
32	RI	77	LEU	2.0
45	RZ	171	ILE	2.0
50	R4	20	ASN	2.0
55	R9	18	ARG	2.0
2	XB	48	MET	2.0
9	QI	125	TYR	2.0
27	RD	71	ASP	2.0
38	RS	2	ALA	2.0
40	YU	78	THR	2.0
54	Y8	55	ALA	2.0
50	Y4	60	GLN	2.0
54	R8	53	PRO	2.0
27	RD	35	LYS	2.0
36	YQ	139	GLU	2.0
38	YS	107	GLU	2.0
40	YU	13	LYS	2.0
14	QN	44	LEU	2.0
22	QW	5	G	2.0
25	RA	883	G	2.0
25	RA	1071	G	2.0
27	YD	273	ARG	2.0
32	YI	116	LEU	2.0
44	RY	90	LEU	2.0
10	QJ	19	SER	2.0

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Mol	Chain	Res	Type	RSRZ
35	YP	114	ILE	2.0
45	YZ	120	ILE	2.0
48	R2	50	ILE	2.0
42	YW	40	ASN	2.0
20	XT	49	ALA	2.0
7	QG	44	TYR	2.0
9	QI	92	TYR	2.0
33	YN	63	THR	2.0
35	RP	57	THR	2.0
2	XB	166	ASP	2.0
27	YD	71	ASP	2.0
39	RT	107	ASP	2.0
46	Y0	64	ASP	2.0
21	QU	11	GLY	2.0
36	RQ	30	GLY	2.0
41	RV	2	PHE	2.0
44	YY	103	GLY	2.0
48	R2	43	GLN	2.0
7	QG	75	VAL	2.0
9	QI	2	GLU	2.0
9	XI	2	GLU	2.0
17	XQ	58	GLU	2.0
25	RA	2119	A	2.0
25	YA	1027	A	2.0
28	RE	163	GLU	2.0
31	RH	116	GLU	2.0
33	RN	88	GLU	2.0
34	RO	108	GLU	2.0
35	RP	74	GLU	2.0
38	YS	65	VAL	2.0
6	QF	14	LEU	2.0
13	XM	19	LEU	2.0
17	QQ	6	LEU	2.0
30	RG	135	LEU	2.0
32	YI	114	LEU	2.0
46	R0	84	LEU	2.0
52	R6	36	LEU	2.0
10	XJ	98	ILE	2.0
38	RS	18	ILE	2.0

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

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
23	A2M	XX	21	23/24	0.77	0.14	108,164,164,164	0
23	A2M	QX	21	23/24	0.80	0.14	108,155,155,155	0
23	A2M	XX	19	23/24	0.87	0.14	99,99,108,108	0
23	A2M	QX	19	23/24	0.88	0.14	108,108,108,108	0
23	A2M	QX	20	23/24	0.89	0.11	108,114,114,114	0
23	A2M	XX	20	23/24	0.90	0.13	107,107,108,108	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(Å ²)	Q<0.9
56	MG	YA	3163	1/1	0.28	0.20	40,40,40,40	0
56	MG	YA	3215	1/1	0.30	0.34	79,79,79,79	0
56	MG	RA	3075	1/1	0.35	0.24	35,35,35,35	0
56	MG	QA	1630	1/1	0.40	0.25	64,64,64,64	0
56	MG	RA	3020	1/1	0.41	0.21	11,11,11,11	0
56	MG	XA	1625	1/1	0.42	0.19	80,80,80,80	0
56	MG	XD	302	1/1	0.43	0.23	85,85,85,85	0
56	MG	YH	201	1/1	0.45	0.24	118,118,118,118	0
56	MG	YA	3357	1/1	0.47	0.25	53,53,53,53	0
56	MG	RA	3417	1/1	0.50	0.36	66,66,66,66	0
56	MG	QA	1733	1/1	0.52	0.36	86,86,86,86	0
56	MG	RA	3413	1/1	0.53	0.18	63,63,63,63	0
56	MG	RA	3380	1/1	0.53	0.19	61,61,61,61	0
56	MG	YA	3127	1/1	0.55	0.19	51,51,51,51	0
56	MG	YA	3396	1/1	0.57	0.10	54,54,54,54	0
56	MG	QA	1719	1/1	0.57	0.25	70,70,70,70	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	RA	3220	1/1	0.59	0.23	43,43,43,43	0
56	MG	YA	3155	1/1	0.60	0.11	41,41,41,41	0
56	MG	YA	3304	1/1	0.60	0.28	71,71,71,71	0
56	MG	YA	3311	1/1	0.60	0.27	74,74,74,74	0
56	MG	YA	3182	1/1	0.61	0.16	58,58,58,58	0
56	MG	YA	3196	1/1	0.61	0.28	35,35,35,35	0
56	MG	YA	3083	1/1	0.61	0.28	58,58,58,58	0
56	MG	YA	3416	1/1	0.61	0.17	9,9,9,9	0
56	MG	QA	1669	1/1	0.61	0.17	71,71,71,71	0
56	MG	XA	1630	1/1	0.62	0.20	40,40,40,40	0
56	MG	QD	303	1/1	0.62	0.17	69,69,69,69	0
56	MG	RA	3343	1/1	0.62	0.23	61,61,61,61	0
56	MG	YA	3427	1/1	0.63	0.11	30,30,30,30	0
56	MG	QA	1702	1/1	0.63	0.23	81,81,81,81	0
56	MG	YA	3412	1/1	0.64	0.20	61,61,61,61	0
56	MG	RA	3357	1/1	0.64	0.23	51,51,51,51	0
56	MG	RA	3131	1/1	0.64	0.23	78,78,78,78	0
56	MG	RA	3355	1/1	0.64	0.14	58,58,58,58	0
56	MG	QA	1648	1/1	0.65	0.13	58,58,58,58	0
56	MG	XA	1658	1/1	0.65	0.18	35,35,35,35	0
56	MG	QA	1747	1/1	0.65	0.13	61,61,61,61	0
56	MG	YA	3328	1/1	0.66	0.26	38,38,38,38	0
56	MG	RA	3396	1/1	0.66	0.26	37,37,37,37	0
56	MG	RA	3211	1/1	0.66	0.17	11,11,11,11	0
56	MG	RA	3114	1/1	0.66	0.17	19,19,19,19	0
56	MG	YA	3294	1/1	0.66	0.09	56,56,56,56	0
56	MG	XA	1691	1/1	0.66	0.15	50,50,50,50	0
56	MG	YG	201	1/1	0.66	0.13	56,56,56,56	0
56	MG	XA	1696	1/1	0.66	0.19	71,71,71,71	0
56	MG	QA	1677	1/1	0.67	0.18	60,60,60,60	0
56	MG	RA	3101	1/1	0.67	0.28	37,37,37,37	0
56	MG	YA	3379	1/1	0.67	0.13	53,53,53,53	0
56	MG	YA	3392	1/1	0.67	0.21	60,60,60,60	0
56	MG	YA	3233	1/1	0.67	0.25	49,49,49,49	0
56	MG	YA	3223	1/1	0.68	0.16	60,60,60,60	0
56	MG	RA	3277	1/1	0.68	0.21	67,67,67,67	0
56	MG	YA	3086	1/1	0.68	0.17	23,23,23,23	0
56	MG	QA	1724	1/1	0.68	0.10	63,63,63,63	0
56	MG	YA	3031	1/1	0.68	0.27	26,26,26,26	0
56	MG	RA	3299	1/1	0.69	0.23	48,48,48,48	0
56	MG	YA	3326	1/1	0.69	0.20	51,51,51,51	0
56	MG	XA	1755	1/1	0.69	0.14	68,68,68,68	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3242	1/1	0.69	0.23	42,42,42,42	0
56	MG	YA	3484	1/1	0.69	0.22	24,24,24,24	0
56	MG	QA	1683	1/1	0.69	0.32	46,46,46,46	0
56	MG	QA	1693	1/1	0.69	0.24	66,66,66,66	0
56	MG	YA	3472	1/1	0.70	0.25	69,69,69,69	0
56	MG	YA	3128	1/1	0.70	0.13	37,37,37,37	0
56	MG	RY	201	1/1	0.70	0.17	43,43,43,43	0
56	MG	RA	3225	1/1	0.70	0.14	40,40,40,40	0
56	MG	RA	3182	1/1	0.71	0.23	58,58,58,58	0
56	MG	QA	1603	1/1	0.71	0.10	52,52,52,52	0
56	MG	QA	1708	1/1	0.72	0.30	42,42,42,42	0
56	MG	XA	1730	1/1	0.72	0.18	47,47,47,47	0
56	MG	RA	3399	1/1	0.72	0.37	47,47,47,47	0
56	MG	YA	3415	1/1	0.72	0.26	68,68,68,68	0
56	MG	XA	1629	1/1	0.72	0.13	53,53,53,53	0
56	MG	RA	3166	1/1	0.72	0.18	31,31,31,31	0
56	MG	XA	1656	1/1	0.72	0.23	45,45,45,45	0
56	MG	RA	3084	1/1	0.72	0.22	27,27,27,27	0
56	MG	YB	202	1/1	0.72	0.27	38,38,38,38	0
56	MG	YA	3378	1/1	0.72	0.11	52,52,52,52	0
56	MG	RA	3421	1/1	0.72	0.09	59,59,59,59	0
56	MG	RA	3215	1/1	0.73	0.14	41,41,41,41	0
56	MG	QA	1721	1/1	0.73	0.13	41,41,41,41	0
56	MG	RA	3360	1/1	0.73	0.18	51,51,51,51	0
56	MG	RA	3134	1/1	0.73	0.23	38,38,38,38	0
56	MG	YA	3040	1/1	0.73	0.28	25,25,25,25	0
56	MG	YA	3082	1/1	0.73	0.14	20,20,20,20	0
56	MG	QA	1729	1/1	0.73	0.16	31,31,31,31	0
56	MG	RA	3111	1/1	0.73	0.09	40,40,40,40	0
56	MG	RA	3406	1/1	0.73	0.30	59,59,59,59	0
56	MG	RA	3335	1/1	0.73	0.22	52,52,52,52	0
56	MG	YA	3485	1/1	0.73	0.24	22,22,22,22	0
56	MG	QA	1750	1/1	0.73	0.16	68,68,68,68	0
56	MG	XA	1700	1/1	0.73	0.24	79,79,79,79	0
56	MG	YA	3366	1/1	0.73	0.21	64,64,64,64	0
56	MG	XA	1699	1/1	0.74	0.22	78,78,78,78	0
56	MG	RA	3326	1/1	0.74	0.22	56,56,56,56	0
56	MG	YA	3276	1/1	0.74	0.23	31,31,31,31	0
56	MG	RA	3168	1/1	0.74	0.27	54,54,54,54	0
56	MG	RA	3171	1/1	0.74	0.19	51,51,51,51	0
56	MG	YA	3132	1/1	0.74	0.36	60,60,60,60	0
56	MG	XA	1759	1/1	0.74	0.21	63,63,63,63	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	QA	1699	1/1	0.74	0.12	55,55,55,55	0
56	MG	RA	3232	1/1	0.74	0.26	45,45,45,45	0
56	MG	RA	3204	1/1	0.74	0.19	52,52,52,52	0
56	MG	YA	3068	1/1	0.74	0.18	32,32,32,32	0
56	MG	QA	1695	1/1	0.74	0.23	47,47,47,47	0
56	MG	RA	3017	1/1	0.75	0.10	17,17,17,17	0
56	MG	RA	3261	1/1	0.75	0.33	45,45,45,45	0
56	MG	YA	3481	1/1	0.75	0.33	44,44,44,44	0
56	MG	RA	3005	1/1	0.75	0.42	32,32,32,32	0
56	MG	YA	3422	1/1	0.76	0.11	58,58,58,58	0
56	MG	RA	3214	1/1	0.76	0.11	33,33,33,33	0
56	MG	QA	1722	1/1	0.76	0.21	52,52,52,52	0
56	MG	RA	3405	1/1	0.76	0.12	43,43,43,43	0
56	MG	YA	3099	1/1	0.76	0.33	68,68,68,68	0
56	MG	QA	1732	1/1	0.76	0.15	54,54,54,54	0
56	MG	RA	3330	1/1	0.76	0.14	43,43,43,43	0
56	MG	YA	3231	1/1	0.76	0.24	30,30,30,30	0
56	MG	RA	3264	1/1	0.76	0.26	42,42,42,42	0
56	MG	XA	1701	1/1	0.77	0.20	42,42,42,42	0
56	MG	RA	3316	1/1	0.77	0.22	57,57,57,57	0
56	MG	YA	3315	1/1	0.77	0.22	53,53,53,53	0
56	MG	XA	1742	1/1	0.77	0.28	73,73,73,73	0
56	MG	XA	1754	1/1	0.77	0.19	55,55,55,55	0
56	MG	QA	1663	1/1	0.77	0.41	68,68,68,68	0
56	MG	QA	1636	1/1	0.77	0.31	56,56,56,56	0
56	MG	RA	3300	1/1	0.77	0.15	40,40,40,40	0
56	MG	RA	3307	1/1	0.77	0.10	49,49,49,49	0
56	MG	YA	3152	1/1	0.77	0.24	54,54,54,54	0
56	MG	XA	1641	1/1	0.77	0.17	51,51,51,51	0
56	MG	YA	3406	1/1	0.77	0.24	60,60,60,60	0
56	MG	YA	3195	1/1	0.78	0.16	51,51,51,51	0
56	MG	RA	3083	1/1	0.78	0.17	5,5,5,5	0
56	MG	YA	3321	1/1	0.78	0.11	60,60,60,60	0
56	MG	YA	3420	1/1	0.78	0.16	23,23,23,23	0
56	MG	YA	3214	1/1	0.78	0.34	53,53,53,53	0
56	MG	RA	3393	1/1	0.78	0.13	38,38,38,38	0
56	MG	XA	1693	1/1	0.78	0.11	36,36,36,36	0
56	MG	RA	3262	1/1	0.78	0.13	48,48,48,48	0
56	MG	RA	3347	1/1	0.78	0.30	83,83,83,83	0
56	MG	RA	3129	1/1	0.78	0.08	14,14,14,14	0
56	MG	RA	3229	1/1	0.78	0.08	44,44,44,44	0
56	MG	RA	3410	1/1	0.78	0.38	70,70,70,70	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	QA	1742	1/1	0.78	0.07	22,22,22,22	0
56	MG	YA	3278	1/1	0.79	0.24	52,52,52,52	0
56	MG	YA	3280	1/1	0.79	0.46	40,40,40,40	0
56	MG	YA	3287	1/1	0.79	0.19	47,47,47,47	0
56	MG	YA	3153	1/1	0.79	0.23	37,37,37,37	0
56	MG	YA	3480	1/1	0.79	0.10	65,65,65,65	0
56	MG	RA	3293	1/1	0.79	0.22	58,58,58,58	0
56	MG	YA	3159	1/1	0.79	0.23	28,28,28,28	0
56	MG	R2	101	1/1	0.79	0.26	62,62,62,62	0
56	MG	XA	1705	1/1	0.79	0.20	38,38,38,38	0
56	MG	QA	1627	1/1	0.79	0.65	72,72,72,72	0
56	MG	RA	3339	1/1	0.79	0.22	44,44,44,44	0
56	MG	Y5	102	1/1	0.79	0.22	47,47,47,47	0
56	MG	RA	3254	1/1	0.80	0.14	46,46,46,46	0
56	MG	RA	3102	1/1	0.80	0.17	10,10,10,10	0
56	MG	RA	3423	1/1	0.80	0.18	42,42,42,42	0
56	MG	RA	3435	1/1	0.80	0.26	64,64,64,64	0
56	MG	YA	3408	1/1	0.80	0.18	73,73,73,73	0
56	MG	YA	3275	1/1	0.80	0.28	41,41,41,41	0
56	MG	RD	301	1/1	0.80	0.09	24,24,24,24	0
56	MG	RQ	202	1/1	0.80	0.21	48,48,48,48	0
56	MG	QA	1703	1/1	0.80	0.24	47,47,47,47	0
56	MG	YA	3149	1/1	0.80	0.19	54,54,54,54	0
56	MG	RA	3014	1/1	0.80	0.36	3,3,3,3	0
56	MG	YA	3437	1/1	0.80	0.23	89,89,89,89	0
56	MG	YA	3448	1/1	0.80	0.25	51,51,51,51	0
56	MG	XA	1607	1/1	0.80	0.40	43,43,43,43	0
56	MG	QA	1734	1/1	0.80	0.25	52,52,52,52	0
56	MG	XA	1627	1/1	0.80	0.12	57,57,57,57	0
56	MG	QA	1728	1/1	0.80	0.18	48,48,48,48	0
56	MG	RA	3227	1/1	0.80	0.14	53,53,53,53	0
56	MG	XF	201	1/1	0.80	0.12	39,39,39,39	0
56	MG	RA	3408	1/1	0.80	0.46	53,53,53,53	0
56	MG	RA	3133	1/1	0.80	0.29	52,52,52,52	0
56	MG	RA	3206	1/1	0.80	0.12	18,18,18,18	0
56	MG	XA	1637	1/1	0.81	0.14	49,49,49,49	0
56	MG	RA	3249	1/1	0.81	0.09	47,47,47,47	0
56	MG	YA	3426	1/1	0.81	0.14	34,34,34,34	0
56	MG	XA	1719	1/1	0.81	0.11	50,50,50,50	0
56	MG	RA	3128	1/1	0.81	0.17	43,43,43,43	0
56	MG	RA	3184	1/1	0.81	0.19	24,24,24,24	0
56	MG	XA	1750	1/1	0.81	0.11	44,44,44,44	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	XA	1611	1/1	0.81	0.25	46,46,46,46	0
56	MG	RA	3148	1/1	0.81	0.12	19,19,19,19	0
56	MG	YA	3397	1/1	0.81	0.14	58,58,58,58	0
56	MG	QA	1735	1/1	0.81	0.39	66,66,66,66	0
56	MG	YA	3129	1/1	0.81	0.24	41,41,41,41	0
56	MG	RA	3037	1/1	0.81	0.26	24,24,24,24	0
56	MG	YA	3318	1/1	0.81	0.27	43,43,43,43	0
56	MG	QA	1637	1/1	0.81	0.37	53,53,53,53	0
56	MG	YA	3395	1/1	0.82	0.09	46,46,46,46	0
56	MG	QA	1745	1/1	0.82	0.09	44,44,44,44	0
56	MG	RA	3391	1/1	0.82	0.20	19,19,19,19	0
56	MG	XA	1632	1/1	0.82	0.28	46,46,46,46	0
56	MG	XA	1635	1/1	0.82	0.23	36,36,36,36	0
56	MG	RA	3051	1/1	0.82	0.26	62,62,62,62	0
56	MG	RB	203	1/1	0.82	0.27	37,37,37,37	0
56	MG	XA	1648	1/1	0.82	0.21	53,53,53,53	0
56	MG	XA	1652	1/1	0.82	0.35	48,48,48,48	0
56	MG	RA	3105	1/1	0.82	0.19	33,33,33,33	0
56	MG	RA	3276	1/1	0.82	0.26	50,50,50,50	0
56	MG	YA	3007	1/1	0.82	0.42	38,38,38,38	0
56	MG	RA	3069	1/1	0.82	0.27	23,23,23,23	0
56	MG	YA	3188	1/1	0.82	0.28	38,38,38,38	0
56	MG	RA	3279	1/1	0.82	0.14	26,26,26,26	0
56	MG	QA	1646	1/1	0.82	0.22	36,36,36,36	0
56	MG	YA	3204	1/1	0.82	0.14	10,10,10,10	0
56	MG	QA	1720	1/1	0.82	0.21	53,53,53,53	0
56	MG	YA	3371	1/1	0.82	0.27	57,57,57,57	0
56	MG	QA	1608	1/1	0.82	0.36	25,25,25,25	0
56	MG	RA	3256	1/1	0.82	0.43	93,93,93,93	0
56	MG	YA	3390	1/1	0.82	0.13	54,54,54,54	0
56	MG	YA	3095	1/1	0.82	0.20	52,52,52,52	0
56	MG	YA	3268	1/1	0.83	0.29	49,49,49,49	0
56	MG	QA	1725	1/1	0.83	0.13	64,64,64,64	0
56	MG	YA	3048	1/1	0.83	0.13	22,22,22,22	0
56	MG	XA	1620	1/1	0.83	0.08	21,21,21,21	0
56	MG	YA	3279	1/1	0.83	0.09	54,54,54,54	0
56	MG	XA	1624	1/1	0.83	0.18	59,59,59,59	0
56	MG	YA	3179	1/1	0.83	0.18	41,41,41,41	0
56	MG	RA	3297	1/1	0.83	0.20	47,47,47,47	0
56	MG	YA	3187	1/1	0.83	0.18	19,19,19,19	0
56	MG	RA	3233	1/1	0.83	0.19	25,25,25,25	0
56	MG	RA	3331	1/1	0.83	0.17	69,69,69,69	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3317	1/1	0.83	0.26	48,48,48,48	0
56	MG	RQ	201	1/1	0.83	0.09	23,23,23,23	0
56	MG	YA	3436	1/1	0.83	0.34	51,51,51,51	0
56	MG	XA	1763	1/1	0.83	0.10	52,52,52,52	0
56	MG	RA	3108	1/1	0.83	0.30	33,33,33,33	0
56	MG	RA	3253	1/1	0.83	0.33	59,59,59,59	0
56	MG	YA	3331	1/1	0.83	0.13	24,24,24,24	0
56	MG	RA	3311	1/1	0.83	0.29	55,55,55,55	0
56	MG	YA	3482	1/1	0.83	0.22	69,69,69,69	0
56	MG	YA	3227	1/1	0.83	0.18	53,53,53,53	0
56	MG	YA	3140	1/1	0.83	0.10	58,58,58,58	0
56	MG	YA	3013	1/1	0.83	0.30	0,0,0,0	0
56	MG	RA	3345	1/1	0.83	0.18	42,42,42,42	0
56	MG	YA	3244	1/1	0.83	0.18	54,54,54,54	0
56	MG	YA	3391	1/1	0.83	0.16	44,44,44,44	0
56	MG	YA	3211	1/1	0.84	0.13	22,22,22,22	0
56	MG	XA	1683	1/1	0.84	0.19	31,31,31,31	0
56	MG	XA	1686	1/1	0.84	0.41	64,64,64,64	0
56	MG	YA	3220	1/1	0.84	0.14	33,33,33,33	0
56	MG	RA	3057	1/1	0.84	0.34	2,2,2,2	0
56	MG	RA	3273	1/1	0.84	0.10	44,44,44,44	0
56	MG	RA	3404	1/1	0.84	0.19	48,48,48,48	0
56	MG	QA	1618	1/1	0.84	0.16	29,29,29,29	0
56	MG	RA	3198	1/1	0.84	0.20	26,26,26,26	0
56	MG	YA	3401	1/1	0.84	0.14	43,43,43,43	0
56	MG	XA	1621	1/1	0.84	0.25	38,38,38,38	0
56	MG	YA	3265	1/1	0.84	0.21	40,40,40,40	0
56	MG	RA	3340	1/1	0.84	0.24	72,72,72,72	0
56	MG	XA	1715	1/1	0.84	0.34	52,52,52,52	0
56	MG	QA	1673	1/1	0.84	0.16	70,70,70,70	0
56	MG	XA	1727	1/1	0.84	0.36	78,78,78,78	0
56	MG	XA	1729	1/1	0.84	0.18	47,47,47,47	0
56	MG	YA	3145	1/1	0.84	0.14	68,68,68,68	0
56	MG	QA	1674	1/1	0.84	0.18	27,27,27,27	0
56	MG	RA	3236	1/1	0.84	0.30	45,45,45,45	0
56	MG	YA	3303	1/1	0.84	0.35	69,69,69,69	0
56	MG	XA	1743	1/1	0.84	0.11	53,53,53,53	0
56	MG	RA	3420	1/1	0.84	0.14	35,35,35,35	0
56	MG	RA	3352	1/1	0.84	0.23	62,62,62,62	0
56	MG	QA	1738	1/1	0.84	0.07	32,32,32,32	0
56	MG	RA	3213	1/1	0.84	0.34	21,21,21,21	0
56	MG	RA	3438	1/1	0.84	0.16	23,23,23,23	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	RA	3095	1/1	0.84	0.31	45,45,45,45	0
56	MG	QA	1665	1/1	0.84	0.16	51,51,51,51	0
56	MG	RA	3218	1/1	0.84	0.13	13,13,13,13	0
56	MG	RA	3178	1/1	0.84	0.13	32,32,32,32	0
56	MG	XA	1672	1/1	0.84	0.08	44,44,44,44	0
56	MG	RA	3049	1/1	0.85	0.18	19,19,19,19	0
56	MG	YA	3389	1/1	0.85	0.18	49,49,49,49	0
56	MG	QA	1656	1/1	0.85	0.29	26,26,26,26	0
56	MG	YA	3249	1/1	0.85	0.19	34,34,34,34	0
56	MG	RA	3147	1/1	0.85	0.11	41,41,41,41	0
56	MG	QA	1692	1/1	0.85	0.32	65,65,65,65	0
56	MG	YA	3270	1/1	0.85	0.23	49,49,49,49	0
56	MG	RA	3281	1/1	0.85	0.09	57,57,57,57	0
56	MG	XA	1612	1/1	0.85	0.11	39,39,39,39	0
56	MG	RA	3157	1/1	0.85	0.10	43,43,43,43	0
56	MG	YA	3164	1/1	0.85	0.14	38,38,38,38	0
56	MG	QA	1743	1/1	0.85	0.13	57,57,57,57	0
56	MG	QA	1662	1/1	0.85	0.15	40,40,40,40	0
56	MG	YA	3184	1/1	0.85	0.27	28,28,28,28	0
56	MG	RA	3350	1/1	0.85	0.20	45,45,45,45	0
56	MG	RA	3351	1/1	0.85	0.11	75,75,75,75	0
56	MG	YA	3423	1/1	0.85	0.16	23,23,23,23	0
56	MG	QA	1628	1/1	0.85	0.07	68,68,68,68	0
56	MG	RA	3259	1/1	0.85	0.28	46,46,46,46	0
56	MG	RA	3309	1/1	0.85	0.29	45,45,45,45	0
56	MG	QA	1622	1/1	0.85	0.22	29,29,29,29	0
56	MG	YA	3438	1/1	0.85	0.21	68,68,68,68	0
56	MG	YA	3319	1/1	0.85	0.16	47,47,47,47	0
56	MG	YA	3451	1/1	0.85	0.14	38,38,38,38	0
56	MG	RA	3439	1/1	0.85	0.25	50,50,50,50	0
56	MG	YA	3121	1/1	0.85	0.15	52,52,52,52	0
56	MG	XA	1738	1/1	0.85	0.14	45,45,45,45	0
56	MG	RA	3440	1/1	0.85	0.16	12,12,12,12	0
56	MG	YA	3333	1/1	0.85	0.12	47,47,47,47	0
56	MG	YA	3346	1/1	0.85	0.16	54,54,54,54	0
56	MG	RA	3041	1/1	0.85	0.18	7,7,7,7	0
56	MG	RA	3100	1/1	0.85	0.25	52,52,52,52	0
56	MG	RA	3329	1/1	0.85	0.12	46,46,46,46	0
56	MG	YA	3234	1/1	0.85	0.12	30,30,30,30	0
56	MG	RA	3358	1/1	0.86	0.07	45,45,45,45	0
56	MG	RA	3169	1/1	0.86	0.19	47,47,47,47	0
56	MG	RA	3070	1/1	0.86	0.27	25,25,25,25	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	RA	3431	1/1	0.86	0.37	40,40,40,40	0
56	MG	QA	1680	1/1	0.86	0.12	48,48,48,48	0
56	MG	RA	3180	1/1	0.86	0.18	53,53,53,53	0
56	MG	QA	1672	1/1	0.86	0.30	54,54,54,54	0
56	MG	YA	3001	1/1	0.86	0.40	73,73,73,73	0
56	MG	QA	1675	1/1	0.86	0.21	42,42,42,42	0
56	MG	QA	1647	1/1	0.86	0.19	55,55,55,55	0
56	MG	RA	3202	1/1	0.86	0.15	22,22,22,22	0
56	MG	YA	3425	1/1	0.86	0.57	62,62,62,62	0
56	MG	RA	3270	1/1	0.86	0.19	51,51,51,51	0
56	MG	YA	3045	1/1	0.86	0.19	3,3,3,3	0
56	MG	YA	3433	1/1	0.86	0.13	34,34,34,34	0
56	MG	RA	3127	1/1	0.86	0.32	52,52,52,52	0
56	MG	YA	3342	1/1	0.86	0.38	66,66,66,66	0
56	MG	YA	3252	1/1	0.86	0.30	47,47,47,47	0
56	MG	YA	3447	1/1	0.86	0.09	38,38,38,38	0
56	MG	YA	3355	1/1	0.86	0.25	63,63,63,63	0
56	MG	YA	3260	1/1	0.86	0.22	32,32,32,32	0
56	MG	YA	3059	1/1	0.86	0.09	15,15,15,15	0
56	MG	YA	3473	1/1	0.86	0.11	30,30,30,30	0
56	MG	YA	3178	1/1	0.86	0.12	36,36,36,36	0
56	MG	RR	201	1/1	0.86	0.24	31,31,31,31	0
56	MG	YA	3074	1/1	0.86	0.30	21,21,21,21	0
56	MG	YA	3483	1/1	0.86	0.31	58,58,58,58	0
56	MG	YA	3384	1/1	0.86	0.37	64,64,64,64	0
56	MG	RA	3318	1/1	0.86	0.10	32,32,32,32	0
56	MG	RA	3060	1/1	0.86	0.16	14,14,14,14	0
56	MG	RA	3416	1/1	0.86	0.34	58,58,58,58	0
56	MG	QV	101	1/1	0.86	0.10	31,31,31,31	0
56	MG	YA	3283	1/1	0.86	0.09	37,37,37,37	0
56	MG	Y5	103	1/1	0.86	0.19	41,41,41,41	0
56	MG	RA	3412	1/1	0.87	0.16	34,34,34,34	0
56	MG	YA	3383	1/1	0.87	0.13	34,34,34,34	0
56	MG	YA	3090	1/1	0.87	0.07	43,43,43,43	0
56	MG	YA	3091	1/1	0.87	0.15	19,19,19,19	0
56	MG	RA	3342	1/1	0.87	0.35	61,61,61,61	0
56	MG	YA	3097	1/1	0.87	0.17	21,21,21,21	0
56	MG	RA	3290	1/1	0.87	0.10	40,40,40,40	0
56	MG	QA	1626	1/1	0.87	0.18	46,46,46,46	0
56	MG	RA	3141	1/1	0.87	0.09	31,31,31,31	0
56	MG	RA	3298	1/1	0.87	0.06	52,52,52,52	0
56	MG	RA	3121	1/1	0.87	0.10	45,45,45,45	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	RA	3258	1/1	0.87	0.19	51,51,51,51	0
56	MG	XA	1745	1/1	0.87	0.15	45,45,45,45	0
56	MG	XA	1748	1/1	0.87	0.18	66,66,66,66	0
56	MG	XA	1636	1/1	0.87	0.28	57,57,57,57	0
56	MG	RA	3124	1/1	0.87	0.20	32,32,32,32	0
56	MG	RA	3191	1/1	0.87	0.12	15,15,15,15	0
56	MG	YA	3421	1/1	0.87	0.14	68,68,68,68	0
56	MG	XA	1757	1/1	0.87	0.30	60,60,60,60	0
56	MG	YA	3291	1/1	0.87	0.21	33,33,33,33	0
56	MG	RA	3043	1/1	0.87	0.22	17,17,17,17	0
56	MG	RA	3359	1/1	0.87	0.08	16,16,16,16	0
56	MG	QA	1625	1/1	0.87	0.21	66,66,66,66	0
56	MG	YA	3307	1/1	0.87	0.22	46,46,46,46	0
56	MG	RA	3231	1/1	0.87	0.22	50,50,50,50	0
56	MG	YA	3313	1/1	0.87	0.17	25,25,25,25	0
56	MG	RA	3324	1/1	0.87	0.21	45,45,45,45	0
56	MG	YA	3441	1/1	0.87	0.14	49,49,49,49	0
56	MG	YA	3004	1/1	0.87	0.22	12,12,12,12	0
56	MG	YA	3006	1/1	0.87	0.29	32,32,32,32	0
56	MG	XA	1677	1/1	0.87	0.15	36,36,36,36	0
56	MG	YA	3458	1/1	0.87	0.16	51,51,51,51	0
56	MG	YA	3462	1/1	0.87	0.14	48,48,48,48	0
56	MG	QA	1632	1/1	0.87	0.24	57,57,57,57	0
56	MG	YA	3322	1/1	0.87	0.20	55,55,55,55	0
56	MG	RA	3274	1/1	0.87	0.23	44,44,44,44	0
56	MG	XA	1689	1/1	0.87	0.21	31,31,31,31	0
56	MG	QA	1712	1/1	0.87	0.14	46,46,46,46	0
56	MG	YA	3208	1/1	0.87	0.20	27,27,27,27	0
56	MG	QA	1716	1/1	0.87	0.21	36,36,36,36	0
56	MG	YA	3053	1/1	0.87	0.24	27,27,27,27	0
56	MG	RA	3247	1/1	0.87	0.30	26,26,26,26	0
56	MG	YF	301	1/1	0.87	0.20	37,37,37,37	0
56	MG	XA	1609	1/1	0.87	0.08	79,79,79,79	0
56	MG	RA	3176	1/1	0.87	0.17	34,34,34,34	0
56	MG	RA	3288	1/1	0.87	0.22	54,54,54,54	0
56	MG	RA	3341	1/1	0.87	0.14	31,31,31,31	0
56	MG	YA	3372	1/1	0.88	0.11	37,37,37,37	0
56	MG	RA	3125	1/1	0.88	0.15	26,26,26,26	0
56	MG	RA	3239	1/1	0.88	0.21	45,45,45,45	0
56	MG	RA	3061	1/1	0.88	0.24	17,17,17,17	0
56	MG	RA	3422	1/1	0.88	0.09	43,43,43,43	0
56	MG	YA	3386	1/1	0.88	0.30	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	XA	1731	1/1	0.88	0.26	47,47,47,47	0
56	MG	XA	1737	1/1	0.88	0.29	14,14,14,14	0
56	MG	YA	3250	1/1	0.88	0.27	27,27,27,27	0
56	MG	RA	3319	1/1	0.88	0.05	50,50,50,50	0
56	MG	YA	3098	1/1	0.88	0.12	47,47,47,47	0
56	MG	YA	3263	1/1	0.88	0.13	41,41,41,41	0
56	MG	XA	1634	1/1	0.88	0.10	46,46,46,46	0
56	MG	RA	3068	1/1	0.88	0.28	13,13,13,13	0
56	MG	RA	3278	1/1	0.88	0.19	46,46,46,46	0
56	MG	XA	1747	1/1	0.88	0.10	45,45,45,45	0
56	MG	YA	3410	1/1	0.88	0.10	28,28,28,28	0
56	MG	RA	3379	1/1	0.88	0.23	26,26,26,26	0
56	MG	YA	3277	1/1	0.88	0.16	38,38,38,38	0
56	MG	RA	3251	1/1	0.88	0.07	63,63,63,63	0
56	MG	RA	3382	1/1	0.88	0.20	28,28,28,28	0
56	MG	RA	3389	1/1	0.88	0.14	22,22,22,22	0
56	MG	RA	3216	1/1	0.88	0.25	36,36,36,36	0
56	MG	XA	1758	1/1	0.88	0.35	51,51,51,51	0
56	MG	RA	3092	1/1	0.88	0.12	41,41,41,41	0
56	MG	QA	1614	1/1	0.88	0.10	38,38,38,38	0
56	MG	YA	3300	1/1	0.88	0.16	48,48,48,48	0
56	MG	YA	3430	1/1	0.88	0.14	55,55,55,55	0
56	MG	YA	3431	1/1	0.88	0.19	52,52,52,52	0
56	MG	RA	3291	1/1	0.88	0.23	31,31,31,31	0
56	MG	XA	1681	1/1	0.88	0.14	22,22,22,22	0
56	MG	RA	3400	1/1	0.88	0.14	30,30,30,30	0
56	MG	YA	3309	1/1	0.88	0.12	30,30,30,30	0
56	MG	R1	101	1/1	0.88	0.23	46,46,46,46	0
56	MG	YA	3446	1/1	0.88	0.14	20,20,20,20	0
56	MG	RA	3292	1/1	0.88	0.39	31,31,31,31	0
56	MG	RA	3192	1/1	0.88	0.28	15,15,15,15	0
56	MG	RA	3099	1/1	0.88	0.20	25,25,25,25	0
56	MG	YA	3017	1/1	0.88	0.40	30,30,30,30	0
56	MG	QA	1606	1/1	0.88	0.20	18,18,18,18	0
56	MG	YA	3464	1/1	0.88	0.09	56,56,56,56	0
56	MG	YA	3467	1/1	0.88	0.21	68,68,68,68	0
56	MG	YA	3194	1/1	0.88	0.10	17,17,17,17	0
56	MG	RA	3174	1/1	0.88	0.08	26,26,26,26	0
56	MG	YA	3479	1/1	0.88	0.15	52,52,52,52	0
56	MG	XA	1615	1/1	0.88	0.19	37,37,37,37	0
56	MG	RA	3175	1/1	0.88	0.27	46,46,46,46	0
56	MG	YA	3050	1/1	0.88	0.35	24,24,24,24	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3210	1/1	0.88	0.19	25,25,25,25	0
56	MG	RA	3268	1/1	0.88	0.25	48,48,48,48	0
56	MG	YA	3344	1/1	0.88	0.20	35,35,35,35	0
56	MG	YA	3056	1/1	0.88	0.29	1,1,1,1	0
56	MG	XA	1706	1/1	0.88	0.12	37,37,37,37	0
56	MG	YA	3067	1/1	0.88	0.29	19,19,19,19	0
56	MG	XA	1710	1/1	0.88	0.25	48,48,48,48	0
56	MG	YQ	201	1/1	0.88	0.14	44,44,44,44	0
56	MG	YY	201	1/1	0.88	0.13	31,31,31,31	0
56	MG	YA	3369	1/1	0.88	0.08	35,35,35,35	0
56	MG	QA	1668	1/1	0.88	0.18	45,45,45,45	0
56	MG	YA	3026	1/1	0.89	0.28	30,30,30,30	0
56	MG	YA	3398	1/1	0.89	0.15	55,55,55,55	0
56	MG	YA	3285	1/1	0.89	0.16	26,26,26,26	0
56	MG	RA	3237	1/1	0.89	0.09	23,23,23,23	0
56	MG	QA	1731	1/1	0.89	0.06	34,34,34,34	0
56	MG	YA	3180	1/1	0.89	0.37	58,58,58,58	0
56	MG	RA	3320	1/1	0.89	0.42	63,63,63,63	0
56	MG	RA	3245	1/1	0.89	0.13	34,34,34,34	0
56	MG	RA	3366	1/1	0.89	0.07	67,67,67,67	0
56	MG	XA	1725	1/1	0.89	0.30	44,44,44,44	0
56	MG	RA	3367	1/1	0.89	0.09	46,46,46,46	0
56	MG	QA	1657	1/1	0.89	0.13	20,20,20,20	0
56	MG	RA	3434	1/1	0.89	0.16	37,37,37,37	0
56	MG	QA	1687	1/1	0.89	0.21	52,52,52,52	0
56	MG	RA	3436	1/1	0.89	0.17	8,8,8,8	0
56	MG	RA	3063	1/1	0.89	0.30	29,29,29,29	0
56	MG	RA	3002	1/1	0.89	0.26	42,42,42,42	0
56	MG	RA	3390	1/1	0.89	0.28	49,49,49,49	0
56	MG	RB	202	1/1	0.89	0.23	29,29,29,29	0
56	MG	RA	3150	1/1	0.89	0.16	40,40,40,40	0
56	MG	RA	3151	1/1	0.89	0.21	52,52,52,52	0
56	MG	YA	3329	1/1	0.89	0.20	45,45,45,45	0
56	MG	YA	3096	1/1	0.89	0.22	40,40,40,40	0
56	MG	RA	3394	1/1	0.89	0.21	36,36,36,36	0
56	MG	YA	3334	1/1	0.89	0.38	52,52,52,52	0
56	MG	YA	3335	1/1	0.89	0.26	16,16,16,16	0
56	MG	XA	1753	1/1	0.89	0.20	70,70,70,70	0
56	MG	XA	1665	1/1	0.89	0.23	26,26,26,26	0
56	MG	YA	3109	1/1	0.89	0.30	14,14,14,14	0
56	MG	YA	3347	1/1	0.89	0.21	29,29,29,29	0
56	MG	YA	3116	1/1	0.89	0.22	16,16,16,16	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3469	1/1	0.89	0.13	68,68,68,68	0
56	MG	RA	3156	1/1	0.89	0.11	30,30,30,30	0
56	MG	XA	1675	1/1	0.89	0.26	46,46,46,46	0
56	MG	YA	3476	1/1	0.89	0.09	45,45,45,45	0
56	MG	YA	3368	1/1	0.89	0.20	59,59,59,59	0
56	MG	QA	1715	1/1	0.89	0.21	72,72,72,72	0
56	MG	YA	3256	1/1	0.89	0.06	29,29,29,29	0
56	MG	YA	3258	1/1	0.89	0.13	46,46,46,46	0
56	MG	RA	3165	1/1	0.89	0.22	25,25,25,25	0
56	MG	RA	3194	1/1	0.89	0.17	21,21,21,21	0
56	MG	RA	3230	1/1	0.89	0.18	20,20,20,20	0
56	MG	XA	1603	1/1	0.89	0.18	24,24,24,24	0
56	MG	YB	203	1/1	0.89	0.26	27,27,27,27	0
56	MG	RA	3306	1/1	0.89	0.41	63,63,63,63	0
56	MG	XA	1608	1/1	0.89	0.24	30,30,30,30	0
56	MG	RA	3012	1/1	0.89	0.43	29,29,29,29	0
56	MG	RA	3201	1/1	0.89	0.12	57,57,57,57	0
56	MG	YA	3157	1/1	0.89	0.16	32,32,32,32	0
56	MG	RA	3050	1/1	0.89	0.29	6,6,6,6	0
56	MG	QA	1705	1/1	0.89	0.14	37,37,37,37	0
56	MG	YA	3114	1/1	0.90	0.17	20,20,20,20	0
56	MG	RA	3312	1/1	0.90	0.15	26,26,26,26	0
56	MG	YA	3261	1/1	0.90	0.17	40,40,40,40	0
56	MG	QA	1723	1/1	0.90	0.22	46,46,46,46	0
56	MG	YA	3123	1/1	0.90	0.16	30,30,30,30	0
56	MG	RA	3022	1/1	0.90	0.30	17,17,17,17	0
56	MG	RA	3073	1/1	0.90	0.41	35,35,35,35	0
56	MG	YA	3271	1/1	0.90	0.16	32,32,32,32	0
56	MG	QA	1609	1/1	0.90	0.19	27,27,27,27	0
56	MG	YA	3130	1/1	0.90	0.21	37,37,37,37	0
56	MG	YA	3402	1/1	0.90	0.20	70,70,70,70	0
56	MG	YA	3403	1/1	0.90	0.20	42,42,42,42	0
56	MG	RA	3374	1/1	0.90	0.13	51,51,51,51	0
56	MG	RA	3427	1/1	0.90	0.13	35,35,35,35	0
56	MG	QA	1717	1/1	0.90	0.33	33,33,33,33	0
56	MG	YA	3146	1/1	0.90	0.15	24,24,24,24	0
56	MG	YA	3282	1/1	0.90	0.21	49,49,49,49	0
56	MG	QA	1737	1/1	0.90	0.23	43,43,43,43	0
56	MG	YA	3151	1/1	0.90	0.11	26,26,26,26	0
56	MG	RA	3089	1/1	0.90	0.23	18,18,18,18	0
56	MG	YA	3289	1/1	0.90	0.08	44,44,44,44	0
56	MG	YA	3012	1/1	0.90	0.19	14,14,14,14	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	XA	1702	1/1	0.90	0.33	46,46,46,46	0
56	MG	RA	3046	1/1	0.90	0.20	7,7,7,7	0
56	MG	YA	3022	1/1	0.90	0.22	49,49,49,49	0
56	MG	YA	3428	1/1	0.90	0.18	55,55,55,55	0
56	MG	YA	3429	1/1	0.90	0.18	38,38,38,38	0
56	MG	RA	3093	1/1	0.90	0.07	27,27,27,27	0
56	MG	XA	1631	1/1	0.90	0.16	14,14,14,14	0
56	MG	XA	1713	1/1	0.90	0.14	48,48,48,48	0
56	MG	QV	103	1/1	0.90	0.13	45,45,45,45	0
56	MG	YA	3312	1/1	0.90	0.26	63,63,63,63	0
56	MG	YA	3047	1/1	0.90	0.15	10,10,10,10	0
56	MG	RA	3096	1/1	0.90	0.08	44,44,44,44	0
56	MG	YA	3443	1/1	0.90	0.16	17,17,17,17	0
56	MG	YA	3445	1/1	0.90	0.13	19,19,19,19	0
56	MG	QA	1638	1/1	0.90	0.26	64,64,64,64	0
56	MG	YA	3051	1/1	0.90	0.26	38,38,38,38	0
56	MG	RA	3004	1/1	0.90	0.26	16,16,16,16	0
56	MG	QA	1696	1/1	0.90	0.37	67,67,67,67	0
56	MG	RA	3010	1/1	0.90	0.15	14,14,14,14	0
56	MG	XA	1643	1/1	0.90	0.19	23,23,23,23	0
56	MG	YA	3463	1/1	0.90	0.13	53,53,53,53	0
56	MG	XA	1733	1/1	0.90	0.12	47,47,47,47	0
56	MG	XA	1645	1/1	0.90	0.14	35,35,35,35	0
56	MG	YA	3079	1/1	0.90	0.20	34,34,34,34	0
56	MG	RA	3104	1/1	0.90	0.28	28,28,28,28	0
56	MG	QA	1688	1/1	0.90	0.07	31,31,31,31	0
56	MG	YA	3084	1/1	0.90	0.12	11,11,11,11	0
56	MG	YA	3341	1/1	0.90	0.48	71,71,71,71	0
56	MG	XA	1654	1/1	0.90	0.33	42,42,42,42	0
56	MG	QA	1681	1/1	0.90	0.32	37,37,37,37	0
56	MG	YA	3224	1/1	0.90	0.22	22,22,22,22	0
56	MG	RA	3167	1/1	0.90	0.15	54,54,54,54	0
56	MG	RA	3066	1/1	0.90	0.18	31,31,31,31	0
56	MG	XA	1749	1/1	0.90	0.20	39,39,39,39	0
56	MG	R5	102	1/1	0.90	0.18	53,53,53,53	0
56	MG	YA	3239	1/1	0.90	0.24	40,40,40,40	0
56	MG	QA	1746	1/1	0.90	0.22	56,56,56,56	0
56	MG	XA	1676	1/1	0.90	0.06	32,32,32,32	0
56	MG	YA	3101	1/1	0.90	0.29	25,25,25,25	0
56	MG	YO	201	1/1	0.90	0.14	49,49,49,49	0
56	MG	YA	3103	1/1	0.90	0.22	17,17,17,17	0
56	MG	RA	3116	1/1	0.90	0.24	18,18,18,18	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3255	1/1	0.90	0.32	33,33,33,33	0
56	MG	YA	3111	1/1	0.90	0.30	53,53,53,53	0
56	MG	YA	3181	1/1	0.91	0.21	33,33,33,33	0
56	MG	YA	3405	1/1	0.91	0.32	47,47,47,47	0
56	MG	RA	3161	1/1	0.91	0.06	39,39,39,39	0
56	MG	YA	3407	1/1	0.91	0.15	4,4,4,4	0
56	MG	RA	3304	1/1	0.91	0.17	37,37,37,37	0
56	MG	YA	3409	1/1	0.91	0.24	10,10,10,10	0
56	MG	RA	3305	1/1	0.91	0.29	42,42,42,42	0
56	MG	RA	3110	1/1	0.91	0.32	8,8,8,8	0
56	MG	YA	3078	1/1	0.91	0.19	9,9,9,9	0
56	MG	YA	3308	1/1	0.91	0.24	26,26,26,26	0
56	MG	QA	1727	1/1	0.91	0.19	43,43,43,43	0
56	MG	RA	3308	1/1	0.91	0.18	47,47,47,47	0
56	MG	RA	3426	1/1	0.91	0.29	65,65,65,65	0
56	MG	RA	3072	1/1	0.91	0.24	32,32,32,32	0
56	MG	RA	3029	1/1	0.91	0.17	16,16,16,16	0
56	MG	RA	3036	1/1	0.91	0.20	26,26,26,26	0
56	MG	QA	1643	1/1	0.91	0.17	35,35,35,35	0
56	MG	RA	3373	1/1	0.91	0.25	31,31,31,31	0
56	MG	QA	1748	1/1	0.91	0.14	47,47,47,47	0
56	MG	YA	3222	1/1	0.91	0.30	25,25,25,25	0
56	MG	YA	3324	1/1	0.91	0.23	75,75,75,75	0
56	MG	QA	1605	1/1	0.91	0.18	31,31,31,31	0
56	MG	QA	1676	1/1	0.91	0.16	31,31,31,31	0
56	MG	YA	3225	1/1	0.91	0.17	17,17,17,17	0
56	MG	YA	3330	1/1	0.91	0.08	31,31,31,31	0
56	MG	YA	3440	1/1	0.91	0.25	62,62,62,62	0
56	MG	QA	1635	1/1	0.91	0.29	38,38,38,38	0
56	MG	RA	3386	1/1	0.91	0.12	17,17,17,17	0
56	MG	RB	204	1/1	0.91	0.10	47,47,47,47	0
56	MG	XA	1673	1/1	0.91	0.11	44,44,44,44	0
56	MG	RA	3325	1/1	0.91	0.21	46,46,46,46	0
56	MG	QA	1718	1/1	0.91	0.27	47,47,47,47	0
56	MG	RA	3132	1/1	0.91	0.17	20,20,20,20	0
56	MG	QA	1617	1/1	0.91	0.09	33,33,33,33	0
56	MG	YA	3459	1/1	0.91	0.16	43,43,43,43	0
56	MG	QA	1610	1/1	0.91	0.10	60,60,60,60	0
56	MG	YA	3352	1/1	0.91	0.18	35,35,35,35	0
56	MG	XS	300	1/1	0.91	0.14	29,29,29,29	0
56	MG	YA	3465	1/1	0.91	0.06	41,41,41,41	0
56	MG	RA	3333	1/1	0.91	0.15	35,35,35,35	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3468	1/1	0.91	0.17	47,47,47,47	0
56	MG	YA	3361	1/1	0.91	0.31	68,68,68,68	0
56	MG	XA	1687	1/1	0.91	0.10	30,30,30,30	0
56	MG	RA	3397	1/1	0.91	0.19	49,49,49,49	0
56	MG	QA	1671	1/1	0.91	0.15	43,43,43,43	0
56	MG	QA	1631	1/1	0.91	0.19	33,33,33,33	0
56	MG	RA	3401	1/1	0.91	0.07	41,41,41,41	0
56	MG	RA	3402	1/1	0.91	0.21	57,57,57,57	0
56	MG	RA	3403	1/1	0.91	0.19	43,43,43,43	0
56	MG	RA	3197	1/1	0.91	0.09	30,30,30,30	0
56	MG	QA	1741	1/1	0.91	0.19	37,37,37,37	0
56	MG	RA	3103	1/1	0.91	0.31	43,43,43,43	0
56	MG	QA	1706	1/1	0.91	0.30	52,52,52,52	0
56	MG	QA	1660	1/1	0.91	0.19	14,14,14,14	0
56	MG	YB	204	1/1	0.91	0.08	49,49,49,49	0
56	MG	XA	1712	1/1	0.91	0.23	34,34,34,34	0
56	MG	YA	3049	1/1	0.91	0.30	12,12,12,12	0
56	MG	QA	1710	1/1	0.91	0.16	46,46,46,46	0
56	MG	YA	3172	1/1	0.91	0.21	53,53,53,53	0
56	MG	YA	3173	1/1	0.91	0.25	52,52,52,52	0
56	MG	XA	1714	1/1	0.91	0.24	55,55,55,55	0
56	MG	RA	3349	1/1	0.91	0.18	55,55,55,55	0
56	MG	RA	3415	1/1	0.91	0.14	53,53,53,53	0
56	MG	RA	3407	1/1	0.92	0.20	4,4,4,4	0
56	MG	RA	3091	1/1	0.92	0.10	27,27,27,27	0
56	MG	YA	3259	1/1	0.92	0.18	46,46,46,46	0
56	MG	QA	1624	1/1	0.92	0.12	31,31,31,31	0
56	MG	XA	1680	1/1	0.92	0.12	24,24,24,24	0
56	MG	RA	3411	1/1	0.92	0.27	29,29,29,29	0
56	MG	YA	3400	1/1	0.92	0.13	36,36,36,36	0
56	MG	RA	3241	1/1	0.92	0.23	27,27,27,27	0
56	MG	XA	1685	1/1	0.92	0.24	38,38,38,38	0
56	MG	RA	3209	1/1	0.92	0.26	19,19,19,19	0
56	MG	YA	3404	1/1	0.92	0.16	20,20,20,20	0
56	MG	RA	3323	1/1	0.92	0.12	38,38,38,38	0
56	MG	XV	103	1/1	0.92	0.23	47,47,47,47	0
56	MG	YA	3134	1/1	0.92	0.33	32,32,32,32	0
56	MG	RA	3142	1/1	0.92	0.18	24,24,24,24	0
56	MG	RA	3371	1/1	0.92	0.26	51,51,51,51	0
56	MG	XA	1617	1/1	0.92	0.20	49,49,49,49	0
56	MG	YA	3411	1/1	0.92	0.30	63,63,63,63	0
56	MG	XA	1694	1/1	0.92	0.16	38,38,38,38	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	RA	3282	1/1	0.92	0.11	42,42,42,42	0
56	MG	XA	1698	1/1	0.92	0.11	44,44,44,44	0
56	MG	RA	3065	1/1	0.92	0.26	10,10,10,10	0
56	MG	RA	3250	1/1	0.92	0.18	22,22,22,22	0
56	MG	YA	3156	1/1	0.92	0.26	15,15,15,15	0
56	MG	QA	1711	1/1	0.92	0.24	53,53,53,53	0
56	MG	YA	3424	1/1	0.92	0.24	46,46,46,46	0
56	MG	YA	3292	1/1	0.92	0.25	35,35,35,35	0
56	MG	YA	3158	1/1	0.92	0.21	40,40,40,40	0
56	MG	YA	3296	1/1	0.92	0.14	51,51,51,51	0
56	MG	RA	3118	1/1	0.92	0.22	31,31,31,31	0
56	MG	RA	3181	1/1	0.92	0.08	40,40,40,40	0
56	MG	YA	3041	1/1	0.92	0.19	30,30,30,30	0
56	MG	RA	3334	1/1	0.92	0.21	40,40,40,40	0
56	MG	YA	3432	1/1	0.92	0.28	78,78,78,78	0
56	MG	RA	3432	1/1	0.92	0.23	91,91,91,91	0
56	MG	YA	3175	1/1	0.92	0.11	30,30,30,30	0
56	MG	XA	1711	1/1	0.92	0.24	39,39,39,39	0
56	MG	RA	3294	1/1	0.92	0.07	10,10,10,10	0
56	MG	RA	3255	1/1	0.92	0.18	38,38,38,38	0
56	MG	RA	3047	1/1	0.92	0.15	25,25,25,25	0
56	MG	YA	3442	1/1	0.92	0.16	42,42,42,42	0
56	MG	QA	1649	1/1	0.92	0.18	31,31,31,31	0
56	MG	RA	3186	1/1	0.92	0.26	45,45,45,45	0
56	MG	QA	1645	1/1	0.92	0.13	41,41,41,41	0
56	MG	YA	3060	1/1	0.92	0.23	3,3,3,3	0
56	MG	YA	3193	1/1	0.92	0.19	18,18,18,18	0
56	MG	YA	3066	1/1	0.92	0.07	27,27,27,27	0
56	MG	XA	1726	1/1	0.92	0.40	59,59,59,59	0
56	MG	RA	3398	1/1	0.92	0.14	45,45,45,45	0
56	MG	YA	3070	1/1	0.92	0.24	3,3,3,3	0
56	MG	QA	1602	1/1	0.92	0.26	35,35,35,35	0
56	MG	XA	1646	1/1	0.92	0.31	64,64,64,64	0
56	MG	RA	3053	1/1	0.92	0.25	21,21,21,21	0
56	MG	YA	3212	1/1	0.92	0.10	32,32,32,32	0
56	MG	XA	1732	1/1	0.92	0.11	32,32,32,32	0
56	MG	RA	3348	1/1	0.92	0.24	45,45,45,45	0
56	MG	YA	3470	1/1	0.92	0.11	35,35,35,35	0
56	MG	YA	3217	1/1	0.92	0.15	23,23,23,23	0
56	MG	YA	3343	1/1	0.92	0.20	64,64,64,64	0
56	MG	XA	1735	1/1	0.92	0.21	16,16,16,16	0
56	MG	RA	3054	1/1	0.92	0.16	11,11,11,11	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	QA	1641	1/1	0.92	0.20	32,32,32,32	0
56	MG	XA	1657	1/1	0.92	0.16	31,31,31,31	0
56	MG	YA	3092	1/1	0.92	0.54	52,52,52,52	0
56	MG	YA	3094	1/1	0.92	0.07	43,43,43,43	0
56	MG	QA	1686	1/1	0.92	0.41	72,72,72,72	0
56	MG	XA	1744	1/1	0.92	0.23	36,36,36,36	0
56	MG	XA	1659	1/1	0.92	0.31	27,27,27,27	0
56	MG	XA	1662	1/1	0.92	0.21	44,44,44,44	0
56	MG	QA	1709	1/1	0.92	0.21	36,36,36,36	0
56	MG	YB	206	1/1	0.92	0.05	48,48,48,48	0
56	MG	XA	1669	1/1	0.92	0.19	29,29,29,29	0
56	MG	YA	3247	1/1	0.92	0.22	41,41,41,41	0
56	MG	R0	103	1/1	0.92	0.14	19,19,19,19	0
56	MG	YN	201	1/1	0.92	0.09	34,34,34,34	0
56	MG	YA	3105	1/1	0.92	0.19	50,50,50,50	0
56	MG	YA	3251	1/1	0.92	0.17	54,54,54,54	0
56	MG	YQ	202	1/1	0.92	0.04	27,27,27,27	0
56	MG	YV	201	1/1	0.92	0.17	22,22,22,22	0
56	MG	YA	3106	1/1	0.92	0.21	15,15,15,15	0
56	MG	YA	3253	1/1	0.92	0.20	19,19,19,19	0
56	MG	RA	3275	1/1	0.92	0.32	48,48,48,48	0
56	MG	Y7	101	1/1	0.92	0.18	45,45,45,45	0
56	MG	RA	3332	1/1	0.93	0.25	40,40,40,40	0
56	MG	YA	3362	1/1	0.93	0.27	66,66,66,66	0
56	MG	YA	3046	1/1	0.93	0.17	14,14,14,14	0
56	MG	YA	3199	1/1	0.93	0.29	45,45,45,45	0
56	MG	YA	3201	1/1	0.93	0.21	20,20,20,20	0
56	MG	XA	1601	1/1	0.93	0.18	8,8,8,8	0
56	MG	XA	1697	1/1	0.93	0.14	42,42,42,42	0
56	MG	YA	3377	1/1	0.93	0.14	47,47,47,47	0
56	MG	QA	1679	1/1	0.93	0.10	34,34,34,34	0
56	MG	RA	3146	1/1	0.93	0.07	26,26,26,26	0
56	MG	YA	3381	1/1	0.93	0.08	48,48,48,48	0
56	MG	YA	3382	1/1	0.93	0.20	37,37,37,37	0
56	MG	QA	1613	1/1	0.93	0.14	51,51,51,51	0
56	MG	RA	3094	1/1	0.93	0.37	35,35,35,35	0
56	MG	RA	3188	1/1	0.93	0.18	51,51,51,51	0
56	MG	YA	3388	1/1	0.93	0.11	28,28,28,28	0
56	MG	XA	1703	1/1	0.93	0.20	46,46,46,46	0
56	MG	RA	3067	1/1	0.93	0.14	28,28,28,28	0
56	MG	RA	3018	1/1	0.93	0.27	10,10,10,10	0
56	MG	RA	3152	1/1	0.93	0.29	19,19,19,19	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3393	1/1	0.93	0.16	21,21,21,21	0
56	MG	RA	3153	1/1	0.93	0.17	25,25,25,25	0
56	MG	RA	3123	1/1	0.93	0.25	31,31,31,31	0
56	MG	QA	1698	1/1	0.93	0.14	41,41,41,41	0
56	MG	YA	3077	1/1	0.93	0.19	16,16,16,16	0
56	MG	YA	3399	1/1	0.93	0.11	57,57,57,57	0
56	MG	RA	3158	1/1	0.93	0.27	61,61,61,61	0
56	MG	QA	1670	1/1	0.93	0.30	48,48,48,48	0
56	MG	YA	3081	1/1	0.93	0.21	7,7,7,7	0
56	MG	YA	3241	1/1	0.93	0.13	33,33,33,33	0
56	MG	RA	3302	1/1	0.93	0.10	46,46,46,46	0
56	MG	XA	1721	1/1	0.93	0.09	52,52,52,52	0
56	MG	RA	3162	1/1	0.93	0.20	49,49,49,49	0
56	MG	RA	3164	1/1	0.93	0.13	51,51,51,51	0
56	MG	RA	3028	1/1	0.93	0.20	10,10,10,10	0
56	MG	XA	1633	1/1	0.93	0.12	25,25,25,25	0
56	MG	RA	3003	1/1	0.93	0.15	8,8,8,8	0
56	MG	QA	1701	1/1	0.93	0.05	42,42,42,42	0
56	MG	RA	3059	1/1	0.93	0.17	24,24,24,24	0
56	MG	RA	3425	1/1	0.93	0.07	38,38,38,38	0
56	MG	XA	1640	1/1	0.93	0.14	29,29,29,29	0
56	MG	YA	3417	1/1	0.93	0.25	22,22,22,22	0
56	MG	YA	3418	1/1	0.93	0.13	16,16,16,16	0
56	MG	XA	1736	1/1	0.93	0.14	23,23,23,23	0
56	MG	RA	3363	1/1	0.93	0.32	34,34,34,34	0
56	MG	QA	1736	1/1	0.93	0.18	33,33,33,33	0
56	MG	XA	1741	1/1	0.93	0.06	55,55,55,55	0
56	MG	XA	1644	1/1	0.93	0.20	25,25,25,25	0
56	MG	RA	3429	1/1	0.93	0.17	50,50,50,50	0
56	MG	YA	3107	1/1	0.93	0.20	14,14,14,14	0
56	MG	QA	1634	1/1	0.93	0.21	41,41,41,41	0
56	MG	RA	3368	1/1	0.93	0.23	46,46,46,46	0
56	MG	RA	3433	1/1	0.93	0.17	39,39,39,39	0
56	MG	XA	1653	1/1	0.93	0.12	35,35,35,35	0
56	MG	YA	3118	1/1	0.93	0.10	27,27,27,27	0
56	MG	RA	3313	1/1	0.93	0.20	20,20,20,20	0
56	MG	RA	3372	1/1	0.93	0.12	7,7,7,7	0
56	MG	YA	3435	1/1	0.93	0.06	22,22,22,22	0
56	MG	XA	1751	1/1	0.93	0.12	70,70,70,70	0
56	MG	RA	3265	1/1	0.93	0.18	29,29,29,29	0
56	MG	RA	3437	1/1	0.93	0.14	24,24,24,24	0
56	MG	YA	3439	1/1	0.93	0.12	43,43,43,43	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	RA	3317	1/1	0.93	0.12	40,40,40,40	0
56	MG	XA	1756	1/1	0.93	0.23	61,61,61,61	0
56	MG	YA	3133	1/1	0.93	0.12	25,25,25,25	0
56	MG	RA	3378	1/1	0.93	0.25	2,2,2,2	0
56	MG	XA	1664	1/1	0.93	0.31	30,30,30,30	0
56	MG	YA	3295	1/1	0.93	0.23	52,52,52,52	0
56	MG	YA	3141	1/1	0.93	0.20	24,24,24,24	0
56	MG	RA	3219	1/1	0.93	0.14	9,9,9,9	0
56	MG	YA	3302	1/1	0.93	0.19	51,51,51,51	0
56	MG	YA	3457	1/1	0.93	0.22	49,49,49,49	0
56	MG	RB	201	1/1	0.93	0.24	28,28,28,28	0
56	MG	RA	3269	1/1	0.93	0.14	33,33,33,33	0
56	MG	RA	3109	1/1	0.93	0.26	18,18,18,18	0
56	MG	RA	3321	1/1	0.93	0.15	33,33,33,33	0
56	MG	RA	3272	1/1	0.93	0.14	46,46,46,46	0
56	MG	YA	3154	1/1	0.93	0.15	16,16,16,16	0
56	MG	YA	3466	1/1	0.93	0.24	49,49,49,49	0
56	MG	RP	202	1/1	0.93	0.08	18,18,18,18	0
56	MG	YA	3003	1/1	0.93	0.26	4,4,4,4	0
56	MG	YA	3314	1/1	0.93	0.04	47,47,47,47	0
56	MG	RP	203	1/1	0.93	0.09	4,4,4,4	0
56	MG	RA	3222	1/1	0.93	0.27	45,45,45,45	0
56	MG	RA	3135	1/1	0.93	0.12	32,32,32,32	0
56	MG	YA	3475	1/1	0.93	0.12	49,49,49,49	0
56	MG	YA	3161	1/1	0.93	0.14	39,39,39,39	0
56	MG	RA	3226	1/1	0.93	0.16	33,33,33,33	0
56	MG	RA	3328	1/1	0.93	0.27	42,42,42,42	0
56	MG	YA	3165	1/1	0.93	0.21	34,34,34,34	0
56	MG	YA	3166	1/1	0.93	0.21	24,24,24,24	0
56	MG	YA	3169	1/1	0.93	0.13	20,20,20,20	0
56	MG	R0	101	1/1	0.93	0.27	44,44,44,44	0
56	MG	YA	3020	1/1	0.93	0.16	18,18,18,18	0
56	MG	XA	1688	1/1	0.93	0.07	41,41,41,41	0
56	MG	YA	3025	1/1	0.93	0.26	16,16,16,16	0
56	MG	RA	3137	1/1	0.93	0.15	48,48,48,48	0
56	MG	YA	3029	1/1	0.93	0.09	15,15,15,15	0
56	MG	YA	3339	1/1	0.93	0.27	62,62,62,62	0
56	MG	YA	3030	1/1	0.93	0.23	3,3,3,3	0
56	MG	XA	1690	1/1	0.93	0.13	65,65,65,65	0
56	MG	YA	3183	1/1	0.93	0.18	49,49,49,49	0
56	MG	YA	3035	1/1	0.93	0.12	29,29,29,29	0
56	MG	YA	3036	1/1	0.93	0.24	10,10,10,10	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3038	1/1	0.93	0.30	45,45,45,45	0
56	MG	YA	3192	1/1	0.93	0.30	23,23,23,23	0
56	MG	YW	201	1/1	0.93	0.10	52,52,52,52	0
56	MG	YA	3354	1/1	0.93	0.15	50,50,50,50	0
56	MG	Y0	102	1/1	0.93	0.05	37,37,37,37	0
56	MG	RA	3140	1/1	0.93	0.14	34,34,34,34	0
56	MG	QA	1685	1/1	0.93	0.09	11,11,11,11	0
56	MG	YA	3359	1/1	0.93	0.03	42,42,42,42	0
56	MG	RA	3155	1/1	0.94	0.16	12,12,12,12	0
56	MG	YA	3136	1/1	0.94	0.17	22,22,22,22	0
56	MG	YA	3027	1/1	0.94	0.18	14,14,14,14	0
56	MG	YA	3269	1/1	0.94	0.17	30,30,30,30	0
56	MG	QA	1655	1/1	0.94	0.24	31,31,31,31	0
56	MG	XA	1718	1/1	0.94	0.10	31,31,31,31	0
56	MG	QA	1615	1/1	0.94	0.10	29,29,29,29	0
56	MG	YA	3032	1/1	0.94	0.17	16,16,16,16	0
56	MG	YA	3150	1/1	0.94	0.14	9,9,9,9	0
56	MG	YA	3034	1/1	0.94	0.14	21,21,21,21	0
56	MG	XA	1720	1/1	0.94	0.07	44,44,44,44	0
56	MG	RA	3015	1/1	0.94	0.15	9,9,9,9	0
56	MG	YA	3037	1/1	0.94	0.13	10,10,10,10	0
56	MG	XA	1723	1/1	0.94	0.19	58,58,58,58	0
56	MG	XA	1724	1/1	0.94	0.20	33,33,33,33	0
56	MG	RA	3160	1/1	0.94	0.21	31,31,31,31	0
56	MG	RA	3248	1/1	0.94	0.19	38,38,38,38	0
56	MG	QA	1707	1/1	0.94	0.26	57,57,57,57	0
56	MG	RT	201	1/1	0.94	0.13	44,44,44,44	0
56	MG	YA	3293	1/1	0.94	0.40	68,68,68,68	0
56	MG	QA	1666	1/1	0.94	0.10	23,23,23,23	0
56	MG	QA	1700	1/1	0.94	0.26	31,31,31,31	0
56	MG	RA	3130	1/1	0.94	0.19	12,12,12,12	0
56	MG	YA	3297	1/1	0.94	0.28	35,35,35,35	0
56	MG	YA	3298	1/1	0.94	0.20	21,21,21,21	0
56	MG	QV	104	1/1	0.94	0.16	58,58,58,58	0
56	MG	XA	1667	1/1	0.94	0.22	30,30,30,30	0
56	MG	YA	3171	1/1	0.94	0.11	26,26,26,26	0
56	MG	YA	3055	1/1	0.94	0.18	12,12,12,12	0
56	MG	RA	3212	1/1	0.94	0.21	18,18,18,18	0
56	MG	RA	3023	1/1	0.94	0.11	47,47,47,47	0
56	MG	R5	103	1/1	0.94	0.07	25,25,25,25	0
56	MG	YA	3061	1/1	0.94	0.23	0,0,0,0	0
56	MG	XA	1739	1/1	0.94	0.20	51,51,51,51	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	RA	3074	1/1	0.94	0.15	27,27,27,27	0
56	MG	RA	3356	1/1	0.94	0.09	39,39,39,39	0
56	MG	QA	1639	1/1	0.94	0.31	48,48,48,48	0
56	MG	YA	3316	1/1	0.94	0.09	30,30,30,30	0
56	MG	XA	1679	1/1	0.94	0.08	37,37,37,37	0
56	MG	RA	3260	1/1	0.94	0.17	22,22,22,22	0
56	MG	XA	1746	1/1	0.94	0.12	47,47,47,47	0
56	MG	RA	3107	1/1	0.94	0.17	20,20,20,20	0
56	MG	RA	3217	1/1	0.94	0.09	27,27,27,27	0
56	MG	XA	1684	1/1	0.94	0.08	33,33,33,33	0
56	MG	RA	3361	1/1	0.94	0.17	52,52,52,52	0
56	MG	XA	1613	1/1	0.94	0.08	22,22,22,22	0
56	MG	YA	3085	1/1	0.94	0.16	17,17,17,17	0
56	MG	YA	3200	1/1	0.94	0.08	1,1,1,1	0
56	MG	RA	3080	1/1	0.94	0.23	17,17,17,17	0
56	MG	YA	3089	1/1	0.94	0.21	7,7,7,7	0
56	MG	YA	3453	1/1	0.94	0.07	35,35,35,35	0
56	MG	YA	3456	1/1	0.94	0.09	28,28,28,28	0
56	MG	RA	3364	1/1	0.94	0.21	39,39,39,39	0
56	MG	QA	1744	1/1	0.94	0.05	56,56,56,56	0
56	MG	QA	1611	1/1	0.94	0.18	28,28,28,28	0
56	MG	YA	3460	1/1	0.94	0.28	35,35,35,35	0
56	MG	YA	3340	1/1	0.94	0.36	29,29,29,29	0
56	MG	RA	3221	1/1	0.94	0.21	22,22,22,22	0
56	MG	RA	3085	1/1	0.94	0.13	13,13,13,13	0
56	MG	RA	3223	1/1	0.94	0.16	26,26,26,26	0
56	MG	XA	1761	1/1	0.94	0.14	23,23,23,23	0
56	MG	XA	1695	1/1	0.94	0.24	52,52,52,52	0
56	MG	QA	1653	1/1	0.94	0.17	20,20,20,20	0
56	MG	YA	3351	1/1	0.94	0.17	42,42,42,42	0
56	MG	RA	3115	1/1	0.94	0.23	46,46,46,46	0
56	MG	YA	3353	1/1	0.94	0.20	8,8,8,8	0
56	MG	YA	3102	1/1	0.94	0.19	22,22,22,22	0
56	MG	RA	3062	1/1	0.94	0.25	5,5,5,5	0
56	MG	RA	3183	1/1	0.94	0.16	21,21,21,21	0
56	MG	RA	3117	1/1	0.94	0.17	28,28,28,28	0
56	MG	RA	3327	1/1	0.94	0.21	46,46,46,46	0
56	MG	YA	3108	1/1	0.94	0.14	33,33,33,33	0
56	MG	YA	3364	1/1	0.94	0.38	50,50,50,50	0
56	MG	YA	3365	1/1	0.94	0.14	22,22,22,22	0
56	MG	YA	3235	1/1	0.94	0.24	27,27,27,27	0
56	MG	RA	3185	1/1	0.94	0.24	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3240	1/1	0.94	0.20	17,17,17,17	0
56	MG	YA	3110	1/1	0.94	0.15	29,29,29,29	0
56	MG	QA	1704	1/1	0.94	0.19	31,31,31,31	0
56	MG	RA	3120	1/1	0.94	0.25	40,40,40,40	0
56	MG	YE	301	1/1	0.94	0.09	4,4,4,4	0
56	MG	YA	3010	1/1	0.94	0.20	4,4,4,4	0
56	MG	YA	3248	1/1	0.94	0.09	30,30,30,30	0
56	MG	YA	3011	1/1	0.94	0.19	0,0,0,0	0
56	MG	RA	3235	1/1	0.94	0.11	28,28,28,28	0
56	MG	XA	1707	1/1	0.94	0.28	35,35,35,35	0
56	MG	YA	3124	1/1	0.94	0.18	8,8,8,8	0
56	MG	YA	3385	1/1	0.94	0.22	46,46,46,46	0
56	MG	YA	3014	1/1	0.94	0.20	18,18,18,18	0
56	MG	RA	3441	1/1	0.94	0.17	14,14,14,14	0
56	MG	YA	3019	1/1	0.94	0.18	14,14,14,14	0
56	MG	RA	3283	1/1	0.94	0.13	18,18,18,18	0
56	MG	Y0	103	1/1	0.94	0.19	27,27,27,27	0
56	MG	YA	3131	1/1	0.94	0.16	11,11,11,11	0
56	MG	RA	3285	1/1	0.94	0.12	28,28,28,28	0
56	MG	RA	3064	1/1	0.94	0.16	18,18,18,18	0
56	MG	RA	3025	1/1	0.95	0.10	12,12,12,12	0
56	MG	RA	3026	1/1	0.95	0.21	24,24,24,24	0
56	MG	YA	3273	1/1	0.95	0.08	24,24,24,24	0
56	MG	XA	1647	1/1	0.95	0.05	47,47,47,47	0
56	MG	QA	1652	1/1	0.95	0.13	23,23,23,23	0
56	MG	XA	1651	1/1	0.95	0.16	25,25,25,25	0
56	MG	XA	1728	1/1	0.95	0.19	52,52,52,52	0
56	MG	RA	3370	1/1	0.95	0.37	43,43,43,43	0
56	MG	RA	3126	1/1	0.95	0.14	31,31,31,31	0
56	MG	QA	1658	1/1	0.95	0.34	46,46,46,46	0
56	MG	XA	1655	1/1	0.95	0.18	39,39,39,39	0
56	MG	RA	3033	1/1	0.95	0.21	8,8,8,8	0
56	MG	RA	3263	1/1	0.95	0.35	31,31,31,31	0
56	MG	QA	1690	1/1	0.95	0.09	27,27,27,27	0
56	MG	QA	1612	1/1	0.95	0.15	25,25,25,25	0
56	MG	XA	1660	1/1	0.95	0.08	37,37,37,37	0
56	MG	YA	3065	1/1	0.95	0.10	29,29,29,29	0
56	MG	RA	3266	1/1	0.95	0.19	31,31,31,31	0
56	MG	XA	1740	1/1	0.95	0.23	44,44,44,44	0
56	MG	XA	1663	1/1	0.95	0.15	30,30,30,30	0
56	MG	YA	3069	1/1	0.95	0.09	14,14,14,14	0
56	MG	RE	301	1/1	0.95	0.17	1,1,1,1	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3419	1/1	0.95	0.13	2,2,2,2	0
56	MG	YA	3299	1/1	0.95	0.15	23,23,23,23	0
56	MG	YA	3071	1/1	0.95	0.16	17,17,17,17	0
56	MG	YA	3301	1/1	0.95	0.17	34,34,34,34	0
56	MG	RA	3267	1/1	0.95	0.16	28,28,28,28	0
56	MG	RA	3322	1/1	0.95	0.07	15,15,15,15	0
56	MG	RA	3040	1/1	0.95	0.20	4,4,4,4	0
56	MG	YA	3185	1/1	0.95	0.12	35,35,35,35	0
56	MG	RA	3173	1/1	0.95	0.25	5,5,5,5	0
56	MG	QA	1714	1/1	0.95	0.08	25,25,25,25	0
56	MG	RA	3271	1/1	0.95	0.04	23,23,23,23	0
56	MG	RV	201	1/1	0.95	0.15	4,4,4,4	0
56	MG	QA	1749	1/1	0.95	0.09	41,41,41,41	0
56	MG	XA	1678	1/1	0.95	0.10	41,41,41,41	0
56	MG	XA	1752	1/1	0.95	0.12	44,44,44,44	0
56	MG	YA	3197	1/1	0.95	0.23	22,22,22,22	0
56	MG	RA	3395	1/1	0.95	0.18	27,27,27,27	0
56	MG	RA	3045	1/1	0.95	0.23	4,4,4,4	0
56	MG	QA	1682	1/1	0.95	0.29	51,51,51,51	0
56	MG	XA	1682	1/1	0.95	0.09	26,26,26,26	0
56	MG	YA	3205	1/1	0.95	0.27	43,43,43,43	0
56	MG	RA	3016	1/1	0.95	0.17	6,6,6,6	0
56	MG	QA	1601	1/1	0.95	0.17	17,17,17,17	0
56	MG	QA	1740	1/1	0.95	0.36	49,49,49,49	0
56	MG	RA	3019	1/1	0.95	0.16	17,17,17,17	0
56	MG	RA	3143	1/1	0.95	0.10	58,58,58,58	0
56	MG	XA	1604	1/1	0.95	0.19	9,9,9,9	0
56	MG	RA	3076	1/1	0.95	0.21	15,15,15,15	0
56	MG	YA	3449	1/1	0.95	0.17	36,36,36,36	0
56	MG	YA	3450	1/1	0.95	0.09	43,43,43,43	0
56	MG	YA	3218	1/1	0.95	0.12	36,36,36,36	0
56	MG	YA	3452	1/1	0.95	0.12	47,47,47,47	0
56	MG	RA	3336	1/1	0.95	0.14	48,48,48,48	0
56	MG	YA	3336	1/1	0.95	0.21	17,17,17,17	0
56	MG	YA	3221	1/1	0.95	0.17	16,16,16,16	0
56	MG	RA	3338	1/1	0.95	0.39	67,67,67,67	0
56	MG	RA	3078	1/1	0.95	0.18	14,14,14,14	0
56	MG	RA	3234	1/1	0.95	0.06	23,23,23,23	0
56	MG	RA	3079	1/1	0.95	0.20	10,10,10,10	0
56	MG	YA	3226	1/1	0.95	0.15	19,19,19,19	0
56	MG	RA	3286	1/1	0.95	0.15	20,20,20,20	0
56	MG	YA	3228	1/1	0.95	0.11	25,25,25,25	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3350	1/1	0.95	0.06	22,22,22,22	0
56	MG	RA	3112	1/1	0.95	0.13	22,22,22,22	0
56	MG	QA	1684	1/1	0.95	0.17	32,32,32,32	0
56	MG	RA	3346	1/1	0.95	0.14	37,37,37,37	0
56	MG	RA	3238	1/1	0.95	0.06	11,11,11,11	0
56	MG	YA	3236	1/1	0.95	0.25	14,14,14,14	0
56	MG	YA	3356	1/1	0.95	0.17	30,30,30,30	0
56	MG	YA	3237	1/1	0.95	0.19	37,37,37,37	0
56	MG	RA	3081	1/1	0.95	0.19	4,4,4,4	0
56	MG	YA	3360	1/1	0.95	0.12	44,44,44,44	0
56	MG	RA	3240	1/1	0.95	0.21	26,26,26,26	0
56	MG	RA	3195	1/1	0.95	0.26	29,29,29,29	0
56	MG	RA	3295	1/1	0.95	0.27	46,46,46,46	0
56	MG	YA	3243	1/1	0.95	0.19	38,38,38,38	0
56	MG	RA	3082	1/1	0.95	0.24	0,0,0,0	0
56	MG	YA	3246	1/1	0.95	0.22	29,29,29,29	0
56	MG	YA	3486	1/1	0.95	0.05	19,19,19,19	0
56	MG	YA	3487	1/1	0.95	0.18	18,18,18,18	0
56	MG	YA	3021	1/1	0.95	0.19	17,17,17,17	0
56	MG	RA	3154	1/1	0.95	0.22	41,41,41,41	0
56	MG	QA	1616	1/1	0.95	0.10	29,29,29,29	0
56	MG	RA	3056	1/1	0.95	0.16	14,14,14,14	0
56	MG	RA	3301	1/1	0.95	0.07	41,41,41,41	0
56	MG	RA	3119	1/1	0.95	0.11	8,8,8,8	0
56	MG	YA	3380	1/1	0.95	0.09	31,31,31,31	0
56	MG	RA	3205	1/1	0.95	0.11	19,19,19,19	0
56	MG	YA	3254	1/1	0.95	0.16	26,26,26,26	0
56	MG	XA	1639	1/1	0.95	0.23	48,48,48,48	0
56	MG	XA	1716	1/1	0.95	0.24	25,25,25,25	0
56	MG	YA	3033	1/1	0.95	0.14	10,10,10,10	0
56	MG	XA	1717	1/1	0.95	0.22	46,46,46,46	0
56	MG	QA	1664	1/1	0.95	0.17	17,17,17,17	0
56	MG	RA	3362	1/1	0.95	0.16	52,52,52,52	0
56	MG	Y0	101	1/1	0.95	0.10	18,18,18,18	0
56	MG	YA	3147	1/1	0.95	0.25	1,1,1,1	0
56	MG	RA	3087	1/1	0.95	0.16	20,20,20,20	0
56	MG	Y1	101	1/1	0.95	0.24	24,24,24,24	0
56	MG	RA	3210	1/1	0.95	0.20	50,50,50,50	0
56	MG	YA	3039	1/1	0.95	0.16	14,14,14,14	0
56	MG	YA	3394	1/1	0.95	0.16	64,64,64,64	0
57	ZN	XD	301	1/1	0.95	0.28	48,48,48,48	0
56	MG	RA	3136	1/1	0.96	0.33	28,28,28,28	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3167	1/1	0.96	0.22	30,30,30,30	0
56	MG	YA	3168	1/1	0.96	0.20	19,19,19,19	0
56	MG	XA	1638	1/1	0.96	0.23	34,34,34,34	0
56	MG	QA	1642	1/1	0.96	0.13	39,39,39,39	0
56	MG	YA	3281	1/1	0.96	0.10	27,27,27,27	0
56	MG	RP	201	1/1	0.96	0.06	21,21,21,21	0
56	MG	XA	1760	1/1	0.96	0.21	47,47,47,47	0
56	MG	YA	3284	1/1	0.96	0.11	14,14,14,14	0
56	MG	RA	3224	1/1	0.96	0.14	19,19,19,19	0
56	MG	YA	3286	1/1	0.96	0.12	20,20,20,20	0
56	MG	YA	3176	1/1	0.96	0.18	17,17,17,17	0
56	MG	YA	3177	1/1	0.96	0.20	35,35,35,35	0
56	MG	XA	1642	1/1	0.96	0.09	39,39,39,39	0
56	MG	YA	3080	1/1	0.96	0.31	15,15,15,15	0
56	MG	RA	3138	1/1	0.96	0.11	10,10,10,10	0
56	MG	RA	3077	1/1	0.96	0.13	16,16,16,16	0
56	MG	YA	3414	1/1	0.96	0.23	29,29,29,29	0
56	MG	XA	1704	1/1	0.96	0.18	46,46,46,46	0
56	MG	XV	102	1/1	0.96	0.08	34,34,34,34	0
56	MG	RA	3097	1/1	0.96	0.36	48,48,48,48	0
56	MG	RA	3409	1/1	0.96	0.25	69,69,69,69	0
56	MG	YA	3002	1/1	0.96	0.15	0,0,0,0	0
56	MG	RA	3228	1/1	0.96	0.19	18,18,18,18	0
56	MG	YA	3189	1/1	0.96	0.10	12,12,12,12	0
56	MG	YA	3191	1/1	0.96	0.25	9,9,9,9	0
56	MG	XA	1708	1/1	0.96	0.20	32,32,32,32	0
56	MG	RA	3296	1/1	0.96	0.10	29,29,29,29	0
56	MG	YA	3093	1/1	0.96	0.19	17,17,17,17	0
56	MG	RA	3199	1/1	0.96	0.20	39,39,39,39	0
56	MG	YA	3009	1/1	0.96	0.17	7,7,7,7	0
56	MG	RA	3369	1/1	0.96	0.35	38,38,38,38	0
56	MG	R0	102	1/1	0.96	0.28	39,39,39,39	0
56	MG	RA	3414	1/1	0.96	0.30	54,54,54,54	0
56	MG	QA	1691	1/1	0.96	0.18	20,20,20,20	0
56	MG	RA	3008	1/1	0.96	0.31	23,23,23,23	0
56	MG	R5	101	1/1	0.96	0.14	14,14,14,14	0
56	MG	RA	3203	1/1	0.96	0.21	26,26,26,26	0
56	MG	YA	3209	1/1	0.96	0.18	9,9,9,9	0
56	MG	YA	3104	1/1	0.96	0.20	47,47,47,47	0
56	MG	RA	3418	1/1	0.96	0.11	28,28,28,28	0
56	MG	QA	1620	1/1	0.96	0.11	13,13,13,13	0
56	MG	XA	1661	1/1	0.96	0.19	23,23,23,23	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3325	1/1	0.96	0.18	14,14,14,14	0
56	MG	RA	3337	1/1	0.96	0.06	41,41,41,41	0
56	MG	YA	3327	1/1	0.96	0.27	54,54,54,54	0
56	MG	YA	3444	1/1	0.96	0.18	5,5,5,5	0
56	MG	YA	3216	1/1	0.96	0.13	13,13,13,13	0
56	MG	RA	3377	1/1	0.96	0.29	24,24,24,24	0
56	MG	QL	201	1/1	0.96	0.05	38,38,38,38	0
56	MG	YA	3028	1/1	0.96	0.13	18,18,18,18	0
56	MG	YA	3112	1/1	0.96	0.12	14,14,14,14	0
56	MG	YA	3113	1/1	0.96	0.18	25,25,25,25	0
56	MG	QA	1621	1/1	0.96	0.10	29,29,29,29	0
56	MG	YA	3115	1/1	0.96	0.20	40,40,40,40	0
56	MG	XA	1666	1/1	0.96	0.34	39,39,39,39	0
56	MG	RA	3208	1/1	0.96	0.23	35,35,35,35	0
56	MG	YA	3120	1/1	0.96	0.25	33,33,33,33	0
56	MG	QV	102	1/1	0.96	0.13	28,28,28,28	0
56	MG	YA	3230	1/1	0.96	0.19	38,38,38,38	0
56	MG	XA	1670	1/1	0.96	0.22	36,36,36,36	0
56	MG	YA	3345	1/1	0.96	0.22	38,38,38,38	0
56	MG	YA	3232	1/1	0.96	0.15	38,38,38,38	0
56	MG	RA	3428	1/1	0.96	0.10	33,33,33,33	0
56	MG	RA	3383	1/1	0.96	0.25	44,44,44,44	0
56	MG	XA	1674	1/1	0.96	0.18	32,32,32,32	0
56	MG	XA	1734	1/1	0.96	0.10	27,27,27,27	0
56	MG	XA	1614	1/1	0.96	0.13	19,19,19,19	0
56	MG	RA	3031	1/1	0.96	0.24	6,6,6,6	0
56	MG	XA	1616	1/1	0.96	0.15	25,25,25,25	0
56	MG	RA	3387	1/1	0.96	0.23	16,16,16,16	0
56	MG	YA	3042	1/1	0.96	0.20	7,7,7,7	0
56	MG	YA	3358	1/1	0.96	0.22	27,27,27,27	0
56	MG	YA	3043	1/1	0.96	0.12	9,9,9,9	0
56	MG	YA	3138	1/1	0.96	0.05	18,18,18,18	0
56	MG	YA	3245	1/1	0.96	0.12	33,33,33,33	0
56	MG	YA	3044	1/1	0.96	0.20	12,12,12,12	0
56	MG	XA	1619	1/1	0.96	0.15	12,12,12,12	0
56	MG	YA	3142	1/1	0.96	0.26	14,14,14,14	0
56	MG	YA	3144	1/1	0.96	0.04	24,24,24,24	0
56	MG	YA	3367	1/1	0.96	0.12	30,30,30,30	0
56	MG	RA	3106	1/1	0.96	0.16	57,57,57,57	0
56	MG	QA	1640	1/1	0.96	0.25	53,53,53,53	0
56	MG	YA	3370	1/1	0.96	0.14	24,24,24,24	0
56	MG	XA	1623	1/1	0.96	0.12	20,20,20,20	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3148	1/1	0.96	0.14	32,32,32,32	0
56	MG	YA	3373	1/1	0.96	0.08	35,35,35,35	0
56	MG	RA	3035	1/1	0.96	0.07	17,17,17,17	0
56	MG	RA	3071	1/1	0.96	0.22	9,9,9,9	0
56	MG	RA	3246	1/1	0.96	0.11	25,25,25,25	0
56	MG	XA	1628	1/1	0.96	0.33	44,44,44,44	0
56	MG	RA	3090	1/1	0.96	0.15	4,4,4,4	0
56	MG	QA	1661	1/1	0.96	0.06	23,23,23,23	0
56	MG	QA	1604	1/1	0.96	0.15	17,17,17,17	0
56	MG	YA	3262	1/1	0.96	0.14	36,36,36,36	0
56	MG	RA	3159	1/1	0.96	0.21	5,5,5,5	0
56	MG	RA	3187	1/1	0.96	0.24	48,48,48,48	0
56	MG	YA	3387	1/1	0.96	0.05	27,27,27,27	0
56	MG	YA	3266	1/1	0.96	0.17	42,42,42,42	0
56	MG	YA	3063	1/1	0.96	0.11	20,20,20,20	0
56	MG	YA	3064	1/1	0.96	0.18	5,5,5,5	0
56	MG	XA	1692	1/1	0.96	0.09	36,36,36,36	0
56	MG	RA	3039	1/1	0.96	0.16	21,21,21,21	0
56	MG	YA	3272	1/1	0.96	0.17	26,26,26,26	0
56	MG	QA	1713	1/1	0.96	0.21	38,38,38,38	0
57	ZN	QN	101	1/1	0.96	0.05	76,76,76,76	0
56	MG	RA	3287	1/1	0.96	0.06	17,17,17,17	0
56	MG	RD	302	1/1	0.97	0.14	9,9,9,9	0
56	MG	RA	3315	1/1	0.97	0.14	30,30,30,30	0
56	MG	RA	3122	1/1	0.97	0.23	8,8,8,8	0
56	MG	QA	1644	1/1	0.97	0.16	23,23,23,23	0
56	MG	YA	3332	1/1	0.97	0.17	25,25,25,25	0
56	MG	QX	101	1/1	0.97	0.14	17,17,17,17	0
56	MG	YA	3100	1/1	0.97	0.18	3,3,3,3	0
56	MG	RA	3244	1/1	0.97	0.12	16,16,16,16	0
56	MG	RA	3177	1/1	0.97	0.18	16,16,16,16	0
56	MG	YA	3337	1/1	0.97	0.05	23,23,23,23	0
56	MG	YA	3338	1/1	0.97	0.27	15,15,15,15	0
56	MG	RA	3149	1/1	0.97	0.27	2,2,2,2	0
56	MG	RA	3179	1/1	0.97	0.22	30,30,30,30	0
56	MG	QA	1619	1/1	0.97	0.18	12,12,12,12	0
56	MG	YA	3257	1/1	0.97	0.27	36,36,36,36	0
56	MG	QA	1650	1/1	0.97	0.20	19,19,19,19	0
56	MG	YA	3434	1/1	0.97	0.08	42,42,42,42	0
56	MG	RA	3365	1/1	0.97	0.23	21,21,21,21	0
56	MG	RA	3021	1/1	0.97	0.16	4,4,4,4	0
56	MG	QA	1651	1/1	0.97	0.14	29,29,29,29	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	XA	1650	1/1	0.97	0.28	16,16,16,16	0
56	MG	YA	3349	1/1	0.97	0.18	24,24,24,24	0
56	MG	RA	3252	1/1	0.97	0.10	21,21,21,21	0
56	MG	YA	3264	1/1	0.97	0.20	16,16,16,16	0
56	MG	QA	1694	1/1	0.97	0.04	27,27,27,27	0
56	MG	RA	3044	1/1	0.97	0.16	1,1,1,1	0
56	MG	RA	3088	1/1	0.97	0.12	27,27,27,27	0
56	MG	RA	3024	1/1	0.97	0.23	7,7,7,7	0
56	MG	RA	3257	1/1	0.97	0.03	25,25,25,25	0
56	MG	YA	3117	1/1	0.97	0.17	14,14,14,14	0
56	MG	QA	1667	1/1	0.97	0.14	27,27,27,27	0
56	MG	YA	3052	1/1	0.97	0.19	1,1,1,1	0
56	MG	RA	3375	1/1	0.97	0.10	25,25,25,25	0
56	MG	YA	3122	1/1	0.97	0.36	14,14,14,14	0
56	MG	XA	1606	1/1	0.97	0.20	14,14,14,14	0
56	MG	YA	3198	1/1	0.97	0.19	17,17,17,17	0
56	MG	YA	3454	1/1	0.97	0.06	44,44,44,44	0
56	MG	RA	3190	1/1	0.97	0.18	19,19,19,19	0
56	MG	YA	3126	1/1	0.97	0.12	10,10,10,10	0
56	MG	YA	3058	1/1	0.97	0.07	34,34,34,34	0
56	MG	YA	3202	1/1	0.97	0.12	15,15,15,15	0
56	MG	RA	3424	1/1	0.97	0.06	26,26,26,26	0
56	MG	YA	3461	1/1	0.97	0.06	37,37,37,37	0
56	MG	XL	201	1/1	0.97	0.04	45,45,45,45	0
56	MG	QA	1633	1/1	0.97	0.15	23,23,23,23	0
56	MG	YA	3062	1/1	0.97	0.12	0,0,0,0	0
56	MG	XV	101	1/1	0.97	0.12	39,39,39,39	0
56	MG	YA	3374	1/1	0.97	0.12	28,28,28,28	0
56	MG	YA	3288	1/1	0.97	0.17	25,25,25,25	0
56	MG	XA	1610	1/1	0.97	0.14	15,15,15,15	0
56	MG	YA	3290	1/1	0.97	0.15	82,82,82,82	0
56	MG	RA	3027	1/1	0.97	0.16	2,2,2,2	0
56	MG	YA	3135	1/1	0.97	0.14	14,14,14,14	0
56	MG	QA	1629	1/1	0.97	0.20	26,26,26,26	0
56	MG	YA	3474	1/1	0.97	0.08	23,23,23,23	0
56	MG	RA	3381	1/1	0.97	0.23	0,0,0,0	0
56	MG	YA	3139	1/1	0.97	0.20	36,36,36,36	0
56	MG	YA	3477	1/1	0.97	0.20	38,38,38,38	0
56	MG	YA	3478	1/1	0.97	0.17	46,46,46,46	0
56	MG	QA	1730	1/1	0.97	0.10	58,58,58,58	0
56	MG	YA	3219	1/1	0.97	0.23	39,39,39,39	0
56	MG	XA	1668	1/1	0.97	0.16	20,20,20,20	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	RA	3430	1/1	0.97	0.41	50,50,50,50	0
56	MG	YA	3143	1/1	0.97	0.07	23,23,23,23	0
56	MG	XA	1722	1/1	0.97	0.11	38,38,38,38	0
56	MG	YA	3073	1/1	0.97	0.13	15,15,15,15	0
56	MG	RA	3030	1/1	0.97	0.13	13,13,13,13	0
56	MG	RA	3385	1/1	0.97	0.19	2,2,2,2	0
56	MG	YB	201	1/1	0.97	0.21	31,31,31,31	0
56	MG	YA	3305	1/1	0.97	0.17	21,21,21,21	0
56	MG	YA	3306	1/1	0.97	0.17	22,22,22,22	0
56	MG	RA	3139	1/1	0.97	0.12	41,41,41,41	0
56	MG	YB	205	1/1	0.97	0.07	48,48,48,48	0
56	MG	RA	3303	1/1	0.97	0.14	34,34,34,34	0
56	MG	YA	3229	1/1	0.97	0.28	43,43,43,43	0
56	MG	YA	3310	1/1	0.97	0.22	28,28,28,28	0
56	MG	QA	1678	1/1	0.97	0.05	29,29,29,29	0
56	MG	RA	3200	1/1	0.97	0.28	31,31,31,31	0
56	MG	YA	3015	1/1	0.97	0.13	9,9,9,9	0
56	MG	RA	3032	1/1	0.97	0.11	5,5,5,5	0
56	MG	RA	3392	1/1	0.97	0.19	36,36,36,36	0
56	MG	QA	1654	1/1	0.97	0.12	20,20,20,20	0
56	MG	RA	3034	1/1	0.97	0.14	9,9,9,9	0
56	MG	YA	3088	1/1	0.97	0.14	5,5,5,5	0
56	MG	RA	3170	1/1	0.97	0.25	26,26,26,26	0
56	MG	YA	3320	1/1	0.97	0.21	38,38,38,38	0
56	MG	RA	3144	1/1	0.97	0.20	10,10,10,10	0
56	MG	RA	3145	1/1	0.97	0.11	9,9,9,9	0
56	MG	YA	3323	1/1	0.97	0.28	37,37,37,37	0
56	MG	Y5	101	1/1	0.97	0.07	22,22,22,22	0
56	MG	YA	3413	1/1	0.97	0.18	7,7,7,7	0
56	MG	YA	3162	1/1	0.97	0.22	44,44,44,44	0
56	MG	RA	3207	1/1	0.97	0.08	18,18,18,18	0
56	MG	RA	3314	1/1	0.97	0.12	19,19,19,19	0
56	MG	RA	3354	1/1	0.97	0.20	34,34,34,34	0
56	MG	YA	3016	1/1	0.98	0.07	2,2,2,2	0
56	MG	RA	3419	1/1	0.98	0.14	31,31,31,31	0
56	MG	YA	3455	1/1	0.98	0.36	42,42,42,42	0
56	MG	YA	3018	1/1	0.98	0.13	18,18,18,18	0
56	MG	XA	1626	1/1	0.98	0.22	22,22,22,22	0
56	MG	RA	3013	1/1	0.98	0.15	0,0,0,0	0
56	MG	RA	3388	1/1	0.98	0.29	15,15,15,15	0
56	MG	QA	1659	1/1	0.98	0.17	25,25,25,25	0
56	MG	YA	3119	1/1	0.98	0.10	10,10,10,10	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	YA	3024	1/1	0.98	0.13	13,13,13,13	0
56	MG	QA	1697	1/1	0.98	0.15	30,30,30,30	0
56	MG	YA	3174	1/1	0.98	0.08	15,15,15,15	0
56	MG	YA	3072	1/1	0.98	0.21	19,19,19,19	0
56	MG	RA	3163	1/1	0.98	0.12	34,34,34,34	0
56	MG	RA	3048	1/1	0.98	0.21	5,5,5,5	0
56	MG	YA	3125	1/1	0.98	0.05	13,13,13,13	0
56	MG	YA	3348	1/1	0.98	0.16	30,30,30,30	0
56	MG	YA	3076	1/1	0.98	0.10	26,26,26,26	0
56	MG	YA	3471	1/1	0.98	0.09	28,28,28,28	0
56	MG	QA	1739	1/1	0.98	0.23	42,42,42,42	0
56	MG	YA	3238	1/1	0.98	0.09	14,14,14,14	0
56	MG	QA	1623	1/1	0.98	0.31	35,35,35,35	0
56	MG	RA	3038	1/1	0.98	0.09	2,2,2,2	0
56	MG	RA	3098	1/1	0.98	0.22	44,44,44,44	0
56	MG	RA	3280	1/1	0.98	0.07	17,17,17,17	0
56	MG	RA	3052	1/1	0.98	0.18	4,4,4,4	0
56	MG	RA	3189	1/1	0.98	0.28	6,6,6,6	0
56	MG	RA	3310	1/1	0.98	0.18	17,17,17,17	0
56	MG	XA	1602	1/1	0.98	0.26	8,8,8,8	0
56	MG	RA	3007	1/1	0.98	0.16	5,5,5,5	0
56	MG	YA	3137	1/1	0.98	0.12	5,5,5,5	0
56	MG	XA	1762	1/1	0.98	0.05	53,53,53,53	0
56	MG	YA	3363	1/1	0.98	0.34	56,56,56,56	0
56	MG	RA	3284	1/1	0.98	0.21	48,48,48,48	0
56	MG	XA	1605	1/1	0.98	0.12	6,6,6,6	0
56	MG	QD	302	1/1	0.98	0.07	23,23,23,23	0
56	MG	RA	3172	1/1	0.98	0.04	28,28,28,28	0
56	MG	RA	3193	1/1	0.98	0.21	0,0,0,0	0
56	MG	RA	3055	1/1	0.98	0.30	10,10,10,10	0
56	MG	XA	1649	1/1	0.98	0.09	12,12,12,12	0
56	MG	RA	3289	1/1	0.98	0.17	23,23,23,23	0
56	MG	YD	301	1/1	0.98	0.20	2,2,2,2	0
56	MG	RA	3376	1/1	0.98	0.14	5,5,5,5	0
56	MG	RA	3086	1/1	0.98	0.07	7,7,7,7	0
56	MG	RA	3196	1/1	0.98	0.21	18,18,18,18	0
56	MG	YA	3375	1/1	0.98	0.31	51,51,51,51	0
56	MG	YA	3376	1/1	0.98	0.09	38,38,38,38	0
56	MG	YA	3206	1/1	0.98	0.09	12,12,12,12	0
56	MG	YP	201	1/1	0.98	0.04	7,7,7,7	0
56	MG	RA	3009	1/1	0.98	0.09	6,6,6,6	0
56	MG	YA	3005	1/1	0.98	0.14	1,1,1,1	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	MG	RA	3242	1/1	0.98	0.07	30,30,30,30	0
56	MG	RA	3243	1/1	0.98	0.06	37,37,37,37	0
56	MG	QA	1689	1/1	0.98	0.26	42,42,42,42	0
56	MG	YA	3267	1/1	0.98	0.20	32,32,32,32	0
56	MG	YA	3213	1/1	0.98	0.18	33,33,33,33	0
56	MG	XA	1618	1/1	0.98	0.14	15,15,15,15	0
56	MG	YA	3057	1/1	0.98	0.13	3,3,3,3	0
56	MG	RA	3353	1/1	0.98	0.33	30,30,30,30	0
56	MG	RF	301	1/1	0.98	0.04	24,24,24,24	0
56	MG	RA	3384	1/1	0.98	0.07	8,8,8,8	0
56	MG	YA	3274	1/1	0.98	0.23	35,35,35,35	0
57	ZN	QD	301	1/1	0.98	0.23	29,29,29,29	0
56	MG	RA	3058	1/1	0.98	0.13	1,1,1,1	0
56	MG	RA	3001	1/1	0.98	0.05	41,41,41,41	0
57	ZN	XN	101	1/1	0.98	0.03	67,67,67,67	0
56	MG	RA	3113	1/1	0.99	0.10	17,17,17,17	0
56	MG	YA	3023	1/1	0.99	0.21	2,2,2,2	0
56	MG	XA	1671	1/1	0.99	0.05	0,0,0,0	0
56	MG	YA	3008	1/1	0.99	0.06	2,2,2,2	0
56	MG	QA	1607	1/1	0.99	0.21	12,12,12,12	0
56	MG	YA	3170	1/1	0.99	0.23	7,7,7,7	0
56	MG	YA	3054	1/1	0.99	0.24	1,1,1,1	0
56	MG	YA	3186	1/1	0.99	0.22	1,1,1,1	0
56	MG	YA	3203	1/1	0.99	0.23	30,30,30,30	0
56	MG	YA	3075	1/1	0.99	0.15	8,8,8,8	0
56	MG	YA	3087	1/1	0.99	0.10	14,14,14,14	0
56	MG	YA	3160	1/1	0.99	0.16	25,25,25,25	0
56	MG	YA	3207	1/1	0.99	0.06	13,13,13,13	0
56	MG	YA	3190	1/1	0.99	0.26	22,22,22,22	0
56	MG	XA	1709	1/1	0.99	0.17	23,23,23,23	0
56	MG	XA	1622	1/1	0.99	0.25	37,37,37,37	0
56	MG	RA	3011	1/1	0.99	0.11	1,1,1,1	0
56	MG	QA	1726	1/1	0.99	0.03	23,23,23,23	0
56	MG	RA	3042	1/1	1.00	0.09	7,7,7,7	0
56	MG	RA	3006	1/1	1.00	0.02	0,0,0,0	0
56	MG	RA	3344	1/1	1.00	0.02	15,15,15,15	0

6.5 Other polymers [i](#)

There are no such residues in this entry.