



# Full wwPDB X-ray Structure Validation Report ⓘ

Oct 1, 2023 – 01:08 PM EDT

PDB ID : 4LNT  
Title : Crystal Structure of tRNA Proline (CGG) Bound to Codon CCC-U on the Ribosome  
Authors : Maehigashi, T.; Dunkle, J.A.; Dunham, C.M.  
Deposited on : 2013-07-12  
Resolution : 2.94 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](mailto: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>.

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtrriage (Phenix) : 1.13  
EDS : 2.35.1  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.35.1

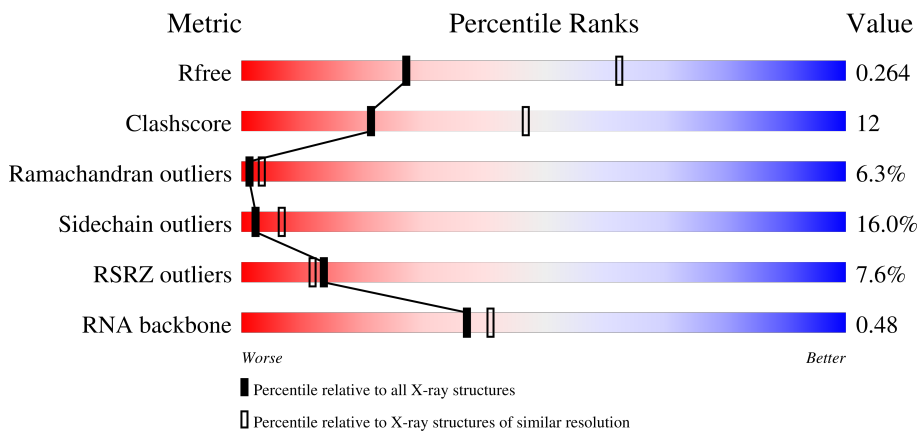
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.94 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	130704	2969 (2.98-2.90)
Clashscore	141614	3218 (2.98-2.90)
Ramachandran outliers	138981	3122 (2.98-2.90)
Sidechain outliers	138945	3124 (2.98-2.90)
RSRZ outliers	127900	2902 (2.98-2.90)
RNA backbone	3102	1060 (3.20-2.68)

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  $\geq 3$ , 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	<div style="display: flex; align-items: center;"> <div style="width: 2%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 51%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 36%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 10%; height: 10px; background-color: orange; margin-right: 5px;"></div> <div style="width: 2%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 2%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">2%      51%      36%      10%    ..</p>
1	XA	1522	<div style="display: flex; align-items: center;"> <div style="width: 1%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 50%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 35%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 12%; height: 10px; background-color: orange; margin-right: 5px;"></div> <div style="width: 2%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 2%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">%      50%      35%      12%    ..</p>
2	QB	256	<div style="display: flex; align-items: center;"> <div style="width: 26%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 49%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 36%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 7%; height: 10px; background-color: orange; margin-right: 5px;"></div> <div style="width: 2%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 7%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">26%      49%      36%      7%    • 7%</p>
2	XB	256	<div style="display: flex; align-items: center;"> <div style="width: 11%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 46%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 36%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 9%; height: 10px; background-color: orange; margin-right: 5px;"></div> <div style="width: 2%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 7%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">11%      46%      36%      9%    • 7%</p>

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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	2% 64% 27% 8%
16	QP	88	67% 23% 6% 5%
16	XP	88	56% 35% 5% 5%
17	QQ	105	61% 32% 5%
17	XQ	105	4% 70% 21% 5%
18	QR	88	5% 53% 20% 20%
18	XR	88	8% 42% 34% 20%
19	QS	93	15% 41% 34% 14% 10%
19	XS	93	11% 31% 43% 13% 10%
20	QT	106	3% 54% 35% 5% 7%
20	XT	106	8% 50% 34% 9% 7%
21	QU	27	22% 44% 48% 7%
21	XU	27	11% 67% 26% 7%
22	QV	77	3% 44% 38% 18%
22	XV	77	4% 57% 31% 12%
23	QY	17	18% 41% 35% 12% 12%
23	XY	17	29% 35% 41% 12% 12%
24	QX	25	12% 16% 68%
24	XX	25	28% 68%
25	RA	2916	4% 51% 34% 12%
25	YA	2916	4% 52% 34% 11%
26	RB	122	47% 39% 11%
26	YB	122	60% 19% 15% 5%
27	RD	276	54% 35% 9%
27	YD	276	56% 35% 7%

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

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Mol	Chain	Length	Quality of chain
40	YU	118	3% 49% 40% 10%
41	RV	101	13% 59% 30% 9%
41	YV	101	11% 44% 45% 11%
42	RW	113	4% 60% 29% 10%
42	YW	113	4% 65% 27% 9%
43	RX	96	2% 56% 32% 7%
43	YX	96	% 53% 36% 6%
44	RY	110	15% 29% 47% 16% 7%
44	YY	110	8% 44% 33% 15% 7%
45	RZ	206	17% 41% 36% 10% 11%
45	YZ	206	13% 42% 36% 10% 11%
46	R0	85	5% 66% 27%
46	Y0	85	59% 35%
47	R1	98	7% 61% 29% 7%
47	Y1	98	6% 58% 32% 8%
48	R2	72	7% 57% 32% 7%
48	Y2	72	4% 40% 40% 14%
49	R3	60	17% 70% 23% 5%
49	Y3	60	3% 57% 30% 12%
50	R4	71	32% 37% 42% 17%
50	Y4	71	24% 30% 35% 30% 6%
51	R5	60	15% 47% 42% 8%
51	Y5	60	23% 40% 43% 13%
52	R6	54	83% 20% 41% 28% 9%
52	Y6	54	85% 28% 41% 19% 9%

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Mol	Chain	Length	Quality of chain
53	R7	49	
53	Y7	49	
54	R8	65	
54	Y8	65	
55	R9	37	
55	Y9	37	
56	Z6	3	
56	Z8	3	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
57	MG	RA	3120	-	-	-	X

## 2 Entry composition

There are 59 unique types of molecules in this entry. The entry contains 291993 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 21 is a protein called 30S ribosomal protein S21.

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

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

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

- Molecule 23 is a RNA chain called messenger RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	QY	15	Total	C	N	O	P	0	0	0
			323	144	58	106	15			
23	XY	15	Total	C	N	O	P	0	0	0
			323	144	58	106	15			

- Molecule 24 is a RNA chain called A-site ASL SufA6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	QX	8	Total	C	N	O	P	0	0	0
			167	75	28	56	8			
24	XX	8	Total	C	N	O	P	0	0	0
			167	75	28	56	8			

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 56 is a RNA chain called tRNA acceptor end mimic.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	Z6	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			
56	Z8	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			

- Molecule 57 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QA	65	Total	Mg	0	0
			65	65		
57	QF	1	Total	Mg	0	0
			1	1		
57	QH	1	Total	Mg	0	0
			1	1		
57	QM	1	Total	Mg	0	0
			1	1		
57	QV	1	Total	Mg	0	0
			1	1		

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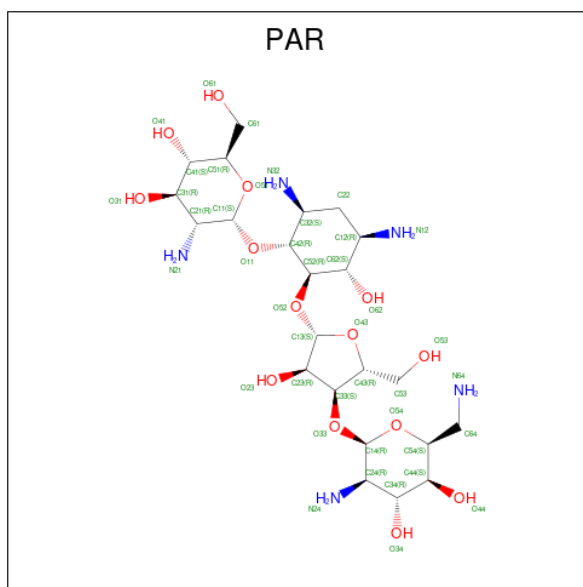
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	QX	1	Total Mg 1 1	0	0
57	RA	242	Total Mg 242 242	0	0
57	RB	2	Total Mg 2 2	0	0
57	RD	1	Total Mg 1 1	0	0
57	RE	2	Total Mg 2 2	0	0
57	RF	1	Total Mg 1 1	0	0
57	RP	2	Total Mg 2 2	0	0
57	RR	1	Total Mg 1 1	0	0
57	RU	1	Total Mg 1 1	0	0
57	R0	1	Total Mg 1 1	0	0
57	R5	1	Total Mg 1 1	0	0
57	R8	1	Total Mg 1 1	0	0
57	XA	72	Total Mg 72 72	0	0
57	XM	1	Total Mg 1 1	0	0
57	XV	1	Total Mg 1 1	0	0
57	XX	1	Total Mg 1 1	0	0
57	YA	268	Total Mg 268 268	0	0
57	YB	3	Total Mg 3 3	0	0
57	YE	1	Total Mg 1 1	0	0
57	YP	2	Total Mg 2 2	0	0
57	YQ	1	Total Mg 1 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	YX	1	Total Mg 1 1	0	0
57	Y5	1	Total Mg 1 1	0	0

- Molecule 58 is PAROMOMYCIN (three-letter code: PAR) (formula: C<sub>23</sub>H<sub>45</sub>N<sub>5</sub>O<sub>14</sub>).

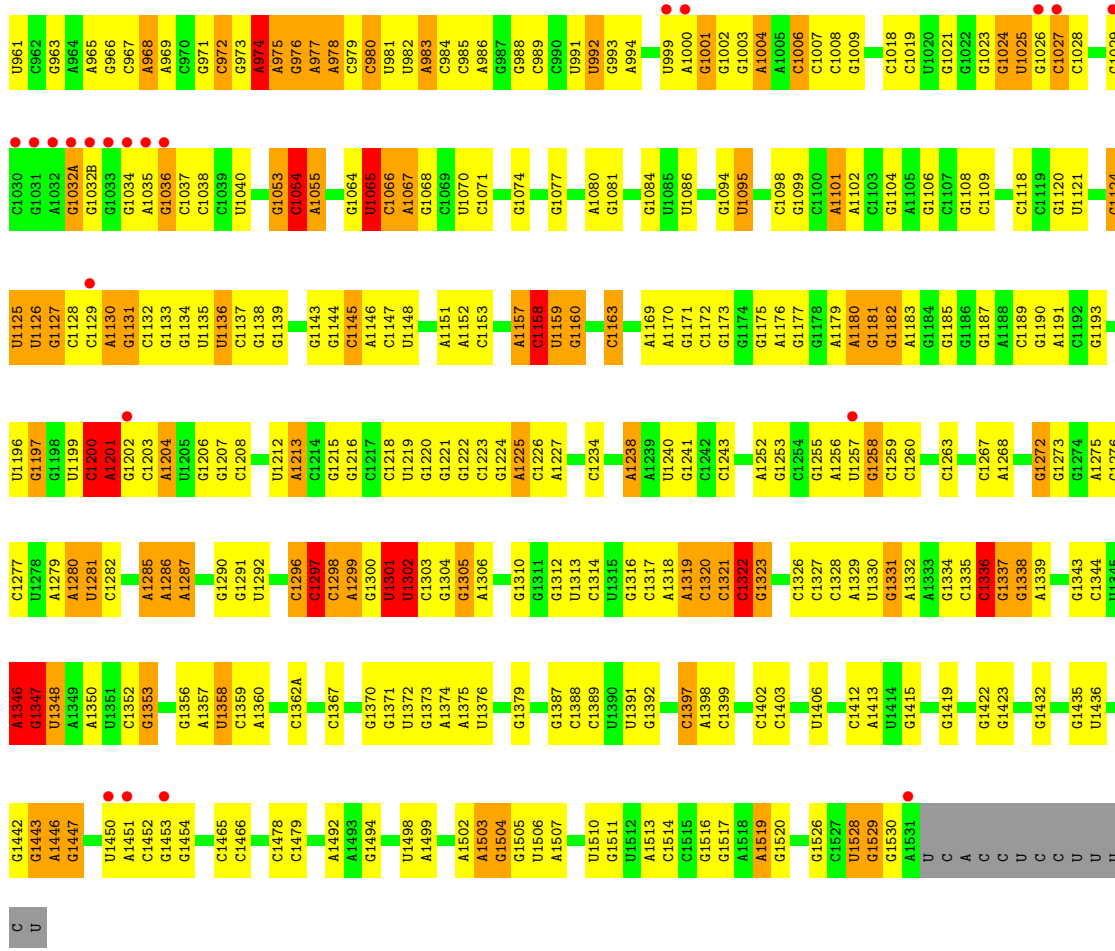


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
58	QA	1	Total C N O 42 23 5 14	0	0
58	XA	1	Total C N O 42 23 5 14	0	0

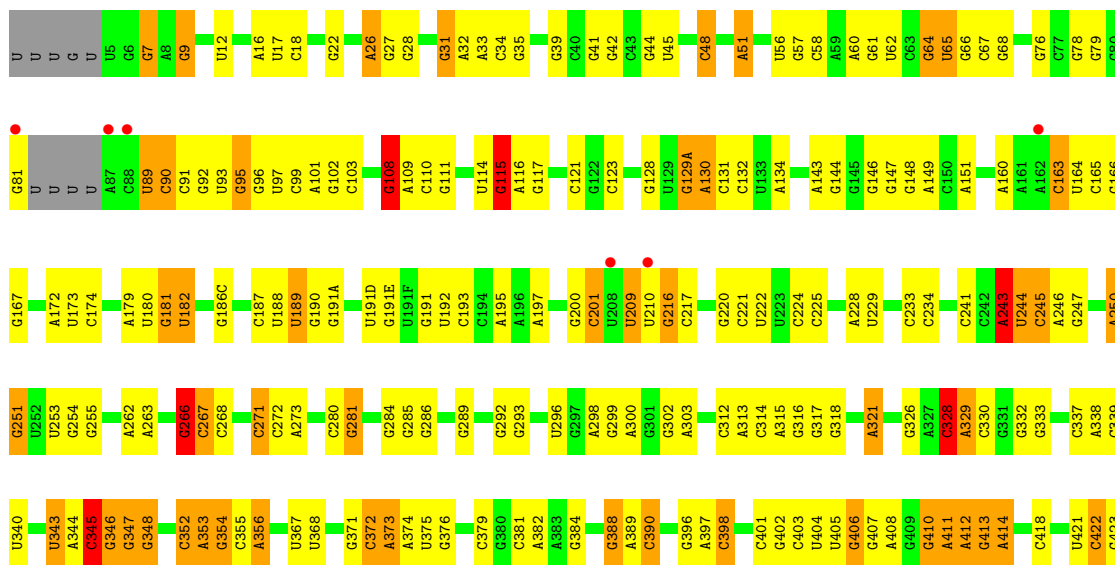
- Molecule 59 is ZINC ION (three-letter code: ZN) (formula: Zn).

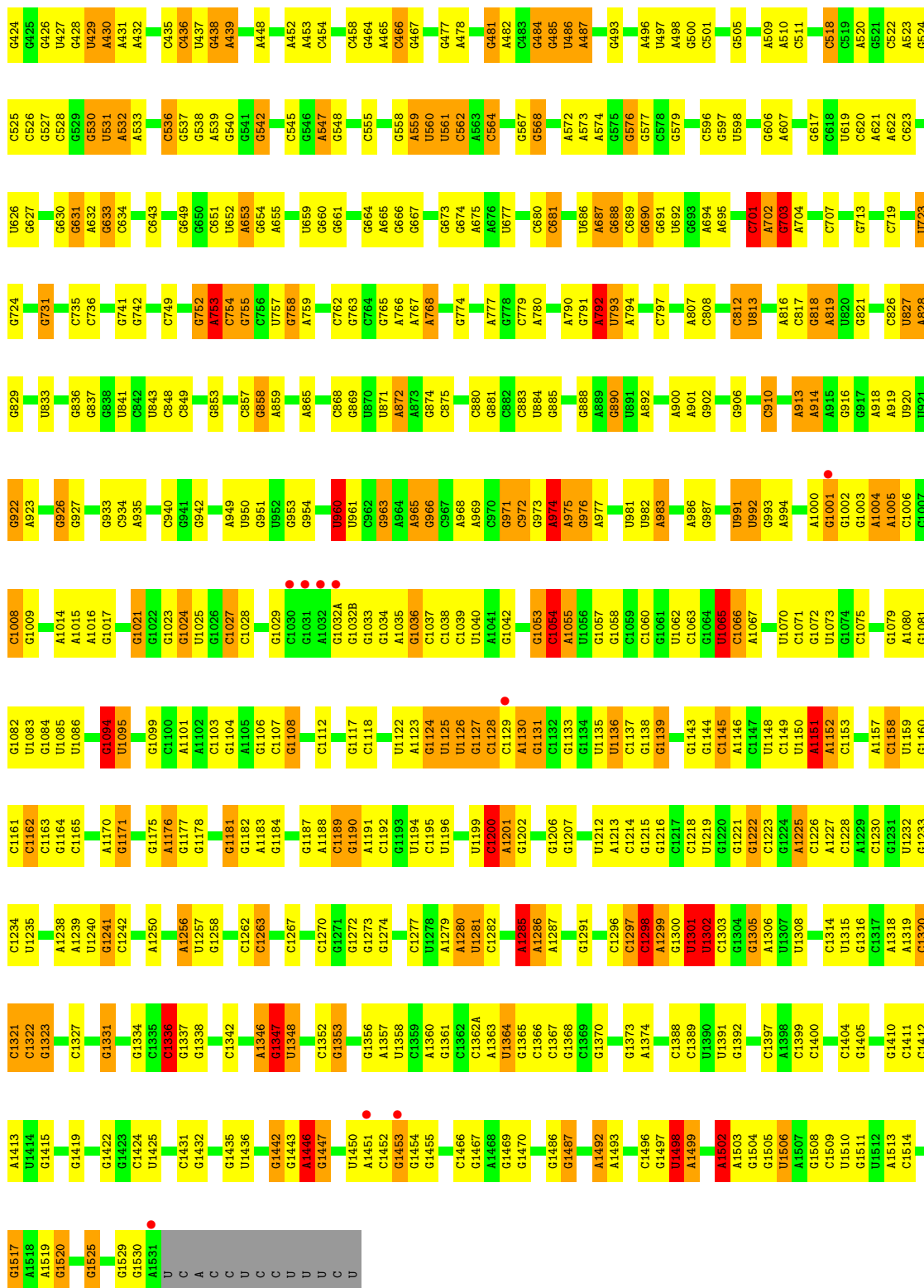
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
59	QD	1	Total Zn 1 1	0	0
59	QN	1	Total Zn 1 1	0	0
59	XD	1	Total Zn 1 1	0	0
59	XN	1	Total Zn 1 1	0	0





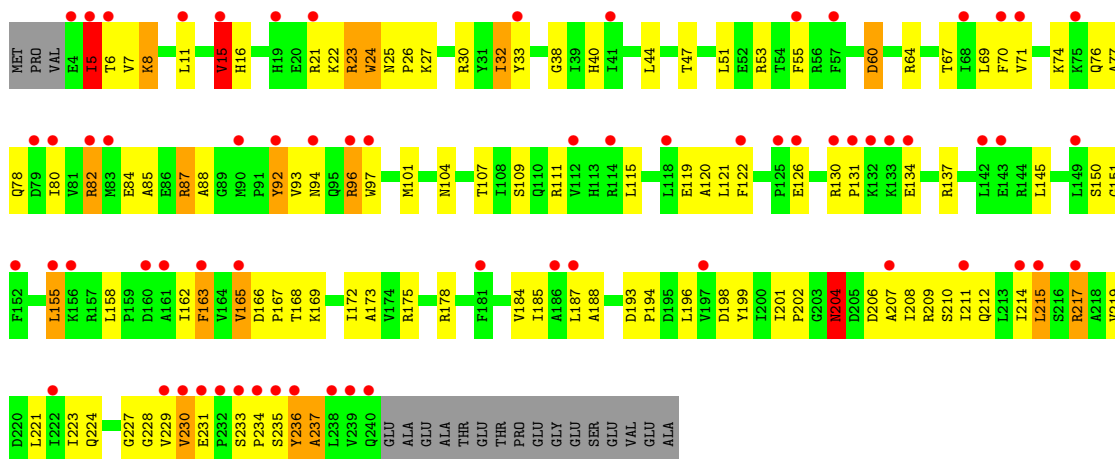
• Molecule 1: 16S rRNA



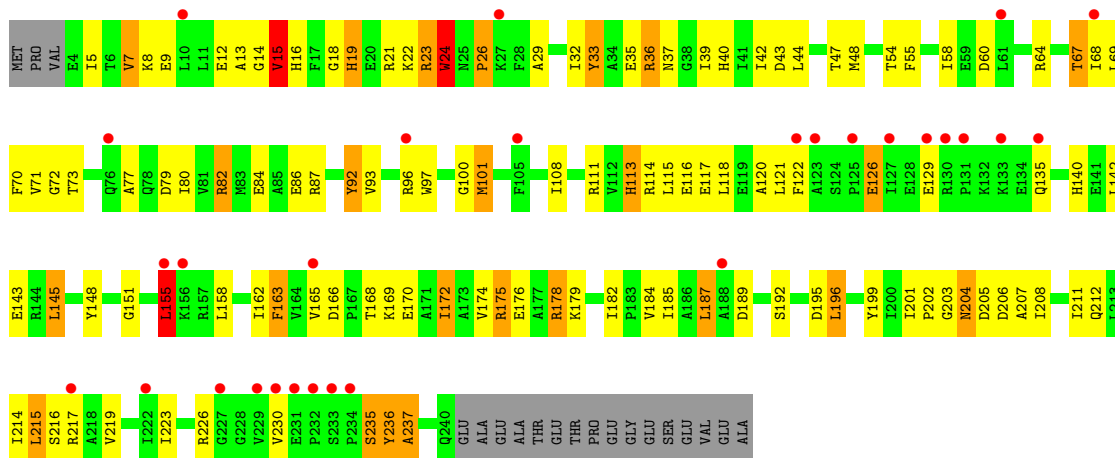


• Molecule 2: 30S ribosomal protein S2

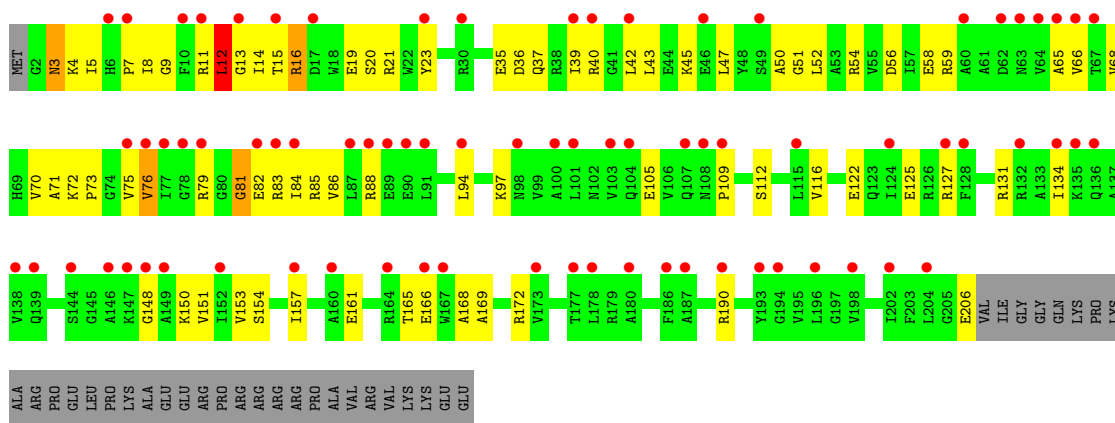




• Molecule 2: 30S ribosomal protein S2



• Molecule 3: 30S ribosomal protein S3



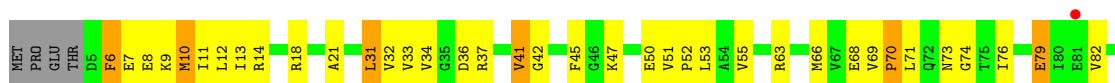
• Molecule 3: 30S ribosomal protein S3



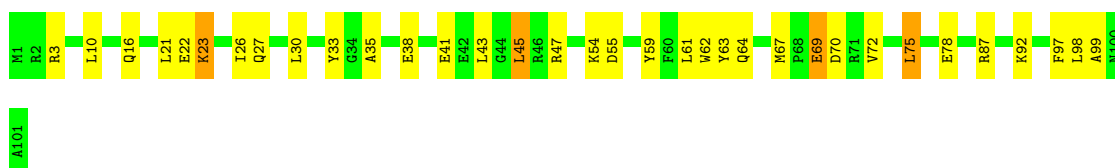




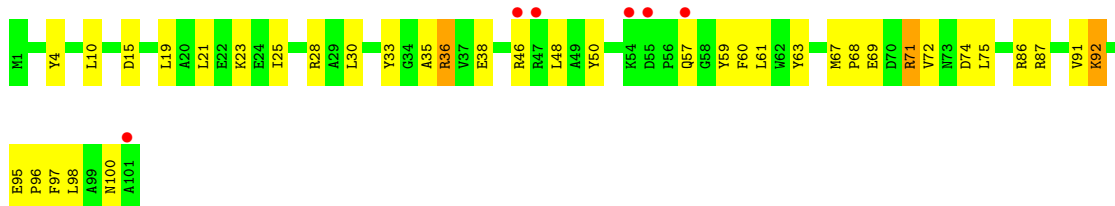
- Molecule 5: 30S ribosomal protein S5



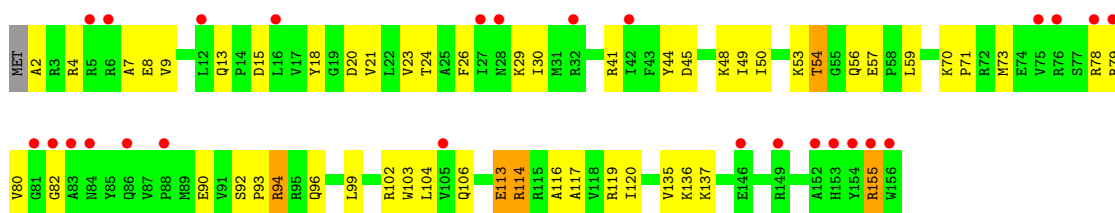
- Molecule 6: 30S ribosomal protein S6



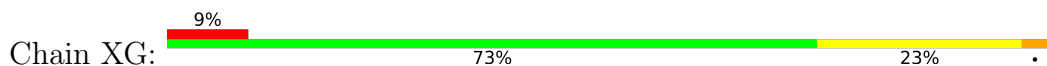
- Molecule 6: 30S ribosomal protein S6



- Molecule 7: 30S ribosomal protein S7

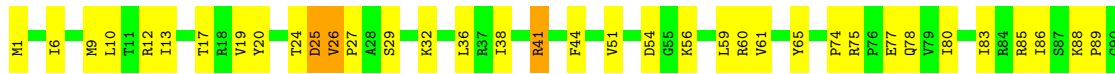


- Molecule 7: 30S ribosomal protein S7

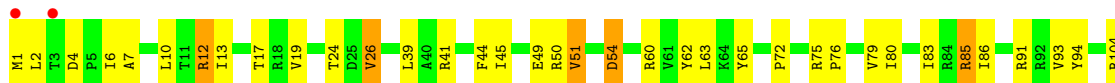




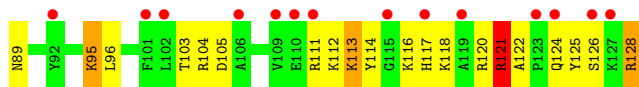
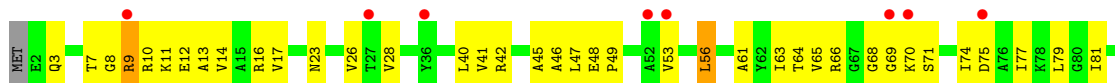
• Molecule 8: 30S ribosomal protein S8



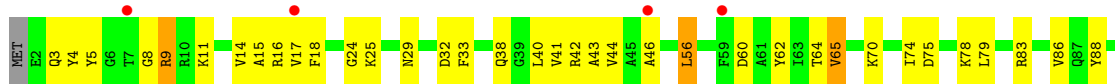
• Molecule 8: 30S ribosomal protein S8



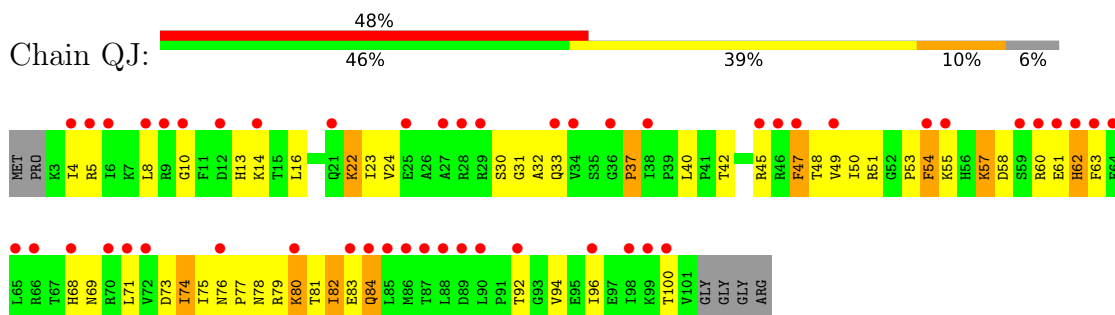
• Molecule 9: 30S ribosomal protein S9



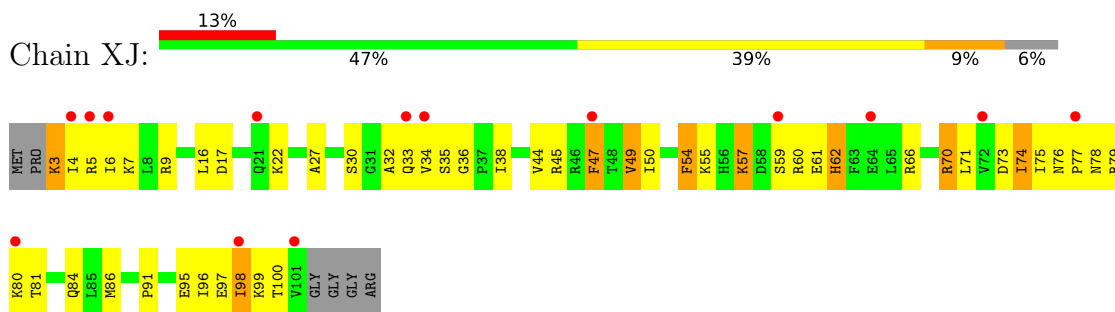
• Molecule 9: 30S ribosomal protein S9



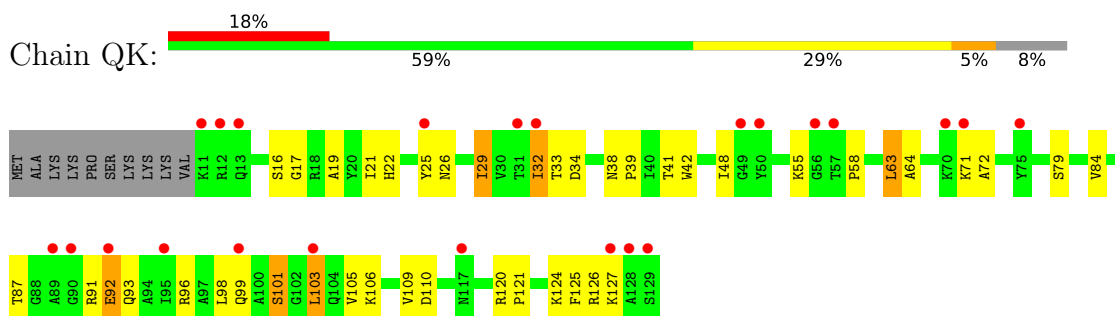
- Molecule 10: 30S ribosomal protein S10



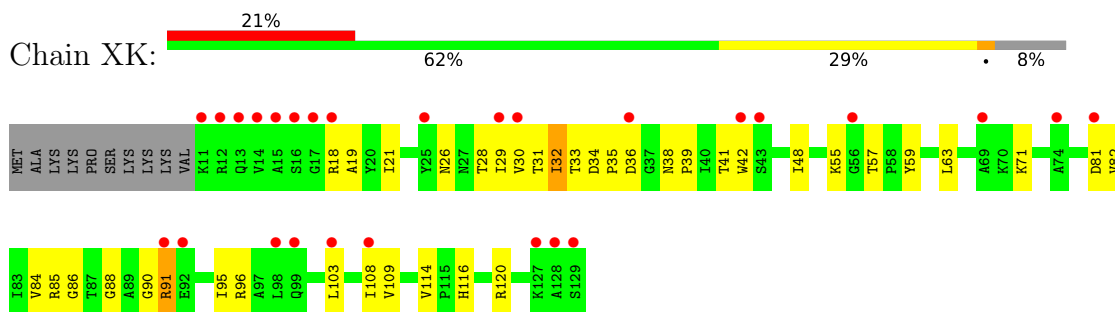
- Molecule 10: 30S ribosomal protein S10



- Molecule 11: 30S ribosomal protein S11

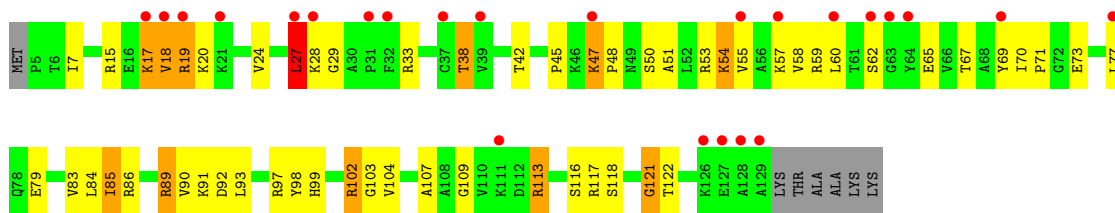


- Molecule 11: 30S ribosomal protein S11

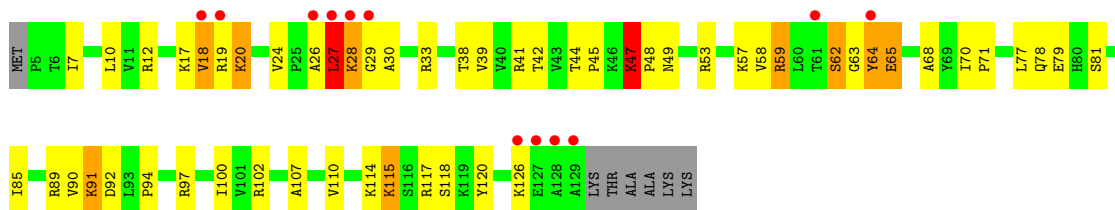


- Molecule 12: 30S ribosomal protein S12

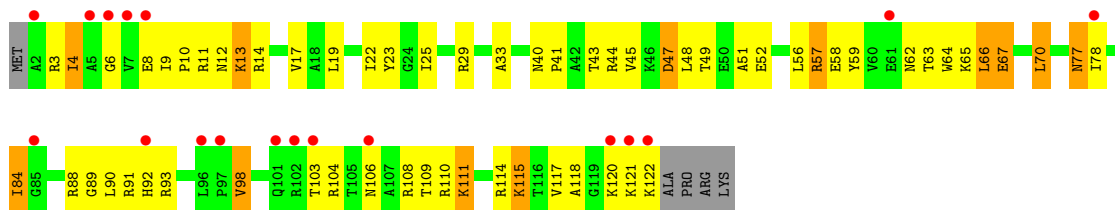




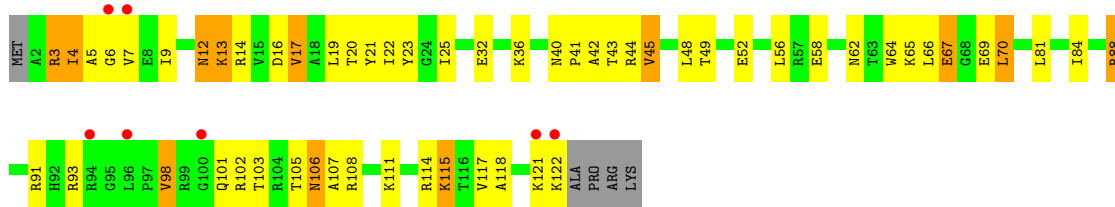
• Molecule 12: 30S ribosomal protein S12



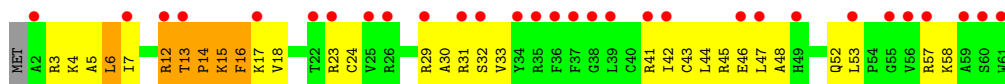
• Molecule 13: 30S ribosomal protein S13



• Molecule 13: 30S ribosomal protein S13



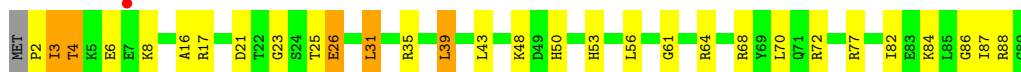
• Molecule 14: 30S ribosomal protein S14



• Molecule 14: 30S ribosomal protein S14



- Molecule 15: 30S ribosomal protein S15



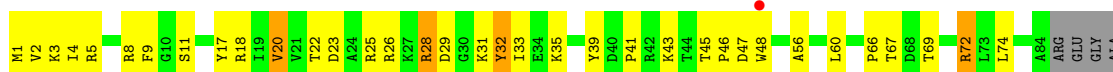
- Molecule 15: 30S ribosomal protein S15



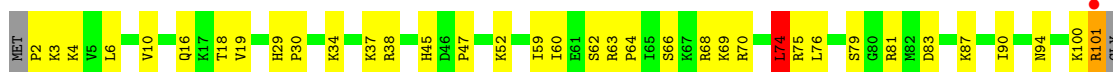
- Molecule 16: 30S ribosomal protein S16



- Molecule 16: 30S ribosomal protein S16

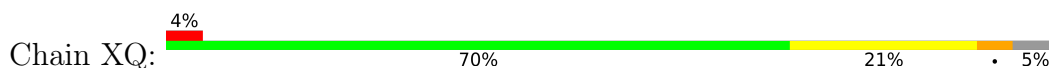


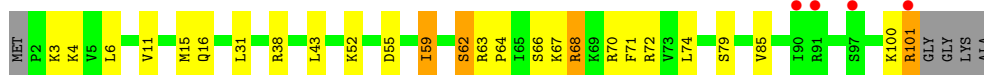
- Molecule 17: 30S ribosomal protein S17



GLY  
LYS  
ALA

- Molecule 17: 30S ribosomal protein S17

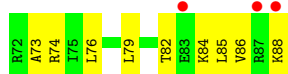
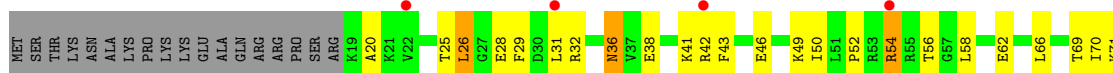
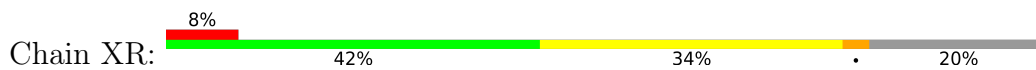




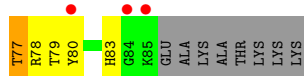
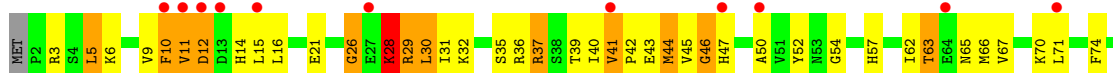
- Molecule 18: 30S ribosomal protein S18



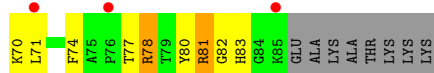
- Molecule 18: 30S ribosomal protein S18



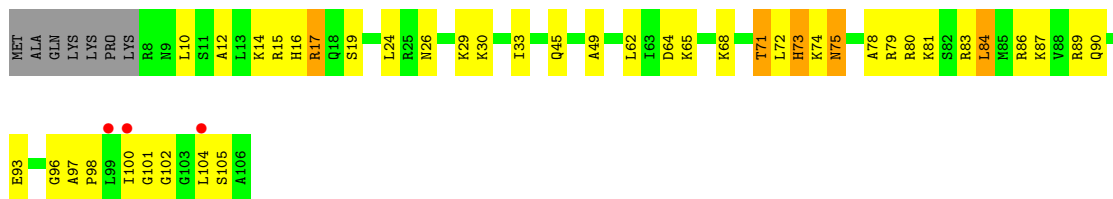
- Molecule 19: 30S ribosomal protein S19



- Molecule 19: 30S ribosomal protein S19



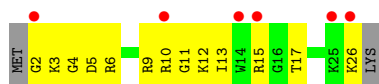
- Molecule 20: 30S ribosomal protein S20



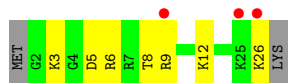
- Molecule 20: 30S ribosomal protein S20



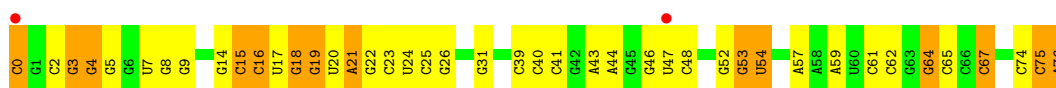
- Molecule 21: 30S ribosomal protein S21



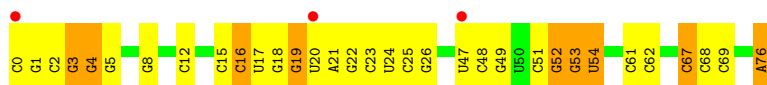
- Molecule 21: 30S ribosomal protein S21



- Molecule 22: P-site tRNA fMet



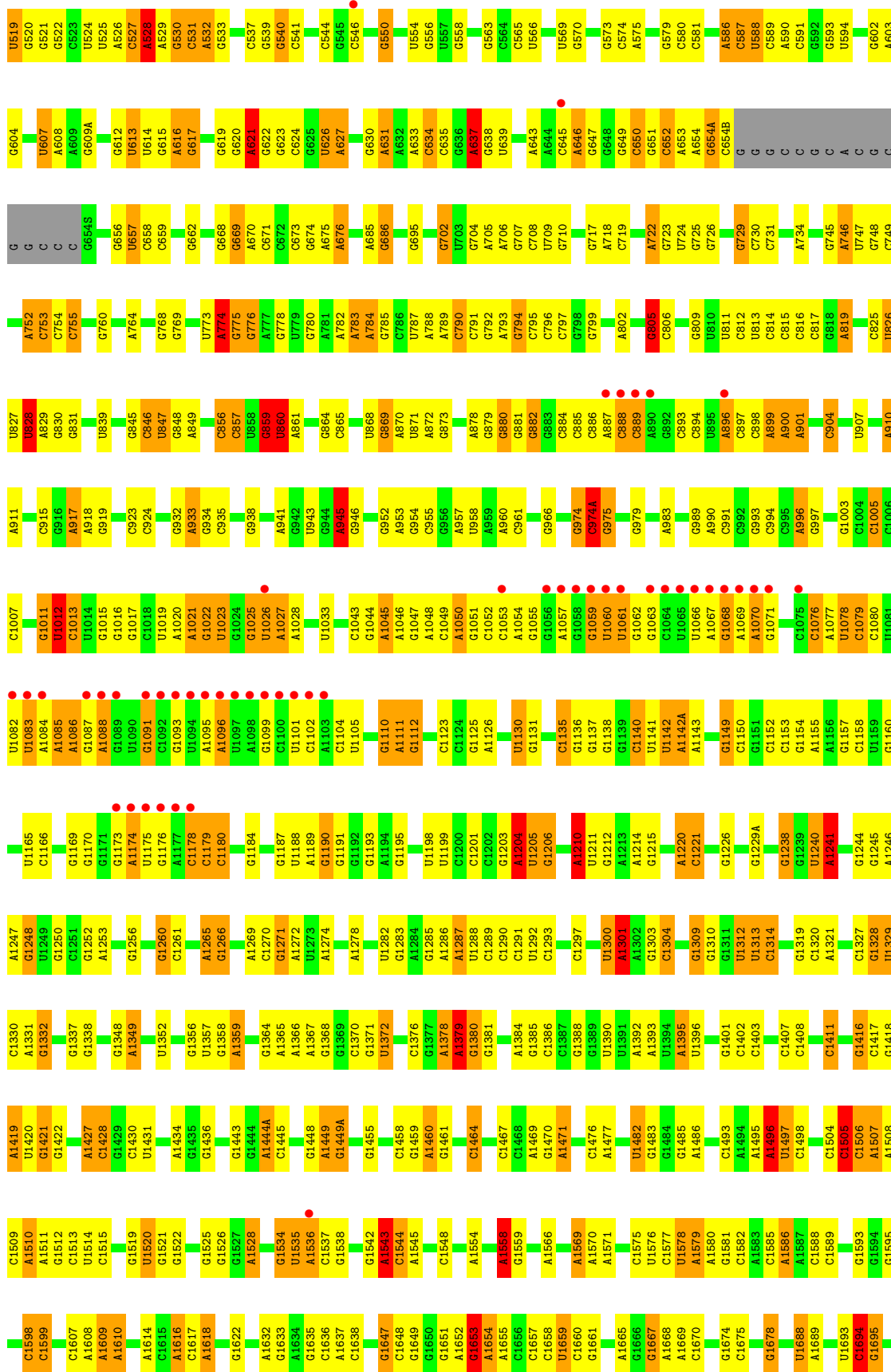
- Molecule 22: P-site tRNA fMet



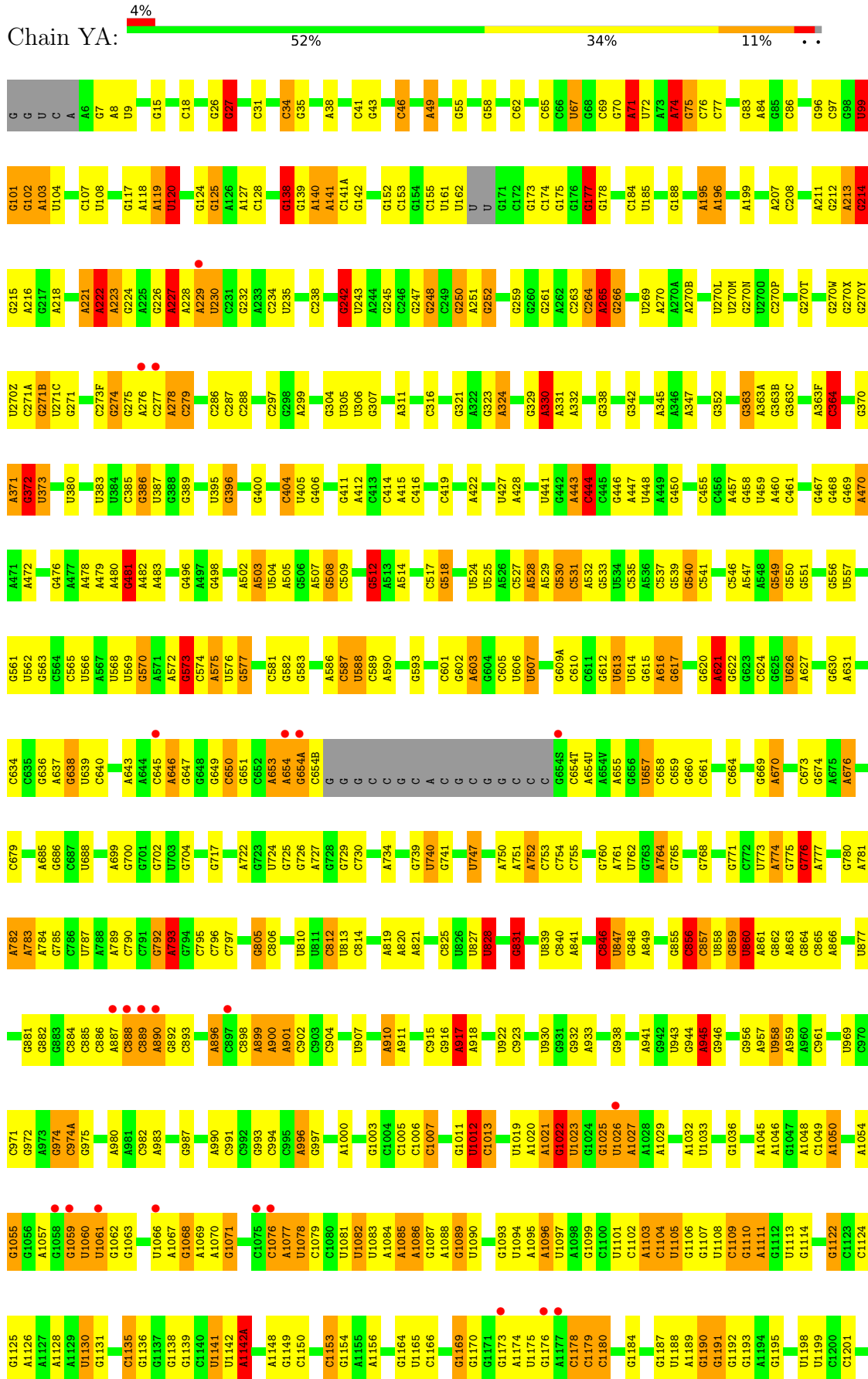
- Molecule 23: messenger RNA



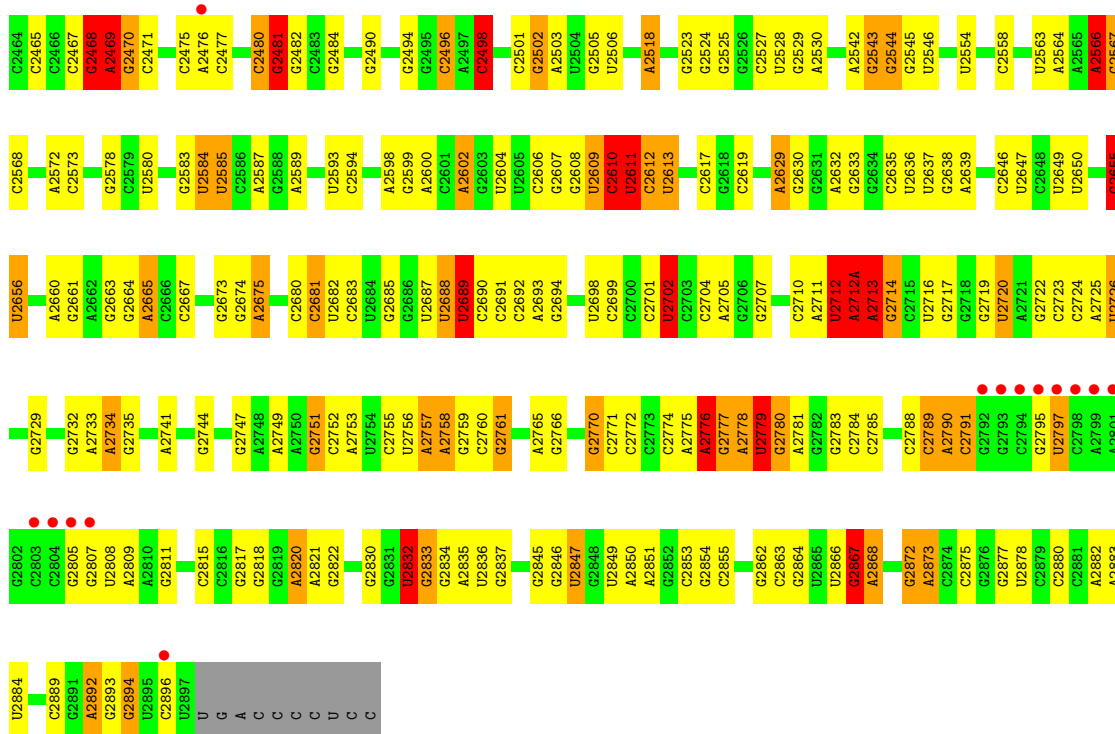




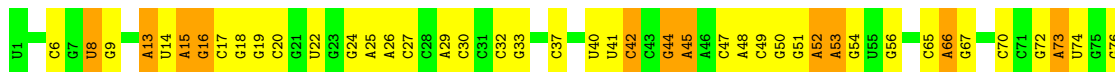




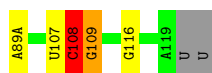
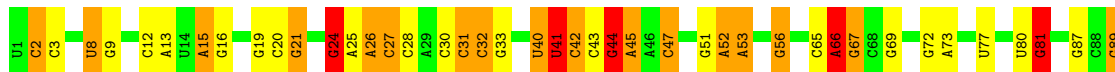
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G2190	A2298	G2299	G2299	G2302	G2306	G2307	G2308	G2309	G2210	A2309	A2310	A2311	G2314	G2315	G2316	G2317	G2318	G2319	A2320	G2325	G2326	G2327	A2328	G2329	G2330	G2331	G2334	A2335	A2336	U2344	G2345	A2346	G2347	G2350	G2351	A2352	G2271	U2272	A2273	G2274	G2275	G2276	G2277	A2360	A2361	G2364	G2365	A2366	A2369	G2370	A2377	A2378	G2379	G2382																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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● Molecule 26: 5S rRNA

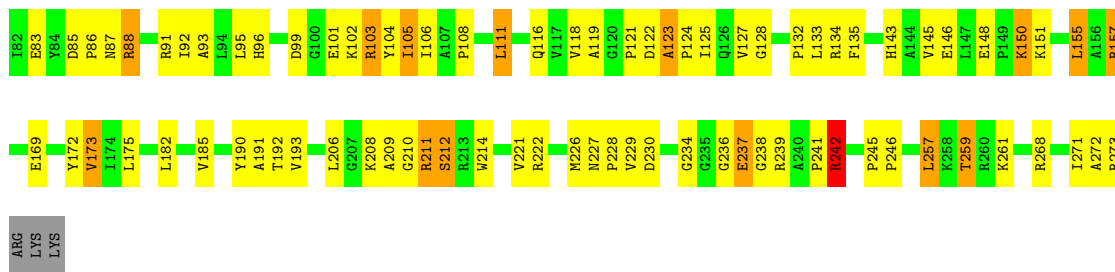


● Molecule 26: 5S rRNA

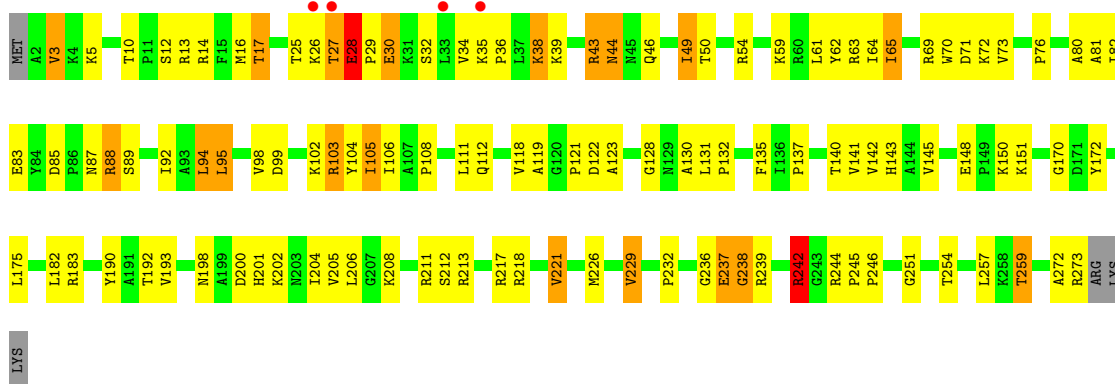


● Molecule 27: 50S ribosomal protein L2

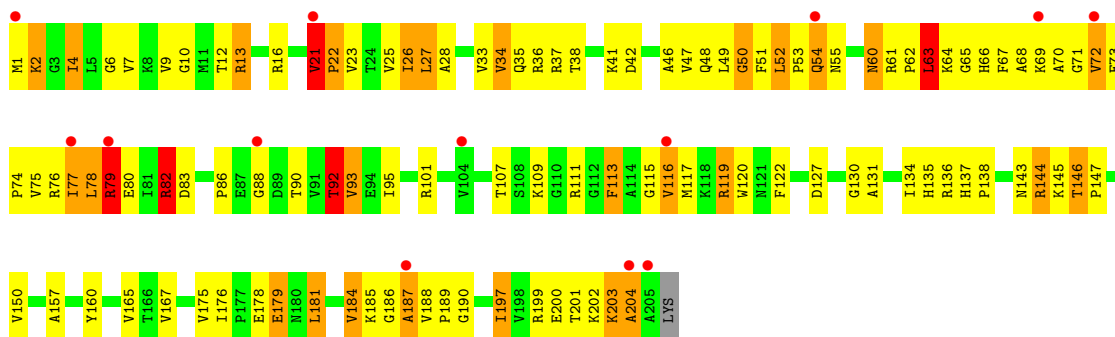




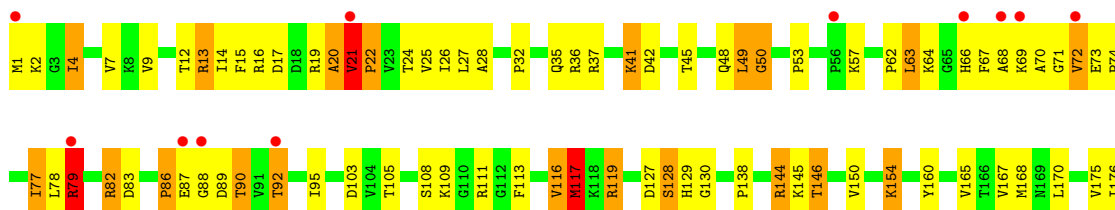
• Molecule 27: 50S ribosomal protein L2



• Molecule 28: 50S ribosomal protein L3

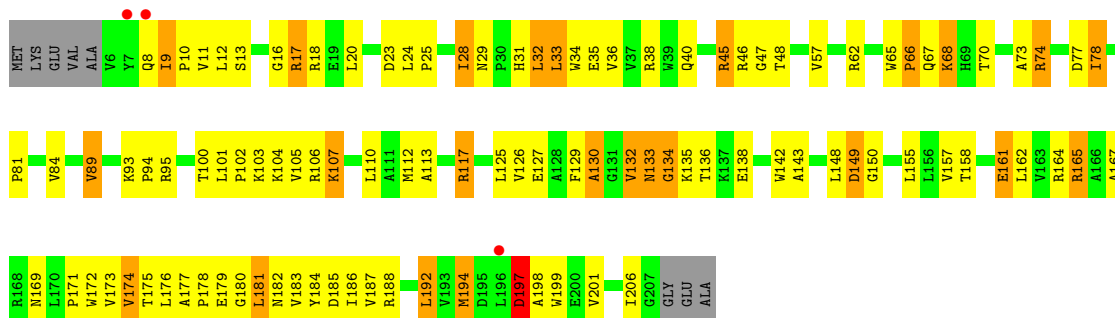


• Molecule 28: 50S ribosomal protein L3

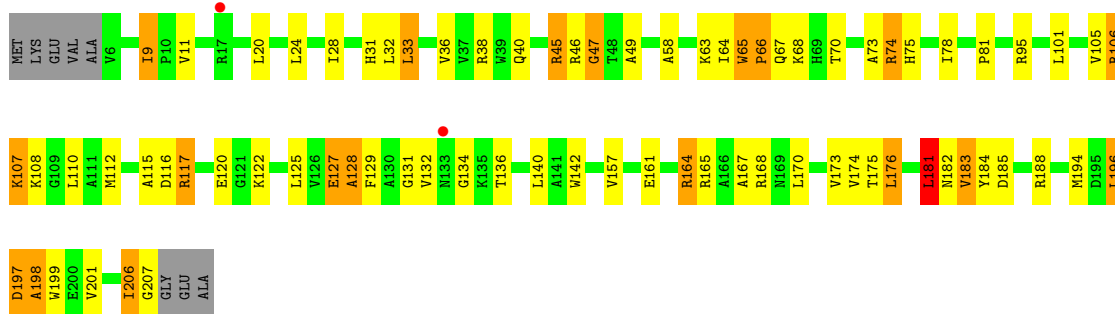




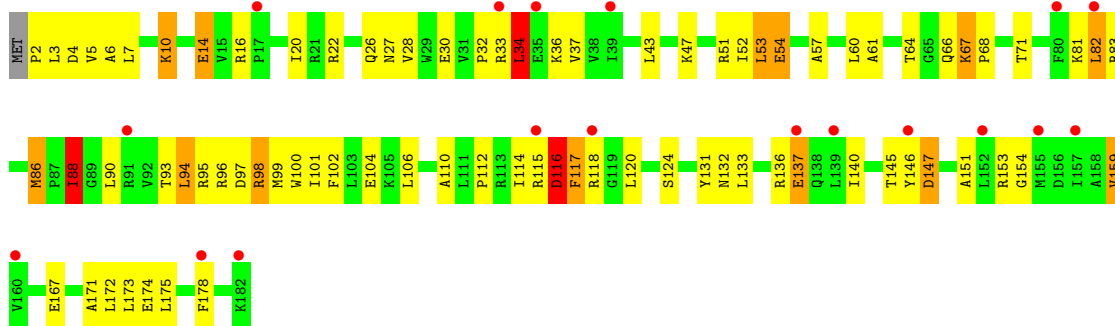
• Molecule 29: 50S ribosomal protein L4



• Molecule 29: 50S ribosomal protein L4



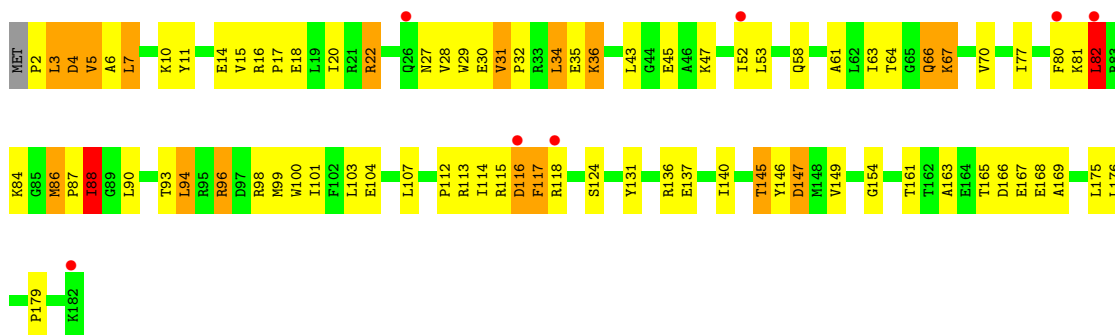
• Molecule 30: 50S ribosomal protein L5



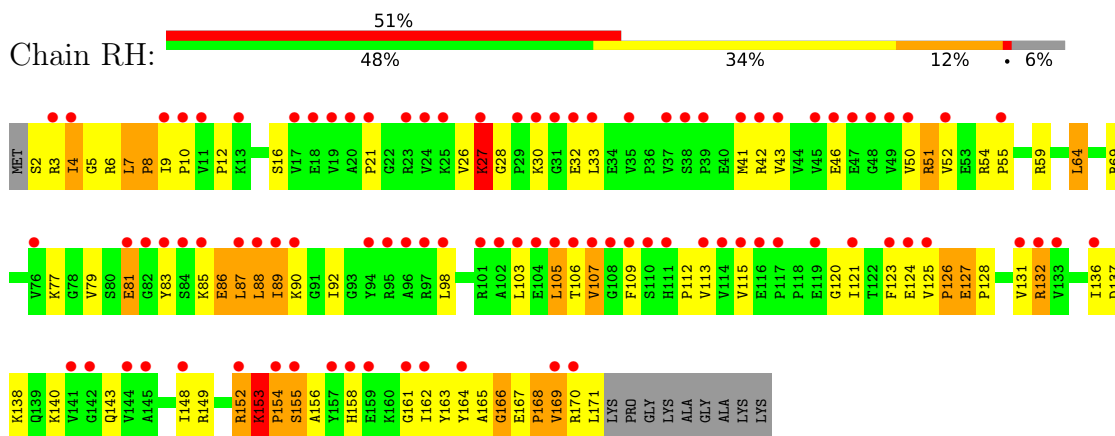
• Molecule 30: 50S ribosomal protein L5



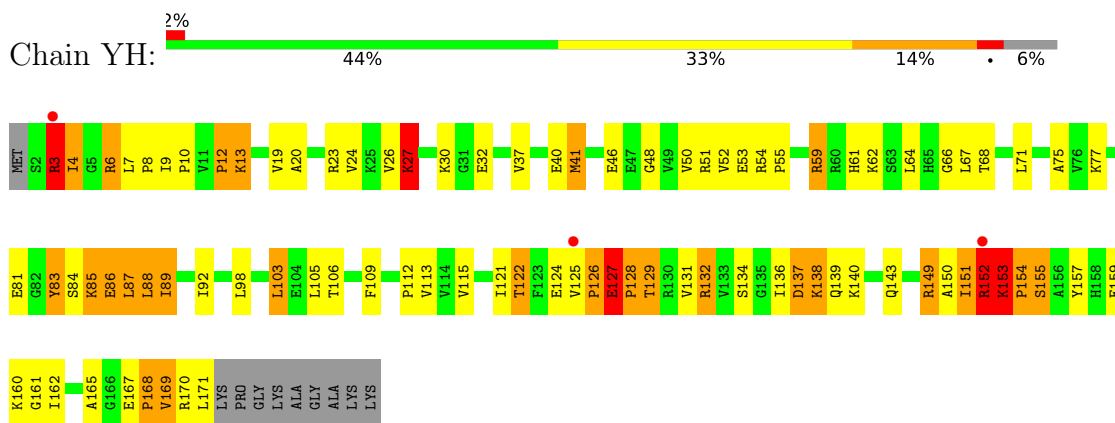




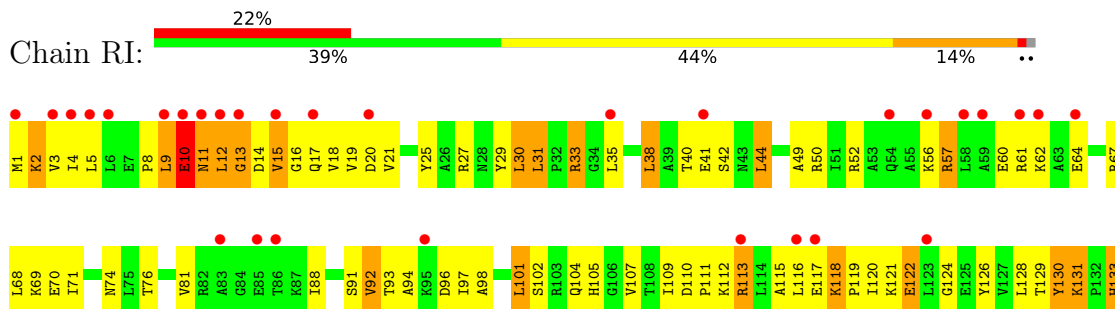
- Molecule 31: 50S ribosomal protein L6

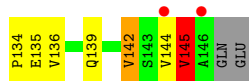


- Molecule 31: 50S ribosomal protein L6

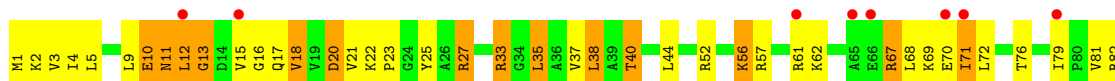


- Molecule 32: 50S ribosomal protein L9

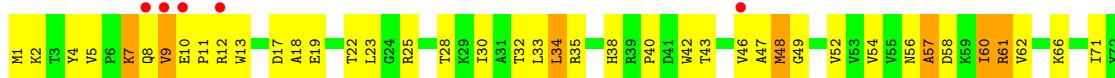




- Molecule 32: 50S ribosomal protein L9



- Molecule 33: 50S ribosomal protein L13



- Molecule 33: 50S ribosomal protein L13

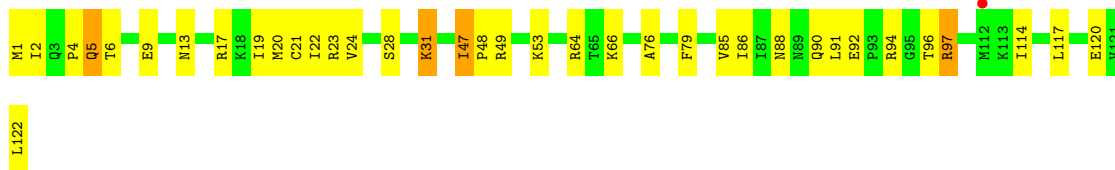


- Molecule 34: 50S ribosomal protein L14

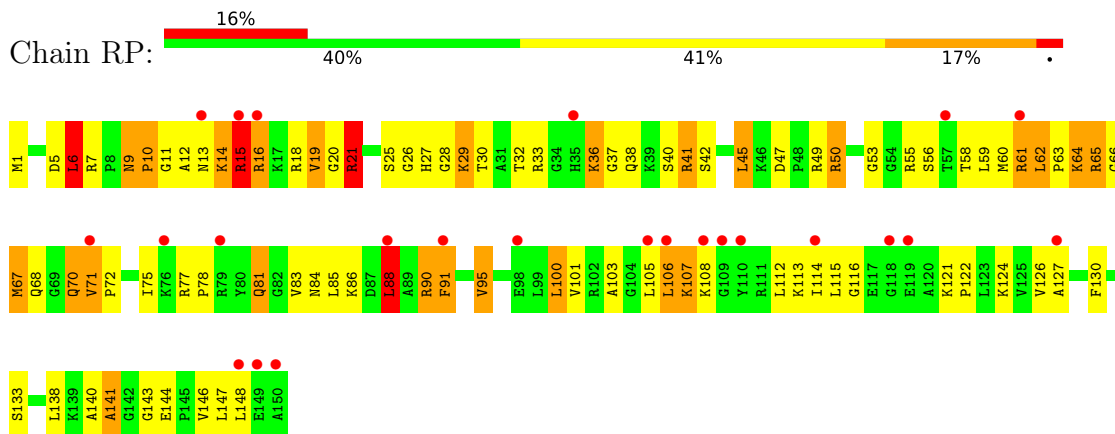


- Molecule 34: 50S ribosomal protein L14

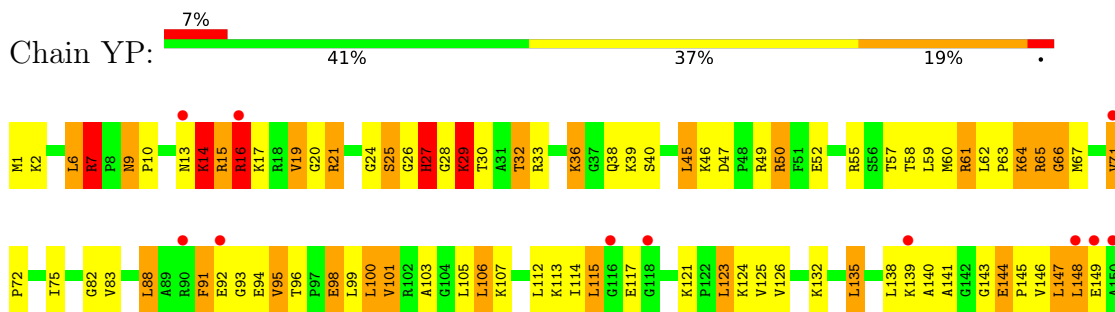




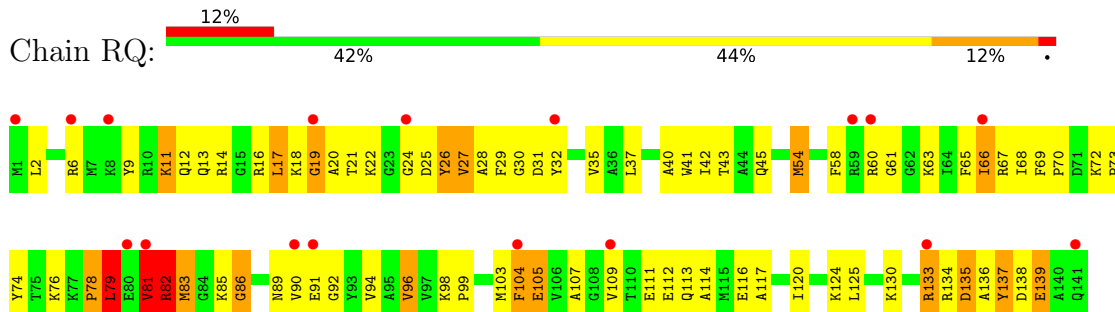
• Molecule 35: 50S ribosomal protein L15



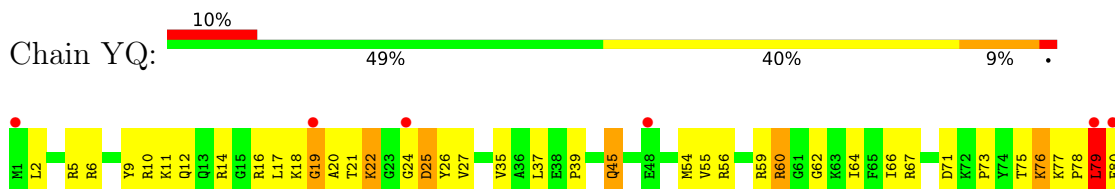
• Molecule 35: 50S ribosomal protein L15



• Molecule 36: 50S ribosomal protein L16

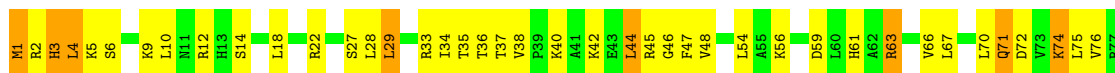


• Molecule 36: 50S ribosomal protein L16

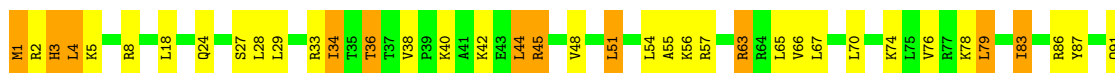




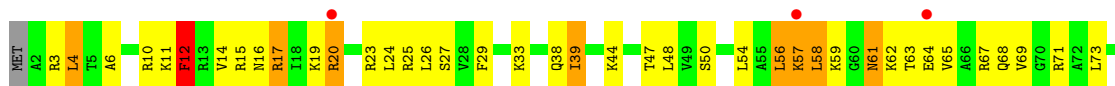
- Molecule 37: 50S ribosomal protein L17



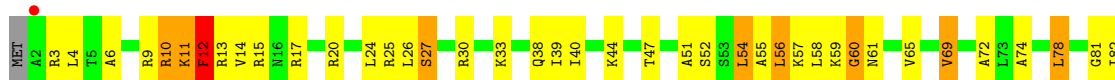
- Molecule 37: 50S ribosomal protein L17



- Molecule 38: 50S ribosomal protein L18

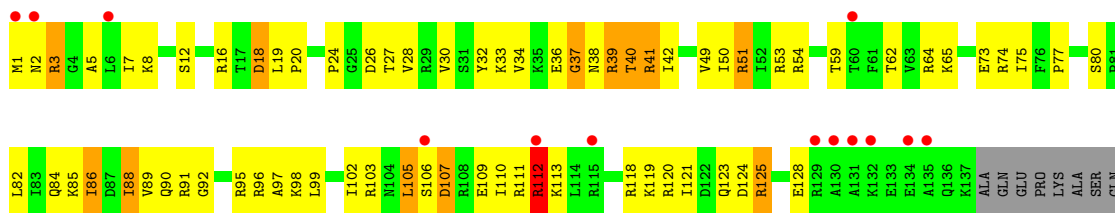


- Molecule 38: 50S ribosomal protein L18



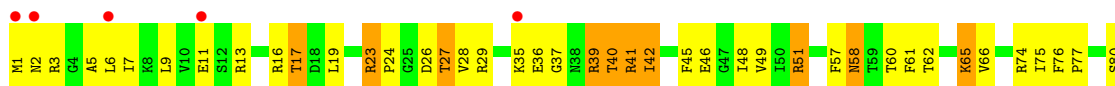
- Molecule 39: 50S ribosomal protein L19



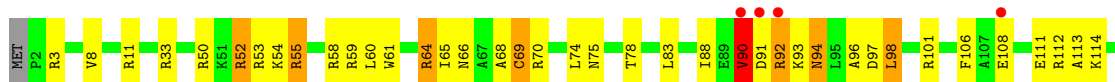


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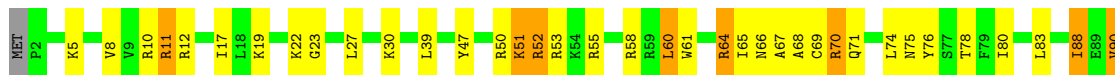
• Molecule 39: 50S ribosomal protein L19



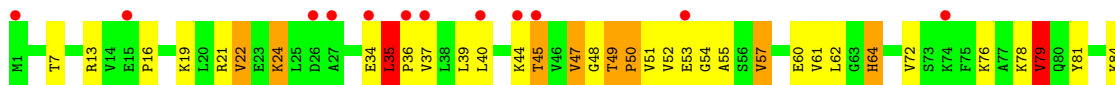
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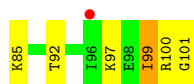


• Molecule 40: 50S ribosomal protein L20

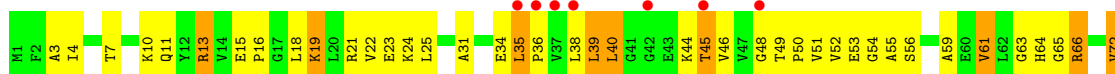
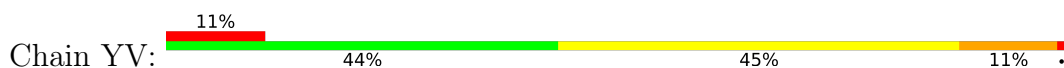


• Molecule 41: 50S ribosomal protein L21





- Molecule 41: 50S ribosomal protein L21



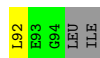
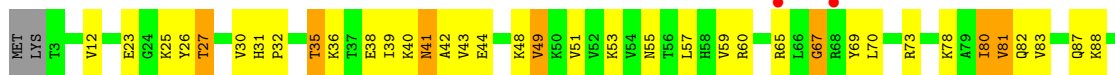
- Molecule 42: 50S ribosomal protein L22



- Molecule 42: 50S ribosomal protein L22

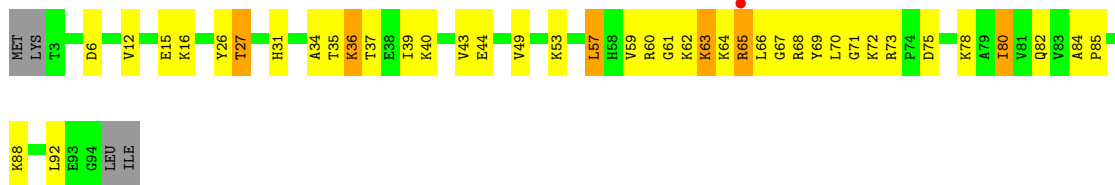


- Molecule 43: 50S ribosomal protein L23

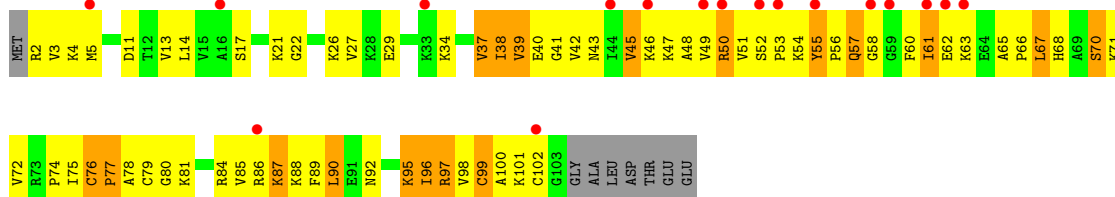


- Molecule 43: 50S ribosomal protein L23

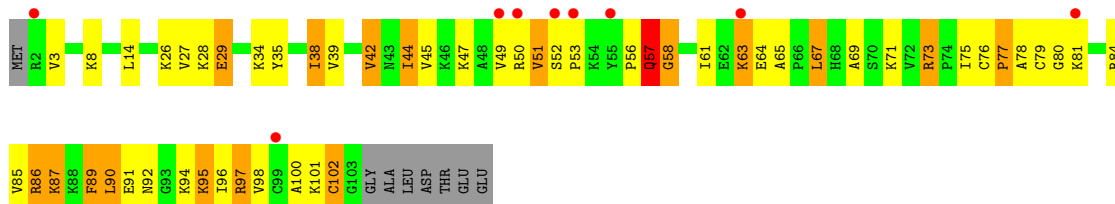




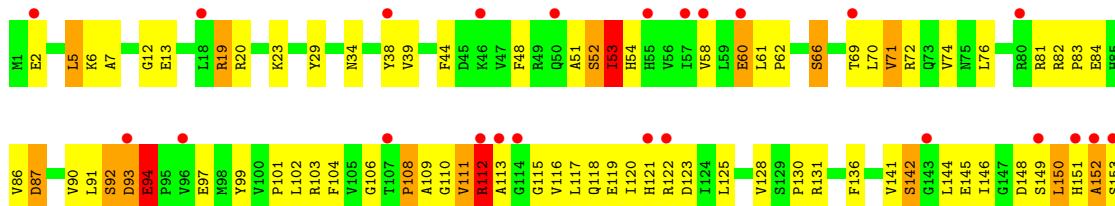
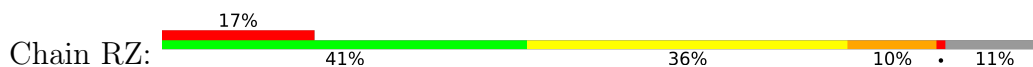
• Molecule 44: 50S ribosomal protein L24



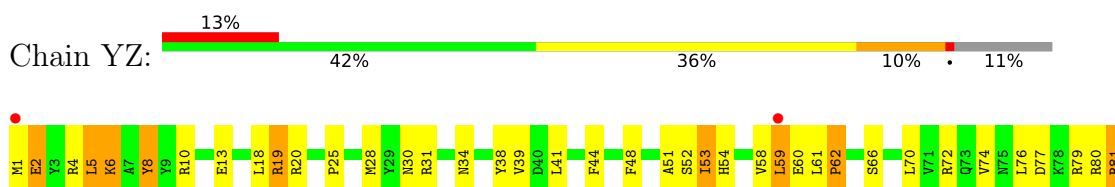
• Molecule 44: 50S ribosomal protein L24

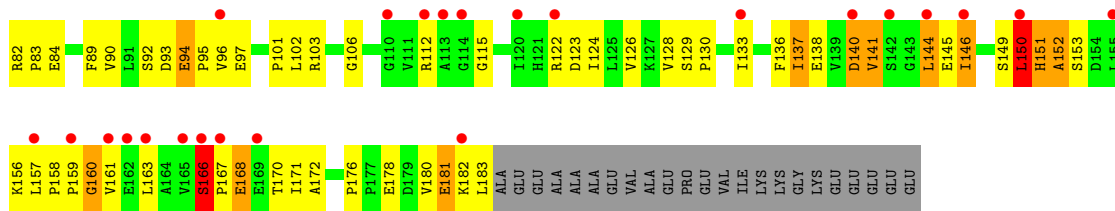


• Molecule 45: 50S ribosomal protein L25



• Molecule 45: 50S ribosomal protein L25





• Molecule 46: 50S ribosomal protein L27



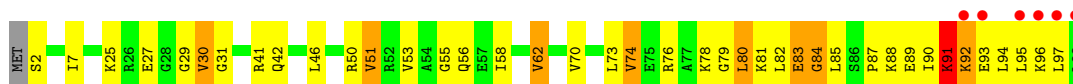
• Molecule 46: 50S ribosomal protein L27



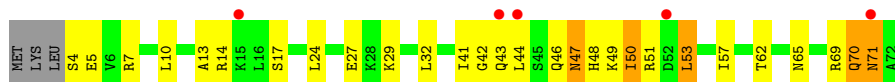
• Molecule 47: 50S ribosomal protein L28



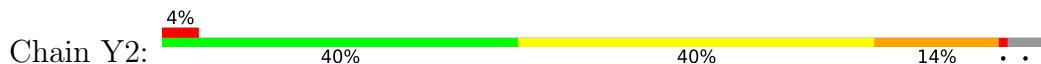
• Molecule 47: 50S ribosomal protein L28



• Molecule 48: 50S ribosomal protein L29

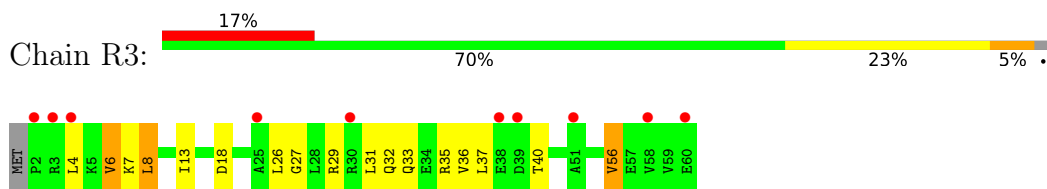


• Molecule 48: 50S ribosomal protein L29

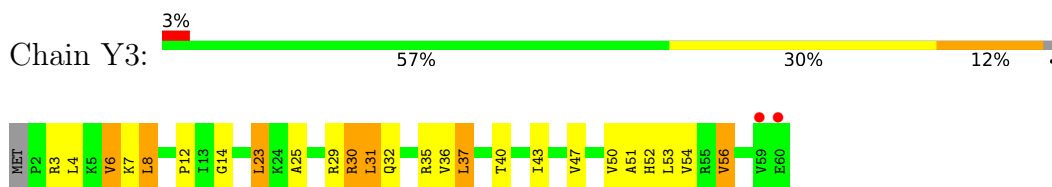




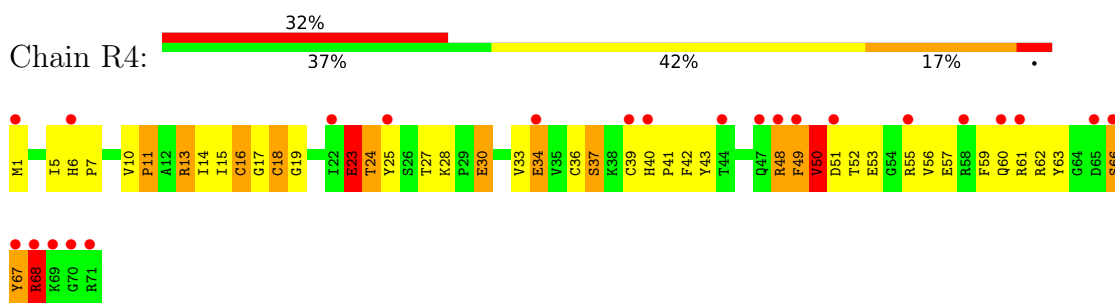
- Molecule 49: 50S ribosomal protein L30



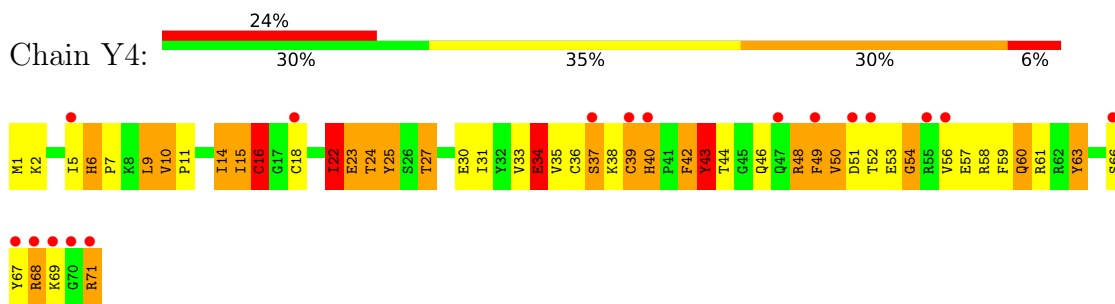
- Molecule 49: 50S ribosomal protein L30



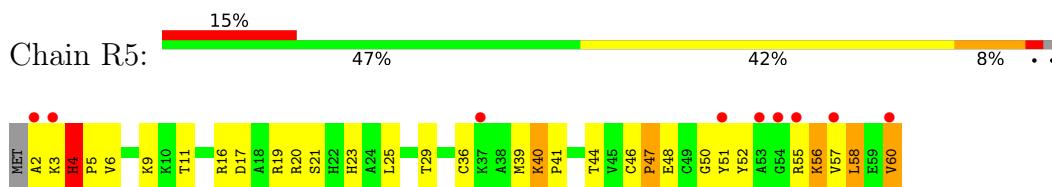
- Molecule 50: 50S ribosomal protein L31



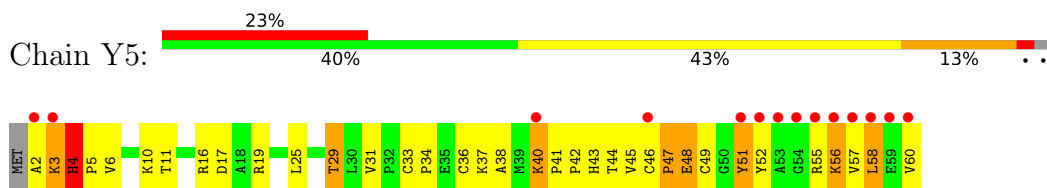
- Molecule 50: 50S ribosomal protein L31



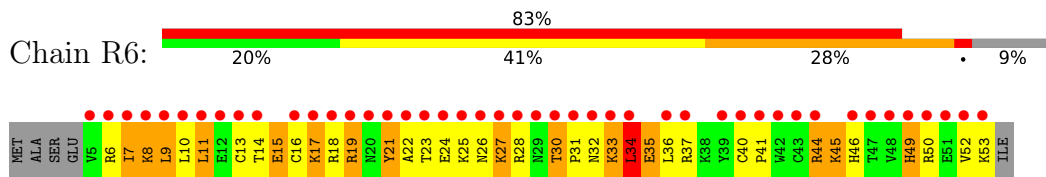
- Molecule 51: 50S ribosomal protein L32



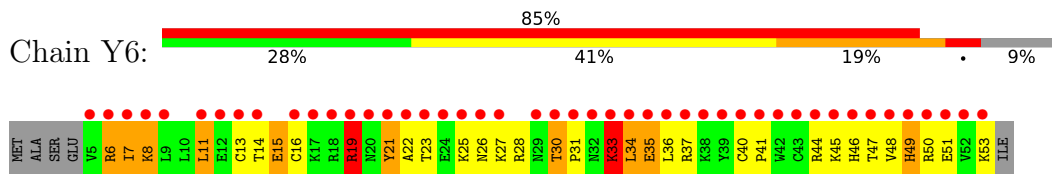
- Molecule 51: 50S ribosomal protein L32



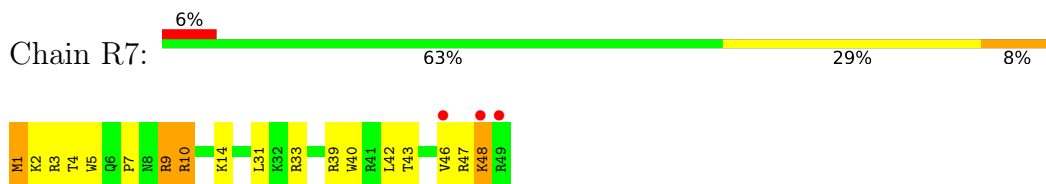
- Molecule 52: 50S ribosomal protein L33



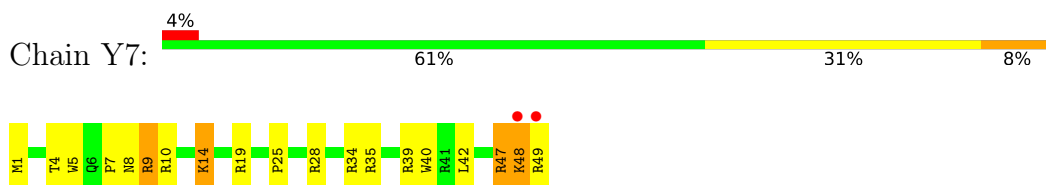
- Molecule 52: 50S ribosomal protein L33



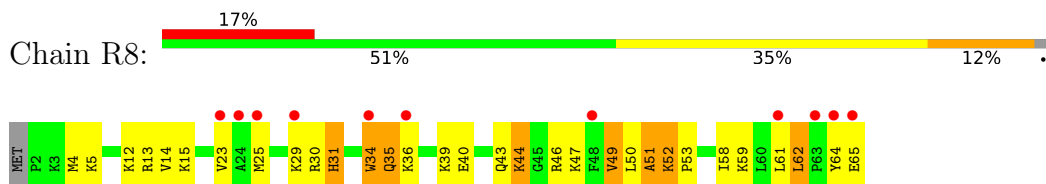
- Molecule 53: 50S ribosomal protein L34



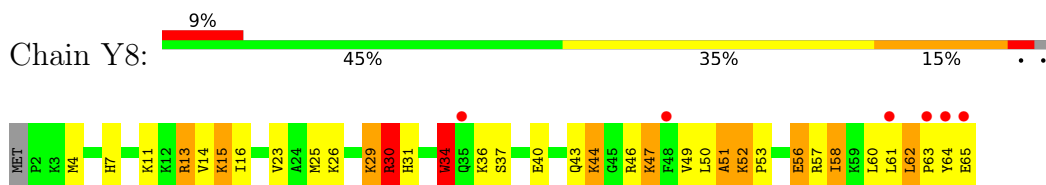
- Molecule 53: 50S ribosomal protein L34



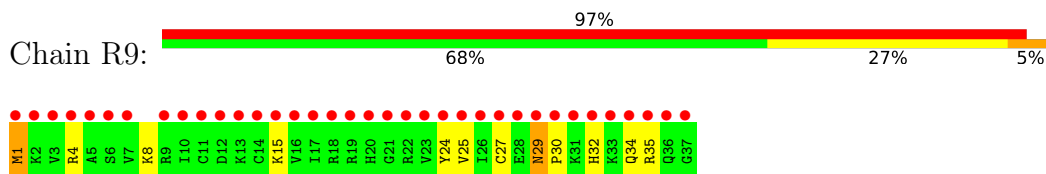
- Molecule 54: 50S ribosomal protein L35



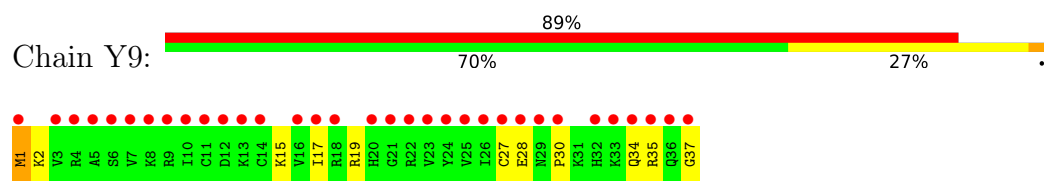
- Molecule 54: 50S ribosomal protein L35



- Molecule 55: 50S ribosomal protein L36



- Molecule 55: 50S ribosomal protein L36



- Molecule 56: tRNA acceptor end mimic



- Molecule 56: tRNA acceptor end mimic



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	209.81Å 449.41Å 620.86Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	155.22 – 2.94 181.78 – 2.80	Depositor EDS
% Data completeness (in resolution range)	98.6 (155.22-2.94) 97.9 (181.78-2.80)	Depositor EDS
$R_{merge}$	0.16	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.45 (at 2.82Å)	Xtrriage
Refinement program	PHENIX	Depositor
R, $R_{free}$	0.219 , 0.265 0.219 , 0.264	Depositor DCC
$R_{free}$ test set	64589 reflections (4.63%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	50.1	Xtrriage
Anisotropy	0.137	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.30 , 53.0	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.41$ , $\langle L^2 \rangle = 0.23$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.91	EDS
Total number of atoms	291993	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	51.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.57% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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 [i](#)

### 5.1 Standard geometry [i](#)

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

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	0.46	0/36098	1.01	71/56341 (0.1%)
1	XA	0.54	0/36101	1.09	114/56346 (0.2%)
2	QB	0.31	0/1959	0.52	0/2642
2	XB	0.32	0/1959	0.54	0/2642
3	QC	0.31	0/1629	0.53	0/2195
3	XC	0.36	0/1629	0.56	0/2195
4	QD	0.38	0/1733	0.58	1/2318 (0.0%)
4	XD	0.40	0/1733	0.60	0/2318
5	QE	0.35	0/1171	0.56	0/1576
5	XE	0.39	0/1171	0.59	0/1576
6	QF	0.38	0/856	0.54	0/1154
6	XF	0.38	0/856	0.58	0/1154
7	QG	0.33	0/1276	0.50	0/1709
7	XG	0.34	0/1276	0.50	0/1709
8	QH	0.33	0/1136	0.55	0/1527
8	XH	0.38	0/1136	0.58	0/1527
9	QI	0.31	0/1029	0.55	0/1379
9	XI	0.33	0/1029	0.57	0/1379
10	QJ	0.33	0/814	0.54	0/1095
10	XJ	0.35	0/814	0.59	0/1095
11	QK	0.36	0/900	0.57	0/1213
11	XK	0.38	0/900	0.58	0/1213
12	QL	0.37	0/991	0.61	0/1327
12	XL	0.45	0/991	0.74	1/1327 (0.1%)
13	QM	0.32	0/974	0.59	0/1303
13	XM	0.36	0/974	0.63	0/1303
14	QN	0.41	0/501	0.60	0/664
14	XN	0.42	0/501	0.66	0/664
15	QO	0.35	0/745	0.53	0/992
15	XO	0.39	0/745	0.54	0/992
16	QP	0.36	0/721	0.56	0/970
16	XP	0.35	0/721	0.57	0/970

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
17	QQ	0.35	0/847	0.53	0/1131
17	XQ	0.35	0/847	0.54	0/1131
18	QR	0.35	0/579	0.64	1/768 (0.1%)
18	XR	0.37	0/579	0.59	0/768
19	QS	0.33	0/689	0.60	0/926
19	XS	0.37	0/689	0.69	1/926 (0.1%)
20	QT	0.35	0/765	0.63	0/1007
20	XT	0.31	0/765	0.59	0/1007
21	QU	0.30	0/221	0.54	0/288
21	XU	0.31	0/221	0.61	0/288
22	QV	0.52	1/1836 (0.1%)	0.98	4/2859 (0.1%)
22	XV	0.59	1/1836 (0.1%)	1.06	4/2859 (0.1%)
23	QY	0.34	0/333	0.91	0/517
23	XY	0.40	0/333	0.94	0/517
24	QX	0.44	0/185	1.15	2/285 (0.7%)
24	XX	0.67	0/185	1.08	0/285
25	RA	0.63	8/69521 (0.0%)	1.16	318/108529 (0.3%)
25	YA	0.72	19/69543 (0.0%)	1.26	504/108563 (0.5%)
26	RB	0.49	0/2878	1.05	6/4490 (0.1%)
26	YB	0.56	0/2878	1.15	18/4490 (0.4%)
27	RD	0.50	0/2165	0.70	0/2919
27	YD	0.58	0/2165	0.78	1/2919 (0.0%)
28	RE	0.43	0/1601	0.73	3/2160 (0.1%)
28	YE	0.46	0/1601	0.75	2/2160 (0.1%)
29	RF	0.42	0/1620	0.62	0/2194
29	YF	0.48	0/1620	0.71	1/2194 (0.0%)
30	RG	0.31	0/1499	0.57	1/2016 (0.0%)
30	YG	0.39	0/1499	0.60	0/2016
31	RH	0.28	0/1332	0.58	0/1802
31	YH	0.45	0/1332	0.73	0/1802
32	RI	0.35	0/1151	0.67	0/1558
32	YI	0.35	0/1151	0.66	0/1558
33	RN	0.41	0/1131	0.62	0/1525
33	YN	0.43	0/1131	0.64	0/1525
34	RO	0.41	0/943	0.62	1/1269 (0.1%)
34	YO	0.49	0/943	0.65	0/1269
35	RP	0.43	0/1162	0.81	1/1544 (0.1%)
35	YP	0.49	0/1162	0.90	2/1544 (0.1%)
36	RQ	0.47	0/1143	0.73	2/1527 (0.1%)
36	YQ	0.57	0/1143	0.80	1/1527 (0.1%)
37	RR	0.42	0/982	0.69	0/1312
37	YR	0.44	0/982	0.73	0/1312
38	RS	0.36	0/892	0.64	0/1187

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
38	YS	0.40	0/892	0.75	1/1187 (0.1%)
39	RT	0.42	0/1155	0.63	0/1542
39	YT	0.44	0/1155	0.67	0/1542
40	RU	0.39	0/982	0.65	0/1306
40	YU	0.50	0/982	0.68	0/1306
41	RV	0.38	0/790	0.61	1/1057 (0.1%)
41	YV	0.45	0/790	0.73	1/1057 (0.1%)
42	RW	0.49	0/911	0.67	0/1220
42	YW	0.45	0/911	0.68	0/1220
43	RX	0.47	0/739	0.62	0/993
43	YX	0.50	0/739	0.66	0/993
44	RY	0.44	0/798	0.68	0/1064
44	YY	0.46	0/798	0.69	0/1064
45	RZ	0.34	0/1493	0.59	0/2026
45	YZ	0.37	0/1493	0.64	2/2026 (0.1%)
46	R0	0.45	0/657	0.65	0/874
46	Y0	0.48	0/657	0.69	0/874
47	R1	0.44	0/770	0.66	0/1022
47	Y1	0.46	0/770	0.69	0/1022
48	R2	0.39	0/583	0.65	0/771
48	Y2	0.52	0/583	0.73	0/771
49	R3	0.35	0/474	0.57	0/635
49	Y3	0.41	0/474	0.59	0/635
50	R4	0.33	0/594	0.68	0/795
50	Y4	0.37	0/594	0.68	0/795
51	R5	0.43	0/473	0.73	0/639
51	Y5	0.43	0/473	0.77	1/639 (0.2%)
52	R6	0.35	0/431	0.69	0/575
52	Y6	0.37	0/431	0.67	0/575
53	R7	0.49	0/438	0.68	0/575
53	Y7	0.57	0/438	0.71	0/575
54	R8	0.55	0/525	0.79	0/691
54	Y8	0.58	0/525	0.82	0/691
55	R9	0.26	0/310	0.45	0/407
55	Y9	0.32	0/310	0.48	0/407
56	Z6	0.80	0/40	1.80	1/60 (1.7%)
56	Z8	0.78	0/40	1.81	1/60 (1.7%)
All	All	0.56	29/316367 (0.0%)	1.04	1068/472979 (0.2%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
12	QL	0	1
12	XL	0	1
28	RE	0	1
28	YE	0	1
29	YF	0	1
31	RH	0	2
31	YH	0	2
38	YS	0	1
45	YZ	0	1
48	Y2	0	1
54	R8	0	2
54	Y8	0	2
All	All	0	16

All (29) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	QV	0	C	OP3-P	-10.50	1.48	1.61
22	XV	0	C	OP3-P	-10.49	1.48	1.61
25	YA	528	A	N9-C4	-9.10	1.32	1.37
25	YA	783	A	N9-C4	-7.66	1.33	1.37
25	YA	783	A	N3-C4	-7.55	1.30	1.34
25	YA	676	A	N9-C4	-7.13	1.33	1.37
25	RA	774	A	N9-C4	-7.10	1.33	1.37
25	YA	1786	A	N3-C4	-6.80	1.30	1.34
25	YA	1142(A)	A	N9-C4	-6.74	1.33	1.37
25	YA	71	A	N9-C4	-6.52	1.33	1.37
25	YA	2287	A	N9-C4	-6.37	1.34	1.37
25	RA	528	A	N9-C4	-6.27	1.34	1.37
25	YA	783	A	C5-C6	-6.22	1.35	1.41
25	RA	783	A	N9-C4	-6.05	1.34	1.37
25	RA	2518	A	N9-C4	-6.03	1.34	1.37
25	YA	1021	A	N9-C4	-5.71	1.34	1.37
25	YA	1786	A	N9-C4	-5.66	1.34	1.37
25	YA	783	A	N9-C8	5.56	1.42	1.37
25	RA	2053	G	C8-N7	5.55	1.34	1.30
25	YA	74	A	N9-C4	-5.53	1.34	1.37
25	YA	776	G	N7-C5	5.51	1.42	1.39
25	RA	2713	A	N9-C4	-5.35	1.34	1.37
25	YA	1950	G	C2-N3	5.31	1.36	1.32
25	YA	49	A	N7-C5	-5.29	1.36	1.39
25	YA	1991	U	C2-N3	-5.27	1.34	1.37
25	YA	974	G	C8-N7	5.21	1.34	1.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	RA	2287	A	N9-C4	-5.12	1.34	1.37
25	YA	774	A	C5-C6	-5.07	1.36	1.41
25	RA	1616	A	N9-C4	-5.04	1.34	1.37

All (1068) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1786	A	N7-C8-N9	13.21	120.41	113.80
25	YA	528	A	C2-N3-C4	-13.10	104.05	110.60
25	YA	783	A	C2-N3-C4	-12.39	104.41	110.60
25	YA	1786	A	C5-N7-C8	-12.26	97.77	103.90
25	YA	1786	A	C2-N3-C4	-11.73	104.73	110.60
25	YA	783	A	C5-N7-C8	-11.48	98.16	103.90
25	YA	1899	G	N3-C2-N2	11.37	127.86	119.90
25	RA	1899	G	N1-C2-N2	-11.25	106.07	116.20
25	YA	774	A	N1-C6-N6	11.19	125.32	118.60
25	YA	1991	U	N3-C4-O4	-10.91	111.76	119.40
25	YA	265	A	O4'-C1'-N9	10.83	116.86	108.20
25	RA	1786	A	N7-C8-N9	10.49	119.05	113.80
25	YA	774	A	C2-N3-C4	-10.47	105.36	110.60
25	RA	1786	A	C5-N7-C8	-10.46	98.67	103.90
25	YA	1899	G	N1-C2-N2	-10.44	106.80	116.20
25	YA	1678	G	C4-C5-N7	10.44	114.97	110.80
25	RA	2490	G	C4-C5-N7	10.37	114.95	110.80
25	RA	1899	G	N3-C2-N2	10.29	127.11	119.90
25	YA	2430	A	C2-N3-C4	-10.26	105.47	110.60
25	RA	2430	A	C2-N3-C4	-10.12	105.54	110.60
25	RA	2614	A	C6-N1-C2	-9.91	112.65	118.60
25	RA	2614	A	N1-C2-N3	9.86	134.23	129.30
25	YA	74	A	C2-N3-C4	-9.86	105.67	110.60
25	YA	71	A	C2-N3-C4	-9.80	105.70	110.60
25	YA	1678	G	C5-N7-C8	-9.77	99.42	104.30
25	YA	530	G	N3-C2-N2	9.56	126.59	119.90
1	QA	328	C	N1-C2-O2	9.46	124.58	118.90
25	YA	945	A	N1-C6-N6	9.44	124.27	118.60
25	YA	1786	A	N1-C2-N3	9.42	134.01	129.30
25	YA	1786	A	C8-N9-C4	-9.39	102.04	105.80
25	RA	1786	A	C2-N3-C4	-9.32	105.94	110.60
25	YA	676	A	C5-N7-C8	-9.30	99.25	103.90
25	YA	1021	A	C2-N3-C4	-9.21	105.99	110.60
25	YA	528	A	N3-C4-N9	-9.17	120.06	127.40
25	RA	774	A	C2-N3-C4	-9.14	106.03	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	1931	U	N3-C2-O2	-9.08	115.84	122.20
25	RA	1359	A	N9-C4-C5	-9.04	102.18	105.80
25	YA	676	A	C2-N3-C4	-9.02	106.09	110.60
25	RA	783	A	C2-N3-C4	-8.93	106.13	110.60
25	YA	1332	G	C6-C5-N7	-8.90	125.06	130.40
25	RA	1359	A	N1-C6-N6	8.90	123.94	118.60
25	YA	528	A	N3-C4-C5	8.90	133.03	126.80
1	QA	1322	C	C2-N1-C1'	8.83	128.52	118.80
25	YA	783	A	C4-C5-N7	8.79	115.09	110.70
25	YA	1824	G	O5'-P-OP2	-8.79	97.79	105.70
25	RA	1332	G	C2-N3-C4	-8.78	107.51	111.90
25	YA	1979	C	C6-N1-C2	-8.66	116.84	120.30
25	RA	783	A	C5-N7-C8	-8.65	99.58	103.90
25	YA	2287	A	C2-N3-C4	-8.64	106.28	110.60
25	RA	2490	G	C6-C5-N7	-8.63	125.22	130.40
1	QA	1297	C	P-O3'-C3'	8.61	130.03	119.70
25	YA	530	G	N1-C6-O6	-8.60	114.74	119.90
25	YA	372	G	O4'-C1'-N9	8.59	115.08	108.20
25	YA	776	G	C5-N7-C8	-8.56	100.02	104.30
25	RA	1396	U	N3-C2-O2	-8.55	116.21	122.20
25	RA	2287	A	C2-N3-C4	-8.52	106.34	110.60
25	YA	945	A	C5-N7-C8	-8.52	99.64	103.90
25	YA	776	G	N1-C6-O6	-8.51	114.79	119.90
25	YA	1950	G	N7-C8-N9	8.49	117.35	113.10
25	YA	1678	G	C6-C5-N7	-8.46	125.32	130.40
25	YA	530	G	N1-C2-N2	-8.44	108.60	116.20
25	RA	776	G	C5-N7-C8	-8.42	100.09	104.30
25	RA	1204	A	C2-N3-C4	-8.41	106.39	110.60
25	RA	1931	U	C5-C4-O4	8.41	130.94	125.90
25	YA	1204	A	O4'-C1'-N9	8.41	114.92	108.20
25	YA	945	A	C4-C5-N7	8.39	114.90	110.70
25	YA	774	A	N1-C2-N3	8.38	133.49	129.30
25	RA	2053	G	C5-N7-C8	-8.38	100.11	104.30
25	YA	776	G	N7-C8-N9	8.36	117.28	113.10
1	XA	1336	C	C2-N1-C1'	8.34	127.98	118.80
1	XA	792	A	O4'-C1'-N9	8.34	114.87	108.20
25	YA	974(A)	C	N3-C2-O2	-8.34	116.06	121.90
25	YA	2490	G	C4-C5-N7	8.31	114.12	110.80
25	RA	1980	G	P-O3'-C3'	8.31	129.67	119.70
25	YA	1332	G	C4-C5-N7	8.31	114.12	110.80
25	YA	120	U	C5-C6-N1	-8.28	118.56	122.70
25	YA	2490	G	C5-N7-C8	-8.28	100.16	104.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	518	C	C2-N3-C4	-8.27	115.76	119.90
25	YA	1991	U	N3-C4-C5	8.26	119.56	114.60
25	YA	1210	A	C8-N9-C4	-8.21	102.52	105.80
25	YA	2702	U	C2-N1-C1'	8.21	127.55	117.70
1	QA	1158	C	C2-N1-C1'	8.20	127.82	118.80
25	YA	330	A	C2-N3-C4	-8.17	106.52	110.60
1	QA	1158	C	N1-C2-O2	8.16	123.80	118.90
25	YA	1899	G	C6-C5-N7	-8.16	125.50	130.40
25	YA	74	A	N1-C2-N3	8.13	133.37	129.30
1	XA	963	G	N3-C4-C5	-8.09	124.55	128.60
25	RA	1130	U	P-O3'-C3'	8.09	129.40	119.70
25	YA	783	A	N7-C8-N9	8.08	117.84	113.80
25	YA	774	A	C6-C5-N7	-8.08	126.65	132.30
1	XA	1301	U	C2-N1-C1'	8.03	127.34	117.70
25	YA	141	A	N7-C8-N9	8.03	117.82	113.80
25	YA	1496	A	N7-C8-N9	8.03	117.81	113.80
25	YA	1616	A	C5-N7-C8	-8.01	99.90	103.90
25	RA	2307	G	O4'-C1'-N9	8.00	114.60	108.20
25	RA	2335	A	O4'-C1'-N9	7.99	114.59	108.20
25	YA	1950	G	C4-N9-C1'	7.98	136.88	126.50
25	RA	2307	G	C4-N9-C1'	7.96	136.85	126.50
25	YA	1678	G	N7-C8-N9	7.95	117.07	113.10
25	RA	776	G	N7-C8-N9	7.95	117.07	113.10
25	YA	2490	G	C6-C5-N7	-7.94	125.63	130.40
25	RA	1937	A	O4'-C1'-N9	7.94	114.55	108.20
25	RA	2490	G	C5-N7-C8	-7.91	100.34	104.30
25	RA	1396	U	N1-C2-O2	7.88	128.32	122.80
1	QA	1301	U	C2-N1-C1'	7.87	127.15	117.70
25	YA	1786	A	C6-C5-N7	-7.87	126.79	132.30
1	XA	792	A	N1-C6-N6	7.87	123.32	118.60
25	YA	2712(A)	A	N7-C8-N9	7.87	117.73	113.80
25	YA	2447	G	C8-N9-C4	-7.85	103.26	106.40
25	YA	2544	G	N1-C6-O6	7.84	124.61	119.90
25	YA	945	A	C6-C5-N7	-7.84	126.81	132.30
25	YA	1396	U	N3-C2-O2	-7.83	116.72	122.20
1	XA	1054	C	C2-N1-C1'	7.82	127.41	118.80
25	YA	2584	U	N3-C2-O2	-7.82	116.73	122.20
1	QA	1322	C	N1-C2-O2	7.78	123.56	118.90
25	YA	1210	A	N7-C8-N9	7.77	117.69	113.80
1	XA	328	C	C2-N1-C1'	7.77	127.34	118.80
25	YA	1819	A	P-O3'-C3'	7.75	129.00	119.70
25	YA	1142(A)	A	C2-N3-C4	-7.74	106.73	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1899	G	N3-C4-N9	7.74	130.64	126.00
1	XA	812	C	P-O3'-C3'	7.68	128.92	119.70
25	YA	1190	G	C5-N7-C8	-7.68	100.46	104.30
25	RA	1929	G	OP1-P-O3'	7.67	122.06	105.20
25	YA	470	A	O5'-P-OP1	-7.64	98.82	105.70
25	RA	774	A	N3-C4-C5	7.61	132.12	126.80
25	RA	2688	U	N3-C2-O2	-7.61	116.88	122.20
1	QA	1322	C	C6-N1-C1'	-7.59	111.69	120.80
25	YA	1678	G	C2-N3-C4	-7.59	108.11	111.90
25	YA	1678	G	N1-C6-O6	7.59	124.45	119.90
25	RA	2490	G	C4-N9-C1'	7.55	136.32	126.50
25	YA	1698	A	C2-N3-C4	-7.55	106.83	110.60
25	YA	1130	U	P-O3'-C3'	7.54	128.75	119.70
25	YA	676	A	N3-C4-C5	7.52	132.06	126.80
25	YA	1404	C	O5'-P-OP1	-7.52	98.93	105.70
25	RA	528	A	C2-N3-C4	-7.51	106.85	110.60
25	YA	1396	U	N1-C2-O2	7.50	128.05	122.80
25	YA	1204	A	N1-C2-N3	7.49	133.05	129.30
25	RA	1786	A	C4-C5-N7	7.47	114.44	110.70
25	YA	2713	A	C5-N7-C8	-7.46	100.17	103.90
25	YA	2688	U	C4-C5-C6	7.46	124.17	119.70
25	YA	450	G	C5-C6-N1	-7.44	107.78	111.50
25	RA	1786	A	C6-C5-N7	-7.43	127.09	132.30
25	YA	2346	A	C2-N3-C4	-7.43	106.88	110.60
25	YA	1931	U	C5-C4-O4	7.42	130.35	125.90
1	XA	1302	U	C2-N1-C1'	7.42	126.61	117.70
25	YA	774	A	C5-N7-C8	-7.42	100.19	103.90
25	YA	1950	G	N3-C2-N2	7.40	125.08	119.90
22	QV	16	C	C2-N1-C1'	7.38	126.92	118.80
25	YA	2490	G	N7-C8-N9	7.38	116.79	113.10
1	XA	1158	C	C2-N1-C1'	7.38	126.92	118.80
25	YA	1332	G	C4-N9-C1'	7.38	136.09	126.50
25	YA	774	A	C4-C5-N7	7.37	114.39	110.70
25	YA	1332	G	C5-N7-C8	-7.37	100.62	104.30
25	YA	2429	G	OP2-P-O3'	7.36	121.38	105.20
1	XA	1498	U	C2-N1-C1'	7.35	126.52	117.70
1	XA	792	A	C4-C5-N7	7.34	114.37	110.70
25	YA	2688	U	N3-C2-O2	-7.33	117.07	122.20
25	RA	2060	A	P-O3'-C3'	7.33	128.49	119.70
1	XA	753	A	P-O3'-C3'	7.33	128.49	119.70
25	RA	1204	A	O4'-C1'-N9	7.32	114.06	108.20
25	RA	1304	C	N1-C2-O2	7.32	123.29	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1382	G	N1-C6-O6	7.32	124.29	119.90
25	RA	372	G	O4'-C1'-N9	7.32	114.05	108.20
25	RA	676	A	O4'-C1'-N9	7.31	114.05	108.20
25	YA	1332	G	N7-C8-N9	7.30	116.75	113.10
25	YA	140	A	N7-C8-N9	7.30	117.45	113.80
25	YA	371	A	O5'-P-OP1	-7.29	99.14	105.70
25	YA	1950	G	O4'-C1'-N9	7.28	114.02	108.20
25	YA	1204	A	C2-N3-C4	-7.28	106.96	110.60
25	YA	856	C	C6-N1-C2	-7.26	117.39	120.30
25	YA	512	G	O4'-C1'-N9	7.26	114.01	108.20
25	YA	1021	A	C5-N7-C8	-7.26	100.27	103.90
25	YA	120	U	C4-C5-C6	7.25	124.05	119.70
25	RA	28	A	N7-C8-N9	7.24	117.42	113.80
25	YA	1950	G	C8-N9-C4	-7.24	103.50	106.40
25	YA	676	A	O4'-C1'-N9	7.24	113.99	108.20
25	YA	141	A	C8-N9-C4	-7.22	102.91	105.80
25	YA	1799	G	P-O3'-C3'	7.22	128.36	119.70
25	YA	1936	A	N9-C4-C5	-7.22	102.91	105.80
25	RA	1931	U	N3-C4-O4	-7.20	114.36	119.40
25	YA	1929	G	OP1-P-O3'	7.20	121.04	105.20
22	QV	16	C	N1-C2-O2	7.18	123.21	118.90
28	YE	21	VAL	C-N-CD	-7.18	104.80	120.60
1	XA	1151	A	O4'-C1'-N9	7.18	113.94	108.20
25	YA	1313	U	C2-N1-C1'	7.17	126.31	117.70
25	RA	2490	G	N7-C8-N9	7.17	116.68	113.10
25	RA	2439	A	C8-N9-C4	-7.17	102.93	105.80
25	YA	621	A	C2-N3-C4	-7.16	107.02	110.60
25	YA	1616	A	N7-C8-N9	7.16	117.38	113.80
25	RA	1786	A	N1-C6-N6	7.16	122.89	118.60
25	RA	2702	U	C2-N1-C1'	7.14	126.27	117.70
12	XL	47	LYS	C-N-CD	-7.14	104.90	120.60
25	YA	141	A	C5-N7-C8	-7.13	100.33	103.90
25	RA	1929	G	C4-C5-N7	7.12	113.65	110.80
25	RA	1698	A	C2-N3-C4	-7.10	107.05	110.60
25	YA	140	A	C5-N7-C8	-7.09	100.36	103.90
25	YA	446	G	N1-C6-O6	7.07	124.14	119.90
25	YA	1931	U	N3-C2-O2	-7.06	117.26	122.20
25	RA	470	A	O5'-P-OP1	-7.05	99.36	105.70
25	RA	2036	C	O5'-P-OP2	-7.04	99.36	105.70
25	RA	2053	G	C4-C5-N7	7.04	113.62	110.80
26	YB	31	C	C6-N1-C2	-7.03	117.49	120.30
25	YA	1496	A	C8-N9-C4	-7.02	102.99	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	242	G	P-O3'-C3'	7.01	128.11	119.70
25	RA	2726	U	C2-N1-C1'	7.01	126.11	117.70
25	YA	2688	U	C5-C4-O4	7.00	130.10	125.90
25	RA	2307	G	C6-C5-N7	-7.00	126.20	130.40
25	RA	1694	C	P-O3'-C3'	7.00	128.10	119.70
25	YA	974(A)	C	N1-C2-O2	6.99	123.09	118.90
25	RA	1786	A	C5-C6-N1	-6.98	114.21	117.70
1	XA	328	C	C6-N1-C2	-6.97	117.51	120.30
25	YA	1614	A	C5-N7-C8	-6.96	100.42	103.90
25	YA	1427	A	P-O3'-C3'	6.96	128.05	119.70
25	RA	1899	G	C6-C5-N7	-6.96	126.22	130.40
25	YA	1653	G	P-O3'-C3'	6.93	128.01	119.70
1	XA	1336	C	C6-N1-C2	-6.91	117.54	120.30
1	QA	1302	U	C2-N1-C1'	6.91	125.99	117.70
25	RA	1332	G	N3-C4-C5	6.90	132.05	128.60
25	YA	1929	G	C4-C5-N7	6.89	113.56	110.80
25	RA	2518	A	C2-N3-C4	-6.89	107.16	110.60
25	YA	621	A	N7-C8-N9	6.89	117.24	113.80
25	YA	2587	A	N1-C6-N6	-6.88	114.47	118.60
25	YA	974(A)	C	N3-C4-N4	-6.88	113.18	118.00
25	RA	74	A	C2-N3-C4	-6.86	107.17	110.60
25	YA	1889	A	O5'-P-OP1	-6.85	99.54	105.70
1	QA	792	A	P-O3'-C3'	6.84	127.91	119.70
25	YA	2311	A	C2-N3-C4	-6.84	107.18	110.60
1	XA	1054	C	C6-N1-C1'	-6.84	112.59	120.80
25	RA	2584	U	N3-C2-O2	-6.83	117.42	122.20
25	YA	2689	U	N3-C4-O4	-6.83	114.62	119.40
25	RA	1930	G	C4-N9-C1'	-6.83	117.62	126.50
25	RA	2544	G	N1-C6-O6	6.83	124.00	119.90
25	YA	2481	G	P-O3'-C3'	6.83	127.89	119.70
56	Z8	74	C	N1-C2-O2	6.82	122.99	118.90
1	XA	328	C	N1-C2-O2	6.82	122.99	118.90
1	XA	1065	U	P-O3'-C3'	6.81	127.88	119.70
1	XA	1128	C	C6-N1-C2	-6.80	117.58	120.30
25	YA	783	A	N3-C4-C5	6.80	131.56	126.80
25	YA	1428	C	O5'-P-OP2	6.80	118.86	110.70
25	RA	503	A	P-O3'-C3'	6.79	127.85	119.70
1	XA	1200	C	P-O3'-C3'	6.79	127.85	119.70
25	YA	1528	A	N7-C8-N9	6.79	117.19	113.80
56	Z6	74	C	N1-C2-O2	6.77	122.96	118.90
26	RB	44	G	C4-N9-C1'	-6.76	117.71	126.50
25	RA	2559	C	N1-C2-O2	6.76	122.95	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	676	A	N3-C4-N9	-6.76	121.99	127.40
25	YA	1929	G	N1-C6-O6	6.75	123.95	119.90
25	YA	1955	U	P-O3'-C3'	6.75	127.80	119.70
1	XA	1108	G	C5-C6-N1	-6.74	108.13	111.50
25	RA	1653	G	P-O3'-C3'	6.74	127.79	119.70
25	YA	676	A	N7-C8-N9	6.74	117.17	113.80
1	XA	963	G	N3-C4-N9	6.74	130.04	126.00
25	YA	828	U	N3-C2-O2	-6.74	117.48	122.20
1	QA	703	G	N3-C4-C5	-6.73	125.23	128.60
25	RA	2490	G	O4'-C1'-N9	6.73	113.58	108.20
25	YA	242	G	P-O3'-C3'	6.71	127.76	119.70
25	YA	245	G	O5'-P-OP1	-6.71	99.66	105.70
25	RA	1266	G	C8-N9-C4	6.71	109.08	106.40
26	YB	44	G	C4-N9-C1'	-6.71	117.78	126.50
25	RA	2307	G	N7-C8-N9	6.70	116.45	113.10
25	YA	71	A	N3-C4-C5	6.70	131.49	126.80
25	YA	2430	A	N1-C2-N3	6.70	132.65	129.30
25	YA	860	U	N3-C2-O2	-6.69	117.52	122.20
1	QA	1065	U	OP2-P-O3'	6.69	119.91	105.20
25	RA	974(A)	C	N3-C2-O2	-6.68	117.22	121.90
25	YA	1616	A	O4'-C1'-N9	6.67	113.54	108.20
25	RA	774	A	N3-C4-N9	-6.67	122.06	127.40
1	XA	1298	C	P-O3'-C3'	6.67	127.71	119.70
25	RA	783	A	C4-C5-N7	6.66	114.03	110.70
25	YA	776	G	C4-C5-C6	-6.66	114.81	118.80
1	QA	1065	U	P-O3'-C3'	6.65	127.68	119.70
25	YA	528	A	N1-C2-N3	6.64	132.62	129.30
25	RA	2318	G	O4'-C1'-N9	6.64	113.51	108.20
1	QA	328	C	N3-C2-O2	-6.63	117.26	121.90
1	QA	1301	U	N1-C2-O2	6.63	127.44	122.80
25	YA	828	U	C5-C4-O4	6.63	129.88	125.90
25	YA	99	U	P-O3'-C3'	6.62	127.65	119.70
25	YA	2439	A	N7-C8-N9	6.62	117.11	113.80
25	YA	2609	U	C5-C6-N1	-6.62	119.39	122.70
25	RA	1698	A	N1-C6-N6	6.61	122.57	118.60
25	RA	2702	U	O4'-C1'-N1	6.61	113.49	108.20
25	YA	588	U	O5'-P-OP1	-6.61	99.75	105.70
25	YA	238	C	C5-C6-N1	-6.61	117.69	121.00
22	XV	16	C	C2-N1-C1'	6.61	126.07	118.80
25	RA	1698	A	C6-C5-N7	-6.60	127.68	132.30
25	YA	27	G	N3-C4-N9	-6.59	122.05	126.00
25	RA	2420	C	O5'-P-OP1	-6.58	99.77	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1929	G	C5-C6-O6	-6.58	124.65	128.60
1	XA	1200	C	OP2-P-O3'	6.58	119.67	105.20
25	RA	2026	C	N3-C4-C5	6.58	124.53	121.90
25	YA	1786	A	C4-C5-N7	6.57	113.99	110.70
25	RA	1359	A	C4-C5-N7	6.57	113.98	110.70
25	RA	1905	C	N3-C4-C5	6.56	124.52	121.90
25	RA	1332	G	N3-C4-N9	-6.55	122.07	126.00
25	YA	1213	A	N1-C6-N6	6.55	122.53	118.60
1	XA	703	G	N3-C4-C5	-6.55	125.32	128.60
25	YA	2713	A	N1-C6-N6	6.55	122.53	118.60
1	QA	328	C	C2-N1-C1'	6.55	126.00	118.80
22	XV	16	C	N1-C2-O2	6.55	122.83	118.90
25	RA	1496	A	N7-C8-N9	6.55	117.07	113.80
25	YA	1496	A	C5-N7-C8	-6.54	100.63	103.90
25	YA	503	A	P-O3'-C3'	6.53	127.54	119.70
25	YA	2070	G	N1-C6-O6	-6.53	115.98	119.90
25	RA	1931	U	O5'-P-OP1	-6.53	99.83	105.70
25	YA	372	G	C4-N9-C1'	-6.53	118.02	126.50
25	YA	1694	C	P-O3'-C3'	6.53	127.53	119.70
25	YA	1428	C	O5'-P-OP1	-6.52	99.83	105.70
38	YS	56	LEU	CA-CB-CG	6.52	130.30	115.30
25	RA	140	A	N7-C8-N9	6.52	117.06	113.80
28	RE	21	VAL	C-N-CD	-6.52	106.26	120.60
25	RA	2392	A	C2-N3-C4	-6.51	107.34	110.60
25	YA	860	U	C4-C5-C6	6.51	123.61	119.70
1	XA	1336	C	N1-C2-O2	6.51	122.81	118.90
25	YA	783	A	C6-C5-N7	-6.51	127.75	132.30
25	YA	1786	A	C5-C6-N1	-6.50	114.45	117.70
25	YA	1021	A	N7-C8-N9	6.50	117.05	113.80
25	RA	530	G	N3-C2-N2	6.49	124.44	119.90
25	RA	2518	A	N1-C6-N6	6.49	122.49	118.60
1	XA	117	G	N1-C6-O6	6.48	123.79	119.90
25	RA	2447	G	C8-N9-C1'	6.48	135.43	127.00
25	YA	528	A	C5-C6-N1	-6.48	114.46	117.70
25	RA	1929	G	C5-N7-C8	-6.48	101.06	104.30
25	RA	1396	U	C2-N1-C1'	6.48	125.47	117.70
1	XA	690	G	O4'-C1'-N9	6.48	113.38	108.20
25	YA	2713	A	C4-C5-N7	6.48	113.94	110.70
25	YA	570	G	C5-C6-N1	-6.47	108.26	111.50
25	RA	1790	C	C6-N1-C2	6.47	122.89	120.30
1	XA	410	G	P-O3'-C3'	6.46	127.45	119.70
25	RA	2490	G	C8-N9-C1'	-6.46	118.61	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	790	C	C6-N1-C2	6.46	122.88	120.30
25	YA	1899	G	N3-C4-C5	-6.46	125.37	128.60
1	XA	1297	C	P-O3'-C3'	6.45	127.44	119.70
25	YA	195	A	C5-N7-C8	-6.44	100.68	103.90
25	YA	621	A	C5-N7-C8	-6.44	100.68	103.90
25	YA	783	A	N1-C6-N6	6.44	122.46	118.60
25	RA	1123	C	C6-N1-C2	6.43	122.87	120.30
25	RA	945	A	C5-N7-C8	-6.43	100.69	103.90
25	YA	1969	A	C8-N9-C4	6.43	108.37	105.80
25	YA	679	C	C6-N1-C2	6.43	122.87	120.30
25	YA	2458	G	N3-C4-C5	-6.42	125.39	128.60
25	RA	2307	G	C8-N9-C1'	-6.42	118.65	127.00
25	YA	1925	C	N1-C2-O2	-6.42	115.05	118.90
25	YA	2032	G	C5-N7-C8	-6.42	101.09	104.30
25	RA	2702	U	N1-C2-O2	6.42	127.29	122.80
1	XA	108	G	C4-C5-N7	6.42	113.37	110.80
1	XA	792	A	N9-C4-C5	-6.41	103.23	105.80
1	XA	1053	G	C4-N9-C1'	-6.41	118.17	126.50
1	XA	827	U	N3-C2-O2	-6.41	117.72	122.20
25	YA	1153	C	N1-C2-O2	-6.41	115.06	118.90
25	RA	1992	G	C8-N9-C4	-6.40	103.84	106.40
25	RA	974(A)	C	P-O3'-C3'	6.40	127.38	119.70
25	YA	1799	G	N3-C4-C5	-6.40	125.40	128.60
25	YA	761	A	N1-C6-N6	6.40	122.44	118.60
25	YA	2587	A	C8-N9-C4	-6.39	103.24	105.80
25	YA	1021	A	N1-C2-N3	6.39	132.50	129.30
25	YA	1950	G	C6-C5-N7	-6.38	126.57	130.40
25	RA	2346	A	C2-N3-C4	-6.38	107.41	110.60
1	QA	1158	C	N3-C2-O2	-6.38	117.44	121.90
1	QA	328	C	P-O3'-C3'	6.37	127.34	119.70
25	YA	1528	A	C8-N9-C4	-6.37	103.25	105.80
1	XA	914	A	O5'-P-OP1	-6.37	99.97	105.70
25	YA	1955	U	C5-C4-O4	6.36	129.72	125.90
25	YA	2779	U	N3-C2-O2	-6.36	117.75	122.20
25	YA	2502	G	O5'-P-OP1	-6.36	99.98	105.70
26	YB	108	C	O4'-C1'-N1	6.35	113.28	108.20
25	YA	1992	G	P-O3'-C3'	6.35	127.32	119.70
25	YA	783	A	C8-N9-C4	-6.35	103.26	105.80
24	QX	3	G	P-O3'-C3'	6.34	127.31	119.70
25	YA	27	G	N9-C4-C5	6.34	107.93	105.40
25	YA	1210	A	C5-N7-C8	-6.33	100.73	103.90
25	YA	2584	U	C5-C4-O4	6.33	129.70	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	2832	U	P-O3'-C3'	6.33	127.30	119.70
1	XA	576	G	O5'-P-OP2	-6.32	100.01	105.70
25	YA	577	G	N1-C6-O6	6.32	123.69	119.90
25	RA	2346	A	N1-C2-N3	6.32	132.46	129.30
25	YA	2598	A	OP2-P-O3'	6.32	119.09	105.20
25	YA	372	G	OP2-P-O3'	6.31	119.09	105.20
25	YA	2638	G	N3-C4-N9	6.31	129.79	126.00
25	YA	2712	U	O4'-C1'-N1	6.31	113.25	108.20
25	YA	2318	G	C6-C5-N7	-6.30	126.62	130.40
25	YA	2430	A	C5-N7-C8	-6.30	100.75	103.90
1	QA	723	U	C2-N1-C1'	6.30	125.26	117.70
25	RA	265	A	O4'-C1'-N9	6.30	113.24	108.20
25	RA	2712(A)	A	N7-C8-N9	6.30	116.95	113.80
25	RA	1786	A	N9-C1'-C2'	6.30	122.19	114.00
1	QA	890	G	O4'-C1'-N9	6.29	113.24	108.20
25	YA	860	U	C5-C6-N1	-6.29	119.56	122.70
25	RA	372	G	C4-N9-C1'	-6.28	118.34	126.50
25	YA	1142(A)	A	N3-C4-C5	6.28	131.19	126.80
25	RA	1905	C	C6-N1-C2	6.27	122.81	120.30
1	XA	960	U	N3-C2-O2	-6.26	117.82	122.20
25	RA	2318	G	C4-N9-C1'	6.26	134.64	126.50
25	RA	783	A	N7-C8-N9	6.26	116.93	113.80
25	YA	774	A	C5-C6-N6	-6.25	118.70	123.70
25	RA	794	G	N1-C6-O6	-6.24	116.16	119.90
25	RA	2702	U	N3-C2-O2	-6.24	117.83	122.20
1	QA	974	A	O4'-C1'-N9	6.24	113.19	108.20
25	YA	1614	A	C4-C5-N7	6.24	113.82	110.70
1	QA	913	A	P-O3'-C3'	6.21	127.16	119.70
25	RA	1359	A	C5-C6-N6	-6.21	118.73	123.70
25	RA	915	C	C6-N1-C2	-6.20	117.82	120.30
1	XA	1158	C	C6-N1-C2	-6.20	117.82	120.30
25	RA	1313	U	C2-N1-C1'	6.20	125.14	117.70
25	RA	1314	C	N1-C2-O2	6.19	122.61	118.90
25	YA	2712	U	C2-N1-C1'	6.19	125.12	117.70
1	XA	913	A	P-O3'-C3'	6.18	127.11	119.70
1	XA	1302	U	N1-C2-O2	6.18	127.12	122.80
25	RA	1633	G	C8-N9-C4	-6.17	103.93	106.40
26	YB	66	A	P-O3'-C3'	6.17	127.11	119.70
25	RA	1543	A	O4'-C1'-N9	6.17	113.13	108.20
25	YA	140	A	C8-N9-C4	-6.17	103.33	105.80
1	QA	687	A	P-O3'-C3'	6.16	127.10	119.70
25	YA	1899	G	C4-N9-C1'	6.16	134.51	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	2447	G	C8-N9-C1'	6.15	135.00	127.00
25	YA	2702	U	C5-C6-N1	6.15	125.78	122.70
25	YA	1544	C	O5'-P-OP1	-6.15	100.17	105.70
25	RA	860	U	C4-C5-C6	6.15	123.39	119.70
25	RA	805	G	C4-C5-N7	6.15	113.26	110.80
25	RA	1653	G	N3-C4-C5	-6.14	125.53	128.60
1	XA	115	G	P-O3'-C3'	6.14	127.06	119.70
25	YA	1314	C	C2-N1-C1'	6.14	125.55	118.80
25	YA	1614	A	N1-C6-N6	6.13	122.28	118.60
1	QA	1528	U	P-O3'-C3'	6.13	127.06	119.70
1	XA	1301	U	N1-C2-O2	6.13	127.09	122.80
25	RA	2318	G	N7-C8-N9	6.13	116.16	113.10
25	RA	372	G	C8-N9-C1'	6.12	134.96	127.00
25	RA	2392	A	C5-N7-C8	-6.12	100.84	103.90
25	RA	2056	G	C5-N7-C8	-6.11	101.24	104.30
25	YA	945	A	C5-C6-N6	-6.11	118.81	123.70
1	XA	703	G	N3-C4-N9	6.11	129.66	126.00
26	YB	24	G	P-O3'-C3'	6.10	127.02	119.70
25	YA	227	A	C8-N9-C4	-6.09	103.36	105.80
25	YA	2681	C	P-O3'-C3'	6.09	127.01	119.70
25	RA	974(A)	C	C6-N1-C2	-6.09	117.86	120.30
25	RA	2392	A	N7-C8-N9	6.09	116.85	113.80
25	YA	446	G	C5-C6-O6	-6.09	124.94	128.60
25	RA	1929	G	N3-C4-C5	6.09	131.65	128.60
1	QA	1158	C	C6-N1-C2	-6.09	117.86	120.30
25	RA	2490	G	N9-C4-C5	-6.09	102.97	105.40
25	YA	859	G	P-O3'-C3'	6.09	127.00	119.70
25	RA	676	A	C5-N7-C8	-6.08	100.86	103.90
25	RA	2079	U	O5'-P-OP1	-6.08	100.23	105.70
25	YA	2307	G	O4'-C1'-N9	6.08	113.06	108.20
29	YF	74	ARG	NE-CZ-NH1	6.08	123.34	120.30
25	RA	1653	G	C8-N9-C4	-6.08	103.97	106.40
25	YA	570	G	C4-C5-N7	-6.08	108.37	110.80
25	RA	945	A	C4-C5-N7	6.07	113.74	110.70
25	RA	372	G	OP2-P-O3'	6.07	118.56	105.20
25	YA	140	A	C2-N3-C4	-6.07	107.57	110.60
25	RA	752	A	P-O3'-C3'	6.07	126.98	119.70
25	YA	1698	A	C5-N7-C8	-6.07	100.87	103.90
25	RA	221	A	C8-N9-C4	-6.06	103.38	105.80
25	RA	2712	U	N3-C2-O2	-6.06	117.96	122.20
25	YA	1991	U	C4-C5-C6	-6.05	116.07	119.70
25	YA	1647	G	O5'-P-OP1	-6.05	100.25	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	2496	C	N3-C4-C5	6.05	124.32	121.90
36	RQ	79	LEU	CA-CB-CG	6.04	129.20	115.30
25	RA	1786	A	C8-N9-C4	-6.04	103.38	105.80
25	YA	2610	C	P-O3'-C3'	6.04	126.95	119.70
25	RA	530	G	O4'-C1'-N9	6.04	113.03	108.20
26	YB	108	C	C2-N1-C1'	-6.04	112.16	118.80
25	RA	828	U	N3-C2-O2	-6.03	117.98	122.20
25	RA	2053	G	C8-N9-C1'	6.02	134.83	127.00
25	RA	140	A	C8-N9-C4	-6.02	103.39	105.80
1	QA	812	C	P-O3'-C3'	6.01	126.92	119.70
25	YA	621	A	O4'-C1'-N9	6.01	113.01	108.20
25	RA	2776	A	P-O3'-C3'	6.01	126.91	119.70
25	RA	773	U	C5-C6-N1	-6.00	119.70	122.70
25	RA	1632	A	N1-C6-N6	6.00	122.20	118.60
25	YA	140	A	C6-C5-N7	-6.00	128.10	132.30
30	RG	34	LEU	CA-CB-CG	6.00	129.10	115.30
25	YA	1332	G	C8-N9-C1'	-6.00	119.20	127.00
26	RB	6	C	C6-N1-C2	5.99	122.70	120.30
1	QA	1200	C	OP2-P-O3'	5.99	118.38	105.20
25	RA	1012	U	P-O3'-C3'	5.99	126.89	119.70
25	RA	2430	A	N1-C2-N3	5.99	132.30	129.30
25	RA	2490	G	N3-C4-N9	5.99	129.59	126.00
1	XA	703	G	C4-N9-C1'	5.99	134.28	126.50
25	YA	2518	A	C2-N3-C4	-5.98	107.61	110.60
25	RA	74	A	N1-C6-N6	5.97	122.19	118.60
25	YA	1007	C	O5'-P-OP1	-5.97	100.32	105.70
25	YA	271(B)	G	P-O3'-C3'	5.97	126.87	119.70
25	YA	1559	G	N1-C6-O6	5.97	123.48	119.90
25	YA	177	G	O4'-C1'-N9	5.97	112.98	108.20
25	YA	1332	G	O4'-C1'-N9	-5.97	103.42	108.20
25	RA	2506	U	N3-C2-O2	-5.96	118.03	122.20
25	RA	2556	C	C6-N1-C2	-5.96	117.92	120.30
25	RA	1930	G	C8-N9-C1'	5.96	134.75	127.00
25	YA	1970	A	O5'-P-OP2	-5.96	100.34	105.70
25	RA	2439	A	N7-C8-N9	5.96	116.78	113.80
25	YA	140	A	O4'-C1'-N9	5.96	112.96	108.20
25	YA	1328	G	N3-C4-N9	5.95	129.57	126.00
41	YV	35	LEU	CA-CB-CG	5.95	128.99	115.30
25	YA	2702	U	C6-N1-C1'	-5.93	112.89	121.20
25	YA	74	A	P-O3'-C3'	5.93	126.81	119.70
25	RA	1359	A	C6-C5-N7	-5.92	128.15	132.30
25	YA	930	U	C5-C4-O4	5.92	129.46	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	2287	A	N3-C4-C5	5.92	130.95	126.80
25	RA	2392	A	C6-C5-N7	-5.92	128.16	132.30
1	QA	1200	C	P-O3'-C3'	5.91	126.80	119.70
25	RA	1309	G	N1-C6-O6	5.91	123.44	119.90
25	YA	1696	G	C8-N9-C4	-5.91	104.04	106.40
25	YA	2589	A	C8-N9-C4	5.90	108.16	105.80
25	RA	2439	A	P-O3'-C3'	5.89	126.77	119.70
1	XA	328	C	N3-C2-O2	-5.89	117.78	121.90
1	XA	1094	G	OP2-P-O3'	5.89	118.16	105.20
26	YB	31	C	N3-C2-O2	-5.89	117.78	121.90
25	RA	1309	G	C5-C6-O6	-5.89	125.07	128.60
25	RA	2056	G	C4-C5-N7	5.89	113.16	110.80
25	RA	1304	C	N3-C2-O2	-5.89	117.78	121.90
25	YA	97	C	N1-C2-O2	5.88	122.43	118.90
25	YA	1558	A	P-O3'-C3'	5.88	126.76	119.70
1	XA	974	A	O4'-C1'-N9	5.88	112.91	108.20
25	RA	783	A	N1-C6-N6	5.88	122.13	118.60
25	RA	1914	C	C2-N1-C1'	5.88	125.27	118.80
25	YA	575	A	O5'-P-OP1	-5.88	100.41	105.70
25	RA	637	A	P-O3'-C3'	5.87	126.75	119.70
25	RA	1954	G	C8-N9-C4	5.87	108.75	106.40
25	YA	446	G	N9-C4-C5	-5.87	103.05	105.40
25	RA	530	G	N1-C2-N2	-5.87	110.92	116.20
25	YA	930	U	N3-C4-O4	-5.86	115.30	119.40
25	YA	228	A	C8-N9-C4	-5.86	103.45	105.80
25	RA	1632	A	C5-N7-C8	-5.86	100.97	103.90
25	RA	621	A	C2-N3-C4	-5.86	107.67	110.60
25	YA	2050	C	N1-C2-O2	-5.85	115.39	118.90
25	RA	27	G	C4-N9-C1'	-5.85	118.89	126.50
25	RA	1799	G	P-O3'-C3'	5.85	126.72	119.70
25	YA	1698	A	N1-C2-N3	5.85	132.22	129.30
1	QA	789	U	N3-C2-O2	-5.85	118.11	122.20
25	YA	330	A	C4-C5-N7	5.84	113.62	110.70
25	YA	1313	U	C6-N1-C2	-5.84	117.49	121.00
25	RA	27	G	P-O3'-C3'	5.84	126.71	119.70
1	QA	703	G	C8-N9-C4	-5.84	104.06	106.40
25	RA	512	G	O4'-C1'-N9	5.83	112.86	108.20
25	YA	1698	A	O4'-C1'-N9	5.83	112.86	108.20
25	YA	2440	C	O5'-P-OP2	5.83	117.70	110.70
25	YA	2447	G	N9-C4-C5	5.83	107.73	105.40
25	YA	2481	G	OP2-P-O3'	5.83	118.03	105.20
28	RE	63	LEU	CA-CB-CG	5.82	128.68	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1297	C	C2-N1-C1'	5.82	125.20	118.80
25	YA	2031	A	O4'-C1'-N9	5.82	112.85	108.20
25	YA	372	G	C8-N9-C1'	5.81	134.56	127.00
25	RA	74	A	C5-N7-C8	-5.81	101.00	103.90
25	RA	1950	G	C8-N9-C4	-5.81	104.08	106.40
1	XA	1347	G	C4-N9-C1'	-5.81	118.95	126.50
25	RA	1733	G	N1-C6-O6	5.80	123.38	119.90
1	XA	792	A	C5-N7-C8	-5.80	101.00	103.90
25	YA	27	G	P-O3'-C3'	5.80	126.66	119.70
25	YA	974	G	N9-C4-C5	5.80	107.72	105.40
25	RA	1647	G	O5'-P-OP1	-5.80	100.48	105.70
25	YA	1559	G	C4-C5-N7	5.80	113.12	110.80
25	YA	2439	A	P-O3'-C3'	5.79	126.65	119.70
25	YA	1950	G	N1-C2-N2	-5.79	110.99	116.20
25	RA	2447	G	C5-N7-C8	-5.79	101.41	104.30
25	YA	195	A	C8-N9-C4	-5.79	103.49	105.80
1	QA	243	A	P-O3'-C3'	5.78	126.64	119.70
25	YA	450	G	N1-C6-O6	5.78	123.37	119.90
25	YA	2490	G	C4-N9-C1'	5.78	134.01	126.50
1	QA	1302	U	N1-C2-O2	5.78	126.85	122.80
25	YA	2067	G	C8-N9-C4	-5.78	104.09	106.40
25	RA	270(Z)	U	C2-N1-C1'	-5.78	110.77	117.70
25	RA	1930	G	O4'-C1'-N9	5.78	112.82	108.20
25	YA	1698	A	N7-C8-N9	5.77	116.69	113.80
25	RA	2071	A	C8-N9-C4	-5.77	103.49	105.80
25	RA	2832	U	P-O3'-C3'	5.77	126.62	119.70
25	YA	1899	G	N7-C8-N9	5.77	115.98	113.10
25	YA	1022	G	P-O3'-C3'	5.76	126.61	119.70
1	XA	243	A	P-O3'-C3'	5.76	126.61	119.70
25	YA	982	C	C6-N1-C2	-5.76	118.00	120.30
25	YA	2439	A	C8-N9-C4	-5.75	103.50	105.80
25	RA	746	A	C8-N9-C4	-5.75	103.50	105.80
1	XA	1065	U	OP2-P-O3'	5.75	117.85	105.20
1	XA	687	A	P-O3'-C3'	5.75	126.60	119.70
25	YA	1528	A	O4'-C1'-N9	5.75	112.80	108.20
25	YA	2583	G	C4-C5-N7	-5.74	108.50	110.80
25	YA	783	A	N3-C4-N9	-5.74	122.81	127.40
25	YA	1698	A	C8-N9-C4	-5.74	103.50	105.80
25	YA	2503	A	C2-N3-C4	5.74	113.47	110.60
25	RA	2440	C	C6-N1-C2	5.74	122.59	120.30
25	RA	1021	A	C2-N3-C4	-5.73	107.73	110.60
25	YA	1528	A	C5-N7-C8	-5.73	101.03	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	704	G	C8-N9-C4	5.72	108.69	106.40
25	YA	2307	G	C4-N9-C1'	5.72	133.94	126.50
25	YA	2867	G	P-O3'-C3'	5.72	126.56	119.70
36	YQ	82	ARG	N-CA-C	5.72	126.44	111.00
25	RA	1931	U	N1-C2-N3	5.72	118.33	114.90
25	RA	528	A	N3-C4-C5	5.72	130.80	126.80
25	RA	1528	A	O4'-C1'-N9	5.72	112.77	108.20
25	RA	2610	C	P-O3'-C3'	5.72	126.56	119.70
25	YA	444	C	C6-N1-C2	-5.71	118.01	120.30
25	YA	2430	A	N1-C6-N6	5.71	122.03	118.60
1	QA	1301	U	N3-C2-O2	-5.71	118.21	122.20
25	YA	1313	U	C5-C6-N1	5.71	125.55	122.70
25	YA	2712	U	C6-N1-C1'	-5.70	113.22	121.20
25	YA	238	C	C2-N3-C4	-5.70	117.05	119.90
25	YA	752	A	P-O3'-C3'	5.70	126.54	119.70
25	YA	330	A	C5-N7-C8	-5.70	101.05	103.90
1	QA	703	G	C4-N9-C1'	5.69	133.90	126.50
25	RA	1633	G	N9-C4-C5	5.69	107.67	105.40
1	XA	246	A	C8-N9-C4	5.69	108.07	105.80
35	YP	59	LEU	CA-CB-CG	5.69	128.38	115.30
25	RA	1395	A	O4'-C1'-N9	5.68	112.75	108.20
25	YA	1950	G	C8-N9-C1'	-5.68	119.62	127.00
25	YA	195	A	N7-C8-N9	5.67	116.64	113.80
25	RA	1992	G	P-O3'-C3'	5.67	126.51	119.70
25	RA	227	A	N7-C8-N9	5.67	116.64	113.80
1	XA	768	A	C8-N9-C4	5.67	108.07	105.80
1	XA	1302	U	C6-N1-C1'	-5.66	113.27	121.20
25	YA	2335	A	O4'-C1'-N9	5.66	112.73	108.20
25	RA	1411	C	N1-C2-O2	5.66	122.30	118.90
25	YA	573	G	O5'-P-OP2	-5.66	100.61	105.70
26	YB	44	G	C6-C5-N7	5.66	133.80	130.40
25	YA	195	A	P-O3'-C3'	5.66	126.49	119.70
25	RA	1925	C	N1-C2-O2	-5.66	115.51	118.90
1	XA	558	G	N1-C6-O6	5.66	123.29	119.90
25	YA	2028	U	C5-C4-O4	-5.65	122.51	125.90
25	YA	512	G	C8-N9-C1'	5.65	134.35	127.00
25	YA	789	A	N1-C6-N6	-5.65	115.21	118.60
25	YA	1398	C	N3-C4-C5	5.65	124.16	121.90
25	YA	124	G	C5-C6-O6	-5.65	125.21	128.60
25	YA	2468	G	C8-N9-C4	-5.64	104.14	106.40
25	RA	383	U	O4'-C1'-N1	5.64	112.71	108.20
25	YA	1616	A	C8-N9-C4	-5.64	103.55	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	755	C	N3-C4-C5	5.63	124.15	121.90
25	YA	46	C	O5'-P-OP1	-5.63	100.64	105.70
25	YA	2318	G	O4'-C1'-N9	5.63	112.70	108.20
25	RA	1899	G	N3-C4-N9	5.62	129.38	126.00
25	YA	860	U	C2-N1-C1'	5.62	124.45	117.70
1	QA	1397	C	C6-N1-C2	-5.62	118.05	120.30
25	RA	1012	U	OP2-P-O3'	5.62	117.57	105.20
25	RA	2287	A	N3-C4-C5	5.62	130.74	126.80
25	YA	2307	G	C6-C5-N7	-5.62	127.03	130.40
25	YA	2447	G	N7-C8-N9	5.62	115.91	113.10
25	RA	2689	U	P-O3'-C3'	5.62	126.44	119.70
25	YA	676	A	C4-C5-N7	5.61	113.51	110.70
25	RA	1328	G	N9-C4-C5	-5.61	103.16	105.40
25	RA	404	C	P-O3'-C3'	5.61	126.43	119.70
1	XA	328	C	C5-C6-N1	5.61	123.80	121.00
25	YA	783	A	N1-C2-N3	5.61	132.10	129.30
25	RA	1819	A	P-O3'-C3'	5.60	126.42	119.70
1	XA	1347	G	OP2-P-O3'	5.60	117.52	105.20
1	XA	910	C	C6-N1-C2	5.60	122.54	120.30
25	YA	1678	G	C5-C6-O6	-5.59	125.24	128.60
1	XA	1094	G	P-O3'-C3'	5.59	126.41	119.70
25	YA	102	G	P-O3'-C3'	5.59	126.41	119.70
25	RA	2506	U	N1-C2-O2	5.59	126.71	122.80
25	RA	1210	A	C5-N7-C8	-5.59	101.11	103.90
35	YP	25	SER	N-CA-C	-5.59	95.92	111.00
25	YA	930	U	N3-C2-O2	-5.58	118.29	122.20
27	YD	229	VAL	CB-CA-C	-5.58	100.79	111.40
25	RA	1950	G	O4'-C1'-N9	5.58	112.66	108.20
25	RA	227	A	C8-N9-C4	-5.58	103.57	105.80
25	RA	1558	A	P-O3'-C3'	5.58	126.39	119.70
25	RA	613	U	N3-C2-O2	-5.57	118.30	122.20
25	YA	330	A	N1-C6-N6	5.57	121.94	118.60
25	RA	2053	G	C4-N9-C1'	-5.57	119.26	126.50
1	XA	1301	U	C6-N1-C1'	-5.57	113.41	121.20
25	YA	974	G	C8-N9-C1'	5.57	134.24	127.00
25	YA	2071	A	O5'-P-OP2	5.57	117.38	110.70
1	QA	533	A	P-O3'-C3'	5.57	126.38	119.70
25	RA	205	G	O4'-C1'-N9	5.55	112.64	108.20
25	RA	1950	G	N7-C8-N9	5.55	115.88	113.10
25	YA	2496	C	C6-N1-C2	5.55	122.52	120.30
25	RA	676	A	N7-C8-N9	5.55	116.58	113.80
25	YA	1786	A	N9-C1'-C2'	5.54	121.21	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1799	G	C5-C6-O6	5.54	131.93	128.60
25	RA	372	G	N3-C4-N9	-5.54	122.67	126.00
25	YA	2566	A	P-O3'-C3'	5.54	126.35	119.70
25	YA	1941	C	C6-N1-C2	-5.54	118.08	120.30
25	RA	1899	G	N7-C8-N9	5.54	115.87	113.10
25	YA	1667	G	C8-N9-C4	-5.54	104.19	106.40
26	RB	44	G	C8-N9-C1'	5.54	134.20	127.00
25	YA	1616	A	C4-C5-N7	5.54	113.47	110.70
25	YA	1835	G	N3-C4-N9	5.54	129.32	126.00
25	YA	2713	A	N7-C8-N9	5.54	116.57	113.80
25	YA	945	A	N7-C8-N9	5.53	116.57	113.80
25	YA	1930	G	C4-N9-C1'	-5.53	119.31	126.50
1	XA	1336	C	N3-C2-O2	-5.53	118.03	121.90
1	XA	681	C	N3-C2-O2	-5.53	118.03	121.90
25	YA	1647	G	O4'-C1'-N9	-5.53	103.78	108.20
25	YA	2712(A)	A	C5-N7-C8	-5.53	101.14	103.90
25	RA	2702	U	C5-C6-N1	5.52	125.46	122.70
24	QX	3	G	OP2-P-O3'	5.52	117.35	105.20
25	YA	1142(A)	A	C5-N7-C8	-5.52	101.14	103.90
1	XA	1301	U	C5-C6-N1	5.52	125.46	122.70
25	YA	2318	G	C4-N9-C1'	5.52	133.68	126.50
1	XA	792	A	C3'-C2'-C1'	-5.52	97.09	101.50
1	QA	108	G	C4-N9-C1'	5.51	133.67	126.50
1	XA	1108	G	C5-C6-O6	5.51	131.90	128.60
25	YA	1929	G	C6-C5-N7	-5.51	127.10	130.40
25	YA	2056	G	C5-N7-C8	-5.51	101.55	104.30
25	YA	1698	A	C6-C5-N7	-5.50	128.45	132.30
1	QA	690	G	C5-N7-C8	-5.50	101.55	104.30
1	QA	1336	C	C6-N1-C2	-5.50	118.10	120.30
25	RA	2432	A	N1-C6-N6	5.50	121.90	118.60
25	YA	2688	U	N1-C2-N3	5.50	118.20	114.90
1	XA	345	C	P-O3'-C3'	5.50	126.30	119.70
25	RA	2032	G	C5-N7-C8	-5.50	101.55	104.30
25	YA	38	A	N1-C6-N6	-5.50	115.30	118.60
25	YA	621	A	N1-C2-N3	5.50	132.05	129.30
25	RA	345	A	OP1-P-O3'	5.49	117.28	105.20
25	YA	1191	G	N7-C8-N9	-5.49	110.35	113.10
25	YA	1790	C	C6-N1-C2	5.49	122.50	120.30
1	QA	108	G	O4'-C1'-N9	5.49	112.59	108.20
1	XA	1336	C	C5-C6-N1	5.49	123.74	121.00
25	YA	1565	C	C6-N1-C2	5.49	122.50	120.30
25	YA	1905	C	N1-C2-O2	5.49	122.19	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	1535	U	N1-C2-O2	5.48	126.64	122.80
25	YA	1947	C	N3-C4-C5	5.48	124.09	121.90
25	YA	1969	A	N7-C8-N9	-5.48	111.06	113.80
25	RA	2447	G	OP1-P-OP2	-5.48	111.38	119.60
25	RA	2566	A	P-O3'-C3'	5.48	126.27	119.70
1	XA	1446	A	P-O3'-C3'	5.48	126.27	119.70
25	YA	214	G	O4'-C1'-N9	5.48	112.58	108.20
25	YA	1419	A	O4'-C1'-N9	5.47	112.58	108.20
25	RA	503	A	C8-N9-C4	-5.47	103.61	105.80
25	RA	1190	G	C5-N7-C8	-5.47	101.56	104.30
28	RE	27	LEU	CA-CB-CG	5.47	127.88	115.30
25	YA	2506	U	C2-N1-C1'	5.47	124.26	117.70
1	QA	1322	C	C5-C6-N1	5.46	123.73	121.00
25	RA	234	C	N1-C2-O2	5.46	122.18	118.90
26	YB	44	G	C8-N9-C1'	5.46	134.10	127.00
25	RA	794	G	C5-C6-O6	5.46	131.88	128.60
25	RA	1936	A	O4'-C1'-N9	5.46	112.57	108.20
25	YA	2655	G	P-O3'-C3'	5.46	126.25	119.70
25	RA	1204	A	N1-C2-N3	5.46	132.03	129.30
35	RP	88	LEU	CA-CB-CG	5.46	127.85	115.30
25	YA	222	A	P-O3'-C3'	5.46	126.25	119.70
25	YA	1395	A	O4'-C1'-N9	5.45	112.56	108.20
25	YA	1786	A	N1-C6-N6	5.45	121.87	118.60
25	RA	214	G	O4'-C1'-N9	5.45	112.56	108.20
25	YA	831	G	N1-C6-O6	5.45	123.17	119.90
25	YA	1674	G	C5-C6-O6	-5.45	125.33	128.60
25	YA	2254	C	N1-C2-O2	-5.45	115.63	118.90
25	YA	2463	C	N3-C4-C5	5.45	124.08	121.90
25	RA	1781	C	C6-N1-C2	-5.45	118.12	120.30
25	YA	1774	C	N3-C4-C5	5.45	124.08	121.90
25	YA	2720	U	O5'-P-OP1	-5.45	100.80	105.70
25	YA	196	A	O4'-C1'-N9	5.45	112.56	108.20
25	YA	2468	G	N7-C8-N9	5.45	115.82	113.10
25	YA	958	U	C6-N1-C2	-5.44	117.73	121.00
25	YA	865	C	O5'-P-OP1	-5.44	100.80	105.70
25	YA	238	C	C6-N1-C2	5.44	122.48	120.30
25	YA	383	U	O4'-C1'-N1	5.44	112.55	108.20
1	XA	1370	G	N1-C6-O6	5.44	123.16	119.90
1	QA	1347	G	P-O3'-C3'	5.44	126.22	119.70
25	YA	2031	A	C4-N9-C1'	5.43	136.08	126.30
25	YA	97	C	N3-C2-O2	-5.43	118.10	121.90
25	RA	1558	A	N1-C2-N3	5.43	132.01	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	250	G	C4-C5-N7	5.43	112.97	110.80
1	QA	754	C	C2-N1-C1'	5.43	124.77	118.80
25	RA	1899	G	C4-N9-C1'	5.43	133.56	126.50
1	XA	435	C	C6-N1-C2	-5.43	118.13	120.30
1	XA	1336	C	C6-N1-C1'	-5.42	114.29	120.80
25	YA	2031	A	C8-N9-C1'	-5.42	117.94	127.70
25	YA	2692	C	N3-C2-O2	-5.42	118.10	121.90
25	RA	1241	A	C2-N3-C4	-5.42	107.89	110.60
25	YA	841	A	N1-C6-N6	5.42	121.85	118.60
25	YA	1309	G	N1-C6-O6	5.42	123.15	119.90
25	YA	2468	G	C4-N9-C1'	5.42	133.55	126.50
1	QA	1158	C	C6-N1-C1'	-5.42	114.30	120.80
25	YA	1570	A	C8-N9-C4	5.41	107.97	105.80
25	YA	762	U	C2-N1-C1'	5.41	124.19	117.70
1	QA	252	U	N3-C2-O2	-5.41	118.41	122.20
25	YA	1930	G	C6-C5-N7	5.41	133.65	130.40
1	XA	1053	G	C8-N9-C4	5.41	108.56	106.40
26	YB	30	C	N3-C2-O2	-5.41	118.11	121.90
1	QA	1053	G	O4'-C1'-N9	5.41	112.53	108.20
25	RA	530	G	N1-C6-O6	-5.40	116.66	119.90
25	RA	1535	U	C2-N1-C1'	5.40	124.19	117.70
25	RA	1902	C	N3-C4-C5	5.40	124.06	121.90
26	RB	66	A	P-O3'-C3'	5.40	126.18	119.70
25	YA	58	G	C8-N9-C4	-5.40	104.24	106.40
25	YA	1359	A	N9-C4-C5	-5.40	103.64	105.80
25	YA	2318	G	N7-C8-N9	5.40	115.80	113.10
1	XA	1496	C	C6-N1-C2	5.39	122.46	120.30
25	YA	27	G	N3-C2-N2	-5.39	116.12	119.90
25	RA	1698	A	C4-C5-N7	5.39	113.40	110.70
25	YA	2713	A	C6-C5-N7	-5.39	128.53	132.30
25	YA	512	G	C4-N9-C1'	-5.39	119.50	126.50
25	YA	974(A)	C	P-O3'-C3'	5.39	126.17	119.70
25	RA	2490	G	N3-C2-N2	5.39	123.67	119.90
25	RA	270(Z)	U	C5-C6-N1	-5.38	120.01	122.70
25	YA	1929	G	N9-C4-C5	-5.38	103.25	105.40
25	YA	2070	G	C5-C6-O6	5.38	131.83	128.60
25	YA	1950	G	C5-N7-C8	-5.38	101.61	104.30
25	RA	1899	G	C5-C6-O6	5.38	131.83	128.60
25	YA	242	G	OP2-P-O3'	5.38	117.03	105.20
25	YA	2609	U	C2-N1-C1'	-5.38	111.25	117.70
25	RA	49	A	C4-C5-C6	5.37	119.69	117.00
45	YZ	115	GLY	N-CA-C	-5.37	99.67	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	2763	G	N3-C4-C5	-5.37	125.91	128.60
25	YA	974(A)	C	C5-C4-N4	5.37	123.96	120.20
25	YA	1396	U	C2-N1-C1'	5.37	124.15	117.70
25	YA	1603	A	C8-N9-C4	-5.37	103.65	105.80
25	RA	141	A	C2-N3-C4	-5.37	107.92	110.60
25	RA	2053	G	C5-C6-N1	5.37	114.18	111.50
1	XA	701	C	P-O3'-C3'	5.37	126.14	119.70
1	XA	518	C	N1-C2-N3	5.36	122.95	119.20
1	XA	1517	G	O5'-P-OP2	-5.36	100.88	105.70
25	RA	805	G	C5-C6-O6	-5.36	125.39	128.60
25	RA	2278	A	O4'-C1'-N9	5.36	112.49	108.20
25	YA	2346	A	N1-C2-N3	5.36	131.98	129.30
1	QA	701	C	P-O3'-C3'	5.35	126.12	119.70
25	YA	2446	G	OP2-P-O3'	5.35	116.97	105.20
25	YA	626	U	C6-N1-C2	-5.35	117.79	121.00
25	YA	773	U	C5-C6-N1	-5.35	120.03	122.70
25	YA	2045	C	C6-N1-C2	5.35	122.44	120.30
1	QA	299	G	C5-C6-N1	-5.35	108.83	111.50
25	RA	1210	A	N7-C8-N9	5.35	116.47	113.80
25	RA	2713	A	C5-N7-C8	-5.35	101.23	103.90
1	XA	115	G	N3-C4-C5	-5.35	125.93	128.60
25	YA	2587	A	N9-C4-C5	5.34	107.94	105.80
1	XA	1108	G	C4-C5-N7	-5.33	108.67	110.80
25	YA	364	C	C6-N1-C2	-5.33	118.17	120.30
25	YA	2445	G	C5-C6-O6	5.33	131.80	128.60
25	YA	1309	G	C8-N9-C4	5.32	108.53	106.40
25	YA	846	C	C2-N1-C1'	5.32	124.65	118.80
25	YA	1559	G	C5-C6-O6	-5.32	125.41	128.60
1	XA	703	G	P-O3'-C3'	5.32	126.08	119.70
1	QA	1301	U	C6-N1-C1'	-5.32	113.76	121.20
25	RA	227	A	P-O3'-C3'	5.32	126.08	119.70
25	RA	675	A	N1-C6-N6	5.32	121.79	118.60
25	YA	1191	G	C8-N9-C4	5.32	108.53	106.40
25	RA	1698	A	N1-C2-N3	5.31	131.96	129.30
1	QA	1346	A	P-O3'-C3'	5.31	126.08	119.70
25	RA	2712	U	C2-N1-C1'	5.31	124.07	117.70
25	YA	270(Z)	U	O4'-C1'-N1	5.31	112.45	108.20
25	YA	1970	A	O4'-C1'-N9	-5.31	103.95	108.20
25	RA	2438	U	O5'-P-OP2	-5.31	100.92	105.70
25	YA	458	G	O4'-C1'-N9	5.30	112.44	108.20
25	YA	514	A	C8-N9-C4	5.30	107.92	105.80
25	YA	2501	C	C2-N1-C1'	-5.30	112.97	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
26	YB	41	U	C5-C6-N1	-5.30	120.05	122.70
25	RA	1241	A	O4'-C1'-N9	5.30	112.44	108.20
25	YA	213	A	OP2-P-O3'	5.30	116.86	105.20
1	XA	1502	A	C5-N7-C8	-5.30	101.25	103.90
25	RA	799	G	C5-C6-O6	-5.30	125.42	128.60
1	QA	108	G	C4-C5-N7	5.29	112.92	110.80
25	YA	795	C	C2-N3-C4	-5.29	117.26	119.90
25	RA	621	A	O4'-C1'-N9	5.29	112.43	108.20
25	RA	760	G	C4-C5-N7	-5.29	108.69	110.80
25	YA	1781	C	C6-N1-C1'	-5.28	114.46	120.80
25	RA	1992	G	C2-N3-C4	5.28	114.54	111.90
25	YA	670	A	OP1-P-O3'	5.28	116.82	105.20
25	YA	1396	U	C5-C4-O4	5.28	129.07	125.90
25	YA	141	A	O4'-C1'-N9	5.28	112.42	108.20
1	QA	1302	U	N3-C2-O2	-5.28	118.51	122.20
25	RA	1647	G	O4'-C1'-N9	-5.28	103.98	108.20
25	YA	776	G	C6-C5-N7	5.28	133.56	130.40
25	YA	793	A	C8-N9-C4	-5.28	103.69	105.80
18	QR	31	LEU	CA-CB-CG	5.27	127.43	115.30
1	XA	1222	G	N3-C2-N2	-5.27	116.21	119.90
25	YA	621	A	C8-N9-C4	-5.27	103.69	105.80
25	YA	2406	U	O4'-C1'-N1	-5.27	103.98	108.20
25	YA	2610	C	OP2-P-O3'	5.27	116.79	105.20
1	XA	266	G	P-O3'-C3'	5.26	126.01	119.70
1	XA	792	A	C6-C5-N7	-5.26	128.62	132.30
25	YA	99	U	OP2-P-O3'	5.26	116.78	105.20
25	YA	812	C	N1-C2-O2	-5.26	115.74	118.90
51	Y5	4	HIS	C-N-CD	5.26	139.44	128.40
25	YA	2822	G	C5-C6-O6	-5.26	125.44	128.60
1	QA	1054	C	C2-N1-C1'	5.26	124.58	118.80
25	RA	141	A	N7-C8-N9	5.25	116.43	113.80
25	RA	1312	U	P-O3'-C3'	5.25	126.01	119.70
25	RA	1659	U	N1-C2-O2	-5.25	119.12	122.80
25	YA	1359	A	C4-C5-N7	5.25	113.33	110.70
25	YA	2265	U	C5-C4-O4	-5.25	122.75	125.90
25	RA	1632	A	C4-C5-N7	5.25	113.33	110.70
1	XA	792	A	N9-C1'-C2'	5.25	120.83	114.00
1	XA	723	U	N1-C2-O2	5.25	126.47	122.80
25	YA	739	G	C8-N9-C4	5.25	108.50	106.40
25	RA	2726	U	C6-N1-C1'	-5.25	113.85	121.20
25	YA	1786	A	C4-N9-C1'	5.25	135.74	126.30
25	YA	67	U	C2-N3-C4	5.25	130.15	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	917	A	C2-N3-C4	-5.25	107.98	110.60
25	YA	2600	A	O5'-P-OP2	-5.25	100.98	105.70
25	YA	2544	G	C5-C6-N1	-5.24	108.88	111.50
25	RA	346	A	O5'-P-OP2	-5.24	100.98	105.70
25	RA	2688	U	N1-C2-O2	5.24	126.47	122.80
1	XA	1498	U	P-O3'-C3'	5.24	125.99	119.70
25	YA	140	A	C4-C5-N7	5.24	113.32	110.70
1	XA	328	C	P-O3'-C3'	5.23	125.98	119.70
25	RA	2717	G	N3-C4-C5	-5.23	125.98	128.60
1	XA	681	C	C6-N1-C2	-5.23	118.21	120.30
1	QA	1297	C	OP2-P-O3'	5.23	116.70	105.20
25	YA	2655	G	C4-N9-C1'	-5.23	119.70	126.50
25	YA	2330	G	C5-C6-O6	-5.22	125.47	128.60
26	YB	108	C	C6-N1-C1'	5.22	127.07	120.80
25	RA	2021	C	C6-N1-C2	-5.22	118.21	120.30
25	RA	1379	A	O4'-C1'-N9	5.22	112.38	108.20
1	XA	888	G	C5-C6-O6	-5.22	125.47	128.60
1	QA	690	G	O4'-C1'-N9	5.22	112.37	108.20
25	RA	1301	A	O5'-P-OP1	-5.21	101.01	105.70
25	RA	2867	G	P-O3'-C3'	5.21	125.96	119.70
1	QA	753	A	P-O3'-C3'	5.21	125.95	119.70
25	RA	974	G	C8-N9-C4	-5.21	104.32	106.40
25	YA	1647	G	O5'-P-OP2	5.21	116.95	110.70
25	RA	1954	G	N7-C8-N9	-5.20	110.50	113.10
19	XS	41	VAL	C-N-CD	-5.20	109.15	120.60
25	YA	46	C	C6-N1-C2	-5.20	118.22	120.30
25	RA	1210	A	N1-C6-N6	5.20	121.72	118.60
26	YB	31	C	N3-C4-C5	-5.20	119.82	121.90
25	YA	1190	G	C4-C5-N7	5.20	112.88	110.80
25	YA	2392	A	C5-N7-C8	-5.20	101.30	103.90
25	YA	1799	G	N1-C6-O6	-5.19	116.78	119.90
34	RO	8	LEU	CA-CB-CG	5.19	127.24	115.30
1	QA	1053	G	C4-N9-C1'	-5.19	119.75	126.50
22	QV	16	C	N3-C2-O2	-5.19	118.27	121.90
25	RA	270(Z)	U	O4'-C1'-N1	5.19	112.35	108.20
25	YA	481	G	O5'-P-OP2	-5.19	101.03	105.70
25	RA	1779	U	O4'-C1'-N1	5.19	112.35	108.20
1	XA	108	G	N9-C4-C5	-5.18	103.33	105.40
25	YA	1142(A)	A	N3-C4-N9	-5.18	123.25	127.40
25	YA	2427	C	O5'-P-OP1	-5.18	101.03	105.70
1	QA	498	A	O4'-C1'-N9	5.18	112.34	108.20
22	QV	16	C	C6-N1-C1'	-5.18	114.58	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	1496	A	C5-N7-C8	-5.18	101.31	103.90
1	XA	690	G	N3-C2-N2	-5.18	116.27	119.90
25	RA	1807	G	N3-C4-C5	5.18	131.19	128.60
25	YA	1914	C	C2-N1-C1'	5.18	124.50	118.80
25	YA	2498	C	N3-C4-C5	5.18	123.97	121.90
25	RA	83	G	P-O3'-C3'	5.17	125.91	119.70
25	YA	2307	G	C4-C5-N7	5.17	112.87	110.80
25	YA	805	G	C5-C6-O6	-5.17	125.50	128.60
1	XA	1506	U	N1-C2-O2	-5.17	119.18	122.80
25	RA	1411	C	C2-N1-C1'	5.17	124.49	118.80
25	YA	1882	C	C2-N1-C1'	5.17	124.49	118.80
1	XA	1347	G	O4'-C1'-N9	5.17	112.33	108.20
25	YA	1012	U	P-O3'-C3'	5.16	125.89	119.70
25	YA	2469	A	C2-N3-C4	-5.16	108.02	110.60
1	XA	318	G	N1-C6-O6	5.16	123.00	119.90
25	RA	1496	A	C8-N9-C4	-5.16	103.74	105.80
25	YA	1023	U	O5'-P-OP1	-5.16	101.06	105.70
25	YA	1256	G	N9-C4-C5	-5.16	103.34	105.40
1	XA	858	G	N7-C8-N9	5.16	115.68	113.10
1	XA	1285	A	P-O3'-C3'	5.16	125.89	119.70
25	YA	2584	U	N1-C2-N3	5.16	118.00	114.90
25	YA	138	G	O4'-C1'-N9	5.15	112.32	108.20
25	YA	395	U	O4'-C1'-N1	5.15	112.32	108.20
25	YA	2126	A	P-O3'-C3'	5.15	125.88	119.70
25	YA	364	C	C5-C6-N1	5.15	123.58	121.00
1	QA	1201	A	P-O3'-C3'	5.15	125.88	119.70
1	XA	1346	A	P-O3'-C3'	5.15	125.88	119.70
25	RA	2063	C	O5'-P-OP2	-5.14	101.07	105.70
22	XV	16	C	C6-N1-C2	-5.14	118.24	120.30
25	YA	1899	G	C4-C5-C6	5.14	121.89	118.80
25	YA	2330	G	C4-C5-N7	5.14	112.86	110.80
25	YA	74	A	C5-C6-N1	-5.14	115.13	117.70
25	YA	1800	C	O5'-P-OP2	5.14	116.86	110.70
25	RA	729	G	N1-C6-O6	5.14	122.98	119.90
25	YA	2023	G	O5'-P-OP1	-5.13	101.08	105.70
25	YA	2584	U	C6-N1-C2	-5.13	117.92	121.00
25	YA	1328	G	N9-C4-C5	-5.13	103.35	105.40
25	RA	2430	A	N3-C4-C5	5.13	130.39	126.80
25	YA	676	A	C5-C6-N1	-5.13	115.14	117.70
1	QA	1285	A	P-O3'-C3'	5.12	125.85	119.70
1	XA	690	G	C2-N3-C4	-5.12	109.34	111.90
25	YA	2430	A	C6-C5-N7	-5.12	128.71	132.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	QD	28	SER	C-N-CD	5.12	139.15	128.40
41	RV	35	LEU	CA-CB-CG	5.12	127.06	115.30
1	XA	812	C	OP2-P-O3'	5.12	116.45	105.20
25	RA	1616	A	C4-C5-N7	5.11	113.26	110.70
25	YA	1300	U	N1-C2-N3	5.11	117.97	114.90
26	YB	81	G	N7-C8-N9	5.11	115.66	113.10
25	YA	1683	C	C6-N1-C2	-5.11	118.25	120.30
25	RA	685	A	N1-C6-N6	-5.11	115.53	118.60
25	YA	1835	G	C4-N9-C1'	5.11	133.14	126.50
26	YB	31	C	N1-C2-O2	5.11	121.96	118.90
25	YA	577	G	C6-C5-N7	-5.10	127.34	130.40
25	YA	1930	G	OP2-P-O3'	5.10	116.43	105.20
1	QA	337	C	C6-N1-C2	-5.10	118.26	120.30
25	RA	2779	U	O4'-C1'-N1	5.10	112.28	108.20
25	YA	783	A	N9-C1'-C2'	-5.10	106.39	112.00
25	YA	1929	G	O4'-C1'-N9	-5.10	104.12	108.20
25	YA	2402	C	O4'-C1'-N1	5.10	112.28	108.20
1	XA	1502	A	C2-N3-C4	-5.10	108.05	110.60
25	YA	810	U	O5'-P-OP2	-5.10	101.11	105.70
25	YA	1905	C	N3-C2-O2	-5.10	118.33	121.90
1	QA	1504	G	O5'-P-OP1	-5.09	101.12	105.70
25	RA	140	A	C5-N7-C8	-5.09	101.36	103.90
25	RA	2763	G	N3-C4-N9	5.09	129.06	126.00
1	XA	1027	C	OP1-P-O3'	5.09	116.40	105.20
22	XV	16	C	N3-C2-O2	-5.09	118.34	121.90
25	YA	404	C	P-O3'-C3'	5.09	125.81	119.70
25	RA	1359	A	C8-N9-C4	5.09	107.84	105.80
25	RA	2311	A	C2-N3-C4	-5.09	108.06	110.60
25	RA	1535	U	N3-C2-O2	-5.09	118.64	122.20
1	XA	890	G	O4'-C1'-N9	5.09	112.27	108.20
25	YA	2681	C	C6-N1-C2	-5.09	118.27	120.30
1	QA	1027	C	P-O3'-C3'	5.08	125.80	119.70
1	QA	690	G	N7-C8-N9	5.08	115.64	113.10
25	YA	528	A	C5-N7-C8	-5.08	101.36	103.90
25	RA	2518	A	N3-C4-C5	5.08	130.35	126.80
25	RA	1558	A	C2-N3-C4	-5.08	108.06	110.60
25	YA	503	A	C8-N9-C4	-5.08	103.77	105.80
25	YA	2619	C	O5'-P-OP2	-5.07	101.13	105.70
26	YB	56	G	C8-N9-C4	-5.07	104.37	106.40
1	QA	1347	G	OP2-P-O3'	5.07	116.36	105.20
25	YA	2318	G	C4-C5-N7	5.07	112.83	110.80
25	YA	2688	U	N3-C4-C5	-5.07	111.56	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	117	G	N9-C4-C5	-5.07	103.37	105.40
25	RA	856	C	C6-N1-C2	-5.07	118.27	120.30
25	RA	791	C	C2-N1-C1'	-5.07	113.22	118.80
25	YA	27	G	C8-N9-C1'	5.07	133.59	127.00
25	YA	2250	G	N3-C4-C5	-5.07	126.07	128.60
25	RA	205	G	P-O3'-C3'	5.07	125.78	119.70
25	RA	619	G	N1-C6-O6	-5.07	116.86	119.90
25	RA	2026	C	C6-N1-C2	5.07	122.33	120.30
25	RA	1505	C	N1-C2-O2	5.06	121.94	118.90
25	RA	859	G	P-O3'-C3'	5.06	125.77	119.70
1	XA	1498	U	N3-C2-O2	-5.06	118.66	122.20
25	YA	795	C	C5-C6-N1	-5.06	118.47	121.00
26	YB	43	C	C2-N1-C1'	5.06	124.36	118.80
25	YA	62	C	C6-N1-C2	5.05	122.32	120.30
25	YA	71	A	N3-C4-N9	-5.05	123.36	127.40
25	YA	2246	G	C8-N9-C4	5.05	108.42	106.40
25	YA	2611	U	O5'-P-OP2	-5.05	101.15	105.70
25	YA	2751	G	C5-N7-C8	-5.05	101.77	104.30
1	QA	266	G	P-O3'-C3'	5.05	125.76	119.70
1	XA	1054	C	P-O3'-C3'	5.05	125.76	119.70
25	YA	812	C	N3-C4-C5	-5.05	119.88	121.90
25	YA	1698	A	C4-C5-N7	5.05	113.23	110.70
28	YE	117	MET	CA-CB-CG	5.05	121.89	113.30
25	RA	2500	U	N3-C2-O2	-5.05	118.67	122.20
1	XA	542	G	O5'-P-OP1	-5.05	101.16	105.70
1	XA	971	G	O4'-C1'-N9	5.05	112.24	108.20
25	YA	2655	G	OP2-P-O3'	5.05	116.31	105.20
25	RA	783	A	N3-C4-C5	5.05	130.33	126.80
25	RA	1781	C	N3-C2-O2	-5.05	118.37	121.90
25	YA	1839	G	C8-N9-C1'	-5.05	120.44	127.00
25	RA	271(B)	G	N3-C4-C5	-5.04	126.08	128.60
25	RA	2307	G	C4-C5-N7	5.04	112.82	110.80
25	YA	2523	G	C8-N9-C4	-5.04	104.38	106.40
1	XA	410	G	OP1-P-O3'	5.04	116.29	105.20
1	QA	893	C	N1-C2-O2	5.04	121.92	118.90
25	RA	825	C	OP1-P-O3'	5.04	116.29	105.20
1	XA	330	C	N1-C2-O2	5.04	121.92	118.90
25	YA	740	U	N3-C4-C5	5.04	117.62	114.60
25	YA	1781	C	O4'-C1'-N1	5.04	112.23	108.20
25	RA	1260	G	C8-N9-C4	5.04	108.42	106.40
25	YA	1253	A	C5-N7-C8	-5.04	101.38	103.90
25	RA	1678	G	C5-N7-C8	-5.03	101.78	104.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	1599	C	N3-C2-O2	-5.03	118.38	121.90
25	YA	2776	A	P-O3'-C3'	5.03	125.74	119.70
25	YA	1535	U	C2-N1-C1'	5.03	123.73	117.70
25	YA	530	G	C5-C6-N1	5.03	114.01	111.50
25	RA	783	A	C6-C5-N7	-5.02	128.78	132.30
25	RA	783	A	N1-C2-N3	5.02	131.81	129.30
1	XA	960	U	C2-N1-C1'	5.02	123.73	117.70
1	QA	328	C	C6-N1-C1'	-5.02	114.77	120.80
25	YA	472	A	C5-C6-N1	-5.02	115.19	117.70
25	RA	826	U	N1-C2-N3	5.02	117.91	114.90
25	RA	979	G	N7-C8-N9	5.02	115.61	113.10
25	RA	2126	A	P-O3'-C3'	5.02	125.72	119.70
36	RQ	82	ARG	N-CA-C	5.02	124.55	111.00
1	QA	992	U	P-O3'-C3'	5.02	125.72	119.70
25	RA	1988	C	C5-C4-N4	-5.02	116.69	120.20
25	YA	1799	G	C8-N9-C4	-5.02	104.39	106.40
26	RB	81	G	C8-N9-C4	-5.01	104.39	106.40
25	YA	781	A	C8-N9-C4	5.01	107.81	105.80
45	YZ	150	LEU	CA-CB-CG	5.01	126.83	115.30
25	YA	1382	G	C5-C6-O6	-5.01	125.59	128.60
26	RB	44	G	N3-C4-N9	-5.01	123.00	126.00
1	XA	481	G	P-O3'-C3'	5.01	125.71	119.70
1	XA	1347	G	C8-N9-C1'	5.01	133.51	127.00
25	YA	2444	G	O5'-P-OP2	-5.00	101.20	105.70
26	YB	81	G	C5-N7-C8	-5.00	101.80	104.30

There are no chirality outliers.

All (16) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
12	QL	47	LYS	Peptide
54	R8	30	ARG	Peptide
54	R8	35	GLN	Peptide
28	RE	21	VAL	Peptide
31	RH	127	GLU	Peptide
31	RH	153	LYS	Peptide
12	XL	47	LYS	Peptide
48	Y2	17	SER	Peptide
54	Y8	30	ARG	Peptide
54	Y8	51	ALA	Peptide
28	YE	21	VAL	Peptide
29	YF	47	GLY	Peptide

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Mol	Chain	Res	Type	Group
31	YH	127	GLU	Peptide
31	YH	153	LYS	Peptide
38	YS	109	GLY	Peptide
45	YZ	181	GLU	Peptide

## 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	QA	32247	0	16278	492	0
1	XA	32249	0	16279	529	1
2	QB	1924	0	1975	64	0
2	XB	1924	0	1975	80	0
3	QC	1605	0	1668	41	0
3	XC	1605	0	1668	63	0
4	QD	1703	0	1763	63	0
4	XD	1703	0	1764	47	0
5	QE	1155	0	1213	28	0
5	XE	1155	0	1213	42	0
6	QF	843	0	857	20	0
6	XF	843	0	857	23	0
7	QG	1257	0	1296	37	0
7	XG	1257	0	1296	24	0
8	QH	1116	0	1175	37	0
8	XH	1116	0	1177	25	0
9	QI	1010	0	1037	34	0
9	XI	1010	0	1037	50	0
10	QJ	801	0	849	48	0
10	XJ	801	0	849	42	0
11	QK	885	0	904	25	0
11	XK	885	0	904	28	0
12	QL	975	0	1062	35	0
12	XL	975	0	1062	46	0
13	QM	964	0	1034	40	0
13	XM	964	0	1034	39	0
14	QN	492	0	529	24	0
14	XN	492	0	529	17	0
15	QO	734	0	771	21	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
15	XO	734	0	771	19	0
16	QP	705	0	725	18	0
16	XP	705	0	725	26	0
17	QQ	834	0	904	19	0
17	XQ	834	0	904	19	0
18	QR	574	0	644	11	0
18	XR	574	0	644	21	0
19	QS	674	0	699	40	0
19	XS	674	0	699	44	0
20	QT	763	0	860	26	0
20	XT	763	0	861	36	0
21	QU	217	0	234	11	0
21	XU	217	0	234	4	0
22	QV	1644	0	836	26	0
22	XV	1644	0	836	18	0
23	QY	323	0	165	3	0
23	XY	323	0	165	4	0
24	QX	167	0	87	0	0
24	XX	167	0	87	0	0
25	RA	62071	0	31288	921	1
25	YA	62091	0	31295	872	0
26	RB	2573	0	1306	40	1
26	YB	2573	0	1306	32	0
27	RD	2115	0	2195	96	0
27	YD	2115	0	2195	97	0
28	RE	1568	0	1634	72	0
28	YE	1568	0	1634	64	0
29	RF	1585	0	1632	80	0
29	YF	1585	0	1632	64	0
30	RG	1474	0	1535	54	0
30	YG	1474	0	1535	57	0
31	RH	1307	0	1382	61	0
31	YH	1307	0	1382	66	0
32	RI	1136	0	1223	59	1
32	YI	1136	0	1223	49	0
33	RN	1104	0	1180	40	0
33	YN	1104	0	1180	50	0
34	RO	933	0	996	26	0
34	YO	933	0	996	25	0
35	RP	1145	0	1227	87	0
35	YP	1145	0	1227	94	0
36	RQ	1122	0	1179	61	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
36	YQ	1122	0	1178	48	0
37	RR	968	0	1033	48	0
37	YR	968	0	1033	36	0
38	RS	882	0	943	48	0
38	YS	882	0	943	40	0
39	RT	1141	0	1202	53	0
39	YT	1141	0	1202	50	0
40	RU	964	0	1022	30	0
40	YU	964	0	1022	58	0
41	RV	779	0	852	20	0
41	YV	779	0	852	42	0
42	RW	900	0	964	27	0
42	YW	900	0	964	28	0
43	RX	725	0	778	28	0
43	YX	725	0	778	25	0
44	RY	785	0	878	52	0
44	YY	785	0	878	39	0
45	RZ	1461	0	1493	59	0
45	YZ	1461	0	1493	56	0
46	R0	648	0	672	20	0
46	Y0	648	0	672	27	0
47	R1	763	0	848	26	0
47	Y1	763	0	848	28	0
48	R2	581	0	629	19	0
48	Y2	581	0	629	26	0
49	R3	469	0	518	7	0
49	Y3	469	0	518	17	0
50	R4	581	0	574	25	0
50	Y4	581	0	574	45	0
51	R5	459	0	480	25	0
51	Y5	459	0	480	33	0
52	R6	424	0	450	27	0
52	Y6	424	0	450	30	0
53	R7	430	0	480	14	0
53	Y7	430	0	480	17	0
54	R8	517	0	582	30	0
54	Y8	517	0	582	40	0
55	R9	307	0	338	9	0
55	Y9	307	0	338	7	0
56	Z6	74	0	51	6	0
56	Z8	74	0	51	5	0
57	QA	65	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	QF	1	0	0	0	0
57	QH	1	0	0	0	0
57	QM	1	0	0	0	0
57	QV	1	0	0	0	0
57	QX	1	0	0	0	0
57	R0	1	0	0	0	0
57	R5	1	0	0	0	0
57	R8	1	0	0	0	0
57	RA	242	0	0	0	0
57	RB	2	0	0	0	0
57	RD	1	0	0	0	0
57	RE	2	0	0	0	0
57	RF	1	0	0	0	0
57	RP	2	0	0	0	0
57	RR	1	0	0	0	0
57	RU	1	0	0	0	0
57	XA	72	0	0	0	0
57	XM	1	0	0	0	0
57	XV	1	0	0	0	0
57	XX	1	0	0	0	0
57	Y5	1	0	0	0	0
57	YA	268	0	0	0	0
57	YB	3	0	0	0	0
57	YE	1	0	0	0	0
57	YP	2	0	0	0	0
57	YQ	1	0	0	0	0
57	YX	1	0	0	0	0
58	QA	42	0	45	2	0
58	XA	42	0	45	1	0
59	QD	1	0	0	0	0
59	QN	1	0	0	0	0
59	XD	1	0	0	0	0
59	XN	1	0	0	0	0
All	All	291993	0	198359	5830	2

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

All (5830) 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)
4:QD:22:LYS:HG3	4:QD:26:CYS:SG	1.85	1.16
25:RA:2701:C:H3'	25:RA:2702:U:H5''	1.30	1.13
25:YA:2701:C:H3'	25:YA:2702:U:H5''	1.32	1.07
25:RA:1359:A:N6	25:RA:1372:U:O4	1.87	1.07
27:YD:43:ARG:NH1	27:YD:44:ASN:OD1	1.86	1.06
25:YA:1359:A:N6	25:YA:1372:U:O4	1.92	1.02
25:RA:1310:G:OP2	53:R7:9:ARG:NH1	1.94	0.99
25:YA:1771:C:HO2'	25:YA:1786:A:H8	1.01	0.98
1:XA:963:G:N3	10:XJ:55:LYS:NZ	2.11	0.97
25:YA:1496:A:H8	25:YA:1577:C:HO2'	1.10	0.97
4:QD:9:CYS:SG	4:QD:22:LYS:CE	2.52	0.97
25:RA:2298:A:H62	25:RA:2318:G:H8	1.14	0.95
4:QD:9:CYS:SG	4:QD:22:LYS:HE3	2.07	0.95
25:YA:1138:G:H21	33:YN:106:MET:HE3	1.30	0.95
2:QB:185:ILE:HG22	2:QB:199:TYR:HB2	1.48	0.93
25:YA:483:A:H4'	44:YY:49:VAL:HA	1.51	0.92
25:YA:774:A:H2	25:YA:787:U:HO2'	1.00	0.92
1:QA:559:A:H4'	1:QA:560:U:H3'	1.50	0.92
25:YA:620:G:H4'	25:YA:621:A:H5''	1.50	0.92
25:RA:1138:G:H21	33:RN:106:MET:HE3	1.31	0.92
35:RP:58:THR:O	35:RP:61:ARG:NE	2.03	0.92
25:RA:1689:A:H62	25:RA:1698:A:H2	1.18	0.91
1:QA:963:G:N3	10:QJ:55:LYS:NZ	2.18	0.91
25:YA:67:U:H3	25:YA:74:A:H2	1.11	0.91
25:YA:1728:G:H8	25:YA:1732:A:H62	1.15	0.91
28:YE:24:THR:HG21	28:YE:188:VAL:HG11	1.52	0.91
45:YZ:151:HIS:HB3	45:YZ:170:THR:HA	1.54	0.89
28:YE:50:GLY:HA2	28:YE:77:ILE:HA	1.53	0.89
51:R5:55:ARG:HG3	51:R5:57:VAL:H	1.37	0.89
25:RA:1403:C:H5''	25:RA:1471:A:H1'	1.55	0.89
44:YY:79:CYS:SG	44:YY:80:GLY:N	2.45	0.88
39:RT:26:ASP:HB3	39:RT:92:GLY:H	1.36	0.88
25:YA:1021:A:OP2	33:YN:65:LYS:NZ	2.06	0.88
25:RA:2580:U:H4'	28:RE:130:GLY:HA3	1.56	0.88
25:YA:2451:A:C6	56:Z8:76:PPU:HE2	2.09	0.87
35:RP:64:LYS:O	35:RP:66:GLY:N	2.07	0.87
1:XA:1502:A:H2	1:XA:1505:G:H1	1.22	0.87
25:RA:1464:C:HO2'	25:RA:1528:A:H8	1.22	0.87
35:YP:58:THR:O	35:YP:61:ARG:NE	2.08	0.87
44:YY:76:CYS:HB3	44:YY:96:ILE:HD13	1.57	0.87
25:RA:676:A:H8	25:RA:2069:G:H21	1.22	0.87
1:XA:664:G:H22	1:XA:741:G:H1	1.22	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:Y5:40:LYS:HG2	51:Y5:47:PRO:HD2	1.56	0.86
25:YA:993:G:OP1	40:YU:50:ARG:NH2	2.09	0.86
35:RP:19:VAL:HG13	35:RP:21:ARG:H	1.40	0.86
4:XD:157:LEU:O	4:XD:161:ASN:ND2	2.07	0.86
25:YA:528:A:O2'	25:YA:529:A:H5'	1.75	0.86
27:RD:43:ARG:NH1	27:RD:44:ASN:OD1	2.08	0.86
25:YA:498:G:N3	44:YY:47:LYS:NZ	2.24	0.86
26:RB:80:U:H2'	26:RB:81:G:H21	1.41	0.85
25:RA:27:G:N2	25:RA:513:A:OP2	2.09	0.85
45:YZ:94:GLU:HB2	45:YZ:130:PRO:HD2	1.58	0.85
5:QE:50:GLU:HB3	5:QE:53:LEU:HD13	1.59	0.85
25:RA:1019:U:H3	25:RA:1142(A):A:H62	1.24	0.85
25:YA:1689:A:H62	25:YA:1698:A:H2	1.21	0.85
22:QV:75:C:OP1	25:RA:2602:A:OP1	1.94	0.85
42:YW:18:ARG:HG3	42:YW:76:VAL:HG13	1.58	0.84
44:RY:79:CYS:SG	44:RY:80:GLY:N	2.45	0.84
25:YA:1479:G:N7	25:YA:1510:A:N6	2.25	0.84
25:YA:780:G:H21	25:YA:783:A:H62	1.19	0.84
45:YZ:145:GLU:HG3	45:YZ:146:ILE:HG12	1.59	0.84
1:XA:501:C:OP1	12:XL:117:ARG:NH2	2.10	0.84
25:RA:1332:G:N2	25:RA:1609:A:HO2'	1.76	0.84
39:YT:26:ASP:HB3	39:YT:92:GLY:H	1.42	0.84
1:QA:1316:G:H22	1:QA:1319:A:H5''	1.40	0.84
1:QA:1305:G:H22	1:QA:1331:G:H2'	1.42	0.83
33:YN:4:TYR:O	40:YU:64:ARG:NH1	2.10	0.83
25:RA:617:G:OP1	29:RF:40:GLN:NE2	2.10	0.83
25:YA:1728:G:N1	25:YA:1730:U:OP2	2.11	0.83
2:QB:80:ILE:HD11	2:QB:208:ILE:HG23	1.58	0.83
1:XA:971:G:HO2'	1:XA:1365:G:HO2'	1.24	0.83
30:YG:27:ASN:HB3	30:YG:30:GLU:HG3	1.60	0.83
25:RA:2393:A:H5'	35:RP:62:LEU:HB3	1.61	0.83
25:YA:265:A:N6	25:YA:427:U:O2'	2.12	0.83
25:YA:2580:U:H4'	28:YE:130:GLY:HA3	1.58	0.83
1:XA:448:A:OP2	1:XA:485:G:N2	2.10	0.83
35:YP:19:VAL:HG13	35:YP:21:ARG:H	1.41	0.83
1:XA:1298:C:OP2	7:XG:114:ARG:NH2	2.10	0.83
25:YA:674:G:H1'	29:YF:74:ARG:HD3	1.61	0.83
51:R5:4:HIS:HB3	51:R5:5:PRO:HD3	1.61	0.82
40:YU:90:VAL:O	40:YU:92:ARG:N	2.11	0.82
25:YA:1310:G:OP2	53:Y7:9:ARG:NH1	2.11	0.82
25:RA:2392:A:H2	25:RA:2424:C:H42	1.26	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:R5:16:ARG:NH1	51:R5:17:ASP:OD1	2.13	0.82
29:RF:197:ASP:O	29:RF:199:TRP:N	2.12	0.82
44:RY:29:GLU:HB3	44:RY:38:ILE:HG12	1.62	0.82
47:Y1:7:ILE:HD12	47:Y1:62:VAL:HG11	1.62	0.82
45:RZ:94:GLU:HB2	45:RZ:130:PRO:HD2	1.60	0.81
48:Y2:47:ASN:O	48:Y2:49:LYS:N	2.12	0.81
51:Y5:16:ARG:NH1	51:Y5:17:ASP:OD1	2.13	0.81
35:RP:62:LEU:HD21	54:R8:25:MET:HB2	1.61	0.81
25:YA:630:G:OP1	54:Y8:46:ARG:NH1	2.13	0.81
29:RF:103:LYS:HA	29:RF:106:ARG:HG3	1.63	0.81
25:YA:631:A:OP2	54:Y8:46:ARG:NH2	2.13	0.81
33:YN:4:TYR:OH	33:YN:7:LYS:NZ	2.14	0.81
48:R2:47:ASN:O	48:R2:49:LYS:N	2.13	0.81
2:XB:69:LEU:HB3	2:XB:162:ILE:HG22	1.61	0.81
13:QM:14:ARG:H	13:QM:44:ARG:HD3	1.45	0.80
25:RA:2701:C:H3'	25:RA:2702:U:C5'	2.10	0.80
28:RE:201:THR:HG22	28:RE:203:LYS:H	1.45	0.80
25:RA:141:A:H8	25:RA:1595:G:H21	1.29	0.80
39:RT:24:PRO:HA	39:RT:49:VAL:HG13	1.61	0.80
1:XA:1305:G:N2	1:XA:1331:G:H2'	1.96	0.80
33:RN:42:TRP:O	40:RU:64:ARG:NH2	2.15	0.80
25:YA:1403:C:H5''	25:YA:1471:A:H1'	1.61	0.80
28:RE:50:GLY:HA2	28:RE:77:ILE:HA	1.64	0.80
1:XA:1086:U:H3	1:XA:1099:G:H22	1.29	0.80
1:QA:1502:A:H2	1:QA:1505:G:H1	1.29	0.80
32:YI:92:VAL:HG13	32:YI:120:ILE:HG23	1.64	0.80
44:YY:76:CYS:SG	44:YY:77:PRO:HD2	2.22	0.80
13:QM:3:ARG:HA	13:QM:9:ILE:HG21	1.62	0.80
25:RA:1332:G:N2	25:RA:1609:A:O2'	2.14	0.80
25:YA:138:G:N2	43:YX:44:GLU:OE2	2.11	0.80
25:YA:2015:A:H1'	51:Y5:2:ALA:HA	1.64	0.80
1:QA:346:G:OP1	39:RT:41:ARG:NH2	2.14	0.79
25:RA:1012:U:O2'	25:RA:1013:C:OP2	1.99	0.79
13:XM:65:LYS:HD3	13:XM:69:GLU:HG3	1.63	0.79
45:YZ:182:LYS:HG3	45:YZ:183:LEU:HD23	1.62	0.79
3:XC:32:LEU:HD13	3:XC:59:ARG:HD3	1.64	0.79
43:YX:67:GLY:O	43:YX:69:TYR:N	2.15	0.79
11:QK:21:ILE:HB	11:QK:84:VAL:HG12	1.65	0.79
37:RR:104:ARG:HD2	37:RR:111:LEU:HD21	1.63	0.79
1:XA:1002:G:H1	1:XA:1038:C:H42	1.28	0.79
20:XT:33:ILE:O	20:XT:37:SER:OG	2.01	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1298:C:OP2	7:QG:114:ARG:NH2	2.15	0.79
15:QO:26:GLU:OE2	15:QO:77:ARG:NH1	2.16	0.79
25:RA:857:C:H4'	46:R0:23:VAL:HG21	1.63	0.79
2:XB:77:ALA:HB2	2:XB:211:ILE:HD13	1.64	0.79
25:YA:2701:C:H3'	25:YA:2702:U:C5'	2.13	0.79
25:RA:1754:C:OP1	39:RT:96:ARG:NH1	2.15	0.79
32:YI:130:TYR:HB3	32:YI:136:VAL:HG13	1.62	0.78
25:RA:1080:C:N4	25:RA:1088:A:OP2	2.15	0.78
25:RA:1210:A:H5''	25:RA:1210:A:H8	1.48	0.78
3:XC:59:ARG:HH12	3:XC:97:LYS:HE3	1.48	0.78
4:XD:9:CYS:SG	4:XD:22:LYS:NZ	2.52	0.78
45:YZ:144:LEU:HD11	45:YZ:149:SER:HA	1.63	0.78
1:XA:1053:G:H5'	1:XA:1054:C:H5'	1.65	0.78
25:RA:2832:U:H4'	25:RA:2833:G:H5''	1.63	0.78
33:RN:95:PRO:O	33:RN:97:ARG:N	2.15	0.78
25:YA:2849:U:OP2	39:YT:95:ARG:NH1	2.17	0.78
35:RP:126:VAL:HG12	35:RP:147:LEU:HD21	1.63	0.78
50:Y4:1:MET:SD	50:Y4:6:HIS:NE2	2.56	0.78
20:QT:100:ILE:HG13	20:QT:102:GLY:H	1.48	0.78
27:RD:69:ARG:NH2	27:RD:128:GLY:O	2.17	0.78
10:QJ:50:ILE:HA	10:QJ:60:ARG:HG2	1.66	0.78
25:RA:958:U:OP2	36:RQ:14:ARG:NH1	2.15	0.78
34:YO:88:ASN:HD21	34:YO:92:GLU:HB2	1.47	0.78
25:RA:819:A:OP2	25:RA:1187:G:N2	2.15	0.78
25:RA:1980:G:O2'	25:RA:1982:C:OP2	2.00	0.78
26:RB:33:G:H5'	30:RG:2:PRO:HG3	1.64	0.78
1:XA:339:C:OP2	34:YO:97:ARG:NH1	2.18	0.77
32:RI:4:ILE:HD11	32:RI:44:LEU:HD12	1.66	0.77
13:XM:14:ARG:H	13:XM:44:ARG:HD3	1.49	0.77
1:XA:1128:C:H5'	9:XI:16:ARG:HH22	1.50	0.77
25:YA:607:U:H3	25:YA:621:A:H2	1.33	0.77
3:XC:20:SER:HB2	3:XC:40:ARG:HH22	1.50	0.77
25:YA:900:A:H3'	25:YA:901:A:H8	1.49	0.77
27:YD:69:ARG:NH2	27:YD:128:GLY:O	2.18	0.77
25:RA:2287:A:H62	25:RA:2344:U:H3	1.32	0.77
29:RF:66:PRO:O	29:RF:68:LYS:N	2.18	0.77
1:XA:880:C:OP1	12:XL:12:ARG:NH1	2.18	0.77
33:YN:95:PRO:O	33:YN:97:ARG:N	2.18	0.77
25:RA:1543:A:O2'	25:RA:1544:C:H3'	1.85	0.77
1:QA:1297:C:O2'	1:QA:1298:C:OP2	2.02	0.77
35:YP:47:ASP:OD1	35:YP:50:ARG:NH2	2.17	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1139:G:N2	1:XA:1143:G:O6	2.18	0.77
1:QA:1002:G:H2'	1:QA:1003:G:H8	1.50	0.76
25:YA:2306:C:H3'	25:YA:2307:G:H5''	1.67	0.76
37:RR:3:HIS:O	37:RR:5:LYS:N	2.19	0.76
1:XA:58:C:O2'	1:XA:388:G:N7	2.17	0.76
28:RE:9:VAL:HB	28:RE:25:VAL:HG23	1.66	0.76
16:XP:45:THR:HG22	16:XP:47:ASP:H	1.51	0.76
38:RS:62:LYS:HB3	38:RS:97:ARG:HD3	1.67	0.76
25:YA:1996:C:OP1	34:YO:31:LYS:NZ	2.19	0.76
29:YF:197:ASP:O	29:YF:199:TRP:N	2.19	0.76
37:YR:74:LYS:O	37:YR:76:VAL:N	2.18	0.76
25:RA:49:A:N7	25:RA:120:U:H5	1.83	0.76
25:YA:128:C:H4'	53:Y7:49:ARG:HH12	1.51	0.76
31:YH:153:LYS:HG2	31:YH:162:ILE:HG13	1.67	0.75
1:XA:1178:G:N2	1:XA:1181:G:N7	2.33	0.75
25:RA:996:A:H4'	40:RU:92:ARG:HE	1.50	0.75
44:RY:95:LYS:HB3	44:RY:100:ALA:HA	1.68	0.75
1:XA:1002:G:H2'	1:XA:1003:G:H8	1.52	0.75
25:RA:1899:G:H21	25:RA:1902:C:N4	1.85	0.75
1:XA:532:A:H2	1:XA:1206:G:H21	1.34	0.75
25:RA:2438:U:O3'	25:RA:2439:A:H3'	1.87	0.75
1:XA:356:A:N3	1:XA:368:U:O2'	2.19	0.75
44:RY:87:LYS:HD3	44:RY:92:ASN:HB3	1.69	0.75
52:R6:41:PRO:HG2	52:R6:45:LYS:H	1.52	0.75
25:YA:1434:A:H61	25:YA:1558:A:N6	1.85	0.75
25:YA:2392:A:H2	25:YA:2424:C:H42	1.35	0.75
39:YT:57:PHE:O	39:YT:58:ASN:ND2	2.20	0.75
25:RA:910:A:N3	25:RA:2264:C:O2'	2.20	0.75
35:RP:14:LYS:O	35:RP:16:ARG:N	2.20	0.75
39:YT:27:THR:HG23	39:YT:90:GLN:HB3	1.67	0.75
40:YU:92:ARG:O	40:YU:94:ASN:N	2.20	0.75
53:R7:9:ARG:HH21	53:R7:48:LYS:HD2	1.52	0.75
33:YN:13:TRP:HB2	33:YN:133:GLN:HG3	1.69	0.75
37:RR:56:LYS:NZ	37:RR:90:ARG:O	2.20	0.74
44:RY:86:ARG:HB2	44:RY:95:LYS:HD2	1.69	0.74
41:YV:24:LYS:HA	41:YV:92:THR:HG23	1.68	0.74
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.69	0.74
25:RA:483:A:H4'	44:RY:49:VAL:HA	1.67	0.74
37:RR:74:LYS:O	37:RR:76:VAL:N	2.18	0.74
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.21	0.74
45:RZ:60:GLU:HA	45:RZ:66:SER:HA	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2849:U:O4	39:YT:23:ARG:NH2	2.21	0.74
25:RA:1332:G:H21	25:RA:1610:A:H8	1.34	0.74
30:RG:34:LEU:HB2	30:RG:172:LEU:HD21	1.68	0.74
38:YS:78:LEU:HD21	38:YS:108:GLY:HA3	1.68	0.74
5:QE:7:GLU:HG2	5:QE:112:LEU:HD22	1.69	0.74
25:RA:1048:A:H2	25:RA:1112:G:H21	1.36	0.74
1:XA:971:G:N2	1:XA:1363:A:OP2	2.20	0.74
45:YZ:30:ASN:HD22	45:YZ:90:VAL:HB	1.51	0.74
25:YA:482:A:H4'	44:YY:47:LYS:HD2	1.70	0.74
26:YB:15:A:H5'	26:YB:16:G:C8	2.22	0.74
39:YT:51:ARG:HG2	39:YT:98:LYS:HG3	1.70	0.74
25:RA:780:G:H21	25:RA:783:A:H62	1.33	0.74
1:XA:619:U:H3	4:XD:135:LEU:HD23	1.52	0.74
30:YG:161:THR:HG22	30:YG:163:ALA:H	1.53	0.74
1:QA:1124:G:H3'	1:QA:1145:C:N4	2.03	0.74
8:QH:29:SER:HB3	8:QH:32:LYS:HG3	1.69	0.74
1:QA:973:G:OP1	10:QJ:57:LYS:NZ	2.21	0.74
25:RA:2392:A:H8	35:RP:60:MET:HG2	1.52	0.74
1:XA:1305:G:H22	1:XA:1331:G:H2'	1.52	0.74
1:XA:1321:C:H3'	1:XA:1322:C:H5''	1.69	0.74
28:RE:62:PRO:O	28:RE:64:LYS:N	2.20	0.74
5:QE:100:VAL:O	5:QE:107:ARG:NH2	2.20	0.73
1:XA:1314:C:N4	19:XS:3:ARG:O	2.18	0.73
25:RA:2115:G:N2	25:RA:2165:G:N7	2.35	0.73
25:RA:631:A:OP2	54:R8:46:ARG:NH2	2.22	0.73
25:RA:1542:G:O6	25:RA:1543:A:N6	2.21	0.73
25:YA:483:A:H5'	44:YY:49:VAL:HG22	1.69	0.73
50:Y4:9:LEU:H	50:Y4:27:THR:HG23	1.53	0.73
25:RA:1496:A:H8	25:RA:1577:C:HO2'	1.37	0.73
35:YP:14:LYS:O	35:YP:16:ARG:N	2.22	0.73
43:YX:27:THR:HB	43:YX:80:ILE:HB	1.69	0.73
25:YA:1667:G:O2'	25:YA:1991:U:O4	2.04	0.73
25:YA:2287:A:H62	25:YA:2344:U:H3	1.34	0.73
4:XD:7:PRO:HB2	4:XD:10:ARG:HD2	1.69	0.73
25:YA:49:A:N7	25:YA:120:U:H5	1.86	0.73
31:YH:86:GLU:HG3	31:YH:165:ALA:H	1.53	0.73
36:YQ:111:GLU:OE1	36:YQ:133:ARG:NH2	2.22	0.73
3:QC:58:GLU:HB2	3:QC:65:ALA:HB3	1.70	0.73
4:QD:175:SER:HB3	4:QD:186:LEU:HD21	1.69	0.73
32:RI:5:LEU:HD11	32:RI:19:VAL:HG12	1.70	0.73
25:YA:2849:U:O2'	25:YA:2866:U:O2	2.07	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YQ:24:GLY:O	36:YQ:26:TYR:N	2.19	0.73
36:YQ:104:PHE:HE1	36:YQ:125:LEU:HD11	1.54	0.73
1:QA:677:U:H3	1:QA:713:G:H22	1.36	0.72
1:QA:1189:C:OP1	10:QJ:51:ARG:NH2	2.21	0.72
3:QC:20:SER:HB2	3:QC:40:ARG:HH22	1.54	0.72
7:QG:9:VAL:HG13	7:QG:94:ARG:HH21	1.54	0.72
25:YA:1210:A:H5'	25:YA:1210:A:H8	1.52	0.72
1:QA:1494:G:N7	58:QA:1666:PAR:N32	2.38	0.72
50:Y4:48:ARG:HH12	50:Y4:52:THR:HG22	1.54	0.72
25:RA:530:G:C2	25:RA:2022:U:OP1	2.42	0.72
25:RA:1443:G:H1	25:RA:1548:C:H42	1.37	0.72
25:RA:1582:C:HO2'	25:RA:1586:A:H8	1.37	0.72
30:YG:64:THR:HG23	30:YG:66:GLN:H	1.55	0.72
25:RA:590:A:OP1	29:RF:95:ARG:NH1	2.22	0.72
25:RA:1728:G:H3'	25:RA:1729:A:H5''	1.71	0.72
27:YD:35:LYS:HD2	27:YD:104:TYR:CE1	2.25	0.72
30:YG:6:ALA:H	50:Y4:23:GLU:HG2	1.54	0.72
25:RA:2112:G:O6	25:RA:2169:A:N6	2.22	0.72
32:RI:98:ALA:HB2	32:RI:111:PRO:HB3	1.72	0.72
25:YA:2753:A:O2'	55:Y9:15:LYS:NZ	2.22	0.72
25:YA:2789:C:H1'	25:YA:2892:A:H2	1.55	0.72
31:YH:129:THR:OG1	31:YH:129:THR:O	2.08	0.72
44:YY:51:VAL:HG13	44:YY:52:SER:H	1.54	0.72
48:Y2:42:GLY:O	48:Y2:44:LEU:N	2.20	0.72
17:QQ:4:LYS:HE3	17:QQ:6:LEU:HD21	1.72	0.72
25:RA:140:A:H8	25:RA:1408:C:HO2'	1.35	0.72
25:RA:1286:A:O2'	25:RA:1288:U:OP2	2.07	0.72
5:XE:10:MET:HB3	5:XE:32:VAL:HG22	1.70	0.71
34:YO:47:ILE:HG13	34:YO:48:PRO:HD2	1.72	0.71
45:YZ:102:LEU:HG	45:YZ:123:ASP:HA	1.72	0.71
25:RA:900:A:H3'	25:RA:901:A:H8	1.55	0.71
9:XI:114:TYR:HE1	10:XJ:60:ARG:H	1.38	0.71
25:YA:2469:A:H2	25:YA:2481:G:H21	1.36	0.71
1:QA:1243:C:OP2	21:QU:10:ARG:NH2	2.23	0.71
45:RZ:166:SER:HB2	45:RZ:168:GLU:N	2.05	0.71
46:R0:68:GLU:OE1	46:R0:82:ARG:NH1	2.23	0.71
6:XF:50:TYR:OH	18:XR:74:ARG:O	2.06	0.71
25:YA:910:A:H62	36:YQ:12:GLN:HA	1.56	0.71
28:YE:170:LEU:HD21	28:YE:187:ALA:HB3	1.72	0.71
2:QB:115:LEU:HB2	2:QB:145:LEU:HD12	1.73	0.71
4:QD:28:SER:HB3	4:QD:29:PRO:HD3	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2849:U:OP1	39:RT:95:ARG:NH1	2.23	0.71
26:RB:15:A:H5'	26:RB:16:G:C8	2.26	0.71
25:YA:2415:G:H4'	35:YP:67:MET:N	2.06	0.71
26:YB:52:A:O2'	26:YB:53:A:N7	2.24	0.71
33:YN:89:LYS:O	33:YN:93:THR:HG22	1.90	0.71
30:RG:61:ALA:HB2	30:RG:68:PRO:HD3	1.72	0.71
49:R3:8:LEU:HD13	49:R3:31:LEU:HD23	1.71	0.71
25:YA:2760:C:H2'	25:YA:2761:G:H5''	1.71	0.71
25:RA:252:G:OP2	35:RP:50:ARG:NH1	2.23	0.71
35:RP:38:GLN:HG2	35:RP:45:LEU:HD12	1.72	0.71
52:R6:17:LYS:HB3	52:R6:44:ARG:HH22	1.55	0.71
1:XA:974:A:OP2	14:XN:29:ARG:NH2	2.23	0.71
8:XH:10:LEU:HD22	8:XH:83:ILE:HD11	1.72	0.71
25:YA:259:G:H21	25:YA:621:A:H8	1.39	0.71
25:YA:1019:U:H3	25:YA:1142(A):A:H62	1.37	0.71
44:YY:29:GLU:HB3	44:YY:38:ILE:HG23	1.70	0.71
1:QA:1286:A:H5''	21:QU:26:LYS:HD2	1.73	0.71
20:XT:45:GLN:HB2	20:XT:91:LEU:HD13	1.73	0.71
25:YA:918:A:N3	26:YB:80:U:O2'	2.23	0.71
1:QA:1224:G:C6	1:QA:1322:C:H1'	2.25	0.71
10:QJ:61:GLU:OE2	14:QN:45:ARG:NH1	2.23	0.71
25:RA:994:C:OP2	40:RU:54:LYS:NZ	2.23	0.71
32:RI:93:THR:HG22	32:RI:119:PRO:HB3	1.71	0.71
25:YA:372:G:O2'	25:YA:373:U:OP2	2.08	0.71
32:YI:144:VAL:HG13	32:YI:145:VAL:HG13	1.70	0.71
38:YS:24:LEU:HB2	38:YS:85:VAL:HG12	1.70	0.71
38:YS:106:ARG:HA	38:YS:110:LEU:HD21	1.73	0.71
39:YT:77:PRO:HB2	39:YT:80:SER:HB2	1.72	0.71
34:YO:2:ILE:HD12	34:YO:6:THR:HG21	1.72	0.71
44:YY:42:VAL:HG12	44:YY:65:ALA:HB3	1.71	0.71
25:RA:2405:G:O2'	25:RA:2411:A:N6	2.23	0.70
36:RQ:81:VAL:O	36:RQ:82:ARG:NE	2.22	0.70
1:XA:1129:C:N4	1:XA:1133:G:O6	2.24	0.70
25:YA:2334:G:H5'	38:YS:9:ARG:HG2	1.72	0.70
54:Y8:58:ILE:HD13	54:Y8:61:LEU:HD21	1.73	0.70
25:RA:2839:G:H5'	37:RR:46:GLY:HA2	1.73	0.70
39:RT:18:ASP:OD1	39:RT:18:ASP:N	2.19	0.70
48:R2:29:LYS:HE3	48:R2:57:ILE:HG21	1.73	0.70
1:XA:1298:C:HO2'	1:XA:1299:A:P	2.13	0.70
30:YG:47:LYS:HD3	30:YG:81:LYS:HB2	1.73	0.70
1:QA:261:U:OP2	20:QT:79:ARG:NH2	2.23	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:411:A:H62	1:QA:413:G:H21	1.37	0.70
19:QS:40:ILE:HD11	19:QS:62:ILE:HD12	1.74	0.70
19:QS:41:VAL:HB	19:QS:42:PRO:HA	1.74	0.70
42:RW:29:LEU:HD22	42:RW:69:LEU:HD11	1.72	0.70
25:YA:860:U:H5	25:YA:917:A:C2	2.10	0.70
1:XA:1129:C:H4'	1:XA:1130:A:H5'	1.73	0.70
10:XJ:50:ILE:HA	10:XJ:60:ARG:HG2	1.72	0.70
10:XJ:61:GLU:OE2	14:YN:45:ARG:NH1	2.25	0.70
45:YZ:141:VAL:HG23	45:YZ:144:LEU:HB2	1.74	0.70
1:QA:1322:C:O2'	1:QA:1323:G:H5'	1.90	0.70
31:RH:106:THR:HG22	31:RH:112:PRO:HB3	1.72	0.70
18:XR:58:LEU:HD23	18:XR:62:GLU:HB3	1.74	0.70
42:YW:17:VAL:HG12	42:YW:76:VAL:HG11	1.72	0.70
13:QM:59:TYR:O	13:QM:63:THR:OG1	2.07	0.70
25:RA:1184:G:OP1	49:R3:29:ARG:NH1	2.25	0.70
25:RA:2747:G:H21	25:RA:2757:A:H62	1.37	0.70
25:YA:2633:G:H1'	28:YE:62:PRO:HG2	1.73	0.70
29:YF:185:ASP:HA	29:YF:188:ARG:HD3	1.72	0.70
45:YZ:103:ARG:HB2	45:YZ:138:GLU:HG2	1.72	0.70
25:RA:2392:A:C8	35:RP:60:MET:HG2	2.27	0.70
25:YA:226:G:O2'	25:YA:227:A:O5'	2.09	0.70
28:RE:119:ARG:HB3	28:RE:120:TRP:CD1	2.27	0.70
14:YN:48:ALA:HB2	14:YN:53:LEU:HD12	1.73	0.70
27:YD:43:ARG:HB3	27:YD:54:ARG:HB2	1.74	0.70
2:XB:185:ILE:HG22	2:XB:199:TYR:HB2	1.74	0.70
25:YA:2292:C:P	38:YS:17:ARG:HH22	2.14	0.70
45:YZ:80:ARG:HH21	45:YZ:82:ARG:HH22	1.39	0.69
10:QJ:48:THR:HA	10:QJ:62:HIS:HB3	1.73	0.69
25:RA:2636:U:OP1	28:RE:79:ARG:HA	1.91	0.69
27:RD:93:ALA:HB3	27:RD:105:ILE:HG22	1.74	0.69
1:QA:336:C:H2'	1:QA:337:C:H6	1.55	0.69
50:R4:18:CYS:SG	50:R4:19:GLY:N	2.66	0.69
1:XA:1200:C:O2'	1:XA:1201:A:OP2	2.09	0.69
4:XD:105:VAL:HG13	4:XD:110:PHE:HB2	1.74	0.69
19:XS:10:PHE:HB2	19:XS:39:THR:H	1.54	0.69
25:YA:221:A:H4'	25:YA:222:A:O5'	1.91	0.69
29:YF:182:ASN:ND2	29:YF:185:ASP:OD2	2.19	0.69
6:XF:68:PRO:HG2	6:XF:71:ARG:HG3	1.74	0.69
25:YA:1754:C:OP1	39:YT:96:ARG:NH1	2.26	0.69
27:YD:182:LEU:H	27:YD:272:ALA:HB3	1.56	0.69
20:XT:100:ILE:HG13	20:XT:102:GLY:H	1.56	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:252:G:OP2	35:YP:50:ARG:NH1	2.26	0.69
25:YA:1338:G:N7	43:YX:62:LYS:NZ	2.40	0.69
50:R4:7:PRO:HB2	50:R4:27:THR:HG21	1.74	0.69
25:YA:676:A:H8	25:YA:2069:G:H21	1.38	0.69
25:YA:1019:U:HO2'	25:YA:1021:A:H2	1.39	0.69
27:YD:71:ASP:HB2	27:YD:103:ARG:HH22	1.58	0.69
29:YF:110:LEU:HD11	29:YF:181:LEU:HD13	1.74	0.69
52:Y6:11:LEU:HD11	52:Y6:51:GLU:HG3	1.75	0.69
1:QA:1077:G:N2	1:QA:1080:A:OP2	2.24	0.69
25:RA:2547:U:O2	34:RO:23:ARG:NH2	2.26	0.69
51:R5:41:PRO:O	51:R5:44:THR:OG1	2.10	0.69
1:XA:130:A:N3	1:XA:263:A:O2'	2.24	0.69
29:YF:184:TYR:O	29:YF:188:ARG:HG3	1.93	0.69
36:RQ:37:LEU:HD21	36:RQ:130:LYS:HE3	1.74	0.69
1:XA:963:G:N2	1:XA:972:C:N3	2.34	0.69
25:YA:2401:U:H2'	25:YA:2402:C:H5''	1.75	0.69
28:YE:128:SER:OG	28:YE:129:HIS:N	2.24	0.69
4:QD:57:ARG:HH22	5:QE:107:ARG:HD3	1.58	0.69
28:RE:2:LYS:HD3	28:RE:95:ILE:HG22	1.75	0.69
42:RW:29:LEU:HG	42:RW:33:ARG:HD2	1.74	0.69
25:YA:704:G:O2'	25:YA:726:G:N2	2.25	0.69
1:QA:1053:G:H5'	1:QA:1054:C:H5'	1.74	0.68
27:RD:25:THR:O	27:RD:27:THR:N	2.26	0.68
25:YA:141:A:H8	25:YA:1595:G:H21	1.39	0.68
29:YF:157:VAL:HB	29:YF:194:MET:HB3	1.75	0.68
35:YP:64:LYS:C	35:YP:66:GLY:H	1.96	0.68
47:Y1:73:LEU:HD13	47:Y1:90:ILE:HG22	1.76	0.68
25:RA:2131:G:H4'	25:RA:2132:U:H4'	1.75	0.68
31:RH:86:GLU:HG3	31:RH:165:ALA:H	1.56	0.68
25:YA:1509:C:H3'	25:YA:1510:A:H5''	1.75	0.68
25:YA:2712:U:HO2'	25:YA:2712(A):A:H8	1.40	0.68
3:QC:3:ASN:N	3:QC:3:ASN:OD1	2.27	0.68
39:YT:123:GLN:O	39:YT:125:ARG:N	2.26	0.68
1:QA:620:C:H2'	1:QA:621:A:O4'	1.94	0.68
30:RG:47:LYS:HD3	30:RG:81:LYS:HB2	1.76	0.68
30:RG:66:GLN:NE2	30:RG:93:THR:O	2.26	0.68
14:YN:13:THR:N	14:YN:14:PRO:HD2	2.09	0.68
27:YD:25:THR:O	27:YD:27:THR:N	2.26	0.68
25:RA:1245:G:OP1	35:RP:13:ASN:ND2	2.25	0.68
25:YA:1049:C:H2'	25:YA:1050:A:H5''	1.76	0.68
25:YA:1094:U:O2'	25:YA:1096:A:OP1	2.09	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2527:C:H5''	55:Y9:30:PRO:HB2	1.73	0.68
1:QA:1204:A:OP1	14:QN:3:ARG:NH2	2.27	0.68
16:QP:4:ILE:HG12	16:QP:21:VAL:HG12	1.75	0.68
37:RR:38:VAL:HG22	37:RR:112:ALA:HB2	1.75	0.68
2:XB:235:SER:OG	2:XB:236:TYR:N	2.25	0.68
28:YE:95:ILE:H	28:YE:95:ILE:HD12	1.59	0.68
1:QA:542:G:OP1	4:QD:10:ARG:NH2	2.26	0.68
1:QA:973:G:H3'	1:QA:974:A:H5''	1.75	0.68
5:QE:11:ILE:HG13	5:QE:31:LEU:HB3	1.76	0.68
11:QK:58:PRO:HB2	11:QK:93:GLN:HG3	1.75	0.68
36:RQ:12:GLN:HG2	36:RQ:73:PRO:HD2	1.75	0.68
27:YD:142:VAL:HG23	27:YD:193:VAL:HA	1.75	0.68
35:YP:64:LYS:C	35:YP:66:GLY:N	2.48	0.68
33:YN:133:GLN:HB2	33:YN:135:PRO:HD3	1.76	0.68
36:YQ:37:LEU:HD21	36:YQ:130:LYS:HE3	1.74	0.68
1:QA:662:G:O2'	1:QA:836:G:OP1	2.11	0.68
1:QA:686:U:O4	1:QA:703:G:H1'	1.93	0.68
25:RA:1169:G:H1	25:RA:1180:C:H42	1.42	0.68
25:RA:2451:A:C6	56:Z6:76:PPU:HE2	2.29	0.68
30:RG:83:ARG:H	30:RG:86:MET:HG3	1.58	0.68
35:YP:39:LYS:HG3	35:YP:45:LEU:HD22	1.75	0.68
2:QB:27:LYS:HD2	2:QB:193:ASP:HB2	1.75	0.67
25:RA:768:G:O2'	25:RA:1379:A:N6	2.26	0.67
45:RZ:108:PRO:HA	45:RZ:142:SER:HA	1.75	0.67
25:RA:249:C:O2	54:R8:12:LYS:NZ	2.26	0.67
19:XS:40:ILE:HG12	19:XS:41:VAL:HG13	1.76	0.67
25:YA:2636:U:OP1	28:YE:79:ARG:HA	1.93	0.67
32:YI:5:LEU:HD21	32:YI:12:LEU:HB3	1.77	0.67
54:Y8:29:LYS:O	54:Y8:31:HIS:N	2.27	0.67
1:QA:1392:G:H21	1:QA:1502:A:H8	1.42	0.67
4:QD:154:ASN:N	4:QD:154:ASN:OD1	2.26	0.67
19:QS:29:ARG:HD3	19:QS:30:LEU:HD13	1.77	0.67
25:RA:221:A:H4'	25:RA:222:A:O5'	1.93	0.67
25:RA:442:G:H1'	29:RF:48:THR:HG21	1.76	0.67
25:RA:674:G:H1'	29:RF:74:ARG:HD3	1.75	0.67
31:RH:41:MET:HE1	31:RH:64:LEU:HD22	1.76	0.67
31:RH:152:ARG:HG3	31:RH:153:LYS:HD2	1.77	0.67
25:RA:84:A:N1	25:RA:98:G:O2'	2.28	0.67
25:RA:2308:G:H22	25:RA:2311:A:H2	1.40	0.67
25:RA:2712:U:HO2'	25:RA:2712(A):A:H8	1.42	0.67
25:RA:2779:U:O2'	25:RA:2781:A:N7	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XE:31:LEU:HD23	5:XE:45:PHE:CD1	2.30	0.67
26:YB:52:A:H62	38:YS:33:LYS:HG3	1.60	0.67
28:YE:1:MET:N	28:YE:83:ASP:O	2.28	0.67
31:YH:137:ASP:OD1	31:YH:138:LYS:N	2.27	0.67
36:YQ:89:ASN:O	36:YQ:92:GLY:N	2.18	0.67
1:QA:582:U:OP1	15:QO:68:ARG:NH2	2.22	0.67
1:QA:954:G:H21	1:QA:1227:A:H62	1.42	0.67
25:RA:2114:A:N6	25:RA:2119:A:N7	2.42	0.67
27:RD:182:LEU:H	27:RD:272:ALA:HB3	1.59	0.67
8:XH:120:THR:H	8:XH:123:GLU:HB2	1.59	0.67
25:YA:270(T):G:H5''	47:Y1:97:LEU:HD22	1.76	0.67
25:YA:888:C:H3'	25:YA:889:C:H4'	1.76	0.67
25:YA:2393:A:H5'	35:YP:62:LEU:HB3	1.77	0.67
1:QA:1255:G:OP1	10:QJ:45:ARG:NH2	2.27	0.67
29:RF:143:ALA:HB1	29:RF:148:LEU:HB2	1.75	0.67
41:RV:72:VAL:HG13	41:RV:85:LYS:HB3	1.75	0.67
1:XA:396:G:O2'	1:XA:398:C:OP1	2.09	0.67
2:XB:174:VAL:HG13	2:XB:184:VAL:HG11	1.75	0.67
5:XE:37:ARG:HA	5:XE:114:GLY:H	1.58	0.67
25:YA:2114:A:N6	25:YA:2119:A:N7	2.43	0.67
39:YT:16:ARG:NH2	39:YT:83:ILE:O	2.27	0.67
27:RD:49:ILE:HD11	27:RD:52:ARG:HA	1.77	0.67
39:RT:84:GLN:HG2	39:RT:85:LYS:HG2	1.76	0.67
1:XA:826:C:H2'	1:XA:827:U:O2	1.94	0.67
2:XB:168:THR:HB	2:XB:192:SER:HB2	1.77	0.67
41:YV:52:VAL:HG21	41:YV:55:ALA:HB3	1.76	0.67
1:QA:1321:C:H5''	1:QA:1322:C:H5''	1.77	0.67
25:YA:1021:A:H8	25:YA:1022:G:H5''	1.60	0.67
25:YA:2123:G:H2'	25:YA:2124:G:H8	1.58	0.67
27:YD:35:LYS:HG2	27:YD:64:ILE:H	1.59	0.67
36:RQ:30:GLY:HA2	36:RQ:107:ALA:HB2	1.77	0.66
1:XA:266:G:H5''	1:XA:267:C:C5	2.30	0.66
37:YR:78:LYS:HE2	37:YR:83:ILE:HD11	1.77	0.66
25:RA:857:C:OP2	46:R0:77:ARG:NH2	2.26	0.66
25:RA:2790:A:H2'	25:RA:2791:C:H5''	1.78	0.66
32:RI:4:ILE:HG12	32:RI:18:VAL:HG22	1.77	0.66
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.30	0.66
25:YA:587:C:OP2	35:YP:21:ARG:NH2	2.28	0.66
25:YA:1796:U:H2'	25:YA:1797:C:C6	2.31	0.66
51:Y5:4:HIS:HB3	51:Y5:5:PRO:HD3	1.77	0.66
45:RZ:19:ARG:NH1	45:RZ:84:GLU:O	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:RZ:52:SER:O	45:RZ:52:SER:OG	2.12	0.66
25:YA:142:G:H1'	43:YX:37:THR:HG21	1.75	0.66
32:YI:4:ILE:HG12	32:YI:18:VAL:HG22	1.76	0.66
1:QA:922:G:H4'	5:QE:20:GLN:HA	1.77	0.66
32:RI:3:VAL:HG12	32:RI:38:LEU:HA	1.77	0.66
55:R9:27:CYS:SG	55:R9:29:ASN:ND2	2.69	0.66
25:YA:2685:G:N2	25:YA:2724:C:O2	2.19	0.66
42:YW:45:TYR:CZ	42:YW:49:LYS:HD2	2.30	0.66
1:QA:826:C:H2'	1:QA:827:U:O2	1.95	0.66
3:QC:70:VAL:HG12	3:QC:72:LYS:H	1.60	0.66
25:RA:631:A:H61	25:RA:2402:C:N4	1.94	0.66
25:RA:695:G:H4'	25:RA:1380:G:H5'	1.78	0.66
47:R1:7:ILE:HG12	47:R1:91:LYS:NZ	2.11	0.66
1:XA:561:U:O2'	1:XA:562:C:OP2	2.11	0.66
10:XJ:7:LYS:HB2	10:XJ:97:GLU:HB2	1.76	0.66
13:XM:105:THR:O	13:XM:107:ALA:N	2.29	0.66
25:YA:2636:U:OP2	28:YE:79:ARG:NH1	2.29	0.66
31:YH:86:GLU:HG3	31:YH:165:ALA:N	2.10	0.66
44:YY:49:VAL:O	44:YY:51:VAL:N	2.29	0.66
19:QS:39:THR:HG22	19:QS:40:ILE:H	1.61	0.66
1:XA:390:C:O3'	16:XP:28:ARG:NH2	2.28	0.66
45:YZ:128:VAL:HB	45:YZ:161:VAL:HG13	1.78	0.66
1:XA:564:C:O2'	8:XH:91:ARG:NH2	2.29	0.66
25:YA:74:A:H4'	25:YA:75:G:O5'	1.95	0.66
25:YA:1899:G:H21	25:YA:1902:C:N4	1.94	0.66
44:YY:97:ARG:HE	44:YY:98:VAL:HB	1.61	0.66
1:QA:974:A:OP2	14:QN:41:ARG:NH1	2.29	0.66
30:RG:6:ALA:H	50:R4:23:GLU:HG2	1.61	0.66
28:RE:63:LEU:HD13	28:RE:65:GLY:H	1.60	0.66
44:RY:49:VAL:O	44:RY:51:VAL:N	2.29	0.66
25:YA:2308:G:H22	25:YA:2311:A:H2	1.43	0.66
33:YN:35:ARG:O	33:YN:37:LYS:N	2.29	0.66
35:YP:105:LEU:O	35:YP:106:LEU:HB2	1.95	0.66
45:YZ:60:GLU:HA	45:YZ:66:SER:HA	1.76	0.66
1:QA:890:G:O2'	1:QA:906:G:O6	2.13	0.66
39:RT:102:ILE:HB	39:RT:110:ILE:HD13	1.78	0.66
19:XS:50:ALA:HB1	19:XS:57:HIS:HB3	1.77	0.66
25:RA:242:G:H5''	54:R8:62:LEU:HD13	1.78	0.65
25:RA:2713:A:OP1	37:RR:14:SER:OG	2.12	0.65
36:RQ:135:ASP:OD1	36:RQ:135:ASP:N	2.23	0.65
25:YA:363(B):G:H2'	25:YA:363(C):G:H8	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2444:G:OP2	29:YF:68:LYS:HE3	1.96	0.65
41:YV:21:ARG:HD2	41:YV:91:TYR:CD1	2.31	0.65
27:RD:108:PRO:HG2	27:RD:111:LEU:HG	1.78	0.65
45:RZ:150:LEU:HD21	45:RZ:172:ALA:HB3	1.77	0.65
1:XA:547:A:OP1	4:XD:73:ARG:NH2	2.30	0.65
39:YT:16:ARG:HD3	39:YT:19:LEU:HD11	1.77	0.65
47:Y1:29:GLY:O	47:Y1:31:GLY:N	2.30	0.65
25:RA:1289:C:H2'	25:RA:1290:C:C6	2.31	0.65
25:RA:2469:A:H2	25:RA:2481:G:H21	1.44	0.65
1:XA:559:A:OP1	5:XE:126:ARG:NH2	2.30	0.65
1:XA:674:G:H2'	1:XA:675:A:H8	1.60	0.65
1:XA:1342:C:H4'	9:XI:125:TYR:HB3	1.78	0.65
25:YA:1863:G:HO2'	25:YA:2411:A:HO2'	1.44	0.65
25:YA:2306:C:H2'	25:YA:2307:G:H21	1.62	0.65
1:QA:1080:A:H5''	5:QE:16:THR:HG21	1.79	0.65
27:RD:27:THR:HG21	27:RD:81:ALA:HB1	1.78	0.65
35:RP:59:LEU:HA	35:RP:61:ARG:NE	2.12	0.65
50:R4:1:MET:SD	50:R4:6:HIS:NE2	2.69	0.65
1:XA:67:C:H2'	1:XA:68:G:C8	2.31	0.65
25:YA:780:G:N2	25:YA:783:A:H62	1.94	0.65
25:YA:1771:C:H1'	25:YA:1786:A:C8	2.32	0.65
40:YU:8:VAL:HG23	40:YU:11:ARG:HH21	1.62	0.65
1:QA:191:G:H1'	20:QT:105:SER:HB3	1.79	0.65
2:QB:82:ARG:HA	2:QB:92:TYR:CE2	2.31	0.65
52:R6:11:LEU:HD23	52:R6:26:ASN:HB3	1.78	0.65
25:YA:1287:A:N7	37:YR:107:ASP:HB2	2.11	0.65
25:RA:1204:A:H2	25:RA:1241:A:N1	1.94	0.65
44:RY:38:ILE:HG22	44:RY:66:PRO:HA	1.79	0.65
25:YA:443:A:H3'	29:YF:45:ARG:NH1	2.11	0.65
48:Y2:50:ILE:HD12	48:Y2:51:ARG:H	1.62	0.65
51:Y5:40:LYS:HZ1	51:Y5:48:GLU:HB2	1.61	0.65
3:QC:9:GLY:HA2	3:QC:12:LEU:HD23	1.78	0.65
25:RA:846:C:O2'	25:RA:847:U:OP2	2.13	0.65
1:XA:1126:U:H5	1:XA:1127:G:C4	2.14	0.65
25:YA:768:G:N2	25:YA:1379:A:O2'	2.30	0.65
31:YH:20:ALA:HB3	31:YH:23:ARG:HG2	1.77	0.65
1:QA:612:C:O2	1:QA:629:G:N2	2.29	0.65
35:RP:71:VAL:HG13	35:RP:72:PRO:HD3	1.78	0.65
1:XA:243:A:H4'	1:XA:244:U:O5'	1.97	0.65
1:XA:1286:A:H5''	21:XU:26:LYS:HD2	1.78	0.65
2:XB:178:ARG:NH1	2:XB:196:LEU:O	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XE:152:ARG:NH2	8:XH:107:LEU:O	2.28	0.65
11:XK:21:ILE:HB	11:XK:84:VAL:HG12	1.78	0.65
20:XT:97:ALA:O	20:XT:99:LEU:N	2.30	0.65
25:YA:31:C:O3'	25:YA:1238:G:H5''	1.97	0.65
46:Y0:10:THR:HG22	46:Y0:12:ASN:H	1.62	0.65
16:QP:53:VAL:HG12	16:QP:79:VAL:HG22	1.77	0.65
22:QV:76:A:H2'	25:RA:2602:A:N6	2.11	0.65
25:RA:1817:G:OP1	27:RD:88:ARG:NH2	2.28	0.65
1:QA:1175:G:H2'	1:QA:1176:A:C8	2.32	0.65
22:QV:23:C:H2'	22:QV:24:U:C6	2.31	0.65
25:RA:2439:A:H5'	25:RA:2439:A:C8	2.31	0.65
35:RP:47:ASP:OD1	35:RP:50:ARG:NH2	2.30	0.65
35:RP:85:LEU:HA	35:RP:88:LEU:HD22	1.79	0.65
27:YD:44:ASN:HB3	27:YD:49:ILE:HA	1.78	0.65
31:YH:153:LYS:HG3	31:YH:161:GLY:HA2	1.78	0.65
51:Y5:56:LYS:H	51:Y5:56:LYS:HD2	1.60	0.65
1:QA:1002:G:H2'	1:QA:1003:G:C8	2.30	0.64
34:RO:4:PRO:O	34:RO:5:GLN:HB2	1.96	0.64
51:R5:58:LEU:HD13	51:R5:60:VAL:HG12	1.78	0.64
3:XC:122:GLU:OE1	3:XC:126:ARG:NH2	2.29	0.64
25:YA:1190:G:OP1	35:YP:30:THR:OG1	2.15	0.64
25:YA:2853:C:H2'	25:YA:2854:G:H8	1.61	0.64
27:YD:80:ALA:HB3	27:YD:94:LEU:HD13	1.79	0.64
29:YF:107:LYS:HD2	29:YF:207:GLY:H	1.62	0.64
1:QA:1095:U:P	1:QA:1108:G:H1	2.19	0.64
1:QA:1135:U:H4'	1:QA:1136:U:H5	1.62	0.64
13:QM:3:ARG:HD2	13:QM:9:ILE:HG12	1.79	0.64
22:QV:23:C:H2'	22:QV:24:U:H6	1.62	0.64
25:YA:1639:U:H2'	25:YA:1640:C:H5''	1.79	0.64
1:QA:1152:A:H5''	10:QJ:13:HIS:CD2	2.32	0.64
25:RA:1329:U:H5''	25:RA:1330:C:H5	1.62	0.64
45:YZ:182:LYS:HG3	45:YZ:183:LEU:HA	1.78	0.64
25:RA:330:A:H2	25:RA:1210:A:H2'	1.60	0.64
25:RA:1059:G:O6	25:RA:1079:C:N4	2.30	0.64
25:RA:1678:G:H22	25:RA:1989:G:H22	1.44	0.64
27:RD:65:ILE:HD11	27:RD:67:PHE:CE1	2.31	0.64
15:XO:26:GLU:OE2	15:XO:77:ARG:NH1	2.31	0.64
27:YD:30:GLU:HG3	27:YD:63:ARG:NH2	2.12	0.64
31:YH:153:LYS:HB3	31:YH:162:ILE:H	1.63	0.64
36:YQ:78:PRO:O	36:YQ:79:LEU:HB2	1.97	0.64
5:QE:11:ILE:HD11	5:QE:31:LEU:HD12	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:270(T):G:H5'	47:R1:97:LEU:HD22	1.78	0.64
27:RD:8:PRO:HB3	27:RD:14:ARG:HB2	1.79	0.64
27:RD:35:LYS:HG2	27:RD:64:ILE:N	2.12	0.64
1:XA:1226:C:O2'	13:XM:111:LYS:NZ	2.30	0.64
25:YA:2543:G:H2'	25:YA:2544:G:C8	2.33	0.64
40:YU:88:ILE:HG22	40:YU:90:VAL:HG23	1.79	0.64
1:QA:673:G:H2'	1:QA:674:G:C8	2.33	0.64
1:QA:953:G:H5'	1:QA:965:A:H61	1.63	0.64
1:QA:1055:A:N7	1:QA:1200:C:N4	2.46	0.64
26:RB:52:A:O2'	26:RB:53:A:N7	2.31	0.64
1:XA:664:G:N2	1:XA:741:G:H1	1.93	0.64
10:QJ:53:PRO:HA	14:QN:42:ILE:HD12	1.79	0.64
10:QJ:77:PRO:O	10:QJ:79:ARG:NH1	2.30	0.64
25:RA:155:C:H42	25:RA:171:G:H1	1.44	0.64
29:RF:192:LEU:HD22	29:RF:194:MET:HG2	1.80	0.64
28:YE:9:VAL:HB	28:YE:25:VAL:HG23	1.80	0.64
1:QA:963:G:H1	1:QA:972:C:H42	1.43	0.64
36:RQ:17:LEU:HD21	36:RQ:41:TRP:CD1	2.33	0.64
40:RU:90:VAL:O	40:RU:92:ARG:N	2.30	0.64
1:XA:963:G:H1	1:XA:972:C:H42	1.45	0.64
1:XA:1443:G:N2	25:YA:2864:G:OP1	2.27	0.64
25:YA:2646:C:OP2	25:YA:2732:G:O2'	2.15	0.64
37:YR:51:LEU:HD13	37:YR:66:VAL:HG13	1.79	0.64
2:QB:5:ILE:HG21	2:QB:221:LEU:HD23	1.78	0.64
1:XA:1095:U:P	1:XA:1108:G:H1	2.21	0.64
25:YA:1063:G:H22	25:YA:1076:C:H1'	1.62	0.64
1:QA:114:U:H2'	1:QA:115:G:C8	2.32	0.64
25:RA:2111:C:N3	25:RA:2118:U:O2'	2.30	0.64
27:RD:35:LYS:HG2	27:RD:64:ILE:H	1.63	0.64
31:RH:88:LEU:HD11	31:RH:165:ALA:HB2	1.80	0.64
36:RQ:83:MET:HB2	46:R0:7:LEU:HD12	1.79	0.64
50:R4:48:ARG:O	50:R4:50:VAL:N	2.31	0.64
3:XC:11:ARG:O	3:XC:13:GLY:N	2.30	0.64
3:XC:19:GLU:O	3:XC:40:ARG:NH2	2.30	0.64
8:XH:7:ALA:HB2	8:XH:85:ARG:HD3	1.80	0.64
25:YA:127:A:H5'	25:YA:128:C:C6	2.33	0.64
27:YD:35:LYS:NZ	27:YD:64:ILE:O	2.31	0.64
30:YG:112:PRO:HB3	50:Y4:37:SER:HB2	1.80	0.64
39:YT:36:GLU:HG3	39:YT:41:ARG:HE	1.62	0.64
1:QA:752:G:H1'	1:QA:754:C:H41	1.63	0.63
37:RR:104:ARG:HD3	37:RR:109:ALA:HB3	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:701:C:O2'	1:XA:702:A:OP2	2.14	0.63
25:YA:1568:G:H4'	27:YD:59:LYS:HB3	1.80	0.63
1:QA:1318:A:H4'	19:QS:11:VAL:HG11	1.79	0.63
10:QJ:4:ILE:HB	10:QJ:74:ILE:HG13	1.81	0.63
25:RA:997:G:OP1	40:RU:93:LYS:HD3	1.98	0.63
25:RA:2107:C:H42	25:RA:2182:G:H1	1.47	0.63
25:RA:2293:C:H5''	38:RS:89:ARG:HH12	1.63	0.63
38:RS:26:LEU:HB3	38:RS:87:PHE:HA	1.81	0.63
43:RX:43:VAL:HG13	43:RX:51:VAL:HG21	1.79	0.63
25:YA:72:U:N3	48:Y2:62:THR:HG22	2.14	0.63
25:YA:468:G:N7	53:Y7:39:ARG:NH2	2.44	0.63
35:YP:58:THR:HG22	35:YP:61:ARG:HG3	1.80	0.63
48:Y2:41:ILE:HD11	48:Y2:44:LEU:HG	1.80	0.63
54:Y8:16:ILE:HD13	54:Y8:57:ARG:HG2	1.80	0.63
4:QD:7:PRO:HB2	4:QD:10:ARG:HD2	1.81	0.63
25:RA:1061:U:H5'	25:RA:1070:A:H1'	1.80	0.63
25:RA:2327:A:H2'	25:RA:2328:A:C8	2.34	0.63
47:R1:29:GLY:O	47:R1:31:GLY:N	2.29	0.63
2:XB:187:LEU:HA	2:XB:201:ILE:HB	1.79	0.63
19:QS:40:ILE:HG23	19:QS:41:VAL:HG22	1.79	0.63
25:RA:1694:C:H4'	25:RA:1695:G:O5'	1.96	0.63
45:RZ:165:VAL:HG11	45:RZ:169:GLU:HB2	1.80	0.63
48:R2:65:ASN:HB3	48:R2:69:ARG:HH22	1.61	0.63
2:XB:79:ASP:HA	2:XB:82:ARG:HB2	1.80	0.63
5:XE:98:THR:HB	5:XE:117:ASP:HB3	1.79	0.63
27:YD:25:THR:HG23	27:YD:27:THR:HB	1.80	0.63
1:QA:411:A:N6	1:QA:413:G:H21	1.95	0.63
2:QB:24:TRP:H	2:QB:24:TRP:HD1	1.46	0.63
4:QD:27:TYR:OH	6:XF:15:ASP:OD2	2.09	0.63
25:RA:806:C:OP2	35:RP:41:ARG:NH1	2.26	0.63
37:RR:33:ARG:HG3	37:RR:115:GLU:HB3	1.79	0.63
13:XM:91:ARG:HB2	13:XM:98:VAL:HG13	1.80	0.63
25:YA:1405:U:H2'	25:YA:1406:U:H6	1.63	0.63
27:YD:35:LYS:HG2	27:YD:64:ILE:N	2.13	0.63
38:YS:59:LYS:HD3	38:YS:60:GLY:H	1.62	0.63
44:YY:91:GLU:HG3	44:YY:92:ASN:H	1.63	0.63
50:Y4:48:ARG:O	50:Y4:50:VAL:N	2.31	0.63
1:QA:346:G:H1'	1:QA:347:G:H5'	1.80	0.63
1:QA:448:A:OP2	1:QA:485:G:N2	2.28	0.63
1:QA:690:G:H22	11:QK:55:LYS:HZ1	1.47	0.63
1:QA:877:C:H5''	8:QH:88:LYS:HD3	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1305:G:N2	1:QA:1331:G:H2'	2.11	0.63
35:RP:95:VAL:HG13	35:RP:100:LEU:HD21	1.79	0.63
38:RS:15:ARG:HH11	38:RS:25:ARG:HH21	1.44	0.63
25:YA:1652:A:OP1	37:YR:8:ARG:NH1	2.30	0.63
25:YA:2470:G:H5'	36:YQ:56:ARG:HH22	1.62	0.63
31:YH:83:TYR:CZ	31:YH:138:LYS:HD2	2.34	0.63
35:YP:13:ASN:O	35:YP:15:ARG:N	2.32	0.63
50:Y4:23:GLU:O	50:Y4:25:TYR:N	2.31	0.63
53:Y7:9:ARG:HH21	53:Y7:48:LYS:HD2	1.63	0.63
1:QA:339:C:OP2	34:RO:97:ARG:NH1	2.31	0.63
1:QA:1292:U:OP1	7:QG:41:ARG:NH2	2.32	0.63
8:QH:10:LEU:HD22	8:QH:83:ILE:HD11	1.80	0.63
25:RA:270(R):G:N3	47:R1:78:LYS:NZ	2.46	0.63
25:RA:1289:C:H2'	25:RA:1290:C:H6	1.64	0.63
40:RU:66:ASN:O	40:RU:70:ARG:HB2	1.98	0.63
1:XA:427:U:OP1	4:XD:13:ARG:NH2	2.31	0.63
5:XE:147:ASP:O	5:XE:151:LEU:HG	1.97	0.63
25:YA:1786:A:H2	25:YA:2606:C:H1'	1.63	0.63
25:YA:2315:G:OP1	30:YG:36:LYS:NZ	2.31	0.63
40:YU:83:LEU:HD12	40:YU:113:ALA:HB2	1.79	0.63
42:YW:41:LYS:HE3	51:Y5:25:LEU:HD21	1.80	0.63
1:QA:78:G:O6	1:QA:91:C:N4	2.31	0.63
1:QA:1023:G:H3'	1:QA:1024:G:H5''	1.79	0.63
25:RA:2683:C:OP1	39:RT:53:ARG:NH2	2.31	0.63
33:RN:13:TRP:HB2	33:RN:133:GLN:HG3	1.81	0.63
33:RN:133:GLN:HB2	33:RN:135:PRO:HD3	1.79	0.63
1:XA:299:G:H2'	1:XA:300:A:C8	2.34	0.63
13:XM:23:TYR:HB3	13:XM:67:GLU:HA	1.81	0.63
31:YH:152:ARG:HG3	31:YH:153:LYS:HD2	1.81	0.63
34:YO:13:ASN:ND2	34:YO:96:THR:O	2.30	0.63
25:RA:622:G:OP2	35:RP:108:LYS:NZ	2.27	0.63
44:RY:51:VAL:HG13	44:RY:52:SER:H	1.64	0.63
1:XA:975:A:H5'	1:XA:975:A:H8	1.64	0.63
25:YA:84:A:O5'	44:YY:8:LYS:HD3	1.99	0.63
25:YA:2068:U:H3	25:YA:2430:A:H2	1.46	0.63
52:Y6:41:PRO:HG2	52:Y6:45:LYS:H	1.63	0.63
7:QG:155:ARG:HD3	7:QG:155:ARG:H	1.64	0.62
25:RA:273(C):C:H42	25:RA:363(C):G:H1	1.47	0.62
25:RA:2633:G:O2'	28:RE:60:ASN:ND2	2.32	0.62
10:XJ:32:ALA:HB3	10:XJ:76:ASN:HB2	1.79	0.62
25:YA:1068:G:O2'	25:YA:1096:A:N3	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1348:G:H2'	25:YA:1349:A:H5''	1.81	0.62
25:YA:2394:C:OP1	35:YP:63:PRO:HD2	1.99	0.62
25:RA:307:G:H21	25:RA:330:A:H62	1.47	0.62
25:RA:1899:G:H21	25:RA:1902:C:H42	1.47	0.62
25:RA:2680:C:H5'	28:RE:189:PRO:HA	1.80	0.62
25:RA:2788:C:O2'	25:RA:2809:A:N3	2.32	0.62
29:RF:12:LEU:HD12	29:RF:17:ARG:HG2	1.80	0.62
9:XI:24:GLY:N	9:XI:60:ASP:OD1	2.29	0.62
25:YA:2817:G:OP1	37:YR:99:LYS:NZ	2.27	0.62
1:QA:1352:C:OP1	21:QU:3:LYS:NZ	2.26	0.62
28:RE:119:ARG:HG2	28:RE:160:TYR:HB2	1.80	0.62
1:XA:1125:U:OP2	1:XA:1145:C:N4	2.33	0.62
2:XB:92:TYR:CE1	2:XB:151:GLY:HA3	2.34	0.62
25:YA:996:A:H4'	40:YU:92:ARG:HE	1.65	0.62
31:YH:26:VAL:HG11	31:YH:75:ALA:HB1	1.81	0.62
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.34	0.62
25:RA:2836:U:H2'	25:RA:2837:G:C8	2.33	0.62
26:RB:15:A:H5'	26:RB:16:G:H8	1.64	0.62
45:RZ:110:GLY:HA2	45:RZ:111:VAL:O	2.00	0.62
1:XA:62:U:O2'	1:XA:379:C:O2	2.14	0.62
2:XB:212:GLN:NE2	2:XB:235:SER:HB2	2.15	0.62
25:YA:2864:G:OP1	39:YT:119:LYS:HD2	1.99	0.62
30:YG:115:ARG:NH2	30:YG:137:GLU:OE1	2.33	0.62
32:YI:124:GLY:H	32:YI:142:VAL:HG23	1.63	0.62
1:QA:565:U:H5''	1:QA:566:G:H2'	1.81	0.62
1:QA:1152:A:OP1	10:QJ:68:HIS:NE2	2.31	0.62
25:RA:1287:A:N7	37:RR:107:ASP:HB2	2.14	0.62
43:RX:53:LYS:HB2	43:RX:82:GLN:HB3	1.80	0.62
47:R1:7:ILE:HG12	47:R1:91:LYS:HZ1	1.61	0.62
1:XA:1298:C:O2'	1:XA:1299:A:OP2	2.12	0.62
2:XB:12:GLU:O	2:XB:16:HIS:ND1	2.22	0.62
10:XJ:5:ARG:HH21	10:XJ:99:LYS:HD2	1.63	0.62
19:XS:13:ASP:OD1	19:XS:13:ASP:N	2.32	0.62
25:YA:2032:G:H21	28:YE:146:THR:HG23	1.64	0.62
29:YF:46:ARG:HH11	29:YF:46:ARG:HG2	1.65	0.62
30:YG:3:LEU:HD12	30:YG:4:ASP:H	1.64	0.62
32:YI:81:VAL:HG21	32:YI:88:ILE:HD12	1.80	0.62
39:YT:1:MET:O	39:YT:3:ARG:N	2.29	0.62
1:QA:816:A:OP1	1:QA:1526:G:O2'	2.17	0.62
1:QA:1152:A:H5''	10:QJ:13:HIS:HD2	1.64	0.62
25:RA:1579:A:H2'	25:RA:1580:A:C8	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1796:U:H2'	25:RA:1797:C:C6	2.34	0.62
25:RA:2776:A:OP1	25:RA:2776:A:H3'	2.00	0.62
39:RT:54:ARG:HA	39:RT:59:THR:HG23	1.82	0.62
2:XB:54:THR:HG21	2:XB:201:ILE:HD11	1.82	0.62
1:QA:1055:A:O2'	3:QC:161:GLU:OE2	2.13	0.62
11:QK:98:LEU:O	11:QK:101:SER:OG	2.14	0.62
25:RA:1827:C:OP2	27:RD:222:ARG:NH1	2.29	0.62
1:XA:976:G:H5''	1:XA:1358:U:O2'	1.98	0.62
1:XA:1130:A:O2'	9:XI:3:GLN:NE2	2.28	0.62
7:XG:111:ARG:NH1	7:XG:113:GLU:OE2	2.32	0.62
25:YA:265:A:O2'	25:YA:266:G:H4'	2.00	0.62
1:QA:792:A:H4'	1:QA:793:U:O5'	1.99	0.62
1:XA:1023:G:H3'	1:XA:1024:G:H5''	1.82	0.62
1:QA:243:A:H4'	1:QA:244:U:O5'	2.00	0.62
8:QH:6:ILE:HB	8:QH:85:ARG:NH1	2.15	0.62
12:QL:57:LYS:HG2	12:QL:67:THR:HG22	1.81	0.62
25:RA:2070:G:H2'	25:RA:2071:A:C8	2.35	0.62
50:Y4:37:SER:HB3	50:Y4:42:PHE:CD1	2.35	0.62
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.33	0.62
25:RA:265:A:N6	25:RA:427:U:O2'	2.33	0.62
27:RD:35:LYS:HD2	27:RD:104:TYR:CD1	2.35	0.62
4:XD:111:ALA:HB2	4:XD:120:LEU:HD12	1.82	0.62
5:XE:42:GLY:HA3	5:XE:66:MET:HG2	1.82	0.62
9:XI:29:ASN:OD1	9:XI:65:VAL:N	2.29	0.62
54:Y8:23:VAL:HG11	54:Y8:46:ARG:HD3	1.81	0.62
25:RA:607:U:H3	25:RA:621:A:H2	1.43	0.61
29:RF:28:ILE:HG22	29:RF:112:MET:HB3	1.80	0.61
1:XA:677:U:H3	1:XA:713:G:H22	1.47	0.61
25:YA:1364:G:N7	47:Y1:2:SER:N	2.48	0.61
46:Y0:27:GLU:HG3	46:Y0:68:GLU:HA	1.82	0.61
11:QK:121:PRO:HD2	11:QK:126:ARG:HD3	1.80	0.61
14:QN:13:THR:N	14:QN:14:PRO:HD2	2.15	0.61
25:RA:2744:G:N2	31:RH:143:GLN:OE1	2.29	0.61
28:RE:51:PHE:CD1	28:RE:52:LEU:HG	2.34	0.61
25:YA:2776:A:OP1	25:YA:2776:A:H3'	2.00	0.61
25:RA:94:G:N3	48:R2:47:ASN:ND2	2.48	0.61
28:RE:67:PHE:O	28:RE:69:LYS:N	2.33	0.61
20:XT:100:ILE:HG13	20:XT:102:GLY:N	2.15	0.61
25:YA:1062:G:H2'	25:YA:1063:G:C8	2.35	0.61
38:YS:83:LYS:C	38:YS:109:GLY:HA3	2.21	0.61
40:YU:92:ARG:HD2	41:YV:11:GLN:HB2	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:QJ:40:LEU:HB2	10:QJ:69:ASN:HB3	1.82	0.61
25:RA:443:A:N7	29:RF:45:ARG:HD2	2.16	0.61
25:RA:2298:A:N6	25:RA:2318:G:H8	1.94	0.61
32:RI:104:GLN:O	32:RI:105:HIS:ND1	2.33	0.61
47:R1:53:VAL:HG22	47:R1:74:VAL:HG13	1.83	0.61
55:R9:25:VAL:HB	55:R9:34:GLN:HB2	1.82	0.61
1:XA:542:G:OP1	4:XD:10:ARG:NH2	2.33	0.61
25:YA:1216:G:OP2	40:YU:12:ARG:NH2	2.31	0.61
29:YF:197:ASP:OD2	29:YF:197:ASP:N	2.33	0.61
1:QA:1346:A:O2'	1:QA:1347:G:OP2	2.11	0.61
11:QK:22:HIS:HB3	11:QK:29:ILE:HG23	1.83	0.61
45:RZ:166:SER:HB2	45:RZ:168:GLU:H	1.64	0.61
25:YA:2610:C:H4'	25:YA:2611:U:OP2	1.98	0.61
3:QC:14:ILE:O	3:QC:16:ARG:N	2.33	0.61
32:RI:5:LEU:HD13	32:RI:17:GLN:HB3	1.81	0.61
1:XA:1347:G:HO2'	1:XA:1373:G:H1	1.46	0.61
4:QD:30:LYS:C	4:QD:32:ALA:H	2.03	0.61
25:RA:530:G:N1	25:RA:2022:U:OP1	2.34	0.61
25:YA:1020:A:N1	25:YA:1141:U:H2'	2.15	0.61
25:YA:2451:A:N1	56:Z8:76:PPU:HE2	2.15	0.61
1:QA:17:U:H2'	1:QA:18:C:C6	2.35	0.61
14:QN:6:LEU:HD23	14:QN:23:ARG:HH22	1.64	0.61
15:QO:82:ILE:O	15:QO:86:GLY:N	2.33	0.61
21:QU:6:ARG:HE	21:QU:15:ARG:NH2	1.99	0.61
25:RA:1026:U:H4'	25:RA:1027:A:OP1	2.01	0.61
35:RP:84:ASN:HB3	35:RP:86:LYS:HG2	1.83	0.61
36:RQ:65:PHE:O	36:RQ:67:ARG:N	2.34	0.61
1:XA:250:A:H4'	1:XA:251:G:O5'	2.00	0.61
1:XA:973:G:H3'	1:XA:974:A:H5''	1.81	0.61
2:XB:67:THR:HG21	2:XB:155:LEU:HG	1.81	0.61
8:XH:4:ASP:OD1	8:XH:85:ARG:NH1	2.33	0.61
15:XO:87:ILE:HG22	15:XO:88:ARG:H	1.64	0.61
25:YA:751:A:H5'	42:YW:90:ARG:HA	1.82	0.61
25:YA:1728:G:H3'	25:YA:1729:A:H5''	1.83	0.61
22:QV:15:C:O2'	22:QV:61:C:OP1	2.19	0.61
1:XA:686:U:O4	1:XA:703:G:H1'	1.99	0.61
25:YA:99:U:H4'	25:YA:101:G:H5''	1.81	0.61
47:Y1:83:GLU:O	47:Y1:85:LEU:N	2.34	0.61
1:QA:1133:G:H2'	1:QA:1134:G:H8	1.64	0.61
25:RA:630:G:OP1	54:R8:46:ARG:NH1	2.33	0.61
25:RA:1607:C:N4	25:RA:1622:G:OP2	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:RZ:54:HIS:CD2	45:RZ:101:PRO:HG3	2.36	0.61
25:YA:71:A:H2	43:YX:31:HIS:HE2	1.49	0.61
25:YA:1055:G:H1	25:YA:1104:C:H42	1.49	0.61
40:YU:52:ARG:HA	40:YU:55:ARG:HG3	1.83	0.61
25:RA:1771:C:O2'	25:RA:1786:A:H8	1.83	0.60
1:XA:64:G:N2	1:XA:68:G:O6	2.34	0.60
25:YA:1093:G:H4'	31:YH:170:ARG:NH2	2.16	0.60
3:QC:8:ILE:HG23	3:QC:16:ARG:HG2	1.84	0.60
25:RA:1019:U:HO2'	25:RA:1021:A:H2	1.49	0.60
25:RA:1149:G:H2'	25:RA:1150:C:C6	2.36	0.60
31:RH:8:PRO:HG2	31:RH:69:ARG:HE	1.66	0.60
38:RS:88:ASP:O	38:RS:89:ARG:HB3	2.01	0.60
39:RT:77:PRO:HB2	39:RT:80:SER:HB2	1.83	0.60
40:RU:90:VAL:HG11	41:RV:40:LEU:HD12	1.82	0.60
27:YD:72:LYS:NZ	27:YD:99:ASP:OD1	2.33	0.60
31:YH:113:VAL:HG11	31:YH:151:ILE:HD12	1.83	0.60
36:YQ:35:VAL:HG13	36:YQ:130:LYS:HB3	1.83	0.60
51:Y5:16:ARG:HG2	51:Y5:16:ARG:HH11	1.66	0.60
1:QA:45:U:H2'	1:QA:46:G:C8	2.36	0.60
1:QA:191:G:O2'	20:QT:101:GLY:O	2.20	0.60
3:QC:11:ARG:O	3:QC:13:GLY:N	2.34	0.60
25:RA:607:U:OP1	29:RF:102:PRO:HA	2.00	0.60
25:RA:1693:U:O2'	27:RD:14:ARG:NH2	2.34	0.60
37:RR:70:LEU:O	37:RR:72:ASP:N	2.31	0.60
1:XA:438:G:H4'	4:XD:123:HIS:CD2	2.35	0.60
17:XQ:11:VAL:HG12	17:XQ:85:VAL:HG13	1.83	0.60
25:YA:443:A:H3'	29:YF:45:ARG:HH12	1.65	0.60
25:YA:1165:U:H2'	25:YA:1166:C:C6	2.36	0.60
27:YD:108:PRO:HB3	27:YD:143:HIS:CE1	2.35	0.60
35:YP:95:VAL:HG13	35:YP:100:LEU:HD21	1.83	0.60
50:Y4:56:VAL:HA	50:Y4:60:GLN:HB2	1.84	0.60
9:QI:13:ALA:HB2	9:QI:68:GLY:HA3	1.82	0.60
14:QN:24:CYS:HB3	14:QN:29:ARG:H	1.66	0.60
25:RA:686:G:H21	25:RA:788:A:H61	1.49	0.60
25:RA:910:A:C5	36:RQ:13:GLN:HG3	2.35	0.60
25:YA:528:A:C2	25:YA:2042:A:H2'	2.36	0.60
27:YD:35:LYS:HD2	27:YD:104:TYR:CD1	2.35	0.60
52:Y6:25:LYS:HZ2	54:Y8:34:TRP:HZ2	1.48	0.60
1:QA:754:C:H5'	15:QO:72:ARG:HH22	1.65	0.60
4:QD:105:VAL:HG13	4:QD:110:PHE:HB2	1.83	0.60
25:RA:507:A:H5''	25:RA:508:G:H5'	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:873:G:H1	25:RA:904:C:H42	1.48	0.60
27:RD:44:ASN:HB3	27:RD:49:ILE:HA	1.83	0.60
1:XA:328:C:H4'	1:XA:329:A:H5'	1.83	0.60
1:XA:991:U:O2'	1:XA:992:U:O5'	2.18	0.60
25:YA:229:A:OP1	25:YA:229:A:H4'	2.00	0.60
39:YT:84:GLN:OE1	39:YT:85:LYS:NZ	2.34	0.60
15:QO:39:LEU:HD13	15:QO:56:LEU:HB2	1.83	0.60
44:RY:87:LYS:O	44:RY:88:LYS:NZ	2.33	0.60
50:R4:23:GLU:O	50:R4:25:TYR:N	2.34	0.60
1:XA:1280:A:O2'	1:XA:1281:U:OP1	2.20	0.60
25:YA:443:A:N7	29:YF:45:ARG:HD2	2.17	0.60
34:YO:96:THR:O	34:YO:97:ARG:HB3	2.01	0.60
7:QG:26:PHE:O	7:QG:30:ILE:HG12	2.01	0.60
10:QJ:42:THR:HG23	10:QJ:68:HIS:HA	1.83	0.60
25:RA:1497:U:H5''	25:RA:1498:C:H5	1.67	0.60
25:RA:1657:C:H2'	25:RA:1658:C:H6	1.67	0.60
25:RA:2053:G:O6	25:RA:2614:A:H2	1.85	0.60
25:RA:2271:G:OP1	46:R0:18:ALA:HB1	2.02	0.60
37:RR:33:ARG:NH2	51:R5:55:ARG:HG2	2.16	0.60
51:R5:16:ARG:HH11	51:R5:16:ARG:HG2	1.66	0.60
1:XA:1446:A:O2'	1:XA:1447:G:O5'	2.20	0.60
25:YA:1057:A:H62	25:YA:1086:A:H2'	1.66	0.60
30:YG:28:VAL:HG23	30:YG:29:TRP:CD1	2.36	0.60
31:YH:4:ILE:HB	31:YH:6:ARG:HG2	1.82	0.60
45:YZ:58:VAL:O	45:YZ:60:GLU:N	2.34	0.60
55:Y9:35:ARG:HH21	55:Y9:37:GLY:HA3	1.67	0.60
1:QA:690:G:H2'	1:QA:691:G:O4'	2.02	0.60
2:QB:15:VAL:H	2:QB:16:HIS:CE1	2.20	0.60
13:QM:93:ARG:NH1	25:RA:887:A:OP1	2.34	0.60
25:RA:1266:G:O5'	42:RW:15:ARG:NH2	2.34	0.60
25:RA:2404:C:O3'	35:RP:77:ARG:NH2	2.35	0.60
25:RA:2543:G:H21	25:RA:2646:C:H5''	1.67	0.60
1:XA:828:A:H2'	1:XA:829:G:O4'	2.02	0.60
1:XA:963:G:H21	10:XJ:55:LYS:HE2	1.67	0.60
25:YA:528:A:N1	25:YA:2042:A:H2'	2.17	0.60
35:YP:147:LEU:O	35:YP:148:LEU:HB2	2.02	0.60
12:QL:84:LEU:HD22	12:QL:104:VAL:HG11	1.84	0.60
25:RA:118:A:N3	25:RA:178:G:H1'	2.16	0.60
27:RD:70:TRP:CH2	27:RD:150:LYS:HA	2.36	0.60
30:RG:114:ILE:HD13	30:RG:140:ILE:HG21	1.83	0.60
31:RH:154:PRO:HD3	31:RH:162:ILE:N	2.16	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:RZ:87:ASP:OD2	45:RZ:87:ASP:N	2.34	0.60
1:XA:1435:G:H2'	1:XA:1436:U:C6	2.37	0.60
25:YA:1430:C:H2'	25:YA:1431:U:C6	2.37	0.60
25:YA:1434:A:H61	25:YA:1558:A:H62	1.48	0.60
25:YA:2698:U:H2'	25:YA:2699:C:C6	2.37	0.60
54:Y8:50:LEU:HD12	54:Y8:51:ALA:H	1.67	0.60
1:QA:1002:G:H1	1:QA:1038:C:H42	1.47	0.60
25:RA:270(F):U:H2'	25:RA:270(G):C:C6	2.36	0.60
25:RA:631:A:OP1	35:RP:64:LYS:HE2	2.02	0.60
30:RG:64:THR:HG23	30:RG:66:GLN:H	1.66	0.60
1:XA:963:G:H21	10:XJ:55:LYS:CE	2.14	0.60
2:XB:235:SER:O	2:XB:237:ALA:N	2.35	0.60
37:YR:42:LYS:HA	37:YR:45:ARG:HD2	1.84	0.60
25:RA:1022:G:H22	25:RA:1142(A):A:H2	1.49	0.59
32:RI:57:ARG:HA	32:RI:60:GLU:HB3	1.84	0.59
45:RZ:144:LEU:HG	45:RZ:150:LEU:HD12	1.84	0.59
1:XA:690:G:H22	11:XK:55:LYS:NZ	2.00	0.59
1:XA:1262:C:H2'	1:XA:1263:C:C6	2.37	0.59
13:XM:3:ARG:HA	13:XM:9:ILE:HG21	1.83	0.59
1:QA:56:U:H4'	32:YI:82:ARG:HH22	1.67	0.59
1:QA:1054:C:OP2	1:QA:1197:G:OP2	2.20	0.59
1:QA:1118:C:H1'	1:QA:1179:A:C4	2.37	0.59
1:QA:1128:C:OP1	9:QI:66:ARG:NH2	2.33	0.59
1:QA:1277:C:HO2'	1:QA:1279:A:H8	1.50	0.59
25:RA:389:G:N1	35:RP:70:GLN:HB3	2.17	0.59
25:RA:2010:G:H5''	42:RW:42:ARG:HB2	1.85	0.59
25:YA:831:G:O2'	35:YP:38:GLN:NE2	2.35	0.59
32:YI:21:VAL:HG21	32:YI:25:TYR:HD1	1.66	0.59
13:QM:3:ARG:HB3	50:R4:34:GLU:HB3	1.83	0.59
39:RT:105:LEU:O	39:RT:107:ASP:N	2.36	0.59
54:R8:29:LYS:HB2	54:R8:44:LYS:HG2	1.84	0.59
6:XF:61:LEU:HB3	6:XF:63:TYR:HE2	1.66	0.59
22:XV:2:C:H2'	22:XV:3:G:H5'	1.83	0.59
25:YA:593:G:O4'	54:Y8:4:MET:HE1	2.02	0.59
25:YA:1980:G:O2'	25:YA:1982:C:OP2	2.19	0.59
42:YW:86:LEU:HD12	42:YW:87:PRO:HD2	1.83	0.59
1:QA:539:A:H2'	1:QA:540:G:C8	2.38	0.59
4:QD:64:LEU:HB2	4:QD:198:VAL:HG11	1.83	0.59
9:QI:9:ARG:HB3	9:QI:14:VAL:HG13	1.84	0.59
25:RA:1187:G:H5''	41:RV:81:TYR:CE2	2.37	0.59
1:XA:347:G:O2'	1:XA:348:G:OP2	2.19	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:411:A:C4	1:XA:413:G:H1'	2.37	0.59
2:XB:92:TYR:HE1	2:XB:151:GLY:HA3	1.65	0.59
25:YA:775:G:O5'	25:YA:777:A:H1'	2.02	0.59
3:QC:50:ALA:HB2	3:QC:75:VAL:HB	1.85	0.59
22:QV:5:G:H1	22:QV:67:C:H42	1.50	0.59
25:RA:94:G:H21	48:R2:47:ASN:HD22	1.50	0.59
25:RA:1332:G:N2	25:RA:1610:A:C8	2.70	0.59
38:RS:38:GLN:OE1	38:RS:47:THR:OG1	2.18	0.59
1:XA:271:C:H2'	1:XA:272:C:H6	1.67	0.59
1:XA:973:G:OP1	10:XJ:57:LYS:NZ	2.34	0.59
25:YA:1932:A:H2'	25:YA:1933:G:O4'	2.03	0.59
25:YA:2031:A:C6	25:YA:2498:C:H1'	2.37	0.59
25:YA:2314:C:H2'	25:YA:2315:G:H8	1.67	0.59
31:YH:98:LEU:HD22	31:YH:125:VAL:HB	1.83	0.59
32:YI:129:THR:HG22	32:YI:137:PRO:HB3	1.84	0.59
37:YR:33:ARG:NH2	51:Y5:55:ARG:HG2	2.17	0.59
1:QA:501:C:H2'	1:QA:502:G:H8	1.68	0.59
1:QA:662:G:H2'	1:QA:663:A:C8	2.37	0.59
25:RA:389:G:H1	35:RP:70:GLN:HB3	1.66	0.59
25:RA:918:A:N3	26:RB:80:U:O2'	2.33	0.59
30:RG:67:LYS:HE2	50:R4:6:HIS:CE1	2.38	0.59
25:YA:1048:A:OP2	25:YA:1110:G:N2	2.35	0.59
25:YA:1081:U:H3'	25:YA:1082:U:H4'	1.84	0.59
42:YW:111:HIS:CD2	42:YW:112:GLY:H	2.20	0.59
53:Y7:35:ARG:HG3	53:Y7:42:LEU:HD11	1.85	0.59
13:QM:49:THR:HB	13:QM:52:GLU:HG3	1.85	0.59
25:RA:309:G:N3	25:RA:329:G:O2'	2.35	0.59
25:RA:590:A:H2'	25:RA:591:C:C6	2.37	0.59
25:RA:2818:G:OP2	37:RR:42:LYS:NZ	2.35	0.59
31:RH:105:LEU:HD13	31:RH:105:LEU:H	1.67	0.59
50:R4:16:CYS:SG	50:R4:17:GLY:N	2.75	0.59
52:R6:52:VAL:HG22	52:R6:53:LYS:HG3	1.84	0.59
1:XA:166:G:H2'	1:XA:167:G:H8	1.67	0.59
5:XE:45:PHE:CE2	5:XE:47:LYS:HD2	2.38	0.59
28:YE:36:ARG:HH21	28:YE:88:GLY:HA2	1.68	0.59
49:Y3:6:VAL:HG13	49:Y3:56:VAL:HG13	1.84	0.59
36:RQ:109:VAL:HG12	36:RQ:114:ALA:HB2	1.83	0.59
42:RW:86:LEU:HD12	42:RW:87:PRO:HD2	1.85	0.59
1:XA:1062:U:H2'	1:XA:1063:C:C6	2.38	0.59
31:YH:6:ARG:NH2	31:YH:54:ARG:HH22	2.01	0.59
35:YP:26:GLY:O	35:YP:28:GLY:N	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2364:C:OP1	46:R0:55:ARG:NH1	2.36	0.59
31:RH:121:ILE:HG13	31:RH:140:LYS:HD2	1.84	0.59
4:XD:9:CYS:SG	4:XD:22:LYS:HE2	2.39	0.59
25:YA:372:G:O2'	25:YA:373:U:P	2.61	0.59
25:YA:2291:U:H2'	25:YA:2292:C:C6	2.38	0.59
25:YA:2795:G:H3'	25:YA:2797:U:C5'	2.33	0.59
1:QA:686:U:H1'	11:QK:42:TRP:HE1	1.68	0.59
25:RA:2250:G:C4	36:RQ:82:ARG:HG3	2.37	0.59
27:RD:85:ASP:HB2	27:RD:92:ILE:HD13	1.84	0.59
10:XJ:76:ASN:O	10:XJ:78:ASN:ND2	2.36	0.59
14:YN:23:ARG:HD2	14:YN:28:GLY:O	2.03	0.59
20:XT:10:LEU:HG	20:XT:12:ALA:H	1.67	0.59
25:YA:943:U:OP2	35:YP:36:LYS:NZ	2.36	0.59
38:YS:26:LEU:HB3	38:YS:87:PHE:HA	1.85	0.59
1:QA:664:G:H22	1:QA:741:G:H1	1.49	0.58
1:QA:753:A:H4'	1:QA:754:C:O5'	2.03	0.58
7:QG:73:MET:HG2	7:QG:90:GLU:HA	1.83	0.58
25:RA:345:A:H2'	25:RA:347:A:H62	1.68	0.58
25:RA:620:G:H4'	25:RA:621:A:H5''	1.84	0.58
25:RA:1857:G:O2'	25:RA:1885:A:N6	2.36	0.58
1:XA:243:A:H4'	1:XA:244:U:H3'	1.84	0.58
25:YA:1012:U:O2'	25:YA:1013:C:OP2	2.16	0.58
25:YA:1364:G:C8	47:Y1:2:SER:N	2.70	0.58
30:YG:136:ARG:O	30:YG:154:GLY:HA2	2.02	0.58
33:YN:40:PRO:HB3	40:YU:68:ALA:HB2	1.85	0.58
38:YS:106:ARG:HA	38:YS:110:LEU:HD11	1.85	0.58
1:QA:1376:U:OP1	7:QG:94:ARG:NH1	2.36	0.58
25:RA:111:A:H4'	48:R2:69:ARG:NH2	2.18	0.58
25:RA:1178:C:H2'	25:RA:1179:C:C6	2.38	0.58
25:RA:2445:G:OP1	29:RF:74:ARG:NH2	2.37	0.58
27:RD:44:ASN:CB	27:RD:49:ILE:HA	2.33	0.58
36:RQ:137:TYR:CE2	45:RZ:83:PRO:HG3	2.38	0.58
45:RZ:158:PRO:HG2	45:RZ:161:VAL:HG21	1.85	0.58
47:R1:92:LYS:HG3	47:R1:96:LYS:HB2	1.84	0.58
25:YA:250:G:OP2	54:Y8:13:ARG:NH2	2.35	0.58
25:YA:1103:A:H5'	25:YA:1104:C:H5	1.66	0.58
27:YD:28:GLU:OE1	27:YD:29:PRO:HD2	2.03	0.58
32:YI:67:ARG:HH21	32:YI:68:LEU:HB2	1.68	0.58
37:YR:67:LEU:HD13	37:YR:76:VAL:HG21	1.84	0.58
45:YZ:146:ILE:HG22	45:YZ:176:PRO:HD3	1.85	0.58
51:Y5:4:HIS:HB3	51:Y5:5:PRO:CD	2.32	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:111:ALA:HB2	4:QD:120:LEU:HD12	1.85	0.58
27:RD:71:ASP:OD2	27:RD:103:ARG:NH2	2.36	0.58
1:XA:7:G:H5'	1:XA:298:A:O4'	2.03	0.58
12:XL:38:THR:HG23	12:XL:57:LYS:HB3	1.84	0.58
25:YA:1665:A:H1'	34:YO:1:MET:HG3	1.83	0.58
43:YX:61:GLY:N	43:YX:75:ASP:OD2	2.36	0.58
47:Y1:51:VAL:HG11	47:Y1:74:VAL:HG21	1.84	0.58
1:QA:501:C:H2'	1:QA:502:G:C8	2.38	0.58
25:RA:1348:G:H2'	25:RA:1349:A:H5''	1.85	0.58
1:XA:1175:G:H2'	1:XA:1176:A:C8	2.38	0.58
3:XC:14:ILE:HG12	3:XC:15:THR:H	1.67	0.58
13:XM:13:LYS:HA	13:XM:44:ARG:HD2	1.83	0.58
25:YA:612:G:N2	25:YA:616:A:O2'	2.37	0.58
25:YA:2115:G:N2	25:YA:2165:G:N7	2.45	0.58
41:YV:44:LYS:O	41:YV:46:VAL:N	2.36	0.58
1:QA:643:C:H2'	1:QA:644:G:H8	1.69	0.58
1:QA:711:G:OP1	6:QF:54:LYS:NZ	2.32	0.58
1:QA:1422:G:H5''	34:RO:48:PRO:HB3	1.84	0.58
10:QJ:49:VAL:HG13	14:QN:41:ARG:HB2	1.85	0.58
16:QP:21:VAL:O	16:QP:33:ILE:HG12	2.03	0.58
27:RD:35:LYS:HD2	27:RD:104:TYR:CE1	2.39	0.58
1:XA:1291:G:OP1	7:XG:37:ASN:ND2	2.36	0.58
20:XT:56:MET:HG3	20:XT:88:VAL:HG21	1.85	0.58
20:XT:63:ILE:HG22	20:XT:77:ALA:HB1	1.86	0.58
31:YH:153:LYS:HB3	31:YH:154:PRO:HD3	1.85	0.58
1:QA:1298:C:O2'	1:QA:1299:A:OP2	2.20	0.58
2:QB:77:ALA:HB2	2:QB:211:ILE:HD13	1.86	0.58
25:RA:635:C:O2'	25:RA:639:U:OP1	2.19	0.58
30:RG:136:ARG:O	30:RG:154:GLY:HA2	2.03	0.58
2:XB:15:VAL:H	2:XB:16:HIS:CE1	2.22	0.58
2:XB:72:GLY:HA2	2:XB:165:VAL:HG22	1.86	0.58
2:XB:96:ARG:H	2:XB:96:ARG:HD2	1.67	0.58
9:XI:43:ALA:HA	9:XI:74:ILE:HD13	1.85	0.58
25:YA:1278:A:H4'	37:YR:34:ILE:HD12	1.85	0.58
25:YA:2294:C:OP2	38:YS:13:ARG:NH1	2.37	0.58
50:Y4:42:PHE:O	50:Y4:44:THR:N	2.36	0.58
1:QA:192:U:H2'	1:QA:193:C:H6	1.68	0.58
25:RA:1204:A:O2'	25:RA:1205:U:O5'	2.21	0.58
25:RA:1496:A:H8	25:RA:1577:C:O2'	1.85	0.58
25:RA:1803:A:O2'	27:RD:259:THR:HG21	2.03	0.58
27:RD:182:LEU:N	27:RD:272:ALA:HB3	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RG:112:PRO:HB3	50:R4:37:SER:HB2	1.85	0.58
31:RH:89:ILE:O	31:RH:89:ILE:HG12	2.04	0.58
6:XF:36:ARG:NH1	6:XF:38:GLU:OE2	2.37	0.58
8:XH:39:LEU:HB3	8:XH:45:ILE:HG12	1.86	0.58
25:YA:780:G:H21	25:YA:783:A:N6	1.98	0.58
25:YA:1048:A:P	25:YA:1110:G:H22	2.25	0.58
37:YR:27:SER:HB3	37:YR:34:ILE:HD11	1.84	0.58
1:QA:552:U:O2'	12:QL:86:ARG:O	2.17	0.58
8:QH:121:ASP:N	8:QH:121:ASP:OD1	2.35	0.58
12:QL:53:ARG:HD3	12:QL:93:LEU:HD21	1.86	0.58
25:RA:1525:G:H2'	25:RA:1526:G:H8	1.69	0.58
25:RA:2070:G:H2'	25:RA:2071:A:H8	1.68	0.58
31:RH:87:LEU:HD22	31:RH:162:ILE:HG22	1.85	0.58
1:XA:680:C:H2'	1:XA:681:C:H6	1.69	0.58
1:XA:1065:U:O2'	1:XA:1066:C:OP2	2.16	0.58
3:XC:95:THR:HG22	3:XC:97:LYS:HG3	1.84	0.58
13:XM:93:ARG:NH1	25:YA:887:A:OP1	2.37	0.58
25:YA:1191:G:OP1	35:YP:32:THR:HB	2.04	0.58
25:YA:2655:G:O2'	25:YA:2656:U:OP2	2.21	0.58
26:RB:50:G:H5''	38:RS:61:ASN:HD21	1.68	0.58
33:RN:13:TRP:O	33:RN:135:PRO:HD2	2.03	0.58
2:XB:93:VAL:HG11	2:XB:97:TRP:HD1	1.68	0.58
19:XS:80:TYR:O	19:XS:82:GLY:N	2.36	0.58
25:YA:49:A:N7	25:YA:120:U:C5	2.70	0.58
25:YA:813:U:H2'	25:YA:814:C:C6	2.39	0.58
26:YB:41:U:C4	30:YG:70:VAL:HG23	2.38	0.58
29:YF:127:GLU:O	29:YF:129:PHE:N	2.32	0.58
34:YO:64:ARG:HG2	34:YO:79:PHE:CG	2.38	0.58
45:YZ:5:LEU:HD11	45:YZ:39:VAL:HB	1.85	0.58
7:QG:26:PHE:CE2	7:QG:30:ILE:HD11	2.38	0.58
13:QM:58:GLU:O	13:QM:62:ASN:ND2	2.31	0.58
27:RD:24:ILE:HD11	27:RD:91:ARG:HD2	1.84	0.58
32:RI:5:LEU:H	32:RI:5:LEU:HD12	1.69	0.58
35:RP:47:ASP:OD1	35:RP:49:ARG:NH1	2.37	0.58
5:XE:91:LEU:HD12	5:XE:120:THR:HG22	1.85	0.58
29:YF:28:ILE:HG22	29:YF:112:MET:HB3	1.85	0.58
37:YR:24:GLN:OE1	37:YR:36:THR:HG21	2.04	0.58
39:YT:24:PRO:HA	39:YT:49:VAL:HG13	1.85	0.58
40:YU:92:ARG:HD3	40:YU:94:ASN:HB3	1.85	0.58
25:RA:414:C:O2	25:RA:1864:U:O2'	2.18	0.57
33:RN:54:VAL:HB	33:RN:122:VAL:HG22	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RW:71:VAL:HA	42:RW:107:LEU:HD12	1.86	0.57
7:XG:89:MET:HE1	7:XG:156:TRP:H	1.69	0.57
37:YR:117:VAL:HG22	37:YR:118:GLU:H	1.68	0.57
38:YS:59:LYS:HD3	38:YS:60:GLY:N	2.19	0.57
3:QC:134:ILE:HG23	3:QC:151:VAL:HB	1.85	0.57
25:RA:1637:A:H4'	25:RA:2711:A:O2'	2.04	0.57
25:RA:2015:A:H1'	51:R5:2:ALA:HA	1.85	0.57
25:RA:2651:C:H42	25:RA:2669:G:H1	1.53	0.57
28:RE:131:ALA:HB1	28:RE:135:HIS:HE1	1.69	0.57
44:RY:95:LYS:NZ	44:RY:99:CYS:O	2.37	0.57
1:XA:522:C:H41	12:XL:53:ARG:HH22	1.50	0.57
4:XD:9:CYS:HB3	4:XD:32:ALA:HB2	1.86	0.57
25:YA:72:U:H3	48:Y2:62:THR:HG22	1.68	0.57
30:YG:67:LYS:HE2	50:Y4:6:HIS:CE1	2.38	0.57
32:YI:33:ARG:HB3	32:YI:35:LEU:HG	1.86	0.57
36:YQ:66:ILE:HA	36:YQ:104:PHE:HA	1.85	0.57
42:YW:73:ALA:HB3	42:YW:106:ILE:HD13	1.84	0.57
1:QA:1376:U:P	7:QG:94:ARG:HH12	2.27	0.57
1:QA:1513:A:H2'	1:QA:1514:C:C6	2.39	0.57
25:RA:1771:C:H1'	25:RA:1786:A:C8	2.40	0.57
25:RA:2655:G:N2	25:RA:2665:A:OP2	2.37	0.57
30:RG:68:PRO:HB2	30:RG:90:LEU:HD12	1.86	0.57
54:R8:36:LYS:HB3	54:R8:40:GLU:HG2	1.85	0.57
1:XA:539:A:OP1	12:XL:114:LYS:NZ	2.22	0.57
1:XA:753:A:H4'	1:XA:754:C:O5'	2.03	0.57
17:XQ:55:ASP:HA	17:XQ:79:SER:HA	1.85	0.57
27:YD:65:ILE:H	27:YD:65:ILE:HD13	1.68	0.57
28:YE:35:GLN:HB3	28:YE:48:GLN:HB2	1.87	0.57
30:YG:98:ARG:NH1	50:Y4:1:MET:SD	2.77	0.57
1:QA:1129:C:H4'	1:QA:1130:A:H5'	1.86	0.57
7:QG:15:ASP:OD2	7:QG:44:TYR:OH	2.22	0.57
13:QM:14:ARG:N	13:QM:44:ARG:HD3	2.18	0.57
31:RH:153:LYS:HB3	31:RH:154:PRO:CD	2.34	0.57
37:RR:117:VAL:O	37:RR:118:GLU:HB2	2.04	0.57
3:XC:70:VAL:HG21	3:XC:76:VAL:HG11	1.85	0.57
11:XK:21:ILE:HG13	11:XK:30:VAL:HG12	1.86	0.57
25:YA:83:G:N2	25:YA:103:A:OP2	2.22	0.57
25:YA:242:G:H5''	54:Y8:62:LEU:HD13	1.86	0.57
25:YA:1103:A:H5'	25:YA:1104:C:C5	2.39	0.57
36:YQ:116:GLU:O	36:YQ:120:ILE:HG12	2.05	0.57
38:YS:10:ARG:NH2	38:YS:91:PRO:O	2.36	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:Y0:50:ASN:HB3	46:Y0:63:VAL:HG22	1.86	0.57
3:QC:134:ILE:HG22	3:QC:168:ALA:HB3	1.86	0.57
25:RA:1043:C:N3	25:RA:1112:G:N2	2.43	0.57
1:XA:673:G:H2'	1:XA:674:G:C8	2.39	0.57
25:YA:259:G:N2	25:YA:621:A:H8	2.02	0.57
25:YA:2405:G:O2'	25:YA:2411:A:N6	2.36	0.57
32:YI:40:THR:O	32:YI:44:LEU:HB2	2.04	0.57
45:YZ:158:PRO:O	45:YZ:160:GLY:N	2.37	0.57
7:QG:79:ARG:HH12	7:QG:82:GLY:HA2	1.69	0.57
25:RA:1798:U:H5'	27:RD:259:THR:HG22	1.86	0.57
44:RY:76:CYS:SG	44:RY:77:PRO:HD2	2.45	0.57
1:XA:701:C:H1'	1:XA:703:G:C6	2.39	0.57
1:XA:1453:G:H2'	20:XT:39:LYS:HE2	1.84	0.57
2:XB:96:ARG:HD3	2:XB:148:TYR:HE1	1.70	0.57
4:XD:154:ASN:OD1	4:XD:154:ASN:N	2.37	0.57
25:YA:2233:U:H2'	25:YA:2234:G:C8	2.39	0.57
30:YG:98:ARG:HH12	50:Y4:1:MET:HB3	1.69	0.57
25:RA:923:C:H2'	25:RA:924:C:C6	2.40	0.57
25:RA:2306:C:H3'	25:RA:2307:G:H5''	1.86	0.57
27:RD:145:VAL:HG13	27:RD:191:ALA:HB2	1.87	0.57
27:RD:241:PRO:O	27:RD:242:ARG:HB2	2.04	0.57
46:R0:18:ALA:O	46:R0:20:ARG:NH1	2.36	0.57
1:XA:1016:A:H2'	1:XA:1017:G:O4'	2.04	0.57
25:YA:443:A:H1'	25:YA:1201:C:O4'	2.03	0.57
25:YA:1309:G:H4'	53:Y7:7:PRO:HB2	1.85	0.57
26:YB:12:C:O2'	46:Y0:74:ARG:HG3	2.04	0.57
31:YH:149:ARG:HG3	31:YH:162:ILE:O	2.05	0.57
45:YZ:19:ARG:NH1	45:YZ:84:GLU:O	2.35	0.57
6:QF:3:ARG:NH1	6:QF:38:GLU:OE2	2.37	0.57
13:QM:23:TYR:HB3	13:QM:67:GLU:HG2	1.87	0.57
30:RG:22:ARG:HH21	30:RG:171:ALA:HB1	1.69	0.57
35:RP:58:THR:C	35:RP:61:ARG:HE	2.06	0.57
16:XP:20:VAL:HG23	16:XP:35:LYS:HA	1.86	0.57
19:XS:32:LYS:HA	19:XS:50:ALA:HB3	1.86	0.57
22:XV:51:C:H2'	22:XV:52:G:O4'	2.05	0.57
25:YA:1142(A):A:H4'	33:YN:25:ARG:HH22	1.70	0.57
25:YA:1405:U:H2'	25:YA:1406:U:C6	2.40	0.57
27:YD:71:ASP:CB	27:YD:103:ARG:HH22	2.18	0.57
35:YP:135:LEU:O	35:YP:139:LYS:HB2	2.04	0.57
2:QB:51:LEU:HD23	2:QB:201:ILE:HD12	1.86	0.57
25:RA:140:A:H8	25:RA:1408:C:O2'	1.88	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:372:G:O2'	25:RA:373:U:P	2.62	0.57
25:RA:2146:C:H4'	25:RA:2147:G:C8	2.39	0.57
43:RX:60:ARG:NH1	53:R7:47:ARG:HH22	2.03	0.57
1:XA:96:G:H2'	1:XA:97:U:O4'	2.03	0.57
25:YA:1204:A:H2	25:YA:1241:A:N1	2.01	0.57
25:YA:2298:A:H62	25:YA:2318:G:H8	1.51	0.57
1:QA:1175:G:H2'	1:QA:1176:A:H8	1.68	0.57
12:QL:117:ARG:HB3	12:QL:122:THR:HB	1.86	0.57
25:RA:220:G:O2'	25:RA:233:A:N3	2.37	0.57
25:RA:2781:A:H5''	25:RA:2782:G:H5'	1.86	0.57
27:RD:44:ASN:HB2	27:RD:48:ARG:O	2.05	0.57
1:XA:1443:G:H5''	1:XA:1446:A:H2	1.69	0.57
9:XI:15:ALA:HB2	9:XI:65:VAL:HG23	1.86	0.57
25:YA:1412:A:H2'	25:YA:1413:G:C8	2.40	0.57
25:YA:1590:U:H2'	25:YA:1591:G:C8	2.39	0.57
32:YI:56:LYS:HE3	32:YI:57:ARG:HA	1.87	0.57
45:YZ:77:ASP:OD2	45:YZ:80:ARG:HD3	2.05	0.57
1:QA:620:C:C2	4:QD:135:LEU:HG	2.40	0.56
3:QC:73:PRO:HG3	3:QC:105:GLU:HG3	1.88	0.56
19:QS:41:VAL:HB	19:QS:42:PRO:CA	2.35	0.56
25:RA:1525:G:H2'	25:RA:1526:G:C8	2.40	0.56
25:RA:2645:G:H3'	25:RA:2646:C:H5'	1.86	0.56
41:RV:52:VAL:HG21	41:RV:55:ALA:HB3	1.87	0.56
1:XA:1347:G:C8	9:XI:107:ARG:HB3	2.40	0.56
25:YA:654(A):G:H8	25:YA:654(A):G:OP2	1.88	0.56
25:YA:1266:G:O5'	42:YW:15:ARG:NH2	2.38	0.56
25:YA:1359:A:N6	25:YA:1372:U:C4	2.72	0.56
25:YA:2011:U:OP1	42:YW:42:ARG:NH1	2.37	0.56
25:YA:2111:C:N3	25:YA:2118:U:O2'	2.38	0.56
25:YA:2815:C:H5'	51:Y5:29:THR:HG21	1.87	0.56
36:YQ:85:LYS:O	36:YQ:87:LYS:N	2.38	0.56
50:Y4:71:ARG:HB2	50:Y4:71:ARG:HH11	1.68	0.56
25:RA:1378:A:OP1	53:R7:10:ARG:NH2	2.37	0.56
25:RA:1614:A:H62	42:RW:93:ALA:HB2	1.70	0.56
27:RD:108:PRO:HB3	27:RD:143:HIS:CE1	2.40	0.56
27:RD:148:GLU:HB2	27:RD:151:LYS:HD2	1.87	0.56
29:RF:11:VAL:HG12	29:RF:12:LEU:H	1.69	0.56
32:RI:116:LEU:O	32:RI:118:LYS:N	2.38	0.56
36:RQ:32:TYR:HE1	36:RQ:133:ARG:HG3	1.69	0.56
1:XA:128:G:O2'	17:XQ:3:LYS:NZ	2.33	0.56
10:XJ:50:ILE:HD11	10:XJ:57:LYS:HD3	1.85	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:372:G:HO2'	25:YA:400:G:H1	1.53	0.56
25:YA:551:G:H5'	25:YA:1220:A:H1'	1.87	0.56
25:YA:1359:A:H2'	25:YA:1360:A:H5'	1.88	0.56
29:YF:107:LYS:HD2	29:YF:206:ILE:HA	1.86	0.56
30:YG:81:LYS:O	30:YG:82:LEU:HB2	2.04	0.56
34:YO:85:VAL:HG11	34:YO:114:ILE:HD11	1.87	0.56
1:QA:1465:C:H2'	1:QA:1466:C:O4'	2.05	0.56
17:QQ:90:ILE:O	17:QQ:94:ASN:ND2	2.38	0.56
25:RA:507:A:C5'	25:RA:508:G:H5'	2.34	0.56
25:RA:1028:A:N6	25:RA:1125:G:H2'	2.20	0.56
25:RA:1285:G:N2	25:RA:1329:U:OP1	2.38	0.56
25:RA:1300:U:H4'	25:RA:1301:A:H5''	1.87	0.56
25:RA:1885:A:H5'	25:RA:1886:C:OP2	2.05	0.56
25:RA:2032:G:H1'	28:RE:145:LYS:HD3	1.86	0.56
25:RA:2116:G:N1	25:RA:2162:G:OP1	2.38	0.56
28:RE:10:GLY:HA3	39:RT:8:LYS:HD2	1.85	0.56
32:RI:69:LYS:HG3	32:RI:136:VAL:HB	1.87	0.56
32:RI:94:ALA:H	32:RI:116:LEU:HD13	1.70	0.56
35:RP:106:LEU:O	35:RP:107:LYS:HB2	2.05	0.56
36:RQ:43:THR:HA	36:RQ:94:VAL:HG12	1.87	0.56
1:XA:27:G:H4'	4:XD:209:ARG:HG3	1.86	0.56
1:XA:1232:U:OP1	9:XI:124:GLN:NE2	2.38	0.56
22:XV:68:C:H2'	22:XV:69:C:C6	2.41	0.56
25:YA:27:G:N2	25:YA:512:G:O2'	2.38	0.56
25:YA:518:G:H5'	42:YW:18:ARG:HH12	1.70	0.56
25:YA:1061:U:H4'	25:YA:1070:A:H1'	1.87	0.56
25:YA:1188:U:H4'	41:YV:79:VAL:HG22	1.86	0.56
25:YA:1204:A:H1'	25:YA:1206:G:C8	2.40	0.56
25:YA:2849:U:P	39:YT:95:ARG:HH12	2.28	0.56
35:YP:101:VAL:HG23	35:YP:106:LEU:HB3	1.88	0.56
39:YT:60:THR:HG22	39:YT:77:PRO:HA	1.86	0.56
41:YV:59:ALA:HB2	41:YV:96:ILE:HD13	1.87	0.56
1:QA:1367:C:H4'	10:QJ:48:THR:HG21	1.88	0.56
25:RA:960:A:H61	36:RQ:82:ARG:HH12	1.53	0.56
25:RA:2311:A:C8	30:RG:88:ILE:HD11	2.41	0.56
37:RR:67:LEU:HD13	37:RR:76:VAL:HG21	1.86	0.56
38:RS:106:ARG:HA	38:RS:110:LEU:HD11	1.87	0.56
44:RY:81:LYS:HZ3	44:RY:98:VAL:HG11	1.69	0.56
2:XB:178:ARG:HG3	8:XH:72:PRO:HA	1.86	0.56
41:YV:66:ARG:HH11	41:YV:88:ARG:HD3	1.71	0.56
45:YZ:152:ALA:HB2	45:YZ:168:GLU:HA	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:Y6:25:LYS:HE2	52:Y6:27:LYS:HE3	1.87	0.56
1:QA:336:C:H2'	1:QA:337:C:C6	2.39	0.56
8:QH:91:ARG:HB2	12:QL:7:ILE:HG13	1.87	0.56
25:RA:764:A:H5'	27:RD:210:GLY:HA2	1.86	0.56
25:RA:1798:U:C5'	27:RD:259:THR:HG22	2.35	0.56
25:RA:2392:A:H2	25:RA:2424:C:N4	2.00	0.56
36:RQ:24:GLY:O	36:RQ:26:TYR:N	2.36	0.56
41:RV:44:LYS:HE2	41:RV:45:THR:H	1.70	0.56
1:XA:343:U:HO2'	1:XA:344:A:H8	1.53	0.56
25:YA:2882:A:OP1	37:YR:96:ARG:NH1	2.38	0.56
36:YQ:137:TYR:CE2	45:YZ:83:PRO:HG3	2.41	0.56
42:YW:71:VAL:HA	42:YW:107:LEU:HD12	1.87	0.56
25:RA:74:A:H4'	25:RA:75:G:O5'	2.06	0.56
25:RA:859:G:O2'	25:RA:860:U:O2	2.16	0.56
25:RA:2404:C:H1'	35:RP:67:MET:HE1	1.87	0.56
28:RE:4:ILE:HD12	28:RE:28:ALA:HB1	1.88	0.56
36:RQ:66:ILE:HA	36:RQ:104:PHE:HA	1.87	0.56
1:XA:1392:G:H21	1:XA:1502:A:H8	1.52	0.56
3:XC:174:PRO:HD2	3:XC:182:ILE:HD11	1.88	0.56
7:XG:54:THR:O	7:XG:56:GLN:N	2.39	0.56
16:XP:20:VAL:HG21	16:XP:32:TYR:CD1	2.40	0.56
25:YA:860:U:C5	25:YA:917:A:C2	2.94	0.56
25:YA:1819:A:H4'	25:YA:1820:U:O5'	2.06	0.56
1:QA:128:G:O2'	17:QQ:3:LYS:NZ	2.35	0.56
2:QB:82:ARG:HA	2:QB:92:TYR:HE2	1.71	0.56
25:RA:993:G:OP1	40:RU:50:ARG:NH2	2.38	0.56
25:RA:1578:U:H2'	25:RA:1579:A:H5'	1.86	0.56
25:RA:1786:A:H2	25:RA:2606:C:H1'	1.70	0.56
43:RX:31:HIS:CD2	43:RX:32:PRO:HD2	2.40	0.56
1:XA:191:G:O2'	20:XT:101:GLY:O	2.23	0.56
1:XA:437:U:H2'	1:XA:438:G:O4'	2.04	0.56
1:XA:1368:G:OP1	9:XI:111:ARG:NH2	2.34	0.56
2:XB:21:ARG:O	2:XB:23:ARG:HD3	2.05	0.56
2:XB:84:GLU:HB3	2:XB:219:VAL:HG21	1.86	0.56
22:XV:61:C:H2'	22:XV:62:C:H6	1.71	0.56
31:YH:92:ILE:H	31:YH:92:ILE:HD12	1.71	0.56
32:YI:79:ILE:HB	32:YI:142:VAL:HA	1.88	0.56
34:YO:97:ARG:HA	34:YO:117:LEU:HD22	1.88	0.56
8:QH:106:GLY:O	8:QH:122:ARG:NH2	2.36	0.56
12:QL:45:PRO:HB3	12:QL:92:ASP:HB3	1.87	0.56
32:RI:8:PRO:HD3	32:RI:15:VAL:HG13	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RP:68:GLN:HG2	54:R8:12:LYS:HD3	1.88	0.56
1:XA:1060:C:C4	3:XC:2:GLY:HA2	2.41	0.56
22:XV:3:G:O2'	22:XV:4:G:H8	1.88	0.56
25:YA:1693:U:O2'	27:YD:14:ARG:NH2	2.39	0.56
25:YA:2123:G:H1	25:YA:2175:C:H42	1.53	0.56
25:YA:2168:G:N2	25:YA:2170:A:N7	2.52	0.56
25:YA:2585:U:H5	56:Z8:76:PPU:HO2'	1.52	0.56
1:QA:266:G:H5''	1:QA:267:C:C5	2.40	0.56
1:QA:1446:A:O2'	1:QA:1447:G:O5'	2.24	0.56
10:QJ:5:ARG:HG3	10:QJ:71:LEU:HD11	1.87	0.56
25:RA:67:U:H3	25:RA:74:A:H2	1.48	0.56
25:RA:637:A:O5'	35:RP:116:GLY:HA2	2.06	0.56
25:RA:2630:G:N2	25:RA:2788:C:O2	2.38	0.56
32:RI:29:TYR:HD2	32:RI:30:LEU:HD23	1.71	0.56
40:RU:94:ASN:HD22	40:RU:94:ASN:C	2.08	0.56
1:XA:890:G:O2'	1:XA:906:G:O6	2.22	0.56
25:YA:573:G:OP2	41:YV:78:LYS:NZ	2.38	0.56
36:YQ:81:VAL:C	36:YQ:82:ARG:HG2	2.25	0.56
44:YY:95:LYS:HB3	44:YY:100:ALA:HA	1.87	0.56
4:QD:187:ARG:NH2	4:QD:193:ASP:OD2	2.38	0.56
12:QL:89:ARG:HB3	12:QL:97:ARG:HA	1.88	0.56
25:RA:550:G:O2'	25:RA:1220:A:O2'	2.18	0.56
25:RA:1794:U:H2'	25:RA:1795:C:C6	2.41	0.56
29:RF:110:LEU:HD11	29:RF:181:LEU:HD12	1.88	0.56
35:RP:121:LYS:HD3	35:RP:122:PRO:HD2	1.88	0.56
45:RZ:182:LYS:H	45:RZ:182:LYS:HD3	1.70	0.56
1:XA:522:C:H41	12:XL:53:ARG:NH2	2.04	0.56
3:XC:9:GLY:HA2	3:XC:12:LEU:HD23	1.88	0.56
3:XC:130:VAL:O	3:XC:134:ILE:HG12	2.06	0.56
4:XD:11:LEU:HD13	4:XD:66:ARG:HG2	1.87	0.56
4:XD:122:ARG:NH1	4:XD:134:ASP:O	2.39	0.56
25:YA:1952:A:C6	34:YO:22:ILE:HD12	2.41	0.56
31:YH:41:MET:HE1	31:YH:64:LEU:HB3	1.86	0.56
33:YN:40:PRO:O	40:YU:64:ARG:HD2	2.06	0.56
1:QA:953:G:N7	13:QM:104:ARG:NH2	2.54	0.55
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.42	0.55
2:QB:71:VAL:HG12	2:QB:93:VAL:HB	1.88	0.55
25:RA:2543:G:H2'	25:RA:2544:G:C8	2.41	0.55
32:RI:41:GLU:HA	32:RI:44:LEU:HB2	1.86	0.55
42:RW:86:LEU:HD22	42:RW:96:ILE:HD11	1.88	0.55
51:R5:4:HIS:HB3	51:R5:5:PRO:CD	2.32	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:R6:36:LEU:HB2	52:R6:50:ARG:HA	1.89	0.55
1:XA:266:G:H5''	1:XA:267:C:H5	1.70	0.55
1:XA:674:G:H2'	1:XA:675:A:C8	2.41	0.55
1:XA:953:G:H5'	1:XA:965:A:H61	1.71	0.55
25:YA:1077:A:H5'	25:YA:1078:U:H5''	1.88	0.55
25:YA:1427:A:H4'	25:YA:1428:C:O5'	2.05	0.55
25:YA:1678:G:H8	25:YA:1678:G:O5'	1.90	0.55
33:YN:56:ASN:N	33:YN:125:GLY:O	2.22	0.55
39:YT:29:ARG:HB2	39:YT:46:GLU:HG3	1.88	0.55
1:QA:266:G:H5''	1:QA:267:C:H5	1.70	0.55
1:QA:411:A:C4	1:QA:413:G:H1'	2.42	0.55
10:QJ:16:LEU:HD23	10:QJ:94:VAL:HG13	1.88	0.55
10:QJ:78:ASN:O	10:QJ:81:THR:OG1	2.24	0.55
25:RA:1769:G:O2'	25:RA:1958:C:OP1	2.17	0.55
25:RA:1816:G:H8	27:RD:62:TYR:CZ	2.24	0.55
25:RA:2308:G:N2	25:RA:2311:A:H2	2.04	0.55
39:RT:26:ASP:O	39:RT:49:VAL:HG12	2.07	0.55
1:XA:188:U:H2'	1:XA:189:U:H5''	1.88	0.55
1:XA:1450:U:O2'	1:XA:1451:A:N7	2.35	0.55
10:XJ:34:VAL:HG22	10:XJ:74:ILE:HG22	1.89	0.55
27:YD:232:PRO:HB3	27:YD:244:ARG:NH1	2.21	0.55
39:YT:39:ARG:HG2	39:YT:40:THR:H	1.72	0.55
1:QA:1104:G:H4'	2:QB:111:ARG:NH1	2.21	0.55
25:RA:2150:U:H2'	25:RA:2151:G:C8	2.42	0.55
25:RA:2618:G:H21	28:RE:150:VAL:HG21	1.70	0.55
28:RE:63:LEU:CD1	28:RE:65:GLY:H	2.20	0.55
34:RO:78:ARG:HH21	39:RT:103:ARG:NH2	2.03	0.55
47:R1:53:VAL:HG11	47:R1:90:ILE:HD11	1.88	0.55
2:XB:158:LEU:HD13	2:XB:182:ILE:HD11	1.89	0.55
25:YA:1285:G:N2	25:YA:1329:U:OP1	2.35	0.55
25:YA:1798:U:H5'	27:YD:259:THR:HG22	1.88	0.55
25:RA:898:C:H2'	25:RA:899:A:H5'	1.88	0.55
41:RV:7:THR:HG23	41:RV:22:VAL:HG11	1.88	0.55
50:R4:24:THR:OG1	50:R4:25:TYR:N	2.38	0.55
5:XE:37:ARG:HA	5:XE:114:GLY:N	2.21	0.55
5:XE:50:GLU:HB3	5:XE:53:LEU:HD13	1.88	0.55
6:XF:97:PHE:HD2	18:XR:31:LEU:HD21	1.70	0.55
15:XO:18:PHE:CE1	15:XO:21:ASP:HB2	2.41	0.55
25:YA:264:C:C2'	25:YA:265:A:H5''	2.37	0.55
25:YA:287:C:H2'	25:YA:288:C:H6	1.71	0.55
25:YA:2788:C:O2'	25:YA:2809:A:N3	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YF:101:LEU:O	29:YF:106:ARG:NH1	2.40	0.55
30:YG:67:LYS:HZ1	50:Y4:6:HIS:CD2	2.24	0.55
41:YV:38:LEU:H	41:YV:51:VAL:HG13	1.70	0.55
54:Y8:50:LEU:HD12	54:Y8:51:ALA:N	2.21	0.55
1:QA:683:G:H2'	1:QA:684:A:C8	2.41	0.55
1:QA:757:U:H2'	1:QA:758:G:O4'	2.07	0.55
1:QA:1336:C:H1'	1:QA:1337:G:C2	2.41	0.55
8:QH:86:ILE:HG13	8:QH:133:LEU:HD22	1.89	0.55
9:QI:77:ILE:O	9:QI:81:ILE:HG12	2.07	0.55
32:RI:92:VAL:HG13	32:RI:120:ILE:HG23	1.87	0.55
36:RQ:30:GLY:CA	36:RQ:107:ALA:HB2	2.37	0.55
44:RY:81:LYS:HB2	44:RY:96:ILE:HG22	1.89	0.55
1:XA:404:U:H2'	1:XA:405:U:H6	1.71	0.55
20:XT:49:ALA:HB1	20:XT:99:LEU:HB2	1.89	0.55
25:YA:1026:U:H1'	25:YA:1027:A:O5'	2.05	0.55
25:YA:1637:A:H4'	25:YA:2711:A:O2'	2.06	0.55
25:YA:2680:C:H5'	28:YE:189:PRO:HA	1.88	0.55
31:YH:121:ILE:HG12	31:YH:140:LYS:HD2	1.89	0.55
2:QB:5:ILE:HD12	2:QB:224:GLN:HG2	1.89	0.55
25:RA:626:U:H5''	25:RA:627:A:H5'	1.89	0.55
25:RA:1434:A:H61	25:RA:1558:A:H62	1.54	0.55
25:RA:2418:A:OP2	54:R8:29:LYS:HE2	2.06	0.55
29:RF:101:LEU:O	29:RF:106:ARG:NH1	2.40	0.55
44:RY:37:VAL:HG21	44:RY:72:VAL:HG21	1.88	0.55
1:XA:200:G:H1	1:XA:217:C:H42	1.54	0.55
1:XA:619:U:N3	4:XD:135:LEU:HD23	2.21	0.55
2:XB:82:ARG:NH1	2:XB:86:GLU:OE2	2.40	0.55
23:XY:30:C:H2'	23:XY:31:G:H8	1.71	0.55
28:YE:63:LEU:HD12	28:YE:64:LYS:N	2.22	0.55
35:YP:52:GLU:HG3	35:YP:57:THR:HG22	1.88	0.55
39:YT:3:ARG:HG3	39:YT:7:ILE:HG12	1.88	0.55
52:Y6:28:ARG:HB3	52:Y6:30:THR:H	1.71	0.55
25:RA:1266:G:O2'	25:RA:2012:G:O6	2.18	0.55
25:RA:1786:A:C2	25:RA:2606:C:H1'	2.42	0.55
25:RA:2068:U:H3	25:RA:2430:A:H2	1.51	0.55
25:RA:2816:C:O3'	37:RR:99:LYS:NZ	2.38	0.55
27:RD:35:LYS:NZ	27:RD:104:TYR:HB2	2.22	0.55
32:RI:21:VAL:HG21	32:RI:25:TYR:HD1	1.71	0.55
40:RU:52:ARG:HA	40:RU:55:ARG:HG3	1.88	0.55
44:RY:95:LYS:CB	44:RY:100:ALA:HA	2.36	0.55
44:RY:96:ILE:HG12	44:RY:101:LYS:HB2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:R4:16:CYS:SG	50:R4:36:CYS:N	2.79	0.55
1:XA:266:G:O2'	1:XA:267:C:OP2	2.23	0.55
1:XA:1298:C:H4'	1:XA:1299:A:C4	2.41	0.55
1:XA:1422:G:H5''	34:YO:48:PRO:HB3	1.88	0.55
25:YA:459:U:H5''	53:Y7:40:TRP:CD2	2.42	0.55
25:YA:527:C:OP2	25:YA:2779:U:H5	1.90	0.55
25:YA:2126:A:H4'	25:YA:2127:G:O5'	2.07	0.55
31:YH:157:TYR:HA	31:YH:171:LEU:O	2.06	0.55
35:YP:62:LEU:HD12	54:Y8:30:ARG:NH1	2.22	0.55
41:YV:34:GLU:O	41:YV:36:PRO:HD3	2.06	0.55
46:Y0:27:GLU:HB2	46:Y0:69:PHE:HD1	1.72	0.55
54:Y8:60:LEU:HB3	54:Y8:63:PRO:HG2	1.89	0.55
1:QA:34:C:H2'	1:QA:35:G:H8	1.72	0.55
1:QA:828:A:H2'	1:QA:829:G:O4'	2.06	0.55
10:QJ:51:ARG:NH2	14:QN:58:LYS:HZ1	2.04	0.55
14:QN:48:ALA:HB2	14:QN:53:LEU:HD12	1.89	0.55
25:RA:50:U:H4'	25:RA:51:G:OP2	2.07	0.55
25:RA:242:G:C8	54:R8:5:LYS:HG2	2.42	0.55
31:RH:109:PHE:HZ	31:RH:152:ARG:HG2	1.72	0.55
43:RX:25:LYS:HD3	43:RX:80:ILE:HD11	1.89	0.55
51:R5:56:LYS:H	51:R5:56:LYS:HD2	1.72	0.55
8:XH:86:ILE:HG22	8:XH:93:VAL:HG21	1.89	0.55
11:XK:34:ASP:OD1	11:XK:38:ASN:N	2.39	0.55
25:YA:863:A:H2'	25:YA:864:G:C8	2.41	0.55
25:YA:863:A:H2'	25:YA:864:G:H8	1.72	0.55
25:YA:958:U:OP2	36:YQ:14:ARG:NH1	2.40	0.55
25:YA:1093:G:H5'	31:YH:170:ARG:NH1	2.22	0.55
25:YA:1939:U:OP1	25:YA:2604:U:O2'	2.20	0.55
25:YA:2286:A:H4'	25:YA:2287:A:O4'	2.07	0.55
25:YA:2790:A:H2'	25:YA:2791:C:H5''	1.89	0.55
27:YD:43:ARG:HD2	27:YD:44:ASN:OD1	2.07	0.55
32:YI:3:VAL:HG12	32:YI:38:LEU:HA	1.87	0.55
32:YI:129:THR:HA	32:YI:137:PRO:HA	1.88	0.55
39:YT:26:ASP:O	39:YT:49:VAL:HG12	2.07	0.55
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.42	0.55
25:RA:1427:A:H4'	25:RA:1428:C:O5'	2.06	0.55
25:RA:2273:A:O2'	25:RA:2274:A:H5'	2.07	0.55
25:RA:2585:U:H5	56:Z6:76:PPU:HO2'	1.55	0.55
1:XA:606:G:N2	1:XA:631:G:H8	2.04	0.55
9:XI:16:ARG:HB2	9:XI:64:THR:HB	1.89	0.55
35:YP:71:VAL:HG13	35:YP:72:PRO:HD3	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YW:14:PRO:O	42:YW:17:VAL:N	2.40	0.55
45:YZ:48:PHE:CE2	45:YZ:52:SER:HA	2.42	0.55
1:QA:56:U:H4'	32:YI:82:ARG:NH2	2.21	0.55
9:QI:26:VAL:HG22	9:QI:61:ALA:HB3	1.89	0.55
25:RA:223:A:N1	25:RA:407:G:O2'	2.31	0.55
25:RA:301:G:H1	25:RA:316:C:H42	1.53	0.55
25:RA:1434:A:H61	25:RA:1558:A:N6	2.05	0.55
1:XA:339:C:H2'	1:XA:340:U:H6	1.71	0.55
1:XA:1223:C:P	19:XS:78:ARG:HH12	2.30	0.55
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.42	0.55
25:YA:141:A:C8	25:YA:1408:C:H1'	2.41	0.55
25:YA:860:U:OP2	25:YA:916:G:N1	2.37	0.55
25:YA:1688:U:H1'	25:YA:1701:A:C6	2.42	0.55
25:YA:2820:A:C8	28:YE:109:LYS:HE2	2.42	0.55
41:YV:61:VAL:HG23	41:YV:63:GLY:H	1.71	0.55
1:QA:359:U:H2'	1:QA:360:A:C8	2.42	0.54
10:QJ:13:HIS:CE1	10:QJ:14:LYS:HE3	2.42	0.54
25:RA:1444(A):A:H4'	25:RA:1460:A:O2'	2.07	0.54
25:RA:1482:U:H3	25:RA:1512:G:H1	1.55	0.54
25:RA:2068:U:N3	25:RA:2430:A:H2	2.05	0.54
29:RF:184:TYR:CE2	29:RF:188:ARG:HD2	2.42	0.54
31:RH:124:GLU:HB3	31:RH:132:ARG:HG3	1.89	0.54
1:XA:1129:C:H5'	1:XA:1130:A:OP1	2.08	0.54
4:XD:92:VAL:O	4:XD:96:LEU:HD22	2.07	0.54
8:XH:54:ASP:N	8:XH:54:ASP:OD1	2.39	0.54
12:XL:70:ILE:HG12	12:XL:100:ILE:HD12	1.88	0.54
25:YA:330:A:HO2'	25:YA:331:A:H8	1.52	0.54
25:YA:996:A:OP2	40:YU:92:ARG:NH2	2.40	0.54
25:YA:1292:U:H2'	25:YA:1293:C:C6	2.41	0.54
25:YA:1649:G:O2'	37:YR:107:ASP:OD1	2.14	0.54
25:YA:2777:G:OP2	25:YA:2781:A:O2'	2.20	0.54
29:YF:116:ASP:OD2	35:YP:1:MET:N	2.26	0.54
39:YT:62:THR:HG22	39:YT:75:ILE:HG12	1.89	0.54
10:QJ:8:LEU:HB3	10:QJ:16:LEU:HD21	1.87	0.54
25:RA:468:G:H4'	29:RF:62:ARG:HH12	1.72	0.54
25:RA:686:G:N2	25:RA:788:A:H61	2.04	0.54
25:RA:1210:A:H5''	25:RA:1210:A:C8	2.36	0.54
25:RA:1930:G:H22	25:RA:1969:A:H5''	1.72	0.54
32:RI:113:ARG:HG3	32:RI:131:LYS:NZ	2.23	0.54
33:RN:40:PRO:HB3	40:RU:68:ALA:HB2	1.89	0.54
39:RT:1:MET:O	39:RT:3:ARG:N	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:RZ:146:ILE:HA	45:RZ:174:VAL:HB	1.90	0.54
54:R8:29:LYS:HD3	54:R8:44:LYS:HB2	1.88	0.54
1:XA:1453:G:H8	20:XT:39:LYS:HE2	1.72	0.54
3:XC:150:LYS:HE2	3:XC:152:ILE:HD11	1.88	0.54
25:YA:740:U:H2'	25:YA:741:G:C8	2.42	0.54
25:YA:898:C:H2'	25:YA:899:A:H5'	1.88	0.54
25:YA:2656:U:H3	25:YA:2665:A:H2	1.54	0.54
27:YD:12:SER:O	27:YD:16:MET:HB2	2.08	0.54
33:YN:42:TRP:O	40:YU:64:ARG:NH2	2.41	0.54
36:YQ:109:VAL:HG13	36:YQ:113:GLN:HB3	1.89	0.54
37:YR:55:ALA:HB2	37:YR:79:LEU:HD13	1.89	0.54
37:YR:56:LYS:NZ	37:YR:87:TYR:O	2.40	0.54
1:QA:652:U:H1'	1:QA:653:A:H2	1.73	0.54
25:RA:177:G:H5''	25:RA:177:G:N3	2.22	0.54
25:RA:630:G:N2	25:RA:633:A:OP2	2.34	0.54
25:RA:2126:A:H4'	25:RA:2127:G:O5'	2.07	0.54
33:RN:30:ILE:HG22	33:RN:34:LEU:HD22	1.88	0.54
36:RQ:31:ASP:O	36:RQ:134:ARG:HB2	2.07	0.54
36:RQ:54:MET:HG3	36:RQ:117:ALA:HB1	1.89	0.54
45:RZ:53:ILE:H	45:RZ:71:VAL:HG13	1.72	0.54
45:RZ:58:VAL:O	45:RZ:60:GLU:N	2.39	0.54
47:R1:58:ILE:HD11	47:R1:86:SER:HB2	1.88	0.54
10:XJ:33:GLN:HB2	10:XJ:75:ILE:HD11	1.89	0.54
25:YA:1113:U:H2'	25:YA:1114:G:C8	2.42	0.54
25:YA:2131:G:H4'	25:YA:2132:U:H4'	1.88	0.54
51:Y5:55:ARG:HG3	51:Y5:57:VAL:H	1.73	0.54
1:QA:985:C:H2'	1:QA:986:A:H8	1.73	0.54
1:QA:1200:C:O2'	1:QA:1201:A:OP2	2.22	0.54
5:QE:78:HIS:CE1	5:QE:142:LEU:HD23	2.42	0.54
25:RA:379:G:N2	47:R1:42:GLN:OE1	2.33	0.54
25:RA:1927:A:H2'	25:RA:1928:A:C8	2.43	0.54
25:RA:2444:G:OP2	29:RF:68:LYS:HE3	2.08	0.54
25:RA:2451:A:N1	56:Z6:76:PPU:HE2	2.23	0.54
25:RA:2496:C:P	36:RQ:81:VAL:HG12	2.48	0.54
27:RD:35:LYS:HZ1	27:RD:104:TYR:HB2	1.71	0.54
28:RE:35:GLN:HE21	28:RE:37:ARG:CZ	2.21	0.54
1:XA:1455:G:H5''	20:XT:31:SER:HB2	1.88	0.54
1:XA:1525:G:P	11:XK:120:ARG:HH22	2.29	0.54
5:XE:100:VAL:HG22	5:XE:118:ILE:HG22	1.90	0.54
13:XM:22:ILE:HD12	13:XM:25:ILE:HD12	1.89	0.54
18:XR:31:LEU:HD23	18:XR:31:LEU:H	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:987:G:O2'	25:YA:1000:A:N3	2.38	0.54
26:YB:40:U:H1'	26:YB:45:A:H61	1.72	0.54
45:YZ:149:SER:HB2	45:YZ:172:ALA:O	2.07	0.54
46:Y0:20:ARG:O	46:Y0:24:LYS:NZ	2.39	0.54
5:QE:7:GLU:N	5:QE:35:GLY:O	2.36	0.54
9:QI:121:ARG:NH1	9:QI:122:ALA:O	2.40	0.54
32:RI:93:THR:O	32:RI:97:ILE:HG12	2.06	0.54
37:RR:103:ARG:NH1	37:RR:108:GLY:O	2.41	0.54
40:RU:112:ARG:NH2	41:RV:47:VAL:HG13	2.23	0.54
43:RX:83:VAL:CG1	43:RX:87:GLN:HB2	2.38	0.54
45:RZ:110:GLY:HA2	45:RZ:111:VAL:C	2.28	0.54
48:R2:42:GLY:O	48:R2:44:LEU:N	2.35	0.54
48:R2:50:ILE:HD12	48:R2:51:ARG:H	1.72	0.54
5:XE:12:LEU:HD21	5:XE:14:ARG:HD3	1.89	0.54
25:YA:530:G:H1'	25:YA:2021:C:O2'	2.07	0.54
25:YA:540:G:H5'	25:YA:541:C:OP2	2.07	0.54
25:YA:1085:A:O2'	25:YA:1086:A:OP1	2.23	0.54
33:YN:35:ARG:HB2	33:YN:42:TRP:CH2	2.42	0.54
35:YP:64:LYS:O	35:YP:66:GLY:N	2.41	0.54
40:YU:76:TYR:CZ	40:YU:80:ILE:HG13	2.43	0.54
45:YZ:5:LEU:HD21	45:YZ:44:PHE:HA	1.89	0.54
50:Y4:54:GLY:O	50:Y4:59:PHE:HB2	2.07	0.54
1:QA:1223:C:P	19:QS:78:ARG:HH12	2.31	0.54
13:QM:22:ILE:HB	13:QM:25:ILE:HD12	1.89	0.54
25:RA:259:G:H21	25:RA:621:A:H8	1.55	0.54
25:RA:1190:G:H5'	35:RP:32:THR:HA	1.90	0.54
30:RG:16:ARG:NH2	30:RG:28:VAL:O	2.41	0.54
51:R5:40:LYS:HG2	51:R5:47:PRO:HD2	1.90	0.54
1:XA:339:C:H2'	1:XA:340:U:C6	2.42	0.54
1:XA:598:U:H4'	8:XH:94:TYR:CD2	2.43	0.54
1:XA:807:A:H2'	1:XA:808:C:C6	2.42	0.54
12:XL:115:LYS:O	12:XL:117:ARG:N	2.35	0.54
48:Y2:35:LEU:HD12	48:Y2:53:LEU:HD12	1.89	0.54
1:QA:977:A:O2'	1:QA:981:U:N3	2.37	0.54
1:QA:978:A:O2'	1:QA:1322:C:N3	2.40	0.54
1:QA:1053:G:N7	1:QA:1200:C:H5''	2.23	0.54
25:RA:2116:G:H1	25:RA:2162:G:P	2.30	0.54
25:RA:2648:C:H2'	25:RA:2649:U:C6	2.42	0.54
25:RA:2751:G:N7	31:RH:2:SER:HB3	2.22	0.54
39:RT:111:ARG:O	39:RT:112:ARG:HG3	2.08	0.54
1:XA:1008:C:H42	1:XA:1021:G:H1	1.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:150:LYS:HB3	3:XC:201:TYR:HB2	1.90	0.54
7:XG:20:ASP:HB3	7:XG:23:VAL:HG23	1.89	0.54
7:XG:49:ILE:O	7:XG:53:LYS:HB3	2.08	0.54
10:XJ:9:ARG:HB2	10:XJ:95:GLU:HB3	1.88	0.54
25:YA:141(A):C:H2'	25:YA:142:G:O4'	2.08	0.54
25:YA:287:C:H2'	25:YA:288:C:C6	2.42	0.54
25:YA:518:G:H5'	42:YW:18:ARG:NH1	2.23	0.54
45:YZ:82:ARG:HG3	45:YZ:83:PRO:HD2	1.90	0.54
2:QB:84:GLU:HB3	2:QB:219:VAL:HG21	1.89	0.54
25:RA:586:A:H5'	29:RF:89:VAL:HG21	1.90	0.54
25:RA:1101:U:H2'	25:RA:1102:C:H6	1.73	0.54
26:RB:51:G:N7	38:RS:62:LYS:NZ	2.47	0.54
35:RP:9:ASN:HB2	35:RP:10:PRO:HD2	1.90	0.54
1:XA:35:G:O2'	12:XL:118:SER:O	2.20	0.54
1:XA:1189:C:H5''	1:XA:1190:G:OP2	2.08	0.54
22:XV:23:C:H2'	22:XV:24:U:C6	2.43	0.54
25:YA:460:A:H2'	25:YA:461:C:O4'	2.07	0.54
25:YA:2022:U:O2'	25:YA:2617:C:H5'	2.08	0.54
25:YA:2089:U:H6	25:YA:2089:U:H5''	1.73	0.54
1:QA:1065:U:O2'	1:QA:1066:C:OP2	2.23	0.54
1:QA:1106:G:H5''	3:QC:172:ARG:HG2	1.90	0.54
1:QA:1347:G:H22	1:QA:1374:A:P	2.30	0.54
25:RA:1063:G:N2	25:RA:1076:C:O2'	2.41	0.54
25:RA:1309:G:H4'	53:R7:7:PRO:HB2	1.89	0.54
26:RB:40:U:H1'	26:RB:45:A:H61	1.72	0.54
32:RI:57:ARG:O	32:RI:61:ARG:HG2	2.08	0.54
35:RP:38:GLN:HG2	35:RP:45:LEU:CD1	2.36	0.54
37:RR:45:ARG:HA	37:RR:95:THR:HG21	1.90	0.54
45:RZ:82:ARG:HG3	45:RZ:83:PRO:HD2	1.90	0.54
1:XA:707:C:OP1	11:XK:85:ARG:NH1	2.41	0.54
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.42	0.54
3:XC:15:THR:HG23	3:XC:181:ASN:HD22	1.73	0.54
13:XM:3:ARG:HA	13:XM:9:ILE:CG2	2.37	0.54
16:XP:43:LYS:HG2	16:XP:48:TRP:CE3	2.42	0.54
25:YA:125:G:H5''	53:Y7:19:ARG:HD3	1.90	0.54
30:YG:15:VAL:HG21	30:YG:176:LEU:HD23	1.90	0.54
33:YN:6:PRO:HG3	33:YN:41:ASP:HB2	1.89	0.54
25:RA:479:A:N3	25:RA:481:G:H5''	2.23	0.54
25:RA:1141:U:O2'	25:RA:1142:U:OP2	2.25	0.54
25:RA:2133:G:H1'	25:RA:2158:A:H61	1.73	0.54
25:RA:2527:C:H5''	55:R9:30:PRO:HB2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:111:ARG:HG3	28:RE:160:TYR:CD1	2.43	0.54
32:RI:33:ARG:HB3	32:RI:35:LEU:HD23	1.90	0.54
35:RP:14:LYS:O	35:RP:16:ARG:HG2	2.08	0.54
36:RQ:134:ARG:NH2	45:RZ:122:ARG:HD2	2.23	0.54
39:RT:37:GLY:O	39:RT:39:ARG:N	2.34	0.54
10:XJ:32:ALA:H	10:XJ:78:ASN:HD21	1.55	0.54
25:YA:649:G:H2'	25:YA:650:C:C6	2.42	0.54
25:YA:1341:U:OP2	25:YA:1394:U:O2'	2.22	0.54
25:YA:1678:G:N2	25:YA:1989:G:H22	2.05	0.54
25:YA:1929:G:H4'	25:YA:1930:G:OP1	2.08	0.54
25:YA:2126:A:N6	25:YA:2163:C:O2'	2.41	0.54
1:QA:22:G:H4'	1:QA:885:G:C8	2.43	0.53
1:QA:1255:G:O2'	1:QA:1258:G:O2'	2.23	0.53
2:QB:235:SER:O	2:QB:237:ALA:N	2.41	0.53
4:QD:149:ALA:HB3	4:QD:152:SER:HB2	1.90	0.53
4:QD:194:LEU:HD12	4:QD:195:ALA:H	1.73	0.53
19:QS:10:PHE:HE2	19:QS:16:LEU:HD22	1.73	0.53
20:QT:75:ASN:OD1	20:QT:75:ASN:N	2.40	0.53
25:RA:2544:G:O5'	25:RA:2544:G:H8	1.91	0.53
50:R4:56:VAL:HA	50:R4:60:GLN:HB2	1.89	0.53
1:XA:1234:C:O2'	1:XA:1235:U:H5'	2.08	0.53
25:YA:528:A:HO2'	25:YA:529:A:H5'	1.73	0.53
25:YA:996:A:H4'	40:YU:92:ARG:NE	2.22	0.53
25:YA:2212:A:H1'	25:YA:2215:G:C5	2.43	0.53
25:YA:2712:U:O2'	25:YA:2712(A):A:OP1	2.26	0.53
27:YD:70:TRP:CH2	27:YD:150:LYS:HA	2.43	0.53
28:YE:78:LEU:HG	28:YE:79:ARG:NE	2.23	0.53
28:YE:111:ARG:HD2	28:YE:160:TYR:CD1	2.42	0.53
35:YP:62:LEU:HD12	54:Y8:30:ARG:HH11	1.72	0.53
35:YP:88:LEU:HD12	35:YP:95:VAL:HG11	1.90	0.53
1:QA:510:A:OP2	4:QD:49:ARG:NH2	2.41	0.53
2:QB:204:ASN:HD22	2:QB:206:ASP:H	1.56	0.53
25:RA:27:G:N2	25:RA:512:G:H1'	2.22	0.53
25:RA:321:G:H5''	29:RF:136:THR:HG23	1.90	0.53
27:RD:44:ASN:HD22	27:RD:44:ASN:N	2.06	0.53
39:RT:33:LYS:HD2	39:RT:82:LEU:HA	1.89	0.53
1:XA:1314:C:N4	19:XS:2:PRO:O	2.40	0.53
2:XB:82:ARG:HA	2:XB:92:TYR:CE2	2.43	0.53
2:XB:162:ILE:O	2:XB:185:ILE:HG12	2.08	0.53
3:XC:14:ILE:O	3:XC:16:ARG:N	2.35	0.53
25:YA:2114:A:N6	25:YA:2119:A:H62	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2712:U:O2'	25:YA:2712(A):A:H8	1.90	0.53
25:YA:2832:U:H4'	25:YA:2833:G:H5''	1.90	0.53
27:YD:43:ARG:CB	27:YD:54:ARG:HB2	2.38	0.53
41:YV:66:ARG:NH1	41:YV:88:ARG:HD3	2.23	0.53
1:QA:957:U:H4'	19:QS:79:THR:HB	1.91	0.53
3:QC:84:ILE:HD11	3:QC:88:ARG:HH21	1.73	0.53
25:RA:278:A:H61	25:RA:362:U:H3	1.56	0.53
25:RA:1051:G:H2'	25:RA:1052:C:O4'	2.07	0.53
25:RA:1203:G:H3'	25:RA:1204:A:H5''	1.89	0.53
25:RA:1688:U:H1'	25:RA:1701:A:C6	2.44	0.53
25:RA:2061:G:OP2	25:RA:2502:G:H5'	2.09	0.53
25:RA:2469:A:H5'	25:RA:2470:G:OP2	2.08	0.53
35:RP:61:ARG:HD2	54:R8:13:ARG:HD2	1.90	0.53
45:RZ:152:ALA:O	45:RZ:154:ASP:N	2.40	0.53
45:RZ:166:SER:H	45:RZ:167:PRO:HA	1.74	0.53
1:XA:346:G:H1'	1:XA:347:G:H5'	1.90	0.53
1:XA:691:G:H2'	1:XA:692:U:C6	2.44	0.53
1:XA:1305:G:O2'	1:XA:1306:A:C8	2.61	0.53
10:XJ:4:ILE:HG12	10:XJ:100:THR:HG22	1.89	0.53
25:YA:443:A:H5''	25:YA:444:C:OP1	2.09	0.53
25:YA:2564:A:C2	25:YA:2647:U:H4'	2.43	0.53
33:YN:30:ILE:HG23	33:YN:52:VAL:HG11	1.91	0.53
1:QA:411:A:H62	1:QA:413:G:N2	2.06	0.53
12:QL:55:VAL:HG12	12:QL:69:TYR:HA	1.90	0.53
15:QO:6:GLU:OE2	15:QO:6:GLU:N	2.35	0.53
25:RA:372:G:O2'	25:RA:373:U:OP2	2.27	0.53
25:RA:859:G:O2'	25:RA:860:U:P	2.67	0.53
25:RA:943:U:OP2	35:RP:36:LYS:HG2	2.08	0.53
25:RA:2753:A:O2'	55:R9:15:LYS:NZ	2.42	0.53
25:RA:2772:C:H2'	25:RA:2773:C:C6	2.43	0.53
25:RA:2772:C:H2'	25:RA:2773:C:H6	1.74	0.53
29:RF:32:LEU:O	29:RF:36:VAL:HG23	2.09	0.53
34:RO:2:ILE:HD13	34:RO:8:LEU:HD11	1.90	0.53
36:RQ:32:TYR:CE1	36:RQ:133:ARG:HG3	2.43	0.53
41:RV:99:ILE:O	41:RV:101:GLY:N	2.42	0.53
42:RW:25:ARG:NH2	42:RW:74:ALA:O	2.33	0.53
1:XA:64:G:H5'	1:XA:65:U:H5'	1.90	0.53
1:XA:1301:U:H3'	1:XA:1302:U:H5'	1.91	0.53
1:XA:1399:C:C2	1:XA:1502:A:N6	2.77	0.53
17:XQ:4:LYS:HE3	17:XQ:6:LEU:HD21	1.90	0.53
19:XS:36:ARG:NH1	19:XS:52:TYR:O	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:796:C:H2'	25:YA:797:C:C6	2.43	0.53
25:YA:1019:U:O2'	25:YA:1021:A:H2	1.91	0.53
25:YA:1614:A:N6	42:YW:88:ARG:H	2.05	0.53
25:YA:2467:C:H4'	36:YQ:123:HIS:CD2	2.42	0.53
25:YA:2853:C:H2'	25:YA:2854:G:C8	2.40	0.53
27:YD:30:GLU:HG3	27:YD:63:ARG:HH21	1.72	0.53
27:YD:244:ARG:HB2	27:YD:245:PRO:HD2	1.90	0.53
32:YI:62:LYS:HE3	32:YI:134:PRO:HG2	1.90	0.53
35:YP:92:GLU:HA	35:YP:123:LEU:HD23	1.89	0.53
36:YQ:12:GLN:HG2	36:YQ:73:PRO:HD2	1.90	0.53
48:Y2:15:LYS:H	48:Y2:67:LYS:HE2	1.73	0.53
3:QC:35:GLU:HG2	3:QC:59:ARG:NH2	2.24	0.53
8:QH:51:VAL:HG11	8:QH:60:ARG:HG3	1.90	0.53
25:RA:229:A:H4'	25:RA:229:A:OP1	2.07	0.53
25:RA:1020:A:N1	25:RA:1141:U:O2'	2.40	0.53
25:RA:1021:A:H8	25:RA:1022:G:H5''	1.72	0.53
29:RF:135:LYS:HB3	29:RF:138:GLU:HG3	1.90	0.53
31:RH:149:ARG:HE	31:RH:154:PRO:HG2	1.72	0.53
32:RI:88:ILE:O	32:RI:121:LYS:NZ	2.40	0.53
38:RS:106:ARG:HA	38:RS:110:LEU:HD21	1.91	0.53
48:R2:10:LEU:O	48:R2:13:ALA:N	2.40	0.53
1:XA:881:G:P	12:XL:12:ARG:HH22	2.32	0.53
1:XA:933:G:O6	7:XG:3:ARG:NH2	2.41	0.53
1:XA:949:A:N7	13:XM:106:ASN:ND2	2.56	0.53
2:XB:60:ASP:O	2:XB:64:ARG:HG2	2.09	0.53
9:XI:111:ARG:NE	9:XI:112:LYS:O	2.38	0.53
11:XK:84:VAL:HG11	11:XK:95:ILE:HD11	1.90	0.53
25:YA:1570:A:H2'	25:YA:1571:A:C8	2.42	0.53
25:YA:2150:U:H2'	25:YA:2151:G:C8	2.44	0.53
25:YA:2438:U:O3'	25:YA:2439:A:H3'	2.08	0.53
25:YA:2469:A:O2'	36:YQ:56:ARG:HG2	2.08	0.53
39:YT:51:ARG:CG	39:YT:98:LYS:HG3	2.38	0.53
39:YT:105:LEU:O	39:YT:107:ASP:N	2.42	0.53
39:YT:112:ARG:O	39:YT:112:ARG:NE	2.39	0.53
55:Y9:27:CYS:SG	55:Y9:28:GLU:N	2.82	0.53
1:QA:976:G:H5''	1:QA:1358:U:O2'	2.09	0.53
1:QA:1348:U:H4'	9:QI:120:ARG:HD2	1.91	0.53
26:RB:72:G:O2'	26:RB:104:A:N6	2.41	0.53
32:RI:144:VAL:HG22	32:RI:145:VAL:H	1.73	0.53
44:RY:98:VAL:HG13	44:RY:99:CYS:SG	2.48	0.53
1:XA:130:A:N6	1:XA:233:C:O2	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:226:G:O2'	25:YA:227:A:C8	2.61	0.53
25:YA:528:A:C2	25:YA:2043:C:H4'	2.44	0.53
25:YA:782:A:H5'	25:YA:783:A:C2	2.44	0.53
25:YA:888:C:H3'	25:YA:889:C:C4'	2.38	0.53
25:YA:2277:G:OP2	46:Y0:10:THR:HG21	2.08	0.53
25:YA:2567:G:H2'	25:YA:2568:C:C6	2.43	0.53
1:QA:673:G:O3'	6:QF:87:ARG:NH2	2.41	0.53
1:QA:690:G:H22	11:QK:55:LYS:NZ	2.05	0.53
6:QF:10:LEU:HD13	6:QF:61:LEU:HD13	1.90	0.53
25:RA:1101:U:H2'	25:RA:1102:C:C6	2.44	0.53
25:RA:1509:C:H3'	25:RA:1510:A:H5''	1.90	0.53
45:RZ:76:LEU:HD23	45:RZ:76:LEU:H	1.73	0.53
1:XA:966:G:O2'	9:XI:127:LYS:O	2.27	0.53
1:XA:1002:G:H2'	1:XA:1003:G:C8	2.40	0.53
8:XH:121:ASP:HB2	8:XH:125:ARG:NH2	2.24	0.53
20:XT:95:ALA:O	20:XT:97:ALA:N	2.42	0.53
25:YA:1178:C:H2'	25:YA:1179:C:C6	2.44	0.53
25:YA:2757:A:OP1	55:Y9:19:ARG:HA	2.09	0.53
32:YI:79:ILE:N	32:YI:141:LYS:O	2.40	0.53
1:QA:405:U:O4	4:QD:2:GLY:N	2.41	0.53
1:QA:474:G:H2'	1:QA:475:G:C8	2.44	0.53
1:QA:520:A:N1	1:QA:536:C:H1'	2.24	0.53
1:QA:1238:A:H62	1:QA:1299:A:N6	2.07	0.53
9:QI:71:SER:HA	9:QI:74:ILE:HD12	1.90	0.53
19:QS:44:MET:O	19:QS:46:GLY:N	2.40	0.53
25:RA:1771:C:HO2'	25:RA:1786:A:H8	1.56	0.53
25:RA:1858:G:O2'	25:RA:1884:A:N6	2.42	0.53
35:RP:113:LYS:HG2	35:RP:115:LEU:HD23	1.90	0.53
45:RZ:5:LEU:HD11	45:RZ:39:VAL:HB	1.91	0.53
48:R2:65:ASN:HB3	48:R2:69:ARG:NH2	2.24	0.53
1:XA:1277:C:O2'	1:XA:1279:A:H1'	2.09	0.53
1:XA:1318:A:H4'	19:XS:11:VAL:CG1	2.39	0.53
25:YA:1061:U:H3'	25:YA:1062:G:H5''	1.89	0.53
25:YA:2877:G:H2'	25:YA:2878:U:O4'	2.09	0.53
27:YD:206:LEU:O	27:YD:211:ARG:HD3	2.09	0.53
30:YG:179:PRO:HG3	50:Y4:38:LYS:NZ	2.24	0.53
32:YI:93:THR:HG22	32:YI:119:PRO:HB3	1.91	0.53
33:YN:96:GLU:HG2	33:YN:97:ARG:N	2.24	0.53
39:YT:16:ARG:HE	39:YT:19:LEU:HD21	1.73	0.53
40:YU:102:GLU:OE1	41:YV:13:ARG:NH2	2.42	0.53
1:QA:119:A:H4'	1:QA:120:A:O5'	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1053:G:O6	1:QA:1199:U:H2'	2.08	0.53
1:QA:1304:G:N2	1:QA:1332:A:OP2	2.38	0.53
1:QA:1336:C:O2'	1:QA:1337:G:O5'	2.25	0.53
25:RA:1050:A:H2'	25:RA:1051:G:O4'	2.08	0.53
42:RW:110:LYS:HG3	42:RW:111:HIS:ND1	2.23	0.53
1:XA:633:G:H5'	1:XA:634:C:OP2	2.08	0.53
18:XR:25:THR:HB	18:XR:26:LEU:HD23	1.91	0.53
19:XS:31:ILE:HG23	19:XS:49:ILE:HA	1.91	0.53
25:YA:1093:G:OP1	31:YH:170:ARG:NH1	2.42	0.53
25:YA:1697:G:OP2	25:YA:1698:A:O2'	2.12	0.53
25:YA:2629:A:O2'	25:YA:2630:G:H5''	2.09	0.53
25:YA:2667:C:H1'	31:YH:109:PHE:CD2	2.43	0.53
31:YH:149:ARG:NH1	31:YH:167:GLU:OE1	2.42	0.53
52:Y6:26:ASN:ND2	52:Y6:35:GLU:OE2	2.42	0.53
1:QA:410:G:H3'	4:QD:25:ARG:HH21	1.74	0.53
1:QA:1222:G:OP1	19:QS:77:THR:HG21	2.09	0.53
1:QA:1320:C:N4	19:QS:36:ARG:HG3	2.23	0.53
4:QD:78:LEU:HD22	4:QD:96:LEU:HB3	1.89	0.53
25:RA:459:U:H5''	53:R7:40:TRP:CD2	2.44	0.53
25:RA:1261:C:OP2	42:RW:83:LYS:NZ	2.42	0.53
25:RA:1937:A:O2'	25:RA:1939:U:OP2	2.18	0.53
25:RA:2023:G:H5'	25:RA:2617:C:H4'	1.91	0.53
25:RA:2273:A:H2'	25:RA:2274:A:C8	2.43	0.53
28:RE:203:LYS:HE3	28:RE:204:ALA:HB2	1.91	0.53
29:RF:157:VAL:HB	29:RF:194:MET:HB3	1.91	0.53
47:R1:80:LEU:HD23	47:R1:80:LEU:H	1.74	0.53
51:R5:40:LYS:NZ	51:R5:46:CYS:HB3	2.24	0.53
1:XA:818:G:O2'	1:XA:819:A:H5'	2.09	0.53
1:XA:1014:A:H4'	19:XS:14:HIS:CD2	2.43	0.53
1:XA:1191:A:H5''	3:XC:4:LYS:HZ2	1.74	0.53
12:XL:7:ILE:HD13	12:XL:10:LEU:HD12	1.90	0.53
25:YA:286:C:H2'	25:YA:287:C:C6	2.44	0.53
25:YA:363(F):A:H4'	25:YA:364:C:H5''	1.91	0.53
25:YA:1184:G:OP1	49:Y3:29:ARG:NH1	2.42	0.53
25:YA:2469:A:H2	25:YA:2481:G:N2	2.05	0.53
33:YN:13:TRP:O	33:YN:135:PRO:HD2	2.08	0.53
38:YS:10:ARG:O	38:YS:12:PHE:N	2.42	0.53
48:Y2:47:ASN:ND2	48:Y2:47:ASN:H	2.05	0.53
52:Y6:40:CYS:HB2	52:Y6:45:LYS:HD3	1.90	0.53
1:QA:1286:A:H8	1:QA:1287:A:H4'	1.73	0.52
1:QA:1317:C:N3	19:QS:37:ARG:NH2	2.52	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:247:G:H4'	25:RA:386:G:C5	2.44	0.52
25:RA:796:C:H2'	25:RA:797:C:C6	2.45	0.52
25:RA:1582:C:O2'	25:RA:1586:A:H8	1.92	0.52
25:RA:2540:C:H2'	25:RA:2541:A:O4'	2.09	0.52
28:RE:1:MET:N	28:RE:83:ASP:O	2.41	0.52
1:XA:1221:G:O3'	19:XS:77:THR:HG21	2.08	0.52
2:XB:44:LEU:H	2:XB:44:LEU:HD12	1.74	0.52
7:XG:15:ASP:HB3	7:XG:19:GLY:H	1.74	0.52
20:XT:47:GLY:O	20:XT:49:ALA:N	2.41	0.52
25:YA:414:C:H2'	25:YA:415:A:C8	2.43	0.52
25:YA:2496:C:P	36:YQ:81:VAL:HG12	2.49	0.52
27:YD:85:ASP:OD2	27:YD:88:ARG:HD2	2.08	0.52
32:YI:20:ASP:OD2	32:YI:20:ASP:N	2.39	0.52
1:QA:7:G:H5'	1:QA:298:A:O4'	2.08	0.52
13:QM:66:LEU:HA	13:QM:70:LEU:HB2	1.91	0.52
14:QN:24:CYS:HB3	14:QN:29:ARG:N	2.23	0.52
25:RA:1329:U:H5''	25:RA:1330:C:C5	2.42	0.52
26:RB:65:C:H41	26:RB:108:C:H2'	1.73	0.52
31:RH:10:PRO:HD2	31:RH:50:VAL:HG13	1.89	0.52
25:YA:1354:A:OP1	27:YD:38:LYS:HE2	2.09	0.52
30:YG:96:ARG:O	30:YG:98:ARG:N	2.42	0.52
33:YN:110:GLY:O	33:YN:114:ARG:HG3	2.09	0.52
44:YY:35:TYR:CE1	44:YY:69:ALA:HB3	2.44	0.52
4:QD:98:GLU:OE2	4:QD:107:ARG:NE	2.43	0.52
25:RA:1292:U:H2'	25:RA:1293:C:C6	2.44	0.52
29:RF:134:GLY:HA3	29:RF:165:ARG:NH1	2.25	0.52
31:RH:46:GLU:OE2	31:RH:51:ARG:NH1	2.42	0.52
32:RI:11:ASN:O	32:RI:12:LEU:HB2	2.09	0.52
41:RV:60:GLU:HB2	41:RV:97:LYS:HE3	1.92	0.52
48:R2:4:SER:OG	48:R2:5:GLU:OE2	2.16	0.52
1:XA:524:G:H2'	1:XA:525:C:C6	2.45	0.52
1:XA:1129:C:O2'	1:XA:1131:G:N7	2.41	0.52
1:XA:1321:C:H5''	1:XA:1322:C:C5'	2.39	0.52
3:XC:40:ARG:O	3:XC:44:GLU:HB2	2.09	0.52
25:YA:1059:G:H3'	25:YA:1060:U:H5''	1.90	0.52
25:YA:1332:G:H5'	25:YA:1332:G:C8	2.44	0.52
25:YA:2667:C:H1'	31:YH:109:PHE:HD2	1.74	0.52
26:YB:42:C:O2	30:YG:93:THR:N	2.27	0.52
27:YD:132:PRO:HD3	27:YD:190:TYR:CZ	2.44	0.52
1:QA:397:A:H3'	1:QA:397:A:N3	2.24	0.52
1:QA:1298:C:H4'	1:QA:1299:A:C4	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:37:GLN:NE2	14:QN:52:GLN:OE1	2.32	0.52
25:RA:192:C:O2'	25:RA:802:A:N3	2.37	0.52
25:RA:467:G:OP1	53:R7:33:ARG:NH1	2.41	0.52
25:RA:2287:A:N6	25:RA:2344:U:H3	2.03	0.52
27:RD:35:LYS:NZ	27:RD:64:ILE:O	2.41	0.52
27:RD:206:LEU:O	27:RD:211:ARG:NH1	2.38	0.52
30:RG:82:LEU:HA	30:RG:86:MET:SD	2.48	0.52
1:XA:1299:A:H2'	1:XA:1301:U:H1'	1.91	0.52
25:YA:184:C:H2'	25:YA:185:U:C6	2.45	0.52
25:YA:729:G:C6	27:YD:208:LYS:HB2	2.44	0.52
25:YA:848:G:H2'	25:YA:849:A:C8	2.43	0.52
25:YA:2599:G:OP2	27:YD:236:GLY:HA2	2.09	0.52
25:YA:2867:G:OP2	39:YT:119:LYS:NZ	2.25	0.52
38:YS:6:ALA:O	38:YS:10:ARG:HD3	2.09	0.52
1:QA:390:C:O3'	16:QP:28:ARG:NH2	2.41	0.52
1:QA:765:G:N2	1:QA:813:U:OP2	2.37	0.52
2:QB:134:GLU:HA	2:QB:137:ARG:HB3	1.92	0.52
25:RA:1443:G:H1	25:RA:1548:C:N4	2.04	0.52
27:RD:133:LEU:HB3	27:RD:173:VAL:HG11	1.91	0.52
31:RH:86:GLU:HG3	31:RH:165:ALA:N	2.25	0.52
37:RR:59:ASP:OD1	37:RR:61:HIS:HB3	2.08	0.52
1:XA:404:U:H2'	1:XA:405:U:C6	2.44	0.52
25:YA:507:A:C5'	25:YA:508:G:H5'	2.40	0.52
25:YA:1149:G:H2'	25:YA:1150:C:C6	2.44	0.52
25:YA:1448:G:O2'	25:YA:1528:A:N6	2.43	0.52
25:YA:1569:A:O5'	27:YD:61:LEU:HD21	2.10	0.52
25:YA:1728:G:H2'	25:YA:1731:G:O6	2.10	0.52
25:YA:1906:G:OP2	25:YA:1929:G:O2'	2.27	0.52
25:YA:2262:U:OP1	25:YA:2387:U:O2'	2.27	0.52
25:YA:2389:G:H5''	25:YA:2390:U:O4'	2.09	0.52
52:Y6:13:CYS:O	52:Y6:21:TYR:HA	2.09	0.52
1:QA:192:U:H2'	1:QA:193:C:C6	2.44	0.52
25:RA:1667:G:O2'	25:RA:1669:A:N6	2.43	0.52
25:RA:1973:G:H2'	25:RA:1974:C:C6	2.45	0.52
25:RA:2292:C:P	38:RS:17:ARG:HH22	2.33	0.52
29:RF:150:GLY:HA2	29:RF:172:TRP:CE3	2.44	0.52
32:RI:133:HIS:HB2	32:RI:134:PRO:HD2	1.92	0.52
1:XA:439:A:OP2	1:XA:493:G:N1	2.39	0.52
16:XP:8:ARG:O	16:XP:9:PHE:HD2	1.93	0.52
20:XT:53:LEU:O	20:XT:57:ARG:NH1	2.42	0.52
25:YA:444:C:H4'	29:YF:49:ALA:HB2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YF:63:LYS:HE2	29:YF:67:GLN:HB2	1.91	0.52
30:YG:88:ILE:O	30:YG:88:ILE:HD13	2.09	0.52
35:YP:20:GLY:HA2	35:YP:27:HIS:O	2.10	0.52
49:Y3:40:THR:HB	49:Y3:43:ILE:HG12	1.92	0.52
1:QA:1301:U:H3'	1:QA:1302:U:H5'	1.92	0.52
25:RA:476:G:N1	25:RA:479:A:OP2	2.41	0.52
25:RA:2277:G:OP2	46:R0:10:THR:HG21	2.10	0.52
25:RA:2585:U:H5	56:Z6:76:PPU:O2'	1.92	0.52
27:RD:108:PRO:HB3	27:RD:143:HIS:HE1	1.73	0.52
44:RY:84:ARG:O	44:RY:95:LYS:HD3	2.09	0.52
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.92	0.52
3:XC:189:ALA:HB3	3:XC:196:LEU:HB2	1.91	0.52
10:XJ:78:ASN:O	10:XJ:81:THR:OG1	2.25	0.52
14:YN:43:CYS:HA	14:YN:46:GLU:HG3	1.92	0.52
25:YA:223:A:O4'	25:YA:422:A:H5'	2.10	0.52
25:YA:363:G:H2'	25:YA:363(A):A:H8	1.74	0.52
25:YA:581:C:H2'	25:YA:582:G:H8	1.74	0.52
25:YA:581:C:H2'	25:YA:582:G:C8	2.45	0.52
25:YA:764:A:N3	27:YD:213:ARG:NH1	2.57	0.52
25:YA:2327:A:H2'	25:YA:2328:A:C8	2.44	0.52
25:YA:2585:U:H5	56:Z8:76:PPU:O2'	1.91	0.52
29:YF:24:LEU:HD23	29:YF:115:ALA:HA	1.91	0.52
1:QA:64:G:H4'	1:QA:65:U:O5'	2.09	0.52
1:QA:1326:C:OP1	21:QU:17:THR:OG1	2.18	0.52
19:QS:28:LYS:HB2	19:QS:47:HIS:CD2	2.45	0.52
25:RA:517:C:OP1	51:R5:16:ARG:NH2	2.42	0.52
25:RA:623:G:H2'	25:RA:624:C:C6	2.44	0.52
25:RA:2006:C:O2'	25:RA:2823:A:N3	2.37	0.52
32:RI:110:ASP:N	32:RI:130:TYR:OH	2.30	0.52
1:XA:1005:A:HO2'	1:XA:1037:C:HO2'	1.55	0.52
2:XB:35:GLU:O	2:XB:36:ARG:HD3	2.10	0.52
19:XS:19:VAL:HG11	19:XS:44:MET:HG2	1.91	0.52
25:YA:286:C:H2'	25:YA:287:C:H6	1.74	0.52
25:YA:857:C:OP2	46:Y0:77:ARG:NH2	2.43	0.52
25:YA:1184:G:OP1	49:Y3:30:ARG:HD2	2.10	0.52
25:YA:1210:A:H5'	25:YA:1210:A:C8	2.40	0.52
25:YA:1771:C:H1'	25:YA:1786:A:H8	1.75	0.52
25:YA:2774:C:H2'	25:YA:2775:A:O4'	2.10	0.52
54:Y8:11:LYS:NZ	54:Y8:63:PRO:HG3	2.24	0.52
25:RA:588:U:H2'	25:RA:589:C:C6	2.45	0.52
25:RA:994:C:OP1	40:RU:53:ARG:NH2	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2392:A:OP2	54:R8:31:HIS:HD2	1.92	0.52
27:RD:206:LEU:HD22	27:RD:211:ARG:HG2	1.92	0.52
41:RV:34:GLU:O	41:RV:36:PRO:HD3	2.10	0.52
44:RY:87:LYS:HA	44:RY:92:ASN:HB3	1.91	0.52
1:XA:555:C:OP2	12:XL:20:LYS:NZ	2.42	0.52
1:XA:561:U:HO2'	1:XA:562:C:P	2.30	0.52
1:XA:1034:G:H2'	1:XA:1035:A:H8	1.75	0.52
2:XB:29:ALA:O	2:XB:32:ILE:HG22	2.10	0.52
4:XD:13:ARG:HD2	4:XD:38:TYR:O	2.10	0.52
7:XG:78:ARG:HG3	7:XG:79:ARG:N	2.25	0.52
25:YA:1339:G:H5''	43:YX:16:LYS:HD3	1.92	0.52
25:YA:2015:A:H1'	51:Y5:2:ALA:CA	2.38	0.52
25:YA:2123:G:H2'	25:YA:2124:G:C8	2.43	0.52
26:YB:77:U:P	45:YZ:19:ARG:HH22	2.33	0.52
32:YI:110:ASP:N	32:YI:130:TYR:OH	2.43	0.52
45:YZ:124:ILE:HG22	45:YZ:126:VAL:HG13	1.92	0.52
48:Y2:58:ALA:O	48:Y2:62:THR:HG23	2.10	0.52
52:Y6:7:ILE:HG13	52:Y6:8:LYS:H	1.75	0.52
1:QA:1240:U:OP1	7:QG:119:ARG:NH2	2.43	0.52
4:QD:12:CYS:HA	4:QD:19:LEU:HD23	1.92	0.52
5:QE:91:LEU:HD12	5:QE:120:THR:HG22	1.92	0.52
11:QK:32:ILE:HG13	11:QK:72:ALA:HB2	1.92	0.52
11:QK:96:ARG:HA	11:QK:99:GLN:HE21	1.75	0.52
25:RA:288:C:H2'	25:RA:289:A:C8	2.45	0.52
25:RA:1657:C:H2'	25:RA:1658:C:C6	2.45	0.52
25:RA:2466:C:OP1	55:R9:4:ARG:HB2	2.10	0.52
39:RT:111:ARG:C	39:RT:113:LYS:H	2.12	0.52
42:RW:60:ASN:HD22	42:RW:60:ASN:H	1.56	0.52
47:R1:2:SER:HB2	47:R1:4:VAL:HG12	1.92	0.52
1:XA:719:C:O2'	18:XR:50:ILE:O	2.16	0.52
1:XA:991:U:HO2'	1:XA:992:U:P	2.32	0.52
4:XD:108:LEU:HB3	4:XD:110:PHE:CE1	2.45	0.52
42:YW:40:ASN:O	42:YW:41:LYS:HG2	2.10	0.52
47:Y1:83:GLU:HG2	47:Y1:84:GLY:N	2.24	0.52
1:QA:429:U:H1'	1:QA:430:A:H5''	1.92	0.51
8:QH:77:GLU:HG2	8:QH:78:GLN:H	1.74	0.51
25:RA:847:U:H5	25:RA:933:A:N1	2.08	0.51
27:RD:12:SER:HB2	27:RD:208:LYS:HB3	1.92	0.51
29:RF:150:GLY:HA2	29:RF:172:TRP:CD2	2.45	0.51
37:RR:33:ARG:HD3	37:RR:113:LEU:HG	1.92	0.51
43:RX:59:VAL:HG21	43:RX:78:LYS:HE3	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:170:GLU:O	2:XB:174:VAL:HG23	2.10	0.51
3:XC:47:LEU:HD11	3:XC:76:VAL:HB	1.91	0.51
12:XL:77:LEU:HD21	12:XL:107:ALA:HA	1.92	0.51
20:XT:26:ASN:HB2	20:XT:71:THR:HG23	1.92	0.51
25:YA:1952:A:C5	34:YO:22:ILE:HD12	2.44	0.51
25:YA:2239:G:H5'	27:YD:251:GLY:HA3	1.92	0.51
26:YB:44:G:H1'	26:YB:47:C:N4	2.25	0.51
39:YT:88:ILE:HD12	39:YT:90:GLN:N	2.25	0.51
1:QA:179:A:H2'	1:QA:180:U:C6	2.44	0.51
1:QA:1074:G:O2'	1:QA:1101:A:N1	2.40	0.51
1:QA:1127:G:H21	1:QA:1147:C:H41	1.59	0.51
25:RA:593:G:H2'	25:RA:594:U:C6	2.45	0.51
25:RA:845:G:H8	25:RA:845:G:OP2	1.94	0.51
25:RA:1534:G:N3	25:RA:1534:G:H2'	2.25	0.51
31:RH:153:LYS:HG2	31:RH:162:ILE:HG13	1.92	0.51
45:RZ:5:LEU:HD21	45:RZ:44:PHE:HA	1.92	0.51
1:XA:143:A:H2	1:XA:220:G:H1	1.57	0.51
1:XA:148:G:H2'	1:XA:149:A:H8	1.75	0.51
1:XA:321:A:H62	1:XA:328:C:H1'	1.74	0.51
1:XA:405:U:OP2	4:XD:3:ARG:NH2	2.44	0.51
25:YA:1786:A:C2	25:YA:2606:C:H1'	2.45	0.51
31:YH:26:VAL:HG13	31:YH:27:LYS:H	1.75	0.51
40:YU:107:ALA:O	40:YU:110:VAL:HB	2.10	0.51
41:YV:25:LEU:H	41:YV:92:THR:HG21	1.74	0.51
48:Y2:24:LEU:HD13	48:Y2:60:LEU:HD11	1.92	0.51
54:Y8:51:ALA:N	54:Y8:53:PRO:HD2	2.25	0.51
1:QA:176:C:H2'	1:QA:177:C:H6	1.75	0.51
1:QA:920:U:H2'	1:QA:921:U:C6	2.45	0.51
1:QA:1203:C:H2'	1:QA:1204:A:C8	2.45	0.51
25:RA:222:A:H3'	25:RA:421:U:H5'	1.92	0.51
25:RA:277:C:H4'	25:RA:278:A:OP2	2.11	0.51
26:RB:76:G:N2	26:RB:100:G:O6	2.32	0.51
29:RF:47:GLY:HA3	29:RF:95:ARG:O	2.10	0.51
35:RP:10:PRO:O	35:RP:12:ALA:N	2.43	0.51
1:XA:165:C:H2'	1:XA:166:G:H8	1.74	0.51
1:XA:1327:C:OP2	21:XU:12:LYS:NZ	2.35	0.51
5:XE:13:ILE:HD11	5:XE:55:VAL:HG22	1.91	0.51
5:XE:102:ALA:HB1	5:XE:106:PRO:HG2	1.93	0.51
25:YA:1533:C:H42	25:YA:1538:G:H1	1.57	0.51
25:YA:2151:G:H2'	25:YA:2152:G:C8	2.45	0.51
27:YD:148:GLU:HB2	27:YD:151:LYS:HD2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YF:127:GLU:OE1	29:YF:196:LEU:HB2	2.11	0.51
30:YG:77:ILE:HD13	30:YG:82:LEU:HD12	1.93	0.51
31:YH:88:LEU:H	31:YH:88:LEU:HD22	1.75	0.51
35:YP:96:THR:HG22	35:YP:126:VAL:HB	1.93	0.51
37:YR:83:ILE:HG22	37:YR:87:TYR:HE2	1.76	0.51
10:QJ:31:GLY:HA3	10:QJ:78:ASN:ND2	2.26	0.51
42:RW:67:ASP:OD2	42:RW:67:ASP:N	2.33	0.51
43:RX:35:THR:HG23	43:RX:38:GLU:HG2	1.93	0.51
44:RY:74:PRO:O	44:RY:80:GLY:HA2	2.10	0.51
6:XF:4:TYR:HD1	6:XF:92:LYS:HA	1.76	0.51
9:XI:70:LYS:O	9:XI:74:ILE:HG13	2.10	0.51
13:XM:14:ARG:N	13:XM:44:ARG:HD3	2.21	0.51
25:YA:26:G:C6	25:YA:27:G:N1	2.77	0.51
25:YA:324:A:N6	25:YA:338:G:O2'	2.41	0.51
25:YA:1245:G:OP1	35:YP:13:ASN:ND2	2.40	0.51
33:YN:38:HIS:O	40:YU:67:ALA:HB1	2.10	0.51
41:YV:65:GLY:HA3	41:YV:91:TYR:CZ	2.46	0.51
51:Y5:42:PRO:HB2	51:Y5:43:HIS:ND1	2.25	0.51
1:QA:255:G:H1'	17:QQ:16:GLN:NE2	2.25	0.51
1:QA:523:A:H61	12:QL:53:ARG:HH12	1.59	0.51
4:QD:61:LYS:HB2	4:QD:203:VAL:HG13	1.93	0.51
18:QR:32:ARG:HA	18:QR:69:THR:HG21	1.91	0.51
25:RA:288:C:H2'	25:RA:289:A:H8	1.74	0.51
25:RA:1497:U:H3'	25:RA:1498:C:H6	1.75	0.51
25:RA:1796:U:H2'	25:RA:1797:C:H6	1.72	0.51
25:RA:2502:G:H5''	25:RA:2503:A:H5''	1.91	0.51
25:RA:2795:G:H3'	25:RA:2797:U:C5'	2.39	0.51
31:RH:86:GLU:H	31:RH:86:GLU:CD	2.12	0.51
1:XA:1318:A:H4'	19:XS:11:VAL:HG11	1.93	0.51
9:XI:11:LYS:H	9:XI:104:ARG:HH21	1.58	0.51
20:XT:89:ARG:HH21	20:XT:104:LEU:HD11	1.76	0.51
25:YA:569:U:C4	25:YA:570:G:C6	2.97	0.51
25:YA:2734:A:H5'	25:YA:2735:G:OP2	2.11	0.51
30:YG:16:ARG:O	30:YG:20:ILE:HG12	2.10	0.51
40:YU:47:TYR:HA	40:YU:50:ARG:NH2	2.26	0.51
45:YZ:89:PHE:HE1	45:YZ:96:VAL:HG21	1.75	0.51
47:Y1:70:VAL:O	47:Y1:74:VAL:HG23	2.10	0.51
51:Y5:38:ALA:HB3	51:Y5:40:LYS:HE3	1.92	0.51
51:Y5:56:LYS:HD3	51:Y5:58:LEU:HD23	1.90	0.51
1:QA:1129:C:H5'	1:QA:1130:A:OP1	2.11	0.51
21:QU:6:ARG:HE	21:QU:15:ARG:HH21	1.59	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:528:A:C2	25:RA:2042:A:H2'	2.45	0.51
25:RA:718:A:H3'	25:RA:719:C:C6	2.46	0.51
25:RA:2760:C:H2'	25:RA:2761:G:H5''	1.92	0.51
1:XA:1424:C:H2'	1:XA:1425:U:O4'	2.11	0.51
2:XB:21:ARG:HB2	2:XB:39:ILE:HA	1.91	0.51
7:XG:155:ARG:NH2	7:XG:155:ARG:O	2.43	0.51
17:XQ:100:LYS:O	17:XQ:101:ARG:NE	2.42	0.51
25:YA:2151:G:H2'	25:YA:2152:G:H8	1.74	0.51
25:YA:2572:A:N7	28:YE:145:LYS:HB2	2.24	0.51
28:YE:62:PRO:O	28:YE:64:LYS:N	2.43	0.51
36:YQ:2:LEU:HD23	36:YQ:2:LEU:H	1.76	0.51
38:YS:11:LYS:HB2	38:YS:91:PRO:HB3	1.93	0.51
39:YT:109:GLU:O	39:YT:113:LYS:HB2	2.11	0.51
40:YU:92:ARG:NH1	41:YV:11:GLN:O	2.44	0.51
48:Y2:65:ASN:HB3	48:Y2:69:ARG:NH2	2.26	0.51
12:QL:38:THR:HG23	12:QL:57:LYS:HB3	1.93	0.51
25:RA:27:G:O2'	25:RA:28:A:P	2.69	0.51
25:RA:813:U:H2'	25:RA:814:C:C6	2.46	0.51
25:RA:1270:C:H5''	25:RA:1271:G:O5'	2.11	0.51
25:RA:2401:U:H2'	25:RA:2402:C:H5''	1.92	0.51
25:RA:2566:A:H4'	25:RA:2567:G:O5'	2.11	0.51
29:RF:185:ASP:HA	29:RF:188:ARG:HD3	1.93	0.51
39:RT:28:VAL:HG23	39:RT:88:ILE:HA	1.92	0.51
40:RU:90:VAL:HG22	41:RV:39:LEU:HB3	1.93	0.51
1:XA:266:G:H5'	1:XA:268:C:H41	1.75	0.51
1:XA:1106:G:H5''	3:XC:172:ARG:HG2	1.92	0.51
19:XS:15:LEU:O	19:XS:19:VAL:N	2.36	0.51
20:XT:10:LEU:O	20:XT:13:LEU:HG	2.11	0.51
25:YA:1069:A:H4'	25:YA:1070:A:H5''	1.93	0.51
25:YA:2182:G:H2'	25:YA:2183:C:C6	2.46	0.51
25:YA:2328:A:H2'	25:YA:2329:G:C8	2.46	0.51
25:YA:2331:G:H4'	46:Y0:43:THR:H	1.75	0.51
25:YA:2795:G:H3'	25:YA:2797:U:H5'	1.93	0.51
31:YH:6:ARG:NE	31:YH:54:ARG:HH12	2.09	0.51
36:YQ:60:ARG:HA	45:YZ:178:GLU:O	2.11	0.51
49:Y3:43:ILE:O	49:Y3:47:VAL:HG23	2.10	0.51
1:QA:983:A:H5''	1:QA:984:C:OP2	2.10	0.51
1:QA:1305:G:H5'	21:QU:4:GLY:HA3	1.93	0.51
25:RA:152:G:H1	25:RA:174:C:H42	1.57	0.51
25:RA:593:G:O2'	54:R8:61:LEU:HD13	2.10	0.51
25:RA:1805:U:O2	27:RD:50:THR:HB	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1929:G:H4'	25:RA:1930:G:OP1	2.11	0.51
25:RA:1939:U:OP1	25:RA:2604:U:O2'	2.26	0.51
28:RE:134:ILE:HA	28:RE:137:HIS:CD2	2.45	0.51
29:RF:20:LEU:HD23	29:RF:125:LEU:HD12	1.93	0.51
29:RF:149:ASP:OD1	29:RF:149:ASP:N	2.27	0.51
38:RS:56:LEU:HD23	38:RS:58:LEU:HD22	1.92	0.51
1:XA:486:U:H2'	1:XA:487:A:C8	2.45	0.51
1:XA:757:U:H2'	1:XA:758:G:O4'	2.11	0.51
1:XA:1200:C:H4'	1:XA:1201:A:H5'	1.93	0.51
4:XD:78:LEU:HD22	4:XD:96:LEU:HB3	1.92	0.51
6:XF:97:PHE:CD2	18:XR:31:LEU:HD21	2.46	0.51
25:YA:524:U:H2'	25:YA:525:U:C6	2.45	0.51
25:YA:1154:G:OP2	40:YU:58:ARG:NH1	2.41	0.51
25:YA:1548:C:H2'	25:YA:1549:C:H6	1.76	0.51
25:YA:1654:A:OP2	37:YR:2:ARG:HD2	2.11	0.51
27:YD:35:LYS:NZ	27:YD:104:TYR:HB2	2.26	0.51
37:YR:104:ARG:HD3	37:YR:111:LEU:HD21	1.92	0.51
42:YW:106:ILE:O	42:YW:106:ILE:HG12	2.07	0.51
44:YY:81:LYS:HG2	44:YY:97:ARG:HD3	1.93	0.51
51:Y5:45:VAL:HG11	51:Y5:57:VAL:HG12	1.93	0.51
1:QA:719:C:O2'	18:QR:49:LYS:HB3	2.10	0.51
1:QA:1004:A:O5'	1:QA:1025:U:N3	2.43	0.51
6:QF:69:GLU:CD	6:QF:69:GLU:H	2.15	0.51
20:QT:14:LYS:HA	20:QT:17:ARG:HG3	1.91	0.51
25:RA:558:G:OP1	33:RN:111:PRO:HD2	2.11	0.51
43:RX:40:LYS:HG3	43:RX:51:VAL:HB	1.92	0.51
1:XA:201:C:H42	1:XA:216:G:H1	1.59	0.51
1:XA:1228:C:OP1	13:XM:115:LYS:HE3	2.11	0.51
15:XO:33:THR:HG21	15:XO:85:LEU:HD22	1.93	0.51
19:XS:26:GLY:O	19:XS:28:LYS:N	2.43	0.51
25:YA:467:G:OP2	53:Y7:34:ARG:NH1	2.42	0.51
25:YA:673:C:H5''	29:YF:81:PRO:HD2	1.92	0.51
25:YA:2789:C:H1'	25:YA:2892:A:C2	2.42	0.51
54:Y8:23:VAL:CG1	54:Y8:46:ARG:HD3	2.40	0.51
1:QA:1330:U:H4'	13:QM:23:TYR:CE2	2.45	0.51
8:QH:20:TYR:HE2	8:QH:75:ARG:HD2	1.76	0.51
16:QP:3:LYS:HG3	16:QP:24:ALA:HB2	1.92	0.51
25:RA:957:A:H5'	36:RQ:76:LYS:HD2	1.92	0.51
25:RA:2690:C:OP2	37:RR:14:SER:HB3	2.11	0.51
30:RG:88:ILE:O	30:RG:88:ILE:HD13	2.10	0.51
39:RT:19:LEU:HD22	39:RT:86:ILE:HG22	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:RZ:111:VAL:HG13	45:RZ:112:ARG:H	1.75	0.51
1:XA:201:C:N4	1:XA:209:U:O2	2.43	0.51
1:XA:538:G:H5''	12:XL:114:LYS:HB2	1.93	0.51
1:XA:953:G:H2'	1:XA:954:G:O4'	2.10	0.51
1:XA:1391:U:H2'	1:XA:1392:G:C8	2.46	0.51
25:YA:107:C:H2'	25:YA:108:U:H6	1.75	0.51
25:YA:1359:A:H61	25:YA:1372:U:H3	1.59	0.51
26:YB:8:U:O2'	38:YS:40:ILE:HD13	2.10	0.51
31:YH:89:ILE:O	31:YH:89:ILE:HG12	2.10	0.51
1:QA:619:U:N3	4:QD:134:ASP:OD2	2.43	0.50
1:QA:1095:U:H5''	1:QA:1109:C:O2	2.10	0.50
1:QA:1348:U:C4	1:QA:1374:A:H2	2.30	0.50
25:RA:29:U:H2'	25:RA:30:G:C8	2.47	0.50
25:RA:729:G:H2'	25:RA:1775:U:H1'	1.94	0.50
25:RA:1188:U:H4'	41:RV:79:VAL:HG22	1.93	0.50
25:RA:2150:U:H2'	25:RA:2151:G:H8	1.74	0.50
25:RA:2867:G:O2'	25:RA:2868:A:P	2.68	0.50
35:RP:62:LEU:CD2	54:R8:25:MET:HB2	2.37	0.50
51:R5:3:LYS:HA	51:R5:3:LYS:NZ	2.27	0.50
1:XA:412:A:H4'	1:XA:413:G:O5'	2.11	0.50
1:XA:1060:C:C5	3:XC:2:GLY:HA2	2.46	0.50
3:XC:138:VAL:HG22	3:XC:151:VAL:HG23	1.93	0.50
11:XK:41:THR:HG21	11:XK:71:LYS:HB3	1.93	0.50
25:YA:1412:A:H2'	25:YA:1413:G:H8	1.76	0.50
25:YA:1614:A:N1	42:YW:91:GLY:HA2	2.25	0.50
25:YA:2335:A:HO2'	25:YA:2336:A:P	2.34	0.50
25:YA:2524:G:H5'	25:YA:2525:G:OP2	2.11	0.50
26:YB:15:A:H1'	26:YB:109:G:C8	2.46	0.50
36:YQ:66:ILE:O	36:YQ:104:PHE:N	2.39	0.50
1:QA:1316:G:N2	1:QA:1319:A:H5''	2.20	0.50
9:QI:8:GLY:HA2	9:QI:79:LEU:HD12	1.92	0.50
11:QK:33:THR:HG22	11:QK:39:PRO:HA	1.92	0.50
13:QM:33:ALA:HA	13:QM:59:TYR:HE2	1.76	0.50
25:RA:1357:U:H2'	25:RA:1358:G:O4'	2.12	0.50
36:RQ:17:LEU:HD23	36:RQ:96:VAL:HG23	1.92	0.50
39:RT:118:ARG:HH21	39:RT:121:ILE:HG21	1.76	0.50
1:XA:93:U:H2'	1:XA:95:G:O4'	2.11	0.50
2:XB:80:ILE:HD11	2:XB:208:ILE:HG23	1.93	0.50
6:XF:86:ARG:O	6:XF:87:ARG:HG2	2.11	0.50
25:YA:2064:C:H2'	25:YA:2065:C:C6	2.45	0.50
25:YA:2758:A:C2	25:YA:2759:G:H1'	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YW:57:ASN:O	42:YW:61:ASN:HB2	2.10	0.50
56:Z6:76:PPU:HN2	56:Z6:76:PPU:HD2	1.76	0.50
1:QA:184:G:H2'	1:QA:185:A:C8	2.47	0.50
1:QA:1004:A:P	1:QA:1025:U:H3	2.35	0.50
1:QA:1443:G:N2	39:RT:119:LYS:HB2	2.26	0.50
22:QV:14:G:H2'	22:QV:59:A:N1	2.27	0.50
25:RA:1247:A:OP1	29:RF:95:ARG:NH2	2.45	0.50
25:RA:1588:C:H2'	25:RA:1589:C:H6	1.77	0.50
25:RA:2599:G:OP2	27:RD:236:GLY:HA2	2.10	0.50
28:RE:176:ILE:HG23	28:RE:178:GLU:OE2	2.11	0.50
33:RN:46:VAL:HG13	33:RN:48:MET:HG3	1.93	0.50
1:XA:89:U:O2'	1:XA:90:C:OP1	2.28	0.50
1:XA:1346:A:H1'	1:XA:1348:U:C6	2.46	0.50
2:XB:9:GLU:HB3	2:XB:48:MET:SD	2.50	0.50
3:XC:54:ARG:HD3	3:XC:56:ASP:OD1	2.10	0.50
25:YA:265:A:C8	25:YA:266:G:H1'	2.47	0.50
32:YI:11:ASN:O	32:YI:12:LEU:HB2	2.11	0.50
35:YP:62:LEU:HD23	35:YP:62:LEU:N	2.26	0.50
36:YQ:89:ASN:O	36:YQ:91:GLU:N	2.44	0.50
38:YS:30:ARG:HG3	38:YS:97:ARG:NH2	2.26	0.50
41:YV:52:VAL:HG23	41:YV:55:ALA:H	1.76	0.50
54:Y8:58:ILE:HA	54:Y8:61:LEU:HD21	1.92	0.50
1:QA:1151:A:H2'	1:QA:1152:A:H8	1.76	0.50
1:QA:1306:A:N6	1:QA:1331:G:H1'	2.26	0.50
5:QE:148:VAL:HG21	8:QH:107:LEU:HD22	1.92	0.50
7:QG:116:ALA:O	7:QG:120:ILE:HG12	2.11	0.50
10:QJ:47:PHE:CE1	10:QJ:63:PHE:HB2	2.47	0.50
25:RA:297:C:H5''	44:RY:85:VAL:HG21	1.93	0.50
25:RA:774:A:O2'	25:RA:775:G:O5'	2.28	0.50
25:RA:1085:A:O2'	25:RA:1086:A:OP1	2.28	0.50
25:RA:1244:G:H4'	35:RP:7:ARG:HB2	1.93	0.50
25:RA:1332:G:N2	25:RA:1610:A:H8	2.07	0.50
27:RD:62:TYR:CE1	27:RD:64:ILE:HA	2.46	0.50
28:RE:6:GLY:HA2	28:RE:51:PHE:CZ	2.46	0.50
35:RP:14:LYS:O	35:RP:14:LYS:HD3	2.12	0.50
44:RY:97:ARG:HH21	44:RY:98:VAL:HB	1.77	0.50
1:XA:57:G:H2'	1:XA:58:C:C6	2.46	0.50
1:XA:67:C:H2'	1:XA:68:G:H8	1.74	0.50
1:XA:568:G:O2'	1:XA:574:A:N1	2.38	0.50
1:XA:686:U:H1'	11:XK:42:TRP:HE1	1.77	0.50
1:XA:1347:G:O2'	1:XA:1348:U:OP2	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:114:ARG:O	2:XB:117:GLU:HB2	2.10	0.50
2:XB:189:ASP:HB3	2:XB:203:GLY:O	2.12	0.50
19:XS:4:SER:O	19:XS:5:LEU:HD13	2.11	0.50
19:XS:40:ILE:HG23	19:XS:67:VAL:O	2.12	0.50
25:YA:530:G:C5	25:YA:2022:U:H5'	2.47	0.50
25:YA:2057:A:H2'	25:YA:2058:A:O4'	2.12	0.50
28:YE:111:ARG:HA	37:YR:1:MET:CG	2.40	0.50
30:YG:67:LYS:HZ1	50:Y4:1:MET:HB2	1.77	0.50
32:YI:13:GLY:HA3	32:YI:17:GLN:OE1	2.12	0.50
45:YZ:72:ARG:NH2	45:YZ:97:GLU:O	2.27	0.50
50:Y4:10:VAL:HG22	50:Y4:11:PRO:HD2	1.94	0.50
1:QA:181:G:O2'	1:QA:182:U:O5'	2.25	0.50
1:QA:244:U:OP2	17:QQ:100:LYS:NZ	2.44	0.50
2:QB:162:ILE:HD11	2:QB:184:VAL:HG22	1.93	0.50
11:QK:17:GLY:N	11:QK:79:SER:O	2.44	0.50
12:QL:54:LYS:H	12:QL:54:LYS:HD2	1.75	0.50
12:QL:69:TYR:CG	12:QL:90:VAL:HG21	2.46	0.50
25:RA:1198:U:H2'	25:RA:1199:U:C6	2.46	0.50
25:RA:1678:G:H22	25:RA:1989:G:N2	2.08	0.50
25:RA:2031:A:C6	25:RA:2498:C:H1'	2.45	0.50
25:RA:2867:G:HO2'	25:RA:2868:A:P	2.34	0.50
42:RW:60:ASN:HD22	42:RW:60:ASN:N	2.09	0.50
43:RX:60:ARG:HH12	53:R7:47:ARG:HH22	1.58	0.50
47:R1:62:VAL:HG23	47:R1:63:ALA:O	2.11	0.50
51:R5:46:CYS:HB2	51:R5:50:GLY:HA3	1.93	0.50
1:XA:130:A:C8	17:XQ:63:ARG:HG3	2.46	0.50
1:XA:987:G:H1	1:XA:1218:C:H42	1.60	0.50
1:XA:1513:A:H2'	1:XA:1514:C:C6	2.47	0.50
2:XB:21:ARG:O	2:XB:23:ARG:N	2.44	0.50
2:XB:111:ARG:HH21	2:XB:114:ARG:HG2	1.76	0.50
4:XD:108:LEU:HD21	4:XD:183:GLY:HA3	1.93	0.50
25:YA:229:A:OP1	25:YA:230:U:H5'	2.12	0.50
25:YA:704:G:H1'	25:YA:727:A:N6	2.27	0.50
25:YA:877:U:H3	25:YA:899:A:H2	1.60	0.50
25:YA:900:A:H3'	25:YA:901:A:C8	2.39	0.50
25:YA:958:U:O2	26:YB:89(A):A:O2'	2.26	0.50
25:YA:1771:C:C1'	25:YA:1786:A:H8	2.25	0.50
25:YA:1858:G:O2'	25:YA:1884:A:N6	2.44	0.50
29:YF:167:ALA:HB1	29:YF:173:VAL:HG11	1.93	0.50
30:YG:5:VAL:HG11	30:YG:100:TRP:HB3	1.93	0.50
34:YO:120:GLU:HG2	34:YO:122:LEU:HG	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YP:58:THR:O	35:YP:61:ARG:CZ	2.59	0.50
9:QI:53:VAL:HB	9:QI:95:LYS:HE3	1.92	0.50
25:RA:39:C:H2'	25:RA:40:C:C6	2.47	0.50
25:RA:1598:C:H5'	43:RX:36:LYS:HB2	1.94	0.50
25:RA:2334:G:H4'	25:RA:2335:A:OP2	2.11	0.50
36:RQ:89:ASN:O	36:RQ:92:GLY:N	2.42	0.50
53:R7:5:TRP:NE1	53:R7:7:PRO:HG3	2.26	0.50
1:XA:353:A:H5'	1:XA:353:A:H8	1.77	0.50
1:XA:1321:C:H5''	1:XA:1322:C:H5''	1.93	0.50
1:XA:1347:G:H22	1:XA:1373:G:H2'	1.76	0.50
22:XV:68:C:H2'	22:XV:69:C:H6	1.76	0.50
25:YA:1639:U:C2'	25:YA:1640:C:H5''	2.40	0.50
41:YV:61:VAL:HA	41:YV:94:LEU:HD23	1.93	0.50
1:QA:256:U:H2'	1:QA:257:G:C8	2.47	0.50
1:QA:715:A:H2'	1:QA:716:A:C8	2.47	0.50
1:QA:745:C:OP1	1:QA:851:G:O2'	2.29	0.50
9:QI:95:LYS:NZ	9:QI:96:LEU:HD13	2.26	0.50
13:QM:40:ASN:ND2	13:QM:43:THR:HG23	2.27	0.50
25:RA:49:A:N7	25:RA:120:U:C5	2.74	0.50
25:RA:363(B):G:H2'	25:RA:363(C):G:H8	1.76	0.50
31:RH:132:ARG:HH11	31:RH:132:ARG:HB2	1.76	0.50
35:RP:26:GLY:O	35:RP:28:GLY:N	2.45	0.50
39:RT:111:ARG:O	39:RT:113:LYS:N	2.42	0.50
54:R8:23:VAL:HG11	54:R8:46:ARG:HD3	1.93	0.50
1:XA:1525:G:OP1	11:XK:120:ARG:NH2	2.45	0.50
15:XO:67:LEU:HB3	15:XO:78:TYR:HE1	1.76	0.50
29:YF:65:TRP:O	29:YF:67:GLN:N	2.43	0.50
29:YF:108:LYS:O	29:YF:112:MET:HG3	2.11	0.50
31:YH:4:ILE:HG13	31:YH:6:ARG:NE	2.26	0.50
31:YH:84:SER:O	31:YH:85:LYS:HB2	2.11	0.50
35:YP:36:LYS:HB3	35:YP:40:SER:HB3	1.94	0.50
53:Y7:5:TRP:NE1	53:Y7:7:PRO:HG3	2.26	0.50
1:QA:34:C:H2'	1:QA:35:G:C8	2.47	0.50
1:QA:713:G:H2'	1:QA:714:G:C8	2.46	0.50
1:QA:940:C:H2'	1:QA:941:G:C8	2.47	0.50
1:QA:1128:C:H4'	9:QI:16:ARG:HH12	1.76	0.50
2:QB:231:GLU:HG3	2:QB:233:SER:H	1.77	0.50
10:QJ:22:LYS:HZ2	10:QJ:23:ILE:HA	1.77	0.50
13:QM:40:ASN:HD22	13:QM:43:THR:HG23	1.77	0.50
13:QM:92:HIS:HD2	13:QM:110:ARG:HH21	1.58	0.50
25:RA:1436:G:H1'	25:RA:1477:A:O2'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RB:80:U:H2'	26:RB:81:G:N2	2.19	0.50
32:RI:29:TYR:O	32:RI:33:ARG:HB2	2.12	0.50
38:RS:67:ARG:O	38:RS:71:ARG:HG3	2.12	0.50
39:RT:39:ARG:HG2	39:RT:40:THR:H	1.76	0.50
45:RZ:54:HIS:CG	45:RZ:101:PRO:HG3	2.47	0.50
1:XA:1015:A:H2'	1:XA:1016:A:C8	2.46	0.50
2:XB:32:ILE:HD11	2:XB:40:HIS:HB3	1.94	0.50
4:XD:112:VAL:HG12	4:XD:116:GLN:OE1	2.12	0.50
5:XE:76:ILE:HG13	5:XE:93:PRO:HB3	1.94	0.50
11:XK:86:GLY:O	11:XK:91:ARG:HD3	2.11	0.50
13:XM:49:THR:HB	13:XM:52:GLU:H	1.77	0.50
25:YA:1424:G:H2'	25:YA:1425:G:O4'	2.12	0.50
25:YA:1590:U:H2'	25:YA:1591:G:H8	1.75	0.50
25:YA:1798:U:C5'	27:YD:259:THR:HG22	2.41	0.50
25:YA:2875:C:H4'	39:YT:5:ALA:HB2	1.93	0.50
33:YN:58:ASP:OD1	33:YN:58:ASP:N	2.45	0.50
52:Y6:47:THR:HG22	52:Y6:48:VAL:HG12	1.94	0.50
1:QA:376:G:H5''	16:QP:5:ARG:HD2	1.94	0.50
1:QA:1296:C:OP1	13:QM:44:ARG:NH2	2.45	0.50
1:QA:1375:A:H4'	7:QG:29:LYS:HE3	1.94	0.50
3:QC:14:ILE:HG12	3:QC:15:THR:N	2.27	0.50
4:QD:33:MET:CE	4:QD:37:PRO:HA	2.41	0.50
9:QI:118:LYS:O	9:QI:120:ARG:N	2.40	0.50
25:RA:1140:C:OP2	33:RN:66:LYS:NZ	2.42	0.50
25:RA:1204:A:C2	25:RA:1241:A:N1	2.78	0.50
25:RA:1291:C:H2'	25:RA:1292:U:C6	2.47	0.50
25:RA:2416:C:H2'	25:RA:2417:C:C6	2.46	0.50
29:RF:16:GLY:O	29:RF:18:ARG:N	2.45	0.50
33:RN:34:LEU:O	33:RN:49:GLY:HA3	2.12	0.50
39:RT:34:VAL:HG12	39:RT:36:GLU:HG2	1.94	0.50
43:RX:26:TYR:HB3	43:RX:92:LEU:HD12	1.93	0.50
1:XA:371:G:H2'	1:XA:372:C:O4'	2.12	0.50
1:XA:973:G:C4	10:XJ:55:LYS:HE2	2.47	0.50
2:XB:162:ILE:HD11	2:XB:184:VAL:HG22	1.94	0.50
25:YA:278:A:H2'	25:YA:279:C:C6	2.47	0.50
25:YA:1778:U:H2'	25:YA:1784:A:N6	2.27	0.50
25:YA:1805:U:O2	27:YD:50:THR:HB	2.12	0.50
25:YA:2336:A:H61	46:Y0:43:THR:CG2	2.24	0.50
35:YP:126:VAL:HG13	35:YP:145:PRO:HB2	1.94	0.50
36:YQ:66:ILE:HG13	36:YQ:67:ARG:N	2.27	0.50
43:YX:60:ARG:HH22	53:Y7:47:ARG:HH12	1.60	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:YY:97:ARG:HH21	44:YY:98:VAL:HB	1.76	0.50
54:Y8:25:MET:O	54:Y8:47:LYS:NZ	2.44	0.50
2:QB:235:SER:OG	2:QB:236:TYR:N	2.46	0.49
19:QS:41:VAL:HA	19:QS:44:MET:HG3	1.93	0.49
25:RA:225:A:H5'	25:RA:226:G:OP2	2.11	0.49
25:RA:1416:G:H2'	25:RA:1417:C:C6	2.47	0.49
36:RQ:20:ALA:HB1	36:RQ:99:PRO:HD2	1.94	0.49
43:RX:40:LYS:O	43:RX:42:ALA:N	2.45	0.49
1:XA:17:U:H2'	1:XA:18:C:C6	2.47	0.49
1:XA:1314:C:OP1	19:XS:6:LYS:HE3	2.12	0.49
20:XT:64:ASP:HA	20:XT:67:ALA:HB3	1.93	0.49
25:YA:1138:G:N2	33:YN:106:MET:HE3	2.13	0.49
25:YA:1872:A:H5'	25:YA:1878:G:OP2	2.12	0.49
25:YA:1878:G:H2'	25:YA:1879:C:C6	2.47	0.49
25:YA:2820:A:O5'	37:YR:4:LEU:HD23	2.12	0.49
28:YE:103:ASP:OD1	28:YE:201:THR:HG23	2.12	0.49
1:QA:194:C:H5''	20:QT:65:LYS:HG3	1.94	0.49
1:QA:985:C:H2'	1:QA:986:A:C8	2.47	0.49
2:QB:204:ASN:ND2	2:QB:206:ASP:O	2.45	0.49
9:QI:46:ALA:HB2	9:QI:74:ILE:HG23	1.94	0.49
25:RA:443:A:H3'	29:RF:45:ARG:NH1	2.27	0.49
25:RA:826:U:H2'	25:RA:828:U:O4'	2.11	0.49
25:RA:860:U:H5	25:RA:917:A:C2	2.30	0.49
25:RA:900:A:H5'	25:RA:901:A:OP2	2.11	0.49
25:RA:1047:G:H2'	25:RA:1110:G:N1	2.26	0.49
25:RA:2844:G:H3'	25:RA:2845:G:H8	1.77	0.49
31:RH:155:SER:OG	31:RH:156:ALA:N	2.45	0.49
37:RR:44:LEU:HD22	37:RR:48:VAL:HG23	1.94	0.49
38:RS:15:ARG:NH1	38:RS:25:ARG:HH21	2.11	0.49
1:XA:452:A:H4'	16:XP:72:ARG:NH2	2.28	0.49
1:XA:523:A:H61	12:XL:92:ASP:HB2	1.77	0.49
6:XF:97:PHE:HB2	18:XR:32:ARG:CZ	2.41	0.49
14:XN:23:ARG:NH1	14:XN:30:ALA:HB2	2.27	0.49
16:XP:28:ARG:NH1	16:XP:29:ASP:OD1	2.45	0.49
25:YA:363(B):G:H2'	25:YA:363(C):G:C8	2.45	0.49
25:YA:1520:U:H2'	25:YA:1521:G:O4'	2.12	0.49
25:YA:1535:U:H5''	25:YA:1537:C:C4	2.47	0.49
25:YA:2299:G:N2	25:YA:2318:G:H1'	2.27	0.49
28:YE:73:GLU:HG3	28:YE:74:PRO:HD2	1.92	0.49
40:YU:83:LEU:HG	40:YU:88:ILE:HG13	1.93	0.49
46:Y0:70:GLN:OE1	46:Y0:72:ARG:HD3	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:Z8:76:PPU:HN2	56:Z8:76:PPU:HD2	1.76	0.49
1:QA:399:G:H2'	1:QA:400:C:C6	2.46	0.49
3:QC:157:ILE:HD11	3:QC:166:GLU:HB2	1.94	0.49
6:QF:97:PHE:O	18:QR:31:LEU:HD23	2.12	0.49
8:QH:9:MET:HG3	8:QH:26:VAL:HG21	1.94	0.49
25:RA:482:A:H4'	44:RY:47:LYS:HD2	1.94	0.49
25:RA:1062:G:H2'	25:RA:1063:G:C8	2.48	0.49
25:RA:1278:A:H4'	37:RR:34:ILE:HD12	1.93	0.49
25:RA:2328:A:H2'	25:RA:2329:G:C8	2.46	0.49
29:RF:9:ILE:HD11	29:RF:125:LEU:HG	1.94	0.49
36:RQ:11:LYS:HE2	36:RQ:86:GLY:O	2.11	0.49
1:XA:160:A:H1'	1:XA:344:A:C5	2.47	0.49
1:XA:620:C:H2'	1:XA:621:A:O4'	2.13	0.49
9:XI:40:LEU:C	9:XI:42:ARG:H	2.15	0.49
11:XK:82:VAL:HB	11:XK:108:ILE:HG12	1.94	0.49
12:XL:71:PRO:O	12:XL:102:ARG:HD3	2.12	0.49
13:XM:20:THR:C	13:XM:22:ILE:H	2.15	0.49
19:XS:41:VAL:HB	19:XS:42:PRO:CA	2.42	0.49
25:YA:140:A:C8	25:YA:1408:C:O2'	2.62	0.49
25:YA:247:G:H4'	25:YA:386:G:C5	2.47	0.49
25:YA:1093:G:H4'	31:YH:170:ARG:HH22	1.76	0.49
25:YA:2023:G:H5'	25:YA:2617:C:H4'	1.93	0.49
25:YA:2687:U:C4	25:YA:2688:U:C5	2.99	0.49
28:YE:35:GLN:HG2	28:YE:37:ARG:HE	1.77	0.49
33:YN:7:LYS:N	33:YN:7:LYS:HD2	2.28	0.49
43:YX:53:LYS:HB3	43:YX:82:GLN:HB3	1.93	0.49
1:QA:196:A:OP1	20:QT:68:LYS:NZ	2.44	0.49
1:QA:1226:C:H2'	13:QM:103:THR:HB	1.93	0.49
3:QC:14:ILE:HG12	3:QC:15:THR:H	1.76	0.49
27:RD:175:LEU:HD12	27:RD:185:VAL:HG21	1.93	0.49
30:RG:110:ALA:HB1	30:RG:140:ILE:HD12	1.94	0.49
30:RG:115:ARG:NH2	30:RG:137:GLU:OE1	2.45	0.49
32:RI:2:LYS:HA	32:RI:20:ASP:HA	1.95	0.49
1:XA:108:G:H5''	1:XA:109:A:H5''	1.94	0.49
1:XA:165:C:H2'	1:XA:166:G:C8	2.47	0.49
25:YA:754:C:H2'	25:YA:755:C:C6	2.47	0.49
25:YA:1021:A:C8	25:YA:1021:A:H3'	2.46	0.49
25:YA:2308:G:N2	25:YA:2311:A:H2	2.09	0.49
25:YA:2704:C:H2'	25:YA:2705:A:O4'	2.12	0.49
25:YA:2770:G:H5''	25:YA:2771:C:OP2	2.13	0.49
27:YD:121:PRO:HB3	27:YD:135:PHE:CE1	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:Y4:15:ILE:H	50:Y4:15:ILE:HD13	1.76	0.49
1:QA:1176:A:H2'	1:QA:1177:G:H5'	1.94	0.49
3:QC:73:PRO:O	3:QC:76:VAL:HG22	2.12	0.49
7:QG:20:ASP:HB3	7:QG:23:VAL:HG23	1.94	0.49
8:QH:95:VAL:HB	8:QH:99:GLU:O	2.13	0.49
18:QR:26:LEU:HD22	18:QR:42:ARG:HD2	1.94	0.49
22:QV:61:C:H2'	22:QV:62:C:H6	1.78	0.49
25:RA:244:A:C2	25:RA:255:A:C4	3.01	0.49
25:RA:270(L):U:H2'	32:RI:50:ARG:HD2	1.94	0.49
25:RA:1510:A:O2'	25:RA:1511:A:N7	2.44	0.49
25:RA:2022:U:O2'	25:RA:2617:C:H5'	2.11	0.49
25:RA:2495:G:H5''	36:RQ:81:VAL:HG13	1.94	0.49
29:RF:178:PRO:HG2	29:RF:179:GLU:OE2	2.13	0.49
32:RI:5:LEU:HD23	32:RI:9:LEU:HD11	1.94	0.49
1:XA:426:G:OP1	4:XD:38:TYR:OH	2.24	0.49
10:XJ:49:VAL:HG22	14:XN:41:ARG:HB2	1.94	0.49
13:XM:81:LEU:HD13	13:XM:88:ARG:HD2	1.94	0.49
25:YA:34:C:H41	25:YA:447:A:H61	1.58	0.49
25:YA:153:C:OP1	47:Y1:88:LYS:HE2	2.12	0.49
25:YA:177:G:H3'	25:YA:178:G:H8	1.77	0.49
25:YA:860:U:H5	25:YA:917:A:N1	2.09	0.49
25:YA:1007:C:H4'	33:YN:108:PRO:HD3	1.94	0.49
25:YA:2257:U:O2'	25:YA:2258:C:H5'	2.13	0.49
25:YA:2854:G:H2'	25:YA:2855:C:C6	2.47	0.49
29:YF:31:HIS:HB2	35:YP:9:ASN:OD1	2.12	0.49
33:YN:17:ASP:O	33:YN:56:ASN:HB2	2.12	0.49
33:YN:34:LEU:HD21	33:YN:120:LEU:HB2	1.94	0.49
40:YU:61:TRP:CD2	40:YU:94:ASN:HA	2.47	0.49
40:YU:95:LEU:HD22	41:YV:4:ILE:HD12	1.93	0.49
1:QA:564:C:P	12:QL:15:ARG:HH21	2.36	0.49
1:QA:988:G:H2'	1:QA:989:C:O4'	2.12	0.49
14:QN:15:LYS:HD2	14:QN:16:PHE:CE2	2.47	0.49
25:RA:631:A:H61	25:RA:2402:C:H42	1.61	0.49
25:RA:974(A):C:H4'	25:RA:975:G:O5'	2.13	0.49
25:RA:1678:G:N2	25:RA:1989:G:H22	2.09	0.49
25:RA:2507:C:H2'	25:RA:2508:G:O4'	2.13	0.49
26:RB:17:C:H2'	26:RB:18:G:O4'	2.11	0.49
30:RG:54:GLU:HA	30:RG:57:ALA:HB3	1.93	0.49
32:RI:74:ASN:N	32:RI:74:ASN:OD1	2.44	0.49
33:RN:134:ARG:N	33:RN:135:PRO:HD3	2.28	0.49
36:RQ:69:PHE:CD1	36:RQ:70:PRO:HD2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:RU:92:ARG:O	40:RU:92:ARG:HG2	2.13	0.49
43:RX:27:THR:HB	43:RX:80:ILE:HB	1.94	0.49
45:RZ:102:LEU:HB3	45:RZ:104:PHE:HE1	1.78	0.49
49:R3:6:VAL:HG13	49:R3:56:VAL:HG13	1.94	0.49
53:R7:31:LEU:HD22	53:R7:42:LEU:HD13	1.95	0.49
1:XA:163:C:H2'	1:XA:164:U:C6	2.48	0.49
22:XV:25:C:H2'	22:XV:26:G:O4'	2.12	0.49
25:YA:77:C:OP1	48:Y2:59:ARG:HD3	2.13	0.49
25:YA:617:G:OP1	29:YF:40:GLN:NE2	2.46	0.49
27:YD:27:THR:HG21	27:YD:83:GLU:HG2	1.94	0.49
27:YD:76:PRO:HG2	27:YD:98:VAL:HG21	1.94	0.49
28:YE:179:GLU:HB3	28:YE:181:LEU:HD23	1.94	0.49
30:YG:94:LEU:HD12	30:YG:99:MET:HA	1.95	0.49
44:YY:86:ARG:HB2	44:YY:95:LYS:HD2	1.93	0.49
52:Y6:41:PRO:HD2	52:Y6:46:HIS:N	2.28	0.49
1:QA:963:G:H21	10:QJ:55:LYS:CE	2.26	0.49
3:QC:47:LEU:HD23	3:QC:68:VAL:HG11	1.94	0.49
22:QV:74:C:C2'	22:QV:75:C:H5'	2.42	0.49
25:RA:747:U:O2	25:RA:2014:A:H1'	2.12	0.49
25:RA:2415:G:H4'	35:RP:67:MET:N	2.28	0.49
26:RB:8:U:O3'	38:RS:25:ARG:NH2	2.40	0.49
28:RE:70:ALA:O	28:RE:72:VAL:N	2.46	0.49
29:RF:132:VAL:HG23	29:RF:133:ASN:OD1	2.12	0.49
30:RG:60:LEU:O	30:RG:64:THR:HG22	2.11	0.49
36:RQ:89:ASN:O	36:RQ:91:GLU:N	2.45	0.49
44:RY:47:LYS:HG2	44:RY:60:PHE:HD1	1.77	0.49
46:R0:32:ARG:H	46:R0:35:ASN:ND2	2.10	0.49
52:R6:15:GLU:CD	52:R6:41:PRO:HB3	2.32	0.49
1:XA:520:A:N1	1:XA:536:C:H1'	2.28	0.49
1:XA:1075:C:OP1	2:XB:179:LYS:HE2	2.13	0.49
2:XB:24:TRP:CZ3	2:XB:26:PRO:HA	2.48	0.49
12:XL:62:SER:HB2	12:XL:64:TYR:HD1	1.76	0.49
23:XY:30:C:H2'	23:XY:31:G:C8	2.48	0.49
25:YA:589:C:H2'	25:YA:590:A:C8	2.48	0.49
25:YA:1021:A:H8	25:YA:1021:A:H3'	1.78	0.49
25:YA:1291:C:H5'	25:YA:1536:A:H5'	1.95	0.49
35:YP:63:PRO:HD3	54:Y8:13:ARG:HD3	1.95	0.49
52:Y6:21:TYR:HE1	52:Y6:53:LYS:HE3	1.77	0.49
1:QA:427:U:OP1	4:QD:13:ARG:NH2	2.45	0.49
1:QA:1529:G:H3'	1:QA:1529:G:OP2	2.13	0.49
20:QT:79:ARG:O	20:QT:83:ARG:HG3	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:QY:30:C:H2'	23:QY:31:G:C8	2.47	0.49
25:RA:27:G:O2'	25:RA:28:A:C8	2.66	0.49
25:RA:263:C:H2'	25:RA:264:C:O4'	2.12	0.49
25:RA:345:A:O2'	25:RA:347:A:N7	2.46	0.49
25:RA:774:A:H2	25:RA:787:U:HO2'	1.60	0.49
25:RA:811:U:OP2	35:RP:29:LYS:N	2.45	0.49
25:RA:2665:A:H2'	25:RA:2666:C:O4'	2.13	0.49
27:RD:35:LYS:HZ1	27:RD:65:ILE:HA	1.76	0.49
27:RD:228:PRO:HD3	27:RD:234:GLY:C	2.33	0.49
1:XA:833:U:H3	1:XA:853:G:H1	1.61	0.49
1:XA:1432:G:OP1	39:YT:107:ASP:HB2	2.13	0.49
3:XC:148:GLY:HA3	3:XC:172:ARG:O	2.12	0.49
11:XK:59:TYR:CZ	11:XK:63:LEU:HD11	2.47	0.49
13:XM:14:ARG:HG2	13:XM:17:VAL:HG23	1.95	0.49
20:XT:89:ARG:NH2	20:XT:104:LEU:HD11	2.27	0.49
25:YA:152:G:H2'	25:YA:153:C:C6	2.48	0.49
25:YA:185:U:H4'	25:YA:218:A:H4'	1.95	0.49
25:YA:760:G:H4'	25:YA:1776:G:OP1	2.13	0.49
25:YA:1113:U:H2'	25:YA:1114:G:H8	1.78	0.49
25:YA:1509:C:N3	25:YA:1511:A:N6	2.61	0.49
25:YA:2031:A:N3	25:YA:2455:G:O2'	2.42	0.49
43:YX:57:LEU:HD11	43:YX:78:LYS:HD2	1.94	0.49
52:Y6:41:PRO:O	52:Y6:45:LYS:HE3	2.12	0.49
2:QB:96:ARG:H	2:QB:96:ARG:HD2	1.76	0.49
4:QD:129:ASN:HA	4:QD:145:GLU:HB2	1.94	0.49
12:QL:24:VAL:HG13	12:QL:98:TYR:HE2	1.77	0.49
17:QQ:18:THR:HG23	17:QQ:69:LYS:HE3	1.94	0.49
25:RA:586:A:N1	25:RA:809:G:O2'	2.37	0.49
25:RA:848:G:H2'	25:RA:849:A:C8	2.48	0.49
25:RA:1366:A:H2'	25:RA:1367:A:O4'	2.13	0.49
25:RA:1636:C:H2'	25:RA:1637:A:C8	2.48	0.49
25:RA:2210:G:H3'	25:RA:2211:G:C8	2.48	0.49
25:RA:2593:U:H2'	25:RA:2594:C:C6	2.48	0.49
31:RH:4:ILE:HG13	31:RH:6:ARG:NE	2.28	0.49
39:RT:16:ARG:HD3	39:RT:19:LEU:HD11	1.93	0.49
52:R6:14:THR:O	52:R6:49:HIS:HA	2.12	0.49
1:XA:632:A:C8	1:XA:633:G:C8	3.00	0.49
1:XA:686:U:O2'	11:XK:42:TRP:NE1	2.45	0.49
1:XA:762:C:H2'	1:XA:763:G:H8	1.78	0.49
2:XB:47:THR:HA	2:XB:202:PRO:HG2	1.95	0.49
5:XE:10:MET:SD	5:XE:13:ILE:HD13	2.53	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:XJ:35:SER:OG	10:XJ:73:ASP:HB2	2.13	0.49
19:XS:68:GLY:HA3	50:Y4:68:ARG:HB2	1.93	0.49
25:YA:1257:C:OP1	29:YF:75:HIS:HE1	1.95	0.49
25:YA:1667:G:OP2	25:YA:1667:G:H8	1.95	0.49
25:YA:2805:G:N2	25:YA:2893:G:O6	2.40	0.49
27:YD:170:GLY:C	27:YD:172:TYR:H	2.16	0.49
31:YH:12:PRO:HG3	31:YH:48:GLY:HA2	1.95	0.49
46:Y0:53:MET:HA	46:Y0:58:THR:O	2.13	0.49
1:QA:376:G:H5''	16:QP:5:ARG:HB2	1.95	0.49
2:QB:21:ARG:O	2:QB:23:ARG:N	2.46	0.49
10:QJ:24:VAL:HG21	10:QJ:37:PRO:HD3	1.95	0.49
15:QO:87:ILE:HG22	15:QO:88:ARG:H	1.78	0.49
25:RA:503:A:H4'	25:RA:504:U:H5''	1.95	0.49
25:RA:1021:A:H62	25:RA:1141:U:H3	1.61	0.49
25:RA:1169:G:H1	25:RA:1180:C:N4	2.08	0.49
6:XF:19:LEU:HD21	6:XF:59:TYR:CE2	2.47	0.49
25:YA:70:G:H21	25:YA:71:A:H62	1.59	0.49
25:YA:211:A:H2'	25:YA:212:G:O4'	2.13	0.49
25:YA:1607:C:N4	25:YA:1622:G:OP2	2.39	0.49
25:YA:1803:A:O2'	27:YD:259:THR:HG21	2.13	0.49
25:YA:1870:C:H2'	25:YA:1871:A:O4'	2.13	0.49
27:YD:61:LEU:O	27:YD:63:ARG:NH1	2.45	0.49
29:YF:176:LEU:HD21	29:YF:181:LEU:HA	1.94	0.49
35:YP:61:ARG:HD3	54:Y8:13:ARG:HD2	1.94	0.49
1:QA:109:A:C6	1:QA:326:G:C6	3.01	0.48
1:QA:297:G:N2	1:QA:300:A:OP2	2.45	0.48
7:QG:155:ARG:O	7:QG:155:ARG:NH2	2.46	0.48
15:QO:16:ALA:HB1	15:QO:21:ASP:HB3	1.94	0.48
19:QS:77:THR:HG22	19:QS:78:ARG:HD3	1.95	0.48
25:RA:2074:U:H2'	25:RA:2075:U:C6	2.48	0.48
25:RA:2243:U:H2'	25:RA:2244:U:C6	2.48	0.48
25:RA:2291:U:O2'	25:RA:2374:C:O2	2.24	0.48
25:RA:2689:U:H5'	25:RA:2713:A:C2	2.48	0.48
25:RA:2875:C:H4'	39:RT:5:ALA:HB2	1.94	0.48
25:RA:2882:A:OP1	37:RR:96:ARG:NH1	2.36	0.48
52:R6:25:LYS:HE2	52:R6:27:LYS:HD3	1.94	0.48
1:XA:690:G:H2'	1:XA:691:G:O4'	2.12	0.48
1:XA:883:C:C2'	1:XA:884:U:H5'	2.43	0.48
3:XC:79:ARG:HH12	3:XC:82:GLU:HG3	1.77	0.48
3:XC:134:ILE:HG23	3:XC:151:VAL:HB	1.94	0.48
5:XE:31:LEU:HD23	5:XE:45:PHE:HD1	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:XF:35:ALA:HA	6:XF:67:MET:HB3	1.94	0.48
25:YA:207:A:H2'	25:YA:208:C:O4'	2.13	0.48
25:YA:278:A:O2'	25:YA:279:C:O4'	2.30	0.48
25:YA:639:U:H2'	25:YA:640:C:C6	2.47	0.48
25:YA:2470:G:H5'	36:YQ:56:ARG:NH2	2.28	0.48
25:YA:2712:U:O2'	25:YA:2712(A):A:P	2.71	0.48
26:YB:15:A:H5'	26:YB:16:G:H8	1.73	0.48
30:YG:166:ASP:HA	30:YG:169:ALA:HB3	1.95	0.48
31:YH:98:LEU:HD13	31:YH:125:VAL:HB	1.94	0.48
34:YO:4:PRO:O	34:YO:5:GLN:HB2	2.11	0.48
36:YQ:104:PHE:CE1	36:YQ:125:LEU:HD11	2.41	0.48
39:YT:107:ASP:H	39:YT:110:ILE:HG22	1.78	0.48
42:YW:51:LEU:HD23	42:YW:105:VAL:HG11	1.94	0.48
2:QB:80:ILE:HG21	2:QB:212:GLN:HA	1.95	0.48
4:QD:27:TYR:HE2	6:XF:15:ASP:HB3	1.78	0.48
12:QL:58:VAL:O	12:QL:65:GLU:HA	2.13	0.48
21:QU:5:ASP:O	21:QU:11:GLY:HA3	2.13	0.48
25:RA:722:A:H5'	25:RA:723:G:OP2	2.12	0.48
25:RA:2019:A:OP2	51:R5:9:LYS:NZ	2.45	0.48
29:RF:178:PRO:HB2	29:RF:201:VAL:HG11	1.94	0.48
30:RG:98:ARG:HE	30:RG:98:ARG:HB2	1.38	0.48
31:RH:41:MET:HG3	31:RH:54:ARG:HA	1.96	0.48
31:RH:152:ARG:HH21	31:RH:153:LYS:HZ1	1.61	0.48
44:RY:47:LYS:HG2	44:RY:60:PHE:CD1	2.48	0.48
47:R1:53:VAL:HB	47:R1:58:ILE:HD12	1.94	0.48
1:XA:413:G:HO2'	1:XA:414:A:P	2.35	0.48
1:XA:1135:U:H4'	1:XA:1136:U:H5	1.77	0.48
5:XE:33:VAL:HG11	5:XE:109:ILE:HA	1.95	0.48
16:XP:26:ARG:HH21	16:XP:31:LYS:HB3	1.77	0.48
23:XY:29:U:H2'	23:XY:30:C:C6	2.48	0.48
25:YA:107:C:H2'	25:YA:108:U:C6	2.48	0.48
25:YA:1506:C:H3'	25:YA:1507:A:H5''	1.94	0.48
25:YA:2725:A:O2'	25:YA:2726:U:OP2	2.29	0.48
27:YD:35:LYS:HD3	27:YD:63:ARG:CB	2.43	0.48
28:YE:21:VAL:HG23	28:YE:22:PRO:HD3	1.95	0.48
29:YF:185:ASP:OD1	29:YF:188:ARG:NH1	2.35	0.48
31:YH:55:PRO:HG2	31:YH:61:HIS:CE1	2.48	0.48
35:YP:135:LEU:HD13	35:YP:139:LYS:HE2	1.94	0.48
40:YU:98:LEU:O	40:YU:102:GLU:N	2.37	0.48
1:QA:411:A:C5	1:QA:413:G:H1'	2.49	0.48
1:QA:560:U:H4'	1:QA:561:U:O5'	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:692:U:OP1	11:QK:124:LYS:NZ	2.22	0.48
1:QA:1372:U:H2'	1:QA:1373:G:O4'	2.13	0.48
2:QB:163:PHE:HD2	2:QB:185:ILE:HG13	1.78	0.48
4:QD:100:ARG:NH2	4:QD:136:PRO:O	2.47	0.48
7:QG:113:GLU:HG3	7:QG:119:ARG:HG2	1.94	0.48
10:QJ:32:ALA:HB3	10:QJ:76:ASN:HB2	1.95	0.48
13:QM:23:TYR:HE1	13:QM:70:LEU:HD12	1.77	0.48
13:QM:49:THR:HG22	13:QM:51:ALA:H	1.79	0.48
25:RA:142:G:H5''	25:RA:1598:C:O2'	2.13	0.48
25:RA:1188:U:O2'	25:RA:1189:A:H5'	2.14	0.48
25:RA:2262:U:H4'	25:RA:2328:A:C2	2.48	0.48
25:RA:2506:U:OP1	28:RE:144:ARG:NH2	2.47	0.48
29:RF:155:LEU:HD12	29:RF:174:VAL:HG22	1.94	0.48
35:RP:58:THR:O	35:RP:61:ARG:CZ	2.61	0.48
35:RP:59:LEU:HA	35:RP:61:ARG:HE	1.76	0.48
43:RX:39:ILE:O	43:RX:43:VAL:HG12	2.13	0.48
1:XA:406:G:H5'	4:XD:5:ILE:HD13	1.95	0.48
1:XA:1128:C:N3	1:XA:1144:G:N2	2.37	0.48
1:XA:1486:G:H2'	1:XA:1487:G:O4'	2.14	0.48
1:XA:1499:A:H1'	1:XA:1520:G:H5'	1.94	0.48
3:XC:7:PRO:O	3:XC:11:ARG:HG2	2.13	0.48
3:XC:130:VAL:HG21	3:XC:157:ILE:HG23	1.94	0.48
25:YA:754:C:H2'	25:YA:755:C:H6	1.77	0.48
25:YA:1109:C:HO2'	25:YA:1110:G:P	2.35	0.48
25:YA:1329:U:H5''	25:YA:1330:C:H5	1.77	0.48
25:YA:1510:A:H2'	25:YA:1510:A:N3	2.29	0.48
25:YA:1733:G:H5'	25:YA:1734:C:OP2	2.13	0.48
34:YO:76:ALA:HB3	39:YT:75:ILE:HD12	1.95	0.48
35:YP:82:GLY:HA2	35:YP:113:LYS:O	2.12	0.48
1:QA:791:G:H2'	1:QA:792:A:H5'	1.96	0.48
1:QA:999:U:H2'	1:QA:1000:A:C8	2.48	0.48
3:QC:150:LYS:HG3	3:QC:169:ALA:HB2	1.95	0.48
25:RA:71:A:H5'	25:RA:72:U:H3'	1.94	0.48
25:RA:526:A:OP1	25:RA:527:C:OP1	2.31	0.48
25:RA:811:U:O2'	35:RP:21:ARG:HG3	2.13	0.48
25:RA:873:G:H1	25:RA:904:C:N4	2.11	0.48
25:RA:1403:C:H5''	25:RA:1471:A:C1'	2.38	0.48
26:RB:15:A:H1'	26:RB:109:G:N9	2.28	0.48
30:RG:81:LYS:O	30:RG:82:LEU:HB2	2.12	0.48
1:XA:1256:A:OP2	3:XC:26:LYS:NZ	2.34	0.48
2:XB:101:MET:HA	2:XB:108:ILE:HG13	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XE:50:GLU:HG3	5:XE:52:PRO:HD2	1.95	0.48
6:XF:36:ARG:CZ	6:XF:38:GLU:HG2	2.44	0.48
25:YA:507:A:H5''	25:YA:508:G:H5'	1.95	0.48
25:YA:1026:U:H4'	25:YA:1027:A:OP1	2.14	0.48
25:YA:2593:U:H2'	25:YA:2594:C:H6	1.79	0.48
25:YA:2862:G:H2'	25:YA:2863:C:H6	1.79	0.48
31:YH:137:ASP:HB3	31:YH:140:LYS:HB3	1.94	0.48
41:YV:15:GLU:O	41:YV:18:LEU:HB2	2.14	0.48
45:YZ:182:LYS:CG	45:YZ:183:LEU:HA	2.44	0.48
47:Y1:41:ARG:HH11	47:Y1:41:ARG:HG3	1.79	0.48
1:QA:145:G:H2'	1:QA:146:G:O4'	2.13	0.48
1:QA:755:G:H2'	1:QA:756:C:H6	1.78	0.48
1:QA:838:G:C5	1:QA:842:C:H1'	2.49	0.48
1:QA:1286:A:C8	1:QA:1287:A:H4'	2.48	0.48
1:QA:1379:G:O6	7:QG:2:ALA:HB3	2.12	0.48
12:QL:7:ILE:HG21	17:QQ:34:LYS:HB2	1.95	0.48
16:QP:43:LYS:HA	16:QP:48:TRP:HB3	1.95	0.48
19:QS:26:GLY:O	19:QS:28:LYS:N	2.41	0.48
25:RA:270:A:H1'	25:RA:370:G:C2	2.49	0.48
25:RA:1091:G:N2	25:RA:1101:U:H1'	2.28	0.48
25:RA:1889:A:O2'	25:RA:2087:G:H5'	2.14	0.48
25:RA:2563:U:H2'	25:RA:2565:A:OP2	2.13	0.48
25:RA:2629:A:O2'	25:RA:2630:G:H5''	2.13	0.48
33:RN:4:TYR:O	40:RU:64:ARG:NH1	2.46	0.48
37:RR:2:ARG:HA	37:RR:5:LYS:HE3	1.95	0.48
37:RR:97:VAL:HG22	37:RR:114:VAL:CG2	2.44	0.48
44:RY:81:LYS:NZ	44:RY:98:VAL:HG11	2.28	0.48
49:R3:4:LEU:O	49:R3:36:VAL:HA	2.13	0.48
1:XA:56:U:H2'	1:XA:57:G:C8	2.48	0.48
1:XA:868:C:H2'	1:XA:869:G:O4'	2.12	0.48
1:XA:1319:A:H2'	1:XA:1323:G:N7	2.29	0.48
2:XB:73:THR:OG1	2:XB:170:GLU:OE2	2.23	0.48
11:XK:18:ARG:NH2	11:XK:35:PRO:O	2.45	0.48
20:XT:93:GLU:OE1	20:XT:94:ALA:N	2.46	0.48
28:YE:111:ARG:HG2	37:YR:1:MET:SD	2.54	0.48
39:YT:102:ILE:HB	39:YT:110:ILE:HD13	1.95	0.48
43:YX:63:LYS:O	43:YX:64:LYS:HD2	2.14	0.48
51:Y5:41:PRO:O	51:Y5:44:THR:OG1	2.32	0.48
1:QA:963:G:N2	1:QA:972:C:N3	2.44	0.48
1:QA:1065:U:O5'	1:QA:1190:G:N2	2.47	0.48
7:QG:57:GLU:OE1	7:QG:57:GLU:N	2.41	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:QI:17:VAL:HG11	9:QI:81:ILE:HA	1.95	0.48
10:QJ:80:LYS:HD3	10:QJ:80:LYS:HA	1.69	0.48
11:QK:48:ILE:HD11	11:QK:64:ALA:HA	1.95	0.48
12:QL:17:LYS:HG2	12:QL:19:ARG:HG2	1.94	0.48
25:RA:1660:C:H2'	25:RA:1661:G:H8	1.78	0.48
25:RA:2053:G:H5'	28:RE:144:ARG:O	2.13	0.48
28:RE:181:LEU:HD21	39:RT:7:ILE:HG23	1.95	0.48
38:RS:64:GLU:O	38:RS:68:GLN:HG3	2.14	0.48
44:RY:51:VAL:O	44:RY:56:PRO:HA	2.14	0.48
1:XA:701:C:HO2'	1:XA:702:A:P	2.35	0.48
1:XA:1347:G:N2	1:XA:1373:G:H2'	2.28	0.48
2:XB:204:ASN:ND2	2:XB:206:ASP:H	2.11	0.48
9:XI:9:ARG:HB2	9:XI:14:VAL:HA	1.96	0.48
15:XO:70:LEU:HD11	15:XO:77:ARG:HG3	1.96	0.48
23:XY:29:U:H2'	23:XY:30:C:H6	1.78	0.48
25:YA:218:A:C2	25:YA:235:U:H4'	2.48	0.48
25:YA:2496:C:OP2	36:YQ:81:VAL:HG12	2.12	0.48
25:YA:2544:G:H8	25:YA:2544:G:O5'	1.95	0.48
28:YE:20:ALA:HB3	28:YE:21:VAL:HG13	1.95	0.48
35:YP:14:LYS:O	35:YP:16:ARG:HG2	2.13	0.48
35:YP:52:GLU:O	35:YP:55:ARG:HG2	2.14	0.48
38:YS:74:ALA:HB1	38:YS:107:GLU:HB3	1.95	0.48
40:YU:60:LEU:HD22	40:YU:60:LEU:O	2.14	0.48
41:YV:76:LYS:HB2	41:YV:81:TYR:HB3	1.95	0.48
1:QA:1151:A:H2'	1:QA:1152:A:C8	2.48	0.48
4:QD:88:VAL:HG13	5:QE:97:GLY:HA3	1.94	0.48
20:QT:12:ALA:O	20:QT:15:ARG:HB2	2.14	0.48
25:RA:512:G:H4'	25:RA:513:A:O5'	2.12	0.48
25:RA:530:G:C5	25:RA:2022:U:H5''	2.49	0.48
25:RA:2122:U:H2'	25:RA:2123:G:H8	1.79	0.48
29:RF:197:ASP:OD2	29:RF:197:ASP:N	2.46	0.48
45:RZ:52:SER:O	45:RZ:54:HIS:N	2.46	0.48
54:R8:51:ALA:N	54:R8:53:PRO:HD2	2.29	0.48
1:XA:95:G:C6	1:XA:96:G:C6	3.02	0.48
1:XA:403:C:OP1	4:XD:137:SER:OG	2.32	0.48
1:XA:1122:U:O4	1:XA:1123:A:N6	2.47	0.48
6:XF:10:LEU:HD22	6:XF:61:LEU:HD11	1.94	0.48
19:XS:39:THR:HG22	19:XS:40:ILE:H	1.78	0.48
25:YA:27:G:H22	25:YA:512:G:C2'	2.27	0.48
25:YA:459:U:H2'	25:YA:460:A:H8	1.78	0.48
25:YA:576:U:H2'	25:YA:577:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1050:A:C8	25:YA:2751:G:C4	3.02	0.48
25:YA:1533:C:H2'	25:YA:1534:G:N7	2.29	0.48
25:YA:2287:A:N6	25:YA:2344:U:H3	2.05	0.48
26:YB:89:G:C6	26:YB:89(A):A:C6	3.01	0.48
27:YD:254:THR:O	27:YD:254:THR:OG1	2.30	0.48
40:YU:97:ASP:OD1	40:YU:101:ARG:NH1	2.46	0.48
42:YW:67:ASP:OD2	42:YW:67:ASP:N	2.46	0.48
1:QA:406:G:C2	1:QA:407:G:C8	3.02	0.48
1:QA:892:A:O2'	1:QA:1415:G:H4'	2.14	0.48
1:QA:1220:G:O3'	19:QS:36:ARG:HD3	2.14	0.48
1:QA:1343:G:H2'	1:QA:1344:C:C6	2.48	0.48
1:QA:1352:C:H2'	1:QA:1353:G:C8	2.48	0.48
9:QI:40:LEU:O	9:QI:42:ARG:N	2.46	0.48
12:QL:38:THR:O	12:QL:79:GLU:HG3	2.14	0.48
15:QO:26:GLU:H	15:QO:26:GLU:HG2	1.42	0.48
17:QQ:100:LYS:O	17:QQ:101:ARG:NE	2.47	0.48
22:QV:75:C:OP1	25:RA:2602:A:P	2.72	0.48
25:RA:184:C:H2'	25:RA:185:U:C6	2.48	0.48
25:RA:671:C:OP1	35:RP:42:SER:O	2.31	0.48
25:RA:2455:G:H2'	25:RA:2456:C:C6	2.49	0.48
29:RF:102:PRO:HB2	29:RF:105:VAL:HG23	1.95	0.48
30:RG:82:LEU:HD21	30:RG:88:ILE:HG13	1.96	0.48
31:RH:154:PRO:HD3	31:RH:162:ILE:H	1.77	0.48
32:RI:133:HIS:HB2	32:RI:134:PRO:CD	2.43	0.48
35:RP:36:LYS:HB3	35:RP:40:SER:HB3	1.95	0.48
50:R4:23:GLU:HG3	50:R4:25:TYR:CE2	2.49	0.48
51:R5:55:ARG:HG3	51:R5:57:VAL:N	2.17	0.48
1:XA:688:G:H2'	1:XA:689:C:H6	1.79	0.48
1:XA:692:U:H5'	1:XA:797:C:H5'	1.95	0.48
1:XA:892:A:O2'	1:XA:1415:G:H4'	2.13	0.48
1:XA:1094:G:O2'	1:XA:1095:U:OP2	2.22	0.48
5:XE:110:LEU:HD13	5:XE:118:ILE:HG21	1.94	0.48
9:XI:114:TYR:CD2	9:XI:114:TYR:N	2.81	0.48
25:YA:776:G:H4'	25:YA:777:A:O5'	2.13	0.48
25:YA:1385:G:H1'	25:YA:1386:C:C6	2.49	0.48
25:YA:1557:C:OP2	25:YA:1558:A:O2'	2.26	0.48
32:YI:69:LYS:HG3	32:YI:136:VAL:HB	1.96	0.48
40:YU:90:VAL:HG22	41:YV:39:LEU:HB3	1.96	0.48
44:YY:35:TYR:CD1	44:YY:69:ALA:HB3	2.49	0.48
52:Y6:27:LYS:NZ	52:Y6:27:LYS:HB2	2.28	0.48
1:QA:452:A:O2'	1:QA:453:A:O4'	2.31	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1143:G:H2'	1:QA:1144:G:C8	2.49	0.48
10:QJ:78:ASN:O	10:QJ:82:ILE:HG12	2.14	0.48
22:QV:61:C:H2'	22:QV:62:C:C6	2.49	0.48
25:RA:1019:U:O2'	25:RA:1021:A:H2	1.96	0.48
25:RA:1165:U:H2'	25:RA:1166:C:C6	2.49	0.48
25:RA:1226:G:H4'	41:RV:84:LYS:HG2	1.96	0.48
25:RA:1520:U:H2'	25:RA:1521:G:O4'	2.13	0.48
25:RA:2119:A:N6	25:RA:2170:A:N7	2.60	0.48
27:RD:25:THR:O	27:RD:27:THR:HG22	2.14	0.48
31:RH:86:GLU:OE1	31:RH:86:GLU:N	2.43	0.48
32:RI:13:GLY:HA3	32:RI:17:GLN:CD	2.33	0.48
52:R6:18:ARG:HB2	52:R6:44:ARG:HH12	1.77	0.48
1:XA:110:C:O2'	16:XP:25:ARG:O	2.22	0.48
1:XA:407:G:H2'	1:XA:408:A:H8	1.77	0.48
1:XA:564:C:C6	17:XQ:31:LEU:HD11	2.49	0.48
1:XA:1151:A:O2'	1:XA:1152:A:O5'	2.23	0.48
16:XP:22:THR:HA	16:XP:33:ILE:HG12	1.96	0.48
25:YA:128:C:H4'	53:Y7:49:ARG:NH1	2.26	0.48
25:YA:861:A:C2	25:YA:917:A:C5	3.02	0.48
25:YA:1156:A:C8	40:YU:51:LYS:HG3	2.49	0.48
25:YA:1545(A):A:H2'	25:YA:1546:C:O4'	2.14	0.48
25:YA:1882:C:H5'	25:YA:1883:G:OP2	2.13	0.48
25:YA:2352:A:C4	25:YA:2366:A:C2	3.01	0.48
31:YH:6:ARG:HA	31:YH:66:GLY:HA2	1.95	0.48
32:YI:76:THR:OG1	32:YI:139:GLN:OE1	2.31	0.48
35:YP:46:LYS:HE3	35:YP:46:LYS:HB3	1.54	0.48
35:YP:98:GLU:HA	35:YP:101:VAL:HB	1.96	0.48
40:YU:92:ARG:CZ	41:YV:11:GLN:H	2.26	0.48
51:Y5:58:LEU:HD22	51:Y5:60:VAL:HB	1.96	0.48
1:QA:738:C:OP2	6:QF:92:LYS:NZ	2.47	0.48
1:QA:909:A:H2'	1:QA:910:C:O4'	2.14	0.48
1:QA:946:A:N6	1:QA:1234:C:H42	2.11	0.48
1:QA:1032(A):G:H2'	1:QA:1032(B):G:C8	2.48	0.48
1:QA:1327:C:OP2	21:QU:12:LYS:NZ	2.47	0.48
2:QB:97:TRP:CH2	2:QB:173:ALA:HA	2.49	0.48
5:QE:69:VAL:O	5:QE:71:LEU:N	2.47	0.48
25:RA:38:A:H2'	25:RA:39:C:C6	2.48	0.48
25:RA:323:G:H2'	29:RF:169:ASN:ND2	2.29	0.48
25:RA:1012:U:O4	33:RN:25:ARG:HA	2.14	0.48
25:RA:1794:U:H2'	25:RA:1795:C:H6	1.77	0.48
25:RA:1870:C:H2'	25:RA:1871:A:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2164:C:H2'	25:RA:2165:G:O4'	2.13	0.48
25:RA:2563:U:H4'	34:RO:28:SER:HA	1.96	0.48
25:RA:2584:U:H2'	25:RA:2585:U:C6	2.49	0.48
25:RA:2823:A:OP1	28:RE:113:PHE:HB2	2.14	0.48
29:RF:183:VAL:O	29:RF:187:VAL:HG23	2.13	0.48
33:RN:7:LYS:H	33:RN:7:LYS:HD2	1.79	0.48
35:RP:61:ARG:CD	54:R8:13:ARG:HD2	2.44	0.48
43:RX:83:VAL:HG11	43:RX:87:GLN:HB2	1.96	0.48
1:XA:33:A:H2'	1:XA:34:C:C6	2.49	0.48
1:XA:407:G:H2'	1:XA:408:A:C8	2.48	0.48
1:XA:659:U:H2'	1:XA:660:G:H8	1.79	0.48
3:XC:70:VAL:HG12	3:XC:72:LYS:H	1.79	0.48
5:XE:6:PHE:CE2	5:XE:36:ASP:HB3	2.48	0.48
8:XH:49:GLU:HG2	8:XH:62:TYR:HE2	1.78	0.48
25:YA:603:A:O4'	25:YA:655:A:N6	2.46	0.48
25:YA:1404:C:C2'	25:YA:1405:U:H5'	2.44	0.48
33:YN:134:ARG:N	33:YN:135:PRO:HD3	2.29	0.48
38:YS:65:VAL:O	38:YS:69:VAL:HG12	2.14	0.48
44:YY:44:ILE:HG13	44:YY:45:VAL:N	2.28	0.48
1:QA:184:G:H2'	1:QA:185:A:H8	1.79	0.47
1:QA:1179:A:H2'	1:QA:1180:A:O4'	2.14	0.47
1:QA:1213:A:N6	1:QA:1215:G:N3	2.62	0.47
4:QD:106:TYR:HE1	4:QD:112:VAL:O	1.97	0.47
13:QM:57:ARG:HB2	13:QM:57:ARG:HH11	1.79	0.47
25:RA:321:G:OP1	29:RF:135:LYS:NZ	2.44	0.47
25:RA:483:A:H5'	44:RY:49:VAL:HG22	1.95	0.47
25:RA:1569:A:H2'	25:RA:1570:A:O4'	2.13	0.47
25:RA:1614:A:N1	42:RW:91:GLY:HA2	2.29	0.47
29:RF:167:ALA:HB1	29:RF:173:VAL:HG11	1.95	0.47
30:RG:145:THR:O	30:RG:147:ASP:N	2.47	0.47
1:XA:28:G:O2'	1:XA:296:U:OP1	2.30	0.47
1:XA:1149:C:OP1	9:XI:9:ARG:NH2	2.41	0.47
1:XA:1241:G:H2'	1:XA:1242:C:C6	2.48	0.47
1:XA:1319:A:H5'	1:XA:1320:C:OP1	2.14	0.47
10:XJ:38:ILE:HD11	10:XJ:71:LEU:HD23	1.96	0.47
25:YA:264:C:H2'	25:YA:265:A:H5''	1.95	0.47
25:YA:2655:G:N2	25:YA:2665:A:OP2	2.47	0.47
26:YB:44:G:H1'	26:YB:47:C:H42	1.78	0.47
27:YD:35:LYS:HZ1	27:YD:104:TYR:HB2	1.79	0.47
51:Y5:46:CYS:O	51:Y5:48:GLU:N	2.38	0.47
1:QA:484:G:H4'	1:QA:485:G:O5'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1321:C:H3'	1:QA:1322:C:H5''	1.95	0.47
1:QA:1432:G:OP1	39:RT:107:ASP:HB2	2.14	0.47
2:QB:70:PHE:O	2:QB:93:VAL:N	2.48	0.47
4:QD:26:CYS:HA	4:QD:31:CYS:HA	1.96	0.47
6:QF:41:GLU:HB2	6:QF:62:TRP:CE3	2.50	0.47
25:RA:27:G:H22	25:RA:512:G:H1'	1.78	0.47
25:RA:363(B):G:H2'	25:RA:363(C):G:C8	2.49	0.47
25:RA:1575:C:H2'	25:RA:1576:U:O4'	2.15	0.47
25:RA:2114:A:N6	25:RA:2119:A:H62	2.12	0.47
32:RI:49:ALA:O	32:RI:52:ARG:HG2	2.14	0.47
35:RP:127:ALA:HB3	35:RP:130:PHE:CZ	2.49	0.47
48:R2:41:ILE:HD11	48:R2:44:LEU:HD12	1.96	0.47
55:R9:27:CYS:SG	55:R9:32:HIS:HB2	2.55	0.47
1:XA:31:G:O2'	1:XA:48:C:N4	2.46	0.47
2:XB:84:GLU:OE1	2:XB:87:ARG:NH2	2.43	0.47
18:XR:36:ASN:O	18:XR:36:ASN:ND2	2.41	0.47
25:YA:1036:G:OP1	31:YH:59:ARG:HB2	2.14	0.47
25:YA:1535:U:N3	25:YA:1537:C:H1'	2.29	0.47
26:YB:27:C:H5'	26:YB:28:C:OP2	2.14	0.47
35:YP:144:GLU:OE1	35:YP:144:GLU:N	2.40	0.47
41:YV:44:LYS:O	41:YV:46:VAL:HG12	2.13	0.47
1:QA:836:G:C6	1:QA:851:G:C6	3.02	0.47
1:QA:983:A:N1	1:QA:1222:G:N2	2.63	0.47
1:QA:1388:C:H2'	1:QA:1389:C:H6	1.79	0.47
2:QB:25:ASN:O	2:QB:27:LYS:N	2.47	0.47
14:QN:41:ARG:CZ	14:QN:42:ILE:HD11	2.44	0.47
25:RA:860:U:C5	25:RA:917:A:C2	3.02	0.47
25:RA:1083:U:O2'	25:RA:1085:A:H5''	2.14	0.47
25:RA:1833:U:O2'	25:RA:1969:A:N1	2.30	0.47
25:RA:2494:G:H2'	25:RA:2495:G:H8	1.80	0.47
36:RQ:136:ALA:C	36:RQ:138:ASP:H	2.18	0.47
1:XA:109:A:H2'	1:XA:326:G:N2	2.29	0.47
1:XA:179:A:H2'	1:XA:180:U:C6	2.50	0.47
1:XA:1298:C:C4	7:XG:114:ARG:HD2	2.50	0.47
1:XA:1412:C:H2'	1:XA:1413:A:C8	2.49	0.47
3:XC:34:LEU:HD23	3:XC:38:ARG:HG3	1.95	0.47
3:XC:79:ARG:NH1	3:XC:82:GLU:HG3	2.29	0.47
4:XD:15:GLU:HG2	4:XD:63:LYS:HB2	1.97	0.47
9:XI:121:ARG:NH1	9:XI:122:ALA:O	2.47	0.47
9:XI:126:SER:O	9:XI:128:ARG:N	2.43	0.47
18:XR:66:LEU:O	18:XR:70:ILE:HG13	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2245:U:H5'	25:YA:2246:G:H5'	1.96	0.47
25:YA:2688:U:H5	25:YA:2720:U:OP2	1.97	0.47
25:YA:2849:U:H4'	25:YA:2868:A:C2	2.49	0.47
27:YD:71:ASP:HB2	27:YD:103:ARG:NH2	2.27	0.47
29:YF:36:VAL:HG11	29:YF:183:VAL:HG11	1.95	0.47
36:YQ:21:THR:HB	36:YQ:22:LYS:H	1.40	0.47
39:YT:11:GLU:OE1	39:YT:11:GLU:N	2.43	0.47
47:Y1:91:LYS:HB3	47:Y1:92:LYS:H	1.44	0.47
48:Y2:59:ARG:O	48:Y2:63:VAL:HG23	2.15	0.47
6:QF:61:LEU:HB3	6:QF:63:TYR:HE2	1.79	0.47
12:QL:51:ALA:HB3	12:QL:53:ARG:HE	1.80	0.47
20:QT:30:LYS:O	20:QT:33:ILE:HB	2.14	0.47
25:RA:83:G:N2	25:RA:103:A:OP2	2.37	0.47
25:RA:888:C:O2'	25:RA:889:C:H4'	2.14	0.47
25:RA:1421:G:C2	25:RA:1422:G:C8	3.02	0.47
25:RA:2064:C:H2'	25:RA:2065:C:C6	2.48	0.47
25:RA:2532:G:H1'	25:RA:2663:G:N2	2.29	0.47
36:RQ:63:LYS:HG2	36:RQ:65:PHE:CE2	2.50	0.47
39:RT:64:ARG:HD2	39:RT:73:GLU:OE1	2.14	0.47
40:RU:97:ASP:OD1	40:RU:101:ARG:NH1	2.48	0.47
47:R1:91:LYS:O	47:R1:94:LEU:N	2.36	0.47
51:R5:46:CYS:O	51:R5:48:GLU:N	2.47	0.47
1:XA:1004:A:H1'	1:XA:1036:G:N2	2.30	0.47
3:XC:22:TRP:CD1	3:XC:59:ARG:HD2	2.49	0.47
3:XC:81:GLY:O	3:XC:85:ARG:HB2	2.14	0.47
12:XL:7:ILE:HD13	12:XL:7:ILE:HA	1.82	0.47
12:XL:24:VAL:HG12	12:XL:24:VAL:O	2.14	0.47
20:XT:98:PRO:O	20:XT:100:ILE:N	2.46	0.47
25:YA:226:G:HO2'	25:YA:227:A:H8	1.55	0.47
25:YA:846:C:O2'	25:YA:847:U:OP2	2.26	0.47
25:YA:1379:A:H4'	25:YA:1380:G:OP2	2.14	0.47
25:YA:2056:G:H1	51:Y5:4:HIS:HD2	1.62	0.47
25:YA:2467:C:H4'	36:YQ:123:HIS:CG	2.49	0.47
35:YP:50:ARG:HE	54:Y8:7:HIS:HE2	1.63	0.47
47:Y1:53:VAL:HG22	47:Y1:74:VAL:HG13	1.96	0.47
1:QA:32:A:C2	1:QA:33:A:C4	3.03	0.47
1:QA:1124:G:H5''	1:QA:1145:C:H41	1.78	0.47
2:QB:85:ALA:HB3	2:QB:92:TYR:HD2	1.79	0.47
2:QB:211:ILE:O	2:QB:215:LEU:HB2	2.14	0.47
4:QD:12:CYS:HA	4:QD:19:LEU:CD2	2.45	0.47
7:QG:99:LEU:HD22	7:QG:103:TRP:CZ2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:155:C:N4	25:RA:171:G:H1	2.11	0.47
25:RA:958:U:OP1	36:RQ:74:TYR:OH	2.29	0.47
25:RA:1220:A:H5'	25:RA:1221:C:OP2	2.14	0.47
25:RA:1871:A:H2'	25:RA:1872:A:C8	2.50	0.47
30:RG:3:LEU:HD11	50:R4:25:TYR:CE1	2.48	0.47
32:RI:98:ALA:HA	32:RI:109:ILE:HD11	1.97	0.47
5:XE:8:GLU:OE2	5:XE:63:ARG:NH2	2.46	0.47
6:XF:69:GLU:O	6:XF:72:VAL:HG12	2.14	0.47
9:XI:4:TYR:CZ	9:XI:88:TYR:HB2	2.49	0.47
12:XL:27:LEU:O	12:XL:29:GLY:N	2.46	0.47
15:XO:66:LEU:HD12	15:XO:66:LEU:HA	1.66	0.47
20:XT:35:THR:O	20:XT:39:LYS:HG3	2.14	0.47
25:YA:7:G:H1	25:YA:2896:C:H42	1.62	0.47
25:YA:1454:U:H5'	37:YR:63:ARG:NE	2.30	0.47
26:YB:24:G:H1'	26:YB:26:A:H62	1.79	0.47
27:YD:28:GLU:HB2	27:YD:29:PRO:CD	2.45	0.47
42:YW:110:LYS:HG3	42:YW:111:HIS:H	1.80	0.47
54:Y8:36:LYS:HB3	54:Y8:40:GLU:HG2	1.95	0.47
1:QA:683:G:H2'	1:QA:684:A:H8	1.78	0.47
1:QA:1350:A:OP2	9:QI:118:LYS:NZ	2.48	0.47
9:QI:28:VAL:HG22	9:QI:63:ILE:HB	1.96	0.47
25:RA:27:G:O2'	25:RA:28:A:H8	1.97	0.47
25:RA:103:A:H8	25:RA:103:A:O5'	1.98	0.47
25:RA:298:G:H5''	25:RA:299:A:OP1	2.15	0.47
25:RA:443:A:C5	29:RF:45:ARG:HD2	2.50	0.47
25:RA:484:C:OP1	44:RY:51:VAL:HG11	2.15	0.47
25:RA:960:A:H61	36:RQ:82:ARG:NH1	2.12	0.47
25:RA:1045:A:N3	25:RA:1047:G:N2	2.63	0.47
25:RA:1497:U:H5''	25:RA:1498:C:C5	2.49	0.47
25:RA:2294:C:OP2	38:RS:89:ARG:NH2	2.47	0.47
26:RB:42:C:O2	30:RG:93:THR:N	2.34	0.47
26:RB:52:A:N6	38:RS:33:LYS:HG3	2.29	0.47
28:RE:73:GLU:HG3	28:RE:74:PRO:HD2	1.95	0.47
42:RW:63:ASP:OD1	42:RW:63:ASP:N	2.48	0.47
44:RY:21:LYS:HG3	44:RY:22:GLY:N	2.30	0.47
1:XA:41:G:H2'	1:XA:42:G:C8	2.49	0.47
1:XA:429:U:H1'	1:XA:430:A:H5''	1.97	0.47
1:XA:1000:A:H2'	1:XA:1001:G:H8	1.79	0.47
25:YA:1062:G:H8	25:YA:1062:G:O5'	1.97	0.47
25:YA:1239:G:H2'	25:YA:1240:U:O4'	2.14	0.47
25:YA:1529:A:N6	25:YA:1542:G:O2'	2.41	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2392:A:C8	35:YP:60:MET:HG2	2.50	0.47
25:YA:2469:A:H5'	25:YA:2470:G:OP2	2.15	0.47
29:YF:164:ARG:HG3	29:YF:175:THR:OG1	2.15	0.47
33:YN:30:ILE:HG22	33:YN:34:LEU:HD22	1.96	0.47
1:QA:129(A):G:N2	1:QA:188:U:O2'	2.47	0.47
1:QA:181:G:HO2'	1:QA:182:U:P	2.38	0.47
1:QA:474:G:H2'	1:QA:475:G:H8	1.79	0.47
1:QA:801:U:H2'	1:QA:802:A:H8	1.80	0.47
1:QA:1125:U:O4	10:QJ:5:ARG:HD3	2.15	0.47
1:QA:1163:C:H42	1:QA:1173:G:H1	1.62	0.47
1:QA:1207:G:H2'	1:QA:1208:C:C6	2.49	0.47
1:QA:1314:C:P	19:QS:6:LYS:HD2	2.55	0.47
1:QA:1316:G:H5''	14:QN:17:LYS:HE3	1.96	0.47
1:QA:1392:G:N2	1:QA:1502:A:H8	2.09	0.47
1:QA:1443:G:H5'	1:QA:1446:A:OP2	2.15	0.47
12:QL:27:LEU:O	12:QL:29:GLY:N	2.47	0.47
13:QM:78:ILE:HG23	13:QM:92:HIS:ND1	2.30	0.47
17:QQ:76:LEU:HD21	17:QQ:79:SER:HB2	1.97	0.47
25:RA:142:G:H2'	25:RA:143:C:C6	2.49	0.47
25:RA:649:G:H2'	25:RA:650:C:C6	2.49	0.47
25:RA:753:C:H2'	25:RA:754:C:H6	1.78	0.47
25:RA:860:U:H5	25:RA:917:A:N1	2.12	0.47
25:RA:1654:A:OP2	37:RR:2:ARG:HD2	2.14	0.47
26:RB:83:G:H1	26:RB:93:C:H42	1.62	0.47
27:RD:118:VAL:HG22	27:RD:119:ALA:N	2.29	0.47
28:RE:37:ARG:NE	28:RE:37:ARG:HA	2.29	0.47
31:RH:152:ARG:HG3	31:RH:153:LYS:CD	2.44	0.47
39:RT:123:GLN:O	39:RT:125:ARG:N	2.48	0.47
45:RZ:141:VAL:HA	45:RZ:144:LEU:HD23	1.96	0.47
47:R1:76:ARG:H	47:R1:76:ARG:HD2	1.80	0.47
1:XA:35:G:N3	12:XL:118:SER:OG	2.46	0.47
1:XA:328:C:H4'	1:XA:329:A:C5'	2.45	0.47
1:XA:1070:U:H2'	1:XA:1071:C:H6	1.79	0.47
1:XA:1192:C:OP2	3:XC:4:LYS:NZ	2.41	0.47
2:XB:93:VAL:HG11	2:XB:97:TRP:CD1	2.50	0.47
9:XI:114:TYR:HD1	10:XJ:60:ARG:HB2	1.79	0.47
10:XJ:47:PHE:HB3	14:XN:34:TYR:CE2	2.50	0.47
11:XK:48:ILE:HG13	11:XK:63:LEU:HB2	1.97	0.47
17:XQ:67:LYS:O	17:XQ:68:ARG:HB3	2.15	0.47
25:YA:593:G:O3'	54:Y8:61:LEU:HD22	2.14	0.47
25:YA:896:A:C8	45:YZ:146:ILE:HD12	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:922:U:H2'	25:YA:923:C:C6	2.50	0.47
25:YA:1221:C:H2'	25:YA:1222:C:H6	1.79	0.47
25:YA:1453:A:O2'	25:YA:1454:U:H2'	2.14	0.47
25:YA:1665:A:C2'	25:YA:1666:G:H5'	2.43	0.47
25:YA:1916:A:H2'	25:YA:1917:U:O4'	2.15	0.47
25:YA:2319:G:N7	38:YS:3:ARG:HB3	2.29	0.47
27:YD:206:LEU:HA	27:YD:206:LEU:HD23	1.51	0.47
27:YD:237:GLU:O	27:YD:239:ARG:N	2.47	0.47
29:YF:182:ASN:HD21	29:YF:185:ASP:CG	2.14	0.47
30:YG:28:VAL:O	30:YG:31:VAL:HG13	2.14	0.47
30:YG:34:LEU:HD22	30:YG:35:GLU:N	2.30	0.47
30:YG:113:ARG:HG2	50:Y4:34:GLU:OE2	2.14	0.47
32:YI:144:VAL:HG22	32:YI:145:VAL:H	1.80	0.47
46:Y0:19:LYS:HA	46:Y0:19:LYS:HD3	1.66	0.47
1:QA:110:C:O2'	16:QP:25:ARG:O	2.32	0.47
1:QA:1053:G:N7	1:QA:1199:U:H3'	2.30	0.47
2:QB:178:ARG:HH21	8:QH:74:PRO:HG3	1.80	0.47
3:QC:82:GLU:O	3:QC:86:VAL:HG13	2.14	0.47
7:QG:18:TYR:HD2	7:QG:59:LEU:HD22	1.79	0.47
12:QL:17:LYS:HG3	12:QL:18:VAL:N	2.30	0.47
19:QS:35:SER:O	19:QS:71:LEU:HD12	2.15	0.47
25:RA:498:G:N3	44:RY:47:LYS:NZ	2.62	0.47
25:RA:500:G:N2	25:RA:502:A:H3'	2.29	0.47
25:RA:521:G:H2'	25:RA:522:G:H8	1.80	0.47
25:RA:1153:C:H2'	25:RA:1154:G:O4'	2.15	0.47
25:RA:2286:A:H4'	25:RA:2287:A:O4'	2.15	0.47
25:RA:2679:A:H4'	28:RE:165:VAL:HG11	1.96	0.47
25:RA:2723:C:OP2	28:RE:109:LYS:NZ	2.47	0.47
28:RE:95:ILE:HD12	28:RE:95:ILE:H	1.80	0.47
38:RS:56:LEU:O	38:RS:58:LEU:N	2.48	0.47
44:RY:76:CYS:HB2	44:RY:101:LYS:HG3	1.96	0.47
1:XA:1118:C:P	9:XI:104:ARG:HH11	2.37	0.47
1:XA:1315:U:H2'	1:XA:1316:G:O4'	2.14	0.47
1:XA:1348:U:H3	1:XA:1374:A:H2	1.57	0.47
2:XB:18:GLY:H	2:XB:42:ILE:HG22	1.80	0.47
5:XE:89:ILE:HG12	5:XE:91:LEU:HD13	1.97	0.47
25:YA:99:U:O2'	25:YA:101:G:OP2	2.28	0.47
25:YA:307:G:H21	25:YA:330:A:N6	2.13	0.47
25:YA:1614:A:H61	42:YW:88:ARG:H	1.61	0.47
25:YA:1728:G:H5'	25:YA:1729:A:OP2	2.14	0.47
25:YA:2636:U:H2'	25:YA:2637:U:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:116:VAL:HG11	28:YE:138:PRO:HB3	1.97	0.47
29:YF:9:ILE:HG23	29:YF:20:LEU:O	2.15	0.47
29:YF:140:LEU:HD12	29:YF:140:LEU:HA	1.77	0.47
30:YG:114:ILE:HD13	30:YG:140:ILE:HG21	1.96	0.47
31:YH:122:THR:HG22	31:YH:134:SER:HB2	1.96	0.47
49:Y3:23:LEU:HD13	49:Y3:50:VAL:HG11	1.96	0.47
1:QA:299:G:H2'	1:QA:300:A:C8	2.50	0.47
1:QA:456:C:H2'	1:QA:457:C:C6	2.50	0.47
1:QA:1001:G:H2'	1:QA:1002:G:O4'	2.15	0.47
1:QA:1179:A:O3'	9:QI:103:THR:HG23	2.14	0.47
11:QK:16:SER:OG	11:QK:106:LYS:NZ	2.48	0.47
13:QM:65:LYS:HB3	50:R4:50:VAL:HG21	1.96	0.47
25:RA:49:A:H61	25:RA:177:G:H2'	1.79	0.47
25:RA:702:G:C2	25:RA:731:C:C2	3.03	0.47
25:RA:1248:G:C5	40:RU:3:ARG:HB2	2.50	0.47
25:RA:1851:U:H2'	25:RA:1852:C:O4'	2.15	0.47
27:RD:12:SER:O	27:RD:16:MET:HB2	2.14	0.47
27:RD:211:ARG:HD2	27:RD:214:TRP:CZ3	2.50	0.47
28:RE:21:VAL:HB	28:RE:22:PRO:HB3	1.96	0.47
29:RF:133:ASN:HA	29:RF:162:LEU:HD22	1.96	0.47
31:RH:27:LYS:HA	31:RH:32:GLU:HA	1.96	0.47
39:RT:16:ARG:HE	39:RT:19:LEU:HD21	1.80	0.47
1:XA:767:A:H2'	1:XA:768:A:O4'	2.15	0.47
1:XA:1057:G:H2'	1:XA:1058:G:O4'	2.15	0.47
1:XA:1152:A:H2'	1:XA:1153:C:H6	1.79	0.47
1:XA:1225:A:N3	1:XA:1225:A:H2'	2.29	0.47
1:XA:1227:A:OP2	13:XM:111:LYS:HE3	2.15	0.47
1:XA:1366:C:H2'	1:XA:1367:C:H6	1.80	0.47
25:YA:478:A:C6	25:YA:480:A:C6	3.03	0.47
25:YA:957:A:N1	25:YA:2458:G:H4'	2.29	0.47
25:YA:1586:A:H3'	25:YA:1587:A:H8	1.80	0.47
25:YA:1658:C:H2'	25:YA:1659:U:C6	2.50	0.47
25:YA:2461:C:H2'	25:YA:2462:U:C6	2.49	0.47
29:YF:129:PHE:HA	29:YF:142:TRP:NE1	2.29	0.47
31:YH:4:ILE:HB	31:YH:6:ARG:CG	2.43	0.47
31:YH:4:ILE:HG13	31:YH:6:ARG:CZ	2.45	0.47
1:QA:527:G:O2'	1:QA:535:A:N1	2.33	0.47
1:QA:553:A:O2'	12:QL:29:GLY:O	2.33	0.47
1:QA:1126:U:OP2	1:QA:1281:U:H1'	2.15	0.47
2:QB:8:LYS:H	2:QB:8:LYS:HD3	1.79	0.47
2:QB:32:ILE:HD13	2:QB:40:HIS:HB3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:QQ:74:LEU:HB3	17:QQ:75:ARG:H	1.63	0.47
25:RA:226:G:O2'	25:RA:227:A:O5'	2.33	0.47
25:RA:1542:G:H5''	25:RA:1543:A:OP2	2.15	0.47
25:RA:1946:U:H2'	25:RA:1947:C:C6	2.50	0.47
25:RA:2329:G:H2'	25:RA:2330:G:C8	2.49	0.47
25:RA:2867:G:OP2	39:RT:119:LYS:NZ	2.27	0.47
27:RD:61:LEU:HA	27:RD:61:LEU:HD12	1.77	0.47
29:RF:62:ARG:HB3	29:RF:62:ARG:CZ	2.45	0.47
32:RI:9:LEU:O	32:RI:10:GLU:HG3	2.15	0.47
38:RS:48:LEU:HD23	38:RS:82:ILE:HD11	1.96	0.47
41:RV:24:LYS:HG3	41:RV:92:THR:HG23	1.97	0.47
1:XA:791:G:C6	1:XA:792:A:C2	3.03	0.47
1:XA:910:C:P	12:XL:97:ARG:HH22	2.38	0.47
25:YA:1204:A:O2'	25:YA:1205:U:O5'	2.33	0.47
25:YA:1289:C:H2'	25:YA:1290:C:H6	1.79	0.47
25:YA:2439:A:C8	25:YA:2439:A:H5'	2.50	0.47
35:YP:64:LYS:HB2	54:Y8:25:MET:HG3	1.96	0.47
44:YY:73:ARG:HE	44:YY:73:ARG:HB3	1.47	0.47
1:QA:1502:A:H2	1:QA:1505:G:N1	2.07	0.46
20:QT:33:ILE:HD13	20:QT:62:LEU:HB3	1.96	0.46
20:QT:89:ARG:NH2	20:QT:105:SER:O	2.36	0.46
25:RA:1025:G:C4	25:RA:1135:C:H1'	2.50	0.46
25:RA:1678:G:N2	25:RA:1989:G:N2	2.63	0.46
25:RA:1843:C:H2'	25:RA:1844:C:H6	1.80	0.46
25:RA:1991:U:H2'	25:RA:1992:G:H5''	1.97	0.46
25:RA:2303:G:O2'	30:RG:132:ASN:HB2	2.15	0.46
25:RA:2439:A:H3'	25:RA:2439:A:P	2.56	0.46
39:RT:20:PRO:HD2	39:RT:86:ILE:HG23	1.97	0.46
42:RW:23:LEU:O	42:RW:27:LYS:HD2	2.14	0.46
47:R1:89:GLU:HA	47:R1:93:GLU:HB2	1.96	0.46
54:R8:29:LYS:HD3	54:R8:44:LYS:CB	2.45	0.46
1:XA:244:U:H4'	1:XA:245:C:O5'	2.15	0.46
1:XA:1126:U:H1'	1:XA:1280:A:C5	2.50	0.46
4:XD:63:LYS:HD2	4:XD:198:VAL:HG22	1.97	0.46
19:XS:33:THR:OG1	19:XS:34:TRP:N	2.49	0.46
19:XS:41:VAL:HA	19:XS:44:MET:HG3	1.97	0.46
22:XV:3:G:O2'	22:XV:4:G:P	2.72	0.46
25:YA:602:G:O2'	25:YA:655:A:N6	2.48	0.46
25:YA:890:A:O2'	25:YA:892:G:H8	1.98	0.46
25:YA:1029:A:N1	25:YA:2465:C:O2'	2.46	0.46
25:YA:2593:U:H2'	25:YA:2594:C:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:17:THR:CG2	27:YD:205:VAL:H	2.28	0.46
29:YF:108:LYS:NZ	29:YF:108:LYS:HB3	2.31	0.46
31:YH:154:PRO:HD3	31:YH:162:ILE:H	1.79	0.46
32:YI:68:LEU:HA	32:YI:71:ILE:HG22	1.97	0.46
33:YN:114:ARG:O	33:YN:115:ARG:HB3	2.14	0.46
35:YP:88:LEU:HB2	35:YP:91:PHE:HE2	1.80	0.46
35:YP:96:THR:O	35:YP:99:LEU:HB3	2.15	0.46
50:Y4:38:LYS:HD3	50:Y4:42:PHE:HE1	1.80	0.46
51:Y5:33:CYS:SG	51:Y5:34:PRO:HD2	2.55	0.46
1:QA:244:U:H4'	1:QA:245:C:O5'	2.14	0.46
1:QA:1152:A:H2'	1:QA:1153:C:C6	2.50	0.46
1:QA:1494:G:O6	58:QA:1666:PAR:H42	2.15	0.46
5:QE:9:LYS:HB3	5:QE:112:LEU:HD11	1.98	0.46
16:QP:3:LYS:O	16:QP:21:VAL:HA	2.15	0.46
19:QS:15:LEU:H	19:QS:15:LEU:HD23	1.79	0.46
25:RA:620:G:H4'	25:RA:621:A:C5'	2.45	0.46
25:RA:1657:C:OP2	28:RE:136:ARG:HD3	2.14	0.46
25:RA:1668:A:H4'	25:RA:1669:A:O5'	2.15	0.46
25:RA:1771:C:H1'	25:RA:1786:A:H8	1.77	0.46
25:RA:2011:U:OP2	42:RW:16:LYS:NZ	2.46	0.46
28:RE:186:GLY:O	28:RE:188:VAL:N	2.48	0.46
31:RH:153:LYS:HB3	31:RH:162:ILE:H	1.80	0.46
40:RU:8:VAL:HG23	40:RU:11:ARG:HH21	1.80	0.46
1:XA:1262:C:H2'	1:XA:1263:C:H6	1.77	0.46
2:XB:201:ILE:HG21	2:XB:214:ILE:HG21	1.95	0.46
13:XM:12:ASN:HD22	13:XM:12:ASN:N	2.13	0.46
17:XQ:63:ARG:HG2	17:XQ:64:PRO:HD2	1.97	0.46
19:XS:41:VAL:HG23	19:XS:67:VAL:HG13	1.98	0.46
25:YA:234:C:H2'	25:YA:235:U:C6	2.51	0.46
25:YA:415:A:H2'	25:YA:416:C:H6	1.81	0.46
26:YB:16:G:N2	26:YB:69:G:H1'	2.29	0.46
28:YE:150:VAL:HG13	28:YE:154:LYS:HG3	1.96	0.46
28:YE:176:ILE:HB	28:YE:181:LEU:HB2	1.97	0.46
30:YG:11:TYR:HA	30:YG:15:VAL:HB	1.95	0.46
35:YP:19:VAL:HG13	35:YP:21:ARG:N	2.20	0.46
38:YS:52:SER:HB2	38:YS:55:ALA:H	1.79	0.46
44:YY:87:LYS:HD3	44:YY:92:ASN:HB3	1.98	0.46
50:Y4:2:LYS:HA	50:Y4:2:LYS:HD2	1.67	0.46
1:QA:352:C:O2'	1:QA:354:G:OP1	2.22	0.46
1:QA:545:C:OP1	4:QD:61:LYS:NZ	2.49	0.46
2:QB:166:ASP:OD1	2:QB:169:LYS:HB2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:78:ARG:HG3	7:QG:79:ARG:N	2.29	0.46
25:RA:333:G:H5''	25:RA:334:C:OP2	2.15	0.46
25:RA:662:G:H5'	35:RP:15:ARG:HA	1.96	0.46
25:RA:2100:G:H1	25:RA:2189:U:H3	1.63	0.46
25:RA:2336:A:H61	46:R0:43:THR:CG2	2.28	0.46
25:RA:2632:A:O2'	25:RA:2811:G:O2'	2.18	0.46
25:RA:2790:A:C2	25:RA:2791:C:H2'	2.50	0.46
27:RD:70:TRP:CD2	27:RD:150:LYS:HD2	2.49	0.46
30:RG:22:ARG:HH22	30:RG:175:LEU:HD21	1.79	0.46
34:RO:76:ALA:HB3	39:RT:75:ILE:HB	1.97	0.46
35:RP:83:VAL:HG12	35:RP:114:ILE:HA	1.98	0.46
43:RX:49:VAL:HG13	43:RX:83:VAL:HG13	1.96	0.46
44:RY:89:PHE:O	44:RY:90:LEU:HD13	2.15	0.46
3:XC:14:ILE:HG12	3:XC:15:THR:N	2.30	0.46
7:XG:74:GLU:HG2	7:XG:91:VAL:HG22	1.98	0.46
9:XI:18:PHE:HB2	9:XI:62:TYR:HB3	1.97	0.46
9:XI:83:ARG:O	9:XI:86:VAL:HG12	2.15	0.46
25:YA:1102:C:H2'	25:YA:1103:A:H5''	1.97	0.46
25:YA:1550:C:H2'	25:YA:1551:C:H6	1.80	0.46
25:YA:1771:C:C1'	25:YA:1786:A:C8	2.97	0.46
25:YA:2059:A:H5'	25:YA:2060:A:OP2	2.16	0.46
27:YD:94:LEU:HD22	27:YD:95:LEU:N	2.31	0.46
29:YF:127:GLU:OE2	29:YF:128:ALA:N	2.47	0.46
32:YI:131:LYS:HB3	32:YI:132:PRO:HA	1.98	0.46
35:YP:29:LYS:HD2	35:YP:30:THR:HG23	1.97	0.46
35:YP:121:LYS:HB2	35:YP:121:LYS:HE2	1.75	0.46
1:QA:1258:G:H2'	1:QA:1259:C:C6	2.50	0.46
6:QF:10:LEU:N	6:QF:59:TYR:O	2.46	0.46
25:RA:519:U:H2'	25:RA:520:G:H8	1.81	0.46
25:RA:581:C:OP1	40:RU:33:ARG:HG3	2.15	0.46
25:RA:1754:C:P	39:RT:96:ARG:HH12	2.33	0.46
26:RB:89(A):A:C5	26:RB:90:C:H1'	2.50	0.46
27:RD:43:ARG:HH11	27:RD:44:ASN:CG	2.16	0.46
43:RX:55:ASN:HB2	43:RX:80:ILE:HG23	1.97	0.46
1:XA:134:A:H61	16:XP:25:ARG:NH1	2.14	0.46
1:XA:191(D):U:H2'	1:XA:191(E):G:H8	1.80	0.46
1:XA:791:G:C2'	1:XA:792:A:H5'	2.45	0.46
1:XA:1306:A:H61	1:XA:1331:G:H1'	1.80	0.46
1:XA:1443:G:H5'	1:XA:1446:A:OP2	2.15	0.46
4:XD:30:LYS:C	4:XD:32:ALA:H	2.18	0.46
7:XG:115:ARG:HB2	7:XG:118:VAL:HG22	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1265:A:H3'	51:Y5:19:ARG:NH1	2.31	0.46
25:YA:1396:U:H2'	25:YA:1396:U:O2	2.15	0.46
25:YA:1794:U:H2'	25:YA:1795:C:H6	1.80	0.46
25:YA:2356:C:H2'	25:YA:2357:U:O4'	2.16	0.46
25:YA:2655:G:O2'	25:YA:2656:U:P	2.73	0.46
27:YD:25:THR:CG2	27:YD:82:ILE:H	2.27	0.46
38:YS:27:SER:HA	38:YS:88:ASP:HB2	1.96	0.46
46:Y0:17:GLN:O	46:Y0:19:LYS:HE3	2.14	0.46
1:QA:1191:A:H8	1:QA:1191:A:O5'	1.98	0.46
1:QA:1310:G:OP1	13:QM:77:ASN:ND2	2.49	0.46
25:RA:25:U:H5'	42:RW:79:GLY:HA2	1.98	0.46
25:RA:273:G:H1	25:RA:364:C:H42	1.63	0.46
25:RA:345:A:O2'	25:RA:346:A:N7	2.40	0.46
25:RA:864:G:C6	25:RA:865:C:N4	2.84	0.46
25:RA:1078:U:O2'	25:RA:1079:C:OP2	2.30	0.46
25:RA:2107:C:N4	25:RA:2182:G:H1	2.11	0.46
26:RB:88:C:H2'	26:RB:89:G:O4'	2.14	0.46
32:RI:88:ILE:HG12	32:RI:122:GLU:H	1.80	0.46
32:RI:104:GLN:C	32:RI:105:HIS:HD1	2.18	0.46
35:RP:124:LYS:HA	35:RP:143:GLY:O	2.16	0.46
38:RS:61:ASN:O	38:RS:65:VAL:HG23	2.14	0.46
38:RS:78:LEU:HD11	38:RS:107:GLU:O	2.15	0.46
52:R6:13:CYS:HB2	52:R6:22:ALA:HB3	1.98	0.46
2:XB:163:PHE:CD2	2:XB:185:ILE:HG13	2.50	0.46
3:XC:178:LEU:HD13	3:XC:178:LEU:HA	1.84	0.46
10:XJ:62:HIS:H	10:XJ:62:HIS:CD2	2.33	0.46
19:XS:41:VAL:HB	19:XS:42:PRO:HA	1.96	0.46
25:YA:27:G:H22	25:YA:512:G:H2'	1.79	0.46
25:YA:224:G:O6	25:YA:419:C:O2'	2.33	0.46
25:YA:1153:C:H5'	40:YU:76:TYR:HE2	1.81	0.46
25:YA:2545:G:H2'	25:YA:2546:U:O4'	2.16	0.46
44:YY:94:LYS:HD2	44:YY:101:LYS:HZ3	1.81	0.46
47:Y1:96:LYS:H	47:Y1:97:LEU:HD12	1.81	0.46
49:Y3:8:LEU:HD22	49:Y3:31:LEU:HD22	1.96	0.46
1:QA:801:U:H2'	1:QA:802:A:C8	2.50	0.46
1:QA:1169:A:H2'	1:QA:1170:A:C8	2.51	0.46
12:QL:54:LYS:HD2	12:QL:54:LYS:N	2.31	0.46
19:QS:63:THR:HG23	19:QS:65:ASN:OD1	2.16	0.46
22:QV:40:C:H2'	22:QV:41:C:H6	1.79	0.46
25:RA:265:A:N6	25:RA:428:A:C8	2.84	0.46
25:RA:270(R):G:H2'	25:RA:270(S):G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:511:U:O2'	25:RA:1215:G:N2	2.43	0.46
25:RA:1061:U:H3'	25:RA:1062:G:H5''	1.96	0.46
25:RA:1274:A:N3	25:RA:1297:C:H1'	2.30	0.46
25:RA:1649:G:O2'	37:RR:107:ASP:OD1	2.23	0.46
30:RG:98:ARG:O	30:RG:101:ILE:HG13	2.16	0.46
32:RI:29:TYR:CD2	32:RI:30:LEU:HD23	2.51	0.46
32:RI:40:THR:O	32:RI:44:LEU:N	2.44	0.46
42:RW:86:LEU:O	42:RW:94:ASP:N	2.44	0.46
54:R8:39:LYS:O	54:R8:43:GLN:HB2	2.15	0.46
1:XA:485:G:O2'	1:XA:486:U:O5'	2.31	0.46
1:XA:981:U:H5	1:XA:982:U:HO2'	1.61	0.46
3:XC:78:GLY:HA3	3:XC:83:ARG:HB3	1.98	0.46
12:XL:62:SER:O	12:XL:64:TYR:N	2.48	0.46
25:YA:2392:A:H2'	25:YA:2393:A:O4'	2.16	0.46
25:YA:2469:A:O2'	36:YQ:56:ARG:NE	2.48	0.46
27:YD:35:LYS:HB3	27:YD:63:ARG:HA	1.98	0.46
27:YD:118:VAL:HG22	27:YD:119:ALA:N	2.31	0.46
40:YU:75:ASN:HB3	40:YU:78:THR:H	1.81	0.46
1:QA:859:A:H2'	1:QA:860:A:O4'	2.15	0.46
2:QB:165:VAL:HG23	2:QB:166:ASP:H	1.81	0.46
4:QD:75:PHE:HE1	4:QD:97:LEU:HD11	1.81	0.46
10:QJ:84:GLN:H	10:QJ:84:GLN:HG3	1.49	0.46
14:QN:32:SER:O	14:QN:32:SER:OG	2.26	0.46
20:QT:29:LYS:O	20:QT:33:ILE:HG12	2.16	0.46
25:RA:955:C:OP2	36:RQ:14:ARG:HD2	2.16	0.46
25:RA:2848:G:O2'	25:RA:2849:U:OP2	2.26	0.46
29:RF:126:VAL:HG11	29:RF:142:TRP:HH2	1.80	0.46
38:RS:24:LEU:HB2	38:RS:85:VAL:HG12	1.96	0.46
38:RS:83:LYS:O	38:RS:109:GLY:HA3	2.15	0.46
44:RY:17:SER:OG	44:RY:71:LYS:HD2	2.16	0.46
52:R6:33:LYS:HG3	52:R6:34:LEU:HD13	1.98	0.46
54:R8:50:LEU:C	54:R8:53:PRO:HD2	2.36	0.46
1:XA:221:C:H2'	1:XA:222:U:C6	2.51	0.46
1:XA:1285:A:H4'	1:XA:1286:A:O5'	2.16	0.46
9:XI:46:ALA:HA	9:XI:78:LYS:HB2	1.98	0.46
13:XM:36:LYS:C	13:XM:36:LYS:HD3	2.36	0.46
15:XO:56:LEU:O	15:XO:60:VAL:HG23	2.16	0.46
16:XP:1:MET:O	16:XP:3:LYS:HG3	2.16	0.46
20:XT:87:LYS:HD2	20:XT:87:LYS:HA	1.74	0.46
25:YA:658:C:H2'	25:YA:659:C:C6	2.50	0.46
25:YA:2364:C:H2'	25:YA:2365:G:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:35:LYS:HE3	27:YD:63:ARG:C	2.36	0.46
30:YG:34:LEU:HD12	30:YG:100:TRP:CH2	2.50	0.46
31:YH:167:GLU:HA	31:YH:168:PRO:HD3	1.79	0.46
32:YI:88:ILE:HG12	32:YI:122:GLU:N	2.31	0.46
36:YQ:136:ALA:O	36:YQ:138:ASP:N	2.40	0.46
47:Y1:80:LEU:HB2	47:Y1:81:LYS:H	1.61	0.46
1:QA:37:U:O2'	1:QA:500:G:H4'	2.15	0.46
1:QA:932:C:H4'	7:QG:4:ARG:NH2	2.31	0.46
1:QA:1275:A:H2'	1:QA:1276:G:O4'	2.16	0.46
1:QA:1346:A:O2'	1:QA:1347:G:O4'	2.34	0.46
1:QA:1391:U:H2'	1:QA:1392:G:C8	2.51	0.46
4:QD:103:ASN:OD1	4:QD:114:ARG:NE	2.49	0.46
25:RA:140:A:C8	25:RA:1408:C:O2'	2.63	0.46
25:RA:569:U:C4	25:RA:570:G:C6	3.04	0.46
28:RE:63:LEU:HD12	28:RE:64:LYS:N	2.30	0.46
31:RH:85:LYS:HD2	31:RH:85:LYS:HA	1.85	0.46
31:RH:87:LEU:HA	31:RH:163:TYR:O	2.16	0.46
31:RH:115:VAL:HG11	31:RH:148:ILE:HD11	1.97	0.46
34:RO:31:LYS:HB3	34:RO:32:TYR:CD1	2.51	0.46
36:RQ:29:PHE:N	36:RQ:105:GLU:OE2	2.40	0.46
45:RZ:23:LYS:HB3	45:RZ:38:TYR:CD1	2.51	0.46
1:XA:272:C:H2'	1:XA:273:A:C8	2.51	0.46
1:XA:1055:A:O2'	3:XC:161:GLU:OE2	2.25	0.46
2:XB:70:PHE:O	2:XB:93:VAL:N	2.34	0.46
2:XB:204:ASN:HD22	2:XB:205:ASP:N	2.13	0.46
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.97	0.46
20:XT:26:ASN:O	20:XT:30:LYS:HB2	2.16	0.46
25:YA:270(W):G:H2'	25:YA:270(X):G:O4'	2.16	0.46
25:YA:528:A:C2'	25:YA:529:A:H5'	2.46	0.46
25:YA:969:U:O3'	49:Y3:14:GLY:HA2	2.16	0.46
25:YA:1482:U:H5'	25:YA:1483:G:OP2	2.15	0.46
25:YA:2346:A:H5''	25:YA:2383:G:H1'	1.98	0.46
28:YE:36:ARG:NH2	28:YE:88:GLY:HA2	2.29	0.46
28:YE:116:VAL:O	28:YE:117:MET:HB3	2.16	0.46
31:YH:103:LEU:HD23	31:YH:115:VAL:HB	1.97	0.46
32:YI:3:VAL:O	32:YI:18:VAL:HA	2.15	0.46
1:QA:438:G:H4'	4:QD:123:HIS:CG	2.50	0.46
1:QA:658:G:OP1	15:QO:8:LYS:NZ	2.43	0.46
1:QA:784:C:H4'	25:RA:1837:C:OP1	2.16	0.46
1:QA:1126:U:H1'	1:QA:1280:A:N7	2.31	0.46
1:QA:1301:U:O2	1:QA:1301:U:H2'	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1446:A:HO2'	1:QA:1447:G:P	2.39	0.46
13:QM:84:ILE:HD12	13:QM:84:ILE:HA	1.75	0.46
25:RA:291:C:H42	25:RA:349:G:H1	1.63	0.46
25:RA:587:C:H4'	25:RA:588:U:O5'	2.16	0.46
25:RA:878:A:N6	25:RA:899:A:O2'	2.48	0.46
25:RA:1048:A:C5	25:RA:1111:A:H2	2.34	0.46
25:RA:1754:C:H5''	39:RT:113:LYS:HE3	1.97	0.46
27:RD:68:LYS:HD2	27:RD:70:TRP:CZ2	2.51	0.46
31:RH:103:LEU:HD13	31:RH:131:VAL:HG11	1.97	0.46
31:RH:170:ARG:HB3	31:RH:171:LEU:H	1.52	0.46
35:RP:101:VAL:HG23	35:RP:107:LYS:H	1.81	0.46
36:RQ:81:VAL:C	36:RQ:82:ARG:HG2	2.37	0.46
37:RR:37:THR:OG1	37:RR:40:LYS:HG3	2.16	0.46
40:RU:69:CYS:HB3	40:RU:106:PHE:HZ	1.81	0.46
55:R9:8:LYS:O	55:R9:34:GLN:NE2	2.49	0.46
2:XB:114:ARG:O	2:XB:118:LEU:HG	2.16	0.46
7:XG:50:ILE:HG21	7:XG:61:VAL:HG21	1.98	0.46
12:XL:92:ASP:O	12:XL:94:PRO:HD3	2.16	0.46
15:XO:6:GLU:H	15:XO:6:GLU:CD	2.15	0.46
22:XV:2:C:C2'	22:XV:3:G:H5'	2.46	0.46
22:XV:76:A:H2'	25:YA:2602:A:N6	2.31	0.46
25:YA:7:G:H2'	25:YA:8:A:O4'	2.16	0.46
25:YA:1049:C:C2'	25:YA:1050:A:H5''	2.45	0.46
28:YE:70:ALA:O	28:YE:72:VAL:N	2.49	0.46
29:YF:129:PHE:O	29:YF:142:TRP:CD1	2.69	0.46
31:YH:106:THR:HG22	31:YH:112:PRO:HB3	1.97	0.46
42:YW:110:LYS:HG3	42:YW:111:HIS:ND1	2.31	0.46
9:QI:45:ALA:O	9:QI:48:GLU:HG2	2.15	0.46
19:QS:32:LYS:HA	19:QS:50:ALA:HB3	1.98	0.46
25:RA:311:A:C6	25:RA:328:U:C4	3.03	0.46
25:RA:2481:G:HO2'	25:RA:2482:G:P	2.39	0.46
25:RA:2537:U:H2'	25:RA:2538:C:C6	2.50	0.46
26:RB:13:A:O2'	26:RB:14:U:H3'	2.16	0.46
26:RB:50:G:H5''	38:RS:61:ASN:ND2	2.31	0.46
36:RQ:104:PHE:HE1	36:RQ:125:LEU:HD11	1.81	0.46
37:RR:33:ARG:HG2	37:RR:34:ILE:N	2.30	0.46
39:RT:26:ASP:HB2	39:RT:90:GLN:O	2.16	0.46
41:RV:51:VAL:HG12	41:RV:53:GLU:H	1.80	0.46
45:RZ:157:LEU:HA	45:RZ:158:PRO:HD2	1.70	0.46
47:R1:73:LEU:HB3	47:R1:90:ILE:HG23	1.97	0.46
52:R6:44:ARG:O	52:R6:45:LYS:HB2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XE:41:VAL:HG13	5:XE:113:ALA:HB2	1.97	0.46
6:XF:48:LEU:HG	6:XF:57:GLN:HA	1.98	0.46
9:XI:18:PHE:HD1	9:XI:62:TYR:HD2	1.62	0.46
25:YA:612:G:H2'	25:YA:613:U:O2	2.16	0.46
25:YA:997:G:OP1	40:YU:93:LYS:HD2	2.16	0.46
25:YA:1417:C:H2'	25:YA:1418:G:O4'	2.16	0.46
25:YA:2689:U:H5'	25:YA:2713:A:C2	2.51	0.46
25:YA:2712:U:O2'	25:YA:2712(A):A:C8	2.61	0.46
28:YE:108:SER:HB3	28:YE:165:VAL:HG21	1.98	0.46
35:YP:135:LEU:HD23	35:YP:135:LEU:HA	1.74	0.46
36:YQ:135:ASP:N	36:YQ:135:ASP:OD1	2.48	0.46
37:YR:51:LEU:HD12	37:YR:70:LEU:HG	1.97	0.46
1:QA:170:U:O2'	1:QA:171:A:H5'	2.16	0.45
1:QA:518:C:H2'	1:QA:530:G:N3	2.31	0.45
1:QA:1172:C:H2'	1:QA:1173:G:C8	2.50	0.45
1:QA:1218:C:H2'	1:QA:1219:U:C6	2.52	0.45
1:QA:1227:A:OP1	19:QS:80:TYR:OH	2.12	0.45
22:QV:3:G:HO2'	22:QV:4:G:H8	1.64	0.45
23:QY:30:C:H2'	23:QY:31:G:H8	1.82	0.45
25:RA:918:A:C5	25:RA:919:G:H1'	2.51	0.45
25:RA:1043:C:H42	25:RA:1112:G:H1	1.64	0.45
25:RA:1792:G:H2'	25:RA:1793:C:H6	1.81	0.45
25:RA:2419:U:H2'	25:RA:2420:C:H6	1.80	0.45
31:RH:120:GLY:HA3	31:RH:140:LYS:NZ	2.31	0.45
50:R4:10:VAL:HA	50:R4:11:PRO:HD2	1.75	0.45
1:XA:1226:C:O2'	13:XM:103:THR:O	2.28	0.45
2:XB:55:PHE:HD1	2:XB:58:ILE:HG13	1.81	0.45
2:XB:217:ARG:HE	2:XB:217:ARG:HB2	1.54	0.45
5:XE:99:GLY:N	5:XE:117:ASP:OD2	2.47	0.45
25:YA:751:A:C5'	42:YW:90:ARG:HA	2.46	0.45
25:YA:771:G:OP1	53:Y7:14:LYS:HE3	2.15	0.45
25:YA:1454:U:H5'	37:YR:63:ARG:HE	1.80	0.45
25:YA:1688:U:O2	25:YA:1700:A:H5''	2.16	0.45
25:YA:1754:C:P	39:YT:96:ARG:HH12	2.39	0.45
25:YA:1930:G:H2'	25:YA:1968:G:C6	2.50	0.45
27:YD:10:THR:OG1	27:YD:13:ARG:HB2	2.16	0.45
27:YD:137:PRO:O	27:YD:140:THR:HG23	2.16	0.45
29:YF:129:PHE:C	29:YF:131:GLY:H	2.18	0.45
31:YH:86:GLU:O	31:YH:87:LEU:HB2	2.16	0.45
35:YP:138:LEU:C	35:YP:140:ALA:H	2.18	0.45
41:YV:19:LYS:HA	41:YV:94:LEU:O	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:YY:84:ARG:HB3	44:YY:95:LYS:HD3	1.97	0.45
47:Y1:58:ILE:HD12	47:Y1:58:ILE:N	2.30	0.45
1:QA:790:A:C6	1:QA:791:G:C6	3.03	0.45
1:QA:1312:G:H5'	50:R4:67:TYR:OH	2.16	0.45
4:QD:18:LYS:HD3	4:QD:20:TYR:CZ	2.51	0.45
7:QG:45:ASP:O	7:QG:49:ILE:HG12	2.16	0.45
10:QJ:22:LYS:HB3	10:QJ:22:LYS:HE3	1.68	0.45
22:QV:16:C:H2'	22:QV:16:C:O2	2.16	0.45
22:QV:21:A:H61	22:QV:46:G:H2'	1.80	0.45
25:RA:1331:A:O2'	25:RA:1332:G:H8	1.98	0.45
25:RA:2469:A:H2	25:RA:2481:G:N2	2.13	0.45
25:RA:2630:G:N3	25:RA:2894:G:N2	2.63	0.45
25:RA:2683:C:H4'	28:RE:13:ARG:NH2	2.31	0.45
25:RA:2734:A:H5'	25:RA:2735:G:OP2	2.17	0.45
1:XA:498:A:H4'	1:XA:500:G:OP1	2.17	0.45
13:XM:58:GLU:O	13:XM:62:ASN:ND2	2.33	0.45
18:XR:73:ALA:HB3	18:XR:79:LEU:HD12	1.98	0.45
25:YA:601:C:O2'	25:YA:605:C:OP1	2.26	0.45
25:YA:858:U:O2	25:YA:2268:A:H2'	2.15	0.45
25:YA:1006:C:O2	33:YN:106:MET:HG2	2.15	0.45
25:YA:1532:C:H2'	25:YA:1533:C:O4'	2.17	0.45
25:YA:2584:U:H2'	25:YA:2585:U:C6	2.51	0.45
25:YA:2612:C:H2'	25:YA:2613:U:H5'	1.99	0.45
25:YA:2867:G:O2'	25:YA:2868:A:H8	1.98	0.45
26:YB:33:G:H5'	30:YG:2:PRO:HG3	1.98	0.45
37:YR:78:LYS:O	37:YR:83:ILE:HG12	2.16	0.45
44:YY:51:VAL:HG13	44:YY:52:SER:N	2.28	0.45
1:QA:45:U:H2'	1:QA:46:G:H8	1.79	0.45
1:QA:1446:A:H4'	39:RT:125:ARG:HH22	1.81	0.45
6:QF:99:ALA:HB1	18:QR:23:LYS:NZ	2.31	0.45
8:QH:20:TYR:HA	8:QH:65:TYR:CZ	2.51	0.45
12:QL:113:ARG:HH21	12:QL:116:SER:HB2	1.81	0.45
25:RA:882:G:H1	25:RA:894:C:H42	1.65	0.45
25:RA:1022:G:O2'	25:RA:1023:U:OP2	2.24	0.45
25:RA:2336:A:H61	46:R0:43:THR:HG21	1.81	0.45
25:RA:2410:G:C2	25:RA:2411:A:H1'	2.51	0.45
26:RB:48:A:H2'	26:RB:49:C:C6	2.51	0.45
27:RD:85:ASP:HA	27:RD:86:PRO:HD2	1.72	0.45
27:RD:118:VAL:HG22	27:RD:119:ALA:H	1.82	0.45
29:RF:31:HIS:HB2	35:RP:9:ASN:OD1	2.16	0.45
35:RP:6:LEU:HB3	35:RP:7:ARG:H	1.55	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RP:77:ARG:HB2	35:RP:78:PRO:HD2	1.99	0.45
35:RP:88:LEU:HD12	35:RP:95:VAL:HG11	1.99	0.45
36:RQ:2:LEU:H	36:RQ:2:LEU:HD23	1.81	0.45
38:RS:16:ASN:HA	38:RS:19:LYS:HD3	1.98	0.45
45:RZ:53:ILE:HG22	45:RZ:71:VAL:HG22	1.98	0.45
1:XA:486:U:H2'	1:XA:487:A:H8	1.79	0.45
1:XA:792:A:H4'	1:XA:793:U:O5'	2.16	0.45
1:XA:960:U:O2	1:XA:960:U:H2'	2.16	0.45
1:XA:1360:A:H2'	1:XA:1361:G:C8	2.51	0.45
2:XB:140:HIS:HA	2:XB:143:GLU:OE1	2.17	0.45
9:XI:114:TYR:N	9:XI:114:TYR:HD2	2.14	0.45
19:XS:47:HIS:O	19:XS:62:ILE:HG12	2.17	0.45
25:YA:1404:C:O2'	25:YA:1405:U:H5'	2.16	0.45
25:YA:1530:G:O6	25:YA:1542:G:N2	2.49	0.45
25:YA:1794:U:H2'	25:YA:1795:C:C6	2.51	0.45
25:YA:1820:U:H4'	25:YA:1821:A:OP2	2.16	0.45
25:YA:2275:C:H5'	25:YA:2275:C:H6	1.81	0.45
25:YA:2314:C:H2'	25:YA:2315:G:C8	2.48	0.45
25:YA:2563:U:H4'	34:YO:28:SER:HA	1.98	0.45
25:YA:2636:U:H2'	25:YA:2637:U:C6	2.52	0.45
29:YF:11:VAL:HA	29:YF:125:LEU:O	2.16	0.45
35:YP:27:HIS:ND1	35:YP:27:HIS:N	2.64	0.45
37:YR:109:ALA:HA	37:YR:110:PRO:HD2	1.77	0.45
40:YU:68:ALA:O	40:YU:71:GLN:HB2	2.16	0.45
44:YY:87:LYS:HA	44:YY:92:ASN:HB3	1.98	0.45
52:Y6:33:LYS:HE2	52:Y6:33:LYS:HB2	1.76	0.45
1:QA:176:C:H2'	1:QA:177:C:C6	2.52	0.45
3:QC:19:GLU:HA	3:QC:54:ARG:HH12	1.82	0.45
3:QC:23:TYR:CD1	10:QJ:10:GLY:HA2	2.51	0.45
7:QG:20:ASP:OD1	7:QG:21:VAL:N	2.48	0.45
13:QM:121:LYS:NZ	23:QY:40:G:O2'	2.44	0.45
22:QV:53:G:HO2'	22:QV:54:U:H5	1.58	0.45
25:RA:102:G:OP2	48:R2:7:ARG:NH2	2.50	0.45
25:RA:264:C:C2'	25:RA:265:A:H5''	2.46	0.45
25:RA:669:G:H2'	25:RA:669:G:N3	2.31	0.45
25:RA:1728:G:H3'	25:RA:1729:A:C5'	2.44	0.45
25:RA:1914:C:H2'	25:RA:1915:U:C6	2.52	0.45
25:RA:2309:A:C6	25:RA:2310:A:C6	3.05	0.45
25:RA:2529:G:H5''	25:RA:2530:A:H5''	1.99	0.45
31:RH:153:LYS:HG3	31:RH:161:GLY:HA2	1.97	0.45
52:R6:26:ASN:ND2	52:R6:35:GLU:OE2	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:525:C:H2'	1:XA:526:C:C6	2.51	0.45
1:XA:539:A:H2'	1:XA:540:G:C8	2.51	0.45
1:XA:686:U:HO2'	11:XK:42:TRP:HE1	1.61	0.45
1:XA:1024:G:OP1	1:XA:1024:G:H4'	2.16	0.45
1:XA:1446:A:H5'	39:YT:122:ASP:OD1	2.16	0.45
6:XF:100:ASN:O	18:XR:28:GLU:HG2	2.17	0.45
19:XS:63:THR:HG23	19:XS:66:MET:HG2	1.99	0.45
25:YA:34:C:N4	25:YA:447:A:H61	2.14	0.45
25:YA:86:C:H4'	25:YA:104:U:H1'	1.98	0.45
25:YA:242:G:C5'	54:Y8:62:LEU:HD13	2.46	0.45
25:YA:653:A:H4'	25:YA:654:A:OP2	2.16	0.45
25:YA:1026:U:O2	25:YA:1027:A:H3'	2.16	0.45
25:YA:1055:G:H1	25:YA:1104:C:N4	2.13	0.45
25:YA:1490:A:O2'	27:YD:99:ASP:OD2	2.35	0.45
25:YA:1826:G:H4'	27:YD:242:ARG:CZ	2.46	0.45
25:YA:2365:G:H4'	46:Y0:60:PHE:CZ	2.51	0.45
30:YG:6:ALA:N	50:Y4:23:GLU:HG2	2.28	0.45
35:YP:106:LEU:HD23	35:YP:106:LEU:HA	1.84	0.45
37:YR:24:GLN:HE21	37:YR:44:LEU:HG	1.81	0.45
40:YU:66:ASN:O	40:YU:70:ARG:HB2	2.17	0.45
44:YY:56:PRO:O	44:YY:58:GLY:N	2.49	0.45
47:Y1:91:LYS:HA	47:Y1:91:LYS:HE3	1.98	0.45
48:Y2:4:SER:OG	48:Y2:5:GLU:OE1	2.23	0.45
1:QA:1423:G:OP1	34:RO:49:ARG:NH2	2.50	0.45
4:QD:15:GLU:HG2	4:QD:63:LYS:HG3	1.97	0.45
4:QD:121:VAL:O	4:QD:134:ASP:HA	2.17	0.45
7:QG:49:ILE:O	7:QG:53:LYS:HB3	2.16	0.45
7:QG:113:GLU:CG	7:QG:119:ARG:HG2	2.47	0.45
13:QM:89:GLY:O	13:QM:92:HIS:HB2	2.15	0.45
25:RA:565:C:H2'	25:RA:566:U:O4'	2.17	0.45
25:RA:797:C:OP2	29:RF:62:ARG:HB2	2.16	0.45
25:RA:1079:C:H2'	25:RA:1080:C:O4'	2.17	0.45
25:RA:2050:C:H2'	25:RA:2051:A:O4'	2.16	0.45
25:RA:2298:A:H2'	25:RA:2299:G:O4'	2.16	0.45
27:RD:30:GLU:HG3	27:RD:63:ARG:CZ	2.47	0.45
27:RD:76:PRO:HB2	27:RD:116:GLN:OE1	2.17	0.45
27:RD:121:PRO:HB3	27:RD:135:PHE:CE1	2.52	0.45
37:RR:78:LYS:HE2	37:RR:83:ILE:HD11	1.98	0.45
37:RR:103:ARG:NH1	42:RW:40:ASN:OD1	2.50	0.45
45:RZ:97:GLU:HB3	45:RZ:125:LEU:HD11	1.98	0.45
1:XA:129(A):G:O2'	1:XA:189:U:H3'	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:191:G:C4	20:XT:105:SER:HB3	2.51	0.45
1:XA:272:C:H2'	1:XA:273:A:H8	1.81	0.45
1:XA:597:G:H1	1:XA:643:C:H42	1.64	0.45
1:XA:857:C:H2'	1:XA:858:G:O4'	2.17	0.45
1:XA:1067:A:N1	1:XA:1108:G:O2'	2.43	0.45
1:XA:1082:G:H2'	1:XA:1083:U:O4'	2.15	0.45
1:XA:1161:C:O2'	1:XA:1162:C:H5'	2.17	0.45
7:XG:45:ASP:O	7:XG:49:ILE:HG12	2.17	0.45
8:XH:86:ILE:HG13	8:XH:133:LEU:HD22	1.98	0.45
15:XO:32:LEU:HD11	15:XO:62:GLN:HG2	1.99	0.45
25:YA:609(A):G:H2'	25:YA:610:C:C6	2.51	0.45
25:YA:1012:U:O4	33:YN:25:ARG:HA	2.16	0.45
26:YB:87:G:N2	26:YB:89(A):A:OP2	2.29	0.45
30:YG:146:TYR:O	30:YG:149:VAL:HG22	2.16	0.45
35:YP:124:LYS:HA	35:YP:143:GLY:O	2.16	0.45
40:YU:58:ARG:HA	40:YU:61:TRP:CE3	2.52	0.45
41:YV:19:LYS:HG3	41:YV:95:LEU:HD23	1.98	0.45
41:YV:36:PRO:HA	41:YV:56:SER:OG	2.17	0.45
44:YY:101:LYS:HG2	44:YY:102:CYS:H	1.81	0.45
46:Y0:23:VAL:HA	46:Y0:38:VAL:HA	1.99	0.45
48:Y2:21:LEU:O	48:Y2:25:VAL:HG23	2.17	0.45
49:Y3:31:LEU:O	49:Y3:32:GLN:HB2	2.17	0.45
52:Y6:15:GLU:CD	52:Y6:41:PRO:HB3	2.37	0.45
1:QA:565:U:OP2	1:QA:566:G:O2'	2.27	0.45
1:QA:743:U:H2'	1:QA:744:C:C6	2.52	0.45
1:QA:1313:U:OP1	19:QS:5:LEU:HB2	2.17	0.45
1:QA:1371:G:O3'	9:QI:69:GLY:HA3	2.17	0.45
4:QD:8:VAL:HG13	4:QD:21:LEU:HD12	1.97	0.45
4:QD:28:SER:HB3	4:QD:29:PRO:CD	2.42	0.45
11:QK:91:ARG:NH1	11:QK:110:ASP:OD1	2.48	0.45
25:RA:141:A:C8	25:RA:1408:C:H1'	2.52	0.45
25:RA:483:A:H5''	44:RY:49:VAL:HG13	1.98	0.45
25:RA:643:A:N1	25:RA:2369:A:O2'	2.45	0.45
25:RA:1204:A:H1'	25:RA:1206:G:C4	2.51	0.45
25:RA:1799:G:N2	27:RD:155:LEU:HD12	2.32	0.45
25:RA:1952:A:C5	34:RO:22:ILE:HD12	2.50	0.45
25:RA:2212:A:H1'	25:RA:2215:G:C5	2.51	0.45
25:RA:2415:G:H5'	35:RP:67:MET:H	1.81	0.45
25:RA:2645:G:C3'	25:RA:2646:C:H5'	2.46	0.45
32:RI:112:LYS:H	32:RI:112:LYS:HG2	1.50	0.45
33:RN:19:GLU:HB2	33:RN:56:ASN:HD22	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RO:48:PRO:O	34:RO:49:ARG:HG2	2.17	0.45
35:RP:18:ARG:HD2	35:RP:27:HIS:HD2	1.81	0.45
1:XA:51:A:N7	1:XA:114:U:O2'	2.45	0.45
1:XA:1034:G:H2'	1:XA:1035:A:C8	2.51	0.45
1:XA:1149:C:H2'	1:XA:1150:U:C6	2.51	0.45
1:XA:1306:A:N6	1:XA:1331:G:H1'	2.31	0.45
3:XC:48:TYR:OH	3:XC:122:GLU:OE2	2.22	0.45
16:XP:17:TYR:CE1	16:XP:41:PRO:HG3	2.52	0.45
25:YA:304:G:H2'	25:YA:305:U:C6	2.51	0.45
25:YA:321:G:H5''	29:YF:136:THR:HG23	1.97	0.45
25:YA:860:U:C5	25:YA:917:A:H2	2.34	0.45
25:YA:956:G:H5'	36:YQ:77:LYS:HE2	1.99	0.45
25:YA:1899:G:H21	25:YA:1902:C:H42	1.64	0.45
25:YA:2630:G:O4'	25:YA:2894:G:H1'	2.16	0.45
25:YA:2836:U:H2'	25:YA:2837:G:C8	2.52	0.45
26:YB:15:A:H1'	26:YB:109:G:N9	2.32	0.45
31:YH:150:ALA:O	31:YH:152:ARG:N	2.49	0.45
39:YT:6:LEU:HA	39:YT:9:LEU:HB2	1.99	0.45
1:QA:323:U:H2'	1:QA:324:G:O4'	2.16	0.45
1:QA:1024:G:H4'	1:QA:1024:G:OP1	2.17	0.45
1:QA:1322:C:O2	1:QA:1322:C:H2'	2.17	0.45
2:QB:30:ARG:HH21	2:QB:194:PRO:HG2	1.81	0.45
4:QD:53:ASP:O	4:QD:57:ARG:HD2	2.16	0.45
6:QF:45:LEU:HD12	6:QF:59:TYR:HD1	1.82	0.45
12:QL:102:ARG:HE	12:QL:102:ARG:HB3	1.39	0.45
20:QT:26:ASN:HB2	20:QT:71:THR:HG23	1.97	0.45
25:RA:1059:G:H3'	25:RA:1060:U:H5''	1.99	0.45
25:RA:1945:G:C6	25:RA:1946:U:C4	3.05	0.45
25:RA:2832:U:O2'	25:RA:2833:G:P	2.74	0.45
30:RG:10:LYS:O	30:RG:14:GLU:HB3	2.17	0.45
30:RG:106:LEU:HA	30:RG:110:ALA:HB3	1.98	0.45
32:RI:76:THR:OG1	32:RI:139:GLN:OE1	2.34	0.45
35:RP:64:LYS:HB2	54:R8:25:MET:HG3	1.98	0.45
37:RR:42:LYS:HA	37:RR:45:ARG:HD2	1.98	0.45
38:RS:10:ARG:O	38:RS:14:VAL:HG12	2.17	0.45
52:R6:34:LEU:HD13	52:R6:34:LEU:H	1.81	0.45
1:XA:179:A:H2'	1:XA:180:U:H6	1.82	0.45
1:XA:321:A:C2	1:XA:333:G:C2	3.05	0.45
1:XA:626:U:C2	1:XA:627:G:C8	3.04	0.45
1:XA:922:G:C6	1:XA:923:A:C6	3.05	0.45
7:XG:15:ASP:OD2	7:XG:44:TYR:OH	2.35	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:XH:75:ARG:HA	8:XH:76:PRO:HD2	1.71	0.45
13:XM:65:LYS:O	13:XM:70:LEU:HD23	2.17	0.45
25:YA:414:C:O2	25:YA:1864:U:O2'	2.30	0.45
25:YA:646:A:H2'	25:YA:647:G:O4'	2.17	0.45
25:YA:1338:G:O2'	25:YA:1393:A:N1	2.43	0.45
25:YA:1655:A:H3'	25:YA:1656:C:C6	2.52	0.45
25:YA:2468:G:H5''	36:YQ:120:ILE:HD12	1.99	0.45
25:YA:2760:C:C2'	25:YA:2761:G:H5''	2.43	0.45
25:YA:2846:G:H2'	25:YA:2847:U:C6	2.51	0.45
27:YD:44:ASN:ND2	27:YD:44:ASN:N	2.64	0.45
28:YE:67:PHE:O	28:YE:69:LYS:N	2.49	0.45
48:Y2:24:LEU:HA	48:Y2:24:LEU:HD23	1.67	0.45
1:QA:358:U:H2'	1:QA:359:U:H6	1.81	0.45
1:QA:580:U:H2'	1:QA:581:G:O4'	2.17	0.45
2:QB:76:GLN:O	2:QB:208:ILE:HG12	2.17	0.45
5:QE:97:GLY:N	5:QE:117:ASP:OD2	2.40	0.45
8:QH:104:ARG:O	8:QH:107:LEU:HB2	2.16	0.45
9:QI:126:SER:O	9:QI:128:ARG:N	2.45	0.45
10:QJ:40:LEU:HB2	10:QJ:69:ASN:CB	2.47	0.45
11:QK:41:THR:HG21	11:QK:71:LYS:HB2	1.99	0.45
25:RA:137(A):G:H1'	43:RX:41:ASN:ND2	2.32	0.45
25:RA:219:G:H2'	25:RA:220:G:O4'	2.17	0.45
25:RA:828:U:H4'	25:RA:831:G:N1	2.31	0.45
25:RA:2166:G:N2	25:RA:2168:G:OP1	2.50	0.45
25:RA:2245:U:C5'	25:RA:2246:G:H5'	2.47	0.45
25:RA:2532:G:H2'	25:RA:2533:A:C8	2.52	0.45
26:RB:50:G:OP1	38:RS:63:THR:HG23	2.17	0.45
27:RD:105:ILE:HD12	27:RD:105:ILE:HA	1.63	0.45
28:RE:46:ALA:HB2	28:RE:82:ARG:HA	1.98	0.45
28:RE:111:ARG:HA	37:RR:1:MET:SD	2.57	0.45
29:RF:45:ARG:HH11	29:RF:45:ARG:CG	2.29	0.45
34:RO:22:ILE:HG12	34:RO:41:ALA:HA	1.98	0.45
37:RR:29:LEU:HD12	37:RR:29:LEU:HA	1.74	0.45
45:RZ:53:ILE:H	45:RZ:71:VAL:CG1	2.30	0.45
45:RZ:181:GLU:HB3	45:RZ:182:LYS:HD3	1.98	0.45
1:XA:1191:A:H2'	1:XA:1192:C:C6	2.52	0.45
1:XA:1346:A:OP1	9:XI:120:ARG:NH1	2.40	0.45
1:XA:1493:A:OP1	58:XA:1673:PAR:H51	2.17	0.45
3:XC:153:VAL:HG22	3:XC:198:VAL:HG22	1.98	0.45
4:XD:86:LYS:HD2	4:XD:86:LYS:H	1.82	0.45
17:XQ:43:LEU:HD12	17:XQ:68:ARG:HG2	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:XT:33:ILE:HG23	20:XT:63:ILE:HG12	1.99	0.45
25:YA:277:C:H3'	25:YA:278:A:C5'	2.47	0.45
25:YA:2074:U:H2'	25:YA:2075:U:C6	2.52	0.45
25:YA:2133:G:H1'	25:YA:2158:A:H61	1.82	0.45
39:YT:102:ILE:HA	39:YT:105:LEU:CD2	2.47	0.45
42:YW:97:LYS:HE2	42:YW:99:ARG:NH2	2.31	0.45
45:YZ:19:ARG:NH1	45:YZ:84:GLU:HB2	2.32	0.45
47:Y1:79:GLY:N	47:Y1:80:LEU:HD23	2.32	0.45
1:QA:103:C:P	20:QT:17:ARG:HH21	2.40	0.45
1:QA:452:A:C6	1:QA:453:A:C6	3.05	0.45
1:QA:818:G:O2'	1:QA:819:A:H5''	2.17	0.45
1:QA:1290:G:C4	1:QA:1291:G:C8	3.05	0.45
2:QB:163:PHE:HA	2:QB:185:ILE:HG13	1.99	0.45
8:QH:6:ILE:O	8:QH:10:LEU:HG	2.17	0.45
25:RA:805:G:OP2	35:RP:41:ARG:HG2	2.16	0.45
25:RA:1005:C:O2'	33:RN:28:THR:HG21	2.17	0.45
25:RA:1203:G:O6	25:RA:1204:A:N6	2.50	0.45
25:RA:1578:U:C2'	25:RA:1579:A:H5'	2.47	0.45
25:RA:2405:G:O2'	25:RA:2406:U:P	2.75	0.45
25:RA:2572:A:N7	28:RE:145:LYS:HB2	2.32	0.45
25:RA:2663:G:C6	25:RA:2664:G:C4	3.05	0.45
25:RA:2712:U:O2'	25:RA:2712(A):A:H8	1.99	0.45
26:RB:48:A:H4'	38:RS:95:HIS:HD2	1.81	0.45
30:RG:102:PHE:O	30:RG:106:LEU:N	2.50	0.45
36:RQ:111:GLU:C	36:RQ:113:GLN:H	2.19	0.45
44:RY:68:HIS:CE1	44:RY:70:SER:HB3	2.52	0.45
45:RZ:118:GLN:O	45:RZ:120:ILE:N	2.46	0.45
47:R1:83:GLU:OE2	47:R1:83:GLU:N	2.49	0.45
1:XA:485:G:O2'	1:XA:486:U:P	2.75	0.45
1:XA:926:G:C6	1:XA:1505:G:C6	3.05	0.45
1:XA:986:A:H2'	1:XA:987:G:O4'	2.16	0.45
1:XA:1015:A:H2'	1:XA:1016:A:H8	1.81	0.45
2:XB:115:LEU:HD13	2:XB:145:LEU:HB3	1.98	0.45
4:XD:50:ARG:H	4:XD:50:ARG:HG3	1.63	0.45
25:YA:396:G:H1'	47:Y1:42:GLN:HB3	1.99	0.45
25:YA:606:U:H4'	25:YA:658:C:H4'	1.99	0.45
25:YA:971:C:H2'	25:YA:972:G:O4'	2.17	0.45
25:YA:994:C:OP1	40:YU:53:ARG:NH2	2.50	0.45
25:YA:1349:A:N6	25:YA:1598:C:N4	2.65	0.45
25:YA:2283:C:H2'	25:YA:2284:C:O4'	2.16	0.45
27:YD:39:LYS:HB2	27:YD:62:TYR:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YP:126:VAL:HG12	35:YP:147:LEU:HD22	1.99	0.45
43:YX:60:ARG:HH22	53:Y7:47:ARG:NH1	2.14	0.45
45:YZ:80:ARG:NH2	45:YZ:82:ARG:HH22	2.12	0.45
50:Y4:16:CYS:HB3	50:Y4:33:VAL:HB	1.98	0.45
50:Y4:22:ILE:HG22	50:Y4:23:GLU:H	1.82	0.45
1:QA:7:G:H2'	5:QE:119:LEU:HD22	1.99	0.45
1:QA:474:G:H5'	16:QP:81:ARG:HG3	1.99	0.45
1:QA:1326:C:H2'	1:QA:1327:C:H6	1.82	0.45
1:QA:1360:A:H8	1:QA:1360:A:OP1	2.00	0.45
2:QB:51:LEU:HD22	2:QB:55:PHE:HE2	1.82	0.45
25:RA:608:A:OP1	29:RF:100:THR:OG1	2.33	0.45
25:RA:1246:A:OP1	29:RF:38:ARG:NH1	2.46	0.45
25:RA:2068:U:N3	25:RA:2430:A:C2	2.75	0.45
25:RA:2376:A:H2'	25:RA:2377:A:O4'	2.17	0.45
25:RA:2747:G:O6	25:RA:2755:C:H5''	2.17	0.45
26:RB:78:A:H2'	26:RB:79:C:O4'	2.17	0.45
28:RE:107:THR:O	28:RE:190:GLY:HA2	2.17	0.45
1:XA:102:G:C6	1:XA:103:C:C4	3.05	0.45
1:XA:827:U:C5	1:XA:872:A:N1	2.85	0.45
1:XA:950:U:H2'	1:XA:951:G:H8	1.82	0.45
1:XA:1225:A:H5''	1:XA:1226:C:OP2	2.17	0.45
9:XI:25:LYS:HE3	9:XI:25:LYS:HB2	1.72	0.45
9:XI:111:ARG:HH22	10:XJ:62:HIS:CE1	2.35	0.45
11:XK:28:THR:OG1	11:XK:90:GLY:HA3	2.17	0.45
13:XM:65:LYS:HB3	50:Y4:50:VAL:HG21	1.99	0.45
19:XS:24:ALA:O	19:XS:25:LYS:HB3	2.17	0.45
19:XS:66:MET:HB2	19:XS:74:PHE:CZ	2.52	0.45
25:YA:459:U:H2'	25:YA:460:A:C8	2.52	0.45
25:YA:1006:C:H5'	33:YN:28:THR:HG23	1.98	0.45
25:YA:1021:A:H62	25:YA:1141:U:H3	1.65	0.45
25:YA:1204:A:H2	25:YA:1241:A:C2	2.35	0.45
25:YA:1862:G:O2'	25:YA:1863:G:H5'	2.17	0.45
25:YA:2067:G:O2'	25:YA:2069:G:H5''	2.17	0.45
25:YA:2355:C:O3'	46:Y0:24:LYS:HD2	2.17	0.45
25:YA:2674:G:H2'	25:YA:2675:A:C8	2.52	0.45
28:YE:167:VAL:HG21	28:YE:187:ALA:CB	2.47	0.45
31:YH:12:PRO:O	31:YH:13:LYS:HB2	2.17	0.45
31:YH:52:VAL:HG21	31:YH:68:THR:HG22	1.99	0.45
38:YS:88:ASP:HB3	38:YS:89:ARG:H	1.47	0.45
1:QA:407:G:H2'	1:QA:408:A:C8	2.51	0.44
1:QA:560:U:H5'	1:QA:566:G:N2	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1070:U:H2'	1:QA:1071:C:H6	1.82	0.44
1:QA:1159:U:O2'	1:QA:1160:G:N7	2.51	0.44
13:QM:92:HIS:CD2	13:QM:110:ARG:HH21	2.35	0.44
25:RA:1049:C:H2'	25:RA:1050:A:H5''	1.98	0.44
25:RA:1142(A):A:H4'	33:RN:25:ARG:HH22	1.81	0.44
25:RA:1428:C:N4	25:RA:1570:A:OP2	2.38	0.44
25:RA:2321:G:H2'	25:RA:2321:G:N3	2.32	0.44
25:RA:2494:G:OP1	46:R0:3:HIS:HA	2.17	0.44
29:RF:161:GLU:OE2	29:RF:164:ARG:NH1	2.51	0.44
31:RH:52:VAL:HG21	31:RH:69:ARG:HA	1.98	0.44
32:RI:14:ASP:OD2	32:RI:14:ASP:N	2.50	0.44
34:RO:87:ILE:HD12	34:RO:91:LEU:HD12	1.99	0.44
34:RO:111:PHE:HB3	34:RO:114:ILE:HG13	1.99	0.44
37:RR:33:ARG:HH22	51:R5:55:ARG:HG2	1.81	0.44
48:R2:41:ILE:HD11	48:R2:44:LEU:HB2	1.99	0.44
1:XA:253:U:H2'	1:XA:254:G:C8	2.52	0.44
1:XA:484:G:H4'	1:XA:485:G:O5'	2.16	0.44
1:XA:606:G:H1	1:XA:631:G:H5''	1.81	0.44
4:XD:25:ARG:NH1	4:XD:30:LYS:HG3	2.32	0.44
8:XH:51:VAL:HG11	8:XH:60:ARG:HG3	1.99	0.44
10:XJ:16:LEU:HD11	10:XJ:70:ARG:HB2	1.99	0.44
25:YA:1187:G:H5''	41:YV:81:TYR:CE2	2.52	0.44
31:YH:3:ARG:HA	31:YH:3:ARG:NE	2.33	0.44
48:Y2:41:ILE:HD11	48:Y2:44:LEU:CG	2.47	0.44
1:QA:133:U:OP1	20:QT:74:LYS:NZ	2.40	0.44
1:QA:179:A:H2'	1:QA:180:U:H6	1.82	0.44
1:QA:487:A:H2'	1:QA:488:C:O4'	2.17	0.44
1:QA:975:A:N6	1:QA:1367:C:O4'	2.50	0.44
1:QA:1318:A:H4'	19:QS:11:VAL:CG1	2.48	0.44
6:QF:41:GLU:HB3	6:QF:62:TRP:HB3	2.00	0.44
8:QH:6:ILE:HB	8:QH:85:ARG:HH11	1.82	0.44
10:QJ:33:GLN:O	10:QJ:75:ILE:HG12	2.17	0.44
19:QS:66:MET:HB2	19:QS:74:PHE:CZ	2.51	0.44
25:RA:31:C:O2'	25:RA:1238:G:H5'	2.16	0.44
25:RA:616:A:C4	29:RF:180:GLY:HA2	2.52	0.44
25:RA:1138:G:N2	33:RN:106:MET:HE3	2.14	0.44
25:RA:2262:U:OP1	46:R0:19:LYS:NZ	2.42	0.44
25:RA:2648:C:H2'	25:RA:2649:U:H6	1.82	0.44
31:RH:109:PHE:CZ	31:RH:152:ARG:HG2	2.52	0.44
37:RR:28:LEU:HD12	37:RR:48:VAL:HG11	1.99	0.44
40:RU:65:ILE:HG12	40:RU:96:ALA:CB	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:RY:42:VAL:HG12	44:RY:65:ALA:HB3	1.99	0.44
52:R6:32:ASN:N	52:R6:32:ASN:OD1	2.49	0.44
1:XA:1322:C:OP1	1:XA:1322:C:H6	2.00	0.44
1:XA:1363:A:H4'	1:XA:1364:U:H2'	1.98	0.44
2:XB:12:GLU:C	2:XB:14:GLY:H	2.21	0.44
2:XB:33:TYR:HB2	2:XB:43:ASP:HB2	1.99	0.44
5:XE:110:LEU:HD13	5:XE:118:ILE:HD13	1.98	0.44
25:YA:643:A:N1	25:YA:2369:A:O2'	2.44	0.44
25:YA:862:G:H2'	25:YA:863:A:O4'	2.17	0.44
25:YA:2309:A:C6	25:YA:2310:A:C2	3.05	0.44
32:YI:120:ILE:HD11	32:YI:126:TYR:CZ	2.52	0.44
34:YO:17:ARG:NH2	34:YO:47:ILE:HD13	2.33	0.44
34:YO:86:ILE:HG22	34:YO:94:ARG:HD3	2.00	0.44
42:YW:33:ARG:NH2	42:YW:52:GLU:OE1	2.50	0.44
43:YX:35:THR:O	43:YX:39:ILE:HG13	2.16	0.44
45:YZ:82:ARG:HG3	45:YZ:83:PRO:CD	2.47	0.44
1:QA:377:G:H1	1:QA:386:C:H42	1.65	0.44
1:QA:390:C:H2'	1:QA:391:G:C8	2.53	0.44
1:QA:509:A:C8	1:QA:509:A:H3'	2.52	0.44
1:QA:1101:A:H4'	1:QA:1102:A:O5'	2.18	0.44
1:QA:1326:C:H2'	1:QA:1327:C:C6	2.52	0.44
1:QA:1388:C:H2'	1:QA:1389:C:C6	2.52	0.44
1:QA:1399:C:C2	1:QA:1502:A:N6	2.86	0.44
4:QD:158:ILE:HD13	4:QD:158:ILE:HA	1.82	0.44
6:QF:23:LYS:O	6:QF:27:GLN:HG2	2.17	0.44
19:QS:10:PHE:HB2	19:QS:39:THR:H	1.82	0.44
25:RA:745:G:C2'	25:RA:746:A:H5'	2.48	0.44
25:RA:1669:A:OP2	25:RA:1670:C:OP2	2.35	0.44
25:RA:1771:C:C1'	25:RA:1786:A:H8	2.31	0.44
25:RA:2292:C:OP2	38:RS:17:ARG:NH2	2.49	0.44
28:RE:23:VAL:HG12	28:RE:184:VAL:O	2.17	0.44
32:RI:101:LEU:HD22	32:RI:107:VAL:HB	1.98	0.44
33:RN:114:ARG:O	33:RN:115:ARG:HB3	2.17	0.44
45:RZ:103:ARG:HD3	45:RZ:136:PHE:CD1	2.53	0.44
1:XA:741:G:H2'	1:XA:742:G:O4'	2.17	0.44
1:XA:1128:C:H5'	9:XI:16:ARG:NH2	2.27	0.44
7:XG:138:LYS:HE2	7:XG:142:GLU:OE2	2.17	0.44
8:XH:65:TYR:HA	8:XH:79:VAL:HG23	1.98	0.44
8:XH:83:ILE:HB	8:XH:137:VAL:HG13	1.99	0.44
9:XI:95:LYS:HZ3	9:XI:96:LEU:HD13	1.83	0.44
10:XJ:61:GLU:OE1	14:YN:58:LYS:HE2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:XL:45:PRO:HG3	12:XL:53:ARG:HD3	1.98	0.44
19:XS:42:PRO:HD3	50:Y4:63:TYR:CE2	2.52	0.44
21:XU:5:ASP:HB3	21:XU:8:THR:OG1	2.17	0.44
25:YA:41:C:H2'	25:YA:43:G:O4'	2.17	0.44
25:YA:99:U:H4'	25:YA:101:G:C5'	2.48	0.44
25:YA:531:C:OP1	25:YA:561:G:N1	2.50	0.44
25:YA:587:C:O2	35:YP:33:ARG:NH1	2.50	0.44
25:YA:1109:C:O2'	25:YA:1110:G:OP1	2.26	0.44
25:YA:1164:G:H2'	25:YA:1165:U:C6	2.52	0.44
25:YA:1289:C:H2'	25:YA:1290:C:C6	2.53	0.44
25:YA:1638:C:H5''	25:YA:2710:C:O2'	2.17	0.44
25:YA:2282:G:H4'	25:YA:2389:G:O2'	2.18	0.44
33:YN:62:VAL:HG12	33:YN:66:LYS:HD2	1.98	0.44
35:YP:64:LYS:CB	54:Y8:25:MET:HG3	2.48	0.44
40:YU:66:ASN:HB2	40:YU:76:TYR:HB2	1.99	0.44
47:Y1:53:VAL:HB	47:Y1:58:ILE:HD13	1.98	0.44
1:QA:1277:C:O2'	1:QA:1279:A:H8	1.99	0.44
1:QA:1338:G:C6	1:QA:1339:A:C6	3.06	0.44
4:QD:166:LYS:HG3	4:QD:178:VAL:HG11	1.99	0.44
5:QE:47:LYS:HE2	5:QE:47:LYS:HB2	1.82	0.44
19:QS:70:LYS:HE2	50:R4:68:ARG:HH21	1.82	0.44
25:RA:250:G:C6	25:RA:251:A:C6	3.05	0.44
25:RA:372:G:HO2'	25:RA:400:G:H1	1.65	0.44
25:RA:602:G:O2'	25:RA:604:G:O2'	2.26	0.44
25:RA:989:G:N7	49:R3:13:ILE:HD12	2.32	0.44
25:RA:2610:C:H4'	25:RA:2611:U:OP2	2.16	0.44
25:RA:2758:A:H2'	25:RA:2759:G:O4'	2.18	0.44
27:RD:70:TRP:HZ3	27:RD:146:GLU:OE2	2.01	0.44
30:RG:51:ARG:O	30:RG:53:LEU:N	2.48	0.44
32:RI:93:THR:H	32:RI:96:ASP:HB2	1.83	0.44
33:RN:116:LEU:HD23	33:RN:116:LEU:HA	1.78	0.44
36:RQ:12:GLN:HE21	36:RQ:72:LYS:HD3	1.82	0.44
48:R2:49:LYS:O	48:R2:53:LEU:HB2	2.18	0.44
1:XA:109:A:C6	1:XA:326:G:C6	3.05	0.44
1:XA:337:C:H2'	1:XA:338:A:C8	2.52	0.44
1:XA:542:G:H5'	4:XD:41:GLY:HA3	1.98	0.44
1:XA:735:C:H5'	18:XR:71:LYS:HD3	2.00	0.44
1:XA:1117:G:H5''	9:XI:104:ARG:NH1	2.32	0.44
1:XA:1239:A:H62	1:XA:1299:A:H62	1.65	0.44
7:XG:87:VAL:HG11	7:XG:155:ARG:HA	1.99	0.44
13:XM:115:LYS:HE3	13:XM:115:LYS:HB2	1.75	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:XR:52:PRO:HB2	18:XR:54:ARG:HG2	2.00	0.44
19:XS:81:ARG:HE	19:XS:81:ARG:HB2	1.36	0.44
20:XT:87:LYS:O	20:XT:91:LEU:HG	2.18	0.44
25:YA:1204:A:C2	25:YA:1241:A:C2	3.05	0.44
25:YA:1371:G:HO2'	25:YA:1372:U:H5	1.63	0.44
25:YA:1930:G:O2'	25:YA:1931:U:P	2.75	0.44
25:YA:2175:C:H2'	25:YA:2176:A:O4'	2.17	0.44
25:YA:2563:U:H1'	25:YA:2566:A:N6	2.33	0.44
25:YA:2867:G:O2'	25:YA:2868:A:P	2.76	0.44
31:YH:124:GLU:HB3	31:YH:132:ARG:HG3	1.99	0.44
39:YT:61:PHE:CE2	39:YT:76:PHE:HB2	2.53	0.44
40:YU:104:GLN:OE1	40:YU:105:VAL:HG23	2.18	0.44
41:YV:99:ILE:HD13	41:YV:99:ILE:H	1.82	0.44
1:QA:827:U:C5	1:QA:870:U:C4	3.05	0.44
3:QC:70:VAL:HG21	3:QC:76:VAL:HG11	2.00	0.44
4:QD:150:GLU:OE1	4:QD:150:GLU:N	2.51	0.44
12:QL:70:ILE:HD13	12:QL:77:LEU:HD12	1.99	0.44
22:QV:9:G:N2	22:QV:26:G:H1'	2.33	0.44
25:RA:774:A:H2	25:RA:787:U:O2'	1.99	0.44
25:RA:1728:G:C6	25:RA:1730:U:OP2	2.70	0.44
27:RD:49:ILE:CD1	27:RD:52:ARG:HA	2.47	0.44
30:RG:37:VAL:O	30:RG:94:LEU:HG	2.17	0.44
31:RH:4:ILE:O	31:RH:6:ARG:N	2.51	0.44
38:RS:11:LYS:HG3	38:RS:91:PRO:HD3	1.98	0.44
51:R5:46:CYS:HA	51:R5:47:PRO:HD2	1.63	0.44
52:R6:40:CYS:HA	52:R6:41:PRO:HD2	1.85	0.44
1:XA:148:G:H2'	1:XA:149:A:C8	2.51	0.44
1:XA:376:G:H5''	16:XP:5:ARG:HB2	1.99	0.44
1:XA:421:U:H3	3:XC:127:ARG:HH21	1.63	0.44
1:XA:765:G:N2	1:XA:813:U:OP2	2.50	0.44
22:XV:19:G:H5'	22:XV:20:U:C5	2.52	0.44
25:YA:479:A:N3	25:YA:481:G:H5''	2.32	0.44
25:YA:911:A:H2'	36:YQ:9:TYR:OH	2.18	0.44
25:YA:1085:A:HO2'	25:YA:1086:A:P	2.37	0.44
25:YA:1469:A:H2'	25:YA:1470:G:C8	2.53	0.44
25:YA:1535:U:OP2	25:YA:1537:C:N4	2.51	0.44
29:YF:63:LYS:HE3	29:YF:65:TRP:O	2.18	0.44
30:YG:114:ILE:HB	30:YG:117:PHE:HB2	1.99	0.44
32:YI:110:ASP:HB3	32:YI:112:LYS:N	2.33	0.44
33:YN:134:ARG:O	33:YN:136:GLU:N	2.50	0.44
39:YT:42:ILE:HG21	39:YT:84:GLN:NE2	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:YV:15:GLU:HG3	41:YV:16:PRO:HD2	1.99	0.44
44:YY:51:VAL:O	44:YY:56:PRO:HA	2.18	0.44
48:Y2:17:SER:CB	48:Y2:67:LYS:HE3	2.47	0.44
52:Y6:7:ILE:HD12	52:Y6:7:ILE:HA	1.85	0.44
52:Y6:34:LEU:HD13	52:Y6:34:LEU:H	1.82	0.44
1:QA:164:U:H2'	1:QA:165:C:C6	2.53	0.44
1:QA:652:U:O2'	1:QA:653:A:O5'	2.35	0.44
1:QA:1347:G:O2'	1:QA:1348:U:P	2.76	0.44
2:QB:71:VAL:HA	2:QB:93:VAL:HB	2.00	0.44
2:QB:228:GLY:O	2:QB:230:VAL:N	2.50	0.44
11:QK:92:GLU:HB3	11:QK:96:ARG:NH1	2.33	0.44
12:QL:109:GLY:HA3	12:QL:121:GLY:O	2.17	0.44
15:QO:50:HIS:O	15:QO:53:HIS:HB3	2.17	0.44
25:RA:70:G:H21	25:RA:71:A:H62	1.65	0.44
25:RA:495:G:N3	42:RW:61:ASN:ND2	2.65	0.44
25:RA:754:C:H2'	25:RA:755:C:H6	1.83	0.44
25:RA:899:A:H8	25:RA:899:A:OP2	2.00	0.44
25:RA:934:G:H2'	25:RA:935:C:C6	2.53	0.44
25:RA:953:A:OP2	36:RQ:16:ARG:HD3	2.17	0.44
25:RA:1862:G:O2'	25:RA:1863:G:H5'	2.18	0.44
25:RA:2300:G:H2'	25:RA:2301:C:C6	2.53	0.44
25:RA:2656:U:H3	25:RA:2665:A:H2	1.65	0.44
30:RG:57:ALA:HB1	30:RG:68:PRO:HG2	1.99	0.44
30:RG:171:ALA:O	30:RG:175:LEU:HG	2.18	0.44
31:RH:28:GLY:HA3	31:RH:79:VAL:HB	2.00	0.44
1:XA:458:C:H2'	1:XA:464:G:H8	1.83	0.44
1:XA:690:G:H22	11:XK:55:LYS:HZ2	1.65	0.44
1:XA:1388:C:H2'	1:XA:1389:C:C6	2.52	0.44
15:XO:32:LEU:O	15:XO:36:ILE:HG13	2.18	0.44
15:XO:82:ILE:O	15:XO:86:GLY:N	2.51	0.44
22:XV:61:C:H2'	22:XV:62:C:C6	2.51	0.44
25:YA:71:A:H2	43:YX:31:HIS:NE2	2.13	0.44
25:YA:77:C:O3'	48:Y2:14:ARG:NH2	2.51	0.44
25:YA:1283:G:N2	25:YA:1285:G:H3'	2.32	0.44
25:YA:1537:C:H2'	25:YA:1538:G:C8	2.53	0.44
25:YA:2335:A:O2'	25:YA:2336:A:H2'	2.17	0.44
25:YA:2360:A:H2'	25:YA:2361:A:O4'	2.18	0.44
27:YD:85:ASP:HB2	27:YD:92:ILE:HD13	1.99	0.44
29:YF:47:GLY:HA3	29:YF:95:ARG:O	2.18	0.44
29:YF:184:TYR:CE2	29:YF:188:ARG:HD2	2.52	0.44
35:YP:62:LEU:HB2	54:Y8:30:ARG:HH11	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:Y0:43:THR:O	46:Y0:43:THR:HG23	2.17	0.44
1:QA:255:G:H2'	1:QA:256:U:C6	2.53	0.44
1:QA:530:G:HO2'	1:QA:531:U:P	2.40	0.44
1:QA:636:U:H5'	17:QQ:2:PRO:HG3	1.98	0.44
1:QA:769:G:H4'	1:QA:1513:A:H4'	1.99	0.44
10:QJ:47:PHE:HE1	10:QJ:63:PHE:HB2	1.83	0.44
12:QL:71:PRO:HG3	12:QL:99:HIS:HD2	1.82	0.44
15:QO:39:LEU:HA	15:QO:39:LEU:HD23	1.68	0.44
16:QP:23:ASP:O	16:QP:26:ARG:HB2	2.17	0.44
25:RA:724:U:H2'	25:RA:725:G:O4'	2.17	0.44
25:RA:1338:G:N3	25:RA:1393:A:H2	2.16	0.44
25:RA:1588:C:H2'	25:RA:1589:C:C6	2.53	0.44
25:RA:2127:G:N2	25:RA:2173:A:H1'	2.33	0.44
25:RA:2323:G:H2'	25:RA:2324:C:O4'	2.18	0.44
25:RA:2377:A:H2'	25:RA:2378:A:C8	2.53	0.44
27:RD:34:VAL:HG22	27:RD:35:LYS:HG3	2.00	0.44
29:RF:9:ILE:HA	29:RF:10:PRO:HD3	1.89	0.44
30:RG:95:ARG:O	30:RG:99:MET:HG2	2.18	0.44
34:RO:106:LEU:HA	34:RO:106:LEU:HD23	1.81	0.44
35:RP:140:ALA:O	35:RP:141:ALA:HB2	2.17	0.44
39:RT:107:ASP:O	39:RT:111:ARG:NH1	2.51	0.44
41:RV:16:PRO:HB3	41:RV:97:LYS:O	2.17	0.44
41:RV:35:LEU:CD2	41:RV:57:VAL:HG22	2.47	0.44
45:RZ:29:TYR:CE2	45:RZ:87:ASP:HB3	2.53	0.44
47:R1:49:VAL:HG11	47:R1:70:VAL:HG11	1.98	0.44
55:R9:24:TYR:CE2	55:R9:35:ARG:HG3	2.53	0.44
1:XA:680:C:H2'	1:XA:681:C:C6	2.51	0.44
1:XA:1103:C:H2'	1:XA:1104:G:O4'	2.17	0.44
3:XC:47:LEU:HA	3:XC:47:LEU:HD12	1.83	0.44
12:XL:42:THR:HA	12:XL:53:ARG:O	2.18	0.44
15:XO:77:ARG:HA	15:XO:80:ALA:HB3	1.99	0.44
16:XP:18:ARG:NH1	16:XP:32:TYR:OH	2.50	0.44
25:YA:535:C:O3'	40:YU:53:ARG:NH1	2.51	0.44
25:YA:839:U:H2'	25:YA:840:C:C6	2.53	0.44
25:YA:1509:C:H2'	25:YA:1511:A:C8	2.53	0.44
25:YA:2056:G:H1	51:Y5:4:HIS:CD2	2.36	0.44
25:YA:2119:A:C2	25:YA:2171:A:H1'	2.52	0.44
25:YA:2336:A:H61	46:Y0:43:THR:HG21	1.82	0.44
25:YA:2392:A:H8	35:YP:60:MET:HG2	1.83	0.44
27:YD:61:LEU:HD13	27:YD:61:LEU:HA	1.91	0.44
30:YG:98:ARG:O	30:YG:101:ILE:HG13	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:YT:48:ILE:HD12	39:YT:48:ILE:H	1.83	0.44
43:YX:70:LEU:HD23	43:YX:70:LEU:H	1.83	0.44
45:YZ:52:SER:O	45:YZ:54:HIS:N	2.50	0.44
50:Y4:48:ARG:CZ	50:Y4:51:ASP:HA	2.47	0.44
2:QB:178:ARG:NH2	8:QH:74:PRO:HG3	2.33	0.44
10:QJ:51:ARG:HH22	14:QN:58:LYS:HZ1	1.66	0.44
25:RA:234:C:H2'	25:RA:235:U:C6	2.53	0.44
25:RA:443:A:H1'	25:RA:1201:C:O4'	2.18	0.44
25:RA:587:C:OP2	35:RP:21:ARG:NH2	2.51	0.44
25:RA:1771:C:O2'	25:RA:1786:A:C8	2.67	0.44
25:RA:2784:C:H2'	25:RA:2785:C:C6	2.53	0.44
27:RD:65:ILE:HD13	27:RD:65:ILE:H	1.82	0.44
30:RG:95:ARG:C	30:RG:99:MET:HG2	2.38	0.44
31:RH:123:PHE:O	31:RH:125:VAL:HG23	2.18	0.44
37:RR:54:LEU:HD23	37:RR:66:VAL:HG23	1.98	0.44
41:RV:49:THR:HB	41:RV:50:PRO:HD2	1.99	0.44
43:RX:57:LEU:HD11	43:RX:78:LYS:HD2	1.99	0.44
43:RX:87:GLN:O	43:RX:88:LYS:HG3	2.18	0.44
45:RZ:148:ASP:OD1	45:RZ:149:SER:N	2.50	0.44
1:XA:110:C:H2'	1:XA:111:G:O4'	2.18	0.44
1:XA:865:A:H2	1:XA:918:A:H4'	1.82	0.44
1:XA:883:C:O2'	1:XA:884:U:H5'	2.18	0.44
1:XA:974:A:OP2	14:XN:41:ARG:NH1	2.51	0.44
1:XA:1129:C:C4'	1:XA:1130:A:H5'	2.44	0.44
1:XA:1320:C:OP1	19:XS:70:LYS:HE3	2.17	0.44
3:XC:82:GLU:O	3:XC:86:VAL:HG13	2.17	0.44
5:XE:9:LYS:HB2	5:XE:9:LYS:HE3	1.89	0.44
6:XF:33:TYR:HB2	6:XF:75:LEU:HD12	1.99	0.44
11:XK:19:ALA:HB2	11:XK:32:ILE:HG22	2.00	0.44
13:XM:23:TYR:HE1	13:XM:70:LEU:HD12	1.83	0.44
15:XO:26:GLU:H	15:XO:26:GLU:HG2	1.54	0.44
15:XO:39:LEU:HD13	15:XO:56:LEU:HB2	2.00	0.44
22:XV:23:C:H2'	22:XV:24:U:H6	1.83	0.44
25:YA:674:G:C1'	29:YF:74:ARG:HD3	2.41	0.44
25:YA:828:U:H4'	25:YA:831:G:N1	2.33	0.44
25:YA:2051:A:H5'	25:YA:2578:G:O4'	2.17	0.44
25:YA:2097:C:H2'	25:YA:2098:U:O4'	2.18	0.44
25:YA:2872:G:O2'	25:YA:2873:A:H5'	2.17	0.44
28:YE:37:ARG:O	28:YE:45:THR:HA	2.18	0.44
30:YG:10:LYS:HE2	30:YG:175:LEU:O	2.18	0.44
30:YG:47:LYS:HB2	30:YG:47:LYS:HE3	1.73	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:YZ:166:SER:HB2	45:YZ:167:PRO:C	2.38	0.44
48:Y2:31:GLU:HB2	48:Y2:53:LEU:HD11	2.00	0.44
50:Y4:35:VAL:C	50:Y4:37:SER:H	2.20	0.44
54:Y8:49:VAL:HG23	54:Y8:53:PRO:HB3	2.00	0.44
1:QA:464:G:O6	1:QA:466:C:H5'	2.18	0.44
1:QA:936:C:H2'	1:QA:937:A:H8	1.82	0.44
1:QA:1252:A:H2'	1:QA:1253:G:O4'	2.18	0.44
1:QA:1330:U:OP1	13:QM:25:ILE:O	2.35	0.44
1:QA:1371:G:C6	1:QA:1372:U:C4	3.05	0.44
7:QG:113:GLU:H	7:QG:113:GLU:HG2	1.39	0.44
25:RA:945:A:C4	25:RA:2448:A:C2	3.05	0.44
25:RA:996:A:N6	25:RA:1160:G:C6	2.86	0.44
25:RA:1282:U:H2'	25:RA:1283:G:O4'	2.18	0.44
25:RA:1728:G:H5'	25:RA:1729:A:OP2	2.17	0.44
25:RA:1729:A:H2'	25:RA:1730:U:H5''	2.00	0.44
25:RA:1816:G:C8	27:RD:62:TYR:CZ	3.05	0.44
25:RA:1962:C:O2'	25:RA:1964:G:OP2	2.36	0.44
25:RA:2126:A:H1'	25:RA:2127:G:OP2	2.18	0.44
25:RA:2331:G:O2'	46:R0:43:THR:HG22	2.18	0.44
25:RA:2620:C:O2'	28:RE:157:ALA:O	2.29	0.44
25:RA:2635:C:H5''	28:RE:78:LEU:HA	2.00	0.44
29:RF:117:ARG:HH12	35:RP:1:MET:N	2.16	0.44
37:RR:27:SER:HB3	37:RR:34:ILE:HD11	1.99	0.44
38:RS:19:LYS:O	38:RS:20:ARG:HB3	2.17	0.44
43:RX:67:GLY:O	43:RX:69:TYR:N	2.43	0.44
44:RY:81:LYS:HB2	44:RY:96:ILE:CG2	2.48	0.44
51:R5:16:ARG:HD2	51:R5:20:ARG:NH1	2.33	0.44
52:R6:41:PRO:HD2	52:R6:46:HIS:H	1.83	0.44
1:XA:292:G:N7	1:XA:293:G:H1'	2.33	0.44
1:XA:755:G:OP2	15:XO:65:ARG:HG2	2.18	0.44
1:XA:975:A:H5'	1:XA:975:A:C8	2.48	0.44
3:XC:72:LYS:HB3	3:XC:75:VAL:HG23	2.00	0.44
12:XL:39:VAL:HG12	12:XL:41:ARG:HG3	2.00	0.44
16:XP:39:TYR:CZ	16:XP:41:PRO:HB3	2.53	0.44
25:YA:138:G:H2'	25:YA:139:G:C8	2.52	0.44
25:YA:636:G:OP1	35:YP:132:LYS:HB2	2.18	0.44
25:YA:855:G:C6	25:YA:856:C:C4	3.06	0.44
25:YA:1754:C:H5'	39:YT:101:PHE:CE2	2.52	0.44
25:YA:1790:C:H2'	25:YA:1791:A:C4	2.52	0.44
28:YE:105:THR:OG1	28:YE:199:ARG:NH1	2.50	0.44
32:YI:130:TYR:N	32:YI:136:VAL:O	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:YZ:19:ARG:HD3	45:YZ:25:PRO:HD2	1.99	0.44
45:YZ:52:SER:O	45:YZ:52:SER:OG	2.30	0.44
47:Y1:70:VAL:O	47:Y1:73:LEU:HB2	2.18	0.44
52:Y6:41:PRO:HD2	52:Y6:46:HIS:H	1.81	0.44
1:QA:963:G:H1	1:QA:972:C:N4	2.15	0.43
1:QA:967:C:H2'	1:QA:968:A:C8	2.53	0.43
1:QA:1181:G:C5	1:QA:1182:G:N2	2.86	0.43
7:QG:116:ALA:HA	7:QG:119:ARG:HE	1.83	0.43
20:QT:16:HIS:O	20:QT:19:SER:HB3	2.17	0.43
22:QV:2:C:C2'	22:QV:3:G:H5'	2.48	0.43
25:RA:754:C:H2'	25:RA:755:C:C6	2.53	0.43
25:RA:879:G:C2	25:RA:880:G:H1'	2.53	0.43
25:RA:896:A:C2	45:RZ:146:ILE:HD11	2.52	0.43
25:RA:1022:G:C6	25:RA:1140:C:C4	3.06	0.43
25:RA:1205:U:C4	29:RF:171:PRO:HA	2.52	0.43
25:RA:1651:G:H2'	25:RA:1652:A:O4'	2.18	0.43
25:RA:1655:A:H4'	28:RE:115:GLY:N	2.33	0.43
25:RA:2134:A:N7	25:RA:2156:G:N2	2.65	0.43
25:RA:2346:A:H5''	25:RA:2383:G:H1'	2.00	0.43
26:RB:14:U:H4'	26:RB:70:C:O2	2.18	0.43
27:RD:145:VAL:HG11	27:RD:175:LEU:HD11	2.00	0.43
32:RI:62:LYS:HA	32:RI:133:HIS:NE2	2.33	0.43
34:RO:22:ILE:HD13	34:RO:22:ILE:HA	1.77	0.43
35:RP:37:GLY:O	35:RP:40:SER:OG	2.26	0.43
36:RQ:136:ALA:O	36:RQ:138:ASP:N	2.46	0.43
38:RS:29:PHE:HD2	38:RS:92:TYR:HH	1.65	0.43
44:RY:42:VAL:O	44:RY:65:ALA:N	2.45	0.43
1:XA:667:G:H4'	15:XO:51:HIS:ND1	2.33	0.43
2:XB:80:ILE:HG21	2:XB:212:GLN:HA	1.99	0.43
3:XC:108:ASN:HB3	3:XC:111:LEU:HD12	2.00	0.43
12:XL:24:VAL:O	12:XL:26:ALA:N	2.47	0.43
12:XL:78:GLN:HB3	12:XL:79:GLU:H	1.67	0.43
16:XP:4:ILE:HB	16:XP:66:PRO:HB3	2.00	0.43
25:YA:1449:A:H5'	25:YA:1449(A):G:OP2	2.18	0.43
25:YA:1803:A:H4'	27:YD:259:THR:HG23	2.00	0.43
30:YG:67:LYS:O	30:YG:67:LYS:HD2	2.17	0.43
35:YP:126:VAL:HG12	35:YP:147:LEU:CD2	2.48	0.43
1:QA:954:G:H2'	1:QA:955:U:O4'	2.19	0.43
1:QA:980:C:H5'	1:QA:981:U:C5	2.52	0.43
1:QA:1412:C:H2'	1:QA:1413:A:C8	2.53	0.43
3:QC:81:GLY:O	3:QC:85:ARG:HB2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:133:VAL:HG12	4:QD:135:LEU:H	1.83	0.43
5:QE:100:VAL:HG22	5:QE:118:ILE:HG22	1.99	0.43
9:QI:16:ARG:O	9:QI:63:ILE:HA	2.17	0.43
25:RA:185:U:H2'	25:RA:186:G:O4'	2.18	0.43
25:RA:540:G:H5'	25:RA:541:C:OP2	2.18	0.43
25:RA:673:C:H5''	29:RF:81:PRO:HD2	2.00	0.43
25:RA:1028:A:H61	25:RA:1125:G:H2'	1.83	0.43
25:RA:1359:A:OP2	25:RA:1371:G:N1	2.47	0.43
25:RA:1430:C:H2'	25:RA:1431:U:C6	2.53	0.43
25:RA:1638:C:O3'	25:RA:2709:G:N2	2.51	0.43
25:RA:1819:A:H4'	25:RA:1820:U:O5'	2.18	0.43
25:RA:2808:U:H5''	25:RA:2891:G:O6	2.18	0.43
28:RE:143:ASN:HD22	28:RE:147:PRO:HD3	1.83	0.43
45:RZ:102:LEU:HB3	45:RZ:104:PHE:CE1	2.52	0.43
52:R6:28:ARG:HG3	52:R6:31:PRO:HD2	2.00	0.43
1:XA:210:U:O2'	1:XA:216:G:N7	2.43	0.43
1:XA:719:C:H1'	18:XR:49:LYS:HB3	1.99	0.43
1:XA:1239:A:O2'	1:XA:1298:C:N4	2.51	0.43
4:XD:100:ARG:NH1	4:XD:137:SER:HB3	2.33	0.43
4:XD:153:ARG:NH1	4:XD:181:MET:HB2	2.32	0.43
25:YA:330:A:O2'	25:YA:331:A:H8	2.01	0.43
25:YA:389:G:H22	35:YP:72:PRO:CG	2.30	0.43
25:YA:729:G:OP2	27:YD:13:ARG:NH1	2.50	0.43
25:YA:892:G:N2	25:YA:893:C:C2	2.86	0.43
25:YA:1263:U:H1'	51:Y5:10:LYS:HG3	1.98	0.43
29:YF:66:PRO:O	29:YF:68:LYS:N	2.51	0.43
31:YH:4:ILE:H	31:YH:4:ILE:HG12	1.59	0.43
31:YH:67:LEU:O	31:YH:71:LEU:HB2	2.17	0.43
35:YP:61:ARG:NH1	54:Y8:56:GLU:OE2	2.49	0.43
47:Y1:94:LEU:HD23	47:Y1:94:LEU:HA	1.81	0.43
55:Y9:1:MET:O	55:Y9:34:GLN:HG2	2.18	0.43
1:QA:878:G:H5'	8:QH:89:PRO:HG2	2.00	0.43
1:QA:1004:A:H2	1:QA:1024:G:C8	2.36	0.43
2:QB:74:LYS:O	2:QB:78:GLN:HG3	2.18	0.43
4:QD:155:LEU:O	4:QD:159:ARG:HG2	2.18	0.43
7:QG:9:VAL:HG13	7:QG:94:ARG:NH2	2.27	0.43
10:QJ:51:ARG:NE	10:QJ:60:ARG:O	2.45	0.43
10:QJ:54:PHE:HB3	10:QJ:55:LYS:H	1.69	0.43
11:QK:19:ALA:HB2	11:QK:32:ILE:HG22	2.00	0.43
25:RA:412:A:N7	25:RA:2411:A:H2	2.16	0.43
25:RA:725:G:H8	25:RA:725:G:O5'	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:910:A:N7	36:RQ:13:GLN:HG3	2.32	0.43
25:RA:1392:A:N6	25:RA:1393:A:N6	2.66	0.43
25:RA:1459:G:H2'	25:RA:1460:A:H5''	1.99	0.43
39:RT:19:LEU:HA	39:RT:20:PRO:HD3	1.86	0.43
44:RY:97:ARG:HE	44:RY:98:VAL:HB	1.83	0.43
1:XA:267:C:OP2	17:XQ:67:LYS:HD2	2.18	0.43
1:XA:352:C:O2'	1:XA:354:G:OP1	2.26	0.43
1:XA:421:U:H5''	1:XA:422:C:OP2	2.19	0.43
1:XA:1079:G:C6	1:XA:1080:A:N6	2.86	0.43
1:XA:1222:G:H5''	19:XS:78:ARG:NH1	2.33	0.43
1:XA:1497:G:C2'	1:XA:1498:U:H5'	2.49	0.43
9:XI:118:LYS:O	9:XI:119:ALA:HB3	2.18	0.43
10:XJ:32:ALA:H	10:XJ:78:ASN:ND2	2.16	0.43
25:YA:270(B):A:H61	25:YA:270(Y):G:H1'	1.83	0.43
25:YA:898:C:C2'	25:YA:899:A:H5'	2.48	0.43
25:YA:1543:A:C2	25:YA:1545:A:C4	3.06	0.43
25:YA:2271:G:OP1	46:Y0:18:ALA:HB1	2.19	0.43
25:YA:2845:G:O2'	25:YA:2846:G:H5'	2.18	0.43
28:YE:188:VAL:O	28:YE:188:VAL:HG13	2.19	0.43
32:YI:88:ILE:HG12	32:YI:122:GLU:H	1.83	0.43
33:YN:112:LEU:HG	33:YN:112:LEU:O	2.17	0.43
37:YR:34:ILE:HA	37:YR:34:ILE:HD13	1.71	0.43
37:YR:38:VAL:HG22	37:YR:112:ALA:HB2	2.00	0.43
39:YT:35:LYS:H	39:YT:35:LYS:HD2	1.83	0.43
41:YV:52:VAL:O	41:YV:54:GLY:N	2.51	0.43
43:YX:72:LYS:HG2	43:YX:73:ARG:O	2.18	0.43
47:Y1:25:LYS:C	47:Y1:27:GLU:H	2.22	0.43
1:QA:54:C:N4	1:QA:353:A:OP2	2.48	0.43
1:QA:129(A):G:C6	1:QA:191(A):G:H1'	2.53	0.43
1:QA:368:U:OP1	32:YI:91:SER:OG	2.37	0.43
1:QA:581:G:OP1	15:QO:61:GLY:HA3	2.19	0.43
1:QA:859:A:H2	8:QH:19:VAL:HG11	1.83	0.43
1:QA:936:C:H2'	1:QA:937:A:C8	2.53	0.43
1:QA:947:G:H2'	1:QA:948:C:O4'	2.19	0.43
1:QA:986:A:N3	19:QS:52:TYR:OH	2.45	0.43
2:QB:167:PRO:HG3	2:QB:188:ALA:HB2	2.00	0.43
8:QH:13:ILE:O	8:QH:17:THR:HG23	2.19	0.43
11:QK:38:ASN:HA	11:QK:39:PRO:HD3	1.88	0.43
16:QP:20:VAL:HG21	16:QP:32:TYR:CE1	2.54	0.43
17:QQ:60:ILE:HB	17:QQ:74:LEU:HD23	2.00	0.43
25:RA:292:C:C2	25:RA:349:G:N2	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:458:G:O2'	53:R7:39:ARG:HD3	2.19	0.43
25:RA:588:U:O4	25:RA:670:A:H1'	2.18	0.43
25:RA:1021:A:C8	25:RA:1022:G:H5''	2.53	0.43
25:RA:1766:U:H2'	25:RA:1767:C:C6	2.53	0.43
25:RA:2308:G:HO2'	25:RA:2310:A:H2	1.65	0.43
25:RA:2646:C:H2'	25:RA:2647:U:O4'	2.18	0.43
26:RB:73:A:C4	26:RB:104:A:C2	3.07	0.43
28:RE:119:ARG:HD3	28:RE:160:TYR:HB2	2.00	0.43
33:RN:33:LEU:HA	33:RN:38:HIS:CE1	2.54	0.43
1:XA:181:G:O2'	1:XA:182:U:H6	2.01	0.43
1:XA:191:G:C2	1:XA:192:U:C2	3.07	0.43
1:XA:381:C:H2'	1:XA:382:A:O4'	2.19	0.43
1:XA:865:A:C2	1:XA:918:A:H4'	2.53	0.43
1:XA:874:G:C6	1:XA:875:C:C4	3.07	0.43
1:XA:1451:A:H2'	1:XA:1451:A:N3	2.33	0.43
10:XJ:54:PHE:CZ	10:XJ:55:LYS:HE3	2.54	0.43
12:XL:58:VAL:O	12:XL:65:GLU:HA	2.18	0.43
12:XL:62:SER:C	12:XL:64:TYR:H	2.21	0.43
15:XO:25:THR:HG21	15:XO:70:LEU:HB2	2.00	0.43
16:XP:45:THR:HG22	16:XP:47:ASP:N	2.26	0.43
17:XQ:62:SER:HB3	17:XQ:72:ARG:HE	1.84	0.43
20:XT:98:PRO:C	20:XT:100:ILE:H	2.21	0.43
25:YA:654(A):G:N2	25:YA:654(U):A:H1'	2.32	0.43
25:YA:847:U:C5	25:YA:933:A:N1	2.87	0.43
25:YA:1268:A:H2'	25:YA:1269:A:O4'	2.19	0.43
25:YA:1796:U:H2'	25:YA:1797:C:H6	1.79	0.43
25:YA:2467:C:C2'	25:YA:2468:G:H5'	2.48	0.43
25:YA:2480:C:H2'	25:YA:2481:G:H5'	1.99	0.43
27:YD:92:ILE:HD12	27:YD:104:TYR:CD2	2.54	0.43
28:YE:87:GLU:O	28:YE:89:ASP:N	2.50	0.43
1:QA:1036:G:C8	1:QA:1037:C:C4	3.07	0.43
5:QE:18:ARG:HE	5:QE:18:ARG:HB3	1.52	0.43
15:QO:17:ARG:HD3	15:QO:26:GLU:HG3	1.99	0.43
25:RA:13:A:H61	25:RA:525:U:H3'	1.83	0.43
25:RA:28:A:C2	25:RA:513:A:C8	3.06	0.43
25:RA:265:A:H2'	25:RA:266:G:O4'	2.18	0.43
25:RA:706:A:H2'	25:RA:707:G:O4'	2.19	0.43
25:RA:774:A:C2	25:RA:787:U:O2'	2.72	0.43
25:RA:996:A:H4'	40:RU:92:ARG:NE	2.24	0.43
25:RA:1952:A:OP1	34:RO:42:SER:OG	2.28	0.43
26:RB:15:A:H3'	26:RB:16:G:H5'	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:36:ARG:HH21	28:RE:88:GLY:HA2	1.84	0.43
44:RY:46:LYS:HB2	44:RY:61:ILE:HG22	2.00	0.43
44:RY:47:LYS:O	44:RY:49:VAL:N	2.51	0.43
1:XA:9:G:H5''	5:XE:126:ARG:HE	1.84	0.43
1:XA:464:G:C6	1:XA:466:C:H5'	2.53	0.43
1:XA:923:A:OP1	5:XE:21:ALA:HB2	2.18	0.43
1:XA:975:A:N6	1:XA:1367:C:O4'	2.52	0.43
1:XA:1446:A:O2'	1:XA:1447:G:P	2.76	0.43
2:XB:100:GLY:N	2:XB:176:GLU:OE2	2.47	0.43
2:XB:215:LEU:HD22	2:XB:215:LEU:HA	1.73	0.43
12:XL:110:VAL:CG2	12:XL:120:TYR:HB3	2.48	0.43
13:XM:14:ARG:H	13:XM:44:ARG:CD	2.25	0.43
14:XN:29:ARG:HD3	14:XN:40:CYS:HB2	1.99	0.43
25:YA:956:G:C5'	36:YQ:77:LYS:HE2	2.49	0.43
25:YA:1021:A:C8	25:YA:1022:G:H5''	2.46	0.43
25:YA:1430:C:H2'	25:YA:1431:U:H6	1.82	0.43
25:YA:1512:G:H2'	25:YA:1513:C:C6	2.54	0.43
25:YA:1534:G:H2'	25:YA:1534:G:N3	2.34	0.43
25:YA:1742:C:H5'	25:YA:1743:G:OP2	2.19	0.43
29:YF:33:LEU:HD12	29:YF:33:LEU:HA	1.86	0.43
29:YF:64:ILE:HG23	29:YF:65:TRP:CD1	2.53	0.43
34:YO:64:ARG:HG2	34:YO:79:PHE:CD1	2.53	0.43
34:YO:88:ASN:OD1	34:YO:90:GLN:HB2	2.19	0.43
34:YO:88:ASN:ND2	34:YO:92:GLU:HB2	2.23	0.43
45:YZ:5:LEU:HB3	45:YZ:59:LEU:HA	2.00	0.43
48:Y2:15:LYS:H	48:Y2:67:LYS:CE	2.32	0.43
49:Y3:51:ALA:HA	49:Y3:54:VAL:HG12	2.00	0.43
50:Y4:43:TYR:C	50:Y4:43:TYR:CD2	2.92	0.43
53:Y7:47:ARG:HB2	53:Y7:48:LYS:H	1.59	0.43
1:QA:707:C:H2'	1:QA:708:C:C6	2.53	0.43
1:QA:741:G:H2'	1:QA:742:G:O4'	2.19	0.43
1:QA:1450:U:O2'	1:QA:1451:A:N7	2.52	0.43
2:QB:217:ARG:HE	2:QB:217:ARG:HB2	1.29	0.43
18:QR:37:VAL:HG22	18:QR:78:LEU:HB3	2.01	0.43
25:RA:83:G:O2'	25:RA:84:A:H8	2.01	0.43
25:RA:286:C:H2'	25:RA:287:C:C6	2.54	0.43
25:RA:1401:G:H2'	25:RA:1402:C:O4'	2.18	0.43
25:RA:1778:U:H2'	25:RA:1784:A:N6	2.33	0.43
25:RA:2459:A:C5	25:RA:2460:U:C5	3.07	0.43
28:RE:179:GLU:HB3	28:RE:181:LEU:HD22	1.99	0.43
33:RN:58:ASP:HB3	33:RN:95:PRO:HB3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RP:90:ARG:HB3	35:RP:91:PHE:H	1.68	0.43
38:RS:12:PHE:HD2	38:RS:12:PHE:HA	1.72	0.43
39:RT:1:MET:O	39:RT:3:ARG:HG2	2.19	0.43
1:XA:254:G:OP1	17:XQ:67:LYS:O	2.37	0.43
2:XB:37:ASN:C	2:XB:39:ILE:H	2.20	0.43
10:XJ:44:VAL:HG13	10:XJ:66:ARG:HG2	1.99	0.43
14:YN:27:CYS:SG	14:YN:29:ARG:HB2	2.58	0.43
25:YA:71:A:H5''	25:YA:72:U:H3'	2.01	0.43
25:YA:825:C:O2	35:YP:55:ARG:NH2	2.51	0.43
25:YA:1207:C:H2'	25:YA:1208:C:H6	1.83	0.43
25:YA:2238:G:N3	25:YA:2238:G:H2'	2.31	0.43
35:YP:83:VAL:O	35:YP:114:ILE:HA	2.19	0.43
35:YP:126:VAL:HG22	35:YP:145:PRO:HG2	2.00	0.43
37:YR:33:ARG:HH21	51:Y5:55:ARG:HG2	1.82	0.43
38:YS:39:ILE:HD12	38:YS:85:VAL:HG11	2.00	0.43
41:YV:55:ALA:HB2	41:YV:101:GLY:HA2	2.00	0.43
43:YX:53:LYS:H	43:YX:82:GLN:HB3	1.83	0.43
44:YY:87:LYS:HB2	44:YY:87:LYS:NZ	2.33	0.43
1:QA:176:C:OP1	20:QT:29:LYS:NZ	2.46	0.43
1:QA:587:G:N2	1:QA:754:C:OP2	2.52	0.43
1:QA:1018:C:H2'	1:QA:1019:C:C6	2.53	0.43
2:QB:8:LYS:HE3	2:QB:11:LEU:HB3	2.01	0.43
3:QC:11:ARG:HB3	3:QC:15:THR:HB	2.00	0.43
4:QD:135:LEU:HD13	4:QD:135:LEU:HA	1.86	0.43
9:QI:116:LYS:HE2	9:QI:122:ALA:HB2	2.01	0.43
13:QM:44:ARG:HB2	13:QM:47:ASP:OD2	2.19	0.43
25:RA:270(R):G:H2'	25:RA:270(S):G:H8	1.84	0.43
25:RA:322:A:H5'	25:RA:340:A:H1'	2.00	0.43
25:RA:485:C:H2'	25:RA:486:C:H6	1.84	0.43
25:RA:654(A):G:H3'	25:RA:654(A):G:OP2	2.18	0.43
25:RA:676:A:H8	25:RA:2069:G:N2	2.03	0.43
25:RA:748:G:C8	42:RW:89:ALA:HB1	2.54	0.43
25:RA:953:A:C2	25:RA:954:G:C8	3.06	0.43
25:RA:1027:A:N6	25:RA:1126:A:C4	2.87	0.43
25:RA:1291:C:H5'	25:RA:1536:A:H5'	1.99	0.43
25:RA:1348:G:C2'	25:RA:1349:A:H5''	2.48	0.43
25:RA:2187:G:C6	25:RA:2188:C:C4	3.06	0.43
25:RA:2303:G:O2'	25:RA:2304:G:H5'	2.19	0.43
25:RA:2419:U:H2'	25:RA:2420:C:C6	2.54	0.43
25:RA:2482:G:O6	36:RQ:124:LYS:NZ	2.52	0.43
25:RA:2702:U:O2	25:RA:2702:U:H2'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RW:20:VAL:HG22	42:RW:47:VAL:HG21	2.00	0.43
44:RY:55:TYR:CD2	44:RY:55:TYR:N	2.87	0.43
1:XA:536:C:H2'	1:XA:537:G:C8	2.54	0.43
1:XA:1072:G:H2'	1:XA:1073:U:C6	2.54	0.43
1:XA:1124:G:H3'	1:XA:1145:C:H41	1.84	0.43
1:XA:1273:G:H3'	1:XA:1274:G:H8	1.82	0.43
9:XI:8:GLY:HA2	9:XI:79:LEU:HD12	2.01	0.43
19:XS:42:PRO:HB3	50:Y4:60:GLN:OE1	2.18	0.43
25:YA:345:A:N3	25:YA:347:A:N6	2.66	0.43
25:YA:657:U:H2'	25:YA:658:C:C6	2.54	0.43
25:YA:1216:G:P	40:YU:12:ARG:HH21	2.39	0.43
25:YA:2780:G:OP2	33:YN:118:LYS:HE2	2.19	0.43
27:YD:132:PRO:HG3	27:YD:190:TYR:CE1	2.54	0.43
28:YE:119:ARG:HG2	28:YE:160:TYR:HB2	2.00	0.43
35:YP:30:THR:O	35:YP:33:ARG:HB2	2.18	0.43
35:YP:113:LYS:HG2	35:YP:115:LEU:HD23	2.01	0.43
36:YQ:20:ALA:HB3	45:YZ:79:ARG:CZ	2.49	0.43
37:YR:70:LEU:HD23	37:YR:70:LEU:HA	1.84	0.43
44:YY:67:LEU:HD12	44:YY:67:LEU:HA	1.78	0.43
44:YY:80:GLY:O	44:YY:81:LYS:HG3	2.18	0.43
45:YZ:52:SER:C	45:YZ:54:HIS:H	2.22	0.43
48:Y2:47:ASN:HB2	48:Y2:48:HIS:H	1.50	0.43
1:QA:148:G:H2'	1:QA:149:A:C8	2.54	0.43
17:QQ:63:ARG:HG2	17:QQ:64:PRO:HD2	2.00	0.43
25:RA:105:C:O5'	25:RA:105:C:H6	2.02	0.43
25:RA:395:U:H2'	25:RA:396:G:N7	2.34	0.43
25:RA:1240:U:HO2'	25:RA:1241:A:P	2.42	0.43
25:RA:1337:G:OP2	43:RX:73:ARG:NH2	2.51	0.43
25:RA:1464:C:O2'	25:RA:1528:A:H8	1.94	0.43
25:RA:2154:G:H2'	25:RA:2155:G:H8	1.83	0.43
25:RA:2319:G:H4'	25:RA:2320:A:OP1	2.18	0.43
25:RA:2698:U:H2'	25:RA:2699:C:C6	2.53	0.43
25:RA:2836:U:C4	25:RA:2883:A:N6	2.87	0.43
29:RF:23:ASP:OD1	29:RF:23:ASP:N	2.48	0.43
34:RO:104:ARG:HD3	39:RT:36:GLU:OE2	2.19	0.43
35:RP:18:ARG:HD2	35:RP:27:HIS:CD2	2.54	0.43
35:RP:65:ARG:O	35:RP:68:GLN:NE2	2.50	0.43
40:RU:69:CYS:HB3	40:RU:106:PHE:CZ	2.53	0.43
45:RZ:111:VAL:O	45:RZ:113:ALA:N	2.51	0.43
54:R8:58:ILE:HA	54:R8:61:LEU:HD21	2.01	0.43
1:XA:131:C:H2'	1:XA:132:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:731:G:H5'	1:XA:766:A:H4'	2.00	0.43
1:XA:960:U:H1'	1:XA:1223:C:H5'	2.00	0.43
1:XA:1318:A:O2'	19:XS:37:ARG:HD3	2.18	0.43
2:XB:7:VAL:HG21	2:XB:217:ARG:NH1	2.34	0.43
2:XB:172:ILE:O	2:XB:175:ARG:HB3	2.18	0.43
7:XG:140:ASP:HA	7:XG:143:ARG:NH1	2.34	0.43
12:XL:59:ARG:NH1	12:XL:65:GLU:OE2	2.51	0.43
13:XM:4:ILE:HG22	13:XM:5:ALA:N	2.34	0.43
14:YN:6:LEU:HD23	14:YN:23:ARG:HH22	1.83	0.43
25:YA:1105:U:H2'	25:YA:1106:G:H8	1.83	0.43
25:YA:1198:U:H2'	25:YA:1199:U:C6	2.54	0.43
25:YA:1930:G:O2'	25:YA:1931:U:O2	2.35	0.43
26:YB:66:A:H61	26:YB:107:U:H2'	1.84	0.43
28:YE:4:ILE:HD12	28:YE:28:ALA:HB1	2.01	0.43
30:YG:145:THR:O	30:YG:147:ASP:N	2.44	0.43
35:YP:15:ARG:O	35:YP:17:LYS:HG3	2.19	0.43
35:YP:62:LEU:HB2	54:Y8:30:ARG:NH1	2.34	0.43
45:YZ:70:LEU:HD23	45:YZ:70:LEU:HA	1.91	0.43
48:Y2:17:SER:HB3	48:Y2:67:LYS:HE3	2.00	0.43
1:QA:255:G:H2'	1:QA:256:U:H6	1.84	0.43
1:QA:502:G:OP1	12:QL:118:SER:HB2	2.18	0.43
1:QA:868:C:H2'	1:QA:869:G:O4'	2.18	0.43
1:QA:1297:C:HO2'	1:QA:1298:C:P	2.36	0.43
1:QA:1371:G:OP1	9:QI:12:GLU:HB2	2.19	0.43
6:QF:99:ALA:HB1	18:QR:23:LYS:HZ2	1.83	0.43
10:QJ:76:ASN:HA	10:QJ:77:PRO:HD2	1.85	0.43
15:QO:48:LYS:HD3	15:QO:48:LYS:HA	1.76	0.43
18:QR:29:PHE:CD2	18:QR:29:PHE:N	2.87	0.43
18:QR:53:ARG:HH21	18:QR:60:ALA:N	2.17	0.43
20:QT:84:LEU:HD23	20:QT:84:LEU:HA	1.86	0.43
25:RA:94:G:N2	48:R2:47:ASN:HD22	2.15	0.43
25:RA:207:A:H2'	25:RA:208:C:O4'	2.19	0.43
25:RA:531:C:H4'	25:RA:532:A:H5''	2.01	0.43
25:RA:589:C:H2'	25:RA:590:A:C8	2.53	0.43
25:RA:656:G:H2'	25:RA:657:U:O4'	2.19	0.43
25:RA:709:U:H2'	25:RA:710:G:C8	2.53	0.43
25:RA:911:A:H2'	36:RQ:9:TYR:OH	2.18	0.43
25:RA:2038:G:H2'	25:RA:2039:C:O4'	2.18	0.43
25:RA:2245:U:H5''	25:RA:2246:G:H5'	2.01	0.43
25:RA:2767:C:H2'	25:RA:2768:C:C6	2.54	0.43
26:RB:37:C:O2	38:RS:95:HIS:NE2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:RD:35:LYS:HE3	27:RD:64:ILE:C	2.39	0.43
28:RE:116:VAL:HG11	28:RE:138:PRO:HB3	2.01	0.43
29:RF:9:ILE:HG23	29:RF:20:LEU:O	2.18	0.43
29:RF:34:TRP:CE3	29:RF:35:GLU:HG2	2.54	0.43
32:RI:124:GLY:O	32:RI:142:VAL:HG23	2.18	0.43
33:RN:61:ARG:HA	33:RN:61:ARG:HE	1.82	0.43
36:RQ:20:ALA:HA	36:RQ:98:LYS:HB3	2.00	0.43
36:RQ:104:PHE:CE1	36:RQ:125:LEU:HD11	2.54	0.43
38:RS:88:ASP:CG	38:RS:89:ARG:H	2.21	0.43
44:RY:54:LYS:HB3	44:RY:55:TYR:CD2	2.53	0.43
45:RZ:48:PHE:CE2	45:RZ:52:SER:HA	2.54	0.43
1:XA:191(D):U:H2'	1:XA:191(E):G:C8	2.54	0.43
1:XA:347:G:H1'	1:XA:348:G:H5''	2.00	0.43
1:XA:837:G:H1	1:XA:849:C:H42	1.66	0.43
1:XA:872:A:C5	1:XA:874:G:C8	3.06	0.43
1:XA:900:A:H2'	1:XA:901:A:C8	2.53	0.43
1:XA:1000:A:H2'	1:XA:1001:G:C8	2.54	0.43
1:XA:1314:C:H2'	1:XA:1315:U:C6	2.54	0.43
1:XA:1404:C:H2'	1:XA:1405:G:C8	2.54	0.43
2:XB:212:GLN:NE2	2:XB:216:SER:HB2	2.34	0.43
3:XC:149:ALA:HA	3:XC:201:TYR:O	2.18	0.43
25:YA:944:G:H5''	25:YA:945:A:O5'	2.19	0.43
26:YB:32:C:C2	26:YB:51:G:N2	2.87	0.43
28:YE:14:ILE:HG23	28:YE:15:PHE:N	2.34	0.43
45:YZ:141:VAL:CG2	45:YZ:144:LEU:HB2	2.46	0.43
49:Y3:7:LYS:HE2	49:Y3:32:GLN:O	2.19	0.43
50:Y4:6:HIS:HA	50:Y4:7:PRO:HD2	1.82	0.43
51:Y5:58:LEU:HB2	51:Y5:60:VAL:H	1.83	0.43
51:Y5:58:LEU:HD13	51:Y5:60:VAL:HB	2.01	0.43
52:Y6:28:ARG:HH21	52:Y6:30:THR:HG23	1.84	0.43
1:QA:347:G:O2'	1:QA:348:G:OP2	2.30	0.43
1:QA:358:U:H2'	1:QA:359:U:C6	2.54	0.43
1:QA:853:G:H2'	1:QA:854:G:H8	1.84	0.43
1:QA:1130:A:O2'	9:QI:3:GLN:NE2	2.34	0.43
1:QA:1227:A:O3'	13:QM:115:LYS:HE3	2.19	0.43
8:QH:25:ASP:N	8:QH:25:ASP:OD1	2.50	0.43
8:QH:101:PRO:HG2	8:QH:133:LEU:HD11	2.01	0.43
9:QI:112:LYS:HD3	9:QI:113:LYS:O	2.18	0.43
17:QQ:45:HIS:NE2	17:QQ:47:PRO:HG3	2.34	0.43
25:RA:99:U:H4'	25:RA:101:G:O5'	2.19	0.43
25:RA:508:G:O2'	25:RA:509:C:OP2	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1265:A:H3'	51:R5:19:ARG:NH1	2.34	0.43
25:RA:1319:G:C6	25:RA:1320:C:N4	2.87	0.43
25:RA:1599:C:OP2	43:RX:36:LYS:HD2	2.19	0.43
25:RA:1665:A:H4'	34:RO:67:LYS:HB2	2.01	0.43
25:RA:1930:G:O2'	25:RA:1931:U:P	2.76	0.43
25:RA:2037:G:H2'	25:RA:2038:G:C8	2.54	0.43
25:RA:2630:G:O4'	25:RA:2894:G:H1'	2.18	0.43
28:RE:48:GLN:OE1	28:RE:64:LYS:NZ	2.52	0.43
28:RE:117:MET:HB2	28:RE:122:PHE:O	2.18	0.43
31:RH:124:GLU:HB3	31:RH:132:ARG:CG	2.48	0.43
33:RN:89:LYS:O	33:RN:93:THR:HG22	2.19	0.43
36:RQ:116:GLU:O	36:RQ:120:ILE:HG12	2.18	0.43
37:RR:113:LEU:HD12	37:RR:113:LEU:HA	1.88	0.43
38:RS:93:LYS:HE3	38:RS:93:LYS:HB2	1.65	0.43
39:RT:107:ASP:O	39:RT:110:ILE:HG22	2.19	0.43
45:RZ:69:THR:HG22	45:RZ:90:VAL:HA	2.00	0.43
45:RZ:181:GLU:HB3	45:RZ:182:LYS:H	1.61	0.43
52:R6:7:ILE:HG13	52:R6:8:LYS:H	1.84	0.43
1:XA:224:C:H2'	1:XA:225:C:C6	2.53	0.43
1:XA:228:A:H2'	1:XA:229:U:O4'	2.19	0.43
1:XA:1118:C:OP1	9:XI:9:ARG:HD3	2.18	0.43
1:XA:1346:A:H1'	1:XA:1348:U:C5	2.54	0.43
1:XA:1466:C:H2'	1:XA:1467:G:O4'	2.19	0.43
4:XD:196:LEU:O	4:XD:198:VAL:N	2.51	0.43
5:XE:42:GLY:CA	5:XE:66:MET:HG2	2.48	0.43
5:XE:69:VAL:O	5:XE:71:LEU:N	2.51	0.43
8:XH:13:ILE:O	8:XH:17:THR:HG23	2.18	0.43
12:XL:28:LYS:HB3	12:XL:30:ALA:HB2	2.01	0.43
25:YA:900:A:H5'	25:YA:901:A:OP2	2.19	0.43
25:YA:1243:G:O2'	35:YP:7:ARG:NH2	2.42	0.43
25:YA:2056:G:C2	25:YA:2057:A:C8	3.07	0.43
25:YA:2250:G:C4	36:YQ:82:ARG:HG3	2.53	0.43
25:YA:2747:G:O6	25:YA:2755:C:H5''	2.18	0.43
26:YB:65:C:H41	26:YB:108:C:H2'	1.84	0.43
28:YE:36:ARG:HH21	28:YE:88:GLY:CA	2.32	0.43
28:YE:201:THR:HG22	28:YE:203:LYS:H	1.83	0.43
36:YQ:45:GLN:H	36:YQ:45:GLN:CD	2.22	0.43
38:YS:83:LYS:HZ1	38:YS:109:GLY:HA2	1.83	0.43
41:YV:64:HIS:ND1	41:YV:92:THR:HG22	2.34	0.43
52:Y6:41:PRO:HG2	52:Y6:45:LYS:N	2.29	0.43
1:QA:224:C:H2'	1:QA:225:C:H6	1.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:440:A:OP2	1:QA:440:A:H8	2.01	0.42
1:QA:664:G:H2'	1:QA:666:G:OP1	2.20	0.42
1:QA:854:G:C2	1:QA:855:G:C8	3.07	0.42
1:QA:1067:A:H4'	1:QA:1068:G:O5'	2.19	0.42
2:QB:21:ARG:HG3	2:QB:38:GLY:O	2.19	0.42
6:QF:62:TRP:CH2	6:QF:64:GLN:HB2	2.54	0.42
7:QG:102:ARG:HG2	7:QG:106:GLN:OE1	2.20	0.42
9:QI:17:VAL:HG11	9:QI:81:ILE:HD13	2.00	0.42
9:QI:95:LYS:HZ1	9:QI:96:LEU:HD13	1.84	0.42
15:QO:25:THR:HG21	15:QO:70:LEU:HB2	2.00	0.42
25:RA:1021:A:C8	25:RA:1021:A:H3'	2.54	0.42
25:RA:1152:C:H2'	25:RA:1153:C:H6	1.84	0.42
25:RA:1198:U:H2'	25:RA:1199:U:H6	1.83	0.42
25:RA:1381:G:H1'	25:RA:1571:A:N1	2.34	0.42
25:RA:1506:C:H3'	25:RA:1507:A:H5''	2.01	0.42
25:RA:2027:G:H2'	25:RA:2028:U:O4'	2.19	0.42
25:RA:2688:U:C5	25:RA:2720:U:OP2	2.72	0.42
27:RD:169:GLU:N	27:RD:172:TYR:O	2.51	0.42
29:RF:28:ILE:H	29:RF:28:ILE:HG13	1.68	0.42
31:RH:90:LYS:HE2	31:RH:90:LYS:HB3	1.91	0.42
32:RI:31:LEU:HD11	32:RI:38:LEU:HG	2.00	0.42
32:RI:64:GLU:O	32:RI:67:ARG:NH2	2.51	0.42
36:RQ:78:PRO:O	36:RQ:79:LEU:HB3	2.19	0.42
45:RZ:115:GLY:HA2	45:RZ:175:VAL:O	2.19	0.42
46:R0:51:VAL:N	46:R0:62:LEU:HD12	2.33	0.42
52:R6:8:LYS:O	52:R6:27:LYS:HA	2.18	0.42
1:XA:345:C:OP2	39:YT:41:ARG:HD2	2.19	0.42
1:XA:411:A:C6	1:XA:429:U:C4	3.07	0.42
1:XA:652:U:C4	1:XA:752:G:N3	2.87	0.42
1:XA:791:G:H2'	1:XA:792:A:H5'	2.01	0.42
1:XA:1352:C:OP1	21:XU:3:LYS:NZ	2.37	0.42
1:XA:1392:G:N2	1:XA:1502:A:H8	2.16	0.42
5:XE:131:ILE:HD13	5:XE:131:ILE:HA	1.84	0.42
6:XF:30:LEU:HB3	6:XF:35:ALA:HB3	2.01	0.42
10:XJ:6:ILE:HG22	10:XJ:98:ILE:HG23	2.01	0.42
25:YA:476:G:H4'	25:YA:502:A:N1	2.34	0.42
25:YA:1335:U:OP2	43:YX:65:ARG:NH2	2.51	0.42
25:YA:2068:U:N3	25:YA:2430:A:H2	2.15	0.42
25:YA:2716:U:O2'	25:YA:2717:G:H5'	2.18	0.42
25:YA:2850:A:C2	25:YA:2851:A:C4	3.06	0.42
28:YE:111:ARG:HD2	28:YE:160:TYR:CE1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YP:125:VAL:CG1	35:YP:138:LEU:HD21	2.49	0.42
45:YZ:6:LYS:HB2	45:YZ:6:LYS:HE3	1.88	0.42
50:Y4:14:ILE:HG13	50:Y4:31:ILE:HB	1.99	0.42
1:QA:35:G:N3	12:QL:118:SER:OG	2.52	0.42
1:QA:56:U:H2'	1:QA:57:G:C8	2.55	0.42
1:QA:296:U:H2'	1:QA:297:G:C8	2.55	0.42
1:QA:539:A:H2'	1:QA:540:G:H8	1.84	0.42
1:QA:942:G:N2	9:QL:124:GLN:OE1	2.47	0.42
1:QA:1226:C:H4'	19:QS:80:TYR:CZ	2.54	0.42
2:QB:44:LEU:H	2:QB:44:LEU:HD12	1.83	0.42
4:QD:108:LEU:HD21	4:QD:183:GLY:HA3	2.01	0.42
8:QH:105:ARG:HA	8:QH:105:ARG:HD3	1.78	0.42
12:QL:85:ILE:HD12	12:QL:85:ILE:HA	1.75	0.42
14:QN:47:LEU:HD23	14:QN:47:LEU:HA	1.74	0.42
17:QQ:29:HIS:CG	17:QQ:30:PRO:HD2	2.54	0.42
22:QV:0:C:O2'	46:R0:6:GLY:O	2.32	0.42
22:QV:19:G:H4'	22:QV:20:U:OP2	2.19	0.42
25:RA:286:C:H2'	25:RA:287:C:H6	1.84	0.42
25:RA:1278:A:OP1	37:RR:36:THR:HG22	2.18	0.42
25:RA:1510:A:N3	25:RA:1510:A:H2'	2.33	0.42
25:RA:1843:C:H2'	25:RA:1844:C:C6	2.55	0.42
25:RA:2247:A:H2'	25:RA:2248:C:C6	2.54	0.42
30:RG:97:ASP:HA	30:RG:100:TRP:HD1	1.84	0.42
33:RN:30:ILE:HG23	33:RN:52:VAL:HG11	1.99	0.42
33:RN:96:GLU:HB2	33:RN:122:VAL:HG12	2.00	0.42
1:XA:255:G:H1'	17:XQ:16:GLN:OE1	2.19	0.42
1:XA:436:C:H2'	1:XA:437:U:O4'	2.19	0.42
1:XA:1095:U:OP1	1:XA:1108:G:N2	2.49	0.42
2:XB:68:ILE:HB	2:XB:70:PHE:HE1	1.84	0.42
4:XD:112:VAL:N	4:XD:116:GLN:OE1	2.38	0.42
8:XH:104:ARG:HD2	8:XH:138:TRP:CD2	2.53	0.42
25:YA:1385:G:H4'	25:YA:1386:C:OP1	2.19	0.42
25:YA:2683:C:H4'	28:YE:13:ARG:NH2	2.34	0.42
25:YA:2749:A:H4'	31:YH:62:LYS:HB3	2.00	0.42
26:YB:80:U:H2'	26:YB:81:G:H21	1.83	0.42
28:YE:201:THR:HG22	28:YE:203:LYS:N	2.34	0.42
30:YG:31:VAL:HA	30:YG:32:PRO:HD3	1.83	0.42
31:YH:126:PRO:HB2	31:YH:127:GLU:H	1.58	0.42
33:YN:134:ARG:H	33:YN:135:PRO:HD3	1.83	0.42
39:YT:80:SER:HA	39:YT:81:PRO:HD3	1.89	0.42
45:YZ:8:TYR:HA	45:YZ:62:PRO:HD3	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:YZ:157:LEU:HD22	45:YZ:161:VAL:HB	2.01	0.42
1:QA:384:G:H2'	1:QA:385:C:C6	2.55	0.42
1:QA:929:G:C6	1:QA:930:C:C4	3.08	0.42
1:QA:1213:A:N1	1:QA:1215:G:H1'	2.34	0.42
9:QI:48:GLU:N	9:QI:49:PRO:HD2	2.35	0.42
17:QQ:10:VAL:HG13	17:QQ:19:VAL:HB	2.01	0.42
19:QS:41:VAL:HG12	19:QS:44:MET:HB2	2.02	0.42
20:QT:87:LYS:HD2	20:QT:87:LYS:HA	1.68	0.42
25:RA:705:A:H2'	25:RA:706:A:O4'	2.19	0.42
25:RA:1728:G:N1	25:RA:1730:U:OP2	2.53	0.42
25:RA:2296:U:OP2	38:RS:6:ALA:HB2	2.20	0.42
26:RB:104:A:H2'	26:RB:105:G:O4'	2.19	0.42
27:RD:72:LYS:NZ	27:RD:99:ASP:OD1	2.43	0.42
27:RD:245:PRO:HA	27:RD:246:PRO:HD3	1.95	0.42
32:RI:68:LEU:HA	32:RI:71:ILE:HG22	2.00	0.42
40:RU:75:ASN:HB2	40:RU:78:THR:H	1.84	0.42
41:RV:64:HIS:CG	41:RV:92:THR:HG22	2.52	0.42
52:R6:35:GLU:H	52:R6:35:GLU:HG2	1.72	0.42
1:XA:254:G:O2'	17:XQ:15:MET:HB3	2.19	0.42
1:XA:280:C:O2	17:XQ:38:ARG:HG3	2.19	0.42
1:XA:530:G:H4'	1:XA:531:U:OP2	2.20	0.42
1:XA:742:G:OP2	15:XO:35:ARG:NH2	2.44	0.42
5:XE:79:GLU:H	5:XE:79:GLU:HG3	1.45	0.42
7:XG:38:LEU:HD12	7:XG:38:LEU:O	2.20	0.42
12:XL:44:THR:HA	12:XL:45:PRO:HD3	1.69	0.42
13:XM:7:VAL:O	13:XM:9:ILE:HG23	2.19	0.42
18:XR:56:THR:HB	18:XR:58:LEU:HD12	2.02	0.42
25:YA:1301:A:H2'	25:YA:1301:A:N3	2.35	0.42
25:YA:1416:G:H2'	25:YA:1417:C:C6	2.54	0.42
31:YH:159:GLU:O	31:YH:160:LYS:HG2	2.19	0.42
39:YT:45:PHE:CE1	39:YT:65:LYS:HE3	2.55	0.42
42:YW:86:LEU:HD22	42:YW:96:ILE:HD12	2.01	0.42
47:Y1:58:ILE:HG23	47:Y1:87:PRO:HG3	2.02	0.42
49:Y3:4:LEU:HD22	49:Y3:56:VAL:HG12	2.01	0.42
50:Y4:60:GLN:O	50:Y4:63:TYR:HB3	2.20	0.42
53:Y7:25:PRO:HA	53:Y7:28:ARG:CZ	2.49	0.42
1:QA:151:A:H2'	1:QA:152:A:O4'	2.19	0.42
1:QA:540:G:H2'	1:QA:541:G:O4'	2.19	0.42
1:QA:583:A:H2'	1:QA:584:G:O4'	2.19	0.42
1:QA:1068:G:N3	1:QA:1191:A:H2	2.16	0.42
1:QA:1221:G:OP1	1:QA:1320:C:N4	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1478:C:H2'	1:QA:1479:C:H6	1.84	0.42
3:QC:112:SER:O	3:QC:116:VAL:HG23	2.20	0.42
3:QC:148:GLY:HA3	3:QC:172:ARG:O	2.19	0.42
4:QD:192:GLU:H	4:QD:192:GLU:HG3	1.56	0.42
5:QE:79:GLU:HB3	5:QE:92:LYS:HA	2.02	0.42
13:QM:4:ILE:H	13:QM:9:ILE:HG22	1.84	0.42
19:QS:10:PHE:CG	19:QS:11:VAL:N	2.88	0.42
25:RA:676:A:H1'	25:RA:2443:C:H1'	2.01	0.42
25:RA:815:C:H2'	25:RA:816:C:H6	1.84	0.42
25:RA:1174:A:H2'	25:RA:1174:A:N3	2.33	0.42
25:RA:1260:G:C6	25:RA:1261:C:C4	3.08	0.42
25:RA:1872:A:H5'	25:RA:1878:G:OP2	2.20	0.42
25:RA:2359:C:H2'	25:RA:2360:A:O4'	2.19	0.42
25:RA:2378:A:OP1	38:RS:111:GLU:HG2	2.19	0.42
27:RD:96:HIS:NE2	27:RD:102:LYS:HE2	2.34	0.42
31:RH:153:LYS:HD2	31:RH:153:LYS:N	2.33	0.42
45:RZ:169:GLU:O	45:RZ:171:ILE:HG23	2.19	0.42
51:R5:56:LYS:HB3	51:R5:56:LYS:HE3	1.79	0.42
52:R6:11:LEU:HD13	52:R6:11:LEU:HA	1.81	0.42
52:R6:17:LYS:HB3	52:R6:44:ARG:NH2	2.30	0.42
1:XA:313:A:H2'	1:XA:314:C:C6	2.54	0.42
7:XG:89:MET:CE	7:XG:156:TRP:H	2.32	0.42
25:YA:1025:G:C4	25:YA:1135:C:H1'	2.53	0.42
25:YA:1914:C:H2'	25:YA:1915:U:O4'	2.19	0.42
25:YA:2275:C:H5'	25:YA:2275:C:C6	2.55	0.42
25:YA:2524:G:H2'	25:YA:2741:A:H2	1.84	0.42
25:YA:2729:G:H1'	28:YE:187:ALA:HB2	2.00	0.42
27:YD:35:LYS:HE3	27:YD:64:ILE:N	2.35	0.42
27:YD:36:PRO:CB	27:YD:61:LEU:HB3	2.50	0.42
28:YE:57:LYS:HD2	28:YE:57:LYS:HA	1.87	0.42
30:YG:16:ARG:N	30:YG:17:PRO:HD2	2.34	0.42
30:YG:103:LEU:HA	30:YG:103:LEU:HD23	1.83	0.42
31:YH:126:PRO:HG2	31:YH:128:PRO:HA	2.00	0.42
31:YH:153:LYS:HB3	31:YH:154:PRO:CD	2.49	0.42
33:YN:96:GLU:HG2	33:YN:97:ARG:H	1.84	0.42
35:YP:39:LYS:HG3	35:YP:45:LEU:CD2	2.45	0.42
36:YQ:39:PRO:HA	36:YQ:97:VAL:O	2.20	0.42
36:YQ:76:LYS:HG3	36:YQ:77:LYS:N	2.35	0.42
38:YS:60:GLY:O	38:YS:61:ASN:HB3	2.17	0.42
39:YT:58:ASN:C	39:YT:58:ASN:HD22	2.23	0.42
46:Y0:53:MET:CB	46:Y0:59:LEU:HD23	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:Y6:15:GLU:HG2	52:Y6:49:HIS:NE2	2.34	0.42
54:Y8:52:LYS:N	54:Y8:53:PRO:HD2	2.33	0.42
1:QA:134:A:H61	16:QP:25:ARG:NH1	2.17	0.42
1:QA:280:C:H3'	1:QA:281:G:H5'	2.00	0.42
1:QA:369:C:OP2	1:QA:388:G:N1	2.50	0.42
1:QA:701:C:H1'	1:QA:703:G:C6	2.54	0.42
1:QA:791:G:C2'	1:QA:792:A:H5'	2.50	0.42
1:QA:1131:G:H2'	1:QA:1132:C:H6	1.83	0.42
2:QB:69:LEU:O	2:QB:162:ILE:HA	2.19	0.42
3:QC:59:ARG:HH12	3:QC:97:LYS:HE3	1.84	0.42
6:QF:22:GLU:O	6:QF:26:ILE:HG13	2.19	0.42
14:QN:41:ARG:NH2	14:QN:42:ILE:HD11	2.35	0.42
22:QV:39:C:H2'	22:QV:40:C:C6	2.54	0.42
25:RA:205:G:O2'	25:RA:206:U:OP2	2.38	0.42
25:RA:652:C:N4	25:RA:653:A:N1	2.68	0.42
25:RA:1021:A:H8	25:RA:1021:A:H3'	1.84	0.42
25:RA:1419:A:H2'	25:RA:1421:G:N7	2.34	0.42
25:RA:2298:A:C2	25:RA:2299:G:H1'	2.53	0.42
25:RA:2585:U:C5	56:Z6:76:PPU:O2'	2.70	0.42
26:RB:13:A:O2'	26:RB:15:A:O5'	2.37	0.42
27:RD:123:ALA:HA	27:RD:124:PRO:HD2	1.77	0.42
28:RE:9:VAL:HG23	28:RE:26:ILE:HA	2.00	0.42
30:RG:159:VAL:HG21	30:RG:173:LEU:HD11	2.00	0.42
31:RH:6:ARG:HG3	31:RH:7:LEU:HG	2.01	0.42
42:RW:34:ASN:ND2	51:R5:39:MET:HG3	2.34	0.42
48:R2:70:GLN:O	48:R2:71:ASN:HB2	2.19	0.42
54:R8:4:MET:SD	54:R8:61:LEU:HD12	2.60	0.42
54:R8:59:LYS:HB2	54:R8:59:LYS:NZ	2.35	0.42
1:XA:1108:G:H5'	3:XC:176:HIS:ND1	2.34	0.42
1:XA:1112:C:N3	3:XC:178:LEU:HB2	2.35	0.42
1:XA:1233:G:H2'	1:XA:1234:C:H6	1.84	0.42
1:XA:1250:A:N1	1:XA:1353:G:N2	2.64	0.42
1:XA:1453:G:H8	20:XT:39:LYS:CE	2.31	0.42
4:XD:120:LEU:HD23	4:XD:120:LEU:HA	1.89	0.42
9:XI:32:ASP:OD1	9:XI:33:PHE:N	2.53	0.42
18:XR:43:PHE:CE2	18:XR:58:LEU:HD11	2.54	0.42
20:XT:50:GLU:HG3	20:XT:51:GLU:N	2.33	0.42
25:YA:263:C:H2'	25:YA:264:C:O4'	2.18	0.42
25:YA:1823:G:P	27:YD:54:ARG:HH21	2.39	0.42
25:YA:2281:C:O2'	25:YA:2282:G:H5'	2.20	0.42
25:YA:2649:U:H2'	25:YA:2650:U:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:25:THR:HG22	27:YD:82:ILE:H	1.84	0.42
29:YF:45:ARG:HH11	29:YF:45:ARG:CG	2.33	0.42
30:YG:64:THR:CG2	30:YG:66:GLN:H	2.28	0.42
35:YP:1:MET:HB3	35:YP:2:LYS:H	1.61	0.42
38:YS:81:GLY:O	38:YS:83:LYS:N	2.53	0.42
49:Y3:8:LEU:HB3	49:Y3:31:LEU:HA	2.01	0.42
1:QA:97:U:H2'	1:QA:99:C:C6	2.55	0.42
1:QA:332:G:OP2	20:QT:10:LEU:HD23	2.19	0.42
1:QA:1104:G:O5'	2:QB:111:ARG:HD2	2.20	0.42
2:QB:92:TYR:CD1	2:QB:151:GLY:HA3	2.55	0.42
4:QD:63:LYS:HB2	4:QD:63:LYS:HE3	1.77	0.42
7:QG:70:LYS:HA	7:QG:71:PRO:HD2	1.89	0.42
15:QO:43:LEU:HA	15:QO:43:LEU:HD23	1.74	0.42
15:QO:87:ILE:HG22	15:QO:88:ARG:N	2.35	0.42
25:RA:35:G:H2'	25:RA:36:G:O4'	2.19	0.42
25:RA:253:C:H2'	25:RA:254:G:O4'	2.20	0.42
25:RA:524:U:H2'	25:RA:525:U:C6	2.55	0.42
25:RA:607:U:N3	25:RA:621:A:C2	2.79	0.42
25:RA:830:G:N2	25:RA:2445:G:O2'	2.53	0.42
25:RA:2014:A:H2'	25:RA:2015:A:C8	2.54	0.42
29:RF:182:ASN:O	29:RF:186:ILE:HG12	2.20	0.42
37:RR:63:ARG:HA	37:RR:80:PHE:CZ	2.54	0.42
38:RS:39:ILE:HD11	38:RS:73:LEU:HD11	2.00	0.42
40:RU:83:LEU:HD12	40:RU:113:ALA:HB2	2.01	0.42
52:R6:45:LYS:HD3	52:R6:45:LYS:HA	1.75	0.42
1:XA:16:A:N1	1:XA:919:A:H2	2.18	0.42
1:XA:376:G:H5''	16:XP:5:ARG:HD2	2.01	0.42
1:XA:501:C:P	12:XL:117:ARG:HH22	2.42	0.42
1:XA:560:U:O2'	1:XA:561:U:OP2	2.30	0.42
1:XA:918:A:H2'	1:XA:919:A:C8	2.55	0.42
1:XA:950:U:H2'	1:XA:951:G:C8	2.55	0.42
1:XA:963:G:N2	1:XA:972:C:C2	2.83	0.42
1:XA:1347:G:O2'	1:XA:1348:U:P	2.77	0.42
2:XB:7:VAL:HG11	2:XB:217:ARG:CZ	2.49	0.42
2:XB:113:HIS:O	2:XB:116:GLU:HB2	2.20	0.42
3:XC:85:ARG:HD2	3:XC:85:ARG:HA	1.83	0.42
6:XF:95:GLU:HA	6:XF:96:PRO:HD3	1.87	0.42
9:XI:91:ASP:C	9:XI:93:ARG:H	2.21	0.42
13:XM:121:LYS:HA	13:XM:121:LYS:HD3	1.90	0.42
25:YA:1221:C:H2'	25:YA:1222:C:C6	2.55	0.42
27:YD:25:THR:HG21	27:YD:81:ALA:HA	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YI:67:ARG:NH2	32:YI:68:LEU:HB2	2.33	0.42
33:YN:46:VAL:HG13	33:YN:48:MET:HG3	2.02	0.42
34:YO:21:CYS:O	34:YO:22:ILE:HD13	2.20	0.42
38:YS:106:ARG:HA	38:YS:110:LEU:CD2	2.47	0.42
46:Y0:27:GLU:HB2	46:Y0:69:PHE:CD1	2.53	0.42
48:Y2:8:LYS:HB2	48:Y2:8:LYS:HE3	1.83	0.42
1:QA:298:A:H2'	1:QA:299:G:O4'	2.19	0.42
1:QA:313:A:H2'	1:QA:314:C:C6	2.55	0.42
1:QA:727:G:N1	1:QA:731:G:C6	2.88	0.42
1:QA:1034:G:N2	1:QA:1035:A:C6	2.88	0.42
1:QA:1120:G:H2'	1:QA:1121:U:C6	2.54	0.42
2:QB:60:ASP:O	2:QB:64:ARG:HG2	2.19	0.42
11:QK:41:THR:HG22	11:QK:42:TRP:N	2.34	0.42
11:QK:48:ILE:HG23	11:QK:63:LEU:HD22	2.01	0.42
15:QO:2:PRO:HB2	15:QO:3:ILE:H	1.56	0.42
25:RA:150:C:H2'	25:RA:151:C:H6	1.85	0.42
25:RA:270(R):G:OP1	32:RI:42:SER:OG	2.35	0.42
25:RA:1005:C:C2	25:RA:1143:A:C5	3.08	0.42
25:RA:1931:U:H5	25:RA:1969:A:N7	2.17	0.42
25:RA:2102:U:H2'	25:RA:2103:C:C6	2.54	0.42
25:RA:2729:G:H2'	25:RA:2730:C:C6	2.55	0.42
27:RD:33:LEU:HB3	27:RD:34:VAL:H	1.64	0.42
28:RE:34:VAL:HG23	28:RE:64:LYS:HZ2	1.84	0.42
28:RE:78:LEU:HG	28:RE:79:ARG:NE	2.35	0.42
30:RG:151:ALA:HB3	30:RG:153:ARG:NH1	2.35	0.42
30:RG:173:LEU:O	30:RG:178:PHE:HB2	2.20	0.42
31:RH:16:SER:OG	31:RH:26:VAL:O	2.30	0.42
31:RH:164:TYR:O	31:RH:166:GLY:N	2.52	0.42
32:RI:113:ARG:HG3	32:RI:131:LYS:HZ3	1.83	0.42
33:RN:35:ARG:HB2	33:RN:42:TRP:CZ3	2.54	0.42
38:RS:14:VAL:HG11	38:RS:90:GLY:O	2.19	0.42
39:RT:26:ASP:HB3	39:RT:92:GLY:N	2.18	0.42
43:RX:44:GLU:O	43:RX:48:LYS:N	2.52	0.42
44:RY:50:ARG:H	44:RY:50:ARG:HG2	1.67	0.42
45:RZ:103:ARG:HD3	45:RZ:136:PHE:CG	2.54	0.42
50:R4:14:ILE:HG22	50:R4:24:THR:HG22	2.01	0.42
1:XA:123:C:OP1	1:XA:312:C:H5'	2.19	0.42
1:XA:431:A:H2'	1:XA:432:A:O4'	2.20	0.42
1:XA:735:C:H2'	1:XA:736:C:H6	1.83	0.42
1:XA:942:G:C2	1:XA:1342:C:C2	3.07	0.42
1:XA:963:G:N2	10:XJ:55:LYS:HE2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1148:U:H2'	1:XA:1149:C:O4'	2.19	0.42
1:XA:1206:G:C6	1:XA:1207:G:C5	3.07	0.42
1:XA:1223:C:P	19:XS:78:ARG:NH1	2.92	0.42
1:XA:1296:C:OP1	13:XM:44:ARG:NH2	2.53	0.42
1:XA:1302:U:O2	1:XA:1302:U:H2'	2.19	0.42
1:XA:1431:C:H2'	1:XA:1432:G:O4'	2.20	0.42
2:XB:19:HIS:CE1	2:XB:206:ASP:HB2	2.54	0.42
3:XC:91:LEU:O	3:XC:95:THR:OG1	2.19	0.42
8:XH:121:ASP:OD1	8:XH:121:ASP:N	2.46	0.42
13:XM:40:ASN:ND2	13:XM:43:THR:HG23	2.34	0.42
25:YA:582:G:H2'	25:YA:583:G:C8	2.55	0.42
25:YA:1188:U:O2'	25:YA:1189:A:H5'	2.20	0.42
25:YA:1250:G:OP2	35:YP:21:ARG:HD3	2.20	0.42
25:YA:1792:G:P	27:YD:206:LEU:HB2	2.60	0.42
25:YA:2370:G:H21	52:Y6:45:LYS:CE	2.33	0.42
33:YN:137:LYS:HD2	33:YN:137:LYS:HA	1.77	0.42
35:YP:36:LYS:HB3	35:YP:40:SER:CB	2.49	0.42
38:YS:83:LYS:NZ	38:YS:109:GLY:HA2	2.33	0.42
39:YT:26:ASP:HB2	39:YT:91:ARG:HA	2.00	0.42
40:YU:109:LEU:HD23	40:YU:109:LEU:HA	1.89	0.42
41:YV:65:GLY:O	41:YV:90:PRO:HA	2.20	0.42
46:Y0:41:ARG:NE	46:Y0:41:ARG:HA	2.33	0.42
52:Y6:14:THR:HG21	52:Y6:19:ARG:HH21	1.85	0.42
54:Y8:60:LEU:C	54:Y8:63:PRO:HD2	2.40	0.42
1:QA:7:G:H21	5:QE:121:LYS:HG2	1.85	0.42
1:QA:175:C:H2'	1:QA:176:C:C6	2.55	0.42
1:QA:1367:C:H5'	10:QJ:60:ARG:NH2	2.35	0.42
2:QB:27:LYS:HD2	2:QB:193:ASP:CB	2.46	0.42
2:QB:130:ARG:HA	2:QB:131:PRO:HD3	1.81	0.42
4:QD:11:LEU:HD22	4:QD:66:ARG:HD3	2.02	0.42
7:QG:13:GLN:O	7:QG:24:THR:HG21	2.20	0.42
25:RA:646:A:H2'	25:RA:647:G:O4'	2.19	0.42
25:RA:817:C:O2'	25:RA:839:U:H5''	2.19	0.42
25:RA:831:G:N2	35:RP:53:GLY:O	2.53	0.42
25:RA:861:A:C2	25:RA:917:A:C5	3.08	0.42
25:RA:1157:G:C6	25:RA:1158:C:C4	3.08	0.42
25:RA:1417:C:H2'	25:RA:1418:G:O4'	2.20	0.42
25:RA:2032:G:H21	28:RE:146:THR:CG2	2.32	0.42
25:RA:2506:U:O2	25:RA:2506:U:H2'	2.20	0.42
29:RF:78:ILE:H	29:RF:78:ILE:HG13	1.66	0.42
29:RF:93:LYS:HB3	29:RF:94:PRO:HD2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RG:116:ASP:OD1	30:RG:116:ASP:N	2.53	0.42
33:RN:10:GLU:HA	33:RN:11:PRO:HD3	1.65	0.42
42:RW:75:TYR:CZ	42:RW:104:THR:HG21	2.54	0.42
45:RZ:94:GLU:HB2	45:RZ:130:PRO:CD	2.42	0.42
51:R5:56:LYS:H	51:R5:56:LYS:CD	2.31	0.42
52:R6:28:ARG:HB3	52:R6:30:THR:H	1.84	0.42
1:XA:102:G:O2'	1:XA:151:A:N3	2.45	0.42
1:XA:187:C:H2'	1:XA:188:U:O4'	2.20	0.42
1:XA:654:G:H2'	1:XA:655:A:O4'	2.20	0.42
1:XA:1084:G:C5	1:XA:1085:U:C4	3.08	0.42
1:XA:1410:G:H2'	1:XA:1411:C:H6	1.85	0.42
1:XA:1492:A:OP1	12:XL:47:LYS:N	2.53	0.42
1:XA:1497:G:H2'	1:XA:1498:U:H5'	2.02	0.42
2:XB:223:ILE:HA	2:XB:226:ARG:HB3	2.02	0.42
3:XC:32:LEU:HD22	3:XC:59:ARG:NH1	2.34	0.42
7:XG:15:ASP:O	7:XG:19:GLY:HA2	2.20	0.42
9:XI:125:TYR:HD2	9:XI:126:SER:H	1.68	0.42
19:XS:78:ARG:H	19:XS:78:ARG:HG2	1.56	0.42
25:YA:76:C:H1'	48:Y2:62:THR:HG21	2.00	0.42
25:YA:565:C:H2'	25:YA:566:U:O4'	2.19	0.42
25:YA:1190:G:H5'	35:YP:32:THR:HA	2.01	0.42
25:YA:1859:A:N6	25:YA:1883:G:O2'	2.52	0.42
25:YA:2688:U:C5	25:YA:2720:U:OP2	2.72	0.42
25:YA:2784:C:O2'	28:YE:37:ARG:NH1	2.52	0.42
27:YD:89:SER:O	27:YD:198:ASN:ND2	2.52	0.42
38:YS:38:GLN:HG3	38:YS:47:THR:HG21	2.02	0.42
43:YX:84:ALA:HB1	43:YX:85:PRO:HD2	2.02	0.42
50:Y4:68:ARG:HB2	50:Y4:69:LYS:H	1.51	0.42
1:QA:224:C:H2'	1:QA:225:C:C6	2.55	0.42
1:QA:440:A:C6	1:QA:494:U:C2	3.08	0.42
1:QA:1267:C:C5	1:QA:1268:A:C5	3.08	0.42
2:QB:88:ALA:HB2	2:QB:219:VAL:HG13	2.02	0.42
2:QB:230:VAL:HB	2:QB:231:GLU:H	1.60	0.42
3:QC:36:ASP:HA	3:QC:39:ILE:HD12	2.02	0.42
4:QD:165:MET:SD	4:QD:168:ARG:HD2	2.60	0.42
8:QH:54:ASP:O	8:QH:56:LYS:HG3	2.20	0.42
18:QR:53:ARG:HE	18:QR:59:SER:C	2.22	0.42
25:RA:196:A:N3	25:RA:196:A:H2'	2.35	0.42
25:RA:508:G:O2'	25:RA:509:C:P	2.78	0.42
25:RA:1043:C:HO2'	25:RA:1048:A:HO2'	1.63	0.42
25:RA:1512:G:C2	25:RA:1513:C:C2	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1659:U:C4	25:RA:1660:C:C5	3.07	0.42
25:RA:2308:G:N1	25:RA:2311:A:C2	2.85	0.42
25:RA:2415:G:C5'	35:RP:67:MET:H	2.33	0.42
25:RA:2729:G:H1'	28:RE:187:ALA:HB2	2.01	0.42
28:RE:188:VAL:HG23	28:RE:189:PRO:HD2	2.01	0.42
29:RF:181:LEU:HD22	29:RF:181:LEU:HA	1.79	0.42
35:RP:20:GLY:HA2	35:RP:27:HIS:O	2.19	0.42
39:RT:51:ARG:HG3	39:RT:98:LYS:HG3	2.02	0.42
44:RY:39:VAL:HB	44:RY:40:GLU:H	1.57	0.42
47:R1:90:ILE:O	47:R1:94:LEU:HB2	2.20	0.42
1:XA:284:G:H2'	1:XA:285:G:C8	2.55	0.42
1:XA:401:C:H2'	1:XA:402:G:C8	2.54	0.42
1:XA:1002:G:H1	1:XA:1038:C:N4	2.07	0.42
1:XA:1127:G:N1	1:XA:1145:C:C2	2.87	0.42
1:XA:1233:G:C4	1:XA:1234:C:C5	3.08	0.42
1:XA:1442:G:C5	1:XA:1446:A:C6	3.08	0.42
9:XI:4:TYR:CE1	9:XI:88:TYR:HB2	2.55	0.42
11:XK:109:VAL:HG11	18:XR:84:LYS:HD3	2.02	0.42
20:XT:39:LYS:HG3	20:XT:39:LYS:H	1.63	0.42
25:YA:70:G:H21	25:YA:71:A:N6	2.17	0.42
25:YA:141:A:H8	25:YA:1408:C:H1'	1.85	0.42
25:YA:1374:G:H2'	25:YA:1375:C:O4'	2.20	0.42
25:YA:1499:C:H2'	25:YA:1500:G:H8	1.84	0.42
25:YA:1510:A:O2'	25:YA:1511:A:N7	2.47	0.42
27:YD:34:VAL:HG22	27:YD:35:LYS:HG3	2.00	0.42
31:YH:30:LYS:HE2	31:YH:81:GLU:H	1.85	0.42
32:YI:37:VAL:HG12	32:YI:38:LEU:H	1.84	0.42
32:YI:133:HIS:HB2	32:YI:134:PRO:CD	2.50	0.42
35:YP:29:LYS:HD2	35:YP:30:THR:CG2	2.50	0.42
43:YX:26:TYR:HB3	43:YX:92:LEU:HD12	2.02	0.42
45:YZ:150:LEU:HD22	45:YZ:171:ILE:HB	2.02	0.42
50:Y4:16:CYS:SG	50:Y4:36:CYS:HB3	2.59	0.42
50:Y4:39:CYS:O	50:Y4:40:HIS:HB2	2.20	0.42
54:Y8:44:LYS:HD2	54:Y8:44:LYS:N	2.34	0.42
1:QA:925:G:N2	1:QA:1503:A:OP1	2.53	0.42
1:QA:1068:G:N3	1:QA:1191:A:C2	2.88	0.42
1:QA:1206:G:C6	1:QA:1207:G:C5	3.08	0.42
1:QA:1226:C:H4'	19:QS:80:TYR:OH	2.19	0.42
1:QA:1238:A:H62	1:QA:1299:A:H61	1.68	0.42
3:QC:56:ASP:O	3:QC:66:VAL:HA	2.20	0.42
4:QD:171:GLY:HA2	4:QD:172:PRO:HD3	1.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QH:51:VAL:HG21	8:QH:60:ARG:HG2	2.02	0.42
8:QH:59:LEU:O	8:QH:61:VAL:HG23	2.20	0.42
10:QJ:81:THR:C	10:QJ:83:GLU:H	2.23	0.42
14:QN:23:ARG:NH1	14:QN:30:ALA:HB2	2.35	0.42
22:QV:64:G:H2'	22:QV:65:C:C6	2.55	0.42
25:RA:389:G:H22	35:RP:72:PRO:CD	2.32	0.42
25:RA:521:G:H2'	25:RA:522:G:C8	2.55	0.42
25:RA:829:A:N7	25:RA:2248:C:H5'	2.34	0.42
25:RA:847:U:C5	25:RA:933:A:N1	2.88	0.42
25:RA:898:C:C2'	25:RA:899:A:H5'	2.48	0.42
25:RA:1178:C:HO2'	25:RA:1179:C:P	2.43	0.42
25:RA:1766:U:H2'	25:RA:1767:C:H6	1.84	0.42
25:RA:2562:U:O2'	34:RO:23:ARG:NH1	2.40	0.42
27:RD:35:LYS:HB3	27:RD:36:PRO:HA	2.01	0.42
29:RF:184:TYR:O	29:RF:188:ARG:HG3	2.19	0.42
30:RG:6:ALA:N	50:R4:23:GLU:HG2	2.31	0.42
31:RH:125:VAL:HA	31:RH:126:PRO:HA	1.90	0.42
35:RP:100:LEU:HA	35:RP:100:LEU:HD22	1.77	0.42
38:RS:108:GLY:O	38:RS:110:LEU:HG	2.20	0.42
50:R4:55:ARG:O	50:R4:59:PHE:HB3	2.20	0.42
1:XA:9:G:C6	1:XA:26:A:N6	2.88	0.42
1:XA:345:C:H1'	1:XA:346:G:OP2	2.19	0.42
1:XA:1170:A:H2'	1:XA:1171:G:O4'	2.20	0.42
1:XA:1241:G:H2'	1:XA:1242:C:H6	1.85	0.42
13:XM:3:ARG:HG3	13:XM:9:ILE:HG21	2.02	0.42
13:XM:16:ASP:HB3	13:XM:41:PRO:HB3	2.01	0.42
22:XV:16:C:O2	22:XV:16:C:H2'	2.19	0.42
25:YA:67:U:N3	25:YA:74:A:H2	1.95	0.42
25:YA:142:G:H1'	43:YX:37:THR:CG2	2.45	0.42
25:YA:415:A:H2'	25:YA:416:C:C6	2.55	0.42
25:YA:2712:U:OP1	25:YA:2714:G:H4'	2.20	0.42
25:YA:2845:G:H2'	25:YA:2846:G:C8	2.55	0.42
27:YD:221:VAL:HG22	27:YD:226:MET:CE	2.49	0.42
28:YE:167:VAL:HG21	28:YE:187:ALA:HB1	2.01	0.42
30:YG:86:MET:HA	30:YG:87:PRO:HD2	1.95	0.42
35:YP:82:GLY:HA3	35:YP:115:LEU:HD21	2.01	0.42
38:YS:30:ARG:NH2	38:YS:92:TYR:CD1	2.87	0.42
44:YY:51:VAL:HG23	44:YY:57:GLN:N	2.35	0.42
44:YY:96:ILE:HG13	44:YY:98:VAL:H	1.85	0.42
45:YZ:1:MET:HG2	45:YZ:2:GLU:H	1.85	0.42
46:Y0:53:MET:HB3	46:Y0:59:LEU:HD23	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:Y4:37:SER:HB3	50:Y4:42:PHE:HB3	2.00	0.42
51:Y5:31:VAL:HG13	51:Y5:42:PRO:HG3	2.01	0.42
51:Y5:56:LYS:H	51:Y5:56:LYS:CD	2.29	0.42
54:Y8:26:LYS:HB3	54:Y8:44:LYS:HG3	2.01	0.42
1:QA:9:G:C6	1:QA:26:A:N6	2.88	0.41
1:QA:186(D):C:H2'	1:QA:186(E):C:C6	2.55	0.41
1:QA:381:C:H2'	1:QA:382:A:O4'	2.20	0.41
3:QC:134:ILE:HD11	3:QC:153:VAL:HG21	2.02	0.41
8:QH:54:ASP:OD1	8:QH:54:ASP:N	2.53	0.41
19:QS:50:ALA:HB1	19:QS:57:HIS:HB3	2.02	0.41
25:RA:95:G:H4'	48:R2:46:GLN:HB3	2.01	0.41
25:RA:127:A:H5''	25:RA:128:C:C6	2.55	0.41
25:RA:527:C:H4'	25:RA:528:A:H5'	2.01	0.41
25:RA:646:A:N3	25:RA:646:A:H5'	2.35	0.41
25:RA:868:U:H2'	25:RA:869:G:O4'	2.20	0.41
25:RA:2168:G:H2'	25:RA:2168:G:N3	2.35	0.41
25:RA:2199:A:H3'	25:RA:2205:C:C6	2.55	0.41
26:RB:49:C:H2'	26:RB:50:G:C8	2.55	0.41
27:RD:43:ARG:HB2	27:RD:54:ARG:HB2	2.02	0.41
27:RD:101:GLU:OE1	27:RD:103:ARG:NH1	2.53	0.41
29:RF:129:PHE:O	29:RF:130:ALA:HB3	2.20	0.41
30:RG:47:LYS:HD3	30:RG:81:LYS:CB	2.49	0.41
31:RH:105:LEU:HD22	31:RH:113:VAL:HB	2.01	0.41
38:RS:78:LEU:HD23	38:RS:78:LEU:HA	1.86	0.41
40:RU:58:ARG:NH1	40:RU:93:LYS:HE2	2.35	0.41
47:R1:85:LEU:HA	47:R1:87:PRO:HD2	2.01	0.41
49:R3:7:LYS:HA	49:R3:33:GLN:O	2.20	0.41
49:R3:35:ARG:HB3	49:R3:37:LEU:HD21	2.01	0.41
1:XA:164:U:H2'	1:XA:165:C:C6	2.54	0.41
1:XA:280:C:H4'	1:XA:281:G:OP2	2.20	0.41
1:XA:539:A:OP2	12:XL:115:LYS:HE3	2.20	0.41
1:XA:818:G:C3'	1:XA:819:A:H5'	2.50	0.41
1:XA:1000:A:O5'	1:XA:1000:A:H8	2.03	0.41
1:XA:1469:G:H2'	1:XA:1470:G:C8	2.55	0.41
10:XJ:3:LYS:HB2	10:XJ:75:ILE:O	2.19	0.41
13:XM:20:THR:O	13:XM:22:ILE:N	2.51	0.41
25:YA:234:C:H2'	25:YA:235:U:H6	1.84	0.41
25:YA:556:G:H2'	25:YA:557:U:C6	2.55	0.41
25:YA:565:C:H4'	25:YA:1253:A:C6	2.55	0.41
25:YA:661:C:H5''	35:YP:15:ARG:HH21	1.85	0.41
25:YA:1169:G:H1	25:YA:1180:C:H42	1.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1192:G:C2'	25:YA:1193:G:H5'	2.50	0.41
25:YA:1400:G:H2'	25:YA:1401:G:C8	2.55	0.41
25:YA:1469:A:H2'	25:YA:1470:G:H8	1.84	0.41
25:YA:1709:U:H2'	25:YA:1710:C:C6	2.55	0.41
27:YD:105:ILE:HD12	27:YD:105:ILE:HA	1.55	0.41
27:YD:232:PRO:HB3	27:YD:244:ARG:CZ	2.50	0.41
32:YI:98:ALA:HB2	32:YI:111:PRO:HB3	2.01	0.41
33:YN:35:ARG:HB2	33:YN:42:TRP:CZ3	2.55	0.41
33:YN:59:LYS:HE3	33:YN:61:ARG:HH22	1.85	0.41
36:YQ:85:LYS:O	36:YQ:86:GLY:C	2.58	0.41
38:YS:51:ALA:HB1	38:YS:69:VAL:HG23	2.02	0.41
1:QA:51:A:C6	1:QA:353:A:C2	3.08	0.41
1:QA:940:C:H2'	1:QA:941:G:H8	1.83	0.41
1:QA:1004:A:H1'	1:QA:1036:G:N2	2.34	0.41
1:QA:1346:A:O2'	1:QA:1347:G:P	2.78	0.41
8:QH:12:ARG:NH1	8:QH:27:PRO:HD2	2.35	0.41
8:QH:38:ILE:HD12	8:QH:118:VAL:HG12	2.02	0.41
9:QI:111:ARG:HG2	9:QI:112:LYS:N	2.35	0.41
12:QL:27:LEU:HG	12:QL:62:SER:HB3	2.01	0.41
12:QL:38:THR:HG21	12:QL:65:GLU:OE2	2.19	0.41
13:QM:40:ASN:HA	13:QM:41:PRO:HD3	1.89	0.41
15:QO:31:LEU:O	15:QO:35:ARG:HG3	2.20	0.41
18:QR:56:THR:HB	18:QR:58:LEU:CD1	2.50	0.41
25:RA:239:U:H2'	25:RA:240:G:O4'	2.20	0.41
25:RA:250:G:H2'	25:RA:251:A:C8	2.55	0.41
25:RA:649:G:C5	25:RA:650:C:C4	3.08	0.41
25:RA:814:C:H2'	25:RA:815:C:C6	2.55	0.41
25:RA:1288:U:C2	25:RA:1327:C:C2	3.08	0.41
25:RA:1931:U:C5	25:RA:1969:A:N7	2.87	0.41
25:RA:2238:G:H2'	25:RA:2238:G:N3	2.35	0.41
25:RA:2320:A:N3	25:RA:2320:A:H2'	2.35	0.41
25:RA:2851:A:N6	25:RA:2852:G:C6	2.89	0.41
26:RB:103:U:O2'	45:RZ:72:ARG:HD3	2.20	0.41
28:RE:76:ARG:N	28:RE:76:ARG:HD2	2.35	0.41
29:RF:46:ARG:HG2	29:RF:46:ARG:HH11	1.84	0.41
29:RF:113:ALA:HB1	29:RF:186:ILE:HG21	2.02	0.41
31:RH:4:ILE:HB	31:RH:6:ARG:HG2	2.02	0.41
31:RH:10:PRO:HD2	31:RH:50:VAL:O	2.20	0.41
34:RO:7:TYR:CE1	34:RO:20:MET:HB2	2.55	0.41
35:RP:63:PRO:HA	54:R8:13:ARG:HB3	2.02	0.41
37:RR:109:ALA:HA	37:RR:110:PRO:HD2	1.95	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:R7:47:ARG:HB2	53:R7:48:LYS:H	1.68	0.41
1:XA:477:G:H2'	1:XA:478:A:C8	2.55	0.41
1:XA:567:G:H2'	1:XA:568:G:O4'	2.19	0.41
1:XA:1194:U:H2'	1:XA:1195:C:C6	2.55	0.41
4:XD:127:THR:HA	4:XD:132:ARG:HA	2.03	0.41
8:XH:104:ARG:HD2	8:XH:138:TRP:CG	2.56	0.41
9:XI:40:LEU:O	9:XI:42:ARG:N	2.48	0.41
20:XT:53:LEU:HD12	20:XT:100:ILE:HG23	2.02	0.41
25:YA:251:A:H8	25:YA:251:A:O5'	2.03	0.41
25:YA:729:G:H2'	25:YA:1775:U:H1'	2.02	0.41
25:YA:1089:G:H21	25:YA:1102:C:H42	1.68	0.41
25:YA:1124:C:H2'	25:YA:1125:G:O4'	2.20	0.41
25:YA:2293:C:OP1	38:YS:89:ARG:NH1	2.53	0.41
25:YA:2693:A:H2'	25:YA:2694:G:H8	1.85	0.41
25:YA:2867:G:O2'	25:YA:2868:A:C8	2.72	0.41
26:YB:116:G:H4'	38:YS:54:LEU:HD13	2.03	0.41
27:YD:245:PRO:HA	27:YD:246:PRO:HD3	1.87	0.41
28:YE:144:ARG:HB3	28:YE:145:LYS:H	1.45	0.41
28:YE:181:LEU:HD13	28:YE:181:LEU:HA	1.85	0.41
37:YR:2:ARG:HG2	37:YR:5:LYS:NZ	2.35	0.41
37:YR:3:HIS:O	37:YR:5:LYS:N	2.53	0.41
40:YU:30:LYS:HA	40:YU:30:LYS:HD3	1.90	0.41
46:Y0:36:ILE:HD11	46:Y0:39:ARG:HG2	2.02	0.41
49:Y3:35:ARG:HB3	49:Y3:37:LEU:HD21	2.01	0.41
50:Y4:24:THR:OG1	50:Y4:25:TYR:N	2.53	0.41
1:QA:701:C:O2	1:QA:703:G:N1	2.53	0.41
2:QB:208:ILE:HA	2:QB:211:ILE:HD12	2.02	0.41
2:QB:219:VAL:O	2:QB:223:ILE:HG13	2.19	0.41
4:QD:169:LYS:HE2	4:QD:169:LYS:HB3	1.88	0.41
5:QE:127:ASN:HA	5:QE:128:PRO:HD3	1.89	0.41
11:QK:120:ARG:HA	11:QK:121:PRO:HD3	1.87	0.41
14:QN:4:LYS:O	14:QN:7:ILE:HG12	2.20	0.41
14:QN:29:ARG:HG2	14:QN:31:ARG:O	2.20	0.41
16:QP:53:VAL:O	16:QP:57:ARG:HG2	2.21	0.41
20:QT:64:ASP:CG	20:QT:81:LYS:HZ2	2.23	0.41
21:QU:2:GLY:O	21:QU:5:ASP:N	2.47	0.41
25:RA:194:G:C2	25:RA:202:U:H1'	2.55	0.41
25:RA:952:G:C6	25:RA:966:G:C6	3.08	0.41
25:RA:1653:G:H4'	25:RA:1654:A:O5'	2.20	0.41
25:RA:1818:U:H2'	27:RD:157:ARG:HG3	2.01	0.41
25:RA:2108:C:H2'	25:RA:2109:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2394:C:OP1	35:RP:63:PRO:HD2	2.20	0.41
25:RA:2626:C:H2'	25:RA:2627:G:C8	2.55	0.41
25:RA:2756:U:H4'	25:RA:2757:A:OP1	2.20	0.41
25:RA:2770:G:H5''	25:RA:2771:C:OP2	2.19	0.41
29:RF:177:ALA:HB1	29:RF:178:PRO:HD2	2.03	0.41
34:RO:73:ASP:OD2	39:RT:32:TYR:OH	2.28	0.41
36:RQ:18:LYS:HB3	36:RQ:19:GLY:H	1.50	0.41
36:RQ:58:PHE:HD1	36:RQ:61:GLY:HA3	1.85	0.41
43:RX:40:LYS:C	43:RX:42:ALA:H	2.23	0.41
44:RY:88:LYS:NZ	44:RY:88:LYS:HA	2.35	0.41
54:R8:23:VAL:CG1	54:R8:46:ARG:HD3	2.49	0.41
9:XI:46:ALA:HB2	9:XI:74:ILE:HG23	2.02	0.41
11:XK:88:GLY:C	11:XK:90:GLY:H	2.23	0.41
16:XP:56:ALA:HB1	16:XP:74:LEU:HD13	2.02	0.41
16:XP:60:LEU:HD23	16:XP:60:LEU:HA	1.80	0.41
18:XR:38:GLU:O	18:XR:42:ARG:NH1	2.54	0.41
19:XS:40:ILE:CG1	19:XS:41:VAL:HG13	2.47	0.41
22:XV:5:G:H1	22:XV:67:C:H42	1.67	0.41
25:YA:385:C:O2	35:YP:71:VAL:HG21	2.20	0.41
25:YA:630:G:OP2	54:Y8:15:LYS:NZ	2.53	0.41
25:YA:685:A:H1'	25:YA:688:U:O4	2.20	0.41
25:YA:1107:G:H2'	25:YA:1108:U:H6	1.85	0.41
25:YA:2639:A:H1'	25:YA:2778:A:C2	2.56	0.41
26:YB:2:C:H2'	26:YB:3:C:C6	2.55	0.41
29:YF:117:ARG:HD2	29:YF:120:GLU:OE2	2.20	0.41
30:YG:165:THR:OG1	30:YG:168:GLU:HG3	2.21	0.41
33:YN:7:LYS:HD2	33:YN:7:LYS:H	1.84	0.41
33:YN:18:ALA:HB3	33:YN:55:VAL:O	2.19	0.41
33:YN:65:LYS:O	33:YN:69:GLN:HG2	2.19	0.41
36:YQ:54:MET:HB3	36:YQ:64:ILE:HD13	2.01	0.41
40:YU:69:CYS:HB3	40:YU:106:PHE:CZ	2.56	0.41
41:YV:22:VAL:HG12	41:YV:23:GLU:H	1.85	0.41
44:YY:84:ARG:O	44:YY:95:LYS:HD3	2.20	0.41
47:Y1:76:ARG:H	47:Y1:76:ARG:HD2	1.84	0.41
47:Y1:89:GLU:HA	47:Y1:93:GLU:HB2	2.02	0.41
1:QA:947:G:O3'	13:QM:109:THR:OG1	2.36	0.41
1:QA:1004:A:H1'	1:QA:1036:G:C2	2.56	0.41
1:QA:1084:G:OP1	1:QA:1086:U:C2	2.74	0.41
1:QA:1516:G:N1	1:QA:1519:A:OP2	2.52	0.41
8:QH:20:TYR:CE2	8:QH:75:ARG:HD2	2.55	0.41
8:QH:36:LEU:HD12	8:QH:59:LEU:HD13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:QQ:83:ASP:O	17:QQ:87:LYS:HG2	2.20	0.41
25:RA:322:A:C5	25:RA:340:A:C2	3.07	0.41
25:RA:769:G:H5'	25:RA:1379:A:N6	2.36	0.41
25:RA:1449:A:H5'	25:RA:1449(A):G:OP2	2.21	0.41
25:RA:2282:G:H4'	25:RA:2389:G:O2'	2.20	0.41
25:RA:2570:G:H2'	25:RA:2571:C:O4'	2.20	0.41
25:RA:2637:U:C4	25:RA:2638:G:C6	3.08	0.41
26:RB:42:C:O2'	30:RG:67:LYS:O	2.23	0.41
27:RD:35:LYS:HE3	27:RD:63:ARG:C	2.41	0.41
29:RF:178:PRO:HB2	29:RF:201:VAL:CG1	2.50	0.41
30:RG:6:ALA:HB3	30:RG:104:GLU:OE2	2.20	0.41
36:RQ:17:LEU:HD21	36:RQ:41:TRP:HD1	1.84	0.41
36:RQ:68:ILE:HD13	36:RQ:103:MET:HG2	2.02	0.41
41:RV:76:LYS:HB2	41:RV:81:TYR:HB3	2.01	0.41
45:RZ:109:ALA:O	45:RZ:112:ARG:HB2	2.20	0.41
46:R0:23:VAL:HA	46:R0:38:VAL:HG22	2.00	0.41
53:R7:1:MET:SD	53:R7:3:ARG:NH2	2.93	0.41
1:XA:373:A:H2'	1:XA:374:A:H8	1.86	0.41
1:XA:376:G:OP1	16:XP:5:ARG:HB2	2.20	0.41
1:XA:453:A:C6	1:XA:454:C:C4	3.09	0.41
1:XA:690:G:H22	11:XK:55:LYS:HZ1	1.66	0.41
1:XA:790:A:N1	1:XA:1497:G:H5''	2.35	0.41
1:XA:1190:G:OP1	3:XC:4:LYS:HA	2.20	0.41
1:XA:1216:G:H5''	14:YN:5:ALA:HB2	2.02	0.41
1:XA:1492:A:OP1	12:XL:47:LYS:HB3	2.20	0.41
9:XI:125:TYR:HD2	9:XI:126:SER:N	2.18	0.41
11:XK:18:ARG:HA	11:XK:81:ASP:H	1.86	0.41
12:XL:102:ARG:HE	12:XL:102:ARG:HB3	1.71	0.41
13:XM:12:ASN:N	13:XM:45:VAL:HG13	2.35	0.41
16:XP:17:TYR:HE1	16:XP:41:PRO:HG3	1.85	0.41
16:XP:23:ASP:O	16:XP:26:ARG:HB2	2.20	0.41
25:YA:174:C:H2'	25:YA:175:G:O4'	2.21	0.41
25:YA:572:A:H5''	25:YA:573:G:OP2	2.20	0.41
25:YA:593:G:O2'	54:Y8:61:LEU:HD13	2.20	0.41
25:YA:1101:U:H2'	25:YA:1102:C:C6	2.56	0.41
25:YA:2197:U:H1'	25:YA:2198:A:C8	2.56	0.41
25:YA:2210:G:H2'	25:YA:2210:G:N3	2.35	0.41
25:YA:2275:C:O2	36:YQ:83:MET:HG3	2.19	0.41
25:YA:2392:A:H2	25:YA:2424:C:N4	2.10	0.41
25:YA:2836:U:C4	25:YA:2883:A:N6	2.89	0.41
26:YB:41:U:O4	30:YG:70:VAL:HG23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YH:19:VAL:HG22	31:YH:24:VAL:HG12	2.03	0.41
32:YI:21:VAL:HG22	32:YI:22:LYS:H	1.85	0.41
36:YQ:19:GLY:O	36:YQ:21:THR:OG1	2.23	0.41
38:YS:107:GLU:N	38:YS:110:LEU:HD11	2.35	0.41
41:YV:38:LEU:O	41:YV:51:VAL:HA	2.20	0.41
41:YV:72:VAL:HG13	41:YV:85:LYS:HG2	2.01	0.41
53:Y7:47:ARG:HB2	53:Y7:47:ARG:HE	1.58	0.41
1:QA:347:G:O2'	1:QA:348:G:H5''	2.21	0.41
1:QA:585:G:O3'	17:QQ:34:LYS:NZ	2.52	0.41
1:QA:1148:U:OP1	9:QI:7:THR:HG21	2.20	0.41
1:QA:1227:A:OP2	13:QM:111:LYS:HE3	2.20	0.41
1:QA:1327:C:H2'	1:QA:1328:C:C6	2.55	0.41
1:QA:1402:C:H2'	1:QA:1403:C:O4'	2.21	0.41
4:QD:38:TYR:HB2	4:QD:44:GLY:O	2.21	0.41
4:QD:122:ARG:O	4:QD:122:ARG:HD3	2.20	0.41
5:QE:110:LEU:HD13	5:QE:118:ILE:HG12	2.01	0.41
10:QJ:79:ARG:HD3	10:QJ:79:ARG:HA	1.78	0.41
13:QM:91:ARG:HB2	13:QM:98:VAL:HG13	2.03	0.41
16:QP:20:VAL:HG21	16:QP:32:TYR:CD1	2.56	0.41
25:RA:30:G:O2'	25:RA:1214:A:N3	2.49	0.41
25:RA:265:A:O2'	25:RA:266:G:H4'	2.20	0.41
25:RA:831:G:O2'	35:RP:38:GLN:NE2	2.53	0.41
25:RA:1469:A:H2'	25:RA:1470:G:O4'	2.19	0.41
25:RA:1784:A:H4'	25:RA:1785:A:O5'	2.21	0.41
29:RF:33:LEU:HD12	29:RF:33:LEU:HA	1.83	0.41
35:RP:81:GLN:HG2	35:RP:106:LEU:HD23	2.02	0.41
36:RQ:40:ALA:O	36:RQ:42:ILE:HD12	2.21	0.41
37:RR:22:ARG:HA	37:RR:47:PHE:HE2	1.86	0.41
38:RS:14:VAL:HG21	38:RS:89:ARG:HG2	2.02	0.41
44:RY:54:LYS:HB3	44:RY:55:TYR:CE2	2.55	0.41
44:RY:84:ARG:HD3	44:RY:86:ARG:NH1	2.35	0.41
45:RZ:93:ASP:OD1	45:RZ:93:ASP:N	2.53	0.41
45:RZ:99:TYR:HB3	45:RZ:123:ASP:HB2	2.03	0.41
1:XA:1446:A:HO2'	1:XA:1447:G:P	2.44	0.41
3:XC:150:LYS:HE3	3:XC:167:TRP:HE1	1.84	0.41
12:XL:62:SER:HB2	12:XL:64:TYR:CD1	2.56	0.41
17:XQ:59:ILE:HB	17:XQ:71:PHE:HB3	2.03	0.41
25:YA:117:G:C6	25:YA:119:A:C6	3.08	0.41
25:YA:517:C:OP1	51:Y5:16:ARG:NH2	2.53	0.41
25:YA:783:A:H3'	25:YA:783:A:C8	2.55	0.41
25:YA:1209:G:H21	25:YA:1210:A:H62	1.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2286:A:H2'	52:Y6:31:PRO:HG2	2.02	0.41
25:YA:2306:C:H2'	25:YA:2307:G:N2	2.33	0.41
25:YA:2334:G:C2	38:YS:12:PHE:CE2	3.08	0.41
25:YA:2528:U:H2'	25:YA:2530:A:O5'	2.21	0.41
25:YA:2811:G:H1	25:YA:2889:C:H42	1.69	0.41
25:YA:2862:G:H2'	25:YA:2863:C:C6	2.56	0.41
28:YE:86:PRO:HB2	28:YE:87:GLU:H	1.66	0.41
29:YF:107:LYS:CD	29:YF:207:GLY:H	2.30	0.41
29:YF:125:LEU:HA	29:YF:194:MET:O	2.20	0.41
30:YG:166:ASP:OD1	30:YG:166:ASP:N	2.54	0.41
44:YY:63:LYS:HD2	44:YY:63:LYS:HA	1.86	0.41
1:QA:730:G:C5	1:QA:731:G:H1'	2.55	0.41
1:QA:758:G:H5'	1:QA:880:C:H1'	2.02	0.41
1:QA:1216:G:H5''	14:QN:5:ALA:HB2	2.02	0.41
1:QA:1220:G:N2	19:QS:54:GLY:O	2.52	0.41
1:QA:1223:C:OP1	19:QS:78:ARG:NH1	2.51	0.41
2:QB:120:ALA:C	2:QB:122:PHE:H	2.23	0.41
2:QB:184:VAL:N	2:QB:198:ASP:OD1	2.44	0.41
3:QC:42:LEU:HD12	3:QC:42:LEU:HA	1.79	0.41
11:QK:99:GLN:HG2	11:QK:105:VAL:HG21	2.03	0.41
20:QT:89:ARG:HH21	20:QT:104:LEU:HG	1.85	0.41
25:RA:900:A:H3'	25:RA:901:A:C8	2.46	0.41
25:RA:975:G:C2	25:RA:990:A:C8	3.09	0.41
25:RA:1786:A:C4	25:RA:1938:A:C6	3.08	0.41
25:RA:1956:U:H1'	25:RA:2552:U:OP1	2.20	0.41
25:RA:2740:A:C6	25:RA:2764:A:C8	3.08	0.41
29:RF:29:ASN:O	29:RF:112:MET:HE1	2.20	0.41
29:RF:164:ARG:HG3	29:RF:175:THR:OG1	2.20	0.41
30:RG:27:ASN:HB3	30:RG:30:GLU:HG3	2.01	0.41
30:RG:124:SER:HB2	30:RG:131:TYR:CE1	2.56	0.41
33:RN:71:ILE:HG21	33:RN:84:LYS:HB3	2.02	0.41
43:RX:51:VAL:HG13	43:RX:81:VAL:HG23	2.03	0.41
52:R6:13:CYS:O	52:R6:21:TYR:HA	2.20	0.41
2:XB:80:ILE:HD11	2:XB:208:ILE:HG12	2.02	0.41
6:XF:46:ARG:HB3	6:XF:60:PHE:CE1	2.55	0.41
10:XJ:3:LYS:HD2	10:XJ:77:PRO:HD3	2.01	0.41
16:XP:8:ARG:C	16:XP:9:PHE:HD2	2.24	0.41
18:XR:85:LEU:HD23	18:XR:88:LYS:HD2	2.03	0.41
25:YA:248:G:H5'	25:YA:250:G:N7	2.36	0.41
25:YA:583:G:OP2	40:YU:10:ARG:HD2	2.21	0.41
25:YA:792:G:H5''	25:YA:793:A:H5'	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1087:G:C5	25:YA:1089:G:H1'	2.56	0.41
25:YA:1411:C:H5'	25:YA:1412:A:OP2	2.20	0.41
25:YA:2061:G:OP1	29:YF:68:LYS:NZ	2.54	0.41
33:YN:29:LYS:H	33:YN:29:LYS:HG2	1.53	0.41
35:YP:101:VAL:C	35:YP:103:ALA:H	2.23	0.41
38:YS:88:ASP:O	38:YS:89:ARG:HB3	2.21	0.41
46:Y0:72:ARG:HB2	46:Y0:75:LEU:HB2	2.03	0.41
50:Y4:48:ARG:NH1	50:Y4:52:THR:H	2.19	0.41
1:QA:266:G:H5'	1:QA:268:C:H41	1.85	0.41
1:QA:484:G:H5'	1:QA:486:U:O4'	2.21	0.41
1:QA:751:U:H2'	1:QA:752:G:O4'	2.20	0.41
1:QA:882:C:O2'	1:QA:883:C:H5'	2.21	0.41
2:QB:210:SER:O	2:QB:214:ILE:HG12	2.21	0.41
3:QC:122:GLU:HA	3:QC:125:GLU:OE1	2.21	0.41
22:QV:18:G:N2	22:QV:57:A:H2'	2.36	0.41
25:RA:301:G:H1	25:RA:316:C:N4	2.18	0.41
25:RA:612:G:H2'	25:RA:613:U:O2	2.21	0.41
25:RA:676:A:H2	25:RA:802:A:H61	1.65	0.41
25:RA:1652:A:N7	25:RA:1653:G:C6	2.89	0.41
25:RA:1752:C:H2'	25:RA:1753:G:C8	2.56	0.41
25:RA:1891:G:H2'	25:RA:1892:C:O4'	2.21	0.41
26:RB:74:U:H1'	45:RZ:34:ASN:HD21	1.86	0.41
27:RD:127:VAL:HA	27:RD:193:VAL:HG22	2.02	0.41
28:RE:35:GLN:HB3	28:RE:48:GLN:HB2	2.02	0.41
28:RE:92:THR:HB	28:RE:93:VAL:H	1.54	0.41
33:RN:47:ALA:HB2	33:RN:112:LEU:HD11	2.02	0.41
37:RR:10:LEU:O	37:RR:12:ARG:HG3	2.21	0.41
37:RR:70:LEU:C	37:RR:72:ASP:H	2.21	0.41
1:XA:186(C):G:C6	1:XA:191(E):G:C6	3.09	0.41
1:XA:221:C:H2'	1:XA:222:U:H6	1.84	0.41
1:XA:241:C:C2	1:XA:286:G:C2	3.09	0.41
1:XA:528:C:H41	12:XL:49:ASN:CG	2.24	0.41
1:XA:694:A:H2'	1:XA:695:A:O4'	2.21	0.41
1:XA:779:C:H2'	1:XA:780:A:O4'	2.20	0.41
1:XA:963:G:H21	10:XJ:55:LYS:HD3	1.84	0.41
1:XA:1226:C:H4'	1:XA:1227:A:OP1	2.20	0.41
1:XA:1308:U:OP1	13:XM:98:VAL:HG23	2.21	0.41
8:XH:44:PHE:HE2	8:XH:109:ILE:CG2	2.34	0.41
11:XK:48:ILE:HD13	11:XK:48:ILE:HA	1.83	0.41
25:YA:273(F):C:H2'	25:YA:274:G:H5''	2.03	0.41
25:YA:820:A:H2'	25:YA:821:A:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1021:A:C8	25:YA:1021:A:C3'	3.04	0.41
25:YA:1085:A:O2'	25:YA:1086:A:P	2.78	0.41
25:YA:1317:A:H2'	25:YA:1318:C:C6	2.55	0.41
25:YA:1342:A:OP1	43:YX:36:LYS:NZ	2.54	0.41
25:YA:1878:G:H2'	25:YA:1879:C:H6	1.84	0.41
25:YA:1919:A:H5''	25:YA:1920:C:OP2	2.21	0.41
25:YA:2134:A:OP2	25:YA:2157:G:N2	2.53	0.41
25:YA:2421:G:OP1	52:Y6:6:ARG:NH2	2.54	0.41
25:YA:2663:G:C6	25:YA:2664:G:C4	3.09	0.41
25:YA:2713:A:H3'	25:YA:2714:G:H5''	2.02	0.41
32:YI:23:PRO:O	32:YI:27:ARG:HG2	2.21	0.41
32:YI:115:ALA:HB3	32:YI:128:LEU:HD12	2.02	0.41
36:YQ:16:ARG:HB3	36:YQ:17:LEU:H	1.76	0.41
40:YU:98:LEU:HD23	40:YU:99:ALA:N	2.36	0.41
41:YV:72:VAL:CG1	41:YV:85:LYS:HG2	2.50	0.41
1:QA:15:G:H2'	1:QA:16:A:O4'	2.21	0.41
1:QA:148:G:H2'	1:QA:149:A:H8	1.85	0.41
1:QA:514:C:H2'	1:QA:515:G:H8	1.86	0.41
1:QA:573:A:N3	1:QA:883:C:O2'	2.53	0.41
1:QA:967:C:H2'	1:QA:968:A:N7	2.36	0.41
1:QA:978:A:H5''	1:QA:979:C:OP2	2.20	0.41
1:QA:1263:C:H42	1:QA:1272:G:H1	1.69	0.41
2:QB:47:THR:HA	2:QB:202:PRO:HG2	2.00	0.41
2:QB:104:ASN:OD1	2:QB:107:THR:OG1	2.30	0.41
7:QG:45:ASP:O	7:QG:48:LYS:HB3	2.21	0.41
15:QO:4:THR:HB	15:QO:6:GLU:CD	2.41	0.41
19:QS:36:ARG:HA	19:QS:71:LEU:HB2	2.02	0.41
25:RA:150:C:H2'	25:RA:151:C:C6	2.55	0.41
25:RA:749:C:O2	25:RA:1618:A:H2'	2.20	0.41
25:RA:1068:G:O2'	25:RA:1096:A:N3	2.54	0.41
25:RA:2133:G:H2'	25:RA:2157:G:N2	2.36	0.41
25:RA:2774:C:H2'	25:RA:2775:A:O4'	2.20	0.41
27:RD:150:LYS:N	27:RD:150:LYS:HD3	2.36	0.41
31:RH:152:ARG:HE	31:RH:153:LYS:HZ3	1.69	0.41
32:RI:14:ASP:O	32:RI:16:GLY:N	2.54	0.41
33:RN:57:ALA:O	33:RN:60:ILE:HD11	2.21	0.41
33:RN:73:THR:HB	33:RN:82:LEU:HD11	2.02	0.41
39:RT:91:ARG:HB2	39:RT:121:ILE:HG13	2.03	0.41
47:R1:58:ILE:CD1	47:R1:86:SER:HB2	2.50	0.41
1:XA:44:G:C2	1:XA:45:U:H1'	2.56	0.41
1:XA:192:U:H2'	1:XA:193:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:651:C:H2'	1:XA:652:U:C6	2.56	0.41
1:XA:1152:A:H2'	1:XA:1153:C:C6	2.55	0.41
1:XA:1199:U:H4'	10:XJ:54:PHE:CZ	2.56	0.41
2:XB:118:LEU:CB	2:XB:142:LEU:HD12	2.50	0.41
3:XC:119:ARG:HH21	3:XC:140:ARG:CZ	2.34	0.41
10:XJ:76:ASN:HA	10:XJ:77:PRO:HD2	1.96	0.41
12:XL:68:ALA:HB2	12:XL:85:ILE:HD11	2.03	0.41
12:XL:70:ILE:HA	12:XL:71:PRO:HD3	1.81	0.41
14:XN:51:GLY:O	14:XN:53:LEU:N	2.53	0.41
17:XQ:62:SER:CB	17:XQ:72:ARG:HE	2.33	0.41
22:XV:1:G:H2'	22:XV:2:C:H6	1.86	0.41
25:YA:414:C:H1'	25:YA:1864:U:O2'	2.21	0.41
25:YA:1107:G:H2'	25:YA:1108:U:C6	2.56	0.41
25:YA:1126:A:H8	25:YA:1126:A:OP1	2.03	0.41
25:YA:1265:A:H8	25:YA:1265:A:OP1	2.04	0.41
25:YA:2292:C:OP2	38:YS:17:ARG:NH2	2.47	0.41
27:YD:3:VAL:HG13	27:YD:17:THR:HG23	2.03	0.41
27:YD:36:PRO:HB3	27:YD:61:LEU:HB3	2.03	0.41
27:YD:102:LYS:C	27:YD:103:ARG:HG2	2.40	0.41
28:YE:64:LYS:C	28:YE:66:HIS:H	2.24	0.41
29:YF:9:ILE:HD11	29:YF:125:LEU:HG	2.03	0.41
30:YG:103:LEU:O	30:YG:107:LEU:HG	2.21	0.41
30:YG:124:SER:HB2	30:YG:131:TYR:CE1	2.56	0.41
32:YI:57:ARG:O	32:YI:61:ARG:HG2	2.20	0.41
33:YN:7:LYS:NZ	33:YN:7:LYS:H	2.18	0.41
40:YU:8:VAL:O	40:YU:12:ARG:HG3	2.20	0.41
45:YZ:136:PHE:C	45:YZ:137:ILE:HG12	2.41	0.41
54:Y8:37:SER:O	54:Y8:40:GLU:HB3	2.21	0.41
55:Y9:2:LYS:HA	55:Y9:2:LYS:HD2	1.86	0.41
1:QA:452:A:P	16:QP:43:LYS:HZ1	2.44	0.41
1:QA:565:U:H5''	1:QA:566:G:C2'	2.51	0.41
1:QA:1336:C:O2'	1:QA:1337:G:P	2.78	0.41
4:QD:173:TRP:CD1	4:QD:174:LEU:HG	2.56	0.41
5:QE:12:LEU:O	5:QE:13:ILE:HD12	2.21	0.41
8:QH:41:ARG:NH2	8:QH:123:GLU:OE2	2.54	0.41
9:QI:40:LEU:HD11	9:QI:70:LYS:HG2	2.02	0.41
10:QJ:31:GLY:HA3	10:QJ:78:ASN:CG	2.41	0.41
11:QK:25:TYR:CZ	11:QK:87:THR:HB	2.55	0.41
12:QL:103:GLY:N	12:QL:107:ALA:O	2.49	0.41
25:RA:734:A:O2'	25:RA:1635:G:H5'	2.21	0.41
25:RA:784:A:O4'	27:RD:227:ASN:ND2	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:815:C:H2'	25:RA:816:C:C6	2.55	0.41
25:RA:815:C:C2	25:RA:1193:G:C2	3.09	0.41
25:RA:1007:C:OP1	33:RN:35:ARG:NH1	2.53	0.41
25:RA:1085:A:HO2'	25:RA:1086:A:P	2.44	0.41
25:RA:1364:G:C8	47:R1:2:SER:N	2.89	0.41
25:RA:2120:G:H2'	25:RA:2121:G:H8	1.85	0.41
25:RA:2262:U:H4'	25:RA:2328:A:H2	1.84	0.41
25:RA:2477:C:H2'	55:R9:1:MET:HG3	2.02	0.41
25:RA:2758:A:C2	25:RA:2759:G:H1'	2.56	0.41
25:RA:2777:G:OP2	25:RA:2781:A:O2'	2.34	0.41
26:RB:29:A:H2'	26:RB:30:C:C6	2.55	0.41
27:RD:111:LEU:HD23	27:RD:111:LEU:HA	1.78	0.41
27:RD:226:MET:HB3	27:RD:230:ASP:HB2	2.03	0.41
27:RD:257:LEU:HD23	27:RD:257:LEU:HA	1.90	0.41
30:RG:47:LYS:HB2	30:RG:47:LYS:HE3	1.81	0.41
30:RG:131:TYR:O	30:RG:159:VAL:HG13	2.21	0.41
31:RH:33:LEU:HD11	31:RH:136:ILE:O	2.20	0.41
32:RI:12:LEU:HG	32:RI:19:VAL:HG11	2.03	0.41
32:RI:144:VAL:O	32:RI:145:VAL:HG12	2.21	0.41
33:RN:9:VAL:HG21	33:RN:48:MET:HB3	2.02	0.41
33:RN:57:ALA:C	33:RN:60:ILE:HD11	2.40	0.41
34:RO:26:LYS:HB2	34:RO:30:ALA:HB2	2.02	0.41
36:RQ:66:ILE:HG13	36:RQ:67:ARG:N	2.36	0.41
36:RQ:79:LEU:HD12	46:R0:5:LYS:HD3	2.02	0.41
38:RS:62:LYS:HB3	38:RS:97:ARG:CD	2.44	0.41
40:RU:61:TRP:O	40:RU:65:ILE:HG13	2.21	0.41
45:RZ:74:VAL:HG22	45:RZ:86:VAL:HG22	2.03	0.41
50:R4:39:CYS:HB2	50:R4:41:PRO:HD2	2.02	0.41
52:R6:24:GLU:HB3	52:R6:25:LYS:H	1.74	0.41
1:XA:302:G:C6	1:XA:303:A:C5	3.09	0.41
1:XA:375:U:C2	1:XA:376:G:C8	3.09	0.41
1:XA:418:C:H1'	1:XA:540:G:O2'	2.21	0.41
1:XA:438:G:H4'	4:XD:123:HIS:NE2	2.36	0.41
1:XA:622:A:C8	1:XA:623:C:C6	3.09	0.41
1:XA:626:U:N3	1:XA:627:G:N7	2.69	0.41
1:XA:652:U:H1'	1:XA:653:A:C2	2.56	0.41
1:XA:659:U:H2'	1:XA:660:G:C8	2.55	0.41
1:XA:1004:A:H1'	1:XA:1036:G:H22	1.86	0.41
1:XA:1112:C:C2	3:XC:178:LEU:HB2	2.55	0.41
1:XA:1128:C:H42	1:XA:1144:G:H1	1.69	0.41
1:XA:1213:A:C5	1:XA:1215:G:C4	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1336:C:O2	1:XA:1336:C:H2'	2.20	0.41
2:XB:126:GLU:O	2:XB:129:GLU:HB2	2.20	0.41
3:XC:138:VAL:HG13	3:XC:149:ALA:HB3	2.02	0.41
4:XD:52:SER:O	4:XD:55:ALA:HB3	2.21	0.41
4:XD:131:ARG:H	4:XD:131:ARG:HG2	1.67	0.41
4:XD:186:LEU:HD23	4:XD:186:LEU:HA	1.95	0.41
5:XE:68:GLU:O	5:XE:68:GLU:HG3	2.21	0.41
5:XE:69:VAL:HA	5:XE:70:PRO:HD2	1.76	0.41
5:XE:82:VAL:HB	5:XE:138:ALA:HB2	2.03	0.41
8:XH:12:ARG:HD3	8:XH:26:VAL:HB	2.03	0.41
9:XI:79:LEU:O	9:XI:83:ARG:HG2	2.19	0.41
10:XJ:54:PHE:CD2	10:XJ:55:LYS:HG3	2.56	0.41
19:XS:36:ARG:HA	19:XS:71:LEU:HB2	2.02	0.41
20:XT:11:SER:HA	20:XT:13:LEU:HD12	2.01	0.41
25:YA:213:A:H2'	25:YA:214:G:O4'	2.21	0.41
25:YA:568:U:H5'	25:YA:945:A:N1	2.36	0.41
25:YA:620:G:H4'	25:YA:621:A:C5'	2.36	0.41
25:YA:649:G:C5	25:YA:650:C:C4	3.08	0.41
25:YA:724:U:H2'	25:YA:725:G:O4'	2.21	0.41
25:YA:1032:A:H2	25:YA:1122:G:H22	1.68	0.41
25:YA:1048:A:C5	25:YA:1111:A:H2	2.39	0.41
25:YA:1094:U:O2	25:YA:1096:A:H5'	2.21	0.41
25:YA:1682:G:H2'	25:YA:1683:C:C6	2.55	0.41
25:YA:1683:C:H2'	25:YA:1684:C:C6	2.56	0.41
25:YA:2688:U:O2	25:YA:2719:G:C6	2.74	0.41
25:YA:2772:C:H5'	28:YE:168:MET:SD	2.60	0.41
25:YA:2783:G:H2'	25:YA:2784:C:C6	2.56	0.41
25:YA:2845:G:H2'	25:YA:2846:G:H8	1.85	0.41
26:YB:20:C:H2'	26:YB:21:G:O4'	2.21	0.41
27:YD:130:ALA:C	27:YD:131:LEU:HD12	2.42	0.41
27:YD:145:VAL:HG11	27:YD:175:LEU:HD11	2.02	0.41
28:YE:32:PRO:HA	28:YE:90:THR:HA	2.03	0.41
28:YE:41:LYS:HA	28:YE:41:LYS:HE2	2.02	0.41
29:YF:28:ILE:H	29:YF:28:ILE:HG13	1.68	0.41
29:YF:64:ILE:HA	29:YF:64:ILE:HD12	1.80	0.41
29:YF:67:GLN:HG3	29:YF:67:GLN:O	2.21	0.41
33:YN:96:GLU:O	33:YN:100:GLU:HG3	2.20	0.41
35:YP:106:LEU:O	35:YP:107:LYS:HB2	2.20	0.41
36:YQ:80:GLU:HB2	36:YQ:81:VAL:H	1.69	0.41
37:YR:44:LEU:HD22	37:YR:48:VAL:HG23	2.02	0.41
40:YU:17:ILE:HG23	40:YU:39:LEU:HD12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:YU:92:ARG:HD2	40:YU:95:LEU:HD12	2.02	0.41
40:YU:92:ARG:NH2	41:YV:11:GLN:H	2.18	0.41
43:YX:31:HIS:HB3	43:YX:34:ALA:HB2	2.03	0.41
45:YZ:8:TYR:HD1	45:YZ:38:TYR:CZ	2.39	0.41
45:YZ:182:LYS:CB	45:YZ:183:LEU:HA	2.51	0.41
47:Y1:83:GLU:C	47:Y1:85:LEU:H	2.24	0.41
52:Y6:36:LEU:HD13	52:Y6:50:ARG:CZ	2.51	0.41
1:QA:438:G:H4'	4:QD:123:HIS:CD2	2.56	0.41
1:QA:593:G:H1	1:QA:646:U:H3	1.67	0.41
1:QA:598:U:H4'	8:QH:94:TYR:CD2	2.56	0.41
1:QA:1098:C:H2'	1:QA:1099:G:O4'	2.21	0.41
1:QA:1225:A:N3	1:QA:1225:A:H2'	2.36	0.41
3:QC:83:ARG:O	3:QC:86:VAL:HG22	2.21	0.41
5:QE:147:ASP:O	5:QE:151:LEU:HG	2.21	0.41
6:QF:35:ALA:HA	6:QF:67:MET:HB3	2.02	0.41
8:QH:44:PHE:HD1	8:QH:80:ILE:HG12	1.86	0.41
22:QV:76:A:H2'	25:RA:2602:A:H61	1.83	0.41
25:RA:65:C:O2'	25:RA:456:C:N3	2.43	0.41
25:RA:77:C:O3'	48:R2:14:ARG:NH2	2.48	0.41
25:RA:244:A:H2'	25:RA:245:G:O4'	2.21	0.41
25:RA:389:G:H22	35:RP:72:PRO:HD3	1.86	0.41
25:RA:392:C:H5''	25:RA:409:C:H5''	2.02	0.41
25:RA:587:C:N3	35:RP:33:ARG:NH1	2.65	0.41
25:RA:626:U:H5''	25:RA:627:A:C5'	2.51	0.41
25:RA:705:A:H1'	27:RD:9:TYR:CE1	2.56	0.41
25:RA:2198:A:C2	32:RI:29:TYR:HB2	2.56	0.41
25:RA:2712:U:OP1	25:RA:2714:G:H4'	2.21	0.41
25:RA:2820:A:O5'	37:RR:4:LEU:HD23	2.21	0.41
26:RB:110:G:H2'	26:RB:111:U:O4'	2.21	0.41
27:RD:34:VAL:C	27:RD:35:LYS:HG3	2.40	0.41
28:RE:184:VAL:HB	28:RE:185:LYS:H	1.64	0.41
35:RP:62:LEU:HD13	35:RP:62:LEU:N	2.36	0.41
38:RS:83:LYS:C	38:RS:109:GLY:HA3	2.42	0.41
50:R4:23:GLU:HG3	50:R4:25:TYR:HE2	1.85	0.41
1:XA:1107:C:C4	1:XA:1108:G:C8	3.09	0.41
2:XB:166:ASP:HB3	2:XB:169:LYS:HB2	2.02	0.41
3:XC:42:LEU:HD12	3:XC:42:LEU:HA	1.87	0.41
4:XD:64:LEU:HD13	4:XD:198:VAL:HG11	2.02	0.41
6:XF:25:ILE:HD13	6:XF:28:ARG:NH1	2.35	0.41
10:XJ:6:ILE:O	10:XJ:71:LEU:HD12	2.21	0.41
11:XK:19:ALA:CB	11:XK:32:ILE:HG22	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:XV:53:G:O2'	22:XV:54:U:O5'	2.39	0.41
25:YA:69:C:H2'	25:YA:70:G:C8	2.55	0.41
25:YA:173:G:H2'	25:YA:174:C:C6	2.56	0.41
25:YA:297:C:H5''	44:YY:85:VAL:CG2	2.51	0.41
25:YA:566:U:OP1	35:YP:29:LYS:NZ	2.50	0.41
25:YA:747:U:OP2	51:Y5:3:LYS:HD2	2.21	0.41
25:YA:1588:C:H2'	25:YA:1589:C:H6	1.86	0.41
25:YA:1931:U:C5	25:YA:1969:A:N7	2.89	0.41
27:YD:35:LYS:HZ1	27:YD:65:ILE:HA	1.86	0.41
27:YD:201:HIS:O	27:YD:204:ILE:HG12	2.21	0.41
28:YE:95:ILE:H	28:YE:95:ILE:CD1	2.31	0.41
34:YO:4:PRO:O	34:YO:5:GLN:CB	2.69	0.41
1:QA:126:G:H2'	1:QA:127:G:O4'	2.21	0.40
1:QA:1034:G:H2'	1:QA:1035:A:C8	2.55	0.40
1:QA:1329:A:H5'	13:QM:29:ARG:NE	2.36	0.40
7:QG:54:THR:O	7:QG:56:GLN:N	2.52	0.40
7:QG:93:PRO:O	7:QG:96:GLN:HB2	2.21	0.40
21:QU:10:ARG:HA	21:QU:13:ILE:HB	2.02	0.40
25:RA:13:A:N1	25:RA:525:U:H2'	2.37	0.40
25:RA:634:C:H2'	25:RA:635:C:C6	2.56	0.40
25:RA:1364:G:N7	47:R1:2:SER:N	2.69	0.40
25:RA:2469:A:H5''	25:RA:2470:G:C8	2.56	0.40
25:RA:2788:C:OP1	28:RE:61:ARG:NH1	2.54	0.40
31:RH:103:LEU:HG	31:RH:105:LEU:HD12	2.02	0.40
31:RH:107:VAL:HB	31:RH:153:LYS:HE3	2.03	0.40
32:RI:120:ILE:HD11	32:RI:126:TYR:OH	2.20	0.40
39:RT:109:GLU:O	39:RT:113:LYS:HB2	2.21	0.40
43:RX:67:GLY:C	43:RX:69:TYR:H	2.23	0.40
46:R0:72:ARG:HB2	46:R0:75:LEU:HB2	2.03	0.40
50:R4:13:ARG:O	50:R4:30:GLU:HA	2.21	0.40
53:R7:31:LEU:HD23	53:R7:31:LEU:HA	1.86	0.40
1:XA:22:G:H4'	1:XA:885:G:C8	2.56	0.40
1:XA:965:A:H4'	1:XA:966:G:OP1	2.20	0.40
1:XA:1363:A:H1'	1:XA:1365:G:N7	2.36	0.40
5:XE:51:VAL:HB	5:XE:52:PRO:HD3	2.03	0.40
7:XG:89:MET:HE3	7:XG:155:ARG:HB2	2.03	0.40
8:XH:6:ILE:HB	8:XH:85:ARG:NH1	2.36	0.40
9:XI:95:LYS:NZ	9:XI:96:LEU:HD13	2.36	0.40
20:XT:43:LEU:HD23	20:XT:43:LEU:HA	1.88	0.40
25:YA:18:C:O3'	40:YU:23:GLY:HA2	2.21	0.40
25:YA:270:A:H1'	25:YA:370:G:C2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:270(X):G:C6	25:YA:270(Y):G:N1	2.89	0.40
25:YA:654:A:O2'	25:YA:654(A):G:OP2	2.36	0.40
25:YA:654:A:HO2'	25:YA:654(A):G:P	2.44	0.40
25:YA:659:C:H2'	25:YA:660:G:H8	1.85	0.40
25:YA:1331:A:C6	25:YA:1333:C:C2	3.09	0.40
25:YA:2108:C:H2'	25:YA:2109:U:C6	2.56	0.40
30:YG:18:GLU:OE1	30:YG:22:ARG:NH1	2.49	0.40
30:YG:61:ALA:HA	30:YG:64:THR:HG22	2.02	0.40
31:YH:125:VAL:HG22	31:YH:131:VAL:HG13	2.02	0.40
35:YP:29:LYS:HB3	35:YP:30:THR:H	1.59	0.40
40:YU:96:ALA:HA	40:YU:98:LEU:HD23	2.03	0.40
50:Y4:43:TYR:O	50:Y4:46:GLN:HA	2.20	0.40
50:Y4:48:ARG:HH12	50:Y4:52:THR:H	1.69	0.40
1:QA:115:G:H4'	1:QA:116:A:O5'	2.20	0.40
1:QA:955:U:H2'	1:QA:956:U:O4'	2.21	0.40
3:QC:71:ALA:HB2	3:QC:109:PRO:HB3	2.04	0.40
10:QJ:4:ILE:HA	10:QJ:100:THR:HG22	2.02	0.40
19:QS:5:LEU:HD12	19:QS:5:LEU:HA	1.93	0.40
22:QV:43:A:H2'	22:QV:44:A:C8	2.57	0.40
25:RA:155:C:H5'	25:RA:161:U:OP2	2.22	0.40
25:RA:315:G:H2'	25:RA:316:C:C6	2.57	0.40
25:RA:778:G:H5'	27:RD:48:ARG:NH1	2.35	0.40
25:RA:1285:G:N1	25:RA:1329:U:OP1	2.50	0.40
25:RA:1504:C:H5'	25:RA:1505:C:OP2	2.21	0.40
25:RA:2086:U:H2'	25:RA:2087:G:C8	2.56	0.40
25:RA:2779:U:H6	25:RA:2779:U:H2'	1.75	0.40
28:RE:55:ASN:ND2	28:RE:75:VAL:HG22	2.35	0.40
28:RE:197:ILE:HD11	28:RE:199:ARG:CZ	2.50	0.40
29:RF:107:LYS:HE3	29:RF:206:ILE:HD12	2.03	0.40
31:RH:30:LYS:HD2	31:RH:81:GLU:H	1.85	0.40
31:RH:98:LEU:HB2	31:RH:125:VAL:HB	2.03	0.40
34:RO:63:VAL:HB	34:RO:106:LEU:HD11	2.02	0.40
36:RQ:58:PHE:CD1	36:RQ:61:GLY:HA3	2.56	0.40
40:RU:83:LEU:HG	40:RU:88:ILE:HB	2.03	0.40
1:XA:652:U:H1'	1:XA:653:A:H2	1.86	0.40
1:XA:982:U:H4'	1:XA:983:A:O5'	2.21	0.40
1:XA:1164:G:H2'	1:XA:1165:C:H6	1.87	0.40
1:XA:1216:G:OP1	14:XN:2:ALA:HA	2.21	0.40
2:XB:19:HIS:NE2	2:XB:206:ASP:HB2	2.36	0.40
2:XB:120:ALA:C	2:XB:122:PHE:H	2.25	0.40
3:XC:188:LEU:HD13	3:XC:188:LEU:HA	1.90	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XD:165:MET:O	4:XD:167:GLY:N	2.54	0.40
5:XE:34:VAL:HG11	5:XE:63:ARG:HG2	2.02	0.40
11:XK:38:ASN:HA	11:XK:39:PRO:HD3	1.75	0.40
25:YA:549:G:H2'	25:YA:550:G:O4'	2.21	0.40
25:YA:593:G:C4'	54:Y8:4:MET:HE1	2.51	0.40
25:YA:857:C:H1'	46:Y0:26:TYR:CE2	2.56	0.40
25:YA:1076:C:H2'	25:YA:1077:A:H5''	2.03	0.40
25:YA:1087:G:C4	25:YA:1089:G:H1'	2.56	0.40
25:YA:1209:G:N2	25:YA:1210:A:H62	2.19	0.40
25:YA:1550:C:H2'	25:YA:1551:C:C6	2.55	0.40
25:YA:2884:U:C2	51:Y5:51:TYR:HE1	2.39	0.40
26:YB:41:U:H5	30:YG:70:VAL:O	2.04	0.40
27:YD:62:TYR:HA	27:YD:87:ASN:OD1	2.21	0.40
28:YE:49:LEU:HD12	28:YE:49:LEU:HA	1.71	0.40
30:YG:7:LEU:HD12	30:YG:104:GLU:HA	2.04	0.40
31:YH:109:PHE:HZ	31:YH:152:ARG:HG2	1.86	0.40
32:YI:52:ARG:O	32:YI:56:LYS:HB3	2.21	0.40
33:YN:65:LYS:H	33:YN:65:LYS:HG2	1.60	0.40
38:YS:69:VAL:HA	38:YS:72:ALA:HB3	2.03	0.40
52:Y6:13:CYS:HB2	52:Y6:22:ALA:HB3	2.03	0.40
3:QC:43:LEU:HD22	3:QC:47:LEU:HD22	2.02	0.40
6:QF:30:LEU:HD23	6:QF:75:LEU:HD11	2.02	0.40
6:QF:33:TYR:CE1	6:QF:78:GLU:HG2	2.56	0.40
25:RA:221:A:C4	25:RA:266:G:N7	2.89	0.40
25:RA:439:G:H2'	25:RA:440:G:C8	2.56	0.40
25:RA:485:C:H2'	25:RA:486:C:C6	2.56	0.40
25:RA:579:G:H2'	25:RA:580:C:C6	2.56	0.40
25:RA:2233:U:H2'	25:RA:2234:G:C8	2.56	0.40
25:RA:2716:U:O2'	25:RA:2717:G:H5'	2.21	0.40
26:RB:15:A:H1'	26:RB:109:G:C8	2.56	0.40
27:RD:35:LYS:HB3	27:RD:63:ARG:HA	2.04	0.40
27:RD:44:ASN:HB2	27:RD:49:ILE:HA	2.02	0.40
27:RD:96:HIS:CD2	27:RD:102:LYS:HG2	2.56	0.40
28:RE:26:ILE:O	28:RE:26:ILE:HG12	2.18	0.40
28:RE:36:ARG:HB3	28:RE:36:ARG:HH11	1.87	0.40
30:RG:117:PHE:HE1	30:RG:120:LEU:HD23	1.87	0.40
32:RI:30:LEU:HD22	32:RI:35:LEU:HD11	2.02	0.40
35:RP:62:LEU:O	54:R8:13:ARG:HB2	2.22	0.40
35:RP:114:ILE:HD11	35:RP:130:PHE:CD1	2.57	0.40
39:RT:51:ARG:CG	39:RT:98:LYS:HG3	2.52	0.40
44:RY:11:ASP:O	44:RY:26:LYS:HG3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:RZ:48:PHE:HE2	45:RZ:71:VAL:HG21	1.87	0.40
47:R1:95:LEU:HD23	47:R1:95:LEU:HA	1.94	0.40
54:R8:49:VAL:HG23	54:R8:53:PRO:HB3	2.04	0.40
1:XA:97:U:H2'	1:XA:99:C:C6	2.56	0.40
1:XA:1032(B):G:H2'	1:XA:1033:G:H8	1.86	0.40
1:XA:1314:C:OP2	19:XS:4:SER:OG	2.37	0.40
1:XA:1508:G:H2'	1:XA:1509:C:C6	2.56	0.40
9:XI:75:ASP:HA	9:XI:78:LYS:HB3	2.04	0.40
11:XK:18:ARG:HB3	11:XK:33:THR:OG1	2.21	0.40
12:XL:38:THR:CG2	12:XL:57:LYS:HB3	2.49	0.40
12:XL:90:VAL:O	12:XL:92:ASP:N	2.54	0.40
25:YA:468:G:C6	25:YA:469:G:C4	3.09	0.40
25:YA:849:A:N1	49:Y3:25:ALA:HB2	2.36	0.40
25:YA:1071:G:O5'	25:YA:1071:G:H8	2.03	0.40
25:YA:1093:G:H5'	31:YH:170:ARG:HH12	1.86	0.40
25:YA:1790:C:H2'	25:YA:1791:A:C5	2.56	0.40
25:YA:1906:G:OP2	25:YA:1930:G:H5''	2.21	0.40
25:YA:1991:U:H2'	25:YA:1992:G:H5''	2.03	0.40
25:YA:2168:G:N3	25:YA:2168:G:H2'	2.36	0.40
25:YA:2477:C:O5'	25:YA:2477:C:H6	2.04	0.40
25:YA:2607:G:H2'	25:YA:2608:G:O4'	2.20	0.40
25:YA:2635:C:H5'	28:YE:77:ILE:HD13	2.04	0.40
25:YA:2660:A:C2	25:YA:2661:G:H1'	2.56	0.40
25:YA:2722:G:H2'	25:YA:2723:C:C6	2.56	0.40
29:YF:168:ARG:HG3	29:YF:175:THR:HG21	2.02	0.40
29:YF:198:ALA:HA	29:YF:201:VAL:HG12	2.03	0.40
32:YI:56:LYS:HG3	32:YI:57:ARG:N	2.34	0.40
45:YZ:106:GLY:O	45:YZ:141:VAL:HG13	2.20	0.40
52:Y6:11:LEU:HD13	52:Y6:11:LEU:HA	1.86	0.40
1:QA:186:C:H5'	20:QT:78:ALA:HB1	2.03	0.40
1:QA:1006:C:H2'	1:QA:1007:C:C6	2.57	0.40
1:QA:1129:C:C4'	1:QA:1130:A:H5'	2.52	0.40
1:QA:1157:A:H1'	1:QA:1158:C:C4	2.56	0.40
1:QA:1347:G:N2	1:QA:1374:A:OP2	2.47	0.40
3:QC:7:PRO:O	3:QC:11:ARG:NH1	2.54	0.40
13:QM:4:ILE:H	13:QM:9:ILE:CG2	2.35	0.40
16:QP:34:GLU:OE2	16:QP:55:ARG:NH1	2.53	0.40
20:QT:86:ARG:O	20:QT:90:GLN:HG3	2.21	0.40
25:RA:242:G:C5'	54:R8:62:LEU:HD13	2.49	0.40
25:RA:795:C:H2'	25:RA:796:C:H6	1.85	0.40
25:RA:1011:G:C2	25:RA:1013:C:C2	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1047:G:H2'	25:RA:1110:G:H1	1.86	0.40
25:RA:1179:C:H2'	25:RA:1180:C:O4'	2.21	0.40
25:RA:2173:A:C2	25:RA:2174:C:H1'	2.56	0.40
25:RA:2567:G:H2'	25:RA:2568:C:C6	2.55	0.40
25:RA:2593:U:H2'	25:RA:2594:C:H6	1.86	0.40
27:RD:209:ALA:O	27:RD:212:SER:HB2	2.22	0.40
29:RF:29:ASN:HB3	29:RF:32:LEU:HD23	2.04	0.40
31:RH:167:GLU:HA	31:RH:168:PRO:HD3	1.90	0.40
33:RN:17:ASP:O	33:RN:19:GLU:N	2.54	0.40
34:RO:66:LYS:HA	34:RO:79:PHE:O	2.21	0.40
36:RQ:72:LYS:HB3	36:RQ:94:VAL:O	2.21	0.40
40:RU:66:ASN:CG	40:RU:70:ARG:HH21	2.21	0.40
44:RY:67:LEU:HD12	44:RY:67:LEU:HA	1.93	0.40
46:R0:12:ASN:HB3	46:R0:13:GLY:H	1.67	0.40
1:XA:41:G:H2'	1:XA:42:G:H8	1.86	0.40
1:XA:114:U:H2'	1:XA:115:G:C8	2.57	0.40
1:XA:951:G:OP2	13:XM:102:ARG:NH2	2.54	0.40
3:XC:20:SER:HB2	3:XC:40:ARG:NH2	2.29	0.40
4:XD:108:LEU:HB3	4:XD:110:PHE:CD1	2.57	0.40
5:XE:89:ILE:HG12	5:XE:91:LEU:CD1	2.52	0.40
19:XS:15:LEU:HA	19:XS:18:LYS:HB3	2.04	0.40
25:YA:65:C:H5'	43:YX:71:GLY:HA3	2.03	0.40
25:YA:661:C:H5''	35:YP:15:ARG:NH2	2.37	0.40
25:YA:699:A:H2'	25:YA:700:G:O4'	2.22	0.40
25:YA:1429:G:H2'	25:YA:1430:C:C6	2.57	0.40
25:YA:1698:A:H4'	25:YA:1699:G:OP1	2.22	0.40
25:YA:1759:A:H1'	25:YA:2711:A:C2	2.57	0.40
25:YA:1800:C:OP2	27:YD:183:ARG:NH1	2.54	0.40
26:YB:66:A:O2'	26:YB:67:G:P	2.80	0.40
27:YD:237:GLU:O	27:YD:238:GLY:C	2.59	0.40
31:YH:46:GLU:OE1	31:YH:51:ARG:NH1	2.54	0.40
40:YU:17:ILE:HD13	40:YU:17:ILE:HA	1.92	0.40
40:YU:19:LYS:O	40:YU:22:LYS:HB2	2.22	0.40
44:YY:89:PHE:C	44:YY:90:LEU:HD13	2.42	0.40
45:YZ:136:PHE:CD1	45:YZ:138:GLU:HG3	2.56	0.40
45:YZ:140:ASP:OD2	45:YZ:140:ASP:N	2.51	0.40
49:Y3:12:PRO:O	49:Y3:14:GLY:N	2.55	0.40
49:Y3:52:HIS:CD2	49:Y3:53:LEU:HG	2.57	0.40
50:Y4:14:ILE:O	50:Y4:14:ILE:HG23	2.21	0.40
52:Y6:28:ARG:HB3	52:Y6:30:THR:C	2.41	0.40
1:QA:186(C):G:C6	1:QA:191(E):G:C6	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:514:C:H2'	1:QA:515:G:C8	2.57	0.40
1:QA:557:G:C6	1:QA:558:G:C6	3.09	0.40
1:QA:1169:A:C6	1:QA:1170:A:C6	3.09	0.40
1:QA:1312:G:H2'	1:QA:1313:U:H6	1.87	0.40
4:QD:176:LEU:HD12	4:QD:182:LYS:O	2.21	0.40
5:QE:50:GLU:HG3	5:QE:52:PRO:HD2	2.04	0.40
7:QG:117:ALA:HA	7:QG:120:ILE:HG12	2.03	0.40
10:QJ:61:GLU:OE1	14:QN:58:LYS:HE2	2.21	0.40
22:QV:4:G:H2'	22:QV:5:G:O4'	2.21	0.40
25:RA:123:G:O3'	25:RA:1376:C:H4'	2.22	0.40
25:RA:826:U:H4'	35:RP:55:ARG:HB3	2.03	0.40
25:RA:1638:C:H5''	25:RA:2710:C:O2'	2.21	0.40
25:RA:2302:G:C6	25:RA:2303:G:N7	2.90	0.40
27:RD:132:PRO:HG3	27:RD:190:TYR:CE1	2.56	0.40
33:RN:108:PRO:O	33:RN:113:GLY:HA3	2.21	0.40
35:RP:25:SER:OG	35:RP:26:GLY:O	2.38	0.40
37:RR:116:LEU:HD23	37:RR:116:LEU:HA	1.83	0.40
38:RS:23:ARG:HB2	38:RS:86:ALA:HB2	2.03	0.40
38:RS:69:VAL:HG13	38:RS:101:LEU:HD22	2.03	0.40
39:RT:120:ARG:HA	39:RT:123:GLN:NE2	2.37	0.40
42:RW:73:ALA:HB3	42:RW:106:ILE:HG23	2.02	0.40
1:XA:233:C:H2'	1:XA:234:C:H6	1.86	0.40
1:XA:1239:A:H62	1:XA:1299:A:N6	2.19	0.40
3:XC:56:ASP:HB2	3:XC:67:THR:HB	2.03	0.40
5:XE:12:LEU:HB3	5:XE:31:LEU:CB	2.52	0.40
9:XI:5:TYR:HA	9:XI:17:VAL:O	2.21	0.40
10:XJ:77:PRO:O	10:XJ:79:ARG:NH1	2.54	0.40
25:YA:69:C:H2'	25:YA:70:G:H8	1.86	0.40
25:YA:141:A:H1'	25:YA:1408:C:O4'	2.21	0.40
25:YA:226:G:O2'	25:YA:227:A:P	2.79	0.40
25:YA:305:U:H2'	25:YA:306:U:C6	2.56	0.40
25:YA:607:U:N3	25:YA:621:A:C2	2.82	0.40
25:YA:638:G:H2'	25:YA:639:U:C6	2.56	0.40
25:YA:747:U:O2	25:YA:2014:A:H1'	2.21	0.40
25:YA:888:C:C3'	25:YA:889:C:H4'	2.48	0.40
25:YA:1321:A:H2'	25:YA:1322:A:O4'	2.21	0.40
25:YA:1406:U:H2'	25:YA:1407:C:C6	2.57	0.40
25:YA:1547:C:O2'	25:YA:1548:C:H5'	2.21	0.40
25:YA:1931:U:H5	25:YA:1969:A:N7	2.20	0.40
25:YA:2025:C:H2'	25:YA:2026:C:C6	2.55	0.40
29:YF:122:LYS:HD3	29:YF:122:LYS:HA	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YF:125:LEU:HD21	29:YF:199:TRP:CE3	2.57	0.40
32:YI:90:GLY:O	32:YI:121:LYS:HE2	2.21	0.40
32:YI:110:ASP:HB2	32:YI:130:TYR:HE1	1.87	0.40
40:YU:61:TRP:O	40:YU:65:ILE:HG13	2.22	0.40
41:YV:3:ALA:HA	41:YV:40:LEU:O	2.21	0.40
41:YV:21:ARG:HD2	41:YV:91:TYR:CE1	2.56	0.40
45:YZ:28:MET:O	45:YZ:34:ASN:HA	2.22	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1593:G:O2'	26:RB:54:G:OP1[1_655]	2.12	0.08
32:RI:91:SER:OG	1:XA:368:U:OP1[4_555]	2.15	0.05

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	QB	235/256 (92%)	175 (74%)	43 (18%)	17 (7%)	<b>1</b> <b>2</b>
2	XB	235/256 (92%)	178 (76%)	42 (18%)	15 (6%)	<b>1</b> <b>3</b>
3	QC	203/239 (85%)	163 (80%)	34 (17%)	6 (3%)	<b>4</b> <b>15</b>
3	XC	203/239 (85%)	171 (84%)	29 (14%)	3 (2%)	<b>10</b> <b>32</b>
4	QD	206/209 (99%)	175 (85%)	25 (12%)	6 (3%)	<b>4</b> <b>16</b>
4	XD	206/209 (99%)	177 (86%)	24 (12%)	5 (2%)	<b>6</b> <b>21</b>
5	QE	149/162 (92%)	136 (91%)	8 (5%)	5 (3%)	<b>3</b> <b>13</b>
5	XE	149/162 (92%)	133 (89%)	13 (9%)	3 (2%)	<b>7</b> <b>25</b>
6	QF	99/101 (98%)	95 (96%)	4 (4%)	0	<b>100</b> <b>100</b>
6	XF	99/101 (98%)	94 (95%)	5 (5%)	0	<b>100</b> <b>100</b>

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	QG	153/156 (98%)	135 (88%)	16 (10%)	2 (1%)	12	35
7	XG	153/156 (98%)	138 (90%)	13 (8%)	2 (1%)	12	35
8	QH	136/138 (99%)	121 (89%)	14 (10%)	1 (1%)	22	52
8	XH	136/138 (99%)	120 (88%)	12 (9%)	4 (3%)	4	16
9	QI	125/128 (98%)	103 (82%)	17 (14%)	5 (4%)	3	10
9	XI	125/128 (98%)	97 (78%)	24 (19%)	4 (3%)	4	14
10	QJ	97/105 (92%)	75 (77%)	19 (20%)	3 (3%)	4	15
10	XJ	97/105 (92%)	78 (80%)	14 (14%)	5 (5%)	2	6
11	QK	117/129 (91%)	100 (86%)	14 (12%)	3 (3%)	5	19
11	XK	117/129 (91%)	100 (86%)	15 (13%)	2 (2%)	9	29
12	QL	123/132 (93%)	98 (80%)	18 (15%)	7 (6%)	1	4
12	XL	123/132 (93%)	98 (80%)	15 (12%)	10 (8%)	1	2
13	QM	119/126 (94%)	95 (80%)	15 (13%)	9 (8%)	1	2
13	XM	119/126 (94%)	94 (79%)	16 (13%)	9 (8%)	1	2
14	QN	58/61 (95%)	48 (83%)	6 (10%)	4 (7%)	1	2
14	XN	58/61 (95%)	46 (79%)	6 (10%)	6 (10%)	0	1
15	QO	86/89 (97%)	80 (93%)	5 (6%)	1 (1%)	13	38
15	XO	86/89 (97%)	80 (93%)	4 (5%)	2 (2%)	6	22
16	QP	82/88 (93%)	73 (89%)	8 (10%)	1 (1%)	13	38
16	XP	82/88 (93%)	71 (87%)	10 (12%)	1 (1%)	13	38
17	QQ	98/105 (93%)	91 (93%)	5 (5%)	2 (2%)	7	25
17	XQ	98/105 (93%)	88 (90%)	10 (10%)	0	100	100
18	QR	68/88 (77%)	56 (82%)	9 (13%)	3 (4%)	2	8
18	XR	68/88 (77%)	61 (90%)	6 (9%)	1 (2%)	10	32
19	QS	82/93 (88%)	56 (68%)	15 (18%)	11 (13%)	0	0
19	XS	82/93 (88%)	54 (66%)	17 (21%)	11 (13%)	0	0
20	QT	97/106 (92%)	76 (78%)	15 (16%)	6 (6%)	1	3
20	XT	97/106 (92%)	75 (77%)	16 (16%)	6 (6%)	1	3
21	QU	23/27 (85%)	19 (83%)	3 (13%)	1 (4%)	2	9
21	XU	23/27 (85%)	18 (78%)	4 (17%)	1 (4%)	2	9
27	RD	270/276 (98%)	226 (84%)	32 (12%)	12 (4%)	2	8

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

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
43	RX	90/96 (94%)	77 (86%)	11 (12%)	2 (2%)	6	23
43	YX	90/96 (94%)	82 (91%)	6 (7%)	2 (2%)	6	23
44	RY	100/110 (91%)	71 (71%)	13 (13%)	16 (16%)	0	0
44	YY	100/110 (91%)	70 (70%)	18 (18%)	12 (12%)	0	1
45	RZ	181/206 (88%)	124 (68%)	32 (18%)	25 (14%)	0	0
45	YZ	181/206 (88%)	124 (68%)	40 (22%)	17 (9%)	0	1
46	R0	80/85 (94%)	65 (81%)	14 (18%)	1 (1%)	12	35
46	Y0	80/85 (94%)	73 (91%)	7 (9%)	0	100	100
47	R1	95/98 (97%)	75 (79%)	11 (12%)	9 (10%)	0	1
47	Y1	95/98 (97%)	72 (76%)	17 (18%)	6 (6%)	1	3
48	R2	67/72 (93%)	53 (79%)	9 (13%)	5 (8%)	1	2
48	Y2	67/72 (93%)	55 (82%)	6 (9%)	6 (9%)	1	1
49	R3	57/60 (95%)	52 (91%)	3 (5%)	2 (4%)	3	13
49	Y3	57/60 (95%)	52 (91%)	4 (7%)	1 (2%)	8	27
50	R4	69/71 (97%)	35 (51%)	18 (26%)	16 (23%)	0	0
50	Y4	69/71 (97%)	35 (51%)	15 (22%)	19 (28%)	0	0
51	R5	57/60 (95%)	44 (77%)	11 (19%)	2 (4%)	3	13
51	Y5	57/60 (95%)	46 (81%)	9 (16%)	2 (4%)	3	13
52	R6	47/54 (87%)	23 (49%)	13 (28%)	11 (23%)	0	0
52	Y6	47/54 (87%)	22 (47%)	17 (36%)	8 (17%)	0	0
53	R7	47/49 (96%)	45 (96%)	1 (2%)	1 (2%)	7	24
53	Y7	47/49 (96%)	43 (92%)	3 (6%)	1 (2%)	7	24
54	R8	62/65 (95%)	51 (82%)	6 (10%)	5 (8%)	1	2
54	Y8	62/65 (95%)	48 (77%)	10 (16%)	4 (6%)	1	3
55	R9	35/37 (95%)	35 (100%)	0	0	100	100
55	Y9	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
All	All	11470/12128 (95%)	9215 (80%)	1533 (13%)	722 (6%)	1	3

All (722) Ramachandran outliers are listed below:

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

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	QC	190	ARG
4	QD	28	SER
13	QM	67	GLU
13	QM	106	ASN
13	QM	118	ALA
14	QN	16	PHE
19	QS	12	ASP
19	QS	45	VAL
20	QT	49	ALA
27	RD	26	LYS
27	RD	122	ASP
27	RD	242	ARG
28	RE	22	PRO
28	RE	53	PRO
28	RE	63	LEU
28	RE	68	ALA
28	RE	71	GLY
28	RE	93	VAL
31	RH	12	PRO
31	RH	86	GLU
31	RH	126	PRO
31	RH	127	GLU
31	RH	154	PRO
31	RH	168	PRO
31	RH	169	VAL
32	RI	115	ALA
32	RI	133	HIS
33	RN	9	VAL
33	RN	22	THR
33	RN	96	GLU
33	RN	131	GLN
34	RO	5	GLN
35	RP	6	LEU
35	RP	10	PRO
35	RP	15	ARG
35	RP	65	ARG
35	RP	95	VAL
35	RP	141	ALA
35	RP	148	LEU
36	RQ	22	LYS
36	RQ	66	ILE
36	RQ	78	PRO

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	RQ	90	VAL
36	RQ	139	GLU
37	RR	3	HIS
37	RR	4	LEU
38	RS	57	LYS
38	RS	88	ASP
38	RS	89	ARG
39	RT	2	ASN
39	RT	3	ARG
39	RT	106	SER
39	RT	112	ARG
39	RT	124	ASP
40	RU	91	ASP
41	RV	48	GLY
41	RV	50	PRO
41	RV	100	ARG
42	RW	111	HIS
44	RY	3	VAL
44	RY	50	ARG
44	RY	57	GLN
44	RY	77	PRO
44	RY	78	ALA
45	RZ	13	GLU
48	R2	47	ASN
48	R2	48	HIS
48	R2	70	GLN
48	R2	71	ASN
50	R4	16	CYS
50	R4	18	CYS
50	R4	40	HIS
50	R4	43	TYR
50	R4	49	PHE
50	R4	50	VAL
50	R4	53	GLU
51	R5	4	HIS
51	R5	47	PRO
52	R6	15	GLU
54	R8	34	TRP
54	R8	52	LYS
54	R8	62	LEU
2	XB	230	VAL
2	XB	236	TYR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	XC	12	LEU
3	XC	79	ARG
4	XD	154	ASN
11	XK	91	ARG
12	XL	48	PRO
12	XL	64	TYR
13	XM	67	GLU
13	XM	106	ASN
13	XM	118	ALA
14	XN	14	PRO
14	XN	16	PHE
14	XN	52	GLN
19	XS	3	ARG
19	XS	12	ASP
20	XT	48	LYS
20	XT	96	GLY
27	YD	26	LYS
27	YD	28	GLU
27	YD	122	ASP
27	YD	123	ALA
28	YE	2	LYS
28	YE	19	ARG
28	YE	22	PRO
28	YE	53	PRO
28	YE	63	LEU
28	YE	71	GLY
29	YF	73	ALA
29	YF	134	GLY
30	YG	96	ARG
31	YH	3	ARG
31	YH	12	PRO
31	YH	13	LYS
31	YH	86	GLU
31	YH	126	PRO
31	YH	127	GLU
31	YH	128	PRO
31	YH	168	PRO
31	YH	169	VAL
32	YI	133	HIS
32	YI	145	VAL
33	YN	9	VAL
33	YN	22	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
33	YN	36	GLY
35	YP	6	LEU
35	YP	10	PRO
35	YP	14	LYS
35	YP	15	ARG
35	YP	25	SER
35	YP	27	HIS
35	YP	95	VAL
35	YP	106	LEU
35	YP	148	LEU
36	YQ	18	LYS
36	YQ	22	LYS
36	YQ	25	ASP
36	YQ	79	LEU
36	YQ	86	GLY
36	YQ	90	VAL
36	YQ	134	ARG
37	YR	3	HIS
38	YS	82	ILE
38	YS	88	ASP
38	YS	107	GLU
39	YT	2	ASN
39	YT	123	GLN
39	YT	124	ASP
40	YU	90	VAL
40	YU	91	ASP
40	YU	93	LYS
41	YV	45	THR
43	YX	68	ARG
44	YY	50	ARG
44	YY	57	GLN
44	YY	77	PRO
44	YY	78	ALA
45	YZ	6	LYS
45	YZ	53	ILE
45	YZ	146	ILE
45	YZ	152	ALA
45	YZ	159	PRO
47	Y1	30	VAL
47	Y1	84	GLY
47	Y1	91	LYS
47	Y1	95	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
48	Y2	16	LEU
48	Y2	43	GLN
48	Y2	47	ASN
48	Y2	48	HIS
50	Y4	24	THR
50	Y4	40	HIS
50	Y4	49	PHE
51	Y5	4	HIS
52	Y6	15	GLU
53	Y7	48	LYS
54	Y8	52	LYS
54	Y8	62	LEU
2	QB	15	VAL
2	QB	96	ARG
2	QB	229	VAL
2	QB	230	VAL
2	QB	237	ALA
3	QC	79	ARG
4	QD	51	PRO
4	QD	154	ASN
5	QE	115	VAL
8	QH	129	VAL
9	QI	41	VAL
9	QI	117	HIS
11	QK	101	SER
12	QL	47	LYS
12	QL	91	LYS
13	QM	12	ASN
14	QN	12	ARG
17	QQ	74	LEU
17	QQ	81	ARG
19	QS	3	ARG
19	QS	11	VAL
19	QS	26	GLY
19	QS	31	ILE
19	QS	41	VAL
27	RD	32	SER
28	RE	50	GLY
28	RE	60	ASN
28	RE	66	HIS
28	RE	72	VAL
28	RE	90	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
28	RE	92	THR
28	RE	187	ALA
29	RF	17	ARG
29	RF	67	GLN
29	RF	73	ALA
29	RF	89	VAL
29	RF	134	GLY
29	RF	198	ALA
30	RG	4	ASP
30	RG	5	VAL
30	RG	14	GLU
30	RG	96	ARG
30	RG	137	GLU
30	RG	146	TYR
31	RH	8	PRO
31	RH	128	PRO
31	RH	137	ASP
31	RH	153	LYS
31	RH	155	SER
32	RI	10	GLU
32	RI	11	ASN
32	RI	102	SER
32	RI	117	GLU
32	RI	145	VAL
35	RP	11	GLY
35	RP	90	ARG
35	RP	103	ALA
35	RP	106	LEU
36	RQ	6	ARG
36	RQ	25	ASP
36	RQ	27	VAL
36	RQ	133	ARG
37	RR	107	ASP
38	RS	4	LEU
38	RS	107	GLU
39	RT	37	GLY
40	RU	90	VAL
41	RV	49	THR
41	RV	79	VAL
43	RX	41	ASN
44	RY	45	VAL
44	RY	48	ALA

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
44	RY	63	LYS
45	RZ	6	LYS
45	RZ	53	ILE
45	RZ	92	SER
45	RZ	111	VAL
45	RZ	112	ARG
45	RZ	153	SER
45	RZ	177	PRO
45	RZ	179	ASP
47	R1	30	VAL
47	R1	80	LEU
47	R1	84	GLY
47	R1	91	LYS
47	R1	95	LEU
48	R2	43	GLN
49	R3	26	LEU
50	R4	24	THR
50	R4	30	GLU
50	R4	51	ASP
50	R4	66	SER
52	R6	7	ILE
52	R6	45	LYS
2	XB	15	VAL
4	XD	30	LYS
4	XD	166	LYS
5	XE	115	VAL
7	XG	55	GLY
8	XH	50	ARG
9	XI	41	VAL
9	XI	127	LYS
10	XJ	30	SER
10	XJ	86	MET
12	XL	63	GLY
12	XL	91	LYS
12	XL	115	LYS
13	XM	6	GLY
13	XM	21	TYR
19	XS	41	VAL
19	XS	45	VAL
20	XT	99	LEU
27	YD	238	GLY
27	YD	242	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
28	YE	7	VAL
28	YE	204	ALA
29	YF	128	ALA
29	YF	132	VAL
29	YF	181	LEU
30	YG	4	ASP
30	YG	36	LYS
31	YH	27	LYS
31	YH	50	VAL
31	YH	85	LYS
31	YH	152	ARG
31	YH	155	SER
33	YN	23	LEU
33	YN	96	GLU
34	YO	5	GLN
35	YP	66	GLY
35	YP	93	GLY
35	YP	141	ALA
36	YQ	6	ARG
36	YQ	60	ARG
36	YQ	137	TYR
37	YR	4	LEU
37	YR	45	ARG
37	YR	107	ASP
38	YS	12	PHE
38	YS	57	LYS
38	YS	109	GLY
39	YT	13	ARG
39	YT	39	ARG
39	YT	106	SER
41	YV	31	ALA
41	YV	48	GLY
41	YV	79	VAL
42	YW	111	HIS
44	YY	58	GLY
44	YY	102	CYS
45	YZ	13	GLU
45	YZ	81	ARG
48	Y2	70	GLN
48	Y2	71	ASN
50	Y4	5	ILE
50	Y4	18	CYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	Y4	22	ILE
50	Y4	37	SER
50	Y4	43	TYR
50	Y4	50	VAL
52	Y6	7	ILE
52	Y6	16	CYS
52	Y6	33	LYS
2	QB	26	PRO
2	QB	87	ARG
2	QB	204	ASN
2	QB	207	ALA
3	QC	4	LYS
3	QC	51	GLY
4	QD	155	LEU
5	QE	77	PRO
10	QJ	30	SER
11	QK	103	LEU
11	QK	125	PHE
12	QL	28	LYS
13	QM	120	LYS
14	QN	14	PRO
15	QO	23	GLY
19	QS	9	VAL
19	QS	14	HIS
19	QS	28	LYS
20	QT	96	GLY
27	RD	46	GLN
27	RD	239	ARG
28	RE	79	ARG
28	RE	204	ALA
29	RF	133	ASN
30	RG	32	PRO
30	RG	116	ASP
31	RH	5	GLY
31	RH	27	LYS
31	RH	55	PRO
31	RH	87	LEU
31	RH	138	LYS
32	RI	15	VAL
32	RI	118	LYS
33	RN	8	GLN
33	RN	23	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
33	RN	95	PRO
33	RN	130	HIS
34	RO	97	ARG
35	RP	29	LYS
35	RP	67	MET
36	RQ	11	LYS
36	RQ	19	GLY
36	RQ	137	TYR
37	RR	74	LYS
38	RS	12	PHE
38	RS	61	ASN
39	RT	12	SER
39	RT	97	ALA
40	RU	117	GLN
43	RX	67	GLY
44	RY	58	GLY
45	RZ	7	ALA
45	RZ	66	SER
45	RZ	116	VAL
45	RZ	119	GLU
45	RZ	152	ALA
47	R1	76	ARG
49	R3	27	GLY
52	R6	33	LYS
52	R6	35	GLU
52	R6	49	HIS
54	R8	31	HIS
54	R8	51	ALA
2	XB	13	ALA
2	XB	22	LYS
2	XB	24	TRP
2	XB	135	GLN
2	XB	207	ALA
4	XD	73	ARG
4	XD	155	LEU
7	XG	7	ALA
8	XH	2	LEU
9	XI	56	LEU
9	XI	95	LYS
10	XJ	59	SER
11	XK	103	LEU
13	XM	4	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
13	XM	12	ASN
13	XM	42	ALA
19	XS	27	GLU
19	XS	28	LYS
27	YD	32	SER
28	YE	20	ALA
28	YE	50	GLY
28	YE	79	ARG
28	YE	90	THR
28	YE	92	THR
28	YE	117	MET
28	YE	184	VAL
29	YF	198	ALA
31	YH	8	PRO
31	YH	10	PRO
31	YH	87	LEU
31	YH	137	ASP
31	YH	138	LYS
31	YH	153	LYS
31	YH	154	PRO
32	YI	11	ASN
32	YI	12	LEU
32	YI	72	LEU
32	YI	113	ARG
32	YI	122	GLU
33	YN	7	LYS
33	YN	131	GLN
35	YP	16	ARG
35	YP	29	LYS
35	YP	65	ARG
36	YQ	19	GLY
36	YQ	105	GLU
36	YQ	133	ARG
37	YR	86	ARG
38	YS	4	LEU
38	YS	11	LYS
39	YT	97	ALA
41	YV	49	THR
41	YV	53	GLU
41	YV	100	ARG
44	YY	42	VAL
44	YY	63	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
45	YZ	59	LEU
45	YZ	92	SER
45	YZ	166	SER
49	Y3	3	ARG
50	Y4	9	LEU
50	Y4	23	GLU
50	Y4	30	GLU
50	Y4	34	GLU
50	Y4	66	SER
51	Y5	47	PRO
52	Y6	19	ARG
52	Y6	49	HIS
54	Y8	30	ARG
54	Y8	34	TRP
2	QB	22	LYS
2	QB	126	GLU
2	QB	209	ARG
4	QD	171	GLY
9	QI	56	LEU
12	QL	27	LEU
12	QL	48	PRO
13	QM	6	GLY
13	QM	13	LYS
18	QR	20	ALA
18	QR	54	ARG
20	QT	71	THR
21	QU	9	ARG
27	RD	3	VAL
27	RD	123	ALA
27	RD	237	GLU
28	RE	78	LEU
29	RF	66	PRO
29	RF	197	ASP
30	RG	36	LYS
30	RG	86	MET
31	RH	92	ILE
32	RI	122	GLU
35	RP	21	ARG
36	RQ	21	THR
36	RQ	28	ALA
36	RQ	86	GLY
36	RQ	104	PHE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	RQ	105	GLU
37	RR	71	GLN
38	RS	109	GLY
39	RT	38	ASN
39	RT	39	ARG
40	RU	98	LEU
42	RW	18	ARG
42	RW	63	ASP
42	RW	68	ARG
44	RY	4	LYS
44	RY	53	PRO
44	RY	99	CYS
45	RZ	108	PRO
45	RZ	165	VAL
52	R6	16	CYS
53	R7	48	LYS
2	XB	19	HIS
2	XB	101	MET
2	XB	155	LEU
5	XE	70	PRO
8	XH	129	VAL
12	XL	19	ARG
12	XL	28	LYS
14	XN	15	LYS
14	XN	32	SER
15	XO	88	ARG
18	XR	20	ALA
19	XS	9	VAL
20	XT	84	LEU
20	XT	98	PRO
21	XU	9	ARG
30	YG	14	GLU
30	YG	82	LEU
30	YG	86	MET
30	YG	116	ASP
31	YH	83	TYR
32	YI	10	GLU
32	YI	87	LYS
32	YI	114	LEU
33	YN	11	PRO
33	YN	28	THR
33	YN	47	ALA

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	YQ	104	PHE
36	YQ	140	ALA
38	YS	89	ARG
38	YS	96	GLY
39	YT	17	THR
43	YX	40	LYS
44	YY	51	VAL
44	YY	53	PRO
45	YZ	160	GLY
50	Y4	16	CYS
50	Y4	25	TYR
50	Y4	54	GLY
50	Y4	60	GLN
52	Y6	35	GLU
2	QB	234	PRO
4	QD	42	GLN
5	QE	70	PRO
5	QE	96	PRO
7	QG	7	ALA
9	QI	121	ARG
12	QL	19	ARG
12	QL	121	GLY
13	QM	4	ILE
18	QR	26	LEU
20	QT	73	HIS
20	QT	97	ALA
27	RD	238	GLY
28	RE	54	GLN
29	RF	8	GLN
30	RG	82	LEU
31	RH	21	PRO
31	RH	83	TYR
32	RI	12	LEU
32	RI	30	LEU
33	RN	18	ALA
33	RN	57	ALA
33	RN	135	PRO
38	RS	97	ARG
38	RS	110	LEU
39	RT	40	THR
44	RY	5	MET
44	RY	39	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
44	RY	41	GLY
44	RY	62	GLU
45	RZ	12	GLY
45	RZ	51	ALA
45	RZ	61	LEU
45	RZ	158	PRO
45	RZ	181	GLU
46	R0	18	ALA
47	R1	74	VAL
47	R1	82	LEU
50	R4	5	ILE
50	R4	23	GLU
50	R4	28	LYS
50	R4	68	ARG
52	R6	9	LEU
52	R6	19	ARG
2	XB	121	LEU
3	XC	181	ASN
10	XJ	27	ALA
12	XL	27	LEU
12	XL	65	GLU
13	XM	101	GLN
15	XO	23	GLY
20	XT	97	ALA
27	YD	3	VAL
27	YD	46	GLN
28	YE	68	ALA
28	YE	82	ARG
28	YE	86	PRO
30	YG	5	VAL
30	YG	53	LEU
30	YG	117	PHE
31	YH	151	ILE
32	YI	18	VAL
32	YI	71	ILE
32	YI	117	GLU
32	YI	118	LYS
33	YN	95	PRO
33	YN	127	ASP
33	YN	134	ARG
33	YN	135	PRO
36	YQ	11	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	YQ	27	VAL
38	YS	94	TYR
38	YS	110	LEU
39	YT	86	ILE
40	YU	117	GLN
41	YV	50	PRO
44	YY	39	VAL
45	YZ	51	ALA
45	YZ	61	LEU
45	YZ	62	PRO
45	YZ	168	GLU
45	YZ	181	GLU
47	Y1	74	VAL
50	Y4	14	ILE
52	Y6	21	TYR
2	QB	155	LEU
10	QJ	82	ILE
13	QM	10	PRO
14	QN	15	LYS
20	QT	98	PRO
27	RD	125	ILE
28	RE	82	ARG
29	RF	130	ALA
30	RG	52	ILE
30	RG	88	ILE
30	RG	117	PHE
38	RS	82	ILE
45	RZ	62	PRO
45	RZ	166	SER
47	R1	55	GLY
50	R4	11	PRO
52	R6	21	TYR
52	R6	34	LEU
2	XB	26	PRO
2	XB	126	GLU
2	XB	237	ALA
10	XJ	91	PRO
14	XN	60	SER
19	XS	7	LYS
28	YE	72	VAL
29	YF	58	ALA
34	YO	97	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
35	YP	7	ARG
36	YQ	62	GLY
36	YQ	81	VAL
44	YY	3	VAL
47	Y1	55	GLY
2	QB	5	ILE
16	QP	46	PRO
28	RE	21	VAL
28	RE	86	PRO
29	RF	25	PRO
31	RH	166	GLY
5	XE	74	GLY
12	XL	18	VAL
32	YI	15	VAL
3	QC	81	GLY
5	QE	74	GLY
19	QS	46	GLY
27	RD	35	LYS
32	RI	13	GLY
19	XS	26	GLY
19	XS	46	GLY
29	YF	66	PRO
32	YI	16	GLY
39	YT	37	GLY
45	YZ	101	PRO
7	QG	50	ILE
9	QI	89	ASN
10	QJ	37	PRO
33	RN	134	ARG
36	RQ	81	VAL
39	RT	86	ILE
8	XH	51	VAL
16	XP	46	PRO
19	XS	31	ILE
28	YE	21	VAL
32	YI	13	GLY
42	YW	14	PRO
29	RF	132	VAL
41	RV	54	GLY
45	RZ	94	GLU
30	YG	52	ILE
30	YG	88	ILE

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Mol	Chain	Res	Type
31	YH	7	LEU
35	YP	24	GLY
37	YR	117	VAL
2	QB	227	GLY
45	RZ	106	GLY
38	YS	60	GLY

### 5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	QB	205/220 (93%)	172 (84%)	33 (16%)	2 6
2	XB	205/220 (93%)	180 (88%)	25 (12%)	5 14
3	QC	159/188 (85%)	145 (91%)	14 (9%)	10 28
3	XC	159/188 (85%)	146 (92%)	13 (8%)	11 31
4	QD	180/181 (99%)	157 (87%)	23 (13%)	4 12
4	XD	180/181 (99%)	154 (86%)	26 (14%)	3 9
5	QE	116/123 (94%)	104 (90%)	12 (10%)	7 21
5	XE	116/123 (94%)	104 (90%)	12 (10%)	7 21
6	QF	90/90 (100%)	78 (87%)	12 (13%)	4 11
6	XF	90/90 (100%)	82 (91%)	8 (9%)	9 27
7	QG	126/127 (99%)	114 (90%)	12 (10%)	8 24
7	XG	126/127 (99%)	114 (90%)	12 (10%)	8 24
8	QH	119/119 (100%)	109 (92%)	10 (8%)	11 30
8	XH	119/119 (100%)	106 (89%)	13 (11%)	6 18
9	QI	98/99 (99%)	81 (83%)	17 (17%)	2 5
9	XI	98/99 (99%)	80 (82%)	18 (18%)	1 4
10	QJ	89/92 (97%)	77 (86%)	12 (14%)	4 10
10	XJ	89/92 (97%)	74 (83%)	15 (17%)	2 6
11	QK	90/99 (91%)	81 (90%)	9 (10%)	7 22

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
11	XK	90/99 (91%)	81 (90%)	9 (10%)	7	22
12	QL	104/109 (95%)	87 (84%)	17 (16%)	2	6
12	XL	104/109 (95%)	93 (89%)	11 (11%)	6	19
13	QM	97/101 (96%)	73 (75%)	24 (25%)	0	1
13	XM	97/101 (96%)	78 (80%)	19 (20%)	1	3
14	QN	49/50 (98%)	40 (82%)	9 (18%)	1	4
14	XN	49/50 (98%)	42 (86%)	7 (14%)	3	9
15	QO	79/80 (99%)	72 (91%)	7 (9%)	9	27
15	XO	79/80 (99%)	69 (87%)	10 (13%)	4	12
16	QP	72/74 (97%)	63 (88%)	9 (12%)	4	13
16	XP	72/74 (97%)	64 (89%)	8 (11%)	6	18
17	QQ	95/97 (98%)	87 (92%)	8 (8%)	11	30
17	XQ	95/97 (98%)	89 (94%)	6 (6%)	18	44
18	QR	61/77 (79%)	50 (82%)	11 (18%)	1	5
18	XR	61/77 (79%)	52 (85%)	9 (15%)	3	8
19	QS	73/80 (91%)	59 (81%)	14 (19%)	1	4
19	XS	73/80 (91%)	57 (78%)	16 (22%)	1	2
20	QT	76/82 (93%)	67 (88%)	9 (12%)	5	15
20	XT	76/82 (93%)	66 (87%)	10 (13%)	4	11
21	QU	20/22 (91%)	20 (100%)	0	100	100
21	XU	20/22 (91%)	19 (95%)	1 (5%)	24	54
27	RD	214/218 (98%)	175 (82%)	39 (18%)	1	4
27	YD	214/218 (98%)	181 (85%)	33 (15%)	2	8
28	RE	165/166 (99%)	126 (76%)	39 (24%)	1	1
28	YE	165/166 (99%)	137 (83%)	28 (17%)	2	5
29	RF	161/166 (97%)	132 (82%)	29 (18%)	1	5
29	YF	161/166 (97%)	137 (85%)	24 (15%)	3	8
30	RG	155/156 (99%)	134 (86%)	21 (14%)	4	10
30	YG	155/156 (99%)	133 (86%)	22 (14%)	3	9
31	RH	142/148 (96%)	121 (85%)	21 (15%)	3	8
31	YH	142/148 (96%)	115 (81%)	27 (19%)	1	4

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
32	RI	122/124 (98%)	99 (81%)	23 (19%)	1	4
32	YI	122/124 (98%)	92 (75%)	30 (25%)	0	1
33	RN	117/119 (98%)	97 (83%)	20 (17%)	2	5
33	YN	117/119 (98%)	96 (82%)	21 (18%)	2	5
34	RO	100/100 (100%)	90 (90%)	10 (10%)	7	22
34	YO	100/100 (100%)	89 (89%)	11 (11%)	6	18
35	RP	116/116 (100%)	85 (73%)	31 (27%)	0	1
35	YP	116/116 (100%)	82 (71%)	34 (29%)	0	1
36	RQ	111/111 (100%)	95 (86%)	16 (14%)	3	9
36	YQ	111/111 (100%)	92 (83%)	19 (17%)	2	5
37	RR	101/101 (100%)	83 (82%)	18 (18%)	2	5
37	YR	101/101 (100%)	80 (79%)	21 (21%)	1	3
38	RS	87/88 (99%)	69 (79%)	18 (21%)	1	3
38	YS	87/88 (99%)	68 (78%)	19 (22%)	1	2
39	RT	120/127 (94%)	102 (85%)	18 (15%)	3	8
39	YT	120/127 (94%)	98 (82%)	22 (18%)	1	4
40	RU	93/94 (99%)	78 (84%)	15 (16%)	2	6
40	YU	93/94 (99%)	77 (83%)	16 (17%)	2	5
41	RV	82/82 (100%)	66 (80%)	16 (20%)	1	3
41	YV	82/82 (100%)	67 (82%)	15 (18%)	1	4
42	RW	92/92 (100%)	73 (79%)	19 (21%)	1	3
42	YW	92/92 (100%)	76 (83%)	16 (17%)	2	5
43	RX	74/78 (95%)	64 (86%)	10 (14%)	4	10
43	YX	74/78 (95%)	60 (81%)	14 (19%)	1	4
44	RY	85/91 (93%)	63 (74%)	22 (26%)	0	1
44	YY	85/91 (93%)	64 (75%)	21 (25%)	0	1
45	RZ	162/179 (90%)	133 (82%)	29 (18%)	2	5
45	YZ	162/179 (90%)	130 (80%)	32 (20%)	1	3
46	R0	65/67 (97%)	60 (92%)	5 (8%)	13	34
46	Y0	65/67 (97%)	59 (91%)	6 (9%)	9	26
47	R1	82/83 (99%)	73 (89%)	9 (11%)	6	18

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
47	Y1	82/83 (99%)	70 (85%)	12 (15%)	3	9
48	R2	64/67 (96%)	57 (89%)	7 (11%)	6	18
48	Y2	64/67 (96%)	47 (73%)	17 (27%)	0	1
49	R3	51/52 (98%)	45 (88%)	6 (12%)	5	15
49	Y3	51/52 (98%)	43 (84%)	8 (16%)	2	7
50	R4	63/63 (100%)	45 (71%)	18 (29%)	0	1
50	Y4	63/63 (100%)	43 (68%)	20 (32%)	0	0
51	R5	51/52 (98%)	37 (72%)	14 (28%)	0	1
51	Y5	51/52 (98%)	37 (72%)	14 (28%)	0	1
52	R6	48/52 (92%)	35 (73%)	13 (27%)	0	1
52	Y6	48/52 (92%)	38 (79%)	10 (21%)	1	3
53	R7	42/42 (100%)	34 (81%)	8 (19%)	1	4
53	Y7	42/42 (100%)	35 (83%)	7 (17%)	2	6
54	R8	54/55 (98%)	44 (82%)	10 (18%)	1	4
54	Y8	54/55 (98%)	41 (76%)	13 (24%)	0	1
55	R9	34/34 (100%)	32 (94%)	2 (6%)	19	47
55	Y9	34/34 (100%)	32 (94%)	2 (6%)	19	47
All	All	9702/10066 (96%)	8152 (84%)	1550 (16%)	2	7

All (1550) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	5	ILE
2	QB	6	THR
2	QB	7	VAL
2	QB	8	LYS
2	QB	15	VAL
2	QB	23	ARG
2	QB	24	TRP
2	QB	32	ILE
2	QB	33	TYR
2	QB	53	ARG
2	QB	60	ASP
2	QB	67	THR
2	QB	82	ARG
2	QB	87	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	QB	92	TYR
2	QB	94	ASN
2	QB	101	MET
2	QB	109	SER
2	QB	119	GLU
2	QB	121	LEU
2	QB	150	SER
2	QB	155	LEU
2	QB	158	LEU
2	QB	163	PHE
2	QB	165	VAL
2	QB	168	THR
2	QB	172	ILE
2	QB	175	ARG
2	QB	187	LEU
2	QB	196	LEU
2	QB	204	ASN
2	QB	215	LEU
2	QB	217	ARG
3	QC	3	ASN
3	QC	5	ILE
3	QC	12	LEU
3	QC	16	ARG
3	QC	21	ARG
3	QC	45	LYS
3	QC	52	LEU
3	QC	76	VAL
3	QC	94	LEU
3	QC	127	ARG
3	QC	131	ARG
3	QC	154	SER
3	QC	165	THR
3	QC	206	GLU
4	QD	3	ARG
4	QD	14	ARG
4	QD	22	LYS
4	QD	26	CYS
4	QD	30	LYS
4	QD	33	MET
4	QD	50	ARG
4	QD	58	LEU
4	QD	73	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
4	QD	76	ARG
4	QD	86	LYS
4	QD	94	LEU
4	QD	96	LEU
4	QD	122	ARG
4	QD	127	THR
4	QD	131	ARG
4	QD	135	LEU
4	QD	154	ASN
4	QD	175	SER
4	QD	187	ARG
4	QD	190	ASP
4	QD	191	ARG
4	QD	192	GLU
5	QE	10	MET
5	QE	12	LEU
5	QE	31	LEU
5	QE	34	VAL
5	QE	41	VAL
5	QE	51	VAL
5	QE	68	GLU
5	QE	79	GLU
5	QE	81	GLU
5	QE	98	THR
5	QE	101	ILE
5	QE	153	LYS
6	QF	16	GLN
6	QF	21	LEU
6	QF	23	LYS
6	QF	43	LEU
6	QF	45	LEU
6	QF	47	ARG
6	QF	55	ASP
6	QF	69	GLU
6	QF	70	ASP
6	QF	72	VAL
6	QF	75	LEU
6	QF	98	LEU
7	QG	8	GLU
7	QG	54	THR
7	QG	80	VAL
7	QG	92	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
7	QG	94	ARG
7	QG	104	LEU
7	QG	113	GLU
7	QG	114	ARG
7	QG	135	VAL
7	QG	136	LYS
7	QG	137	LYS
7	QG	155	ARG
8	QH	1	MET
8	QH	24	THR
8	QH	25	ASP
8	QH	26	VAL
8	QH	41	ARG
8	QH	99	GLU
8	QH	109	ILE
8	QH	112	LEU
8	QH	125	ARG
8	QH	129	VAL
9	QI	9	ARG
9	QI	10	ARG
9	QI	11	LYS
9	QI	23	ASN
9	QI	47	LEU
9	QI	56	LEU
9	QI	64	THR
9	QI	65	VAL
9	QI	75	ASP
9	QI	95	LYS
9	QI	104	ARG
9	QI	105	ASP
9	QI	113	LYS
9	QI	114	TYR
9	QI	121	ARG
9	QI	125	TYR
9	QI	128	ARG
10	QJ	22	LYS
10	QJ	47	PHE
10	QJ	54	PHE
10	QJ	57	LYS
10	QJ	58	ASP
10	QJ	62	HIS
10	QJ	73	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
10	QJ	74	ILE
10	QJ	80	LYS
10	QJ	84	GLN
10	QJ	92	THR
10	QJ	96	ILE
11	QK	26	ASN
11	QK	29	ILE
11	QK	32	ILE
11	QK	34	ASP
11	QK	63	LEU
11	QK	92	GLU
11	QK	103	LEU
11	QK	109	VAL
11	QK	127	LYS
12	QL	17	LYS
12	QL	18	VAL
12	QL	20	LYS
12	QL	27	LEU
12	QL	33	ARG
12	QL	38	THR
12	QL	42	THR
12	QL	50	SER
12	QL	54	LYS
12	QL	59	ARG
12	QL	60	LEU
12	QL	73	GLU
12	QL	83	VAL
12	QL	85	ILE
12	QL	89	ARG
12	QL	102	ARG
12	QL	113	ARG
13	QM	8	GLU
13	QM	11	ARG
13	QM	13	LYS
13	QM	17	VAL
13	QM	19	LEU
13	QM	45	VAL
13	QM	47	ASP
13	QM	48	LEU
13	QM	56	LEU
13	QM	57	ARG
13	QM	64	TRP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
13	QM	66	LEU
13	QM	70	LEU
13	QM	77	ASN
13	QM	84	ILE
13	QM	88	ARG
13	QM	90	LEU
13	QM	98	VAL
13	QM	108	ARG
13	QM	111	LYS
13	QM	114	ARG
13	QM	115	LYS
13	QM	117	VAL
13	QM	122	LYS
14	QN	6	LEU
14	QN	12	ARG
14	QN	13	THR
14	QN	18	VAL
14	QN	33	VAL
14	QN	43	CYS
14	QN	44	LEU
14	QN	46	GLU
14	QN	57	ARG
15	QO	3	ILE
15	QO	4	THR
15	QO	26	GLU
15	QO	31	LEU
15	QO	39	LEU
15	QO	64	ARG
15	QO	84	LYS
16	QP	2	VAL
16	QP	20	VAL
16	QP	26	ARG
16	QP	28	ARG
16	QP	33	ILE
16	QP	53	VAL
16	QP	67	THR
16	QP	69	THR
16	QP	71	ARG
17	QQ	37	LYS
17	QQ	38	ARG
17	QQ	52	LYS
17	QQ	59	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
17	QQ	62	SER
17	QQ	68	ARG
17	QQ	74	LEU
17	QQ	101	ARG
18	QR	26	LEU
18	QR	29	PHE
18	QR	31	LEU
18	QR	32	ARG
18	QR	36	ASN
18	QR	46	GLU
18	QR	54	ARG
18	QR	76	LEU
18	QR	82	THR
18	QR	83	GLU
18	QR	86	VAL
19	QS	5	LEU
19	QS	10	PHE
19	QS	12	ASP
19	QS	21	GLU
19	QS	28	LYS
19	QS	29	ARG
19	QS	30	LEU
19	QS	37	ARG
19	QS	43	GLU
19	QS	44	MET
19	QS	63	THR
19	QS	67	VAL
19	QS	77	THR
19	QS	83	HIS
20	QT	17	ARG
20	QT	24	LEU
20	QT	45	GLN
20	QT	72	LEU
20	QT	73	HIS
20	QT	75	ASN
20	QT	80	ARG
20	QT	84	LEU
20	QT	93	GLU
27	RD	10	THR
27	RD	17	THR
27	RD	25	THR
27	RD	40	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
27	RD	43	ARG
27	RD	44	ASN
27	RD	46	GLN
27	RD	49	ILE
27	RD	61	LEU
27	RD	65	ILE
27	RD	69	ARG
27	RD	71	ASP
27	RD	73	VAL
27	RD	83	GLU
27	RD	87	ASN
27	RD	88	ARG
27	RD	95	LEU
27	RD	103	ARG
27	RD	105	ILE
27	RD	106	ILE
27	RD	111	LEU
27	RD	134	ARG
27	RD	150	LYS
27	RD	155	LEU
27	RD	157	ARG
27	RD	173	VAL
27	RD	192	THR
27	RD	211	ARG
27	RD	212	SER
27	RD	221	VAL
27	RD	229	VAL
27	RD	237	GLU
27	RD	242	ARG
27	RD	257	LEU
27	RD	259	THR
27	RD	261	LYS
27	RD	268	ARG
27	RD	271	ILE
27	RD	273	ARG
28	RE	2	LYS
28	RE	4	ILE
28	RE	7	VAL
28	RE	12	THR
28	RE	13	ARG
28	RE	16	ARG
28	RE	26	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
28	RE	27	LEU
28	RE	33	VAL
28	RE	34	VAL
28	RE	38	THR
28	RE	41	LYS
28	RE	42	ASP
28	RE	47	VAL
28	RE	49	LEU
28	RE	52	LEU
28	RE	54	GLN
28	RE	63	LEU
28	RE	77	ILE
28	RE	79	ARG
28	RE	80	GLU
28	RE	82	ARG
28	RE	92	THR
28	RE	101	ARG
28	RE	113	PHE
28	RE	116	VAL
28	RE	119	ARG
28	RE	127	ASP
28	RE	144	ARG
28	RE	146	THR
28	RE	167	VAL
28	RE	175	VAL
28	RE	179	GLU
28	RE	181	LEU
28	RE	184	VAL
28	RE	197	ILE
28	RE	200	GLU
28	RE	202	LYS
28	RE	203	LYS
29	RF	9	ILE
29	RF	13	SER
29	RF	24	LEU
29	RF	28	ILE
29	RF	32	LEU
29	RF	33	LEU
29	RF	45	ARG
29	RF	57	VAL
29	RF	65	TRP
29	RF	68	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
29	RF	70	THR
29	RF	74	ARG
29	RF	77	ASP
29	RF	78	ILE
29	RF	84	VAL
29	RF	104	LYS
29	RF	107	LYS
29	RF	117	ARG
29	RF	127	GLU
29	RF	149	ASP
29	RF	158	THR
29	RF	161	GLU
29	RF	165	ARG
29	RF	174	VAL
29	RF	176	LEU
29	RF	181	LEU
29	RF	192	LEU
29	RF	194	MET
29	RF	197	ASP
30	RG	7	LEU
30	RG	10	LYS
30	RG	20	ILE
30	RG	26	GLN
30	RG	33	ARG
30	RG	34	LEU
30	RG	43	LEU
30	RG	53	LEU
30	RG	54	GLU
30	RG	67	LYS
30	RG	71	THR
30	RG	88	ILE
30	RG	94	LEU
30	RG	98	ARG
30	RG	116	ASP
30	RG	118	ARG
30	RG	133	LEU
30	RG	147	ASP
30	RG	159	VAL
30	RG	167	GLU
30	RG	174	GLU
31	RH	3	ARG
31	RH	4	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
31	RH	7	LEU
31	RH	9	ILE
31	RH	27	LYS
31	RH	42	ARG
31	RH	43	VAL
31	RH	51	ARG
31	RH	59	ARG
31	RH	64	LEU
31	RH	77	LYS
31	RH	81	GLU
31	RH	88	LEU
31	RH	89	ILE
31	RH	105	LEU
31	RH	107	VAL
31	RH	132	ARG
31	RH	152	ARG
31	RH	153	LYS
31	RH	158	HIS
31	RH	169	VAL
32	RI	1	MET
32	RI	2	LYS
32	RI	9	LEU
32	RI	10	GLU
32	RI	27	ARG
32	RI	31	LEU
32	RI	33	ARG
32	RI	38	LEU
32	RI	44	LEU
32	RI	56	LYS
32	RI	57	ARG
32	RI	70	GLU
32	RI	81	VAL
32	RI	92	VAL
32	RI	101	LEU
32	RI	113	ARG
32	RI	128	LEU
32	RI	129	THR
32	RI	130	TYR
32	RI	131	LYS
32	RI	135	GLU
32	RI	142	VAL
32	RI	145	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
33	RN	1	MET
33	RN	2	LYS
33	RN	5	VAL
33	RN	7	LYS
33	RN	12	ARG
33	RN	32	THR
33	RN	34	LEU
33	RN	43	THR
33	RN	48	MET
33	RN	60	ILE
33	RN	61	ARG
33	RN	62	VAL
33	RN	87	LEU
33	RN	90	MET
33	RN	96	GLU
33	RN	98	VAL
33	RN	109	LYS
33	RN	120	LEU
33	RN	127	ASP
33	RN	136	GLU
34	RO	3	GLN
34	RO	9	GLU
34	RO	19	ILE
34	RO	24	VAL
34	RO	31	LYS
34	RO	49	ARG
34	RO	53	LYS
34	RO	69	ILE
34	RO	91	LEU
34	RO	102	VAL
35	RP	5	ASP
35	RP	6	LEU
35	RP	9	ASN
35	RP	14	LYS
35	RP	15	ARG
35	RP	16	ARG
35	RP	19	VAL
35	RP	21	ARG
35	RP	30	THR
35	RP	36	LYS
35	RP	41	ARG
35	RP	45	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
35	RP	50	ARG
35	RP	56	SER
35	RP	61	ARG
35	RP	62	LEU
35	RP	64	LYS
35	RP	70	GLN
35	RP	71	VAL
35	RP	75	ILE
35	RP	81	GLN
35	RP	88	LEU
35	RP	91	PHE
35	RP	100	LEU
35	RP	105	LEU
35	RP	107	LYS
35	RP	112	LEU
35	RP	133	SER
35	RP	138	LEU
35	RP	144	GLU
35	RP	146	VAL
36	RQ	17	LEU
36	RQ	26	TYR
36	RQ	27	VAL
36	RQ	35	VAL
36	RQ	45	GLN
36	RQ	54	MET
36	RQ	60	ARG
36	RQ	79	LEU
36	RQ	81	VAL
36	RQ	82	ARG
36	RQ	83	MET
36	RQ	85	LYS
36	RQ	96	VAL
36	RQ	112	GLU
36	RQ	135	ASP
36	RQ	139	GLU
37	RR	1	MET
37	RR	6	SER
37	RR	9	LYS
37	RR	18	LEU
37	RR	29	LEU
37	RR	35	THR
37	RR	44	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
37	RR	63	ARG
37	RR	71	GLN
37	RR	75	LEU
37	RR	79	LEU
37	RR	91	GLN
37	RR	95	THR
37	RR	100	LEU
37	RR	104	ARG
37	RR	105	ARG
37	RR	117	VAL
37	RR	118	GLU
38	RS	3	ARG
38	RS	4	LEU
38	RS	12	PHE
38	RS	17	ARG
38	RS	20	ARG
38	RS	27	SER
38	RS	39	ILE
38	RS	44	LYS
38	RS	50	SER
38	RS	54	LEU
38	RS	56	LEU
38	RS	57	LYS
38	RS	58	LEU
38	RS	59	LYS
38	RS	98	VAL
38	RS	101	LEU
38	RS	103	GLU
38	RS	106	ARG
39	RT	18	ASP
39	RT	27	THR
39	RT	30	VAL
39	RT	41	ARG
39	RT	42	ILE
39	RT	50	ILE
39	RT	51	ARG
39	RT	62	THR
39	RT	65	LYS
39	RT	74	ARG
39	RT	88	ILE
39	RT	89	VAL
39	RT	99	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
39	RT	105	LEU
39	RT	107	ASP
39	RT	112	ARG
39	RT	125	ARG
39	RT	128	GLU
40	RU	52	ARG
40	RU	55	ARG
40	RU	59	ARG
40	RU	60	LEU
40	RU	64	ARG
40	RU	69	CYS
40	RU	74	LEU
40	RU	90	VAL
40	RU	92	ARG
40	RU	94	ASN
40	RU	98	LEU
40	RU	108	GLU
40	RU	111	GLU
40	RU	114	LYS
40	RU	117	GLN
41	RV	13	ARG
41	RV	19	LYS
41	RV	21	ARG
41	RV	22	VAL
41	RV	24	LYS
41	RV	35	LEU
41	RV	37	VAL
41	RV	45	THR
41	RV	47	VAL
41	RV	57	VAL
41	RV	61	VAL
41	RV	62	LEU
41	RV	64	HIS
41	RV	78	LYS
41	RV	79	VAL
41	RV	99	ILE
42	RW	11	ARG
42	RW	16	LYS
42	RW	18	ARG
42	RW	19	LEU
42	RW	20	VAL
42	RW	23	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
42	RW	27	LYS
42	RW	30	GLU
42	RW	40	ASN
42	RW	51	LEU
42	RW	60	ASN
42	RW	63	ASP
42	RW	67	ASP
42	RW	76	VAL
42	RW	82	LEU
42	RW	92	ARG
42	RW	100	THR
42	RW	106	ILE
42	RW	107	LEU
43	RX	12	VAL
43	RX	23	GLU
43	RX	27	THR
43	RX	30	VAL
43	RX	35	THR
43	RX	49	VAL
43	RX	65	ARG
43	RX	70	LEU
43	RX	80	ILE
43	RX	81	VAL
44	RY	2	ARG
44	RY	13	VAL
44	RY	14	LEU
44	RY	27	VAL
44	RY	34	LYS
44	RY	37	VAL
44	RY	38	ILE
44	RY	43	ASN
44	RY	45	VAL
44	RY	55	TYR
44	RY	57	GLN
44	RY	61	ILE
44	RY	67	LEU
44	RY	70	SER
44	RY	75	ILE
44	RY	76	CYS
44	RY	87	LYS
44	RY	90	LEU
44	RY	95	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
44	RY	96	ILE
44	RY	97	ARG
44	RY	102	CYS
45	RZ	2	GLU
45	RZ	5	LEU
45	RZ	19	ARG
45	RZ	20	ARG
45	RZ	52	SER
45	RZ	53	ILE
45	RZ	60	GLU
45	RZ	70	LEU
45	RZ	71	VAL
45	RZ	81	ARG
45	RZ	87	ASP
45	RZ	91	LEU
45	RZ	92	SER
45	RZ	93	ASP
45	RZ	94	GLU
45	RZ	112	ARG
45	RZ	117	LEU
45	RZ	121	HIS
45	RZ	128	VAL
45	RZ	131	ARG
45	RZ	142	SER
45	RZ	145	GLU
45	RZ	150	LEU
45	RZ	151	HIS
45	RZ	163	LEU
45	RZ	168	GLU
45	RZ	174	VAL
45	RZ	182	LYS
45	RZ	183	LEU
46	R0	7	LEU
46	R0	10	THR
46	R0	36	ILE
46	R0	53	MET
46	R0	74	ARG
47	R1	21	ARG
47	R1	41	ARG
47	R1	51	VAL
47	R1	62	VAL
47	R1	78	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
47	R1	80	LEU
47	R1	90	ILE
47	R1	91	LYS
47	R1	92	LYS
48	R2	17	SER
48	R2	24	LEU
48	R2	27	GLU
48	R2	32	LEU
48	R2	50	ILE
48	R2	53	LEU
48	R2	62	THR
49	R3	6	VAL
49	R3	8	LEU
49	R3	18	ASP
49	R3	32	GLN
49	R3	40	THR
49	R3	56	VAL
50	R4	13	ARG
50	R4	15	ILE
50	R4	23	GLU
50	R4	33	VAL
50	R4	34	GLU
50	R4	37	SER
50	R4	42	PHE
50	R4	48	ARG
50	R4	49	PHE
50	R4	50	VAL
50	R4	52	THR
50	R4	57	GLU
50	R4	61	ARG
50	R4	62	ARG
50	R4	63	TYR
50	R4	66	SER
50	R4	67	TYR
50	R4	68	ARG
51	R5	4	HIS
51	R5	6	VAL
51	R5	11	THR
51	R5	21	SER
51	R5	23	HIS
51	R5	25	LEU
51	R5	29	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
51	R5	36	CYS
51	R5	40	LYS
51	R5	51	TYR
51	R5	52	TYR
51	R5	56	LYS
51	R5	58	LEU
51	R5	60	VAL
52	R6	6	ARG
52	R6	8	LYS
52	R6	9	LEU
52	R6	10	LEU
52	R6	11	LEU
52	R6	17	LYS
52	R6	19	ARG
52	R6	23	THR
52	R6	27	LYS
52	R6	30	THR
52	R6	34	LEU
52	R6	37	ARG
52	R6	44	ARG
53	R7	1	MET
53	R7	2	LYS
53	R7	4	THR
53	R7	9	ARG
53	R7	10	ARG
53	R7	14	LYS
53	R7	43	THR
53	R7	46	VAL
54	R8	14	VAL
54	R8	15	LYS
54	R8	34	TRP
54	R8	35	GLN
54	R8	44	LYS
54	R8	47	LYS
54	R8	49	VAL
54	R8	52	LYS
54	R8	64	TYR
54	R8	65	GLU
55	R9	1	MET
55	R9	29	ASN
2	XB	5	ILE
2	XB	7	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	XB	8	LYS
2	XB	15	VAL
2	XB	23	ARG
2	XB	24	TRP
2	XB	33	TYR
2	XB	36	ARG
2	XB	67	THR
2	XB	71	VAL
2	XB	82	ARG
2	XB	92	TYR
2	XB	113	HIS
2	XB	145	LEU
2	XB	155	LEU
2	XB	163	PHE
2	XB	172	ILE
2	XB	175	ARG
2	XB	178	ARG
2	XB	187	LEU
2	XB	195	ASP
2	XB	196	LEU
2	XB	204	ASN
2	XB	215	LEU
2	XB	235	SER
3	XC	3	ASN
3	XC	5	ILE
3	XC	12	LEU
3	XC	21	ARG
3	XC	45	LYS
3	XC	47	LEU
3	XC	56	ASP
3	XC	94	LEU
3	XC	95	THR
3	XC	131	ARG
3	XC	178	LEU
3	XC	184	TYR
3	XC	192	THR
4	XD	3	ARG
4	XD	9	CYS
4	XD	15	GLU
4	XD	19	LEU
4	XD	30	LYS
4	XD	33	MET

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
4	XD	50	ARG
4	XD	53	ASP
4	XD	58	LEU
4	XD	73	ARG
4	XD	76	ARG
4	XD	84	LYS
4	XD	86	LYS
4	XD	96	LEU
4	XD	108	LEU
4	XD	122	ARG
4	XD	127	THR
4	XD	131	ARG
4	XD	137	SER
4	XD	150	GLU
4	XD	154	ASN
4	XD	175	SER
4	XD	187	ARG
4	XD	190	ASP
4	XD	193	ASP
4	XD	208	SER
5	XE	6	PHE
5	XE	7	GLU
5	XE	10	MET
5	XE	11	ILE
5	XE	18	ARG
5	XE	31	LEU
5	XE	41	VAL
5	XE	73	ASN
5	XE	79	GLU
5	XE	101	ILE
5	XE	147	ASP
5	XE	153	LYS
6	XF	21	LEU
6	XF	23	LYS
6	XF	36	ARG
6	XF	71	ARG
6	XF	74	ASP
6	XF	91	VAL
6	XF	92	LYS
6	XF	98	LEU
7	XG	5	ARG
7	XG	8	GLU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
7	XG	35	LYS
7	XG	54	THR
7	XG	63	LYS
7	XG	78	ARG
7	XG	104	LEU
7	XG	113	GLU
7	XG	114	ARG
7	XG	136	LYS
7	XG	137	LYS
7	XG	155	ARG
8	XH	1	MET
8	XH	12	ARG
8	XH	19	VAL
8	XH	24	THR
8	XH	26	VAL
8	XH	41	ARG
8	XH	54	ASP
8	XH	63	LEU
8	XH	80	ILE
8	XH	85	ARG
8	XH	109	ILE
8	XH	112	LEU
8	XH	137	VAL
9	XI	9	ARG
9	XI	38	GLN
9	XI	44	VAL
9	XI	56	LEU
9	XI	65	VAL
9	XI	95	LYS
9	XI	96	LEU
9	XI	102	LEU
9	XI	104	ARG
9	XI	105	ASP
9	XI	108	VAL
9	XI	111	ARG
9	XI	112	LYS
9	XI	114	TYR
9	XI	121	ARG
9	XI	124	GLN
9	XI	125	TYR
9	XI	128	ARG
10	XJ	3	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
10	XJ	17	ASP
10	XJ	22	LYS
10	XJ	45	ARG
10	XJ	47	PHE
10	XJ	49	VAL
10	XJ	54	PHE
10	XJ	57	LYS
10	XJ	62	HIS
10	XJ	70	ARG
10	XJ	74	ILE
10	XJ	80	LYS
10	XJ	84	GLN
10	XJ	96	ILE
10	XJ	98	ILE
11	XK	26	ASN
11	XK	29	ILE
11	XK	31	THR
11	XK	32	ILE
11	XK	36	ASP
11	XK	57	THR
11	XK	96	ARG
11	XK	114	VAL
11	XK	116	HIS
12	XL	17	LYS
12	XL	18	VAL
12	XL	20	LYS
12	XL	27	LEU
12	XL	33	ARG
12	XL	59	ARG
12	XL	62	SER
12	XL	81	SER
12	XL	89	ARG
12	XL	91	LYS
12	XL	126	LYS
13	XM	3	ARG
13	XM	13	LYS
13	XM	17	VAL
13	XM	19	LEU
13	XM	32	GLU
13	XM	45	VAL
13	XM	48	LEU
13	XM	56	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
13	XM	64	TRP
13	XM	66	LEU
13	XM	70	LEU
13	XM	84	ILE
13	XM	88	ARG
13	XM	98	VAL
13	XM	108	ARG
13	XM	114	ARG
13	XM	115	LYS
13	XM	117	VAL
13	XM	122	LYS
14	XN	6	LEU
14	XN	12	ARG
14	XN	32	SER
14	XN	33	VAL
14	XN	40	CYS
14	XN	41	ARG
14	XN	44	LEU
15	XO	3	ILE
15	XO	8	LYS
15	XO	24	SER
15	XO	26	GLU
15	XO	39	LEU
15	XO	62	GLN
15	XO	64	ARG
15	XO	66	LEU
15	XO	82	ILE
15	XO	87	ILE
16	XP	2	VAL
16	XP	11	SER
16	XP	20	VAL
16	XP	28	ARG
16	XP	32	TYR
16	XP	67	THR
16	XP	69	THR
16	XP	72	ARG
17	XQ	52	LYS
17	XQ	59	ILE
17	XQ	62	SER
17	XQ	68	ARG
17	XQ	74	LEU
17	XQ	101	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
18	XR	26	LEU
18	XR	29	PHE
18	XR	36	ASN
18	XR	41	LYS
18	XR	46	GLU
18	XR	54	ARG
18	XR	76	LEU
18	XR	82	THR
18	XR	86	VAL
19	XS	5	LEU
19	XS	10	PHE
19	XS	11	VAL
19	XS	12	ASP
19	XS	13	ASP
19	XS	21	GLU
19	XS	28	LYS
19	XS	29	ARG
19	XS	30	LEU
19	XS	31	ILE
19	XS	37	ARG
19	XS	44	MET
19	XS	63	THR
19	XS	78	ARG
19	XS	81	ARG
19	XS	83	HIS
20	XT	10	LEU
20	XT	13	LEU
20	XT	24	LEU
20	XT	37	SER
20	XT	41	ILE
20	XT	45	GLN
20	XT	50	GLU
20	XT	73	HIS
20	XT	84	LEU
20	XT	93	GLU
21	XU	6	ARG
27	YD	5	LYS
27	YD	17	THR
27	YD	27	THR
27	YD	28	GLU
27	YD	30	GLU
27	YD	38	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
27	YD	43	ARG
27	YD	44	ASN
27	YD	49	ILE
27	YD	65	ILE
27	YD	73	VAL
27	YD	88	ARG
27	YD	94	LEU
27	YD	95	LEU
27	YD	103	ARG
27	YD	105	ILE
27	YD	106	ILE
27	YD	111	LEU
27	YD	112	GLN
27	YD	141	VAL
27	YD	192	THR
27	YD	200	ASP
27	YD	202	LYS
27	YD	212	SER
27	YD	217	ARG
27	YD	218	ARG
27	YD	221	VAL
27	YD	229	VAL
27	YD	237	GLU
27	YD	242	ARG
27	YD	257	LEU
27	YD	259	THR
27	YD	273	ARG
28	YE	4	ILE
28	YE	12	THR
28	YE	13	ARG
28	YE	16	ARG
28	YE	17	ASP
28	YE	26	ILE
28	YE	27	LEU
28	YE	41	LYS
28	YE	42	ASP
28	YE	49	LEU
28	YE	77	ILE
28	YE	79	ARG
28	YE	82	ARG
28	YE	92	THR
28	YE	113	PHE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
28	YE	116	VAL
28	YE	117	MET
28	YE	119	ARG
28	YE	127	ASP
28	YE	128	SER
28	YE	144	ARG
28	YE	146	THR
28	YE	154	LYS
28	YE	175	VAL
28	YE	197	ILE
28	YE	200	GLU
28	YE	202	LYS
28	YE	203	LYS
29	YF	9	ILE
29	YF	32	LEU
29	YF	33	LEU
29	YF	38	ARG
29	YF	45	ARG
29	YF	65	TRP
29	YF	70	THR
29	YF	78	ILE
29	YF	105	VAL
29	YF	106	ARG
29	YF	107	LYS
29	YF	117	ARG
29	YF	127	GLU
29	YF	161	GLU
29	YF	164	ARG
29	YF	165	ARG
29	YF	170	LEU
29	YF	174	VAL
29	YF	176	LEU
29	YF	181	LEU
29	YF	183	VAL
29	YF	196	LEU
29	YF	197	ASP
29	YF	206	ILE
30	YG	3	LEU
30	YG	7	LEU
30	YG	22	ARG
30	YG	31	VAL
30	YG	34	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
30	YG	43	LEU
30	YG	45	GLU
30	YG	58	GLN
30	YG	63	ILE
30	YG	66	GLN
30	YG	67	LYS
30	YG	80	PHE
30	YG	82	LEU
30	YG	84	LYS
30	YG	88	ILE
30	YG	90	LEU
30	YG	94	LEU
30	YG	116	ASP
30	YG	118	ARG
30	YG	145	THR
30	YG	147	ASP
30	YG	167	GLU
31	YH	3	ARG
31	YH	4	ILE
31	YH	6	ARG
31	YH	9	ILE
31	YH	27	LYS
31	YH	32	GLU
31	YH	37	VAL
31	YH	40	GLU
31	YH	41	MET
31	YH	53	GLU
31	YH	59	ARG
31	YH	77	LYS
31	YH	88	LEU
31	YH	89	ILE
31	YH	103	LEU
31	YH	105	LEU
31	YH	122	THR
31	YH	129	THR
31	YH	132	ARG
31	YH	136	ILE
31	YH	139	GLN
31	YH	143	GLN
31	YH	149	ARG
31	YH	152	ARG
31	YH	153	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
31	YH	155	SER
31	YH	169	VAL
32	YI	1	MET
32	YI	2	LYS
32	YI	9	LEU
32	YI	10	GLU
32	YI	20	ASP
32	YI	27	ARG
32	YI	33	ARG
32	YI	35	LEU
32	YI	38	LEU
32	YI	40	THR
32	YI	56	LYS
32	YI	67	ARG
32	YI	70	GLU
32	YI	85	GLU
32	YI	86	THR
32	YI	87	LYS
32	YI	88	ILE
32	YI	92	VAL
32	YI	101	LEU
32	YI	110	ASP
32	YI	112	LYS
32	YI	113	ARG
32	YI	130	TYR
32	YI	131	LYS
32	YI	135	GLU
32	YI	136	VAL
32	YI	138	ILE
32	YI	139	GLN
32	YI	140	LEU
32	YI	142	VAL
33	YN	2	LYS
33	YN	5	VAL
33	YN	7	LYS
33	YN	32	THR
33	YN	34	LEU
33	YN	43	THR
33	YN	48	MET
33	YN	60	ILE
33	YN	61	ARG
33	YN	62	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
33	YN	65	LYS
33	YN	67	LEU
33	YN	73	THR
33	YN	90	MET
33	YN	96	GLU
33	YN	99	LEU
33	YN	109	LYS
33	YN	112	LEU
33	YN	116	LEU
33	YN	120	LEU
33	YN	136	GLU
34	YO	9	GLU
34	YO	19	ILE
34	YO	20	MET
34	YO	23	ARG
34	YO	24	VAL
34	YO	31	LYS
34	YO	47	ILE
34	YO	49	ARG
34	YO	53	LYS
34	YO	66	LYS
34	YO	91	LEU
35	YP	6	LEU
35	YP	7	ARG
35	YP	9	ASN
35	YP	14	LYS
35	YP	16	ARG
35	YP	19	VAL
35	YP	21	ARG
35	YP	27	HIS
35	YP	29	LYS
35	YP	32	THR
35	YP	36	LYS
35	YP	45	LEU
35	YP	49	ARG
35	YP	50	ARG
35	YP	61	ARG
35	YP	64	LYS
35	YP	65	ARG
35	YP	71	VAL
35	YP	75	ILE
35	YP	88	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
35	YP	91	PHE
35	YP	94	GLU
35	YP	98	GLU
35	YP	100	LEU
35	YP	101	VAL
35	YP	112	LEU
35	YP	115	LEU
35	YP	117	GLU
35	YP	123	LEU
35	YP	135	LEU
35	YP	144	GLU
35	YP	146	VAL
35	YP	147	LEU
35	YP	149	GLU
36	YQ	5	ARG
36	YQ	10	ARG
36	YQ	25	ASP
36	YQ	45	GLN
36	YQ	55	VAL
36	YQ	59	ARG
36	YQ	71	ASP
36	YQ	75	THR
36	YQ	76	LYS
36	YQ	79	LEU
36	YQ	81	VAL
36	YQ	82	ARG
36	YQ	83	MET
36	YQ	87	LYS
36	YQ	103	MET
36	YQ	112	GLU
36	YQ	132	VAL
36	YQ	135	ASP
36	YQ	139	GLU
37	YR	1	MET
37	YR	18	LEU
37	YR	28	LEU
37	YR	29	LEU
37	YR	34	ILE
37	YR	36	THR
37	YR	40	LYS
37	YR	44	LEU
37	YR	51	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
37	YR	54	LEU
37	YR	57	ARG
37	YR	63	ARG
37	YR	65	LEU
37	YR	79	LEU
37	YR	83	ILE
37	YR	91	GLN
37	YR	95	THR
37	YR	100	LEU
37	YR	102	GLU
37	YR	104	ARG
37	YR	105	ARG
38	YS	10	ARG
38	YS	12	PHE
38	YS	14	VAL
38	YS	15	ARG
38	YS	20	ARG
38	YS	25	ARG
38	YS	27	SER
38	YS	44	LYS
38	YS	54	LEU
38	YS	56	LEU
38	YS	58	LEU
38	YS	69	VAL
38	YS	78	LEU
38	YS	83	LYS
38	YS	85	VAL
38	YS	89	ARG
38	YS	103	GLU
38	YS	106	ARG
38	YS	111	GLU
39	YT	17	THR
39	YT	23	ARG
39	YT	27	THR
39	YT	28	VAL
39	YT	40	THR
39	YT	41	ARG
39	YT	42	ILE
39	YT	51	ARG
39	YT	58	ASN
39	YT	65	LYS
39	YT	66	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
39	YT	74	ARG
39	YT	86	ILE
39	YT	87	ASP
39	YT	88	ILE
39	YT	89	VAL
39	YT	110	ILE
39	YT	112	ARG
39	YT	115	ARG
39	YT	125	ARG
39	YT	128	GLU
39	YT	134	GLU
40	YU	5	LYS
40	YU	11	ARG
40	YU	27	LEU
40	YU	51	LYS
40	YU	52	ARG
40	YU	60	LEU
40	YU	64	ARG
40	YU	70	ARG
40	YU	74	LEU
40	YU	88	ILE
40	YU	91	ASP
40	YU	98	LEU
40	YU	104	GLN
40	YU	111	GLU
40	YU	112	ARG
40	YU	114	LYS
41	YV	7	THR
41	YV	10	LYS
41	YV	13	ARG
41	YV	19	LYS
41	YV	35	LEU
41	YV	39	LEU
41	YV	40	LEU
41	YV	45	THR
41	YV	61	VAL
41	YV	66	ARG
41	YV	72	VAL
41	YV	73	SER
41	YV	78	LYS
41	YV	79	VAL
41	YV	99	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
42	YW	11	ARG
42	YW	16	LYS
42	YW	23	LEU
42	YW	37	ARG
42	YW	40	ASN
42	YW	51	LEU
42	YW	67	ASP
42	YW	69	LEU
42	YW	76	VAL
42	YW	88	ARG
42	YW	92	ARG
42	YW	95	ILE
42	YW	96	ILE
42	YW	100	THR
42	YW	106	ILE
42	YW	107	LEU
43	YX	6	ASP
43	YX	12	VAL
43	YX	15	GLU
43	YX	27	THR
43	YX	36	LYS
43	YX	43	VAL
43	YX	49	VAL
43	YX	57	LEU
43	YX	59	VAL
43	YX	63	LYS
43	YX	65	ARG
43	YX	66	LEU
43	YX	80	ILE
43	YX	88	LYS
44	YY	14	LEU
44	YY	26	LYS
44	YY	27	VAL
44	YY	28	LYS
44	YY	29	GLU
44	YY	34	LYS
44	YY	38	ILE
44	YY	44	ILE
44	YY	57	GLN
44	YY	61	ILE
44	YY	64	GLU
44	YY	67	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
44	YY	71	LYS
44	YY	73	ARG
44	YY	75	ILE
44	YY	86	ARG
44	YY	87	LYS
44	YY	89	PHE
44	YY	90	LEU
44	YY	95	LYS
44	YY	97	ARG
45	YZ	2	GLU
45	YZ	4	ARG
45	YZ	5	LEU
45	YZ	8	TYR
45	YZ	10	ARG
45	YZ	18	LEU
45	YZ	19	ARG
45	YZ	20	ARG
45	YZ	31	ARG
45	YZ	41	LEU
45	YZ	53	ILE
45	YZ	74	VAL
45	YZ	76	LEU
45	YZ	81	ARG
45	YZ	93	ASP
45	YZ	94	GLU
45	YZ	95	PRO
45	YZ	112	ARG
45	YZ	122	ARG
45	YZ	129	SER
45	YZ	133	ILE
45	YZ	137	ILE
45	YZ	140	ASP
45	YZ	141	VAL
45	YZ	144	LEU
45	YZ	150	LEU
45	YZ	151	HIS
45	YZ	153	SER
45	YZ	156	LYS
45	YZ	163	LEU
45	YZ	166	SER
45	YZ	180	VAL
46	Y0	9	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
46	Y0	11	ARG
46	Y0	36	ILE
46	Y0	55	ARG
46	Y0	64	ASP
46	Y0	74	ARG
47	Y1	30	VAL
47	Y1	46	LEU
47	Y1	50	ARG
47	Y1	51	VAL
47	Y1	56	GLN
47	Y1	62	VAL
47	Y1	78	LYS
47	Y1	80	LEU
47	Y1	82	LEU
47	Y1	83	GLU
47	Y1	91	LYS
47	Y1	92	LYS
48	Y2	4	SER
48	Y2	7	ARG
48	Y2	9	GLN
48	Y2	16	LEU
48	Y2	23	LYS
48	Y2	24	LEU
48	Y2	27	GLU
48	Y2	32	LEU
48	Y2	34	GLU
48	Y2	41	ILE
48	Y2	47	ASN
48	Y2	50	ILE
48	Y2	51	ARG
48	Y2	52	ASP
48	Y2	53	LEU
48	Y2	64	LEU
48	Y2	65	ASN
49	Y3	6	VAL
49	Y3	8	LEU
49	Y3	23	LEU
49	Y3	30	ARG
49	Y3	31	LEU
49	Y3	36	VAL
49	Y3	37	LEU
49	Y3	56	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	Y4	6	HIS
50	Y4	10	VAL
50	Y4	15	ILE
50	Y4	16	CYS
50	Y4	22	ILE
50	Y4	27	THR
50	Y4	34	GLU
50	Y4	39	CYS
50	Y4	42	PHE
50	Y4	43	TYR
50	Y4	48	ARG
50	Y4	49	PHE
50	Y4	53	GLU
50	Y4	57	GLU
50	Y4	58	ARG
50	Y4	61	ARG
50	Y4	63	TYR
50	Y4	67	TYR
50	Y4	68	ARG
50	Y4	71	ARG
51	Y5	3	LYS
51	Y5	4	HIS
51	Y5	6	VAL
51	Y5	11	THR
51	Y5	29	THR
51	Y5	36	CYS
51	Y5	37	LYS
51	Y5	40	LYS
51	Y5	48	GLU
51	Y5	49	CYS
51	Y5	51	TYR
51	Y5	52	TYR
51	Y5	56	LYS
51	Y5	58	LEU
52	Y6	6	ARG
52	Y6	8	LYS
52	Y6	11	LEU
52	Y6	19	ARG
52	Y6	23	THR
52	Y6	30	THR
52	Y6	33	LYS
52	Y6	34	LEU

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Mol	Chain	Res	Type
52	Y6	37	ARG
52	Y6	44	ARG
53	Y7	1	MET
53	Y7	4	THR
53	Y7	8	ASN
53	Y7	9	ARG
53	Y7	10	ARG
53	Y7	14	LYS
53	Y7	47	ARG
54	Y8	13	ARG
54	Y8	14	VAL
54	Y8	15	LYS
54	Y8	29	LYS
54	Y8	30	ARG
54	Y8	34	TRP
54	Y8	43	GLN
54	Y8	44	LYS
54	Y8	47	LYS
54	Y8	56	GLU
54	Y8	58	ILE
54	Y8	64	TYR
54	Y8	65	GLU
55	Y9	1	MET
55	Y9	17	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (22) such sidechains are listed below:

Mol	Chain	Res	Type
2	QB	19	HIS
2	QB	204	ASN
2	QB	212	GLN
4	QD	43	HIS
10	QJ	13	HIS
10	QJ	78	ASN
13	QM	92	HIS
19	QS	47	HIS
20	QT	45	GLN
28	RE	55	ASN
38	RS	34	HIS
45	RZ	54	HIS
45	RZ	73	GLN
50	R4	47	GLN

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Mol	Chain	Res	Type
55	R9	29	ASN
55	R9	32	HIS
2	XB	19	HIS
2	XB	204	ASN
2	XB	212	GLN
10	XJ	78	ASN
11	XK	26	ASN
39	YT	58	ASN

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1499/1522 (98%)	304 (20%)	48 (3%)
1	XA	1498/1522 (98%)	311 (20%)	50 (3%)
22	QV	76/77 (98%)	21 (27%)	1 (1%)
22	XV	76/77 (98%)	17 (22%)	1 (1%)
23	QY	14/17 (82%)	5 (35%)	1 (7%)
23	XY	14/17 (82%)	6 (42%)	1 (7%)
24	QX	7/25 (28%)	3 (42%)	2 (28%)
24	XX	7/25 (28%)	1 (14%)	0
25	RA	2879/2916 (98%)	659 (22%)	74 (2%)
25	YA	2880/2916 (98%)	623 (21%)	75 (2%)
26	RB	119/122 (97%)	29 (24%)	2 (1%)
26	YB	119/122 (97%)	29 (24%)	3 (2%)
56	Z6	1/3 (33%)	0	0
56	Z8	1/3 (33%)	0	0
All	All	9190/9364 (98%)	2008 (21%)	258 (2%)

All (2008) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	6	G
1	QA	29	G
1	QA	32	A
1	QA	39	G
1	QA	47	C
1	QA	48	C
1	QA	50	A
1	QA	51	A
1	QA	64	G
1	QA	65	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	QA	66	G
1	QA	76	G
1	QA	79	G
1	QA	80	G
1	QA	90	C
1	QA	91	C
1	QA	95	G
1	QA	101	A
1	QA	108	G
1	QA	116	A
1	QA	120	A
1	QA	121	C
1	QA	144	G
1	QA	146	G
1	QA	147	G
1	QA	163	C
1	QA	169	C
1	QA	171	A
1	QA	172	A
1	QA	173	U
1	QA	174	C
1	QA	182	U
1	QA	190	G
1	QA	191(A)	G
1	QA	195	A
1	QA	197	A
1	QA	209	U
1	QA	210	U
1	QA	216	G
1	QA	244	U
1	QA	245	C
1	QA	247	G
1	QA	251	G
1	QA	267	C
1	QA	270	A
1	QA	281	G
1	QA	289	G
1	QA	298	A
1	QA	316	G
1	QA	321	A
1	QA	328	C
1	QA	329	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	QA	332	G
1	QA	344	A
1	QA	346	G
1	QA	347	G
1	QA	351	G
1	QA	352	C
1	QA	353	A
1	QA	354	G
1	QA	356	A
1	QA	367	U
1	QA	372	C
1	QA	388	G
1	QA	389	A
1	QA	390	C
1	QA	397	A
1	QA	398	C
1	QA	406	G
1	QA	411	A
1	QA	412	A
1	QA	413	G
1	QA	414	A
1	QA	421	U
1	QA	422	C
1	QA	423	G
1	QA	424	G
1	QA	429	U
1	QA	430	A
1	QA	442	C
1	QA	465	A
1	QA	466	C
1	QA	467	G
1	QA	482	A
1	QA	485	G
1	QA	486	U
1	QA	495	A
1	QA	496	A
1	QA	497	U
1	QA	498	A
1	QA	505	G
1	QA	509	A
1	QA	510	A
1	QA	511	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	QA	518	C
1	QA	521	G
1	QA	527	G
1	QA	531	U
1	QA	532	A
1	QA	533	A
1	QA	534	U
1	QA	544	G
1	QA	545	C
1	QA	547	A
1	QA	559	A
1	QA	561	U
1	QA	562	C
1	QA	566	G
1	QA	568	G
1	QA	572	A
1	QA	573	A
1	QA	576	G
1	QA	577	G
1	QA	595	G
1	QA	596	C
1	QA	618	C
1	QA	623	C
1	QA	630	G
1	QA	631	G
1	QA	653	A
1	QA	665	A
1	QA	686	U
1	QA	687	A
1	QA	688	G
1	QA	701	C
1	QA	702	A
1	QA	703	G
1	QA	704	A
1	QA	723	U
1	QA	731	G
1	QA	748	C
1	QA	754	C
1	QA	755	G
1	QA	760	G
1	QA	776	G
1	QA	777	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	QA	786	G
1	QA	792	A
1	QA	793	U
1	QA	794	A
1	QA	796	C
1	QA	802	A
1	QA	813	U
1	QA	817	C
1	QA	819	A
1	QA	821	G
1	QA	828	A
1	QA	841	U
1	QA	843	U
1	QA	848	C
1	QA	859	A
1	QA	870	U
1	QA	871	U
1	QA	872	A
1	QA	873	A
1	QA	885	G
1	QA	902	G
1	QA	914	A
1	QA	923	A
1	QA	927	G
1	QA	934	C
1	QA	935	A
1	QA	939	G
1	QA	960	U
1	QA	961	U
1	QA	966	G
1	QA	968	A
1	QA	969	A
1	QA	971	G
1	QA	972	C
1	QA	974	A
1	QA	975	A
1	QA	976	G
1	QA	977	A
1	QA	978	A
1	QA	980	C
1	QA	982	U
1	QA	983	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	QA	991	U
1	QA	992	U
1	QA	993	G
1	QA	994	A
1	QA	1001	G
1	QA	1004	A
1	QA	1006	C
1	QA	1008	C
1	QA	1009	G
1	QA	1021	G
1	QA	1024	G
1	QA	1025	U
1	QA	1026	G
1	QA	1028	C
1	QA	1029	G
1	QA	1032(A)	G
1	QA	1036	G
1	QA	1040	U
1	QA	1054	C
1	QA	1055	A
1	QA	1064	G
1	QA	1065	U
1	QA	1066	C
1	QA	1067	A
1	QA	1081	G
1	QA	1094	G
1	QA	1095	U
1	QA	1101	A
1	QA	1124	G
1	QA	1125	U
1	QA	1126	U
1	QA	1127	G
1	QA	1130	A
1	QA	1131	G
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G
1	QA	1145	C
1	QA	1146	A
1	QA	1157	A
1	QA	1158	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	QA	1159	U
1	QA	1160	G
1	QA	1163	C
1	QA	1171	G
1	QA	1180	A
1	QA	1181	G
1	QA	1182	G
1	QA	1183	A
1	QA	1185	G
1	QA	1187	G
1	QA	1193	G
1	QA	1196	U
1	QA	1197	G
1	QA	1200	C
1	QA	1201	A
1	QA	1202	G
1	QA	1204	A
1	QA	1212	U
1	QA	1213	A
1	QA	1225	A
1	QA	1238	A
1	QA	1241	G
1	QA	1256	A
1	QA	1257	U
1	QA	1258	G
1	QA	1260	C
1	QA	1272	G
1	QA	1273	G
1	QA	1280	A
1	QA	1281	U
1	QA	1282	C
1	QA	1286	A
1	QA	1287	A
1	QA	1296	C
1	QA	1297	C
1	QA	1298	C
1	QA	1299	A
1	QA	1300	G
1	QA	1301	U
1	QA	1302	U
1	QA	1303	C
1	QA	1305	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	QA	1319	A
1	QA	1320	C
1	QA	1321	C
1	QA	1322	C
1	QA	1323	G
1	QA	1331	G
1	QA	1334	G
1	QA	1335	C
1	QA	1336	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	1358	U
1	QA	1359	C
1	QA	1362(A)	C
1	QA	1370	G
1	QA	1387	G
1	QA	1397	C
1	QA	1398	A
1	QA	1406	U
1	QA	1419	G
1	QA	1442	G
1	QA	1443	G
1	QA	1446	A
1	QA	1447	G
1	QA	1452	C
1	QA	1453	G
1	QA	1454	G
1	QA	1492	A
1	QA	1499	A
1	QA	1503	A
1	QA	1504	G
1	QA	1506	U
1	QA	1507	A
1	QA	1517	G
1	QA	1519	A
1	QA	1520	G
1	QA	1529	G
1	QA	1530	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
22	QV	3	G
22	QV	4	G
22	QV	7	U
22	QV	8	G
22	QV	15	C
22	QV	17	U
22	QV	18	G
22	QV	19	G
22	QV	21	A
22	QV	22	G
22	QV	25	C
22	QV	31	G
22	QV	47	U
22	QV	48	C
22	QV	52	G
22	QV	53	G
22	QV	54	U
22	QV	64	G
22	QV	67	C
22	QV	75	C
22	QV	76	A
23	QY	31	G
23	QY	32	U
23	QY	33	U
23	QY	36	G
23	QY	42	G
24	QX	4	C
24	QX	7	U
24	QX	8	A
25	RA	9	U
25	RA	11	G
25	RA	14	A
25	RA	15	G
25	RA	28	A
25	RA	32	C
25	RA	34	C
25	RA	46	C
25	RA	49	A
25	RA	51	G
25	RA	55	G
25	RA	71	A
25	RA	72	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	74	A
25	RA	75	G
25	RA	83	G
25	RA	84	A
25	RA	95	G
25	RA	96	G
25	RA	101	G
25	RA	102	G
25	RA	103	A
25	RA	118	A
25	RA	119	A
25	RA	120	U
25	RA	123	G
25	RA	138	G
25	RA	161	U
25	RA	177	G
25	RA	178	G
25	RA	181	A
25	RA	196	A
25	RA	199	A
25	RA	205	G
25	RA	206	U
25	RA	214	G
25	RA	215	G
25	RA	216	A
25	RA	221	A
25	RA	222	A
25	RA	223	A
25	RA	228	A
25	RA	229	A
25	RA	230	U
25	RA	232	G
25	RA	233	A
25	RA	243	U
25	RA	248	G
25	RA	249	C
25	RA	252	G
25	RA	265	A
25	RA	266	G
25	RA	269	U
25	RA	270(E)	G
25	RA	270(L)	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	270(M)	U
25	RA	270(N)	G
25	RA	270(P)	C
25	RA	271(B)	G
25	RA	271(C)	U
25	RA	271	G
25	RA	273(F)	C
25	RA	275	G
25	RA	276	A
25	RA	277	C
25	RA	278	A
25	RA	279	C
25	RA	299	A
25	RA	305	U
25	RA	311	A
25	RA	312	G
25	RA	323	G
25	RA	327	G
25	RA	329	G
25	RA	330	A
25	RA	333	G
25	RA	342	G
25	RA	343	C
25	RA	346	A
25	RA	352	G
25	RA	363(F)	A
25	RA	364	C
25	RA	371	A
25	RA	372	G
25	RA	373	U
25	RA	386	G
25	RA	396	G
25	RA	399	G
25	RA	405	U
25	RA	411	G
25	RA	412	A
25	RA	421	U
25	RA	428	A
25	RA	429	A
25	RA	434	U
25	RA	444	C
25	RA	448	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	454	A
25	RA	455	C
25	RA	456	C
25	RA	457	A
25	RA	470	A
25	RA	481	G
25	RA	504	U
25	RA	505	A
25	RA	509	C
25	RA	512	G
25	RA	513	A
25	RA	519	U
25	RA	527	C
25	RA	528	A
25	RA	529	A
25	RA	531	C
25	RA	532	A
25	RA	533	G
25	RA	537	C
25	RA	539	G
25	RA	540	G
25	RA	544	C
25	RA	546	C
25	RA	550	G
25	RA	554	U
25	RA	556	G
25	RA	563	G
25	RA	573	G
25	RA	574	C
25	RA	575	A
25	RA	586	A
25	RA	588	U
25	RA	603	A
25	RA	607	U
25	RA	609(A)	G
25	RA	614	U
25	RA	615	G
25	RA	616	A
25	RA	617	G
25	RA	621	A
25	RA	626	U
25	RA	627	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	631	A
25	RA	634	C
25	RA	637	A
25	RA	638	G
25	RA	645	C
25	RA	646	A
25	RA	650	C
25	RA	651	G
25	RA	652	C
25	RA	654	A
25	RA	654(A)	G
25	RA	654(B)	C
25	RA	657	U
25	RA	658	C
25	RA	659	C
25	RA	668	G
25	RA	669	G
25	RA	686	G
25	RA	702	G
25	RA	708	C
25	RA	717	G
25	RA	722	A
25	RA	726	G
25	RA	730	C
25	RA	752	A
25	RA	753	C
25	RA	775	G
25	RA	776	G
25	RA	782	A
25	RA	784	A
25	RA	785	G
25	RA	789	A
25	RA	790	C
25	RA	792	G
25	RA	793	A
25	RA	794	G
25	RA	805	G
25	RA	812	C
25	RA	819	A
25	RA	827	U
25	RA	828	U
25	RA	846	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	847	U
25	RA	856	C
25	RA	857	C
25	RA	859	G
25	RA	860	U
25	RA	869	G
25	RA	870	A
25	RA	871	U
25	RA	872	A
25	RA	880	G
25	RA	881	G
25	RA	882	G
25	RA	884	C
25	RA	885	C
25	RA	886	C
25	RA	888	C
25	RA	889	C
25	RA	893	C
25	RA	896	A
25	RA	897	C
25	RA	899	A
25	RA	900	A
25	RA	901	A
25	RA	904	C
25	RA	907	U
25	RA	910	A
25	RA	917	A
25	RA	932	G
25	RA	933	A
25	RA	938	G
25	RA	941	A
25	RA	945	A
25	RA	946	G
25	RA	961	C
25	RA	974	G
25	RA	974(A)	C
25	RA	975	G
25	RA	983	A
25	RA	991	C
25	RA	996	A
25	RA	1003	G
25	RA	1005	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	1011	G
25	RA	1012	U
25	RA	1013	C
25	RA	1015	G
25	RA	1016	G
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	1044	G
25	RA	1045	A
25	RA	1046	A
25	RA	1050	A
25	RA	1053	C
25	RA	1054	A
25	RA	1055	G
25	RA	1057	A
25	RA	1059	G
25	RA	1060	U
25	RA	1061	U
25	RA	1066	U
25	RA	1067	A
25	RA	1068	G
25	RA	1069	A
25	RA	1070	A
25	RA	1071	G
25	RA	1076	C
25	RA	1077	A
25	RA	1078	U
25	RA	1079	C
25	RA	1082	U
25	RA	1083	U
25	RA	1084	A
25	RA	1085	A
25	RA	1086	A
25	RA	1087	G
25	RA	1088	A
25	RA	1091	G
25	RA	1093	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	1095	A
25	RA	1096	A
25	RA	1099	G
25	RA	1104	C
25	RA	1105	U
25	RA	1110	G
25	RA	1111	A
25	RA	1112	G
25	RA	1130	U
25	RA	1131	G
25	RA	1135	C
25	RA	1136	G
25	RA	1137	G
25	RA	1140	C
25	RA	1142	U
25	RA	1142(A)	A
25	RA	1149	G
25	RA	1155	A
25	RA	1170	G
25	RA	1173	G
25	RA	1174	A
25	RA	1175	U
25	RA	1176	G
25	RA	1178	C
25	RA	1179	C
25	RA	1180	C
25	RA	1191	G
25	RA	1195	G
25	RA	1204	A
25	RA	1205	U
25	RA	1206	G
25	RA	1210	A
25	RA	1211	U
25	RA	1212	G
25	RA	1220	A
25	RA	1221	C
25	RA	1229(A)	G
25	RA	1238	G
25	RA	1241	A
25	RA	1248	G
25	RA	1250	G
25	RA	1252	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	1253	A
25	RA	1256	G
25	RA	1265	A
25	RA	1269	A
25	RA	1271	G
25	RA	1272	A
25	RA	1287	A
25	RA	1300	U
25	RA	1301	A
25	RA	1303	G
25	RA	1304	C
25	RA	1312	U
25	RA	1313	U
25	RA	1314	C
25	RA	1321	A
25	RA	1328	G
25	RA	1329	U
25	RA	1349	A
25	RA	1352	U
25	RA	1356	G
25	RA	1365	A
25	RA	1368	G
25	RA	1370	C
25	RA	1372	U
25	RA	1378	A
25	RA	1379	A
25	RA	1380	G
25	RA	1384	A
25	RA	1385	G
25	RA	1386	C
25	RA	1388	G
25	RA	1390	U
25	RA	1395	A
25	RA	1407	C
25	RA	1411	C
25	RA	1416	G
25	RA	1419	A
25	RA	1420	U
25	RA	1421	G
25	RA	1428	C
25	RA	1444(A)	A
25	RA	1445	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	1448	G
25	RA	1449	A
25	RA	1449(A)	G
25	RA	1455	G
25	RA	1458	C
25	RA	1460	A
25	RA	1461	G
25	RA	1464	C
25	RA	1467	C
25	RA	1471	A
25	RA	1476	C
25	RA	1482	U
25	RA	1483	G
25	RA	1485	G
25	RA	1486	A
25	RA	1493	C
25	RA	1495	A
25	RA	1496	A
25	RA	1497	U
25	RA	1505	C
25	RA	1506	C
25	RA	1507	A
25	RA	1508	A
25	RA	1510	A
25	RA	1514	U
25	RA	1515	C
25	RA	1519	G
25	RA	1520	U
25	RA	1522	G
25	RA	1534	G
25	RA	1535	U
25	RA	1536	A
25	RA	1537	C
25	RA	1538	G
25	RA	1543	A
25	RA	1544	C
25	RA	1545	A
25	RA	1554	A
25	RA	1558	A
25	RA	1559	G
25	RA	1566	A
25	RA	1569	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	1578	U
25	RA	1579	A
25	RA	1581	G
25	RA	1585	C
25	RA	1586	A
25	RA	1598	C
25	RA	1608	A
25	RA	1609	A
25	RA	1610	A
25	RA	1616	A
25	RA	1617	C
25	RA	1618	A
25	RA	1647	G
25	RA	1648	C
25	RA	1654	A
25	RA	1667	G
25	RA	1674	G
25	RA	1675	C
25	RA	1688	U
25	RA	1694	C
25	RA	1695	G
25	RA	1725	G
25	RA	1726	G
25	RA	1729	A
25	RA	1730	U
25	RA	1731	G
25	RA	1732	A
25	RA	1733	G
25	RA	1742	C
25	RA	1756	G
25	RA	1758	G
25	RA	1763	G
25	RA	1764	G
25	RA	1773	A
25	RA	1780	A
25	RA	1782	C
25	RA	1791	A
25	RA	1799	G
25	RA	1800	C
25	RA	1801	G
25	RA	1806	C
25	RA	1816	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	1820	U
25	RA	1829	A
25	RA	1835	G
25	RA	1839	G
25	RA	1845	G
25	RA	1847	A
25	RA	1848	A
25	RA	1849	G
25	RA	1858	G
25	RA	1869	G
25	RA	1872	A
25	RA	1878	G
25	RA	1882	C
25	RA	1888	G
25	RA	1889	A
25	RA	1899	G
25	RA	1906	G
25	RA	1913	A
25	RA	1930	G
25	RA	1931	U
25	RA	1934	C
25	RA	1937	A
25	RA	1938	A
25	RA	1939	U
25	RA	1955	U
25	RA	1963	U
25	RA	1964	G
25	RA	1967	C
25	RA	1968	G
25	RA	1969	A
25	RA	1970	A
25	RA	1971	A
25	RA	1972	A
25	RA	1981	A
25	RA	1982	C
25	RA	1991	U
25	RA	1992	G
25	RA	1993	U
25	RA	2020	A
25	RA	2023	G
25	RA	2031	A
25	RA	2033	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	2043	C
25	RA	2055	C
25	RA	2056	G
25	RA	2059	A
25	RA	2060	A
25	RA	2061	G
25	RA	2062	A
25	RA	2063	C
25	RA	2069	G
25	RA	2093	G
25	RA	2099	U
25	RA	2100	G
25	RA	2107	C
25	RA	2111	C
25	RA	2113	U
25	RA	2114	A
25	RA	2115	G
25	RA	2116	G
25	RA	2117	A
25	RA	2118	U
25	RA	2126	A
25	RA	2127	G
25	RA	2128	C
25	RA	2131	G
25	RA	2132	U
25	RA	2133	G
25	RA	2136	C
25	RA	2146	C
25	RA	2148	G
25	RA	2157	G
25	RA	2158	A
25	RA	2166	G
25	RA	2168	G
25	RA	2169	A
25	RA	2171	A
25	RA	2173	A
25	RA	2176	A
25	RA	2190	G
25	RA	2192	G
25	RA	2198	A
25	RA	2210	G
25	RA	2211	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	2212	A
25	RA	2213	U
25	RA	2215	G
25	RA	2225	A
25	RA	2239	G
25	RA	2243	U
25	RA	2245	U
25	RA	2267	A
25	RA	2274	A
25	RA	2275	C
25	RA	2280	G
25	RA	2283	C
25	RA	2287	A
25	RA	2299	G
25	RA	2300	G
25	RA	2307	G
25	RA	2308	G
25	RA	2312	U
25	RA	2319	G
25	RA	2320	A
25	RA	2325	G
25	RA	2327	A
25	RA	2334	G
25	RA	2336	A
25	RA	2342	C
25	RA	2346	A
25	RA	2347	C
25	RA	2350	C
25	RA	2383	G
25	RA	2385	C
25	RA	2391	G
25	RA	2392	A
25	RA	2394	C
25	RA	2402	C
25	RA	2403	C
25	RA	2406	U
25	RA	2410	G
25	RA	2411	A
25	RA	2423	U
25	RA	2425	A
25	RA	2429	G
25	RA	2430	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	2431	U
25	RA	2434	A
25	RA	2435	A
25	RA	2439	A
25	RA	2440	C
25	RA	2441	C
25	RA	2448	A
25	RA	2469	A
25	RA	2470	G
25	RA	2474	C
25	RA	2475	C
25	RA	2476	A
25	RA	2482	G
25	RA	2483	C
25	RA	2484	G
25	RA	2487	G
25	RA	2491	U
25	RA	2492	U
25	RA	2494	G
25	RA	2502	G
25	RA	2505	G
25	RA	2506	U
25	RA	2507	C
25	RA	2519	U
25	RA	2529	G
25	RA	2542	A
25	RA	2543	G
25	RA	2554	U
25	RA	2557	G
25	RA	2558	C
25	RA	2564	A
25	RA	2566	A
25	RA	2567	G
25	RA	2569	G
25	RA	2573	C
25	RA	2585	U
25	RA	2602	A
25	RA	2609	U
25	RA	2611	U
25	RA	2612	C
25	RA	2613	U
25	RA	2614	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	2623	G
25	RA	2629	A
25	RA	2641	G
25	RA	2646	C
25	RA	2655	G
25	RA	2656	U
25	RA	2665	A
25	RA	2673	G
25	RA	2689	U
25	RA	2690	C
25	RA	2702	U
25	RA	2703	C
25	RA	2707	G
25	RA	2712	U
25	RA	2712(A)	A
25	RA	2713	A
25	RA	2714	G
25	RA	2726	U
25	RA	2732	G
25	RA	2733	A
25	RA	2734	A
25	RA	2739	U
25	RA	2748	A
25	RA	2752	C
25	RA	2757	A
25	RA	2758	A
25	RA	2761	G
25	RA	2764	A
25	RA	2765	A
25	RA	2766	G
25	RA	2770	G
25	RA	2777	G
25	RA	2778	A
25	RA	2779	U
25	RA	2780	G
25	RA	2790	A
25	RA	2791	C
25	RA	2797	U
25	RA	2799	A
25	RA	2807	G
25	RA	2812	G
25	RA	2813	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	2818	G
25	RA	2820	A
25	RA	2821	A
25	RA	2823	A
25	RA	2830	G
25	RA	2833	G
25	RA	2834	G
25	RA	2835	A
25	RA	2849	U
25	RA	2867	G
25	RA	2868	A
25	RA	2872	G
25	RA	2880	C
25	RA	2891	G
25	RA	2892	A
25	RA	2894	G
26	RB	8	U
26	RB	9	G
26	RB	13	A
26	RB	15	A
26	RB	16	G
26	RB	19	G
26	RB	20	C
26	RB	22	U
26	RB	24	G
26	RB	25	A
26	RB	26	A
26	RB	27	C
26	RB	32	C
26	RB	41	U
26	RB	42	C
26	RB	44	G
26	RB	45	A
26	RB	47	C
26	RB	52	A
26	RB	53	A
26	RB	56	G
26	RB	67	G
26	RB	73	A
26	RB	81	G
26	RB	82	G
26	RB	89	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
26	RB	97	G
26	RB	105	G
26	RB	109	G
1	XA	7	G
1	XA	9	G
1	XA	12	U
1	XA	26	A
1	XA	32	A
1	XA	39	G
1	XA	48	C
1	XA	51	A
1	XA	61	G
1	XA	64	G
1	XA	65	U
1	XA	66	G
1	XA	76	G
1	XA	78	G
1	XA	79	G
1	XA	81	G
1	XA	89	U
1	XA	90	C
1	XA	91	C
1	XA	92	G
1	XA	95	G
1	XA	101	A
1	XA	108	G
1	XA	116	A
1	XA	121	C
1	XA	129(A)	G
1	XA	130	A
1	XA	144	G
1	XA	146	G
1	XA	147	G
1	XA	163	C
1	XA	172	A
1	XA	173	U
1	XA	174	C
1	XA	182	U
1	XA	189	U
1	XA	190	G
1	XA	191(A)	G
1	XA	195	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	XA	197	A
1	XA	201	C
1	XA	209	U
1	XA	216	G
1	XA	243	A
1	XA	244	U
1	XA	245	C
1	XA	247	G
1	XA	251	G
1	XA	262	A
1	XA	267	C
1	XA	271	C
1	XA	281	G
1	XA	289	G
1	XA	316	G
1	XA	317	G
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	332	G
1	XA	343	U
1	XA	345	C
1	XA	346	G
1	XA	347	G
1	XA	348	G
1	XA	352	C
1	XA	353	A
1	XA	354	G
1	XA	355	C
1	XA	356	A
1	XA	367	U
1	XA	372	C
1	XA	373	A
1	XA	384	G
1	XA	388	G
1	XA	389	A
1	XA	390	C
1	XA	397	A
1	XA	398	C
1	XA	406	G
1	XA	411	A
1	XA	412	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	XA	413	G
1	XA	414	A
1	XA	422	C
1	XA	423	G
1	XA	424	G
1	XA	429	U
1	XA	430	A
1	XA	436	C
1	XA	438	G
1	XA	439	A
1	XA	465	A
1	XA	466	C
1	XA	467	G
1	XA	482	A
1	XA	485	G
1	XA	486	U
1	XA	487	A
1	XA	496	A
1	XA	497	U
1	XA	505	G
1	XA	509	A
1	XA	510	A
1	XA	511	C
1	XA	518	C
1	XA	527	G
1	XA	531	U
1	XA	532	A
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	561	U
1	XA	562	C
1	XA	564	C
1	XA	568	G
1	XA	572	A
1	XA	573	A
1	XA	576	G
1	XA	577	G
1	XA	579	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	XA	596	C
1	XA	607	A
1	XA	617	G
1	XA	630	G
1	XA	631	G
1	XA	633	G
1	XA	649	G
1	XA	653	A
1	XA	661	G
1	XA	665	A
1	XA	666	G
1	XA	688	G
1	XA	701	C
1	XA	702	A
1	XA	704	A
1	XA	723	U
1	XA	724	G
1	XA	731	G
1	XA	749	C
1	XA	752	G
1	XA	753	A
1	XA	754	C
1	XA	755	G
1	XA	759	A
1	XA	774	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	813	U
1	XA	816	A
1	XA	817	C
1	XA	818	G
1	XA	819	A
1	XA	821	G
1	XA	828	A
1	XA	836	G
1	XA	841	U
1	XA	843	U
1	XA	848	C
1	XA	859	A
1	XA	871	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	XA	872	A
1	XA	902	G
1	XA	914	A
1	XA	916	G
1	XA	920	U
1	XA	922	G
1	XA	926	G
1	XA	927	G
1	XA	934	C
1	XA	935	A
1	XA	940	C
1	XA	960	U
1	XA	961	U
1	XA	966	G
1	XA	968	A
1	XA	969	A
1	XA	972	C
1	XA	974	A
1	XA	975	A
1	XA	976	G
1	XA	977	A
1	XA	983	A
1	XA	991	U
1	XA	992	U
1	XA	993	G
1	XA	994	A
1	XA	1001	G
1	XA	1004	A
1	XA	1005	A
1	XA	1006	C
1	XA	1008	C
1	XA	1009	G
1	XA	1021	G
1	XA	1024	G
1	XA	1025	U
1	XA	1028	C
1	XA	1029	G
1	XA	1032(A)	G
1	XA	1036	G
1	XA	1039	C
1	XA	1040	U
1	XA	1042	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	XA	1054	C
1	XA	1055	A
1	XA	1066	C
1	XA	1081	G
1	XA	1094	G
1	XA	1095	U
1	XA	1101	A
1	XA	1124	G
1	XA	1125	U
1	XA	1126	U
1	XA	1127	G
1	XA	1130	A
1	XA	1131	G
1	XA	1136	U
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1145	C
1	XA	1146	A
1	XA	1151	A
1	XA	1152	A
1	XA	1157	A
1	XA	1158	C
1	XA	1159	U
1	XA	1160	G
1	XA	1162	C
1	XA	1163	C
1	XA	1171	G
1	XA	1176	A
1	XA	1177	G
1	XA	1181	G
1	XA	1182	G
1	XA	1183	A
1	XA	1184	G
1	XA	1187	G
1	XA	1188	A
1	XA	1189	C
1	XA	1190	G
1	XA	1196	U
1	XA	1200	C
1	XA	1201	A
1	XA	1202	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	XA	1212	U
1	XA	1214	C
1	XA	1225	A
1	XA	1230	C
1	XA	1238	A
1	XA	1240	U
1	XA	1241	G
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1263	C
1	XA	1267	C
1	XA	1270	C
1	XA	1272	G
1	XA	1280	A
1	XA	1281	U
1	XA	1282	C
1	XA	1286	A
1	XA	1287	A
1	XA	1298	C
1	XA	1299	A
1	XA	1300	G
1	XA	1301	U
1	XA	1302	U
1	XA	1303	C
1	XA	1305	G
1	XA	1320	C
1	XA	1321	C
1	XA	1322	C
1	XA	1323	G
1	XA	1331	G
1	XA	1334	G
1	XA	1336	C
1	XA	1337	G
1	XA	1338	G
1	XA	1347	G
1	XA	1348	U
1	XA	1353	G
1	XA	1362(A)	C
1	XA	1364	U
1	XA	1397	C
1	XA	1400	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	XA	1419	G
1	XA	1442	G
1	XA	1446	A
1	XA	1447	G
1	XA	1452	C
1	XA	1453	G
1	XA	1454	G
1	XA	1487	G
1	XA	1492	A
1	XA	1499	A
1	XA	1502	A
1	XA	1503	A
1	XA	1504	G
1	XA	1506	U
1	XA	1517	G
1	XA	1519	A
1	XA	1520	G
1	XA	1525	G
1	XA	1529	G
1	XA	1530	G
22	XV	3	G
22	XV	4	G
22	XV	8	G
22	XV	12	C
22	XV	15	C
22	XV	17	U
22	XV	18	G
22	XV	19	G
22	XV	21	A
22	XV	22	G
22	XV	47	U
22	XV	48	C
22	XV	49	G
22	XV	52	G
22	XV	54	U
22	XV	67	C
22	XV	76	A
24	XX	7	U
23	XY	31	G
23	XY	32	U
23	XY	33	U
23	XY	34	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
23	XY	40	G
23	XY	42	G
25	YA	9	U
25	YA	15	G
25	YA	27	G
25	YA	34	C
25	YA	35	G
25	YA	46	C
25	YA	55	G
25	YA	71	A
25	YA	74	A
25	YA	75	G
25	YA	96	G
25	YA	99	U
25	YA	101	G
25	YA	102	G
25	YA	103	A
25	YA	118	A
25	YA	119	A
25	YA	120	U
25	YA	125	G
25	YA	138	G
25	YA	155	C
25	YA	161	U
25	YA	162	U
25	YA	177	G
25	YA	188	G
25	YA	196	A
25	YA	214	G
25	YA	215	G
25	YA	216	A
25	YA	221	A
25	YA	222	A
25	YA	223	A
25	YA	227	A
25	YA	229	A
25	YA	230	U
25	YA	232	G
25	YA	242	G
25	YA	243	U
25	YA	248	G
25	YA	252	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	261	G
25	YA	264	C
25	YA	265	A
25	YA	266	G
25	YA	269	U
25	YA	270(L)	U
25	YA	270(M)	U
25	YA	270(N)	G
25	YA	270(P)	C
25	YA	271(A)	C
25	YA	271(B)	G
25	YA	271(C)	U
25	YA	271	G
25	YA	274	G
25	YA	275	G
25	YA	276	A
25	YA	278	A
25	YA	279	C
25	YA	299	A
25	YA	311	A
25	YA	316	C
25	YA	323	G
25	YA	324	A
25	YA	329	G
25	YA	330	A
25	YA	332	A
25	YA	342	G
25	YA	352	G
25	YA	363	G
25	YA	364	C
25	YA	371	A
25	YA	372	G
25	YA	373	U
25	YA	380	U
25	YA	386	G
25	YA	387	U
25	YA	396	G
25	YA	405	U
25	YA	406	G
25	YA	411	G
25	YA	412	A
25	YA	428	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	441	U
25	YA	443	A
25	YA	444	C
25	YA	448	U
25	YA	455	C
25	YA	457	A
25	YA	470	A
25	YA	481	G
25	YA	496	G
25	YA	503	A
25	YA	504	U
25	YA	505	A
25	YA	509	C
25	YA	512	G
25	YA	518	G
25	YA	531	C
25	YA	532	A
25	YA	533	G
25	YA	537	C
25	YA	539	G
25	YA	540	G
25	YA	546	C
25	YA	547	A
25	YA	549	G
25	YA	562	U
25	YA	563	G
25	YA	573	G
25	YA	574	C
25	YA	575	A
25	YA	586	A
25	YA	588	U
25	YA	603	A
25	YA	607	U
25	YA	613	U
25	YA	614	U
25	YA	615	G
25	YA	616	A
25	YA	617	G
25	YA	621	A
25	YA	622	G
25	YA	624	C
25	YA	626	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	627	A
25	YA	634	C
25	YA	637	A
25	YA	638	G
25	YA	645	C
25	YA	646	A
25	YA	650	C
25	YA	651	G
25	YA	654	A
25	YA	654(A)	G
25	YA	654(B)	C
25	YA	654(T)	C
25	YA	657	U
25	YA	664	C
25	YA	670	A
25	YA	686	G
25	YA	702	G
25	YA	717	G
25	YA	722	A
25	YA	730	C
25	YA	734	A
25	YA	747	U
25	YA	750	A
25	YA	752	A
25	YA	753	C
25	YA	764	A
25	YA	765	G
25	YA	776	G
25	YA	782	A
25	YA	784	A
25	YA	785	G
25	YA	790	C
25	YA	792	G
25	YA	793	A
25	YA	805	G
25	YA	806	C
25	YA	812	C
25	YA	819	A
25	YA	827	U
25	YA	828	U
25	YA	831	G
25	YA	846	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	847	U
25	YA	856	C
25	YA	857	C
25	YA	859	G
25	YA	860	U
25	YA	866	A
25	YA	881	G
25	YA	882	G
25	YA	884	C
25	YA	885	C
25	YA	886	C
25	YA	888	C
25	YA	889	C
25	YA	890	A
25	YA	896	A
25	YA	899	A
25	YA	900	A
25	YA	901	A
25	YA	902	C
25	YA	904	C
25	YA	907	U
25	YA	910	A
25	YA	915	C
25	YA	917	A
25	YA	932	G
25	YA	938	G
25	YA	941	A
25	YA	945	A
25	YA	946	G
25	YA	959	A
25	YA	961	C
25	YA	974	G
25	YA	974(A)	C
25	YA	975	G
25	YA	980	A
25	YA	983	A
25	YA	990	A
25	YA	991	C
25	YA	996	A
25	YA	1003	G
25	YA	1005	C
25	YA	1011	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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	1027	A
25	YA	1033	U
25	YA	1045	A
25	YA	1046	A
25	YA	1050	A
25	YA	1054	A
25	YA	1055	G
25	YA	1059	G
25	YA	1060	U
25	YA	1061	U
25	YA	1066	U
25	YA	1067	A
25	YA	1068	G
25	YA	1071	G
25	YA	1076	C
25	YA	1077	A
25	YA	1078	U
25	YA	1079	C
25	YA	1082	U
25	YA	1083	U
25	YA	1084	A
25	YA	1085	A
25	YA	1086	A
25	YA	1088	A
25	YA	1089	G
25	YA	1090	U
25	YA	1095	A
25	YA	1096	A
25	YA	1097	U
25	YA	1099	G
25	YA	1103	A
25	YA	1104	C
25	YA	1105	U
25	YA	1110	G
25	YA	1111	A
25	YA	1122	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	1128	A
25	YA	1130	U
25	YA	1131	G
25	YA	1135	C
25	YA	1136	G
25	YA	1139	G
25	YA	1142	U
25	YA	1142(A)	A
25	YA	1148	A
25	YA	1169	G
25	YA	1170	G
25	YA	1173	G
25	YA	1174	A
25	YA	1175	U
25	YA	1176	G
25	YA	1178	C
25	YA	1179	C
25	YA	1180	C
25	YA	1195	G
25	YA	1204	A
25	YA	1205	U
25	YA	1211	U
25	YA	1220	A
25	YA	1221	C
25	YA	1228	G
25	YA	1238	G
25	YA	1241	A
25	YA	1250	G
25	YA	1253	A
25	YA	1256	G
25	YA	1265	A
25	YA	1271	G
25	YA	1272	A
25	YA	1273	U
25	YA	1284	A
25	YA	1300	U
25	YA	1301	A
25	YA	1321	A
25	YA	1329	U
25	YA	1345	C
25	YA	1349	A
25	YA	1352	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	1365	A
25	YA	1368	G
25	YA	1379	A
25	YA	1384	A
25	YA	1385	G
25	YA	1386	C
25	YA	1388	G
25	YA	1389	G
25	YA	1390	U
25	YA	1391	U
25	YA	1395	A
25	YA	1407	C
25	YA	1411	C
25	YA	1416	G
25	YA	1417	C
25	YA	1419	A
25	YA	1420	U
25	YA	1421	G
25	YA	1428	C
25	YA	1444(A)	A
25	YA	1445	C
25	YA	1449	A
25	YA	1449(A)	G
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	1482	U
25	YA	1483	G
25	YA	1485	G
25	YA	1486	A
25	YA	1487	G
25	YA	1493	C
25	YA	1495	A
25	YA	1497	U
25	YA	1505	C
25	YA	1506	C
25	YA	1507	A
25	YA	1508	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	1510	A
25	YA	1511	A
25	YA	1514	U
25	YA	1519	G
25	YA	1520	U
25	YA	1522	G
25	YA	1534	G
25	YA	1535	U
25	YA	1536	A
25	YA	1537	C
25	YA	1543	A
25	YA	1544	C
25	YA	1545	A
25	YA	1547	C
25	YA	1554	A
25	YA	1558	A
25	YA	1559	G
25	YA	1566	A
25	YA	1569	A
25	YA	1578	U
25	YA	1579	A
25	YA	1581	G
25	YA	1585	C
25	YA	1586	A
25	YA	1591	G
25	YA	1593	G
25	YA	1598	C
25	YA	1608	A
25	YA	1609	A
25	YA	1610	A
25	YA	1616	A
25	YA	1617	C
25	YA	1618	A
25	YA	1634	A
25	YA	1640	C
25	YA	1648	C
25	YA	1654	A
25	YA	1668	A
25	YA	1674	G
25	YA	1678	G
25	YA	1681	G
25	YA	1688	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	1695	G
25	YA	1697	G
25	YA	1699	G
25	YA	1700	A
25	YA	1701	A
25	YA	1725	G
25	YA	1729	A
25	YA	1730	U
25	YA	1731	G
25	YA	1732	A
25	YA	1733	G
25	YA	1742	C
25	YA	1743	G
25	YA	1750	G
25	YA	1753	G
25	YA	1754	C
25	YA	1756	G
25	YA	1762	A
25	YA	1763	G
25	YA	1764	G
25	YA	1773	A
25	YA	1780	A
25	YA	1786	A
25	YA	1791	A
25	YA	1799	G
25	YA	1800	C
25	YA	1801	G
25	YA	1811	G
25	YA	1816	G
25	YA	1820	U
25	YA	1829	A
25	YA	1835	G
25	YA	1836	C
25	YA	1847	A
25	YA	1848	A
25	YA	1849	G
25	YA	1858	G
25	YA	1869	G
25	YA	1870	C
25	YA	1872	A
25	YA	1878	G
25	YA	1882	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	1889	A
25	YA	1896	G
25	YA	1899	G
25	YA	1906	G
25	YA	1919	A
25	YA	1924	C
25	YA	1930	G
25	YA	1931	U
25	YA	1937	A
25	YA	1938	A
25	YA	1939	U
25	YA	1955	U
25	YA	1956	U
25	YA	1960	A
25	YA	1963	U
25	YA	1965	C
25	YA	1967	C
25	YA	1969	A
25	YA	1970	A
25	YA	1971	A
25	YA	1972	A
25	YA	1982	C
25	YA	1987	G
25	YA	1991	U
25	YA	1992	G
25	YA	1993	U
25	YA	2020	A
25	YA	2021	C
25	YA	2023	G
25	YA	2031	A
25	YA	2032	G
25	YA	2033	A
25	YA	2034	U
25	YA	2043	C
25	YA	2055	C
25	YA	2056	G
25	YA	2059	A
25	YA	2060	A
25	YA	2061	G
25	YA	2062	A
25	YA	2069	G
25	YA	2089	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	2093	G
25	YA	2099	U
25	YA	2100	G
25	YA	2111	C
25	YA	2112	G
25	YA	2113	U
25	YA	2114	A
25	YA	2115	G
25	YA	2116	G
25	YA	2117	A
25	YA	2119	A
25	YA	2120	G
25	YA	2126	A
25	YA	2127	G
25	YA	2128	C
25	YA	2131	G
25	YA	2132	U
25	YA	2133	G
25	YA	2136	C
25	YA	2146	C
25	YA	2148	G
25	YA	2158	A
25	YA	2166	G
25	YA	2167	U
25	YA	2168	G
25	YA	2169	A
25	YA	2173	A
25	YA	2176	A
25	YA	2178	C
25	YA	2181	G
25	YA	2190	G
25	YA	2192	G
25	YA	2194	G
25	YA	2198	A
25	YA	2210	G
25	YA	2211	G
25	YA	2212	A
25	YA	2215	G
25	YA	2225	A
25	YA	2238	G
25	YA	2239	G
25	YA	2246	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	2268	A
25	YA	2273	A
25	YA	2275	C
25	YA	2283	C
25	YA	2287	A
25	YA	2288	A
25	YA	2302	G
25	YA	2307	G
25	YA	2308	G
25	YA	2311	A
25	YA	2319	G
25	YA	2320	A
25	YA	2325	G
25	YA	2334	G
25	YA	2346	A
25	YA	2347	C
25	YA	2350	C
25	YA	2377	A
25	YA	2379	G
25	YA	2382	G
25	YA	2383	G
25	YA	2385	C
25	YA	2395	C
25	YA	2402	C
25	YA	2403	C
25	YA	2405	G
25	YA	2406	U
25	YA	2410	G
25	YA	2423	U
25	YA	2425	A
25	YA	2429	G
25	YA	2430	A
25	YA	2435	A
25	YA	2439	A
25	YA	2440	C
25	YA	2441	C
25	YA	2448	A
25	YA	2450	A
25	YA	2468	G
25	YA	2469	A
25	YA	2470	G
25	YA	2471	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	2475	C
25	YA	2476	A
25	YA	2480	C
25	YA	2482	G
25	YA	2484	G
25	YA	2494	G
25	YA	2498	C
25	YA	2502	G
25	YA	2505	G
25	YA	2518	A
25	YA	2529	G
25	YA	2542	A
25	YA	2543	G
25	YA	2554	U
25	YA	2558	C
25	YA	2566	A
25	YA	2567	G
25	YA	2573	C
25	YA	2585	U
25	YA	2602	A
25	YA	2609	U
25	YA	2610	C
25	YA	2611	U
25	YA	2612	C
25	YA	2613	U
25	YA	2629	A
25	YA	2632	A
25	YA	2655	G
25	YA	2656	U
25	YA	2665	A
25	YA	2673	G
25	YA	2675	A
25	YA	2682	U
25	YA	2689	U
25	YA	2690	C
25	YA	2691	C
25	YA	2702	U
25	YA	2707	G
25	YA	2712	U
25	YA	2712(A)	A
25	YA	2713	A
25	YA	2714	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	2726	U
25	YA	2733	A
25	YA	2734	A
25	YA	2744	G
25	YA	2752	C
25	YA	2757	A
25	YA	2758	A
25	YA	2761	G
25	YA	2765	A
25	YA	2766	G
25	YA	2770	G
25	YA	2777	G
25	YA	2778	A
25	YA	2779	U
25	YA	2780	G
25	YA	2785	C
25	YA	2789	C
25	YA	2790	A
25	YA	2791	C
25	YA	2797	U
25	YA	2807	G
25	YA	2808	U
25	YA	2818	G
25	YA	2820	A
25	YA	2821	A
25	YA	2830	G
25	YA	2833	G
25	YA	2834	G
25	YA	2835	A
25	YA	2847	U
25	YA	2867	G
25	YA	2868	A
25	YA	2872	G
25	YA	2873	A
25	YA	2880	C
25	YA	2892	A
25	YA	2894	G
26	YB	2	C
26	YB	8	U
26	YB	9	G
26	YB	13	A
26	YB	15	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
26	YB	19	G
26	YB	21	G
26	YB	24	G
26	YB	25	A
26	YB	26	A
26	YB	27	C
26	YB	31	C
26	YB	32	C
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	52	A
26	YB	53	A
26	YB	56	G
26	YB	67	G
26	YB	72	G
26	YB	73	A
26	YB	81	G
26	YB	89	G
26	YB	108	C
26	YB	109	G

All (258) RNA pucker outliers are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	QA	5	U
1	QA	31	G
1	QA	64	G
1	QA	115	G
1	QA	119	A
1	QA	181	G
1	QA	243	A
1	QA	244	U
1	QA	250	A
1	QA	266	G
1	QA	315	A
1	QA	328	C
1	QA	388	G
1	QA	410	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	QA	412	A
1	QA	429	U
1	QA	481	G
1	QA	484	G
1	QA	485	G
1	QA	509	A
1	QA	530	G
1	QA	533	A
1	QA	560	U
1	QA	687	A
1	QA	701	C
1	QA	703	G
1	QA	753	A
1	QA	792	A
1	QA	793	U
1	QA	812	C
1	QA	913	A
1	QA	934	C
1	QA	960	U
1	QA	992	U
1	QA	1025	U
1	QA	1027	C
1	QA	1065	U
1	QA	1200	C
1	QA	1201	A
1	QA	1285	A
1	QA	1297	C
1	QA	1336	C
1	QA	1346	A
1	QA	1347	G
1	QA	1446	A
1	QA	1498	U
1	QA	1503	A
1	QA	1528	U
22	QV	53	G
23	QY	30	C
24	QX	3	G
24	QX	6	C
25	RA	27	G
25	RA	71	A
25	RA	74	A
25	RA	83	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	99	U
25	RA	102	G
25	RA	195	A
25	RA	205	G
25	RA	221	A
25	RA	222	A
25	RA	227	A
25	RA	229	A
25	RA	242	G
25	RA	271(B)	G
25	RA	271(C)	U
25	RA	277	C
25	RA	345	A
25	RA	372	G
25	RA	404	C
25	RA	503	A
25	RA	508	G
25	RA	512	G
25	RA	587	C
25	RA	637	A
25	RA	669	G
25	RA	752	A
25	RA	774	A
25	RA	846	C
25	RA	856	C
25	RA	859	G
25	RA	974(A)	C
25	RA	1012	U
25	RA	1022	G
25	RA	1026	U
25	RA	1045	A
25	RA	1078	U
25	RA	1085	A
25	RA	1130	U
25	RA	1178	C
25	RA	1204	A
25	RA	1210	A
25	RA	1240	U
25	RA	1312	U
25	RA	1427	A
25	RA	1558	A
25	RA	1608	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	1653	G
25	RA	1667	G
25	RA	1694	C
25	RA	1799	G
25	RA	1819	A
25	RA	1847	A
25	RA	1929	G
25	RA	1930	G
25	RA	1936	A
25	RA	1980	G
25	RA	1992	G
25	RA	2060	A
25	RA	2126	A
25	RA	2198	A
25	RA	2238	G
25	RA	2405	G
25	RA	2439	A
25	RA	2481	G
25	RA	2506	U
25	RA	2518	A
25	RA	2566	A
25	RA	2610	C
25	RA	2689	U
25	RA	2712	U
25	RA	2726	U
25	RA	2776	A
25	RA	2832	U
25	RA	2867	G
26	RB	24	G
26	RB	66	A
1	XA	31	G
1	XA	60	A
1	XA	64	G
1	XA	78	G
1	XA	89	U
1	XA	115	G
1	XA	181	G
1	XA	243	A
1	XA	244	U
1	XA	250	A
1	XA	266	G
1	XA	315	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	XA	328	C
1	XA	345	C
1	XA	388	G
1	XA	410	G
1	XA	412	A
1	XA	428	G
1	XA	429	U
1	XA	481	G
1	XA	484	G
1	XA	485	G
1	XA	509	A
1	XA	530	G
1	XA	560	U
1	XA	687	A
1	XA	701	C
1	XA	703	G
1	XA	753	A
1	XA	758	G
1	XA	793	U
1	XA	812	C
1	XA	819	A
1	XA	913	A
1	XA	960	U
1	XA	965	A
1	XA	991	U
1	XA	992	U
1	XA	1027	C
1	XA	1065	U
1	XA	1094	G
1	XA	1200	C
1	XA	1285	A
1	XA	1297	C
1	XA	1298	C
1	XA	1336	C
1	XA	1347	G
1	XA	1446	A
1	XA	1498	U
1	XA	1503	A
22	XV	53	G
23	XY	30	C
25	YA	71	A
25	YA	74	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	99	U
25	YA	102	G
25	YA	195	A
25	YA	196	A
25	YA	199	A
25	YA	221	A
25	YA	222	A
25	YA	229	A
25	YA	242	G
25	YA	271(B)	G
25	YA	278	A
25	YA	372	G
25	YA	404	C
25	YA	503	A
25	YA	508	G
25	YA	562	U
25	YA	587	C
25	YA	637	A
25	YA	653	A
25	YA	654	A
25	YA	669	G
25	YA	752	A
25	YA	764	A
25	YA	846	C
25	YA	856	C
25	YA	859	G
25	YA	974	G
25	YA	974(A)	C
25	YA	1022	G
25	YA	1026	U
25	YA	1045	A
25	YA	1078	U
25	YA	1085	A
25	YA	1109	C
25	YA	1130	U
25	YA	1141	U
25	YA	1178	C
25	YA	1204	A
25	YA	1210	A
25	YA	1379	A
25	YA	1427	A
25	YA	1558	A

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Mol	Chain	Res	Type
25	YA	1608	A
25	YA	1609	A
25	YA	1617	C
25	YA	1653	G
25	YA	1694	C
25	YA	1698	A
25	YA	1799	G
25	YA	1819	A
25	YA	1847	A
25	YA	1929	G
25	YA	1930	G
25	YA	1939	U
25	YA	1955	U
25	YA	1992	G
25	YA	2126	A
25	YA	2238	G
25	YA	2288	A
25	YA	2382	G
25	YA	2405	G
25	YA	2439	A
25	YA	2481	G
25	YA	2566	A
25	YA	2610	C
25	YA	2655	G
25	YA	2681	C
25	YA	2689	U
25	YA	2712	U
25	YA	2756	U
25	YA	2776	A
25	YA	2832	U
25	YA	2867	G
26	YB	24	G
26	YB	66	A
26	YB	108	C

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

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

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond

length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
56	PPU	Z6	76	56,25	32,40,41	2.56	6 (18%)	33,57,60	2.16	5 (15%)
56	PPU	Z8	76	56,25	32,40,41	2.55	6 (18%)	33,57,60	2.15	5 (15%)
23	1MG	QY	37	23	18,26,27	2.21	2 (11%)	19,39,42	1.48	4 (21%)
23	1MG	XY	37	23	18,26,27	2.26	2 (11%)	19,39,42	1.53	4 (21%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
56	PPU	Z6	76	56,25	-	2/21/43/44	0/4/4/4
56	PPU	Z8	76	56,25	-	2/21/43/44	0/4/4/4
23	1MG	QY	37	23	-	0/3/25/26	0/3/3/3
23	1MG	XY	37	23	-	0/3/25/26	0/3/3/3

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	Z6	76	PPU	O-C	9.32	1.41	1.23
56	Z8	76	PPU	O-C	9.25	1.41	1.23
23	XY	37	1MG	C2-N2	7.73	1.48	1.34
23	QY	37	1MG	C2-N2	7.52	1.47	1.34
56	Z6	76	PPU	C9-N6	-5.96	1.31	1.45
56	Z8	76	PPU	C9-N6	-5.95	1.32	1.45
56	Z6	76	PPU	C-N3'	5.69	1.46	1.34
56	Z8	76	PPU	C-N3'	5.68	1.46	1.34
56	Z8	76	PPU	C10-N6	-5.58	1.32	1.45
56	Z6	76	PPU	C10-N6	-5.58	1.32	1.45
23	QY	37	1MG	C4-N3	4.89	1.49	1.37
23	XY	37	1MG	C4-N3	4.64	1.48	1.37
56	Z6	76	PPU	O4'-C1'	2.77	1.44	1.41
56	Z8	76	PPU	O4'-C1'	2.72	1.44	1.41
56	Z8	76	PPU	C4-N3	-2.06	1.32	1.35
56	Z6	76	PPU	C4-N3	-2.00	1.32	1.35

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	Z6	76	PPU	C3'-N3'-C	-8.63	110.19	123.21
56	Z8	76	PPU	C3'-N3'-C	-8.62	110.22	123.21
56	Z8	76	PPU	N3-C2-N1	-4.67	121.37	128.68
56	Z6	76	PPU	N3-C2-N1	-4.65	121.41	128.68
56	Z6	76	PPU	CA-C-N3'	4.04	121.75	116.15
56	Z8	76	PPU	CA-C-N3'	3.99	121.69	116.15
23	XY	37	1MG	C2-N1-C6	3.55	123.83	120.95
23	QY	37	1MG	C2-N1-C6	3.47	123.77	120.95
56	Z6	76	PPU	CM-OC-CZ	-3.40	110.12	117.51
56	Z6	76	PPU	C4-C5-N7	-3.37	105.89	109.40
56	Z8	76	PPU	CM-OC-CZ	-3.35	110.23	117.51
56	Z8	76	PPU	C4-C5-N7	-3.29	105.97	109.40
23	XY	37	1MG	C5-C6-N1	3.20	118.71	113.90
23	QY	37	1MG	C8-N7-C5	3.08	108.86	102.99
23	XY	37	1MG	C8-N7-C5	2.74	108.20	102.99
23	QY	37	1MG	C5-C6-N1	2.66	117.90	113.90
23	XY	37	1MG	O6-C6-C5	-2.56	119.67	124.19
23	QY	37	1MG	O6-C6-C5	-2.52	119.74	124.19

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
56	Z6	76	PPU	O-C-CA-N
56	Z8	76	PPU	O-C-CA-N
56	Z6	76	PPU	N3'-C-CA-N
56	Z8	76	PPU	N3'-C-CA-N

There are no ring outliers.

2 monomers are involved in 11 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	Z6	76	PPU	6	0
56	Z8	76	PPU	5	0

## 5.5 Carbohydrates

There are no monosaccharides in this entry.

## 5.6 Ligand geometry

Of 683 ligands modelled in this entry, 681 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
58	PAR	XA	1673	-	45,45,45	1.51	7 (15%)	64,67,67	1.34	5 (7%)
58	PAR	QA	1666	-	45,45,45	1.48	7 (15%)	64,67,67	1.39	9 (14%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
58	PAR	XA	1673	-	-	6/18/94/94	0/4/4/4
58	PAR	QA	1666	-	-	8/18/94/94	0/4/4/4

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	QA	1666	PAR	C64-C54	5.19	1.59	1.52
58	XA	1673	PAR	C64-C54	4.92	1.58	1.52
58	QA	1666	PAR	C52-C42	3.11	1.58	1.52
58	XA	1673	PAR	C52-C42	2.97	1.58	1.52
58	XA	1673	PAR	O54-C14	2.89	1.49	1.41
58	QA	1666	PAR	O54-C14	2.88	1.49	1.41
58	XA	1673	PAR	C11-C21	2.85	1.57	1.52
58	XA	1673	PAR	O51-C11	2.65	1.48	1.41
58	XA	1673	PAR	C14-C24	2.31	1.56	1.52
58	QA	1666	PAR	O51-C11	2.30	1.47	1.41
58	QA	1666	PAR	C11-C21	2.28	1.56	1.52
58	QA	1666	PAR	C31-C21	2.17	1.56	1.53
58	QA	1666	PAR	C14-C24	2.12	1.56	1.52
58	XA	1673	PAR	C31-C21	2.02	1.56	1.53

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
58	XA	1673	PAR	O33-C14-C24	4.71	116.32	108.22
58	XA	1673	PAR	C14-O54-C54	4.31	122.16	113.69
58	QA	1666	PAR	O52-C13-C23	3.84	115.92	107.96
58	QA	1666	PAR	C14-O54-C54	3.83	121.21	113.69
58	QA	1666	PAR	O33-C14-C24	3.76	114.69	108.22
58	XA	1673	PAR	O52-C13-C23	3.43	115.07	107.96
58	QA	1666	PAR	O11-C42-C32	-3.14	101.70	109.18
58	QA	1666	PAR	O11-C42-C52	3.13	115.44	107.48
58	QA	1666	PAR	O54-C54-C64	2.97	111.54	106.01
58	XA	1673	PAR	O54-C54-C64	2.85	111.32	106.01
58	XA	1673	PAR	C11-O51-C51	2.59	118.76	113.69
58	QA	1666	PAR	O54-C54-C44	-2.15	105.79	109.69
58	QA	1666	PAR	C22-C32-C42	2.05	114.70	109.53
58	QA	1666	PAR	O41-C41-C51	2.01	114.28	109.30

There are no chirality outliers.

All (14) torsion outliers are listed below:

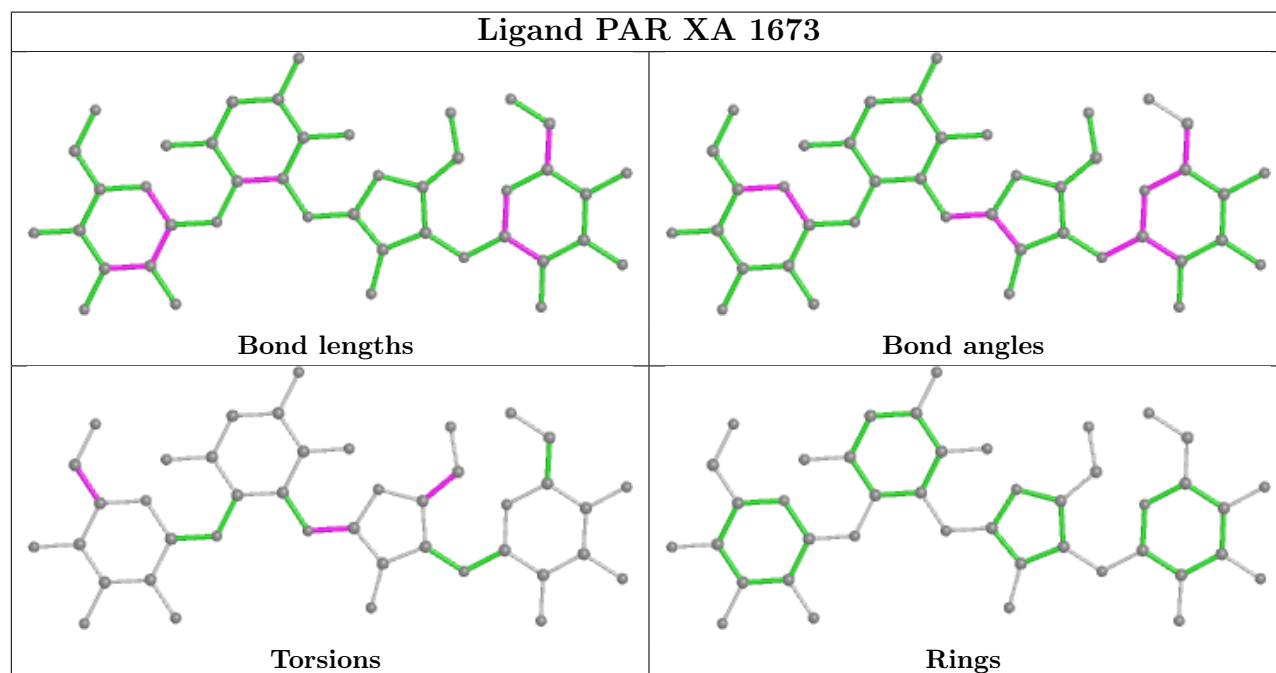
Mol	Chain	Res	Type	Atoms
58	QA	1666	PAR	C44-C54-C64-N64
58	QA	1666	PAR	O54-C54-C64-N64
58	QA	1666	PAR	O51-C51-C61-O61
58	XA	1673	PAR	O51-C51-C61-O61
58	QA	1666	PAR	C41-C51-C61-O61
58	XA	1673	PAR	C41-C51-C61-O61
58	XA	1673	PAR	C33-C43-C53-O53
58	QA	1666	PAR	O43-C13-O52-C52
58	XA	1673	PAR	O43-C13-O52-C52
58	XA	1673	PAR	O43-C43-C53-O53
58	QA	1666	PAR	C23-C13-O52-C52
58	XA	1673	PAR	C23-C13-O52-C52
58	QA	1666	PAR	C23-C33-O33-C14
58	QA	1666	PAR	C43-C33-O33-C14

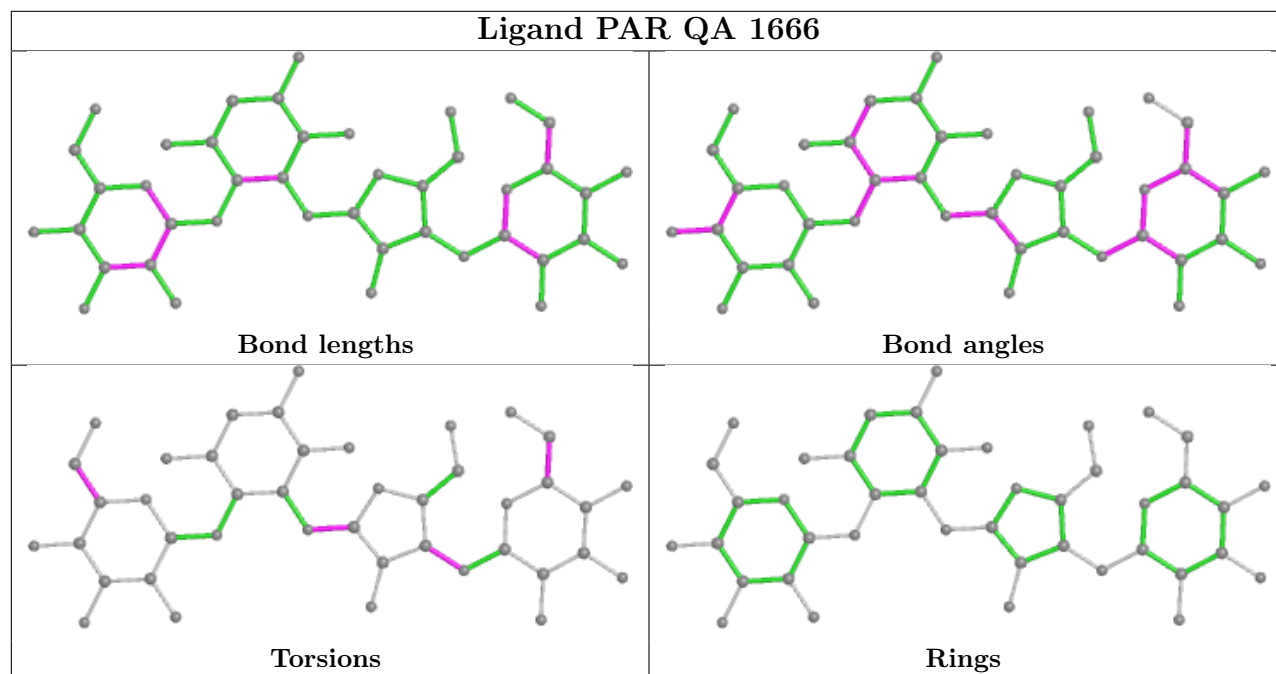
There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
58	XA	1673	PAR	1	0
58	QA	1666	PAR	2	0

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





## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data i

### 6.1 Protein, DNA and RNA chains i

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> 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 <sup>2</sup> )	Q < 0.9
1	QA	1500/1522 (98%)	-0.01	23 (1%) 73 75	14, 55, 134, 294	0
1	XA	1500/1522 (98%)	-0.03	15 (1%) 82 83	7, 42, 133, 270	0
2	QB	237/256 (92%)	1.51	66 (27%) 0 0	42, 98, 171, 216	0
2	XB	237/256 (92%)	0.74	29 (12%) 4 3	27, 78, 141, 206	0
3	QC	205/239 (85%)	1.87	77 (37%) 0 0	37, 91, 139, 192	0
3	XC	205/239 (85%)	0.45	10 (4%) 29 29	11, 53, 103, 148	0
4	QD	208/209 (99%)	0.51	13 (6%) 20 18	23, 54, 106, 136	0
4	XD	208/209 (99%)	0.41	5 (2%) 59 59	17, 51, 103, 175	0
5	QE	151/162 (93%)	0.39	8 (5%) 26 25	29, 65, 114, 172	0
5	XE	151/162 (93%)	0.17	1 (0%) 87 88	15, 43, 86, 138	0
6	QF	101/101 (100%)	-0.08	0 100 100	13, 48, 78, 119	0
6	XF	101/101 (100%)	0.34	6 (5%) 22 20	12, 46, 76, 153	0
7	QG	155/156 (99%)	0.93	26 (16%) 1 1	23, 73, 121, 172	0
7	XG	155/156 (99%)	0.81	14 (9%) 9 8	18, 62, 109, 143	0
8	QH	138/138 (100%)	0.08	2 (1%) 75 77	30, 67, 99, 116	0
8	XH	138/138 (100%)	-0.05	2 (1%) 75 77	13, 48, 84, 127	0
9	QI	127/128 (99%)	1.10	22 (17%) 1 1	33, 89, 129, 180	0
9	XI	127/128 (99%)	0.49	8 (6%) 20 18	19, 69, 124, 167	0
10	QJ	99/105 (94%)	2.10	50 (50%) 0 0	27, 98, 176, 200	0
10	XJ	99/105 (94%)	0.82	14 (14%) 2 2	5, 72, 131, 162	0
11	QK	119/129 (92%)	1.44	23 (19%) 1 1	22, 55, 110, 180	0
11	XK	119/129 (92%)	1.47	27 (22%) 0 0	16, 43, 106, 177	0
12	QL	125/132 (94%)	1.05	24 (19%) 1 1	14, 47, 100, 195	0
12	XL	125/132 (94%)	0.50	12 (9%) 8 7	7, 30, 103, 185	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
13	QM	121/126 (96%)	0.79	18 (14%) 2 2	27, 84, 121, 226	0
13	XM	121/126 (96%)	0.49	7 (5%) 23 21	24, 57, 113, 211	0
14	QN	60/61 (98%)	1.95	30 (50%) 0 0	38, 80, 105, 122	0
14	XN	60/61 (98%)	0.29	1 (1%) 70 71	22, 43, 76, 100	0
15	QO	88/89 (98%)	0.01	1 (1%) 80 82	15, 52, 101, 137	0
15	XO	88/89 (98%)	0.09	2 (2%) 60 61	10, 42, 80, 97	0
16	QP	84/88 (95%)	-0.24	0 100 100	26, 50, 96, 135	0
16	XP	84/88 (95%)	0.16	1 (1%) 79 80	25, 57, 102, 179	0
17	QQ	100/105 (95%)	0.18	1 (1%) 82 83	27, 56, 100, 119	0
17	XQ	100/105 (95%)	0.47	4 (4%) 38 37	23, 55, 94, 109	0
18	QR	70/88 (79%)	0.34	4 (5%) 23 22	18, 55, 97, 111	0
18	XR	70/88 (79%)	0.75	7 (10%) 7 6	16, 50, 102, 113	0
19	QS	84/93 (90%)	1.05	14 (16%) 1 1	50, 96, 144, 180	0
19	XS	84/93 (90%)	0.80	10 (11%) 4 3	20, 65, 113, 176	0
20	QT	99/106 (93%)	0.27	3 (3%) 50 49	20, 59, 117, 189	0
20	XT	99/106 (93%)	0.56	9 (9%) 9 7	30, 68, 122, 151	0
21	QU	25/27 (92%)	0.77	6 (24%) 0 0	30, 73, 126, 140	0
21	XU	25/27 (92%)	0.74	3 (12%) 4 3	31, 45, 98, 136	0
22	QV	77/77 (100%)	0.21	2 (2%) 56 56	13, 59, 116, 149	0
22	XV	77/77 (100%)	0.24	3 (3%) 39 39	3, 42, 86, 154	0
23	QY	14/17 (82%)	1.66	3 (21%) 0 0	60, 101, 150, 155	0
23	XY	14/17 (82%)	1.68	5 (35%) 0 0	24, 79, 120, 138	0
24	QX	8/25 (32%)	0.34	0 100 100	30, 49, 70, 98	0
24	XX	8/25 (32%)	0.21	0 100 100	15, 25, 40, 55	0
25	RA	2882/2916 (98%)	0.17	122 (4%) 36 35	1, 31, 175, 318	0
25	YA	2883/2916 (98%)	0.08	108 (3%) 41 40	0, 21, 170, 311	0
26	RB	120/122 (98%)	-0.22	0 100 100	29, 55, 88, 110	0
26	YB	120/122 (98%)	-0.21	0 100 100	14, 37, 58, 106	0
27	RD	272/276 (98%)	0.04	3 (1%) 80 82	0, 24, 63, 135	0
27	YD	272/276 (98%)	-0.05	4 (1%) 73 75	0, 14, 46, 168	0
28	RE	205/206 (99%)	0.40	13 (6%) 20 18	1, 36, 109, 193	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
28	YE	205/206 (99%)	0.31	14 (6%) 17 15	0, 32, 113, 183	0
29	RF	202/210 (96%)	0.05	3 (1%) 73 75	2, 41, 94, 154	0
29	YF	202/210 (96%)	-0.14	2 (0%) 82 83	0, 27, 83, 144	0
30	RG	181/182 (99%)	0.52	18 (9%) 7 6	26, 79, 130, 185	0
30	YG	181/182 (99%)	0.07	7 (3%) 39 39	14, 43, 93, 158	0
31	RH	170/180 (94%)	2.59	91 (53%) 0 0	42, 117, 172, 219	0
31	YH	170/180 (94%)	-0.01	3 (1%) 68 69	12, 50, 96, 160	0
32	RI	146/148 (98%)	1.23	32 (21%) 0 0	22, 74, 128, 179	0
32	YI	146/148 (98%)	0.78	19 (13%) 3 3	16, 74, 128, 161	0
33	RN	138/140 (98%)	0.60	10 (7%) 15 13	16, 43, 86, 150	0
33	YN	138/140 (98%)	0.24	4 (2%) 51 51	10, 35, 87, 139	0
34	RO	122/122 (100%)	0.59	8 (6%) 18 16	10, 34, 75, 103	0
34	YO	122/122 (100%)	0.11	1 (0%) 86 87	1, 25, 48, 76	0
35	RP	150/150 (100%)	1.29	24 (16%) 1 1	3, 48, 112, 222	0
35	YP	150/150 (100%)	0.50	11 (7%) 15 13	2, 32, 95, 190	0
36	RQ	141/141 (100%)	0.95	17 (12%) 4 3	4, 47, 104, 139	0
36	YQ	141/141 (100%)	0.54	14 (9%) 7 6	1, 27, 82, 153	0
37	RR	118/118 (100%)	-0.18	0 100 100	3, 30, 55, 88	0
37	YR	118/118 (100%)	0.26	1 (0%) 86 87	6, 31, 58, 113	0
38	RS	111/112 (99%)	0.34	4 (3%) 42 41	23, 58, 109, 127	0
38	YS	111/112 (99%)	0.20	4 (3%) 42 41	13, 40, 93, 150	0
39	RT	137/146 (93%)	0.68	13 (9%) 8 7	16, 42, 124, 206	0
39	YT	137/146 (93%)	0.25	8 (5%) 23 21	9, 35, 131, 196	0
40	RU	117/118 (99%)	0.51	6 (5%) 28 27	6, 34, 96, 165	0
40	YU	117/118 (99%)	0.09	3 (2%) 56 56	2, 21, 85, 144	0
41	RV	101/101 (100%)	0.90	13 (12%) 3 3	7, 53, 108, 198	0
41	YV	101/101 (100%)	0.53	11 (10%) 5 5	0, 46, 93, 208	0
42	RW	113/113 (100%)	0.11	5 (4%) 34 33	3, 25, 69, 172	0
42	YW	113/113 (100%)	0.14	4 (3%) 44 42	1, 25, 79, 174	0
43	RX	92/96 (95%)	0.07	2 (2%) 62 63	0, 33, 64, 106	0
43	YX	92/96 (95%)	-0.09	1 (1%) 80 82	0, 22, 59, 109	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
44	RY	102/110 (92%)	0.96	17 (16%) 1 1	10, 65, 132, 205	0
44	YY	102/110 (92%)	0.26	9 (8%) 10 8	8, 46, 109, 201	0
45	RZ	183/206 (88%)	1.10	35 (19%) 1 1	28, 81, 152, 203	0
45	YZ	183/206 (88%)	1.08	26 (14%) 2 2	16, 59, 135, 195	0
46	R0	82/85 (96%)	0.62	4 (4%) 29 29	13, 36, 60, 83	0
46	Y0	82/85 (96%)	0.20	0 100 100	2, 22, 41, 74	0
47	R1	97/98 (98%)	0.90	7 (7%) 15 13	5, 33, 134, 196	0
47	Y1	97/98 (98%)	0.19	6 (6%) 20 18	1, 29, 123, 178	0
48	R2	69/72 (95%)	0.36	5 (7%) 15 13	15, 51, 121, 133	0
48	Y2	69/72 (95%)	0.16	3 (4%) 35 34	8, 32, 85, 167	0
49	R3	59/60 (98%)	1.24	10 (16%) 1 1	15, 41, 78, 134	0
49	Y3	59/60 (98%)	0.35	2 (3%) 45 43	10, 30, 81, 142	0
50	R4	71/71 (100%)	1.85	23 (32%) 0 0	59, 140, 202, 292	0
50	Y4	71/71 (100%)	1.08	17 (23%) 0 0	39, 97, 174, 227	0
51	R5	59/60 (98%)	0.61	9 (15%) 2 1	2, 33, 145, 188	0
51	Y5	59/60 (98%)	1.32	14 (23%) 0 0	1, 39, 172, 198	0
52	R6	49/54 (90%)	6.01	45 (91%) 0 0	68, 125, 194, 221	0
52	Y6	49/54 (90%)	5.10	46 (93%) 0 0	70, 113, 183, 206	0
53	R7	49/49 (100%)	0.29	3 (6%) 21 19	2, 12, 67, 170	0
53	Y7	49/49 (100%)	-0.05	2 (4%) 37 36	0, 7, 50, 140	0
54	R8	64/65 (98%)	1.20	11 (17%) 1 1	8, 31, 93, 151	0
54	Y8	64/65 (98%)	0.56	6 (9%) 8 7	0, 25, 81, 172	0
55	R9	37/37 (100%)	6.30	36 (97%) 0 0	55, 105, 158, 176	0
55	Y9	37/37 (100%)	4.78	33 (89%) 0 0	47, 87, 153, 202	0
56	Z6	2/3 (66%)	0.48	0 100 100	21, 21, 21, 24	0
56	Z8	2/3 (66%)	0.42	0 100 100	5, 5, 5, 14	0
All	All	20873/21492 (97%)	0.40	1583 (7%) 13 12	0, 43, 135, 318	0

All (1583) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
52	R6	6	ARG	24.8
52	R6	5	VAL	22.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
52	Y6	42	TRP	18.6
35	RP	150	ALA	18.2
52	R6	13	CYS	17.6
55	Y9	1	MET	17.6
11	QK	129	SER	17.2
47	R1	98	LEU	17.0
55	R9	1	MET	15.7
45	YZ	113	ALA	15.6
52	R6	7	ILE	14.8
52	R6	14	THR	14.4
31	RH	43	VAL	13.8
11	XK	129	SER	13.7
25	RA	2797	U	13.6
35	RP	149	GLU	13.4
13	QM	7	VAL	13.1
55	R9	11	CYS	13.0
52	R6	29	ASN	12.4
41	YV	36	PRO	12.1
25	YA	2112	G	11.9
40	YU	117	GLN	11.8
25	RA	2798	C	11.6
7	QG	82	GLY	11.3
55	Y9	12	ASP	11.3
47	R1	96	LYS	11.2
52	Y6	43	CYS	11.1
25	RA	2799	A	11.0
52	R6	42	TRP	10.9
50	R4	69	LYS	10.8
55	R9	14	CYS	10.8
35	YP	149	GLU	10.7
11	QK	128	ALA	10.6
25	YA	1536	A	10.4
2	QB	231	GLU	10.2
50	R4	71	ARG	10.1
11	QK	11	LYS	10.0
55	R9	12	ASP	9.9
50	R4	49	PHE	9.6
25	YA	2145	C	9.6
41	RV	36	PRO	9.5
7	QG	81	GLY	9.4
55	Y9	7	VAL	9.3
52	Y6	26	ASN	9.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
25	YA	2795	G	9.0
40	RU	118	GLY	9.0
51	Y5	54	GLY	8.9
28	RE	204	ALA	8.9
10	QJ	88	LEU	8.9
25	RA	1095	A	8.8
2	QB	234	PRO	8.7
55	R9	13	LYS	8.7
55	R9	15	LYS	8.7
40	YU	118	GLY	8.6
52	Y6	18	ARG	8.6
7	XG	156	TRP	8.6
2	XB	125	PRO	8.6
55	R9	37	GLY	8.5
45	YZ	166	SER	8.5
28	YE	205	ALA	8.5
52	R6	50	ARG	8.4
2	QB	131	PRO	8.4
51	Y5	58	LEU	8.4
12	QL	129	ALA	8.4
3	QC	78	GLY	8.3
12	XL	129	ALA	8.3
50	Y4	69	LYS	8.3
35	RP	13	ASN	8.2
12	QL	128	ALA	8.2
55	R9	16	VAL	8.1
25	RA	1177	A	8.1
55	R9	22	ARG	8.0
11	XK	11	LYS	8.0
55	Y9	10	ILE	8.0
52	Y6	12	GLU	8.0
2	QB	130	ARG	7.9
55	Y9	29	ASN	7.9
51	Y5	55	ARG	7.9
32	RI	59	ALA	7.9
31	RH	89	ILE	7.9
50	R4	68	ARG	7.8
54	R8	64	TYR	7.8
45	RZ	113	ALA	7.8
28	RE	54	GLN	7.8
2	QB	165	VAL	7.8
55	R9	10	ILE	7.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	QA	1032	A	7.7
52	Y6	34	LEU	7.7
25	YA	2799	A	7.7
55	R9	36	GLN	7.6
7	XG	85	TYR	7.6
49	R3	60	GLU	7.6
25	YA	2164	C	7.5
25	RA	1093	G	7.5
44	RY	52	SER	7.5
55	Y9	32	HIS	7.5
35	RP	108	LYS	7.5
52	R6	9	LEU	7.4
54	R8	65	GLU	7.4
25	RA	1176	G	7.4
22	XV	0	C	7.4
7	QG	156	TRP	7.3
55	Y9	27	CYS	7.3
25	YA	2804	C	7.3
52	R6	23	THR	7.3
10	QJ	47	PHE	7.3
45	YZ	167	PRO	7.3
25	YA	2146	C	7.3
11	XK	12	ARG	7.3
40	RU	117	GLN	7.2
2	QB	4	GLU	7.2
55	R9	26	ILE	7.2
25	RA	1096	A	7.2
50	R4	39	CYS	7.1
25	YA	2144	U	7.1
47	R1	97	LEU	7.1
13	QM	122	LYS	7.1
52	Y6	6	ARG	7.1
31	RH	109	PHE	7.0
42	YW	113	LYS	7.0
41	RV	45	THR	7.0
55	Y9	6	SER	7.0
55	R9	32	HIS	6.9
51	R5	2	ALA	6.9
49	Y3	60	GLU	6.9
55	R9	34	GLN	6.8
19	QS	85	LYS	6.8
10	QJ	85	LEU	6.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
52	Y6	20	ASN	6.8
51	Y5	60	VAL	6.8
28	RE	205	ALA	6.7
1	QA	1029	G	6.7
53	R7	49	ARG	6.7
55	Y9	34	GLN	6.7
13	QM	6	GLY	6.7
2	QB	240	GLN	6.6
52	R6	24	GLU	6.6
25	RA	1094	U	6.6
31	RH	103	LEU	6.6
50	R4	70	GLY	6.6
31	RH	95	ARG	6.6
13	XM	7	VAL	6.5
52	Y6	53	LYS	6.5
39	YT	1	MET	6.5
31	RH	125	VAL	6.5
52	Y6	37	ARG	6.5
53	R7	48	LYS	6.5
31	RH	49	VAL	6.5
52	Y6	29	ASN	6.5
55	R9	19	ARG	6.5
11	QK	12	ARG	6.4
25	YA	2798	C	6.4
45	RZ	114	GLY	6.4
52	Y6	23	THR	6.4
52	Y6	16	CYS	6.4
52	Y6	48	VAL	6.4
50	Y4	67	TYR	6.3
25	RA	1092	C	6.3
12	QL	127	GLU	6.3
55	R9	9	ARG	6.3
2	QB	133	LYS	6.3
55	Y9	28	GLU	6.3
4	XD	167	GLY	6.3
25	YA	2801	A	6.3
31	RH	123	PHE	6.3
22	QV	0	C	6.2
25	RA	2132	U	6.2
25	YA	2118	U	6.2
52	R6	43	CYS	6.2
52	R6	25	LYS	6.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
51	Y5	57	VAL	6.2
55	R9	25	VAL	6.2
25	YA	2165	G	6.2
55	R9	20	HIS	6.2
55	Y9	25	VAL	6.2
25	RA	2145	C	6.2
52	R6	52	VAL	6.2
25	YA	2122	U	6.2
10	QJ	46	ARG	6.2
50	Y4	68	ARG	6.2
27	YD	26	LYS	6.2
19	QS	15	LEU	6.2
7	XG	78	ARG	6.1
52	R6	34	LEU	6.1
25	YA	2116	G	6.1
31	RH	33	LEU	6.1
52	R6	30	THR	6.1
52	Y6	44	ARG	6.1
25	YA	2141	G	6.1
25	RA	2795	G	6.1
4	QD	49	ARG	6.1
45	RZ	159	PRO	6.0
51	Y5	59	GLU	6.0
55	R9	24	TYR	6.0
14	QN	39	LEU	6.0
31	RH	105	LEU	6.0
25	RA	2133	G	6.0
52	R6	12	GLU	6.0
28	YE	204	ALA	6.0
55	R9	17	ILE	6.0
12	XL	128	ALA	5.9
55	R9	30	PRO	5.9
52	Y6	32	ASN	5.9
52	R6	11	LEU	5.9
25	YA	2121	G	5.9
52	Y6	52	VAL	5.9
52	Y6	14	THR	5.9
3	QC	193	TYR	5.9
7	XG	81	GLY	5.9
41	YV	45	THR	5.8
3	QC	87	LEU	5.8
52	R6	20	ASN	5.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
30	YG	80	PHE	5.8
31	RH	97	ARG	5.8
47	R1	92	LYS	5.8
44	RY	58	GLY	5.8
10	QJ	55	LYS	5.8
32	RI	12	LEU	5.8
7	QG	154	TYR	5.8
2	QB	233	SER	5.7
14	QN	25	VAL	5.7
7	XG	154	TYR	5.7
33	RN	9	VAL	5.7
11	QK	127	LYS	5.7
25	YA	2794	C	5.7
12	XL	28	LYS	5.7
3	QC	89	GLU	5.7
31	RH	18	GLU	5.7
47	Y1	97	LEU	5.7
51	R5	53	ALA	5.7
50	Y4	70	GLY	5.7
33	RN	10	GLU	5.7
12	QL	28	LYS	5.7
44	YY	53	PRO	5.7
52	Y6	33	LYS	5.6
25	YA	2170	A	5.6
28	RE	72	VAL	5.6
25	YA	2167	U	5.6
3	QC	79	ARG	5.6
25	YA	2797	U	5.6
36	RQ	104	PHE	5.5
32	YI	84	GLY	5.5
25	YA	2111	C	5.5
54	Y8	64	TYR	5.5
31	RH	32	GLU	5.5
3	QC	135	LYS	5.5
25	YA	2119	A	5.5
20	QT	99	LEU	5.5
25	RA	1068	G	5.5
36	YQ	91	GLU	5.5
25	RA	2164	C	5.5
47	R1	95	LEU	5.5
50	R4	67	TYR	5.5
44	RY	55	TYR	5.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
48	Y2	43	GLN	5.5
13	XM	94	ARG	5.4
2	QB	230	VAL	5.4
52	Y6	19	ARG	5.4
3	QC	101	LEU	5.4
55	R9	27	CYS	5.4
42	YW	111	HIS	5.4
25	YA	2123	G	5.4
18	XR	88	LYS	5.3
25	YA	2803	C	5.3
53	Y7	49	ARG	5.3
3	QC	6	HIS	5.3
25	RA	2147	G	5.3
36	RQ	1	MET	5.3
46	R0	2	ALA	5.3
31	RH	94	TYR	5.3
25	RA	1103	A	5.2
31	RH	113	VAL	5.2
7	XG	155	ARG	5.2
52	R6	21	TYR	5.2
31	RH	96	ALA	5.2
25	RA	229	A	5.2
30	YG	116	ASP	5.2
52	R6	27	LYS	5.2
25	YA	2133	G	5.2
38	YS	2	ALA	5.2
25	YA	2178	C	5.2
3	XC	79	ARG	5.2
54	R8	34	TRP	5.2
39	RT	2	ASN	5.2
19	XS	11	VAL	5.2
51	Y5	2	ALA	5.2
52	Y6	13	CYS	5.2
55	R9	33	LYS	5.1
25	RA	2159	G	5.1
31	RH	106	THR	5.1
50	R4	51	ASP	5.1
2	XB	133	LYS	5.1
36	YQ	90	VAL	5.1
25	YA	2166	G	5.1
55	Y9	24	TYR	5.1
25	YA	2120	G	5.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
25	RA	2146	C	5.1
55	R9	2	LYS	5.0
2	QB	229	VAL	5.0
55	R9	23	VAL	5.0
52	R6	26	ASN	5.0
32	RI	61	ARG	5.0
45	YZ	142	SER	5.0
11	XK	81	ASP	5.0
55	R9	5	ALA	5.0
25	YA	2110	G	5.0
35	RP	71	VAL	5.0
9	QI	110	GLU	5.0
25	RA	1082	U	5.0
52	R6	49	HIS	5.0
7	XG	5	ARG	5.0
11	XK	127	LYS	5.0
55	Y9	36	GLN	5.0
35	YP	150	ALA	5.0
2	XB	233	SER	5.0
52	R6	22	ALA	5.0
51	Y5	52	TYR	5.0
32	YI	79	ILE	5.0
31	RH	42	ARG	4.9
31	RH	169	VAL	4.9
2	XB	127	ILE	4.9
25	RA	2144	U	4.9
28	RE	79	ARG	4.9
39	YT	2	ASN	4.9
32	RI	85	GLU	4.9
52	Y6	30	THR	4.9
32	RI	54	GLN	4.9
2	XB	96	ARG	4.9
2	QB	232	PRO	4.9
54	R8	61	LEU	4.9
10	QJ	62	HIS	4.9
32	YI	117	GLU	4.9
55	R9	4	ARG	4.9
18	QR	88	LYS	4.9
25	RA	1098	A	4.9
48	R2	43	GLN	4.9
13	QM	8	GLU	4.8
19	QS	41	VAL	4.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
52	R6	53	LYS	4.8
52	Y6	36	LEU	4.8
25	YA	2135	A	4.8
35	RP	16	ARG	4.8
55	Y9	35	ARG	4.8
31	RH	114	VAL	4.8
13	QM	120	LYS	4.8
25	YA	2140	C	4.8
2	QB	6	THR	4.8
28	YE	68	ALA	4.8
2	QB	15	VAL	4.7
31	RH	87	LEU	4.7
36	RQ	80	GLU	4.7
55	Y9	5	ALA	4.7
23	XY	42	G	4.7
25	YA	2139	C	4.7
32	YI	113	ARG	4.7
50	Y4	56	VAL	4.7
25	YA	888	C	4.7
10	QJ	34	VAL	4.7
25	YA	2117	A	4.7
7	QG	78	ARG	4.7
11	QK	89	ALA	4.7
39	YT	135	ALA	4.7
28	YE	69	LYS	4.7
2	QB	238	LEU	4.6
6	XF	101	ALA	4.6
31	RH	102	ALA	4.6
44	YY	50	ARG	4.6
54	Y8	65	GLU	4.6
31	YH	3	ARG	4.6
40	RU	92	ARG	4.6
31	RH	115	VAL	4.6
42	YW	92	ARG	4.6
50	R4	40	HIS	4.6
25	RA	887	A	4.6
7	XG	79	ARG	4.6
31	RH	141	VAL	4.6
4	QD	24	GLU	4.6
13	XM	100	GLY	4.6
14	XN	2	ALA	4.6
2	QB	70	PHE	4.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
40	RU	90	VAL	4.5
1	XA	87	A	4.5
25	RA	1536	A	4.5
55	R9	35	ARG	4.5
10	XJ	59	SER	4.5
25	RA	1100	C	4.5
25	RA	1099	G	4.5
31	RH	104	GLU	4.5
12	QL	64	TYR	4.5
25	RA	2154	G	4.5
52	Y6	17	LYS	4.5
19	XS	27	GLU	4.5
25	RA	1067	A	4.5
25	YA	2169	A	4.5
23	QY	31	G	4.5
25	YA	2168	G	4.5
13	QM	102	ARG	4.5
31	RH	88	LEU	4.5
10	QJ	4	ILE	4.4
2	QB	152	PHE	4.4
25	RA	2801	A	4.4
25	YA	2147	G	4.4
3	QC	63	ASN	4.4
25	YA	1177	A	4.4
25	YA	2158	A	4.4
36	RQ	90	VAL	4.4
55	Y9	23	VAL	4.4
4	XD	168	ARG	4.4
2	QB	155	LEU	4.4
25	RA	1070	A	4.4
32	RI	113	ARG	4.4
45	RZ	155	LEU	4.4
53	Y7	48	LYS	4.4
35	RP	98	GLU	4.4
10	QJ	100	THR	4.4
25	RA	2125	G	4.4
31	RH	152	ARG	4.4
33	RN	135	PRO	4.4
11	XK	56	GLY	4.4
55	R9	29	ASN	4.4
52	Y6	9	LEU	4.3
9	QI	53	VAL	4.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
36	RQ	91	GLU	4.3
31	RH	41	MET	4.3
2	XB	229	VAL	4.3
44	RY	49	VAL	4.3
45	YZ	110	GLY	4.3
20	XT	9	ASN	4.3
31	RH	24	VAL	4.3
3	QC	104	GLN	4.3
31	RH	111	HIS	4.3
52	R6	39	TYR	4.3
10	XJ	101	VAL	4.3
44	YY	52	SER	4.3
25	RA	1089	G	4.3
25	RA	2156	G	4.3
25	RA	2139	C	4.3
50	Y4	66	SER	4.3
44	RY	50	ARG	4.3
36	YQ	141	GLN	4.3
1	QA	1451	A	4.3
25	YA	1176	G	4.3
3	QC	190	ARG	4.2
42	RW	92	ARG	4.2
30	YG	182	LYS	4.2
52	R6	33	LYS	4.2
25	YA	2174	C	4.2
3	QC	88	ARG	4.2
25	RA	1173	G	4.2
41	RV	44	LYS	4.2
7	QG	79	ARG	4.2
42	RW	113	LYS	4.2
36	YQ	140	ALA	4.2
36	YQ	80	GLU	4.2
25	YA	1534	G	4.2
25	YA	2132	U	4.2
25	RA	1066	U	4.2
25	YA	2125	G	4.2
10	XJ	5	ARG	4.2
14	QN	34	TYR	4.2
2	QB	163	PHE	4.2
41	RV	53	GLU	4.2
25	RA	890	A	4.2
14	QN	61	TRP	4.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
25	YA	2805	G	4.1
52	Y6	51	GLU	4.1
31	RH	45	VAL	4.1
14	QN	55	GLY	4.1
10	QJ	70	ARG	4.1
2	QB	122	PHE	4.1
13	XM	121	LYS	4.1
50	R4	1	MET	4.1
11	XK	15	ALA	4.1
4	QD	50	ARG	4.1
1	XA	1032	A	4.1
39	YT	106	SER	4.1
31	RH	25	LYS	4.1
36	YQ	87	LYS	4.1
44	RY	86	ARG	4.1
35	RP	109	GLY	4.1
52	Y6	22	ALA	4.1
3	QC	62	ASP	4.0
11	XK	36	ASP	4.0
52	Y6	47	THR	4.0
3	QC	149	ALA	4.0
10	QJ	29	ARG	4.0
10	QJ	59	SER	4.0
55	Y9	30	PRO	4.0
25	RA	2116	G	4.0
25	RA	2155	G	4.0
25	RA	2166	G	4.0
31	RH	170	ARG	4.0
45	YZ	159	PRO	4.0
31	YH	125	VAL	4.0
25	RA	1178	C	4.0
35	RP	79	ARG	4.0
31	RH	107	VAL	4.0
2	QB	68	ILE	4.0
25	YA	2173	A	4.0
2	QB	187	LEU	4.0
7	XG	80	VAL	4.0
25	RA	1088	A	4.0
35	RP	148	LEU	4.0
45	RZ	50	GLN	4.0
25	RA	889	C	4.0
25	RA	2157	G	4.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
25	YA	2159	G	4.0
39	RT	135	ALA	4.0
31	RH	121	ILE	4.0
52	Y6	49	HIS	4.0
7	QG	86	GLN	4.0
25	RA	1057	A	4.0
25	RA	1064	C	4.0
50	R4	61	ARG	4.0
31	RH	55	PRO	4.0
13	XM	122	LYS	4.0
44	RY	46	LYS	4.0
55	Y9	13	LYS	4.0
1	XA	162	A	4.0
3	QC	132	ARG	4.0
31	RH	132	ARG	4.0
45	RZ	183	LEU	4.0
32	RI	83	ALA	4.0
27	RD	26	LYS	3.9
31	RH	117	PRO	3.9
52	Y6	5	VAL	3.9
47	Y1	96	LYS	3.9
3	QC	167	TRP	3.9
25	RA	2897	U	3.9
36	YQ	24	GLY	3.9
12	XL	127	GLU	3.9
7	XG	84	ASN	3.9
31	RH	144	VAL	3.9
32	RI	15	VAL	3.9
51	Y5	51	TYR	3.9
25	YA	2180	U	3.9
14	QN	37	PHE	3.9
28	RE	69	LYS	3.9
28	RE	21	VAL	3.9
30	RG	178	PHE	3.9
10	QJ	5	ARG	3.9
33	RN	138	LEU	3.9
50	Y4	71	ARG	3.9
52	R6	36	LEU	3.9
10	QJ	64	GLU	3.9
12	QL	60	LEU	3.9
54	R8	63	PRO	3.9
13	QM	121	LYS	3.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
52	Y6	39	TYR	3.8
52	Y6	11	LEU	3.8
25	RA	2174	C	3.8
44	RY	63	LYS	3.8
2	QB	217	ARG	3.8
32	YI	144	VAL	3.8
23	QY	42	G	3.8
10	QJ	83	GLU	3.8
32	RI	86	THR	3.8
7	XG	153	HIS	3.8
25	RA	2140	C	3.8
3	QC	124	ILE	3.8
31	RH	145	ALA	3.8
50	Y4	40	HIS	3.8
51	Y5	46	CYS	3.8
8	XH	1	MET	3.8
36	YQ	1	MET	3.8
33	YN	134	ARG	3.8
12	XL	26	ALA	3.8
35	YP	13	ASN	3.8
25	YA	2129	C	3.8
14	QN	35	ARG	3.8
2	QB	215	LEU	3.8
11	QK	31	THR	3.8
25	YA	887	A	3.8
25	YA	2793	G	3.8
31	YH	152	ARG	3.8
52	R6	37	ARG	3.8
52	Y6	50	ARG	3.8
2	QB	5	ILE	3.8
51	R5	55	ARG	3.8
32	RI	9	LEU	3.7
25	RA	2175	C	3.7
25	YA	2108	C	3.7
25	YA	2179	C	3.7
2	XB	123	ALA	3.7
52	Y6	7	ILE	3.7
20	XT	72	LEU	3.7
45	YZ	155	LEU	3.7
2	QB	149	LEU	3.7
52	R6	10	LEU	3.7
7	XG	32	ARG	3.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
11	XK	92	GLU	3.7
50	R4	55	ARG	3.7
11	QK	13	GLN	3.7
13	QM	97	PRO	3.7
25	YA	2175	C	3.7
3	QC	152	ILE	3.7
31	RH	142	GLY	3.7
3	QC	177	THR	3.7
3	QC	17	ASP	3.7
23	XY	41	A	3.7
36	RQ	133	ARG	3.7
45	YZ	144	LEU	3.7
52	R6	51	GLU	3.7
55	R9	28	GLU	3.7
9	QI	106	ALA	3.7
30	RG	80	PHE	3.7
49	R3	2	PRO	3.7
25	RA	1097	U	3.7
31	RH	47	GLU	3.7
25	RA	1061	U	3.7
52	Y6	38	LYS	3.7
25	YA	229	A	3.7
45	RZ	167	PRO	3.7
36	RQ	66	ILE	3.7
44	YY	49	VAL	3.7
55	Y9	16	VAL	3.7
25	RA	1058	G	3.7
31	RH	155	SER	3.7
12	XL	29	GLY	3.6
39	RT	1	MET	3.6
1	QA	1030	C	3.6
51	R5	60	VAL	3.6
3	XC	193	TYR	3.6
31	RH	157	TYR	3.6
50	Y4	51	ASP	3.6
52	Y6	35	GLU	3.6
32	RI	146	ALA	3.6
33	YN	130	HIS	3.6
11	QK	75	TYR	3.6
45	RZ	153	SER	3.6
25	YA	277	C	3.6
25	YA	2143	C	3.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
50	R4	58	ARG	3.6
3	QC	198	VAL	3.6
45	RZ	57	ILE	3.6
11	QK	25	TYR	3.6
25	RA	1083	U	3.6
3	QC	76	VAL	3.6
13	XM	6	GLY	3.6
25	RA	2793	G	3.6
2	XB	130	ARG	3.6
18	XR	42	ARG	3.6
32	YI	12	LEU	3.6
44	YY	99	CYS	3.6
12	QL	19	ARG	3.6
55	Y9	22	ARG	3.6
9	XI	126	SER	3.6
39	RT	106	SER	3.6
25	YA	654	A	3.6
25	YA	2114	A	3.6
31	RH	48	GLY	3.6
32	YI	107	VAL	3.6
45	YZ	146	ILE	3.6
25	YA	2136	C	3.6
40	RU	91	ASP	3.6
35	YP	92	GLU	3.6
11	QK	99	GLN	3.6
55	Y9	4	ARG	3.6
25	YA	2130	U	3.5
23	XY	31	G	3.5
52	Y6	40	CYS	3.5
33	RN	8	GLN	3.5
33	RN	133	GLN	3.5
31	RH	50	VAL	3.5
45	YZ	133	ILE	3.5
44	RY	102	CYS	3.5
11	XK	69	ALA	3.5
47	Y1	92	LYS	3.5
2	QB	94	ASN	3.5
10	QJ	45	ARG	3.5
41	RV	1	MET	3.5
25	YA	2142	C	3.5
52	Y6	8	LYS	3.5
1	QA	1026	G	3.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	QA	1032(B)	G	3.5
3	QC	91	LEU	3.5
31	RH	116	GLU	3.5
7	QG	76	ARG	3.5
1	XA	210	U	3.5
2	QB	186	ALA	3.5
3	QC	60	ALA	3.5
18	XR	22	VAL	3.5
31	RH	119	GLU	3.5
45	RZ	169	GLU	3.5
2	XB	231	GLU	3.5
14	QN	2	ALA	3.5
12	QL	27	LEU	3.4
34	RO	1	MET	3.4
35	YP	90	ARG	3.4
32	RI	1	MET	3.4
10	QJ	98	ILE	3.4
11	QK	95	ILE	3.4
25	RA	888	C	3.4
25	YA	889	C	3.4
17	XQ	101	ARG	3.4
22	XV	20	U	3.4
3	QC	23	TYR	3.4
25	RA	2804	C	3.4
25	YA	2188	C	3.4
9	QI	119	ALA	3.4
25	RA	2173	A	3.4
7	QG	28	ASN	3.4
32	RI	11	ASN	3.4
38	YS	109	GLY	3.4
25	YA	2161	C	3.4
9	QI	117	HIS	3.4
12	XL	19	ARG	3.4
1	QA	1031	G	3.4
25	YA	2124	G	3.4
3	QC	39	ILE	3.4
25	YA	2107	C	3.4
14	QN	36	PHE	3.4
35	YP	139	LYS	3.4
54	R8	29	LYS	3.4
2	QB	236	TYR	3.4
4	QD	47	ARG	3.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
45	RZ	163	LEU	3.4
25	RA	2792	G	3.4
31	RH	84	SER	3.4
52	Y6	46	HIS	3.4
17	XQ	91	ARG	3.3
52	R6	19	ARG	3.3
29	RF	8	GLN	3.3
49	Y3	59	VAL	3.3
32	YI	145	VAL	3.3
51	R5	54	GLY	3.3
25	RA	2142	C	3.3
30	RG	91	ARG	3.3
52	R6	32	ASN	3.3
28	YE	21	VAL	3.3
55	Y9	9	ARG	3.3
25	YA	2181	G	3.3
31	RH	98	LEU	3.3
35	RP	105	LEU	3.3
2	XB	156	LYS	3.3
31	RH	27	LYS	3.3
3	QC	98	ASN	3.3
12	XL	27	LEU	3.3
20	XT	55	ILE	3.3
2	QB	239	VAL	3.3
55	R9	7	VAL	3.3
31	RH	108	GLY	3.3
3	QC	204	LEU	3.3
25	RA	2896	C	3.3
52	Y6	21	TYR	3.3
31	RH	37	VAL	3.3
45	RZ	69	THR	3.3
52	R6	18	ARG	3.3
25	YA	276	A	3.3
49	R3	25	ALA	3.3
10	XJ	21	GLN	3.3
25	RA	2141	G	3.3
55	R9	21	GLY	3.3
10	QJ	63	PHE	3.2
31	RH	148	ILE	3.2
28	YE	72	VAL	3.2
31	RH	10	PRO	3.2
14	QN	49	HIS	3.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
18	QR	46	GLU	3.2
42	RW	112	GLY	3.2
1	QA	1032(A)	G	3.2
7	QG	32	ARG	3.2
13	XM	96	LEU	3.2
35	RP	106	LEU	3.2
2	XB	217	ARG	3.2
31	RH	4	ILE	3.2
39	RT	112	ARG	3.2
31	RH	133	VAL	3.2
1	QA	1202	G	3.2
25	RA	2794	C	3.2
1	XA	1451	A	3.2
25	RA	1065	U	3.2
32	RI	10	GLU	3.2
39	YT	133	GLU	3.2
31	RH	31	GLY	3.2
14	QN	26	ARG	3.2
25	YA	1173	G	3.2
55	Y9	26	ILE	3.2
36	RQ	32	TYR	3.2
47	Y1	93	GLU	3.2
36	RQ	19	GLY	3.2
27	YD	35	LYS	3.2
50	Y4	39	CYS	3.2
54	Y8	48	PHE	3.2
2	XB	129	GLU	3.2
25	RA	2170	A	3.2
25	YA	2162	G	3.2
13	QM	106	ASN	3.2
32	RI	144	VAL	3.1
55	R9	3	VAL	3.1
42	YW	112	GLY	3.1
17	XQ	97	SER	3.1
47	Y1	98	LEU	3.1
31	RH	21	PRO	3.1
25	RA	546	C	3.1
14	QN	59	ALA	3.1
32	RI	3	VAL	3.1
45	YZ	169	GLU	3.1
13	QM	103	THR	3.1
31	RH	35	VAL	3.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
31	RH	85	LYS	3.1
45	RZ	55	HIS	3.1
10	QJ	71	LEU	3.1
19	XS	30	LEU	3.1
31	RH	110	SER	3.1
44	RY	5	MET	3.1
25	RA	2894	G	3.1
25	YA	2154	G	3.1
52	R6	17	LYS	3.1
14	QN	13	THR	3.1
3	QC	64	VAL	3.1
10	QJ	28	ARG	3.1
12	XL	64	TYR	3.1
31	RH	164	TYR	3.1
10	XJ	4	ILE	3.1
7	QG	149	ARG	3.1
25	RA	2129	C	3.1
25	RA	1063	G	3.1
3	QC	127	ARG	3.1
35	RP	15	ARG	3.1
36	YQ	19	GLY	3.1
32	RI	17	GLN	3.1
2	XB	188	ALA	3.1
7	QG	152	ALA	3.1
32	YI	15	VAL	3.1
10	XJ	47	PHE	3.1
55	Y9	20	HIS	3.1
1	XA	88	C	3.1
2	XB	234	PRO	3.1
41	RV	74	LYS	3.0
19	QS	27	GLU	3.0
25	RA	1059	G	3.0
29	RF	196	LEU	3.0
31	RH	81	GLU	3.0
13	QM	101	GLN	3.0
12	QL	55	VAL	3.0
25	YA	2150	U	3.0
45	RZ	149	SER	3.0
2	QB	134	GLU	3.0
27	RD	35	LYS	3.0
9	QI	102	LEU	3.0
30	RG	182	LYS	3.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
25	YA	2131	G	3.0
35	RP	118	GLY	3.0
9	XI	102	LEU	3.0
41	YV	101	GLY	3.0
55	Y9	14	CYS	3.0
1	QA	1453	G	3.0
3	QC	30	ARG	3.0
52	R6	44	ARG	3.0
10	QJ	90	LEU	3.0
28	RE	1	MET	3.0
9	QI	127	LYS	3.0
52	R6	48	VAL	3.0
32	YI	128	LEU	3.0
19	QS	11	VAL	3.0
12	QL	69	TYR	3.0
52	R6	41	PRO	3.0
50	Y4	18	CYS	3.0
25	RA	2138	C	3.0
45	RZ	143	GLY	3.0
10	QJ	99	LYS	3.0
6	XF	55	ASP	3.0
32	RI	64	GLU	3.0
36	RQ	109	VAL	3.0
1	XA	208	U	2.9
4	QD	209	ARG	2.9
4	XD	50	ARG	2.9
10	QJ	80	LYS	2.9
20	XT	101	GLY	2.9
3	QC	139	GLN	2.9
25	YA	2138	C	2.9
3	QC	138	VAL	2.9
55	Y9	3	VAL	2.9
12	XL	126	LYS	2.9
18	XR	54	ARG	2.9
50	Y4	55	ARG	2.9
52	R6	46	HIS	2.9
35	YP	148	LEU	2.9
54	Y8	61	LEU	2.9
29	RF	7	TYR	2.9
3	QC	77	ILE	2.9
3	QC	134	ILE	2.9
25	YA	2105	C	2.9

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
50	Y4	37	SER	2.9
19	QS	10	PHE	2.9
27	YD	33	LEU	2.9
52	Y6	41	PRO	2.9
11	QK	32	ILE	2.9
41	RV	26	ASP	2.9
14	QN	57	ARG	2.9
2	QB	71	VAL	2.9
11	XK	14	VAL	2.9
10	QJ	25	GLU	2.9
19	QS	12	ASP	2.9
55	R9	6	SER	2.9
3	QC	13	GLY	2.9
10	QJ	14	LYS	2.9
50	R4	60	GLN	2.9
31	RH	3	ARG	2.9
45	YZ	112	ARG	2.9
10	QJ	6	ILE	2.9
45	YZ	1	MET	2.9
18	XR	31	LEU	2.9
1	QA	1257	U	2.9
30	RG	115	ARG	2.9
25	RA	2158	A	2.9
10	QJ	76	ASN	2.9
31	RH	9	ILE	2.9
42	RW	67	ASP	2.9
3	XC	78	GLY	2.9
38	RS	64	GLU	2.9
9	QI	27	THR	2.9
51	Y5	53	ALA	2.9
2	XB	76	GLN	2.9
11	XK	25	TYR	2.9
7	QG	42	ILE	2.9
25	RA	2119	A	2.9
12	QL	18	VAL	2.9
48	R2	15	LYS	2.9
41	YV	42	GLY	2.9
23	XY	28	C	2.9
25	RA	1102	C	2.9
10	XJ	33	GLN	2.9
25	YA	2109	U	2.9
2	QB	57	PHE	2.9

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
2	QB	181	PHE	2.9
25	YA	890	A	2.9
31	RH	29	PRO	2.8
31	RH	30	LYS	2.8
10	QJ	61	GLU	2.8
19	XS	44	MET	2.8
25	RA	277	C	2.8
52	Y6	31	PRO	2.8
14	QN	46	GLU	2.8
45	RZ	162	GLU	2.8
30	YG	118	ARG	2.8
45	YZ	120	ILE	2.8
10	QJ	12	ASP	2.8
2	QB	11	LEU	2.8
9	XI	94	ALA	2.8
20	XT	106	ALA	2.8
25	YA	897	C	2.8
35	YP	118	GLY	2.8
12	QL	39	VAL	2.8
45	RZ	18	LEU	2.8
45	RZ	152	ALA	2.8
3	QC	136	GLN	2.8
3	QC	166	GLU	2.8
25	RA	1026	U	2.8
25	RA	1060	U	2.8
45	RZ	60	GLU	2.8
28	YE	79	ARG	2.8
36	RQ	24	GLY	2.8
4	QD	117	ALA	2.8
6	XF	47	ARG	2.8
25	RA	1101	U	2.8
25	RA	2167	U	2.8
50	R4	66	SER	2.8
19	QS	47	HIS	2.8
25	RA	2790	A	2.8
2	QB	79	ASP	2.8
3	QC	67	THR	2.8
3	QC	103	VAL	2.8
10	QJ	72	VAL	2.8
3	QC	46	GLU	2.8
20	XT	8	ARG	2.8
50	Y4	52	THR	2.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
4	QD	145	GLU	2.8
44	RY	33	LYS	2.8
25	YA	2157	G	2.8
2	QB	96	ARG	2.8
3	QC	83	ARG	2.8
31	RH	158	HIS	2.8
12	XL	18	VAL	2.8
53	R7	46	VAL	2.8
11	QK	90	GLY	2.8
25	RA	2127	G	2.8
25	RA	2148	G	2.8
25	YA	2182	G	2.8
28	YE	88	GLY	2.8
7	QG	155	ARG	2.8
14	QN	12	ARG	2.8
55	R9	18	ARG	2.8
31	RH	131	VAL	2.8
7	QG	5	ARG	2.7
25	RA	2805	G	2.7
41	YV	37	VAL	2.7
10	QJ	33	GLN	2.7
12	XL	61	THR	2.7
41	RV	34	GLU	2.7
13	QM	92	HIS	2.7
45	YZ	150	LEU	2.7
25	YA	1058	G	2.7
28	YE	187	ALA	2.7
44	YY	55	TYR	2.7
9	QI	115	GLY	2.7
25	YA	645	C	2.7
36	YQ	104	PHE	2.7
9	QI	124	GLN	2.7
11	XK	99	GLN	2.7
31	RH	11	VAL	2.7
3	QC	100	ALA	2.7
25	RA	2153	G	2.7
10	XJ	6	ILE	2.7
3	QC	109	PRO	2.7
31	RH	76	VAL	2.7
51	Y5	3	LYS	2.7
2	QB	19	HIS	2.7
1	QA	1450	U	2.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	XA	81	G	2.7
3	QC	157	ILE	2.7
55	Y9	17	ILE	2.7
50	R4	65	ASP	2.7
31	RH	83	TYR	2.7
22	XV	47	U	2.7
25	YA	1061	U	2.7
35	RP	57	THR	2.7
25	RA	1075	C	2.7
3	QC	148	GLY	2.7
45	RZ	38	TYR	2.7
14	QN	31	ARG	2.7
14	QN	42	ILE	2.7
55	Y9	18	ARG	2.7
2	QB	118	LEU	2.7
11	XK	30	VAL	2.7
1	XA	1032(A)	G	2.7
25	RA	2110	G	2.7
25	RA	2168	G	2.7
3	QC	49	SER	2.7
25	RA	1084	A	2.7
36	RQ	6	ARG	2.7
3	QC	10	PHE	2.6
25	YA	2126	A	2.6
35	RP	76	LYS	2.6
27	YD	27	THR	2.6
25	RA	2143	C	2.6
31	RH	23	ARG	2.6
11	XK	42	TRP	2.6
2	QB	132	LYS	2.6
5	QE	155	GLU	2.6
14	QN	60	SER	2.6
19	XS	85	LYS	2.6
3	QC	42	LEU	2.6
32	RI	116	LEU	2.6
45	YZ	140	ASP	2.6
17	QQ	101	ARG	2.6
3	QC	90	GLU	2.6
52	R6	8	LYS	2.6
25	YA	2127	G	2.6
45	YZ	157	LEU	2.6
48	R2	52	ASP	2.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
9	QI	52	ALA	2.6
55	Y9	11	CYS	2.6
2	XB	68	ILE	2.6
45	RZ	171	ILE	2.6
7	QG	16	LEU	2.6
19	QS	50	ALA	2.6
35	RP	61	ARG	2.6
45	RZ	151	HIS	2.6
23	XY	32	U	2.6
44	RY	59	GLY	2.6
45	YZ	182	LYS	2.6
54	R8	24	ALA	2.6
28	RE	77	ILE	2.6
1	QA	999	U	2.6
3	QC	194	GLY	2.6
41	YV	48	GLY	2.6
11	XK	43	SER	2.6
41	YV	98	GLU	2.6
3	QC	65	ALA	2.6
4	QD	84	LYS	2.6
21	XU	26	LYS	2.6
25	RA	2802	G	2.6
55	Y9	8	LYS	2.6
10	QJ	65	LEU	2.6
28	RE	88	GLY	2.6
45	YZ	114	GLY	2.6
36	YQ	81	VAL	2.6
9	QI	123	PRO	2.6
51	Y5	56	LYS	2.6
6	XF	57	GLN	2.6
25	RA	1174	A	2.6
31	RH	82	GLY	2.6
31	RH	161	GLY	2.6
35	RP	88	LEU	2.6
25	YA	2148	G	2.6
9	XI	17	VAL	2.6
31	RH	17	VAL	2.6
31	RH	124	GLU	2.6
44	RY	62	GLU	2.6
10	QJ	89	ASP	2.6
31	RH	101	ARG	2.6
52	Y6	25	LYS	2.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
2	XB	131	PRO	2.6
2	QB	214	ILE	2.5
2	XB	222	ILE	2.5
50	R4	47	GLN	2.5
21	QU	26	LYS	2.5
31	RH	90	LYS	2.5
25	YA	654(S)	G	2.5
7	QG	83	ALA	2.5
3	QC	202	ILE	2.5
45	YZ	163	LEU	2.5
5	QE	24	ARG	2.5
33	RN	46	VAL	2.5
49	R3	58	VAL	2.5
52	R6	31	PRO	2.5
31	RH	46	GLU	2.5
4	QD	35	ARG	2.5
14	QN	53	LEU	2.5
45	RZ	112	ARG	2.5
3	QC	75	VAL	2.5
25	RA	6	A	2.5
2	QB	75	LYS	2.5
18	QR	84	LYS	2.5
14	QN	38	GLY	2.5
25	RA	1087	G	2.5
25	RA	2152	G	2.5
2	QB	97	TRP	2.5
31	RH	19	VAL	2.5
2	QB	161	ALA	2.5
11	QK	71	LYS	2.5
35	RP	110	TYR	2.5
47	R1	93	GLU	2.5
2	QB	80	ILE	2.5
3	XC	62	ASP	2.5
51	R5	3	LYS	2.5
10	QJ	9	ARG	2.5
21	QU	15	ARG	2.5
13	QM	85	GLY	2.5
10	XJ	77	PRO	2.5
41	RV	96	ILE	2.5
2	QB	156	LYS	2.5
22	QV	47	U	2.5
2	XB	122	PHE	2.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
25	YA	2151	G	2.5
25	YA	2792	G	2.5
18	XR	87	ARG	2.5
39	RT	129	ARG	2.5
10	QJ	84	GLN	2.5
11	XK	13	GLN	2.5
11	XK	16	SER	2.5
23	QY	28	C	2.5
18	QR	54	ARG	2.5
35	RP	91	PHE	2.5
39	RT	134	GLU	2.5
43	YX	65	ARG	2.5
25	RA	2165	G	2.5
30	YG	26	GLN	2.5
2	XB	165	VAL	2.5
25	RA	2176	A	2.5
50	R4	6	HIS	2.5
11	QK	57	THR	2.5
25	RA	2124	G	2.5
50	Y4	5	ILE	2.5
25	YA	1076	C	2.4
40	RU	108	GLU	2.4
50	R4	48	ARG	2.4
9	QI	109	VAL	2.4
9	XI	59	PHE	2.4
28	YE	66	HIS	2.4
33	RN	130	HIS	2.4
9	QI	9	ARG	2.4
9	QI	111	ARG	2.4
11	XK	103	LEU	2.4
11	XK	108	ILE	2.4
14	QN	47	LEU	2.4
20	QT	104	LEU	2.4
30	RG	82	LEU	2.4
25	YA	654(A)	G	2.4
2	XB	27	LYS	2.4
25	YA	1075	C	2.4
41	RV	37	VAL	2.4
11	XK	17	GLY	2.4
10	QJ	68	HIS	2.4
7	XG	59	LEU	2.4
50	R4	25	TYR	2.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
32	YI	143	SER	2.4
1	QA	1033	G	2.4
32	RI	20	ASP	2.4
52	R6	28	ARG	2.4
28	YE	87	GLU	2.4
10	QJ	87	THR	2.4
10	QJ	92	THR	2.4
10	XJ	34	VAL	2.4
45	YZ	96	VAL	2.4
1	XA	1030	C	2.4
14	QN	29	ARG	2.4
54	Y8	35	GLN	2.4
9	QI	70	LYS	2.4
5	QE	13	ILE	2.4
30	RG	139	LEU	2.4
9	QI	92	TYR	2.4
19	XS	76	PRO	2.4
4	QD	161	ASN	2.4
39	YT	11	GLU	2.4
41	RV	15	GLU	2.4
2	QB	211	ILE	2.4
2	XB	155	LEU	2.4
3	QC	94	LEU	2.4
17	XQ	90	ILE	2.4
39	RT	6	LEU	2.4
21	QU	10	ARG	2.4
32	RI	117	GLU	2.4
52	Y6	27	LYS	2.4
48	Y2	71	ASN	2.4
10	XJ	98	ILE	2.4
25	RA	2123	G	2.4
2	QB	92	TYR	2.4
44	YY	81	LYS	2.4
3	QC	15	THR	2.4
3	QC	160	ALA	2.4
39	YT	35	LYS	2.4
51	R5	37	LYS	2.4
3	QC	66	VAL	2.4
15	QO	7	GLU	2.4
30	RG	160	VAL	2.4
31	RH	52	VAL	2.4
3	QC	108	ASN	2.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
19	XS	38	SER	2.4
32	YI	146	ALA	2.4
35	RP	127	ALA	2.4
11	XK	91	ARG	2.4
14	QN	17	LYS	2.4
3	XC	128	PHE	2.3
11	QK	49	GLY	2.3
45	RZ	121	HIS	2.3
9	QI	36	TYR	2.3
25	RA	2109	U	2.3
32	RI	56	LYS	2.3
52	R6	47	THR	2.3
25	RA	1091	G	2.3
3	XC	167	TRP	2.3
7	QG	146	GLU	2.3
8	QH	104	ARG	2.3
31	RH	20	ALA	2.3
11	XK	98	LEU	2.3
14	QN	7	ILE	2.3
19	QS	64	GLU	2.3
2	XB	105	PHE	2.3
25	RA	1069	A	2.3
3	QC	173	VAL	2.3
45	RZ	80	ARG	2.3
11	QK	92	GLU	2.3
39	YT	6	LEU	2.3
55	R9	31	LYS	2.3
33	RN	12	ARG	2.3
43	RX	68	ARG	2.3
3	QC	180	ALA	2.3
38	YS	111	GLU	2.3
44	RY	16	ALA	2.3
49	R3	4	LEU	2.3
20	XT	27	LYS	2.3
39	RT	132	LYS	2.3
45	RZ	107	THR	2.3
51	Y5	40	LYS	2.3
10	QJ	54	PHE	2.3
11	QK	56	GLY	2.3
14	QN	23	ARG	2.3
33	RN	134	ARG	2.3
7	QG	105	VAL	2.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	QA	81	G	2.3
7	QG	153	HIS	2.3
25	RA	2211	G	2.3
25	YA	2155	G	2.3
32	RI	41	GLU	2.3
54	Y8	63	PRO	2.3
36	YQ	83	MET	2.3
2	XB	61	LEU	2.3
55	Y9	33	LYS	2.3
2	QB	114	ARG	2.3
3	QC	128	PHE	2.3
4	XD	209	ARG	2.3
5	QE	45	PHE	2.3
10	QJ	10	GLY	2.3
12	QL	63	GLY	2.3
48	R2	71	ASN	2.3
21	QU	14	TRP	2.3
45	YZ	161	VAL	2.3
3	XC	82	GLU	2.3
49	R3	38	GLU	2.3
52	Y6	24	GLU	2.3
2	QB	125	PRO	2.3
52	Y6	45	LYS	2.3
11	XK	74	ALA	2.3
25	YA	2153	G	2.3
41	RV	40	LEU	2.3
47	Y1	95	LEU	2.3
3	XC	80	GLY	2.3
14	QN	32	SER	2.3
34	RO	90	GLN	2.3
31	RH	154	PRO	2.3
1	QA	1035	A	2.3
2	QB	83	MET	2.3
3	QC	164	ARG	2.3
10	QJ	27	ALA	2.3
41	RV	27	ALA	2.3
45	YZ	122	ARG	2.3
10	QJ	38	ILE	2.3
25	RA	1056	G	2.3
10	XJ	80	LYS	2.3
33	YN	133	GLN	2.3
45	RZ	2	GLU	2.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	QA	210	U	2.3
15	XO	88	ARG	2.3
32	RI	5	LEU	2.3
44	RY	61	ILE	2.3
50	R4	22	ILE	2.3
10	XJ	64	GLU	2.3
25	YA	1059	G	2.3
51	R5	57	VAL	2.2
2	QB	82	ARG	2.2
3	XC	5	ILE	2.2
7	QG	27	ILE	2.2
7	XG	60	LYS	2.2
10	QJ	96	ILE	2.2
32	RI	4	ILE	2.2
32	RI	62	LYS	2.2
55	Y9	21	GLY	2.2
55	Y9	37	GLY	2.2
5	XE	81	GLU	2.2
50	Y4	47	GLN	2.2
25	RA	2135	A	2.2
3	QC	40	ARG	2.2
12	QL	62	SER	2.2
44	YY	63	LYS	2.2
2	QB	142	LEU	2.2
9	XI	106	ALA	2.2
36	YQ	79	LEU	2.2
3	QC	84	ILE	2.2
50	R4	34	GLU	2.2
50	Y4	49	PHE	2.2
19	QS	80	TYR	2.2
25	RA	2791	C	2.2
21	XU	25	LYS	2.2
32	YI	118	LYS	2.2
2	QB	160	ASP	2.2
3	QC	144	SER	2.2
45	RZ	93	ASP	2.2
1	QA	1036	G	2.2
28	YE	56	PRO	2.2
32	RI	123	LEU	2.2
5	QE	10	MET	2.2
3	QC	11	ARG	2.2
7	QG	6	ARG	2.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
8	QH	129	VAL	2.2
10	QJ	49	VAL	2.2
12	QL	47	LYS	2.2
25	RA	2136	C	2.2
25	YA	2896	C	2.2
45	RZ	175	VAL	2.2
1	QA	1000	A	2.2
3	QC	178	LEU	2.2
19	QS	71	LEU	2.2
38	RS	109	GLY	2.2
50	R4	44	THR	2.2
30	RG	17	PRO	2.2
34	RO	22	ILE	2.2
34	YO	112	MET	2.2
41	YV	99	ILE	2.2
25	RA	1071	G	2.2
25	RA	2807	G	2.2
25	YA	2149	G	2.2
5	QE	9	LYS	2.2
52	R6	16	CYS	2.2
2	XB	227	GLY	2.2
4	QD	102	ASP	2.2
7	QG	84	ASN	2.2
10	QJ	36	GLY	2.2
7	QG	12	LEU	2.2
10	QJ	8	LEU	2.2
40	YU	97	ASP	2.2
38	RS	57	LYS	2.2
44	RY	53	PRO	2.2
10	QJ	21	GLN	2.2
25	YA	2160	G	2.2
51	R5	51	TYR	2.2
14	QN	56	VAL	2.2
36	RQ	81	VAL	2.2
25	RA	34	C	2.2
31	RH	159	GLU	2.2
38	YS	107	GLU	2.2
3	QC	196	LEU	2.2
5	QE	107	ARG	2.2
45	RZ	122	ARG	2.2
48	R2	44	LEU	2.2
49	R3	3	ARG	2.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
3	QC	186	PHE	2.2
9	QI	101	PHE	2.2
54	R8	36	LYS	2.2
11	XK	29	ILE	2.2
30	RG	39	ILE	2.2
32	YI	71	ILE	2.2
54	R8	48	PHE	2.2
3	QC	107	GLN	2.2
2	QB	112	VAL	2.2
11	QK	50	TYR	2.2
35	YP	71	VAL	2.2
10	QJ	66	ARG	2.2
25	RA	2160	G	2.2
25	YA	2152	G	2.2
36	RQ	59	ARG	2.2
39	RT	115	ARG	2.2
42	RW	93	ALA	2.2
2	XB	135	GLN	2.2
39	RT	60	THR	2.2
2	QB	126	GLU	2.2
3	QC	82	GLU	2.2
27	RD	34	VAL	2.2
46	R0	26	TYR	2.2
38	RS	20	ARG	2.2
1	QA	1034	G	2.2
1	QA	1129	C	2.2
25	YA	2113	U	2.2
39	RT	130	ALA	2.2
39	RT	131	ALA	2.2
36	RQ	141	GLN	2.2
12	QL	37	CYS	2.2
2	QB	197	VAL	2.2
10	QJ	60	ARG	2.2
15	XO	89	GLY	2.1
32	RI	13	GLY	2.1
41	YV	38	LEU	2.1
20	XT	45	GLN	2.1
32	YI	65	ALA	2.1
12	QL	111	LYS	2.1
31	RH	39	PRO	2.1
45	RZ	46	LYS	2.1
9	XI	7	THR	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
30	RG	33	ARG	2.1
34	RO	107	ARG	2.1
2	QB	55	PHE	2.1
12	QL	77	LEU	2.1
19	XS	10	PHE	2.1
20	XT	99	LEU	2.1
45	YZ	59	LEU	2.1
49	R3	39	ASP	2.1
2	QB	207	ALA	2.1
3	QC	146	ALA	2.1
4	QD	164	ALA	2.1
12	QL	57	LYS	2.1
18	XR	83	GLU	2.1
36	RQ	60	ARG	2.1
44	YY	2	ARG	2.1
12	QL	31	PRO	2.1
9	QI	126	SER	2.1
25	RA	2112	G	2.1
31	RH	38	SER	2.1
3	QC	115	LEU	2.1
13	QM	96	LEU	2.1
52	R6	40	CYS	2.1
19	QS	13	ASP	2.1
2	QB	21	ARG	2.1
2	QB	222	ILE	2.1
3	QC	187	ALA	2.1
9	XI	46	ALA	2.1
30	RG	157	ILE	2.1
32	YI	70	GLU	2.1
35	YP	16	ARG	2.1
54	R8	25	MET	2.1
2	QB	235	SER	2.1
7	QG	75	VAL	2.1
35	YP	116	GLY	2.1
8	XH	3	THR	2.1
12	QL	21	LYS	2.1
25	YA	2106	G	2.1
32	RI	95	LYS	2.1
4	QD	20	TYR	2.1
19	XS	71	LEU	2.1
41	YV	95	LEU	2.1
11	XK	18	ARG	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
21	XU	9	ARG	2.1
32	YI	61	ARG	2.1
25	RA	1175	U	2.1
34	RO	47	ILE	2.1
1	XA	1531	A	2.1
3	QC	7	PRO	2.1
11	QK	70	LYS	2.1
19	QS	84	GLY	2.1
21	QU	25	LYS	2.1
25	RA	1053	C	2.1
45	YZ	165	VAL	2.1
30	RG	137	GLU	2.1
30	RG	146	TYR	2.1
34	RO	99	PHE	2.1
1	XA	1453	G	2.1
25	RA	101	G	2.1
20	QT	100	ILE	2.1
35	RP	114	ILE	2.1
6	XF	54	LYS	2.1
9	QI	69	GLY	2.1
25	RA	896	A	2.1
25	RA	2126	A	2.1
1	XA	1129	C	2.1
19	XS	41	VAL	2.1
46	R0	11	ARG	2.1
2	QB	143	GLU	2.1
11	QK	103	LEU	2.1
13	QM	61	GLU	2.1
28	YE	92	THR	2.1
30	RG	35	GLU	2.1
32	RI	35	LEU	2.1
5	QE	60	TYR	2.1
13	QM	78	ILE	2.1
1	XA	1001	G	2.1
12	QL	17	LYS	2.1
12	QL	126	LYS	2.1
25	RA	2130	U	2.1
25	YA	1066	U	2.1
31	RH	136	ILE	2.1
31	RH	13	LYS	2.1
45	RZ	160	GLY	2.1
2	QB	90	MET	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
10	QJ	86	MET	2.1
6	XF	46	ARG	2.1
10	XJ	72	VAL	2.1
43	RX	65	ARG	2.1
45	RZ	58	VAL	2.1
25	RA	645	C	2.1
25	YA	2402	C	2.1
35	RP	35	HIS	2.1
35	RP	119	GLU	2.1
45	YZ	162	GLU	2.1
30	RG	152	LEU	2.1
32	RI	58	LEU	2.1
9	QI	75	ASP	2.1
14	QN	22	THR	2.1
32	YI	121	LYS	2.1
13	QM	5	ALA	2.1
49	R3	51	ALA	2.1
25	RA	2121	G	2.1
30	RG	155	MET	2.1
2	XB	10	LEU	2.1
25	RA	2114	A	2.1
25	YA	2476	A	2.1
28	RE	187	ALA	2.1
30	YG	52	ILE	2.1
31	RH	162	ILE	2.1
29	YF	17	ARG	2.1
2	XB	230	VAL	2.1
28	RE	104	VAL	2.1
28	RE	116	VAL	2.1
32	YI	66	GLU	2.1
36	YQ	48	GLU	2.1
48	Y2	11	GLU	2.1
16	XP	48	TRP	2.0
11	XK	128	ALA	2.0
13	QM	2	ALA	2.0
14	QN	41	ARG	2.0
25	YA	1026	U	2.0
30	RG	118	ARG	2.0
2	XB	232	PRO	2.0
29	YF	133	ASN	2.0
12	QL	32	PHE	2.0
41	YV	35	LEU	2.0

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Mol	Chain	Res	Type	RSRZ
1	QA	1531	A	2.0
2	QB	41	ILE	2.0
34	RO	56	ASP	2.0
34	RO	97	ARG	2.0
47	R1	21	ARG	2.0
2	QB	33	TYR	2.0
3	QC	147	LYS	2.0
36	RQ	8	LYS	2.0
45	RZ	156	LYS	2.0
28	YE	1	MET	2.0
54	R8	23	VAL	2.0
11	QK	117	ASN	2.0
30	YG	82	LEU	2.0
4	XD	146	ILE	2.0
21	QU	2	GLY	2.0
33	YN	57	ALA	2.0
37	YR	102	GLU	2.0
45	RZ	96	VAL	2.0
7	QG	88	PRO	2.0
32	RI	6	LEU	2.0
49	R3	30	ARG	2.0
44	RY	44	ILE	2.0
46	R0	68	GLU	2.0
1	QA	1027	C	2.0
1	XA	1031	G	2.0
3	XC	76	VAL	2.0
25	YA	2807	G	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
56	PPU	Z6	76	37/38	0.93	0.30	27,27,27,27	0
56	PPU	Z8	76	37/38	0.94	0.27	14,14,14,14	0
23	1MG	QY	37	24/25	0.95	0.18	53,53,53,53	0
23	1MG	XY	37	24/25	0.96	0.18	30,30,30,30	0

### 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
57	MG	YA	3139	1/1	0.03	0.36	55,55,55,55	0
57	MG	RA	3139	1/1	0.10	0.28	59,59,59,59	0
57	MG	QH	201	1/1	0.20	0.15	74,74,74,74	0
57	MG	QA	1625	1/1	0.33	0.19	70,70,70,70	0
57	MG	YA	3120	1/1	0.41	0.28	21,21,21,21	0
57	MG	RA	3192	1/1	0.41	0.19	68,68,68,68	0
57	MG	XA	1665	1/1	0.42	0.18	56,56,56,56	0
57	MG	QA	1628	1/1	0.44	0.28	37,37,37,37	0
57	MG	RA	3120	1/1	0.53	0.41	80,80,80,80	0
57	MG	RA	3091	1/1	0.54	0.34	23,23,23,23	0
57	MG	RA	3135	1/1	0.59	0.25	31,31,31,31	0
57	MG	YA	3104	1/1	0.60	0.18	3,3,3,3	0
57	MG	YA	3054	1/1	0.63	0.17	48,48,48,48	0
57	MG	RA	3193	1/1	0.69	0.23	63,63,63,63	0
57	MG	YA	3164	1/1	0.69	0.16	45,45,45,45	0
57	MG	YA	3130	1/1	0.70	0.23	20,20,20,20	0
57	MG	QA	1661	1/1	0.70	0.33	138,138,138,138	0
57	MG	RA	3227	1/1	0.70	0.25	32,32,32,32	0
57	MG	XA	1655	1/1	0.71	0.18	39,39,39,39	0
57	MG	RA	3194	1/1	0.73	0.20	13,13,13,13	0
57	MG	YA	3165	1/1	0.73	0.23	40,40,40,40	0
57	MG	XA	1653	1/1	0.74	0.13	70,70,70,70	0
57	MG	RA	3130	1/1	0.74	0.32	43,43,43,43	0
57	MG	XA	1670	1/1	0.75	0.14	35,35,35,35	0
57	MG	YA	3207	1/1	0.75	0.23	46,46,46,46	0
57	MG	RA	3220	1/1	0.76	0.24	31,31,31,31	0
57	MG	RP	202	1/1	0.76	0.18	85,85,85,85	0
57	MG	XX	101	1/1	0.77	0.29	45,45,45,45	0
57	MG	QA	1636	1/1	0.77	0.20	39,39,39,39	0
57	MG	QA	1630	1/1	0.77	0.12	48,48,48,48	0
57	MG	R0	101	1/1	0.78	0.19	15,15,15,15	0
57	MG	RA	3203	1/1	0.78	0.25	47,47,47,47	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
57	MG	XM	201	1/1	0.79	0.07	58,58,58,58	0
57	MG	RA	3026	1/1	0.79	0.17	3,3,3,3	0
57	MG	QF	201	1/1	0.79	0.24	54,54,54,54	0
57	MG	QA	1608	1/1	0.79	0.08	22,22,22,22	0
57	MG	YA	3204	1/1	0.79	0.14	17,17,17,17	0
57	MG	RA	3172	1/1	0.79	0.13	15,15,15,15	0
57	MG	YA	3084	1/1	0.80	0.24	2,2,2,2	0
57	MG	QA	1629	1/1	0.82	0.20	30,30,30,30	0
57	MG	YA	3119	1/1	0.82	0.30	23,23,23,23	0
57	MG	RA	3084	1/1	0.82	0.13	7,7,7,7	0
57	MG	RA	3068	1/1	0.83	0.18	16,16,16,16	0
57	MG	RA	3209	1/1	0.83	0.27	47,47,47,47	0
57	MG	RA	3168	1/1	0.83	0.21	19,19,19,19	0
57	MG	RA	3138	1/1	0.83	0.28	6,6,6,6	0
57	MG	XA	1662	1/1	0.83	0.26	40,40,40,40	0
57	MG	YB	201	1/1	0.83	0.17	39,39,39,39	0
57	MG	YP	202	1/1	0.83	0.15	5,5,5,5	0
57	MG	RA	3223	1/1	0.84	0.35	59,59,59,59	0
57	MG	RA	3175	1/1	0.84	0.10	19,19,19,19	0
57	MG	YA	3160	1/1	0.84	0.07	18,18,18,18	0
57	MG	QA	1631	1/1	0.85	0.08	39,39,39,39	0
57	MG	YA	3016	1/1	0.85	0.16	0,0,0,0	0
57	MG	QM	201	1/1	0.85	0.14	58,58,58,58	0
57	MG	XA	1661	1/1	0.85	0.11	23,23,23,23	0
57	MG	RA	3010	1/1	0.85	0.30	38,38,38,38	0
57	MG	QA	1665	1/1	0.85	0.14	31,31,31,31	0
57	MG	YA	3245	1/1	0.85	0.47	28,28,28,28	0
57	MG	YA	3266	1/1	0.85	0.32	51,51,51,51	0
57	MG	QA	1657	1/1	0.85	0.13	37,37,37,37	0
57	MG	XA	1650	1/1	0.85	0.16	27,27,27,27	0
57	MG	RA	3167	1/1	0.86	0.17	22,22,22,22	0
57	MG	YA	3241	1/1	0.86	0.12	37,37,37,37	0
57	MG	YA	3242	1/1	0.86	0.18	33,33,33,33	0
57	MG	RA	3143	1/1	0.86	0.15	35,35,35,35	0
57	MG	RD	301	1/1	0.86	0.24	35,35,35,35	0
57	MG	YA	3051	1/1	0.86	0.31	15,15,15,15	0
57	MG	XA	1672	1/1	0.86	0.12	27,27,27,27	0
57	MG	YA	3238	1/1	0.87	0.16	26,26,26,26	0
57	MG	YA	3059	1/1	0.87	0.15	19,19,19,19	0
57	MG	RA	3156	1/1	0.87	0.12	31,31,31,31	0
57	MG	YA	3182	1/1	0.87	0.21	18,18,18,18	0
57	MG	YA	3198	1/1	0.87	0.32	69,69,69,69	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
57	MG	RA	3238	1/1	0.87	0.24	14,14,14,14	0
57	MG	RA	3155	1/1	0.87	0.13	10,10,10,10	0
57	MG	QA	1617	1/1	0.88	0.27	31,31,31,31	0
57	MG	YA	3232	1/1	0.88	0.33	47,47,47,47	0
57	MG	XA	1654	1/1	0.88	0.10	37,37,37,37	0
57	MG	YA	3178	1/1	0.88	0.14	29,29,29,29	0
57	MG	RA	3101	1/1	0.88	0.11	2,2,2,2	0
57	MG	YA	3188	1/1	0.88	0.26	33,33,33,33	0
57	MG	YA	3249	1/1	0.88	0.36	42,42,42,42	0
57	MG	YA	3196	1/1	0.88	0.24	54,54,54,54	0
57	MG	QA	1662	1/1	0.88	0.07	58,58,58,58	0
57	MG	YA	3116	1/1	0.88	0.22	39,39,39,39	0
57	MG	YA	3142	1/1	0.89	0.15	8,8,8,8	0
57	MG	YA	3206	1/1	0.89	0.23	14,14,14,14	0
57	MG	YA	3143	1/1	0.89	0.19	33,33,33,33	0
57	MG	RA	3157	1/1	0.89	0.20	25,25,25,25	0
57	MG	RA	3177	1/1	0.89	0.35	24,24,24,24	0
57	MG	RA	3221	1/1	0.89	0.19	39,39,39,39	0
57	MG	RA	3222	1/1	0.89	0.16	36,36,36,36	0
57	MG	RA	3142	1/1	0.89	0.16	32,32,32,32	0
57	MG	YA	3039	1/1	0.89	0.17	10,10,10,10	0
57	MG	YA	3251	1/1	0.89	0.40	38,38,38,38	0
57	MG	YA	3195	1/1	0.89	0.13	26,26,26,26	0
57	MG	XA	1623	1/1	0.89	0.14	13,13,13,13	0
57	MG	XA	1630	1/1	0.89	0.13	13,13,13,13	0
57	MG	YX	101	1/1	0.89	0.18	46,46,46,46	0
57	MG	RA	3053	1/1	0.90	0.32	12,12,12,12	0
57	MG	YA	3197	1/1	0.90	0.22	42,42,42,42	0
57	MG	R8	101	1/1	0.90	0.16	25,25,25,25	0
57	MG	XA	1608	1/1	0.90	0.09	34,34,34,34	0
57	MG	QA	1637	1/1	0.90	0.18	16,16,16,16	0
57	MG	XA	1629	1/1	0.90	0.27	32,32,32,32	0
57	MG	YA	3221	1/1	0.90	0.16	29,29,29,29	0
57	MG	YA	3228	1/1	0.90	0.14	11,11,11,11	0
57	MG	YA	3231	1/1	0.90	0.25	20,20,20,20	0
57	MG	RA	3002	1/1	0.90	0.24	26,26,26,26	0
57	MG	XA	1641	1/1	0.90	0.18	33,33,33,33	0
57	MG	YA	3240	1/1	0.90	0.20	32,32,32,32	0
57	MG	QA	1650	1/1	0.90	0.20	20,20,20,20	0
57	MG	YA	3045	1/1	0.90	0.18	1,1,1,1	0
57	MG	XA	1652	1/1	0.90	0.11	47,47,47,47	0
57	MG	RA	3206	1/1	0.90	0.25	44,44,44,44	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
57	MG	RB	202	1/1	0.90	0.18	46,46,46,46	0
57	MG	YA	3261	1/1	0.90	0.33	19,19,19,19	0
57	MG	YA	3184	1/1	0.90	0.17	26,26,26,26	0
57	MG	RA	3176	1/1	0.90	0.21	10,10,10,10	0
57	MG	YA	3193	1/1	0.90	0.28	18,18,18,18	0
57	MG	QA	1652	1/1	0.90	0.19	32,32,32,32	0
57	MG	Y5	101	1/1	0.90	0.19	12,12,12,12	0
58	PAR	QA	1666	42/42	0.90	0.29	43,43,43,43	0
57	MG	YA	3148	1/1	0.91	0.16	21,21,21,21	0
57	MG	YA	3150	1/1	0.91	0.16	62,62,62,62	0
57	MG	RA	3187	1/1	0.91	0.56	66,66,66,66	0
57	MG	RA	3190	1/1	0.91	0.31	27,27,27,27	0
57	MG	XA	1618	1/1	0.91	0.24	11,11,11,11	0
57	MG	YA	3239	1/1	0.91	0.37	38,38,38,38	0
57	MG	RA	3158	1/1	0.91	0.44	40,40,40,40	0
57	MG	XA	1664	1/1	0.91	0.09	44,44,44,44	0
57	MG	YA	3100	1/1	0.91	0.30	1,1,1,1	0
57	MG	RA	3064	1/1	0.91	0.30	13,13,13,13	0
57	MG	XA	1669	1/1	0.91	0.12	49,49,49,49	0
57	MG	RA	3133	1/1	0.91	0.22	6,6,6,6	0
57	MG	YA	3255	1/1	0.91	0.38	20,20,20,20	0
57	MG	YA	3260	1/1	0.91	0.29	13,13,13,13	0
57	MG	RA	3146	1/1	0.91	0.10	27,27,27,27	0
57	MG	YA	3265	1/1	0.91	0.31	17,17,17,17	0
57	MG	YA	3129	1/1	0.91	0.23	28,28,28,28	0
57	MG	XA	1647	1/1	0.91	0.29	23,23,23,23	0
57	MG	RA	3050	1/1	0.91	0.28	30,30,30,30	0
57	MG	QA	1633	1/1	0.91	0.29	35,35,35,35	0
57	MG	RA	3127	1/1	0.91	0.23	12,12,12,12	0
57	MG	YA	3212	1/1	0.91	0.11	20,20,20,20	0
57	MG	YA	3046	1/1	0.92	0.32	20,20,20,20	0
57	MG	XA	1633	1/1	0.92	0.22	16,16,16,16	0
57	MG	XA	1638	1/1	0.92	0.10	20,20,20,20	0
57	MG	RA	3008	1/1	0.92	0.18	30,30,30,30	0
57	MG	YA	3061	1/1	0.92	0.22	17,17,17,17	0
57	MG	RA	3184	1/1	0.92	0.14	26,26,26,26	0
57	MG	QA	1642	1/1	0.92	0.14	43,43,43,43	0
57	MG	RA	3188	1/1	0.92	0.22	29,29,29,29	0
57	MG	YA	3210	1/1	0.92	0.29	26,26,26,26	0
57	MG	YA	3112	1/1	0.92	0.18	11,11,11,11	0
57	MG	RA	3228	1/1	0.92	0.13	43,43,43,43	0
57	MG	RA	3229	1/1	0.92	0.11	26,26,26,26	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
57	MG	RA	3237	1/1	0.92	0.42	28,28,28,28	0
57	MG	YA	3127	1/1	0.92	0.16	26,26,26,26	0
57	MG	RA	3159	1/1	0.92	0.14	24,24,24,24	0
57	MG	RA	3165	1/1	0.92	0.07	14,14,14,14	0
57	MG	RA	3085	1/1	0.92	0.24	6,6,6,6	0
57	MG	YA	3140	1/1	0.92	0.23	2,2,2,2	0
57	MG	RA	3058	1/1	0.92	0.18	34,34,34,34	0
57	MG	RA	3196	1/1	0.92	0.13	42,42,42,42	0
57	MG	YA	3145	1/1	0.92	0.20	18,18,18,18	0
57	MG	RA	3200	1/1	0.92	0.46	23,23,23,23	0
57	MG	RA	3170	1/1	0.92	0.11	33,33,33,33	0
57	MG	XA	1614	1/1	0.92	0.11	7,7,7,7	0
57	MG	YA	3163	1/1	0.92	0.19	25,25,25,25	0
57	MG	RA	3204	1/1	0.92	0.28	33,33,33,33	0
57	MG	YA	3003	1/1	0.92	0.22	1,1,1,1	0
57	MG	RA	3150	1/1	0.92	0.10	25,25,25,25	0
57	MG	YA	3032	1/1	0.92	0.32	4,4,4,4	0
57	MG	QA	1643	1/1	0.92	0.07	21,21,21,21	0
57	MG	YA	3185	1/1	0.92	0.14	8,8,8,8	0
57	MG	RA	3114	1/1	0.92	0.24	19,19,19,19	0
57	MG	RB	201	1/1	0.93	0.16	41,41,41,41	0
57	MG	YA	3162	1/1	0.93	0.13	16,16,16,16	0
57	MG	RA	3033	1/1	0.93	0.34	3,3,3,3	0
57	MG	RA	3047	1/1	0.93	0.32	12,12,12,12	0
57	MG	RF	301	1/1	0.93	0.18	24,24,24,24	0
57	MG	YA	3177	1/1	0.93	0.18	12,12,12,12	0
57	MG	RA	3162	1/1	0.93	0.12	2,2,2,2	0
57	MG	YA	3180	1/1	0.93	0.26	41,41,41,41	0
57	MG	RA	3134	1/1	0.93	0.26	23,23,23,23	0
57	MG	RA	3088	1/1	0.93	0.35	25,25,25,25	0
57	MG	XA	1607	1/1	0.93	0.22	22,22,22,22	0
57	MG	QA	1658	1/1	0.93	0.18	39,39,39,39	0
57	MG	YA	3192	1/1	0.93	0.21	19,19,19,19	0
57	MG	RA	3097	1/1	0.93	0.26	4,4,4,4	0
57	MG	RA	3171	1/1	0.93	0.28	33,33,33,33	0
57	MG	RA	3140	1/1	0.93	0.31	17,17,17,17	0
57	MG	RA	3211	1/1	0.93	0.23	30,30,30,30	0
57	MG	RA	3215	1/1	0.93	0.07	24,24,24,24	0
57	MG	YA	3062	1/1	0.93	0.21	7,7,7,7	0
57	MG	YA	3068	1/1	0.93	0.27	12,12,12,12	0
57	MG	YA	3071	1/1	0.93	0.14	0,0,0,0	0
57	MG	YA	3208	1/1	0.93	0.10	29,29,29,29	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
57	MG	XA	1631	1/1	0.93	0.17	33,33,33,33	0
57	MG	YA	3087	1/1	0.93	0.25	1,1,1,1	0
57	MG	YA	3220	1/1	0.93	0.23	32,32,32,32	0
57	MG	XA	1632	1/1	0.93	0.23	21,21,21,21	0
57	MG	YA	3102	1/1	0.93	0.20	44,44,44,44	0
57	MG	YA	3230	1/1	0.93	0.21	18,18,18,18	0
57	MG	RA	3216	1/1	0.93	0.12	33,33,33,33	0
57	MG	QA	1655	1/1	0.93	0.17	38,38,38,38	0
57	MG	RA	3109	1/1	0.93	0.10	3,3,3,3	0
57	MG	RA	3111	1/1	0.93	0.28	14,14,14,14	0
57	MG	RA	3179	1/1	0.93	0.12	2,2,2,2	0
57	MG	YA	3121	1/1	0.93	0.20	27,27,27,27	0
57	MG	RA	3224	1/1	0.93	0.20	18,18,18,18	0
57	MG	RA	3225	1/1	0.93	0.15	40,40,40,40	0
57	MG	QA	1645	1/1	0.93	0.09	20,20,20,20	0
57	MG	YA	3250	1/1	0.93	0.35	22,22,22,22	0
57	MG	YA	3131	1/1	0.93	0.20	34,34,34,34	0
57	MG	RA	3186	1/1	0.93	0.08	14,14,14,14	0
57	MG	XA	1657	1/1	0.93	0.22	21,21,21,21	0
57	MG	RA	3115	1/1	0.93	0.21	5,5,5,5	0
57	MG	RA	3236	1/1	0.93	0.23	28,28,28,28	0
57	MG	RA	3011	1/1	0.93	0.41	36,36,36,36	0
57	MG	QA	1664	1/1	0.93	0.14	17,17,17,17	0
57	MG	RA	3242	1/1	0.93	0.32	31,31,31,31	0
57	MG	YA	3151	1/1	0.93	0.32	30,30,30,30	0
57	MG	YA	3152	1/1	0.93	0.22	31,31,31,31	0
57	MG	YA	3158	1/1	0.93	0.30	14,14,14,14	0
58	PAR	XA	1673	42/42	0.93	0.27	31,31,31,31	0
57	MG	RA	3189	1/1	0.94	0.25	46,46,46,46	0
57	MG	RA	3239	1/1	0.94	0.44	28,28,28,28	0
57	MG	RA	3240	1/1	0.94	0.33	14,14,14,14	0
57	MG	QA	1601	1/1	0.94	0.26	34,34,34,34	0
57	MG	XA	1671	1/1	0.94	0.12	18,18,18,18	0
57	MG	RA	3074	1/1	0.94	0.22	0,0,0,0	0
57	MG	RA	3023	1/1	0.94	0.23	5,5,5,5	0
57	MG	RA	3160	1/1	0.94	0.14	12,12,12,12	0
57	MG	YA	3172	1/1	0.94	0.17	25,25,25,25	0
57	MG	YA	3174	1/1	0.94	0.09	7,7,7,7	0
57	MG	RE	301	1/1	0.94	0.16	1,1,1,1	0
57	MG	YA	3015	1/1	0.94	0.32	15,15,15,15	0
57	MG	RE	302	1/1	0.94	0.23	5,5,5,5	0
57	MG	YA	3022	1/1	0.94	0.26	1,1,1,1	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
57	MG	YA	3024	1/1	0.94	0.30	1,1,1,1	0
57	MG	YA	3025	1/1	0.94	0.16	6,6,6,6	0
57	MG	YA	3187	1/1	0.94	0.17	25,25,25,25	0
57	MG	YA	3029	1/1	0.94	0.25	1,1,1,1	0
57	MG	YA	3189	1/1	0.94	0.08	1,1,1,1	0
57	MG	RA	3132	1/1	0.94	0.35	24,24,24,24	0
57	MG	RA	3199	1/1	0.94	0.09	10,10,10,10	0
57	MG	YA	3041	1/1	0.94	0.26	2,2,2,2	0
57	MG	QA	1656	1/1	0.94	0.09	89,89,89,89	0
57	MG	R5	101	1/1	0.94	0.14	21,21,21,21	0
57	MG	RA	3166	1/1	0.94	0.30	28,28,28,28	0
57	MG	YA	3199	1/1	0.94	0.27	11,11,11,11	0
57	MG	QA	1616	1/1	0.94	0.13	28,28,28,28	0
57	MG	QA	1603	1/1	0.94	0.25	22,22,22,22	0
57	MG	RA	3137	1/1	0.94	0.29	7,7,7,7	0
57	MG	RA	3210	1/1	0.94	0.16	18,18,18,18	0
57	MG	YA	3209	1/1	0.94	0.15	11,11,11,11	0
57	MG	XA	1621	1/1	0.94	0.32	23,23,23,23	0
57	MG	QX	101	1/1	0.94	0.23	26,26,26,26	0
57	MG	YA	3215	1/1	0.94	0.11	18,18,18,18	0
57	MG	YA	3217	1/1	0.94	0.11	9,9,9,9	0
57	MG	RA	3213	1/1	0.94	0.36	17,17,17,17	0
57	MG	QA	1622	1/1	0.94	0.14	40,40,40,40	0
57	MG	YA	3224	1/1	0.94	0.08	14,14,14,14	0
57	MG	YA	3227	1/1	0.94	0.14	8,8,8,8	0
57	MG	RA	3174	1/1	0.94	0.14	25,25,25,25	0
57	MG	RA	3106	1/1	0.94	0.15	4,4,4,4	0
57	MG	RA	3057	1/1	0.94	0.23	6,6,6,6	0
57	MG	XA	1636	1/1	0.94	0.16	24,24,24,24	0
57	MG	YA	3237	1/1	0.94	0.24	25,25,25,25	0
57	MG	QA	1604	1/1	0.94	0.23	4,4,4,4	0
57	MG	XA	1639	1/1	0.94	0.29	58,58,58,58	0
57	MG	RA	3178	1/1	0.94	0.23	26,26,26,26	0
57	MG	XA	1644	1/1	0.94	0.17	23,23,23,23	0
57	MG	YA	3122	1/1	0.94	0.16	3,3,3,3	0
57	MG	YA	3243	1/1	0.94	0.16	21,21,21,21	0
57	MG	YA	3244	1/1	0.94	0.23	30,30,30,30	0
57	MG	XA	1646	1/1	0.94	0.27	30,30,30,30	0
57	MG	YA	3246	1/1	0.94	0.16	26,26,26,26	0
57	MG	RA	3112	1/1	0.94	0.22	21,21,21,21	0
57	MG	RA	3181	1/1	0.94	0.25	29,29,29,29	0
57	MG	RA	3182	1/1	0.94	0.11	6,6,6,6	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
57	MG	YA	3133	1/1	0.94	0.11	26,26,26,26	0
57	MG	YA	3135	1/1	0.94	0.13	3,3,3,3	0
57	MG	RA	3147	1/1	0.94	0.13	14,14,14,14	0
57	MG	YA	3264	1/1	0.94	0.18	7,7,7,7	0
57	MG	RA	3061	1/1	0.94	0.26	2,2,2,2	0
57	MG	YA	3141	1/1	0.94	0.10	17,17,17,17	0
57	MG	RA	3231	1/1	0.94	0.32	1,1,1,1	0
57	MG	XA	1656	1/1	0.94	0.30	31,31,31,31	0
57	MG	RA	3235	1/1	0.94	0.31	28,28,28,28	0
57	MG	YA	3146	1/1	0.94	0.31	37,37,37,37	0
57	MG	QA	1627	1/1	0.94	0.24	22,22,22,22	0
57	MG	RA	3118	1/1	0.94	0.09	22,22,22,22	0
57	MG	QA	1618	1/1	0.95	0.13	13,13,13,13	0
57	MG	QA	1615	1/1	0.95	0.15	28,28,28,28	0
57	MG	YA	3097	1/1	0.95	0.20	14,14,14,14	0
57	MG	YA	3099	1/1	0.95	0.25	9,9,9,9	0
57	MG	QA	1640	1/1	0.95	0.27	24,24,24,24	0
57	MG	YA	3191	1/1	0.95	0.21	14,14,14,14	0
57	MG	RA	3117	1/1	0.95	0.17	2,2,2,2	0
57	MG	YA	3103	1/1	0.95	0.25	8,8,8,8	0
57	MG	QA	1624	1/1	0.95	0.15	30,30,30,30	0
57	MG	YA	3105	1/1	0.95	0.10	24,24,24,24	0
57	MG	YA	3106	1/1	0.95	0.22	12,12,12,12	0
57	MG	YA	3110	1/1	0.95	0.23	14,14,14,14	0
57	MG	RA	3161	1/1	0.95	0.13	17,17,17,17	0
57	MG	YA	3200	1/1	0.95	0.29	12,12,12,12	0
57	MG	YA	3202	1/1	0.95	0.09	13,13,13,13	0
57	MG	XA	1663	1/1	0.95	0.08	38,38,38,38	0
57	MG	YA	3205	1/1	0.95	0.16	27,27,27,27	0
57	MG	RA	3119	1/1	0.95	0.10	30,30,30,30	0
57	MG	QA	1610	1/1	0.95	0.33	14,14,14,14	0
57	MG	XA	1667	1/1	0.95	0.27	29,29,29,29	0
57	MG	RA	3122	1/1	0.95	0.21	32,32,32,32	0
57	MG	RA	3124	1/1	0.95	0.39	24,24,24,24	0
57	MG	RA	3126	1/1	0.95	0.30	33,33,33,33	0
57	MG	YA	3214	1/1	0.95	0.16	25,25,25,25	0
57	MG	RA	3006	1/1	0.95	0.41	17,17,17,17	0
57	MG	YA	3216	1/1	0.95	0.32	30,30,30,30	0
57	MG	RA	3007	1/1	0.95	0.32	5,5,5,5	0
57	MG	RA	3066	1/1	0.95	0.33	17,17,17,17	0
57	MG	QA	1644	1/1	0.95	0.11	21,21,21,21	0
57	MG	YA	3222	1/1	0.95	0.16	27,27,27,27	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
57	MG	YA	3137	1/1	0.95	0.14	1,1,1,1	0
57	MG	RA	3069	1/1	0.95	0.11	1,1,1,1	0
57	MG	QA	1613	1/1	0.95	0.21	37,37,37,37	0
57	MG	XA	1628	1/1	0.95	0.08	1,1,1,1	0
57	MG	QA	1646	1/1	0.95	0.12	38,38,38,38	0
57	MG	RA	3013	1/1	0.95	0.23	11,11,11,11	0
57	MG	YA	3234	1/1	0.95	0.17	25,25,25,25	0
57	MG	YA	3235	1/1	0.95	0.30	30,30,30,30	0
57	MG	YA	3027	1/1	0.95	0.24	9,9,9,9	0
57	MG	QA	1663	1/1	0.95	0.10	67,67,67,67	0
57	MG	YA	3147	1/1	0.95	0.15	2,2,2,2	0
57	MG	RA	3226	1/1	0.95	0.18	15,15,15,15	0
57	MG	QA	1647	1/1	0.95	0.12	32,32,32,32	0
57	MG	RA	3092	1/1	0.95	0.30	17,17,17,17	0
57	MG	YA	3044	1/1	0.95	0.21	4,4,4,4	0
57	MG	YA	3154	1/1	0.95	0.11	3,3,3,3	0
57	MG	YA	3156	1/1	0.95	0.25	13,13,13,13	0
57	MG	QA	1649	1/1	0.95	0.12	31,31,31,31	0
57	MG	RA	3145	1/1	0.95	0.21	27,27,27,27	0
57	MG	RA	3232	1/1	0.95	0.28	10,10,10,10	0
57	MG	RA	3034	1/1	0.95	0.30	17,17,17,17	0
57	MG	YA	3252	1/1	0.95	0.41	17,17,17,17	0
57	MG	RA	3039	1/1	0.95	0.22	10,10,10,10	0
57	MG	YA	3258	1/1	0.95	0.14	2,2,2,2	0
57	MG	YA	3060	1/1	0.95	0.27	1,1,1,1	0
57	MG	YA	3166	1/1	0.95	0.76	156,156,156,156	0
57	MG	YA	3263	1/1	0.95	0.38	16,16,16,16	0
57	MG	YA	3167	1/1	0.95	0.15	1,1,1,1	0
57	MG	YA	3171	1/1	0.95	0.51	29,29,29,29	0
57	MG	RA	3149	1/1	0.95	0.30	22,22,22,22	0
57	MG	RA	3040	1/1	0.95	0.26	15,15,15,15	0
57	MG	YB	202	1/1	0.95	0.26	16,16,16,16	0
57	MG	YA	3175	1/1	0.95	0.16	23,23,23,23	0
57	MG	YQ	201	1/1	0.95	0.22	142,142,142,142	0
57	MG	RA	3191	1/1	0.95	0.07	16,16,16,16	0
57	MG	YA	3070	1/1	0.95	0.22	18,18,18,18	0
57	MG	RA	3043	1/1	0.95	0.20	7,7,7,7	0
57	MG	YA	3078	1/1	0.95	0.17	14,14,14,14	0
57	MG	RA	3197	1/1	0.96	0.12	9,9,9,9	0
57	MG	YA	3181	1/1	0.96	0.29	36,36,36,36	0
57	MG	QA	1605	1/1	0.96	0.37	23,23,23,23	0
57	MG	QA	1639	1/1	0.96	0.16	25,25,25,25	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
57	MG	YA	3081	1/1	0.96	0.22	10,10,10,10	0
57	MG	YA	3186	1/1	0.96	0.18	15,15,15,15	0
57	MG	RA	3052	1/1	0.96	0.28	7,7,7,7	0
57	MG	RA	3027	1/1	0.96	0.31	1,1,1,1	0
57	MG	YA	3091	1/1	0.96	0.18	29,29,29,29	0
57	MG	YA	3096	1/1	0.96	0.22	5,5,5,5	0
57	MG	RA	3205	1/1	0.96	0.28	5,5,5,5	0
57	MG	XA	1659	1/1	0.96	0.11	43,43,43,43	0
57	MG	XA	1660	1/1	0.96	0.08	6,6,6,6	0
57	MG	RA	3054	1/1	0.96	0.12	2,2,2,2	0
57	MG	RA	3095	1/1	0.96	0.28	6,6,6,6	0
57	MG	RA	3096	1/1	0.96	0.23	18,18,18,18	0
57	MG	RA	3055	1/1	0.96	0.20	8,8,8,8	0
57	MG	RA	3212	1/1	0.96	0.08	13,13,13,13	0
57	MG	YA	3108	1/1	0.96	0.30	12,12,12,12	0
57	MG	YA	3109	1/1	0.96	0.11	5,5,5,5	0
57	MG	XA	1666	1/1	0.96	0.06	13,13,13,13	0
57	MG	RA	3098	1/1	0.96	0.32	7,7,7,7	0
57	MG	YA	3114	1/1	0.96	0.26	13,13,13,13	0
57	MG	RA	3032	1/1	0.96	0.34	27,27,27,27	0
57	MG	XA	1601	1/1	0.96	0.24	7,7,7,7	0
57	MG	XA	1606	1/1	0.96	0.29	12,12,12,12	0
57	MG	RA	3103	1/1	0.96	0.13	2,2,2,2	0
57	MG	RA	3217	1/1	0.96	0.12	14,14,14,14	0
57	MG	YA	3126	1/1	0.96	0.14	1,1,1,1	0
57	MG	XA	1613	1/1	0.96	0.07	6,6,6,6	0
57	MG	RA	3219	1/1	0.96	0.60	159,159,159,159	0
57	MG	YA	3013	1/1	0.96	0.26	7,7,7,7	0
57	MG	YA	3014	1/1	0.96	0.27	4,4,4,4	0
57	MG	YA	3132	1/1	0.96	0.19	5,5,5,5	0
57	MG	QA	1651	1/1	0.96	0.16	18,18,18,18	0
57	MG	YA	3225	1/1	0.96	0.19	3,3,3,3	0
57	MG	RA	3012	1/1	0.96	0.25	7,7,7,7	0
57	MG	YA	3017	1/1	0.96	0.22	18,18,18,18	0
57	MG	YA	3018	1/1	0.96	0.32	16,16,16,16	0
57	MG	YA	3021	1/1	0.96	0.24	1,1,1,1	0
57	MG	RA	3062	1/1	0.96	0.25	29,29,29,29	0
57	MG	YA	3233	1/1	0.96	0.10	6,6,6,6	0
57	MG	QA	1632	1/1	0.96	0.11	88,88,88,88	0
57	MG	RA	3183	1/1	0.96	0.14	1,1,1,1	0
57	MG	RA	3065	1/1	0.96	0.27	9,9,9,9	0
57	MG	RA	3018	1/1	0.96	0.18	17,17,17,17	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
57	MG	RA	3067	1/1	0.96	0.20	3,3,3,3	0
57	MG	YA	3033	1/1	0.96	0.31	9,9,9,9	0
57	MG	YA	3149	1/1	0.96	0.18	9,9,9,9	0
57	MG	YA	3034	1/1	0.96	0.28	13,13,13,13	0
57	MG	YA	3038	1/1	0.96	0.19	4,4,4,4	0
57	MG	RA	3021	1/1	0.96	0.24	2,2,2,2	0
57	MG	YA	3040	1/1	0.96	0.30	0,0,0,0	0
57	MG	YA	3155	1/1	0.96	0.21	50,50,50,50	0
57	MG	YA	3248	1/1	0.96	0.34	30,30,30,30	0
57	MG	XA	1634	1/1	0.96	0.12	6,6,6,6	0
57	MG	RA	3044	1/1	0.96	0.20	18,18,18,18	0
57	MG	YA	3159	1/1	0.96	0.18	16,16,16,16	0
57	MG	RA	3045	1/1	0.96	0.27	6,6,6,6	0
57	MG	YA	3161	1/1	0.96	0.17	34,34,34,34	0
57	MG	RA	3075	1/1	0.96	0.08	6,6,6,6	0
57	MG	YA	3047	1/1	0.96	0.26	4,4,4,4	0
57	MG	XA	1640	1/1	0.96	0.19	15,15,15,15	0
57	MG	YA	3052	1/1	0.96	0.27	1,1,1,1	0
57	MG	YA	3053	1/1	0.96	0.31	0,0,0,0	0
57	MG	RA	3233	1/1	0.96	0.15	13,13,13,13	0
57	MG	YA	3170	1/1	0.96	0.07	15,15,15,15	0
57	MG	YA	3056	1/1	0.96	0.22	1,1,1,1	0
57	MG	RA	3123	1/1	0.96	0.16	28,28,28,28	0
57	MG	YB	203	1/1	0.96	0.18	18,18,18,18	0
57	MG	YP	201	1/1	0.96	0.09	96,96,96,96	0
57	MG	YA	3173	1/1	0.96	0.19	49,49,49,49	0
57	MG	RA	3080	1/1	0.96	0.22	17,17,17,17	0
57	MG	RA	3081	1/1	0.96	0.12	10,10,10,10	0
57	MG	RA	3164	1/1	0.96	0.24	20,20,20,20	0
57	MG	XA	1651	1/1	0.96	0.11	95,95,95,95	0
57	MG	YA	3179	1/1	0.96	0.41	35,35,35,35	0
57	MG	RA	3104	1/1	0.97	0.10	9,9,9,9	0
57	MG	RA	3241	1/1	0.97	0.24	13,13,13,13	0
57	MG	YA	3082	1/1	0.97	0.14	0,0,0,0	0
57	MG	YA	3183	1/1	0.97	0.24	13,13,13,13	0
57	MG	RA	3105	1/1	0.97	0.24	6,6,6,6	0
57	MG	RA	3153	1/1	0.97	0.28	29,29,29,29	0
57	MG	YA	3089	1/1	0.97	0.25	16,16,16,16	0
57	MG	QA	1635	1/1	0.97	0.12	18,18,18,18	0
57	MG	YA	3093	1/1	0.97	0.20	9,9,9,9	0
57	MG	RA	3005	1/1	0.97	0.41	9,9,9,9	0
57	MG	YA	3190	1/1	0.97	0.17	0,0,0,0	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
57	MG	QA	1611	1/1	0.97	0.31	12,12,12,12	0
57	MG	QA	1659	1/1	0.97	0.18	21,21,21,21	0
57	MG	RA	3202	1/1	0.97	0.22	15,15,15,15	0
57	MG	RA	3041	1/1	0.97	0.22	22,22,22,22	0
57	MG	RR	201	1/1	0.97	0.25	20,20,20,20	0
57	MG	RA	3070	1/1	0.97	0.33	13,13,13,13	0
57	MG	RA	3116	1/1	0.97	0.19	0,0,0,0	0
57	MG	RA	3072	1/1	0.97	0.18	3,3,3,3	0
57	MG	RA	3208	1/1	0.97	0.15	7,7,7,7	0
57	MG	XA	1603	1/1	0.97	0.41	13,13,13,13	0
57	MG	XA	1604	1/1	0.97	0.31	19,19,19,19	0
57	MG	XA	1605	1/1	0.97	0.29	17,17,17,17	0
57	MG	RA	3163	1/1	0.97	0.25	19,19,19,19	0
57	MG	YA	3115	1/1	0.97	0.27	18,18,18,18	0
57	MG	YA	3006	1/1	0.97	0.34	0,0,0,0	0
57	MG	YA	3117	1/1	0.97	0.34	24,24,24,24	0
57	MG	YA	3011	1/1	0.97	0.27	14,14,14,14	0
57	MG	QA	1660	1/1	0.97	0.17	38,38,38,38	0
57	MG	YA	3213	1/1	0.97	0.13	6,6,6,6	0
57	MG	RA	3009	1/1	0.97	0.06	0,0,0,0	0
57	MG	XA	1610	1/1	0.97	0.16	7,7,7,7	0
57	MG	YA	3125	1/1	0.97	0.19	9,9,9,9	0
57	MG	RA	3077	1/1	0.97	0.27	13,13,13,13	0
57	MG	YA	3219	1/1	0.97	0.21	31,31,31,31	0
57	MG	RA	3078	1/1	0.97	0.26	23,23,23,23	0
57	MG	XA	1615	1/1	0.97	0.24	2,2,2,2	0
57	MG	XA	1617	1/1	0.97	0.17	8,8,8,8	0
57	MG	QA	1612	1/1	0.97	0.24	9,9,9,9	0
57	MG	XA	1619	1/1	0.97	0.12	7,7,7,7	0
57	MG	RA	3169	1/1	0.97	0.28	30,30,30,30	0
57	MG	YA	3134	1/1	0.97	0.21	19,19,19,19	0
57	MG	XA	1622	1/1	0.97	0.17	33,33,33,33	0
57	MG	QA	1648	1/1	0.97	0.14	34,34,34,34	0
57	MG	XA	1624	1/1	0.97	0.14	16,16,16,16	0
57	MG	RA	3082	1/1	0.97	0.20	35,35,35,35	0
57	MG	RA	3083	1/1	0.97	0.17	17,17,17,17	0
57	MG	YA	3037	1/1	0.97	0.24	0,0,0,0	0
57	MG	YA	3236	1/1	0.97	0.10	24,24,24,24	0
57	MG	QA	1619	1/1	0.97	0.14	1,1,1,1	0
57	MG	YA	3144	1/1	0.97	0.09	11,11,11,11	0
57	MG	RA	3131	1/1	0.97	0.12	13,13,13,13	0
57	MG	RA	3051	1/1	0.97	0.22	4,4,4,4	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
57	MG	QA	1621	1/1	0.97	0.07	30,30,30,30	0
57	MG	YA	3042	1/1	0.97	0.21	4,4,4,4	0
57	MG	YA	3043	1/1	0.97	0.29	1,1,1,1	0
57	MG	QA	1641	1/1	0.97	0.17	22,22,22,22	0
57	MG	QA	1606	1/1	0.97	0.16	11,11,11,11	0
57	MG	XA	1637	1/1	0.97	0.14	20,20,20,20	0
57	MG	YA	3247	1/1	0.97	0.32	16,16,16,16	0
57	MG	RA	3180	1/1	0.97	0.14	18,18,18,18	0
57	MG	YA	3048	1/1	0.97	0.27	11,11,11,11	0
57	MG	YA	3049	1/1	0.97	0.29	8,8,8,8	0
57	MG	YA	3157	1/1	0.97	0.20	23,23,23,23	0
57	MG	YA	3050	1/1	0.97	0.28	2,2,2,2	0
57	MG	RA	3093	1/1	0.97	0.28	8,8,8,8	0
57	MG	QA	1654	1/1	0.97	0.08	36,36,36,36	0
57	MG	RA	3024	1/1	0.97	0.28	7,7,7,7	0
57	MG	QA	1609	1/1	0.97	0.14	13,13,13,13	0
57	MG	XA	1645	1/1	0.97	0.14	15,15,15,15	0
57	MG	RA	3141	1/1	0.97	0.11	15,15,15,15	0
57	MG	RA	3234	1/1	0.97	0.24	10,10,10,10	0
57	MG	QA	1607	1/1	0.97	0.10	10,10,10,10	0
57	MG	RA	3099	1/1	0.97	0.37	12,12,12,12	0
57	MG	YA	3065	1/1	0.97	0.20	0,0,0,0	0
57	MG	YA	3066	1/1	0.97	0.36	12,12,12,12	0
57	MG	YE	301	1/1	0.97	0.25	0,0,0,0	0
57	MG	RA	3030	1/1	0.97	0.31	0,0,0,0	0
57	MG	YA	3069	1/1	0.97	0.15	6,6,6,6	0
57	MG	RA	3102	1/1	0.97	0.21	28,28,28,28	0
57	MG	RA	3001	1/1	0.97	0.14	4,4,4,4	0
57	MG	YA	3073	1/1	0.97	0.31	8,8,8,8	0
57	MG	YA	3074	1/1	0.97	0.12	2,2,2,2	0
57	MG	YA	3075	1/1	0.97	0.38	24,24,24,24	0
59	ZN	XD	301	1/1	0.97	0.27	39,39,39,39	0
57	MG	XA	1658	1/1	0.98	0.26	12,12,12,12	0
57	MG	RP	201	1/1	0.98	0.67	144,144,144,144	0
57	MG	RA	3201	1/1	0.98	0.14	17,17,17,17	0
57	MG	RA	3079	1/1	0.98	0.23	11,11,11,11	0
57	MG	YA	3072	1/1	0.98	0.20	9,9,9,9	0
57	MG	YA	3176	1/1	0.98	0.15	2,2,2,2	0
57	MG	RU	201	1/1	0.98	0.29	117,117,117,117	0
57	MG	QV	101	1/1	0.98	0.25	9,9,9,9	0
57	MG	RA	3025	1/1	0.98	0.29	12,12,12,12	0
57	MG	YA	3076	1/1	0.98	0.40	15,15,15,15	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
57	MG	QA	1602	1/1	0.98	0.28	22,22,22,22	0
57	MG	YA	3079	1/1	0.98	0.11	2,2,2,2	0
57	MG	YA	3080	1/1	0.98	0.30	1,1,1,1	0
57	MG	QA	1620	1/1	0.98	0.11	16,16,16,16	0
57	MG	XA	1602	1/1	0.98	0.14	18,18,18,18	0
57	MG	YA	3083	1/1	0.98	0.19	0,0,0,0	0
57	MG	XA	1668	1/1	0.98	0.22	15,15,15,15	0
57	MG	RA	3207	1/1	0.98	0.13	60,60,60,60	0
57	MG	RA	3121	1/1	0.98	0.27	36,36,36,36	0
57	MG	YA	3090	1/1	0.98	0.41	39,39,39,39	0
57	MG	RA	3028	1/1	0.98	0.35	2,2,2,2	0
57	MG	YA	3092	1/1	0.98	0.25	3,3,3,3	0
57	MG	RA	3029	1/1	0.98	0.37	3,3,3,3	0
57	MG	YA	3194	1/1	0.98	0.13	17,17,17,17	0
57	MG	YA	3094	1/1	0.98	0.18	4,4,4,4	0
57	MG	RA	3087	1/1	0.98	0.17	25,25,25,25	0
57	MG	RA	3125	1/1	0.98	0.09	13,13,13,13	0
57	MG	YA	3098	1/1	0.98	0.30	2,2,2,2	0
57	MG	XA	1609	1/1	0.98	0.22	14,14,14,14	0
57	MG	YA	3004	1/1	0.98	0.23	0,0,0,0	0
57	MG	YA	3201	1/1	0.98	0.13	2,2,2,2	0
57	MG	YA	3005	1/1	0.98	0.19	6,6,6,6	0
57	MG	YA	3203	1/1	0.98	0.13	25,25,25,25	0
57	MG	QA	1653	1/1	0.98	0.07	88,88,88,88	0
57	MG	YA	3007	1/1	0.98	0.18	9,9,9,9	0
57	MG	YA	3008	1/1	0.98	0.27	2,2,2,2	0
57	MG	RA	3214	1/1	0.98	0.23	13,13,13,13	0
57	MG	YA	3107	1/1	0.98	0.28	2,2,2,2	0
57	MG	RA	3003	1/1	0.98	0.34	4,4,4,4	0
57	MG	RA	3128	1/1	0.98	0.24	4,4,4,4	0
57	MG	RA	3059	1/1	0.98	0.15	4,4,4,4	0
57	MG	YA	3111	1/1	0.98	0.08	8,8,8,8	0
57	MG	RA	3218	1/1	0.98	0.26	17,17,17,17	0
57	MG	RA	3060	1/1	0.98	0.28	0,0,0,0	0
57	MG	XA	1620	1/1	0.98	0.13	10,10,10,10	0
57	MG	YA	3019	1/1	0.98	0.34	8,8,8,8	0
57	MG	YA	3218	1/1	0.98	0.12	1,1,1,1	0
57	MG	YA	3020	1/1	0.98	0.30	10,10,10,10	0
57	MG	RA	3173	1/1	0.98	0.13	1,1,1,1	0
57	MG	RA	3094	1/1	0.98	0.14	8,8,8,8	0
57	MG	RA	3004	1/1	0.98	0.37	14,14,14,14	0
57	MG	YA	3223	1/1	0.98	0.18	20,20,20,20	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
57	MG	RA	3014	1/1	0.98	0.27	3,3,3,3	0
57	MG	YA	3123	1/1	0.98	0.29	4,4,4,4	0
57	MG	YA	3226	1/1	0.98	0.25	4,4,4,4	0
57	MG	YA	3124	1/1	0.98	0.21	9,9,9,9	0
57	MG	YA	3026	1/1	0.98	0.33	2,2,2,2	0
57	MG	YA	3229	1/1	0.98	0.12	19,19,19,19	0
57	MG	XA	1627	1/1	0.98	0.32	28,28,28,28	0
57	MG	YA	3028	1/1	0.98	0.18	2,2,2,2	0
57	MG	YA	3128	1/1	0.98	0.33	3,3,3,3	0
57	MG	RA	3036	1/1	0.98	0.24	2,2,2,2	0
57	MG	YA	3030	1/1	0.98	0.39	6,6,6,6	0
57	MG	YA	3031	1/1	0.98	0.35	1,1,1,1	0
57	MG	RA	3136	1/1	0.98	0.16	14,14,14,14	0
57	MG	RA	3037	1/1	0.98	0.24	11,11,11,11	0
57	MG	RA	3038	1/1	0.98	0.22	1,1,1,1	0
57	MG	YA	3035	1/1	0.98	0.20	1,1,1,1	0
57	MG	YA	3136	1/1	0.98	0.30	14,14,14,14	0
57	MG	YA	3036	1/1	0.98	0.14	4,4,4,4	0
57	MG	RA	3100	1/1	0.98	0.12	6,6,6,6	0
57	MG	RA	3015	1/1	0.98	0.18	5,5,5,5	0
57	MG	RA	3230	1/1	0.98	0.35	7,7,7,7	0
57	MG	XA	1635	1/1	0.98	0.27	12,12,12,12	0
57	MG	RA	3016	1/1	0.98	0.29	1,1,1,1	0
57	MG	QA	1638	1/1	0.98	0.14	27,27,27,27	0
57	MG	RA	3185	1/1	0.98	0.14	16,16,16,16	0
57	MG	RA	3020	1/1	0.98	0.23	8,8,8,8	0
57	MG	RA	3144	1/1	0.98	0.24	8,8,8,8	0
57	MG	RA	3071	1/1	0.98	0.23	22,22,22,22	0
57	MG	XA	1643	1/1	0.98	0.14	12,12,12,12	0
57	MG	QA	1614	1/1	0.98	0.14	20,20,20,20	0
57	MG	YA	3257	1/1	0.98	0.38	3,3,3,3	0
57	MG	RA	3108	1/1	0.98	0.16	8,8,8,8	0
57	MG	YA	3259	1/1	0.98	0.38	13,13,13,13	0
57	MG	RA	3073	1/1	0.98	0.12	10,10,10,10	0
57	MG	YA	3153	1/1	0.98	0.13	13,13,13,13	0
57	MG	YA	3262	1/1	0.98	0.21	4,4,4,4	0
57	MG	RA	3110	1/1	0.98	0.21	2,2,2,2	0
57	MG	XA	1648	1/1	0.98	0.10	14,14,14,14	0
57	MG	XA	1649	1/1	0.98	0.19	8,8,8,8	0
57	MG	RA	3152	1/1	0.98	0.24	11,11,11,11	0
57	MG	YA	3267	1/1	0.98	0.41	24,24,24,24	0
57	MG	YA	3268	1/1	0.98	0.16	17,17,17,17	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
57	MG	YA	3055	1/1	0.98	0.24	11,11,11,11	0
57	MG	RA	3022	1/1	0.98	0.24	3,3,3,3	0
57	MG	YA	3058	1/1	0.98	0.25	0,0,0,0	0
57	MG	RA	3195	1/1	0.98	0.12	1,1,1,1	0
57	MG	RA	3154	1/1	0.98	0.26	26,26,26,26	0
57	MG	RA	3046	1/1	0.98	0.17	8,8,8,8	0
57	MG	RA	3198	1/1	0.98	0.07	27,27,27,27	0
57	MG	YA	3064	1/1	0.98	0.17	6,6,6,6	0
57	MG	QA	1626	1/1	0.98	0.10	21,21,21,21	0
57	MG	RA	3049	1/1	0.98	0.09	1,1,1,1	0
57	MG	YA	3168	1/1	0.98	0.19	0,0,0,0	0
59	ZN	QN	101	1/1	0.98	0.07	95,95,95,95	0
57	MG	YA	3067	1/1	0.98	0.21	2,2,2,2	0
57	MG	RA	3035	1/1	0.99	0.27	0,0,0,0	0
57	MG	YA	3063	1/1	0.99	0.30	3,3,3,3	0
57	MG	RA	3042	1/1	0.99	0.32	10,10,10,10	0
57	MG	XV	101	1/1	0.99	0.18	0,0,0,0	0
57	MG	QA	1623	1/1	0.99	0.29	19,19,19,19	0
57	MG	YA	3001	1/1	0.99	0.29	1,1,1,1	0
57	MG	YA	3002	1/1	0.99	0.29	1,1,1,1	0
57	MG	XA	1625	1/1	0.99	0.10	6,6,6,6	0
57	MG	XA	1626	1/1	0.99	0.17	9,9,9,9	0
57	MG	RA	3031	1/1	0.99	0.20	3,3,3,3	0
57	MG	RA	3019	1/1	0.99	0.27	13,13,13,13	0
57	MG	YA	3113	1/1	0.99	0.18	11,11,11,11	0
57	MG	RA	3129	1/1	0.99	0.18	10,10,10,10	0
57	MG	RA	3113	1/1	0.99	0.11	29,29,29,29	0
57	MG	YA	3009	1/1	0.99	0.38	2,2,2,2	0
57	MG	YA	3010	1/1	0.99	0.27	1,1,1,1	0
57	MG	YA	3118	1/1	0.99	0.31	22,22,22,22	0
57	MG	YA	3077	1/1	0.99	0.29	6,6,6,6	0
57	MG	RA	3148	1/1	0.99	0.20	15,15,15,15	0
57	MG	YA	3253	1/1	0.99	0.32	2,2,2,2	0
57	MG	YA	3254	1/1	0.99	0.20	18,18,18,18	0
57	MG	YA	3012	1/1	0.99	0.32	2,2,2,2	0
57	MG	YA	3256	1/1	0.99	0.35	3,3,3,3	0
57	MG	RA	3063	1/1	0.99	0.36	1,1,1,1	0
57	MG	QA	1634	1/1	0.99	0.07	35,35,35,35	0
57	MG	YA	3211	1/1	0.99	0.07	0,0,0,0	0
57	MG	RA	3151	1/1	0.99	0.06	0,0,0,0	0
57	MG	XA	1611	1/1	0.99	0.25	7,7,7,7	0
57	MG	YA	3169	1/1	0.99	0.32	12,12,12,12	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
57	MG	XA	1612	1/1	0.99	0.13	3,3,3,3	0
57	MG	YA	3085	1/1	0.99	0.28	9,9,9,9	0
57	MG	YA	3086	1/1	0.99	0.25	10,10,10,10	0
57	MG	RA	3086	1/1	0.99	0.34	13,13,13,13	0
57	MG	YA	3088	1/1	0.99	0.32	5,5,5,5	0
57	MG	RA	3017	1/1	0.99	0.21	0,0,0,0	0
57	MG	RA	3076	1/1	0.99	0.23	0,0,0,0	0
57	MG	XA	1616	1/1	0.99	0.23	6,6,6,6	0
57	MG	RA	3089	1/1	0.99	0.18	2,2,2,2	0
57	MG	YA	3023	1/1	0.99	0.28	6,6,6,6	0
57	MG	XA	1642	1/1	0.99	0.16	7,7,7,7	0
57	MG	YA	3095	1/1	0.99	0.20	5,5,5,5	0
57	MG	YA	3138	1/1	0.99	0.20	0,0,0,0	0
57	MG	YA	3057	1/1	0.99	0.30	1,1,1,1	0
57	MG	RA	3090	1/1	0.99	0.17	8,8,8,8	0
57	MG	RA	3056	1/1	0.99	0.27	1,1,1,1	0
57	MG	RA	3048	1/1	0.99	0.23	1,1,1,1	0
59	ZN	QD	301	1/1	0.99	0.22	58,58,58,58	0
57	MG	RA	3107	1/1	0.99	0.18	6,6,6,6	0
57	MG	YA	3101	1/1	0.99	0.23	3,3,3,3	0
59	ZN	XN	101	1/1	0.99	0.11	42,42,42,42	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.