Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 07:34 AM UTC

PDB ID	:	4P70 / pdb_00004p70
Title	:	Crystal Structure of Unmodified tRNA Proline (CGG) Bound to Codon CCG on the Ribosome
Authors	:	Maehigashi, T.; Dunkle, J.A.; Dunham, C.M.
Deposited on	:	2014-03-25
Resolution	:	3.68 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

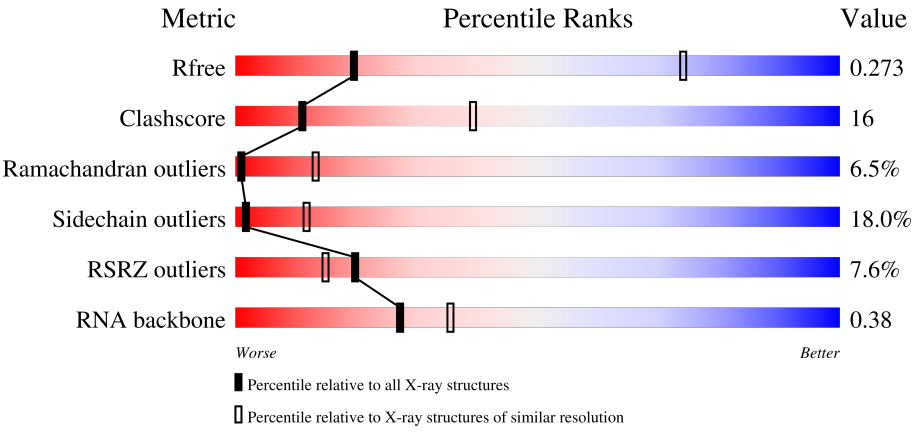
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal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

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.68 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1263 (3.80-3.56)
Clashscore	190562	1305 (3.80-3.56)
Ramachandran outliers	187476	1259 (3.80-3.56)
Sidechain outliers	187428	1256 (3.80-3.56)
RSRZ outliers	180081	1262 (3.80-3.56)
RNA backbone	3983	1000 (4.26-3.08)

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

Mol	Chain	Length	Quality of chain
1	QA	1522	4% 36% 48% 14% •
1	XA	1522	4% 35% 50% 14% •
2	QB	256	10% 46% 38% 8% • 7%
2	XB	256	8% 43% 39% 9% • 7%

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Mol	Chain	Length	Quality of chain
3	QC	239	5% 54% 28% 14%
3	XC	239	4% 55% 26% 14%
4	QD	209	9% 51% 40% 8%
4	XD	209	12% 65% 27% 7%
5	QE	162	3% 57% 31% 7%
5	XE	162	2% 54% 31% 7% 7%
6	QF	101	5% 65% 32%
6	XF	101	7% 61% 34% 5%
7	QG	156	13% 63% 34%
7	XG	156	7% 69% 28%
8	QH	138	8% 57% 38%
8	XH	138	2% 64% 30% 6%
9	QI	128	16% 51% 42% 6%
9	XI	128	12% 51% 36% 12%
10	QJ	105	10% 42% 42% 10% 6%
10	XJ	105	13% 43% 42% 10% 6%
11	QK	129	8% 53% 33% 6% 8%
11	XK	129	2% 60% 29% 8%
12	QL	132	9% 49% 38% 6% 5%
12	XL	132	9% 48% 36% 10% 5%
13	QM	126	15% 48% 38% 10%
13	XM	126	10% 49% 36% 10%
14	QN	61	10% 49% 38% 11%
14	XN	61	10% 49% 38% 11%
15	QO	89	3% 65% 26% 8%

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Mol	Chain	Length	Quality of chain
15	XO	89	4% 63% 28% 8%
16	QP	88	10% 63% 25% 8% 5%
16	XP	88	9% 52% 41% 5%
17	QQ	105	6% 58% 33% 5%
17	XQ	105	7% 69% 22% 5% 5%
18	QR	88	7% 52% 22% 5% 20%
18	XR	88	2% 42% 32% 6% 20%
19	QS	93	11% 39% 33% 16% 10%
19	XS	93	11% 29% 44% 15% 10%
20	QT	106	10% 55% 32% 7% 7%
20	XT	106	13% 42% 41% 10% 7%
21	QU	27	19% 44% 44% 7%
21	XU	27	30% 63% 26% 7%
22	RA	2916	4% 37% 45% 16%
22	YA	2916	4% 38% 46% 14%
23	RB	122	7% 41% 45% 12%
23	YB	122	2% 36% 44% 18%
24	RD	276	8% 50% 38% 9%
24	YD	276	6% 53% 35% 10%
25	RE	206	12% 46% 38% 13%
25	YE	206	5% 48% 40% 10%
26	RF	210	7% 44% 39% 13%
26	YF	210	11% 59% 26% 10%
27	RG	182	12% 53% 37% 8%
27	YG	182	8% 49% 40% 9%

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Mol	Chain	Length	Quality of chain
28	RH	180	29% 43% 36% 14% 6%
28	YH	180	12% 43% 32% 16% 6%
29	RI	148	11% 28% 39% 26% 5%
29	YI	148	9% 21% 51% 24%
30	RN	140	13% 49% 40% 9%
30	YN	140	9% 46% 44% 8%
31	RO	122	9% 66% 30%
31	YO	122	5% 68% 26% 6%
32	RP	150	12% 41% 37% 17% 5%
32	YP	150	7% 39% 37% 17% 7%
33	RQ	141	16% 40% 40% 17%
33	YQ	141	18% 49% 37% 11%
34	RR	118	5% 42% 45% 14%
34	YR	118	6% 53% 36% 11%
35	RS	112	10% 45% 37% 17%
35	YS	112	7% 43% 40% 13%
36	RT	146	7% 43% 42% 8% 6%
36	YT	146	5% 36% 43% 14% 6%
37	RU	118	8% 62% 29% 7%
37	YU	118	10% 48% 41% 10%
38	RV	101	4% 55% 34% 8%
38	YV	101	10% 39% 51% 10%
39	RW	113	6% 57% 35% 7%
39	YW	113	4% 64% 28% 8%
40	RX	96	2% 52% 32% 11%

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Mol	Chain	Length	Quality of chain
40	YX	96	3% 50% 40% 5%
41	RY	110	34% 26% 45% 18% 7%
41	YY	110	20% 41% 32% 18% 7%
42	RZ	206	3% 29% 38% 18% 11%
42	YZ	206	6% 28% 37% 20% 11%
43	R0	85	5% 38% 51% 8%
43	Y0	85	2% 36% 48% 12%
44	R1	98	16% 58% 33% 6%
44	Y1	98	21% 52% 38% 7%
45	R2	72	11% 57% 28% 7%
45	Y2	72	10% 42% 39% 14%
46	R3	60	5% 67% 27% 5%
46	Y3	60	7% 60% 28% 10%
47	R4	71	20% 32% 38% 23% 7%
47	Y4	71	18% 27% 34% 27% 13%
48	R5	60	13% 43% 38% 15%
48	Y5	60	13% 40% 40% 17%
49	R6	54	43% 17% 37% 33% 9%
49	Y6	54	30% 24% 39% 24% 9%
50	R7	49	10% 57% 37% 6%
50	Y7	49	4% 55% 37% 8%
51	R8	65	20% 46% 32% 18%
51	Y8	65	20% 34% 42% 18% 5%
52	R9	37	73% 57% 38% 5%
52	Y9	37	92% 54% 43%

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Mol	Chain	Length	Quality of chain
53	QV	77	8% 38% 49% 13%
53	XV	77	4% 43% 35% 21%
54	QX	25	4% 8% 16% 8% 68%
54	XX	25	4% 8% 24% 68%
55	QY	17	6% 18% 24% 6% 53%
55	XY	17	35% 12% 53%
56	Z6	3	67% 33%
56	Z8	3	67% 33%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
58	MG	RA	3009	-	-	-	X
58	MG	RA	3037	-	-	-	X
58	MG	RA	3056	-	-	-	X
58	MG	RA	3067	-	-	-	X
58	MG	RA	3235	-	-	-	X
58	MG	XA	1617	-	-	-	X
58	MG	XA	1643	-	-	-	X
58	MG	Y0	101	-	-	-	X
58	MG	YA	3003	-	-	-	X
58	MG	YA	3014	-	-	-	X
58	MG	YA	3015	-	-	-	X
58	MG	YA	3018	-	-	-	X
58	MG	YA	3041	-	-	-	X
58	MG	YA	3046	-	-	-	X
58	MG	YA	3049	-	-	-	X
58	MG	YA	3080	-	-	-	X
58	MG	YA	3095	-	-	-	X
58	MG	YA	3099	-	-	-	X
58	MG	YA	3205	-	-	-	X
58	MG	YA	3256	-	-	-	X
58	MG	YA	3260	-	-	-	X
58	MG	YD	301	-	-	-	X

2 Entry composition

There are 59 unique types of molecules in this entry. The entry contains 291730 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 22 is a RNA chain called 23S rRNA.

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

- Molecule 23 is a RNA chain called 5S rRNA.

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

- Molecule 24 is a protein called 50S ribosomal protein L2.

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

- Molecule 25 is a protein called 50S ribosomal protein L3.

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

- Molecule 26 is a protein called 50S ribosomal protein L4.

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

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

- Molecule 27 is a protein called 50S ribosomal protein L5.

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

- Molecule 28 is a protein called 50S ribosomal protein L6.

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

- Molecule 29 is a protein called 50S ribosomal protein L9.

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

- Molecule 30 is a protein called 50S ribosomal protein L13.

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

- Molecule 31 is a protein called 50S ribosomal protein L14.

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

- Molecule 32 is a protein called 50S ribosomal protein L15.

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

- Molecule 33 is a protein called 50S ribosomal protein L16.

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

- Molecule 34 is a protein called 50S ribosomal protein L17.

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

- Molecule 35 is a protein called 50S ribosomal protein L18.

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

- Molecule 36 is a protein called 50S ribosomal protein L19.

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

- Molecule 37 is a protein called 50S ribosomal protein L20.

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

- Molecule 38 is a protein called 50S ribosomal protein L21.

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

- Molecule 39 is a protein called 50S ribosomal protein L22.

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

- Molecule 40 is a protein called 50S ribosomal protein L23.

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

- Molecule 41 is a protein called 50S ribosomal protein L24.

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

- Molecule 42 is a protein called 50S ribosomal protein L25.

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

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

- Molecule 43 is a protein called 50S ribosomal protein L27.

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

- Molecule 44 is a protein called 50S ribosomal protein L28.

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

- Molecule 45 is a protein called 50S ribosomal protein L29.

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

- Molecule 46 is a protein called 50S ribosomal protein L30.

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

- Molecule 47 is a protein called 50S ribosomal protein L31.

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

- Molecule 48 is a protein called 50S ribosomal protein L32.

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

- Molecule 49 is a protein called 50S ribosomal protein L33.

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

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

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

- Molecule 51 is a protein called 50S ribosomal protein L35.

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

- Molecule 52 is a protein called 50S ribosomal protein L36.

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

- Molecule 53 is a RNA chain called P-site tRNA fMET.

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

- Molecule 54 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	QX	8	Total	C	N	O	P	0	0	0
			173	77	33	55	8			
54	XX	8	Total	C	N	O	P	0	0	0
			173	77	33	55	8			

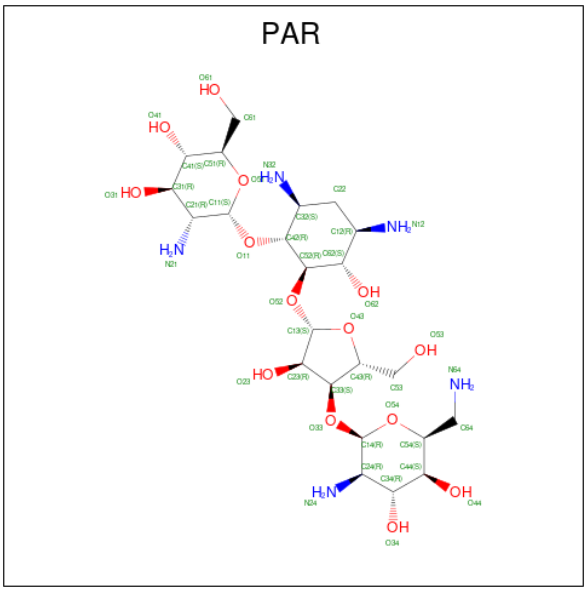
- Molecule 55 is a RNA chain called A site ASL of tRNA-Proline CGG (unmodified).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	QY	8	Total	C	N	O	P	0	0	0
			174	77	33	56	8			
55	XY	8	Total	C	N	O	P	0	0	0
			174	77	33	56	8			

- 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 PAROMOMYCIN (CCD ID: PAR) (formula: $C_{23}H_{45}N_5O_{14}$).



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

- Molecule 58 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
58	QA	76	Total Mg 76 76	0	0
58	QF	1	Total Mg 1 1	0	0
58	QM	1	Total Mg 1 1	0	0
58	RA	247	Total Mg 247 247	0	0
58	RB	2	Total Mg 2 2	0	0
58	RD	1	Total Mg 1 1	0	0
58	RE	2	Total Mg 2 2	0	0
58	RF	1	Total Mg 1 1	0	0
58	RP	2	Total Mg 2 2	0	0
58	R0	1	Total Mg 1 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
58	R5	1	Total Mg 1 1	0	0
58	R8	2	Total Mg 2 2	0	0
58	XA	82	Total Mg 82 82	0	0
58	XB	1	Total Mg 1 1	0	0
58	XM	1	Total Mg 1 1	0	0
58	YA	265	Total Mg 265 265	0	0
58	YB	3	Total Mg 3 3	0	0
58	YD	2	Total Mg 2 2	0	0
58	YP	2	Total Mg 2 2	0	0
58	YQ	1	Total Mg 1 1	0	0
58	YX	1	Total Mg 1 1	0	0
58	Y0	1	Total Mg 1 1	0	0
58	Y5	1	Total Mg 1 1	0	0
58	QV	1	Total Mg 1 1	0	0
58	XV	2	Total Mg 2 2	0	0

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

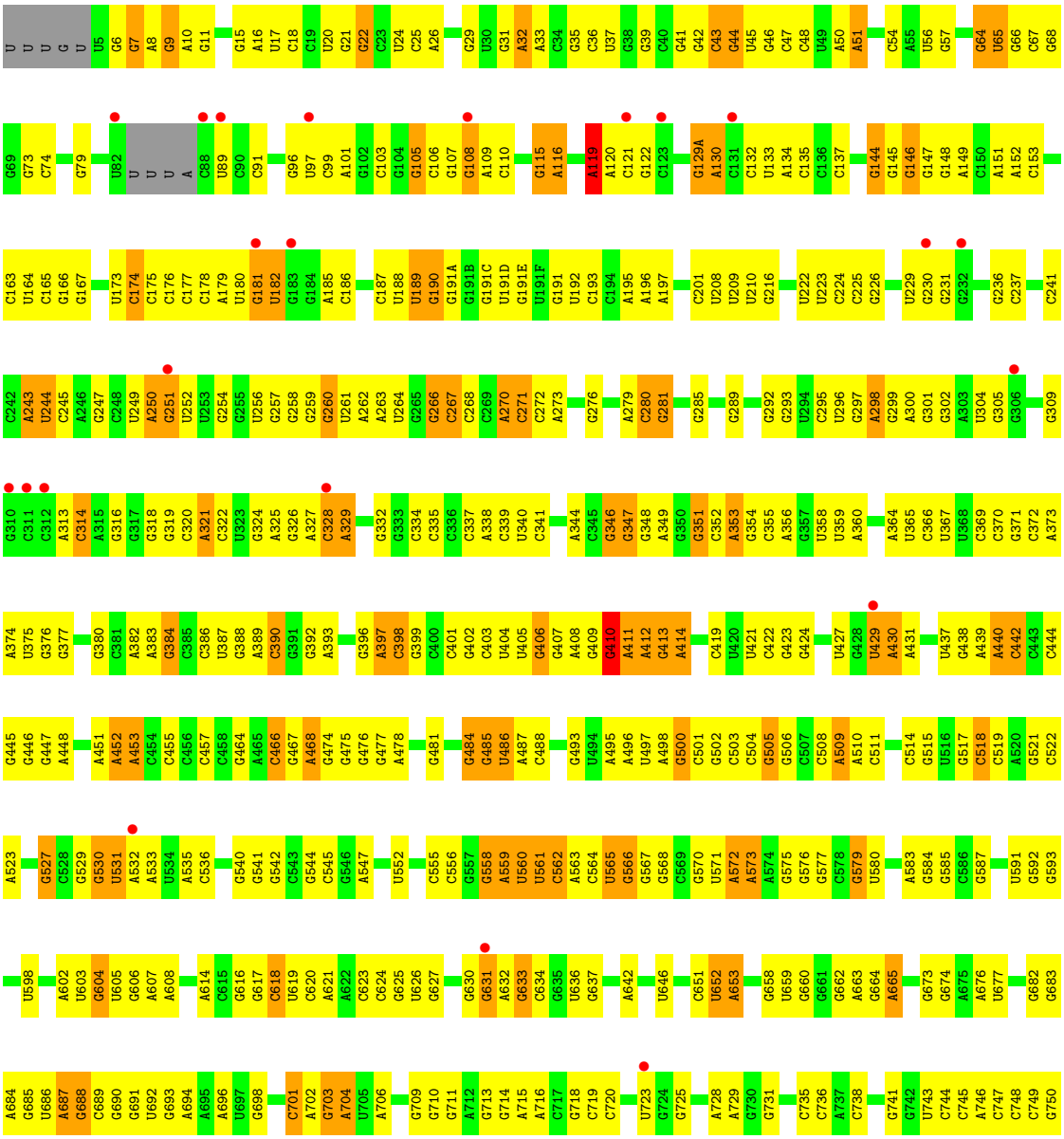
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
59	QD	1	Total Zn 1 1	0	0
59	QN	1	Total Zn 1 1	0	0
59	XD	1	Total Zn 1 1	0	0
59	XN	1	Total Zn 1 1	0	0

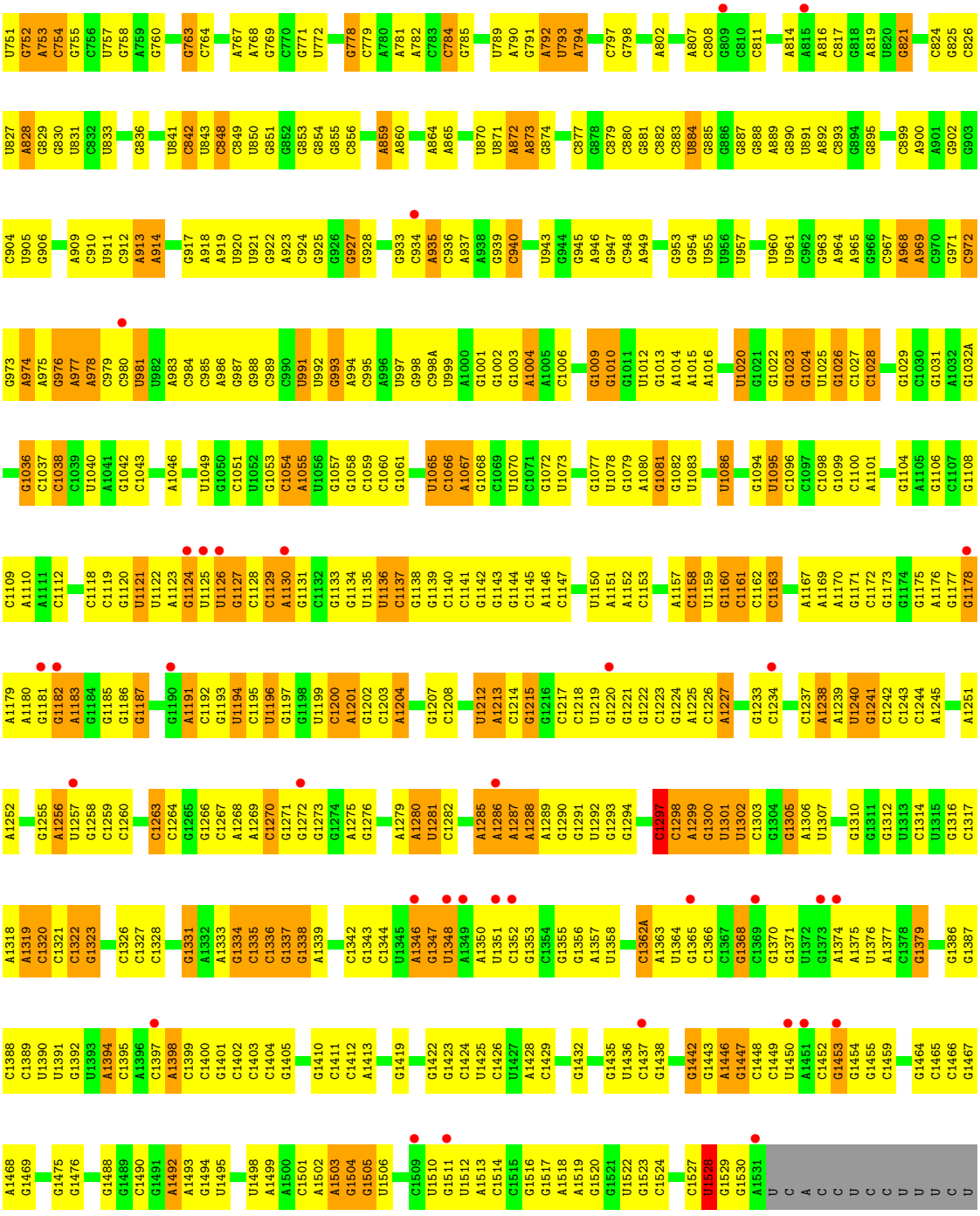
3 Residue-property plots (i)

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

- Molecule 1: 16S rRNA

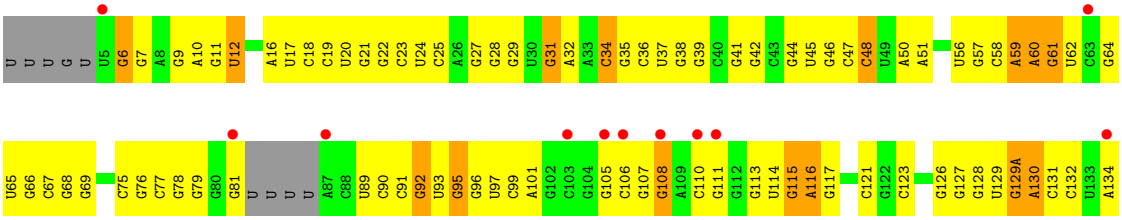
Chain QA:

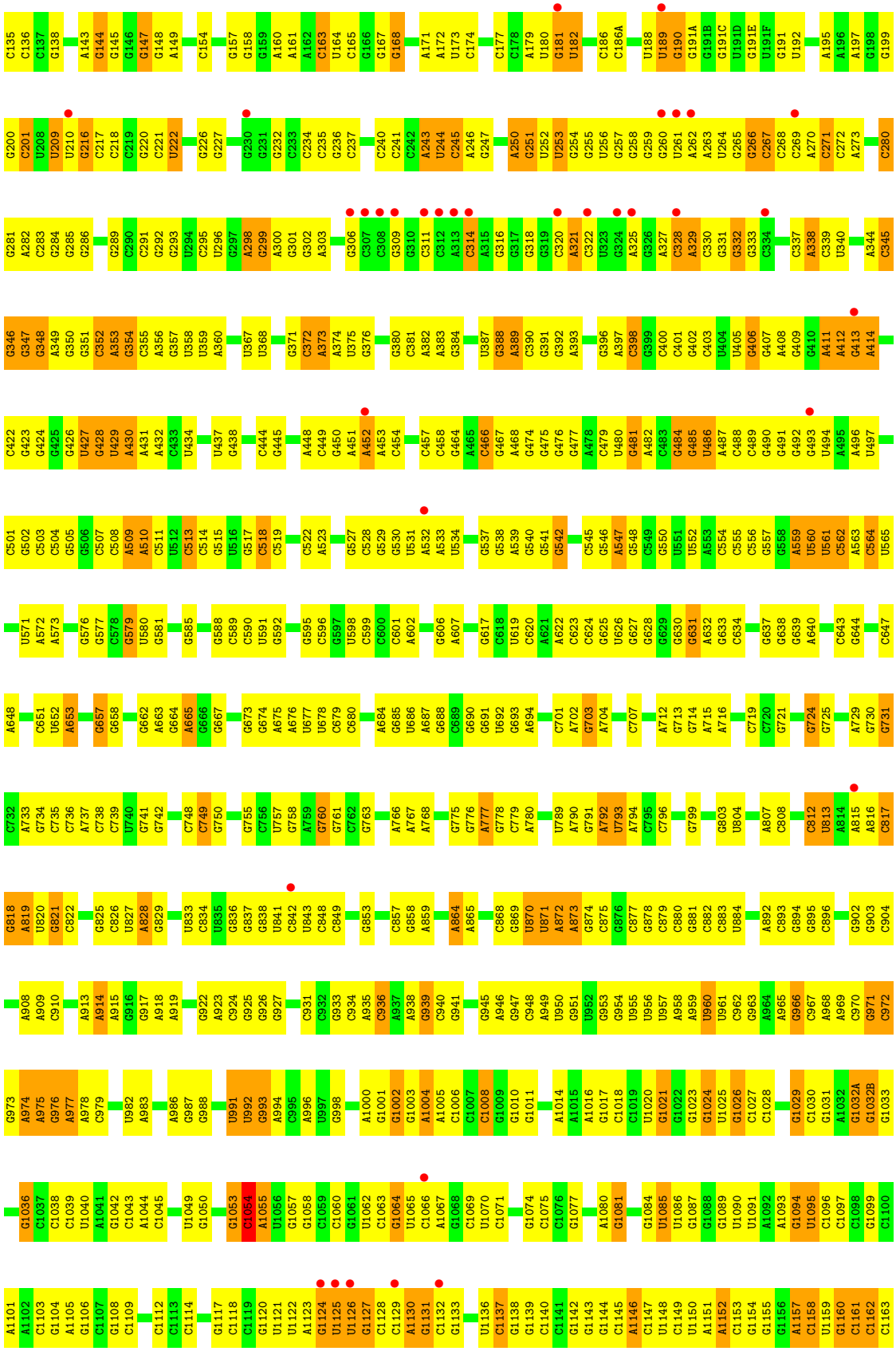


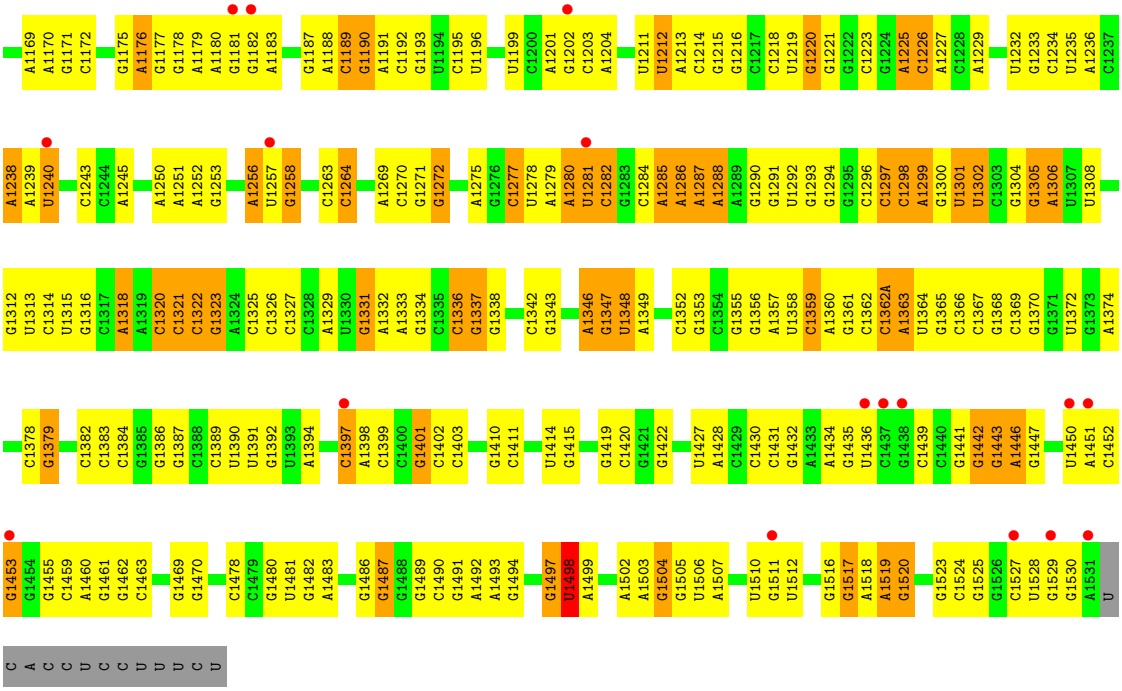


• Molecule 1: 16S rRNA

Chain XA:

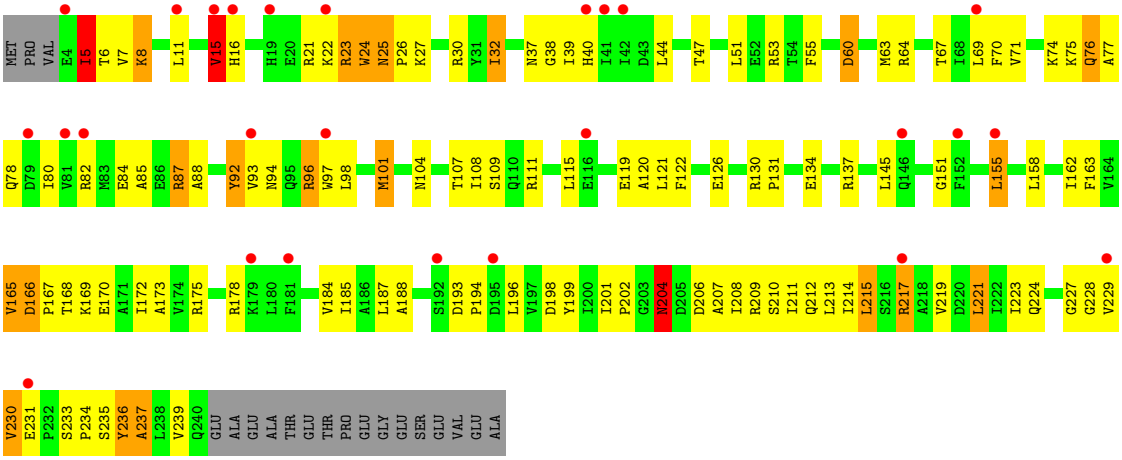






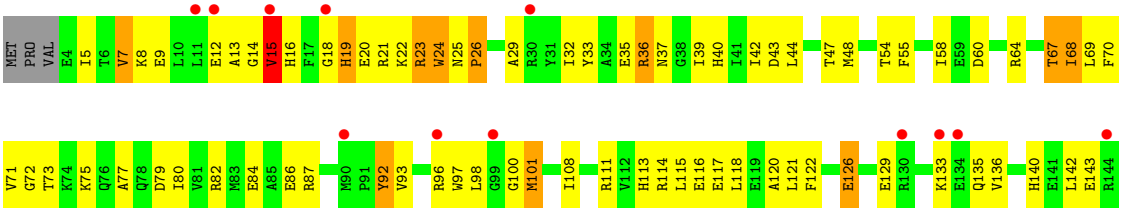
• Molecule 2: 30S ribosomal protein S2

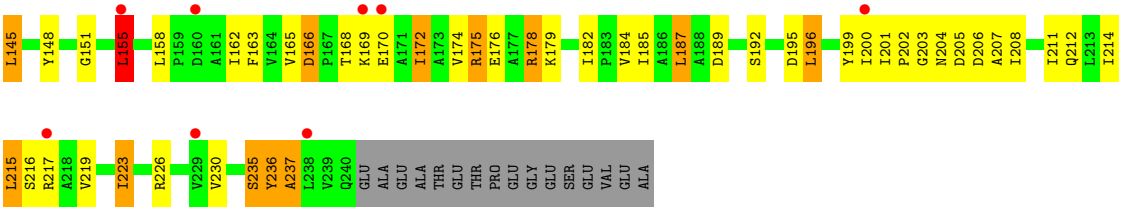
Chain QB:



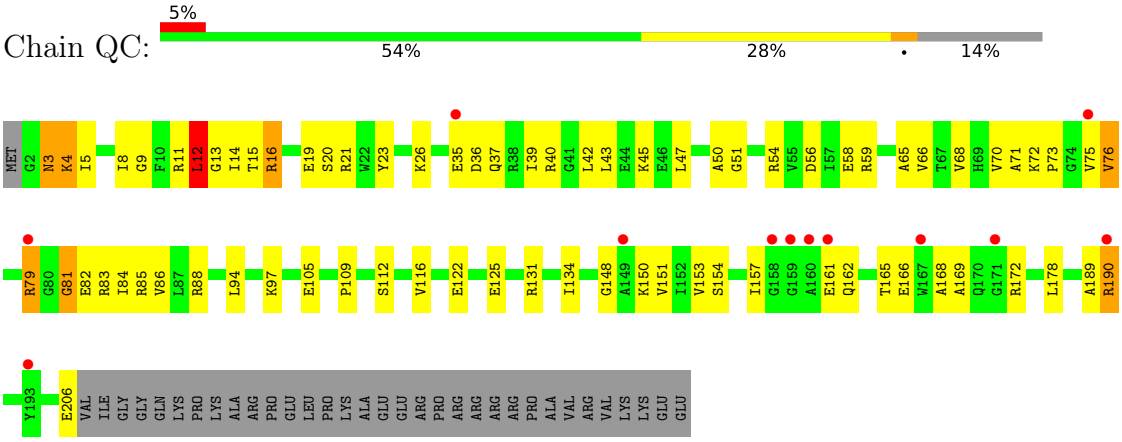
• Molecule 2: 30S ribosomal protein S2

Chain XB:

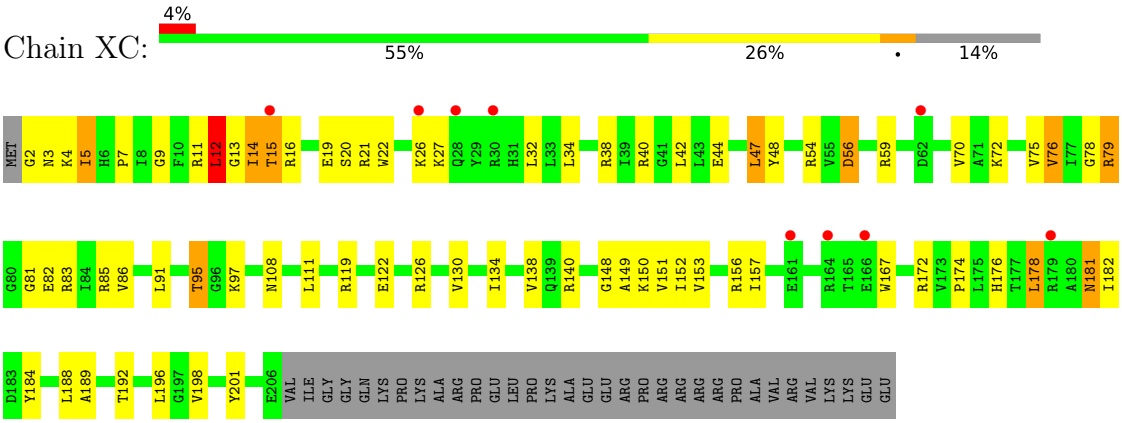




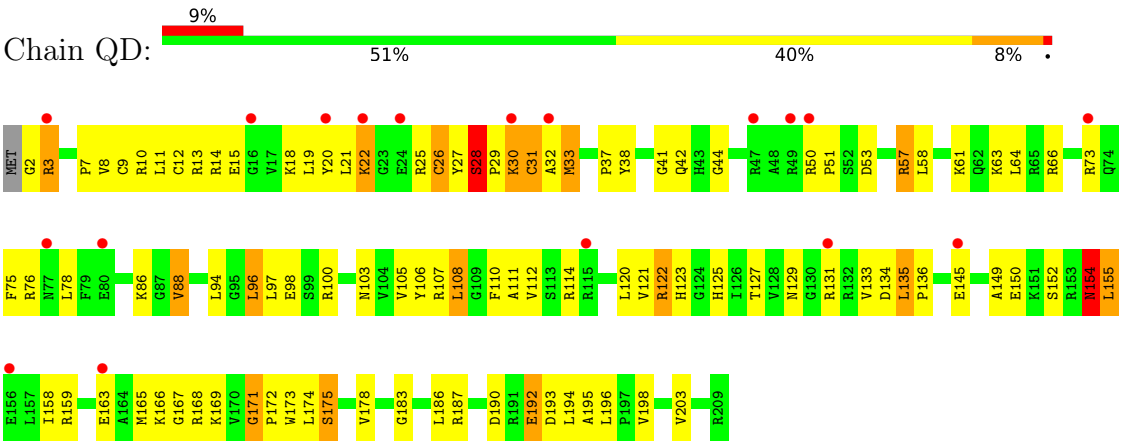
• Molecule 3: 30S ribosomal protein S3



• Molecule 3: 30S ribosomal protein S3

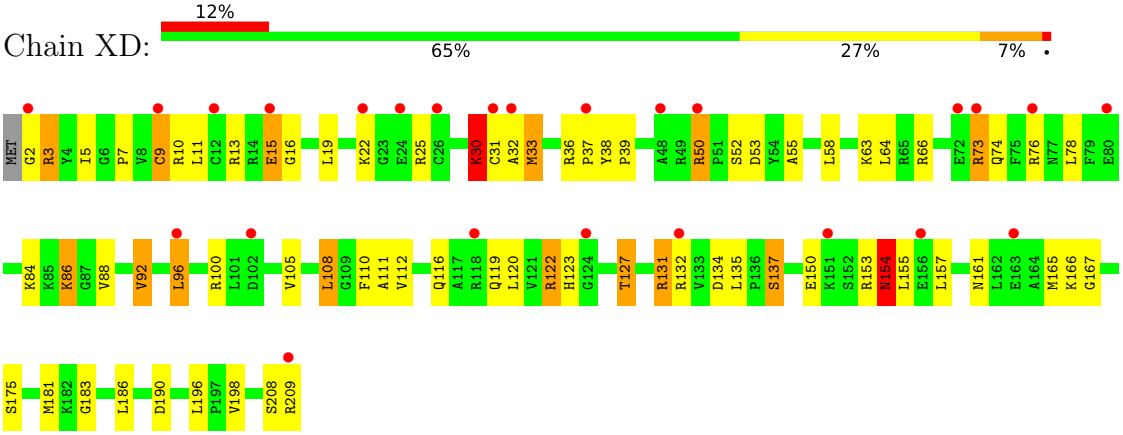


• Molecule 4: 30S ribosomal protein S4



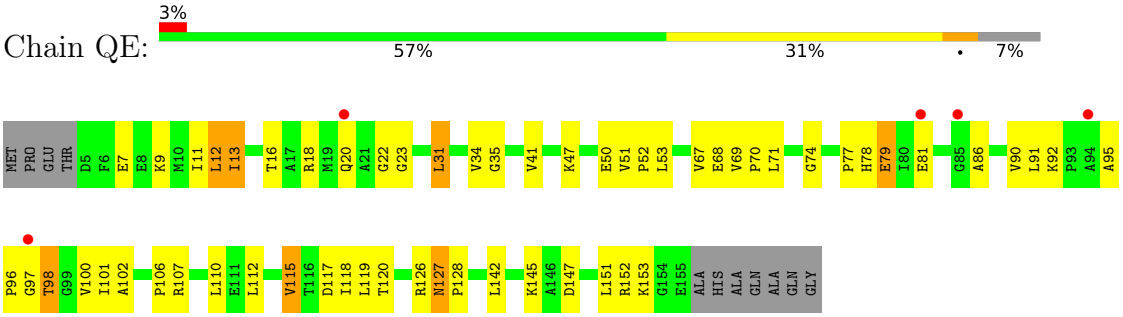
• Molecule 4: 30S ribosomal protein S4

Chain XD:



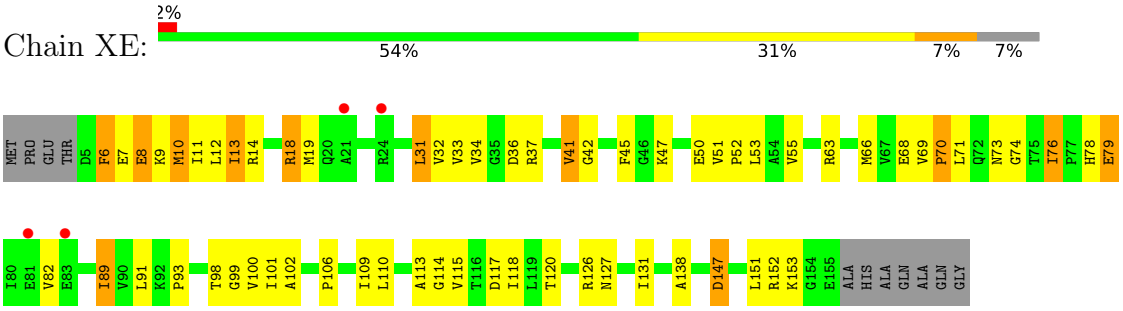
• Molecule 5: 30S ribosomal protein S5

Chain QE:



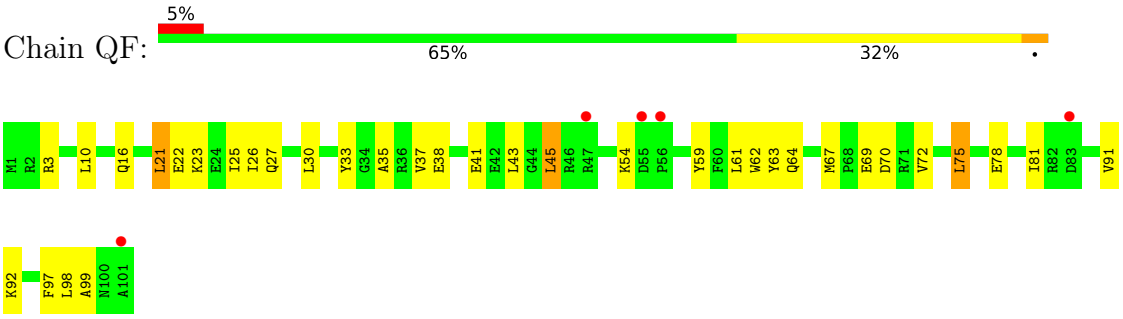
• Molecule 5: 30S ribosomal protein S5

Chain XE:



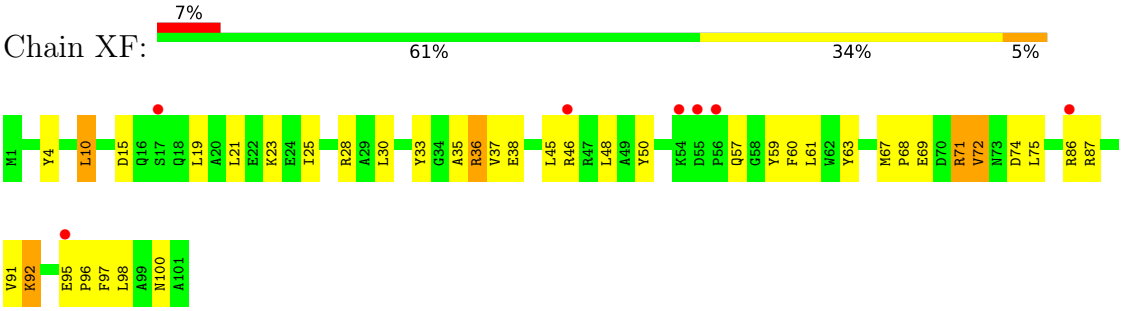
• Molecule 6: 30S ribosomal protein S6

Chain QF:



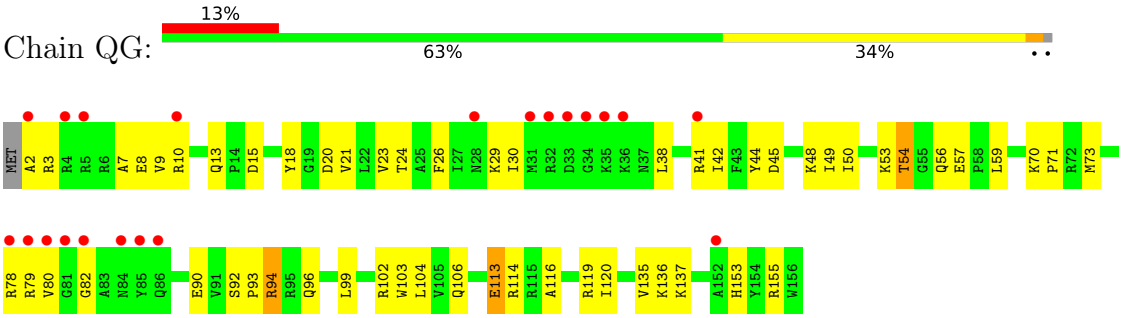
• Molecule 6: 30S ribosomal protein S6

Chain XF:



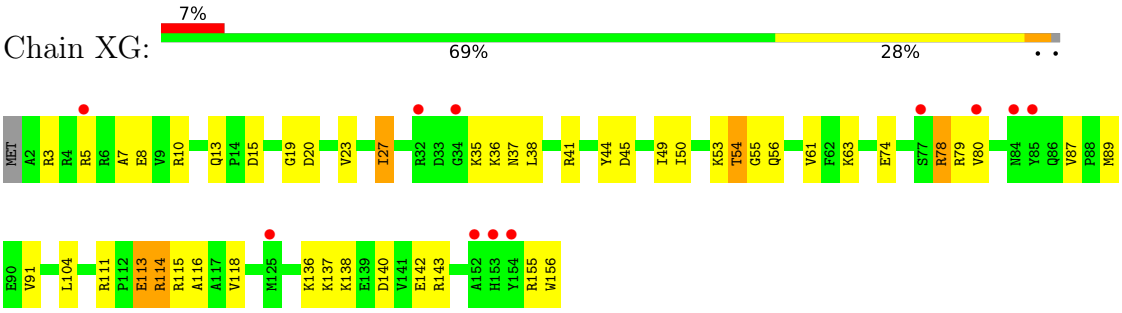
• Molecule 7: 30S ribosomal protein S7

Chain QG:



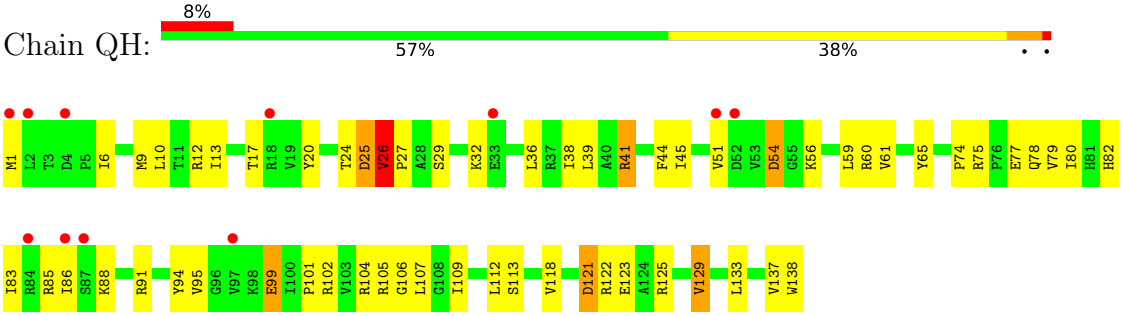
• Molecule 7: 30S ribosomal protein S7

Chain XG:



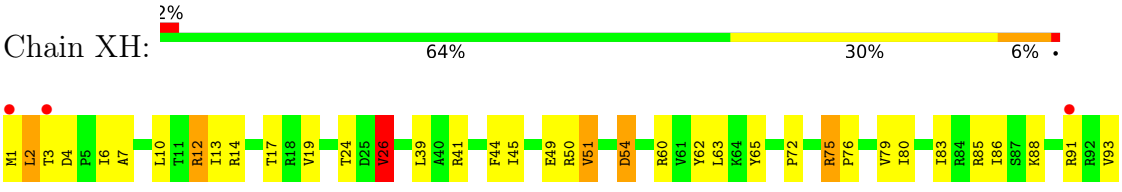
• Molecule 8: 30S ribosomal protein S8

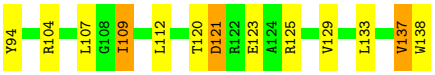
Chain QH:



• Molecule 8: 30S ribosomal protein S8

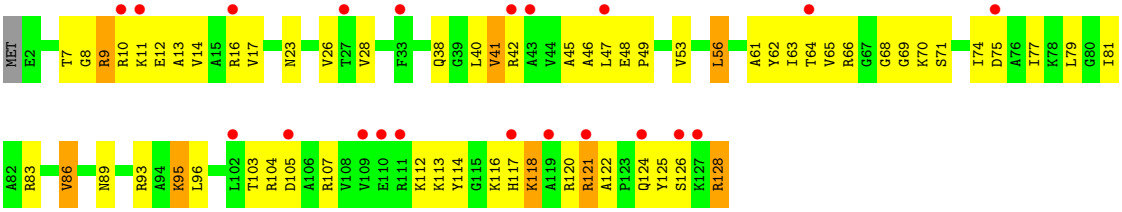
Chain XH:





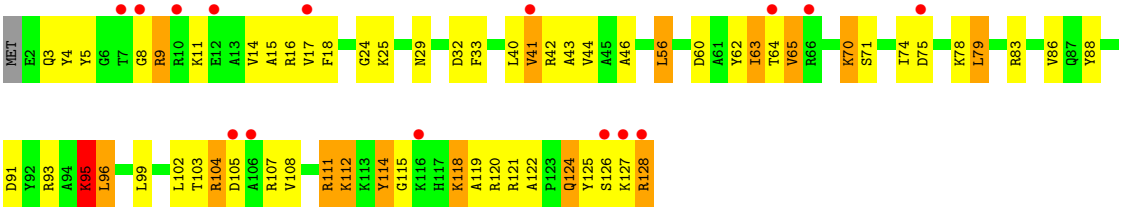
• Molecule 9: 30S ribosomal protein S9

Chain QI:



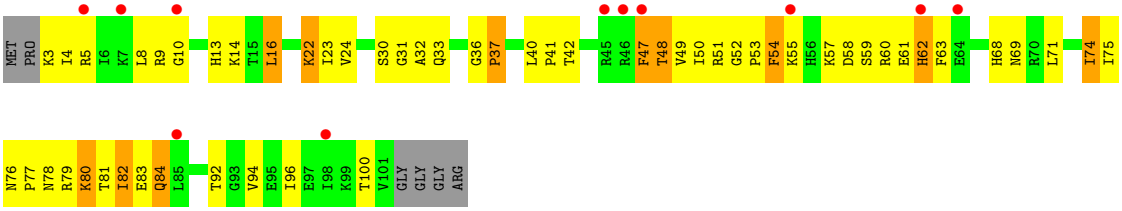
• Molecule 9: 30S ribosomal protein S9

Chain XI:



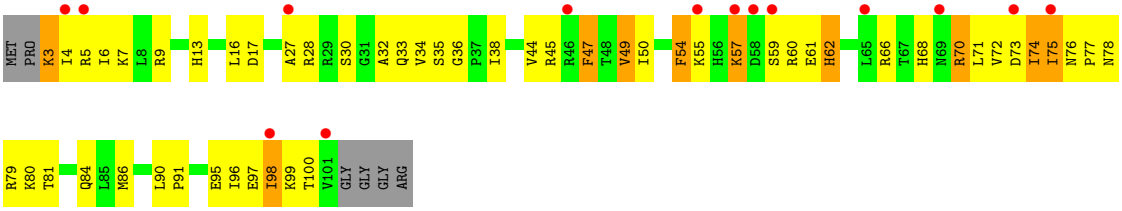
• Molecule 10: 30S ribosomal protein S10

Chain QJ:



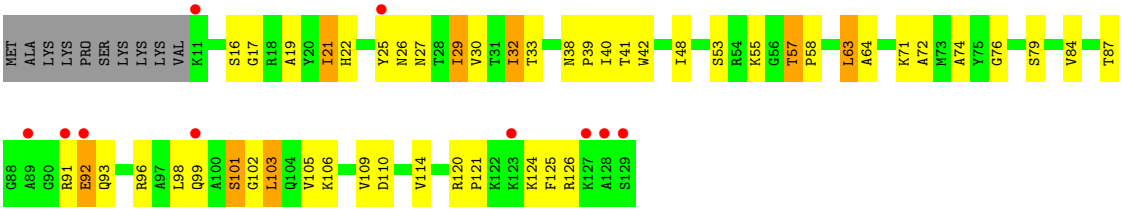
• Molecule 10: 30S ribosomal protein S10

Chain XJ:



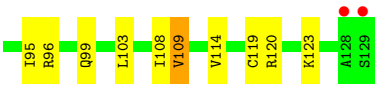
• Molecule 11: 30S ribosomal protein S11

Chain QK:



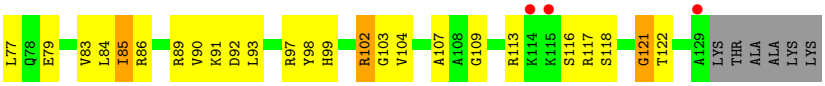
• Molecule 11: 30S ribosomal protein S11

Chain XK:



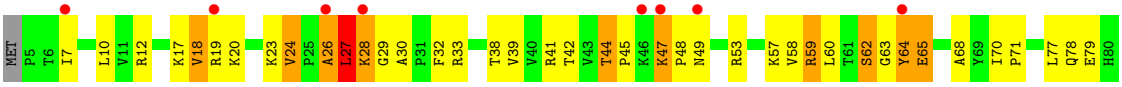
• Molecule 12: 30S ribosomal protein S12

Chain QL:



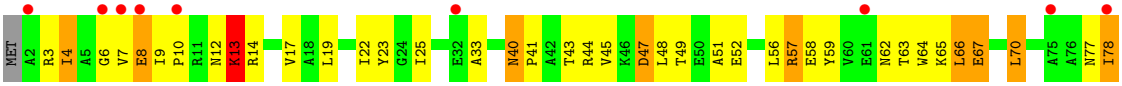
• Molecule 12: 30S ribosomal protein S12

Chain XL:



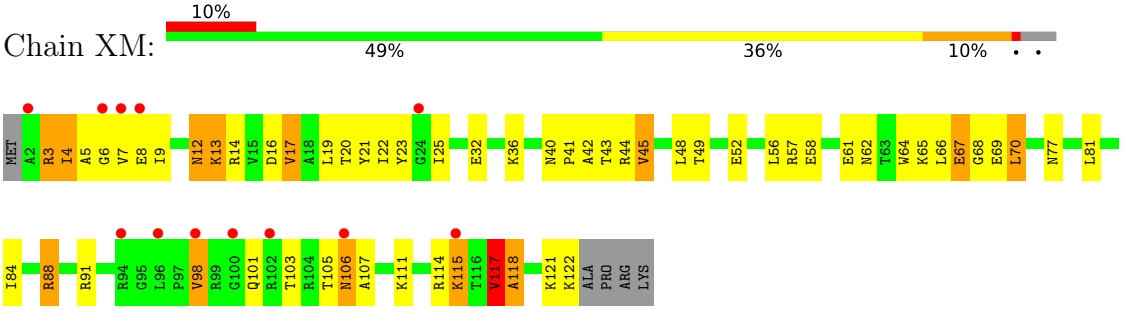
• Molecule 13: 30S ribosomal protein S13

Chain QM:



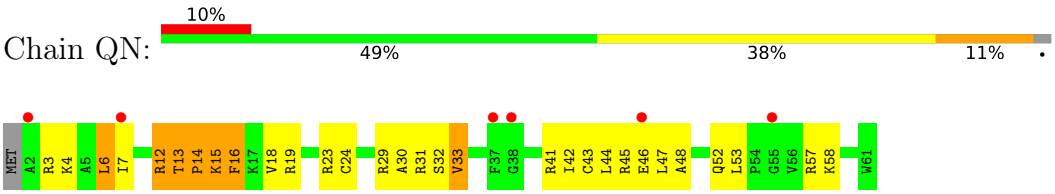
• Molecule 13: 30S ribosomal protein S13

Chain XM:



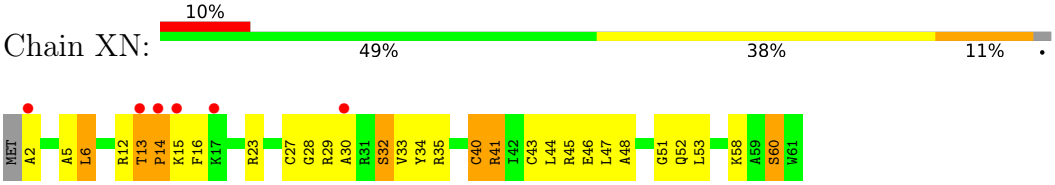
• Molecule 14: 30S ribosomal protein S14 type Z

Chain QN:



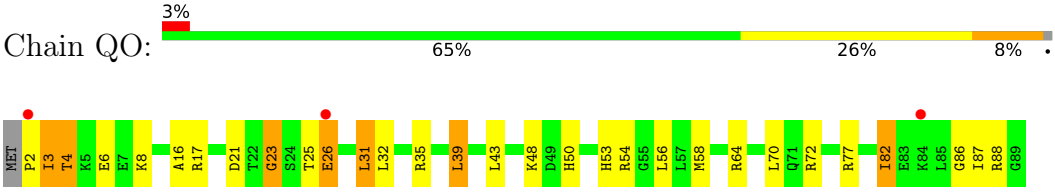
• Molecule 14: 30S ribosomal protein S14 type Z

Chain XN:



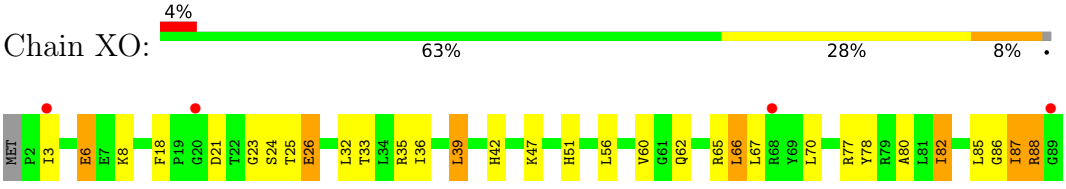
• Molecule 15: 30S ribosomal protein S15

Chain QO:



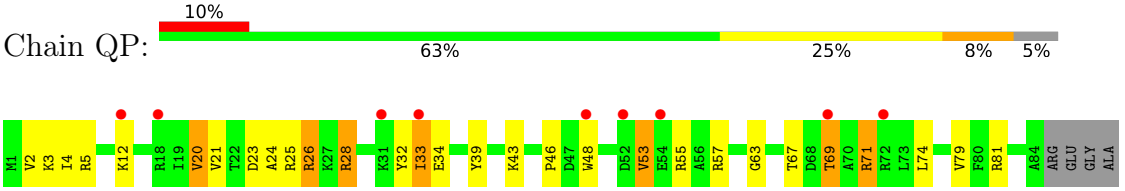
• Molecule 15: 30S ribosomal protein S15

Chain XO:



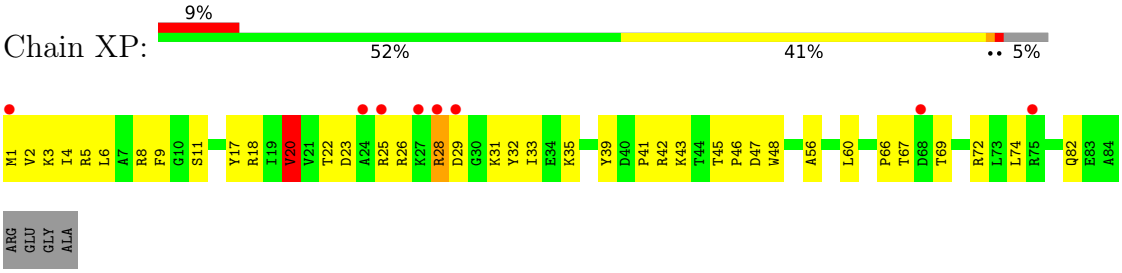
• Molecule 16: 30S ribosomal protein S16

Chain QP:



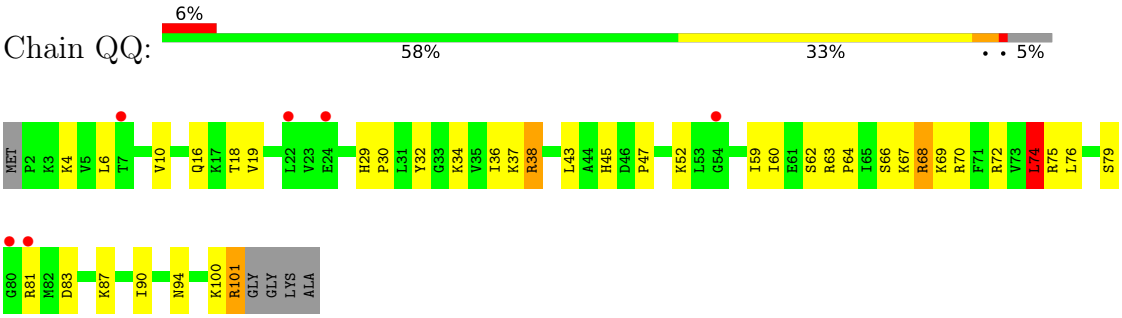
• Molecule 16: 30S ribosomal protein S16

Chain XP:



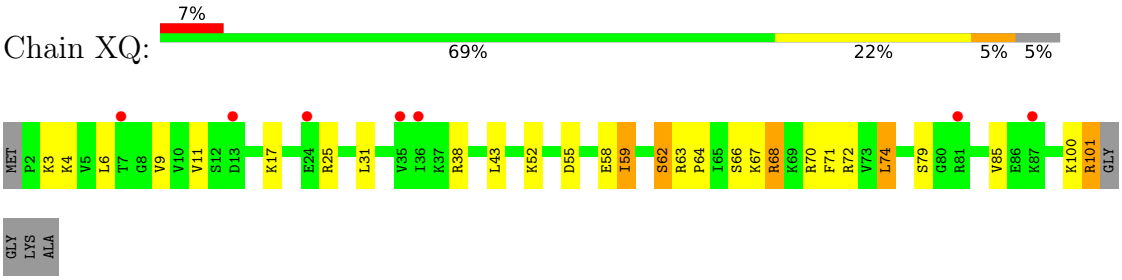
• Molecule 17: 30S ribosomal protein S17

Chain QQ:



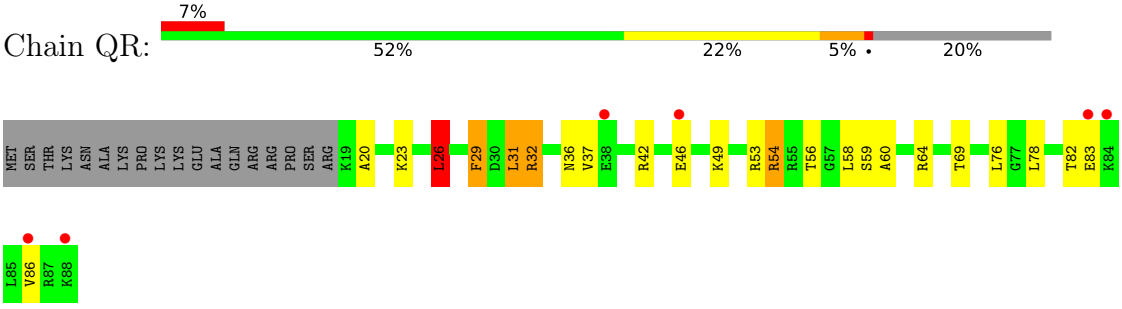
• Molecule 17: 30S ribosomal protein S17

Chain XQ:



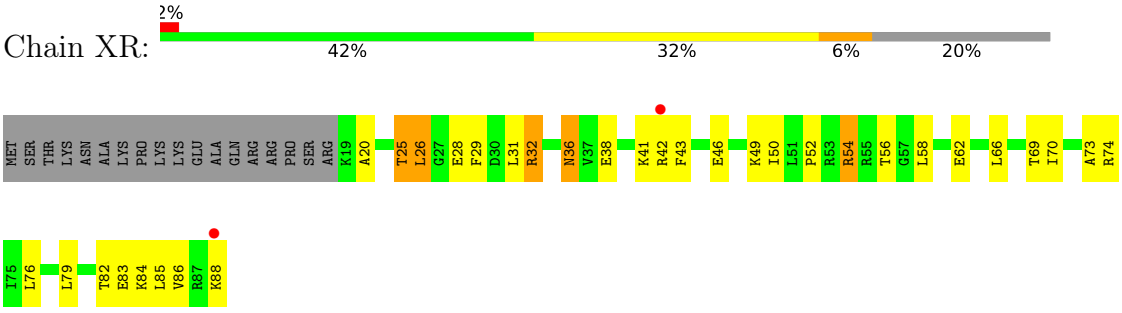
• Molecule 18: 30S ribosomal protein S18

Chain QR:



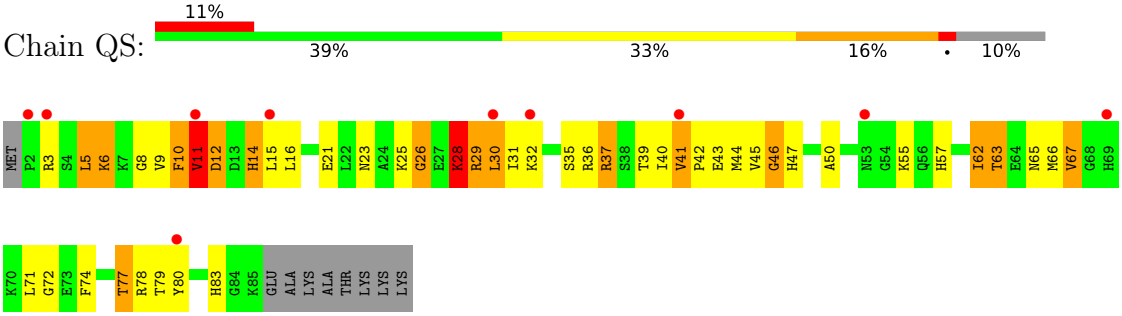
• Molecule 18: 30S ribosomal protein S18

Chain XR:



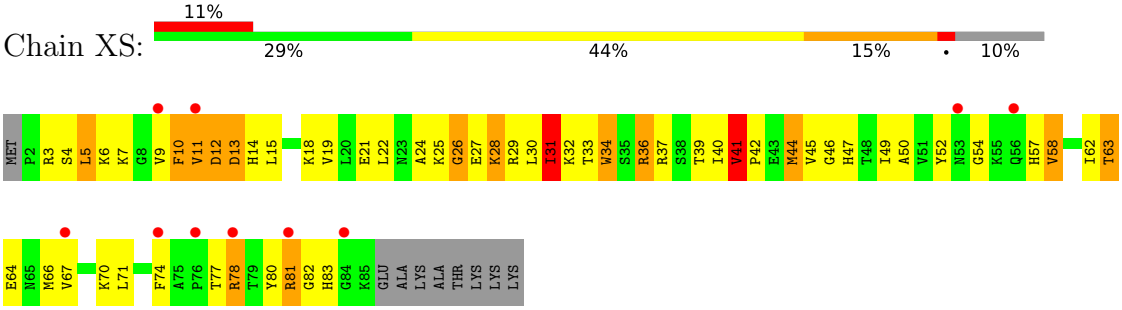
• Molecule 19: 30S ribosomal protein S19

Chain QS:



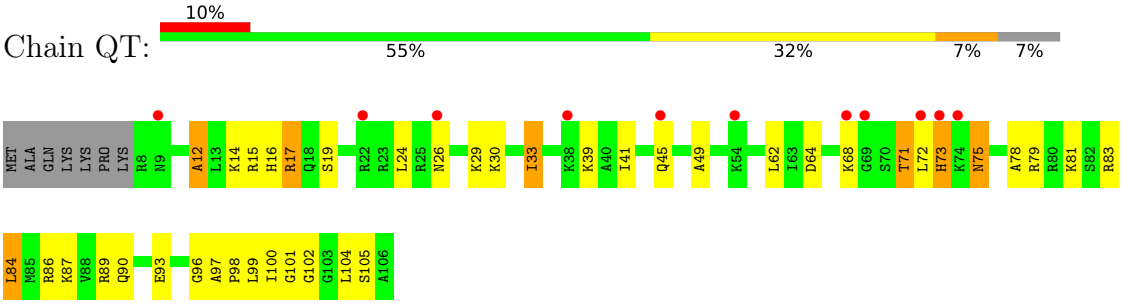
• Molecule 19: 30S ribosomal protein S19

Chain XS:



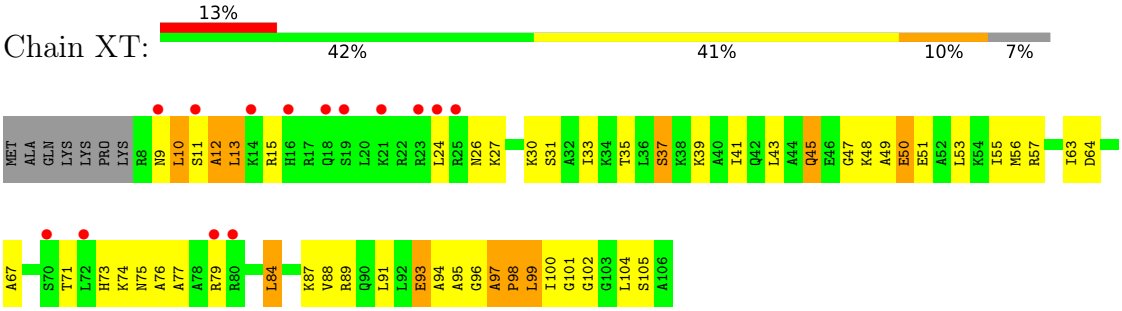
• Molecule 20: 30S ribosomal protein S20

Chain QT:



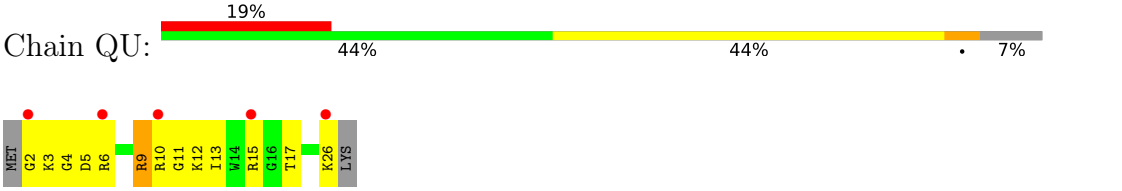
• Molecule 20: 30S ribosomal protein S20

Chain XT:



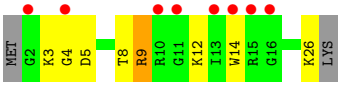
• Molecule 21: 30S ribosomal protein Thx

Chain QU:



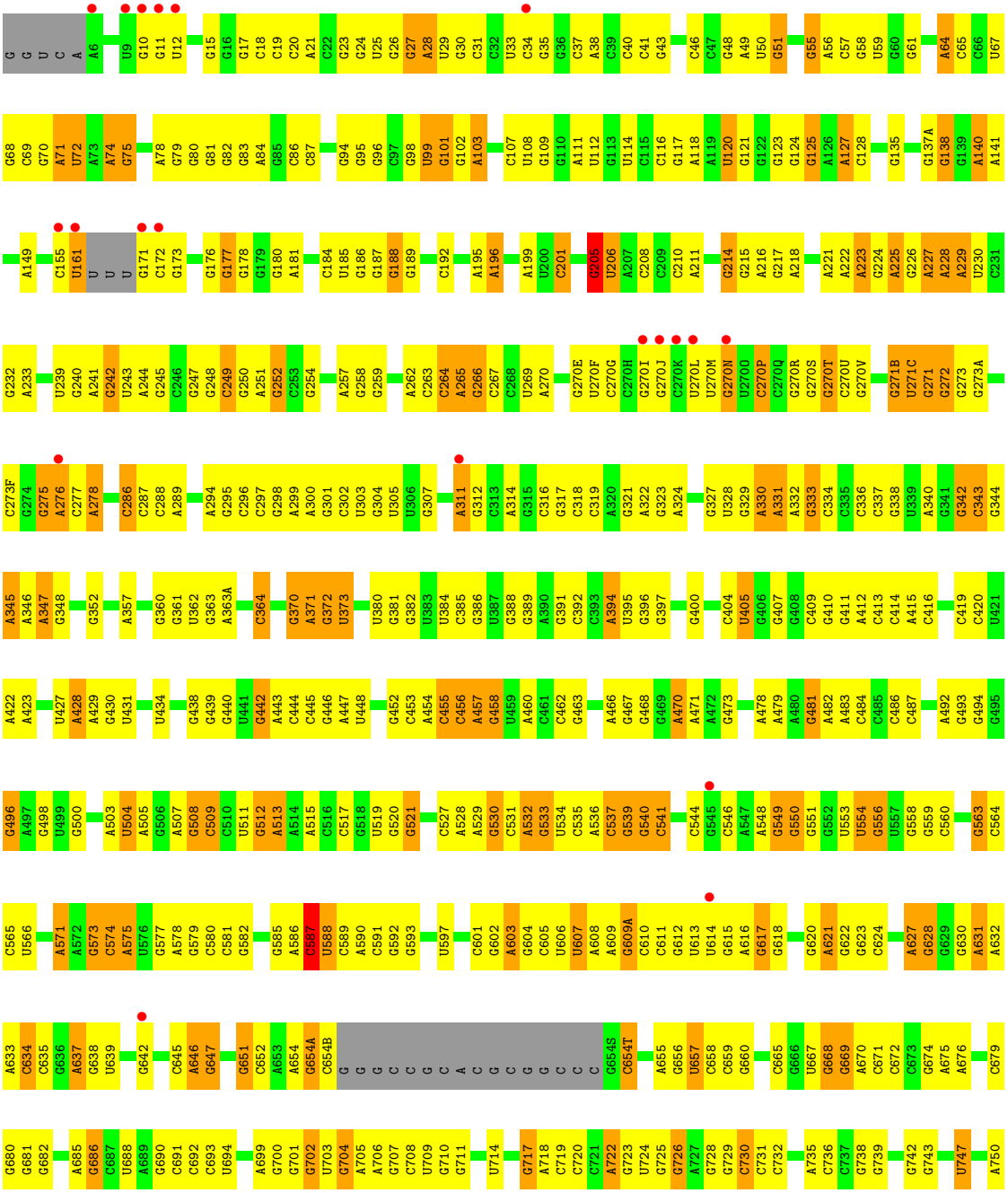
• Molecule 21: 30S ribosomal protein Thx

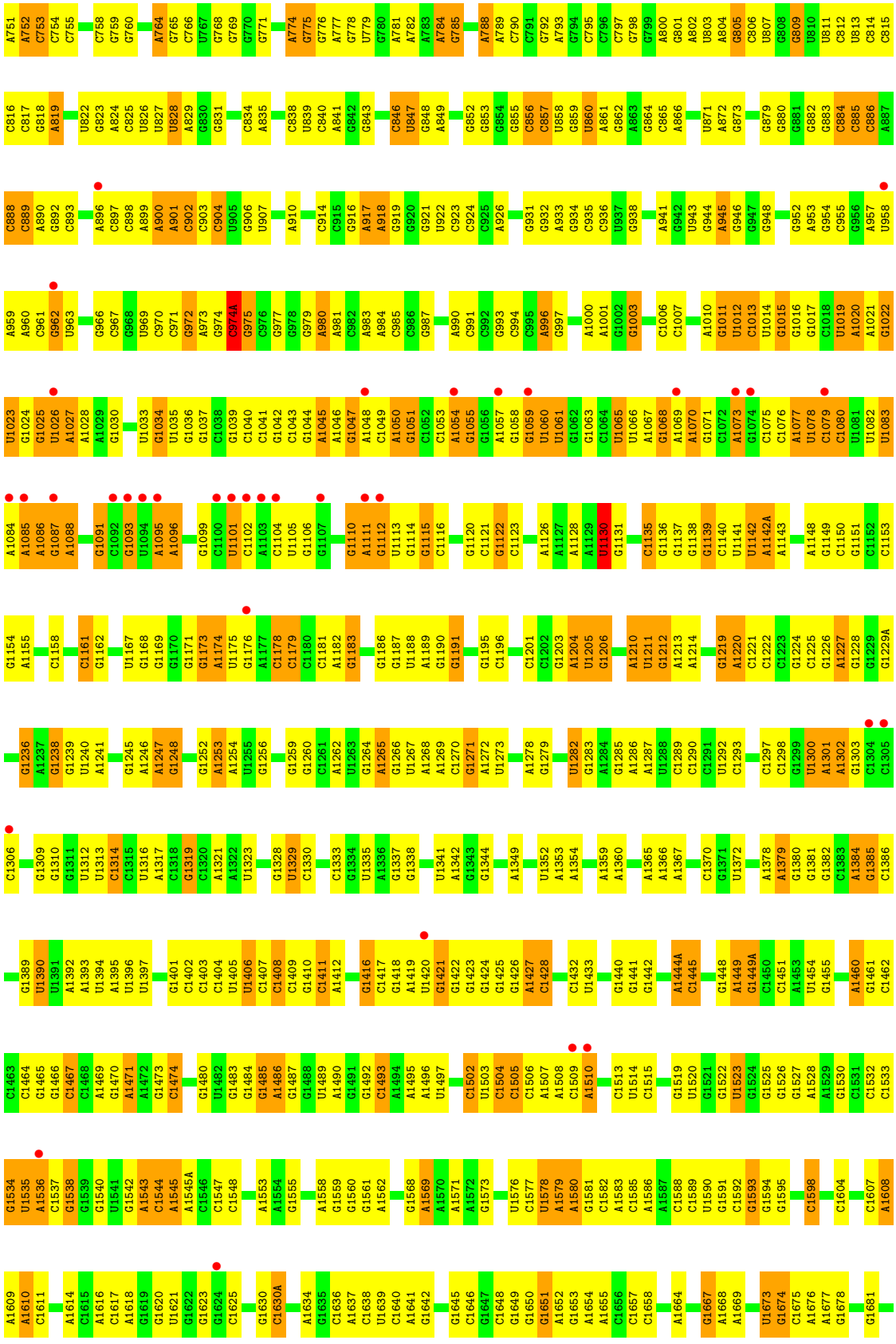
Chain XU:



• Molecule 22: 23S rRNA

Chain RA:

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U811 C812 U813 C814 C815
C816 C817 G818 A819
U822 G823 A824 C825 U826 U827 U828 A829 G830 G831
C834 A835
C838 U839
C840 A841 G842 G843
C846 U847 G848 A849
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C888 C889 A890 G892 C893
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A910
C914 C915 G916 A917 A918 G919 G920 G921 U922 C923 C924 C925 A926
G931 G932 A933 G934 C935 C936 U937 G938
A941 G942 U943 G944 A945 G946 G947 G948
G952 A953 G954 C955 G956 A957 U958
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G966 C967 G968 U969 C970 C971 G972 A973 G974 C974A G975 G976 G977 G978 G979 A980 A981 C982 A983 A984 C985 C986 G987
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A1000 A1001 G1002 G1003
C1006 C1007
A1010 G1011 U1012 C1013 U1014 G1015 G1016 G1017 C1018 U1019 A1020 A1021 G1022
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C1158
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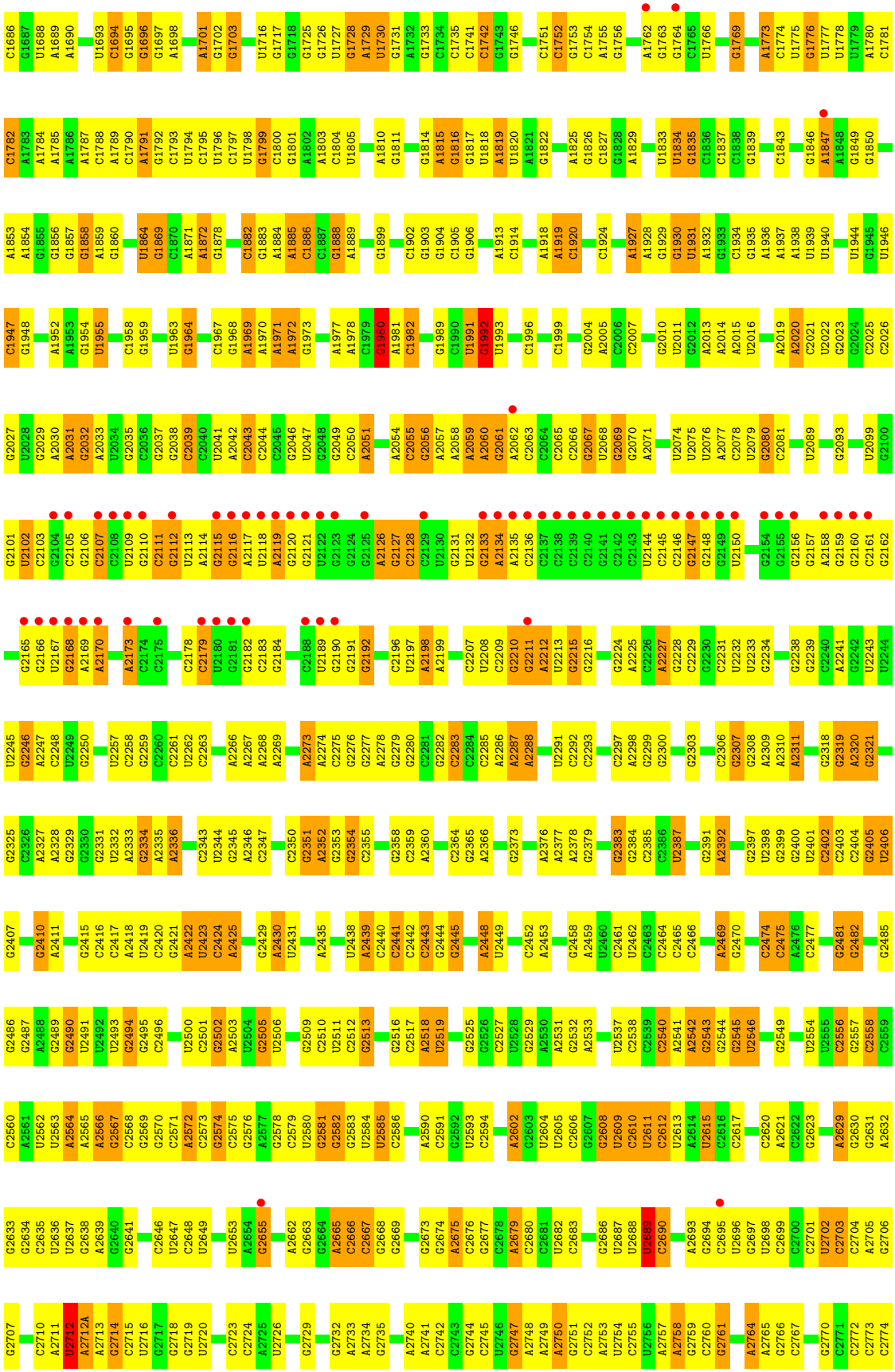
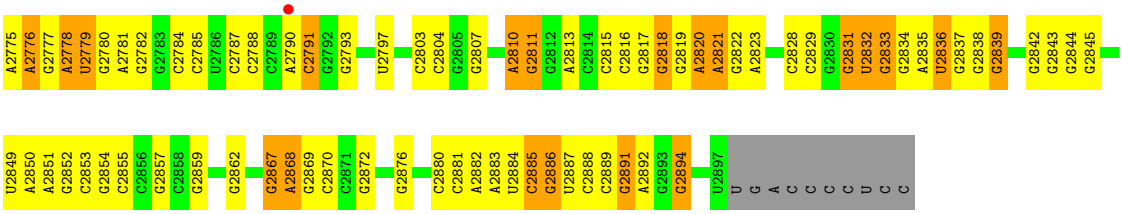
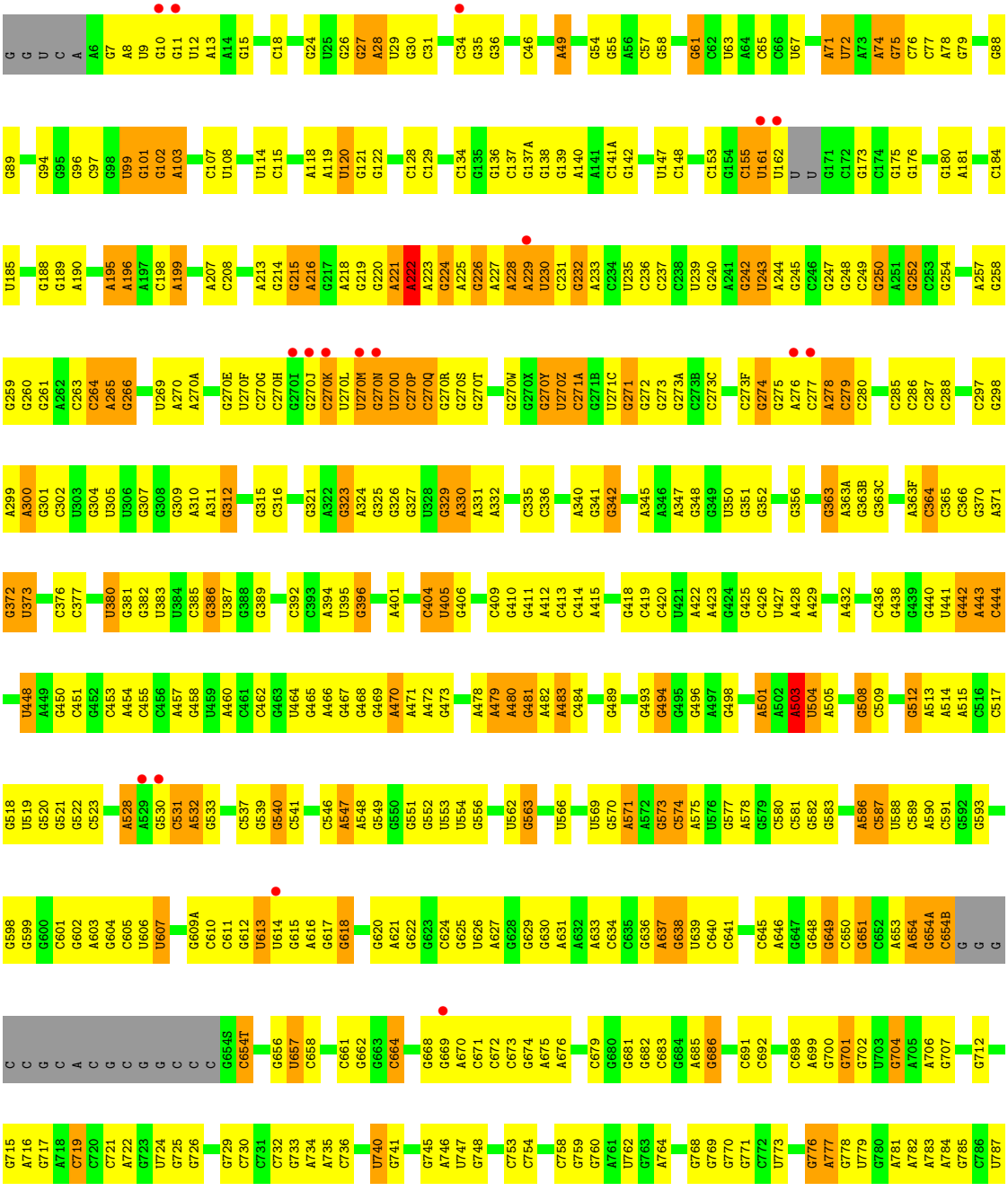
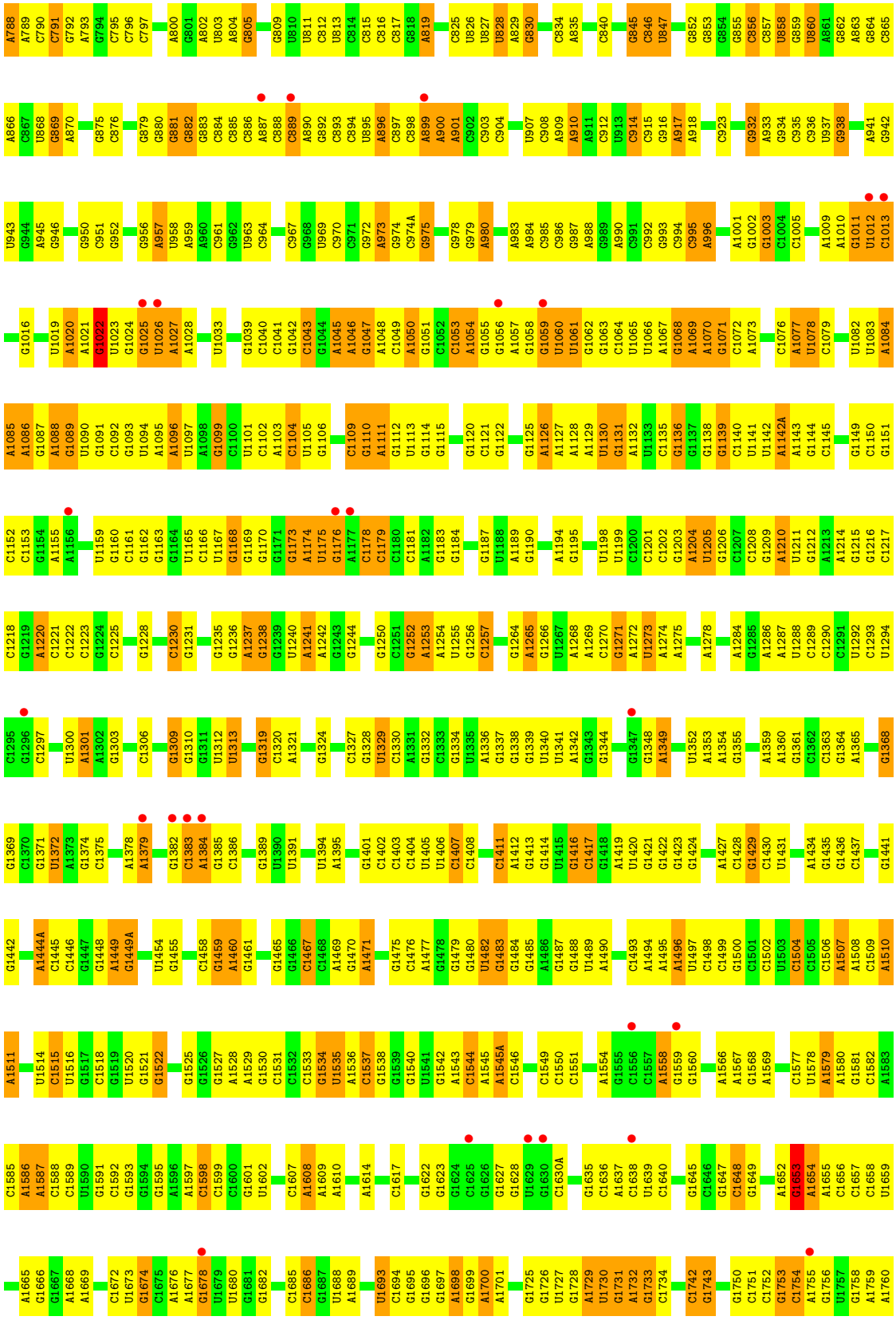


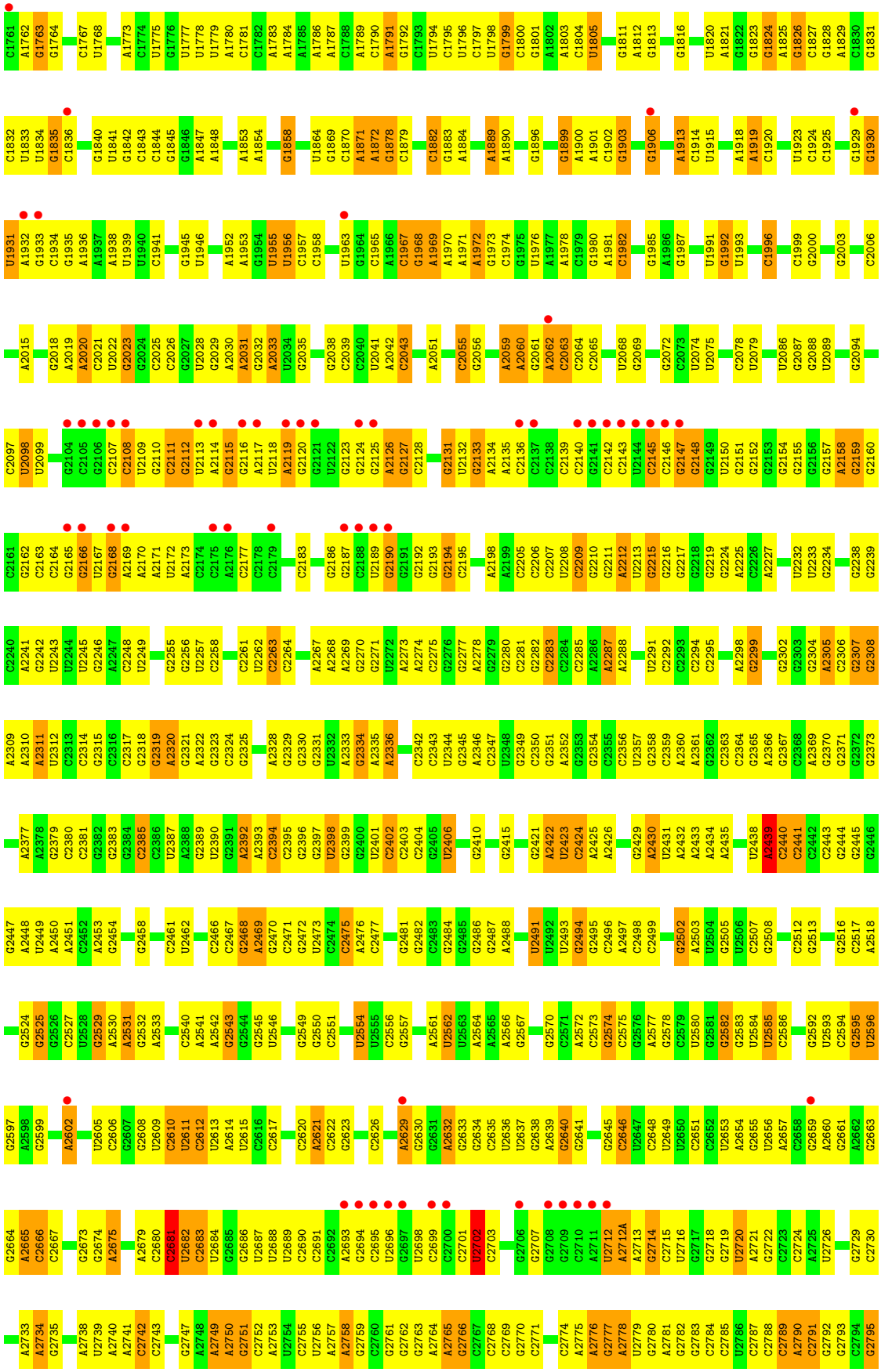


• Molecule 22: 23S rRNA

Chain YA:



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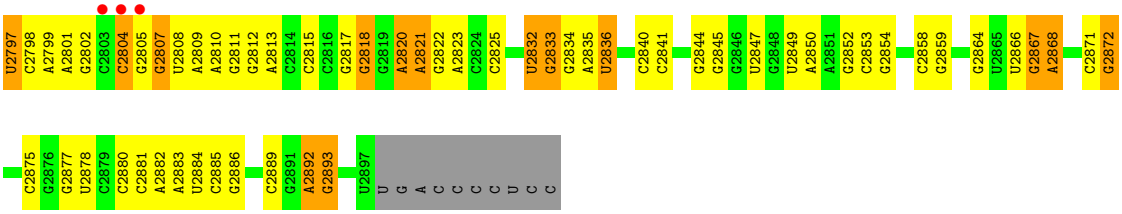
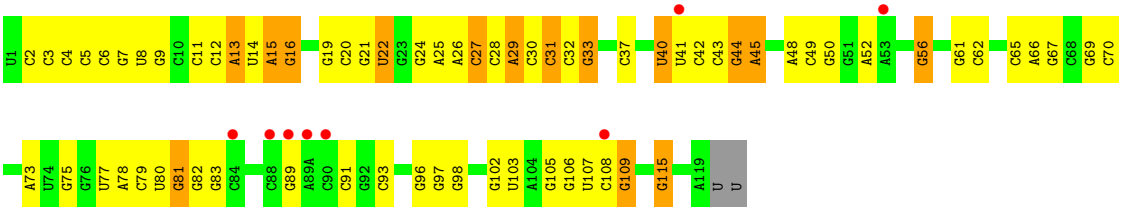


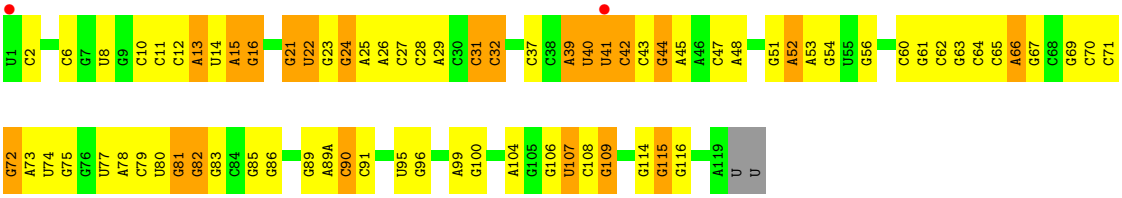
• Molecule 23: 5S rRNA

Chain RB:



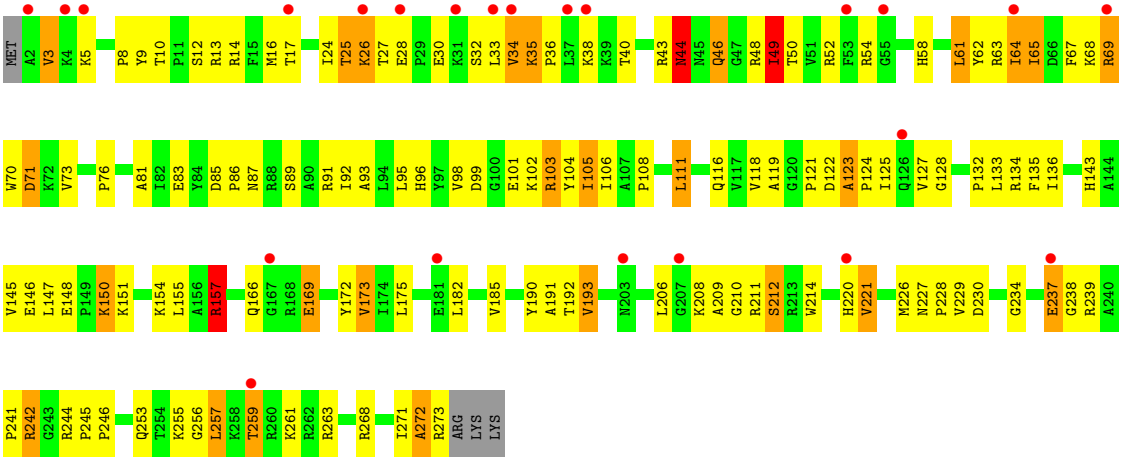
• Molecule 23: 5S rRNA

Chain YB:



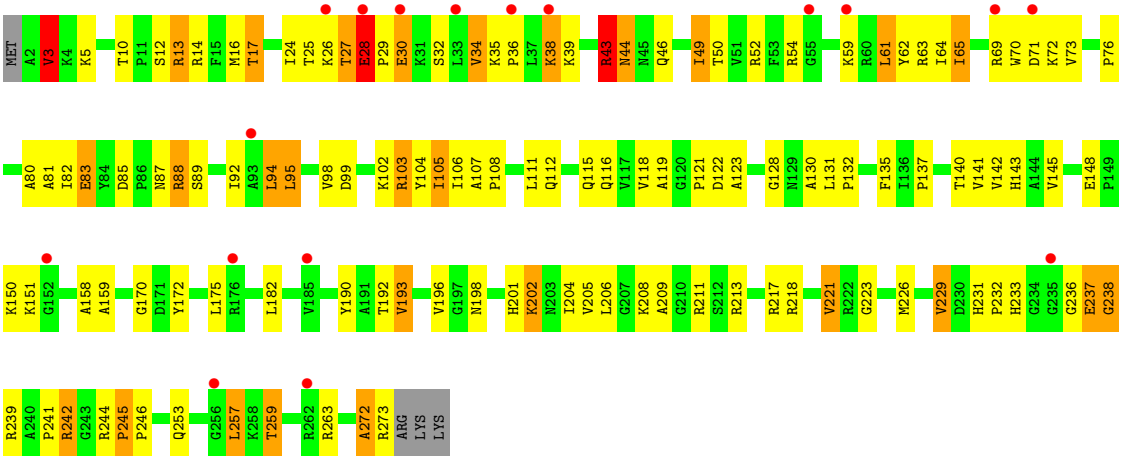
• Molecule 24: 50S ribosomal protein L2

Chain RD:



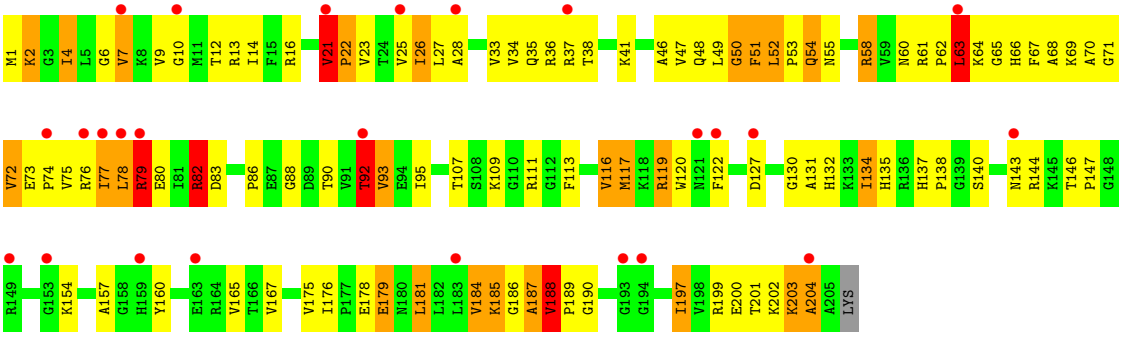
• Molecule 24: 50S ribosomal protein L2

Chain YD:



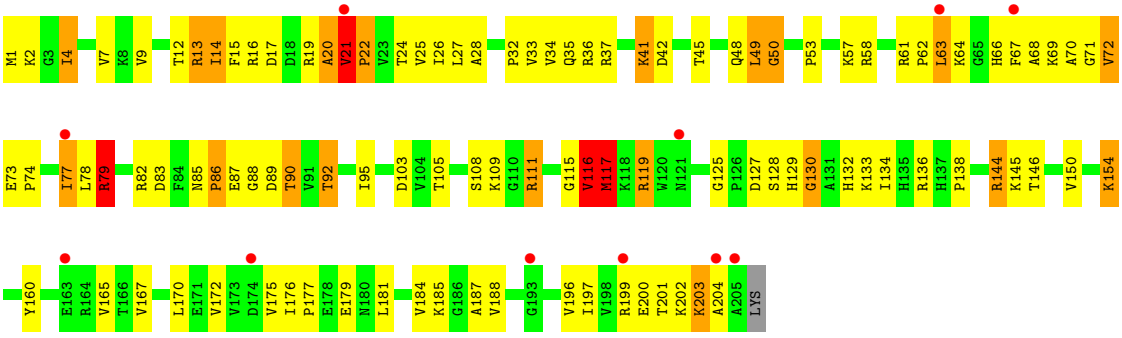
• Molecule 25: 50S ribosomal protein L3

Chain RE:



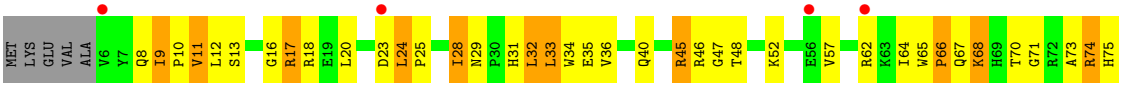
• Molecule 25: 50S ribosomal protein L3

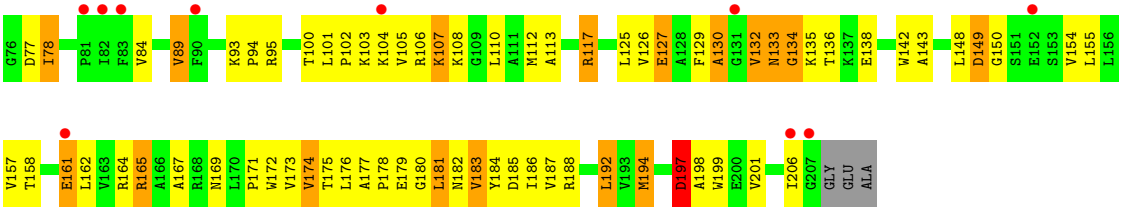
Chain YE:



• Molecule 26: 50S ribosomal protein L4

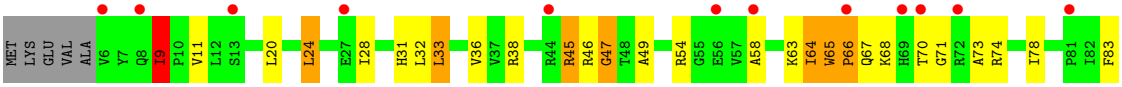
Chain RF:

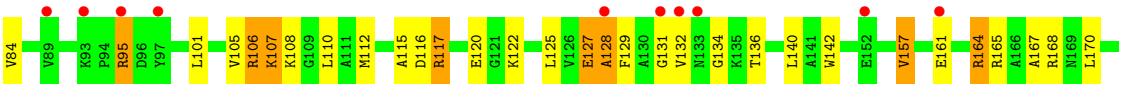


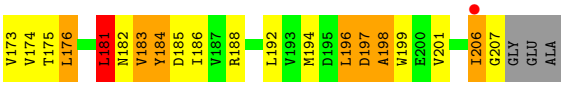


• Molecule 26: 50S ribosomal protein L4

Chain YF:

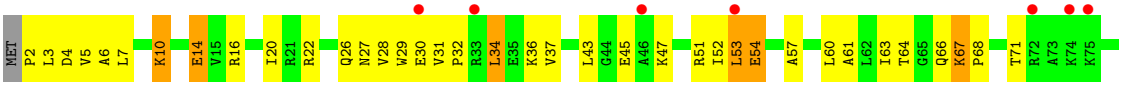


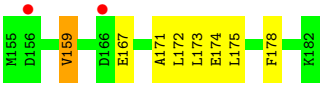




• Molecule 27: 50S ribosomal protein L5

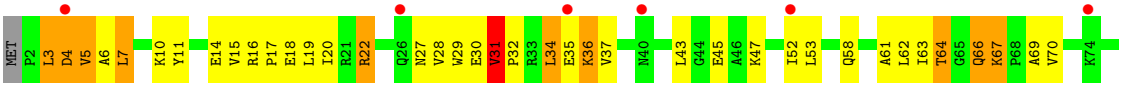
Chain RG:

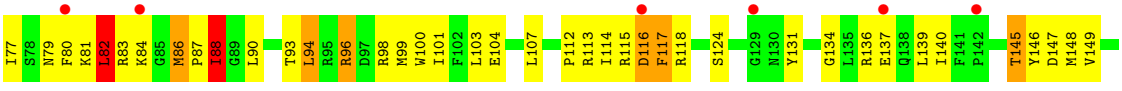


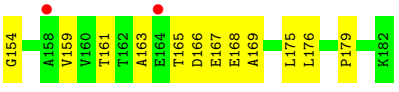


• Molecule 27: 50S ribosomal protein L5

Chain YG:

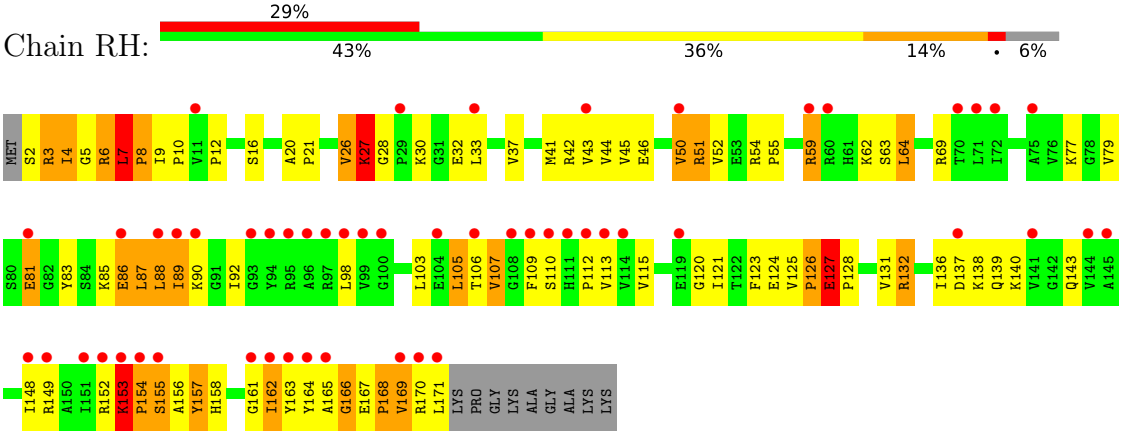






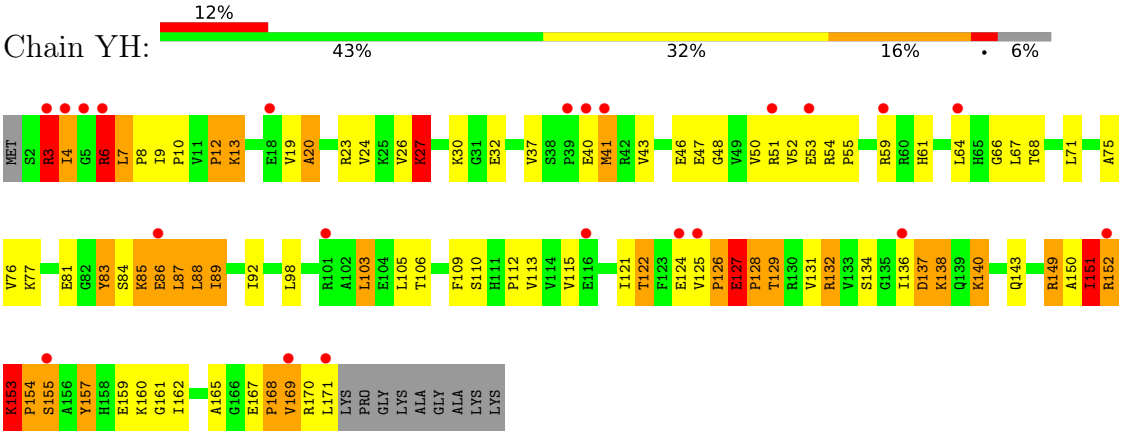
• Molecule 28: 50S ribosomal protein L6

Chain RH:



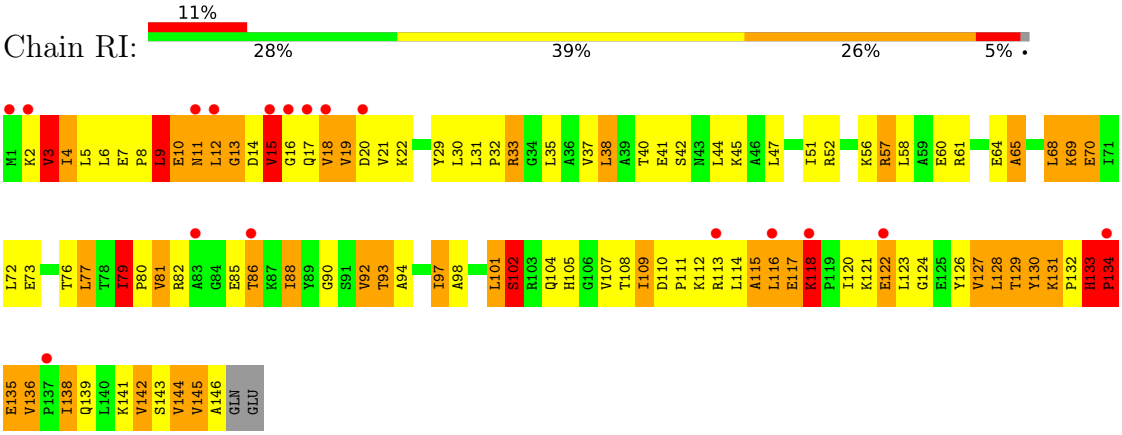
• Molecule 28: 50S ribosomal protein L6

Chain YH:



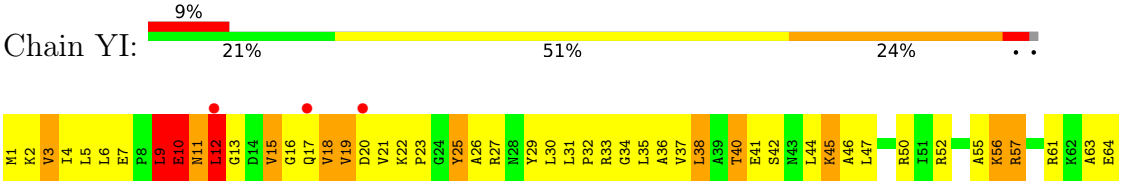
• Molecule 29: 50S ribosomal protein L9

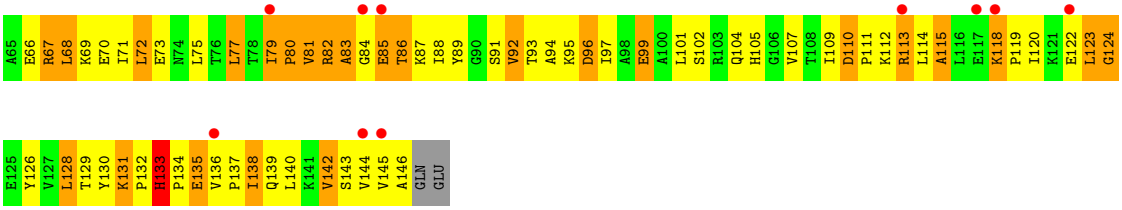
Chain RI:



• Molecule 29: 50S ribosomal protein L9

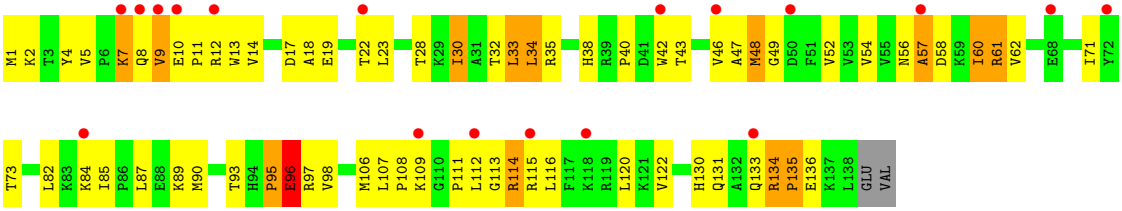
Chain YI:





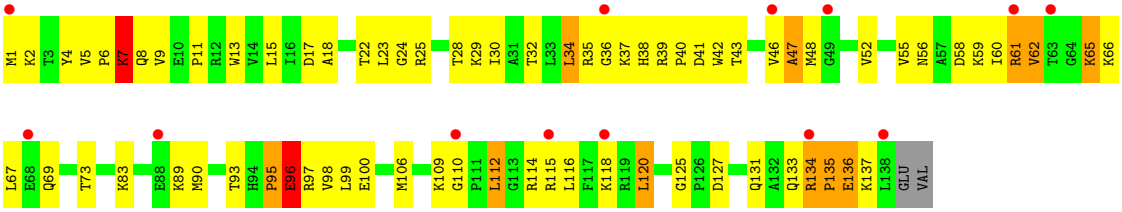
• Molecule 30: 50S ribosomal protein L13

Chain RN:



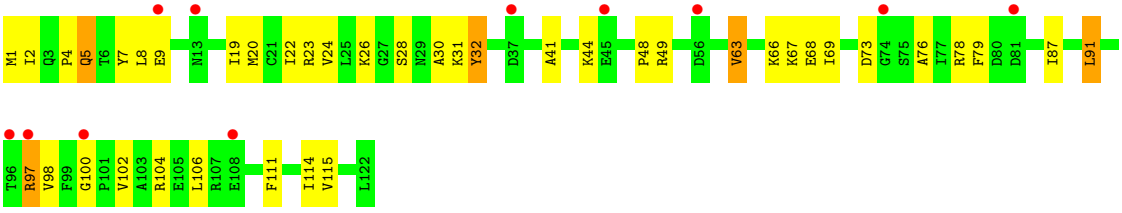
• Molecule 30: 50S ribosomal protein L13

Chain YN:



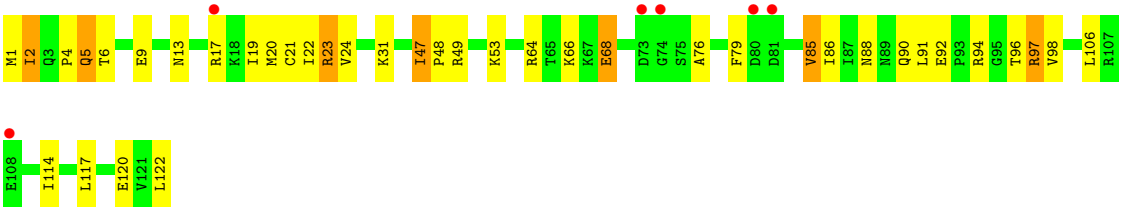
• Molecule 31: 50S ribosomal protein L14

Chain RO:



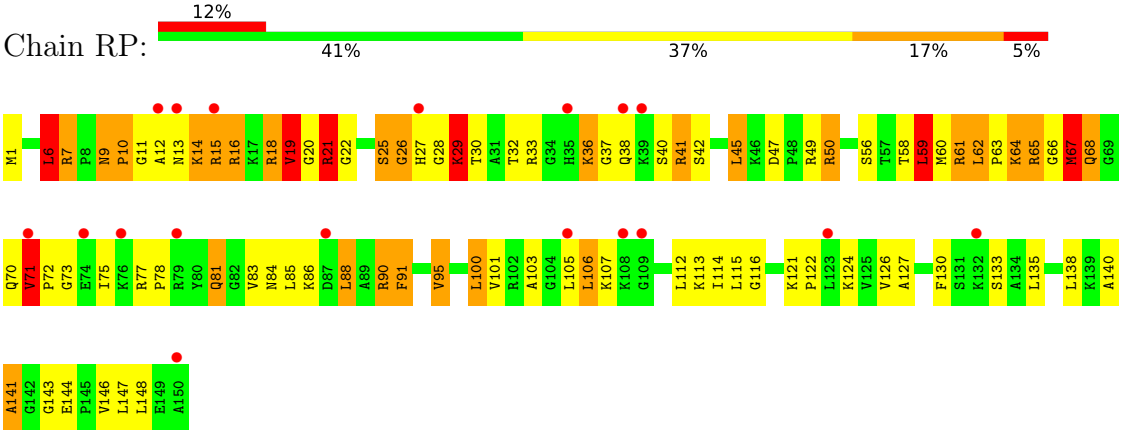
• Molecule 31: 50S ribosomal protein L14

Chain YO:



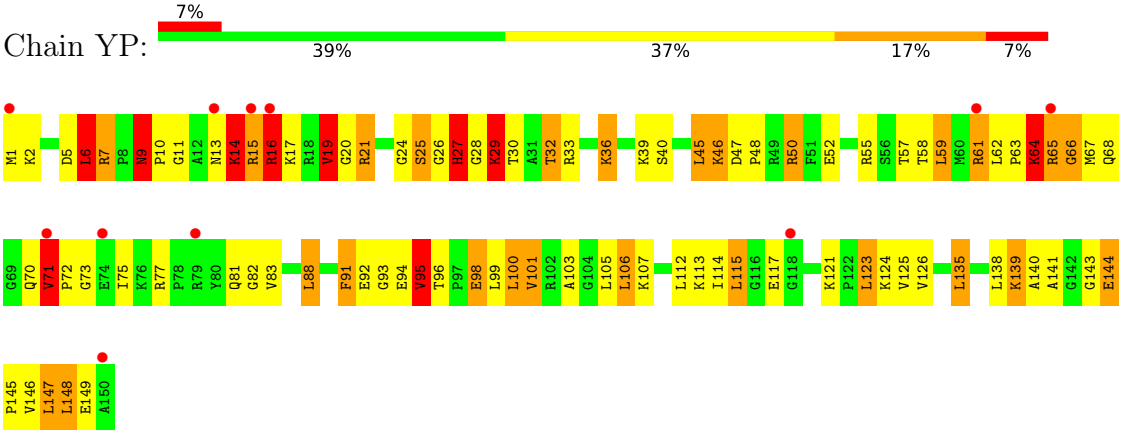
• Molecule 32: 50S ribosomal protein L15

Chain RP:



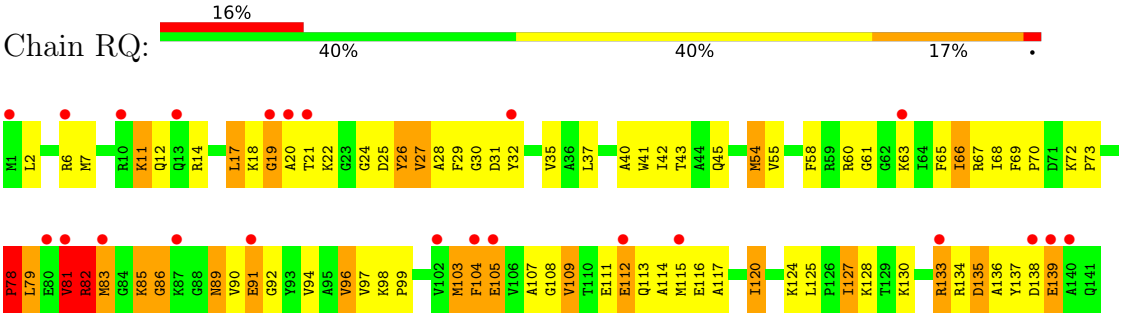
• Molecule 32: 50S ribosomal protein L15

Chain YP:



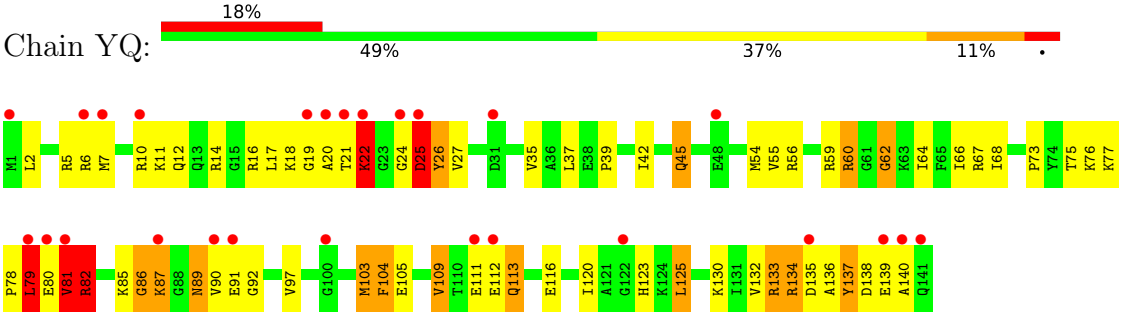
• Molecule 33: 50S ribosomal protein L16

Chain RQ:



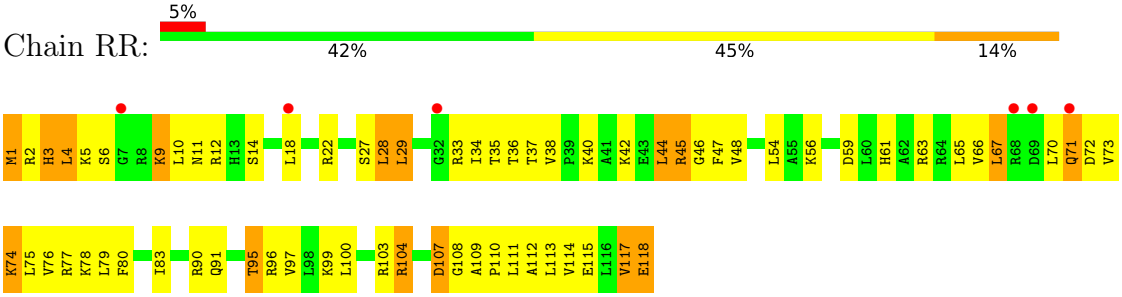
• Molecule 33: 50S ribosomal protein L16

Chain YQ:



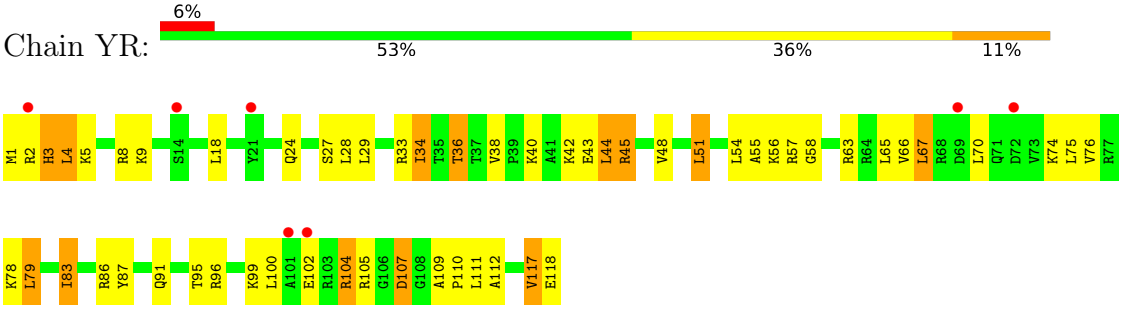
• Molecule 34: 50S ribosomal protein L17

Chain RR:



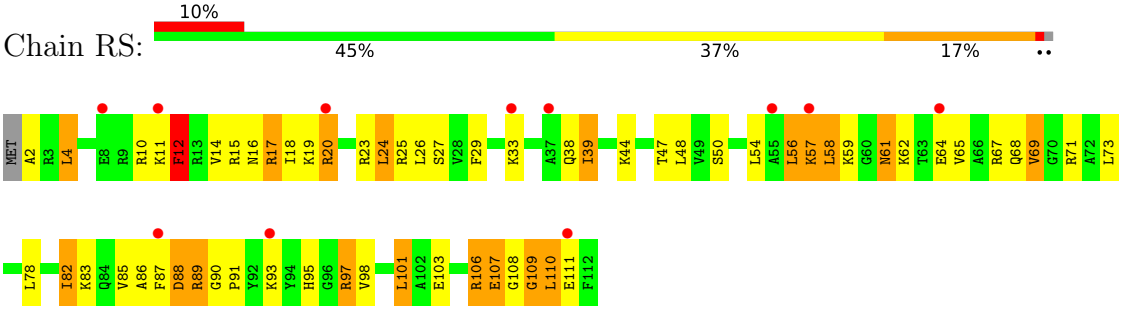
• Molecule 34: 50S ribosomal protein L17

Chain YR:



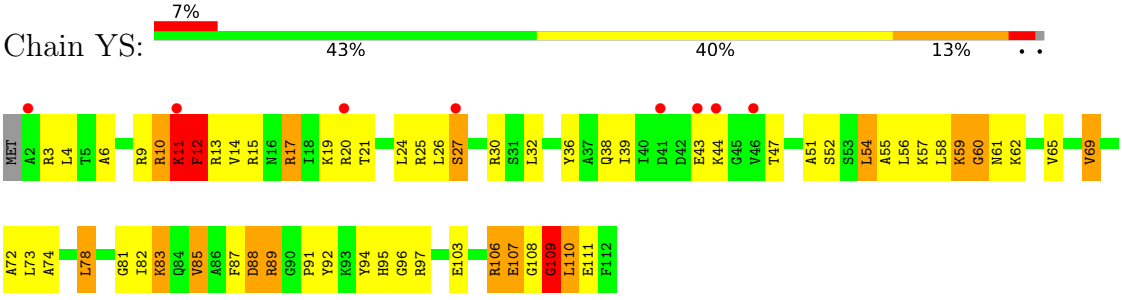
• Molecule 35: 50S ribosomal protein L18

Chain RS:



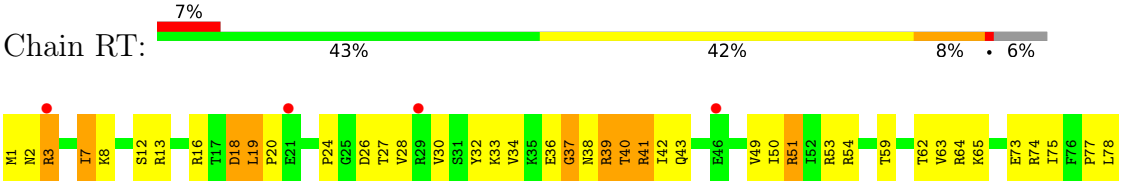
• Molecule 35: 50S ribosomal protein L18

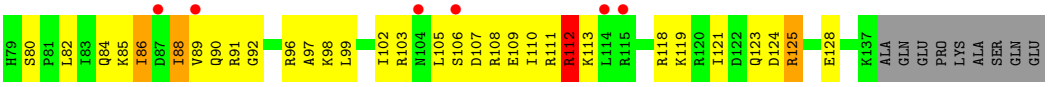
Chain YS:



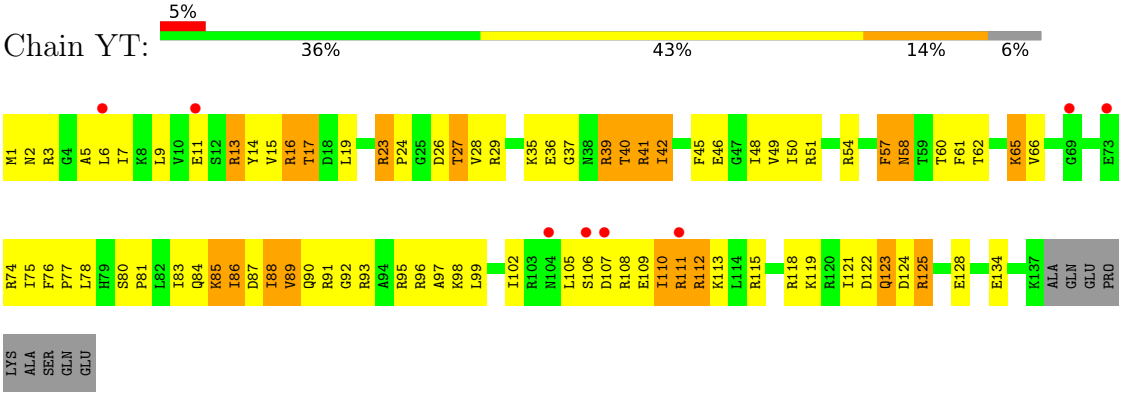
• Molecule 36: 50S ribosomal protein L19

Chain RT:

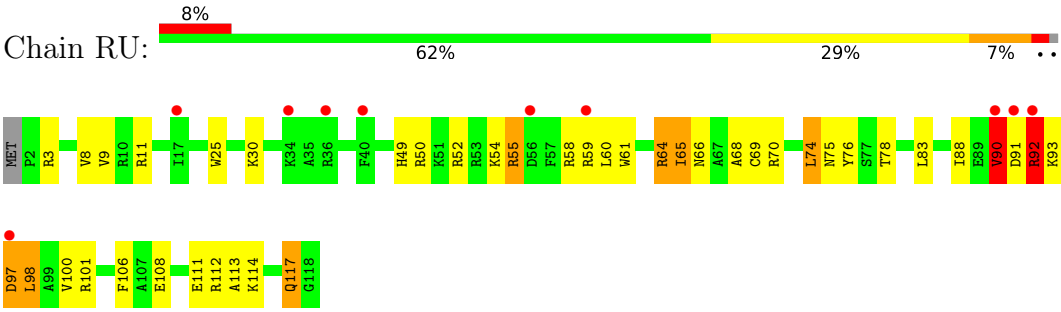




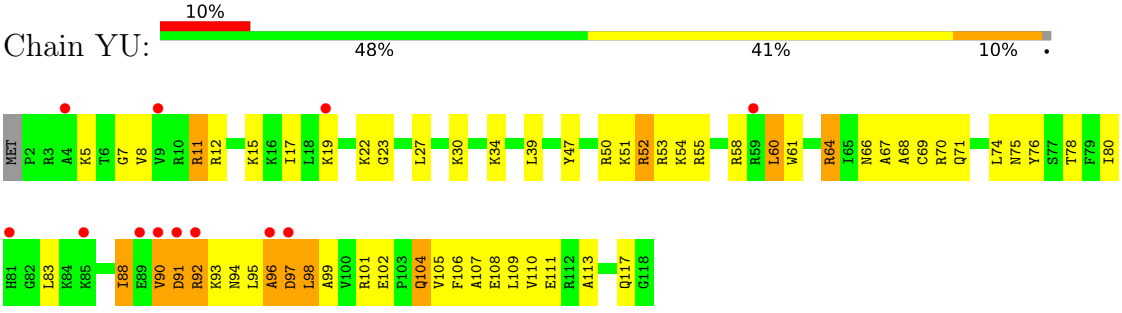
• Molecule 36: 50S ribosomal protein L19



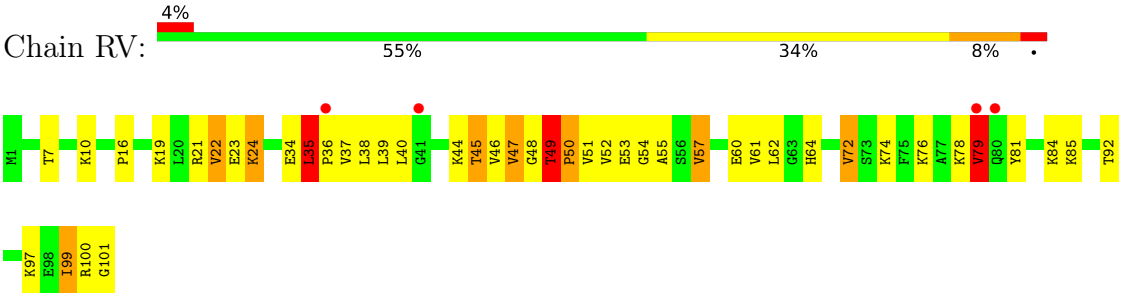
• Molecule 37: 50S ribosomal protein L20



• Molecule 37: 50S ribosomal protein L20

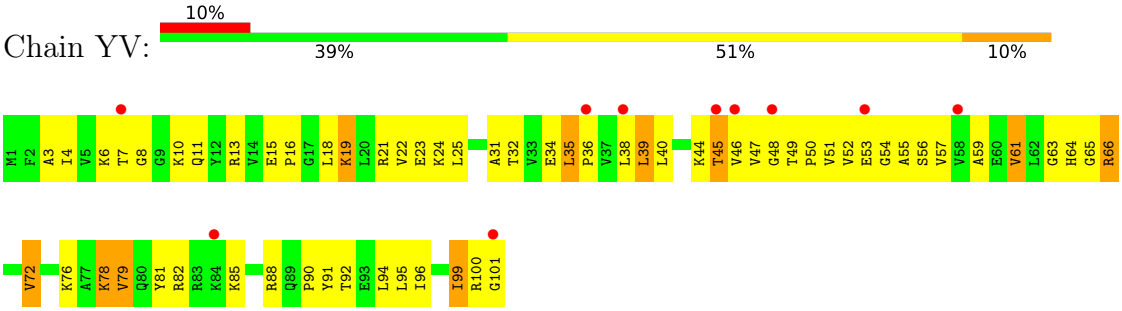


• Molecule 38: 50S ribosomal protein L21



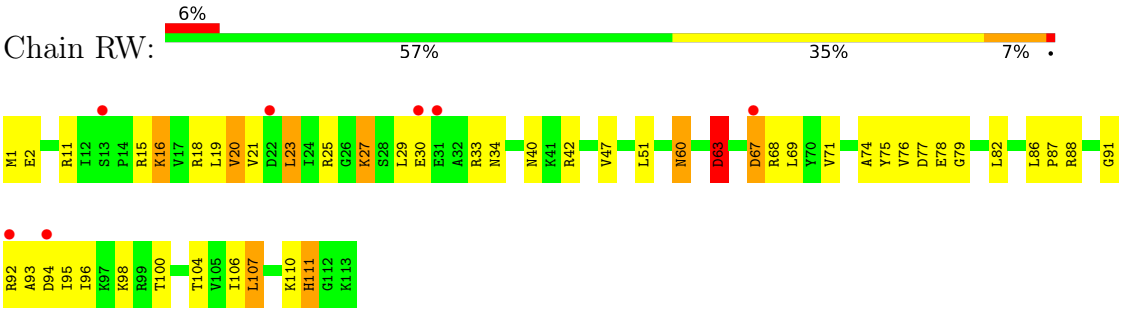
• Molecule 38: 50S ribosomal protein L21

Chain YV:



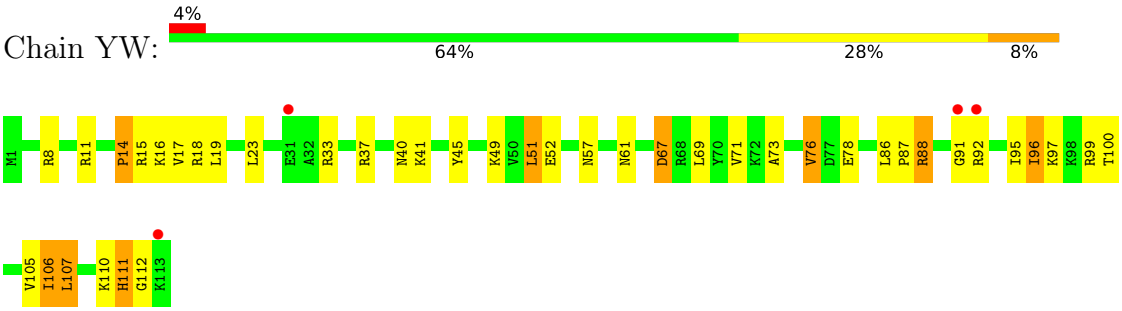
• Molecule 39: 50S ribosomal protein L22

Chain RW:



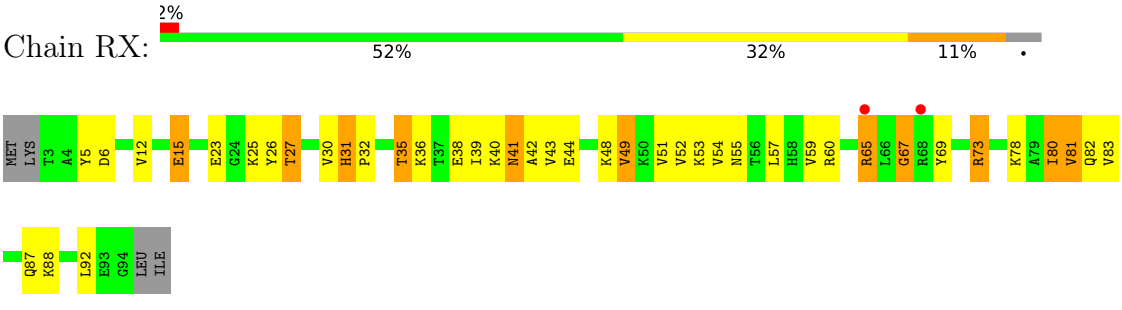
• Molecule 39: 50S ribosomal protein L22

Chain YW:



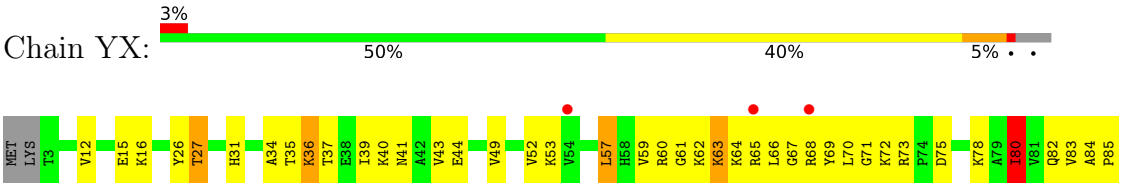
• Molecule 40: 50S ribosomal protein L23

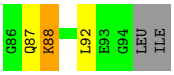
Chain RX:



• Molecule 40: 50S ribosomal protein L23

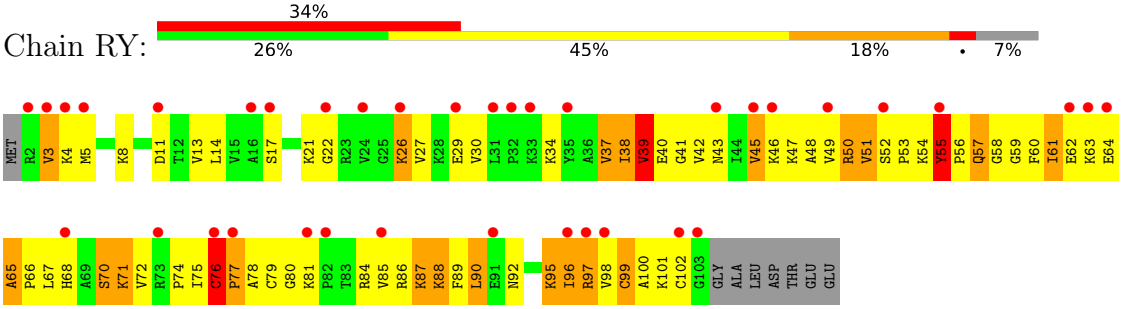
Chain YX:





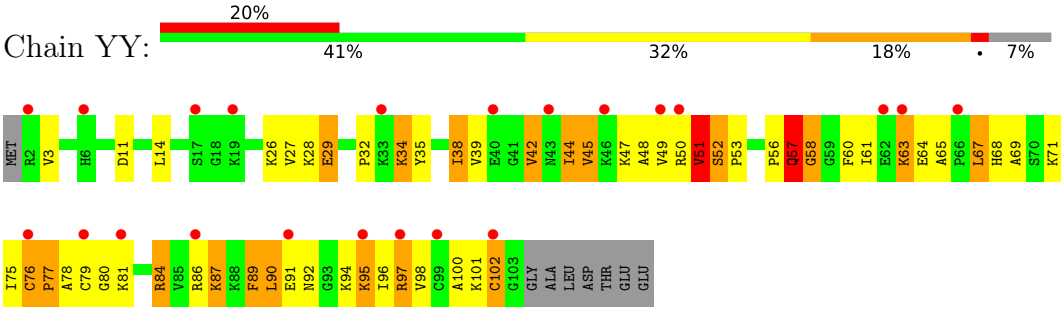
• Molecule 41: 50S ribosomal protein L24

Chain RY:



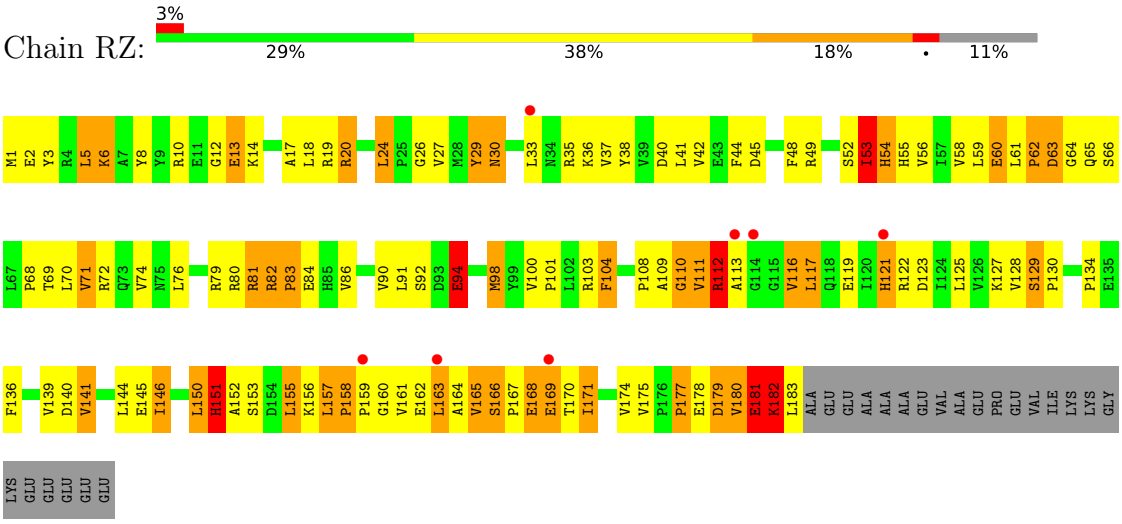
• Molecule 41: 50S ribosomal protein L24

Chain YY:



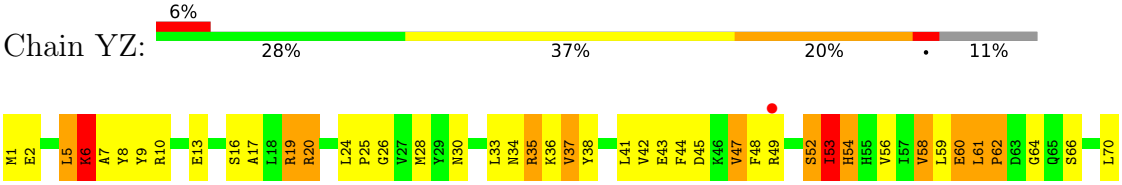
• Molecule 42: 50S ribosomal protein L25

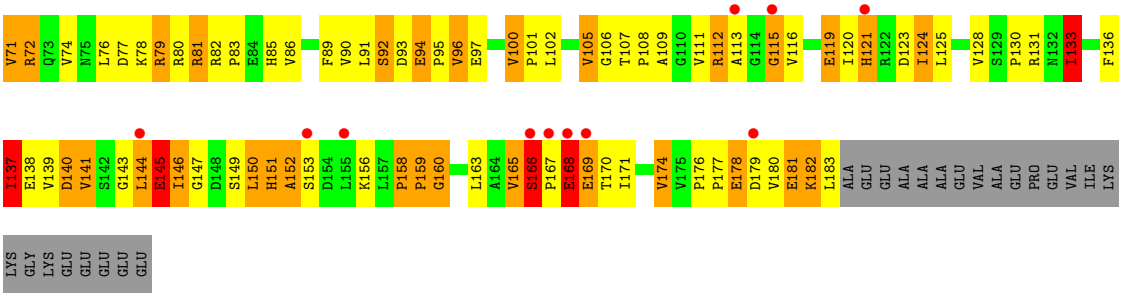
Chain RZ:



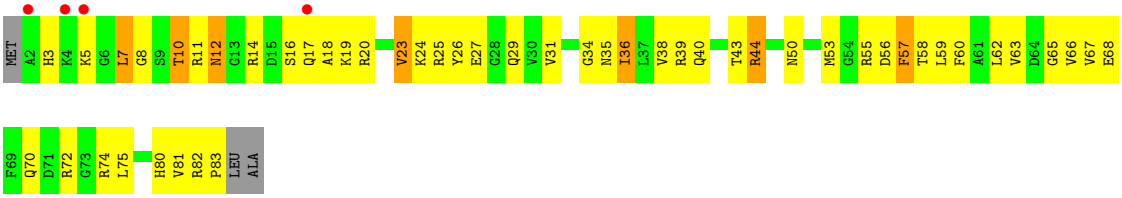
• Molecule 42: 50S ribosomal protein L25

Chain YZ:

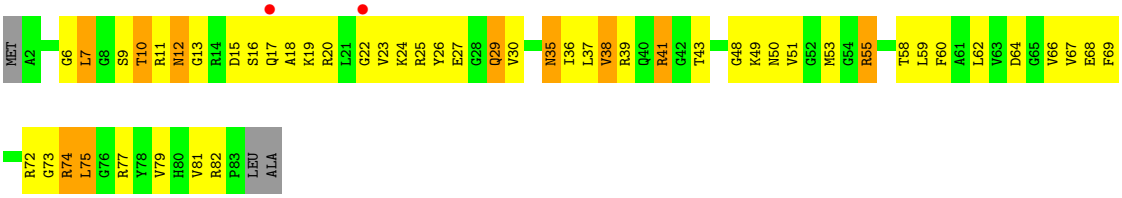




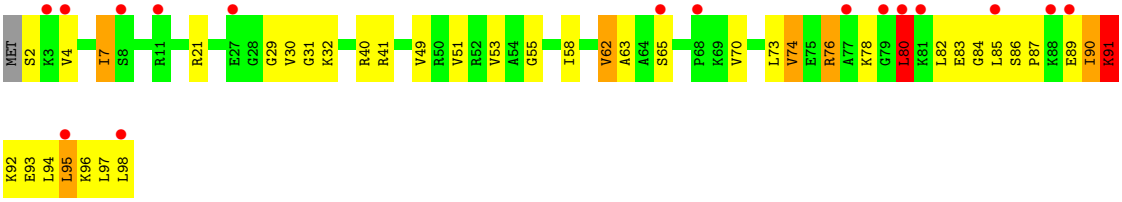
• Molecule 43: 50S ribosomal protein L27



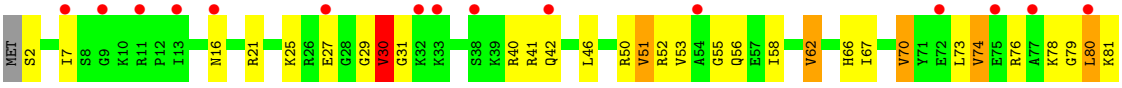
• Molecule 43: 50S ribosomal protein L27

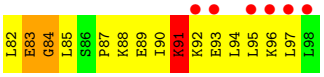


• Molecule 44: 50S ribosomal protein L28



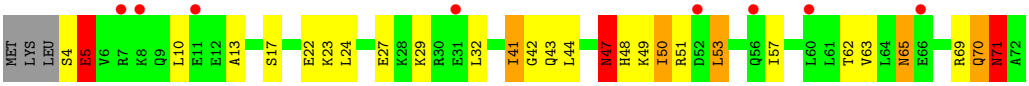
• Molecule 44: 50S ribosomal protein L28





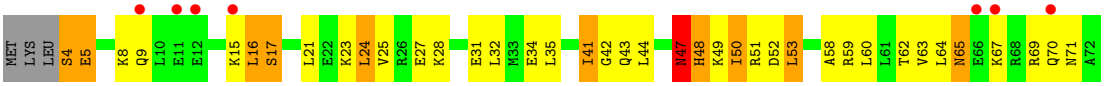
• Molecule 45: 50S ribosomal protein L29

Chain R2:



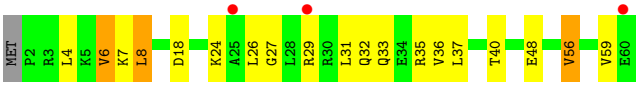
• Molecule 45: 50S ribosomal protein L29

Chain Y2:



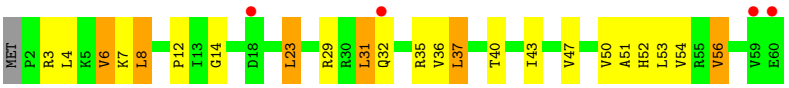
• Molecule 46: 50S ribosomal protein L30

Chain R3:



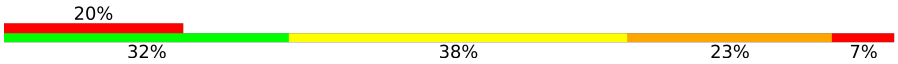
• Molecule 46: 50S ribosomal protein L30

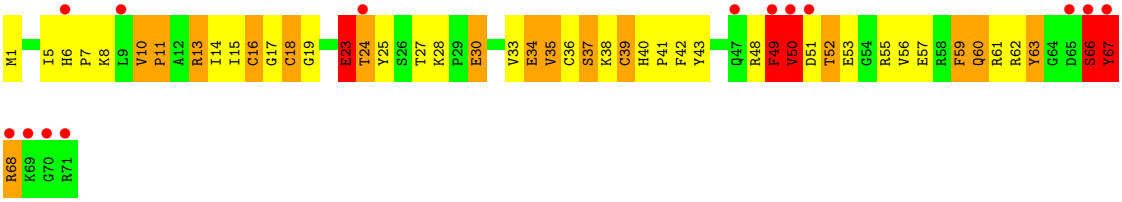
Chain Y3:



• Molecule 47: 50S ribosomal protein L31

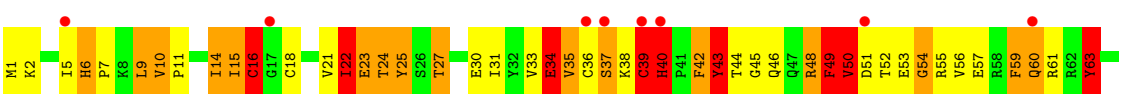
Chain R4:

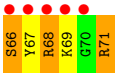




• Molecule 47: 50S ribosomal protein L31

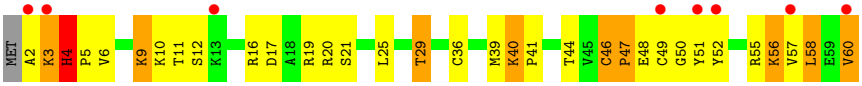
Chain Y4:





• Molecule 48: 50S ribosomal protein L32

Chain R5:

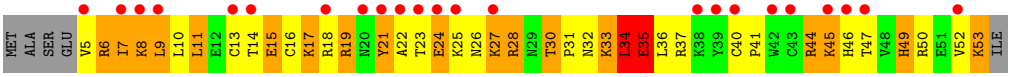


• Molecule 48: 50S ribosomal protein L32

Chain Y5:

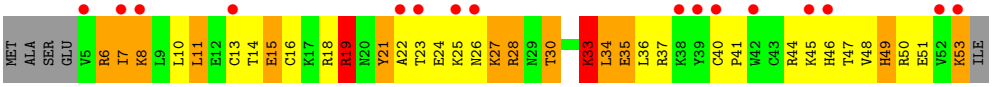
• Molecule 49: 50S ribosomal protein L33

Chain R6:



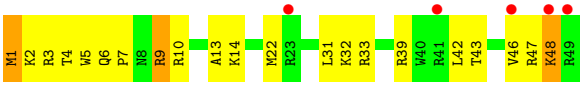
• Molecule 49: 50S ribosomal protein L33

Chain Y6:



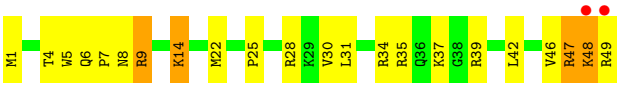
• Molecule 50: 50S ribosomal protein L34

Chain R7:



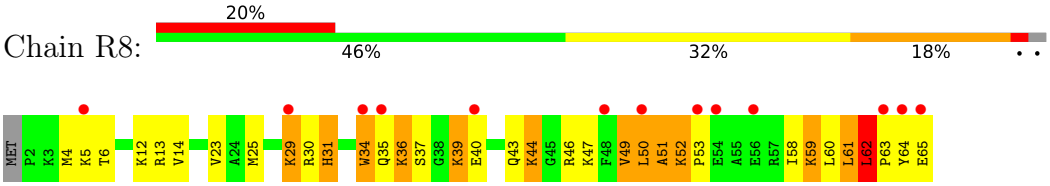
• Molecule 50: 50S ribosomal protein L34

Chain Y7:



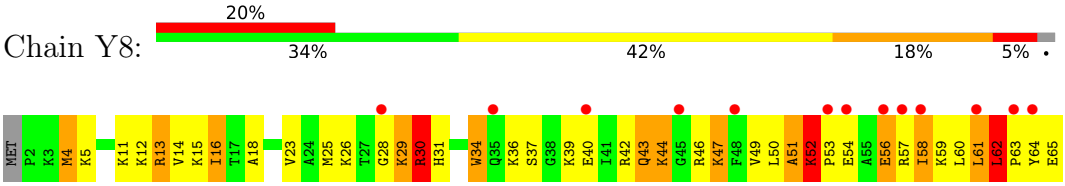
• Molecule 51: 50S ribosomal protein L35

Chain R8:



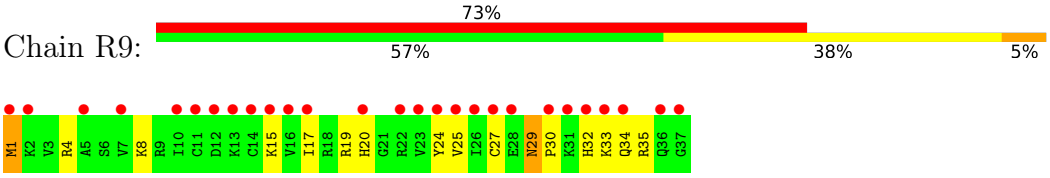
• Molecule 51: 50S ribosomal protein L35

Chain Y8:



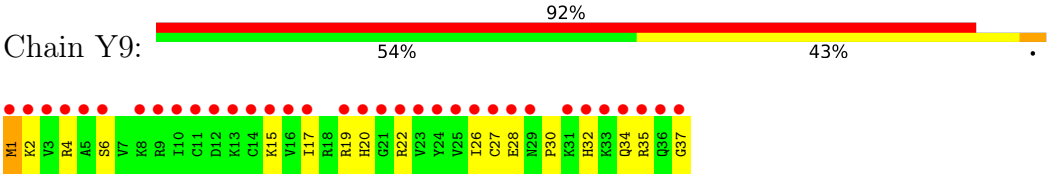
• Molecule 52: 50S ribosomal protein L36

Chain R9:



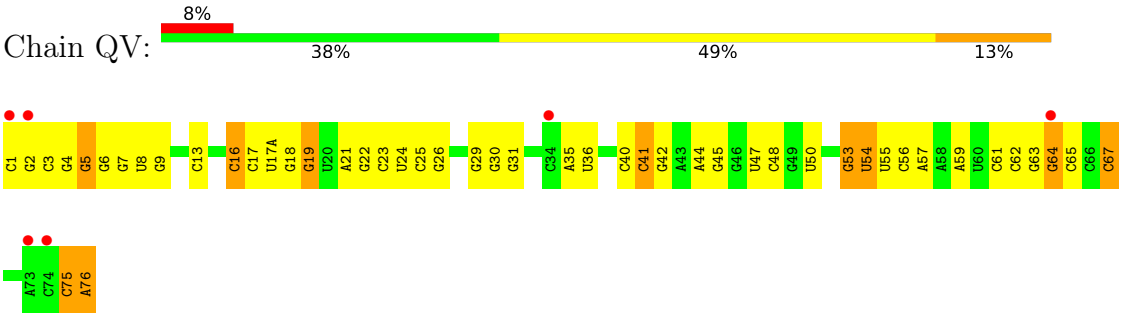
• Molecule 52: 50S ribosomal protein L36

Chain Y9:



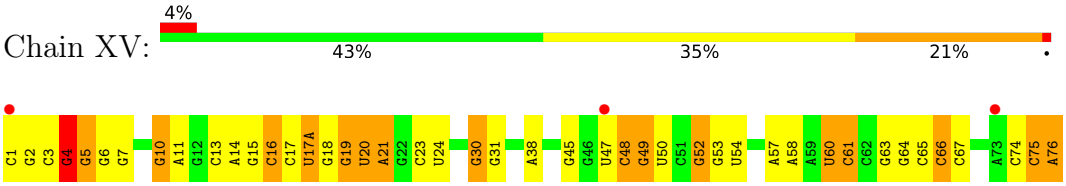
• Molecule 53: P-site tRNA fMET

Chain QV:



• Molecule 53: P-site tRNA fMET

Chain XV:



• Molecule 54: mRNA

Chain QX:

• Molecule 54: mRNA

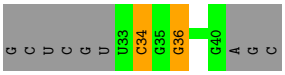
Chain XX:

• Molecule 55: A site ASL of tRNA-Proline CGG (unmodified)

Chain QY:

• Molecule 55: A site ASL of tRNA-Proline CGG (unmodified)

Chain XY:



• Molecule 56: tRNA acceptor end mimic

Chain Z6:

• Molecule 56: tRNA acceptor end mimic

Chain Z8:

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	209.82Å 447.39Å 619.86Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	187.58 – 3.68 187.58 – 3.68	Depositor EDS
% Data completeness (in resolution range)	99.1 (187.58-3.68) 99.2 (187.58-3.68)	Depositor EDS
R_{merge}	0.34	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.37 (at 3.58Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.3_1479)	Depositor
R, R_{free}	0.212 , 0.272 0.215 , 0.273	Depositor DCC
R_{free} test set	31728 reflections (4.55%)	wwPDB-VP
Wilson B-factor (Å^2)	83.8	Xtriage
Anisotropy	0.184	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 133.1	EDS
L-test for twinning[2]	$< \|L\| > = 0.40$, $< L^2 > = 0.23$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.85	EDS
Total number of atoms	291730	wwPDB-VP
Average B, all atoms (Å^2)	71.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.79% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality (i)

5.1 Standard geometry (i)

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

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	0.33	0/36098	0.56	6/56341 (0.0%)
1	XA	0.36	0/36101	0.59	3/56346 (0.0%)
2	QB	0.39	0/1959	0.86	4/2642 (0.2%)
2	XB	0.40	0/1959	0.89	4/2642 (0.2%)
3	QC	0.43	0/1629	0.87	0/2195
3	XC	0.48	0/1629	0.85	0/2195
4	QD	0.48	0/1733	0.96	3/2318 (0.1%)
4	XD	0.51	0/1733	0.97	5/2318 (0.2%)
5	QE	0.46	0/1171	0.95	6/1576 (0.4%)
5	XE	0.52	0/1171	0.95	2/1576 (0.1%)
6	QF	0.45	0/856	0.80	0/1154
6	XF	0.51	0/856	0.88	0/1154
7	QG	0.43	0/1276	0.85	0/1709
7	XG	0.46	0/1276	0.86	1/1709 (0.1%)
8	QH	0.43	0/1136	0.93	2/1527 (0.1%)
8	XH	0.47	0/1136	0.93	4/1527 (0.3%)
9	QI	0.41	0/1029	0.90	1/1379 (0.1%)
9	XI	0.42	0/1029	0.89	1/1379 (0.1%)
10	QJ	0.42	0/814	0.90	2/1095 (0.2%)
10	XJ	0.48	0/814	1.00	3/1095 (0.3%)
11	QK	0.48	0/900	0.91	2/1213 (0.2%)
11	XK	0.51	0/900	0.94	0/1213
12	QL	0.48	0/991	0.96	3/1327 (0.2%)
12	XL	0.59	0/991	1.14	9/1327 (0.7%)
13	QM	0.42	0/974	0.98	2/1303 (0.2%)
13	XM	0.47	0/974	0.98	1/1303 (0.1%)
14	QN	0.48	0/501	0.90	0/664
14	XN	0.57	0/501	1.04	3/664 (0.5%)
15	QO	0.45	0/745	0.80	0/992
15	XO	0.49	0/745	0.90	0/992
16	QP	0.47	0/721	0.93	2/970 (0.2%)
16	XP	0.47	0/721	0.89	1/970 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
17	QQ	0.42	0/847	0.85	0/1131
17	XQ	0.42	0/847	0.83	0/1131
18	QR	0.44	0/579	0.89	0/768
18	XR	0.47	0/579	0.85	1/768 (0.1%)
19	QS	0.45	0/689	0.99	3/926 (0.3%)
19	XS	0.47	0/689	1.01	6/926 (0.6%)
20	QT	0.46	0/765	0.96	2/1007 (0.2%)
20	XT	0.43	0/765	0.97	2/1007 (0.2%)
21	QU	0.37	0/221	0.79	0/288
21	XU	0.38	0/221	0.82	0/288
22	RA	0.39	0/69521	0.61	15/108529 (0.0%)
22	YA	0.42	0/69543	0.64	19/108563 (0.0%)
23	RB	0.32	0/2878	0.55	0/4490
23	YB	0.35	0/2878	0.58	0/4490
24	RD	0.64	0/2165	1.07	8/2919 (0.3%)
24	YD	0.73	0/2165	1.13	13/2919 (0.4%)
25	RE	0.56	0/1601	1.07	5/2160 (0.2%)
25	YE	0.60	0/1601	1.11	10/2160 (0.5%)
26	RF	0.53	0/1620	0.95	4/2194 (0.2%)
26	YF	0.60	0/1620	1.08	9/2194 (0.4%)
27	RG	0.41	0/1499	0.91	2/2016 (0.1%)
27	YG	0.50	0/1499	0.91	2/2016 (0.1%)
28	RH	0.41	0/1332	1.02	9/1802 (0.5%)
28	YH	0.59	0/1332	1.10	7/1802 (0.4%)
29	RI	0.74	2/1151 (0.2%)	1.18	10/1558 (0.6%)
29	YI	0.78	1/1151 (0.1%)	1.13	7/1558 (0.4%)
30	RN	0.52	0/1131	1.01	2/1525 (0.1%)
30	YN	0.56	0/1131	0.94	1/1525 (0.1%)
31	RO	0.55	0/943	0.98	3/1269 (0.2%)
31	YO	0.60	0/943	0.97	0/1269
32	RP	0.61	0/1162	1.20	11/1544 (0.7%)
32	YP	0.67	0/1162	1.27	9/1544 (0.6%)
33	RQ	0.63	0/1143	1.09	4/1527 (0.3%)
33	YQ	0.73	1/1143 (0.1%)	1.13	8/1527 (0.5%)
34	RR	0.54	0/982	0.99	1/1312 (0.1%)
34	YR	0.56	0/982	1.04	3/1312 (0.2%)
35	RS	0.43	0/892	0.88	0/1187
35	YS	0.51	0/892	0.99	1/1187 (0.1%)
36	RT	0.53	0/1155	0.98	3/1542 (0.2%)
36	YT	0.57	0/1155	1.05	7/1542 (0.5%)
37	RU	0.54	0/982	1.04	6/1306 (0.5%)
37	YU	0.62	0/982	1.05	3/1306 (0.2%)
38	RV	0.47	0/790	0.97	4/1057 (0.4%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
38	YV	0.58	0/790	1.01	2/1057 (0.2%)
39	RW	0.64	0/911	0.98	0/1220
39	YW	0.60	0/911	1.01	0/1220
40	RX	0.59	0/739	0.96	4/993 (0.4%)
40	YX	0.60	0/739	1.00	1/993 (0.1%)
41	RY	0.54	0/798	1.07	6/1064 (0.6%)
41	YY	0.59	0/798	1.09	5/1064 (0.5%)
42	RZ	0.84	4/1493 (0.3%)	1.17	13/2026 (0.6%)
42	YZ	0.73	1/1493 (0.1%)	1.18	11/2026 (0.5%)
43	R0	0.79	0/657	1.07	3/874 (0.3%)
43	Y0	0.90	0/657	1.20	3/874 (0.3%)
44	R1	0.55	0/770	0.97	0/1022
44	Y1	0.58	0/770	0.96	1/1022 (0.1%)
45	R2	0.46	0/583	1.01	1/771 (0.1%)
45	Y2	0.60	0/583	1.05	1/771 (0.1%)
46	R3	0.46	0/474	0.91	0/635
46	Y3	0.53	0/474	0.86	0/635
47	R4	0.45	0/594	1.18	8/795 (1.0%)
47	Y4	0.49	0/594	1.15	6/795 (0.8%)
48	R5	0.63	0/473	1.22	4/639 (0.6%)
48	Y5	0.64	0/473	1.33	7/639 (1.1%)
49	R6	0.53	0/431	1.01	2/575 (0.3%)
49	Y6	0.56	0/431	1.00	2/575 (0.3%)
50	R7	0.63	0/438	1.04	2/575 (0.3%)
50	Y7	0.70	0/438	1.02	3/575 (0.5%)
51	R8	0.69	0/525	1.17	4/691 (0.6%)
51	Y8	0.75	0/525	1.15	5/691 (0.7%)
52	R9	0.34	0/310	0.81	0/407
52	Y9	0.45	0/310	0.81	0/407
53	QV	0.45	0/1836	0.64	0/2859
53	XV	0.47	0/1836	0.71	1/2859 (0.0%)
54	QX	0.50	0/193	0.81	0/299
54	XX	0.65	0/193	0.80	0/299
55	QY	0.41	0/194	0.60	0/301
55	XY	0.42	0/194	0.62	0/301
56	Z6	0.41	0/40	0.62	0/60
56	Z8	0.62	0/40	0.86	0/60
All	All	0.44	9/316105 (0.0%)	0.74	365/472575 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
12	QL	0	1
12	XL	0	1
25	RE	0	1
25	YE	0	1
26	YF	0	1
28	RH	0	2
28	YH	0	2
29	RI	0	1
35	YS	0	1
42	YZ	0	2
45	Y2	0	1
47	R4	0	1
51	R8	0	2
51	Y8	0	2
All	All	0	19

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
42	RZ	54	HIS	CG-ND1	-10.09	1.27	1.38
42	RZ	54	HIS	ND1-CE1	8.37	1.41	1.32
42	RZ	55	HIS	CG-CD2	7.21	1.43	1.35
42	RZ	55	HIS	CD2-NE2	-7.17	1.29	1.37
29	RI	136	VAL	CA-CB	6.15	1.59	1.54
29	RI	136	VAL	CA-C	5.71	1.56	1.52
33	YQ	82	ARG	N-CA	5.46	1.51	1.46
29	YI	133	HIS	CE1-NE2	5.28	1.37	1.32
42	YZ	54	HIS	CG-CD2	-5.21	1.30	1.35

All (365) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	RQ	82	ARG	N-CA-C	11.95	124.51	110.41
48	Y5	4	HIS	CA-C-N	-11.27	108.49	119.76
48	Y5	4	HIS	C-N-CA	-11.27	108.49	119.76
32	YP	59	LEU	N-CA-C	-10.56	99.94	112.92
4	QD	28	SER	CA-C-N	-10.47	108.83	120.45
4	QD	28	SER	C-N-CA	-10.47	108.83	120.45
28	RH	127	GLU	CA-C-N	-10.38	106.86	119.84
28	RH	127	GLU	C-N-CA	-10.38	106.86	119.84
47	R4	39	CYS	N-CA-C	-10.29	100.15	111.36
32	YP	64	LYS	N-CA-C	-10.28	101.05	114.31
12	XL	47	LYS	CA-C-N	9.98	132.32	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	XL	47	LYS	C-N-CA	9.98	132.32	119.84
30	RN	114	ARG	N-CA-C	-9.82	97.86	110.53
4	QD	31	CYS	N-CA-C	-9.58	102.82	112.97
47	Y4	39	CYS	N-CA-C	-9.43	101.32	112.92
32	RP	19	VAL	N-CA-C	9.26	119.00	107.70
37	YU	96	ALA	N-CA-C	-9.02	98.92	112.54
19	QS	6	LYS	N-CA-C	-8.96	102.75	114.31
32	RP	25	SER	N-CA-C	-8.95	101.30	113.30
26	YF	9	ILE	N-CA-C	8.78	115.55	107.56
32	RP	59	LEU	N-CA-C	-8.68	100.81	112.26
42	RZ	82	ARG	CA-C-N	8.54	130.51	119.84
42	RZ	82	ARG	C-N-CA	8.54	130.51	119.84
33	YQ	82	ARG	N-CA-C	8.37	126.47	112.99
32	RP	22	GLY	N-CA-C	8.29	122.26	112.23
19	QS	8	GLY	N-CA-C	8.05	119.58	111.21
32	YP	9	ASN	CA-C-N	8.04	129.89	119.84
32	YP	9	ASN	C-N-CA	8.04	129.89	119.84
42	RZ	14	LYS	CA-C-N	7.96	127.62	119.82
42	RZ	14	LYS	C-N-CA	7.96	127.62	119.82
47	Y4	63	TYR	N-CA-C	-7.93	103.75	113.50
25	RE	188	VAL	N-CA-C	7.87	115.40	108.63
29	YI	124	GLY	N-CA-C	7.83	122.03	110.60
11	QK	40	ILE	N-CA-C	-7.68	105.68	111.90
29	YI	135	GLU	N-CA-C	7.65	118.09	108.45
25	YE	58	ARG	N-CA-C	-7.64	103.98	113.38
34	YR	9	LYS	N-CA-C	-7.63	98.19	110.32
50	Y7	6	GLN	CA-C-N	7.61	127.65	119.89
50	Y7	6	GLN	C-N-CA	7.61	127.65	119.89
48	R5	4	HIS	CA-C-N	-7.61	112.15	119.76
48	R5	4	HIS	C-N-CA	-7.61	112.15	119.76
45	Y2	5	GLU	N-CA-C	-7.55	101.95	112.45
28	YH	157	TYR	N-CA-C	-7.54	103.92	113.72
4	XD	31	CYS	N-CA-C	-7.50	104.17	112.72
37	YU	92	ARG	N-CA-C	-7.46	101.67	111.74
12	XL	119	LYS	N-CA-C	-7.42	100.04	110.50
42	YZ	158	PRO	CA-C-N	7.40	129.09	119.84
42	YZ	158	PRO	C-N-CA	7.40	129.09	119.84
22	YA	1992	G	C2'-C3'-O3'	7.39	120.59	109.50
24	RD	244	ARG	CA-C-N	-7.37	112.79	120.38
24	RD	244	ARG	C-N-CA	-7.37	112.79	120.38
48	R5	46	CYS	CA-C-N	7.37	129.05	119.84
48	R5	46	CYS	C-N-CA	7.37	129.05	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
42	YZ	82	ARG	CA-C-N	7.37	129.05	119.84
42	YZ	82	ARG	C-N-CA	7.37	129.05	119.84
28	YH	127	GLU	CA-C-N	-7.36	110.64	119.84
28	YH	127	GLU	C-N-CA	-7.36	110.64	119.84
42	RZ	129	SER	CA-C-N	7.32	128.99	119.84
42	RZ	129	SER	C-N-CA	7.32	128.99	119.84
25	YE	125	GLY	CA-C-N	7.29	127.26	119.76
25	YE	125	GLY	C-N-CA	7.29	127.26	119.76
22	YA	1130	U	C2'-C3'-O3'	7.23	120.35	109.50
33	YQ	113	GLN	N-CA-C	-7.20	105.11	114.04
25	YE	21	VAL	C-N-CD	-7.20	104.76	120.60
24	RD	272	ALA	N-CA-C	7.14	118.09	108.23
31	RO	100	GLY	CA-C-N	7.12	127.08	120.03
31	RO	100	GLY	C-N-CA	7.12	127.08	120.03
50	R7	6	GLN	CA-C-N	7.09	127.14	119.90
50	R7	6	GLN	C-N-CA	7.09	127.14	119.90
26	RF	24	LEU	CA-C-N	7.00	128.59	119.84
26	RF	24	LEU	C-N-CA	7.00	128.59	119.84
22	RA	1130	U	C2'-C3'-O3'	6.98	119.97	109.50
32	YP	25	SER	N-CA-C	-6.98	95.93	110.80
43	Y0	55	ARG	N-CA-C	6.96	120.66	111.75
30	RN	85	ILE	N-CA-C	6.95	115.66	107.73
25	RE	58	ARG	N-CA-C	-6.88	104.08	113.30
29	RI	135	GLU	N-CA-C	6.87	117.66	108.38
47	Y4	59	PHE	N-CA-C	-6.87	103.54	112.68
5	QE	23	GLY	N-CA-C	6.84	120.68	110.97
43	R0	11	ARG	N-CA-C	-6.82	104.50	114.39
28	YH	7	LEU	CA-C-N	-6.80	111.34	119.84
28	YH	7	LEU	C-N-CA	-6.80	111.34	119.84
22	YA	2681	C	C2'-C3'-O3'	6.78	119.67	109.50
32	RP	9	ASN	CA-C-N	6.75	128.27	119.84
32	RP	9	ASN	C-N-CA	6.75	128.27	119.84
37	RU	76	TYR	N-CA-C	-6.74	104.02	111.36
37	RU	96	ALA	N-CA-C	-6.72	103.39	112.26
22	RA	1992	G	C2'-C3'-O3'	6.68	119.53	109.50
29	RI	133	HIS	CA-C-N	-6.68	112.77	119.92
29	RI	133	HIS	C-N-CA	-6.68	112.77	119.92
25	RE	132	HIS	N-CA-C	6.67	119.35	111.02
20	QT	12	ALA	N-CA-C	-6.65	102.50	112.54
25	YE	116	VAL	N-CA-C	-6.63	100.08	109.63
37	RU	97	ASP	N-CA-C	-6.61	103.72	112.72
29	YI	110	ASP	N-CA-C	6.61	121.21	112.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
51	Y8	28	GLY	N-CA-C	-6.61	103.47	112.52
20	XT	12	ALA	N-CA-C	-6.57	104.89	113.17
47	Y4	40	HIS	CA-C-N	-6.55	113.03	119.78
47	Y4	40	HIS	C-N-CA	-6.55	113.03	119.78
19	QS	67	VAL	N-CA-C	6.55	117.34	110.72
48	Y5	46	CYS	CA-C-N	6.53	128.00	119.84
48	Y5	46	CYS	C-N-CA	6.53	128.00	119.84
25	RE	21	VAL	C-N-CD	-6.53	106.25	120.60
47	Y4	45	GLY	N-CA-C	-6.51	106.25	115.30
22	YA	2681	C	P-O3'-C3'	6.51	129.97	120.20
2	QB	166	ASP	CA-C-N	6.51	126.13	119.56
2	QB	166	ASP	C-N-CA	6.51	126.13	119.56
33	YQ	26	TYR	N-CA-C	6.48	123.42	113.19
26	YF	24	LEU	CA-C-N	6.46	126.50	119.90
26	YF	24	LEU	C-N-CA	6.46	126.50	119.90
32	RP	64	LYS	N-CA-C	-6.43	105.45	113.55
36	YT	111	ARG	N-CA-C	-6.43	102.50	110.41
26	RF	75	HIS	N-CA-C	6.41	117.90	108.86
16	XP	20	VAL	N-CA-C	6.41	118.37	108.44
28	RH	162	ILE	N-CA-C	6.38	113.04	106.21
41	RY	65	ALA	CA-C-N	6.36	126.38	119.89
41	RY	65	ALA	C-N-CA	6.36	126.38	119.89
16	QP	71	ARG	N-CA-C	-6.36	104.43	111.36
37	YU	97	ASP	N-CA-C	-6.36	105.51	113.20
47	R4	10	VAL	CA-C-N	6.26	127.66	119.84
47	R4	10	VAL	C-N-CA	6.26	127.66	119.84
49	R6	24	GLU	N-CA-C	6.24	116.24	108.19
22	YA	1653	G	C2'-C3'-O3'	6.21	118.81	109.50
40	RX	31	HIS	CA-C-N	6.19	126.09	119.28
40	RX	31	HIS	C-N-CA	6.19	126.09	119.28
38	YV	35	LEU	CA-C-N	6.19	127.57	119.84
38	YV	35	LEU	C-N-CA	6.19	127.57	119.84
22	YA	1130	U	P-O3'-C3'	6.17	129.45	120.20
42	RZ	110	GLY	CA-C-N	6.17	132.80	121.70
42	RZ	110	GLY	C-N-CA	6.17	132.80	121.70
29	RI	79	ILE	CA-C-N	6.16	127.54	119.84
29	RI	79	ILE	C-N-CA	6.16	127.54	119.84
37	RU	92	ARG	N-CA-C	-6.16	104.36	112.24
40	YX	80	ILE	CB-CA-C	6.16	119.00	110.99
37	RU	9	VAL	N-CA-C	6.16	116.33	110.42
42	YZ	145	GLU	N-CA-C	6.15	116.20	108.45
32	YP	71	VAL	CA-C-N	-6.14	113.30	119.56

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
32	YP	71	VAL	C-N-CA	-6.14	113.30	119.56
22	RA	1980	G	C2'-C3'-O3'	6.13	118.70	109.50
36	YT	57	PHE	N-CA-C	-6.13	102.87	110.41
42	RZ	24	LEU	CA-C-N	-6.13	113.98	120.66
42	RZ	24	LEU	C-N-CA	-6.13	113.98	120.66
22	RA	271(B)	G	P-O3'-C3'	6.13	127.06	119.70
22	RA	1130	U	P-O3'-C3'	6.12	129.39	120.20
24	YD	28	GLU	CA-C-N	-6.12	113.37	119.92
24	YD	28	GLU	C-N-CA	-6.12	113.37	119.92
47	R4	67	TYR	N-CA-C	6.11	114.61	108.75
37	RU	74	LEU	N-CA-C	6.10	116.30	108.24
24	YD	245	PRO	CA-C-N	6.10	126.45	119.93
24	YD	245	PRO	C-N-CA	6.10	126.45	119.93
49	R6	28	ARG	N-CA-C	6.09	118.44	109.24
26	YF	9	ILE	CA-C-N	6.09	126.57	119.99
26	YF	9	ILE	C-N-CA	6.09	126.57	119.99
36	YT	14	TYR	N-CA-C	-6.07	105.92	113.15
2	XB	25	ASN	CA-C-N	6.07	127.42	119.84
2	XB	25	ASN	C-N-CA	6.07	127.42	119.84
25	YE	85	ASN	CA-C-N	6.05	127.40	119.84
25	YE	85	ASN	C-N-CA	6.05	127.40	119.84
12	XL	26	ALA	N-CA-C	-6.04	106.16	112.93
24	RD	49	ILE	N-CA-CB	6.03	117.10	110.53
43	Y0	7	LEU	N-CA-C	6.02	118.56	109.41
38	RV	35	LEU	CA-C-N	5.99	127.33	119.84
38	RV	35	LEU	C-N-CA	5.99	127.33	119.84
34	RR	9	LYS	N-CA-C	-5.98	100.79	109.59
27	YG	31	VAL	CA-C-N	5.98	127.32	119.84
27	YG	31	VAL	C-N-CA	5.98	127.32	119.84
47	R4	59	PHE	N-CA-C	-5.97	106.03	113.55
48	Y5	6	VAL	N-CA-CB	-5.96	106.61	111.67
51	R8	64	TYR	CB-CA-C	-5.95	109.70	116.54
22	YA	1992	G	P-O3'-C3'	5.93	129.09	120.20
26	YF	157	VAL	N-CA-C	5.92	114.87	106.53
29	RI	3	VAL	N-CA-C	5.92	116.81	108.17
1	QA	410	G	C4'-C3'-O3'	5.91	121.87	113.00
36	RT	19	LEU	CA-C-N	5.91	125.82	119.85
36	RT	19	LEU	C-N-CA	5.91	125.82	119.85
41	YY	11	ASP	N-CA-C	5.91	117.93	110.24
12	XL	44	THR	CA-C-N	5.91	126.10	120.31
12	XL	44	THR	C-N-CA	5.91	126.10	120.31
29	RI	21	VAL	N-CA-C	5.90	114.89	107.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	YT	89	VAL	N-CA-C	-5.88	107.02	113.43
42	YZ	133	ILE	CA-C-N	5.88	127.19	119.84
42	YZ	133	ILE	C-N-CA	5.88	127.19	119.84
22	YA	587	C	C4'-C3'-O3'	5.87	118.21	109.40
14	XN	13	THR	CA-C-N	5.86	127.17	119.84
14	XN	13	THR	C-N-CA	5.86	127.17	119.84
5	QE	127	ASN	CA-C-N	5.84	125.98	119.32
5	QE	127	ASN	C-N-CA	5.84	125.98	119.32
22	RA	2712	U	P-O3'-C3'	5.84	126.71	119.70
38	RV	49	THR	CA-C-N	-5.83	112.55	119.84
38	RV	49	THR	C-N-CA	-5.83	112.55	119.84
24	RD	13	ARG	N-CA-C	-5.82	106.22	113.38
25	YE	185	LYS	N-CA-C	5.81	117.26	110.41
24	YD	229	VAL	CB-CA-C	-5.79	100.73	111.79
19	XS	41	VAL	CA-C-N	5.78	140.86	127.00
19	XS	41	VAL	C-N-CA	5.78	140.86	127.00
25	YE	130	GLY	N-CA-C	5.77	119.63	112.64
41	YY	89	PHE	N-CA-C	-5.77	104.43	113.02
10	XJ	75	ILE	N-CA-C	5.76	115.94	110.53
4	XD	39	PRO	CA-C-N	5.73	125.70	120.03
4	XD	39	PRO	C-N-CA	5.73	125.70	120.03
10	QJ	52	GLY	CA-C-N	5.71	125.08	118.85
10	QJ	52	GLY	C-N-CA	5.71	125.08	118.85
22	RA	205	G	P-O3'-C3'	5.71	128.76	120.20
24	RD	44	ASN	N-CA-C	5.70	116.80	108.14
40	RX	6	ASP	N-CA-C	-5.70	106.37	113.55
43	R0	44	ARG	N-CA-C	-5.69	105.83	112.89
51	Y8	61	LEU	N-CA-C	-5.67	101.23	110.20
8	XH	26	VAL	CA-C-N	5.67	126.93	119.84
8	XH	26	VAL	C-N-CA	5.67	126.93	119.84
26	RF	64	ILE	N-CA-C	5.66	115.85	110.53
10	XJ	28	ARG	N-CA-C	-5.66	106.34	113.18
28	RH	157	TYR	N-CA-C	-5.65	105.97	112.92
47	R4	63	TYR	N-CA-C	-5.65	105.88	112.89
9	XI	63	ILE	N-CA-C	5.65	116.19	107.78
24	YD	196	VAL	N-CA-C	5.64	116.29	110.82
47	R4	8	LYS	N-CA-C	5.63	117.87	111.11
22	RA	271(C)	U	P-O3'-C3'	5.63	126.45	119.70
18	XR	25	THR	N-CA-C	-5.60	106.44	113.72
51	Y8	54	GLU	N-CA-C	-5.59	105.18	111.28
43	R0	60	PHE	N-CA-C	5.59	115.40	108.19
24	YD	223	GLY	N-CA-C	-5.58	106.03	112.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
26	YF	95	ARG	N-CA-C	5.58	117.32	108.79
8	XH	75	ARG	CA-C-N	5.57	126.80	119.84
8	XH	75	ARG	C-N-CA	5.57	126.80	119.84
22	RA	587	C	C4'-C3'-O3'	5.56	117.75	109.40
28	RH	20	ALA	CA-C-N	5.55	126.78	119.84
28	RH	20	ALA	C-N-CA	5.55	126.78	119.84
41	RY	76	CYS	CA-C-N	5.55	126.78	119.84
41	RY	76	CYS	C-N-CA	5.55	126.78	119.84
51	R8	36	LYS	N-CA-C	-5.55	102.27	110.48
42	RZ	54	HIS	ND1-CE1-NE2	-5.54	102.86	108.40
51	R8	61	LEU	N-CA-C	-5.53	101.66	109.96
14	XN	47	LEU	N-CA-C	5.52	117.30	111.28
48	Y5	27	PRO	O-C-N	5.51	123.85	121.31
1	XA	1498	U	C2'-C3'-O3'	5.51	117.77	109.50
22	YA	2702	U	N1-C1'-C2'	5.50	120.26	112.00
49	Y6	24	GLU	N-CA-C	5.50	115.38	108.45
42	RZ	157	LEU	CA-C-N	5.47	126.02	120.38
42	RZ	157	LEU	C-N-CA	5.47	126.02	120.38
22	YA	2439	A	P-O3'-C3'	5.47	128.41	120.20
32	YP	19	VAL	N-CA-C	5.47	120.72	109.34
22	YA	102	G	C4'-C3'-O3'	5.46	117.60	109.40
24	YD	13	ARG	N-CA-C	-5.46	106.59	113.20
53	XV	4	G	N9-C1'-C2'	-5.46	105.82	114.00
51	R8	50	LEU	N-CA-C	5.45	117.29	108.41
35	YS	62	LYS	N-CA-C	5.45	117.92	111.33
9	QI	86	VAL	N-CA-C	-5.44	107.44	112.83
22	YA	1799	G	P-O3'-C3'	5.43	128.35	120.20
30	YN	24	GLY	N-CA-C	-5.43	106.09	113.37
2	QB	25	ASN	CA-C-N	5.42	126.62	119.84
2	QB	25	ASN	C-N-CA	5.42	126.62	119.84
22	RA	271(C)	U	OP2-P-O3'	5.42	117.13	105.20
28	RH	7	LEU	CA-C-N	-5.42	113.06	119.84
28	RH	7	LEU	C-N-CA	-5.42	113.06	119.84
12	XL	60	LEU	N-CA-C	5.42	117.76	109.95
43	Y0	75	LEU	N-CA-C	-5.41	106.05	113.30
29	YI	133	HIS	CA-C-N	-5.41	114.21	119.78
29	YI	133	HIS	C-N-CA	-5.41	114.21	119.78
24	YD	83	GLU	N-CA-C	5.40	118.07	109.81
36	YT	16	ARG	N-CA-C	-5.39	102.21	110.14
1	QA	119	A	C4'-C3'-O3'	5.38	117.47	109.40
12	XL	24	VAL	CA-C-N	-5.37	113.13	119.84
12	XL	24	VAL	C-N-CA	-5.37	113.13	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
22	YA	1799	G	C2'-C3'-O3'	5.36	117.54	109.50
19	XS	58	VAL	N-CA-C	5.36	113.73	107.89
31	RO	32	TYR	N-CA-C	5.36	117.33	109.24
25	RE	51	PHE	N-CA-C	5.36	116.66	108.30
33	RQ	120	ILE	CB-CA-C	-5.35	105.03	112.04
22	YA	222	A	C4'-C3'-O3'	5.33	117.40	109.40
1	XA	1297	C	C2'-C3'-O3'	5.33	117.50	109.50
29	RI	136	VAL	N-CA-C	5.32	113.94	107.61
51	Y8	62	LEU	CA-C-N	-5.32	113.44	118.97
51	Y8	62	LEU	C-N-CA	-5.32	113.44	118.97
1	QA	1297	C	P-O3'-C3'	5.32	128.18	120.20
32	RP	42	SER	N-CA-C	5.31	116.76	110.97
22	RA	1992	G	P-O3'-C3'	5.31	128.17	120.20
26	YF	184	TYR	N-CA-C	-5.31	105.39	111.07
22	RA	271(B)	G	OP2-P-O3'	5.29	116.84	105.20
24	YD	107	ALA	CA-C-N	5.29	125.27	120.03
24	YD	107	ALA	C-N-CA	5.29	125.27	120.03
48	Y5	5	PRO	N-CA-C	5.29	119.50	111.19
42	YZ	100	VAL	CA-C-N	5.27	125.56	119.92
42	YZ	100	VAL	C-N-CA	5.27	125.56	119.92
20	QT	33	ILE	CB-CA-C	-5.27	105.14	111.88
34	YR	58	GLY	N-CA-C	5.26	122.36	115.36
19	XS	34	TRP	N-CA-C	-5.26	106.88	113.72
12	QL	26	ALA	N-CA-C	-5.25	107.05	112.93
1	QA	1297	C	C2'-C3'-O3'	5.25	117.37	109.50
5	QE	95	ALA	CA-C-N	5.25	126.40	119.84
5	QE	95	ALA	C-N-CA	5.25	126.40	119.84
22	RA	974(A)	C	C4'-C3'-O3'	5.24	117.27	109.40
36	RT	13	ARG	N-CA-C	-5.24	106.47	112.92
22	YA	1022	G	C2'-C3'-O3'	5.22	117.34	109.50
24	RD	157	ARG	N-CA-C	-5.22	106.82	114.39
7	XG	27	ILE	N-CA-C	-5.22	105.62	110.53
26	YF	71	GLY	N-CA-C	-5.22	108.42	115.21
28	YH	20	ALA	N-CA-C	-5.22	104.05	110.31
29	RI	31	LEU	CA-C-N	-5.21	114.89	120.47
29	RI	31	LEU	C-N-CA	-5.21	114.89	120.47
22	RA	2689	U	C4'-C3'-O3'	5.21	117.22	109.40
25	YE	132	HIS	N-CA-C	5.21	121.90	110.80
33	RQ	89	ASN	N-CA-C	-5.20	106.98	113.38
36	YT	13	ARG	N-CA-C	-5.20	99.73	110.80
34	YR	43	GLU	N-CA-C	-5.19	107.12	113.50
19	XS	41	VAL	C-N-CD	-5.19	109.19	120.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	QH	26	VAL	CA-C-N	5.19	126.32	119.84
8	QH	26	VAL	C-N-CA	5.19	126.32	119.84
45	R2	5	GLU	N-CA-C	-5.18	105.70	112.23
36	YT	108	ARG	N-CA-C	-5.18	107.09	113.41
28	RH	6	ARG	N-CA-C	-5.17	108.73	114.62
42	YZ	120	ILE	N-CA-C	-5.17	107.26	112.17
40	RX	5	TYR	N-CA-C	-5.17	107.14	112.93
19	XS	36	ARG	N-CA-C	-5.17	107.00	113.72
4	XD	31	CYS	CA-C-N	5.16	131.40	121.54
4	XD	31	CYS	C-N-CA	5.16	131.40	121.54
33	YQ	125	LEU	CA-C-N	5.16	126.29	119.84
33	YQ	125	LEU	C-N-CA	5.16	126.29	119.84
24	YD	43	ARG	N-CA-C	5.15	119.43	113.20
42	YZ	79	ARG	N-CA-C	5.15	116.97	111.36
16	QP	39	TYR	N-CA-C	5.15	116.43	107.93
24	RD	256	GLY	N-CA-C	5.14	119.81	113.79
49	Y6	28	ARG	N-CA-C	5.14	117.20	109.23
22	YA	503	A	C2'-C3'-O3'	5.14	117.21	109.50
33	YQ	89	ASN	N-CA-C	-5.14	106.79	113.16
20	XT	9	ASN	N-CA-C	5.13	118.07	110.48
41	YY	60	PHE	N-CA-C	5.12	116.98	109.24
2	XB	166	ASP	CA-C-N	5.12	124.84	119.82
2	XB	166	ASP	C-N-CA	5.12	124.84	119.82
44	Y1	70	VAL	CB-CA-C	-5.10	105.44	111.97
41	RY	55	TYR	CA-C-N	5.10	126.22	119.84
41	RY	55	TYR	C-N-CA	5.10	126.22	119.84
41	YY	76	CYS	CA-C-N	5.10	126.21	119.84
41	YY	76	CYS	C-N-CA	5.10	126.21	119.84
33	YQ	25	ASP	N-CA-C	5.09	121.65	110.80
13	QM	40	ASN	CA-C-N	5.08	124.69	119.05
13	QM	40	ASN	C-N-CA	5.08	124.69	119.05
32	RP	26	GLY	N-CA-C	-5.07	101.21	112.17
22	YA	1022	G	P-O3'-C3'	5.07	127.81	120.20
32	RP	71	VAL	CA-C-N	-5.07	113.82	119.19
32	RP	71	VAL	C-N-CA	-5.07	113.82	119.19
33	RQ	78	PRO	N-CA-C	5.06	122.89	112.47
22	YA	508	G	P-O3'-C3'	5.06	127.79	120.20
13	XM	117	VAL	N-CA-C	5.05	116.99	108.81
29	YI	79	ILE	CA-C-N	5.05	126.15	119.84
29	YI	79	ILE	C-N-CA	5.05	126.15	119.84
50	Y7	30	VAL	CB-CA-C	-5.05	105.42	111.88
12	QL	47	LYS	CA-C-N	-5.04	113.53	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	QL	47	LYS	C-N-CA	-5.04	113.53	119.84
22	YA	2439	A	C4'-C3'-O3'	5.04	116.97	109.40
32	YP	95	VAL	N-CA-C	5.04	119.83	109.34
47	R4	49	PHE	N-CA-C	5.03	121.52	110.80
10	XJ	54	PHE	CB-CA-C	-5.03	108.11	114.40
22	RA	1980	G	P-O3'-C3'	5.03	127.75	120.20
5	QE	67	VAL	N-CA-C	5.03	114.82	107.88
24	YD	272	ALA	N-CA-C	5.03	121.51	110.80
1	QA	913	A	P-O3'-C3'	5.02	127.73	120.20
1	QA	1528	U	P-O3'-C3'	5.02	127.73	120.20
1	XA	1054	C	N1-C1'-C2'	5.02	119.53	112.00
11	QK	102	GLY	N-CA-C	-5.02	102.69	112.02
27	RG	31	VAL	CA-C-N	5.01	126.11	119.84
27	RG	31	VAL	C-N-CA	5.01	126.11	119.84
28	YH	6	ARG	N-CA-C	-5.01	107.24	113.55
5	XE	127	ASN	CA-C-N	5.00	125.02	119.32
5	XE	127	ASN	C-N-CA	5.00	125.02	119.32
33	YQ	22	LYS	N-CA-C	5.00	121.46	110.80

There are no chirality outliers.

All (19) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
12	QL	47	LYS	Peptide
47	R4	38	LYS	Peptide
51	R8	30	ARG	Peptide
51	R8	35	GLN	Peptide
25	RE	21	VAL	Peptide
28	RH	127	GLU	Peptide
28	RH	153	LYS	Peptide
29	RI	134	PRO	Peptide
12	XL	47	LYS	Peptide
45	Y2	17	SER	Peptide
51	Y8	30	ARG	Peptide
51	Y8	51	ALA	Peptide
25	YE	21	VAL	Peptide
26	YF	47	GLY	Peptide
28	YH	127	GLU	Peptide
28	YH	153	LYS	Peptide
35	YS	109	GLY	Peptide
42	YZ	181	GLU	Peptide
42	YZ	61	LEU	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	16277	779	0
1	XA	32249	0	16279	827	0
2	QB	1924	0	1975	68	0
2	XB	1924	0	1975	89	0
3	QC	1605	0	1668	51	0
3	XC	1605	0	1668	63	0
4	QD	1703	0	1763	70	0
4	XD	1703	0	1764	52	0
5	QE	1155	0	1213	36	0
5	XE	1155	0	1213	44	0
6	QF	843	0	857	20	0
6	XF	843	0	857	23	0
7	QG	1257	0	1296	41	0
7	XG	1257	0	1296	28	0
8	QH	1116	0	1177	41	0
8	XH	1116	0	1177	32	0
9	QI	1010	0	1037	43	0
9	XI	1010	0	1037	60	0
10	QJ	801	0	849	50	0
10	XJ	801	0	849	39	0
11	QK	885	0	904	33	0
11	XK	885	0	904	33	0
12	QL	975	0	1062	45	0
12	XL	975	0	1062	48	0
13	QM	964	0	1034	49	0
13	XM	964	0	1034	63	0
14	QN	492	0	529	26	0
14	XN	492	0	529	22	0
15	QO	734	0	771	25	0
15	XO	734	0	771	22	0
16	QP	705	0	725	21	0
16	XP	705	0	725	29	0
17	QQ	834	0	904	26	0
17	XQ	834	0	904	20	0
18	QR	574	0	644	13	0
18	XR	574	0	644	21	0
19	QS	674	0	699	41	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	XS	674	0	699	56	0
20	QT	763	0	861	25	0
20	XT	763	0	861	42	0
21	QU	217	0	234	12	0
21	XU	217	0	234	8	0
22	RA	62071	0	31292	1374	0
22	YA	62091	0	31301	1331	1
23	RB	2573	0	1306	60	0
23	YB	2573	0	1306	64	1
24	RD	2115	0	2195	109	0
24	YD	2115	0	2195	110	0
25	RE	1568	0	1634	69	0
25	YE	1568	0	1634	70	0
26	RF	1585	0	1632	80	0
26	YF	1585	0	1632	67	0
27	RG	1474	0	1535	64	0
27	YG	1474	0	1535	73	0
28	RH	1307	0	1382	68	0
28	YH	1307	0	1382	65	0
29	RI	1136	0	1223	86	0
29	YI	1136	0	1223	75	0
30	RN	1104	0	1180	42	0
30	YN	1104	0	1180	53	0
31	RO	933	0	996	27	0
31	YO	933	0	996	25	0
32	RP	1145	0	1227	82	0
32	YP	1145	0	1228	97	0
33	RQ	1122	0	1179	64	0
33	YQ	1122	0	1179	51	0
34	RR	968	0	1033	49	0
34	YR	968	0	1033	37	0
35	RS	882	0	943	44	0
35	YS	882	0	943	44	0
36	RT	1141	0	1202	53	0
36	YT	1141	0	1202	55	0
37	RU	964	0	1022	36	0
37	YU	964	0	1022	57	0
38	RV	779	0	852	24	0
38	YV	779	0	852	45	0
39	RW	900	0	964	31	0
39	YW	900	0	964	27	0
40	RX	725	0	778	33	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
40	YX	725	0	778	25	0
41	RY	785	0	878	53	0
41	YY	785	0	878	45	0
42	RZ	1461	0	1493	101	0
42	YZ	1461	0	1493	106	0
43	R0	648	0	671	38	0
43	Y0	648	0	672	42	0
44	R1	763	0	848	32	0
44	Y1	763	0	848	37	0
45	R2	581	0	629	14	0
45	Y2	581	0	629	23	0
46	R3	469	0	518	7	0
46	Y3	469	0	518	15	0
47	R4	581	0	574	33	0
47	Y4	581	0	574	79	0
48	R5	459	0	480	31	0
48	Y5	459	0	480	32	0
49	R6	424	0	450	30	0
49	Y6	424	0	450	28	0
50	R7	430	0	480	19	0
50	Y7	430	0	480	20	0
51	R8	517	0	582	37	0
51	Y8	517	0	582	45	0
52	R9	307	0	338	14	0
52	Y9	307	0	338	19	0
53	QV	1644	0	836	30	0
53	XV	1644	0	836	35	0
54	QX	173	0	88	3	0
54	XX	173	0	88	3	0
55	QY	174	0	88	4	0
55	XY	174	0	88	2	0
56	Z6	74	0	51	0	0
56	Z8	74	0	51	3	0
57	QA	42	0	45	1	0
57	XA	42	0	45	2	0
58	QA	76	0	0	0	0
58	QF	1	0	0	0	0
58	QM	1	0	0	0	0
58	QV	1	0	0	0	0
58	R0	1	0	0	0	0
58	R5	1	0	0	0	0
58	R8	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
58	RA	247	0	0	0	0
58	RB	2	0	0	0	0
58	RD	1	0	0	0	0
58	RE	2	0	0	0	0
58	RF	1	0	0	0	0
58	RP	2	0	0	0	0
58	XA	82	0	0	0	0
58	XB	1	0	0	0	0
58	XM	1	0	0	0	0
58	XV	2	0	0	0	0
58	Y0	1	0	0	0	0
58	Y5	1	0	0	0	0
58	YA	265	0	0	0	0
58	YB	3	0	0	0	0
58	YD	2	0	0	0	0
58	YP	2	0	0	0	0
58	YQ	1	0	0	0	0
58	YX	1	0	0	0	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	291730	0	198220	7742	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 16.

All (7742) 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)
22:RA:2701:C:H3'	22:RA:2702:U:H5"	1.27	1.07
1:XA:963:G:N3	10:XJ:55:LYS:NZ	2.02	1.07
24:YD:43:ARG:NH1	24:YD:44:ASN:OD1	1.86	1.06
22:YA:2701:C:H3'	22:YA:2702:U:H5"	1.38	1.05
22:YA:1138:G:H21	30:YN:106:MET:HE3	1.18	1.03
22:RA:1310:G:OP2	50:R7:9:ARG:NH1	1.91	1.01
13:XM:3:ARG:HB3	47:Y4:34:GLU:HB3	1.42	1.01
22:YA:498:G:N3	41:YY:47:LYS:NZ	2.07	1.01
22:YA:571:A:H5'	22:YA:2030:A:H62	1.26	1.00
1:XA:1298:C:OP2	7:XG:114:ARG:NH2	1.93	0.99
1:QA:1244:C:H42	1:QA:1293:G:H1	1.10	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:617:G:OP1	26:RF:40:GLN:NE2	1.95	0.98
22:YA:140:A:H8	22:YA:1408:C:HO2'	1.00	0.97
4:QD:9:CYS:SG	4:QD:22:LYS:CE	2.52	0.97
13:XM:7:VAL:HG21	27:YG:113:ARG:O	1.64	0.97
4:QD:9:CYS:SG	4:QD:31:CYS:O	2.23	0.96
1:XA:1298:C:H2'	7:XG:114:ARG:HH12	1.29	0.96
22:RA:768:G:O2'	22:RA:1379:A:N6	1.99	0.96
22:RA:2392:A:H8	32:RP:60:MET:HG2	1.25	0.96
22:RA:1019:U:H3	22:RA:1142(A):A:H62	1.11	0.95
1:XA:1305:G:HO2'	1:XA:1306:A:H8	1.09	0.95
22:YA:631:A:OP2	51:Y8:46:ARG:NH2	1.99	0.95
4:QD:9:CYS:SG	4:QD:22:LYS:HE3	2.07	0.95
22:RA:2068:U:H3	22:RA:2430:A:H2	1.06	0.94
1:XA:1299:A:H2'	1:XA:1301:U:H1'	1.48	0.94
22:YA:483:A:H4'	41:YY:49:VAL:HA	1.48	0.94
42:YZ:9:TYR:HE2	42:YZ:35:ARG:HD3	1.33	0.94
1:QA:559:A:H4'	1:QA:560:U:H3'	1.49	0.93
2:QB:185:ILE:HG22	2:QB:199:TYR:HB2	1.48	0.93
1:XA:1002:G:H1	1:XA:1038:C:H42	1.16	0.93
22:YA:2580:U:H4'	25:YE:130:GLY:HA3	1.51	0.93
22:YA:2287:A:H62	22:YA:2344:U:H3	1.14	0.92
22:RA:900:A:H3'	22:RA:901:A:H8	1.35	0.92
22:RA:242:G:H5"	51:R8:62:LEU:HD13	1.50	0.92
32:RP:58:THR:O	32:RP:61:ARG:NE	2.03	0.92
13:QM:3:ARG:HB3	47:R4:34:GLU:HB3	1.52	0.91
25:YE:24:THR:HG21	25:YE:188:VAL:HG11	1.52	0.91
22:YA:993:G:OP1	37:YU:50:ARG:NH2	2.04	0.91
23:RB:22:U:H3	23:RB:61:G:H1	1.16	0.91
22:YA:674:G:H1'	26:YF:74:ARG:HD3	1.51	0.90
22:YA:2470:G:H5'	33:YQ:56:ARG:HH22	1.35	0.90
1:XA:1094:G:O2'	1:XA:1095:U:OP2	1.88	0.90
22:RA:442:G:H1'	26:RF:48:THR:HG21	1.51	0.90
48:R5:55:ARG:HG3	48:R5:57:VAL:H	1.37	0.89
13:XM:3:ARG:HG2	47:Y4:34:GLU:HG2	1.55	0.89
25:YE:50:GLY:HA2	25:YE:77:ILE:HA	1.53	0.89
29:YI:29:TYR:HD2	29:YI:30:LEU:HD23	1.39	0.89
41:YY:79:CYS:SG	41:YY:80:GLY:N	2.45	0.88
1:QA:963:G:N3	10:QJ:55:LYS:NZ	2.21	0.88
22:YA:2820:A:C8	25:YE:109:LYS:HE2	2.08	0.88
36:RT:26:ASP:HB3	36:RT:92:GLY:H	1.36	0.88
42:YZ:151:HIS:HB3	42:YZ:170:THR:HA	1.53	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:YQ:134:ARG:NH2	42:YZ:119:GLU:OE2	2.05	0.88
53:XV:6:G:H1	53:XV:67:C:H42	1.17	0.88
32:RP:64:LYS:O	32:RP:66:GLY:N	2.07	0.87
22:YA:1728:G:N1	22:YA:1730:U:OP2	2.07	0.87
29:YI:71:ILE:HG23	29:YI:72:LEU:HD13	1.54	0.87
22:YA:910:A:H62	33:YQ:12:GLN:HA	1.39	0.87
32:YP:58:THR:O	32:YP:61:ARG:NE	2.08	0.87
22:YA:122:G:N2	22:YA:129:C:O2	2.08	0.87
41:YY:76:CYS:HB3	41:YY:96:ILE:HD13	1.57	0.87
1:QA:1410:G:H1	1:QA:1490:C:H42	1.23	0.87
48:Y5:40:LYS:HG2	48:Y5:47:PRO:HD2	1.56	0.86
32:RP:19:VAL:HG13	32:RP:21:ARG:H	1.40	0.86
4:XD:157:LEU:O	4:XD:161:ASN:ND2	2.07	0.86
1:QA:1124:G:H3'	1:QA:1145:C:N4	1.89	0.86
22:RA:708:C:H42	22:RA:723:G:H1	1.20	0.86
7:XG:89:MET:HE1	7:XG:156:TRP:H	1.40	0.86
1:QA:448:A:OP2	1:QA:485:G:N2	2.08	0.86
1:XA:58:C:O2'	1:XA:388:G:N7	2.09	0.86
22:YA:1844:C:H2'	22:YA:1845:G:H8	1.41	0.86
1:QA:1243:C:OP2	21:QU:10:ARG:NH2	2.09	0.86
22:RA:674:G:H1'	26:RF:74:ARG:HD3	1.57	0.86
22:RA:2502:G:H5"	22:RA:2503:A:H5"	1.57	0.86
24:RD:43:ARG:NH1	24:RD:44:ASN:OD1	2.08	0.86
22:RA:1061:U:H5'	22:RA:1070:A:H1'	1.56	0.86
22:YA:265:A:N6	22:YA:427:U:O2'	2.07	0.86
5:QE:50:GLU:HB3	5:QE:53:LEU:HD13	1.59	0.85
22:YA:2015:A:H1'	48:Y5:2:ALA:HA	1.57	0.85
22:YA:2593:U:H2'	22:YA:2594:C:H6	1.39	0.85
22:RA:2701:C:H3'	22:RA:2702:U:C5'	2.04	0.85
1:XA:1346:A:OP1	9:XI:120:ARG:NH1	2.09	0.85
23:RB:83:G:H1	23:RB:93:C:H42	1.24	0.85
1:QA:1127:G:N1	1:QA:1145:C:O2	2.08	0.84
22:RA:2839:G:H5'	34:RR:46:GLY:HA2	1.59	0.84
41:RY:79:CYS:SG	41:RY:80:GLY:N	2.45	0.84
39:YW:18:ARG:HG3	39:YW:76:VAL:HG13	1.58	0.84
22:RA:2106:G:H1	22:RA:2183:C:H42	1.21	0.84
1:QA:1298:C:OP2	7:QG:114:ARG:NH2	2.10	0.84
22:YA:67:U:H3	22:YA:74:A:H2	1.25	0.84
22:YA:270(T):G:H5"	44:Y1:97:LEU:HD22	1.59	0.84
36:YT:26:ASP:HB3	36:YT:92:GLY:H	1.42	0.84
22:RA:1187:G:H5"	38:RV:81:TYR:CE2	2.13	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YN:4:TYR:O	37:YU:64:ARG:NH1	2.10	0.83
22:RA:2107:C:H42	22:RA:2182:G:H1	1.26	0.83
1:XA:448:A:OP2	1:XA:485:G:N2	2.08	0.83
2:QB:80:ILE:HD11	2:QB:208:ILE:HG23	1.58	0.83
27:YG:27:ASN:HB3	27:YG:30:GLU:HG3	1.60	0.83
1:QA:346:G:H1'	1:QA:347:G:H5'	1.58	0.83
22:YA:2849:U:H5	36:YT:93:ARG:HH12	1.26	0.83
32:YP:19:VAL:HG13	32:YP:21:ARG:H	1.41	0.83
48:R5:4:HIS:HB3	48:R5:5:PRO:HD3	1.61	0.82
37:YU:90:VAL:O	37:YU:92:ARG:N	2.11	0.82
22:RA:1285:G:N2	22:RA:1329:U:OP1	2.10	0.82
22:YA:462:C:H42	22:YA:467:G:H1	1.26	0.82
22:YA:1063:G:H22	22:YA:1076:C:H1'	1.44	0.82
1:XA:690:G:H22	11:XK:55:LYS:HZ1	1.28	0.82
1:QA:677:U:H3	1:QA:713:G:H22	1.28	0.82
1:XA:1342:C:H4'	9:XI:125:TYR:HB3	1.60	0.82
26:RF:197:ASP:O	26:RF:199:TRP:N	2.12	0.82
29:RI:4:ILE:HD11	29:RI:44:LEU:HD12	1.62	0.82
22:YA:994:C:H3'	37:YU:54:LYS:HE3	1.61	0.82
48:R5:16:ARG:NH1	48:R5:17:ASP:OD1	2.13	0.82
22:YA:2115:G:N2	22:YA:2165:G:N7	2.27	0.82
44:Y1:7:ILE:HD12	44:Y1:62:VAL:HG11	1.62	0.82
22:RA:676:A:H8	22:RA:2069:G:H21	1.28	0.82
41:RY:29:GLU:HB3	41:RY:38:ILE:HG12	1.62	0.82
22:YA:2099:U:H3	22:YA:2190:G:H1	1.25	0.82
22:RA:1053:C:H42	22:RA:1106:G:H1	1.28	0.81
29:RI:81:VAL:HG21	29:RI:142:VAL:HG12	1.62	0.81
32:RP:62:LEU:HD21	51:R8:25:MET:HB2	1.61	0.81
22:YA:286:C:H2'	22:YA:287:C:H6	1.43	0.81
48:Y5:16:ARG:NH1	48:Y5:17:ASP:OD1	2.13	0.81
42:YZ:94:GLU:HB2	42:YZ:130:PRO:HD2	1.63	0.81
45:Y2:47:ASN:O	45:Y2:49:LYS:N	2.12	0.81
22:RA:270(R):G:N3	44:R1:78:LYS:NZ	2.26	0.81
2:XB:69:LEU:HB3	2:XB:162:ILE:HG22	1.61	0.81
22:YA:250:G:OP2	51:Y8:13:ARG:NH2	2.13	0.81
30:YN:4:TYR:OH	30:YN:7:LYS:NZ	2.14	0.81
26:RF:103:LYS:HA	26:RF:106:ARG:HG3	1.63	0.81
22:RA:2107:C:N3	22:RA:2182:G:N2	2.26	0.81
45:R2:47:ASN:O	45:R2:49:LYS:N	2.13	0.81
1:XA:1192:C:OP2	3:XC:4:LYS:NZ	2.14	0.81
53:QV:6:G:H1	53:QV:67:C:H42	1.25	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:249:C:O2	51:R8:12:LYS:NZ	2.13	0.81
22:RA:631:A:OP2	51:R8:46:ARG:NH2	2.13	0.81
1:XA:1281:U:OP2	1:XA:1282:C:N4	2.14	0.81
13:XM:3:ARG:HG2	47:Y4:34:GLU:CG	2.11	0.81
22:YA:138:G:N2	40:YX:44:GLU:OE2	2.14	0.81
22:YA:237:C:N4	22:YA:260:G:O6	2.14	0.81
22:RA:685:A:H5"	22:RA:788:A:H62	1.46	0.80
13:QM:14:ARG:H	13:QM:44:ARG:HD3	1.45	0.80
25:RE:201:THR:HG22	25:RE:203:LYS:H	1.45	0.80
36:RT:24:PRO:HA	36:RT:49:VAL:HG13	1.61	0.80
22:YA:984:A:H5"	22:YA:985:C:H5	1.46	0.80
22:RA:2712:U:O2'	22:RA:2712(A):A:O5'	1.97	0.80
30:RN:42:TRP:O	37:RU:64:ARG:NH2	2.15	0.80
25:RE:50:GLY:HA2	25:RE:77:ILE:HA	1.64	0.80
43:R0:53:MET:HG3	43:R0:59:LEU:HD23	1.62	0.80
22:YA:581:C:H2'	22:YA:582:G:H8	1.46	0.80
22:YA:1310:G:OP2	50:Y7:9:ARG:NH1	2.14	0.80
41:YY:76:CYS:SG	41:YY:77:PRO:HD2	2.22	0.80
1:QA:1346:A:H5"	9:QI:120:ARG:HH12	1.47	0.80
13:QM:3:ARG:HA	13:QM:9:ILE:HG21	1.62	0.80
22:RA:27:G:HO2'	22:RA:28:A:H8	1.30	0.80
22:RA:1667:G:O2'	22:RA:1991:U:O4	2.00	0.80
1:QA:1129:C:N4	1:QA:1133:G:O6	2.15	0.80
42:RZ:182:LYS:H	42:RZ:182:LYS:HD3	1.45	0.80
22:YA:869:G:N2	22:YA:908:C:O2	2.15	0.80
1:XA:257:G:H1	1:XA:269:C:H42	1.28	0.79
13:XM:65:LYS:HD3	13:XM:69:GLU:HG3	1.63	0.79
22:YA:620:G:H4'	22:YA:621:A:H5'	1.63	0.79
22:YA:819:A:OP2	22:YA:1187:G:N2	2.15	0.79
22:YA:879:G:O6	22:YA:898:C:N4	2.14	0.79
42:YZ:60:GLU:HA	42:YZ:66:SER:HA	1.63	0.79
1:QA:337:C:H2'	1:QA:338:A:H8	1.47	0.79
22:RA:468:G:H4'	26:RF:62:ARG:HH12	1.46	0.79
22:YA:1479:G:N7	22:YA:1510:A:N6	2.30	0.79
29:YI:82:ARG:HD3	29:YI:146:ALA:HB3	1.62	0.79
40:YX:67:GLY:O	40:YX:69:TYR:N	2.15	0.79
22:RA:996:A:H4'	37:RU:92:ARG:HE	1.45	0.79
34:RR:104:ARG:HD2	34:RR:111:LEU:HD21	1.63	0.79
3:XC:32:LEU:HD13	3:XC:59:ARG:HD3	1.64	0.79
20:XT:33:ILE:O	20:XT:37:SER:OG	2.00	0.79
29:RI:41:GLU:HA	29:RI:44:LEU:HB2	1.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:QO:26:GLU:OE2	15:QO:77:ARG:NH1	2.16	0.79
22:RA:301:G:N2	22:RA:316:C:O2	2.14	0.79
22:YA:1422:G:N2	22:YA:1498:C:O2	2.14	0.79
11:QK:21:ILE:HB	11:QK:84:VAL:HG12	1.65	0.79
22:YA:1798:U:H5'	24:YD:259:THR:HG22	1.64	0.79
22:YA:2233:U:H2'	22:YA:2234:G:C8	2.18	0.79
22:RA:507:A:H5"	22:RA:508:G:H5'	1.64	0.79
2:XB:77:ALA:HB2	2:XB:211:ILE:HD13	1.64	0.79
3:XC:59:ARG:HH12	3:XC:97:LYS:HE3	1.47	0.79
22:YA:271:G:H2'	22:YA:272:G:H8	1.46	0.79
1:XA:134:A:H61	16:XP:25:ARG:NH1	1.82	0.78
1:XA:1298:C:H2'	7:XG:114:ARG:NH1	1.96	0.78
3:QC:79:ARG:CZ	11:XK:99:GLN:HB2	2.12	0.78
22:RA:2580:U:H4'	25:RE:130:GLY:HA3	1.63	0.78
22:YA:2015:A:N3	48:Y5:2:ALA:N	2.30	0.78
4:QD:27:TYR:OH	6:XF:15:ASP:OD2	2.01	0.78
4:XD:9:CYS:SG	4:XD:22:LYS:NZ	2.52	0.78
22:YA:2292:C:P	35:YS:17:ARG:HH22	2.06	0.78
53:QV:40:C:H2'	53:QV:41:C:H6	1.49	0.78
30:RN:95:PRO:O	30:RN:97:ARG:N	2.15	0.78
33:YQ:60:ARG:HH11	42:YZ:113:ALA:HB3	1.47	0.78
47:Y4:1:MET:SD	47:Y4:6:HIS:NE2	2.56	0.78
1:QA:191:G:H1'	20:QT:105:SER:HB3	1.66	0.78
1:QA:191:G:O2'	20:QT:101:GLY:O	2.01	0.78
1:QA:976:G:N2	1:QA:1362(A):C:OP2	2.15	0.78
32:RP:126:VAL:HG12	32:RP:147:LEU:HD21	1.63	0.78
22:YA:1055:G:H1	22:YA:1104:C:H42	1.32	0.78
22:YA:1568:G:H4'	24:YD:59:LYS:HB3	1.65	0.78
1:QA:792:A:H4'	1:QA:793:U:O5'	1.84	0.78
20:QT:100:ILE:HG13	20:QT:102:GLY:H	1.48	0.78
22:RA:1542:G:O6	22:RA:1543:A:N6	2.17	0.78
22:RA:2404:C:H1'	32:RP:67:MET:HE1	1.65	0.78
24:RD:69:ARG:NH2	24:RD:128:GLY:O	2.17	0.78
22:YA:630:G:OP1	51:Y8:46:ARG:NH1	2.16	0.78
31:YO:88:ASN:HD21	31:YO:92:GLU:HB2	1.47	0.78
1:QA:542:G:OP1	4:QD:10:ARG:NH2	2.17	0.78
1:QA:885:G:O2'	1:QA:914:A:N1	2.16	0.78
1:QA:1292:U:OP1	7:QG:41:ARG:NH2	2.17	0.78
10:QJ:50:ILE:HA	10:QJ:60:ARG:HG2	1.66	0.78
1:XA:1263:C:N4	1:XA:1272:G:O6	2.15	0.78
22:YA:1434:A:H61	22:YA:1558:A:H62	1.29	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:14:ARG:H	13:XM:44:ARG:HD3	1.49	0.77
1:QA:244:U:H6	1:QA:244:U:H5'	1.48	0.77
22:YA:1021:A:OP2	30:YN:65:LYS:NZ	2.17	0.77
1:QA:1196:U:O2	3:QC:162:GLN:NE2	2.17	0.77
3:XC:20:SER:HB2	3:XC:40:ARG:HH22	1.50	0.77
22:RA:2011:U:OP2	39:RW:16:LYS:NZ	2.15	0.77
24:YD:69:ARG:NH2	24:YD:128:GLY:O	2.18	0.77
42:RZ:94:GLU:HB2	42:RZ:130:PRO:HD2	1.65	0.77
26:RF:66:PRO:O	26:RF:68:LYS:N	2.18	0.77
1:XA:1130:A:O2'	9:XI:3:GLN:NE2	2.16	0.77
30:YN:95:PRO:O	30:YN:97:ARG:N	2.18	0.77
1:QA:1127:G:H22	1:QA:1145:C:H1'	1.47	0.77
22:RA:484:C:O2	22:RA:496:G:N2	2.17	0.77
43:R0:26:TYR:N	43:R0:29:GLN:OE1	2.18	0.77
1:XA:388:G:O2'	1:XA:389:A:OP2	2.01	0.77
32:YP:47:ASP:OD1	32:YP:50:ARG:NH2	2.17	0.77
24:YD:35:LYS:HZ1	24:YD:104:TYR:HB2	1.50	0.77
22:RA:1454:U:OP1	34:RR:77:ARG:NH1	2.18	0.76
22:YA:180:G:N2	22:YA:215:G:O6	2.19	0.76
22:RA:483:A:H4'	41:RY:49:VAL:HA	1.67	0.76
22:RA:2293:C:H5"	35:RS:89:ARG:HH12	1.51	0.76
1:XA:1077:G:N2	1:XA:1080:A:OP2	2.17	0.76
28:YH:41:MET:HE1	28:YH:64:LEU:HB3	1.66	0.76
29:RI:92:VAL:HG13	29:RI:120:ILE:HG23	1.67	0.76
22:RA:2392:A:C8	32:RP:60:MET:HG2	2.16	0.76
13:XM:62:ASN:HA	47:Y4:49:PHE:CD2	2.21	0.76
25:RE:9:VAL:HB	25:RE:25:VAL:HG23	1.66	0.76
1:XA:1094:G:HO2'	1:XA:1095:U:P	2.08	0.76
22:YA:443:A:N7	26:YF:45:ARG:HD2	2.00	0.76
1:QA:662:G:O2'	1:QA:836:G:OP1	2.04	0.76
34:RR:3:HIS:O	34:RR:5:LYS:N	2.19	0.76
42:RZ:79:ARG:HB3	42:RZ:80:ARG:HD3	1.66	0.76
16:XP:45:THR:HG22	16:XP:47:ASP:H	1.51	0.76
22:YA:2134:A:OP2	22:YA:2157:G:N2	2.19	0.76
35:RS:62:LYS:HB3	35:RS:97:ARG:HD3	1.67	0.76
19:XS:5:LEU:HD21	47:Y4:66:SER:HB2	1.68	0.76
22:YA:2415:G:H4'	32:YP:67:MET:N	2.00	0.76
22:RA:2818:G:OP2	34:RR:42:LYS:NZ	2.18	0.76
13:XM:61:GLU:O	47:Y4:49:PHE:CE2	2.38	0.76
34:YR:74:LYS:O	34:YR:76:VAL:N	2.18	0.76
1:QA:1002:G:H2'	1:QA:1003:G:H8	1.51	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YF:197:ASP:O	26:YF:199:TRP:N	2.19	0.76
28:YH:153:LYS:HG2	28:YH:162:ILE:HG13	1.67	0.76
1:XA:523:A:H61	12:XL:92:ASP:HB2	1.51	0.75
22:RA:1059:G:O6	22:RA:1079:C:N4	2.18	0.75
41:RY:95:LYS:HB3	41:RY:100:ALA:HA	1.69	0.75
13:XM:3:ARG:CB	47:Y4:34:GLU:HB3	2.15	0.75
22:YA:581:C:H2'	22:YA:582:G:C8	2.22	0.75
42:RZ:150:LEU:HD23	42:RZ:171:ILE:HG13	1.68	0.75
1:XA:451:A:OP1	1:XA:481:G:N2	2.17	0.75
4:XD:33:MET:HE2	4:XD:37:PRO:HA	1.68	0.75
22:RA:2439:A:H5'	22:RA:2439:A:C8	2.21	0.75
36:YT:57:PHE:O	36:YT:58:ASN:ND2	2.19	0.75
1:QA:689:C:OP1	11:QK:27:ASN:ND2	2.19	0.75
41:RY:87:LYS:HD3	41:RY:92:ASN:HB3	1.69	0.75
1:XA:564:C:O2'	8:XH:91:ARG:NH2	2.20	0.75
1:XA:1352:C:H42	1:XA:1370:G:H1	1.35	0.75
36:YT:27:THR:HG23	36:YT:90:GLN:HB3	1.67	0.75
1:QA:979:C:OP1	1:QA:1223:C:N4	2.19	0.75
1:QA:1316:G:H22	1:QA:1319:A:H5"	1.52	0.75
22:RA:2572:A:H5"	22:RA:2574:G:H4'	1.68	0.75
32:RP:14:LYS:O	32:RP:16:ARG:N	2.20	0.75
42:RZ:156:LYS:HG2	42:RZ:158:PRO:HD3	1.66	0.75
49:R6:41:PRO:HG2	49:R6:45:LYS:H	1.52	0.75
1:XA:559:A:OP1	5:XE:126:ARG:NH2	2.19	0.75
37:YU:92:ARG:O	37:YU:94:ASN:N	2.20	0.75
42:YZ:97:GLU:HB3	42:YZ:125:LEU:HD11	1.68	0.75
4:QD:57:ARG:HH22	5:QE:107:ARG:HD3	1.50	0.75
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.69	0.75
44:R1:7:ILE:HG12	44:R1:91:LYS:HZ1	1.52	0.75
38:YV:24:LYS:HA	38:YV:92:THR:HG23	1.68	0.75
22:RA:984:A:H5"	22:RA:985:C:H5	1.52	0.74
22:RA:2298:A:H62	22:RA:2318:G:H8	1.32	0.74
34:RR:56:LYS:NZ	34:RR:90:ARG:O	2.20	0.74
41:RY:86:ARG:HB2	41:RY:95:LYS:HD2	1.69	0.74
50:R7:9:ARG:HH21	50:R7:48:LYS:HD2	1.52	0.74
30:YN:13:TRP:HB2	30:YN:133:GLN:HG3	1.69	0.74
1:QA:1305:G:HO2'	1:QA:1306:A:H8	1.35	0.74
5:QE:7:GLU:HG2	5:QE:112:LEU:HD22	1.69	0.74
34:RR:74:LYS:O	34:RR:76:VAL:N	2.18	0.74
1:XA:793:U:O2	1:XA:1516:G:H4'	1.87	0.74
22:RA:1614:A:H62	39:RW:93:ALA:HB2	1.52	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RI:8:PRO:HD3	29:RI:15:VAL:HG13	1.68	0.74
1:XA:581:G:N2	1:XA:760:G:N7	2.35	0.74
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.21	0.74
29:YI:64:GLU:O	29:YI:67:ARG:NH2	2.20	0.74
35:YS:78:LEU:HD21	35:YS:108:GLY:HA3	1.68	0.74
1:XA:931:C:O2	1:XA:1386:G:N2	2.18	0.74
22:YA:1209:G:H21	22:YA:1210:A:H62	1.32	0.74
22:YA:1630(A):C:N4	22:YA:1635:G:O6	2.16	0.74
42:YZ:101:PRO:HA	42:YZ:123:ASP:HB3	1.70	0.74
27:RG:34:LEU:HB2	27:RG:172:LEU:HD21	1.69	0.74
2:XB:178:ARG:HG3	8:XH:72:PRO:HA	1.69	0.74
22:YA:1996:C:OP1	31:YO:31:LYS:NZ	2.20	0.74
1:QA:1204:A:OP1	14:QN:3:ARG:NH2	2.20	0.74
22:RA:620:G:H4'	22:RA:621:A:H5"	1.68	0.74
1:XA:356:A:H2'	1:XA:357:G:H8	1.51	0.74
1:XA:606:G:H1	1:XA:631:G:H5"	1.51	0.74
1:XA:1279:A:O2'	1:XA:1282:C:N4	2.20	0.74
1:QA:147:G:H1	1:QA:175:C:H42	1.34	0.74
8:QH:29:SER:HB3	8:QH:32:LYS:HG3	1.69	0.74
22:YA:2444:G:OP2	26:YF:68:LYS:HE3	1.88	0.74
36:YT:51:ARG:HG2	36:YT:98:LYS:HG3	1.70	0.74
22:YA:2701:C:H3'	22:YA:2702:U:C5'	2.17	0.74
27:YG:161:THR:HG22	27:YG:163:ALA:H	1.53	0.74
43:Y0:53:MET:HB3	43:Y0:59:LEU:HD23	1.70	0.74
1:QA:411:A:C5	1:QA:413:G:H1'	2.23	0.74
1:QA:1023:G:H3'	1:QA:1024:G:H5"	1.70	0.74
25:RE:62:PRO:O	25:RE:64:LYS:N	2.20	0.74
22:YA:1688:U:O2	22:YA:1700:A:H5"	1.88	0.74
23:YB:28:C:OP1	35:YS:36:TYR:OH	2.06	0.74
42:YZ:144:LEU:HD12	42:YZ:174:VAL:HG23	1.70	0.74
22:RA:602:G:O2'	22:RA:604:G:O2'	2.05	0.74
22:RA:140:A:H8	22:RA:1408:C:HO2'	1.35	0.73
5:QE:100:VAL:O	5:QE:107:ARG:NH2	2.20	0.73
22:RA:2115:G:N2	22:RA:2165:G:N7	2.34	0.73
43:R0:65:GLY:HA3	43:R0:83:PRO:HA	1.70	0.73
22:RA:259:G:O2'	22:RA:621:A:O2'	2.04	0.73
22:RA:1080:C:N4	22:RA:1088:A:OP2	2.16	0.73
1:XA:1286:A:H5"	21:XU:26:LYS:HD2	1.70	0.73
32:YP:64:LYS:C	32:YP:66:GLY:H	1.96	0.73
47:Y4:9:LEU:H	47:Y4:27:THR:HG23	1.53	0.73
53:XV:23:C:H2'	53:XV:24:U:H6	1.51	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:776:G:H4'	22:YA:777:A:H5"	1.70	0.73
23:YB:15:A:H5'	23:YB:16:G:C8	2.22	0.73
40:YX:27:THR:HB	40:YX:80:ILE:HB	1.69	0.73
22:RA:2509:G:H1	22:RA:2579:C:H42	1.35	0.73
22:YA:1190:G:OP1	32:YP:30:THR:OG1	2.05	0.73
32:YP:14:LYS:O	32:YP:16:ARG:N	2.22	0.73
22:RA:2112:G:O6	22:RA:2169:A:N6	2.20	0.73
29:RI:29:TYR:O	29:RI:33:ARG:HB2	1.88	0.73
1:XA:396:G:O2'	1:XA:398:C:OP1	2.07	0.73
6:XF:50:TYR:OH	18:XR:74:ARG:O	2.06	0.73
22:YA:1359:A:N6	22:YA:1372:U:H3	1.86	0.73
22:RA:2245:U:H5'	22:RA:2246:G:H5'	1.71	0.73
23:RB:28:C:N4	23:RB:56:G:O6	2.17	0.73
4:XD:7:PRO:HB2	4:XD:10:ARG:HD2	1.69	0.73
1:QA:1244:C:N4	1:QA:1293:G:H1	1.83	0.73
22:RA:2074:U:H2'	22:RA:2075:U:C6	2.24	0.73
28:YH:86:GLU:HG3	28:YH:165:ALA:H	1.53	0.73
33:YQ:104:PHE:HE1	33:YQ:125:LEU:HD11	1.53	0.73
22:YA:1754:C:OP1	36:YT:96:ARG:NH1	2.21	0.73
33:YQ:111:GLU:OE1	33:YQ:133:ARG:NH2	2.22	0.73
22:RA:1086:A:O2'	22:RA:1087:G:N7	2.22	0.73
22:YA:273(C):C:H42	22:YA:363(C):G:H1	1.34	0.73
33:YQ:24:GLY:O	33:YQ:26:TYR:N	2.19	0.73
4:QD:175:SER:HB3	4:QD:186:LEU:HD21	1.69	0.72
22:RA:530:G:O2'	22:RA:532:A:N7	2.22	0.72
1:XA:674:G:H2'	1:XA:675:A:H8	1.54	0.72
7:QG:9:VAL:HG13	7:QG:94:ARG:HH21	1.54	0.72
22:RA:273:G:H1	22:RA:364:C:H42	1.38	0.72
22:YA:1509:C:N3	22:YA:1511:A:N6	2.37	0.72
53:QV:40:C:H2'	53:QV:41:C:C6	2.24	0.72
1:QA:1055:A:O2'	3:QC:161:GLU:OE2	2.07	0.72
3:QC:58:GLU:HB2	3:QC:65:ALA:HB3	1.70	0.72
22:RA:155:C:H42	22:RA:171:G:H1	1.37	0.72
22:RA:774:A:O2'	22:RA:775:G:O5'	2.08	0.72
3:QC:20:SER:HB2	3:QC:40:ARG:HH22	1.54	0.72
22:RA:239:U:H3	22:RA:258:G:H1	1.37	0.72
22:RA:1449:A:O2'	22:RA:1530:G:N2	2.22	0.72
22:RA:1754:C:OP1	36:RT:96:ARG:NH1	2.18	0.72
22:RA:2328:A:H2'	22:RA:2329:G:C8	2.25	0.72
43:R0:72:ARG:HB2	43:R0:75:LEU:HB2	1.70	0.72
22:RA:2540:C:O2'	22:RA:2740:A:N3	2.23	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RB:65:C:H41	23:RB:108:C:H2'	1.53	0.72
29:YI:68:LEU:HA	29:YI:71:ILE:HG22	1.71	0.72
47:Y4:48:ARG:HH12	47:Y4:52:THR:HG22	1.54	0.72
1:QA:957:U:H4'	19:QS:79:THR:HB	1.72	0.72
22:RA:1474:C:H42	22:RA:1519:G:H1	1.38	0.72
22:YA:530:G:O2'	22:YA:532:A:N7	2.23	0.72
22:YA:2287:A:N6	22:YA:2344:U:H3	1.87	0.72
24:YD:35:LYS:HD2	24:YD:104:TYR:CE1	2.25	0.72
26:YF:192:LEU:HD21	26:YF:194:MET:HE3	1.72	0.72
27:YG:6:ALA:H	47:Y4:23:GLU:HG2	1.54	0.72
45:Y2:42:GLY:O	45:Y2:44:LEU:N	2.20	0.72
22:RA:1856:G:H1	22:RA:1886:C:H42	1.37	0.72
29:RI:88:ILE:HG12	29:RI:122:GLU:H	1.54	0.72
23:YB:60:C:H2'	23:YB:61:G:H8	1.55	0.72
27:YG:64:THR:HG23	27:YG:66:GLN:H	1.55	0.72
28:YH:129:THR:O	28:YH:129:THR:OG1	2.08	0.72
17:QQ:4:LYS:HE3	17:QQ:6:LEU:HD21	1.72	0.72
31:YO:47:ILE:HG13	31:YO:48:PRO:HD2	1.72	0.72
41:YY:51:VAL:HG13	41:YY:52:SER:H	1.54	0.72
42:YZ:53:ILE:HG22	42:YZ:71:VAL:HG13	1.72	0.72
1:QA:1286:A:H5"	21:QU:26:LYS:HD2	1.72	0.71
1:XA:1455:G:H5"	20:XT:31:SER:HB2	1.72	0.71
22:YA:242:G:H5"	51:Y8:62:LEU:HD13	1.72	0.71
22:YA:1403:C:H5"	22:YA:1471:A:H1'	1.73	0.71
42:YZ:151:HIS:HA	42:YZ:171:ILE:HG13	1.72	0.71
1:QA:1502:A:H2	1:QA:1505:G:H1	1.35	0.71
22:RA:27:G:N2	22:RA:513:A:OP2	2.23	0.71
22:RA:1063:G:N2	22:RA:1076:C:O2'	2.23	0.71
22:RA:2364:C:OP1	43:R0:55:ARG:NH1	2.23	0.71
42:RZ:76:LEU:HA	42:RZ:83:PRO:HA	1.71	0.71
5:XE:10:MET:HB3	5:XE:32:VAL:HG22	1.70	0.71
22:YA:286:C:H2'	22:YA:287:C:C6	2.24	0.71
22:RA:2319:G:N1	22:RA:2334:G:OP2	2.22	0.71
9:XI:114:TYR:HE1	10:XJ:60:ARG:H	1.38	0.71
2:QB:115:LEU:HB2	2:QB:145:LEU:HD12	1.73	0.71
22:RA:997:G:OP1	37:RU:93:LYS:HD3	1.88	0.71
29:RI:2:LYS:HA	29:RI:20:ASP:HA	1.70	0.71
22:RA:259:G:H21	22:RA:621:A:H8	1.35	0.71
46:R3:8:LEU:HD13	46:R3:31:LEU:HD23	1.71	0.71
49:R6:17:LYS:HB3	49:R6:44:ARG:HH22	1.55	0.71
22:YA:1062:G:H2'	22:YA:1063:G:C8	2.25	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YN:89:LYS:O	30:YN:93:THR:HG22	1.90	0.71
1:QA:404:U:H2'	1:QA:405:U:H6	1.53	0.71
25:YE:170:LEU:HD21	25:YE:187:ALA:HB3	1.72	0.71
4:QD:28:SER:HB3	4:QD:29:PRO:HD3	1.72	0.71
27:RG:61:ALA:HB2	27:RG:68:PRO:HD3	1.72	0.71
32:RP:38:GLN:HG2	32:RP:45:LEU:HD12	1.72	0.71
22:YA:443:A:H3'	26:YF:45:ARG:HH12	1.56	0.71
41:YY:29:GLU:HB3	41:YY:38:ILE:HG23	1.70	0.71
42:YZ:45:ASP:OD1	42:YZ:49:ARG:NE	2.22	0.71
42:RZ:63:ASP:HB3	42:RZ:65:GLN:HG3	1.73	0.71
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.72	0.71
8:XH:10:LEU:HD22	8:XH:83:ILE:HD11	1.72	0.71
13:XM:62:ASN:OD1	47:Y4:49:PHE:HD2	1.74	0.71
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.26	0.71
10:QJ:61:GLU:OE2	14:QN:45:ARG:NH1	2.23	0.71
22:RA:27:G:H22	22:RA:512:G:H1'	1.56	0.71
22:YA:24:G:O2'	39:YW:78:GLU:O	2.09	0.71
41:YY:42:VAL:HG12	41:YY:65:ALA:HB3	1.71	0.71
22:RA:597:U:O2	22:RA:660:G:N1	2.19	0.71
22:RA:2287:A:N6	22:RA:2344:U:H3	1.89	0.71
33:RQ:81:VAL:O	33:RQ:82:ARG:NE	2.22	0.71
20:XT:45:GLN:HB2	20:XT:91:LEU:HD13	1.73	0.71
22:YA:1338:G:N7	40:YX:62:LYS:NZ	2.39	0.71
22:YA:1434:A:H61	22:YA:1558:A:N6	1.88	0.71
22:YA:2245:U:H5'	22:YA:2246:G:H5'	1.71	0.71
22:YA:2681:C:O2'	22:YA:2682:U:OP2	2.09	0.71
31:YO:2:ILE:HD12	31:YO:6:THR:HG21	1.72	0.71
35:YS:24:LEU:HB2	35:YS:85:VAL:HG12	1.71	0.71
35:YS:106:ARG:HA	35:YS:110:LEU:HD21	1.73	0.71
36:YT:77:PRO:HB2	36:YT:80:SER:HB2	1.72	0.71
1:QA:1321:C:H3'	1:QA:1322:C:H5"	1.73	0.70
22:RA:1693:U:O2'	24:RD:14:ARG:NH2	2.23	0.70
22:RA:2377:A:H2'	22:RA:2378:A:C8	2.25	0.70
22:YA:1264:G:H3'	22:YA:1265:A:H5"	1.72	0.70
22:YA:1586:A:H3'	22:YA:1587:A:H8	1.56	0.70
42:YZ:152:ALA:HB2	42:YZ:168:GLU:HA	1.72	0.70
51:Y8:58:ILE:HD13	51:Y8:61:LEU:HD21	1.73	0.70
45:R2:29:LYS:HE3	45:R2:57:ILE:HG21	1.73	0.70
22:YA:2610:C:H4'	22:YA:2611:U:OP2	1.91	0.70
19:QS:41:VAL:HB	19:QS:42:PRO:HA	1.73	0.70
22:RA:1860:G:H1	22:RA:1882:C:H42	1.40	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RT:18:ASP:OD1	36:RT:18:ASP:N	2.19	0.70
22:YA:1649:G:O2'	34:YR:107:ASP:OD1	2.08	0.70
19:QS:40:ILE:HD11	19:QS:62:ILE:HD12	1.74	0.70
22:RA:503:A:H4'	22:RA:504:U:H5'	1.73	0.70
39:RW:29:LEU:HD22	39:RW:69:LEU:HD11	1.72	0.70
10:XJ:50:ILE:HA	10:XJ:60:ARG:HG2	1.72	0.70
27:YG:47:LYS:HD3	27:YG:81:LYS:HB2	1.73	0.70
1:XA:501:C:OP1	12:XL:117:ARG:NH2	2.24	0.70
1:XA:1239:A:H62	1:XA:1299:A:H62	1.40	0.70
13:XM:57:ARG:NH2	47:Y4:34:GLU:O	2.24	0.70
10:XJ:61:GLU:OE2	14:XN:45:ARG:NH1	2.25	0.70
13:XM:65:LYS:HE2	47:Y4:50:VAL:HG11	1.72	0.70
22:YA:2712:U:H1'	22:YA:2712(A):A:C8	2.27	0.70
1:QA:1002:G:H2'	1:QA:1003:G:C8	2.26	0.70
13:QM:59:TYR:O	13:QM:63:THR:OG1	2.07	0.70
22:RA:2355:C:H1'	43:R0:39:ARG:HH21	1.56	0.70
28:RH:106:THR:HG22	28:RH:112:PRO:HB3	1.72	0.70
1:XA:962:C:H2'	1:XA:963:G:H8	1.55	0.70
1:XA:1315:U:H2'	1:XA:1316:G:O4'	1.92	0.70
18:XR:58:LEU:HD23	18:XR:62:GLU:HB3	1.74	0.70
22:YA:1184:G:OP1	46:Y3:29:ARG:NH1	2.24	0.70
39:YW:17:VAL:HG12	39:YW:76:VAL:HG11	1.72	0.70
22:RA:141:A:H8	22:RA:1595:G:H21	1.38	0.70
22:RA:923:C:H2'	22:RA:924:C:H6	1.56	0.70
22:RA:2287:A:H62	22:RA:2344:U:H3	1.39	0.70
1:XA:113:G:H1	1:XA:314:C:H42	1.37	0.70
13:XM:8:GLU:OE2	27:YG:115:ARG:NH1	2.24	0.70
22:YA:1446:C:H42	22:YA:1465:G:H1	1.38	0.70
24:YD:43:ARG:HB3	24:YD:54:ARG:HB2	1.74	0.70
1:QA:337:C:H2'	1:QA:338:A:C8	2.25	0.70
1:QA:1226:C:H4'	19:QS:80:TYR:CZ	2.25	0.70
22:RA:2444:G:OP2	26:RF:68:LYS:HE3	1.91	0.70
1:XA:686:U:H1'	11:XK:42:TRP:HE1	1.55	0.70
14:XN:48:ALA:HB2	14:XN:53:LEU:HD12	1.73	0.70
22:RA:694:U:N3	22:RA:768:G:O6	2.17	0.70
22:RA:1899:G:H21	22:RA:1902:C:N4	1.90	0.70
22:RA:2418:A:OP2	51:R8:29:LYS:HE2	1.92	0.70
24:RD:93:ALA:HB3	24:RD:105:ILE:HG22	1.74	0.70
25:RE:119:ARG:HB3	25:RE:120:TRP:CD1	2.27	0.70
1:XA:339:C:OP2	31:YO:97:ARG:NH1	2.25	0.70
2:XB:185:ILE:HG22	2:XB:199:TYR:HB2	1.74	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1794:U:H2'	22:YA:1795:C:H6	1.56	0.70
22:YA:2470:G:H5'	33:YQ:56:ARG:NH2	2.05	0.70
26:YF:185:ASP:HA	26:YF:188:ARG:HD3	1.72	0.70
22:RA:1769:G:O2'	22:RA:1958:C:OP1	2.10	0.69
43:R0:23:VAL:HG13	43:R0:38:VAL:HG22	1.74	0.69
29:YI:77:LEU:HD22	29:YI:101:LEU:HG	1.74	0.69
1:QA:1051:C:O2	1:QA:1207:G:N2	2.19	0.69
22:RA:1310:G:H1	22:RA:1604:C:H42	1.39	0.69
4:XD:105:VAL:HG13	4:XD:110:PHE:HB2	1.74	0.69
47:R4:18:CYS:SG	47:R4:19:GLY:N	2.66	0.69
1:XA:474:G:H2'	1:XA:475:G:H8	1.57	0.69
1:XA:976:G:N2	1:XA:1362(A):C:OP2	2.25	0.69
13:XM:7:VAL:CG2	27:YG:113:ARG:O	2.40	0.69
29:YI:9:LEU:HD21	29:YI:12:LEU:HB2	1.74	0.69
10:QJ:48:THR:HA	10:QJ:62:HIS:HB3	1.73	0.69
1:XA:971:G:N2	1:XA:1363:A:OP2	2.24	0.69
19:XS:10:PHE:HB2	19:XS:39:THR:H	1.54	0.69
22:YA:2308:G:H22	22:YA:2311:A:H2	1.41	0.69
26:YF:182:ASN:ND2	26:YF:185:ASP:OD2	2.19	0.69
22:RA:1543:A:H1'	22:RA:1545:A:O4'	1.91	0.69
22:RA:2392:A:OP2	22:RA:2422:A:N6	2.26	0.69
42:RZ:69:THR:HG22	42:RZ:90:VAL:HA	1.73	0.69
42:RZ:74:VAL:HG13	42:RZ:86:VAL:HG22	1.75	0.69
1:XA:1132:C:H2'	1:XA:1133:G:H8	1.56	0.69
6:XF:68:PRO:HG2	6:XF:71:ARG:HG3	1.75	0.69
19:XS:5:LEU:HD11	47:Y4:66:SER:C	2.18	0.69
24:YD:182:LEU:H	24:YD:272:ALA:HB3	1.56	0.69
29:YI:93:THR:HG22	29:YI:119:PRO:HB3	1.75	0.69
1:QA:1322:C:O2'	1:QA:1323:G:H5'	1.93	0.69
47:R4:7:PRO:HB2	47:R4:27:THR:HG21	1.74	0.69
20:XT:100:ILE:HG13	20:XT:102:GLY:H	1.56	0.69
22:YA:2477:C:H3'	52:Y9:1:MET:HE3	1.74	0.69
24:YD:71:ASP:HB2	24:YD:103:ARG:HH22	1.58	0.69
26:YF:110:LEU:HD11	26:YF:181:LEU:HD13	1.74	0.69
22:RA:265:A:N6	22:RA:427:U:O2'	2.25	0.69
48:R5:41:PRO:O	48:R5:44:THR:OG1	2.11	0.69
1:XA:136:C:H42	1:XA:227:G:H1	1.39	0.69
1:XA:243:A:H4'	1:XA:244:U:O5'	1.93	0.69
1:XA:601:C:H2'	1:XA:602:A:C8	2.27	0.69
22:YA:2331:G:H4'	43:Y0:43:THR:H	1.58	0.69
26:YF:184:TYR:O	26:YF:188:ARG:HG3	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YI:128:LEU:HD23	29:YI:140:LEU:HD21	1.75	0.69
49:Y6:11:LEU:HD11	49:Y6:51:GLU:HG3	1.75	0.69
22:RA:392:C:H5"	22:RA:409:C:H5"	1.75	0.69
23:RB:5:C:OP1	23:RB:61:G:O2'	2.10	0.69
43:R0:56:ASP:OD2	43:R0:58:THR:N	2.20	0.69
25:YE:128:SER:OG	25:YE:129:HIS:N	2.24	0.69
22:RA:2093:G:N2	22:RA:2196:C:O2	2.24	0.69
33:RQ:37:LEU:HD21	33:RQ:130:LYS:HE3	1.74	0.69
39:RW:29:LEU:HG	39:RW:33:ARG:HD2	1.74	0.69
42:RZ:60:GLU:HA	42:RZ:66:SER:HA	1.75	0.69
22:YA:443:A:H3'	26:YF:45:ARG:NH1	2.08	0.69
26:YF:157:VAL:HB	26:YF:194:MET:HB3	1.75	0.69
22:RA:2445:G:OP1	26:RF:74:ARG:NH2	2.26	0.68
24:RD:25:THR:O	24:RD:27:THR:N	2.26	0.68
25:RE:2:LYS:HD3	25:RE:95:ILE:HG22	1.75	0.68
28:RH:86:GLU:HG3	28:RH:165:ALA:H	1.56	0.68
1:XA:601:C:H2'	1:XA:602:A:H8	1.57	0.68
22:YA:521:G:H2'	22:YA:522:G:H8	1.58	0.68
22:YA:2781:A:H5"	22:YA:2782:G:H5'	1.75	0.68
22:RA:1403:C:H5"	22:RA:1471:A:H1'	1.75	0.68
22:RA:2889:C:H3'	22:RA:2891:G:H8	1.58	0.68
1:XA:978:A:OP2	1:XA:1362(A):C:N4	2.25	0.68
44:Y1:73:LEU:HD13	44:Y1:90:ILE:HG22	1.76	0.68
22:RA:1266:G:O5'	39:RW:15:ARG:NH2	2.26	0.68
53:XV:4:G:O2'	53:XV:5:G:H8	1.76	0.68
3:QC:3:ASN:N	3:QC:3:ASN:OD1	2.27	0.68
1:XA:977:A:H8	1:XA:1223:C:N3	1.91	0.68
1:QA:1065:U:O2'	1:QA:1066:C:OP2	2.11	0.68
22:RA:1048:A:H2	22:RA:1112:G:H21	1.40	0.68
27:RG:47:LYS:HD3	27:RG:81:LYS:HB2	1.76	0.68
27:RG:66:GLN:NE2	27:RG:93:THR:O	2.26	0.68
1:XA:501:C:H2'	1:XA:502:G:H8	1.56	0.68
1:XA:547:A:OP1	4:XD:73:ARG:NH2	2.25	0.68
22:YA:458:G:O2'	22:YA:469:G:O6	2.11	0.68
22:YA:1689:A:H62	22:YA:1698:A:H2	1.41	0.68
36:YT:123:GLN:O	36:YT:125:ARG:N	2.26	0.68
1:QA:108:G:H5"	1:QA:109:A:H5"	1.74	0.68
5:QE:11:ILE:HG13	5:QE:31:LEU:HB3	1.76	0.68
13:QM:8:GLU:OE2	27:RG:115:ARG:HD3	1.93	0.68
22:RA:1496:A:H8	22:RA:1577:C:HO2'	1.42	0.68
1:XA:1129:C:O2'	1:XA:1131:G:N7	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:235:SER:OG	2:XB:236:TYR:N	2.25	0.68
22:YA:2698:U:H2'	22:YA:2699:C:C6	2.29	0.68
24:YD:25:THR:O	24:YD:27:THR:N	2.26	0.68
16:QP:4:ILE:HG12	16:QP:21:VAL:HG12	1.75	0.68
34:RR:38:VAL:HG22	34:RR:112:ALA:HB2	1.75	0.68
1:XA:24:U:H2'	1:XA:25:C:H6	1.59	0.68
14:XN:13:THR:N	14:XN:14:PRO:HD2	2.09	0.68
25:YE:95:ILE:H	25:YE:95:ILE:HD12	1.59	0.68
27:YG:67:LYS:HZ1	47:Y4:1:MET:HB2	1.57	0.68
11:QK:58:PRO:HB2	11:QK:93:GLN:HG3	1.75	0.68
22:RA:819:A:OP2	22:RA:1187:G:N2	2.27	0.68
22:RA:1138:G:H21	30:RN:106:MET:HE3	1.59	0.68
22:RA:2602:A:N6	53:QV:76:A:H2'	2.09	0.68
33:RQ:12:GLN:HG2	33:RQ:73:PRO:HD2	1.75	0.68
22:YA:2753:A:O2'	52:Y9:15:LYS:NZ	2.27	0.68
24:YD:142:VAL:HG23	24:YD:193:VAL:HA	1.75	0.68
33:YQ:37:LEU:HD21	33:YQ:130:LYS:HE3	1.74	0.68
22:RA:2120:G:H2'	22:RA:2121:G:C8	2.29	0.68
30:YN:133:GLN:HB2	30:YN:135:PRO:HD3	1.76	0.68
1:QA:552:U:O2'	12:QL:86:ARG:O	2.11	0.68
22:RA:754:C:H2'	22:RA:755:C:H6	1.59	0.68
22:RA:2331:G:O2'	43:R0:43:THR:HG22	1.93	0.68
32:YP:39:LYS:HG3	32:YP:45:LEU:HD22	1.75	0.68
22:RA:185:U:H2'	22:RA:186:G:C8	2.30	0.67
22:RA:923:C:H2'	22:RA:924:C:C6	2.28	0.67
22:RA:2438:U:O3'	22:RA:2439:A:H3'	1.94	0.67
27:RG:83:ARG:H	27:RG:86:MET:HG3	1.59	0.67
1:QA:346:G:OP1	36:RT:41:ARG:NH2	2.27	0.67
2:QB:27:LYS:HD2	2:QB:193:ASP:HB2	1.75	0.67
22:RA:1649:G:O2'	34:RR:107:ASP:OD1	2.07	0.67
22:YA:2582:G:N2	22:YA:2583:G:H1'	2.10	0.67
42:YZ:45:ASP:CG	42:YZ:49:ARG:HE	2.02	0.67
1:QA:297:G:N2	1:QA:300:A:OP2	2.28	0.67
1:QA:376:G:H1	1:QA:387:U:H3	1.41	0.67
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.28	0.67
22:RA:1696:G:H21	22:RA:1978:A:H5'	1.58	0.67
28:RH:152:ARG:HG3	28:RH:153:LYS:HD2	1.77	0.67
22:YA:607:U:H3	22:YA:621:A:H2	1.43	0.67
51:Y8:29:LYS:O	51:Y8:31:HIS:N	2.27	0.67
1:QA:1053:G:H5'	1:QA:1054:C:H5'	1.75	0.67
4:QD:154:ASN:N	4:QD:154:ASN:OD1	2.26	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:QS:29:ARG:HD3	19:QS:30:LEU:HD13	1.77	0.67
22:RA:300:A:H2'	22:RA:334:C:H1'	1.75	0.67
8:XH:120:THR:H	8:XH:123:GLU:HB2	1.59	0.67
19:XS:40:ILE:HG12	19:XS:41:VAL:HG13	1.76	0.67
22:YA:1048:A:P	22:YA:1110:G:H22	2.17	0.67
22:YA:1270:C:H5"	22:YA:1271:G:H5'	1.77	0.67
22:YA:2757:A:OP1	52:Y9:19:ARG:HA	1.94	0.67
32:YP:64:LYS:C	32:YP:66:GLY:N	2.48	0.67
42:YZ:72:ARG:NH2	42:YZ:97:GLU:O	2.26	0.67
1:QA:983:A:N1	1:QA:1222:G:N2	2.43	0.67
24:RD:182:LEU:H	24:RD:272:ALA:HB3	1.59	0.67
5:XE:31:LEU:HD23	5:XE:45:PHE:CD1	2.30	0.67
28:YH:137:ASP:OD1	28:YH:138:LYS:N	2.27	0.67
33:YQ:89:ASN:O	33:YQ:92:GLY:N	2.18	0.67
22:RA:270(I):G:H2'	22:RA:270(J):G:H8	1.60	0.67
23:RB:28:C:N3	23:RB:56:G:N1	2.29	0.67
38:RV:72:VAL:HG13	38:RV:85:LYS:HB3	1.75	0.67
1:XA:353:A:H5'	1:XA:353:A:H8	1.60	0.67
22:YA:2393:A:H5'	32:YP:62:LEU:HB3	1.77	0.67
25:YE:1:MET:N	25:YE:83:ASP:O	2.28	0.67
42:YZ:182:LYS:HG3	42:YZ:183:LEU:HA	1.76	0.67
24:RD:35:LYS:HZ1	24:RD:104:TYR:HB2	1.59	0.67
1:XA:322:C:O2	1:XA:332:G:N2	2.28	0.67
1:XA:973:G:OP1	10:XJ:57:LYS:NZ	2.27	0.67
2:XB:168:THR:HB	2:XB:192:SER:HB2	1.77	0.67
22:YA:1665:A:H1'	31:YO:1:MET:HG3	1.76	0.67
36:YT:16:ARG:NH2	36:YT:83:ILE:O	2.27	0.67
22:RA:138:G:N2	40:RX:44:GLU:OE2	2.24	0.67
24:RD:49:ILE:HD11	24:RD:52:ARG:HA	1.77	0.67
36:RT:84:GLN:HG2	36:RT:85:LYS:HG2	1.76	0.67
2:XB:174:VAL:HG13	2:XB:184:VAL:HG11	1.76	0.67
22:YA:27:G:N2	22:YA:512:G:O2'	2.28	0.67
22:YA:712:G:H1	22:YA:719:C:H42	1.43	0.67
24:YD:221:VAL:HG22	24:YD:226:MET:HE3	1.77	0.67
34:YR:78:LYS:HE2	34:YR:83:ILE:HD11	1.77	0.67
38:YV:52:VAL:HG21	38:YV:55:ALA:HB3	1.76	0.67
22:RA:252:G:OP2	32:RP:50:ARG:NH1	2.28	0.67
22:RA:969:U:H2'	22:RA:970:C:C6	2.29	0.67
22:RA:1139:G:O2'	22:RA:1143:A:N1	2.22	0.67
22:RA:1859:A:N6	22:RA:1883:G:O2'	2.28	0.67
26:RF:143:ALA:HB1	26:RF:148:LEU:HB2	1.75	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:RQ:30:GLY:HA2	33:RQ:107:ALA:HB2	1.77	0.67
42:RZ:62:PRO:O	42:RZ:64:GLY:N	2.27	0.67
1:XA:266:G:H5"	1:XA:267:C:C5	2.29	0.67
5:XE:37:ARG:HA	5:XE:114:GLY:H	1.59	0.67
22:YA:27:G:O2'	22:YA:28:A:H8	1.76	0.67
22:YA:2294:C:OP2	35:YS:13:ARG:NH1	2.28	0.67
48:Y5:4:HIS:HB3	48:Y5:5:PRO:HD3	1.77	0.67
1:QA:757:U:O2'	1:QA:879:C:O2	2.12	0.66
1:QA:1104:G:H4'	2:QB:111:ARG:NH1	2.09	0.66
22:YA:2263:C:H2'	22:YA:2264:C:H6	1.59	0.66
24:YD:35:LYS:HG2	24:YD:64:ILE:H	1.59	0.66
22:RA:1041:C:H42	22:RA:1114:G:H1	1.43	0.66
22:RA:2655:G:N2	22:RA:2665:A:OP2	2.28	0.66
22:YA:1061:U:H3'	22:YA:1062:G:H5"	1.77	0.66
33:YQ:62:GLY:HA2	42:YZ:116:VAL:HG21	1.78	0.66
1:QA:405:U:O4	4:QD:2:GLY:N	2.28	0.66
1:QA:946:A:O2'	1:QA:1333:A:N3	2.24	0.66
22:YA:589:C:H2'	22:YA:590:A:C8	2.30	0.66
22:RA:1019:U:H3	22:RA:1142(A):A:N6	1.90	0.66
44:R1:7:ILE:HG12	44:R1:91:LYS:NZ	2.11	0.66
52:R9:27:CYS:SG	52:R9:29:ASN:ND2	2.69	0.66
1:XA:1008:C:H42	1:XA:1021:G:H1	1.41	0.66
10:XJ:7:LYS:HB2	10:XJ:97:GLU:HB2	1.76	0.66
22:YA:31:C:O3'	22:YA:1238:G:H5"	1.94	0.66
22:YA:1798:U:C5'	24:YD:259:THR:HG22	2.25	0.66
28:YH:86:GLU:HG3	28:YH:165:ALA:N	2.10	0.66
39:YW:45:TYR:CZ	39:YW:49:LYS:HD2	2.30	0.66
1:QA:411:A:H62	1:QA:413:G:H21	1.41	0.66
3:QC:70:VAL:HG12	3:QC:72:LYS:H	1.60	0.66
22:RA:848:G:H2'	22:RA:849:A:C8	2.31	0.66
1:XA:250:A:H4'	1:XA:251:G:O5'	1.95	0.66
13:XM:105:THR:O	13:XM:107:ALA:N	2.29	0.66
35:YS:83:LYS:C	35:YS:109:GLY:HA3	2.21	0.66
41:YY:49:VAL:O	41:YY:51:VAL:N	2.29	0.66
42:YZ:33:LEU:HD21	42:YZ:35:ARG:HD2	1.75	0.66
22:RA:1309:G:H4'	50:R7:7:PRO:HB2	1.78	0.66
22:RA:1449:A:HO2'	22:RA:1530:G:H21	1.42	0.66
1:XA:321:A:N6	1:XA:329:A:OP2	2.29	0.66
1:XA:651:C:H2'	1:XA:652:U:H6	1.60	0.66
41:YY:97:ARG:HE	41:YY:98:VAL:HB	1.61	0.66
19:QS:39:THR:HG22	19:QS:40:ILE:H	1.61	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2781:A:H5”	22:RA:2782:G:H5’	1.76	0.66
27:RG:6:ALA:H	47:R4:23:GLU:HG2	1.60	0.66
1:XA:940:C:H2’	1:XA:941:G:C8	2.31	0.66
22:YA:1167:U:H2’	22:YA:1168:G:H8	1.60	0.66
22:YA:1407:C:H42	22:YA:1595:G:H1	1.44	0.66
23:RB:8:U:H5’	35:RS:15:ARG:HH12	1.61	0.66
22:YA:758:C:O2’	22:YA:1981:A:N3	2.23	0.66
30:YN:1:MET:HE1	37:YU:95:LEU:HD21	1.76	0.66
4:QD:30:LYS:C	4:QD:32:ALA:H	2.03	0.66
25:RE:63:LEU:HD13	25:RE:65:GLY:H	1.60	0.66
41:RY:49:VAL:O	41:RY:51:VAL:N	2.29	0.66
1:XA:880:C:OP1	12:XL:12:ARG:NH1	2.28	0.66
23:YB:15:A:H5’	23:YB:16:G:H8	1.61	0.66
30:YN:35:ARG:O	30:YN:37:LYS:N	2.29	0.66
32:YP:105:LEU:O	32:YP:106:LEU:HB2	1.95	0.66
1:QA:975:A:H4’	1:QA:976:G:H5”	1.79	0.66
1:QA:1128:C:OP1	9:QI:66:ARG:NH2	2.27	0.66
22:RA:414:C:O2	22:RA:1864:U:O2’	2.13	0.66
22:RA:2065:C:H1’	22:RA:2449:U:H3	1.61	0.66
33:RQ:135:ASP:OD1	33:RQ:135:ASP:N	2.23	0.66
36:RT:102:ILE:HB	36:RT:110:ILE:HD13	1.78	0.66
1:XA:403:C:OP1	4:XD:137:SER:OG	2.13	0.66
1:XA:1060:C:C4	3:XC:2:GLY:HA2	2.31	0.66
19:XS:50:ALA:HB1	19:XS:57:HIS:HB3	1.77	0.66
22:YA:2612:C:H2’	22:YA:2613:U:H5’	1.77	0.66
1:XA:1356:G:H2’	1:XA:1357:A:C8	2.31	0.65
22:YA:1061:U:H4’	22:YA:1070:A:H1’	1.76	0.65
38:YV:21:ARG:HD2	38:YV:91:TYR:CD1	2.31	0.65
1:QA:35:G:O2’	12:QL:118:SER:O	2.14	0.65
22:RA:1409:C:H42	22:RA:1593:G:H1	1.44	0.65
22:RA:1444(A):A:H4’	22:RA:1460:A:O2’	1.95	0.65
22:RA:1657:C:H2’	22:RA:1658:C:C6	2.30	0.65
1:XA:1218:C:H2’	1:XA:1219:U:C6	2.31	0.65
1:QA:501:C:H2’	1:QA:502:G:H8	1.60	0.65
1:QA:1286:A:H8	1:QA:1287:A:H4’	1.61	0.65
2:QB:82:ARG:HA	2:QB:92:TYR:CE2	2.31	0.65
22:RA:1854:A:H62	22:RA:1888:G:H8	1.42	0.65
24:RD:27:THR:HG21	24:RD:81:ALA:HB1	1.78	0.65
24:RD:108:PRO:HG2	24:RD:111:LEU:HG	1.78	0.65
29:RI:77:LEU:HD21	29:RI:97:ILE:HG22	1.78	0.65
1:XA:1366:C:H2’	1:XA:1367:C:H6	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YT:16:ARG:HD3	36:YT:19:LEU:HD11	1.77	0.65
44:Y1:29:GLY:O	44:Y1:31:GLY:N	2.30	0.65
1:QA:1318:A:H4'	19:QS:11:VAL:HG11	1.77	0.65
22:RA:1939:U:OP1	22:RA:2604:U:O2'	2.14	0.65
32:RP:59:LEU:HA	32:RP:61:ARG:NE	2.12	0.65
42:YZ:30:ASN:HD22	42:YZ:90:VAL:HB	1.61	0.65
48:Y5:40:LYS:HZ1	48:Y5:48:GLU:HB2	1.61	0.65
1:QA:1175:G:H2'	1:QA:1176:A:H8	1.60	0.65
29:RI:109:ILE:HB	29:RI:130:TYR:OH	1.96	0.65
47:R4:1:MET:SD	47:R4:6:HIS:NE2	2.69	0.65
49:R6:11:LEU:HD23	49:R6:26:ASN:HB3	1.78	0.65
1:XA:392:G:H2'	1:XA:393:A:C8	2.31	0.65
1:XA:1280:A:O2'	1:XA:1281:U:OP1	2.14	0.65
22:YA:1952:A:C2	31:YO:22:ILE:HG23	2.31	0.65
37:YU:8:VAL:HG23	37:YU:11:ARG:HH21	1.62	0.65
19:QS:28:LYS:HB2	19:QS:47:HIS:CE1	2.32	0.65
22:RA:1681:G:O2'	22:RA:1762:A:O2'	2.13	0.65
1:XA:412:A:H4'	1:XA:413:G:O5'	1.95	0.65
11:XK:21:ILE:HB	11:XK:84:VAL:HG12	1.77	0.65
22:YA:2227:A:H5"	24:YD:263:ARG:NH1	2.11	0.65
45:Y2:50:ILE:HD12	45:Y2:51:ARG:H	1.62	0.65
1:QA:1513:A:H2'	1:QA:1514:C:C6	2.32	0.65
16:QP:53:VAL:HG12	16:QP:79:VAL:HG22	1.77	0.65
22:RA:1833:U:O2'	22:RA:1969:A:N1	2.26	0.65
41:RY:38:ILE:HG22	41:RY:66:PRO:HA	1.79	0.65
2:XB:178:ARG:NH1	2:XB:196:LEU:O	2.28	0.65
22:YA:2023:G:H5'	22:YA:2617:C:H4'	1.78	0.65
28:YH:20:ALA:HB3	28:YH:23:ARG:HG2	1.77	0.65
22:RA:404:C:O2'	22:RA:405:U:OP2	2.15	0.65
22:RA:1204:A:H2	22:RA:1241:A:N1	1.93	0.65
22:RA:1278:A:H2'	22:RA:1279:G:C8	2.31	0.65
29:RI:73:GLU:HG3	29:RI:136:VAL:HG23	1.78	0.65
1:XA:1125:U:OP2	1:XA:1145:C:N4	2.29	0.65
20:XT:97:ALA:O	20:XT:99:LEU:N	2.30	0.65
22:YA:1049:C:H2'	22:YA:1050:A:H5"	1.79	0.65
3:QC:9:GLY:HA2	3:QC:12:LEU:HD23	1.78	0.65
32:RP:71:VAL:HG13	32:RP:72:PRO:HD3	1.78	0.65
22:YA:589:C:H2'	22:YA:590:A:H8	1.62	0.65
29:YI:113:ARG:HB3	29:YI:131:LYS:HD3	1.78	0.65
1:QA:1395:C:O2'	1:QA:1401:G:O2'	2.15	0.65
23:RB:33:G:H5'	27:RG:2:PRO:HG3	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RP:47:ASP:OD1	32:RP:50:ARG:NH2	2.30	0.65
32:RP:85:LEU:HA	32:RP:88:LEU:HD22	1.79	0.65
48:R5:58:LEU:HD13	48:R5:60:VAL:HG12	1.77	0.65
19:XS:5:LEU:CD1	47:Y4:66:SER:HA	2.27	0.65
22:YA:2133:G:H1'	22:YA:2158:A:H61	1.62	0.65
22:YA:2818:G:HO2'	22:YA:2836:U:HO2'	1.44	0.65
24:YD:80:ALA:HB3	24:YD:94:LEU:HD13	1.79	0.65
13:QM:3:ARG:HD2	13:QM:9:ILE:HG12	1.79	0.64
22:RA:592:G:H1	22:RA:665:C:H42	1.45	0.64
43:R0:36:ILE:HD11	43:R0:39:ARG:HG2	1.79	0.64
1:XA:1023:G:H3'	1:XA:1024:G:H5"	1.78	0.64
13:XM:77:ASN:OD1	47:Y4:71:ARG:NH1	2.30	0.64
22:YA:1485:G:O6	22:YA:1504:C:N4	2.20	0.64
22:YA:1535:U:H5"	22:YA:1537:C:C4	2.31	0.64
22:YA:1930:G:H2'	22:YA:1968:G:C6	2.32	0.64
23:YB:56:G:H5'	27:YG:27:ASN:HD21	1.62	0.64
24:YD:44:ASN:HB3	24:YD:49:ILE:HA	1.78	0.64
26:YF:107:LYS:HD2	26:YF:207:GLY:H	1.62	0.64
28:YH:153:LYS:HG3	28:YH:161:GLY:HA2	1.79	0.64
48:Y5:56:LYS:H	48:Y5:56:LYS:HD2	1.60	0.64
22:RA:630:G:N2	22:RA:633:A:OP2	2.30	0.64
22:RA:2355:C:H4'	43:R0:24:LYS:HG3	1.79	0.64
31:RO:4:PRO:O	31:RO:5:GLN:HB2	1.96	0.64
1:XA:1221:G:O3'	19:XS:77:THR:HG21	1.98	0.64
3:XC:122:GLU:OE1	3:XC:126:ARG:NH2	2.29	0.64
22:YA:995:C:H5"	37:YU:54:LYS:HG2	1.79	0.64
22:YA:1048:A:OP2	22:YA:1110:G:N2	2.30	0.64
1:QA:1123:A:H4'	10:QJ:36:GLY:HA3	1.79	0.64
22:RA:587:C:OP2	32:RP:21:ARG:NH2	2.29	0.64
42:RZ:17:ALA:HA	42:RZ:20:ARG:HB2	1.78	0.64
22:YA:2068:U:H3	22:YA:2430:A:H2	1.43	0.64
22:YA:2115:G:N2	22:YA:2164:C:OP2	2.30	0.64
22:YA:2494:G:H2'	22:YA:2495:G:H8	1.62	0.64
29:YI:92:VAL:HG13	29:YI:120:ILE:HG23	1.79	0.64
37:YU:88:ILE:HG22	37:YU:90:VAL:HG23	1.79	0.64
10:QJ:77:PRO:O	10:QJ:79:ARG:NH1	2.30	0.64
22:RA:1370:C:O2'	22:RA:1811:G:O2'	2.14	0.64
24:RD:35:LYS:HG2	24:RD:64:ILE:N	2.12	0.64
22:YA:128:C:H4'	50:Y7:49:ARG:HH12	1.62	0.64
22:YA:2145:C:O2	22:YA:2147:G:N2	2.29	0.64
22:YA:2343:C:O2'	22:YA:2373:G:O2'	2.16	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YH:153:LYS:HB3	28:YH:162:ILE:H	1.63	0.64
1:QA:405:U:OP1	1:QA:406:G:O2'	2.12	0.64
1:QA:1179:A:O3'	9:QI:103:THR:HG23	1.97	0.64
22:RA:345:A:H2'	22:RA:347:A:H62	1.60	0.64
22:RA:1020:A:N6	22:RA:1141:U:O2'	2.29	0.64
1:XA:692:U:O2'	1:XA:694:A:N7	2.29	0.64
1:XA:910:C:P	12:XL:97:ARG:HH22	2.21	0.64
15:XO:26:GLU:OE2	15:XO:77:ARG:NH1	2.31	0.64
22:YA:1499:C:H2'	22:YA:1500:G:C8	2.33	0.64
22:YA:2693:A:H2'	22:YA:2694:G:H8	1.62	0.64
24:YD:30:GLU:HG3	24:YD:63:ARG:NH2	2.12	0.64
33:YQ:78:PRO:O	33:YQ:79:LEU:HB2	1.97	0.64
10:QJ:53:PRO:HA	14:QN:42:ILE:HD12	1.79	0.64
24:RD:8:PRO:HB3	24:RD:14:ARG:HB2	1.79	0.64
24:RD:65:ILE:HD11	24:RD:67:PHE:CE1	2.31	0.64
1:XA:129(A):G:H1'	1:XA:190:G:H5"	1.80	0.64
1:XA:1004:A:H1'	1:XA:1036:G:H1	1.62	0.64
1:XA:1129:C:H4'	1:XA:1130:A:H5'	1.80	0.64
22:YA:1020:A:N6	22:YA:1141:U:O2'	2.29	0.64
25:YE:9:VAL:HB	25:YE:25:VAL:HG23	1.80	0.64
42:YZ:17:ALA:HA	42:YZ:20:ARG:HB2	1.79	0.64
53:XV:23:C:H2'	53:XV:24:U:C6	2.32	0.64
1:QA:370:C:H2'	1:QA:371:G:C8	2.33	0.64
1:QA:738:C:OP2	6:QF:92:LYS:NZ	2.29	0.64
22:RA:1043:C:H42	22:RA:1112:G:H1	1.43	0.64
22:RA:1728:G:H3'	22:RA:1729:A:H5"	1.78	0.64
26:RF:192:LEU:HD22	26:RF:194:MET:HG2	1.80	0.64
29:RI:98:ALA:HB2	29:RI:111:PRO:HB3	1.79	0.64
1:XA:191:G:O2'	20:XT:101:GLY:O	2.16	0.64
42:YZ:182:LYS:H	42:YZ:183:LEU:HB2	1.62	0.64
1:QA:750:G:N2	15:QO:23:GLY:O	2.30	0.64
1:QA:1238:A:H62	1:QA:1299:A:N6	1.96	0.64
5:QE:11:ILE:HD11	5:QE:31:LEU:HD12	1.80	0.64
22:RA:2306:C:H3'	22:RA:2307:G:H5"	1.80	0.64
24:RD:35:LYS:HG2	24:RD:64:ILE:H	1.63	0.64
34:RR:104:ARG:HD3	34:RR:109:ALA:HB3	1.79	0.64
37:RU:90:VAL:O	37:RU:92:ARG:N	2.30	0.64
22:YA:1069:A:H4'	22:YA:1070:A:H5"	1.80	0.64
34:YR:51:LEU:HD13	34:YR:66:VAL:HG13	1.79	0.64
1:QA:1122:U:O4	1:QA:1123:A:N6	2.30	0.64
2:QB:5:ILE:HG21	2:QB:221:LEU:HD23	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2734:A:H2'	22:RA:2735:G:O4'	1.97	0.64
33:RQ:17:LEU:HD21	33:RQ:41:TRP:CD1	2.33	0.64
8:XH:7:ALA:HB2	8:XH:85:ARG:HD3	1.80	0.64
22:YA:602:G:O2'	22:YA:604:G:O2'	2.15	0.64
22:YA:1129:A:N6	22:YA:2491:U:OP1	2.31	0.64
22:YA:2599:G:OP2	24:YD:236:GLY:HA2	1.98	0.64
1:QA:1443:G:N2	36:RT:119:LYS:HB2	2.13	0.64
22:RA:137(A):G:H1'	40:RX:41:ASN:ND2	2.13	0.64
22:RA:300:A:H1'	22:RA:319:C:H1'	1.80	0.64
22:RA:984:A:H5"	22:RA:985:C:C5	2.33	0.64
29:RI:77:LEU:HB2	29:RI:104:GLN:HE22	1.62	0.64
47:R4:48:ARG:O	47:R4:50:VAL:N	2.31	0.64
1:XA:501:C:H2'	1:XA:502:G:C8	2.31	0.64
1:XA:561:U:O2'	1:XA:562:C:OP2	2.16	0.64
1:XA:881:G:P	12:XL:12:ARG:HH22	2.20	0.64
1:XA:1029:G:O2'	1:XA:1032(A):G:N2	2.31	0.64
2:XB:187:LEU:HA	2:XB:201:ILE:HB	1.78	0.64
3:XC:19:GLU:O	3:XC:40:ARG:NH2	2.30	0.64
22:YA:309:G:N3	22:YA:329:G:O2'	2.31	0.64
22:YA:577:G:O2'	22:YA:1254:A:OP1	2.15	0.64
36:YT:36:GLU:HG3	36:YT:41:ARG:HE	1.62	0.64
22:RA:270(R):G:H2'	22:RA:270(S):G:C8	2.33	0.63
28:RH:88:LEU:HD11	28:RH:165:ALA:HB2	1.80	0.63
40:RX:43:VAL:HG13	40:RX:51:VAL:HG21	1.79	0.63
44:R1:29:GLY:O	44:R1:31:GLY:N	2.29	0.63
1:XA:686:U:O4	1:XA:703:G:H1'	1.97	0.63
3:XC:11:ARG:O	3:XC:13:GLY:N	2.30	0.63
27:YG:112:PRO:HB3	47:Y4:37:SER:HB2	1.80	0.63
10:QJ:4:ILE:HB	10:QJ:74:ILE:HG13	1.81	0.63
19:XS:42:PRO:HB3	47:Y4:60:GLN:OE1	1.98	0.63
22:YA:2025:C:H2'	22:YA:2026:C:H6	1.62	0.63
32:YP:58:THR:HG22	32:YP:61:ARG:HG3	1.80	0.63
35:YS:59:LYS:HD3	35:YS:60:GLY:H	1.62	0.63
42:YZ:102:LEU:HD21	42:YZ:124:ILE:HG13	1.80	0.63
45:Y2:41:ILE:HD11	45:Y2:44:LEU:HG	1.80	0.63
1:QA:438:G:N2	1:QA:495:A:OP2	2.27	0.63
1:QA:718:G:OP2	1:QA:720:C:N4	2.31	0.63
2:QB:24:TRP:H	2:QB:24:TRP:HD1	1.46	0.63
12:QL:7:ILE:HG21	17:QQ:34:LYS:HB2	1.80	0.63
22:RA:873:G:H1	22:RA:904:C:H42	1.44	0.63
29:RI:94:ALA:H	29:RI:116:LEU:HD13	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:258:G:H2'	1:XA:259:G:H8	1.63	0.63
1:XA:777:A:H2'	1:XA:778:G:C8	2.34	0.63
1:XA:1305:G:H5'	21:XU:4:GLY:HA3	1.80	0.63
22:YA:1674:G:N2	22:YA:1677:A:N1	2.46	0.63
51:Y8:16:ILE:HD13	51:Y8:57:ARG:HG2	1.80	0.63
1:QA:165:C:H2'	1:QA:166:G:H8	1.63	0.63
1:QA:1141:C:H2'	1:QA:1142:G:H8	1.63	0.63
4:QD:7:PRO:HB2	4:QD:10:ARG:HD2	1.81	0.63
22:RA:1474:C:N4	22:RA:1519:G:H1	1.95	0.63
35:RS:26:LEU:HB3	35:RS:87:PHE:HA	1.81	0.63
45:R2:65:ASN:HB3	45:R2:69:ARG:HH22	1.61	0.63
22:YA:2787:C:HO2'	22:YA:2810:A:HO2'	1.44	0.63
19:QS:40:ILE:HG23	19:QS:41:VAL:HG22	1.79	0.63
22:RA:1467:C:H42	22:RA:1525:G:H1	1.46	0.63
22:RA:1999:C:O2	22:RA:2687:U:O2'	2.16	0.63
34:RR:33:ARG:HG3	34:RR:115:GLU:HB3	1.79	0.63
37:RU:66:ASN:O	37:RU:70:ARG:HB2	1.98	0.63
42:RZ:52:SER:O	42:RZ:52:SER:OG	2.15	0.63
1:XA:67:C:H2'	1:XA:68:G:H8	1.63	0.63
5:XE:98:THR:HB	5:XE:117:ASP:HB3	1.79	0.63
22:YA:404:C:O2'	22:YA:405:U:OP2	2.13	0.63
22:YA:2632:A:O2'	22:YA:2811:G:O2'	2.09	0.63
39:YW:41:LYS:HE3	48:Y5:25:LEU:HD21	1.80	0.63
41:YY:91:GLU:HG3	41:YY:92:ASN:H	1.63	0.63
47:Y4:23:GLU:O	47:Y4:25:TYR:N	2.31	0.63
47:Y4:48:ARG:O	47:Y4:50:VAL:N	2.31	0.63
1:QA:1053:G:H2'	1:QA:1199:U:H5	1.64	0.63
22:RA:27:G:O2'	22:RA:28:A:H8	1.79	0.63
22:RA:1245:G:OP1	32:RP:13:ASN:ND2	2.32	0.63
1:XA:406:G:H5'	4:XD:5:ILE:HD13	1.81	0.63
1:XA:429:U:H1'	1:XA:430:A:H5"	1.80	0.63
1:XA:1321:C:H3'	1:XA:1322:C:H5"	1.79	0.63
2:XB:79:ASP:HA	2:XB:82:ARG:HB2	1.81	0.63
5:XE:147:ASP:O	5:XE:151:LEU:HG	1.97	0.63
13:XM:91:ARG:HB2	13:XM:98:VAL:HG13	1.80	0.63
22:YA:196:A:O2'	22:YA:805:G:O6	2.16	0.63
22:YA:1899:G:N2	22:YA:1902:C:H41	1.97	0.63
22:YA:2151:G:H2'	22:YA:2152:G:C8	2.33	0.63
23:YB:116:G:H4'	35:YS:54:LEU:HD13	1.81	0.63
24:YD:25:THR:HG23	24:YD:27:THR:HB	1.80	0.63
24:YD:35:LYS:HG2	24:YD:64:ILE:N	2.13	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YH:83:TYR:CZ	28:YH:138:LYS:HD2	2.34	0.63
32:YP:13:ASN:O	32:YP:15:ARG:N	2.32	0.63
37:YU:83:LEU:HD12	37:YU:113:ALA:HB2	1.79	0.63
50:Y7:9:ARG:HH21	50:Y7:48:LYS:HD2	1.63	0.63
22:RA:676:A:H2	22:RA:802:A:H61	1.45	0.63
22:RA:1839:G:C8	22:RA:1927:A:H1'	2.34	0.63
32:RP:95:VAL:HG13	32:RP:100:LEU:HD21	1.80	0.63
1:XA:1152:A:H2'	1:XA:1153:C:H6	1.63	0.63
22:YA:2502:G:H5"	22:YA:2503:A:H5"	1.79	0.63
2:QB:24:TRP:H	2:QB:24:TRP:CD1	2.15	0.63
22:RA:815:C:H2'	22:RA:816:C:H6	1.63	0.63
22:RA:861:A:H62	22:RA:916:G:H21	1.46	0.63
22:RA:1980:G:O2'	22:RA:1982:C:OP2	2.15	0.63
13:XM:23:TYR:HB3	13:XM:67:GLU:HA	1.81	0.63
31:YO:13:ASN:ND2	31:YO:96:THR:O	2.30	0.63
49:Y6:41:PRO:HG2	49:Y6:45:LYS:H	1.63	0.63
53:QV:16:C:O2'	53:QV:61:C:OP1	2.17	0.63
1:QA:196:A:OP1	20:QT:68:LYS:NZ	2.30	0.63
1:QA:620:C:C2	4:QD:135:LEU:HG	2.34	0.63
1:QA:1068:G:N3	1:QA:1191:A:H2	1.95	0.63
22:RA:141:A:N6	22:RA:1595:G:O2'	2.32	0.63
30:RN:133:GLN:HB2	30:RN:135:PRO:HD3	1.79	0.63
41:RY:51:VAL:HG13	41:RY:52:SER:H	1.64	0.63
1:XA:826:C:H2'	1:XA:827:U:O2	1.99	0.63
22:YA:620:G:H4'	22:YA:621:A:C5'	2.28	0.63
22:YA:1882:C:H5'	22:YA:1883:G:OP2	1.99	0.63
28:YH:152:ARG:HG3	28:YH:153:LYS:HD2	1.81	0.63
1:QA:1133:G:H2'	1:QA:1134:G:H8	1.63	0.62
8:QH:10:LEU:HD22	8:QH:83:ILE:HD11	1.80	0.62
22:RA:993:G:OP1	37:RU:50:ARG:NH2	2.32	0.62
22:RA:2870:C:H5"	34:RR:65:LEU:HD21	1.81	0.62
30:RN:13:TRP:HB2	30:RN:133:GLN:HG3	1.81	0.62
1:XA:346:G:H1'	1:XA:347:G:H5'	1.81	0.62
9:XI:24:GLY:N	9:XI:60:ASP:OD1	2.29	0.62
13:XM:68:GLY:HA3	27:YG:116:ASP:OD2	1.98	0.62
22:YA:571:A:H5'	22:YA:2030:A:N6	2.07	0.62
22:YA:2469:A:H2	22:YA:2481:G:H21	1.47	0.62
28:YH:26:VAL:HG11	28:YH:75:ALA:HB1	1.81	0.62
1:QA:619:U:N3	4:QD:134:ASP:OD2	2.32	0.62
22:RA:185:U:H2'	22:RA:186:G:H8	1.62	0.62
22:RA:2327:A:H2'	22:RA:2328:A:C8	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RS:15:ARG:HH11	35:RS:25:ARG:HH21	1.44	0.62
1:XA:1126:U:H1'	1:XA:1280:A:C5	2.34	0.62
10:XJ:32:ALA:HB3	10:XJ:76:ASN:HB2	1.79	0.62
22:YA:1441:G:H2'	22:YA:1442:G:H8	1.64	0.62
22:YA:2822:G:H2'	22:YA:2823:A:H5"	1.80	0.62
42:YZ:9:TYR:CE2	42:YZ:35:ARG:HD3	2.25	0.62
7:QG:155:ARG:HD3	7:QG:155:ARG:H	1.65	0.62
22:RA:2610:C:H4'	22:RA:2611:U:OP2	1.98	0.62
25:RE:119:ARG:HG2	25:RE:160:TYR:HB2	1.80	0.62
26:RF:12:LEU:HD12	26:RF:17:ARG:HG2	1.80	0.62
42:RZ:110:GLY:HA2	42:RZ:111:VAL:C	2.24	0.62
2:XB:212:GLN:NE2	2:XB:235:SER:HB2	2.15	0.62
22:YA:229:A:OP1	22:YA:229:A:H4'	2.00	0.62
22:RA:670:A:H4'	22:RA:671:C:H5"	1.80	0.62
22:RA:805:G:N2	22:RA:829:A:OP1	2.33	0.62
22:RA:2537:U:H2'	22:RA:2538:C:C6	2.35	0.62
22:RA:2680:C:H5'	25:RE:189:PRO:HA	1.80	0.62
22:RA:2760:C:H2'	22:RA:2761:G:H5"	1.81	0.62
43:R0:56:ASP:OD2	43:R0:57:PHE:N	2.32	0.62
1:XA:735:C:H2'	1:XA:736:C:H6	1.64	0.62
1:XA:1502:A:H2	1:XA:1505:G:H22	1.45	0.62
2:XB:12:GLU:O	2:XB:16:HIS:ND1	2.21	0.62
2:XB:92:TYR:CE1	2:XB:151:GLY:HA3	2.35	0.62
22:YA:1423:G:H2'	22:YA:1424:G:H8	1.65	0.62
27:YG:3:LEU:HD12	27:YG:4:ASP:H	1.64	0.62
27:YG:115:ARG:NH2	27:YG:137:GLU:OE1	2.33	0.62
1:QA:10:A:H2'	1:QA:11:G:H8	1.63	0.62
1:QA:1142:G:H3'	1:QA:1143:G:H8	1.65	0.62
1:QA:1448:C:H2'	1:QA:1449:C:H6	1.63	0.62
22:RA:1058:G:N2	22:RA:1080:C:O2	2.32	0.62
22:RA:2015:A:H1'	48:R5:2:ALA:HA	1.82	0.62
22:RA:2343:C:O2'	22:RA:2373:G:O2'	2.14	0.62
40:RX:53:LYS:HB2	40:RX:82:GLN:HB3	1.80	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
22:YA:273(C):C:N3	22:YA:363(C):G:N2	2.44	0.62
22:YA:2817:G:H21	22:YA:2836:U:H1'	1.65	0.62
26:YF:46:ARG:HH11	26:YF:46:ARG:HG2	1.65	0.62
36:YT:1:MET:O	36:YT:3:ARG:N	2.29	0.62
1:QA:1237:C:O2'	1:QA:1300:G:N2	2.23	0.62
11:QK:98:LEU:O	11:QK:101:SER:OG	2.13	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1181:C:H2'	22:RA:1182:A:C8	2.34	0.62
22:RA:2831:G:H1'	22:RA:2883:A:H2'	1.80	0.62
36:RT:54:ARG:HA	36:RT:59:THR:HG23	1.82	0.62
1:XA:1349:A:OP2	9:XI:118:LYS:NZ	2.29	0.62
2:XB:54:THR:HG21	2:XB:201:ILE:HD11	1.82	0.62
7:XG:111:ARG:NH1	7:XG:113:GLU:OE2	2.32	0.62
22:YA:72:U:N3	45:Y2:62:THR:HG22	2.14	0.62
22:YA:153:C:OP1	44:Y1:88:LYS:HE2	2.00	0.62
22:YA:2065:C:O2	22:YA:2449:U:N3	2.28	0.62
22:YA:2820:A:O5'	34:YR:4:LEU:HD23	1.99	0.62
12:QL:57:LYS:HG2	12:QL:67:THR:HG22	1.81	0.62
13:QM:3:ARG:HG2	47:R4:34:GLU:HG2	1.81	0.62
22:RA:140:A:H8	22:RA:1408:C:O2'	1.82	0.62
22:RA:852:G:H2'	22:RA:853:G:C8	2.35	0.62
22:RA:2753:A:O2'	52:R9:15:LYS:NZ	2.31	0.62
1:QA:1446:A:O2'	1:QA:1447:G:O5'	2.18	0.62
22:RA:2354:G:O2'	43:R0:36:ILE:HG22	2.00	0.62
1:XA:894:G:H2'	1:XA:895:G:C8	2.35	0.62
1:XA:1256:A:OP2	3:XC:26:LYS:NZ	2.30	0.62
22:YA:1237:A:H4'	22:YA:1238:G:H5'	1.80	0.62
8:QH:6:ILE:HB	8:QH:85:ARG:NH1	2.15	0.62
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.33	0.62
22:RA:717:G:H2'	22:RA:718:A:O4'	2.00	0.62
22:RA:1899:G:H21	22:RA:1902:C:H41	1.45	0.62
22:RA:2704:C:H2'	22:RA:2705:A:O4'	2.00	0.62
4:XD:111:ALA:HB2	4:XD:120:LEU:HD12	1.82	0.62
22:YA:729:G:H2'	22:YA:1775:U:H1'	1.80	0.62
22:YA:1113:U:H2'	22:YA:1114:G:C8	2.33	0.62
22:YA:1470:G:N2	22:YA:1522:G:OP2	2.32	0.62
22:YA:2154:G:H2'	22:YA:2155:G:H8	1.65	0.62
22:YA:2439:A:H5'	22:YA:2439:A:H8	1.64	0.62
22:YA:2840:C:H2'	22:YA:2841:C:C6	2.35	0.62
47:Y4:37:SER:HB3	47:Y4:42:PHE:CD1	2.35	0.62
1:QA:444:C:H2'	1:QA:445:G:H8	1.65	0.62
1:QA:658:G:OP1	15:QO:8:LYS:NZ	2.32	0.62
1:QA:690:G:H2'	1:QA:691:G:O4'	2.00	0.62
24:RD:35:LYS:HD2	24:RD:104:TYR:CD1	2.35	0.62
42:RZ:27:VAL:HG23	42:RZ:36:LYS:HA	1.81	0.62
1:XA:449:C:H5	16:XP:42:ARG:HH11	1.46	0.62
1:XA:1491:G:N7	57:XA:1601:PAR:O53	2.30	0.62
9:XI:29:ASN:OD1	9:XI:65:VAL:N	2.29	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:298:G:O2'	22:YA:340:A:N6	2.33	0.62
22:YA:443:A:C5	26:YF:45:ARG:HD2	2.33	0.62
22:YA:1359:A:H2'	22:YA:1360:A:H5'	1.82	0.62
22:YA:1382:G:H2'	22:YA:1383:C:H6	1.65	0.62
22:YA:2159:G:H2'	22:YA:2160:G:H8	1.63	0.62
22:YA:2461:C:H2'	22:YA:2462:U:C6	2.35	0.62
22:RA:817:C:H2'	22:RA:818:G:O4'	2.00	0.61
25:RE:51:PHE:CD1	25:RE:52:LEU:HG	2.34	0.61
29:RI:8:PRO:HG3	29:RI:14:ASP:HB2	1.82	0.61
32:RP:58:THR:C	32:RP:61:ARG:HE	2.05	0.61
1:XA:1414:U:H2'	1:XA:1415:G:H8	1.64	0.61
1:XA:1525:G:OP1	11:XK:120:ARG:NH2	2.33	0.61
5:XE:42:GLY:HA3	5:XE:66:MET:HG2	1.82	0.61
19:XS:5:LEU:HG	47:Y4:66:SER:CB	2.30	0.61
22:YA:252:G:OP2	32:YP:50:ARG:NH1	2.32	0.61
22:YA:1789:A:H2'	22:YA:1790:C:O4'	2.00	0.61
22:YA:2306:C:H3'	22:YA:2307:G:H5"	1.81	0.61
22:YA:2882:A:OP1	34:YR:96:ARG:NH1	2.33	0.61
51:Y8:23:VAL:HG11	51:Y8:46:ARG:HD3	1.81	0.61
1:QA:304:U:H2'	1:QA:305:G:C8	2.35	0.61
1:QA:508:C:O2	1:QA:509:A:N6	2.28	0.61
1:QA:561:U:O2'	1:QA:562:C:OP2	2.15	0.61
1:QA:853:G:H2'	1:QA:854:G:H8	1.64	0.61
10:QJ:40:LEU:HB2	10:QJ:69:ASN:HB3	1.82	0.61
11:QK:121:PRO:HD2	11:QK:126:ARG:HD3	1.80	0.61
22:RA:270:A:OP1	44:R1:98:LEU:HB3	1.98	0.61
22:RA:270(N):G:OP1	29:RI:57:ARG:NH2	2.31	0.61
22:RA:1047:G:H2'	22:RA:1110:G:N1	2.15	0.61
25:RE:67:PHE:O	25:RE:69:LYS:N	2.32	0.61
26:RF:28:ILE:HG22	26:RF:112:MET:HB3	1.80	0.61
22:YA:413:C:H2'	22:YA:414:C:H6	1.66	0.61
22:YA:1454:U:H5'	34:YR:63:ARG:HE	1.66	0.61
14:QN:13:THR:N	14:QN:14:PRO:HD2	2.15	0.61
22:RA:1869:G:N2	22:RA:1872:A:OP2	2.33	0.61
22:RA:2198:A:C2	29:RI:29:TYR:HB2	2.34	0.61
1:XA:991:U:O2'	1:XA:992:U:O5'	2.17	0.61
22:YA:918:A:N3	23:YB:80:U:O2'	2.33	0.61
33:YQ:81:VAL:C	33:YQ:82:ARG:HG2	2.25	0.61
37:YU:92:ARG:HD2	38:YV:11:GLN:HB2	1.82	0.61
22:RA:1069:A:H2'	22:RA:1073:A:N7	2.15	0.61
22:RA:1359:A:N6	22:RA:1372:U:H3	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2820:A:C6	34:RR:4:LEU:HD11	2.35	0.61
20:XT:100:ILE:HG13	20:XT:102:GLY:N	2.15	0.61
1:QA:45:U:H2'	1:QA:46:G:C8	2.36	0.61
1:QA:791:G:H2'	1:QA:792:A:H5'	1.82	0.61
22:RA:620:G:H4'	22:RA:621:A:C5'	2.30	0.61
52:R9:25:VAL:HB	52:R9:34:GLN:HB2	1.82	0.61
1:XA:737:A:H2'	1:XA:738:C:C6	2.35	0.61
1:XA:973:G:H3'	1:XA:974:A:H5"	1.82	0.61
1:XA:1336:C:H1'	1:XA:1337:G:C2	2.36	0.61
22:YA:330:A:HO2'	22:YA:331:A:H8	1.49	0.61
22:YA:574:C:N3	25:YE:145:LYS:NZ	2.46	0.61
22:YA:1055:G:O2'	22:YA:1085:A:N1	2.27	0.61
22:YA:2302:G:N2	22:YA:2314:C:O2	2.30	0.61
23:YB:15:A:H1'	23:YB:109:G:C4	2.36	0.61
53:XV:15:G:N2	53:XV:21:A:N3	2.49	0.61
3:QC:14:ILE:O	3:QC:16:ARG:N	2.33	0.61
11:QK:22:HIS:HB3	11:QK:29:ILE:HG23	1.83	0.61
22:RA:1449:A:HO2'	22:RA:1530:G:N2	1.97	0.61
22:RA:1856:G:H1	22:RA:1886:C:N4	1.97	0.61
44:R1:53:VAL:HG22	44:R1:74:VAL:HG13	1.83	0.61
1:XA:894:G:H2'	1:XA:895:G:H8	1.66	0.61
22:YA:2123:G:H2'	22:YA:2124:G:H8	1.66	0.61
53:XV:74:C:O2'	53:XV:75:C:H5'	2.00	0.61
1:QA:250:A:O2'	1:QA:251:G:OP2	2.18	0.61
15:QO:82:ILE:O	15:QO:86:GLY:N	2.32	0.61
22:RA:1026:U:H4'	22:RA:1027:A:OP1	2.01	0.61
32:RP:84:ASN:HB3	32:RP:86:LYS:HG2	1.83	0.61
1:XA:1292:U:OP2	7:XG:41:ARG:NH2	2.34	0.61
19:XS:5:LEU:CD2	47:Y4:66:SER:HB2	2.30	0.61
22:YA:1364:G:C8	44:Y1:2:SER:N	2.68	0.61
22:YA:2832:U:H4'	22:YA:2833:G:H5"	1.83	0.61
26:YF:197:ASP:OD2	26:YF:197:ASP:N	2.33	0.61
1:QA:1437:C:H2'	1:QA:1438:G:C8	2.36	0.61
14:QN:6:LEU:HD23	14:QN:23:ARG:HH22	1.64	0.61
22:RA:2751:G:N7	28:RH:2:SER:HB3	2.16	0.61
29:RI:133:HIS:HB2	29:RI:134:PRO:CD	2.31	0.61
33:RQ:65:PHE:O	33:RQ:67:ARG:N	2.34	0.61
22:YA:2756:U:OP2	52:Y9:19:ARG:NH2	2.33	0.61
36:YT:84:GLN:OE1	36:YT:85:LYS:NZ	2.34	0.61
1:QA:328:C:O2	1:QA:328:C:H2'	2.01	0.61
1:QA:573:A:N3	1:QA:883:C:O2'	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:664:G:H22	1:QA:741:G:H1	1.49	0.61
21:QU:6:ARG:HE	21:QU:15:ARG:NH2	1.99	0.61
22:RA:669:G:H2'	22:RA:669:G:N3	2.14	0.61
22:RA:1210:A:H5"	22:RA:1210:A:C8	2.35	0.61
39:RW:25:ARG:NH2	39:RW:74:ALA:O	2.33	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	2.34	0.61
15:XO:87:ILE:HG22	15:XO:88:ARG:H	1.65	0.61
37:YU:52:ARG:HA	37:YU:55:ARG:HG3	1.83	0.61
1:QA:864:A:H5'	5:QE:86:ALA:HB2	1.83	0.61
1:QA:1152:A:OP1	10:QJ:68:HIS:NE2	2.33	0.61
1:QA:1251:A:H2'	1:QA:1252:A:C8	2.35	0.61
22:RA:1060:U:H3	22:RA:1088:A:H1'	1.66	0.61
29:RI:65:ALA:O	29:RI:68:LEU:N	2.33	0.61
1:XA:67:C:H2'	1:XA:68:G:C8	2.35	0.61
1:XA:266:G:H5"	1:XA:267:C:H5	1.65	0.61
44:Y1:83:GLU:O	44:Y1:85:LEU:N	2.34	0.61
1:QA:147:G:H2'	1:QA:148:G:H8	1.66	0.60
1:QA:192:U:H2'	1:QA:193:C:H6	1.66	0.60
1:QA:980:C:H5"	1:QA:981:U:C5	2.36	0.60
23:RB:3:C:H2'	23:RB:4:C:C6	2.35	0.60
35:RS:88:ASP:O	35:RS:89:ARG:HB3	2.01	0.60
36:RT:77:PRO:HB2	36:RT:80:SER:HB2	1.83	0.60
37:RU:90:VAL:HG11	38:RV:40:LEU:HD12	1.82	0.60
24:YD:72:LYS:NZ	24:YD:99:ASP:OD1	2.33	0.60
48:Y5:16:ARG:HG2	48:Y5:16:ARG:HH11	1.66	0.60
1:QA:17:U:H2'	1:QA:18:C:C6	2.36	0.60
3:QC:8:ILE:HG23	3:QC:16:ARG:HG2	1.83	0.60
3:QC:11:ARG:O	3:QC:13:GLY:N	2.34	0.60
1:XA:24:U:H2'	1:XA:25:C:C6	2.36	0.60
1:XA:145:G:H1	1:XA:177:C:H42	1.48	0.60
1:XA:538:G:H5"	12:XL:114:LYS:HB2	1.81	0.60
22:YA:444:C:H4'	26:YF:49:ALA:HB2	1.82	0.60
22:YA:1878:G:H2'	22:YA:1879:C:C6	2.35	0.60
22:YA:1930:G:H2'	22:YA:1968:G:O6	2.00	0.60
23:YB:15:A:OP1	23:YB:15:A:H4'	2.00	0.60
29:YI:79:ILE:HB	29:YI:142:VAL:HA	1.83	0.60
33:YQ:35:VAL:HG13	33:YQ:130:LYS:HB3	1.83	0.60
1:QA:1280:A:O2'	1:QA:1281:U:OP1	2.17	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:155:C:N4	22:RA:161:U:O4	2.34	0.60
23:RB:82:G:H2'	23:RB:83:G:H8	1.66	0.60
1:XA:677:U:H3	1:XA:713:G:H22	1.47	0.60
22:YA:691:C:H2'	22:YA:692:C:H6	1.66	0.60
22:YA:1803:A:O2'	24:YD:259:THR:HG21	2.01	0.60
22:YA:2030:A:H5"	22:YA:2031:A:OP1	2.00	0.60
24:YD:108:PRO:HB3	24:YD:143:HIS:CE1	2.35	0.60
28:YH:113:VAL:HG11	28:YH:151:ILE:HD12	1.83	0.60
47:Y4:56:VAL:HA	47:Y4:60:GLN:HB2	1.84	0.60
53:XV:49:G:O6	53:XV:65:C:N4	2.33	0.60
1:QA:229:U:H2'	1:QA:230:G:H8	1.66	0.60
1:QA:1422:G:H5"	31:RO:48:PRO:HB3	1.83	0.60
22:RA:2745:C:H42	22:RA:2759:G:H1	1.47	0.60
28:RH:8:PRO:HG2	28:RH:69:ARG:HE	1.66	0.60
37:RU:94:ASN:HD22	37:RU:94:ASN:C	2.09	0.60
1:XA:332:G:H2'	1:XA:333:G:H8	1.65	0.60
1:XA:1070:U:OP1	5:XE:18:ARG:NH1	2.34	0.60
13:XM:8:GLU:OE2	27:YG:115:ARG:HD3	2.01	0.60
17:XQ:11:VAL:HG12	17:XQ:85:VAL:HG13	1.83	0.60
22:YA:573:G:O2'	22:YA:574:C:H3'	2.01	0.60
22:YA:2257:U:H2'	22:YA:2258:C:C6	2.36	0.60
22:YA:2451:A:C6	56:Z8:76:PPU:HE2	2.36	0.60
29:YI:79:ILE:O	29:YI:143:SER:N	2.34	0.60
32:YP:95:VAL:HG13	32:YP:100:LEU:HD21	1.83	0.60
1:QA:709:G:H2'	1:QA:710:G:H8	1.66	0.60
22:RA:1689:A:H62	22:RA:1698:A:H2	1.49	0.60
34:RR:70:LEU:O	34:RR:72:ASP:N	2.31	0.60
41:RY:87:LYS:O	41:RY:88:LYS:NZ	2.33	0.60
22:YA:2119:A:H61	22:YA:2168:G:H22	1.50	0.60
24:YD:35:LYS:HD2	24:YD:104:TYR:CD1	2.35	0.60
7:QG:26:PHE:O	7:QG:30:ILE:HG12	2.01	0.60
15:QO:39:LEU:HD13	15:QO:56:LEU:HB2	1.82	0.60
22:RA:27:G:N2	22:RA:512:G:H1'	2.16	0.60
24:RD:44:ASN:HB3	24:RD:49:ILE:HA	1.83	0.60
34:RR:33:ARG:NH2	48:R5:55:ARG:HG2	2.15	0.60
47:R4:23:GLU:O	47:R4:25:TYR:N	2.34	0.60
1:XA:1062:U:H2'	1:XA:1063:C:C6	2.36	0.60
1:XA:1453:G:H2'	20:XT:39:LYS:HE2	1.83	0.60
22:YA:325:G:H2'	22:YA:326:G:H8	1.66	0.60
22:YA:363:G:H2'	22:YA:363(A):A:H8	1.66	0.60
22:YA:2477:C:H2'	52:Y9:1:MET:HG3	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YH:4:ILE:HB	28:YH:6:ARG:HG2	1.82	0.60
29:YI:10:GLU:OE2	29:YI:11:ASN:N	2.35	0.60
1:QA:833:U:H3	1:QA:853:G:H1	1.49	0.60
2:QB:15:VAL:H	2:QB:16:HIS:CE1	2.20	0.60
4:QD:105:VAL:HG13	4:QD:110:PHE:HB2	1.83	0.60
10:QJ:42:THR:HG23	10:QJ:68:HIS:HA	1.83	0.60
22:RA:438:G:H2'	22:RA:439:G:H8	1.67	0.60
22:RA:1068:G:N2	22:RA:1095:A:O2'	2.35	0.60
22:RA:1464:C:O2'	22:RA:1528:A:H8	1.83	0.60
28:RH:154:PRO:HD3	28:RH:162:ILE:N	2.16	0.60
42:RZ:94:GLU:HB2	42:RZ:130:PRO:CD	2.31	0.60
48:R5:16:ARG:HH11	48:R5:16:ARG:HG2	1.65	0.60
1:XA:131:C:H2'	1:XA:132:C:C6	2.37	0.60
1:XA:1292:U:H2'	1:XA:1293:G:C8	2.36	0.60
5:XE:152:ARG:NH1	8:XH:44:PHE:CZ	2.70	0.60
22:YA:61:G:O6	22:YA:94:G:N2	2.35	0.60
22:YA:467:G:HO2'	22:YA:796:C:HO2'	1.43	0.60
27:YG:28:VAL:HG23	27:YG:29:TRP:CD1	2.36	0.60
31:YO:96:THR:O	31:YO:97:ARG:HB3	2.01	0.60
43:Y0:23:VAL:HB	43:Y0:26:TYR:HE2	1.66	0.60
1:QA:1129:C:H4'	1:QA:1130:A:H5'	1.84	0.60
22:RA:125:G:H1'	50:R7:13:ALA:HB1	1.84	0.60
22:RA:127:A:H5"	22:RA:128:C:C6	2.36	0.60
22:RA:996:A:H4'	37:RU:92:ARG:NE	2.15	0.60
22:RA:1803:A:O2'	24:RD:259:THR:HG21	2.02	0.60
1:XA:556:C:H2'	1:XA:557:G:H8	1.67	0.60
1:XA:1410:G:H2'	1:XA:1411:C:H6	1.67	0.60
1:XA:1422:G:H5"	31:YO:48:PRO:HB3	1.82	0.60
22:YA:1064:C:N4	22:YA:1070:A:OP1	2.35	0.60
22:YA:1872:A:H5'	22:YA:1878:G:OP2	2.02	0.60
22:YA:2439:A:H5'	22:YA:2439:A:C8	2.36	0.60
52:Y9:35:ARG:HH21	52:Y9:37:GLY:HA3	1.67	0.60
1:QA:1172:C:H2'	1:QA:1173:G:C8	2.36	0.60
1:QA:1292:U:H2'	1:QA:1293:G:H8	1.65	0.60
22:RA:479:A:N3	22:RA:481:G:H5"	2.17	0.60
22:RA:631:A:OP1	32:RP:64:LYS:HE2	2.02	0.60
27:RG:64:THR:HG23	27:RG:66:GLN:H	1.65	0.60
1:XA:267:C:OP2	17:XQ:67:LYS:HD2	2.01	0.60
22:YA:1530:G:O6	22:YA:1542:G:N2	2.34	0.60
22:YA:2468:G:H5"	33:YQ:120:ILE:HD12	1.83	0.60
1:QA:191:G:C1'	20:QT:105:SER:HB3	2.31	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:84:LEU:HD22	12:QL:104:VAL:HG11	1.84	0.60
22:RA:1796:U:H2'	22:RA:1797:C:C6	2.37	0.60
22:RA:2620:C:O2'	25:RE:157:ALA:O	2.18	0.60
22:RA:2629:A:H4'	22:RA:2629:A:OP1	2.00	0.60
24:RD:70:TRP:CH2	24:RD:150:LYS:HA	2.36	0.60
27:RG:114:ILE:HD13	27:RG:140:ILE:HG21	1.83	0.60
1:XA:401:C:H2'	1:XA:402:G:H8	1.67	0.60
22:YA:1028:A:N3	22:YA:2486:G:O2'	2.34	0.60
22:YA:1790:C:O2'	24:YD:209:ALA:HB2	2.02	0.60
51:Y8:50:LEU:HD12	51:Y8:51:ALA:H	1.67	0.60
1:QA:1152:A:H5"	10:QJ:13:HIS:HD2	1.66	0.59
1:QA:1219:U:OP1	14:QN:19:ARG:NH2	2.24	0.59
22:RA:1423:G:H2'	22:RA:1424:G:H8	1.67	0.59
22:RA:2509:G:H1	22:RA:2579:C:N4	2.00	0.59
2:XB:235:SER:O	2:XB:237:ALA:N	2.35	0.59
22:YA:419:C:H2'	22:YA:420:C:O4'	2.02	0.59
22:YA:1652:A:OP1	34:YR:8:ARG:NH1	2.34	0.59
22:YA:1728:G:H3'	22:YA:1729:A:H5"	1.84	0.59
34:YR:42:LYS:HA	34:YR:45:ARG:HD2	1.84	0.59
1:QA:1437:C:H2'	1:QA:1438:G:H8	1.66	0.59
22:RA:1576:U:H2'	22:RA:1577:C:H6	1.67	0.59
42:RZ:166:SER:HB3	42:RZ:168:GLU:H	1.67	0.59
1:XA:1130:A:N6	1:XA:1144:G:H21	1.99	0.59
13:XM:3:ARG:HA	13:XM:9:ILE:HG21	1.83	0.59
22:YA:270(R):G:H2'	22:YA:270(S):G:H8	1.66	0.59
23:YB:82:G:H2'	23:YB:83:G:H8	1.67	0.59
42:YZ:94:GLU:HB2	42:YZ:130:PRO:CD	2.31	0.59
1:QA:1298:C:H4'	1:QA:1299:A:C4	2.36	0.59
36:RT:105:LEU:O	36:RT:107:ASP:N	2.36	0.59
1:XA:1298:C:H4'	1:XA:1299:A:O4'	2.03	0.59
1:XA:1453:G:N7	20:XT:55:ILE:HD11	2.16	0.59
22:YA:1204:A:H2	22:YA:1241:A:N1	2.00	0.59
39:YW:86:LEU:HD12	39:YW:87:PRO:HD2	1.83	0.59
42:YZ:158:PRO:O	42:YZ:160:GLY:N	2.36	0.59
1:QA:301:G:H2'	1:QA:302:G:H8	1.67	0.59
1:QA:618:C:H5'	1:QA:619:U:H5"	1.83	0.59
1:QA:696:A:N1	1:QA:797:C:O2'	2.35	0.59
1:QA:811:C:H4'	1:QA:900:A:N6	2.18	0.59
9:QI:9:ARG:HB3	9:QI:14:VAL:HG13	1.84	0.59
42:RZ:103:ARG:HD3	42:RZ:136:PHE:CG	2.38	0.59
51:R8:29:LYS:HB2	51:R8:44:LYS:HG2	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1226:C:O2'	13:XM:111:LYS:NZ	2.36	0.59
6:XF:61:LEU:HB3	6:XF:63:TYR:HE2	1.66	0.59
22:YA:2154:G:H2'	22:YA:2155:G:C8	2.38	0.59
23:YB:95:U:H2'	23:YB:96:G:C8	2.37	0.59
34:YR:33:ARG:NH2	48:Y5:55:ARG:HG2	2.17	0.59
1:QA:565:U:H5"	1:QA:566:G:H2'	1.83	0.59
1:QA:828:A:H2'	1:QA:829:G:O4'	2.02	0.59
3:QC:50:ALA:HB2	3:QC:75:VAL:HB	1.85	0.59
4:QD:64:LEU:HB2	4:QD:198:VAL:HG11	1.83	0.59
22:RA:70:G:H21	22:RA:71:A:N6	2.00	0.59
22:RA:1101:U:H2'	22:RA:1102:C:H6	1.65	0.59
23:RB:80:U:H2'	23:RB:81:G:H21	1.67	0.59
29:RI:13:GLY:HA3	29:RI:17:GLN:CD	2.28	0.59
1:XA:1002:G:H2'	1:XA:1003:G:H8	1.68	0.59
2:XB:92:TYR:HE1	2:XB:151:GLY:HA3	1.65	0.59
22:YA:1337:G:H2'	22:YA:1338:G:H8	1.68	0.59
22:YA:2471:C:H5'	22:YA:2472:G:OP2	2.02	0.59
25:YE:36:ARG:HH21	25:YE:88:GLY:HA2	1.68	0.59
28:YH:98:LEU:HD22	28:YH:125:VAL:HB	1.83	0.59
22:RA:385:C:O2'	22:RA:388:G:N2	2.36	0.59
22:RA:1337:G:OP2	40:RX:73:ARG:NH2	2.35	0.59
27:RG:67:LYS:HE2	47:R4:6:HIS:CE1	2.38	0.59
1:XA:191:G:N3	20:XT:105:SER:HB3	2.18	0.59
5:XE:45:PHE:CE2	5:XE:47:LYS:HD2	2.38	0.59
22:YA:943:U:OP2	32:YP:36:LYS:NZ	2.35	0.59
22:YA:1274:A:N3	22:YA:1297:C:H1'	2.17	0.59
22:YA:1429:G:H2'	22:YA:1430:C:C6	2.38	0.59
22:YA:1434:A:H2'	22:YA:1435:G:C8	2.36	0.59
39:YW:111:HIS:CD2	39:YW:112:GLY:H	2.20	0.59
42:YZ:77:ASP:OD2	42:YZ:80:ARG:HD3	2.02	0.59
50:Y7:35:ARG:HG3	50:Y7:42:LEU:HD11	1.85	0.59
1:QA:110:C:O2'	16:QP:25:ARG:O	2.17	0.59
1:QA:1163:C:H42	1:QA:1173:G:H1	1.50	0.59
13:QM:49:THR:HB	13:QM:52:GLU:HG3	1.85	0.59
22:RA:84:A:N1	22:RA:98:G:O2'	2.31	0.59
22:RA:94:G:H21	45:R2:47:ASN:HD22	1.51	0.59
22:RA:1918:A:O2'	22:RA:1920:C:N4	2.36	0.59
22:RA:2563:U:H4'	31:RO:28:SER:HA	1.84	0.59
28:RH:105:LEU:HD13	28:RH:105:LEU:H	1.68	0.59
39:RW:86:LEU:HD12	39:RW:87:PRO:HD2	1.85	0.59
47:R4:16:CYS:SG	47:R4:17:GLY:N	2.75	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:R6:52:VAL:HG22	49:R6:53:LYS:HG3	1.84	0.59
1:XA:148:G:H2'	1:XA:149:A:H8	1.68	0.59
1:XA:376:G:OP1	16:XP:5:ARG:HB2	2.03	0.59
1:XA:1288:A:N3	1:XA:1352:C:O2'	2.25	0.59
1:XA:1443:G:N2	22:YA:2864:G:OP1	2.28	0.59
42:YZ:140:ASP:OD2	42:YZ:140:ASP:N	2.35	0.59
46:Y3:6:VAL:HG13	46:Y3:56:VAL:HG13	1.84	0.59
1:QA:452:A:O2'	1:QA:453:A:O5'	2.20	0.59
1:QA:1221:G:OP1	1:QA:1320:C:N4	2.35	0.59
3:QC:131:ARG:HH11	5:QE:50:GLU:HG2	1.68	0.59
22:RA:806:C:P	32:RP:41:ARG:HH11	2.26	0.59
33:RQ:109:VAL:HG12	33:RQ:114:ALA:HB2	1.83	0.59
22:YA:2334:G:H5'	35:YS:9:ARG:HG2	1.85	0.59
22:YA:2789:C:H1'	22:YA:2892:A:C2	2.37	0.59
32:YP:26:GLY:O	32:YP:28:GLY:N	2.35	0.59
32:YP:147:LEU:O	32:YP:148:LEU:HB2	2.02	0.59
42:YZ:48:PHE:HE2	42:YZ:71:VAL:HG11	1.66	0.59
42:YZ:52:SER:O	42:YZ:54:HIS:N	2.35	0.59
1:QA:164:U:H2'	1:QA:165:C:C6	2.37	0.59
1:QA:1326:C:OP1	21:QU:17:THR:OG1	2.18	0.59
7:QG:73:MET:HG2	7:QG:90:GLU:HA	1.83	0.59
22:RA:507:A:C5'	22:RA:508:G:H5'	2.31	0.59
22:RA:1534:G:H2'	22:RA:1535:U:H4'	1.84	0.59
22:RA:1795:C:O2	24:RD:255:LYS:HE2	2.02	0.59
22:RA:2392:A:H1'	32:RP:60:MET:HE3	1.85	0.59
22:RA:2749:A:H4'	28:RH:62:LYS:HB3	1.84	0.59
24:RD:85:ASP:HB2	24:RD:92:ILE:HD13	1.84	0.59
50:R7:22:MET:HE2	50:R7:31:LEU:HD12	1.85	0.59
1:XA:376:G:H1	1:XA:387:U:H3	1.51	0.59
22:YA:142:G:H1'	40:YX:37:THR:HG21	1.84	0.59
22:YA:1778:U:H2'	22:YA:1784:A:N6	2.18	0.59
22:YA:2636:U:H1'	22:YA:2783:G:H22	1.67	0.59
22:YA:2729:G:H1'	25:YE:187:ALA:HB2	1.85	0.59
28:YH:6:ARG:NH2	28:YH:54:ARG:HH22	2.01	0.59
1:QA:1465:C:H2'	1:QA:1466:C:O4'	2.02	0.59
22:RA:49:A:H61	22:RA:177:G:H2'	1.66	0.59
22:RA:389:G:H1	32:RP:70:GLN:HB3	1.67	0.59
22:RA:2392:A:H2	22:RA:2424:C:H42	1.49	0.59
28:RH:121:ILE:HG13	28:RH:140:LYS:HD2	1.84	0.59
42:RZ:117:LEU:HD12	42:RZ:141:VAL:HG21	1.84	0.59
44:R1:92:LYS:HG3	44:R1:96:LYS:HB2	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:719:C:O2'	18:XR:50:ILE:O	2.20	0.59
1:XA:1327:C:OP2	21:XU:12:LYS:NZ	2.36	0.59
4:XD:9:CYS:SG	4:XD:22:LYS:HE2	2.39	0.59
10:XJ:76:ASN:O	10:XJ:78:ASN:ND2	2.36	0.59
13:XM:13:LYS:HA	13:XM:44:ARG:HD2	1.83	0.59
14:XN:23:ARG:HD2	14:XN:28:GLY:O	2.03	0.59
15:XO:56:LEU:HD21	22:YA:715:G:C4	2.38	0.59
20:XT:10:LEU:HG	20:XT:12:ALA:H	1.67	0.59
22:YA:1918:A:O2'	22:YA:1920:C:N4	2.35	0.59
23:YB:14:U:O3'	23:YB:107:U:O2'	2.20	0.59
30:YN:40:PRO:HB3	37:YU:68:ALA:HB2	1.85	0.59
1:QA:1348:U:H4'	9:QI:120:ARG:HD2	1.85	0.58
22:RA:439:G:H2'	22:RA:440:G:H8	1.68	0.58
22:RA:439:G:H2'	22:RA:440:G:C8	2.38	0.58
22:RA:1534:G:H2'	22:RA:1534:G:N3	2.17	0.58
1:XA:933:G:O6	7:XG:3:ARG:NH2	2.36	0.58
1:XA:1239:A:H62	1:XA:1299:A:N6	1.99	0.58
12:XL:38:THR:HG23	12:XL:57:LYS:HB3	1.84	0.58
22:YA:2146:C:H4'	22:YA:2147:G:C8	2.38	0.58
22:YA:2712:U:H1'	22:YA:2712(A):A:N7	2.17	0.58
29:YI:4:ILE:HG12	29:YI:18:VAL:HG22	1.85	0.58
35:YS:26:LEU:HB3	35:YS:87:PHE:HA	1.85	0.58
35:YS:106:ARG:HA	35:YS:110:LEU:HD11	1.85	0.58
48:Y5:4:HIS:HB3	48:Y5:5:PRO:CD	2.32	0.58
1:QA:523:A:H61	12:QL:53:ARG:HH12	1.51	0.58
22:RA:823:G:H2'	22:RA:824:A:C8	2.38	0.58
22:RA:2146:C:H4'	22:RA:2147:G:C8	2.38	0.58
22:RA:2689:U:OP1	22:RA:2719:G:N2	2.23	0.58
24:RD:44:ASN:CB	24:RD:49:ILE:HA	2.33	0.58
1:XA:606:G:O2'	1:XA:632:A:N6	2.34	0.58
3:XC:14:ILE:HG12	3:XC:15:THR:H	1.67	0.58
22:YA:1678:G:H8	22:YA:1678:G:O5'	1.86	0.58
22:YA:1680:U:O2'	22:YA:1763:G:N7	2.32	0.58
24:YD:28:GLU:OE1	24:YD:29:PRO:HD2	2.03	0.58
1:QA:243:A:H4'	1:QA:244:U:O5'	2.03	0.58
1:QA:997:U:H2'	1:QA:998:G:C8	2.38	0.58
22:RA:702:G:N2	22:RA:730:C:O2	2.36	0.58
22:RA:900:A:H3'	22:RA:901:A:C8	2.27	0.58
22:RA:1533:C:H42	22:RA:1538:G:H1	1.51	0.58
24:RD:71:ASP:OD2	24:RD:103:ARG:NH2	2.36	0.58
1:XA:390:C:O3'	16:XP:28:ARG:NH2	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:746:A:C5	22:YA:2611:U:H5"	2.39	0.58
22:YA:1069:A:H2'	22:YA:1073:A:N7	2.18	0.58
22:YA:1138:G:N2	30:YN:106:MET:HE3	2.02	0.58
27:YG:136:ARG:O	27:YG:154:GLY:HA2	2.02	0.58
34:YR:67:LEU:HD13	34:YR:76:VAL:HG21	1.85	0.58
1:QA:429:U:H1'	1:QA:430:A:H5"	1.86	0.58
1:QA:685:G:H5'	11:QK:39:PRO:O	2.03	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	2.02	0.58
22:RA:1006:C:H5'	30:RN:28:THR:HG23	1.85	0.58
1:XA:675:A:H2'	1:XA:676:A:H8	1.68	0.58
13:XM:57:ARG:HE	47:Y4:35:VAL:HG22	1.68	0.58
28:YH:153:LYS:HB3	28:YH:154:PRO:HD3	1.85	0.58
29:YI:110:ASP:N	29:YI:130:TYR:OH	2.36	0.58
40:YX:61:GLY:N	40:YX:75:ASP:OD2	2.36	0.58
1:QA:745:C:H2'	1:QA:746:A:C8	2.38	0.58
4:QD:111:ALA:HB2	4:QD:120:LEU:HD12	1.85	0.58
13:QM:121:LYS:NZ	55:QY:40:G:O2'	2.33	0.58
22:RA:738:G:H3'	22:RA:739:G:C8	2.38	0.58
24:RD:35:LYS:HD2	24:RD:104:TYR:CE1	2.39	0.58
20:XT:56:MET:HG3	20:XT:88:VAL:HG21	1.86	0.58
20:XT:63:ILE:HG22	20:XT:77:ALA:HB1	1.86	0.58
22:YA:1203:G:O6	22:YA:1204:A:N6	2.37	0.58
38:YV:44:LYS:O	38:YV:46:VAL:N	2.36	0.58
44:Y1:51:VAL:HG11	44:Y1:74:VAL:HG21	1.84	0.58
1:QA:446:G:H2'	1:QA:447:G:O4'	2.04	0.58
2:QB:77:ALA:HB2	2:QB:211:ILE:HD13	1.86	0.58
12:QL:10:LEU:HB3	17:QQ:32:TYR:CE1	2.39	0.58
22:RA:630:G:OP1	51:R8:46:ARG:NH1	2.37	0.58
23:RB:15:A:H5'	23:RB:16:G:C8	2.38	0.58
24:RD:182:LEU:N	24:RD:272:ALA:HB3	2.17	0.58
27:RG:136:ARG:O	27:RG:154:GLY:HA2	2.03	0.58
1:XA:1305:G:N2	1:XA:1331:G:H2'	2.19	0.58
1:XA:1358:U:H3	1:XA:1363:A:H61	1.49	0.58
6:XF:36:ARG:NH1	6:XF:38:GLU:OE2	2.36	0.58
9:XI:43:ALA:HA	9:XI:74:ILE:HD13	1.85	0.58
22:YA:270(Q):C:OP1	29:YI:45:LYS:NZ	2.37	0.58
22:YA:957:A:N1	22:YA:2458:G:H4'	2.18	0.58
29:YI:93:THR:N	29:YI:96:ASP:OD1	2.35	0.58
43:Y0:35:ASN:OD1	43:Y0:35:ASN:N	2.34	0.58
47:Y4:42:PHE:O	47:Y4:44:THR:N	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:165:C:H2'	1:QA:166:G:C8	2.38	0.58
22:RA:534:U:O2'	37:RU:49:HIS:ND1	2.27	0.58
22:RA:1278:A:H2'	22:RA:1279:G:H8	1.68	0.58
22:RA:2582:G:N2	22:RA:2583:G:H1'	2.18	0.58
1:XA:1029:G:H1'	1:XA:1032(A):G:H1	1.68	0.58
1:XA:1070:U:H2'	1:XA:1071:C:H6	1.68	0.58
1:XA:1320:C:C4	19:XS:36:ARG:HG3	2.38	0.58
5:XE:91:LEU:HD12	5:XE:120:THR:HG22	1.85	0.58
8:XH:39:LEU:HB3	8:XH:45:ILE:HG12	1.86	0.58
29:YI:72:LEU:HD21	29:YI:107:VAL:HG11	1.86	0.58
8:QH:121:ASP:N	8:QH:121:ASP:OD1	2.34	0.58
22:RA:270(T):G:H5"	44:R1:97:LEU:HD22	1.86	0.58
22:RA:685:A:H5"	22:RA:788:A:N6	2.16	0.58
22:RA:2067:G:H1	22:RA:2443:C:H42	1.51	0.58
22:RA:2439:A:H5'	22:RA:2439:A:H8	1.67	0.58
27:RG:112:PRO:HB3	47:R4:37:SER:HB2	1.85	0.58
28:RH:87:LEU:HD22	28:RH:162:ILE:HG22	1.85	0.58
29:RI:133:HIS:HB2	29:RI:134:PRO:HD2	1.85	0.58
30:RN:13:TRP:O	30:RN:135:PRO:HD2	2.03	0.58
32:RP:47:ASP:OD1	32:RP:49:ARG:NH1	2.37	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
4:XD:13:ARG:HA	4:XD:33:MET:HE3	1.84	0.58
22:YA:834:C:H2'	22:YA:835:A:C8	2.38	0.58
22:YA:1278:A:H4'	34:YR:34:ILE:HD12	1.84	0.58
22:YA:2359:C:H2'	22:YA:2360:A:O4'	2.04	0.58
31:YO:64:ARG:HG2	31:YO:79:PHE:CG	2.38	0.58
34:YR:27:SER:HB3	34:YR:34:ILE:HD11	1.84	0.58
43:Y0:72:ARG:HB2	43:Y0:75:LEU:HB2	1.85	0.58
1:QA:517:G:O2'	1:QA:531:U:OP2	2.21	0.58
1:QA:715:A:H2'	1:QA:716:A:C8	2.38	0.58
7:QG:26:PHE:CE2	7:QG:30:ILE:HD11	2.38	0.58
12:QL:53:ARG:HD3	12:QL:93:LEU:HD21	1.86	0.58
22:RA:586:A:H5'	26:RF:89:VAL:HG21	1.86	0.58
22:RA:1226:G:H4'	38:RV:84:LYS:HG2	1.85	0.58
22:RA:2022:U:O2'	22:RA:2617:C:H5'	2.04	0.58
22:RA:2041:U:H2'	22:RA:2042:A:C8	2.38	0.58
22:RA:2227:A:H5"	24:RD:263:ARG:NH1	2.19	0.58
29:RI:14:ASP:H	29:RI:17:GLN:HB2	1.68	0.58
30:RN:54:VAL:HB	30:RN:122:VAL:HG22	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:486:U:H2'	1:XA:487:A:C8	2.39	0.58
1:XA:673:G:H2'	1:XA:674:G:C8	2.39	0.58
1:XA:877:C:H5"	8:XH:88:LYS:HD3	1.85	0.58
1:XA:1157:A:H62	1:XA:1178:G:N2	2.02	0.58
1:XA:1298:C:P	7:XG:114:ARG:HH22	2.27	0.58
1:XA:1486:G:H2'	1:XA:1487:G:O4'	2.04	0.58
3:XC:95:THR:HG22	3:XC:97:LYS:HG3	1.84	0.58
19:XS:80:TYR:O	19:XS:82:GLY:N	2.36	0.58
22:YA:768:G:O2'	22:YA:1379:A:N6	2.32	0.58
22:YA:1109:C:O2'	22:YA:1110:G:OP1	2.21	0.58
22:YA:1520:U:H2'	22:YA:1521:G:O4'	2.04	0.58
22:YA:1614:A:N6	39:YW:88:ARG:H	2.02	0.58
22:YA:2232:U:P	44:Y1:40:ARG:HH12	2.26	0.58
22:YA:2593:U:H2'	22:YA:2594:C:C6	2.30	0.58
22:YA:2693:A:H2'	22:YA:2694:G:C8	2.39	0.58
36:YT:24:PRO:HA	36:YT:49:VAL:HG13	1.85	0.58
1:QA:396:G:O2'	1:QA:398:C:OP1	2.20	0.58
1:QA:973:G:H3'	1:QA:974:A:C5'	2.34	0.58
1:QA:1059:C:O3'	14:QN:45:ARG:NH2	2.37	0.58
1:QA:1226:C:H4'	19:QS:80:TYR:OH	2.04	0.58
22:RA:443:A:N7	26:RF:45:ARG:HD2	2.19	0.58
22:RA:1427:A:H4'	22:RA:1428:C:O5'	2.02	0.58
22:RA:2415:G:H4'	32:RP:66:GLY:HA3	1.84	0.58
23:RB:31:C:H4'	27:RG:29:TRP:HH2	1.69	0.58
24:RD:24:ILE:HD11	24:RD:91:ARG:HD2	1.85	0.58
28:RH:152:ARG:HH21	28:RH:153:LYS:HZ1	1.51	0.58
29:RI:110:ASP:N	29:RI:130:TYR:OH	2.36	0.58
1:XA:328:C:H4'	1:XA:329:A:H5'	1.86	0.58
22:YA:1167:U:H2'	22:YA:1168:G:C8	2.39	0.58
22:YA:1490:A:O2'	24:YD:99:ASP:OD2	2.20	0.58
22:YA:2112:G:O6	22:YA:2169:A:N6	2.37	0.58
22:YA:2712:U:O2'	22:YA:2712(A):A:H8	1.87	0.58
22:YA:2738:A:H2	22:YA:2766:G:H22	1.52	0.58
23:YB:44:G:H1'	23:YB:47:C:N4	2.18	0.58
34:YR:24:GLN:OE1	34:YR:36:THR:HG21	2.04	0.58
34:YR:117:VAL:HG22	34:YR:118:GLU:H	1.68	0.58
35:YS:59:LYS:HD3	35:YS:60:GLY:N	2.19	0.58
1:QA:365:U:H5"	1:QA:366:C:OP1	2.04	0.57
22:RA:609(A):G:H2'	22:RA:610:C:H6	1.69	0.57
22:RA:1012:U:OP1	37:RU:75:ASN:ND2	2.36	0.57
22:RA:2757:A:P	52:R9:20:HIS:H	2.27	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RZ:141:VAL:HG23	42:RZ:144:LEU:HG	1.86	0.57
1:XA:405:U:O4	4:XD:2:GLY:N	2.37	0.57
1:XA:1020:U:H2'	1:XA:1021:G:C8	2.39	0.57
22:YA:625:G:O6	32:YP:107:LYS:HE2	2.04	0.57
22:YA:2074:U:H2'	22:YA:2075:U:C6	2.39	0.57
26:YF:127:GLU:O	26:YF:129:PHE:N	2.32	0.57
33:YQ:66:ILE:HA	33:YQ:104:PHE:HA	1.85	0.57
37:YU:92:ARG:HD3	37:YU:94:ASN:HB3	1.85	0.57
39:YW:73:ALA:HB3	39:YW:106:ILE:HD13	1.84	0.57
13:QM:14:ARG:N	13:QM:44:ARG:HD3	2.18	0.57
13:QM:58:GLU:O	13:QM:62:ASN:ND2	2.31	0.57
22:RA:251:A:C5	22:RA:252:G:H1'	2.39	0.57
22:RA:1389:G:H2'	22:RA:1390:U:C6	2.40	0.57
39:RW:71:VAL:HA	39:RW:107:LEU:HD12	1.86	0.57
41:RY:95:LYS:NZ	41:RY:99:CYS:O	2.37	0.57
51:R8:36:LYS:HB3	51:R8:40:GLU:HG2	1.85	0.57
1:XA:560:U:O2'	1:XA:561:U:OP2	2.19	0.57
2:XB:93:VAL:HG11	2:XB:97:TRP:HD1	1.69	0.57
22:YA:846:C:O2'	22:YA:847:U:OP2	2.10	0.57
22:YA:956:G:H5"	33:YQ:77:LYS:HE2	1.85	0.57
27:YG:67:LYS:HE2	47:Y4:6:HIS:CE1	2.38	0.57
3:QC:134:ILE:HG23	3:QC:151:VAL:HB	1.85	0.57
7:QG:15:ASP:OD2	7:QG:44:TYR:OH	2.22	0.57
22:RA:225:A:H5'	22:RA:226:G:OP2	2.04	0.57
22:RA:642:G:H21	22:RA:646:A:H2	1.50	0.57
22:RA:1378:A:OP1	50:R7:10:ARG:NH2	2.36	0.57
22:RA:2506:U:O2	22:RA:2506:U:H2'	2.04	0.57
25:RE:131:ALA:HB1	25:RE:135:HIS:HE1	1.69	0.57
42:RZ:121:HIS:CD2	42:RZ:169:GLU:HG2	2.38	0.57
1:XA:518:C:H2'	1:XA:530:G:C2	2.39	0.57
1:XA:1124:G:H3'	1:XA:1145:C:H41	1.69	0.57
3:XC:70:VAL:HG21	3:XC:76:VAL:HG11	1.85	0.57
4:XD:9:CYS:HB3	4:XD:32:ALA:HB2	1.87	0.57
22:YA:898:C:H3'	22:YA:899:A:H8	1.70	0.57
22:YA:2741:A:OP1	52:Y9:22:ARG:NH1	2.36	0.57
24:YD:65:ILE:H	24:YD:65:ILE:HD13	1.68	0.57
25:YE:35:GLN:HB3	25:YE:48:GLN:HB2	1.87	0.57
26:YF:28:ILE:HG22	26:YF:112:MET:HB3	1.85	0.57
26:YF:116:ASP:OD2	32:YP:1:MET:N	2.26	0.57
27:YG:98:ARG:NH1	47:Y4:1:MET:SD	2.77	0.57
3:QC:134:ILE:HG22	3:QC:168:ALA:HB3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2576:G:O2'	22:RA:2579:C:OP2	2.15	0.57
27:RG:68:PRO:HB2	27:RG:90:LEU:HD12	1.86	0.57
28:RH:153:LYS:HB3	28:RH:154:PRO:CD	2.34	0.57
1:XA:388:G:HO2'	1:XA:389:A:P	2.27	0.57
1:XA:1517:G:N3	22:YA:1919:A:O2'	2.36	0.57
11:XK:21:ILE:HG13	11:XK:30:VAL:HG12	1.86	0.57
22:YA:1187:G:H5"	38:YV:81:TYR:CE2	2.38	0.57
22:YA:1820:U:C2	24:YD:202:LYS:HB3	2.38	0.57
22:YA:2193:G:H2'	22:YA:2194:G:H8	1.69	0.57
22:YA:2292:C:OP2	35:YS:17:ARG:NH2	2.30	0.57
33:YQ:116:GLU:O	33:YQ:120:ILE:HG12	2.05	0.57
42:YZ:25:PRO:O	42:YZ:85:HIS:HA	2.04	0.57
1:QA:1446:A:H4'	36:RT:125:ARG:HH22	1.69	0.57
22:RA:223:A:O2'	22:RA:420:C:O2	2.22	0.57
22:RA:587:C:N3	32:RP:33:ARG:NH1	2.53	0.57
1:XA:27:G:H4'	4:XD:209:ARG:HG3	1.86	0.57
1:XA:244:U:H4'	1:XA:245:C:O5'	2.03	0.57
1:XA:1114:C:H1'	14:XN:60:SER:HB2	1.86	0.57
1:XA:1305:G:O2'	1:XA:1306:A:H8	1.83	0.57
1:XA:1525:G:P	11:XK:120:ARG:HH22	2.28	0.57
22:YA:27:G:HO2'	22:YA:28:A:H8	1.48	0.57
22:YA:1967:C:H2'	22:YA:1968:G:H5'	1.86	0.57
22:YA:2438:U:O3'	22:YA:2439:A:H3'	2.04	0.57
22:YA:2469:A:H5'	22:YA:2470:G:OP2	2.04	0.57
22:YA:2712:U:OP1	22:YA:2714:G:H4'	2.05	0.57
35:YS:10:ARG:NH2	35:YS:91:PRO:O	2.36	0.57
54:XX:5:C:C2	55:XY:36:G:N2	2.73	0.57
1:QA:1175:G:H2'	1:QA:1176:A:C8	2.39	0.57
1:QA:1466:C:H2'	1:QA:1467:G:O4'	2.05	0.57
22:RA:1385:G:O2'	22:RA:1396:U:O2	2.13	0.57
42:RZ:104:PHE:HB3	42:RZ:141:VAL:CG1	2.35	0.57
1:XA:107:G:O6	20:XT:15:ARG:HD3	2.05	0.57
1:XA:123:C:OP1	1:XA:311:C:O2'	2.13	0.57
1:XA:914:A:H2'	1:XA:915:A:H8	1.70	0.57
16:XP:20:VAL:HG23	16:XP:35:LYS:HA	1.86	0.57
17:XQ:55:ASP:HA	17:XQ:79:SER:HA	1.85	0.57
27:YG:98:ARG:HH12	47:Y4:1:MET:HB3	1.69	0.57
1:QA:166:G:H2'	1:QA:167:G:C8	2.39	0.57
22:RA:884:C:C2	22:RA:885:C:H5	2.23	0.57
22:RA:2712:U:OP1	22:RA:2714:G:H4'	2.05	0.57
27:RG:22:ARG:HH21	27:RG:171:ALA:HB1	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:RG:83:ARG:HG3	27:RG:86:MET:HE3	1.86	0.57
41:RY:76:CYS:SG	41:RY:77:PRO:HD2	2.45	0.57
1:XA:356:A:N3	1:XA:368:U:O2'	2.35	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
22:YA:99:U:H4'	22:YA:101:G:H5"	1.85	0.57
22:YA:2281:C:O2'	22:YA:2282:G:H5'	2.05	0.57
1:QA:452:A:O2'	1:QA:453:A:O4'	2.12	0.57
7:QG:79:ARG:HH12	7:QG:82:GLY:HA2	1.69	0.57
22:RA:443:A:C5	26:RF:45:ARG:HD2	2.40	0.57
24:RD:145:VAL:HG13	24:RD:191:ALA:HB2	1.87	0.57
24:RD:241:PRO:O	24:RD:242:ARG:HB2	2.04	0.57
1:XA:272:C:H2'	1:XA:273:A:H8	1.69	0.57
1:XA:591:U:H2'	1:XA:592:G:H8	1.70	0.57
1:XA:903:G:H2'	1:XA:904:C:C6	2.39	0.57
1:XA:1243:C:H42	1:XA:1294:G:H1	1.52	0.57
19:XS:32:LYS:HA	19:XS:50:ALA:HB3	1.86	0.57
22:YA:1210:A:H5'	22:YA:1210:A:H8	1.70	0.57
28:YH:149:ARG:HG3	28:YH:162:ILE:O	2.05	0.57
32:YP:135:LEU:O	32:YP:139:LYS:HB2	2.04	0.57
1:QA:1152:A:H2'	1:QA:1153:C:H6	1.69	0.57
13:QM:23:TYR:HB3	13:QM:67:GLU:HG2	1.87	0.57
19:QS:41:VAL:HB	19:QS:42:PRO:CA	2.34	0.57
22:RA:515:A:H1'	22:RA:581:C:H1'	1.87	0.57
22:RA:823:G:H2'	22:RA:824:A:H8	1.70	0.57
22:RA:1328:G:H2'	22:RA:1330:C:C4	2.40	0.57
43:R0:68:GLU:OE2	43:R0:82:ARG:NH1	2.33	0.57
1:XA:1459:C:OP1	20:XT:27:LYS:NZ	2.37	0.57
22:YA:863:A:H2'	22:YA:864:G:C8	2.40	0.57
22:YA:950:G:H1	22:YA:967:C:H42	1.51	0.57
24:YD:71:ASP:CB	24:YD:103:ARG:HH22	2.18	0.57
2:QB:51:LEU:HD23	2:QB:201:ILE:HD12	1.86	0.57
6:QF:3:ARG:NH1	6:QF:38:GLU:OE2	2.37	0.57
22:RA:483:A:H5'	41:RY:49:VAL:HG22	1.86	0.57
22:RA:994:C:OP2	37:RU:54:LYS:NZ	2.38	0.57
22:RA:1022:G:O2'	22:RA:1023:U:OP2	2.16	0.57
22:RA:1341:U:OP1	22:RA:1397:U:N3	2.37	0.57
22:RA:2197:U:H1'	22:RA:2198:A:C8	2.40	0.57
24:RD:44:ASN:HB2	24:RD:48:ARG:O	2.05	0.57
34:RR:117:VAL:O	34:RR:118:GLU:HB2	2.04	0.57
40:RX:60:ARG:NH1	50:R7:47:ARG:HH22	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:345:C:OP2	36:YT:41:ARG:HD2	2.05	0.57
1:XA:690:G:H2'	1:XA:691:G:O4'	2.04	0.57
9:XI:15:ALA:HB2	9:XI:65:VAL:HG23	1.86	0.57
22:YA:54:G:O2'	50:Y7:35:ARG:HD3	2.05	0.57
22:YA:1301:A:C8	22:YA:1303:G:C8	2.93	0.57
22:YA:1444(A):A:H4'	22:YA:1460:A:H2'	1.87	0.57
22:YA:2123:G:H2'	22:YA:2124:G:C8	2.40	0.57
22:YA:2695:C:H2'	22:YA:2696:U:C6	2.39	0.57
22:YA:2811:G:O6	22:YA:2889:C:N4	2.37	0.57
3:QC:73:PRO:HG3	3:QC:105:GLU:HG3	1.88	0.56
12:QL:117:ARG:HB3	12:QL:122:THR:HB	1.87	0.56
22:RA:242:G:O2'	22:RA:254:G:O6	2.10	0.56
22:RA:520:G:H2'	22:RA:521:G:H8	1.70	0.56
22:RA:550:G:O2'	22:RA:1220:A:O2'	2.11	0.56
22:RA:2556:C:H2'	22:RA:2557:G:O4'	2.05	0.56
33:RQ:32:TYR:HE1	33:RQ:133:ARG:HG3	1.69	0.56
38:RV:52:VAL:HG21	38:RV:55:ALA:HB3	1.87	0.56
1:XA:1158:C:H4'	2:XB:133:LYS:NZ	2.20	0.56
22:YA:26:G:O2'	22:YA:514:A:N6	2.31	0.56
22:YA:764:A:N3	24:YD:213:ARG:NH1	2.52	0.56
22:YA:1222:C:H2'	22:YA:1223:C:H6	1.69	0.56
22:YA:2277:G:OP2	43:Y0:12:ASN:ND2	2.27	0.56
22:YA:2395:C:O2'	44:Y1:30:VAL:HG12	2.05	0.56
22:YA:2688:U:H5	22:YA:2720:U:OP2	1.88	0.56
33:YQ:85:LYS:O	33:YQ:87:LYS:N	2.38	0.56
47:Y4:71:ARG:HB2	47:Y4:71:ARG:HH11	1.68	0.56
1:QA:407:G:OP1	4:QD:3:ARG:NH1	2.37	0.56
8:QH:102:ARG:NH1	8:QH:105:ARG:NH2	2.53	0.56
22:RA:307:G:H21	22:RA:330:A:H62	1.51	0.56
22:RA:1053:C:N4	22:RA:1106:G:H1	2.00	0.56
22:RA:1717:G:H1	22:RA:1742:C:H42	1.53	0.56
22:RA:2749:A:H1'	28:RH:63:SER:OG	2.05	0.56
24:RD:108:PRO:HB3	24:RD:143:HIS:CE1	2.40	0.56
33:RQ:43:THR:HA	33:RQ:94:VAL:HG12	1.87	0.56
1:XA:284:G:H2'	1:XA:285:G:C8	2.39	0.56
1:XA:712:A:H2'	1:XA:713:G:C8	2.40	0.56
1:XA:1126:U:H1'	1:XA:1280:A:N7	2.20	0.56
1:XA:1389:C:H2'	1:XA:1390:U:O4'	2.04	0.56
22:YA:675:A:C8	22:YA:804:A:C6	2.93	0.56
22:YA:852:G:H2'	22:YA:853:G:C8	2.40	0.56
22:YA:890:A:HO2'	22:YA:892:G:H8	1.51	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1210:A:H8	22:YA:1210:A:C5'	2.18	0.56
22:YA:1790:C:H5"	22:YA:1791:A:OP1	2.05	0.56
26:YF:107:LYS:HD2	26:YF:206:ILE:HA	1.86	0.56
27:YG:81:LYS:O	27:YG:82:LEU:HB2	2.04	0.56
29:YI:5:LEU:HD13	29:YI:17:GLN:HB3	1.87	0.56
1:QA:474:G:H5'	16:QP:81:ARG:HG3	1.87	0.56
1:QA:1095:U:P	1:QA:1108:G:H1	2.28	0.56
22:RA:262:A:H2'	22:RA:263:C:O4'	2.05	0.56
22:RA:372:G:H8	44:R1:65:SER:O	1.87	0.56
22:RA:631:A:H2'	22:RA:632:A:O4'	2.05	0.56
22:RA:974(A):C:H4'	22:RA:975:G:O5'	2.05	0.56
22:RA:1043:C:N3	22:RA:1112:G:N2	2.46	0.56
24:RD:148:GLU:HB2	24:RD:151:LYS:HD2	1.87	0.56
25:RE:10:GLY:HA3	36:RT:8:LYS:HD2	1.85	0.56
26:RF:11:VAL:HG12	26:RF:12:LEU:H	1.69	0.56
29:RI:144:VAL:HG22	29:RI:145:VAL:H	1.70	0.56
32:RP:106:LEU:O	32:RP:107:LYS:HB2	2.05	0.56
34:RR:67:LEU:HD13	34:RR:76:VAL:HG21	1.86	0.56
36:RT:111:ARG:C	36:RT:113:LYS:H	2.12	0.56
38:RV:44:LYS:HE2	38:RV:45:THR:H	1.70	0.56
42:RZ:153:SER:HA	42:RZ:155:LEU:HD12	1.88	0.56
1:XA:382:A:H2'	1:XA:383:A:H8	1.70	0.56
1:XA:790:A:OP1	53:XV:38:A:O2'	2.23	0.56
1:XA:1321:C:H5"	1:XA:1322:C:C5'	2.36	0.56
10:XJ:50:ILE:HD11	10:XJ:57:LYS:HD3	1.86	0.56
22:YA:10:G:N2	22:YA:2802:G:OP1	2.39	0.56
22:YA:630:G:N2	22:YA:633:A:OP2	2.33	0.56
22:YA:937:U:H2'	22:YA:938:G:O4'	2.05	0.56
22:YA:1053:C:H42	22:YA:1106:G:H1	1.51	0.56
22:YA:1467:C:C5	22:YA:1546:C:H2'	2.40	0.56
22:YA:1833:U:H2'	22:YA:1834:U:H6	1.69	0.56
22:YA:2277:G:OP2	43:Y0:10:THR:OG1	2.23	0.56
22:YA:2306:C:H2'	22:YA:2307:G:N2	2.20	0.56
31:YO:85:VAL:HG11	31:YO:114:ILE:HD11	1.87	0.56
32:YP:101:VAL:HG23	32:YP:106:LEU:HB3	1.88	0.56
36:YT:60:THR:HG22	36:YT:77:PRO:HA	1.86	0.56
38:YV:59:ALA:HB2	38:YV:96:ILE:HD13	1.88	0.56
42:YZ:105:VAL:HG13	42:YZ:140:ASP:HA	1.86	0.56
1:QA:476:G:H2'	1:QA:477:G:H8	1.69	0.56
17:QQ:90:ILE:O	17:QQ:94:ASN:ND2	2.38	0.56
22:RA:822:U:H2'	22:RA:823:G:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1282:U:H2'	22:RA:1283:G:O4'	2.05	0.56
41:RY:81:LYS:HZ3	41:RY:98:VAL:HG11	1.69	0.56
42:RZ:157:LEU:HB3	42:RZ:161:VAL:O	2.06	0.56
1:XA:1005:A:H5"	1:XA:1038:C:H1'	1.87	0.56
22:YA:732:C:H2'	22:YA:733:G:O4'	2.05	0.56
22:YA:2086:U:H2'	22:YA:2087:G:C8	2.41	0.56
22:YA:2540:C:H2'	22:YA:2541:A:O4'	2.05	0.56
22:YA:2864:G:OP1	36:YT:119:LYS:HD2	2.05	0.56
39:YW:71:VAL:HA	39:YW:107:LEU:HD12	1.87	0.56
22:RA:50:U:H3'	22:RA:51:G:H5'	1.87	0.56
22:RA:486:C:N4	22:RA:487:C:H41	2.04	0.56
22:RA:1021:A:H2'	22:RA:1023:U:H5'	1.88	0.56
22:RA:1473:G:H2'	22:RA:1474:C:O4'	2.06	0.56
22:RA:2311:A:H8	27:RG:82:LEU:HD11	1.70	0.56
22:RA:2784:C:H2'	22:RA:2785:C:C6	2.41	0.56
23:RB:13:A:H2'	23:RB:70:C:O2'	2.06	0.56
33:RQ:66:ILE:HA	33:RQ:104:PHE:HA	1.87	0.56
1:XA:316:G:OP2	1:XA:351:G:O2'	2.22	0.56
1:XA:503:C:H2'	1:XA:504:C:H6	1.69	0.56
2:XB:84:GLU:HB3	2:XB:219:VAL:HG21	1.86	0.56
16:XP:20:VAL:HG21	16:XP:32:TYR:CD1	2.40	0.56
22:YA:1138:G:H2'	22:YA:1139:G:O4'	2.06	0.56
22:YA:2299:G:N2	22:YA:2318:G:H1'	2.20	0.56
22:YA:2354:G:N2	22:YA:2363:C:O2	2.39	0.56
38:YV:66:ARG:HH11	38:YV:88:ARG:HD3	1.71	0.56
2:QB:82:ARG:HA	2:QB:92:TYR:HE2	1.71	0.56
22:RA:108:U:H2'	22:RA:109:G:H8	1.69	0.56
33:RQ:24:GLY:O	33:RQ:26:TYR:N	2.36	0.56
35:RS:106:ARG:HA	35:RS:110:LEU:HD11	1.87	0.56
7:XG:54:THR:O	7:XG:56:GLN:N	2.39	0.56
22:YA:2532:G:H1'	22:YA:2663:G:H22	1.70	0.56
22:YA:2877:G:H2'	22:YA:2878:U:O4'	2.06	0.56
49:Y6:25:LYS:HE2	49:Y6:27:LYS:HE3	1.87	0.56
1:QA:501:C:H2'	1:QA:502:G:C8	2.39	0.56
1:QA:977:A:H2'	1:QA:978:A:H5"	1.88	0.56
1:QA:1152:A:H5"	10:QJ:13:HIS:CD2	2.40	0.56
1:QA:1220:G:O3'	19:QS:36:ARG:HD3	2.06	0.56
22:RA:987:G:O2'	22:RA:1000:A:N3	2.35	0.56
25:RE:4:ILE:HD12	25:RE:28:ALA:HB1	1.88	0.56
28:RH:89:ILE:O	28:RH:89:ILE:HG12	2.04	0.56
29:RI:115:ALA:O	29:RI:117:GLU:N	2.32	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RP:68:GLN:HG2	51:R8:12:LYS:HD3	1.88	0.56
40:RX:31:HIS:CD2	40:RX:32:PRO:HD2	2.40	0.56
42:RZ:128:VAL:HG22	42:RZ:129:SER:H	1.71	0.56
1:XA:210:U:O2'	1:XA:216:G:N7	2.38	0.56
2:XB:21:ARG:O	2:XB:23:ARG:HD3	2.05	0.56
19:XS:5:LEU:HD11	47:Y4:66:SER:CA	2.35	0.56
22:YA:481:G:OP2	41:YY:47:LYS:HG3	2.06	0.56
22:YA:654(A):G:H8	22:YA:654(A):G:OP2	1.89	0.56
31:YO:97:ARG:HA	31:YO:117:LEU:HD22	1.88	0.56
1:QA:1167:A:H2'	1:QA:1169:A:O4'	2.06	0.56
12:QL:45:PRO:HB3	12:QL:92:ASP:HB3	1.87	0.56
12:QL:89:ARG:HB3	12:QL:97:ARG:HA	1.87	0.56
13:QM:7:VAL:HG21	27:RG:113:ARG:O	2.06	0.56
22:RA:74:A:H4'	22:RA:75:G:O5'	2.06	0.56
22:RA:108:U:H2'	22:RA:109:G:C8	2.41	0.56
42:RZ:178:GLU:O	42:RZ:179:ASP:HB2	2.06	0.56
1:XA:320:C:H2'	1:XA:321:A:C8	2.41	0.56
1:XA:1213:A:N6	1:XA:1215:G:N3	2.54	0.56
3:XC:174:PRO:HD2	3:XC:182:ILE:HD11	1.88	0.56
22:YA:307:G:H21	22:YA:330:A:N6	2.04	0.56
22:YA:462:C:N4	22:YA:467:G:H1	1.99	0.56
22:YA:1899:G:H21	22:YA:1902:C:H41	1.52	0.56
22:YA:2801:A:C5	22:YA:2802:G:H1'	2.41	0.56
1:QA:790:A:C6	1:QA:791:G:C6	2.94	0.56
9:QI:95:LYS:HZ1	9:QI:96:LEU:HD13	1.71	0.56
22:RA:934:G:H2'	22:RA:935:C:C6	2.41	0.56
22:RA:1259:G:H2'	22:RA:1260:G:C8	2.41	0.56
26:RF:110:LEU:HD11	26:RF:181:LEU:HD12	1.88	0.56
28:RH:86:GLU:H	28:RH:86:GLU:CD	2.12	0.56
1:XA:1347:G:N2	1:XA:1374:A:O5'	2.38	0.56
22:YA:1754:C:P	36:YT:96:ARG:HH12	2.29	0.56
22:YA:1854:A:H2	22:YA:2087:G:N3	2.03	0.56
22:YA:2205:C:H2'	22:YA:2206:C:H6	1.70	0.56
23:YB:41:U:C4	27:YG:70:VAL:HG23	2.41	0.56
28:YH:92:ILE:H	28:YH:92:ILE:HD12	1.71	0.56
41:YY:95:LYS:HB3	41:YY:100:ALA:HA	1.87	0.56
1:QA:339:C:OP2	31:RO:97:ARG:NH1	2.39	0.56
1:QA:579:G:H2'	1:QA:580:U:C6	2.40	0.56
1:QA:754:C:H5'	15:QO:72:ARG:HH22	1.70	0.56
1:QA:811:C:H4'	1:QA:900:A:H61	1.71	0.56
1:QA:1333:A:H2'	1:QA:1334:G:O4'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:187:ARG:NH2	4:QD:193:ASP:OD2	2.38	0.56
8:QH:106:GLY:O	8:QH:122:ARG:NH2	2.36	0.56
10:QJ:5:ARG:HG3	10:QJ:71:LEU:HD11	1.87	0.56
30:RN:42:TRP:HA	30:RN:48:MET:HE1	1.88	0.56
32:RP:121:LYS:HD3	32:RP:122:PRO:HD2	1.88	0.56
1:XA:1333:A:H2'	1:XA:1334:G:O4'	2.05	0.56
2:XB:158:LEU:HD13	2:XB:182:ILE:HD11	1.89	0.56
4:XD:122:ARG:NH1	4:XD:134:ASP:O	2.39	0.56
22:YA:601:C:O2	22:YA:605:C:H4'	2.06	0.56
24:YD:232:PRO:HB3	24:YD:244:ARG:NH1	2.21	0.56
30:YN:40:PRO:O	37:YU:64:ARG:HD2	2.06	0.56
1:QA:107:G:C2	1:QA:108:G:H1'	2.41	0.55
1:QA:1128:C:H4'	9:QI:16:ARG:HH12	1.71	0.55
2:QB:71:VAL:HG12	2:QB:93:VAL:HB	1.88	0.55
22:RA:1337:G:H2'	22:RA:1338:G:H8	1.72	0.55
22:RA:1801:G:OP2	24:RD:154:LYS:HE2	2.05	0.55
29:RI:5:LEU:HB2	29:RI:16:GLY:H	1.69	0.55
39:RW:86:LEU:HD22	39:RW:96:ILE:HD11	1.88	0.55
48:R5:4:HIS:HB3	48:R5:5:PRO:CD	2.32	0.55
49:R6:36:LEU:HB2	49:R6:50:ARG:HA	1.88	0.55
3:XC:9:GLY:HA2	3:XC:12:LEU:HD23	1.88	0.55
4:XD:11:LEU:HD13	4:XD:66:ARG:HG2	1.88	0.55
22:YA:1068:G:O2'	22:YA:1096:A:N3	2.39	0.55
22:YA:1093:G:H5'	28:YH:170:ARG:NH1	2.21	0.55
22:YA:1203:G:H3'	22:YA:1204:A:H5"	1.89	0.55
36:YT:29:ARG:HB2	36:YT:46:GLU:HG3	1.88	0.55
1:QA:1317:C:N3	19:QS:37:ARG:NH2	2.53	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
22:RA:1803:A:H2	22:RA:1822:G:N3	2.05	0.55
22:RA:1825:A:OP2	24:RD:220:HIS:NE2	2.38	0.55
23:RB:75:G:H4'	42:RZ:36:LYS:HG3	1.88	0.55
25:RE:63:LEU:CD1	25:RE:65:GLY:H	2.19	0.55
31:RO:1:MET:HE3	31:RO:67:LYS:HG2	1.88	0.55
31:RO:78:ARG:HH21	36:RT:103:ARG:NH2	2.03	0.55
36:RT:26:ASP:O	36:RT:49:VAL:HG12	2.07	0.55
1:XA:674:G:H2'	1:XA:675:A:C8	2.39	0.55
1:XA:807:A:H2'	1:XA:808:C:C6	2.42	0.55
3:XC:130:VAL:O	3:XC:134:ILE:HG12	2.06	0.55
5:XE:37:ARG:HA	5:XE:114:GLY:N	2.21	0.55
22:YA:448:U:C4	22:YA:583:G:H1'	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:956:G:OP2	33:YQ:14:ARG:NH2	2.39	0.55
22:YA:1545(A):A:H2'	22:YA:1546:C:O4'	2.05	0.55
22:YA:1614:A:H61	39:YW:88:ARG:H	1.52	0.55
22:YA:2584:U:H2'	22:YA:2585:U:H2'	1.87	0.55
29:YI:13:GLY:HA3	29:YI:17:GLN:HB2	1.86	0.55
30:YN:56:ASN:N	30:YN:125:GLY:O	2.22	0.55
1:QA:570:G:H2'	1:QA:571:U:C6	2.41	0.55
1:QA:585:G:O3'	17:QQ:34:LYS:NZ	2.39	0.55
1:QA:701:C:H1'	1:QA:703:G:C6	2.40	0.55
1:QA:1161:C:H2'	1:QA:1162:C:H6	1.71	0.55
1:QA:1399:C:C2	1:QA:1502:A:N6	2.74	0.55
6:QF:69:GLU:CD	6:QF:69:GLU:H	2.15	0.55
9:QI:77:ILE:O	9:QI:81:ILE:HG12	2.06	0.55
22:RA:445:C:H5"	37:RU:3:ARG:HB3	1.89	0.55
22:RA:2250:G:C4	33:RQ:82:ARG:HG3	2.41	0.55
42:RZ:182:LYS:HD3	42:RZ:182:LYS:N	2.17	0.55
47:R4:24:THR:OG1	47:R4:25:TYR:N	2.38	0.55
1:XA:95:G:H3'	1:XA:96:G:H8	1.71	0.55
6:XF:97:PHE:HD2	18:XR:31:LEU:HD21	1.70	0.55
10:XJ:34:VAL:HG22	10:XJ:74:ILE:HG22	1.89	0.55
22:YA:1204:A:H1'	22:YA:1206:G:C8	2.42	0.55
22:YA:2263:C:H2'	22:YA:2264:C:C6	2.42	0.55
26:YF:101:LEU:O	26:YF:106:ARG:NH1	2.40	0.55
29:YI:129:THR:HA	29:YI:137:PRO:HA	1.88	0.55
36:YT:39:ARG:HG2	36:YT:40:THR:H	1.72	0.55
43:Y0:27:GLU:HG3	43:Y0:68:GLU:HA	1.89	0.55
43:Y0:50:ASN:C	43:Y0:62:LEU:HD12	2.32	0.55
2:QB:101:MET:HE2	2:QB:108:ILE:HG21	1.88	0.55
22:RA:195:A:H5"	22:RA:196:A:O5'	2.07	0.55
22:RA:1846:G:H5'	22:RA:1847:A:OP2	2.05	0.55
38:RV:7:THR:HG23	38:RV:22:VAL:HG11	1.88	0.55
43:R0:56:ASP:OD1	43:R0:58:THR:OG1	2.24	0.55
1:XA:1004:A:N1	1:XA:1024:G:H2'	2.20	0.55
1:XA:1053:G:H2'	1:XA:1199:U:H5	1.71	0.55
1:XA:1226:C:OP2	13:XM:103:THR:OG1	2.15	0.55
5:XE:50:GLU:HB3	5:XE:53:LEU:HD13	1.88	0.55
15:XO:18:PHE:CE1	15:XO:21:ASP:HB2	2.41	0.55
22:YA:566:U:OP1	32:YP:29:LYS:NZ	2.39	0.55
22:YA:699:A:H2'	22:YA:700:G:O4'	2.07	0.55
22:YA:1459:G:H2'	22:YA:1460:A:H5'	1.89	0.55
22:YA:2159:G:H2'	22:YA:2160:G:C8	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YZ:1:MET:HG2	42:YZ:2:GLU:H	1.71	0.55
49:Y6:28:ARG:HB3	49:Y6:30:THR:H	1.71	0.55
51:Y8:50:LEU:HD12	51:Y8:51:ALA:N	2.21	0.55
1:QA:909:A:O2'	1:QA:1413:A:O2'	2.21	0.55
1:QA:953:G:N7	13:QM:104:ARG:NH2	2.55	0.55
1:QA:963:G:H21	10:QJ:55:LYS:HD3	1.71	0.55
2:QB:178:ARG:HH21	8:QH:74:PRO:HG3	1.71	0.55
14:QN:48:ALA:HB2	14:QN:53:LEU:HD12	1.88	0.55
22:RA:78:A:H2'	22:RA:79:G:C8	2.42	0.55
22:RA:1418:G:N1	22:RA:1579:A:OP2	2.36	0.55
22:RA:1753:G:N1	22:RA:1756:G:OP2	2.38	0.55
28:RH:41:MET:HE1	28:RH:64:LEU:HD22	1.88	0.55
29:RI:116:LEU:O	29:RI:118:LYS:N	2.40	0.55
33:RQ:30:GLY:CA	33:RQ:107:ALA:HB2	2.37	0.55
44:R1:53:VAL:HG11	44:R1:90:ILE:HD11	1.88	0.55
19:XS:67:VAL:HG21	47:Y4:60:GLN:HE22	1.70	0.55
20:XT:49:ALA:HB1	20:XT:99:LEU:HB2	1.89	0.55
22:YA:1496:A:H8	22:YA:1577:C:O2'	1.90	0.55
22:YA:2306:C:H2'	22:YA:2307:G:H21	1.71	0.55
22:YA:2356:C:O3'	43:Y0:20:ARG:HD3	2.07	0.55
28:YH:121:ILE:HG12	28:YH:140:LYS:HD2	1.89	0.55
32:YP:52:GLU:HG3	32:YP:57:THR:HG22	1.88	0.55
36:YT:3:ARG:HG3	36:YT:7:ILE:HG12	1.88	0.55
38:YV:38:LEU:H	38:YV:51:VAL:HG13	1.70	0.55
42:YZ:136:PHE:HE1	42:YZ:138:GLU:HG3	1.71	0.55
51:Y8:60:LEU:HB3	51:Y8:63:PRO:HG2	1.89	0.55
1:QA:632:A:H3'	1:QA:633:G:H8	1.72	0.55
1:QA:985:C:H42	1:QA:1220:G:H1	1.54	0.55
1:QA:1301:U:H3'	1:QA:1302:U:H5'	1.89	0.55
2:QB:5:ILE:HD12	2:QB:224:GLN:HG2	1.89	0.55
8:QH:86:ILE:HG13	8:QH:133:LEU:HD22	1.89	0.55
22:RA:2543:G:H2'	22:RA:2544:G:C8	2.42	0.55
26:RF:101:LEU:O	26:RF:106:ARG:NH1	2.40	0.55
37:RU:52:ARG:HA	37:RU:55:ARG:HG3	1.88	0.55
41:RY:37:VAL:HG21	41:RY:72:VAL:HG21	1.88	0.55
41:RY:81:LYS:HB2	41:RY:96:ILE:HG22	1.89	0.55
41:RY:96:ILE:HG12	41:RY:101:LYS:HB2	1.88	0.55
1:XA:411:A:C4	1:XA:413:G:H1'	2.42	0.55
2:XB:82:ARG:NH1	2:XB:86:GLU:OE2	2.40	0.55
22:YA:468:G:N7	50:Y7:39:ARG:NH2	2.51	0.55
22:YA:958:U:OP2	33:YQ:14:ARG:NH1	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1534:G:H1	22:YA:1538:G:N2	2.03	0.55
25:YE:63:LEU:HD12	25:YE:64:LYS:N	2.22	0.55
28:YH:157:TYR:HA	28:YH:171:LEU:O	2.06	0.55
32:YP:62:LEU:HD12	51:Y8:30:ARG:NH1	2.22	0.55
22:RA:288:C:H2'	22:RA:289:A:H8	1.72	0.55
22:RA:589:C:H2'	22:RA:590:A:C8	2.42	0.55
22:RA:1210:A:H4'	22:RA:1211:U:O5'	2.07	0.55
47:R4:16:CYS:SG	47:R4:36:CYS:N	2.79	0.55
1:XA:45:U:H2'	1:XA:46:G:C8	2.42	0.55
1:XA:262:A:H2'	1:XA:263:A:C8	2.42	0.55
1:XA:1175:G:H2'	1:XA:1176:A:C8	2.42	0.55
1:XA:1359:C:OP2	14:XN:35:ARG:NH1	2.40	0.55
1:XA:1497:G:H2'	1:XA:1498:U:H5'	1.88	0.55
22:YA:900:A:H3'	22:YA:901:A:H8	1.71	0.55
22:YA:2467:C:H4'	33:YQ:123:HIS:CD2	2.40	0.55
32:YP:71:VAL:HG13	32:YP:72:PRO:HD3	1.88	0.55
1:QA:474:G:H2'	1:QA:475:G:H8	1.72	0.55
1:QA:711:G:OP1	6:QF:54:LYS:NZ	2.36	0.55
1:QA:1002:G:H1	1:QA:1038:C:H42	1.54	0.55
4:QD:27:TYR:HE2	6:XF:15:ASP:HB3	1.71	0.55
22:RA:70:G:H21	22:RA:71:A:H62	1.55	0.55
22:RA:1576:U:H2'	22:RA:1577:C:C6	2.42	0.55
22:RA:2611:U:O2	48:R5:3:LYS:HE3	2.06	0.55
22:RA:2888:C:H2'	22:RA:2889:C:H6	1.72	0.55
28:RH:109:PHE:HZ	28:RH:152:ARG:HG2	1.72	0.55
1:XA:690:G:N2	11:XK:55:LYS:HZ1	2.02	0.55
1:XA:1318:A:H5'	19:XS:11:VAL:HG11	1.89	0.55
9:XI:16:ARG:HB2	9:XI:64:THR:HB	1.89	0.55
11:XK:34:ASP:OD1	11:XK:38:ASN:N	2.39	0.55
22:YA:528:A:C2	22:YA:2043:C:H4'	2.42	0.55
22:YA:612:G:O2'	22:YA:616:A:N1	2.33	0.55
22:YA:630:G:OP2	51:Y8:15:LYS:NZ	2.39	0.55
22:YA:1841:U:H2'	22:YA:1842:G:C8	2.42	0.55
24:YD:43:ARG:HD2	24:YD:44:ASN:OD1	2.07	0.55
29:YI:77:LEU:HD23	29:YI:138:ILE:HD11	1.89	0.55
39:YW:14:PRO:O	39:YW:17:VAL:N	2.40	0.55
43:Y0:18:ALA:HB3	43:Y0:20:ARG:NH1	2.22	0.55
1:QA:745:C:H2'	1:QA:746:A:H8	1.72	0.55
22:RA:265:A:O2'	22:RA:266:G:H4'	2.07	0.55
22:RA:1466:G:N2	22:RA:1547:C:N3	2.55	0.55
23:RB:37:C:O2	35:RS:95:HIS:NE2	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RD:35:LYS:NZ	24:RD:104:TYR:HB2	2.22	0.55
40:RX:25:LYS:HD3	40:RX:80:ILE:HD11	1.89	0.55
48:R5:56:LYS:H	48:R5:56:LYS:HD2	1.72	0.55
1:XA:539:A:OP1	12:XL:114:LYS:NZ	2.32	0.55
1:XA:965:A:H4'	1:XA:966:G:OP1	2.07	0.55
1:XA:1256:A:OP2	1:XA:1279:A:N6	2.40	0.55
1:XA:1320:C:N4	19:XS:36:ARG:HG3	2.21	0.55
8:XH:86:ILE:HG22	8:XH:93:VAL:HG21	1.89	0.55
22:YA:1499:C:H2'	22:YA:1500:G:H8	1.71	0.55
23:YB:70:C:H2'	23:YB:71:C:C6	2.42	0.55
36:YT:26:ASP:O	36:YT:49:VAL:HG12	2.07	0.55
38:YV:34:GLU:O	38:YV:36:PRO:HD3	2.06	0.55
1:QA:414:A:N6	1:QA:431:A:N3	2.55	0.55
9:QI:26:VAL:HG22	9:QI:61:ALA:HB3	1.89	0.55
10:QJ:13:HIS:CE1	10:QJ:14:LYS:HE3	2.42	0.55
22:RA:1728:G:H3'	22:RA:1729:A:C5'	2.36	0.55
22:RA:2469:A:OP1	22:RA:2469:A:H4'	2.06	0.55
22:RA:2688:U:H5	22:RA:2720:U:OP2	1.90	0.55
23:RB:40:U:H1'	23:RB:45:A:H61	1.71	0.55
23:RB:103:U:O2'	42:RZ:72:ARG:HD3	2.07	0.55
41:RY:95:LYS:CB	41:RY:100:ALA:HA	2.36	0.55
1:XA:719:C:O2'	18:XR:49:LYS:HB3	2.07	0.55
1:XA:767:A:H2'	1:XA:768:A:O4'	2.07	0.55
12:XL:70:ILE:HG12	12:XL:100:ILE:HD12	1.88	0.55
22:YA:771:G:OP1	50:Y7:14:LYS:HE3	2.06	0.55
22:YA:862:G:H2'	22:YA:863:A:O4'	2.06	0.55
38:YV:61:VAL:HG23	38:YV:63:GLY:H	1.71	0.55
4:QD:167:GLY:CA	24:YD:135:PHE:CE2	2.89	0.54
22:RA:1028:A:N3	22:RA:2486:G:O2'	2.37	0.54
22:RA:1050:A:H2'	22:RA:1051:G:O4'	2.07	0.54
22:RA:1167:U:H2'	22:RA:1168:G:O4'	2.07	0.54
22:RA:1283:G:N2	22:RA:1286:A:H5'	2.22	0.54
22:RA:1354:A:OP1	24:RD:38:LYS:HE2	2.06	0.54
22:RA:2041:U:H2'	22:RA:2042:A:H8	1.72	0.54
28:RH:124:GLU:HB3	28:RH:132:ARG:HG3	1.89	0.54
42:RZ:140:ASP:N	42:RZ:140:ASP:OD2	2.38	0.54
51:R8:29:LYS:HD3	51:R8:44:LYS:HB2	1.88	0.54
1:XA:221:C:H2'	1:XA:222:U:H6	1.73	0.54
1:XA:1128:C:H5'	9:XI:16:ARG:HH22	1.71	0.54
1:XA:1226:C:O2'	13:XM:103:THR:O	2.23	0.54
10:XJ:33:GLN:HB2	10:XJ:75:ILE:HD11	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:271:G:H2'	22:YA:272:G:C8	2.34	0.54
22:YA:2110:G:OP1	22:YA:2145:C:N4	2.40	0.54
22:YA:2205:C:H2'	22:YA:2206:C:C6	2.42	0.54
22:YA:2298:A:H62	22:YA:2318:G:H8	1.53	0.54
22:YA:2394:C:OP1	32:YP:63:PRO:HD2	2.06	0.54
22:YA:2788:C:O2'	22:YA:2809:A:N3	2.37	0.54
30:YN:42:TRP:O	37:YU:64:ARG:NH2	2.40	0.54
1:QA:249:U:O2'	1:QA:252:U:O2'	2.21	0.54
1:QA:1402:C:H2'	1:QA:1403:C:O4'	2.06	0.54
22:RA:861:A:N3	23:RB:79:C:O2'	2.39	0.54
22:RA:2126:A:H4'	22:RA:2127:G:O5'	2.08	0.54
22:RA:2543:G:H21	22:RA:2646:C:H5"	1.71	0.54
22:RA:2867:G:O2'	22:RA:2868:A:P	2.66	0.54
26:RF:184:TYR:CE2	26:RF:188:ARG:HD2	2.42	0.54
30:RN:40:PRO:HB3	37:RU:68:ALA:HB2	1.89	0.54
33:RQ:31:ASP:O	33:RQ:134:ARG:HB2	2.07	0.54
36:RT:1:MET:O	36:RT:3:ARG:N	2.40	0.54
1:XA:392:G:H2'	1:XA:393:A:H8	1.72	0.54
1:XA:1095:U:OP1	1:XA:1108:G:N2	2.38	0.54
3:XC:150:LYS:HE2	3:XC:152:ILE:HD11	1.88	0.54
8:XH:54:ASP:N	8:XH:54:ASP:OD1	2.39	0.54
13:XM:3:ARG:HH22	27:YG:139:LEU:HD13	1.70	0.54
13:XM:22:ILE:HD12	13:XM:25:ILE:HD12	1.89	0.54
22:YA:834:C:H2'	22:YA:835:A:H8	1.72	0.54
22:YA:2336:A:H61	43:Y0:43:THR:HG21	1.73	0.54
22:YA:2366:A:H2'	22:YA:2367:G:O4'	2.07	0.54
22:YA:2562:U:O2'	31:YO:23:ARG:HD3	2.07	0.54
33:YQ:60:ARG:HA	42:YZ:178:GLU:O	2.07	0.54
33:YQ:109:VAL:HG13	33:YQ:113:GLN:HB3	1.89	0.54
34:YR:55:ALA:HB2	34:YR:79:LEU:HD13	1.89	0.54
34:YR:56:LYS:NZ	34:YR:87:TYR:O	2.40	0.54
36:YT:62:THR:HG22	36:YT:75:ILE:HG12	1.89	0.54
48:Y5:55:ARG:HG3	48:Y5:57:VAL:H	1.72	0.54
1:QA:187:C:H1'	1:QA:191(A):G:N2	2.22	0.54
1:QA:523:A:H61	12:QL:92:ASP:HB2	1.72	0.54
1:QA:790:A:N6	1:QA:791:G:O6	2.41	0.54
3:QC:79:ARG:HD2	11:XK:99:GLN:OE1	2.07	0.54
5:QE:78:HIS:CE1	5:QE:142:LEU:HD23	2.42	0.54
22:RA:1843:C:H5'	24:RD:253:GLN:OE1	2.07	0.54
22:RA:1999:C:H5"	22:RA:2723:C:O2'	2.08	0.54
22:RA:2758:A:C2	22:RA:2759:G:H1'	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:RQ:54:MET:HG3	33:RQ:117:ALA:HB1	1.89	0.54
1:XA:128:G:O2'	17:XQ:3:LYS:NZ	2.33	0.54
1:XA:729:A:H2'	1:XA:730:G:H8	1.71	0.54
4:XD:92:VAL:O	4:XD:96:LEU:HD22	2.07	0.54
13:XM:20:THR:C	13:XM:22:ILE:H	2.15	0.54
22:YA:501:A:H8	22:YA:501:A:O5'	1.90	0.54
22:YA:609(A):G:H2'	22:YA:610:C:C6	2.41	0.54
22:YA:1149:G:H2'	22:YA:1150:C:C6	2.43	0.54
22:YA:1794:U:H2'	22:YA:1795:C:C6	2.42	0.54
24:YD:12:SER:O	24:YD:16:MET:HB2	2.08	0.54
1:QA:530:G:O6	54:QX:6:G:H1'	2.08	0.54
1:QA:1425:U:H2'	1:QA:1426:C:C6	2.43	0.54
25:RE:35:GLN:HE21	25:RE:37:ARG:CZ	2.21	0.54
30:RN:30:ILE:HG22	30:RN:34:LEU:HD22	1.88	0.54
34:RR:103:ARG:NH1	34:RR:108:GLY:O	2.41	0.54
42:RZ:100:VAL:HG11	42:RZ:134:PRO:HG2	1.89	0.54
44:R1:58:ILE:HD11	44:R1:86:SER:HB2	1.88	0.54
45:R2:42:GLY:O	45:R2:44:LEU:N	2.35	0.54
22:YA:1423:G:H2'	22:YA:1424:G:C8	2.41	0.54
22:YA:1697:G:OP2	22:YA:1698:A:O2'	2.23	0.54
22:YA:2421:G:OP1	49:Y6:6:ARG:NH2	2.39	0.54
23:YB:12:C:O2'	43:Y0:74:ARG:HG3	2.07	0.54
30:YN:39:ARG:HD3	30:YN:48:MET:HE2	1.88	0.54
37:YU:76:TYR:CZ	37:YU:80:ILE:HG13	2.43	0.54
1:QA:865:A:H5'	1:QA:1078:U:C5	2.43	0.54
1:QA:988:G:H2'	1:QA:989:C:O4'	2.07	0.54
1:QA:1152:A:H2'	1:QA:1153:C:C6	2.42	0.54
9:QI:121:ARG:NH1	9:QI:122:ALA:O	2.40	0.54
10:QJ:8:LEU:HB3	10:QJ:16:LEU:HD21	1.88	0.54
13:QM:3:ARG:CB	47:R4:34:GLU:HB3	2.31	0.54
22:RA:1849:G:H2'	22:RA:1850:G:H8	1.73	0.54
22:RA:2586:C:OP2	22:RA:2608:G:N1	2.32	0.54
27:RG:16:ARG:NH2	27:RG:28:VAL:O	2.41	0.54
29:RI:8:PRO:HA	29:RI:14:ASP:HA	1.88	0.54
45:R2:50:ILE:HD12	45:R2:51:ARG:H	1.72	0.54
48:R5:40:LYS:HG2	48:R5:47:PRO:HD2	1.90	0.54
1:XA:382:A:H2'	1:XA:383:A:C8	2.42	0.54
1:XA:707:C:OP1	11:XK:85:ARG:NH1	2.40	0.54
1:XA:881:G:OP1	12:XL:12:ARG:NH2	2.40	0.54
1:XA:1161:C:H2'	1:XA:1162:C:C6	2.43	0.54
5:XE:100:VAL:HG22	5:XE:118:ILE:HG22	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XI:40:LEU:C	9:XI:42:ARG:H	2.15	0.54
22:YA:247:G:H4'	22:YA:386:G:C5	2.43	0.54
47:Y4:54:GLY:O	47:Y4:59:PHE:HB2	2.07	0.54
4:QD:149:ALA:HB3	4:QD:152:SER:HB2	1.89	0.54
13:QM:22:ILE:HB	13:QM:25:ILE:HD12	1.89	0.54
22:RA:520:G:H2'	22:RA:521:G:C8	2.43	0.54
22:RA:861:A:H2'	22:RA:862:G:O4'	2.07	0.54
22:RA:954:G:O2'	22:RA:2274:A:N1	2.30	0.54
29:RI:82:ARG:HG2	29:RI:146:ALA:HB3	1.88	0.54
29:RI:115:ALA:HB3	29:RI:128:LEU:HD12	1.89	0.54
37:RU:112:ARG:NH2	38:RV:47:VAL:HG13	2.23	0.54
40:RX:83:VAL:CG1	40:RX:87:GLN:HB2	2.38	0.54
1:XA:1252:A:H2'	1:XA:1253:G:O4'	2.08	0.54
1:XA:1314:C:OP1	19:XS:6:LYS:HE3	2.08	0.54
5:XE:12:LEU:HD21	5:XE:14:ARG:HD3	1.89	0.54
7:XG:20:ASP:HB3	7:XG:23:VAL:HG23	1.88	0.54
12:XL:115:LYS:O	12:XL:117:ARG:N	2.35	0.54
18:XR:31:LEU:HD23	18:XR:31:LEU:H	1.73	0.54
22:YA:573:G:OP2	38:YV:78:LYS:NZ	2.39	0.54
22:YA:1510:A:OP1	22:YA:1511:A:H8	1.91	0.54
22:YA:2439:A:H4'	22:YA:2440:C:O5'	2.08	0.54
30:YN:35:ARG:HB2	30:YN:42:TRP:CH2	2.42	0.54
32:YP:64:LYS:O	32:YP:66:GLY:N	2.41	0.54
42:YZ:169:GLU:HG2	42:YZ:170:THR:N	2.22	0.54
1:QA:498:A:H4'	1:QA:500:G:OP1	2.06	0.54
1:QA:1095:U:OP1	1:QA:1108:G:N1	2.41	0.54
2:QB:84:GLU:HB3	2:QB:219:VAL:HG21	1.89	0.54
23:RB:5:C:O2'	23:RB:27:C:O2	2.26	0.54
36:RT:37:GLY:O	36:RT:39:ARG:N	2.34	0.54
36:RT:111:ARG:O	36:RT:112:ARG:HG3	2.08	0.54
1:XA:20:U:H2'	1:XA:21:G:O4'	2.07	0.54
1:XA:513:C:H42	1:XA:538:G:H1	1.54	0.54
1:XA:528:C:H41	12:XL:49:ASN:CG	2.14	0.54
1:XA:585:G:O2'	1:XA:879:C:OP1	2.21	0.54
1:XA:940:C:H2'	1:XA:941:G:H8	1.71	0.54
1:XA:941:G:H1	1:XA:1342:C:H42	1.55	0.54
1:XA:1368:G:OP1	9:XI:111:ARG:NH2	2.37	0.54
3:XC:150:LYS:HB3	3:XC:201:TYR:HB2	1.90	0.54
7:XG:49:ILE:O	7:XG:53:LYS:HB3	2.08	0.54
22:YA:674:G:N3	26:YF:74:ARG:NH1	2.56	0.54
22:YA:964:C:O2'	22:YA:2273:A:N3	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:Y2:35:LEU:HD12	45:Y2:53:LEU:HD12	1.89	0.54
53:XV:3:C:H2'	53:XV:4:G:H5'	1.89	0.54
5:QE:7:GLU:N	5:QE:35:GLY:O	2.36	0.54
22:RA:699:A:H2'	22:RA:700:G:O4'	2.08	0.54
25:RE:111:ARG:HG3	25:RE:160:TYR:CD1	2.43	0.54
32:RP:9:ASN:HB2	32:RP:10:PRO:HD2	1.90	0.54
32:RP:38:GLN:HG2	32:RP:45:LEU:CD1	2.36	0.54
1:XA:347:G:H1'	1:XA:348:G:H5"	1.90	0.54
1:XA:1190:G:OP2	3:XC:5:ILE:HG23	2.08	0.54
3:XC:15:THR:HG23	3:XC:181:ASN:HD22	1.73	0.54
10:XJ:32:ALA:H	10:XJ:78:ASN:HD21	1.55	0.54
22:YA:1178:C:H2'	22:YA:1179:C:C6	2.43	0.54
22:YA:1270:C:O2'	22:YA:1648:C:OP2	2.17	0.54
22:YA:2028:U:H2'	22:YA:2029:G:O4'	2.08	0.54
22:YA:2807:G:H22	22:YA:2893:G:H1	1.56	0.54
42:YZ:28:MET:O	42:YZ:34:ASN:HA	2.08	0.54
1:QA:279:A:H4'	1:QA:280:C:H5"	1.90	0.54
1:QA:633:G:H5'	1:QA:634:C:OP2	2.08	0.54
22:RA:855:G:H1	22:RA:922:U:H3	1.56	0.54
22:RA:945:A:C4	22:RA:2448:A:C2	2.96	0.54
22:RA:1423:G:H2'	22:RA:1424:G:C8	2.42	0.54
22:RA:2019:A:OP2	48:R5:9:LYS:NZ	2.40	0.54
34:RR:45:ARG:HA	34:RR:95:THR:HG21	1.90	0.54
35:RS:38:GLN:OE1	35:RS:47:THR:OG1	2.18	0.54
1:XA:426:G:OP1	4:XD:38:TYR:OH	2.16	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
22:YA:1013:C:H42	22:YA:1149:G:H1	1.54	0.54
22:YA:1149:G:H2'	22:YA:1150:C:H6	1.73	0.54
22:YA:1341:U:O4'	40:YX:57:LEU:HD23	2.08	0.54
22:YA:2389:G:H5"	22:YA:2390:U:O4'	2.08	0.54
22:YA:2396:G:C2	22:YA:2397:G:C8	2.96	0.54
27:YG:15:VAL:HG21	27:YG:176:LEU:HD23	1.90	0.54
29:YI:109:ILE:HB	29:YI:130:TYR:CZ	2.43	0.54
29:YI:110:ASP:HB3	29:YI:111:PRO:C	2.32	0.54
30:YN:6:PRO:HG3	30:YN:41:ASP:HB2	1.89	0.54
1:QA:689:C:OP2	11:QK:55:LYS:NZ	2.41	0.54
1:QA:1371:G:OP1	9:QI:12:GLU:HB2	2.08	0.54
2:QB:204:ASN:HD22	2:QB:206:ASP:H	1.56	0.54
4:QD:194:LEU:HD12	4:QD:195:ALA:H	1.73	0.54
19:QS:10:PHE:HE2	19:QS:16:LEU:HD22	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:245:G:O2'	22:RA:384:U:O2	2.14	0.54
22:RA:559:G:H2'	22:RA:560:C:O4'	2.07	0.54
22:RA:679:C:H2'	22:RA:680:G:C8	2.43	0.54
22:RA:902:C:H2'	22:RA:903:C:C6	2.42	0.54
22:RA:1203:G:H5"	22:RA:1204:A:H5"	1.90	0.54
22:RA:1924:C:H4'	53:QV:13:C:O2'	2.07	0.54
22:RA:2224:G:OP1	24:RD:268:ARG:NH1	2.39	0.54
22:RA:2509:G:N2	22:RA:2579:C:N3	2.47	0.54
22:RA:2549:G:N2	22:RA:2560:C:C2	2.76	0.54
22:RA:2712:U:HO2'	22:RA:2712(A):A:P	2.27	0.54
24:RD:228:PRO:HD3	24:RD:234:GLY:C	2.33	0.54
42:RZ:62:PRO:C	42:RZ:64:GLY:H	2.16	0.54
49:R6:15:GLU:CD	49:R6:41:PRO:HB3	2.32	0.54
2:XB:162:ILE:O	2:XB:185:ILE:HG12	2.07	0.54
10:XJ:9:ARG:HB2	10:XJ:95:GLU:HB3	1.88	0.54
22:YA:340:A:H2'	22:YA:341:G:O4'	2.08	0.54
22:YA:2245:U:C5'	22:YA:2246:G:H5'	2.37	0.54
22:YA:2262:U:OP2	43:Y0:16:SER:HB2	2.08	0.54
22:YA:2315:G:OP1	27:YG:36:LYS:NZ	2.41	0.54
23:YB:40:U:H3	23:YB:43:C:H5"	1.73	0.54
24:YD:70:TRP:CH2	24:YD:150:LYS:HA	2.43	0.54
24:YD:170:GLY:C	24:YD:172:TYR:H	2.16	0.54
25:YE:111:ARG:HD2	25:YE:160:TYR:CD1	2.42	0.54
32:YP:62:LEU:HD12	51:Y8:30:ARG:HH11	1.72	0.54
1:QA:1336:C:O2	1:QA:1336:C:H2'	2.08	0.53
2:QB:235:SER:O	2:QB:237:ALA:N	2.41	0.53
22:RA:478:A:N1	22:RA:500:G:H4'	2.23	0.53
22:RA:2102:U:H2'	22:RA:2103:C:C6	2.43	0.53
22:RA:2267:A:H5"	22:RA:2268:A:H5'	1.89	0.53
22:RA:2309:A:C6	22:RA:2310:A:C6	2.95	0.53
32:RP:14:LYS:O	32:RP:16:ARG:HG2	2.08	0.53
1:XA:591:U:H2'	1:XA:592:G:C8	2.43	0.53
1:XA:1225:A:N3	1:XA:1225:A:H2'	2.22	0.53
2:XB:82:ARG:HA	2:XB:92:TYR:CE2	2.43	0.53
22:YA:304:G:H2'	22:YA:305:U:C6	2.43	0.53
22:YA:2853:C:H2'	22:YA:2854:G:H8	1.73	0.53
29:YI:131:LYS:HB3	29:YI:132:PRO:HA	1.90	0.53
32:YP:88:LEU:HD12	32:YP:95:VAL:HG11	1.90	0.53
1:QA:191(D):U:H2'	1:QA:191(E):G:C8	2.44	0.53
1:QA:1072:G:H2'	1:QA:1073:U:C6	2.43	0.53
1:QA:1410:G:H1	1:QA:1490:C:N4	2.00	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:84:ILE:HD11	3:QC:88:ARG:HH21	1.73	0.53
15:QO:6:GLU:OE2	15:QO:6:GLU:N	2.35	0.53
22:RA:271:G:H2'	22:RA:272:G:H8	1.73	0.53
22:RA:321:G:H5"	26:RF:136:THR:HG23	1.90	0.53
22:RA:686:G:H21	22:RA:788:A:H61	1.56	0.53
22:RA:2050:C:N4	22:RA:2051:A:N1	2.55	0.53
22:RA:2277:G:H5"	33:RQ:85:LYS:HB2	1.90	0.53
22:RA:2772:C:H2'	22:RA:2773:C:C6	2.43	0.53
24:RD:44:ASN:HD22	24:RD:44:ASN:N	2.06	0.53
32:RP:61:ARG:HD2	51:R8:13:ARG:HD2	1.90	0.53
36:RT:33:LYS:HD2	36:RT:82:LEU:HA	1.89	0.53
47:R4:56:VAL:HA	47:R4:60:GLN:HB2	1.89	0.53
1:XA:1075:C:OP1	2:XB:179:LYS:HE2	2.09	0.53
3:XC:14:ILE:O	3:XC:16:ARG:N	2.35	0.53
22:YA:190:A:N3	22:YA:679:C:O2'	2.40	0.53
22:YA:270(E):G:H2'	22:YA:270(F):U:O4'	2.08	0.53
22:YA:1265:A:H3'	48:Y5:19:ARG:NH1	2.23	0.53
24:YD:43:ARG:CB	24:YD:54:ARG:HB2	2.38	0.53
24:YD:244:ARG:HB2	24:YD:245:PRO:HD2	1.90	0.53
25:YE:78:LEU:HG	25:YE:79:ARG:NE	2.23	0.53
30:YN:30:ILE:HG23	30:YN:52:VAL:HG11	1.91	0.53
33:YQ:137:TYR:CE2	42:YZ:83:PRO:HG3	2.44	0.53
42:YZ:52:SER:C	42:YZ:54:HIS:H	2.16	0.53
1:QA:593:G:H1	1:QA:646:U:H3	1.55	0.53
1:QA:598:U:H4'	8:QH:94:TYR:CD2	2.43	0.53
12:QL:55:VAL:HG12	12:QL:69:TYR:HA	1.90	0.53
22:RA:49:A:N7	22:RA:120:U:H5	2.06	0.53
22:RA:1053:C:N3	22:RA:1106:G:N2	2.42	0.53
22:RA:1204:A:O2'	22:RA:1205:U:O5'	2.26	0.53
22:RA:1289:C:H2'	22:RA:1290:C:C6	2.44	0.53
22:RA:1930:G:O2'	22:RA:1931:U:P	2.66	0.53
22:RA:2250:G:C8	22:RA:2496:C:H5"	2.44	0.53
22:RA:2563:U:O2	22:RA:2565:A:H8	1.90	0.53
22:RA:2687:U:C4	22:RA:2688:U:C5	2.96	0.53
29:RI:7:GLU:O	29:RI:9:LEU:HD13	2.08	0.53
29:RI:144:VAL:HG13	29:RI:145:VAL:HG23	1.91	0.53
1:XA:327:A:C4	1:XA:329:A:C8	2.97	0.53
1:XA:1145:C:H5'	1:XA:1146:A:OP1	2.08	0.53
2:XB:60:ASP:O	2:XB:64:ARG:HG2	2.09	0.53
10:XJ:4:ILE:HG12	10:XJ:100:THR:HG22	1.89	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)
22:YA:528:A:C8	22:YA:528:A:H3'	2.42	0.53
22:YA:1076:C:H2'	22:YA:1077:A:H5"	1.90	0.53
22:YA:1454:U:H5'	34:YR:63:ARG:NE	2.23	0.53
22:YA:1509:C:H2'	22:YA:1511:A:C8	2.43	0.53
22:YA:2636:U:OP1	25:YE:79:ARG:HA	2.09	0.53
38:YV:66:ARG:NH1	38:YV:88:ARG:HD3	2.23	0.53
45:Y2:15:LYS:H	45:Y2:67:LYS:HE2	1.73	0.53
1:QA:6:G:N2	5:QE:98:THR:OG1	2.41	0.53
1:QA:147:G:H2'	1:QA:148:G:C8	2.44	0.53
1:QA:299:G:H2'	1:QA:300:A:C8	2.44	0.53
1:QA:606:G:H22	1:QA:631:G:H5'	1.73	0.53
1:QA:1321:C:N4	1:QA:1322:C:N3	2.57	0.53
1:QA:1350:A:OP2	9:QI:118:LYS:NZ	2.41	0.53
8:QH:51:VAL:HG11	8:QH:60:ARG:HG3	1.90	0.53
22:RA:554:U:H2'	22:RA:556:G:C8	2.44	0.53
22:RA:1224:G:N2	22:RA:1227:A:OP2	2.42	0.53
22:RA:1264:G:H3'	22:RA:1265:A:H5"	1.89	0.53
22:RA:2562:U:O2'	31:RO:23:ARG:NH1	2.35	0.53
23:RB:105:G:H2'	23:RB:106:G:H8	1.73	0.53
31:RO:2:ILE:HD13	31:RO:8:LEU:HD11	1.90	0.53
33:RQ:32:TYR:CE1	33:RQ:133:ARG:HG3	2.43	0.53
38:RV:99:ILE:O	38:RV:101:GLY:N	2.42	0.53
1:XA:1238:A:H62	1:XA:1301:U:H3	1.54	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
22:YA:528:A:C2	22:YA:2042:A:H2'	2.44	0.53
22:YA:2789:C:H1'	22:YA:2892:A:H2	1.73	0.53
1:QA:636:U:H2'	1:QA:637:G:C8	2.44	0.53
1:QA:920:U:H2'	1:QA:921:U:C6	2.43	0.53
3:QC:35:GLU:HG2	3:QC:59:ARG:NH2	2.24	0.53
13:QM:62:ASN:OD1	47:R4:49:PHE:HD2	1.92	0.53
22:RA:247:G:H4'	22:RA:386:G:C5	2.44	0.53
22:RA:270(F):U:H2'	22:RA:270(G):C:C6	2.44	0.53
22:RA:380:U:H2'	22:RA:381:G:C8	2.43	0.53
22:RA:511:U:O4	22:RA:512:G:N1	2.42	0.53
22:RA:674:G:C1'	26:RF:74:ARG:HD3	2.35	0.53
22:RA:1620:G:O2'	22:RA:1621:U:H5'	2.09	0.53
22:RA:2332:U:H4'	22:RA:2336:A:N6	2.24	0.53
26:RF:135:LYS:HB3	26:RF:138:GLU:HG3	1.90	0.53
28:RH:149:ARG:HE	28:RH:154:PRO:HG2	1.73	0.53
45:R2:10:LEU:O	45:R2:13:ALA:N	2.40	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:514:C:H2'	1:XA:515:G:C8	2.44	0.53
1:XA:1347:G:OP2	9:XI:107:ARG:HG2	2.09	0.53
22:YA:747:U:OP2	48:Y5:3:LYS:HD2	2.08	0.53
22:YA:1165:U:H2'	22:YA:1166:C:C6	2.43	0.53
22:YA:2033:A:O2'	22:YA:2035:G:OP2	2.26	0.53
23:YB:77:U:P	42:YZ:19:ARG:HH22	2.31	0.53
24:YD:30:GLU:HG3	24:YD:63:ARG:HH21	1.73	0.53
36:YT:51:ARG:CG	36:YT:98:LYS:HG3	2.38	0.53
36:YT:112:ARG:O	36:YT:112:ARG:NE	2.39	0.53
42:YZ:102:LEU:HG	42:YZ:123:ASP:HA	1.89	0.53
52:Y9:27:CYS:SG	52:Y9:28:GLU:N	2.82	0.53
1:QA:892:A:H2'	1:QA:893:C:C6	2.43	0.53
1:QA:1004:A:H1'	1:QA:1036:G:H22	1.74	0.53
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.44	0.53
10:QJ:22:LYS:HZ1	10:QJ:23:ILE:HG12	1.74	0.53
19:QS:15:LEU:HD12	19:QS:44:MET:HE1	1.90	0.53
22:RA:1405:U:H2'	22:RA:1406:U:C6	2.44	0.53
22:RA:2010:G:H5"	39:RW:42:ARG:HB2	1.91	0.53
26:RF:32:LEU:O	26:RF:36:VAL:HG23	2.09	0.53
29:RI:114:LEU:HD12	29:RI:129:THR:O	2.08	0.53
1:XA:107:G:C2	1:XA:108:G:H1'	2.44	0.53
1:XA:933:G:N2	1:XA:1384:C:O2	2.39	0.53
8:XH:121:ASP:HB2	8:XH:125:ARG:NH2	2.24	0.53
17:XQ:4:LYS:HE3	17:XQ:6:LEU:HD21	1.90	0.53
22:YA:1162:G:H2'	22:YA:1163:G:H8	1.72	0.53
22:YA:1953:A:N1	22:YA:2549:G:O2'	2.38	0.53
23:YB:16:G:C6	23:YB:69:G:C2	2.97	0.53
23:YB:24:G:O6	23:YB:56:G:O2'	2.27	0.53
33:YQ:12:GLN:HG2	33:YQ:73:PRO:HD2	1.90	0.53
36:YT:105:LEU:O	36:YT:107:ASP:N	2.42	0.53
42:YZ:52:SER:O	42:YZ:52:SER:OG	2.24	0.53
1:QA:148:G:H2'	1:QA:149:A:H8	1.72	0.53
1:QA:382:A:H2'	1:QA:383:A:H8	1.73	0.53
1:QA:665:A:H2'	1:QA:725:G:N2	2.22	0.53
1:QA:872:A:O2'	1:QA:873:A:H5"	2.08	0.53
1:QA:1346:A:H5"	9:QI:120:ARG:NH1	2.20	0.53
6:QF:10:LEU:HD13	6:QF:61:LEU:HD13	1.90	0.53
9:QI:71:SER:HA	9:QI:74:ILE:HD12	1.90	0.53
13:QM:7:VAL:HB	27:RG:115:ARG:NH1	2.24	0.53
22:RA:676:A:H8	22:RA:2069:G:N2	2.02	0.53
22:RA:1035:U:H2'	22:RA:1036:G:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1058:G:H1	22:RA:1079:C:N4	2.06	0.53
22:RA:2277:G:OP2	43:R0:10:THR:HG21	2.09	0.53
22:RA:2823:A:OP1	25:RE:113:PHE:HB2	2.08	0.53
29:RI:132:PRO:HB2	29:RI:133:HIS:CE1	2.43	0.53
35:RS:106:ARG:HA	35:RS:110:LEU:HD21	1.91	0.53
41:RY:98:VAL:HG13	41:RY:99:CYS:SG	2.48	0.53
1:XA:865:A:H2	1:XA:918:A:H4'	1.72	0.53
19:XS:5:LEU:HD11	47:Y4:67:TYR:N	2.24	0.53
22:YA:273(C):C:N4	22:YA:363(C):G:H1	2.04	0.53
22:YA:729:G:C6	24:YD:208:LYS:HB2	2.43	0.53
22:YA:1933:G:H2'	22:YA:1934:C:O4'	2.09	0.53
22:YA:2022:U:O2'	22:YA:2617:C:H5'	2.09	0.53
23:YB:37:C:O2	35:YS:95:HIS:NE2	2.42	0.53
30:YN:96:GLU:HG2	30:YN:97:ARG:N	2.23	0.53
32:YP:92:GLU:HA	32:YP:123:LEU:HD23	1.89	0.53
36:YT:16:ARG:HE	36:YT:19:LEU:HD21	1.73	0.53
43:Y0:6:GLY:O	53:XV:1:C:O2'	2.27	0.53
1:QA:922:G:H2'	1:QA:923:A:C8	2.44	0.53
1:QA:1342:C:H4'	9:QI:125:TYR:HB3	1.90	0.53
1:QA:1432:G:OP1	36:RT:107:ASP:HB2	2.09	0.53
19:QS:44:MET:O	19:QS:46:GLY:N	2.40	0.53
22:RA:295:G:H1	22:RA:343:C:H42	1.56	0.53
22:RA:445:C:H2'	22:RA:446:G:O4'	2.09	0.53
22:RA:609(A):G:H2'	22:RA:610:C:C6	2.44	0.53
22:RA:864:G:H1'	22:RA:914:C:H42	1.74	0.53
22:RA:960:A:H2'	22:RA:962:G:H5'	1.91	0.53
22:RA:1871:A:H2'	22:RA:1872:A:C8	2.44	0.53
22:RA:2128:C:H1'	22:RA:2173:A:N3	2.23	0.53
26:RF:157:VAL:HB	26:RF:194:MET:HB3	1.91	0.53
32:RP:113:LYS:HG2	32:RP:115:LEU:HD23	1.90	0.53
39:RW:110:LYS:HG3	39:RW:111:HIS:ND1	2.23	0.53
42:RZ:111:VAL:O	42:RZ:113:ALA:N	2.42	0.53
45:R2:65:ASN:HB3	45:R2:69:ARG:NH2	2.24	0.53
1:XA:68:G:H5'	1:XA:171:A:H1'	1.90	0.53
1:XA:947:G:H2'	1:XA:948:C:C6	2.44	0.53
1:XA:1312:G:H3'	47:Y4:67:TYR:OH	2.09	0.53
19:XS:31:ILE:HG23	19:XS:49:ILE:HA	1.91	0.53
20:XT:95:ALA:O	20:XT:97:ALA:N	2.42	0.53
22:YA:1413:G:H2'	22:YA:1414:G:O4'	2.09	0.53
22:YA:1676:A:H2'	22:YA:1677:A:O4'	2.08	0.53
22:YA:2734:A:H5'	22:YA:2735:G:OP2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YD:206:LEU:O	24:YD:211:ARG:HD3	2.09	0.53
37:YU:102:GLU:OE1	38:YV:13:ARG:NH2	2.42	0.53
1:QA:7:G:H2'	5:QE:119:LEU:HD22	1.90	0.53
1:QA:447:G:O6	1:QA:485:G:H2'	2.09	0.53
1:QA:1077:G:N2	1:QA:1080:A:OP2	2.38	0.53
1:QA:1194:U:H5"	1:QA:1195:C:OP2	2.09	0.53
4:QD:78:LEU:HD22	4:QD:96:LEU:HB3	1.89	0.53
22:RA:26:G:H1'	22:RA:515:A:H61	1.73	0.53
22:RA:303:U:H2'	22:RA:304:G:C8	2.43	0.53
22:RA:415:A:H2'	22:RA:416:C:O4'	2.08	0.53
22:RA:709:U:H3	22:RA:722:A:H61	1.55	0.53
22:RA:768:G:H2'	22:RA:769:G:H8	1.74	0.53
25:RE:203:LYS:HE3	25:RE:204:ALA:HB2	1.91	0.53
29:RI:101:LEU:HD23	29:RI:105:HIS:HB2	1.90	0.53
33:RQ:97:VAL:HG11	33:RQ:103:MET:HE3	1.90	0.53
44:R1:80:LEU:HD23	44:R1:80:LEU:H	1.74	0.53
1:XA:381:C:H2'	1:XA:382:A:O4'	2.09	0.53
1:XA:1321:C:H5"	1:XA:1322:C:H5"	1.91	0.53
18:XR:25:THR:HB	18:XR:26:LEU:HD23	1.91	0.53
22:YA:528:A:H2	22:YA:2043:C:C5'	2.22	0.53
22:YA:1510:A:H2'	22:YA:1510:A:N3	2.24	0.53
22:YA:2572:A:C8	25:YE:144:ARG:NE	2.75	0.53
27:YG:179:PRO:HG3	47:Y4:38:LYS:NZ	2.24	0.53
28:YH:149:ARG:NH1	28:YH:167:GLU:OE1	2.42	0.53
29:YI:82:ARG:O	29:YI:89:TYR:HD1	1.92	0.53
49:Y6:26:ASN:ND2	49:Y6:35:GLU:OE2	2.42	0.53
1:QA:918:A:H2'	1:QA:919:A:O4'	2.09	0.53
1:QA:939:G:H5"	7:QG:102:ARG:NH2	2.24	0.53
10:QJ:51:ARG:NH2	14:QN:58:LYS:HZ1	2.07	0.53
22:RA:137(A):G:N3	40:RX:41:ASN:ND2	2.54	0.53
22:RA:1496:A:H8	22:RA:1577:C:O2'	1.92	0.53
22:RA:1652:A:N6	34:RR:11:ASN:OD1	2.38	0.53
22:RA:2232:U:P	44:R1:40:ARG:HH12	2.32	0.53
22:RA:2888:C:H2'	22:RA:2889:C:C6	2.44	0.53
23:RB:13:A:O2'	23:RB:14:U:H3'	2.08	0.53
28:RH:10:PRO:HD2	28:RH:50:VAL:HG13	1.89	0.53
43:R0:70:GLN:OE1	43:R0:80:HIS:NE2	2.40	0.53
48:R5:40:LYS:NZ	48:R5:46:CYS:HB3	2.24	0.53
1:XA:130:A:N3	1:XA:263:A:O2'	2.37	0.53
1:XA:243:A:H4'	1:XA:244:U:H3'	1.91	0.53
1:XA:255:G:H4'	17:XQ:17:LYS:HD3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:946:A:H2'	1:XA:947:G:C8	2.43	0.53
1:XA:1191:A:H5"	3:XC:4:LYS:HZ2	1.73	0.53
2:XB:44:LEU:H	2:XB:44:LEU:HD12	1.74	0.53
22:YA:270(T):G:OP1	44:Y1:97:LEU:HD13	2.09	0.53
22:YA:1093:G:OP1	28:YH:170:ARG:NH1	2.42	0.53
22:YA:1659:U:O2'	22:YA:2712(A):A:N1	2.41	0.53
22:YA:2441:C:OP2	22:YA:2586:C:O2'	2.24	0.53
30:YN:13:TRP:O	30:YN:135:PRO:HD2	2.08	0.53
41:YY:35:TYR:CE1	41:YY:69:ALA:HB3	2.44	0.53
49:Y6:40:CYS:HB2	49:Y6:45:LYS:HD3	1.90	0.53
1:QA:36:C:O2'	12:QL:117:ARG:NH2	2.42	0.52
1:QA:37:U:O2'	1:QA:500:G:H4'	2.09	0.52
1:QA:476:G:H2'	1:QA:477:G:C8	2.44	0.52
1:QA:1275:A:H2'	1:QA:1276:G:O4'	2.10	0.52
22:RA:1532:C:O2	22:RA:1540:G:N2	2.42	0.52
22:RA:1858:G:H1'	22:RA:1884:A:N6	2.24	0.52
22:RA:2844:G:H3'	22:RA:2845:G:H8	1.74	0.52
25:RE:1:MET:N	25:RE:83:ASP:O	2.41	0.52
45:R2:4:SER:OG	45:R2:5:GLU:OE2	2.16	0.52
1:XA:1003:G:H21	1:XA:1005:A:H5'	1.74	0.52
1:XA:1399:C:C2	1:XA:1502:A:N6	2.77	0.52
7:XG:15:ASP:HB3	7:XG:19:GLY:H	1.74	0.52
12:XL:7:ILE:HD13	12:XL:10:LEU:HD12	1.90	0.52
13:XM:68:GLY:HA3	27:YG:116:ASP:CG	2.34	0.52
22:YA:1055:G:N2	22:YA:1104:C:N3	2.47	0.52
29:YI:124:GLY:H	29:YI:142:VAL:HG23	1.74	0.52
33:YQ:60:ARG:NH1	42:YZ:113:ALA:HB3	2.20	0.52
35:YS:10:ARG:O	35:YS:12:PHE:N	2.42	0.52
1:QA:1244:C:N3	1:QA:1293:G:N2	2.41	0.52
1:QA:1305:G:N2	1:QA:1331:G:H2'	2.24	0.52
14:QN:24:CYS:HB3	14:QN:29:ARG:N	2.23	0.52
22:RA:1007:C:H5"	30:RN:35:ARG:HH11	1.75	0.52
22:RA:1181:C:H2'	22:RA:1182:A:H8	1.73	0.52
24:RD:206:LEU:O	24:RD:211:ARG:NH1	2.38	0.52
1:XA:261:U:OP2	20:XT:79:ARG:NH2	2.42	0.52
1:XA:1161:C:O2'	1:XA:1162:C:H5'	2.09	0.52
1:XA:1439:C:H42	1:XA:1462:G:H1	1.57	0.52
20:XT:47:GLY:O	20:XT:49:ALA:N	2.41	0.52
27:YG:96:ARG:O	27:YG:98:ARG:N	2.42	0.52
29:YI:5:LEU:HD21	29:YI:12:LEU:HB3	1.91	0.52
30:YN:110:GLY:O	30:YN:114:ARG:HG3	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YZ:10:ARG:NH2	42:YZ:26:GLY:H	2.07	0.52
42:YZ:144:LEU:HD11	42:YZ:149:SER:HA	1.90	0.52
1:QA:410:G:H3'	4:QD:25:ARG:HH21	1.73	0.52
1:QA:940:C:H42	1:QA:1343:G:H1	1.56	0.52
4:QD:98:GLU:OE2	4:QD:107:ARG:NE	2.43	0.52
22:RA:943:U:OP2	32:RP:36:LYS:HG2	2.08	0.52
29:RI:79:ILE:HD13	29:RI:80:PRO:HD2	1.91	0.52
38:RV:60:GLU:HB2	38:RV:97:LYS:HE3	1.92	0.52
1:XA:1067:A:N1	1:XA:1108:G:O2'	2.36	0.52
1:XA:1277:C:O2'	1:XA:1279:A:H1'	2.09	0.52
3:XC:40:ARG:O	3:XC:44:GLU:HB2	2.09	0.52
22:YA:669:G:H2'	22:YA:669:G:N3	2.23	0.52
22:YA:1114:G:H2'	22:YA:1115:G:H8	1.72	0.52
22:YA:2261:C:OP2	43:Y0:17:GLN:N	2.40	0.52
22:YA:2688:U:H1'	22:YA:2721:A:N6	2.25	0.52
24:YD:85:ASP:OD2	24:YD:88:ARG:HD2	2.08	0.52
24:YD:132:PRO:HD3	24:YD:190:TYR:CZ	2.44	0.52
29:YI:5:LEU:HD12	29:YI:5:LEU:N	2.24	0.52
33:YQ:20:ALA:HB3	42:YZ:79:ARG:NH2	2.23	0.52
35:YS:6:ALA:O	35:YS:10:ARG:HD3	2.09	0.52
1:QA:42:G:H8	1:QA:42:G:O5'	1.93	0.52
1:QA:625:G:H2'	1:QA:626:U:H6	1.75	0.52
2:QB:134:GLU:HA	2:QB:137:ARG:HB3	1.92	0.52
13:QM:66:LEU:HA	13:QM:70:LEU:HB2	1.92	0.52
22:RA:548:A:C5	22:RA:549:G:H1'	2.43	0.52
22:RA:1297:C:H2'	22:RA:1298:C:H6	1.74	0.52
22:RA:2106:G:H1	22:RA:2183:C:N4	2.01	0.52
26:RF:134:GLY:HA3	26:RF:165:ARG:NH1	2.25	0.52
28:RH:46:GLU:OE2	28:RH:51:ARG:NH1	2.42	0.52
1:XA:1245:A:OP2	21:XU:9:ARG:NH2	2.42	0.52
22:YA:297:C:H2'	22:YA:298:G:O4'	2.09	0.52
22:YA:347:A:H2'	22:YA:348:G:C8	2.44	0.52
22:YA:1287:A:N7	34:YR:107:ASP:HB2	2.25	0.52
22:YA:1614:A:N1	39:YW:91:GLY:HA2	2.25	0.52
22:YA:2845:G:H5"	36:YT:54:ARG:O	2.08	0.52
1:QA:617:G:H1	1:QA:623:C:H42	1.57	0.52
1:QA:1464:G:OP1	36:RT:108:ARG:NH2	2.43	0.52
3:QC:37:GLN:NE2	14:QN:52:GLN:OE1	2.32	0.52
22:RA:1247:A:OP1	26:RF:95:ARG:NH2	2.42	0.52
22:RA:1432:C:H2'	22:RA:1433:U:O4'	2.10	0.52
22:RA:1790:C:H5"	22:RA:1791:A:OP1	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2105:C:N4	22:RA:2106:G:O6	2.42	0.52
22:RA:2247:A:H2'	22:RA:2248:C:C6	2.44	0.52
22:RA:2461:C:H2'	22:RA:2462:U:H6	1.73	0.52
27:RG:82:LEU:HA	27:RG:86:MET:SD	2.48	0.52
28:RH:86:GLU:HG3	28:RH:165:ALA:N	2.25	0.52
29:RI:29:TYR:CD2	29:RI:30:LEU:HD23	2.44	0.52
34:RR:59:ASP:OD1	34:RR:61:HIS:HB3	2.08	0.52
1:XA:757:U:OP1	1:XA:822:C:O2'	2.27	0.52
1:XA:987:G:H1	1:XA:1218:C:H42	1.57	0.52
1:XA:1203:C:H2'	1:XA:1204:A:H8	1.75	0.52
16:XP:8:ARG:O	16:XP:9:PHE:HD2	1.93	0.52
22:YA:213:A:H2'	22:YA:214:G:O4'	2.09	0.52
22:YA:325:G:H2'	22:YA:326:G:C8	2.43	0.52
22:YA:528:A:OP2	30:YN:114:ARG:NH1	2.42	0.52
22:YA:2193:G:H2'	22:YA:2194:G:C8	2.44	0.52
1:QA:690:G:H22	11:QK:55:LYS:NZ	2.08	0.52
20:QT:64:ASP:CG	20:QT:81:LYS:HZ2	2.17	0.52
22:RA:78:A:H2'	22:RA:79:G:H8	1.73	0.52
22:RA:537:C:H5'	22:RA:539:G:OP2	2.10	0.52
24:RD:108:PRO:HB3	24:RD:143:HIS:HE1	1.73	0.52
24:RD:133:LEU:HB3	24:RD:173:VAL:HG11	1.91	0.52
26:RF:150:GLY:HA2	26:RF:172:TRP:CE3	2.44	0.52
29:RI:124:GLY:O	29:RI:142:VAL:HG23	2.09	0.52
33:RQ:136:ALA:C	33:RQ:138:ASP:H	2.18	0.52
42:RZ:111:VAL:HG13	42:RZ:112:ARG:H	1.74	0.52
1:XA:684:A:C6	1:XA:685:G:C6	2.98	0.52
1:XA:1284:C:H3'	1:XA:1285:A:H8	1.75	0.52
1:XA:1320:C:H5'	19:XS:70:LYS:HG3	1.92	0.52
3:XC:189:ALA:HB3	3:XC:196:LEU:HB2	1.91	0.52
14:XN:43:CYS:HA	14:XN:46:GLU:HG3	1.92	0.52
22:YA:11:G:H2'	22:YA:12:U:H5'	1.90	0.52
22:YA:519:U:H2'	22:YA:520:G:H8	1.75	0.52
22:YA:593:G:C4'	51:Y8:4:MET:HE1	2.40	0.52
22:YA:1658:C:H2'	22:YA:1659:U:C6	2.45	0.52
27:YG:88:ILE:O	27:YG:88:ILE:HD13	2.09	0.52
49:Y6:13:CYS:O	49:Y6:21:TYR:HA	2.09	0.52
53:XV:74:C:C2'	53:XV:75:C:H5'	2.40	0.52
1:QA:7:G:H5'	1:QA:298:A:O4'	2.10	0.52
1:QA:602:A:H2'	1:QA:603:U:C6	2.45	0.52
22:RA:180:G:P	50:R7:32:LYS:HE2	2.50	0.52
22:RA:380:U:H2'	22:RA:381:G:H8	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1042:G:H2'	22:RA:1043:C:C6	2.45	0.52
22:RA:1428:C:O2'	22:RA:1569:A:OP2	2.25	0.52
22:RA:1810:A:H2'	22:RA:1811:G:O4'	2.10	0.52
22:RA:2119:A:N6	22:RA:2170:A:N7	2.56	0.52
23:RB:13:A:N1	23:RB:69:G:O2'	2.40	0.52
29:RI:29:TYR:HD2	29:RI:30:LEU:HD23	1.74	0.52
41:RY:87:LYS:HA	41:RY:92:ASN:HB3	1.91	0.52
1:XA:464:G:C6	1:XA:466:C:H5'	2.45	0.52
1:XA:1229:A:O2'	53:XV:30:G:OP1	2.25	0.52
22:YA:1820:U:H4'	22:YA:1821:A:OP2	2.10	0.52
22:YA:2291:U:H2'	22:YA:2292:C:C6	2.44	0.52
22:YA:2527:C:H5"	52:Y9:30:PRO:HB2	1.90	0.52
26:YF:63:LYS:HE2	26:YF:67:GLN:HB2	1.91	0.52
32:YP:20:GLY:HA2	32:YP:27:HIS:O	2.10	0.52
51:Y8:11:LYS:NZ	51:Y8:63:PRO:HG3	2.24	0.52
1:QA:137:C:O4'	16:QP:63:GLY:HA2	2.09	0.52
1:QA:192:U:H2'	1:QA:193:C:C6	2.45	0.52
1:QA:301:G:H2'	1:QA:302:G:C8	2.45	0.52
1:QA:382:A:H2'	1:QA:383:A:C8	2.44	0.52
1:QA:1128:C:HO2'	1:QA:1130:A:H8	1.57	0.52
1:QA:1150:U:O4	1:QA:1151:A:N6	2.43	0.52
22:RA:551:G:H5'	22:RA:1220:A:H1'	1.91	0.52
22:RA:608:A:OP1	26:RF:100:THR:OG1	2.28	0.52
22:RA:1592:C:H2'	22:RA:1593:G:H8	1.74	0.52
22:RA:2493:U:H2'	22:RA:2494:G:O4'	2.10	0.52
22:RA:2774:C:H2'	22:RA:2775:A:O4'	2.10	0.52
23:RB:44:G:H5"	23:RB:45:A:OP1	2.09	0.52
24:RD:206:LEU:HD22	24:RD:211:ARG:HG2	1.92	0.52
29:RI:12:LEU:HG	29:RI:19:VAL:HG21	1.90	0.52
38:RV:34:GLU:O	38:RV:36:PRO:HD3	2.10	0.52
41:RY:84:ARG:O	41:RY:95:LYS:HD3	2.09	0.52
1:XA:42:G:H1	1:XA:400:C:H42	1.58	0.52
1:XA:113:G:H1	1:XA:314:C:N4	2.07	0.52
1:XA:476:G:H2'	1:XA:477:G:C8	2.45	0.52
1:XA:1069:C:O2'	1:XA:1192:C:O2	2.15	0.52
7:XG:78:ARG:HG3	7:XG:79:ARG:N	2.25	0.52
10:XJ:78:ASN:O	10:XJ:81:THR:OG1	2.25	0.52
20:XT:53:LEU:O	20:XT:57:ARG:NH1	2.42	0.52
22:YA:278:A:H2'	22:YA:279:C:C6	2.45	0.52
22:YA:649:G:C6	22:YA:650:C:C4	2.98	0.52
22:YA:759:G:H2'	22:YA:760:G:H8	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2825:C:H6	22:YA:2825:C:O5'	1.92	0.52
26:YF:24:LEU:HD23	26:YF:115:ALA:HA	1.91	0.52
1:QA:376:G:H5"	16:QP:5:ARG:HB2	1.92	0.52
1:QA:411:A:H62	1:QA:413:G:N2	2.08	0.52
1:QA:1126:U:H1'	1:QA:1280:A:N7	2.25	0.52
4:QD:12:CYS:HA	4:QD:19:LEU:HD23	1.92	0.52
5:QE:145:LYS:HA	8:QH:107:LEU:HD21	1.91	0.52
11:QK:96:ARG:HA	11:QK:99:GLN:HE21	1.75	0.52
22:RA:883:G:H22	22:RA:892:G:H22	1.57	0.52
22:RA:1178:C:H4'	22:RA:1179:C:OP1	2.10	0.52
22:RA:2183:C:H2'	22:RA:2184:G:C8	2.45	0.52
22:RA:2867:G:O2'	22:RA:2868:A:H8	1.93	0.52
39:RW:60:ASN:HD22	39:RW:60:ASN:H	1.56	0.52
1:XA:643:C:H2'	1:XA:644:G:H8	1.73	0.52
1:XA:877:C:O2'	8:XH:3:THR:OG1	2.22	0.52
1:XA:1296:C:OP1	13:XM:44:ARG:NH2	2.43	0.52
2:XB:35:GLU:O	2:XB:36:ARG:HD3	2.10	0.52
4:XD:13:ARG:HD2	4:XD:38:TYR:O	2.10	0.52
12:XL:77:LEU:HD21	12:XL:107:ALA:HA	1.92	0.52
22:YA:330:A:O2'	22:YA:331:A:H8	1.92	0.52
22:YA:860:U:H5	22:YA:917:A:C2	2.28	0.52
26:YF:182:ASN:HD21	26:YF:185:ASP:CG	2.14	0.52
45:Y2:58:ALA:O	45:Y2:62:THR:HG23	2.10	0.52
46:Y3:40:THR:HB	46:Y3:43:ILE:HG12	1.92	0.52
53:XV:4:G:O2'	53:XV:5:G:O5'	2.27	0.52
1:QA:701:C:H1'	1:QA:703:G:C5	2.45	0.52
1:QA:892:A:H2'	1:QA:893:C:H6	1.75	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
22:RA:172:C:H2'	22:RA:173:G:C8	2.44	0.52
22:RA:631:A:P	51:R8:46:ARG:NH2	2.83	0.52
22:RA:903:C:H2'	22:RA:904:C:C6	2.45	0.52
22:RA:1341:U:OP2	22:RA:1394:U:O2'	2.24	0.52
22:RA:1857:G:O2'	22:RA:1885:A:N6	2.42	0.52
22:RA:2291:U:H2'	22:RA:2292:C:C6	2.45	0.52
22:RA:2482:G:O6	33:RQ:124:LYS:NZ	2.43	0.52
29:RI:38:LEU:H	29:RI:38:LEU:HD12	1.74	0.52
1:XA:359:U:H2'	1:XA:360:A:C8	2.45	0.52
1:XA:518:C:H2'	1:XA:530:G:N3	2.24	0.52
1:XA:590:C:O2'	1:XA:591:U:H5'	2.09	0.52
22:YA:270(R):G:H2'	22:YA:270(S):G:C8	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:503:A:H4'	22:YA:504:U:H5'	1.92	0.52
22:YA:540:G:H5'	22:YA:541:C:OP2	2.10	0.52
22:YA:700:G:H2'	22:YA:701:G:O4'	2.10	0.52
22:YA:863:A:H2'	22:YA:864:G:H8	1.75	0.52
22:YA:2398:U:H2'	22:YA:2399:G:C8	2.45	0.52
28:YH:88:LEU:H	28:YH:88:LEU:HD22	1.75	0.52
36:YT:88:ILE:HD12	36:YT:90:GLN:N	2.25	0.52
44:Y1:83:GLU:HG2	44:Y1:84:GLY:N	2.24	0.52
1:QA:32:A:H2'	1:QA:33:A:C8	2.45	0.51
1:QA:222:U:H2'	1:QA:223:U:C6	2.45	0.51
1:QA:659:U:N3	1:QA:660:G:N7	2.58	0.51
1:QA:1217:C:H2'	1:QA:1218:C:C6	2.45	0.51
1:QA:1305:G:H22	1:QA:1331:G:H2'	1.75	0.51
1:QA:1453:G:H2'	20:QT:39:LYS:NZ	2.24	0.51
8:QH:77:GLU:HG2	8:QH:78:GLN:H	1.74	0.51
22:RA:111:A:H4'	45:R2:69:ARG:NH2	2.24	0.51
22:RA:2057:A:H2'	22:RA:2058:A:O4'	2.10	0.51
22:RA:2287:A:O2'	22:RA:2288:A:H5"	2.09	0.51
22:RA:2404:C:O3'	32:RP:77:ARG:NH2	2.42	0.51
22:RA:2532:G:H2'	22:RA:2533:A:O4'	2.09	0.51
24:RD:12:SER:HB2	24:RD:208:LYS:HB3	1.92	0.51
26:RF:150:GLY:HA2	26:RF:172:TRP:CD2	2.45	0.51
29:RI:138:ILE:HG12	29:RI:139:GLN:O	2.10	0.51
34:RR:33:ARG:HD3	34:RR:113:LEU:HG	1.92	0.51
44:R1:2:SER:HB2	44:R1:4:VAL:HG12	1.92	0.51
1:XA:677:U:H2'	1:XA:678:U:O4'	2.11	0.51
1:XA:865:A:C2	1:XA:918:A:H4'	2.44	0.51
1:XA:1132:C:H2'	1:XA:1133:G:C8	2.41	0.51
2:XB:29:ALA:O	2:XB:32:ILE:HG22	2.10	0.51
3:XC:47:LEU:HD11	3:XC:76:VAL:HB	1.91	0.51
4:XD:108:LEU:HB3	4:XD:110:PHE:CE1	2.45	0.51
19:XS:19:VAL:HG11	19:XS:44:MET:HG2	1.91	0.51
20:XT:26:ASN:HB2	20:XT:71:THR:HG23	1.92	0.51
22:YA:892:G:N2	22:YA:893:C:C2	2.78	0.51
22:YA:1056:G:H4'	22:YA:1086:A:H8	1.75	0.51
22:YA:1062:G:H8	22:YA:1062:G:O5'	1.93	0.51
39:YW:40:ASN:O	39:YW:41:LYS:HG2	2.10	0.51
43:Y0:67:VAL:HG22	43:Y0:81:VAL:HG22	1.91	0.51
49:Y6:7:ILE:HG13	49:Y6:8:LYS:H	1.75	0.51
51:Y8:51:ALA:N	51:Y8:53:PRO:HD2	2.25	0.51
1:QA:427:U:OP1	4:QD:13:ARG:NH2	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1142:G:H3'	1:QA:1143:G:C8	2.44	0.51
1:QA:1151:A:H2'	1:QA:1152:A:H8	1.75	0.51
22:RA:1083:U:O2'	22:RA:1085:A:H5"	2.10	0.51
22:RA:1636:C:H2'	22:RA:1637:A:C8	2.45	0.51
22:RA:2059:A:H5'	26:RF:71:GLY:HA2	1.93	0.51
40:RX:59:VAL:HG21	40:RX:78:LYS:HE3	1.91	0.51
1:XA:1117:G:H5"	9:XI:104:ARG:NH1	2.25	0.51
1:XA:1347:G:H22	1:XA:1374:A:P	2.34	0.51
2:XB:170:GLU:O	2:XB:174:VAL:HG23	2.11	0.51
22:YA:235:U:H2'	22:YA:236:C:H6	1.75	0.51
22:YA:380:U:H5'	44:Y1:16:ASN:O	2.10	0.51
22:YA:1430:C:H2'	22:YA:1431:U:C6	2.46	0.51
22:YA:1446:C:N4	22:YA:1465:G:H1	2.06	0.51
32:YP:96:THR:HG22	32:YP:126:VAL:HB	1.92	0.51
34:YR:83:ILE:HG22	34:YR:87:TYR:HE2	1.76	0.51
37:YU:107:ALA:O	37:YU:110:VAL:HB	2.10	0.51
45:Y2:24:LEU:HD13	45:Y2:60:LEU:HD11	1.92	0.51
1:QA:965:A:C2	1:QA:969:A:C2	2.99	0.51
1:QA:984:C:H2'	1:QA:985:C:H6	1.75	0.51
1:QA:1143:G:H2'	1:QA:1144:G:C8	2.45	0.51
1:QA:1352:C:OP1	21:QU:3:LYS:NZ	2.39	0.51
22:RA:1101:U:H2'	22:RA:1102:C:C6	2.45	0.51
23:RB:52:A:N6	35:RS:33:LYS:HG3	2.25	0.51
26:RF:47:GLY:HA3	26:RF:95:ARG:O	2.10	0.51
28:RH:153:LYS:HG2	28:RH:162:ILE:HG13	1.92	0.51
32:RP:10:PRO:O	32:RP:12:ALA:N	2.43	0.51
33:RQ:108:GLY:HA3	42:RZ:116:VAL:HG21	1.92	0.51
39:RW:67:ASP:OD2	39:RW:67:ASP:N	2.33	0.51
42:RZ:165:VAL:HG11	42:RZ:169:GLU:HB2	1.92	0.51
1:XA:110:C:H2'	1:XA:111:G:O4'	2.10	0.51
1:XA:1493:A:OP1	57:XA:1601:PAR:H51	2.11	0.51
1:XA:1511:G:H2'	1:XA:1512:U:O4'	2.10	0.51
5:XE:102:ALA:HB1	5:XE:106:PRO:HG2	1.92	0.51
20:XT:89:ARG:HH21	20:XT:104:LEU:HD11	1.76	0.51
22:YA:26:G:N1	22:YA:27:G:N2	2.58	0.51
28:YH:26:VAL:HG13	28:YH:27:LYS:H	1.76	0.51
38:YV:65:GLY:HA3	38:YV:91:TYR:CZ	2.46	0.51
42:YZ:144:LEU:HD21	42:YZ:149:SER:HA	1.93	0.51
1:QA:1388:C:H2'	1:QA:1389:C:C6	2.46	0.51
4:QD:61:LYS:HB2	4:QD:203:VAL:HG13	1.93	0.51
7:QG:153:HIS:CE1	11:QK:57:THR:HG23	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:QJ:31:GLY:HA3	10:QJ:78:ASN:ND2	2.26	0.51
22:RA:297:C:H5"	41:RY:85:VAL:HG21	1.92	0.51
22:RA:1049:C:H2'	22:RA:1050:A:H5"	1.91	0.51
22:RA:1384:A:N3	22:RA:1405:U:H1'	2.25	0.51
22:RA:1607:C:H5"	22:RA:1608:A:H5'	1.92	0.51
29:RI:37:VAL:HG12	29:RI:38:LEU:HD12	1.92	0.51
41:RY:74:PRO:O	41:RY:80:GLY:HA2	2.11	0.51
1:XA:67:C:O2'	1:XA:171:A:N3	2.39	0.51
2:XB:21:ARG:HB2	2:XB:39:ILE:HA	1.91	0.51
5:XE:13:ILE:HD11	5:XE:55:VAL:HG22	1.91	0.51
6:XF:4:TYR:HD1	6:XF:92:LYS:HA	1.76	0.51
9:XI:11:LYS:H	9:XI:104:ARG:HH21	1.57	0.51
9:XI:70:LYS:O	9:XI:74:ILE:HG13	2.10	0.51
22:YA:612:G:N2	22:YA:616:A:O2'	2.44	0.51
22:YA:858:U:O2	22:YA:2268:A:H2'	2.11	0.51
22:YA:2370:G:C6	22:YA:2371:G:C6	2.98	0.51
24:YD:148:GLU:HB2	24:YD:151:LYS:HD2	1.92	0.51
26:YF:127:GLU:OE1	26:YF:196:LEU:HB2	2.11	0.51
27:YG:77:ILE:HD13	27:YG:82:LEU:HD12	1.93	0.51
30:YN:38:HIS:O	37:YU:67:ALA:HB1	2.10	0.51
38:YV:25:LEU:H	38:YV:92:THR:HG21	1.75	0.51
42:YZ:181:GLU:HG3	42:YZ:183:LEU:HB2	1.93	0.51
48:Y5:38:ALA:HB3	48:Y5:40:LYS:HE3	1.92	0.51
1:QA:824:C:H2'	1:QA:825:G:C8	2.45	0.51
1:QA:859:A:H2'	1:QA:860:A:O4'	2.11	0.51
1:QA:1068:G:N3	1:QA:1191:A:C2	2.76	0.51
18:QR:32:ARG:HA	18:QR:69:THR:HG21	1.91	0.51
22:RA:389:G:N1	32:RP:70:GLN:HB3	2.25	0.51
22:RA:2273:A:H2'	22:RA:2274:A:C8	2.46	0.51
22:RA:2399:G:H2'	22:RA:2400:G:O4'	2.11	0.51
22:RA:2517:C:C2	22:RA:2542:A:N6	2.78	0.51
40:RX:35:THR:HG23	40:RX:38:GLU:HG2	1.93	0.51
50:R7:22:MET:HE2	50:R7:31:LEU:CD1	2.40	0.51
1:XA:484:G:H4'	1:XA:485:G:O5'	2.11	0.51
1:XA:1432:G:H8	1:XA:1432:G:O5'	1.94	0.51
3:XC:91:LEU:O	3:XC:95:THR:OG1	2.19	0.51
13:XM:14:ARG:N	13:XM:44:ARG:HD3	2.21	0.51
22:YA:528:A:H3'	22:YA:528:A:H8	1.75	0.51
22:YA:860:U:C5	22:YA:917:A:C2	2.97	0.51
22:YA:2150:U:H2'	22:YA:2151:G:C8	2.46	0.51
27:YG:16:ARG:O	27:YG:20:ILE:HG12	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YU:47:TYR:HA	37:YU:50:ARG:NH2	2.26	0.51
45:Y2:65:ASN:HB3	45:Y2:69:ARG:NH2	2.26	0.51
46:Y3:43:ILE:O	46:Y3:47:VAL:HG23	2.10	0.51
1:QA:105:G:H2'	1:QA:106:C:H6	1.76	0.51
1:QA:909:A:HO2'	1:QA:1413:A:HO2'	1.58	0.51
1:QA:1086:U:H3	1:QA:1099:G:H22	1.57	0.51
1:QA:1376:U:OP1	7:QG:94:ARG:NH1	2.43	0.51
1:QA:1453:G:H2'	20:QT:39:LYS:HZ1	1.75	0.51
8:QH:20:TYR:HE2	8:QH:75:ARG:HD2	1.76	0.51
12:QL:38:THR:HG23	12:QL:57:LYS:HB3	1.93	0.51
21:QU:6:ARG:HE	21:QU:15:ARG:HH21	1.59	0.51
22:RA:388:G:OP1	44:R1:32:LYS:N	2.32	0.51
22:RA:1378:A:O2'	22:RA:1379:A:O5'	2.28	0.51
22:RA:1381:G:H1'	22:RA:1571:A:N1	2.26	0.51
22:RA:1948:G:N2	22:RA:1958:C:O2	2.41	0.51
24:RD:43:ARG:HH11	24:RD:44:ASN:CG	2.16	0.51
1:XA:778:G:H1'	11:XK:119:CYS:HB3	1.93	0.51
1:XA:1127:G:H4'	1:XA:1148:U:O2	2.11	0.51
1:XA:1226:C:H4'	1:XA:1227:A:OP1	2.11	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	2.43	0.51
20:XT:10:LEU:O	20:XT:13:LEU:HG	2.11	0.51
22:YA:380:U:H2'	22:YA:381:G:H8	1.76	0.51
22:YA:1550:C:H2'	22:YA:1551:C:H6	1.75	0.51
22:YA:2078:C:H42	22:YA:2241:A:H61	1.58	0.51
29:YI:56:LYS:HE3	29:YI:57:ARG:HG2	1.93	0.51
34:YR:104:ARG:HD3	34:YR:111:LEU:HD21	1.92	0.51
36:YT:109:GLU:O	36:YT:113:LYS:HB2	2.11	0.51
44:Y1:70:VAL:O	44:Y1:74:VAL:HG23	2.10	0.51
48:Y5:42:PRO:HB2	48:Y5:43:HIS:ND1	2.25	0.51
48:Y5:56:LYS:HD3	48:Y5:58:LEU:HD23	1.90	0.51
1:QA:35:G:H2'	1:QA:36:C:C6	2.46	0.51
1:QA:137:C:H42	1:QA:226:G:H1	1.56	0.51
1:QA:266:G:H5"	1:QA:267:C:C5	2.46	0.51
1:QA:370:C:H2'	1:QA:371:G:H8	1.75	0.51
1:QA:1368:G:H5'	9:QI:112:LYS:HB3	1.92	0.51
22:RA:180:G:OP2	50:R7:32:LYS:HE2	2.11	0.51
22:RA:723:G:C6	22:RA:724:U:C4	2.98	0.51
22:RA:902:C:H2'	22:RA:903:C:H6	1.76	0.51
22:RA:1382:G:H4'	22:RA:1573:G:N2	2.25	0.51
22:RA:1677:A:H8	22:RA:1677:A:O5'	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1716:U:H2'	22:RA:1717:G:H8	1.75	0.51
22:RA:2630:G:N3	22:RA:2894:G:N2	2.58	0.51
22:RA:2712:U:H1'	22:RA:2712(A):A:C8	2.45	0.51
26:RF:149:ASP:OD1	26:RF:149:ASP:N	2.27	0.51
29:RI:11:ASN:O	29:RI:12:LEU:HB2	2.09	0.51
29:RI:60:GLU:HG3	29:RI:61:ARG:HH12	1.75	0.51
36:RT:28:VAL:HG23	36:RT:88:ILE:HA	1.92	0.51
42:RZ:91:LEU:HD12	42:RZ:130:PRO:HG3	1.93	0.51
1:XA:234:C:H2'	1:XA:235:C:H6	1.74	0.51
1:XA:828:A:H2'	1:XA:829:G:O4'	2.10	0.51
4:XD:30:LYS:C	4:XD:32:ALA:H	2.18	0.51
6:XF:97:PHE:CD2	18:XR:31:LEU:HD21	2.46	0.51
19:XS:15:LEU:O	19:XS:19:VAL:N	2.36	0.51
19:XS:26:GLY:O	19:XS:28:LYS:N	2.43	0.51
22:YA:1041:C:H2'	22:YA:1042:G:H8	1.76	0.51
22:YA:1094:U:O2'	22:YA:1096:A:OP1	2.25	0.51
22:YA:1469:A:H2'	22:YA:1470:G:C8	2.44	0.51
22:YA:1537:C:H2'	22:YA:1538:G:O4'	2.11	0.51
22:YA:1843:C:H5'	24:YD:253:GLN:OE1	2.10	0.51
23:YB:60:C:H2'	23:YB:61:G:C8	2.42	0.51
33:YQ:2:LEU:HD23	33:YQ:2:LEU:H	1.76	0.51
37:YU:92:ARG:NH1	38:YV:11:GLN:O	2.44	0.51
41:YY:81:LYS:HG2	41:YY:97:ARG:HD3	1.93	0.51
1:QA:347:G:O2'	1:QA:348:G:H5"	2.11	0.51
1:QA:991:U:O4	1:QA:1212:U:O2'	2.19	0.51
19:QS:5:LEU:HG	47:R4:66:SER:HB3	1.93	0.51
22:RA:140:A:C8	22:RA:1408:C:O2'	2.61	0.51
23:RB:65:C:N4	23:RB:108:C:H2'	2.23	0.51
25:RE:134:ILE:HA	25:RE:137:HIS:CD2	2.46	0.51
26:RF:185:ASP:HA	26:RF:188:ARG:HD3	1.93	0.51
42:RZ:104:PHE:HB3	42:RZ:141:VAL:HG12	1.93	0.51
1:XA:396:G:C2	1:XA:398:C:C4	2.99	0.51
1:XA:962:C:H2'	1:XA:963:G:C8	2.41	0.51
22:YA:347:A:H2'	22:YA:348:G:H8	1.75	0.51
22:YA:640:C:O2	22:YA:649:G:C2	2.64	0.51
23:YB:24:G:H1'	23:YB:26:A:H62	1.75	0.51
23:YB:42:C:O2	27:YG:93:THR:N	2.27	0.51
25:YE:62:PRO:O	25:YE:64:LYS:N	2.43	0.51
28:YH:6:ARG:NE	28:YH:54:ARG:HH12	2.09	0.51
29:YI:32:PRO:C	29:YI:34:GLY:H	2.19	0.51
35:YS:11:LYS:HB2	35:YS:91:PRO:HB3	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:YW:106:ILE:O	39:YW:106:ILE:HG12	2.07	0.51
48:Y5:45:VAL:HG11	48:Y5:57:VAL:HG12	1.93	0.51
1:QA:767:A:O2'	1:QA:1524:C:O2	2.28	0.51
1:QA:1192:C:OP2	3:QC:4:LYS:NZ	2.41	0.51
16:QP:3:LYS:HG3	16:QP:24:ALA:HB2	1.92	0.51
20:QT:14:LYS:HA	20:QT:17:ARG:HG3	1.91	0.51
22:RA:37:C:H2'	22:RA:38:A:C8	2.45	0.51
22:RA:1645:G:H5"	22:RA:1646:C:H5'	1.93	0.51
22:RA:1927:A:H2'	22:RA:1928:A:C8	2.46	0.51
26:RF:20:LEU:HD23	26:RF:125:LEU:HD12	1.93	0.51
37:RU:90:VAL:HG22	38:RV:39:LEU:HB3	1.93	0.51
1:XA:598:U:H2'	1:XA:599:C:H6	1.75	0.51
1:XA:1306:A:N6	1:XA:1331:G:H1'	2.25	0.51
1:XA:1313:U:OP1	19:XS:5:LEU:HB2	2.11	0.51
1:XA:1402:C:H2'	1:XA:1403:C:O4'	2.11	0.51
4:XD:78:LEU:HD22	4:XD:96:LEU:HB3	1.93	0.51
15:XO:33:THR:HG21	15:XO:85:LEU:HD22	1.93	0.51
22:YA:141(A):C:H2'	22:YA:142:G:O4'	2.10	0.51
22:YA:455:C:N3	22:YA:473:G:H5'	2.26	0.51
22:YA:796:C:H2'	22:YA:797:C:C6	2.46	0.51
22:YA:1217:C:OP1	37:YU:15:LYS:HE3	2.11	0.51
22:YA:1753:G:H5'	22:YA:1754:C:OP2	2.09	0.51
22:YA:2467:C:C2'	22:YA:2468:G:H5'	2.41	0.51
22:YA:2849:U:H4'	22:YA:2868:A:C2	2.46	0.51
23:YB:56:G:H5'	27:YG:27:ASN:ND2	2.26	0.51
33:YQ:66:ILE:O	33:YQ:104:PHE:N	2.39	0.51
1:QA:1239:A:H62	1:QA:1299:A:N6	2.08	0.51
22:RA:322:A:H5'	22:RA:340:A:H1'	1.93	0.51
22:RA:607:U:H3	22:RA:621:A:H2	1.57	0.51
22:RA:679:C:H2'	22:RA:680:G:H8	1.74	0.51
22:RA:811:U:OP2	32:RP:29:LYS:N	2.38	0.51
22:RA:1262:A:H2	48:R5:10:LYS:HD2	1.76	0.51
22:RA:1637:A:H4'	22:RA:2711:A:O2'	2.11	0.51
22:RA:2262:U:OP1	43:R0:19:LYS:NZ	2.39	0.51
22:RA:2505:G:H2'	22:RA:2576:G:O6	2.10	0.51
27:RG:88:ILE:O	27:RG:88:ILE:HD13	2.10	0.51
35:RS:56:LEU:HD23	35:RS:58:LEU:HD22	1.92	0.51
51:R8:50:LEU:C	51:R8:53:PRO:HD2	2.36	0.51
1:XA:22:G:H2'	1:XA:23:C:C6	2.45	0.51
1:XA:1030:C:H2'	1:XA:1031:G:O4'	2.10	0.51
1:XA:1157:A:H8	1:XA:1158:C:N4	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:XK:41:THR:HG21	11:XK:71:LYS:HB3	1.93	0.51
13:XM:36:LYS:C	13:XM:36:LYS:HD3	2.36	0.51
22:YA:199:A:C8	22:YA:2433:A:N6	2.80	0.51
22:YA:610:C:H42	22:YA:618:G:H1	1.59	0.51
22:YA:811:U:H2'	32:YP:21:ARG:O	2.11	0.51
22:YA:816:C:O2'	22:YA:932:G:O6	2.26	0.51
22:YA:1655:A:O2'	25:YE:115:GLY:HA2	2.11	0.51
22:YA:2577:A:H5"	22:YA:2578:G:H5'	1.93	0.51
23:YB:104:A:H5'	42:YZ:72:ARG:HD3	1.92	0.51
24:YD:35:LYS:HE3	24:YD:63:ARG:C	2.36	0.51
51:Y8:23:VAL:CG1	51:Y8:46:ARG:HD3	2.40	0.51
1:QA:189:U:O2'	17:QQ:63:ARG:NH2	2.44	0.50
1:QA:967:C:H2'	1:QA:968:A:C8	2.45	0.50
4:QD:9:CYS:SG	4:QD:31:CYS:C	2.94	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
22:RA:25:U:H5'	39:RW:79:GLY:HA2	1.92	0.50
22:RA:298:G:O2'	22:RA:322:A:N1	2.43	0.50
22:RA:330:A:O2'	22:RA:331:A:H2'	2.11	0.50
22:RA:693:C:O2'	22:RA:1353:A:N3	2.42	0.50
22:RA:723:G:H2'	22:RA:724:U:O4'	2.11	0.50
22:RA:2477:C:H2'	52:R9:1:MET:HG3	1.92	0.50
23:RB:48:A:H2'	23:RB:49:C:C6	2.45	0.50
32:RP:62:LEU:CD2	51:R8:25:MET:HB2	2.37	0.50
36:RT:19:LEU:HD22	36:RT:86:ILE:HG22	1.93	0.50
36:RT:118:ARG:HH21	36:RT:121:ILE:HG21	1.76	0.50
40:RX:40:LYS:HG3	40:RX:51:VAL:HB	1.92	0.50
48:R5:3:LYS:HA	48:R5:3:LYS:NZ	2.27	0.50
1:XA:129:U:H2'	1:XA:131:C:H5	1.76	0.50
1:XA:571:U:O4	1:XA:864:A:N6	2.43	0.50
1:XA:1065:U:C5	1:XA:1190:G:H1'	2.46	0.50
1:XA:1179:A:H4'	9:XI:103:THR:HA	1.93	0.50
2:XB:73:THR:OG1	2:XB:170:GLU:OE2	2.23	0.50
6:XF:86:ARG:O	6:XF:87:ARG:HG2	2.11	0.50
22:YA:195:A:H5"	22:YA:196:A:O5'	2.10	0.50
22:YA:279:C:H2'	22:YA:280:C:H6	1.75	0.50
22:YA:287:C:H2'	22:YA:288:C:C6	2.46	0.50
22:YA:593:G:H1	22:YA:664:C:H42	1.59	0.50
22:YA:691:C:H2'	22:YA:692:C:C6	2.45	0.50
22:YA:1114:G:H2'	22:YA:1115:G:C8	2.46	0.50
22:YA:1923:U:H2'	22:YA:1924:C:C6	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2219:G:H2'	22:YA:2224:G:H5'	1.91	0.50
22:YA:2294:C:H2'	22:YA:2295:C:H6	1.76	0.50
22:YA:2469:A:H2	22:YA:2481:G:N2	2.08	0.50
22:YA:2584:U:H5"	56:Z8:76:PPU:H92	1.93	0.50
28:YH:89:ILE:O	28:YH:89:ILE:HG12	2.10	0.50
35:YS:30:ARG:HG3	35:YS:97:ARG:NH2	2.26	0.50
1:QA:41:G:H2'	1:QA:42:G:C8	2.46	0.50
1:QA:359:U:H2'	1:QA:360:A:C8	2.45	0.50
13:QM:33:ALA:HA	13:QM:59:TYR:HE2	1.76	0.50
22:RA:270(I):G:H2'	22:RA:270(J):G:C8	2.44	0.50
22:RA:706:A:H2'	22:RA:707:G:O4'	2.11	0.50
22:RA:860:U:O2'	22:RA:861:A:H5'	2.10	0.50
22:RA:1667:G:H8	22:RA:1667:G:OP2	1.94	0.50
22:RA:2419:U:H2'	22:RA:2420:C:C6	2.46	0.50
22:RA:2516:G:C5	22:RA:2517:C:C4	2.99	0.50
22:RA:2747:G:H21	22:RA:2757:A:H62	1.57	0.50
30:RN:46:VAL:HG13	30:RN:48:MET:HG3	1.93	0.50
33:RQ:81:VAL:C	33:RQ:82:ARG:HG2	2.37	0.50
1:XA:272:C:H2'	1:XA:273:A:C8	2.47	0.50
1:XA:1346:A:C4	7:XG:10:ARG:NH1	2.79	0.50
2:XB:9:GLU:HB3	2:XB:48:MET:SD	2.50	0.50
2:XB:80:ILE:HD11	2:XB:208:ILE:HG23	1.93	0.50
3:XC:138:VAL:HG22	3:XC:151:VAL:HG23	1.93	0.50
4:XD:108:LEU:HD21	4:XD:183:GLY:HA3	1.93	0.50
22:YA:869:G:H2'	22:YA:870:A:O4'	2.11	0.50
22:YA:969:U:H2'	22:YA:970:C:C6	2.46	0.50
22:YA:1825:A:H2'	22:YA:1826:G:H8	1.76	0.50
22:YA:1882:C:H3'	22:YA:1883:G:H8	1.76	0.50
22:YA:2422:A:C5	22:YA:2424:C:N4	2.79	0.50
22:YA:2469:A:O2'	33:YQ:56:ARG:HG2	2.10	0.50
22:YA:2498:C:O2'	22:YA:2499:C:H5'	2.11	0.50
22:YA:2633:G:H1'	25:YE:62:PRO:HG2	1.92	0.50
22:YA:2757:A:P	52:Y9:20:HIS:H	2.34	0.50
22:YA:2821:A:OP2	34:YR:3:HIS:NE2	2.44	0.50
23:YB:80:U:O2'	23:YB:81:G:H5'	2.10	0.50
39:YW:57:ASN:O	39:YW:61:ASN:HB2	2.10	0.50
1:QA:276:G:O3'	17:QQ:68:ARG:NH1	2.40	0.50
1:QA:501:C:OP1	12:QL:117:ARG:NH2	2.37	0.50
1:QA:568:G:N2	1:QA:883:C:C2	2.79	0.50
1:QA:1009:G:H1	1:QA:1020:U:H3	1.60	0.50
1:QA:1301:U:O2	1:QA:1301:U:H2'	2.09	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1312:G:OP2	47:R4:67:TYR:HE1	1.93	0.50
22:RA:240:G:O2'	22:RA:257:A:N6	2.41	0.50
22:RA:347:A:H2'	22:RA:348:G:H8	1.76	0.50
22:RA:372:G:O2'	22:RA:373:U:P	2.69	0.50
22:RA:498:G:N3	41:RY:47:LYS:NZ	2.59	0.50
22:RA:1173:G:H4'	22:RA:1174:A:N7	2.26	0.50
22:RA:1278:A:H4'	34:RR:34:ILE:HD12	1.93	0.50
22:RA:2065:C:H1'	22:RA:2449:U:N3	2.26	0.50
22:RA:2070:G:H2'	22:RA:2071:A:C8	2.46	0.50
25:RE:6:GLY:HA2	25:RE:51:PHE:CZ	2.46	0.50
25:RE:176:ILE:HG23	25:RE:178:GLU:OE2	2.11	0.50
26:RF:172:TRP:CD1	26:RF:172:TRP:H	2.29	0.50
32:RP:14:LYS:O	32:RP:14:LYS:HD3	2.12	0.50
33:RQ:17:LEU:HD23	33:RQ:96:VAL:HG23	1.92	0.50
39:RW:60:ASN:HD22	39:RW:60:ASN:N	2.09	0.50
41:RY:97:ARG:HH21	41:RY:98:VAL:HB	1.77	0.50
1:XA:160:A:H1'	1:XA:344:A:C5	2.47	0.50
1:XA:243:A:C2	1:XA:246:A:C8	3.00	0.50
1:XA:260:G:H2'	1:XA:261:U:C6	2.45	0.50
1:XA:749:C:H2'	1:XA:750:G:H8	1.76	0.50
1:XA:881:G:H2'	1:XA:882:C:O4'	2.11	0.50
1:XA:1450:U:O2'	1:XA:1451:A:N7	2.43	0.50
2:XB:114:ARG:O	2:XB:117:GLU:HB2	2.10	0.50
3:XC:54:ARG:HD3	3:XC:56:ASP:OD1	2.10	0.50
19:XS:40:ILE:HG23	19:XS:67:VAL:O	2.11	0.50
22:YA:783:A:H3'	22:YA:783:A:C8	2.46	0.50
22:YA:1292:U:H2'	22:YA:1293:C:C6	2.46	0.50
22:YA:1658:C:H2'	22:YA:1659:U:H6	1.76	0.50
22:YA:2636:U:H1'	22:YA:2783:G:N2	2.26	0.50
22:YA:2764:A:N6	22:YA:2766:G:C2	2.80	0.50
32:YP:62:LEU:HD23	32:YP:62:LEU:N	2.26	0.50
33:YQ:89:ASN:O	33:YQ:91:GLU:N	2.44	0.50
51:Y8:58:ILE:HA	51:Y8:61:LEU:HD21	1.92	0.50
1:QA:105:G:H2'	1:QA:106:C:C6	2.46	0.50
1:QA:1178:G:C8	1:QA:1180:A:OP2	2.65	0.50
1:QA:1297:C:H4'	1:QA:1298:C:H5'	1.94	0.50
1:QA:1366:C:O3'	10:QJ:60:ARG:NH2	2.44	0.50
7:QG:116:ALA:O	7:QG:120:ILE:HG12	2.11	0.50
9:QI:53:VAL:HB	9:QI:95:LYS:HE3	1.92	0.50
10:QJ:47:PHE:CE1	10:QJ:63:PHE:HB2	2.47	0.50
11:QK:17:GLY:N	11:QK:79:SER:O	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:33:U:O4	22:RA:446:G:O2'	2.25	0.50
22:RA:860:U:C5	22:RA:917:A:C2	2.98	0.50
22:RA:1007:C:H5"	30:RN:35:ARG:NH1	2.26	0.50
22:RA:1188:U:O2'	22:RA:1189:A:H5'	2.11	0.50
22:RA:1991:U:H2'	22:RA:1992:G:H5"	1.93	0.50
24:RD:62:TYR:CE1	24:RD:64:ILE:HA	2.46	0.50
40:RX:60:ARG:HH12	50:R7:47:ARG:HH22	1.58	0.50
42:RZ:10:ARG:HD3	42:RZ:18:LEU:HD21	1.93	0.50
44:R1:62:VAL:HG23	44:R1:63:ALA:O	2.11	0.50
1:XA:41:G:H2'	1:XA:42:G:C8	2.47	0.50
2:XB:189:ASP:HB3	2:XB:203:GLY:O	2.12	0.50
22:YA:443:A:H1'	22:YA:1201:C:O4'	2.11	0.50
22:YA:805:G:N2	22:YA:828:U:H5"	2.26	0.50
22:YA:2574:G:H2'	22:YA:2575:C:C6	2.46	0.50
22:YA:2790:A:C2	22:YA:2791:C:H2'	2.46	0.50
26:YF:129:PHE:C	26:YF:131:GLY:H	2.18	0.50
38:YV:52:VAL:HG23	38:YV:55:ALA:H	1.76	0.50
47:Y4:10:VAL:HG22	47:Y4:11:PRO:HD2	1.94	0.50
1:QA:313:A:H2'	1:QA:314:C:C6	2.46	0.50
1:QA:673:G:H2'	1:QA:674:G:C8	2.46	0.50
2:QB:162:ILE:HD11	2:QB:184:VAL:HG22	1.93	0.50
2:QB:231:GLU:HG3	2:QB:233:SER:H	1.77	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
22:RA:318:C:H2'	22:RA:319:C:H6	1.77	0.50
22:RA:1860:G:H1	22:RA:1882:C:N4	2.09	0.50
29:RI:109:ILE:HB	29:RI:130:TYR:CZ	2.47	0.50
33:RQ:89:ASN:O	33:RQ:92:GLY:N	2.42	0.50
48:R5:46:CYS:HB2	48:R5:50:GLY:HA3	1.93	0.50
50:R7:5:TRP:NE1	50:R7:7:PRO:HG3	2.26	0.50
51:R8:23:VAL:HG11	51:R8:46:ARG:HD3	1.92	0.50
1:XA:115:G:H8	1:XA:115:G:O5'	1.94	0.50
1:XA:1232:U:OP1	9:XI:124:GLN:NE2	2.45	0.50
1:XA:1382:C:H2'	1:XA:1383:C:C6	2.46	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
15:XO:6:GLU:H	15:XO:6:GLU:CD	2.15	0.50
19:XS:4:SER:O	19:XS:5:LEU:HD13	2.11	0.50
22:YA:1348:G:H2'	22:YA:1349:A:H5"	1.91	0.50
25:YE:111:ARG:HA	34:YR:1:MET:CG	2.40	0.50
26:YF:167:ALA:HB1	26:YF:173:VAL:HG11	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YG:79:ASN:HD22	27:YG:79:ASN:N	2.08	0.50
32:YP:58:THR:O	32:YP:61:ARG:CZ	2.59	0.50
1:QA:10:A:H2'	1:QA:11:G:C8	2.45	0.50
1:QA:42:G:H2'	1:QA:43:C:O4'	2.11	0.50
1:QA:464:G:C6	1:QA:466:C:H5'	2.47	0.50
1:QA:1133:G:H2'	1:QA:1134:G:C8	2.46	0.50
1:QA:1285:A:H4'	1:QA:1286:A:O5'	2.12	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
22:RA:111:A:C6	22:RA:112:U:C4	3.00	0.50
22:RA:935:C:H2'	22:RA:936:C:H6	1.76	0.50
22:RA:1024:G:H8	22:RA:1024:G:O5'	1.95	0.50
22:RA:1754:C:N3	22:RA:2716:U:O2'	2.39	0.50
22:RA:1798:U:C5'	24:RD:259:THR:HG22	2.42	0.50
22:RA:1947:C:H42	22:RA:1959:G:H1	1.58	0.50
22:RA:2055:C:H4'	22:RA:2056:G:H5"	1.94	0.50
22:RA:2293:C:H5"	35:RS:89:ARG:NH1	2.23	0.50
22:RA:2815:C:H5'	48:R5:29:THR:HG21	1.93	0.50
29:RI:110:ASP:H	29:RI:130:TYR:HH	1.60	0.50
32:RP:26:GLY:O	32:RP:28:GLY:N	2.45	0.50
40:RX:26:TYR:HB3	40:RX:92:LEU:HD12	1.93	0.50
42:RZ:1:MET:HG2	42:RZ:2:GLU:H	1.76	0.50
1:XA:537:G:H5"	12:XL:113:ARG:NH1	2.26	0.50
13:XM:3:ARG:CG	47:Y4:34:GLU:HB3	2.41	0.50
22:YA:1751:C:H2'	22:YA:1752:C:C6	2.47	0.50
22:YA:2025:C:H2'	22:YA:2026:C:C6	2.44	0.50
27:YG:5:VAL:HG11	27:YG:100:TRP:HB3	1.93	0.50
28:YH:84:SER:O	28:YH:85:LYS:HB2	2.11	0.50
31:YO:120:GLU:HG2	31:YO:122:LEU:HG	1.94	0.50
42:YZ:10:ARG:NH2	42:YZ:37:VAL:O	2.44	0.50
43:Y0:24:LYS:O	43:Y0:25:ARG:HD3	2.12	0.50
49:Y6:47:THR:HG22	49:Y6:48:VAL:HG12	1.94	0.50
1:QA:179:A:H2'	1:QA:180:U:C6	2.46	0.50
1:QA:789:U:H5	1:QA:791:G:H3'	1.76	0.50
1:QA:1080:A:H5"	5:QE:16:THR:HG21	1.92	0.50
1:QA:1522:U:H2'	1:QA:1523:G:H8	1.77	0.50
13:QM:3:ARG:NH2	27:RG:113:ARG:HH21	2.10	0.50
19:QS:41:VAL:HA	19:QS:44:MET:HG3	1.93	0.50
22:RA:273:G:H1	22:RA:364:C:N4	2.07	0.50
22:RA:1899:G:N2	22:RA:1902:C:H41	2.10	0.50
28:RH:132:ARG:HH11	28:RH:132:ARG:HB2	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RI:5:LEU:HD12	29:RI:17:GLN:HB3	1.92	0.50
35:RS:67:ARG:O	35:RS:71:ARG:HG3	2.12	0.50
36:RT:111:ARG:O	36:RT:113:LYS:N	2.42	0.50
42:RZ:121:HIS:NE2	42:RZ:169:GLU:HG2	2.26	0.50
1:XA:234:C:H2'	1:XA:235:C:C6	2.46	0.50
2:XB:162:ILE:HD11	2:XB:184:VAL:HG22	1.94	0.50
22:YA:27:G:O2'	22:YA:28:A:C8	2.57	0.50
22:YA:226:G:H2'	22:YA:227:A:C8	2.47	0.50
22:YA:239:U:H2'	22:YA:240:G:O4'	2.12	0.50
22:YA:1364:G:N7	44:Y1:2:SER:N	2.59	0.50
22:YA:1835:G:H5"	22:YA:1836:C:OP2	2.12	0.50
22:YA:1999:C:H2'	22:YA:2000:G:H8	1.76	0.50
26:YF:65:TRP:O	26:YF:67:GLN:N	2.43	0.50
32:YP:36:LYS:HB3	32:YP:40:SER:HB3	1.94	0.50
32:YP:138:LEU:C	32:YP:140:ALA:H	2.19	0.50
38:YV:61:VAL:HA	38:YV:94:LEU:HD23	1.93	0.50
50:Y7:5:TRP:NE1	50:Y7:7:PRO:HG3	2.26	0.50
51:Y8:25:MET:O	51:Y8:47:LYS:NZ	2.44	0.50
53:XV:19:G:C4	53:XV:57:A:C2	2.99	0.50
1:QA:348:G:H2'	1:QA:349:A:H8	1.77	0.50
1:QA:1037:C:H2'	1:QA:1038:C:C6	2.47	0.50
4:QD:33:MET:CE	4:QD:37:PRO:HA	2.41	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
22:RA:1545:A:H2'	22:RA:1545(A):A:O4'	2.12	0.50
22:RA:1803:A:H4'	24:RD:259:THR:HG23	1.94	0.50
22:RA:1818:U:H2'	24:RD:157:ARG:HG3	1.94	0.50
22:RA:2228:G:C6	22:RA:2229:C:N3	2.80	0.50
22:RA:2570:G:H2'	22:RA:2571:C:O4'	2.12	0.50
36:RT:39:ARG:HG2	36:RT:40:THR:H	1.76	0.50
42:RZ:180:VAL:O	42:RZ:181:GLU:HB2	2.12	0.50
1:XA:59:A:N6	1:XA:331:G:H1'	2.26	0.50
1:XA:97:U:H2'	1:XA:99:C:C6	2.47	0.50
2:XB:32:ILE:HD11	2:XB:40:HIS:HB3	1.94	0.50
11:XK:86:GLY:O	11:XK:91:ARG:HD3	2.11	0.50
22:YA:563:G:H22	22:YA:578:A:H2	1.60	0.50
22:YA:759:G:H2'	22:YA:760:G:C8	2.46	0.50
22:YA:1012:U:O4	30:YN:25:ARG:HA	2.12	0.50
22:YA:1858:G:O2'	22:YA:1884:A:N6	2.44	0.50
22:YA:2776:A:OP1	22:YA:2776:A:H3'	2.12	0.50
22:YA:2817:G:O2'	22:YA:2836:U:O2	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YB:89(A):A:N7	23:YB:90:C:H1'	2.27	0.50
26:YF:108:LYS:O	26:YF:112:MET:HG3	2.12	0.50
28:YH:4:ILE:HG13	28:YH:6:ARG:NE	2.26	0.50
30:YN:58:ASP:OD1	30:YN:58:ASP:N	2.45	0.50
33:YQ:66:ILE:HG13	33:YQ:67:ARG:N	2.27	0.50
33:YQ:68:ILE:HD13	33:YQ:103:MET:HE2	1.94	0.50
53:XV:17:C:O2	53:XV:17:C:H2'	2.11	0.50
1:QA:56:U:H2'	1:QA:57:G:C8	2.46	0.50
1:QA:149:A:H4'	1:QA:1450:U:C4	2.46	0.50
1:QA:410:G:H5"	1:QA:411:A:OP1	2.12	0.50
1:QA:1288:A:C2	1:QA:1289:A:C4	3.00	0.50
22:RA:611:C:C2	22:RA:618:G:N2	2.79	0.50
22:RA:688:U:O5'	22:RA:688:U:H6	1.95	0.50
22:RA:826:U:H2'	22:RA:828:U:O4'	2.12	0.50
22:RA:1561:G:H2'	22:RA:1562:A:H8	1.77	0.50
22:RA:1614:A:H62	39:RW:93:ALA:CB	2.21	0.50
22:RA:1796:U:H2'	22:RA:1797:C:H6	1.75	0.50
22:RA:2116:G:H1	22:RA:2162:G:P	2.35	0.50
22:RA:2359:C:H2'	22:RA:2360:A:O4'	2.12	0.50
22:RA:2784:C:H2'	22:RA:2785:C:H6	1.77	0.50
26:RF:16:GLY:O	26:RF:18:ARG:N	2.45	0.50
30:RN:34:LEU:O	30:RN:49:GLY:HA3	2.12	0.50
36:RT:34:VAL:HG12	36:RT:36:GLU:HG2	1.94	0.50
1:XA:431:A:H2'	1:XA:432:A:O4'	2.12	0.50
1:XA:923:A:H2'	1:XA:924:C:O4'	2.12	0.50
1:XA:1179:A:H2'	1:XA:1180:A:O4'	2.12	0.50
1:XA:1366:C:H2'	1:XA:1367:C:C6	2.44	0.50
4:XD:112:VAL:HG12	4:XD:116:GLN:OE1	2.12	0.50
13:XM:49:THR:HB	13:XM:52:GLU:H	1.77	0.50
15:XO:67:LEU:HB3	15:XO:78:TYR:HE1	1.77	0.50
22:YA:1812:A:H2'	22:YA:1813:G:H8	1.77	0.50
22:YA:2795:G:H3'	22:YA:2797:U:C5'	2.42	0.50
22:YA:2804:C:H2'	22:YA:2805:G:C8	2.47	0.50
25:YE:73:GLU:HG3	25:YE:74:PRO:HD2	1.92	0.50
29:YI:29:TYR:CD2	29:YI:30:LEU:HD23	2.31	0.50
33:YQ:20:ALA:HB3	42:YZ:79:ARG:CZ	2.42	0.50
37:YU:83:LEU:HG	37:YU:88:ILE:HG13	1.93	0.50
40:YX:60:ARG:HH22	50:Y7:47:ARG:HH12	1.60	0.50
41:YY:97:ARG:HH21	41:YY:98:VAL:HB	1.76	0.50
1:QA:1118:C:H1'	1:QA:1179:A:C4	2.47	0.49
1:QA:1343:G:H2'	1:QA:1344:C:C6	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1455:G:H2'	1:QA:1459:C:H6	1.76	0.49
3:QC:14:ILE:HG12	3:QC:15:THR:N	2.27	0.49
9:QI:46:ALA:HB2	9:QI:74:ILE:HG23	1.94	0.49
9:QI:118:LYS:O	9:QI:120:ARG:N	2.40	0.49
22:RA:20:C:H2'	22:RA:21:A:H8	1.76	0.49
22:RA:656:G:H2'	22:RA:657:U:O4'	2.12	0.49
22:RA:815:C:H2'	22:RA:816:C:C6	2.44	0.49
22:RA:1075:C:C2	22:RA:1076:C:H1'	2.47	0.49
22:RA:1341:U:H2'	22:RA:1397:U:O2	2.12	0.49
22:RA:2247:A:H2'	22:RA:2248:C:H6	1.75	0.49
22:RA:2668:G:H2'	22:RA:2669:G:H8	1.77	0.49
22:RA:2867:G:O2'	22:RA:2868:A:O5'	2.30	0.49
23:RB:28:C:H2'	23:RB:29:A:O4'	2.12	0.49
40:RX:40:LYS:O	40:RX:42:ALA:N	2.45	0.49
42:RZ:45:ASP:O	42:RZ:48:PHE:N	2.44	0.49
1:XA:264:U:H2'	1:XA:265:G:O4'	2.12	0.49
1:XA:337:C:H2'	1:XA:338:A:C8	2.46	0.49
1:XA:598:U:H2'	1:XA:599:C:C6	2.47	0.49
1:XA:1304:G:N1	1:XA:1332:A:OP2	2.32	0.49
1:XA:1431:C:H2'	1:XA:1432:G:O4'	2.11	0.49
1:XA:1443:G:H5'	1:XA:1446:A:OP2	2.12	0.49
5:XE:76:ILE:HG13	5:XE:93:PRO:HB3	1.94	0.49
16:XP:28:ARG:NH1	16:XP:29:ASP:OD1	2.45	0.49
20:XT:64:ASP:HA	20:XT:67:ALA:HB3	1.93	0.49
22:YA:107:C:H2'	22:YA:108:U:H6	1.77	0.49
22:YA:479:A:N3	22:YA:481:G:H5"	2.26	0.49
22:YA:1093:G:H4'	28:YH:170:ARG:NH2	2.26	0.49
22:YA:2641:G:P	30:YN:83:LYS:HE3	2.52	0.49
22:YA:2780:G:OP2	30:YN:118:LYS:HE2	2.12	0.49
23:YB:48:A:P	35:YS:30:ARG:HH22	2.35	0.49
25:YE:103:ASP:OD1	25:YE:201:THR:HG23	2.12	0.49
32:YP:126:VAL:HG13	32:YP:145:PRO:HB2	1.94	0.49
42:YZ:144:LEU:HD13	42:YZ:145:GLU:H	1.77	0.49
1:QA:411:A:N6	1:QA:413:G:H21	2.10	0.49
1:QA:784:C:H4'	22:RA:1837:C:OP1	2.12	0.49
1:QA:1203:C:H2'	1:QA:1204:A:H8	1.76	0.49
1:QA:1263:C:H5'	1:QA:1264:C:OP2	2.11	0.49
1:QA:1347:G:H22	1:QA:1374:A:P	2.36	0.49
1:QA:1404:C:H2'	1:QA:1405:G:C8	2.47	0.49
2:QB:204:ASN:ND2	2:QB:206:ASP:O	2.45	0.49
2:QB:235:SER:OG	2:QB:236:TYR:N	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:14:ILE:HG12	3:QC:15:THR:H	1.76	0.49
3:QC:157:ILE:HD11	3:QC:166:GLU:HB2	1.94	0.49
6:QF:97:PHE:O	18:QR:31:LEU:HD23	2.12	0.49
13:QM:65:LYS:NZ	47:R4:52:THR:HG21	2.27	0.49
22:RA:270(S):G:H5'	44:R1:76:ARG:HG2	1.93	0.49
22:RA:873:G:H1	22:RA:904:C:N4	2.10	0.49
22:RA:1171:G:N7	22:RA:1174:A:N6	2.60	0.49
22:RA:1205:U:C4	26:RF:171:PRO:HA	2.47	0.49
22:RA:1598:C:H5'	40:RX:36:LYS:HB2	1.93	0.49
22:RA:2078:C:H2'	22:RA:2079:U:O4'	2.11	0.49
22:RA:2416:C:H2'	22:RA:2417:C:C6	2.48	0.49
33:RQ:20:ALA:HB1	33:RQ:99:PRO:HD2	1.94	0.49
1:XA:16:A:N1	1:XA:919:A:H2	2.11	0.49
1:XA:1147:C:O2'	9:XI:16:ARG:HD3	2.12	0.49
12:XL:71:PRO:O	12:XL:102:ARG:HD3	2.12	0.49
14:XN:23:ARG:NH1	14:XN:30:ALA:HB2	2.27	0.49
22:YA:336:C:O2'	41:YY:35:TYR:OH	2.26	0.49
22:YA:551:G:H5'	22:YA:1220:A:H1'	1.92	0.49
22:YA:881:G:H3'	22:YA:882:G:H8	1.76	0.49
22:YA:2118:U:O2	22:YA:2148:G:O2'	2.22	0.49
1:QA:109:A:C6	1:QA:326:G:C6	3.00	0.49
1:QA:334:C:H2'	1:QA:335:C:C6	2.47	0.49
1:QA:954:G:H21	1:QA:1227:A:H62	1.60	0.49
1:QA:1342:C:H2'	1:QA:1343:G:C8	2.47	0.49
3:QC:79:ARG:NE	11:XK:99:GLN:CD	2.70	0.49
4:QD:167:GLY:HA3	24:YD:135:PHE:CE2	2.47	0.49
8:QH:9:MET:HG3	8:QH:26:VAL:HG21	1.94	0.49
22:RA:184:C:H2'	22:RA:185:U:C6	2.47	0.49
22:RA:1467:C:N3	22:RA:1525:G:N2	2.52	0.49
22:RA:2729:G:H1'	25:RE:187:ALA:HB2	1.93	0.49
22:RA:2828:C:O2'	22:RA:2829:C:H5'	2.12	0.49
23:RB:83:G:N2	23:RB:93:C:N3	2.50	0.49
28:RH:155:SER:OG	28:RH:156:ALA:N	2.45	0.49
33:RQ:11:LYS:HE2	33:RQ:86:GLY:O	2.11	0.49
34:RR:44:LEU:HD22	34:RR:48:VAL:HG23	1.94	0.49
1:XA:1256:A:H4'	1:XA:1258:G:C4	2.47	0.49
6:XF:97:PHE:HB2	18:XR:32:ARG:CZ	2.41	0.49
11:XK:82:VAL:HB	11:XK:108:ILE:HG12	1.94	0.49
13:XM:81:LEU:HD13	13:XM:88:ARG:HD2	1.94	0.49
22:YA:273:G:N2	22:YA:365:C:C2	2.80	0.49
22:YA:769:G:H5'	22:YA:1379:A:N6	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1093:G:HO2'	22:YA:1099:G:H1	1.59	0.49
22:YA:2629:A:O2'	22:YA:2630:G:H5"	2.11	0.49
29:YI:5:LEU:HD11	29:YI:19:VAL:HG12	1.94	0.49
30:YN:7:LYS:N	30:YN:7:LYS:HD2	2.28	0.49
40:YX:53:LYS:HB3	40:YX:82:GLN:HB3	1.93	0.49
42:YZ:136:PHE:C	42:YZ:137:ILE:HG12	2.38	0.49
3:QC:73:PRO:O	3:QC:76:VAL:HG22	2.12	0.49
22:RA:242:G:N2	22:RA:254:G:H2'	2.28	0.49
22:RA:1077:A:C2	22:RA:1078:U:H4'	2.48	0.49
22:RA:1534:G:C2'	22:RA:1535:U:H4'	2.41	0.49
22:RA:1798:U:H5'	24:RD:259:THR:HG22	1.95	0.49
22:RA:2021:C:H5	37:RU:25:TRP:CD1	2.30	0.49
22:RA:2755:C:N3	52:R9:19:ARG:NH1	2.60	0.49
23:RB:8:U:O3'	35:RS:25:ARG:NH2	2.39	0.49
24:RD:175:LEU:HD12	24:RD:185:VAL:HG21	1.93	0.49
26:RF:9:ILE:HD11	26:RF:125:LEU:HG	1.94	0.49
27:RG:115:ARG:NH2	27:RG:137:GLU:OE1	2.46	0.49
33:RQ:111:GLU:C	33:RQ:113:GLN:H	2.19	0.49
35:RS:15:ARG:NH1	35:RS:25:ARG:HH21	2.11	0.49
42:RZ:10:ARG:NH2	42:RZ:26:GLY:O	2.45	0.49
1:XA:188:U:H2'	1:XA:189:U:H5"	1.94	0.49
1:XA:996:A:H8	1:XA:996:A:O5'	1.95	0.49
2:XB:12:GLU:C	2:XB:14:GLY:H	2.21	0.49
10:XJ:49:VAL:HG22	14:XN:41:ARG:HB2	1.94	0.49
19:XS:5:LEU:CD1	47:Y4:66:SER:CA	2.90	0.49
20:XT:89:ARG:NH2	20:XT:104:LEU:HD11	2.27	0.49
22:YA:277:C:H5'	22:YA:278:A:H5'	1.95	0.49
22:YA:307:G:H21	22:YA:330:A:H62	1.60	0.49
22:YA:522:G:C2	22:YA:523:C:C2	3.00	0.49
22:YA:1786:A:C2	22:YA:2606:C:H1'	2.47	0.49
22:YA:2401:U:H2'	22:YA:2402:C:H5"	1.94	0.49
23:YB:89:G:C6	23:YB:89(A):A:C6	3.01	0.49
24:YD:121:PRO:HB3	24:YD:135:PHE:CE1	2.47	0.49
25:YE:35:GLN:HG2	25:YE:37:ARG:HE	1.78	0.49
26:YF:31:HIS:HB2	32:YP:9:ASN:OD1	2.12	0.49
27:YG:94:LEU:HD12	27:YG:99:MET:HA	1.95	0.49
29:YI:3:VAL:HG12	29:YI:38:LEU:HA	1.94	0.49
29:YI:72:LEU:HD11	29:YI:107:VAL:HG21	1.94	0.49
37:YU:95:LEU:HD22	38:YV:4:ILE:HD12	1.93	0.49
42:YZ:136:PHE:CE1	42:YZ:138:GLU:HG3	2.47	0.49
1:QA:684:A:C6	1:QA:685:G:C5	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1256:A:OP1	3:QC:26:LYS:NZ	2.45	0.49
7:QG:20:ASP:HB3	7:QG:23:VAL:HG23	1.94	0.49
18:QR:26:LEU:HD22	18:QR:42:ARG:HD2	1.94	0.49
22:RA:286:C:H2'	22:RA:287:C:C6	2.48	0.49
22:RA:1359:A:H2'	22:RA:1360:A:H5'	1.94	0.49
22:RA:1678:G:N2	22:RA:1989:G:H22	2.10	0.49
30:RN:7:LYS:H	30:RN:7:LYS:HZ3	1.59	0.49
50:R7:31:LEU:HD22	50:R7:42:LEU:HD13	1.95	0.49
1:XA:34:C:H1'	12:XL:32:PHE:CE2	2.48	0.49
1:XA:56:U:H2'	1:XA:57:G:C8	2.46	0.49
1:XA:1158:C:H4'	2:XB:133:LYS:HZ3	1.77	0.49
1:XA:1258:G:H1	1:XA:1277:C:H42	1.60	0.49
22:YA:185:U:H4'	22:YA:218:A:H4'	1.94	0.49
22:YA:483:A:H5"	22:YA:484:C:OP2	2.12	0.49
22:YA:1087:G:H2'	22:YA:1089:G:H4'	1.93	0.49
22:YA:1355:G:H8	22:YA:1355:G:O5'	1.95	0.49
22:YA:1509:C:H3'	22:YA:1510:A:H5"	1.94	0.49
22:YA:1754:C:H5	36:YT:96:ARG:NH2	2.11	0.49
22:YA:2561:A:H2'	22:YA:2562:U:O4'	2.12	0.49
22:YA:2656:U:H3	22:YA:2665:A:H2	1.57	0.49
23:YB:13:A:N1	23:YB:69:G:O2'	2.42	0.49
30:YN:17:ASP:O	30:YN:56:ASN:HB2	2.12	0.49
30:YN:34:LEU:HD21	30:YN:120:LEU:HB2	1.94	0.49
37:YU:61:TRP:CD2	37:YU:94:ASN:HA	2.47	0.49
1:QA:587:G:N2	1:QA:754:C:OP2	2.46	0.49
1:QA:664:G:P	18:QR:64:ARG:HH21	2.35	0.49
1:QA:1058:G:N2	10:QJ:53:PRO:HG3	2.27	0.49
1:QA:1356:G:H2'	1:QA:1357:A:H8	1.76	0.49
8:QH:95:VAL:HB	8:QH:99:GLU:O	2.13	0.49
22:RA:177:G:H3'	22:RA:178:G:H8	1.77	0.49
22:RA:296:C:H2'	22:RA:297:C:H6	1.77	0.49
22:RA:322:A:OP2	26:RF:169:ASN:HB2	2.13	0.49
22:RA:1047:G:H2'	22:RA:1110:G:H1	1.78	0.49
22:RA:1161:C:H2'	22:RA:1162:G:C8	2.47	0.49
22:RA:1401:G:H2'	22:RA:1402:C:C6	2.48	0.49
22:RA:1469:A:H2'	22:RA:1470:G:O4'	2.13	0.49
22:RA:1899:G:N2	22:RA:1902:C:N4	2.58	0.49
22:RA:2510:C:H2'	22:RA:2511:U:C6	2.47	0.49
26:RF:178:PRO:HG2	26:RF:179:GLU:OE2	2.13	0.49
30:RN:134:ARG:N	30:RN:135:PRO:HD3	2.28	0.49
33:RQ:69:PHE:CD1	33:RQ:70:PRO:HD2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RY:47:LYS:HG2	41:RY:60:PHE:HD1	1.76	0.49
46:R3:6:VAL:HG13	46:R3:56:VAL:HG13	1.94	0.49
1:XA:374:A:O2'	1:XA:451:A:OP2	2.27	0.49
1:XA:1191:A:H5"	3:XC:4:LYS:NZ	2.27	0.49
2:XB:24:TRP:CZ3	2:XB:26:PRO:HA	2.48	0.49
19:XS:41:VAL:HB	19:XS:42:PRO:CA	2.42	0.49
22:YA:147:U:H2'	22:YA:148:C:C6	2.48	0.49
22:YA:2633:G:H5'	22:YA:2811:G:O2'	2.11	0.49
23:YB:95:U:H2'	23:YB:96:G:H8	1.75	0.49
24:YD:27:THR:HG21	24:YD:83:GLU:HG2	1.94	0.49
40:YX:57:LEU:HD11	40:YX:78:LYS:HD2	1.94	0.49
47:Y4:15:ILE:H	47:Y4:15:ILE:HD13	1.77	0.49
47:Y4:35:VAL:C	47:Y4:37:SER:H	2.20	0.49
49:Y6:15:GLU:CD	49:Y6:41:PRO:HB3	2.37	0.49
49:Y6:41:PRO:HD2	49:Y6:46:HIS:N	2.28	0.49
3:QC:47:LEU:HD23	3:QC:68:VAL:HG11	1.94	0.49
14:QN:15:LYS:HD2	14:QN:16:PHE:CE2	2.47	0.49
17:QQ:18:THR:HG23	17:QQ:69:LYS:HE3	1.94	0.49
22:RA:121:G:H4'	22:RA:149:A:H5'	1.94	0.49
22:RA:593:G:H4'	51:R8:61:LEU:HD13	1.94	0.49
22:RA:1016:G:H2'	22:RA:1017:G:O4'	2.13	0.49
22:RA:1065:U:H3	22:RA:1073:A:H61	1.61	0.49
22:RA:1789:A:H2'	22:RA:1790:C:O4'	2.13	0.49
25:RE:70:ALA:O	25:RE:72:VAL:N	2.46	0.49
26:RF:132:VAL:HG23	26:RF:133:ASN:OD1	2.12	0.49
27:RG:60:LEU:O	27:RG:64:THR:HG22	2.11	0.49
27:RG:110:ALA:HB1	27:RG:140:ILE:HD12	1.94	0.49
33:RQ:89:ASN:O	33:RQ:91:GLU:N	2.45	0.49
37:RU:92:ARG:O	37:RU:92:ARG:HG2	2.13	0.49
40:RX:27:THR:HB	40:RX:80:ILE:HB	1.94	0.49
42:RZ:151:HIS:O	42:RZ:171:ILE:HG12	2.13	0.49
1:XA:37:U:H2'	1:XA:38:G:O4'	2.12	0.49
1:XA:143:A:H5"	1:XA:144:G:O5'	2.12	0.49
1:XA:464:G:H1'	1:XA:468:A:N6	2.28	0.49
1:XA:1060:C:C5	3:XC:2:GLY:HA2	2.48	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	1.94	0.49
22:YA:781:A:H2'	22:YA:1777:U:O2'	2.13	0.49
22:YA:2345:G:N3	22:YA:2381:C:H2'	2.28	0.49
22:YA:2645:G:C3'	22:YA:2646:C:H5'	2.43	0.49
25:YE:179:GLU:HB3	25:YE:181:LEU:HD23	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YG:179:PRO:HG3	47:Y4:38:LYS:HZ1	1.76	0.49
32:YP:61:ARG:HD3	51:Y8:13:ARG:HD2	1.94	0.49
32:YP:63:PRO:HD3	51:Y8:13:ARG:HD3	1.95	0.49
41:YY:86:ARG:HB2	41:YY:95:LYS:HD2	1.93	0.49
49:Y6:41:PRO:O	49:Y6:45:LYS:HE3	2.12	0.49
1:QA:8:A:H4'	1:QA:9:G:OP1	2.11	0.49
1:QA:229:U:H2'	1:QA:230:G:C8	2.48	0.49
1:QA:975:A:C8	1:QA:1357:A:H2	2.31	0.49
1:QA:1318:A:H4'	19:QS:11:VAL:CG1	2.43	0.49
22:RA:58:G:C5	22:RA:59:U:C5	3.01	0.49
22:RA:270(U):C:H2'	22:RA:270(V):G:H8	1.77	0.49
22:RA:606:U:H4'	22:RA:658:C:H4'	1.94	0.49
22:RA:979:G:H3'	22:RA:980:A:C5'	2.41	0.49
22:RA:1853:A:N3	22:RA:2233:U:O2'	2.41	0.49
22:RA:2210:G:H5'	22:RA:2211:G:C6	2.48	0.49
27:RG:54:GLU:HA	27:RG:57:ALA:HB3	1.94	0.49
29:RI:81:VAL:CG2	29:RI:142:VAL:HG12	2.39	0.49
1:XA:17:U:H2'	1:XA:18:C:C6	2.48	0.49
1:XA:643:C:H2'	1:XA:644:G:C8	2.48	0.49
1:XA:818:G:O2'	1:XA:819:A:H5'	2.12	0.49
3:XC:148:GLY:HA3	3:XC:172:ARG:O	2.12	0.49
10:XJ:35:SER:OG	10:XJ:73:ASP:HB2	2.13	0.49
12:XL:62:SER:HB2	12:XL:64:TYR:HD1	1.76	0.49
22:YA:855:G:C6	22:YA:856:C:C4	3.01	0.49
22:YA:1208:C:C4	22:YA:1209:G:N7	2.81	0.49
22:YA:1312:U:H4'	22:YA:1313:U:O5'	2.13	0.49
22:YA:1930:G:O2'	22:YA:1931:U:P	2.71	0.49
22:YA:2020:A:O2'	22:YA:2021:C:H2'	2.12	0.49
22:YA:2496:C:P	33:YQ:81:VAL:HG12	2.53	0.49
24:YD:76:PRO:HG2	24:YD:98:VAL:HG21	1.94	0.49
29:YI:104:GLN:HG2	29:YI:105:HIS:CE1	2.48	0.49
1:QA:522:C:OP2	12:QL:69:TYR:OH	2.25	0.49
1:QA:849:C:H2'	1:QA:850:U:O4'	2.13	0.49
1:QA:1203:C:H2'	1:QA:1204:A:C8	2.48	0.49
1:QA:1226:C:H2'	13:QM:103:THR:HB	1.93	0.49
3:QC:79:ARG:HE	11:XK:99:GLN:NE2	2.11	0.49
12:QL:24:VAL:HG13	12:QL:98:TYR:HE2	1.77	0.49
15:QO:87:ILE:HG22	15:QO:88:ARG:H	1.78	0.49
19:QS:77:THR:HG22	19:QS:78:ARG:HD3	1.95	0.49
20:QT:79:ARG:O	20:QT:83:ARG:HG3	2.12	0.49
22:RA:589:C:H2'	22:RA:590:A:H8	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:680:G:H2'	22:RA:681:G:C8	2.48	0.49
22:RA:1091:G:N2	22:RA:1101:U:H1'	2.27	0.49
22:RA:1212:G:N2	22:RA:1236:G:O2'	2.44	0.49
22:RA:2540:C:H2'	22:RA:2541:A:O4'	2.13	0.49
29:RI:3:VAL:HG12	29:RI:38:LEU:HA	1.94	0.49
49:R6:14:THR:O	49:R6:49:HIS:HA	2.12	0.49
1:XA:518:C:H2'	1:XA:530:G:C4	2.48	0.49
1:XA:1277:C:H2'	1:XA:1279:A:H8	1.76	0.49
1:XA:1291:G:OP1	7:XG:37:ASN:ND2	2.46	0.49
1:XA:1443:G:H2'	36:YT:122:ASP:OD2	2.13	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
22:YA:602:G:C2	22:YA:656:G:C6	3.01	0.49
22:YA:1657:C:O2'	25:YE:133:LYS:HD2	2.13	0.49
22:YA:1693:U:O2'	24:YD:14:ARG:NH2	2.45	0.49
22:YA:1758:G:OP1	22:YA:1760:A:N6	2.46	0.49
22:YA:2323:G:H2'	22:YA:2324:C:O4'	2.13	0.49
24:YD:61:LEU:O	24:YD:63:ARG:NH1	2.45	0.49
28:YH:12:PRO:HG3	28:YH:48:GLY:HA2	1.95	0.49
42:YZ:48:PHE:CE2	42:YZ:52:SER:HA	2.48	0.49
49:Y6:21:TYR:HE1	49:Y6:53:LYS:HE3	1.77	0.49
53:QV:9:G:N3	53:QV:45:G:H2'	2.28	0.49
1:QA:266:G:H5'	1:QA:268:C:H41	1.77	0.49
1:QA:617:G:N2	1:QA:618:C:N3	2.61	0.49
1:QA:751:U:H2'	1:QA:752:G:O4'	2.13	0.49
1:QA:1066:C:H5'	1:QA:1067:A:OP2	2.13	0.49
1:QA:1512:U:H2'	1:QA:1513:A:H8	1.78	0.49
2:QB:80:ILE:HG21	2:QB:212:GLN:HA	1.95	0.49
4:QD:129:ASN:HA	4:QD:145:GLU:HB2	1.94	0.49
21:QU:5:ASP:O	21:QU:11:GLY:HA3	2.13	0.49
22:RA:860:U:H5	22:RA:917:A:C2	2.31	0.49
22:RA:861:A:C2	22:RA:917:A:C5	3.01	0.49
22:RA:1130:U:C2	25:RE:147:PRO:HB3	2.48	0.49
22:RA:1178:C:H2'	22:RA:1179:C:C5	2.48	0.49
22:RA:1292:U:H2'	22:RA:1293:C:C6	2.48	0.49
22:RA:1676:A:N6	22:RA:1677:A:N1	2.61	0.49
22:RA:2144:U:O2'	22:RA:2147:G:O6	2.21	0.49
22:RA:2292:C:OP2	35:RS:17:ARG:NH2	2.46	0.49
27:RG:98:ARG:HE	27:RG:98:ARG:HB2	1.38	0.49
1:XA:1118:C:OP1	9:XI:9:ARG:HD3	2.12	0.49
1:XA:1179:A:O3'	9:XI:103:THR:HG23	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:79:ARG:HH12	3:XC:82:GLU:HG3	1.77	0.49
6:XF:19:LEU:HD21	6:XF:59:TYR:CE2	2.47	0.49
22:YA:698:C:O2'	22:YA:734:A:N6	2.46	0.49
22:YA:1042:G:H1	22:YA:1113:U:H3	1.61	0.49
22:YA:1957:C:H2'	22:YA:1958:C:C6	2.48	0.49
22:YA:2639:A:H2'	22:YA:2640:G:O4'	2.13	0.49
24:YD:35:LYS:HZ2	24:YD:64:ILE:C	2.15	0.49
26:YF:176:LEU:HD21	26:YF:181:LEU:HA	1.94	0.49
33:YQ:104:PHE:CE1	33:YQ:125:LEU:HD11	2.41	0.49
1:QA:325:A:H2'	1:QA:326:G:O4'	2.11	0.48
1:QA:455:C:H42	1:QA:477:G:H1	1.59	0.48
1:QA:855:G:C6	1:QA:856:C:C4	3.01	0.48
1:QA:1053:G:O6	1:QA:1199:U:H2'	2.13	0.48
1:QA:1053:G:N7	1:QA:1199:U:H3'	2.27	0.48
1:QA:1312:G:H5"	47:R4:67:TYR:OH	2.13	0.48
1:QA:1412:C:H2'	1:QA:1413:A:C8	2.48	0.48
2:QB:96:ARG:H	2:QB:96:ARG:HD2	1.76	0.48
7:QG:155:ARG:O	7:QG:155:ARG:NH2	2.46	0.48
15:QO:16:ALA:HB1	15:QO:21:ASP:HB3	1.94	0.48
22:RA:503:A:C4'	22:RA:504:U:H5'	2.42	0.48
22:RA:1022:G:H4'	22:RA:1023:U:H5'	1.95	0.48
22:RA:1137:G:O2'	22:RA:2039:C:H5'	2.13	0.48
22:RA:2469:A:H2	22:RA:2481:G:H21	1.61	0.48
28:RH:4:ILE:HG13	28:RH:6:ARG:NE	2.28	0.48
29:RI:130:TYR:C	29:RI:131:LYS:HD2	2.38	0.48
36:RT:16:ARG:HD3	36:RT:19:LEU:HD11	1.94	0.48
41:RY:47:LYS:HG2	41:RY:60:PHE:CD1	2.48	0.48
49:R6:25:LYS:HE2	49:R6:27:LYS:HD3	1.94	0.48
1:XA:347:G:C4	1:XA:348:G:C8	3.00	0.48
1:XA:444:C:H2'	1:XA:445:G:C8	2.48	0.48
3:XC:134:ILE:HG23	3:XC:151:VAL:HB	1.94	0.48
5:XE:33:VAL:HG11	5:XE:109:ILE:HA	1.95	0.48
22:YA:225:A:O2'	22:YA:257:A:H4'	2.13	0.48
22:YA:270(G):C:H2'	22:YA:270(H):C:C6	2.47	0.48
22:YA:1159:U:H2'	22:YA:1160:G:O4'	2.13	0.48
22:YA:2636:U:OP2	25:YE:79:ARG:NH1	2.46	0.48
22:YA:2687:U:H2'	22:YA:2688:U:O4'	2.12	0.48
24:YD:35:LYS:HD3	24:YD:63:ARG:CB	2.43	0.48
28:YH:98:LEU:HD13	28:YH:125:VAL:HB	1.94	0.48
36:YT:107:ASP:H	36:YT:110:ILE:HG22	1.78	0.48
52:Y9:1:MET:HE1	52:Y9:32:HIS:CE1	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:440:A:H5'	1:QA:442:C:OP2	2.13	0.48
1:QA:1060:C:H2'	1:QA:1061:G:H8	1.78	0.48
1:QA:1305:G:O2'	1:QA:1306:A:O4'	2.31	0.48
1:QA:1368:G:H5'	9:QI:112:LYS:O	2.13	0.48
2:QB:21:ARG:O	2:QB:23:ARG:N	2.46	0.48
10:QJ:24:VAL:HG21	10:QJ:37:PRO:HD3	1.95	0.48
10:QJ:32:ALA:HB3	10:QJ:76:ASN:HB2	1.95	0.48
12:QL:58:VAL:O	12:QL:65:GLU:HA	2.13	0.48
22:RA:107:C:H2'	22:RA:108:U:C6	2.48	0.48
22:RA:381:G:H2'	22:RA:382:G:H8	1.78	0.48
22:RA:456:C:O2'	22:RA:457:A:H5'	2.13	0.48
22:RA:977:G:C6	22:RA:987:G:C6	3.01	0.48
22:RA:1366:A:H2'	22:RA:1367:A:O4'	2.12	0.48
22:RA:2056:G:N2	48:R5:4:HIS:O	2.45	0.48
22:RA:2404:C:H2'	22:RA:2405:G:H5'	1.95	0.48
26:RF:178:PRO:HB2	26:RF:201:VAL:HG11	1.94	0.48
28:RH:41:MET:HG3	28:RH:54:ARG:HA	1.96	0.48
42:RZ:30:ASN:N	42:RZ:30:ASN:OD1	2.43	0.48
1:XA:107:G:OP1	1:XA:325:A:N6	2.46	0.48
1:XA:485:G:H1'	1:XA:486:U:H5	1.77	0.48
1:XA:619:U:O2	1:XA:619:U:H2'	2.11	0.48
1:XA:757:U:H2'	1:XA:758:G:O4'	2.13	0.48
6:XF:35:ALA:HA	6:XF:67:MET:HB3	1.94	0.48
13:XM:62:ASN:CG	47:Y4:49:PHE:HD2	2.20	0.48
22:YA:840:C:OP2	22:YA:932:G:N2	2.39	0.48
22:YA:860:U:OP2	22:YA:916:G:N1	2.45	0.48
22:YA:1011:G:H22	22:YA:1151:G:H1'	1.77	0.48
22:YA:1204:A:H1'	22:YA:1206:G:C5	2.48	0.48
22:YA:1265:A:H8	22:YA:1265:A:OP1	1.95	0.48
22:YA:1494:A:H2'	22:YA:1495:A:C8	2.48	0.48
22:YA:1870:C:H2'	22:YA:1871:A:O4'	2.12	0.48
22:YA:2097:C:H2'	22:YA:2098:U:O4'	2.14	0.48
24:YD:35:LYS:NZ	24:YD:104:TYR:HB2	2.26	0.48
25:YE:21:VAL:HG23	25:YE:22:PRO:HD3	1.95	0.48
25:YE:111:ARG:HG2	34:YR:1:MET:SD	2.53	0.48
27:YG:166:ASP:HA	27:YG:169:ALA:HB3	1.95	0.48
28:YH:55:PRO:HG2	28:YH:61:HIS:CE1	2.48	0.48
31:YO:4:PRO:O	31:YO:5:GLN:HB2	2.11	0.48
31:YO:76:ALA:HB3	36:YT:75:ILE:HD12	1.95	0.48
37:YU:98:LEU:O	37:YU:102:GLU:N	2.37	0.48
39:YW:51:LEU:HD23	39:YW:105:VAL:HG11	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YZ:10:ARG:NH2	42:YZ:26:GLY:O	2.45	0.48
1:QA:129(A):G:N3	1:QA:189:U:H5'	2.28	0.48
1:QA:474:G:H2'	1:QA:475:G:C8	2.48	0.48
1:QA:1224:G:C6	1:QA:1322:C:H1'	2.49	0.48
1:QA:1310:G:N2	1:QA:1327:C:O2	2.40	0.48
1:QA:1423:G:H2'	1:QA:1424:C:O4'	2.12	0.48
2:QB:163:PHE:HD2	2:QB:185:ILE:HG13	1.78	0.48
4:QD:88:VAL:HG13	5:QE:97:GLY:HA3	1.95	0.48
7:QG:113:GLU:HG3	7:QG:119:ARG:HG2	1.94	0.48
22:RA:27:G:C2	22:RA:512:G:N3	2.81	0.48
22:RA:247:G:N7	22:RA:249:C:C2	2.81	0.48
22:RA:577:G:O2'	22:RA:1254:A:OP1	2.32	0.48
22:RA:858:U:O2	22:RA:2268:A:H2'	2.14	0.48
22:RA:2545:G:H2'	22:RA:2546:U:O4'	2.13	0.48
26:RF:155:LEU:HD12	26:RF:174:VAL:HG22	1.94	0.48
32:RP:59:LEU:HA	32:RP:61:ARG:HE	1.76	0.48
34:RR:97:VAL:HG22	34:RR:114:VAL:CG2	2.43	0.48
40:RX:39:ILE:O	40:RX:43:VAL:HG12	2.13	0.48
44:R1:53:VAL:HB	44:R1:58:ILE:HD12	1.94	0.48
1:XA:564:C:C2	17:XQ:31:LEU:HD11	2.48	0.48
1:XA:1024:G:H3'	1:XA:1024:G:N3	2.28	0.48
1:XA:1090:U:H2'	1:XA:1091:U:H6	1.78	0.48
1:XA:1399:C:C2	1:XA:1401:G:C5	3.01	0.48
3:XC:130:VAL:HG21	3:XC:157:ILE:HG23	1.94	0.48
5:XE:152:ARG:NH2	8:XH:107:LEU:O	2.46	0.48
15:XO:70:LEU:HD11	15:XO:77:ARG:HG3	1.96	0.48
16:XP:26:ARG:HH21	16:XP:31:LYS:HB3	1.77	0.48
22:YA:396:G:H1'	44:Y1:42:GLN:HB3	1.94	0.48
22:YA:1437:C:O2'	22:YA:1518:C:O2'	2.25	0.48
22:YA:1728:G:H3'	22:YA:1729:A:C5'	2.43	0.48
22:YA:1823:G:P	24:YD:54:ARG:HH21	2.36	0.48
22:YA:2729:G:H2'	22:YA:2730:C:C6	2.48	0.48
26:YF:185:ASP:OD1	26:YF:188:ARG:NH1	2.35	0.48
1:QA:1082:G:H5'	1:QA:1083:U:OP2	2.13	0.48
4:QD:100:ARG:NH2	4:QD:136:PRO:O	2.47	0.48
13:QM:23:TYR:HE1	13:QM:70:LEU:HD12	1.77	0.48
22:RA:429:A:C5	22:RA:430:G:C6	3.01	0.48
22:RA:962:G:H2'	22:RA:963:U:O4'	2.14	0.48
22:RA:1316:U:H2'	22:RA:1317:A:C8	2.48	0.48
22:RA:2563:U:N3	22:RA:2566:A:OP2	2.43	0.48
23:RB:7:G:H5'	35:RS:29:PHE:CE1	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RP:58:THR:O	32:RP:61:ARG:CZ	2.61	0.48
1:XA:200:G:H1	1:XA:217:C:H42	1.61	0.48
1:XA:542:G:OP1	4:XD:10:ARG:NH2	2.46	0.48
1:XA:713:G:H2'	1:XA:714:G:C8	2.48	0.48
1:XA:1216:G:OP1	14:XN:2:ALA:HA	2.13	0.48
2:XB:101:MET:HA	2:XB:108:ILE:HG13	1.95	0.48
3:XC:7:PRO:O	3:XC:11:ARG:HG2	2.13	0.48
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
20:XT:93:GLU:OE1	20:XT:94:ALA:N	2.46	0.48
22:YA:199:A:C8	22:YA:2433:A:C6	3.01	0.48
22:YA:220:G:O2'	22:YA:233:A:N3	2.44	0.48
22:YA:259:G:H21	22:YA:621:A:H8	1.60	0.48
22:YA:638:G:H2'	22:YA:639:U:O4'	2.13	0.48
22:YA:745:G:O6	22:YA:746:A:N6	2.46	0.48
22:YA:1796:U:H2'	22:YA:1797:C:C6	2.47	0.48
22:YA:2127:G:H22	22:YA:2162:G:H1'	1.78	0.48
22:YA:2168:G:N2	22:YA:2170:A:H62	2.11	0.48
22:YA:2321:G:N2	22:YA:2322:A:O4'	2.46	0.48
22:YA:2532:G:C6	22:YA:2533:A:C6	3.01	0.48
23:YB:82:G:C4	23:YB:83:G:C8	3.01	0.48
25:YE:20:ALA:HB3	25:YE:21:VAL:HG13	1.95	0.48
28:YH:137:ASP:HB3	28:YH:140:LYS:HB3	1.94	0.48
32:YP:82:GLY:HA2	32:YP:113:LYS:O	2.12	0.48
32:YP:135:LEU:HD13	32:YP:139:LYS:HE2	1.94	0.48
36:YT:102:ILE:HB	36:YT:110:ILE:HD13	1.95	0.48
38:YV:15:GLU:O	38:YV:18:LEU:HB2	2.14	0.48
44:Y1:41:ARG:HH11	44:Y1:41:ARG:HG3	1.79	0.48
48:Y5:41:PRO:O	48:Y5:44:THR:OG1	2.32	0.48
1:QA:256:U:H2'	1:QA:257:G:C8	2.48	0.48
1:QA:258:G:C2	1:QA:259:G:C8	3.02	0.48
1:QA:642:A:N3	8:QH:113:SER:OG	2.38	0.48
3:QC:150:LYS:HG3	3:QC:169:ALA:HB2	1.96	0.48
13:QM:49:THR:HG22	13:QM:51:ALA:H	1.79	0.48
20:QT:12:ALA:O	20:QT:15:ARG:HB2	2.14	0.48
22:RA:270(P):C:O3'	29:RI:45:LYS:HE2	2.14	0.48
22:RA:592:G:H1	22:RA:665:C:N4	2.10	0.48
22:RA:888:C:H3'	22:RA:889:C:H4'	1.95	0.48
22:RA:1011:G:C2	22:RA:1151:G:C2	3.01	0.48
22:RA:1319:G:H1	22:RA:1333:C:H42	1.59	0.48
22:RA:2461:C:H2'	22:RA:2462:U:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2751:G:C2	28:RH:3:ARG:HB3	2.49	0.48
22:RA:2815:C:H2'	22:RA:2816:C:H6	1.77	0.48
30:RN:4:TYR:O	37:RU:64:ARG:NH1	2.46	0.48
34:RR:2:ARG:HA	34:RR:5:LYS:HE3	1.95	0.48
43:R0:40:GLN:OE1	43:R0:44:ARG:N	2.43	0.48
46:R3:4:LEU:O	46:R3:36:VAL:HA	2.13	0.48
1:XA:258:G:H2'	1:XA:259:G:C8	2.46	0.48
1:XA:295:C:H2'	1:XA:296:U:C6	2.48	0.48
2:XB:204:ASN:ND2	2:XB:206:ASP:H	2.11	0.48
5:XE:110:LEU:HD13	5:XE:118:ILE:HG21	1.94	0.48
11:XK:18:ARG:NH2	11:XK:35:PRO:O	2.45	0.48
22:YA:1085:A:O2'	22:YA:1086:A:OP1	2.31	0.48
22:YA:1341:U:OP2	22:YA:1394:U:O2'	2.18	0.48
22:YA:1639:U:H4'	22:YA:2699:C:H4'	1.95	0.48
22:YA:1665:A:H2'	22:YA:1666:G:O4'	2.14	0.48
22:YA:2331:G:H4'	43:Y0:43:THR:N	2.26	0.48
29:YI:46:ALA:C	29:YI:50:ARG:HD3	2.38	0.48
32:YP:5:ASP:O	32:YP:6:LEU:O	2.31	0.48
32:YP:14:LYS:O	32:YP:16:ARG:HG2	2.13	0.48
44:Y1:25:LYS:C	44:Y1:27:GLU:H	2.22	0.48
53:QV:53:G:O2'	53:QV:54:U:H6	1.96	0.48
1:QA:380:G:C2	1:QA:384:G:C6	3.02	0.48
3:QC:79:ARG:NH2	11:XK:99:GLN:HB2	2.29	0.48
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
15:QO:26:GLU:H	15:QO:26:GLU:HG2	1.41	0.48
16:QP:43:LYS:HA	16:QP:48:TRP:HB3	1.96	0.48
19:QS:26:GLY:O	19:QS:28:LYS:N	2.41	0.48
22:RA:180:G:N2	22:RA:214:G:O6	2.46	0.48
22:RA:627:A:H4'	22:RA:628:G:H5'	1.95	0.48
22:RA:825:C:H2'	22:RA:826:U:O4'	2.13	0.48
22:RA:991:C:O2'	38:RV:85:LYS:NZ	2.47	0.48
22:RA:1259:G:H2'	22:RA:1260:G:H8	1.78	0.48
25:RE:181:LEU:HD21	36:RT:7:ILE:HG23	1.95	0.48
26:RF:197:ASP:OD2	26:RF:197:ASP:N	2.46	0.48
29:RI:90:GLY:O	29:RI:121:LYS:HE2	2.13	0.48
32:RP:37:GLY:O	32:RP:40:SER:OG	2.26	0.48
35:RS:64:GLU:O	35:RS:68:GLN:HG3	2.14	0.48
41:RY:51:VAL:O	41:RY:56:PRO:HA	2.14	0.48
41:RY:81:LYS:NZ	41:RY:98:VAL:HG11	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RZ:146:ILE:HG22	42:RZ:174:VAL:HG12	1.95	0.48
43:R0:36:ILE:HG13	43:R0:58:THR:HG23	1.93	0.48
48:R5:55:ARG:HG3	48:R5:57:VAL:N	2.17	0.48
1:XA:1086:U:H3	1:XA:1099:G:H22	1.61	0.48
1:XA:1233:G:H2'	1:XA:1234:C:C6	2.49	0.48
9:XI:9:ARG:HB2	9:XI:14:VAL:HA	1.96	0.48
12:XL:62:SER:C	12:XL:64:TYR:H	2.21	0.48
22:YA:77:C:O5'	22:YA:77:C:H6	1.97	0.48
22:YA:443:A:H5"	22:YA:444:C:OP1	2.14	0.48
22:YA:609(A):G:H2'	22:YA:610:C:H6	1.79	0.48
22:YA:662:G:H5"	32:YP:17:LYS:HG2	1.95	0.48
22:YA:1607:C:H4'	22:YA:1608:A:O5'	2.14	0.48
22:YA:2320:A:H2'	22:YA:2320:A:N3	2.28	0.48
22:YA:2564:A:OP1	22:YA:2648:C:H4'	2.14	0.48
22:YA:2867:G:OP2	36:YT:119:LYS:NZ	2.23	0.48
29:YI:52:ARG:HA	29:YI:55:ALA:HB3	1.95	0.48
32:YP:52:GLU:O	32:YP:55:ARG:HG2	2.14	0.48
40:YX:63:LYS:O	40:YX:64:LYS:HD2	2.14	0.48
41:YY:35:TYR:CD1	41:YY:69:ALA:HB3	2.49	0.48
42:YZ:105:VAL:HG22	42:YZ:140:ASP:HB3	1.94	0.48
1:QA:559:A:C4'	1:QA:560:U:H3'	2.34	0.48
1:QA:935:A:H2'	1:QA:936:C:C6	2.49	0.48
1:QA:1305:G:H5'	21:QU:4:GLY:HA3	1.94	0.48
8:QH:102:ARG:NH1	8:QH:105:ARG:HH22	2.12	0.48
22:RA:769:G:H5'	22:RA:1379:A:H61	1.79	0.48
22:RA:2021:C:OP1	48:R5:12:SER:OG	2.28	0.48
22:RA:2030:A:H4'	22:RA:2031:A:C8	2.48	0.48
22:RA:2109:U:H2'	22:RA:2110:G:C8	2.47	0.48
27:RG:81:LYS:O	27:RG:82:LEU:HB2	2.13	0.48
28:RH:154:PRO:HD3	28:RH:162:ILE:H	1.77	0.48
32:RP:36:LYS:HB3	32:RP:40:SER:HB3	1.95	0.48
1:XA:201:C:N4	1:XA:209:U:O2	2.47	0.48
1:XA:865:A:N3	1:XA:918:A:O2'	2.38	0.48
1:XA:1171:G:H2'	1:XA:1172:C:C6	2.48	0.48
1:XA:1365:G:H2'	1:XA:1366:C:H6	1.79	0.48
1:XA:1366:C:C2	1:XA:1367:C:C5	3.01	0.48
2:XB:37:ASN:C	2:XB:39:ILE:H	2.20	0.48
19:XS:39:THR:HG22	19:XS:40:ILE:H	1.78	0.48
20:XT:98:PRO:C	20:XT:100:ILE:H	2.21	0.48
22:YA:270(O):U:O4	29:YI:52:ARG:HD3	2.14	0.48
22:YA:593:G:O4'	51:Y8:4:MET:HE1	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:963:U:O2'	22:YA:964:C:H5'	2.13	0.48
22:YA:975:G:H1'	22:YA:990:A:C2	2.48	0.48
22:YA:1183:G:H4'	46:Y3:29:ARG:HH22	1.78	0.48
22:YA:1266:G:O5'	39:YW:15:ARG:NH2	2.46	0.48
22:YA:1359:A:H61	22:YA:1372:U:H3	1.60	0.48
22:YA:1448:G:N3	22:YA:1529:A:H2	2.12	0.48
22:YA:2712:U:O2'	22:YA:2712(A):A:P	2.71	0.48
37:YU:60:LEU:HD22	37:YU:60:LEU:O	2.14	0.48
37:YU:97:ASP:OD1	37:YU:101:ARG:NH1	2.46	0.48
38:YV:76:LYS:HB2	38:YV:81:TYR:HB3	1.95	0.48
39:YW:67:ASP:OD2	39:YW:67:ASP:N	2.46	0.48
42:YZ:62:PRO:C	42:YZ:64:GLY:H	2.21	0.48
42:YZ:62:PRO:O	42:YZ:64:GLY:N	2.47	0.48
53:XV:2:G:H2'	53:XV:3:C:H6	1.78	0.48
53:XV:10:G:H2'	53:XV:10:G:N3	2.28	0.48
1:QA:662:G:H2'	1:QA:663:A:C8	2.49	0.48
1:QA:1053:G:H2'	1:QA:1199:U:C5	2.48	0.48
1:QA:1347:G:C8	9:QI:107:ARG:HB3	2.49	0.48
4:QD:31:CYS:O	4:QD:31:CYS:SG	2.71	0.48
9:QI:40:LEU:O	9:QI:42:ARG:N	2.46	0.48
10:QJ:78:ASN:O	10:QJ:82:ILE:HG12	2.14	0.48
22:RA:617:G:P	26:RF:40:GLN:HE21	2.28	0.48
22:RA:813:U:H2'	22:RA:814:C:C6	2.48	0.48
22:RA:1190:G:H5'	32:RP:32:THR:HA	1.96	0.48
22:RA:1608:A:H1'	22:RA:1610:A:OP2	2.14	0.48
22:RA:1755:A:N6	22:RA:2694:G:O2'	2.47	0.48
22:RA:1849:G:H2'	22:RA:1850:G:C8	2.47	0.48
22:RA:2279:G:N2	22:RA:2280:G:H1'	2.29	0.48
22:RA:2415:G:H4'	32:RP:67:MET:N	2.28	0.48
22:RA:2742:C:OP1	52:R9:35:ARG:HD3	2.13	0.48
48:R5:46:CYS:O	48:R5:48:GLU:N	2.47	0.48
51:R8:51:ALA:N	51:R8:53:PRO:HD2	2.29	0.48
1:XA:7:G:H5'	1:XA:298:A:O4'	2.14	0.48
1:XA:292:G:N7	1:XA:293:G:H1'	2.29	0.48
1:XA:356:A:H2'	1:XA:357:G:C8	2.41	0.48
1:XA:486:U:H2'	1:XA:487:A:H8	1.77	0.48
1:XA:623:C:H2'	1:XA:624:C:O4'	2.14	0.48
1:XA:1323:G:H4'	1:XA:1362(A):C:C2	2.49	0.48
5:XE:6:PHE:CE2	5:XE:36:ASP:HB3	2.48	0.48
9:XI:114:TYR:CD2	9:XI:114:TYR:N	2.81	0.48
16:XP:22:THR:HA	16:XP:33:ILE:HG12	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:263:C:H2'	22:YA:264:C:O4'	2.14	0.48
22:YA:279:C:H2'	22:YA:280:C:C6	2.48	0.48
22:YA:521:G:H2'	22:YA:522:G:C8	2.44	0.48
22:YA:1045:A:O2'	22:YA:1046:A:OP2	2.22	0.48
22:YA:1131:G:N2	22:YA:1132:A:C2	2.82	0.48
22:YA:2477:C:H2'	52:Y9:1:MET:CG	2.43	0.48
29:YI:83:ALA:O	29:YI:85:GLU:N	2.47	0.48
33:YQ:45:GLN:H	33:YQ:45:GLN:CD	2.22	0.48
35:YS:74:ALA:HB1	35:YS:107:GLU:HB3	1.96	0.48
37:YU:90:VAL:HG22	38:YV:39:LEU:HB3	1.96	0.48
47:Y4:43:TYR:C	47:Y4:43:TYR:CD2	2.92	0.48
48:Y5:58:LEU:HD22	48:Y5:60:VAL:HB	1.96	0.48
53:QV:17:C:H2'	53:QV:17:C:O2	2.13	0.48
1:QA:743:U:H2'	1:QA:744:C:C6	2.49	0.48
1:QA:911:U:H2'	1:QA:912:C:C6	2.49	0.48
5:QE:69:VAL:O	5:QE:71:LEU:N	2.47	0.48
7:QG:57:GLU:OE1	7:QG:57:GLU:N	2.41	0.48
8:QH:82:HIS:HD1	8:QH:138:TRP:NE1	2.11	0.48
17:QQ:100:LYS:O	17:QQ:101:ARG:NE	2.47	0.48
22:RA:405:U:H6	22:RA:405:U:H5'	1.78	0.48
22:RA:2107:C:N4	22:RA:2182:G:H1	2.04	0.48
22:RA:2803:C:H2'	22:RA:2804:C:C6	2.48	0.48
23:RB:44:G:OP1	47:R4:1:MET:N	2.44	0.48
26:RF:102:PRO:HB2	26:RF:105:VAL:HG23	1.95	0.48
27:RG:82:LEU:HD21	27:RG:88:ILE:HG13	1.96	0.48
28:RH:86:GLU:OE1	28:RH:86:GLU:N	2.43	0.48
29:RI:115:ALA:C	29:RI:117:GLU:H	2.18	0.48
47:R4:23:GLU:HG3	47:R4:25:TYR:CE2	2.49	0.48
49:R6:18:ARG:HB2	49:R6:44:ARG:HH12	1.77	0.48
1:XA:777:A:H2'	1:XA:778:G:H8	1.77	0.48
1:XA:1112:C:C2	3:XC:178:LEU:HB2	2.49	0.48
1:XA:1118:C:P	9:XI:104:ARG:HH11	2.37	0.48
6:XF:10:LEU:HD22	6:XF:61:LEU:HD11	1.95	0.48
22:YA:1293:C:H2'	22:YA:1294:U:H6	1.79	0.48
22:YA:1382:G:C4	22:YA:1383:C:C5	3.02	0.48
22:YA:1436:G:H2'	22:YA:1437:C:O4'	2.13	0.48
22:YA:1638:C:O2'	22:YA:2698:U:O2'	2.15	0.48
22:YA:1733:G:H5'	22:YA:1734:C:OP2	2.14	0.48
22:YA:2112:G:C6	22:YA:2169:A:N6	2.81	0.48
22:YA:2131:G:H1'	22:YA:2158:A:N6	2.28	0.48
23:YB:78:A:C2	23:YB:99:A:C4	3.02	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YH:6:ARG:HA	28:YH:66:GLY:HA2	1.95	0.48
29:YI:40:THR:O	29:YI:44:LEU:HB2	2.13	0.48
32:YP:46:LYS:HE3	32:YP:46:LYS:HB3	1.54	0.48
32:YP:98:GLU:HA	32:YP:101:VAL:HB	1.96	0.48
37:YU:92:ARG:CZ	38:YV:11:GLN:H	2.26	0.48
1:QA:1086:U:O5'	1:QA:1086:U:H6	1.97	0.48
12:QL:17:LYS:HG2	12:QL:19:ARG:HG2	1.94	0.48
12:QL:38:THR:O	12:QL:79:GLU:HG3	2.14	0.48
22:RA:125:G:H1'	50:R7:13:ALA:CB	2.44	0.48
22:RA:229:A:H4'	22:RA:229:A:OP1	2.12	0.48
22:RA:1614:A:N7	39:RW:93:ALA:HB2	2.28	0.48
22:RA:2633:G:H2'	22:RA:2634:G:O4'	2.14	0.48
24:RD:25:THR:O	24:RD:27:THR:HG22	2.14	0.48
24:RD:35:LYS:HE3	24:RD:64:ILE:C	2.39	0.48
26:RF:183:VAL:O	26:RF:187:VAL:HG23	2.13	0.48
27:RG:95:ARG:C	27:RG:99:MET:HG2	2.38	0.48
29:RI:113:ARG:HG3	29:RI:131:LYS:HD3	1.96	0.48
1:XA:254:G:OP1	17:XQ:67:LYS:O	2.32	0.48
1:XA:438:G:H4'	4:XD:123:HIS:CD2	2.48	0.48
1:XA:1127:G:H21	1:XA:1147:C:N4	2.12	0.48
8:XH:49:GLU:HG2	8:XH:62:TYR:HE2	1.78	0.48
22:YA:57:C:H2'	22:YA:58:G:O4'	2.13	0.48
22:YA:389:G:H1	32:YP:70:GLN:HB3	1.79	0.48
22:YA:392:C:H5"	22:YA:409:C:H5"	1.95	0.48
22:YA:413:C:O5'	22:YA:413:C:H6	1.97	0.48
22:YA:805:G:H22	22:YA:828:U:H5"	1.79	0.48
22:YA:1416:G:H2'	22:YA:1417:C:C6	2.49	0.48
22:YA:1469:A:H2'	22:YA:1470:G:H8	1.76	0.48
41:YY:44:ILE:HG13	41:YY:45:VAL:N	2.28	0.48
49:Y6:27:LYS:NZ	49:Y6:27:LYS:HB2	2.28	0.48
1:QA:602:A:H2'	1:QA:603:U:H6	1.78	0.47
1:QA:663:A:O3'	18:QR:64:ARG:NH2	2.47	0.47
4:QD:57:ARG:NH2	5:QE:107:ARG:HD3	2.24	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
14:QN:41:ARG:CZ	14:QN:42:ILE:HD11	2.44	0.47
22:RA:455:C:N3	22:RA:473:G:H5'	2.29	0.47
22:RA:671:C:H2'	22:RA:672:C:C6	2.49	0.47
22:RA:747:U:O2	22:RA:2014:A:H1'	2.14	0.47
22:RA:1093:G:H1'	22:RA:1099:G:O6	2.14	0.47
22:RA:2646:C:H2'	22:RA:2647:U:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2821:A:H2'	22:RA:2822:G:O4'	2.14	0.47
23:RB:78:A:H2'	23:RB:79:C:O4'	2.14	0.47
32:RP:61:ARG:CD	51:R8:13:ARG:HD2	2.44	0.47
40:RX:83:VAL:HG11	40:RX:87:GLN:HB2	1.96	0.47
42:RZ:62:PRO:C	42:RZ:64:GLY:N	2.72	0.47
45:R2:41:ILE:HD11	45:R2:44:LEU:HD12	1.96	0.47
52:R9:27:CYS:SG	52:R9:32:HIS:HB2	2.54	0.47
1:XA:678:U:C4	1:XA:679:C:N4	2.82	0.47
1:XA:1043:C:H2'	1:XA:1044:A:H8	1.79	0.47
1:XA:1390:U:H2'	1:XA:1391:U:H6	1.78	0.47
1:XA:1410:G:H2'	1:XA:1411:C:C6	2.48	0.47
9:XI:91:ASP:C	9:XI:93:ARG:H	2.21	0.47
18:XR:66:LEU:O	18:XR:70:ILE:HG13	2.14	0.47
22:YA:189:G:H1'	22:YA:207:A:N6	2.29	0.47
22:YA:458:G:C8	50:Y7:37:LYS:HG2	2.49	0.47
22:YA:2038:G:H2'	22:YA:2039:C:O4'	2.14	0.47
22:YA:2108:C:H2'	22:YA:2109:U:C6	2.48	0.47
22:YA:2349:G:OP2	51:Y8:42:ARG:HD3	2.14	0.47
30:YN:134:ARG:N	30:YN:135:PRO:HD3	2.29	0.47
35:YS:65:VAL:O	35:YS:69:VAL:HG12	2.14	0.47
38:YV:44:LYS:O	38:YV:46:VAL:HG12	2.13	0.47
42:YZ:141:VAL:HG23	42:YZ:144:LEU:HB2	1.96	0.47
42:YZ:145:GLU:OE2	42:YZ:146:ILE:HG23	2.14	0.47
45:Y2:59:ARG:O	45:Y2:63:VAL:HG23	2.14	0.47
1:QA:176:C:H2'	1:QA:177:C:H6	1.78	0.47
1:QA:222:U:H2'	1:QA:223:U:H6	1.79	0.47
1:QA:623:C:H2'	1:QA:624:C:O4'	2.14	0.47
1:QA:636:U:H2'	1:QA:637:G:H8	1.80	0.47
1:QA:826:C:H2'	1:QA:827:U:O2	2.14	0.47
2:QB:25:ASN:O	2:QB:27:LYS:N	2.47	0.47
26:RF:167:ALA:HB1	26:RF:173:VAL:HG11	1.95	0.47
27:RG:145:THR:O	27:RG:147:ASP:N	2.47	0.47
44:R1:91:LYS:O	44:R1:94:LEU:N	2.36	0.47
1:XA:556:C:H2'	1:XA:557:G:C8	2.49	0.47
1:XA:939:G:C2	1:XA:940:C:C2	3.02	0.47
2:XB:84:GLU:OE1	2:XB:87:ARG:NH2	2.43	0.47
3:XC:70:VAL:HG12	3:XC:72:LYS:H	1.79	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
10:XJ:38:ILE:HD11	10:XJ:71:LEU:HD23	1.96	0.47
18:XR:36:ASN:O	18:XR:36:ASN:ND2	2.41	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1797:C:H4'	24:YD:257:LEU:O	2.14	0.47
22:YA:2444:G:P	26:YF:68:LYS:HE3	2.53	0.47
22:YA:2721:A:H2'	22:YA:2722:G:O4'	2.14	0.47
23:YB:62:C:H2'	23:YB:63:G:H8	1.79	0.47
42:YZ:10:ARG:HD2	42:YZ:36:LYS:HB3	1.95	0.47
42:YZ:182:LYS:CG	42:YZ:183:LEU:HA	2.43	0.47
48:Y5:46:CYS:O	48:Y5:48:GLU:N	2.38	0.47
1:QA:10:A:OP2	5:QE:126:ARG:HD3	2.14	0.47
1:QA:375:U:OP1	16:QP:69:THR:HG21	2.13	0.47
1:QA:1127:G:H21	1:QA:1147:C:H41	1.62	0.47
1:QA:1238:A:H62	1:QA:1299:A:H61	1.62	0.47
2:QB:70:PHE:O	2:QB:93:VAL:N	2.48	0.47
2:QB:97:TRP:CH2	2:QB:173:ALA:HA	2.49	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	2.44	0.47
4:QD:26:CYS:HA	4:QD:31:CYS:HA	1.96	0.47
20:QT:75:ASN:OD1	20:QT:75:ASN:N	2.40	0.47
22:RA:186:G:C2	22:RA:211:A:C2	3.03	0.47
22:RA:822:U:H2'	22:RA:823:G:H8	1.78	0.47
22:RA:1078:U:O2'	22:RA:1088:A:N1	2.46	0.47
22:RA:2070:G:H2'	22:RA:2071:A:O4'	2.14	0.47
22:RA:2320:A:H8	22:RA:2321:G:N1	2.12	0.47
22:RA:2832:U:H4'	22:RA:2833:G:H5"	1.95	0.47
30:RN:7:LYS:H	30:RN:7:LYS:HD2	1.80	0.47
32:RP:127:ALA:HB3	32:RP:130:PHE:CZ	2.49	0.47
1:XA:1360:A:H2'	1:XA:1361:G:O4'	2.15	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
5:XE:8:GLU:OE2	5:XE:63:ARG:NH2	2.46	0.47
22:YA:175:G:H2'	22:YA:176:G:H8	1.79	0.47
22:YA:598:G:H5'	32:YP:11:GLY:HA3	1.95	0.47
22:YA:1198:U:H2'	22:YA:1199:U:H6	1.78	0.47
22:YA:1668:A:H4'	22:YA:1669:A:O5'	2.15	0.47
22:YA:1825:A:H2'	22:YA:1826:G:C8	2.49	0.47
22:YA:2584:U:C5'	56:Z8:76:PPU:H92	2.45	0.47
24:YD:71:ASP:HB2	24:YD:103:ARG:NH2	2.27	0.47
32:YP:5:ASP:O	32:YP:6:LEU:C	2.57	0.47
32:YP:144:GLU:OE1	32:YP:144:GLU:N	2.40	0.47
36:YT:11:GLU:OE1	36:YT:11:GLU:N	2.43	0.47
42:YZ:89:PHE:HE1	42:YZ:96:VAL:HG21	1.79	0.47
43:Y0:22:GLY:N	43:Y0:39:ARG:O	2.37	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:Y0:23:VAL:HA	43:Y0:38:VAL:HG22	1.96	0.47
44:Y1:91:LYS:HB3	44:Y1:92:LYS:H	1.44	0.47
1:QA:544:G:OP2	4:QD:66:ARG:NH2	2.47	0.47
1:QA:1099:G:H2'	1:QA:1100:C:O4'	2.15	0.47
6:QF:41:GLU:HB2	6:QF:62:TRP:CE3	2.50	0.47
7:QG:99:LEU:HD22	7:QG:103:TRP:CZ2	2.49	0.47
22:RA:605:C:H1'	22:RA:657:U:O2'	2.14	0.47
22:RA:1283:G:N2	22:RA:1285:G:H3'	2.30	0.47
22:RA:1338:G:O2'	22:RA:1393:A:N1	2.41	0.47
22:RA:2037:G:C6	22:RA:2038:G:C6	3.02	0.47
22:RA:2391:G:O2'	22:RA:2422:A:N7	2.48	0.47
22:RA:2421:G:OP1	49:R6:6:ARG:NH2	2.47	0.47
35:RS:88:ASP:CG	35:RS:89:ARG:H	2.21	0.47
37:RU:97:ASP:OD1	37:RU:101:ARG:NH1	2.47	0.47
42:RZ:177:PRO:O	42:RZ:178:GLU:HG2	2.14	0.47
1:XA:405:U:OP2	4:XD:3:ARG:NH2	2.47	0.47
1:XA:625:G:H2'	1:XA:626:U:H6	1.79	0.47
1:XA:803:G:H2'	1:XA:804:U:O4'	2.15	0.47
1:XA:1093:A:C2	1:XA:1095:U:H5'	2.50	0.47
1:XA:1148:U:H2'	1:XA:1149:C:O4'	2.14	0.47
3:XC:81:GLY:O	3:XC:85:ARG:HB2	2.14	0.47
6:XF:69:GLU:O	6:XF:72:VAL:HG12	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
22:YA:336:C:HO2'	41:YY:35:TYR:HH	1.57	0.47
22:YA:383:U:O2	22:YA:385:C:N4	2.46	0.47
22:YA:563:G:C4	22:YA:2018:G:C2	3.03	0.47
22:YA:624:C:O2	22:YA:657:U:H4'	2.14	0.47
22:YA:1914:C:H2'	22:YA:1915:U:O4'	2.14	0.47
23:YB:31:C:N4	35:YS:32:LEU:HD13	2.29	0.47
26:YF:36:VAL:HG11	26:YF:183:VAL:HG11	1.95	0.47
42:YZ:111:VAL:HA	42:YZ:115:GLY:HA3	1.95	0.47
43:Y0:25:ARG:HH11	43:Y0:25:ARG:HG2	1.80	0.47
44:Y1:53:VAL:HG22	44:Y1:74:VAL:HG13	1.96	0.47
1:QA:176:C:OP1	20:QT:29:LYS:NZ	2.48	0.47
1:QA:757:U:H2'	1:QA:758:G:O4'	2.14	0.47
1:QA:1106:G:H5"	3:QC:172:ARG:HG2	1.97	0.47
1:QA:1127:G:H21	1:QA:1147:C:N4	2.12	0.47
1:QA:1207:G:H2'	1:QA:1208:C:C6	2.49	0.47
1:QA:1292:U:H2'	1:QA:1293:G:C8	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:85:ALA:HB3	2:QB:92:TYR:HD2	1.79	0.47
20:QT:30:LYS:O	20:QT:33:ILE:HB	2.14	0.47
22:RA:430:G:H5"	22:RA:431:U:OP2	2.13	0.47
22:RA:458:G:O2'	50:R7:39:ARG:HD3	2.15	0.47
22:RA:565:C:H4'	22:RA:1253:A:C6	2.50	0.47
22:RA:729:G:H2'	22:RA:1775:U:H1'	1.97	0.47
22:RA:754:C:H2'	22:RA:755:C:C6	2.45	0.47
22:RA:764:A:H5'	24:RD:210:GLY:HA2	1.95	0.47
22:RA:777:A:H2'	22:RA:778:G:C8	2.50	0.47
22:RA:840:C:H2'	22:RA:841:A:C8	2.49	0.47
22:RA:1178:C:H2'	22:RA:1179:C:C6	2.48	0.47
22:RA:1509:C:H3'	22:RA:1510:A:H5"	1.97	0.47
22:RA:2067:G:H1	22:RA:2443:C:N4	2.12	0.47
22:RA:2336:A:H61	43:R0:43:THR:HG21	1.80	0.47
25:RE:73:GLU:HG3	25:RE:74:PRO:HD2	1.95	0.47
27:RG:3:LEU:HD11	47:R4:25:TYR:CE1	2.48	0.47
33:RQ:63:LYS:HG2	33:RQ:65:PHE:CE2	2.50	0.47
36:RT:64:ARG:HD2	36:RT:73:GLU:OE1	2.14	0.47
42:RZ:151:HIS:HA	42:RZ:170:THR:HA	1.95	0.47
1:XA:163:C:H2'	1:XA:164:U:C6	2.50	0.47
1:XA:280:C:C2	17:XQ:38:ARG:HG3	2.49	0.47
1:XA:595:G:H1'	1:XA:596:C:H5	1.78	0.47
1:XA:1347:G:O2'	1:XA:1348:U:P	2.72	0.47
1:XA:1435:G:H2'	1:XA:1436:U:C6	2.50	0.47
3:XC:22:TRP:CD1	3:XC:59:ARG:HD2	2.49	0.47
3:XC:34:LEU:HD23	3:XC:38:ARG:HG3	1.95	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	1.67	0.47
20:XT:35:THR:O	20:XT:39:LYS:HG3	2.14	0.47
22:YA:270:A:C2	22:YA:366:C:H4'	2.49	0.47
22:YA:528:A:H2	22:YA:2043:C:H5'	1.79	0.47
24:YD:28:GLU:HB2	24:YD:29:PRO:CD	2.45	0.47
33:YQ:21:THR:HB	33:YQ:22:LYS:H	1.40	0.47
51:Y8:36:LYS:HB3	51:Y8:40:GLU:HG2	1.95	0.47
1:QA:1298:C:O2'	1:QA:1299:A:OP2	2.28	0.47
9:QI:28:VAL:HG22	9:QI:63:ILE:HB	1.96	0.47
12:QL:44:THR:HA	12:QL:45:PRO:HD3	1.74	0.47
12:QL:51:ALA:HB3	12:QL:53:ARG:HE	1.80	0.47
13:QM:78:ILE:HG23	13:QM:92:HIS:ND1	2.29	0.47
22:RA:186:G:H2'	22:RA:187:G:H8	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:871:U:H4'	33:RQ:69:PHE:CE2	2.49	0.47
22:RA:901:A:H2'	22:RA:901:A:N3	2.29	0.47
22:RA:1283:G:H22	22:RA:1286:A:H5'	1.80	0.47
22:RA:1297:C:H2'	22:RA:1298:C:C6	2.49	0.47
22:RA:1300:U:H4'	22:RA:1301:A:H5"	1.95	0.47
22:RA:1449:A:H5'	22:RA:1449(A):G:OP2	2.15	0.47
22:RA:1782:C:H1'	22:RA:2609:U:H5"	1.96	0.47
22:RA:2293:C:OP1	22:RA:2377:A:N6	2.47	0.47
22:RA:2327:A:N6	22:RA:2387:U:O4	2.47	0.47
22:RA:2516:G:C2	22:RA:2569:G:N3	2.83	0.47
22:RA:2566:A:H4'	22:RA:2567:G:O5'	2.15	0.47
22:RA:2662:A:H8	22:RA:2662:A:O5'	1.96	0.47
22:RA:2679:A:C2	22:RA:2729:G:C2	3.02	0.47
25:RE:37:ARG:NE	25:RE:37:ARG:HA	2.28	0.47
39:RW:63:ASP:OD1	39:RW:63:ASP:N	2.48	0.47
41:RY:21:LYS:HG3	41:RY:22:GLY:N	2.30	0.47
43:R0:24:LYS:O	43:R0:25:ARG:HD3	2.14	0.47
1:XA:209:U:H1'	1:XA:216:G:C2	2.50	0.47
1:XA:664:G:H22	1:XA:741:G:H1	1.62	0.47
1:XA:729:A:H2'	1:XA:730:G:C8	2.49	0.47
17:XQ:67:LYS:O	17:XQ:68:ARG:HB3	2.15	0.47
22:YA:1656:C:P	25:YE:136:ARG:HE	2.37	0.47
22:YA:1833:U:O2'	22:YA:1969:A:N1	2.38	0.47
22:YA:2142:C:H2'	22:YA:2143:C:C6	2.49	0.47
22:YA:2849:U:OP2	36:YT:95:ARG:NH1	2.48	0.47
26:YF:164:ARG:HG3	26:YF:175:THR:OG1	2.15	0.47
27:YG:28:VAL:O	27:YG:31:VAL:HG13	2.14	0.47
30:YN:30:ILE:HG22	30:YN:34:LEU:HD22	1.96	0.47
1:QA:189:U:C4	17:QQ:72:ARG:NH2	2.83	0.47
1:QA:580:U:H5"	15:QO:58:MET:HG2	1.95	0.47
1:QA:604:G:H2'	1:QA:605:U:O4'	2.15	0.47
1:QA:652:U:O2'	1:QA:653:A:O5'	2.32	0.47
1:QA:954:G:N2	1:QA:1226:C:O2	2.43	0.47
1:QA:980:C:H5"	1:QA:981:U:H5	1.78	0.47
1:QA:1347:G:O2'	1:QA:1348:U:P	2.73	0.47
6:QF:61:LEU:HB3	6:QF:63:TYR:HE2	1.80	0.47
7:QG:18:TYR:HD2	7:QG:59:LEU:HD22	1.79	0.47
8:QH:91:ARG:HB2	12:QL:7:ILE:HG13	1.97	0.47
12:QL:27:LEU:O	12:QL:29:GLY:N	2.47	0.47
17:QQ:76:LEU:HD21	17:QQ:79:SER:HB2	1.97	0.47
22:RA:336:C:H2'	22:RA:337:C:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:709:U:C2	22:RA:723:G:N2	2.83	0.47
22:RA:777:A:H2'	22:RA:778:G:H8	1.80	0.47
22:RA:807:U:O2'	22:RA:2060:A:N1	2.45	0.47
22:RA:960:A:H61	33:RQ:82:ARG:HH12	1.62	0.47
22:RA:1204:A:H1'	22:RA:1206:G:C4	2.49	0.47
22:RA:1382:G:H4'	22:RA:1573:G:C2	2.50	0.47
22:RA:1416:G:C2	22:RA:1417:C:C4	3.02	0.47
22:RA:1638:C:H5"	22:RA:2710:C:O2'	2.14	0.47
22:RA:1728:G:C6	22:RA:1730:U:OP2	2.68	0.47
22:RA:1835:G:H1'	22:RA:1931:U:C5	2.50	0.47
22:RA:2257:U:O2'	22:RA:2258:C:H5'	2.15	0.47
22:RA:2351:G:H8	22:RA:2351:G:O5'	1.98	0.47
22:RA:2378:A:OP1	35:RS:111:GLU:HG2	2.15	0.47
22:RA:2415:G:C5'	32:RP:67:MET:H	2.28	0.47
22:RA:2418:A:P	51:R8:29:LYS:HE2	2.54	0.47
22:RA:2512:C:H5"	22:RA:2513:G:OP2	2.14	0.47
22:RA:2605:U:H2'	22:RA:2606:C:H6	1.80	0.47
22:RA:2690:C:OP2	34:RR:14:SER:HB3	2.14	0.47
22:RA:2697:G:C6	22:RA:2698:U:C4	3.03	0.47
22:RA:2749:A:H3'	22:RA:2750:A:H2'	1.97	0.47
25:RE:95:ILE:HD12	25:RE:95:ILE:H	1.80	0.47
28:RH:152:ARG:HG3	28:RH:153:LYS:CD	2.44	0.47
29:RI:61:ARG:NE	29:RI:61:ARG:HA	2.30	0.47
29:RI:79:ILE:HG22	29:RI:142:VAL:HG13	1.96	0.47
35:RS:56:LEU:O	35:RS:58:LEU:N	2.48	0.47
36:RT:123:GLN:O	36:RT:125:ARG:N	2.48	0.47
44:R1:76:ARG:H	44:R1:76:ARG:HD2	1.80	0.47
1:XA:29:G:N2	1:XA:554:C:O2	2.45	0.47
1:XA:31:G:O2'	1:XA:48:C:N4	2.47	0.47
1:XA:41:G:H2'	1:XA:42:G:H8	1.80	0.47
1:XA:61:G:H2'	1:XA:62:U:O4'	2.15	0.47
1:XA:401:C:H2'	1:XA:402:G:C8	2.47	0.47
1:XA:411:A:N9	1:XA:413:G:H1'	2.29	0.47
1:XA:457:C:H2'	1:XA:458:C:C6	2.50	0.47
1:XA:922:G:O2'	1:XA:1398:A:N1	2.43	0.47
1:XA:926:G:C6	1:XA:1505:G:C6	3.02	0.47
1:XA:1064:G:OP1	1:XA:1386:G:H4'	2.14	0.47
1:XA:1152:A:H2'	1:XA:1153:C:C6	2.48	0.47
1:XA:1494:G:H4'	22:YA:1913:A:N7	2.30	0.47
2:XB:93:VAL:HG11	2:XB:97:TRP:CD1	2.50	0.47
5:XE:89:ILE:HG12	5:XE:91:LEU:HD13	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
22:YA:71:A:H5"	22:YA:72:U:H3'	1.96	0.47
22:YA:138:G:H2'	22:YA:139:G:C8	2.50	0.47
22:YA:401:A:H61	22:YA:422:A:H61	1.62	0.47
22:YA:1342:A:OP1	40:YX:36:LYS:NZ	2.47	0.47
22:YA:2051:A:H5'	22:YA:2578:G:O4'	2.14	0.47
23:YB:99:A:C4	23:YB:100:G:C8	3.03	0.47
24:YD:16:MET:HE3	24:YD:211:ARG:HD2	1.95	0.47
24:YD:206:LEU:HA	24:YD:206:LEU:HD23	1.51	0.47
24:YD:237:GLU:O	24:YD:239:ARG:N	2.47	0.47
27:YG:34:LEU:HD22	27:YG:35:GLU:N	2.30	0.47
27:YG:113:ARG:HG2	47:Y4:34:GLU:OE2	2.14	0.47
27:YG:114:ILE:HD13	27:YG:140:ILE:HG21	1.96	0.47
28:YH:122:THR:HG22	28:YH:134:SER:HB2	1.96	0.47
29:YI:67:ARG:CZ	29:YI:68:LEU:HD13	2.45	0.47
36:YT:58:ASN:C	36:YT:58:ASN:HD22	2.23	0.47
39:YW:110:LYS:HG3	39:YW:111:HIS:H	1.80	0.47
1:QA:56:U:H2'	1:QA:57:G:H8	1.80	0.47
1:QA:484:G:H4'	1:QA:485:G:O5'	2.15	0.47
2:QB:32:ILE:HD13	2:QB:40:HIS:HB3	1.95	0.47
12:QL:17:LYS:HG3	12:QL:18:VAL:N	2.30	0.47
22:RA:685:A:C8	22:RA:774:A:C6	3.03	0.47
22:RA:1803:A:C8	22:RA:1804:C:C5	3.02	0.47
22:RA:2285:C:N4	49:R6:27:LYS:HE2	2.30	0.47
22:RA:2647:U:H2'	22:RA:2648:C:C6	2.50	0.47
24:RD:12:SER:O	24:RD:16:MET:HB2	2.14	0.47
24:RD:211:ARG:HD2	24:RD:214:TRP:CZ3	2.50	0.47
25:RE:21:VAL:HB	25:RE:22:PRO:HB3	1.96	0.47
26:RF:133:ASN:HA	26:RF:162:LEU:HD22	1.96	0.47
29:RI:122:GLU:O	29:RI:126:TYR:OH	2.32	0.47
42:RZ:53:ILE:HG22	42:RZ:71:VAL:O	2.15	0.47
1:XA:502:G:OP1	12:XL:118:SER:HB2	2.14	0.47
1:XA:1080:A:H5"	1:XA:1081:G:OP2	2.14	0.47
1:XA:1142:G:H2'	1:XA:1143:G:O4'	2.15	0.47
13:XM:77:ASN:HA	47:Y4:71:ARG:NH2	2.29	0.47
22:YA:207:A:H2'	22:YA:208:C:O4'	2.15	0.47
22:YA:972:G:C6	22:YA:973:A:C6	3.03	0.47
22:YA:1026:U:O2	22:YA:1027:A:H3'	2.15	0.47
22:YA:1906:G:H1	22:YA:1924:C:H42	1.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1999:C:H2'	22:YA:2000:G:C8	2.50	0.47
22:YA:2335:A:O2'	22:YA:2336:A:H8	1.98	0.47
22:YA:2787:C:O2'	22:YA:2810:A:O2'	2.26	0.47
22:YA:2850:A:N7	22:YA:2868:A:O2'	2.35	0.47
26:YF:9:ILE:HG23	26:YF:20:LEU:O	2.15	0.47
26:YF:129:PHE:HA	26:YF:142:TRP:NE1	2.29	0.47
29:YI:4:ILE:HG21	29:YI:47:LEU:HD22	1.97	0.47
46:Y3:23:LEU:HD13	46:Y3:50:VAL:HG11	1.96	0.47
53:XV:15:G:H22	53:XV:48:C:H42	1.62	0.47
1:QA:51:A:C6	1:QA:353:A:C2	3.03	0.47
1:QA:865:A:H5'	1:QA:1078:U:H5	1.80	0.47
2:QB:8:LYS:H	2:QB:8:LYS:HD3	1.79	0.47
3:QC:82:GLU:O	3:QC:86:VAL:HG13	2.14	0.47
11:QK:16:SER:OG	11:QK:106:LYS:NZ	2.48	0.47
22:RA:307:G:H21	22:RA:330:A:N6	2.12	0.47
22:RA:540:G:C6	22:RA:541:C:C4	3.03	0.47
22:RA:735:A:H2'	22:RA:736:C:O4'	2.15	0.47
22:RA:1422:G:C6	22:RA:1423:G:C5	3.03	0.47
22:RA:1465:G:C4	22:RA:1466:G:C8	3.03	0.47
22:RA:1919:A:H2'	22:RA:1919:A:N3	2.29	0.47
22:RA:2418:A:H2'	22:RA:2419:U:O4'	2.14	0.47
22:RA:2712:U:O2'	22:RA:2712(A):A:P	2.73	0.47
22:RA:2715:C:H2'	22:RA:2716:U:C6	2.50	0.47
22:RA:2755:C:C4	52:R9:19:ARG:NH1	2.83	0.47
24:RD:118:VAL:HG22	24:RD:119:ALA:N	2.29	0.47
28:RH:27:LYS:HA	28:RH:32:GLU:HA	1.96	0.47
36:RT:16:ARG:HE	36:RT:19:LEU:HD21	1.80	0.47
37:RU:66:ASN:CG	37:RU:70:ARG:HH21	2.21	0.47
41:RY:76:CYS:HB2	41:RY:101:LYS:HG3	1.96	0.47
42:RZ:1:MET:HB3	42:RZ:3:TYR:CE1	2.50	0.47
43:R0:72:ARG:CB	43:R0:75:LEU:HB2	2.44	0.47
1:XA:552:U:H4'	12:XL:86:ARG:O	2.15	0.47
1:XA:598:U:H4'	8:XH:94:TYR:CD2	2.49	0.47
1:XA:864:A:H2	1:XA:917:G:N3	2.12	0.47
2:XB:18:GLY:H	2:XB:42:ILE:HG22	1.80	0.47
22:YA:137(A):G:N3	40:YX:41:ASN:ND2	2.61	0.47
22:YA:155:C:H5'	22:YA:161:U:OP2	2.15	0.47
22:YA:287:C:H2'	22:YA:288:C:H6	1.80	0.47
22:YA:304:G:H2'	22:YA:305:U:H6	1.79	0.47
22:YA:436:C:H2'	22:YA:438:G:H8	1.79	0.47
22:YA:1009:A:OP1	30:YN:37:LYS:NZ	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1045:A:H5"	22:YA:1047:G:H1'	1.96	0.47
22:YA:2433:A:H5"	22:YA:2434:A:OP1	2.15	0.47
22:YA:2777:G:C8	22:YA:2777:G:H3'	2.50	0.47
25:YE:116:VAL:HG11	25:YE:138:PRO:HB3	1.97	0.47
28:YH:4:ILE:HB	28:YH:6:ARG:CG	2.43	0.47
28:YH:154:PRO:HD3	28:YH:162:ILE:H	1.79	0.47
51:Y8:60:LEU:C	51:Y8:63:PRO:HD2	2.40	0.47
1:QA:144:G:H1	1:QA:178:C:H42	1.62	0.47
1:QA:464:G:H1'	1:QA:468:A:N6	2.30	0.47
1:QA:933:G:O6	7:QG:3:ARG:NH2	2.47	0.47
1:QA:1129:C:H5'	1:QA:1130:A:OP1	2.15	0.47
1:QA:1436:U:H2'	1:QA:1437:C:O4'	2.15	0.47
19:QS:35:SER:O	19:QS:71:LEU:HD12	2.15	0.47
22:RA:70:G:C2	22:RA:114:U:C4	3.03	0.47
22:RA:580:C:H2'	22:RA:581:C:C6	2.49	0.47
22:RA:593:G:O2'	51:R8:61:LEU:HD13	2.15	0.47
22:RA:742:G:H2'	22:RA:743:G:H8	1.80	0.47
22:RA:1657:C:H2'	22:RA:1658:C:H6	1.75	0.47
22:RA:2156:G:O6	22:RA:2157:G:N2	2.48	0.47
22:RA:2648:C:H2'	22:RA:2649:U:C6	2.50	0.47
26:RF:62:ARG:HB3	26:RF:62:ARG:CZ	2.45	0.47
38:RV:24:LYS:HG3	38:RV:92:THR:HG23	1.97	0.47
1:XA:998:G:N2	1:XA:1043:C:O2	2.37	0.47
1:XA:1010:G:H2'	1:XA:1011:G:C8	2.49	0.47
1:XA:1053:G:H2'	1:XA:1199:U:C5	2.50	0.47
1:XA:1131:G:H2'	1:XA:1132:C:C6	2.50	0.47
1:XA:1212:U:O2'	1:XA:1213:A:C8	2.68	0.47
1:XA:1430:C:H2'	1:XA:1431:C:H6	1.79	0.47
19:XS:33:THR:OG1	19:XS:34:TRP:N	2.48	0.47
22:YA:49:A:N7	22:YA:120:U:C5	2.83	0.47
22:YA:409:C:O2'	22:YA:410:G:H5'	2.15	0.47
22:YA:629:G:N3	22:YA:639:U:O2'	2.47	0.47
22:YA:819:A:P	22:YA:1187:G:H22	2.38	0.47
22:YA:896:A:N3	42:YZ:176:PRO:HB3	2.30	0.47
22:YA:1336:A:H2'	22:YA:1337:G:C8	2.50	0.47
22:YA:1368:G:C2	22:YA:1369:G:C8	3.02	0.47
22:YA:2126:A:H4'	22:YA:2127:G:O5'	2.15	0.47
22:YA:2365:G:H4'	43:Y0:60:PHE:CE2	2.50	0.47
22:YA:2532:G:O2'	22:YA:2657:A:N1	2.45	0.47
26:YF:140:LEU:HD12	26:YF:140:LEU:HA	1.77	0.47
27:YG:11:TYR:HA	27:YG:15:VAL:HB	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YH:4:ILE:HG13	28:YH:6:ARG:CZ	2.45	0.47
29:YI:5:LEU:HD12	29:YI:5:LEU:H	1.80	0.47
32:YP:64:LYS:HB2	51:Y8:25:MET:HG3	1.96	0.47
32:YP:96:THR:O	32:YP:99:LEU:HB3	2.15	0.47
53:XV:38:A:H8	53:XV:38:A:O5'	1.98	0.47
1:QA:410:G:N1	1:QA:429:U:O2	2.48	0.46
1:QA:793:U:O2	1:QA:1516:G:H4'	2.15	0.46
1:QA:1144:G:H22	1:QA:1146:A:H62	1.63	0.46
2:QB:166:ASP:OD1	2:QB:169:LYS:HB2	2.15	0.46
5:QE:9:LYS:HB3	5:QE:112:LEU:HD11	1.98	0.46
10:QJ:81:THR:C	10:QJ:83:GLU:H	2.23	0.46
13:QM:3:ARG:HH12	27:RG:113:ARG:NH2	2.13	0.46
19:QS:15:LEU:H	19:QS:15:LEU:HD23	1.79	0.46
20:QT:89:ARG:NH2	20:QT:105:SER:O	2.36	0.46
22:RA:74:A:C5'	22:RA:74:A:H8	2.27	0.46
22:RA:185:U:H4'	22:RA:218:A:H4'	1.97	0.46
22:RA:517:C:OP1	48:R5:16:ARG:NH2	2.48	0.46
22:RA:586:A:N1	22:RA:809:G:O2'	2.43	0.46
22:RA:866:A:N3	22:RA:866:A:H2'	2.29	0.46
22:RA:1142:U:O2	22:RA:1142:U:H2'	2.15	0.46
22:RA:1448:G:H1'	22:RA:1528:A:H62	1.80	0.46
22:RA:2013:A:H2	39:RW:88:ARG:HH22	1.63	0.46
22:RA:2134:A:H1'	22:RA:2159:G:H21	1.80	0.46
22:RA:2318:G:H22	35:RS:2:ALA:N	2.12	0.46
24:RD:34:VAL:C	24:RD:35:LYS:HG3	2.40	0.46
37:RU:8:VAL:HG23	37:RU:11:ARG:HH21	1.80	0.46
44:R1:89:GLU:HA	44:R1:93:GLU:HB2	1.95	0.46
51:R8:29:LYS:HD3	51:R8:44:LYS:CB	2.45	0.46
1:XA:606:G:N2	1:XA:631:G:H8	2.12	0.46
1:XA:993:G:O6	1:XA:1045:C:N4	2.29	0.46
4:XD:63:LYS:HD2	4:XD:198:VAL:HG22	1.97	0.46
17:XQ:63:ARG:HG2	17:XQ:64:PRO:HD2	1.97	0.46
22:YA:221:A:H4'	22:YA:222:A:O5'	2.16	0.46
22:YA:372:G:O2'	22:YA:373:U:P	2.73	0.46
22:YA:483:A:H3'	22:YA:484:C:H6	1.80	0.46
22:YA:554:U:O2'	22:YA:556:G:H8	1.98	0.46
22:YA:1289:C:H2'	22:YA:1290:C:H6	1.80	0.46
22:YA:1899:G:N2	22:YA:1902:C:N4	2.63	0.46
22:YA:2051:A:C6	22:YA:2614:A:C5	3.03	0.46
22:YA:2466:C:H5"	52:Y9:6:SER:HB3	1.96	0.46
22:YA:2645:G:H3'	22:YA:2646:C:H5'	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YF:108:LYS:NZ	26:YF:108:LYS:HB3	2.31	0.46
30:YN:114:ARG:O	30:YN:115:ARG:HB3	2.14	0.46
41:YY:73:ARG:HE	41:YY:73:ARG:HB3	1.47	0.46
41:YY:87:LYS:HD3	41:YY:92:ASN:HB3	1.98	0.46
47:Y4:2:LYS:HA	47:Y4:2:LYS:HD2	1.67	0.46
48:Y5:33:CYS:SG	48:Y5:34:PRO:HD2	2.55	0.46
55:XY:34:C:O5'	55:XY:34:C:H6	1.97	0.46
1:QA:358:U:H2'	1:QA:359:U:O4'	2.14	0.46
1:QA:408:A:H2'	1:QA:409:G:O4'	2.14	0.46
1:QA:572:A:N3	1:QA:917:G:H1'	2.31	0.46
1:QA:683:G:H2'	1:QA:684:A:C8	2.50	0.46
1:QA:769:G:H4'	1:QA:1513:A:H4'	1.96	0.46
1:QA:1126:U:OP2	1:QA:1281:U:H1'	2.16	0.46
1:QA:1512:U:H2'	1:QA:1513:A:C8	2.50	0.46
2:QB:104:ASN:OD1	2:QB:107:THR:OG1	2.30	0.46
7:QG:78:ARG:HG3	7:QG:79:ARG:N	2.29	0.46
12:QL:11:VAL:HG13	17:QQ:29:HIS:HD2	1.80	0.46
16:QP:3:LYS:O	16:QP:21:VAL:HA	2.15	0.46
17:QQ:74:LEU:HB3	17:QQ:75:ARG:H	1.63	0.46
18:QR:53:ARG:HE	18:QR:59:SER:C	2.22	0.46
22:RA:1022:G:C6	22:RA:1140:C:C4	3.03	0.46
22:RA:1297:C:O2'	22:RA:1302:A:N1	2.48	0.46
22:RA:1579:A:H2'	22:RA:1580:A:C8	2.50	0.46
22:RA:1741:C:H6	22:RA:1741:C:O5'	1.97	0.46
22:RA:2274:A:N1	22:RA:2276:G:H1'	2.30	0.46
24:RD:61:LEU:HA	24:RD:61:LEU:HD12	1.77	0.46
24:RD:70:TRP:CD2	24:RD:150:LYS:HD2	2.49	0.46
25:RE:186:GLY:O	25:RE:188:VAL:N	2.48	0.46
28:RH:153:LYS:HB3	28:RH:162:ILE:H	1.80	0.46
39:RW:23:LEU:O	39:RW:27:LYS:HD2	2.14	0.46
41:RY:89:PHE:O	41:RY:90:LEU:HD13	2.15	0.46
1:XA:760:G:H2'	1:XA:761:G:H5'	1.97	0.46
1:XA:1397:C:H4'	1:XA:1398:A:OP2	2.15	0.46
1:XA:1415:G:C6	1:XA:1486:G:C6	3.03	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
22:YA:464:U:H2'	22:YA:465:G:O4'	2.14	0.46
22:YA:569:U:H2'	22:YA:570:G:O4'	2.15	0.46
22:YA:770:G:N3	22:YA:1354:A:H2	2.12	0.46
22:YA:1791:A:OP2	22:YA:1791:A:H8	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2487:G:N2	22:YA:2488:A:C4	2.83	0.46
23:YB:6:C:C2	23:YB:115:G:N2	2.84	0.46
26:YF:127:GLU:C	26:YF:129:PHE:H	2.22	0.46
32:YP:19:VAL:HG13	32:YP:21:ARG:N	2.20	0.46
32:YP:88:LEU:HB2	32:YP:91:PHE:HE2	1.80	0.46
33:YQ:85:LYS:O	33:YQ:86:GLY:C	2.58	0.46
35:YS:27:SER:HA	35:YS:88:ASP:HB2	1.96	0.46
35:YS:52:SER:HB2	35:YS:55:ALA:H	1.79	0.46
47:Y4:38:LYS:HD3	47:Y4:42:PHE:HE1	1.80	0.46
53:QV:54:U:H2'	53:QV:55:U:O4'	2.15	0.46
1:QA:1104:G:O5'	2:QB:111:ARG:HD2	2.16	0.46
1:QA:1135:U:H2'	1:QA:1137:C:O2	2.15	0.46
12:QL:11:VAL:HG11	17:QQ:36:ILE:HG21	1.97	0.46
20:QT:33:ILE:HD13	20:QT:62:LEU:HB3	1.97	0.46
22:RA:751:A:C6	22:RA:789:A:C5	3.03	0.46
22:RA:852:G:N2	22:RA:926:A:H1'	2.31	0.46
22:RA:1588:C:H2'	22:RA:1589:C:H6	1.79	0.46
22:RA:1754:C:H5"	36:RT:113:LYS:HE3	1.97	0.46
31:RO:76:ALA:HB3	36:RT:75:ILE:HB	1.97	0.46
36:RT:20:PRO:HD2	36:RT:86:ILE:HG23	1.97	0.46
40:RX:49:VAL:HG13	40:RX:83:VAL:HG13	1.96	0.46
1:XA:77:C:O2	1:XA:92:G:N2	2.36	0.46
1:XA:679:C:H2'	1:XA:680:C:C6	2.50	0.46
1:XA:703:G:H8	1:XA:703:G:O5'	1.99	0.46
1:XA:1004:A:H1'	1:XA:1036:G:N1	2.29	0.46
1:XA:1202:G:H1'	14:XN:29:ARG:HD2	1.96	0.46
1:XA:1301:U:O2'	1:XA:1302:U:OP1	2.31	0.46
2:XB:163:PHE:CD2	2:XB:185:ILE:HG13	2.50	0.46
2:XB:201:ILE:HG21	2:XB:214:ILE:HG21	1.95	0.46
19:XS:41:VAL:HA	19:XS:44:MET:HG3	1.97	0.46
19:XS:41:VAL:HG23	19:XS:67:VAL:HG13	1.98	0.46
22:YA:389:G:N1	32:YP:70:GLN:HB3	2.30	0.46
22:YA:466:A:N3	22:YA:683:C:H1'	2.29	0.46
22:YA:654(A):G:C6	22:YA:654(B):C:N4	2.83	0.46
22:YA:787:U:H3'	22:YA:791:C:H41	1.80	0.46
22:YA:1441:G:H2'	22:YA:1442:G:C8	2.48	0.46
22:YA:2062:A:H2'	22:YA:2062:A:N3	2.30	0.46
22:YA:2491:U:O2'	22:YA:2570:G:OP1	2.29	0.46
24:YD:17:THR:CG2	24:YD:205:VAL:H	2.29	0.46
24:YD:94:LEU:HD22	24:YD:95:LEU:N	2.31	0.46
25:YE:150:VAL:HG13	25:YE:154:LYS:HG3	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YE:176:ILE:HB	25:YE:181:LEU:HB2	1.97	0.46
32:YP:121:LYS:HB2	32:YP:121:LYS:HE2	1.75	0.46
42:YZ:144:LEU:HD13	42:YZ:145:GLU:N	2.30	0.46
42:YZ:182:LYS:HE3	42:YZ:182:LYS:HB2	1.56	0.46
43:Y0:27:GLU:HA	43:Y0:67:VAL:O	2.15	0.46
1:QA:1120:G:H2'	1:QA:1121:U:C6	2.51	0.46
6:QF:10:LEU:N	6:QF:59:TYR:O	2.46	0.46
22:RA:57:C:H2'	22:RA:58:G:O4'	2.15	0.46
22:RA:580:C:H2'	22:RA:581:C:H6	1.81	0.46
22:RA:1504:C:H5'	22:RA:1505:C:OP2	2.15	0.46
22:RA:2410:G:H2'	22:RA:2411:A:O4'	2.15	0.46
29:RI:118:LYS:HA	29:RI:118:LYS:HD2	1.77	0.46
32:RP:83:VAL:HG12	32:RP:114:ILE:HA	1.98	0.46
35:RS:48:LEU:HD23	35:RS:82:ILE:HD11	1.96	0.46
40:RX:55:ASN:HB2	40:RX:80:ILE:HG23	1.97	0.46
42:RZ:40:ASP:OD1	42:RZ:42:VAL:HB	2.15	0.46
42:RZ:59:LEU:HD11	42:RZ:69:THR:HG21	1.96	0.46
1:XA:217:C:O2'	1:XA:466:C:N4	2.48	0.46
1:XA:818:G:N2	1:XA:873:A:OP1	2.43	0.46
1:XA:974:A:OP2	14:XN:41:ARG:NH1	2.48	0.46
1:XA:1003:G:N2	1:XA:1005:A:H5'	2.30	0.46
1:XA:1065:U:C4	1:XA:1190:G:H1'	2.51	0.46
1:XA:1293:G:H2'	1:XA:1294:G:O4'	2.15	0.46
1:XA:1446:A:C6	36:YT:118:ARG:NH1	2.84	0.46
7:XG:115:ARG:HB2	7:XG:118:VAL:HG22	1.97	0.46
9:XI:83:ARG:O	9:XI:86:VAL:HG12	2.15	0.46
20:XT:87:LYS:HD2	20:XT:87:LYS:HA	1.74	0.46
22:YA:30:G:H2'	22:YA:31:C:O4'	2.15	0.46
22:YA:979:G:H5"	22:YA:980:A:OP2	2.15	0.46
22:YA:1465:G:H5'	22:YA:1528:A:H1'	1.98	0.46
22:YA:2397:G:H2'	22:YA:2398:U:C6	2.50	0.46
22:YA:2777:G:H3'	22:YA:2777:G:H8	1.79	0.46
26:YF:127:GLU:OE2	26:YF:128:ALA:N	2.47	0.46
44:Y1:96:LYS:H	44:Y1:97:LEU:HD12	1.81	0.46
53:QV:3:C:O2'	53:QV:4:G:H5'	2.15	0.46
1:QA:377:G:H1	1:QA:386:C:H42	1.62	0.46
1:QA:1129:C:OP1	9:QI:62:TYR:OH	2.20	0.46
19:QS:63:THR:HG23	19:QS:65:ASN:OD1	2.15	0.46
22:RA:275:G:H3'	22:RA:276:A:H5"	1.97	0.46
22:RA:519:U:H2'	22:RA:520:G:H8	1.80	0.46
22:RA:856:C:O2'	22:RA:857:C:OP1	2.27	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:935:C:H2'	22:RA:936:C:C6	2.49	0.46
22:RA:1561:G:H2'	22:RA:1562:A:C8	2.51	0.46
22:RA:1797:C:C4	22:RA:1798:U:C5	3.04	0.46
22:RA:2146:C:H4'	22:RA:2147:G:N7	2.31	0.46
22:RA:2321:G:H2'	22:RA:2321:G:N3	2.31	0.46
22:RA:2516:G:N2	22:RA:2569:G:H1'	2.30	0.46
23:RB:97:G:H2'	23:RB:98:G:O4'	2.15	0.46
26:RF:126:VAL:HG11	26:RF:142:TRP:HH2	1.80	0.46
27:RG:22:ARG:HH22	27:RG:175:LEU:HD21	1.80	0.46
35:RS:78:LEU:HD11	35:RS:107:GLU:O	2.15	0.46
35:RS:83:LYS:O	35:RS:109:GLY:HA3	2.15	0.46
39:RW:86:LEU:O	39:RW:94:ASP:N	2.44	0.46
40:RX:40:LYS:C	40:RX:42:ALA:H	2.23	0.46
41:RY:17:SER:OG	41:RY:71:LYS:HD2	2.16	0.46
42:RZ:82:ARG:HG2	42:RZ:82:ARG:HH11	1.81	0.46
1:XA:129(A):G:N2	1:XA:191(A):G:C5	2.83	0.46
1:XA:135:C:H2'	1:XA:136:C:H5'	1.98	0.46
1:XA:284:G:H2'	1:XA:285:G:H8	1.80	0.46
1:XA:579:G:C6	1:XA:580:U:C4	3.04	0.46
1:XA:1074:G:H2'	1:XA:1075:C:C6	2.51	0.46
5:XE:78:HIS:HB3	8:XH:107:LEU:HD12	1.98	0.46
22:YA:746:A:C6	22:YA:2611:U:H5"	2.50	0.46
22:YA:894:C:H2'	22:YA:895:U:H6	1.81	0.46
22:YA:1093:G:O2'	22:YA:1099:G:N1	2.45	0.46
22:YA:1534:G:H2'	22:YA:1534:G:N3	2.30	0.46
22:YA:1658:C:C2	22:YA:1659:U:C5	3.04	0.46
22:YA:2335:A:O2'	22:YA:2336:A:C8	2.69	0.46
22:YA:2683:C:H4'	25:YE:13:ARG:NH2	2.31	0.46
24:YD:25:THR:CG2	24:YD:82:ILE:H	2.27	0.46
24:YD:118:VAL:HG22	24:YD:119:ALA:N	2.31	0.46
32:YP:29:LYS:HD2	32:YP:30:THR:HG23	1.97	0.46
37:YU:75:ASN:HB3	37:YU:78:THR:H	1.81	0.46
42:YZ:43:GLU:O	42:YZ:47:VAL:HG23	2.15	0.46
46:Y3:8:LEU:HD22	46:Y3:31:LEU:HD22	1.96	0.46
1:QA:946:A:H61	1:QA:1234:C:N4	2.14	0.46
1:QA:1338:G:H21	53:QV:41:C:H1'	1.80	0.46
10:QJ:84:GLN:H	10:QJ:84:GLN:HG3	1.49	0.46
22:RA:834:C:H2'	22:RA:835:A:H8	1.80	0.46
22:RA:1389:G:H2'	22:RA:1390:U:H6	1.81	0.46
27:RG:98:ARG:O	27:RG:101:ILE:HG13	2.16	0.46
28:RH:170:ARG:HB3	28:RH:171:LEU:H	1.52	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RI:82:ARG:NE	29:RI:146:ALA:O	2.49	0.46
29:RI:131:LYS:HB3	29:RI:132:PRO:HA	1.97	0.46
32:RP:124:LYS:HA	32:RP:143:GLY:O	2.16	0.46
43:R0:29:GLN:O	43:R0:67:VAL:HG23	2.16	0.46
49:R6:13:CYS:HB2	49:R6:22:ALA:HB3	1.98	0.46
1:XA:975:A:N6	1:XA:1367:C:O4'	2.49	0.46
1:XA:977:A:H2'	1:XA:978:A:H5"	1.98	0.46
1:XA:1057:G:H2'	1:XA:1058:G:O4'	2.15	0.46
3:XC:78:GLY:HA3	3:XC:83:ARG:HB3	1.98	0.46
3:XC:178:LEU:HD13	3:XC:178:LEU:HA	1.84	0.46
12:XL:62:SER:O	12:XL:64:TYR:N	2.48	0.46
22:YA:264:C:C2'	22:YA:265:A:H5"	2.46	0.46
22:YA:865:C:H4'	22:YA:866:A:OP1	2.16	0.46
22:YA:1899:G:H21	22:YA:1902:C:N4	2.14	0.46
22:YA:2059:A:H5'	22:YA:2060:A:OP2	2.16	0.46
25:YE:36:ARG:NH2	25:YE:88:GLY:HA2	2.29	0.46
27:YG:34:LEU:HD12	27:YG:100:TRP:CH2	2.50	0.46
29:YI:69:LYS:HE2	29:YI:73:GLU:CD	2.41	0.46
44:Y1:80:LEU:HB2	44:Y1:81:LYS:H	1.61	0.46
1:QA:186:C:H5'	20:QT:78:ALA:HB1	1.97	0.46
1:QA:530:G:O2'	55:QY:35:G:H4'	2.15	0.46
1:QA:1285:A:H5'	1:QA:1286:A:N3	2.30	0.46
13:QM:65:LYS:HZ1	47:R4:52:THR:HG21	1.80	0.46
20:QT:29:LYS:O	20:QT:33:ILE:HG12	2.16	0.46
22:RA:1543:A:O2'	22:RA:1544:C:H3'	2.14	0.46
22:RA:2292:C:H2'	22:RA:2293:C:C6	2.51	0.46
23:RB:31:C:H4'	27:RG:29:TRP:CH2	2.50	0.46
24:RD:35:LYS:HE3	24:RD:63:ARG:C	2.41	0.46
33:RQ:29:PHE:N	33:RQ:105:GLU:OE2	2.40	0.46
43:R0:50:ASN:C	43:R0:62:LEU:HD12	2.41	0.46
51:R8:39:LYS:O	51:R8:43:GLN:HB2	2.15	0.46
1:XA:485:G:O2'	1:XA:486:U:P	2.74	0.46
1:XA:815:A:H4'	1:XA:817:C:C4	2.50	0.46
1:XA:973:G:C4	10:XJ:55:LYS:HE2	2.51	0.46
1:XA:1049:U:H4'	1:XA:1050:G:C5'	2.46	0.46
1:XA:1365:G:H2'	1:XA:1366:C:C6	2.51	0.46
7:XG:50:ILE:HG21	7:XG:61:VAL:HG21	1.98	0.46
10:XJ:62:HIS:H	10:XJ:62:HIS:CD2	2.33	0.46
11:XK:88:GLY:C	11:XK:90:GLY:H	2.23	0.46
15:XO:56:LEU:O	15:XO:60:VAL:HG23	2.16	0.46
19:XS:41:VAL:HB	19:XS:42:PRO:HA	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:909:A:H2'	22:YA:912:C:H5	1.80	0.46
22:YA:996:A:H4'	37:YU:92:ARG:HE	1.81	0.46
22:YA:1190:G:H5'	32:YP:32:THR:HA	1.98	0.46
22:YA:1268:A:H2'	22:YA:1269:A:O4'	2.16	0.46
22:YA:1598:C:H2'	22:YA:1599:C:H6	1.81	0.46
22:YA:2078:C:N4	22:YA:2241:A:H61	2.14	0.46
22:YA:2867:G:O2'	22:YA:2868:A:P	2.73	0.46
24:YD:35:LYS:HB3	24:YD:63:ARG:HA	1.98	0.46
33:YQ:136:ALA:O	33:YQ:138:ASP:N	2.40	0.46
39:YW:110:LYS:HG3	39:YW:111:HIS:ND1	2.31	0.46
53:QV:35:A:H2'	53:QV:36:U:C6	2.51	0.46
1:QA:20:U:H2'	1:QA:21:G:O4'	2.16	0.46
1:QA:651:C:N4	1:QA:753:A:OP2	2.41	0.46
1:QA:673:G:H8	1:QA:673:G:O5'	1.98	0.46
1:QA:713:G:H2'	1:QA:714:G:C8	2.51	0.46
1:QA:771:G:H2'	1:QA:772:U:C6	2.51	0.46
1:QA:1010:G:N2	1:QA:1020:U:H1'	2.31	0.46
1:QA:1269:A:N1	1:QA:1312:G:O2'	2.38	0.46
1:QA:1320:C:C2	19:QS:72:GLY:HA3	2.50	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
4:QD:103:ASN:OD1	4:QD:114:ARG:NE	2.49	0.46
10:QJ:31:GLY:HA3	10:QJ:78:ASN:CG	2.40	0.46
12:QL:54:LYS:HD2	12:QL:54:LYS:N	2.31	0.46
19:QS:32:LYS:HA	19:QS:50:ALA:HB3	1.98	0.46
22:RA:224:G:O6	22:RA:419:C:O2'	2.27	0.46
22:RA:330:A:H2	22:RA:1210:A:H2'	1.80	0.46
22:RA:384:U:H2'	22:RA:385:C:H6	1.81	0.46
22:RA:548:A:C6	22:RA:549:G:H1'	2.51	0.46
22:RA:817:C:O2'	22:RA:839:U:H5"	2.16	0.46
22:RA:864:G:C6	22:RA:865:C:N4	2.84	0.46
22:RA:1338:G:N3	22:RA:1393:A:H2	2.13	0.46
22:RA:1639:U:H4'	22:RA:2699:C:H4'	1.98	0.46
22:RA:1778:U:H2'	22:RA:1784:A:N6	2.30	0.46
22:RA:2074:U:H2'	22:RA:2075:U:H6	1.75	0.46
24:RD:68:LYS:HD2	24:RD:70:TRP:CZ2	2.51	0.46
25:RE:63:LEU:HD12	25:RE:64:LYS:N	2.30	0.46
28:RH:85:LYS:HD2	28:RH:85:LYS:HA	1.85	0.46
28:RH:87:LEU:HA	28:RH:163:TYR:O	2.16	0.46
37:RU:69:CYS:HB3	37:RU:106:PHE:HZ	1.81	0.46
49:R6:33:LYS:HG3	49:R6:34:LEU:HD13	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1386:G:H2'	1:XA:1387:G:H8	1.80	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
12:XL:92:ASP:O	12:XL:94:PRO:HD3	2.16	0.46
16:XP:1:MET:O	16:XP:3:LYS:HG3	2.16	0.46
16:XP:8:ARG:C	16:XP:9:PHE:HD2	2.24	0.46
20:XT:26:ASN:O	20:XT:30:LYS:HB2	2.16	0.46
22:YA:216:A:C4	22:YA:432:A:C2	3.03	0.46
22:YA:637:A:H4'	22:YA:638:G:O5'	2.15	0.46
22:YA:923:C:O4'	43:Y0:29:GLN:NE2	2.42	0.46
22:YA:1354:A:OP1	24:YD:38:LYS:HE2	2.15	0.46
22:YA:1972:A:H2'	22:YA:1973:G:C8	2.50	0.46
22:YA:2319:G:N7	35:YS:3:ARG:HB3	2.31	0.46
22:YA:2586:C:C5	22:YA:2608:G:N2	2.84	0.46
22:YA:2602:A:N6	53:XV:76:A:H2'	2.30	0.46
22:YA:2605:U:H2'	22:YA:2606:C:C6	2.51	0.46
22:YA:2741:A:OP1	52:Y9:22:ARG:NH2	2.47	0.46
22:YA:2849:U:H5	36:YT:93:ARG:NH1	2.06	0.46
23:YB:51:G:H5'	23:YB:52:A:OP2	2.16	0.46
53:XV:52:G:N3	53:XV:52:G:H2'	2.30	0.46
1:QA:322:C:H41	1:QA:328:C:H6	1.63	0.46
1:QA:778:G:H8	1:QA:778:G:O5'	1.98	0.46
1:QA:789:U:H1'	1:QA:792:A:H2	1.81	0.46
1:QA:883:C:O2'	1:QA:884:U:H5'	2.15	0.46
1:QA:1158:C:N3	1:QA:1160:G:C8	2.83	0.46
1:QA:1468:A:H5"	1:QA:1469:G:OP2	2.15	0.46
2:QB:178:ARG:NH2	8:QH:74:PRO:HG3	2.30	0.46
9:QI:45:ALA:O	9:QI:48:GLU:HG2	2.15	0.46
22:RA:48:G:N2	22:RA:177:G:H21	2.13	0.46
22:RA:363:G:H2'	22:RA:363(A):A:H8	1.80	0.46
22:RA:705:A:H1'	24:RD:9:TYR:CE1	2.50	0.46
22:RA:1337:G:H2'	22:RA:1338:G:C8	2.50	0.46
22:RA:1578:U:OP2	22:RA:1578:U:H6	1.99	0.46
22:RA:2334:G:H4'	22:RA:2335:A:OP2	2.15	0.46
22:RA:2635:C:H5"	25:RE:78:LEU:HA	1.98	0.46
22:RA:2666:C:H3'	22:RA:2667:C:H6	1.81	0.46
28:RH:115:VAL:HG11	28:RH:148:ILE:HD11	1.98	0.46
31:RO:31:LYS:HB3	31:RO:32:TYR:CD1	2.51	0.46
33:RQ:104:PHE:HE1	33:RQ:125:LEU:HD11	1.80	0.46
34:RR:37:THR:OG1	34:RR:40:LYS:HG3	2.16	0.46
35:RS:24:LEU:HB2	35:RS:85:VAL:HG12	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RS:61:ASN:O	35:RS:65:VAL:HG23	2.14	0.46
52:R9:8:LYS:O	52:R9:34:GLN:NE2	2.49	0.46
1:XA:975:A:H5'	1:XA:975:A:H8	1.79	0.46
1:XA:986:A:H2'	1:XA:987:G:O4'	2.16	0.46
2:XB:114:ARG:O	2:XB:118:LEU:HG	2.16	0.46
2:XB:217:ARG:HE	2:XB:217:ARG:HB2	1.54	0.46
9:XI:46:ALA:HA	9:XI:78:LYS:HB2	1.98	0.46
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.97	0.46
22:YA:254:G:N7	51:Y8:5:LYS:HE2	2.31	0.46
22:YA:436:C:H2'	22:YA:438:G:C8	2.51	0.46
22:YA:570:G:H2'	22:YA:2030:A:C5	2.51	0.46
22:YA:740:U:H2'	22:YA:741:G:C8	2.51	0.46
22:YA:840:C:O5'	22:YA:840:C:H6	1.98	0.46
22:YA:1175:U:H4'	22:YA:1176:G:OP1	2.15	0.46
22:YA:2751:G:O5'	22:YA:2751:G:H8	1.98	0.46
25:YE:70:ALA:O	25:YE:72:VAL:N	2.49	0.46
26:YF:129:PHE:O	26:YF:142:TRP:CD1	2.69	0.46
28:YH:103:LEU:HD23	28:YH:115:VAL:HB	1.97	0.46
28:YH:167:GLU:HA	28:YH:168:PRO:HD3	1.79	0.46
34:YR:51:LEU:HD12	34:YR:70:LEU:HG	1.97	0.46
34:YR:78:LYS:O	34:YR:83:ILE:HG12	2.16	0.46
1:QA:706:A:H1'	11:QK:29:ILE:HD11	1.98	0.46
1:QA:1213:A:C6	1:QA:1215:G:C4	3.03	0.46
1:QA:1399:C:H4'	1:QA:1400:C:O5'	2.16	0.46
2:QB:120:ALA:C	2:QB:122:PHE:H	2.23	0.46
22:RA:71:A:H4'	22:RA:72:U:H5"	1.97	0.46
22:RA:414:C:H1'	22:RA:1864:U:O2'	2.15	0.46
22:RA:608:A:H2'	22:RA:609:A:C8	2.51	0.46
22:RA:1392:A:N6	22:RA:1393:A:N6	2.63	0.46
23:RB:6:C:O2	23:RB:115:G:N2	2.49	0.46
28:RH:103:LEU:HD13	28:RH:131:VAL:HG11	1.97	0.46
29:RI:101:LEU:HB3	29:RI:107:VAL:O	2.16	0.46
32:RP:101:VAL:HG23	32:RP:107:LYS:H	1.81	0.46
34:RR:70:LEU:C	34:RR:72:ASP:H	2.21	0.46
36:RT:26:ASP:HB2	36:RT:90:GLN:O	2.16	0.46
38:RV:51:VAL:HG12	38:RV:53:GLU:H	1.80	0.46
44:R1:73:LEU:HB3	44:R1:90:ILE:HG23	1.97	0.46
49:R6:44:ARG:O	49:R6:45:LYS:HB2	2.16	0.46
1:XA:291:C:H42	1:XA:309:G:H1	1.64	0.46
1:XA:411:A:C8	1:XA:413:G:H1'	2.51	0.46
2:XB:55:PHE:HD1	2:XB:58:ILE:HG13	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:36:G:N3	22:YA:450:G:O2'	2.49	0.46
22:YA:278:A:H4'	22:YA:279:C:OP1	2.15	0.46
22:YA:327:G:N2	22:YA:335:C:O2	2.45	0.46
22:YA:395:U:O2'	22:YA:396:G:C8	2.65	0.46
22:YA:1329:U:H5"	22:YA:1330:C:H5	1.81	0.46
22:YA:1901:A:H2'	22:YA:1901:A:N3	2.31	0.46
22:YA:1945:G:C6	22:YA:1946:U:C4	3.03	0.46
25:YE:108:SER:HB3	25:YE:165:VAL:HG21	1.98	0.46
28:YH:86:GLU:O	28:YH:87:LEU:HB2	2.16	0.46
28:YH:106:THR:HG22	28:YH:112:PRO:HB3	1.97	0.46
32:YP:135:LEU:HD23	32:YP:135:LEU:HA	1.74	0.46
38:YV:19:LYS:HA	38:YV:94:LEU:O	2.15	0.46
42:YZ:16:SER:O	42:YZ:20:ARG:HB2	2.15	0.46
1:QA:791:G:C2'	1:QA:792:A:H5'	2.45	0.45
1:QA:998(A):C:H2'	1:QA:999:U:C6	2.51	0.45
1:QA:1327:C:OP2	21:QU:12:LYS:NZ	2.49	0.45
5:QE:97:GLY:N	5:QE:117:ASP:OD2	2.40	0.45
10:QJ:22:LYS:HB3	10:QJ:22:LYS:HE3	1.68	0.45
22:RA:18:C:O2'	22:RA:553:U:OP1	2.28	0.45
22:RA:29:U:H2'	22:RA:30:G:C8	2.51	0.45
22:RA:71:A:H5"	22:RA:72:U:H3'	1.98	0.45
22:RA:210:C:H4'	22:RA:1367:A:H1'	1.97	0.45
22:RA:671:C:O2'	22:RA:672:C:H5'	2.16	0.45
22:RA:1640:C:H5'	22:RA:1641:A:OP2	2.15	0.45
22:RA:1805:U:O2	24:RD:50:THR:HB	2.16	0.45
22:RA:2278:A:H5"	43:R0:12:ASN:HD21	1.81	0.45
22:RA:2512:C:H1'	25:RE:140:SER:O	2.16	0.45
22:RA:2593:U:C4	22:RA:2594:C:N4	2.84	0.45
28:RH:120:GLY:HA3	28:RH:140:LYS:NZ	2.32	0.45
34:RR:33:ARG:HG2	34:RR:34:ILE:N	2.30	0.45
47:R4:10:VAL:HA	47:R4:11:PRO:HD2	1.75	0.45
1:XA:437:U:H2'	1:XA:438:G:O4'	2.16	0.45
1:XA:453:A:C6	1:XA:454:C:C4	3.04	0.45
1:XA:1154:G:C4	1:XA:1155:G:C8	3.04	0.45
5:XE:41:VAL:HG13	5:XE:113:ALA:HB2	1.97	0.45
6:XF:48:LEU:HG	6:XF:57:GLN:HA	1.98	0.45
9:XI:18:PHE:HD1	9:XI:62:TYR:HD2	1.62	0.45
22:YA:26:G:H1'	22:YA:515:A:H61	1.80	0.45
22:YA:114:U:H2'	22:YA:115:C:C6	2.51	0.45
22:YA:273(A):G:C2	22:YA:364:C:N3	2.84	0.45
22:YA:469:G:N7	50:Y7:37:LYS:NZ	2.63	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1230:C:H2'	22:YA:1231:G:C8	2.51	0.45
22:YA:1530:G:C6	22:YA:1531:C:C4	3.03	0.45
22:YA:1742:C:H5'	22:YA:1743:G:OP2	2.16	0.45
22:YA:2135:A:O2'	22:YA:2160:G:H4'	2.16	0.45
22:YA:2255:G:C5	22:YA:2256:G:C8	3.04	0.45
22:YA:2406:U:N3	32:YP:73:GLY:O	2.33	0.45
22:YA:2592:G:C6	22:YA:2593:U:N3	2.84	0.45
22:YA:2596:U:H2'	22:YA:2597:G:O4'	2.17	0.45
24:YD:10:THR:OG1	24:YD:13:ARG:HB2	2.16	0.45
24:YD:137:PRO:O	24:YD:140:THR:HG23	2.16	0.45
33:YQ:135:ASP:N	33:YQ:135:ASP:OD1	2.48	0.45
50:Y7:22:MET:HE2	50:Y7:31:LEU:CD1	2.46	0.45
1:QA:44:G:N2	1:QA:399:G:C4	2.85	0.45
1:QA:54:C:N4	1:QA:353:A:OP2	2.49	0.45
1:QA:299:G:H2'	1:QA:300:A:H8	1.81	0.45
1:QA:652:U:H1'	1:QA:653:A:H2	1.79	0.45
1:QA:922:G:N3	1:QA:1398:A:H2	2.14	0.45
1:QA:987:G:H1	1:QA:1218:C:H42	1.64	0.45
1:QA:1144:G:N2	1:QA:1146:A:H62	2.14	0.45
1:QA:1386:G:C2	1:QA:1387:G:C8	3.04	0.45
4:QD:18:LYS:HD3	4:QD:20:TYR:CZ	2.51	0.45
8:QH:20:TYR:HA	8:QH:65:TYR:CZ	2.51	0.45
13:QM:84:ILE:HD12	13:QM:84:ILE:HA	1.75	0.45
22:RA:1968:G:O2'	22:RA:1969:A:O4'	2.24	0.45
22:RA:2061:G:H5"	22:RA:2503:A:C2	2.52	0.45
22:RA:2212:A:H1'	22:RA:2215:G:C5	2.51	0.45
22:RA:2379:G:O2'	35:RS:17:ARG:NH1	2.49	0.45
22:RA:2857:G:N2	22:RA:2859:G:H3'	2.30	0.45
22:RA:2867:G:OP2	36:RT:119:LYS:NZ	2.35	0.45
32:RP:6:LEU:HB3	32:RP:7:ARG:H	1.55	0.45
32:RP:88:LEU:HD12	32:RP:95:VAL:HG11	1.98	0.45
35:RS:16:ASN:HA	35:RS:19:LYS:HD3	1.98	0.45
42:RZ:45:ASP:OD2	42:RZ:49:ARG:NH2	2.50	0.45
1:XA:114:U:H2'	1:XA:115:G:C8	2.52	0.45
1:XA:701:C:O2	1:XA:703:G:N1	2.49	0.45
1:XA:742:G:OP2	15:XO:35:ARG:NH2	2.47	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
18:XR:73:ALA:HB3	18:XR:79:LEU:HD12	1.98	0.45
20:XT:75:ASN:OD1	20:XT:75:ASN:N	2.40	0.45
22:YA:224:G:O6	22:YA:419:C:O2'	2.29	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1012:U:O2'	22:YA:1013:C:OP2	2.25	0.45
22:YA:1319:G:C6	22:YA:1320:C:N4	2.84	0.45
22:YA:1544:C:H2'	22:YA:1544:C:O2	2.17	0.45
22:YA:1588:C:H2'	22:YA:1589:C:H6	1.82	0.45
22:YA:2317:C:H2'	22:YA:2318:G:O4'	2.16	0.45
24:YD:102:LYS:C	24:YD:103:ARG:HG2	2.40	0.45
24:YD:130:ALA:C	24:YD:131:LEU:HD12	2.42	0.45
32:YP:101:VAL:C	32:YP:103:ALA:H	2.23	0.45
37:YU:68:ALA:O	37:YU:71:GLN:HB2	2.16	0.45
41:YY:51:VAL:HG13	41:YY:52:SER:N	2.28	0.45
41:YY:84:ARG:HB3	41:YY:95:LYS:HD3	1.97	0.45
42:YZ:62:PRO:C	42:YZ:64:GLY:N	2.74	0.45
43:Y0:51:VAL:CG1	43:Y0:59:LEU:HB3	2.46	0.45
44:Y1:58:ILE:HD12	44:Y1:58:ILE:N	2.31	0.45
44:Y1:83:GLU:C	44:Y1:85:LEU:H	2.24	0.45
49:Y6:33:LYS:HE2	49:Y6:33:LYS:HB2	1.76	0.45
1:QA:17:U:H1'	1:QA:1080:A:H1'	1.97	0.45
1:QA:945:G:C6	1:QA:1337:G:C5	3.04	0.45
4:QD:121:VAL:O	4:QD:134:ASP:HA	2.16	0.45
6:QF:99:ALA:HB1	18:QR:23:LYS:NZ	2.31	0.45
13:QM:89:GLY:O	13:QM:92:HIS:HB2	2.15	0.45
22:RA:184:C:H4'	22:RA:217:G:N3	2.31	0.45
22:RA:531:C:C5	22:RA:2035:G:C2	3.05	0.45
22:RA:537:C:H6	22:RA:537:C:H5"	1.82	0.45
22:RA:635:C:O2'	22:RA:639:U:OP1	2.32	0.45
22:RA:818:G:N1	22:RA:1188:U:OP2	2.41	0.45
22:RA:1341:U:P	22:RA:1397:U:H3	2.39	0.45
22:RA:1533:C:N4	22:RA:1538:G:H1	2.14	0.45
22:RA:1620:G:H2'	22:RA:1621:U:C6	2.51	0.45
22:RA:1931:U:H2'	22:RA:1932:A:O4'	2.17	0.45
22:RA:2787:C:H1'	25:RE:62:PRO:HG3	1.98	0.45
29:RI:102:SER:C	29:RI:104:GLN:H	2.23	0.45
30:RN:57:ALA:C	30:RN:60:ILE:HD11	2.40	0.45
33:RQ:2:LEU:H	33:RQ:2:LEU:HD23	1.81	0.45
42:RZ:19:ARG:HD2	42:RZ:84:GLU:HA	1.98	0.45
1:XA:453:A:C5	1:XA:454:C:C4	3.05	0.45
1:XA:1171:G:C2	1:XA:1172:C:C2	3.04	0.45
1:XA:1264:C:H42	1:XA:1271:G:H1	1.64	0.45
1:XA:1269:A:H2	1:XA:1312:G:N3	2.14	0.45
1:XA:1284:C:H3'	1:XA:1285:A:C8	2.50	0.45
1:XA:1305:G:O2'	1:XA:1306:A:O5'	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XE:99:GLY:N	5:XE:117:ASP:OD2	2.47	0.45
8:XH:86:ILE:HG13	8:XH:133:LEU:HD22	1.98	0.45
13:XM:58:GLU:O	13:XM:62:ASN:ND2	2.33	0.45
19:XS:47:HIS:O	19:XS:62:ILE:HG12	2.17	0.45
22:YA:198:C:O2'	22:YA:199:A:H5"	2.15	0.45
22:YA:372:G:H5'	44:Y1:66:HIS:NE2	2.32	0.45
22:YA:735:A:H3'	22:YA:736:C:H6	1.80	0.45
22:YA:1144:G:H2'	22:YA:1145:C:C6	2.51	0.45
22:YA:1161:C:H4'	38:YV:8:GLY:HA2	1.99	0.45
22:YA:1726:G:C6	22:YA:1727:U:C4	3.03	0.45
22:YA:2530:A:O2'	22:YA:2532:G:OP2	2.23	0.45
26:YF:11:VAL:HA	26:YF:125:LEU:O	2.16	0.45
32:YP:27:HIS:ND1	32:YP:27:HIS:N	2.64	0.45
37:YU:66:ASN:O	37:YU:70:ARG:HB2	2.17	0.45
41:YY:87:LYS:HA	41:YY:92:ASN:HB3	1.98	0.45
1:QA:514:C:C2	1:QA:515:G:C8	3.05	0.45
1:QA:685:G:C2	1:QA:686:U:C4	3.04	0.45
1:QA:1109:C:H2'	1:QA:1110:A:O4'	2.16	0.45
1:QA:1124:G:H5"	1:QA:1145:C:H41	1.82	0.45
1:QA:1285:A:H5'	1:QA:1286:A:C2	2.51	0.45
1:QA:1298:C:H4'	1:QA:1299:A:C5	2.52	0.45
3:QC:23:TYR:CD1	10:QJ:10:GLY:HA2	2.51	0.45
3:QC:131:ARG:NH1	5:QE:50:GLU:HG2	2.30	0.45
6:QF:45:LEU:HD12	6:QF:59:TYR:HD1	1.82	0.45
7:QG:20:ASP:OD1	7:QG:21:VAL:N	2.48	0.45
7:QG:45:ASP:O	7:QG:49:ILE:HG12	2.16	0.45
22:RA:19:C:OP2	37:RU:30:LYS:NZ	2.45	0.45
22:RA:585:G:O5'	22:RA:585:G:H8	1.99	0.45
22:RA:843:G:N2	22:RA:936:C:C2	2.84	0.45
22:RA:957:A:H5"	33:RQ:14:ARG:HH22	1.81	0.45
22:RA:1335:U:OP2	40:RX:65:ARG:NH2	2.49	0.45
22:RA:2740:A:H2'	22:RA:2741:A:C8	2.52	0.45
23:RB:61:G:H2'	23:RB:62:C:C6	2.52	0.45
24:RD:76:PRO:HB2	24:RD:116:GLN:OE1	2.17	0.45
26:RF:31:HIS:HB2	32:RP:9:ASN:OD1	2.16	0.45
31:RO:48:PRO:O	31:RO:49:ARG:HG2	2.17	0.45
1:XA:129(A):G:N2	1:XA:191(A):G:C4	2.84	0.45
1:XA:963:G:N2	1:XA:972:C:N3	2.53	0.45
1:XA:1236:A:O2'	1:XA:1304:G:H4'	2.17	0.45
6:XF:100:ASN:O	18:XR:28:GLU:HG2	2.17	0.45
7:XG:45:ASP:O	7:XG:49:ILE:HG12	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:229:A:C2	22:YA:418:G:H4'	2.52	0.45
22:YA:232:G:H8	22:YA:232:G:OP2	1.98	0.45
22:YA:2801:A:C6	22:YA:2802:G:H1'	2.52	0.45
22:YA:2812:G:H2'	22:YA:2813:A:C8	2.52	0.45
23:YB:62:C:H2'	23:YB:63:G:C8	2.51	0.45
25:YE:116:VAL:O	25:YE:117:MET:HB3	2.16	0.45
27:YG:6:ALA:N	47:Y4:23:GLU:HG2	2.28	0.45
32:YP:124:LYS:HA	32:YP:143:GLY:O	2.15	0.45
34:YR:109:ALA:HA	34:YR:110:PRO:HD2	1.77	0.45
41:YY:56:PRO:O	41:YY:58:GLY:N	2.49	0.45
41:YY:94:LYS:HD2	41:YY:101:LYS:HZ3	1.82	0.45
44:Y1:91:LYS:HA	44:Y1:91:LYS:HE3	1.98	0.45
53:QV:17:C:H5'	53:QV:61:C:OP1	2.16	0.45
1:QA:392:G:H2'	1:QA:393:A:H8	1.82	0.45
1:QA:1014:A:H4'	19:QS:14:HIS:CD2	2.51	0.45
1:QA:1298:C:C5	7:QG:114:ARG:HD2	2.51	0.45
1:QA:1338:G:H2'	1:QA:1339:A:C8	2.52	0.45
3:QC:19:GLU:HA	3:QC:54:ARG:HH12	1.82	0.45
4:QD:15:GLU:HG2	4:QD:63:LYS:HG3	1.97	0.45
22:RA:270(E):G:C2	22:RA:270(F):U:C2	3.05	0.45
22:RA:428:A:N7	22:RA:429:A:C5	2.84	0.45
22:RA:482:A:H4'	41:RY:47:LYS:HD2	1.99	0.45
22:RA:759:G:H2'	22:RA:760:G:C8	2.51	0.45
22:RA:1030:G:OP2	33:RQ:128:LYS:HG2	2.17	0.45
22:RA:1079:C:H5'	22:RA:1080:C:OP2	2.16	0.45
22:RA:1130:U:N3	25:RE:147:PRO:HB3	2.31	0.45
22:RA:1416:G:H2'	22:RA:1417:C:C6	2.52	0.45
22:RA:1754:C:H2'	22:RA:1755:A:C8	2.50	0.45
22:RA:2025:C:H2'	22:RA:2026:C:C6	2.52	0.45
22:RA:2679:A:H5'	25:RE:165:VAL:HG21	1.98	0.45
23:RB:83:G:H1	23:RB:93:C:N4	2.03	0.45
24:RD:30:GLU:HG3	24:RD:63:ARG:CZ	2.47	0.45
24:RD:105:ILE:HD12	24:RD:105:ILE:HA	1.63	0.45
24:RD:118:VAL:HG22	24:RD:119:ALA:H	1.82	0.45
24:RD:121:PRO:HB3	24:RD:135:PHE:CE1	2.52	0.45
27:RG:106:LEU:HA	27:RG:110:ALA:HB3	1.98	0.45
32:RP:18:ARG:HD2	32:RP:27:HIS:HD2	1.81	0.45
32:RP:77:ARG:HB2	32:RP:78:PRO:HD2	1.99	0.45
33:RQ:63:LYS:HD2	42:RZ:175:VAL:HG21	1.98	0.45
35:RS:83:LYS:C	35:RS:109:GLY:HA3	2.41	0.45
40:RX:67:GLY:C	40:RX:69:TYR:H	2.23	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RZ:45:ASP:OD1	42:RZ:49:ARG:NE	2.41	0.45
49:R6:26:ASN:ND2	49:R6:35:GLU:OE2	2.49	0.45
1:XA:479:C:H2'	1:XA:480:U:O4'	2.17	0.45
1:XA:908:A:H2'	1:XA:909:A:C8	2.51	0.45
1:XA:945:G:N2	1:XA:1334:G:O2'	2.48	0.45
1:XA:1447:G:N2	1:XA:1460:A:H1'	2.32	0.45
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.51	0.45
2:XB:120:ALA:C	2:XB:122:PHE:H	2.24	0.45
19:XS:63:THR:HG23	19:XS:66:MET:HG2	1.99	0.45
22:YA:184:C:H2'	22:YA:185:U:C6	2.52	0.45
22:YA:992:C:OP1	37:YU:47:TYR:OH	2.29	0.45
22:YA:1022:G:C6	22:YA:1140:C:C4	3.05	0.45
22:YA:1125:G:C6	22:YA:1126:A:N6	2.84	0.45
22:YA:2762:G:C6	22:YA:2763:G:C4	3.05	0.45
27:YG:146:TYR:O	27:YG:149:VAL:HG22	2.16	0.45
37:YU:58:ARG:HA	37:YU:61:TRP:CE3	2.52	0.45
38:YV:36:PRO:HA	38:YV:56:SER:OG	2.16	0.45
42:YZ:5:LEU:HD22	42:YZ:47:VAL:HG21	1.97	0.45
45:Y2:4:SER:OG	45:Y2:5:GLU:OE1	2.23	0.45
1:QA:97:U:H2'	1:QA:99:C:C6	2.52	0.45
1:QA:514:C:H2'	1:QA:515:G:H8	1.81	0.45
1:QA:1151:A:H5'	10:QJ:41:PRO:HA	1.99	0.45
1:QA:1358:U:H5"	14:QN:33:VAL:O	2.16	0.45
4:QD:53:ASP:O	4:QD:57:ARG:HD2	2.16	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
12:QL:113:ARG:HH21	12:QL:116:SER:HB2	1.81	0.45
22:RA:270(T):G:C5'	44:R1:97:LEU:HD22	2.47	0.45
22:RA:708:C:N4	22:RA:723:G:H1	2.02	0.45
22:RA:1792:G:H2'	22:RA:1793:C:H6	1.81	0.45
22:RA:2076:U:H5"	22:RA:2077:A:OP1	2.16	0.45
22:RA:2439:A:H3'	22:RA:2439:A:P	2.57	0.45
22:RA:2882:A:OP1	34:RR:96:ARG:NH1	2.35	0.45
25:RE:111:ARG:HA	34:RR:1:MET:SD	2.57	0.45
28:RH:153:LYS:HG3	28:RH:161:GLY:HA2	1.97	0.45
31:RO:22:ILE:HG12	31:RO:41:ALA:HA	1.98	0.45
34:RR:78:LYS:HE2	34:RR:83:ILE:HD11	1.98	0.45
34:RR:103:ARG:NH1	39:RW:40:ASN:OD1	2.50	0.45
42:RZ:10:ARG:NE	42:RZ:37:VAL:O	2.49	0.45
1:XA:489:C:H2'	1:XA:490:G:H8	1.81	0.45
1:XA:522:C:H2'	1:XA:523:A:O4'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:923:A:N6	1:XA:1392:G:O6	2.50	0.45
1:XA:1014:A:H4'	19:XS:14:HIS:CD2	2.51	0.45
1:XA:1316:G:N2	1:XA:1318:A:H3'	2.32	0.45
3:XC:48:TYR:OH	3:XC:122:GLU:OE2	2.22	0.45
13:XM:65:LYS:O	13:XM:70:LEU:HD23	2.17	0.45
15:XO:32:LEU:HD11	15:XO:62:GLN:HG2	1.99	0.45
17:XQ:43:LEU:HD12	17:XQ:68:ARG:HG2	1.97	0.45
22:YA:704:G:H2'	22:YA:726:G:N2	2.31	0.45
22:YA:783:A:C8	22:YA:783:A:C3'	2.99	0.45
22:YA:2078:C:C4	22:YA:2079:U:C4	3.05	0.45
22:YA:2124:G:C6	22:YA:2125:G:C4	3.05	0.45
22:YA:2212:A:N3	22:YA:2215:G:N1	2.64	0.45
23:YB:15:A:H1'	23:YB:109:G:N9	2.31	0.45
28:YH:150:ALA:O	28:YH:152:ARG:N	2.49	0.45
36:YT:6:LEU:HA	36:YT:9:LEU:HB2	1.99	0.45
38:YV:19:LYS:HG3	38:YV:95:LEU:HD23	1.98	0.45
41:YY:101:LYS:HG2	41:YY:102:CYS:H	1.81	0.45
42:YZ:26:GLY:HA2	42:YZ:85:HIS:CD2	2.52	0.45
42:YZ:100:VAL:HA	42:YZ:101:PRO:HD3	1.84	0.45
43:Y0:15:ASP:OD1	43:Y0:16:SER:N	2.46	0.45
45:Y2:21:LEU:O	45:Y2:25:VAL:HG23	2.17	0.45
1:QA:129(A):G:H1'	1:QA:189:U:H5"	1.97	0.45
1:QA:134:A:H61	16:QP:25:ARG:NH1	2.15	0.45
1:QA:272:C:H2'	1:QA:273:A:C8	2.52	0.45
1:QA:1199:U:H4'	10:QJ:54:PHE:CE2	2.51	0.45
1:QA:1516:G:H2'	1:QA:1518:A:OP2	2.17	0.45
4:QD:8:VAL:HG13	4:QD:21:LEU:HD12	1.97	0.45
11:QK:91:ARG:NH1	11:QK:110:ASP:OD1	2.48	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
22:RA:49:A:N7	22:RA:120:U:C5	2.84	0.45
22:RA:404:C:HO2'	22:RA:405:U:P	2.36	0.45
22:RA:728:G:C2	22:RA:730:C:C2	3.04	0.45
22:RA:1485:G:N1	22:RA:1486:A:C5	2.85	0.45
22:RA:2355:C:O2	43:R0:39:ARG:NH2	2.50	0.45
22:RA:2686:G:N2	22:RA:2724:C:H1'	2.31	0.45
22:RA:2852:G:H2'	22:RA:2853:C:C6	2.51	0.45
27:RG:10:LYS:O	27:RG:14:GLU:HB3	2.17	0.45
34:RR:29:LEU:HD12	34:RR:29:LEU:HA	1.74	0.45
49:R6:34:LEU:HD13	49:R6:34:LEU:H	1.81	0.45
1:XA:376:G:H5"	16:XP:5:ARG:HD2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:857:C:H2'	1:XA:858:G:O4'	2.17	0.45
1:XA:1053:G:H5'	1:XA:1054:C:H5'	1.98	0.45
1:XA:1386:G:H2'	1:XA:1387:G:C8	2.52	0.45
7:XG:15:ASP:OD2	7:XG:44:TYR:OH	2.35	0.45
16:XP:17:TYR:CE1	16:XP:41:PRO:HG3	2.52	0.45
22:YA:673:C:OP1	26:YF:54:ARG:NH1	2.46	0.45
22:YA:676:A:H2	22:YA:802:A:H61	1.63	0.45
22:YA:1127:A:N7	22:YA:2488:A:O2'	2.48	0.45
22:YA:1840:G:C6	22:YA:1841:U:C4	3.05	0.45
22:YA:2006:C:O2'	22:YA:2823:A:N3	2.49	0.45
22:YA:2115:G:O6	22:YA:2172:U:H5	2.00	0.45
22:YA:2447:G:N2	22:YA:2450:A:OP2	2.49	0.45
22:YA:2635:C:H5"	25:YE:78:LEU:HA	1.99	0.45
24:YD:237:GLU:O	24:YD:238:GLY:C	2.59	0.45
25:YE:67:PHE:O	25:YE:69:LYS:N	2.49	0.45
29:YI:81:VAL:HG21	29:YI:88:ILE:HD12	1.99	0.45
29:YI:110:ASP:HB2	29:YI:130:TYR:OH	2.16	0.45
1:QA:273:A:H1'	17:QQ:16:GLN:OE1	2.17	0.45
1:QA:607:A:H2'	1:QA:608:A:O4'	2.16	0.45
1:QA:617:G:N2	1:QA:623:C:N3	2.61	0.45
1:QA:1241:G:H2'	1:QA:1242:C:C6	2.52	0.45
1:QA:1347:G:O2'	1:QA:1348:U:OP2	2.34	0.45
2:QB:30:ARG:HH21	2:QB:194:PRO:HG2	1.81	0.45
2:QB:76:GLN:O	2:QB:208:ILE:HG12	2.17	0.45
4:QD:28:SER:HB3	4:QD:29:PRO:CD	2.42	0.45
8:QH:6:ILE:O	8:QH:10:LEU:HG	2.17	0.45
8:QH:104:ARG:O	8:QH:107:LEU:HB2	2.16	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
22:RA:18:C:H2'	22:RA:19:C:C6	2.52	0.45
22:RA:1676:A:H2'	22:RA:1677:A:O4'	2.17	0.45
22:RA:1935:G:H1'	22:RA:1964:G:N2	2.32	0.45
22:RA:1972:A:H2'	22:RA:1973:G:C8	2.51	0.45
23:RB:40:U:H1'	23:RB:45:A:N6	2.31	0.45
25:RE:107:THR:O	25:RE:190:GLY:HA2	2.17	0.45
30:RN:19:GLU:HB2	30:RN:56:ASN:HD22	1.80	0.45
34:RR:33:ARG:HH22	48:R5:55:ARG:HG2	1.81	0.45
35:RS:10:ARG:O	35:RS:14:VAL:HG12	2.17	0.45
41:RY:68:HIS:CE1	41:RY:70:SER:HB3	2.52	0.45
42:RZ:110:GLY:HA2	42:RZ:111:VAL:O	2.17	0.45
48:R5:39:MET:HE3	48:R5:39:MET:HB3	1.88	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:232:G:H1'	1:XA:262:A:N1	2.31	0.45
1:XA:388:G:O2'	1:XA:389:A:P	2.75	0.45
1:XA:454:C:N4	1:XA:479:C:N3	2.64	0.45
1:XA:1129:C:C4'	1:XA:1130:A:H5'	2.45	0.45
1:XA:1497:G:C2'	1:XA:1498:U:H5'	2.47	0.45
3:XC:153:VAL:HG22	3:XC:198:VAL:HG22	1.98	0.45
4:XD:50:ARG:H	4:XD:50:ARG:HG3	1.63	0.45
8:XH:51:VAL:HG11	8:XH:60:ARG:HG3	1.98	0.45
19:XS:66:MET:HB2	19:XS:74:PHE:CZ	2.52	0.45
22:YA:270(A):A:N6	22:YA:270(Y):G:H1'	2.32	0.45
22:YA:277:C:H3'	22:YA:278:A:C5'	2.46	0.45
22:YA:661:C:H5"	32:YP:15:ARG:NH2	2.31	0.45
22:YA:1689:A:N6	22:YA:1698:A:H2	2.11	0.45
22:YA:2580:U:H4'	25:YE:130:GLY:CA	2.34	0.45
24:YD:44:ASN:ND2	24:YD:44:ASN:N	2.64	0.45
29:YI:115:ALA:HB3	29:YI:128:LEU:HD12	1.98	0.45
34:YR:24:GLN:HE21	34:YR:44:LEU:HG	1.81	0.45
36:YT:102:ILE:HA	36:YT:105:LEU:CD2	2.47	0.45
39:YW:97:LYS:HE2	39:YW:99:ARG:NH2	2.31	0.45
41:YY:89:PHE:C	41:YY:90:LEU:HD13	2.42	0.45
44:Y1:79:GLY:N	44:Y1:80:LEU:HD23	2.32	0.45
49:Y6:28:ARG:HB3	49:Y6:30:THR:C	2.41	0.45
1:QA:24:U:H2'	1:QA:25:C:C6	2.52	0.45
1:QA:132:C:H2'	1:QA:133:U:O4'	2.17	0.45
1:QA:145:G:H2'	1:QA:146:G:O4'	2.17	0.45
1:QA:500:G:H2'	1:QA:501:C:C6	2.51	0.45
1:QA:974:A:OP2	14:QN:41:ARG:NH1	2.50	0.45
1:QA:1375:A:H4'	7:QG:29:LYS:HE3	1.99	0.45
1:QA:1379:G:O6	7:QG:2:ALA:HB3	2.17	0.45
1:QA:1455:G:H2'	1:QA:1459:C:C6	2.52	0.45
4:QD:167:GLY:HA2	24:YD:135:PHE:CE2	2.52	0.45
22:RA:1946:U:H2'	22:RA:1947:C:C6	2.52	0.45
22:RA:2564:A:C2	22:RA:2647:U:H4'	2.52	0.45
22:RA:2705:A:C6	22:RA:2706:G:C4	3.05	0.45
25:RE:46:ALA:HB2	25:RE:82:ARG:HA	1.98	0.45
26:RF:45:ARG:HH11	26:RF:45:ARG:CG	2.29	0.45
26:RF:161:GLU:OE2	26:RF:164:ARG:NH1	2.50	0.45
34:RR:42:LYS:HA	34:RR:45:ARG:HD2	1.98	0.45
42:RZ:181:GLU:HB3	42:RZ:182:LYS:H	1.47	0.45
43:R0:43:THR:HG23	43:R0:43:THR:O	2.17	0.45
44:R1:83:GLU:OE2	44:R1:83:GLU:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:R2:41:ILE:HD11	45:R2:44:LEU:HB2	1.99	0.45
1:XA:126:G:H4'	1:XA:634:C:O2	2.16	0.45
1:XA:406:G:C5'	4:XD:5:ILE:HD13	2.46	0.45
1:XA:426:G:P	4:XD:36:ARG:HH11	2.40	0.45
1:XA:739:C:HO2'	15:XO:42:HIS:CE1	2.34	0.45
1:XA:947:G:N2	1:XA:1235:U:C2	2.84	0.45
2:XB:115:LEU:HD13	2:XB:145:LEU:HB3	1.98	0.45
4:XD:86:LYS:HD2	4:XD:86:LYS:H	1.82	0.45
20:XT:33:ILE:HG23	20:XT:63:ILE:HG12	1.99	0.45
22:YA:414:C:H2'	22:YA:415:A:C8	2.52	0.45
22:YA:636:G:H4'	22:YA:638:G:H4'	1.97	0.45
22:YA:674:G:C1'	26:YF:74:ARG:HD3	2.35	0.45
22:YA:994:C:OP1	37:YU:53:ARG:NH2	2.49	0.45
22:YA:1204:A:O2'	22:YA:1205:U:O5'	2.35	0.45
22:YA:1430:C:H2'	22:YA:1431:U:H6	1.80	0.45
22:YA:2030:A:H4'	22:YA:2031:A:H8	1.82	0.45
22:YA:2331:G:N2	22:YA:2385:C:C4	2.84	0.45
22:YA:2507:C:H2'	22:YA:2508:G:O4'	2.17	0.45
22:YA:2758:A:C2	22:YA:2759:G:H1'	2.52	0.45
25:YE:167:VAL:HG21	25:YE:187:ALA:CB	2.47	0.45
31:YO:68:GLU:H	31:YO:68:GLU:CD	2.24	0.45
40:YX:60:ARG:HH22	50:Y7:47:ARG:NH1	2.14	0.45
43:Y0:43:THR:O	43:Y0:43:THR:HG23	2.17	0.45
45:Y2:24:LEU:HA	45:Y2:24:LEU:HD23	1.67	0.45
47:Y4:16:CYS:HB3	47:Y4:33:VAL:HB	1.98	0.45
53:XV:4:G:O2'	53:XV:5:G:P	2.75	0.45
1:QA:280:C:C2	17:QQ:38:ARG:HG3	2.52	0.45
1:QA:836:G:C6	1:QA:851:G:C6	3.05	0.45
1:QA:980:C:H5'	1:QA:981:U:OP2	2.17	0.45
1:QA:1012:U:H2'	1:QA:1013:G:C8	2.52	0.45
1:QA:1475:G:H2'	1:QA:1476:G:H8	1.82	0.45
2:QB:51:LEU:HD22	2:QB:55:PHE:HE2	1.82	0.45
2:QB:163:PHE:HA	2:QB:185:ILE:HG13	1.99	0.45
6:QF:99:ALA:HB1	18:QR:23:LYS:HZ2	1.81	0.45
22:RA:67:U:H2'	22:RA:68:G:C8	2.52	0.45
22:RA:99:U:H4'	22:RA:101:G:O5'	2.16	0.45
22:RA:270(E):G:N2	22:RA:270(F):U:C2	2.86	0.45
22:RA:765:G:H2'	22:RA:766:C:C6	2.52	0.45
22:RA:888:C:C3'	22:RA:889:C:H4'	2.48	0.45
22:RA:971:C:H2'	22:RA:972:G:O4'	2.17	0.45
22:RA:1183:G:O3'	46:R3:29:ARG:NH1	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1314:C:H42	22:RA:1338:G:H1	1.65	0.45
22:RA:1651:G:N2	22:RA:2007:C:C2	2.85	0.45
22:RA:1788:C:H2'	22:RA:1789:A:O4'	2.17	0.45
22:RA:2262:U:H2'	22:RA:2263:C:C6	2.52	0.45
22:RA:2383:G:OP2	51:R8:37:SER:HB2	2.17	0.45
22:RA:2575:C:H2'	22:RA:2578:G:O6	2.17	0.45
27:RG:102:PHE:O	27:RG:106:LEU:N	2.50	0.45
32:RP:64:LYS:HB2	51:R8:25:MET:HG3	1.98	0.45
40:RX:15:GLU:H	40:RX:15:GLU:CD	2.25	0.45
1:XA:35:G:C2	1:XA:550:G:C2	3.05	0.45
1:XA:241:C:C2	1:XA:286:G:C2	3.05	0.45
1:XA:407:G:H1'	4:XD:119:GLN:HE22	1.81	0.45
1:XA:652:U:H1'	1:XA:653:A:C2	2.52	0.45
1:XA:664:G:N2	1:XA:741:G:H1	2.15	0.45
1:XA:1220:G:H21	19:XS:54:GLY:C	2.24	0.45
8:XH:75:ARG:HA	8:XH:76:PRO:HD2	1.71	0.45
9:XI:111:ARG:HH22	10:XJ:62:HIS:CE1	2.35	0.45
10:XJ:16:LEU:HD11	10:XJ:70:ARG:HB2	1.99	0.45
13:XM:62:ASN:OD1	47:Y4:49:PHE:CD2	2.63	0.45
19:XS:24:ALA:O	19:XS:25:LYS:HB3	2.16	0.45
22:YA:372:G:O2'	22:YA:373:U:O5'	2.34	0.45
22:YA:493:G:H4'	39:YW:8:ARG:HB2	1.99	0.45
22:YA:648:G:H4'	22:YA:2351:G:H5"	1.98	0.45
22:YA:1003:G:N2	22:YA:1153:C:C2	2.85	0.45
22:YA:1101:U:H2'	22:YA:1102:C:C6	2.51	0.45
22:YA:1151:G:C2	22:YA:1152:C:C2	3.05	0.45
22:YA:1344:G:H4'	22:YA:1384:A:C5	2.52	0.45
22:YA:1412:A:H2'	22:YA:1413:G:C8	2.52	0.45
22:YA:1579:A:H2'	22:YA:1580:A:C8	2.52	0.45
22:YA:1751:C:H2'	22:YA:1752:C:H6	1.81	0.45
22:YA:2213:U:H1'	44:Y1:52:ARG:CZ	2.47	0.45
22:YA:2352:A:C4	22:YA:2366:A:C2	3.05	0.45
22:YA:2356:C:H2'	22:YA:2357:U:O4'	2.16	0.45
22:YA:2545:G:H2'	22:YA:2546:U:O4'	2.17	0.45
22:YA:2853:C:H2'	22:YA:2854:G:C8	2.51	0.45
24:YD:39:LYS:HB2	24:YD:62:TYR:HB2	1.98	0.45
28:YH:3:ARG:HA	28:YH:3:ARG:NE	2.32	0.45
28:YH:52:VAL:HG21	28:YH:68:THR:HG22	1.99	0.45
32:YP:126:VAL:HG12	32:YP:147:LEU:HD22	1.99	0.45
47:Y4:22:ILE:HG22	47:Y4:23:GLU:H	1.82	0.45
47:Y4:43:TYR:C	47:Y4:43:TYR:HD2	2.25	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:QV:25:C:H2'	53:QV:26:G:O4'	2.17	0.45
1:QA:29:G:O2'	1:QA:295:C:H4'	2.17	0.44
1:QA:376:G:H5"	16:QP:5:ARG:HD2	1.99	0.44
1:QA:437:U:C5	1:QA:438:G:C5	3.05	0.44
1:QA:457:C:H42	1:QA:475:G:H1	1.65	0.44
1:QA:692:U:OP1	11:QK:124:LYS:NZ	2.30	0.44
1:QA:1376:U:P	7:QG:94:ARG:HH12	2.40	0.44
1:QA:1494:G:N7	57:QA:1601:PAR:N32	2.65	0.44
8:QH:6:ILE:HB	8:QH:85:ARG:HH11	1.82	0.44
9:QI:126:SER:O	9:QI:128:ARG:N	2.45	0.44
13:QM:92:HIS:CD2	13:QM:110:ARG:HH21	2.35	0.44
19:QS:10:PHE:HB2	19:QS:39:THR:H	1.82	0.44
19:QS:66:MET:HB2	19:QS:74:PHE:CZ	2.51	0.44
22:RA:201:C:H4'	22:RA:386:G:C2	2.53	0.44
22:RA:286:C:H2'	22:RA:287:C:H6	1.80	0.44
22:RA:413:C:H2'	22:RA:414:C:C6	2.53	0.44
22:RA:1174:A:N3	22:RA:1178:C:N4	2.53	0.44
22:RA:2015:A:C8	22:RA:2016:U:C6	3.05	0.44
23:RB:13:A:C6	23:RB:70:C:H5'	2.52	0.44
28:RH:52:VAL:HG21	28:RH:69:ARG:HA	1.98	0.44
30:RN:116:LEU:HD23	30:RN:116:LEU:HA	1.78	0.44
31:RO:111:PHE:HB3	31:RO:114:ILE:HG13	1.98	0.44
33:RQ:7:MET:HE2	33:RQ:7:MET:HB3	1.90	0.44
1:XA:99:C:H2'	1:XA:101:A:C8	2.52	0.44
1:XA:164:U:H2'	1:XA:165:C:C6	2.52	0.44
1:XA:807:A:H2'	1:XA:808:C:H6	1.81	0.44
1:XA:892:A:O2'	1:XA:1415:G:H4'	2.17	0.44
1:XA:1106:G:H5"	3:XC:172:ARG:HG2	1.99	0.44
1:XA:1342:C:H4'	9:XI:125:TYR:CB	2.39	0.44
1:XA:1442:G:C5	1:XA:1446:A:C6	3.05	0.44
2:XB:33:TYR:HB2	2:XB:43:ASP:HB2	1.98	0.44
4:XD:25:ARG:NH1	4:XD:30:LYS:HG3	2.32	0.44
12:XL:45:PRO:HG3	12:XL:53:ARG:HD3	1.98	0.44
13:XM:68:GLY:CA	27:YG:116:ASP:OD2	2.63	0.44
22:YA:904:C:O2'	42:YZ:169:GLU:HG3	2.17	0.44
22:YA:1209:G:H21	22:YA:1210:A:N6	2.09	0.44
22:YA:1622:G:H2'	22:YA:1623:G:H8	1.82	0.44
22:YA:2461:C:H2'	22:YA:2462:U:H6	1.78	0.44
22:YA:2790:A:H2'	22:YA:2791:C:H5"	1.99	0.44
33:YQ:97:VAL:HG11	33:YQ:103:MET:HE3	1.98	0.44
51:Y8:4:MET:HB2	51:Y8:4:MET:HE3	1.54	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:412:A:H1'	1:QA:413:G:OP2	2.17	0.44
1:QA:1466:C:C5	1:QA:1467:G:C5	3.05	0.44
4:QD:158:ILE:HD13	4:QD:158:ILE:HA	1.82	0.44
10:QJ:33:GLN:O	10:QJ:75:ILE:HG12	2.17	0.44
22:RA:397:G:H1'	22:RA:2231:C:O2'	2.17	0.44
22:RA:742:G:H2'	22:RA:743:G:C8	2.53	0.44
22:RA:994:C:O2	38:RV:10:LYS:HE2	2.17	0.44
22:RA:1027:A:N6	22:RA:1126:A:C4	2.85	0.44
22:RA:1658:C:OP1	25:RE:135:HIS:NE2	2.50	0.44
22:RA:1753:G:N1	22:RA:1756:G:C2	2.85	0.44
22:RA:2066:C:C2'	22:RA:2067:G:H5'	2.47	0.44
31:RO:87:ILE:HD12	31:RO:91:LEU:HD12	1.99	0.44
34:RR:28:LEU:HD12	34:RR:48:VAL:HG11	1.99	0.44
1:XA:667:G:H4'	15:XO:51:HIS:CE1	2.53	0.44
1:XA:956:U:H2'	1:XA:957:U:O4'	2.18	0.44
1:XA:1320:C:H5'	19:XS:70:LYS:CG	2.46	0.44
7:XG:138:LYS:HE2	7:XG:142:GLU:OE2	2.17	0.44
11:XK:28:THR:OG1	11:XK:90:GLY:HA3	2.17	0.44
22:YA:413:C:H2'	22:YA:414:C:C6	2.49	0.44
22:YA:467:G:H8	22:YA:467:G:O5'	1.99	0.44
22:YA:950:G:H2'	22:YA:951:C:C6	2.53	0.44
22:YA:1202:C:N4	22:YA:1203:G:C6	2.85	0.44
22:YA:1288:U:C2	22:YA:1327:C:O2	2.70	0.44
22:YA:1405:U:H2'	22:YA:1406:U:C6	2.52	0.44
22:YA:1601:G:C5	22:YA:1602:U:C4	3.04	0.44
22:YA:2328:A:H2'	22:YA:2329:G:C8	2.52	0.44
23:YB:22:U:H2'	23:YB:23:G:C8	2.51	0.44
29:YI:95:LYS:O	29:YI:99:GLU:HB2	2.17	0.44
30:YN:62:VAL:HG12	30:YN:66:LYS:HD2	1.98	0.44
31:YO:86:ILE:HG22	31:YO:94:ARG:HD3	2.00	0.44
39:YW:33:ARG:NH2	39:YW:52:GLU:OE1	2.50	0.44
40:YX:35:THR:O	40:YX:39:ILE:HG13	2.16	0.44
42:YZ:109:ALA:HB3	42:YZ:143:GLY:HA2	1.98	0.44
45:Y2:41:ILE:HD11	45:Y2:44:LEU:CG	2.47	0.44
53:XV:66:C:H2'	53:XV:67:C:H6	1.82	0.44
1:QA:412:A:H4'	1:QA:413:G:O5'	2.17	0.44
6:QF:23:LYS:O	6:QF:27:GLN:HG2	2.17	0.44
6:QF:41:GLU:HB3	6:QF:62:TRP:HB3	2.00	0.44
15:QO:4:THR:HB	15:QO:6:GLU:CD	2.41	0.44
15:QO:39:LEU:HA	15:QO:39:LEU:HD23	1.68	0.44
22:RA:311:A:C6	22:RA:328:U:C4	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:630:G:P	51:R8:46:ARG:HH12	2.40	0.44
22:RA:846:C:O2'	22:RA:847:U:OP2	2.28	0.44
22:RA:953:A:C2	22:RA:954:G:C8	3.05	0.44
22:RA:1227:A:H5"	22:RA:1228:G:OP2	2.16	0.44
22:RA:1408:C:H2'	22:RA:1409:C:C6	2.52	0.44
22:RA:1641:A:H2'	22:RA:1642:G:O4'	2.17	0.44
22:RA:1773:A:H2'	22:RA:1774:C:O4'	2.17	0.44
22:RA:2259:G:C2	22:RA:2282:G:N1	2.86	0.44
22:RA:2261:C:C5	43:R0:16:SER:HB3	2.52	0.44
22:RA:2391:G:N2	22:RA:2425:A:OP1	2.43	0.44
22:RA:2397:G:N2	22:RA:2420:C:H1'	2.32	0.44
22:RA:2889:C:H3'	22:RA:2891:G:C8	2.46	0.44
25:RE:23:VAL:HG12	25:RE:184:VAL:O	2.17	0.44
25:RE:93:VAL:C	25:RE:95:ILE:H	2.25	0.44
28:RH:109:PHE:CZ	28:RH:152:ARG:HG2	2.53	0.44
33:RQ:12:GLN:HE21	33:RQ:72:LYS:HD3	1.82	0.44
37:RU:65:ILE:HG12	37:RU:96:ALA:CB	2.47	0.44
41:RY:42:VAL:HG12	41:RY:65:ALA:HB3	1.99	0.44
49:R6:32:ASN:N	49:R6:32:ASN:OD1	2.49	0.44
1:XA:157:G:H1	1:XA:164:U:H3	1.64	0.44
1:XA:451:A:H61	1:XA:481:G:H5'	1.82	0.44
1:XA:530:G:O6	54:XX:6:G:H1'	2.17	0.44
1:XA:564:C:C4	1:XA:565:U:C4	3.04	0.44
1:XA:693:G:H2'	1:XA:694:A:C8	2.52	0.44
9:XI:25:LYS:HE3	9:XI:25:LYS:HB2	1.72	0.44
10:XJ:61:GLU:OE1	14:XN:58:LYS:HE2	2.17	0.44
13:XM:115:LYS:HE3	13:XM:115:LYS:HB2	1.75	0.44
22:YA:265:A:O2'	22:YA:266:G:H4'	2.16	0.44
22:YA:517:C:OP1	48:Y5:16:ARG:NH2	2.50	0.44
22:YA:980:A:C4	22:YA:1136:G:O4'	2.70	0.44
22:YA:1309:G:H4'	50:Y7:7:PRO:HB2	1.99	0.44
22:YA:1382:G:H2'	22:YA:1383:C:C6	2.48	0.44
22:YA:1404:C:H2'	22:YA:1405:U:H5'	1.99	0.44
22:YA:1923:U:H2'	22:YA:1924:C:H6	1.83	0.44
22:YA:2305:A:H5"	27:YG:134:GLY:HA3	2.00	0.44
22:YA:2574:G:H2'	22:YA:2575:C:H6	1.82	0.44
22:YA:2881:C:H2'	22:YA:2882:A:H8	1.83	0.44
27:YG:114:ILE:HB	27:YG:117:PHE:HB2	1.99	0.44
29:YI:23:PRO:HA	29:YI:26:ALA:HB3	1.99	0.44
29:YI:86:THR:HA	29:YI:123:LEU:HB2	1.99	0.44
31:YO:17:ARG:NH2	31:YO:47:ILE:HD13	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YP:64:LYS:CB	51:Y8:25:MET:HG3	2.48	0.44
48:Y5:40:LYS:HZ3	48:Y5:46:CYS:C	2.26	0.44
1:QA:108:G:H5"	1:QA:109:A:C5'	2.43	0.44
1:QA:254:G:OP1	17:QQ:67:LYS:O	2.35	0.44
1:QA:401:C:H2'	1:QA:402:G:C8	2.52	0.44
1:QA:487:A:H2'	1:QA:488:C:O4'	2.18	0.44
1:QA:530:G:O2'	1:QA:531:U:P	2.75	0.44
1:QA:583:A:H2'	1:QA:584:G:O4'	2.17	0.44
1:QA:853:G:H2'	1:QA:854:G:C8	2.49	0.44
1:QA:881:G:H2'	1:QA:882:C:O4'	2.17	0.44
1:QA:922:G:H4'	5:QE:20:GLN:HA	1.99	0.44
1:QA:1141:C:H2'	1:QA:1142:G:C8	2.48	0.44
1:QA:1364:U:O2'	1:QA:1365:G:H5'	2.17	0.44
3:QC:70:VAL:HG21	3:QC:76:VAL:HG11	2.00	0.44
7:QG:153:HIS:HE1	11:QK:57:THR:HG23	1.82	0.44
12:QL:11:VAL:HG13	17:QQ:29:HIS:CD2	2.52	0.44
22:RA:120:U:C5	22:RA:149:A:N6	2.85	0.44
22:RA:302:C:H2'	22:RA:303:U:C6	2.52	0.44
22:RA:511:U:O4	22:RA:512:G:C6	2.71	0.44
22:RA:921:G:H4'	22:RA:2269:A:C5	2.52	0.44
22:RA:1161:C:H2'	22:RA:1162:G:H8	1.81	0.44
22:RA:1735:C:H2'	22:RA:1741:C:C6	2.52	0.44
22:RA:1803:A:N6	22:RA:1814:G:O2'	2.45	0.44
22:RA:2106:G:H2'	22:RA:2107:C:O4'	2.18	0.44
22:RA:2133:G:H1'	22:RA:2158:A:H61	1.81	0.44
22:RA:2494:G:H2'	22:RA:2495:G:H8	1.83	0.44
22:RA:2527:C:H5"	52:R9:30:PRO:HB2	1.99	0.44
23:RB:77:U:C5	23:RB:98:G:N2	2.85	0.44
24:RD:49:ILE:CD1	24:RD:52:ARG:HA	2.47	0.44
24:RD:70:TRP:HZ3	24:RD:146:GLU:OE2	2.01	0.44
27:RG:57:ALA:HB1	27:RG:68:PRO:HG2	1.98	0.44
28:RH:4:ILE:O	28:RH:6:ARG:N	2.51	0.44
30:RN:114:ARG:O	30:RN:115:ARG:HB3	2.17	0.44
33:RQ:134:ARG:CZ	42:RZ:122:ARG:HD2	2.48	0.44
35:RS:11:LYS:HG3	35:RS:91:PRO:HD3	1.98	0.44
42:RZ:111:VAL:HG22	42:RZ:112:ARG:N	2.33	0.44
51:R8:60:LEU:C	51:R8:63:PRO:HD2	2.42	0.44
1:XA:507:C:OP2	1:XA:508:C:O2'	2.27	0.44
1:XA:647:C:H2'	1:XA:648:A:O4'	2.17	0.44
1:XA:1032(A):G:H2'	1:XA:1032(B):G:C8	2.52	0.44
1:XA:1299:A:H2'	1:XA:1301:U:C1'	2.34	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:82:GLU:O	3:XC:86:VAL:HG13	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
13:XM:65:LYS:HB3	47:Y4:50:VAL:HG21	1.99	0.44
18:XR:52:PRO:HB2	18:XR:54:ARG:HG2	2.00	0.44
19:XS:5:LEU:CG	47:Y4:66:SER:HB2	2.47	0.44
20:XT:87:LYS:O	20:XT:91:LEU:HG	2.18	0.44
21:XU:5:ASP:HB3	21:XU:8:THR:OG1	2.17	0.44
22:YA:469:G:O6	50:Y7:37:LYS:NZ	2.31	0.44
22:YA:530:G:H5"	22:YA:531:C:OP1	2.17	0.44
22:YA:942:G:O2'	22:YA:1189:A:H2'	2.17	0.44
22:YA:1087:G:C5	22:YA:1089:G:H1'	2.52	0.44
22:YA:1142(A):A:H4'	30:YN:25:ARG:HH22	1.81	0.44
22:YA:2885:C:N3	22:YA:2886:G:H1'	2.32	0.44
29:YI:94:ALA:HB1	29:YI:111:PRO:HB2	1.98	0.44
36:YT:61:PHE:CE2	36:YT:76:PHE:HB2	2.53	0.44
37:YU:66:ASN:HB2	37:YU:76:TYR:HB2	1.99	0.44
37:YU:104:GLN:OE1	37:YU:105:VAL:HG23	2.17	0.44
43:Y0:12:ASN:HB2	43:Y0:13:GLY:H	1.46	0.44
44:Y1:53:VAL:HB	44:Y1:58:ILE:HD13	1.98	0.44
53:QV:19:G:N2	53:QV:56:C:N3	2.66	0.44
53:XV:14:A:H2'	53:XV:14:A:N3	2.33	0.44
1:QA:44:G:C6	1:QA:45:U:C2	3.06	0.44
1:QA:752:G:HO2'	1:QA:753:A:P	2.40	0.44
1:QA:1022:G:H2'	1:QA:1023:G:C8	2.52	0.44
1:QA:1080:A:C5'	5:QE:16:THR:HG21	2.47	0.44
1:QA:1127:G:H22	1:QA:1145:C:C1'	2.24	0.44
1:QA:1219:U:P	14:QN:19:ARG:HH22	2.38	0.44
1:QA:1255:G:C6	1:QA:1279:A:C8	3.06	0.44
1:QA:1271:G:H5'	1:QA:1314:C:H5'	1.98	0.44
1:QA:1335:C:P	1:QA:1337:G:H21	2.40	0.44
1:QA:1350:A:H2'	1:QA:1351:U:O4'	2.17	0.44
2:QB:228:GLY:O	2:QB:230:VAL:N	2.50	0.44
4:QD:150:GLU:OE1	4:QD:150:GLU:N	2.51	0.44
11:QK:92:GLU:HB3	11:QK:96:ARG:NH1	2.33	0.44
12:QL:70:ILE:HD13	12:QL:77:LEU:HD12	1.99	0.44
12:QL:109:GLY:HA3	12:QL:121:GLY:O	2.17	0.44
22:RA:564:C:H2'	22:RA:565:C:O4'	2.17	0.44
22:RA:778:G:C6	22:RA:779:U:C4	3.06	0.44
22:RA:918:A:C5	22:RA:919:G:H1'	2.52	0.44
22:RA:1303:G:O2'	22:RA:1642:G:O2'	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1815:A:C6	22:RA:1817:G:C6	3.05	0.44
22:RA:1816:G:C8	24:RD:62:TYR:CZ	3.05	0.44
22:RA:1856:G:N2	22:RA:1886:C:N3	2.53	0.44
22:RA:2032:G:N1	22:RA:2572:A:C8	2.86	0.44
22:RA:2191:G:C6	22:RA:2192:G:C8	3.05	0.44
22:RA:2232:U:OP2	44:R1:40:ARG:NH1	2.43	0.44
22:RA:2489:G:C6	22:RA:2490:G:N7	2.86	0.44
22:RA:2593:U:O4	22:RA:2594:C:N4	2.50	0.44
22:RA:2821:A:O5'	22:RA:2821:A:H8	2.00	0.44
27:RG:37:VAL:O	27:RG:94:LEU:HG	2.17	0.44
31:RO:106:LEU:HA	31:RO:106:LEU:HD23	1.81	0.44
38:RV:35:LEU:CD2	38:RV:57:VAL:HG22	2.47	0.44
42:RZ:103:ARG:HD3	42:RZ:136:PHE:CD1	2.52	0.44
42:RZ:104:PHE:HB3	42:RZ:141:VAL:HG11	2.00	0.44
45:R2:49:LYS:O	45:R2:53:LEU:HB2	2.18	0.44
48:R5:46:CYS:HA	48:R5:47:PRO:HD2	1.63	0.44
1:XA:302:G:C6	1:XA:303:A:C5	3.06	0.44
1:XA:491:G:H2'	1:XA:492:G:O4'	2.18	0.44
1:XA:775:G:O2'	1:XA:776:G:H5'	2.17	0.44
1:XA:868:C:H2'	1:XA:869:G:O4'	2.18	0.44
1:XA:949:A:N7	13:XM:106:ASN:ND2	2.66	0.44
1:XA:1213:A:N7	1:XA:1215:G:C5	2.86	0.44
5:XE:110:LEU:HD13	5:XE:118:ILE:HD13	1.98	0.44
7:XG:87:VAL:HG11	7:XG:155:ARG:HA	1.99	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
19:XS:81:ARG:HE	19:XS:81:ARG:HB2	1.36	0.44
22:YA:270:A:H1'	22:YA:370:G:C2	2.52	0.44
22:YA:270(K):C:O2	22:YA:270(N):G:N2	2.39	0.44
22:YA:686:G:N2	22:YA:788:A:H61	2.16	0.44
22:YA:1071:G:O5'	22:YA:1071:G:H8	2.00	0.44
22:YA:1339:G:C2	22:YA:1340:U:C5	3.06	0.44
22:YA:1753:G:H5"	22:YA:1753:G:H8	1.83	0.44
22:YA:2774:C:H2'	22:YA:2775:A:O4'	2.17	0.44
23:YB:11:C:O5'	23:YB:12:C:H5	2.00	0.44
23:YB:66:A:H61	23:YB:107:U:H2'	1.82	0.44
26:YF:184:TYR:CE2	26:YF:188:ARG:HD2	2.52	0.44
28:YH:124:GLU:HB3	28:YH:132:ARG:HG3	1.99	0.44
30:YN:134:ARG:O	30:YN:136:GLU:N	2.50	0.44
36:YT:42:ILE:HG21	36:YT:84:GLN:NE2	2.32	0.44
38:YV:15:GLU:HG3	38:YV:16:PRO:HD2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YV:99:ILE:HD13	38:YV:99:ILE:H	1.82	0.44
42:YZ:6:LYS:HB2	42:YZ:6:LYS:HE3	1.61	0.44
42:YZ:92:SER:OG	42:YZ:93:ASP:N	2.49	0.44
42:YZ:182:LYS:HG3	42:YZ:183:LEU:CD2	2.48	0.44
43:Y0:53:MET:HA	43:Y0:58:THR:O	2.17	0.44
45:Y2:17:SER:CB	45:Y2:67:LYS:HE3	2.47	0.44
53:QV:61:C:H2'	53:QV:62:C:H6	1.83	0.44
53:XV:16:C:O2'	53:XV:61:C:OP1	2.34	0.44
1:QA:977:A:H1'	1:QA:981:U:H3	1.81	0.44
2:QB:71:VAL:HA	2:QB:93:VAL:HB	2.00	0.44
4:QD:166:LYS:HG3	4:QD:178:VAL:HG11	1.99	0.44
15:QO:50:HIS:O	15:QO:53:HIS:HB3	2.17	0.44
22:RA:590:A:H2'	22:RA:591:C:C6	2.52	0.44
22:RA:856:C:H1'	43:R0:27:GLU:HB3	1.99	0.44
22:RA:1045:A:O4'	22:RA:1111:A:N6	2.51	0.44
22:RA:1191:G:OP1	32:RP:32:THR:HB	2.17	0.44
22:RA:1425:G:H2'	22:RA:1426:G:C8	2.53	0.44
22:RA:1668:A:H4'	22:RA:1669:A:O5'	2.17	0.44
22:RA:2111:C:H5	22:RA:2147:G:H22	1.65	0.44
22:RA:2495:G:H5"	33:RQ:81:VAL:HG13	1.98	0.44
22:RA:2634:G:C6	22:RA:2635:C:C4	3.05	0.44
22:RA:2662:A:C5	22:RA:2663:G:H1'	2.53	0.44
22:RA:2679:A:H4'	25:RE:165:VAL:HG11	1.99	0.44
24:RD:65:ILE:HD13	24:RD:65:ILE:H	1.82	0.44
27:RG:51:ARG:O	27:RG:53:LEU:N	2.48	0.44
27:RG:171:ALA:O	27:RG:175:LEU:HG	2.18	0.44
28:RH:28:GLY:HA3	28:RH:79:VAL:HB	2.00	0.44
42:RZ:8:TYR:HB2	42:RZ:38:TYR:CE2	2.52	0.44
42:RZ:52:SER:C	42:RZ:54:HIS:H	2.26	0.44
42:RZ:54:HIS:CD2	42:RZ:101:PRO:HG3	2.52	0.44
42:RZ:82:ARG:HA	42:RZ:83:PRO:HD3	1.89	0.44
44:R1:49:VAL:HG11	44:R1:70:VAL:HG11	1.98	0.44
1:XA:160:A:H2'	1:XA:161:A:O4'	2.17	0.44
1:XA:271:C:H2'	1:XA:272:C:C6	2.52	0.44
1:XA:329:A:C2	1:XA:332:G:C4	3.05	0.44
1:XA:1095:U:P	1:XA:1108:G:H1	2.41	0.44
1:XA:1124:G:C8	1:XA:1145:C:C5	3.05	0.44
1:XA:1280:A:HO2'	1:XA:1281:U:P	2.35	0.44
1:XA:1364:U:C6	21:XU:14:TRP:HH2	2.35	0.44
1:XA:1398:A:N1	5:XE:19:MET:HE3	2.33	0.44
9:XI:95:LYS:HZ3	9:XI:96:LEU:HD13	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:XL:42:THR:HA	12:XL:53:ARG:O	2.18	0.44
15:XO:39:LEU:HD13	15:XO:56:LEU:HB2	2.00	0.44
22:YA:480:A:H1'	41:YY:44:ILE:HG12	1.98	0.44
22:YA:482:A:H4'	41:YY:47:LYS:HD2	2.00	0.44
22:YA:1026:U:H1'	22:YA:1027:A:O5'	2.18	0.44
22:YA:1045:A:N3	22:YA:1047:G:N2	2.66	0.44
22:YA:1077:A:H3'	22:YA:1078:U:C5'	2.47	0.44
22:YA:2041:U:H2'	22:YA:2042:A:H8	1.83	0.44
22:YA:2209:C:O2	22:YA:2216:G:C2	2.70	0.44
22:YA:2216:G:H2'	22:YA:2217:G:H8	1.82	0.44
22:YA:2592:G:C6	22:YA:2593:U:C2	3.06	0.44
25:YE:64:LYS:C	25:YE:66:HIS:H	2.24	0.44
26:YF:63:LYS:HE3	26:YF:65:TRP:O	2.18	0.44
35:YS:43:GLU:HG3	43:Y0:49:LYS:NZ	2.32	0.44
35:YS:88:ASP:HB3	35:YS:89:ARG:H	1.47	0.44
36:YT:48:ILE:HD12	36:YT:48:ILE:H	1.83	0.44
41:YY:51:VAL:O	41:YY:56:PRO:HA	2.18	0.44
46:Y3:31:LEU:O	46:Y3:32:GLN:HB2	2.17	0.44
47:Y4:48:ARG:CZ	47:Y4:51:ASP:HA	2.47	0.44
49:Y6:7:ILE:HD12	49:Y6:7:ILE:HA	1.85	0.44
49:Y6:34:LEU:HD13	49:Y6:34:LEU:H	1.83	0.44
1:QA:35:G:C6	1:QA:36:C:N4	2.86	0.44
1:QA:1061:G:OP1	10:QJ:59:SER:OG	2.34	0.44
1:QA:1237:C:H5"	1:QA:1238:A:O4'	2.18	0.44
1:QA:1442:G:C5	1:QA:1446:A:C6	3.05	0.44
5:QE:100:VAL:HG22	5:QE:118:ILE:HG22	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
16:QP:23:ASP:O	16:QP:26:ARG:HB2	2.17	0.44
22:RA:467:G:OP1	50:R7:33:ARG:NH1	2.51	0.44
22:RA:1153:C:H2'	22:RA:1154:G:O4'	2.17	0.44
22:RA:1535:U:C2	22:RA:1536:A:N7	2.86	0.44
22:RA:1593:G:C2	22:RA:1594:G:C5	3.06	0.44
22:RA:1593:G:H2'	22:RA:1594:G:C8	2.53	0.44
22:RA:1777:U:O2'	22:RA:1778:U:H5'	2.18	0.44
22:RA:1803:A:H4'	24:RD:259:THR:CG2	2.47	0.44
22:RA:2816:C:H2'	22:RA:2817:G:C8	2.52	0.44
23:RB:15:A:H1'	23:RB:109:G:C4	2.53	0.44
24:RD:34:VAL:HG22	24:RD:35:LYS:HG3	2.00	0.44
26:RF:9:ILE:HA	26:RF:10:PRO:HD3	1.89	0.44
26:RF:117:ARG:HH12	32:RP:1:MET:N	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:RG:95:ARG:O	27:RG:99:MET:HG2	2.18	0.44
29:RI:69:LYS:HG2	29:RI:70:GLU:N	2.33	0.44
33:RQ:115:MET:HE2	33:RQ:115:MET:HB3	1.88	0.44
34:RR:54:LEU:HD23	34:RR:66:VAL:HG23	1.98	0.44
36:RT:107:ASP:O	36:RT:111:ARG:NH1	2.51	0.44
38:RV:16:PRO:HB3	38:RV:97:LYS:O	2.17	0.44
38:RV:49:THR:HB	38:RV:50:PRO:HD2	1.99	0.44
40:RX:57:LEU:HD11	40:RX:78:LYS:HD2	1.99	0.44
42:RZ:98:MET:HE2	42:RZ:98:MET:HB2	1.59	0.44
42:RZ:181:GLU:HB3	42:RZ:182:LYS:HD3	2.00	0.44
49:R6:40:CYS:HA	49:R6:41:PRO:HD2	1.85	0.44
49:R6:41:PRO:HD2	49:R6:46:HIS:H	1.83	0.44
1:XA:57:G:N2	1:XA:355:C:O2	2.51	0.44
1:XA:724:G:C2	1:XA:725:G:C8	3.05	0.44
1:XA:870:U:H5"	1:XA:871:U:OP1	2.17	0.44
1:XA:958:A:N6	1:XA:959:A:N1	2.66	0.44
1:XA:1095:U:H2'	1:XA:1096:C:C6	2.52	0.44
1:XA:1308:U:H5"	13:XM:98:VAL:HG23	1.99	0.44
1:XA:1316:G:O2'	1:XA:1318:A:N7	2.37	0.44
1:XA:1455:G:OP1	20:XT:35:THR:OG1	2.31	0.44
12:XL:39:VAL:HG12	12:XL:41:ARG:HG3	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
16:XP:18:ARG:NH1	16:XP:32:TYR:OH	2.50	0.44
22:YA:483:A:O2'	41:YY:48:ALA:O	2.36	0.44
22:YA:987:G:C6	22:YA:988:A:C4	3.06	0.44
22:YA:1042:G:C6	22:YA:1043:C:C4	3.06	0.44
22:YA:1337:G:C4	22:YA:1338:G:C8	3.06	0.44
22:YA:1382:G:C4	22:YA:1383:C:H5	2.34	0.44
22:YA:1980:G:O2'	22:YA:1982:C:OP2	2.35	0.44
22:YA:2169:A:C6	22:YA:2170:A:C6	3.06	0.44
23:YB:114:G:H2'	23:YB:115:G:O4'	2.18	0.44
24:YD:61:LEU:HD13	24:YD:61:LEU:HA	1.91	0.44
24:YD:85:ASP:HB2	24:YD:92:ILE:HD13	1.99	0.44
27:YG:98:ARG:O	27:YG:101:ILE:HG13	2.17	0.44
32:YP:62:LEU:HB2	51:Y8:30:ARG:HH11	1.83	0.44
42:YZ:5:LEU:HB3	42:YZ:6:LYS:H	1.52	0.44
51:Y8:49:VAL:HG23	51:Y8:53:PRO:HB3	2.00	0.44
1:QA:44:G:OP2	16:QP:12:LYS:HE2	2.18	0.44
1:QA:179:A:H2'	1:QA:180:U:H6	1.83	0.44
1:QA:560:U:H4'	1:QA:561:U:O5'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:687:A:H4'	1:QA:688:G:O5'	2.17	0.44
1:QA:991:U:O2	1:QA:993:G:H8	2.01	0.44
1:QA:1264:C:O2	1:QA:1272:G:N2	2.51	0.44
2:QB:37:ASN:C	2:QB:39:ILE:H	2.26	0.44
9:QI:16:ARG:O	9:QI:63:ILE:HA	2.17	0.44
22:RA:30:G:O2'	22:RA:1214:A:N3	2.43	0.44
22:RA:601:C:O2	22:RA:605:C:H4'	2.18	0.44
22:RA:952:G:C6	22:RA:966:G:C6	3.06	0.44
22:RA:1582:C:N4	22:RA:1583:A:N7	2.66	0.44
22:RA:2111:C:N3	22:RA:2118:U:O2'	2.50	0.44
24:RD:85:ASP:HA	24:RD:86:PRO:HD2	1.72	0.44
28:RH:123:PHE:O	28:RH:125:VAL:HG23	2.18	0.44
31:RO:22:ILE:HD13	31:RO:22:ILE:HA	1.77	0.44
32:RP:140:ALA:O	32:RP:141:ALA:HB2	2.17	0.44
33:RQ:83:MET:HB2	43:R0:7:LEU:HD12	2.00	0.44
33:RQ:112:GLU:CD	33:RQ:112:GLU:H	2.25	0.44
40:RX:87:GLN:O	40:RX:88:LYS:HG3	2.18	0.44
42:RZ:101:PRO:HA	42:RZ:123:ASP:HA	1.99	0.44
42:RZ:127:LYS:HB3	42:RZ:162:GLU:HB3	2.00	0.44
42:RZ:177:PRO:HB2	42:RZ:178:GLU:H	1.62	0.44
52:R9:24:TYR:CE2	52:R9:35:ARG:HG3	2.53	0.44
1:XA:134:A:H61	16:XP:25:ARG:HH12	1.63	0.44
1:XA:371:G:H2'	1:XA:372:C:O4'	2.18	0.44
1:XA:625:G:H2'	1:XA:626:U:C6	2.53	0.44
1:XA:954:G:C6	1:XA:955:U:C4	3.06	0.44
3:XC:47:LEU:HA	3:XC:47:LEU:HD12	1.83	0.44
15:XO:77:ARG:HA	15:XO:80:ALA:HB3	1.99	0.44
16:XP:39:TYR:CZ	16:XP:41:PRO:HB3	2.53	0.44
22:YA:554:U:HO2'	22:YA:556:G:H8	1.58	0.44
22:YA:1210:A:C5'	22:YA:1210:A:C8	3.00	0.44
22:YA:1449:A:C6	22:YA:1449(A):G:C4	3.06	0.44
22:YA:1581:G:C6	22:YA:1582:C:C4	3.06	0.44
22:YA:1792:G:OP1	24:YD:206:LEU:HB2	2.18	0.44
22:YA:2557:G:H5"	22:YA:2557:G:H8	1.83	0.44
22:YA:2734:A:H3'	22:YA:2735:G:H8	1.83	0.44
22:YA:2795:G:N2	22:YA:2799:A:OP2	2.50	0.44
23:YB:12:C:O2	43:Y0:74:ARG:HD2	2.17	0.44
25:YE:105:THR:OG1	25:YE:199:ARG:NH1	2.50	0.44
26:YF:47:GLY:HA3	26:YF:95:ARG:O	2.18	0.44
27:YG:10:LYS:HE2	27:YG:175:LEU:O	2.18	0.44
29:YI:2:LYS:HG2	29:YI:20:ASP:HB3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:358:U:H2'	1:QA:359:U:C6	2.52	0.44
1:QA:392:G:H2'	1:QA:393:A:C8	2.51	0.44
1:QA:793:U:H3'	1:QA:794:A:H5"	2.00	0.44
1:QA:814:A:N7	1:QA:816:A:C4	2.85	0.44
1:QA:927:G:H1	1:QA:1390:U:H3	1.65	0.44
1:QA:1119:C:OP1	9:QI:83:ARG:NH1	2.51	0.44
10:QJ:54:PHE:HB3	10:QJ:55:LYS:H	1.69	0.44
22:RA:244:A:H2'	22:RA:245:G:O4'	2.18	0.44
22:RA:301:G:H1'	22:RA:302:C:C6	2.53	0.44
22:RA:997:G:OP1	37:RU:93:LYS:HB2	2.18	0.44
22:RA:1039:G:H1	22:RA:1116:C:H42	1.65	0.44
22:RA:1751:C:O2'	22:RA:1752:C:H5'	2.18	0.44
22:RA:2491:U:H1'	22:RA:2569:G:O3'	2.18	0.44
22:RA:2850:A:C2	22:RA:2851:A:C4	3.06	0.44
34:RR:27:SER:HB3	34:RR:34:ILE:HD11	1.99	0.44
35:RS:19:LYS:O	35:RS:20:ARG:HB3	2.18	0.44
41:RY:81:LYS:HB2	41:RY:96:ILE:CG2	2.48	0.44
42:RZ:59:LEU:O	42:RZ:60:GLU:HB3	2.17	0.44
48:R5:16:ARG:HD2	48:R5:20:ARG:NH1	2.33	0.44
1:XA:253:U:H2'	1:XA:254:G:C8	2.53	0.44
1:XA:373:A:H2'	1:XA:374:A:H8	1.82	0.44
1:XA:652:U:O2	1:XA:652:U:H2'	2.18	0.44
1:XA:1108:G:H5'	3:XC:176:HIS:ND1	2.33	0.44
3:XC:108:ASN:HB3	3:XC:111:LEU:HD12	2.00	0.44
4:XD:33:MET:HE2	4:XD:37:PRO:CA	2.44	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
22:YA:76:C:H1'	45:Y2:62:THR:HG21	1.99	0.44
22:YA:830:G:N2	22:YA:2445:G:O2'	2.47	0.44
22:YA:1496:A:H2'	22:YA:1577:C:O2'	2.18	0.44
22:YA:2283:C:C2	22:YA:2389:G:C2	3.06	0.44
22:YA:2516:G:C6	22:YA:2517:C:C4	3.05	0.44
22:YA:2776:A:C6	22:YA:2778:A:C6	3.06	0.44
27:YG:47:LYS:HB2	27:YG:47:LYS:HE3	1.73	0.44
40:YX:70:LEU:HD23	40:YX:70:LEU:H	1.83	0.44
44:Y1:70:VAL:O	44:Y1:73:LEU:HB2	2.18	0.44
49:Y6:41:PRO:HD2	49:Y6:46:HIS:H	1.81	0.44
53:QV:1:C:H2'	53:QV:2:G:H8	1.83	0.44
53:QV:54:U:C5	53:QV:55:U:C4	3.06	0.44
1:QA:115:G:H4'	1:QA:116:A:O5'	2.17	0.43
1:QA:181:G:O2'	1:QA:182:U:O5'	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:404:U:H2'	1:QA:405:U:C6	2.44	0.43
1:QA:963:G:H1	1:QA:972:C:H42	1.64	0.43
1:QA:976:G:P	14:QN:32:SER:H	2.41	0.43
4:QD:125:HIS:CE1	4:QD:152:SER:HG	2.35	0.43
4:QD:155:LEU:O	4:QD:159:ARG:HG2	2.18	0.43
7:QG:116:ALA:HA	7:QG:119:ARG:HE	1.83	0.43
22:RA:80:G:O2'	22:RA:294:A:N1	2.47	0.43
22:RA:396:G:O5'	22:RA:396:G:H8	2.01	0.43
22:RA:579:G:O2'	22:RA:2019:A:OP1	2.32	0.43
22:RA:588:U:H2'	22:RA:589:C:C6	2.52	0.43
22:RA:918:A:O2'	23:RB:96:G:N2	2.51	0.43
22:RA:1014:U:H3	22:RA:1148:A:H61	1.66	0.43
22:RA:1022:G:H22	22:RA:1142(A):A:H2	1.65	0.43
22:RA:1025:G:C4	22:RA:1135:C:H1'	2.52	0.43
22:RA:1188:U:H4'	38:RV:79:VAL:HG22	1.99	0.43
22:RA:2612:C:C5	22:RA:2613:U:H5	2.36	0.43
22:RA:2734:A:C8	22:RA:2735:G:C8	3.06	0.43
22:RA:2740:A:N6	22:RA:2764:A:C8	2.86	0.43
22:RA:2788:C:OP1	25:RE:61:ARG:NH1	2.51	0.43
22:RA:2869:G:O5'	22:RA:2869:G:H8	2.01	0.43
24:RD:70:TRP:CD1	24:RD:70:TRP:C	2.96	0.43
24:RD:145:VAL:HG11	24:RD:175:LEU:HD11	2.00	0.43
29:RI:80:PRO:HA	29:RI:143:SER:O	2.17	0.43
39:RW:1:MET:HE3	39:RW:2:GLU:H	1.82	0.43
49:R6:28:ARG:HG3	49:R6:31:PRO:HD2	2.00	0.43
1:XA:95:G:H3'	1:XA:96:G:C8	2.51	0.43
1:XA:554:C:H2'	1:XA:555:C:H6	1.83	0.43
1:XA:1162:C:C2	1:XA:1175:G:C2	3.06	0.43
1:XA:1220:G:N2	19:XS:54:GLY:O	2.48	0.43
1:XA:1271:G:H2'	1:XA:1272:G:H5"	2.00	0.43
12:XL:24:VAL:O	12:XL:26:ALA:N	2.47	0.43
16:XP:45:THR:HG22	16:XP:47:ASP:N	2.26	0.43
22:YA:363(B):G:H2'	22:YA:363(C):G:C8	2.52	0.43
22:YA:389:G:H22	32:YP:72:PRO:CD	2.31	0.43
22:YA:586:A:N1	22:YA:809:G:O2'	2.44	0.43
22:YA:656:G:H2'	22:YA:657:U:C6	2.53	0.43
22:YA:896:A:C8	42:YZ:146:ILE:HD12	2.52	0.43
22:YA:1011:G:C2	22:YA:1151:G:N3	2.85	0.43
22:YA:1111:A:O2'	22:YA:1112:G:H4'	2.17	0.43
22:YA:1319:G:C2	22:YA:1334:G:C5	3.05	0.43
22:YA:1332:G:H8	22:YA:1332:G:H2'	1.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1360:A:H2'	22:YA:1361:G:O4'	2.18	0.43
22:YA:1568:G:H5'	24:YD:59:LYS:O	2.17	0.43
22:YA:1803:A:H4'	24:YD:259:THR:HG23	2.00	0.43
22:YA:1924:C:H4'	53:XV:13:C:O2'	2.17	0.43
22:YA:1972:A:H2'	22:YA:1973:G:H8	1.82	0.43
22:YA:2387:U:H1'	43:Y0:41:ARG:NH2	2.33	0.43
22:YA:2815:C:H5'	48:Y5:29:THR:HG21	2.00	0.43
23:YB:106:G:C6	23:YB:107:U:C4	3.06	0.43
25:YE:37:ARG:O	25:YE:45:THR:HA	2.18	0.43
26:YF:66:PRO:O	26:YF:68:LYS:N	2.51	0.43
28:YH:4:ILE:H	28:YH:4:ILE:HG12	1.59	0.43
28:YH:12:PRO:O	28:YH:13:LYS:HB2	2.17	0.43
28:YH:67:LEU:O	28:YH:71:LEU:HB2	2.17	0.43
32:YP:126:VAL:HG12	32:YP:147:LEU:CD2	2.48	0.43
44:Y1:94:LEU:HD23	44:Y1:94:LEU:HA	1.81	0.43
45:Y2:31:GLU:HB2	45:Y2:53:LEU:HD11	2.00	0.43
1:QA:74:C:H42	1:QA:96:G:H1	1.66	0.43
1:QA:153:C:O5'	1:QA:153:C:H6	2.01	0.43
1:QA:271:C:H2'	1:QA:272:C:H6	1.83	0.43
1:QA:518:C:H4'	1:QA:519:C:H5"	2.00	0.43
1:QA:1266:G:N2	1:QA:1270:C:N3	2.66	0.43
1:QA:1388:C:H2'	1:QA:1389:C:H6	1.82	0.43
10:QJ:51:ARG:NE	10:QJ:60:ARG:O	2.45	0.43
22:RA:923:C:O5'	22:RA:923:C:H6	2.01	0.43
22:RA:981:A:N1	22:RA:2027:G:O2'	2.48	0.43
22:RA:1310:G:H1	22:RA:1604:C:N4	2.12	0.43
25:RE:143:ASN:HD22	25:RE:147:PRO:HD3	1.83	0.43
31:RO:20:MET:HE3	31:RO:44:LYS:HE3	2.01	0.43
40:RX:67:GLY:O	40:RX:69:TYR:N	2.43	0.43
41:RY:42:VAL:O	41:RY:65:ALA:N	2.45	0.43
1:XA:414:A:C6	1:XA:431:A:C2	3.06	0.43
1:XA:517:G:H4'	1:XA:519:C:C6	2.54	0.43
1:XA:564:C:C4	17:XQ:31:LEU:HD11	2.53	0.43
1:XA:1216:G:H5"	14:XN:5:ALA:HB2	1.99	0.43
1:XA:1305:G:C5'	21:XU:4:GLY:HA3	2.46	0.43
5:XE:9:LYS:HB2	5:XE:9:LYS:HE3	1.89	0.43
10:XJ:32:ALA:H	10:XJ:78:ASN:ND2	2.16	0.43
16:XP:4:ILE:HB	16:XP:66:PRO:HB3	2.00	0.43
19:XS:64:GLU:O	47:Y4:55:ARG:NH1	2.51	0.43
22:YA:65:C:H5'	40:YX:71:GLY:HA3	2.00	0.43
22:YA:310:A:C4	22:YA:312:G:C8	3.05	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:414:C:H1'	22:YA:1864:U:H1'	2.01	0.43
22:YA:942:G:O2'	22:YA:1189:A:N3	2.41	0.43
22:YA:1058:G:O5'	22:YA:1060:U:H5	2.01	0.43
22:YA:1476:C:H2'	22:YA:1477:A:O4'	2.18	0.43
22:YA:1795:C:H2'	22:YA:1796:U:O4'	2.17	0.43
22:YA:1853:A:C6	22:YA:1889:A:C5	3.06	0.43
22:YA:2350:C:H5	51:Y8:42:ARG:NH1	2.17	0.43
22:YA:2512:C:H2'	22:YA:2513:G:O4'	2.17	0.43
22:YA:2655:G:O2'	22:YA:2664:G:O6	2.36	0.43
22:YA:2871:C:H5"	22:YA:2872:G:OP1	2.18	0.43
32:YP:61:ARG:NH1	51:Y8:56:GLU:OE2	2.49	0.43
34:YR:38:VAL:HG22	34:YR:112:ALA:HB2	2.00	0.43
36:YT:35:LYS:H	36:YT:35:LYS:HD2	1.83	0.43
1:QA:927:G:H2'	1:QA:928:G:O4'	2.18	0.43
1:QA:937:A:H8	1:QA:937:A:O5'	2.02	0.43
1:QA:1223:C:P	19:QS:78:ARG:HH12	2.41	0.43
1:QA:1446:A:C5	36:RT:118:ARG:NH1	2.87	0.43
2:QB:74:LYS:O	2:QB:78:GLN:HG3	2.18	0.43
2:QB:167:PRO:HG3	2:QB:188:ALA:HB2	2.00	0.43
3:QC:81:GLY:O	3:QC:85:ARG:HB2	2.18	0.43
4:QD:133:VAL:HG12	4:QD:135:LEU:H	1.83	0.43
7:QG:9:VAL:HG13	7:QG:94:ARG:NH2	2.27	0.43
7:QG:113:GLU:H	7:QG:113:GLU:HG2	1.39	0.43
11:QK:19:ALA:HB2	11:QK:32:ILE:HG22	2.00	0.43
13:QM:3:ARG:NH1	27:RG:113:ARG:NH2	2.66	0.43
20:QT:16:HIS:O	20:QT:19:SER:HB3	2.18	0.43
22:RA:483:A:H1'	41:RY:59:GLY:O	2.19	0.43
22:RA:888:C:C2'	22:RA:889:C:H4'	2.48	0.43
22:RA:960:A:H61	33:RQ:82:ARG:NH1	2.16	0.43
22:RA:1462:C:H4'	22:RA:2703:C:H5'	2.00	0.43
22:RA:1614:A:N1	39:RW:91:GLY:HA2	2.34	0.43
22:RA:2364:C:H2'	22:RA:2365:G:O4'	2.18	0.43
22:RA:2518:A:H4'	22:RA:2519:U:OP1	2.14	0.43
22:RA:2766:G:N3	22:RA:2766:G:H2'	2.34	0.43
24:RD:30:GLU:CD	24:RD:63:ARG:HH21	2.26	0.43
25:RE:119:ARG:HD3	25:RE:160:TYR:HB2	2.00	0.43
25:RE:178:GLU:H	25:RE:178:GLU:CD	2.27	0.43
29:RI:57:ARG:O	29:RI:61:ARG:HG2	2.18	0.43
29:RI:94:ALA:N	29:RI:116:LEU:HD13	2.31	0.43
30:RN:33:LEU:HA	30:RN:38:HIS:CE1	2.53	0.43
33:RQ:136:ALA:O	33:RQ:138:ASP:N	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RR:1:MET:HE2	34:RR:1:MET:HB2	1.52	0.43
36:RT:19:LEU:HA	36:RT:20:PRO:HD3	1.86	0.43
41:RY:97:ARG:HE	41:RY:98:VAL:HB	1.83	0.43
42:RZ:48:PHE:O	42:RZ:52:SER:HB3	2.18	0.43
1:XA:250:A:H5'	1:XA:252:U:O4'	2.18	0.43
1:XA:256:U:H2'	1:XA:257:G:O4'	2.18	0.43
1:XA:374:A:C6	1:XA:375:U:C4	3.06	0.43
1:XA:1301:U:HO2'	1:XA:1302:U:P	2.40	0.43
1:XA:1312:G:H5"	47:Y4:67:TYR:OH	2.17	0.43
1:XA:1318:A:H4'	19:XS:11:VAL:CG1	2.48	0.43
1:XA:1460:A:H2'	1:XA:1461:G:O4'	2.18	0.43
2:XB:80:ILE:HG21	2:XB:212:GLN:HA	2.00	0.43
3:XC:72:LYS:HB3	3:XC:75:VAL:HG23	2.00	0.43
4:XD:100:ARG:NH1	4:XD:137:SER:HB3	2.33	0.43
10:XJ:54:PHE:CZ	10:XJ:55:LYS:HE3	2.54	0.43
13:XM:14:ARG:H	13:XM:44:ARG:CD	2.25	0.43
17:XQ:62:SER:HB3	17:XQ:72:ARG:HE	1.84	0.43
22:YA:467:G:OP2	50:Y7:34:ARG:NH1	2.51	0.43
22:YA:528:A:C8	22:YA:528:A:C3'	3.02	0.43
22:YA:547:A:H2'	22:YA:548:A:C8	2.54	0.43
22:YA:951:C:C2'	22:YA:952:G:H5'	2.48	0.43
22:YA:2638:G:N1	22:YA:2776:A:OP2	2.27	0.43
22:YA:2756:U:H5"	52:Y9:19:ARG:HB3	2.00	0.43
24:YD:92:ILE:HD12	24:YD:104:TYR:CD2	2.54	0.43
27:YG:67:LYS:O	27:YG:67:LYS:HD2	2.17	0.43
27:YG:83:ARG:HG3	27:YG:86:MET:HE3	1.99	0.43
30:YN:112:LEU:O	30:YN:112:LEU:HG	2.17	0.43
38:YV:52:VAL:O	38:YV:54:GLY:N	2.51	0.43
39:YW:14:PRO:C	39:YW:18:ARG:HD2	2.43	0.43
40:YX:72:LYS:HG2	40:YX:73:ARG:O	2.18	0.43
42:YZ:179:ASP:OD1	42:YZ:180:VAL:N	2.51	0.43
44:Y1:83:GLU:C	44:Y1:85:LEU:N	2.76	0.43
52:Y9:1:MET:O	52:Y9:34:GLN:HG2	2.18	0.43
1:QA:26:A:N6	1:QA:558:G:O2'	2.48	0.43
1:QA:319:G:C2	1:QA:320:C:C2	3.07	0.43
1:QA:397:A:H3'	1:QA:397:A:N3	2.32	0.43
1:QA:402:G:C6	1:QA:403:C:C4	3.06	0.43
1:QA:713:G:OP1	24:RD:166:GLN:NE2	2.50	0.43
1:QA:768:A:N3	1:QA:1512:U:O2'	2.50	0.43
1:QA:890:G:O2'	1:QA:906:G:O6	2.25	0.43
1:QA:904:C:C4	1:QA:905:U:C4	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:985:C:H2'	1:QA:986:A:C8	2.52	0.43
8:QH:13:ILE:O	8:QH:17:THR:HG23	2.19	0.43
17:QQ:60:ILE:HB	17:QQ:74:LEU:HD23	2.00	0.43
22:RA:240:G:H2'	22:RA:241:A:C8	2.53	0.43
22:RA:333:G:H5"	22:RA:334:C:OP2	2.18	0.43
22:RA:508:G:HO2'	22:RA:509:C:P	2.41	0.43
22:RA:634:C:H2'	22:RA:635:C:H6	1.83	0.43
22:RA:668:G:H2'	22:RA:670:A:H62	1.83	0.43
22:RA:797:C:H2'	22:RA:798:G:C8	2.53	0.43
22:RA:1265:A:H3'	48:R5:19:ARG:NH1	2.33	0.43
22:RA:1464:C:O2'	22:RA:1528:A:C8	2.67	0.43
22:RA:1492:G:H3'	22:RA:1493:C:H5'	1.99	0.43
22:RA:1727:U:H2'	22:RA:1728:G:O4'	2.18	0.43
22:RA:1952:A:C2	31:RO:22:ILE:HG23	2.54	0.43
22:RA:2224:G:OP1	24:RD:268:ARG:HD3	2.18	0.43
22:RA:2458:G:H4'	22:RA:2459:A:H8	1.82	0.43
23:RB:80:U:C2	23:RB:81:G:N2	2.87	0.43
29:RI:4:ILE:HA	29:RI:18:VAL:HA	2.01	0.43
40:RX:40:LYS:C	40:RX:42:ALA:N	2.76	0.43
1:XA:258:G:H1	1:XA:268:C:H42	1.65	0.43
1:XA:373:A:H2'	1:XA:374:A:C8	2.53	0.43
1:XA:657:G:C2	1:XA:658:G:C8	3.06	0.43
1:XA:883:C:C2'	1:XA:884:U:H5'	2.48	0.43
1:XA:903:G:H2'	1:XA:904:C:H6	1.83	0.43
1:XA:1355:G:H2'	1:XA:1356:G:C8	2.52	0.43
1:XA:1430:C:H2'	1:XA:1431:C:C6	2.53	0.43
1:XA:1480:G:C6	1:XA:1481:U:C2	3.06	0.43
1:XA:1489:G:H2'	1:XA:1490:C:O4'	2.18	0.43
2:XB:100:GLY:N	2:XB:176:GLU:OE2	2.47	0.43
4:XD:153:ARG:NH1	4:XD:181:MET:HB2	2.32	0.43
9:XI:118:LYS:O	9:XI:119:ALA:HB3	2.18	0.43
12:XL:58:VAL:O	12:XL:65:GLU:HA	2.18	0.43
12:XL:78:GLN:HB3	12:XL:79:GLU:H	1.68	0.43
12:XL:110:VAL:CG2	12:XL:120:TYR:HB3	2.48	0.43
14:XN:29:ARG:HD3	14:XN:40:CYS:HB2	1.99	0.43
22:YA:78:A:H2'	22:YA:79:G:C8	2.53	0.43
22:YA:199:A:O2'	22:YA:2433:A:N6	2.41	0.43
22:YA:228:A:C6	22:YA:230:U:C2	3.07	0.43
22:YA:323:G:H1'	22:YA:1205:U:O2	2.19	0.43
22:YA:440:G:H2'	22:YA:441:U:O4'	2.18	0.43
22:YA:593:G:H1	22:YA:664:C:N4	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:802:A:H5"	22:YA:803:U:OP2	2.19	0.43
22:YA:817:C:H4'	22:YA:932:G:C5	2.53	0.43
22:YA:819:A:C4	22:YA:1189:A:C2	3.06	0.43
22:YA:825:C:H2'	22:YA:826:U:O4'	2.18	0.43
22:YA:1225:C:O2'	38:YV:85:LYS:HA	2.19	0.43
22:YA:1257:C:H4'	26:YF:83:PHE:CE2	2.53	0.43
22:YA:1812:A:H2'	22:YA:1813:G:C8	2.53	0.43
22:YA:1906:G:C2	22:YA:1925:C:O2	2.71	0.43
22:YA:2467:C:O2'	22:YA:2468:G:H5'	2.18	0.43
22:YA:2595:G:H5"	22:YA:2596:U:OP2	2.18	0.43
22:YA:2680:C:H2'	22:YA:2681:C:C5	2.54	0.43
22:YA:2783:G:O5'	22:YA:2783:G:H8	2.02	0.43
22:YA:2881:C:H2'	22:YA:2882:A:C8	2.53	0.43
25:YE:87:GLU:O	25:YE:89:ASP:N	2.50	0.43
26:YF:33:LEU:HD12	26:YF:33:LEU:HA	1.86	0.43
31:YO:88:ASN:ND2	31:YO:92:GLU:HB2	2.22	0.43
35:YS:39:ILE:HD12	35:YS:85:VAL:HG11	2.00	0.43
38:YV:55:ALA:HB2	38:YV:101:GLY:HA2	1.99	0.43
40:YX:53:LYS:H	40:YX:82:GLN:HB3	1.83	0.43
42:YZ:44:PHE:O	42:YZ:48:PHE:N	2.48	0.43
43:Y0:27:GLU:HB2	43:Y0:69:PHE:CD1	2.53	0.43
43:Y0:37:LEU:HG	43:Y0:60:PHE:HA	2.01	0.43
1:QA:166:G:H2'	1:QA:167:G:H8	1.80	0.43
1:QA:296:U:H2'	1:QA:297:G:C8	2.53	0.43
1:QA:542:G:H5'	4:QD:41:GLY:HA3	2.00	0.43
1:QA:895:G:H1	1:QA:904:C:H42	1.66	0.43
1:QA:1004:A:H1'	1:QA:1036:G:N2	2.33	0.43
1:QA:1026:G:N2	1:QA:1028:C:OP1	2.52	0.43
1:QA:1314:C:P	19:QS:6:LYS:HD2	2.59	0.43
1:QA:1347:G:N2	1:QA:1374:A:OP2	2.43	0.43
1:QA:1376:U:H2'	1:QA:1377:A:C8	2.53	0.43
10:QJ:76:ASN:HA	10:QJ:77:PRO:HD2	1.85	0.43
13:QM:8:GLU:CD	27:RG:115:ARG:HD3	2.43	0.43
16:QP:20:VAL:HG21	16:QP:32:TYR:CE1	2.54	0.43
22:RA:11:G:H2'	22:RA:12:U:H5'	2.00	0.43
22:RA:429:A:C6	22:RA:430:G:N1	2.87	0.43
22:RA:702:G:C6	22:RA:703:U:C4	3.06	0.43
22:RA:738:G:C6	22:RA:739:G:C2	3.06	0.43
22:RA:1024:G:N1	22:RA:1025:G:C6	2.87	0.43
22:RA:1323:U:OP1	39:RW:98:LYS:NZ	2.43	0.43
22:RA:1686:C:C2	22:RA:1703:G:N2	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1689:A:H2'	22:RA:1690:A:C8	2.54	0.43
22:RA:1954:G:O2'	22:RA:1955:U:OP2	2.29	0.43
22:RA:2637:U:C4	22:RA:2638:G:C6	3.06	0.43
22:RA:2693:A:H2'	22:RA:2694:G:H8	1.84	0.43
22:RA:2744:G:H21	28:RH:143:GLN:NE2	2.16	0.43
23:RB:19:G:H2'	23:RB:20:C:O4'	2.19	0.43
36:RT:1:MET:O	36:RT:3:ARG:HG2	2.19	0.43
41:RY:46:LYS:HB2	41:RY:61:ILE:HG22	2.00	0.43
41:RY:47:LYS:O	41:RY:49:VAL:N	2.51	0.43
1:XA:812:C:H1'	1:XA:813:U:OP2	2.18	0.43
1:XA:825:G:H1'	8:XH:2:LEU:HD21	2.00	0.43
2:XB:215:LEU:HD22	2:XB:215:LEU:HA	1.73	0.43
10:XJ:44:VAL:HG13	10:XJ:66:ARG:HG2	1.99	0.43
15:XO:25:THR:HG21	15:XO:70:LEU:HB2	2.01	0.43
22:YA:243:U:O2'	22:YA:244:A:H5'	2.18	0.43
22:YA:285:C:H2'	22:YA:286:C:C6	2.53	0.43
22:YA:593:G:H4'	51:Y8:4:MET:HE1	2.00	0.43
22:YA:654:A:O2'	22:YA:654(A):G:OP2	2.34	0.43
22:YA:707:G:H8	22:YA:707:G:O5'	2.01	0.43
22:YA:724:U:H2'	22:YA:725:G:O4'	2.18	0.43
22:YA:1495:A:O2'	22:YA:1579:A:H5"	2.18	0.43
22:YA:1652:A:C2'	22:YA:1653:G:H5'	2.49	0.43
22:YA:1657:C:H4'	25:YE:133:LYS:HB3	2.00	0.43
22:YA:1831:G:H1	22:YA:1974:C:H42	1.67	0.43
22:YA:2373:G:H1	22:YA:2380:C:H42	1.65	0.43
22:YA:2648:C:H2'	22:YA:2649:U:C6	2.53	0.43
22:YA:2653:U:O2'	28:YH:110:SER:HB2	2.18	0.43
22:YA:2792:G:C6	22:YA:2805:G:C2	3.06	0.43
22:YA:2854:G:C6	22:YA:2864:G:N1	2.86	0.43
24:YD:132:PRO:HG3	24:YD:190:TYR:CE1	2.54	0.43
26:YF:64:ILE:HG23	26:YF:65:TRP:CD1	2.53	0.43
31:YO:64:ARG:HG2	31:YO:79:PHE:CD1	2.53	0.43
32:YP:57:THR:C	32:YP:59:LEU:H	2.26	0.43
32:YP:83:VAL:O	32:YP:114:ILE:HA	2.19	0.43
34:YR:33:ARG:HH21	48:Y5:55:ARG:HG2	1.82	0.43
41:YY:67:LEU:HD12	41:YY:67:LEU:HA	1.77	0.43
45:Y2:15:LYS:H	45:Y2:67:LYS:CE	2.32	0.43
46:Y3:51:ALA:HA	46:Y3:54:VAL:HG12	2.00	0.43
1:QA:390:C:O3'	16:QP:28:ARG:NH2	2.47	0.43
1:QA:986:A:O2'	19:QS:55:LYS:O	2.37	0.43
1:QA:1161:C:H2'	1:QA:1162:C:C6	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1337:G:H4'	1:QA:1338:G:OP1	2.19	0.43
2:QB:8:LYS:HE3	2:QB:11:LEU:HB3	2.01	0.43
2:QB:217:ARG:HE	2:QB:217:ARG:HB2	1.29	0.43
3:QC:11:ARG:HB3	3:QC:15:THR:HB	2.00	0.43
9:QI:116:LYS:HE2	9:QI:122:ALA:HB2	2.01	0.43
13:QM:3:ARG:HG2	47:R4:34:GLU:CG	2.47	0.43
17:QQ:63:ARG:HG2	17:QQ:64:PRO:HD2	2.00	0.43
18:QR:37:VAL:HG22	18:QR:78:LEU:HB3	2.01	0.43
22:RA:493:G:H2'	22:RA:494:G:O4'	2.19	0.43
22:RA:752:A:C5	22:RA:1781:C:O4'	2.72	0.43
22:RA:948:G:N2	22:RA:970:C:O2	2.51	0.43
22:RA:1268:A:H2'	22:RA:1269:A:O4'	2.18	0.43
22:RA:1523:U:O5'	22:RA:1523:U:H6	2.01	0.43
22:RA:2562:U:O2'	31:RO:23:ARG:HD3	2.18	0.43
22:RA:2693:A:H2'	22:RA:2694:G:C8	2.54	0.43
39:RW:20:VAL:HG22	39:RW:47:VAL:HG21	2.00	0.43
43:R0:53:MET:HA	43:R0:58:THR:O	2.19	0.43
51:R8:58:ILE:HA	51:R8:61:LEU:HD21	2.01	0.43
1:XA:181:G:O2'	1:XA:182:U:O5'	2.36	0.43
1:XA:271:C:H2'	1:XA:272:C:H6	1.83	0.43
1:XA:731:G:OP1	1:XA:766:A:H1'	2.18	0.43
1:XA:734:G:C2	1:XA:735:C:C2	3.07	0.43
1:XA:914:A:H2'	1:XA:915:A:C8	2.51	0.43
1:XA:970:C:N4	9:XI:128:ARG:OXT	2.51	0.43
1:XA:1235:U:H2'	1:XA:1236:A:O4'	2.18	0.43
1:XA:1314:C:OP2	19:XS:4:SER:OG	2.37	0.43
2:XB:172:ILE:O	2:XB:175:ARG:HB3	2.18	0.43
9:XI:8:GLY:HA2	9:XI:79:LEU:HD12	2.01	0.43
22:YA:493:G:H2'	22:YA:494:G:O4'	2.18	0.43
22:YA:1313:U:O2	22:YA:1313:U:H2'	2.18	0.43
22:YA:1827:C:H2'	22:YA:1828:G:O4'	2.18	0.43
22:YA:1920:C:O5'	22:YA:1920:C:H6	2.01	0.43
22:YA:2094:G:OP1	29:YI:22:LYS:HD2	2.17	0.43
22:YA:2186:G:H2'	22:YA:2187:G:C8	2.54	0.43
22:YA:2205:C:O5'	22:YA:2205:C:H6	2.02	0.43
22:YA:2350:C:H2'	22:YA:2351:G:O4'	2.18	0.43
22:YA:2531:A:H2'	22:YA:2532:G:H8	1.83	0.43
22:YA:2634:G:N2	22:YA:2785:C:C2	2.87	0.43
22:YA:2764:A:N7	22:YA:2766:G:C6	2.86	0.43
29:YI:77:LEU:HD12	29:YI:104:GLN:HE22	1.83	0.43
31:YO:88:ASN:OD1	31:YO:90:GLN:HB2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YP:113:LYS:HG2	32:YP:115:LEU:HD23	2.01	0.43
32:YP:126:VAL:HG22	32:YP:145:PRO:HG2	2.01	0.43
38:YV:52:VAL:C	38:YV:54:GLY:H	2.26	0.43
42:YZ:58:VAL:O	42:YZ:60:GLU:N	2.50	0.43
45:Y2:47:ASN:HB2	45:Y2:48:HIS:H	1.50	0.43
50:Y7:47:ARG:HB2	50:Y7:48:LYS:H	1.60	0.43
1:QA:266:G:H5"	1:QA:267:C:H5	1.81	0.43
1:QA:376:G:H2'	1:QA:377:G:H8	1.84	0.43
1:QA:750:G:H21	15:QO:23:GLY:C	2.26	0.43
1:QA:1291:G:H4'	9:QI:38:GLN:O	2.18	0.43
1:QA:1317:C:C2	19:QS:37:ARG:NH2	2.86	0.43
4:QD:135:LEU:HD13	4:QD:135:LEU:HA	1.86	0.43
13:QM:44:ARG:HB2	13:QM:47:ASP:OD2	2.19	0.43
15:QO:17:ARG:HD3	15:QO:26:GLU:HG3	1.99	0.43
22:RA:563:G:H22	22:RA:578:A:H2	1.66	0.43
22:RA:706:A:C2	22:RA:707:G:H1'	2.53	0.43
22:RA:1025:G:C5	22:RA:1135:C:H1'	2.54	0.43
22:RA:1173:G:H4'	22:RA:1174:A:C5	2.54	0.43
22:RA:1675:C:H6	22:RA:1675:C:O5'	2.01	0.43
22:RA:1726:G:H2'	22:RA:1727:U:O4'	2.19	0.43
22:RA:1799:G:H5'	22:RA:1819:A:H61	1.83	0.43
22:RA:2257:U:H2'	22:RA:2258:C:C6	2.53	0.43
25:RE:36:ARG:HH21	25:RE:88:GLY:HA2	1.84	0.43
26:RF:9:ILE:HG23	26:RF:20:LEU:O	2.18	0.43
29:RI:128:LEU:HD13	29:RI:128:LEU:HA	1.57	0.43
30:RN:58:ASP:HB3	30:RN:95:PRO:HB3	2.00	0.43
32:RP:90:ARG:HB3	32:RP:91:PHE:H	1.68	0.43
37:RU:69:CYS:HB3	37:RU:106:PHE:CZ	2.53	0.43
41:RY:55:TYR:CD2	41:RY:55:TYR:N	2.86	0.43
1:XA:979:C:OP1	1:XA:1223:C:N4	2.52	0.43
1:XA:1422:G:H1	1:XA:1478:C:H42	1.65	0.43
1:XA:1504:G:OP1	1:XA:1507:A:H4'	2.19	0.43
13:XM:4:ILE:HG22	13:XM:5:ALA:N	2.34	0.43
22:YA:465:G:C6	22:YA:466:A:N6	2.87	0.43
22:YA:704:G:H2'	22:YA:726:G:H22	1.83	0.43
22:YA:748:G:OP2	39:YW:88:ARG:HG3	2.19	0.43
22:YA:1932:A:H2	22:YA:1969:A:C2	2.36	0.43
22:YA:2133:G:H1'	22:YA:2158:A:N6	2.31	0.43
22:YA:2256:G:C6	22:YA:2257:U:C4	3.07	0.43
22:YA:2432:A:H2'	22:YA:2433:A:C8	2.54	0.43
25:YE:119:ARG:HG2	25:YE:160:TYR:HB2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YE:177:PRO:C	25:YE:179:GLU:H	2.26	0.43
29:YI:37:VAL:HG12	29:YI:38:LEU:HD12	2.01	0.43
34:YR:34:ILE:HA	34:YR:34:ILE:HD13	1.72	0.43
34:YR:70:LEU:HD23	34:YR:70:LEU:HA	1.84	0.43
34:YR:91:GLN:H	34:YR:91:GLN:CD	2.26	0.43
41:YY:80:GLY:O	41:YY:81:LYS:HG3	2.18	0.43
41:YY:87:LYS:HB2	41:YY:87:LYS:NZ	2.34	0.43
1:QA:486:U:H2'	1:QA:487:A:H8	1.84	0.43
1:QA:625:G:H2'	1:QA:626:U:C6	2.53	0.43
1:QA:781:A:C8	1:QA:782:A:C8	3.07	0.43
1:QA:1127:G:N2	1:QA:1145:C:O2'	2.52	0.43
1:QA:1129:C:C4'	1:QA:1130:A:H5'	2.49	0.43
1:QA:1346:A:C4	7:QG:10:ARG:NH1	2.86	0.43
1:QA:1522:U:H2'	1:QA:1523:G:C8	2.53	0.43
8:QH:105:ARG:HA	8:QH:105:ARG:HD3	1.78	0.43
11:QK:38:ASN:HA	11:QK:39:PRO:HD3	1.88	0.43
17:QQ:45:HIS:NE2	17:QQ:47:PRO:HG3	2.34	0.43
22:RA:391:G:O2'	22:RA:410:G:OP1	2.30	0.43
22:RA:395:U:O2'	22:RA:396:G:C8	2.72	0.43
22:RA:492:A:H2'	22:RA:493:G:O4'	2.19	0.43
22:RA:508:G:O2'	22:RA:509:C:P	2.77	0.43
22:RA:1188:U:C4'	38:RV:79:VAL:HG22	2.48	0.43
22:RA:1203:G:H3'	22:RA:1204:A:H5"	2.01	0.43
22:RA:1360:A:C6	22:RA:1372:U:C4	3.07	0.43
22:RA:1489:U:O3'	22:RA:1490:A:H8	2.01	0.43
22:RA:1510:A:N3	22:RA:1510:A:H2'	2.33	0.43
22:RA:1930:G:HO2'	22:RA:1931:U:P	2.41	0.43
22:RA:2066:C:H2'	22:RA:2067:G:H5'	2.01	0.43
22:RA:2282:G:H5"	22:RA:2283:C:O4'	2.18	0.43
22:RA:2532:G:H2'	22:RA:2533:A:C8	2.53	0.43
23:RB:29:A:H2'	23:RB:30:C:C6	2.54	0.43
26:RF:23:ASP:OD1	26:RF:23:ASP:N	2.48	0.43
26:RF:180:GLY:O	26:RF:181:LEU:C	2.61	0.43
32:RP:18:ARG:HD2	32:RP:27:HIS:CD2	2.54	0.43
33:RQ:20:ALA:HA	33:RQ:98:LYS:HB3	2.00	0.43
43:R0:7:LEU:HD23	43:R0:7:LEU:N	2.34	0.43
1:XA:522:C:H41	12:XL:53:ARG:HH22	1.67	0.43
1:XA:627:G:O2'	1:XA:628:G:H5'	2.19	0.43
1:XA:662:G:H2'	1:XA:663:A:C8	2.53	0.43
1:XA:1010:G:N2	1:XA:1020:U:H1'	2.34	0.43
1:XA:1213:A:C5	1:XA:1215:G:C4	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1219:U:H2'	1:XA:1220:G:O4'	2.18	0.43
1:XA:1439:C:N4	1:XA:1462:G:H1	2.17	0.43
2:XB:7:VAL:HG21	2:XB:217:ARG:NH1	2.34	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
14:XN:27:CYS:SG	14:XN:29:ARG:HB2	2.58	0.43
19:XS:5:LEU:CG	47:Y4:66:SER:CB	2.96	0.43
22:YA:382:G:H1	22:YA:392:C:H42	1.67	0.43
22:YA:950:G:H2'	22:YA:951:C:H6	1.84	0.43
22:YA:1360:A:N6	22:YA:1372:U:C5	2.87	0.43
22:YA:1449:A:H5'	22:YA:1449(A):G:OP2	2.19	0.43
22:YA:1903:G:OP2	24:YD:241:PRO:HB2	2.19	0.43
22:YA:2063:C:C4	22:YA:2064:C:C5	3.07	0.43
22:YA:2475:C:H3'	22:YA:2476:A:H5"	1.99	0.43
25:YE:36:ARG:HH21	25:YE:88:GLY:CA	2.32	0.43
27:YG:99:MET:HB2	27:YG:99:MET:HE3	1.66	0.43
27:YG:145:THR:O	27:YG:147:ASP:N	2.44	0.43
32:YP:15:ARG:O	32:YP:17:LYS:HG3	2.19	0.43
32:YP:30:THR:O	32:YP:33:ARG:HB2	2.18	0.43
38:YV:81:TYR:C	38:YV:82:ARG:HD2	2.43	0.43
45:Y2:17:SER:HB3	45:Y2:67:LYS:HE3	2.00	0.43
49:Y6:28:ARG:HH21	49:Y6:30:THR:HG23	1.84	0.43
1:QA:67:C:H2'	1:QA:68:G:C8	2.54	0.43
1:QA:147:G:N2	1:QA:148:G:C4	2.87	0.43
1:QA:444:C:H2'	1:QA:445:G:C8	2.49	0.43
1:QA:1126:U:H6	1:QA:1126:U:H2'	1.66	0.43
1:QA:1239:A:O2'	1:QA:1298:C:N4	2.50	0.43
5:QE:18:ARG:HE	5:QE:18:ARG:HB3	1.51	0.43
12:QL:85:ILE:HD12	12:QL:85:ILE:HA	1.75	0.43
15:QO:25:THR:HG21	15:QO:70:LEU:HB2	2.00	0.43
20:QT:84:LEU:HD23	20:QT:84:LEU:HA	1.86	0.43
22:RA:242:G:H2'	51:R8:5:LYS:HA	2.01	0.43
22:RA:710:G:H2'	22:RA:711:G:H8	1.84	0.43
22:RA:1075:C:H2'	22:RA:1076:C:C4'	2.49	0.43
22:RA:1203:G:O6	22:RA:1204:A:N6	2.52	0.43
22:RA:1834:U:O5'	22:RA:1834:U:H6	2.02	0.43
22:RA:1858:G:H1'	22:RA:1884:A:H61	1.83	0.43
22:RA:2516:G:C6	22:RA:2569:G:C2	3.07	0.43
22:RA:2811:G:H5"	22:RA:2811:G:H8	1.83	0.43
23:RB:49:C:H2'	23:RB:50:G:C8	2.54	0.43
25:RE:179:GLU:HB3	25:RE:181:LEU:HD22	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RF:34:TRP:CE3	26:RF:35:GLU:HG2	2.54	0.43
27:RG:97:ASP:HA	27:RG:100:TRP:HD1	1.84	0.43
30:RN:61:ARG:HA	30:RN:61:ARG:HE	1.82	0.43
31:RO:104:ARG:HD3	36:RT:36:GLU:OE2	2.19	0.43
32:RP:65:ARG:O	32:RP:68:GLN:NE2	2.50	0.43
33:RQ:104:PHE:CE1	33:RQ:125:LEU:HD11	2.54	0.43
33:RQ:116:GLU:O	33:RQ:120:ILE:HG12	2.17	0.43
36:RT:107:ASP:O	36:RT:110:ILE:HG22	2.19	0.43
1:XA:22:G:C5	1:XA:23:C:C4	3.07	0.43
1:XA:131:C:O2'	1:XA:262:A:N3	2.45	0.43
1:XA:154:C:H42	1:XA:167:G:H1	1.66	0.43
1:XA:181:G:HO2'	1:XA:182:U:P	2.42	0.43
1:XA:427:U:C4	1:XA:428:G:C6	3.06	0.43
1:XA:719:C:H1'	18:XR:49:LYS:HB3	2.01	0.43
1:XA:741:G:H2'	1:XA:742:G:O4'	2.19	0.43
1:XA:953:G:C2	1:XA:954:G:H1'	2.53	0.43
1:XA:977:A:C8	1:XA:1223:C:N3	2.78	0.43
1:XA:1441:G:N2	1:XA:1461:G:O6	2.51	0.43
2:XB:212:GLN:NE2	2:XB:216:SER:HB2	2.34	0.43
5:XE:69:VAL:O	5:XE:71:LEU:N	2.51	0.43
13:XM:3:ARG:HG2	47:Y4:34:GLU:CB	2.49	0.43
14:XN:6:LEU:HD23	14:XN:23:ARG:HH22	1.83	0.43
22:YA:671:C:H2'	22:YA:672:C:H6	1.84	0.43
22:YA:846:C:C2	22:YA:847:U:H5	2.37	0.43
22:YA:898:C:H5'	22:YA:899:A:OP2	2.18	0.43
22:YA:950:G:H1	22:YA:967:C:N4	2.16	0.43
22:YA:978:G:H2'	22:YA:979:G:O4'	2.19	0.43
22:YA:1767:C:H2'	22:YA:1768:U:O4'	2.18	0.43
22:YA:2335:A:O2'	22:YA:2336:A:H2'	2.18	0.43
22:YA:2634:G:H1	22:YA:2784:C:H42	1.67	0.43
22:YA:2788:C:OP1	25:YE:61:ARG:NH1	2.51	0.43
32:YP:62:LEU:HB2	51:Y8:30:ARG:NH1	2.34	0.43
32:YP:125:VAL:CG1	32:YP:138:LEU:HD21	2.49	0.43
42:YZ:108:PRO:HB2	42:YZ:111:VAL:HG23	2.01	0.43
48:Y5:58:LEU:HB2	48:Y5:60:VAL:H	1.83	0.43
48:Y5:58:LEU:HD13	48:Y5:60:VAL:HB	2.01	0.43
53:QV:4:G:N3	53:QV:5:G:C8	2.87	0.43
1:QA:754:C:H5'	15:QO:72:ARG:NH2	2.34	0.43
1:QA:1119:C:H2'	1:QA:1120:G:C8	2.53	0.43
1:QA:1172:C:H2'	1:QA:1173:G:H8	1.81	0.43
1:QA:1200:C:O2'	1:QA:1201:A:OP2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1492:A:C6	1:QA:1493:A:N1	2.86	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
11:QK:53:SER:C	11:QK:55:LYS:H	2.27	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
19:QS:41:VAL:HG12	19:QS:44:MET:HB2	2.01	0.43
22:RA:27:G:H1'	22:RA:513:A:H62	1.84	0.43
22:RA:176:G:C6	22:RA:177:G:N7	2.87	0.43
22:RA:242:G:H3'	51:R8:6:THR:HG23	1.99	0.43
22:RA:372:G:N2	22:RA:400:G:H2'	2.34	0.43
22:RA:784:A:O4'	24:RD:227:ASN:ND2	2.52	0.43
22:RA:1265:A:C8	22:RA:1267:U:C2	3.07	0.43
22:RA:1303:G:H1	22:RA:1625:C:H42	1.67	0.43
25:RE:116:VAL:HG11	25:RE:138:PRO:HB3	2.01	0.43
25:RE:117:MET:HB2	25:RE:122:PHE:O	2.18	0.43
29:RI:88:ILE:HG12	29:RI:88:ILE:H	1.50	0.43
30:RN:89:LYS:O	30:RN:93:THR:HG22	2.19	0.43
41:RY:54:LYS:HB3	41:RY:55:TYR:CD2	2.53	0.43
42:RZ:59:LEU:HB2	42:RZ:60:GLU:H	1.52	0.43
42:RZ:163:LEU:H	42:RZ:163:LEU:HG	1.50	0.43
49:R6:7:ILE:HG13	49:R6:8:LYS:H	1.84	0.43
1:XA:622:A:C8	1:XA:623:C:C6	3.07	0.43
1:XA:690:G:C6	1:XA:691:G:C6	3.07	0.43
1:XA:1087:G:N2	1:XA:1099:G:H1'	2.33	0.43
1:XA:1220:G:H21	19:XS:54:GLY:CA	2.32	0.43
1:XA:1240:U:OP2	7:XG:116:ALA:N	2.52	0.43
1:XA:1312:G:H5"	47:Y4:67:TYR:CE1	2.54	0.43
1:XA:1347:G:C8	9:XI:107:ARG:HB3	2.54	0.43
3:XC:149:ALA:HA	3:XC:201:TYR:O	2.18	0.43
4:XD:196:LEU:O	4:XD:198:VAL:N	2.51	0.43
12:XL:28:LYS:HB3	12:XL:30:ALA:HB2	2.01	0.43
12:XL:44:THR:HA	12:XL:45:PRO:HD3	1.68	0.43
22:YA:425:G:N2	22:YA:426:C:C2	2.87	0.43
22:YA:630:G:H4'	22:YA:640:C:H4'	2.00	0.43
22:YA:729:G:O6	24:YD:209:ALA:N	2.41	0.43
22:YA:933:A:C5	22:YA:934:G:C8	3.07	0.43
22:YA:1059:G:H3'	22:YA:1060:U:H5"	2.01	0.43
22:YA:1084:A:H5'	22:YA:1085:A:OP2	2.18	0.43
22:YA:1289:C:C2	22:YA:1290:C:C5	3.07	0.43
22:YA:1339:G:H5"	40:YX:16:LYS:HD3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2314:C:H2'	22:YA:2315:G:C8	2.53	0.43
23:YB:77:U:H2'	23:YB:78:A:H5'	2.01	0.43
25:YE:4:ILE:HD12	25:YE:28:ALA:HB1	2.01	0.43
25:YE:14:ILE:HG23	25:YE:15:PHE:N	2.34	0.43
38:YV:64:HIS:ND1	38:YV:92:THR:HG22	2.34	0.43
42:YZ:133:ILE:HD12	42:YZ:133:ILE:H	1.84	0.43
42:YZ:144:LEU:HD11	42:YZ:149:SER:CB	2.49	0.43
46:Y3:7:LYS:HE2	46:Y3:32:GLN:O	2.19	0.43
47:Y4:6:HIS:HA	47:Y4:7:PRO:HD2	1.82	0.43
49:Y6:41:PRO:HG2	49:Y6:45:LYS:N	2.29	0.43
1:QA:451:A:N7	1:QA:481:G:N1	2.67	0.42
1:QA:1306:A:C6	1:QA:1307:U:C2	3.06	0.42
1:QA:1394:A:N6	1:QA:1501:C:H5'	2.34	0.42
2:QB:21:ARG:HG3	2:QB:38:GLY:O	2.19	0.42
4:QD:108:LEU:HD21	4:QD:183:GLY:HA3	2.01	0.42
9:QI:17:VAL:HG11	9:QI:81:ILE:HD13	2.00	0.42
14:QN:47:LEU:HD23	14:QN:47:LEU:HA	1.74	0.42
22:RA:86:C:H2'	22:RA:87:C:H6	1.84	0.42
22:RA:192:C:O2'	22:RA:802:A:N3	2.49	0.42
22:RA:264:C:C2'	22:RA:265:A:H5"	2.49	0.42
22:RA:360:G:H2'	22:RA:361:G:O4'	2.19	0.42
22:RA:370:G:H4'	22:RA:371:A:OP2	2.19	0.42
22:RA:394:A:H5"	22:RA:395:U:OP2	2.18	0.42
22:RA:452:G:H2'	22:RA:453:C:H6	1.83	0.42
22:RA:718:A:H3'	22:RA:719:C:C6	2.54	0.42
22:RA:1204:A:C2	22:RA:1241:A:C2	3.07	0.42
22:RA:1319:G:H1	22:RA:1333:C:N4	2.16	0.42
22:RA:1527:G:H2'	22:RA:1543:A:N1	2.32	0.42
22:RA:2376:A:H2'	22:RA:2377:A:O4'	2.19	0.42
22:RA:2676:C:H2'	22:RA:2677:G:H8	1.84	0.42
22:RA:2676:C:O2	22:RA:2732:G:N2	2.44	0.42
23:RB:14:U:O3'	23:RB:107:U:O2'	2.33	0.42
25:RE:48:GLN:OE1	25:RE:64:LYS:NZ	2.52	0.42
26:RF:29:ASN:O	26:RF:112:MET:HE1	2.18	0.42
28:RH:124:GLU:HB3	28:RH:132:ARG:CG	2.48	0.42
34:RR:113:LEU:HD12	34:RR:113:LEU:HA	1.88	0.42
42:RZ:68:PRO:O	42:RZ:91:LEU:HB2	2.19	0.42
49:R6:8:LYS:O	49:R6:27:LYS:HA	2.18	0.42
1:XA:116:A:H2'	1:XA:117:G:O4'	2.19	0.42
1:XA:522:C:H41	12:XL:53:ARG:NH2	2.16	0.42
1:XA:554:C:H2'	1:XA:555:C:C6	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:837:G:N2	1:XA:849:C:O2	2.51	0.42
1:XA:973:G:H3'	1:XA:974:A:C5'	2.48	0.42
1:XA:1149:C:H2'	1:XA:1150:U:C6	2.54	0.42
1:XA:1213:A:N1	1:XA:1215:G:H1'	2.34	0.42
2:XB:9:GLU:H	2:XB:9:GLU:CD	2.27	0.42
5:XE:42:GLY:CA	5:XE:66:MET:HG2	2.48	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
8:XH:13:ILE:O	8:XH:17:THR:HG23	2.19	0.42
10:XJ:6:ILE:HG22	10:XJ:98:ILE:HG23	2.01	0.42
18:XR:56:THR:HB	18:XR:58:LEU:HD12	2.01	0.42
22:YA:654(B):C:H42	22:YA:654(T):C:H42	1.67	0.42
22:YA:773:U:O2	22:YA:778:G:O2'	2.37	0.42
22:YA:1429:G:H2'	22:YA:1430:C:H6	1.82	0.42
22:YA:2360:A:H2'	22:YA:2361:A:O4'	2.19	0.42
23:YB:79:C:H2'	23:YB:80:U:O4'	2.19	0.42
25:YE:111:ARG:HD2	25:YE:160:TYR:CE1	2.55	0.42
25:YE:201:THR:HG22	25:YE:203:LYS:H	1.83	0.42
27:YG:31:VAL:HA	27:YG:32:PRO:HD3	1.83	0.42
29:YI:92:VAL:O	29:YI:120:ILE:HG22	2.18	0.42
42:YZ:166:SER:H	42:YZ:167:PRO:HA	1.84	0.42
42:YZ:179:ASP:CG	42:YZ:180:VAL:H	2.27	0.42
47:Y4:14:ILE:HG13	47:Y4:31:ILE:HB	1.99	0.42
1:QA:358:U:H2'	1:QA:359:U:H6	1.84	0.42
1:QA:374:A:C6	1:QA:375:U:C4	3.06	0.42
1:QA:424:G:O5'	1:QA:424:G:H8	2.01	0.42
1:QA:540:G:H2'	1:QA:541:G:C8	2.54	0.42
1:QA:877:C:H5"	8:QH:88:LYS:HD3	2.00	0.42
1:QA:1128:C:O2'	1:QA:1130:A:H8	2.01	0.42
1:QA:1355:G:H2'	1:QA:1356:G:O4'	2.19	0.42
15:QO:48:LYS:HD3	15:QO:48:LYS:HA	1.76	0.42
20:QT:87:LYS:HD2	20:QT:87:LYS:HA	1.68	0.42
22:RA:226:G:O2'	22:RA:227:A:O5'	2.34	0.42
22:RA:470:A:C2	22:RA:471:A:C4	3.07	0.42
22:RA:955:C:OP2	33:RQ:14:ARG:HD2	2.20	0.42
22:RA:966:G:H2'	22:RA:967:C:C6	2.54	0.42
22:RA:1212:G:O2'	22:RA:1236:G:N2	2.46	0.42
22:RA:1502:C:H5'	22:RA:1503:U:OP2	2.18	0.42
22:RA:2355:C:O5'	22:RA:2355:C:H6	2.02	0.42
22:RA:2557:G:O2'	22:RA:2558:C:H5'	2.19	0.42
24:RD:28:GLU:H	24:RD:28:GLU:CD	2.27	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RD:169:GLU:N	24:RD:172:TYR:O	2.52	0.42
26:RF:28:ILE:H	26:RF:28:ILE:HG13	1.68	0.42
31:RO:104:ARG:HH22	36:RT:43:GLN:CD	2.26	0.42
33:RQ:78:PRO:O	33:RQ:79:LEU:HB3	2.19	0.42
33:RQ:135:ASP:CG	42:RZ:81:ARG:HH12	2.26	0.42
38:RV:64:HIS:CG	38:RV:92:THR:HG22	2.52	0.42
42:RZ:104:PHE:HA	42:RZ:139:VAL:HB	2.01	0.42
42:RZ:117:LEU:HA	42:RZ:174:VAL:HA	2.01	0.42
42:RZ:128:VAL:HG23	42:RZ:160:GLY:C	2.44	0.42
1:XA:390:C:H2'	1:XA:391:G:C8	2.54	0.42
1:XA:779:C:O2'	1:XA:780:A:H5'	2.18	0.42
1:XA:780:A:H1'	1:XA:803:G:N2	2.34	0.42
1:XA:825:G:C6	1:XA:826:C:C4	3.07	0.42
1:XA:1090:U:H2'	1:XA:1091:U:C6	2.54	0.42
1:XA:1152:A:H5'	10:XJ:13:HIS:CG	2.55	0.42
1:XA:1305:G:C8	1:XA:1305:G:OP2	2.72	0.42
1:XA:1352:C:N4	1:XA:1370:G:H1	2.10	0.42
1:XA:1427:U:H2'	1:XA:1428:A:C8	2.54	0.42
2:XB:98:LEU:HG	2:XB:101:MET:HE3	2.02	0.42
3:XC:85:ARG:HD2	3:XC:85:ARG:HA	1.83	0.42
8:XH:104:ARG:HD2	8:XH:138:TRP:CD2	2.53	0.42
22:YA:26:G:HO2'	22:YA:514:A:H61	1.59	0.42
22:YA:273(F):C:H2'	22:YA:274:G:H5"	2.01	0.42
22:YA:363(F):A:H4'	22:YA:364:C:H5'	2.00	0.42
22:YA:776:G:C4'	22:YA:777:A:H5"	2.44	0.42
22:YA:778:G:C6	22:YA:779:U:C4	3.07	0.42
22:YA:875:G:N2	22:YA:903:C:C2	2.87	0.42
22:YA:1265:A:H3'	48:Y5:19:ARG:HH12	1.83	0.42
22:YA:1514:U:H2'	22:YA:1515:C:C6	2.54	0.42
22:YA:1686:C:H5"	22:YA:1686:C:H6	1.85	0.42
22:YA:1794:U:C2	22:YA:1795:C:C5	3.06	0.42
22:YA:1820:U:O2	24:YD:202:LYS:N	2.51	0.42
22:YA:1952:A:C6	22:YA:1953:A:N1	2.87	0.42
22:YA:2246:G:H1'	22:YA:2426:A:C2	2.55	0.42
22:YA:2404:C:O3'	32:YP:77:ARG:NH2	2.50	0.42
25:YE:201:THR:HG22	25:YE:203:LYS:N	2.34	0.42
28:YH:159:GLU:O	28:YH:160:LYS:HG2	2.19	0.42
30:YN:96:GLU:HG2	30:YN:97:ARG:H	1.84	0.42
30:YN:134:ARG:H	30:YN:135:PRO:HD3	1.83	0.42
33:YQ:137:TYR:OH	42:YZ:45:ASP:OD2	2.20	0.42
39:YW:86:LEU:HD22	39:YW:96:ILE:HD12	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YZ:33:LEU:HD12	42:YZ:34:ASN:H	1.84	0.42
49:Y6:15:GLU:HG2	49:Y6:49:HIS:NE2	2.34	0.42
50:Y7:25:PRO:HA	50:Y7:28:ARG:CZ	2.49	0.42
55:QY:34:C:H2'	55:QY:35:G:C8	2.54	0.42
1:QA:9:G:C4	1:QA:10:A:C8	3.08	0.42
1:QA:593:G:N2	1:QA:646:U:O2	2.37	0.42
1:QA:923:A:H2'	1:QA:924:C:O4'	2.20	0.42
1:QA:1015:A:C6	1:QA:1016:A:C6	3.07	0.42
1:QA:1053:G:O3'	1:QA:1054:C:H4'	2.19	0.42
1:QA:1424:C:H2'	1:QA:1425:U:O4'	2.19	0.42
2:QB:69:LEU:O	2:QB:162:ILE:HA	2.18	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	2.18	0.42
6:QF:62:TRP:CH2	6:QF:64:GLN:HB2	2.55	0.42
7:QG:102:ARG:HG2	7:QG:106:GLN:OE1	2.20	0.42
9:QI:48:GLU:N	9:QI:49:PRO:HD2	2.35	0.42
17:QQ:29:HIS:CG	17:QQ:30:PRO:HD2	2.54	0.42
22:RA:884:C:H41	22:RA:886:C:H1'	1.84	0.42
22:RA:1238:G:O2'	22:RA:1239:G:H5'	2.20	0.42
22:RA:1591:G:C6	22:RA:1592:C:C4	3.07	0.42
22:RA:1673:U:H5"	22:RA:1674:G:OP2	2.19	0.42
22:RA:1826:G:C6	22:RA:1827:C:C4	3.08	0.42
22:RA:1947:C:H5"	22:RA:1947:C:H6	1.83	0.42
22:RA:2004:G:C6	22:RA:2005:A:C4	3.08	0.42
22:RA:2120:G:H2'	22:RA:2121:G:H8	1.81	0.42
22:RA:2401:U:H2'	22:RA:2402:C:C6	2.54	0.42
22:RA:2489:G:C2'	22:RA:2490:G:H5'	2.49	0.42
22:RA:2854:G:C6	22:RA:2855:C:C4	3.07	0.42
24:RD:245:PRO:HA	24:RD:246:PRO:HD3	1.95	0.42
28:RH:90:LYS:HE2	28:RH:90:LYS:HB3	1.91	0.42
30:RN:96:GLU:HB2	30:RN:122:VAL:HG12	2.00	0.42
35:RS:12:PHE:HD2	35:RS:12:PHE:HA	1.72	0.42
35:RS:39:ILE:HD11	35:RS:73:LEU:HD11	2.00	0.42
49:R6:35:GLU:H	49:R6:35:GLU:HG2	1.72	0.42
49:R6:45:LYS:HD3	49:R6:45:LYS:HA	1.75	0.42
1:XA:375:U:O3'	16:XP:6:LEU:HB2	2.20	0.42
1:XA:833:U:H2'	1:XA:834:C:C6	2.55	0.42
1:XA:1414:U:H2'	1:XA:1415:G:C8	2.51	0.42
1:XA:1519:A:N7	1:XA:1520:G:H1'	2.35	0.42
2:XB:19:HIS:HD2	2:XB:20:GLU:CD	2.27	0.42
6:XF:95:GLU:HA	6:XF:96:PRO:HD3	1.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:XG:38:LEU:HD12	7:XG:38:LEU:O	2.20	0.42
9:XI:32:ASP:OD1	9:XI:33:PHE:N	2.53	0.42
13:XM:117:VAL:O	13:XM:118:ALA:C	2.62	0.42
22:YA:1636:C:H2'	22:YA:1637:A:C8	2.53	0.42
22:YA:1973:G:C6	22:YA:1974:C:C4	3.07	0.42
22:YA:2364:C:H2'	22:YA:2365:G:O4'	2.19	0.42
22:YA:2712:U:H2'	22:YA:2712(A):A:H3'	2.01	0.42
27:YG:16:ARG:N	27:YG:17:PRO:HD2	2.34	0.42
27:YG:103:LEU:HA	27:YG:103:LEU:HD23	1.83	0.42
28:YH:126:PRO:HG2	28:YH:128:PRO:HA	2.00	0.42
28:YH:126:PRO:HB2	28:YH:127:GLU:H	1.59	0.42
29:YI:133:HIS:HB2	29:YI:134:PRO:CD	2.50	0.42
32:YP:48:PRO:C	32:YP:50:ARG:H	2.27	0.42
35:YS:60:GLY:O	35:YS:61:ASN:HB3	2.18	0.42
44:Y1:58:ILE:HG23	44:Y1:87:PRO:HG3	2.02	0.42
47:Y4:60:GLN:O	47:Y4:63:TYR:HB3	2.20	0.42
51:Y8:52:LYS:N	51:Y8:53:PRO:HD2	2.33	0.42
53:XV:2:G:H2'	53:XV:3:C:C6	2.54	0.42
1:QA:261:U:N3	1:QA:264:U:OP2	2.44	0.42
1:QA:316:G:OP2	1:QA:351:G:O2'	2.32	0.42
1:QA:1494:G:C2	1:QA:1495:U:C6	3.08	0.42
5:QE:79:GLU:HB3	5:QE:92:LYS:HA	2.02	0.42
8:QH:25:ASP:N	8:QH:25:ASP:OD1	2.50	0.42
14:QN:41:ARG:NH2	14:QN:42:ILE:HD11	2.35	0.42
15:QO:43:LEU:HA	15:QO:43:LEU:HD23	1.74	0.42
17:QQ:10:VAL:HG13	17:QQ:19:VAL:HB	2.01	0.42
22:RA:49:A:N6	22:RA:177:G:C4	2.87	0.42
22:RA:58:G:N2	22:RA:70:G:C4	2.88	0.42
22:RA:116:C:H2'	22:RA:117:G:O4'	2.19	0.42
22:RA:205:G:HO2'	22:RA:206:U:P	2.40	0.42
22:RA:273:G:C2	22:RA:273(A):G:C8	3.08	0.42
22:RA:278:A:H61	22:RA:362:U:H3	1.67	0.42
22:RA:1409:C:N4	22:RA:1593:G:H1	2.16	0.42
22:RA:2168:G:N3	22:RA:2168:G:H2'	2.34	0.42
22:RA:2590:A:O2'	22:RA:2591:C:H5'	2.20	0.42
22:RA:2630:G:H2'	22:RA:2631:G:H8	1.85	0.42
22:RA:2632:A:C2	22:RA:2787:C:C2	3.07	0.42
22:RA:2683:C:OP1	36:RT:53:ARG:NH2	2.52	0.42
22:RA:2695:C:H2'	22:RA:2696:U:C6	2.55	0.42
27:RG:159:VAL:HG21	27:RG:173:LEU:HD11	2.00	0.42
28:RH:6:ARG:HG3	28:RH:7:LEU:HG	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RI:61:ARG:NH2	29:RI:64:GLU:OE1	2.52	0.42
29:RI:126:TYR:HE1	29:RI:142:VAL:HG21	1.83	0.42
30:RN:17:ASP:C	30:RN:19:GLU:H	2.28	0.42
30:RN:56:ASN:C	30:RN:58:ASP:H	2.27	0.42
35:RS:93:LYS:HE3	35:RS:93:LYS:HB2	1.66	0.42
37:RU:75:ASN:HB2	37:RU:78:THR:H	1.84	0.42
47:R4:14:ILE:HG22	47:R4:24:THR:HG22	2.01	0.42
49:R6:11:LEU:HD13	49:R6:11:LEU:HA	1.81	0.42
1:XA:639:G:C2	1:XA:640:A:C5	3.07	0.42
1:XA:791:G:C5	1:XA:792:A:C2	3.08	0.42
1:XA:1032(B):G:H2'	1:XA:1033:G:C8	2.54	0.42
1:XA:1213:A:C6	1:XA:1215:G:C4	3.06	0.42
1:XA:1256:A:H2	1:XA:1277:C:C6	2.37	0.42
1:XA:1469:G:H2'	1:XA:1470:G:C8	2.55	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
13:XM:7:VAL:O	13:XM:9:ILE:HG23	2.19	0.42
22:YA:88:G:C2	22:YA:89:G:C8	3.07	0.42
22:YA:128:C:H4'	50:Y7:49:ARG:NH1	2.31	0.42
22:YA:258:G:C5	22:YA:259:G:N7	2.88	0.42
22:YA:528:A:N1	22:YA:2042:A:H2'	2.34	0.42
22:YA:612:G:H2'	22:YA:613:U:O2	2.19	0.42
22:YA:778:G:C5	22:YA:779:U:C4	3.07	0.42
22:YA:1214:A:N6	22:YA:1235:G:O2'	2.47	0.42
22:YA:1401:G:H2'	22:YA:1402:C:C6	2.54	0.42
22:YA:1482:U:H5'	22:YA:1483:G:P	2.60	0.42
22:YA:2032:G:OP2	22:YA:2454:G:O2'	2.28	0.42
22:YA:2088:G:C6	22:YA:2089:U:C4	3.07	0.42
22:YA:2304:G:H22	22:YA:2312:U:H3	1.68	0.42
22:YA:2543:G:N2	22:YA:2765:A:C8	2.88	0.42
22:YA:2636:U:H2'	22:YA:2637:U:C6	2.54	0.42
22:YA:2849:U:P	36:YT:95:ARG:HH12	2.42	0.42
25:YE:57:LYS:HD2	25:YE:57:LYS:HA	1.87	0.42
25:YE:188:VAL:O	25:YE:188:VAL:HG13	2.19	0.42
26:YF:45:ARG:HH11	26:YF:45:ARG:CG	2.32	0.42
28:YH:153:LYS:HB3	28:YH:154:PRO:CD	2.49	0.42
32:YP:39:LYS:HG3	32:YP:45:LEU:CD2	2.45	0.42
33:YQ:39:PRO:HA	33:YQ:97:VAL:O	2.20	0.42
36:YT:45:PHE:CE1	36:YT:65:LYS:HE3	2.55	0.42
36:YT:80:SER:HA	36:YT:81:PRO:HD3	1.89	0.42
42:YZ:49:ARG:H	42:YZ:49:ARG:HG3	1.56	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YZ:106:GLY:O	42:YZ:141:VAL:HG13	2.19	0.42
46:Y3:4:LEU:HD22	46:Y3:56:VAL:HG12	2.01	0.42
1:QA:130:A:H5"	1:QA:190:G:O2'	2.19	0.42
1:QA:945:G:C6	1:QA:1337:G:C6	3.07	0.42
1:QA:955:U:H1'	1:QA:1227:A:H61	1.84	0.42
1:QA:1080:A:H5"	1:QA:1081:G:OP2	2.19	0.42
1:QA:1306:A:N6	1:QA:1331:G:O2'	2.52	0.42
2:QB:44:LEU:H	2:QB:44:LEU:HD12	1.83	0.42
4:QD:192:GLU:H	4:QD:192:GLU:HG3	1.56	0.42
6:QF:22:GLU:O	6:QF:26:ILE:HG13	2.19	0.42
7:QG:70:LYS:HA	7:QG:71:PRO:HD2	1.89	0.42
19:QS:10:PHE:CG	19:QS:11:VAL:N	2.88	0.42
22:RA:123:G:H2'	22:RA:124:G:O4'	2.19	0.42
22:RA:536:A:C2	22:RA:558:G:C2	3.08	0.42
22:RA:637:A:O5'	32:RP:116:GLY:HA2	2.19	0.42
22:RA:852:G:C6	22:RA:853:G:C6	3.07	0.42
22:RA:879:G:H2'	22:RA:880:G:O4'	2.19	0.42
22:RA:931:G:O2'	46:R3:24:LYS:HD3	2.20	0.42
22:RA:1027:A:C6	22:RA:1126:A:C4	3.08	0.42
22:RA:1149:G:H2'	22:RA:1150:C:C6	2.55	0.42
22:RA:1309:G:O2'	22:RA:1611:C:O2'	2.29	0.42
22:RA:1444(A):A:H5'	22:RA:1445:C:H5	1.83	0.42
22:RA:1553:A:N7	22:RA:1555:G:C5	2.87	0.42
22:RA:2038:G:H2'	22:RA:2039:C:O4'	2.20	0.42
22:RA:2050:C:N4	22:RA:2051:A:C6	2.88	0.42
22:RA:2066:C:H42	22:RA:2444:G:H1	1.66	0.42
22:RA:2630:G:C2	22:RA:2894:G:N2	2.88	0.42
22:RA:2653:U:O2'	28:RH:110:SER:HB2	2.20	0.42
23:RB:82:G:O2'	23:RB:83:G:H5'	2.19	0.42
25:RE:9:VAL:HG23	25:RE:26:ILE:HA	2.00	0.42
30:RN:30:ILE:HG23	30:RN:52:VAL:HG11	2.00	0.42
42:RZ:54:HIS:CE1	42:RZ:101:PRO:HG3	2.54	0.42
42:RZ:153:SER:H	42:RZ:167:PRO:HB2	1.85	0.42
51:R8:4:MET:SD	51:R8:61:LEU:HD12	2.59	0.42
1:XA:167:G:O2'	1:XA:168:G:H5'	2.20	0.42
1:XA:1420:C:H6	1:XA:1420:C:O5'	2.02	0.42
2:XB:68:ILE:HB	2:XB:70:PHE:HE1	1.84	0.42
2:XB:223:ILE:HA	2:XB:226:ARG:HB3	2.02	0.42
4:XD:16:GLY:HA2	4:XD:33:MET:HE1	2.00	0.42
4:XD:112:VAL:N	4:XD:116:GLN:OE1	2.38	0.42
12:XL:27:LEU:C	12:XL:29:GLY:H	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:40:ASN:ND2	13:XM:43:THR:HG23	2.34	0.42
13:XM:121:LYS:HA	13:XM:121:LYS:HD3	1.90	0.42
22:YA:341:G:H2'	22:YA:342:G:O4'	2.19	0.42
22:YA:350:U:H2'	22:YA:351:G:O4'	2.20	0.42
22:YA:489:G:C5	22:YA:1284:A:C2	3.08	0.42
22:YA:896:A:H61	42:YZ:112:ARG:HD2	1.84	0.42
22:YA:1429:G:N3	22:YA:1568:G:C2	2.88	0.42
22:YA:1494:A:H2'	22:YA:1495:A:H8	1.84	0.42
22:YA:1527:G:O2'	22:YA:1545(A):A:N6	2.51	0.42
22:YA:1672:C:N4	22:YA:1673:U:O4	2.53	0.42
22:YA:2019:A:H4'	37:YU:34:LYS:HD2	2.01	0.42
24:YD:36:PRO:CB	24:YD:61:LEU:HB3	2.50	0.42
24:YD:231:HIS:C	24:YD:233:HIS:H	2.28	0.42
29:YI:61:ARG:O	29:YI:64:GLU:HB3	2.20	0.42
32:YP:1:MET:HB3	32:YP:2:LYS:H	1.61	0.42
40:YX:87:GLN:C	40:YX:88:LYS:HG3	2.42	0.42
51:Y8:43:GLN:C	51:Y8:44:LYS:HD2	2.44	0.42
53:QV:4:G:HO2'	53:QV:5:G:H8	1.66	0.42
1:QA:259:G:H2'	1:QA:260:G:O4'	2.20	0.42
1:QA:474:G:H5"	16:QP:81:ARG:NE	2.34	0.42
1:QA:616:G:C2	1:QA:617:G:C8	3.07	0.42
1:QA:687:A:N1	1:QA:704:A:N7	2.67	0.42
1:QA:945:G:C2	1:QA:946:A:C8	3.07	0.42
1:QA:949:A:C4	1:QA:1233:G:N2	2.86	0.42
1:QA:1099:G:C6	1:QA:1100:C:N3	2.87	0.42
1:QA:1187:G:H2'	1:QA:1187:G:N3	2.35	0.42
1:QA:1442:G:C6	1:QA:1446:A:N6	2.87	0.42
1:QA:1503:A:O2'	1:QA:1504:G:H5'	2.20	0.42
3:QC:59:ARG:HH12	3:QC:97:LYS:HE3	1.84	0.42
5:QE:152:ARG:HG2	8:QH:79:VAL:HG13	2.02	0.42
13:QM:4:ILE:H	13:QM:9:ILE:HG22	1.84	0.42
15:QO:87:ILE:HG22	15:QO:88:ARG:N	2.35	0.42
22:RA:266:G:C2	22:RA:267:C:H1'	2.55	0.42
22:RA:443:A:H1'	22:RA:1201:C:O4'	2.20	0.42
22:RA:628:G:HO2'	22:RA:651:G:HO2'	1.61	0.42
22:RA:1410:G:H3'	22:RA:1411:C:H6	1.85	0.42
22:RA:1971:A:H5'	22:RA:1972:A:H5"	2.00	0.42
22:RA:2273:A:O2'	22:RA:2274:A:H5'	2.18	0.42
22:RA:2698:U:H2'	22:RA:2699:C:C6	2.54	0.42
24:RD:96:HIS:NE2	24:RD:102:LYS:HE2	2.34	0.42
24:RD:123:ALA:HA	24:RD:124:PRO:HD2	1.77	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RF:182:ASN:O	26:RF:186:ILE:HG12	2.20	0.42
27:RG:173:LEU:O	27:RG:178:PHE:HB2	2.20	0.42
28:RH:153:LYS:HD2	28:RH:153:LYS:N	2.33	0.42
29:RI:130:TYR:HD1	29:RI:130:TYR:HA	1.67	0.42
36:RT:26:ASP:HB3	36:RT:92:GLY:N	2.18	0.42
39:RW:34:ASN:ND2	48:R5:39:MET:HG3	2.34	0.42
40:RX:44:GLU:O	40:RX:48:LYS:N	2.52	0.42
42:RZ:5:LEU:HB3	42:RZ:6:LYS:H	1.51	0.42
42:RZ:29:TYR:HA	42:RZ:33:LEU:O	2.19	0.42
43:R0:53:MET:HE2	43:R0:53:MET:HB3	1.72	0.42
48:R5:56:LYS:HB3	48:R5:56:LYS:HE3	1.79	0.42
51:R8:59:LYS:HB2	51:R8:59:LYS:NZ	2.35	0.42
1:XA:60:A:P	1:XA:60:A:H8	2.42	0.42
1:XA:127:G:N2	1:XA:234:C:O2	2.52	0.42
1:XA:179:A:H2'	1:XA:180:U:C6	2.55	0.42
1:XA:580:U:H2'	1:XA:581:G:O4'	2.19	0.42
1:XA:730:G:C6	1:XA:731:G:H1'	2.55	0.42
1:XA:815:A:O2'	1:XA:1527:C:H1'	2.20	0.42
1:XA:1152:A:OP1	10:XJ:68:HIS:CD2	2.73	0.42
2:XB:19:HIS:CE1	2:XB:206:ASP:HB2	2.54	0.42
4:XD:120:LEU:HD23	4:XD:120:LEU:HA	1.89	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
22:YA:18:C:O3'	37:YU:23:GLY:HA2	2.19	0.42
22:YA:1198:U:H2'	22:YA:1199:U:C6	2.55	0.42
22:YA:1215:G:C4	22:YA:1216:G:C8	3.08	0.42
22:YA:2055:C:O2	22:YA:2572:A:N6	2.53	0.42
22:YA:2330:G:H2'	22:YA:2331:G:O4'	2.20	0.42
22:YA:2532:G:H2'	22:YA:2533:A:C8	2.54	0.42
22:YA:2883:A:H3'	22:YA:2884:U:H5'	2.02	0.42
23:YB:39:A:C4	23:YB:44:G:N2	2.87	0.42
24:YD:35:LYS:HE3	24:YD:64:ILE:N	2.35	0.42
27:YG:64:THR:CG2	27:YG:66:GLN:H	2.28	0.42
35:YS:81:GLY:O	35:YS:83:LYS:N	2.53	0.42
35:YS:83:LYS:NZ	35:YS:109:GLY:HA2	2.33	0.42
37:YU:109:LEU:HD23	37:YU:109:LEU:HA	1.89	0.42
38:YV:65:GLY:O	38:YV:90:PRO:HA	2.20	0.42
45:Y2:8:LYS:HB2	45:Y2:8:LYS:HE3	1.84	0.42
46:Y3:8:LEU:HB3	46:Y3:31:LEU:HA	2.01	0.42
47:Y4:38:LYS:C	47:Y4:40:HIS:H	2.23	0.42
53:XV:15:G:N2	53:XV:48:C:H42	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:XV:45:G:H8	53:XV:45:G:O5'	2.02	0.42
1:QA:37:U:H3	1:QA:397:A:H61	1.67	0.42
1:QA:64:G:H4'	1:QA:65:U:H5'	2.00	0.42
1:QA:262:A:H2'	1:QA:263:A:C8	2.55	0.42
1:QA:719:C:O2'	18:QR:49:LYS:HB3	2.19	0.42
1:QA:778:G:H2'	1:QA:779:C:O4'	2.19	0.42
2:QB:60:ASP:O	2:QB:64:ARG:HG2	2.19	0.42
3:QC:56:ASP:O	3:QC:66:VAL:HA	2.19	0.42
22:RA:565:C:H2'	22:RA:566:U:O4'	2.20	0.42
22:RA:681:G:H2'	22:RA:682:G:O4'	2.19	0.42
22:RA:719:C:H2'	22:RA:720:C:C6	2.55	0.42
22:RA:754:C:O2'	22:RA:755:C:H5'	2.19	0.42
22:RA:802:A:C5	22:RA:803:U:C4	3.07	0.42
22:RA:840:C:H2'	22:RA:841:A:H8	1.85	0.42
22:RA:862:G:H4'	23:RB:79:C:H4'	2.02	0.42
22:RA:1122:G:H2'	22:RA:1123:C:H5'	2.01	0.42
22:RA:1816:G:H8	24:RD:62:TYR:CZ	2.38	0.42
22:RA:1903:G:O2'	22:RA:1904:G:H5'	2.19	0.42
22:RA:2778:A:H4'	22:RA:2779:U:OP1	2.18	0.42
24:RD:33:LEU:HB3	24:RD:34:VAL:H	1.64	0.42
28:RH:16:SER:OG	28:RH:26:VAL:O	2.30	0.42
28:RH:164:TYR:O	28:RH:166:GLY:N	2.52	0.42
29:RI:7:GLU:HA	29:RI:15:VAL:HG13	2.01	0.42
30:RN:35:ARG:HB2	30:RN:42:TRP:CZ3	2.54	0.42
35:RS:78:LEU:HD23	35:RS:78:LEU:HA	1.86	0.42
37:RU:83:LEU:HD12	37:RU:113:ALA:HB2	2.01	0.42
41:RY:50:ARG:H	41:RY:50:ARG:HG2	1.67	0.42
42:RZ:13:GLU:HB3	42:RZ:18:LEU:HD11	2.01	0.42
49:R6:28:ARG:HB3	49:R6:30:THR:H	1.84	0.42
1:XA:340:U:O2	1:XA:350:G:N2	2.53	0.42
1:XA:663:A:H5'	1:XA:836:G:OP1	2.20	0.42
1:XA:1017:G:H2'	1:XA:1018:C:C6	2.54	0.42
1:XA:1084:G:C5	1:XA:1085:U:C4	3.07	0.42
1:XA:1162:C:H2'	1:XA:1163:C:C6	2.55	0.42
1:XA:1367:C:OP2	9:XI:112:LYS:NZ	2.47	0.42
2:XB:212:GLN:CD	2:XB:235:SER:HB2	2.44	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:4:TYR:CE1	9:XI:88:TYR:HB2	2.55	0.42
13:XM:77:ASN:HA	47:Y4:71:ARG:HH22	1.85	0.42
20:XT:39:LYS:HG3	20:XT:39:LYS:H	1.63	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:270(M):U:O2'	22:YA:270(N):G:O5'	2.34	0.42
22:YA:300:A:OP1	41:YY:84:ARG:NH2	2.52	0.42
22:YA:341:G:C5	22:YA:342:G:C8	3.08	0.42
22:YA:442:G:C6	22:YA:444:C:C4	3.08	0.42
22:YA:470:A:H2'	22:YA:471:A:O4'	2.19	0.42
22:YA:606:U:H4'	22:YA:658:C:H4'	2.02	0.42
22:YA:611:C:H2'	22:YA:612:G:O4'	2.19	0.42
22:YA:1053:C:H5'	22:YA:1054:A:OP2	2.20	0.42
22:YA:1353:A:C5	22:YA:1378:A:C5	3.08	0.42
22:YA:1824:G:H5"	24:YD:52:ARG:NH1	2.35	0.42
22:YA:1871:A:H2'	22:YA:1872:A:C8	2.55	0.42
23:YB:74:U:H2'	23:YB:75:G:O4'	2.19	0.42
24:YD:25:THR:HG21	24:YD:81:ALA:HA	2.02	0.42
24:YD:25:THR:HG22	24:YD:82:ILE:H	1.84	0.42
26:YF:196:LEU:C	26:YF:197:ASP:O	2.61	0.42
30:YN:46:VAL:HG13	30:YN:48:MET:HG3	2.02	0.42
30:YN:137:LYS:HD2	30:YN:137:LYS:HA	1.77	0.42
31:YO:21:CYS:O	31:YO:22:ILE:HD13	2.20	0.42
32:YP:36:LYS:HB3	32:YP:40:SER:CB	2.49	0.42
36:YT:26:ASP:HB2	36:YT:91:ARG:HA	2.00	0.42
47:Y4:68:ARG:HB2	47:Y4:69:LYS:H	1.51	0.42
49:Y6:14:THR:HG21	49:Y6:19:ARG:HH21	1.85	0.42
1:QA:137:C:N3	1:QA:226:G:N2	2.51	0.42
1:QA:347:G:O2'	1:QA:348:G:OP2	2.27	0.42
1:QA:575:G:O2'	1:QA:821:G:H5'	2.20	0.42
1:QA:693:G:C6	1:QA:694:A:C5	3.08	0.42
1:QA:830:G:C6	1:QA:831:U:N3	2.88	0.42
1:QA:888:G:O2'	1:QA:1488:G:O2'	2.35	0.42
1:QA:1316:G:N2	1:QA:1319:A:H5"	2.28	0.42
1:QA:1318:A:C5'	19:QS:11:VAL:HG11	2.50	0.42
2:QB:88:ALA:HB2	2:QB:219:VAL:HG13	2.02	0.42
2:QB:92:TYR:CD1	2:QB:151:GLY:HA3	2.55	0.42
3:QC:36:ASP:HA	3:QC:39:ILE:HD12	2.02	0.42
4:QD:11:LEU:HD22	4:QD:66:ARG:HD3	2.02	0.42
13:QM:40:ASN:HA	13:QM:41:PRO:HD3	1.89	0.42
15:QO:2:PRO:HB2	15:QO:3:ILE:H	1.56	0.42
22:RA:318:C:H2'	22:RA:319:C:C6	2.54	0.42
22:RA:343:C:H5'	22:RA:344:G:OP2	2.19	0.42
22:RA:1342:A:O2'	22:RA:1344:G:OP2	2.28	0.42
22:RA:1448:G:H2'	22:RA:1449:A:C8	2.55	0.42
22:RA:1701:A:H5"	22:RA:1702:G:OP2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2406:U:N3	32:RP:73:GLY:O	2.39	0.42
22:RA:2532:G:N2	22:RA:2663:G:O2'	2.53	0.42
22:RA:2580:U:C5	22:RA:2581:G:C6	3.08	0.42
22:RA:2636:U:H2'	22:RA:2637:U:H6	1.84	0.42
22:RA:2723:C:OP2	25:RE:109:LYS:NZ	2.52	0.42
22:RA:2754:U:H2'	22:RA:2755:C:H5"	2.02	0.42
22:RA:2791:C:H42	22:RA:2803:C:N4	2.17	0.42
22:RA:2883:A:H3'	22:RA:2884:U:H5'	2.01	0.42
23:RB:75:G:N1	23:RB:102:G:N2	2.68	0.42
25:RE:78:LEU:HG	25:RE:79:ARG:NE	2.35	0.42
25:RE:188:VAL:HG23	25:RE:189:PRO:HD2	2.01	0.42
26:RF:127:GLU:C	26:RF:129:PHE:H	2.27	0.42
27:RG:6:ALA:N	47:R4:23:GLU:HG2	2.31	0.42
27:RG:116:ASP:OD1	27:RG:116:ASP:N	2.53	0.42
27:RG:151:ALA:HB3	27:RG:153:ARG:NH1	2.35	0.42
29:RI:86:THR:HA	29:RI:123:LEU:HD12	2.01	0.42
32:RP:100:LEU:HA	32:RP:100:LEU:HD22	1.77	0.42
34:RR:63:ARG:HA	34:RR:80:PHE:CZ	2.54	0.42
36:RT:51:ARG:HG3	36:RT:98:LYS:HG3	2.02	0.42
39:RW:75:TYR:CZ	39:RW:104:THR:HG21	2.54	0.42
42:RZ:156:LYS:C	42:RZ:157:LEU:HD12	2.45	0.42
42:RZ:180:VAL:HG23	42:RZ:181:GLU:H	1.85	0.42
44:R1:90:ILE:O	44:R1:94:LEU:HB2	2.20	0.42
45:R2:70:GLN:O	45:R2:71:ASN:HB2	2.19	0.42
48:R5:56:LYS:H	48:R5:56:LYS:CD	2.31	0.42
1:XA:68:G:C2	1:XA:69:G:C4	3.07	0.42
1:XA:444:C:H2'	1:XA:445:G:H8	1.84	0.42
1:XA:448:A:C4	1:XA:487:A:C2	3.07	0.42
1:XA:487:A:H2'	1:XA:488:C:O4'	2.19	0.42
1:XA:503:C:H2'	1:XA:504:C:C6	2.53	0.42
1:XA:988:G:C2	1:XA:1218:C:C2	3.07	0.42
1:XA:1216:G:H5"	14:XN:5:ALA:CB	2.49	0.42
8:XH:121:ASP:OD1	8:XH:121:ASP:N	2.46	0.42
11:XK:24:SER:C	11:XK:26:ASN:H	2.28	0.42
22:YA:753:C:H2'	22:YA:754:C:H6	1.85	0.42
22:YA:1039:G:H2'	22:YA:1040:C:C6	2.54	0.42
22:YA:1252:G:C2	22:YA:1253:A:C2	3.08	0.42
22:YA:1627:G:C2	22:YA:1628:G:C8	3.08	0.42
22:YA:1728:G:H5'	22:YA:1729:A:OP2	2.20	0.42
22:YA:1728:G:H8	22:YA:1732:A:H62	1.68	0.42
22:YA:1889:A:C6	22:YA:1890:A:C6	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2271:G:O5'	22:YA:2271:G:H8	2.03	0.42
22:YA:2875:C:H4'	36:YT:5:ALA:HB2	2.01	0.42
24:YD:89:SER:O	24:YD:198:ASN:ND2	2.52	0.42
28:YH:30:LYS:HE2	28:YH:81:GLU:H	1.85	0.42
28:YH:41:MET:HE2	28:YH:41:MET:HB2	1.57	0.42
29:YI:7:GLU:HA	29:YI:15:VAL:HG12	2.00	0.42
35:YS:106:ARG:HA	35:YS:110:LEU:CD2	2.47	0.42
40:YX:84:ALA:HB1	40:YX:85:PRO:HD2	2.02	0.42
1:QA:32:A:C2	1:QA:33:A:C4	3.07	0.42
1:QA:358:U:O5'	1:QA:358:U:H6	2.03	0.42
1:QA:842:C:O2'	1:QA:848:C:N4	2.53	0.42
1:QA:909:A:H2'	1:QA:910:C:O4'	2.18	0.42
1:QA:1527:C:O2'	1:QA:1528:U:H5'	2.20	0.42
2:QB:130:ARG:HA	2:QB:131:PRO:HD3	1.81	0.42
8:QH:59:LEU:O	8:QH:61:VAL:HG23	2.20	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
12:QL:38:THR:HG21	12:QL:65:GLU:OE2	2.19	0.42
22:RA:64:A:H2'	22:RA:65:C:O4'	2.19	0.42
22:RA:242:G:C8	51:R8:5:LYS:HG2	2.54	0.42
22:RA:373:U:O2	22:RA:373:U:H2'	2.19	0.42
22:RA:414:C:H2'	22:RA:415:A:C8	2.55	0.42
22:RA:691:C:O2'	22:RA:692:C:H5'	2.19	0.42
22:RA:784:A:O2'	22:RA:785:G:H5"	2.20	0.42
22:RA:959:A:C6	22:RA:960:A:N1	2.88	0.42
22:RA:1344:G:C2	22:RA:1404:C:C2	3.08	0.42
22:RA:1668:A:C8	22:RA:1674:G:C6	3.07	0.42
22:RA:1752:C:H5"	22:RA:2862:G:H5'	2.00	0.42
22:RA:1977:A:N6	22:RA:1978:A:C6	2.88	0.42
22:RA:2718:G:C6	22:RA:2719:G:C5	3.08	0.42
22:RA:2745:C:N4	22:RA:2759:G:H1	2.17	0.42
26:RF:184:TYR:O	26:RF:188:ARG:HG3	2.19	0.42
30:RN:10:GLU:HA	30:RN:11:PRO:HD3	1.65	0.42
32:RP:20:GLY:HA2	32:RP:27:HIS:O	2.19	0.42
35:RS:14:VAL:HG11	35:RS:90:GLY:O	2.19	0.42
42:RZ:109:ALA:O	42:RZ:112:ARG:HB2	2.19	0.42
46:R3:35:ARG:HB3	46:R3:37:LEU:HD21	2.01	0.42
47:R4:55:ARG:O	47:R4:59:PHE:HB3	2.20	0.42
1:XA:157:G:H2'	1:XA:158:G:C8	2.55	0.42
1:XA:282:A:OP2	1:XA:283:C:N4	2.36	0.42
1:XA:298:A:H2'	1:XA:299:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:327:A:C6	1:XA:329:A:C5	3.07	0.42
1:XA:352:C:H4'	1:XA:354:G:OP1	2.20	0.42
1:XA:951:G:H1'	1:XA:970:C:O2'	2.20	0.42
1:XA:1299:A:C2'	1:XA:1301:U:H1'	2.34	0.42
1:XA:1321:C:H5"	1:XA:1322:C:H5'	2.02	0.42
1:XA:1369:C:H2'	1:XA:1370:G:C8	2.55	0.42
1:XA:1434:A:H2'	1:XA:1435:G:O4'	2.20	0.42
1:XA:1524:C:N4	1:XA:1525:G:O6	2.53	0.42
5:XE:79:GLU:H	5:XE:79:GLU:HG3	1.46	0.42
7:XG:36:LYS:HB2	7:XG:36:LYS:HZ2	1.85	0.42
9:XI:125:TYR:HD2	9:XI:126:SER:H	1.68	0.42
11:XK:109:VAL:HG11	18:XR:84:LYS:HD3	2.02	0.42
19:XS:78:ARG:H	19:XS:78:ARG:HG2	1.56	0.42
22:YA:136:G:H2'	22:YA:137:C:H6	1.85	0.42
22:YA:396:G:H8	22:YA:396:G:O5'	2.03	0.42
22:YA:648:G:H2'	22:YA:649:G:C8	2.55	0.42
22:YA:1374:G:H2'	22:YA:1375:C:C6	2.55	0.42
22:YA:1449:A:N6	22:YA:1449(A):G:C4	2.88	0.42
22:YA:1586:A:H3'	22:YA:1587:A:C8	2.45	0.42
22:YA:1668:A:O4'	22:YA:1669:A:C2	2.73	0.42
22:YA:1832:C:N4	22:YA:1833:U:C4	2.87	0.42
22:YA:2163:C:N4	22:YA:2164:C:H41	2.18	0.42
22:YA:2747:G:O6	22:YA:2755:C:H5"	2.19	0.42
24:YD:34:VAL:HG22	24:YD:35:LYS:HG3	2.00	0.42
25:YE:167:VAL:HG21	25:YE:187:ALA:HB1	2.01	0.42
29:YI:63:ALA:HA	29:YI:66:GLU:HG2	2.02	0.42
29:YI:130:TYR:HD1	29:YI:130:TYR:HA	1.71	0.42
35:YS:30:ARG:NH2	35:YS:92:TYR:CD1	2.87	0.42
35:YS:38:GLN:HG3	35:YS:47:THR:HG21	2.02	0.42
37:YU:92:ARG:C	37:YU:94:ASN:N	2.78	0.42
42:YZ:37:VAL:HG23	42:YZ:38:TYR:N	2.35	0.42
43:Y0:48:GLY:N	43:Y0:79:VAL:O	2.46	0.42
47:Y4:16:CYS:SG	47:Y4:36:CYS:HB3	2.59	0.42
48:Y5:31:VAL:HG13	48:Y5:42:PRO:HG3	2.01	0.42
51:Y8:44:LYS:HD2	51:Y8:44:LYS:N	2.34	0.42
53:QV:6:G:H1	53:QV:67:C:N4	2.05	0.42
1:QA:411:A:C4	1:QA:413:G:H1'	2.53	0.42
1:QA:807:A:H2'	1:QA:808:C:O4'	2.19	0.42
1:QA:1363:A:H1'	1:QA:1365:G:N7	2.35	0.42
2:QB:27:LYS:HD2	2:QB:193:ASP:CB	2.46	0.42
3:QC:134:ILE:HD11	3:QC:153:VAL:HG21	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:63:LYS:HB2	4:QD:63:LYS:HE3	1.77	0.42
4:QD:165:MET:SD	4:QD:168:ARG:HD2	2.60	0.42
4:QD:171:GLY:HA2	4:QD:172:PRO:HD3	1.87	0.42
7:QG:13:GLN:O	7:QG:24:THR:HG21	2.20	0.42
8:QH:54:ASP:OD1	8:QH:54:ASP:N	2.53	0.42
14:QN:23:ARG:NH1	14:QN:30:ALA:HB2	2.35	0.42
22:RA:69:C:O5'	22:RA:69:C:H6	2.03	0.42
22:RA:188:G:H1	22:RA:208:C:H42	1.67	0.42
22:RA:227:A:C5	22:RA:2407:G:O4'	2.73	0.42
22:RA:725:G:H8	22:RA:725:G:O5'	2.03	0.42
22:RA:774:A:O2'	22:RA:775:G:H8	2.02	0.42
22:RA:804:A:H2'	22:RA:806:C:C4	2.55	0.42
22:RA:1306:C:C2	22:RA:1623:G:C2	3.08	0.42
22:RA:2209:C:O2	22:RA:2216:G:C2	2.73	0.42
22:RA:2400:G:N2	22:RA:2417:C:C2	2.88	0.42
22:RA:2630:G:H2'	22:RA:2631:G:C8	2.55	0.42
24:RD:35:LYS:HB3	24:RD:36:PRO:HA	2.01	0.42
24:RD:43:ARG:HB2	24:RD:54:ARG:HB2	2.02	0.42
26:RF:46:ARG:HG2	26:RF:46:ARG:HH11	1.84	0.42
26:RF:93:LYS:HB3	26:RF:94:PRO:HD2	2.01	0.42
28:RH:105:LEU:HD22	28:RH:113:VAL:HB	2.01	0.42
28:RH:125:VAL:HA	28:RH:126:PRO:HA	1.90	0.42
37:RU:58:ARG:NH1	37:RU:93:LYS:HE2	2.35	0.42
42:RZ:150:LEU:HD22	42:RZ:150:LEU:H	1.84	0.42
44:R1:85:LEU:HA	44:R1:87:PRO:HD2	2.01	0.42
1:XA:6:G:O2'	1:XA:7:G:O5'	2.36	0.42
1:XA:606:G:N2	1:XA:631:G:C8	2.88	0.42
1:XA:658:G:C2	1:XA:749:C:N3	2.88	0.42
1:XA:982:U:H5"	14:XN:6:LEU:HD21	2.02	0.42
1:XA:1367:C:OP1	9:XI:115:GLY:N	2.47	0.42
10:XJ:3:LYS:HB2	10:XJ:75:ILE:O	2.19	0.42
13:XM:3:ARG:HG3	13:XM:9:ILE:HG21	2.02	0.42
22:YA:254:G:O6	51:Y8:5:LYS:HG2	2.19	0.42
22:YA:1077:A:H3'	22:YA:1078:U:H5"	2.02	0.42
22:YA:1162:G:H2'	22:YA:1163:G:C8	2.52	0.42
22:YA:1952:A:C6	22:YA:1953:A:C6	3.08	0.42
22:YA:2170:A:H2'	22:YA:2171:A:O4'	2.20	0.42
22:YA:2396:G:OP1	44:Y1:25:LYS:NZ	2.52	0.42
22:YA:2422:A:H4'	22:YA:2423:U:OP1	2.19	0.42
22:YA:2469:A:C8	22:YA:2482:G:C4	3.08	0.42
22:YA:2556:C:H2'	22:YA:2557:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YD:221:VAL:HG22	24:YD:226:MET:CE	2.49	0.42
25:YE:144:ARG:HB3	25:YE:145:LYS:H	1.45	0.42
27:YG:62:LEU:HD23	27:YG:148:MET:HE1	2.01	0.42
30:YN:59:LYS:HE3	30:YN:61:ARG:HH22	1.84	0.42
32:YP:29:LYS:HD2	32:YP:30:THR:CG2	2.50	0.42
33:YQ:76:LYS:HG3	33:YQ:77:LYS:N	2.35	0.42
34:YR:2:ARG:HG2	34:YR:5:LYS:NZ	2.35	0.42
40:YX:26:TYR:HB3	40:YX:92:LEU:HD12	2.02	0.42
41:YY:51:VAL:HG23	41:YY:57:GLN:N	2.35	0.42
42:YZ:101:PRO:C	42:YZ:102:LEU:HD23	2.45	0.42
51:Y8:26:LYS:HB3	51:Y8:44:LYS:HG3	2.01	0.42
1:QA:151:A:H2'	1:QA:152:A:O4'	2.20	0.41
1:QA:735:C:H2'	1:QA:736:C:C6	2.55	0.41
2:QB:98:LEU:HD12	2:QB:101:MET:HE3	2.01	0.41
2:QB:230:VAL:HB	2:QB:231:GLU:H	1.60	0.41
8:QH:38:ILE:HD12	8:QH:118:VAL:HG12	2.02	0.41
8:QH:51:VAL:HG21	8:QH:60:ARG:HG2	2.02	0.41
8:QH:54:ASP:O	8:QH:56:LYS:HG3	2.20	0.41
12:QL:27:LEU:C	12:QL:29:GLY:H	2.28	0.41
14:QN:29:ARG:HG2	14:QN:31:ARG:O	2.20	0.41
22:RA:996:A:OP2	37:RU:92:ARG:NH2	2.53	0.41
22:RA:1040:C:H2'	22:RA:1041:C:H6	1.85	0.41
22:RA:1113:U:H2'	22:RA:1114:G:C8	2.54	0.41
22:RA:1440:G:H2'	22:RA:1441:G:H8	1.84	0.41
22:RA:1466:G:N2	22:RA:1547:C:C2	2.88	0.41
22:RA:1702:G:H2'	22:RA:1703:G:O4'	2.19	0.41
22:RA:1794:U:H2'	22:RA:1795:C:C6	2.55	0.41
22:RA:2043:C:C2	22:RA:2044:C:C5	3.08	0.41
22:RA:2080:G:C5	22:RA:2081:C:C5	3.08	0.41
22:RA:2666:C:H5"	22:RA:2667:C:OP2	2.20	0.41
24:RD:101:GLU:OE1	24:RD:103:ARG:NH1	2.53	0.41
26:RF:78:ILE:H	26:RF:78:ILE:HG13	1.66	0.41
29:RI:29:TYR:O	29:RI:32:PRO:HD2	2.19	0.41
29:RI:132:PRO:HB2	29:RI:133:HIS:ND1	2.34	0.41
31:RO:7:TYR:CE1	31:RO:20:MET:HB2	2.55	0.41
47:R4:35:VAL:C	47:R4:37:SER:H	2.26	0.41
51:R8:23:VAL:CG1	51:R8:46:ARG:HD3	2.49	0.41
1:XA:200:G:H1	1:XA:217:C:N4	2.18	0.41
1:XA:938:A:H8	1:XA:938:A:O5'	2.02	0.41
1:XA:1147:C:O2	9:XI:16:ARG:NH1	2.52	0.41
1:XA:1469:G:H2'	1:XA:1470:G:H8	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1523:G:OP1	11:XK:123:LYS:NZ	2.44	0.41
4:XD:127:THR:HA	4:XD:132:ARG:HA	2.02	0.41
13:XM:16:ASP:HB3	13:XM:41:PRO:HB3	2.01	0.41
13:XM:20:THR:O	13:XM:22:ILE:N	2.51	0.41
22:YA:142:G:H1'	40:YX:37:THR:CG2	2.50	0.41
22:YA:1085:A:O2'	22:YA:1086:A:P	2.78	0.41
22:YA:1480:G:C6	22:YA:1482:U:C4	3.08	0.41
22:YA:1488:G:N2	22:YA:1502:C:C2	2.87	0.41
22:YA:1587:A:H2'	22:YA:1588:C:C6	2.56	0.41
22:YA:2019:A:C4'	37:YU:34:LYS:HD2	2.50	0.41
22:YA:2146:C:OP2	22:YA:2146:C:H6	2.03	0.41
22:YA:2620:C:H2'	22:YA:2621:A:O4'	2.19	0.41
22:YA:2659:G:O2'	22:YA:2661:G:N7	2.40	0.41
24:YD:34:VAL:C	24:YD:35:LYS:HG3	2.44	0.41
24:YD:232:PRO:HB3	24:YD:244:ARG:CZ	2.50	0.41
25:YE:87:GLU:C	25:YE:89:ASP:H	2.28	0.41
28:YH:86:GLU:CD	28:YH:86:GLU:H	2.27	0.41
29:YI:69:LYS:HE2	29:YI:73:GLU:OE1	2.20	0.41
32:YP:82:GLY:HA3	32:YP:115:LEU:HD21	2.01	0.41
37:YU:30:LYS:HA	37:YU:30:LYS:HD3	1.90	0.41
38:YV:72:VAL:HG13	38:YV:85:LYS:HG2	2.01	0.41
41:YY:96:ILE:HG13	41:YY:98:VAL:H	1.85	0.41
42:YZ:70:LEU:HA	42:YZ:70:LEU:HD23	1.65	0.41
47:Y4:15:ILE:C	47:Y4:16:CYS:SG	3.03	0.41
47:Y4:37:SER:HB3	47:Y4:42:PHE:HB3	2.00	0.41
47:Y4:39:CYS:O	47:Y4:40:HIS:HB2	2.20	0.41
48:Y5:56:LYS:H	48:Y5:56:LYS:CD	2.30	0.41
53:QV:23:C:H2'	53:QV:24:U:H6	1.84	0.41
1:QA:15:G:H2'	1:QA:16:A:O4'	2.20	0.41
1:QA:44:G:N1	1:QA:45:U:O2	2.53	0.41
1:QA:187:C:H2'	1:QA:188:U:O4'	2.20	0.41
1:QA:270:A:C5	1:QA:271:C:C4	3.08	0.41
1:QA:527:G:O2'	1:QA:535:A:N1	2.47	0.41
1:QA:746:A:H2'	1:QA:747:C:C6	2.55	0.41
1:QA:824:C:H2'	1:QA:825:G:H8	1.83	0.41
1:QA:947:G:H2'	1:QA:948:C:O4'	2.20	0.41
4:QD:169:LYS:HE2	4:QD:169:LYS:HB3	1.88	0.41
8:QH:36:LEU:HD12	8:QH:59:LEU:HD13	2.02	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
15:QO:31:LEU:O	15:QO:35:ARG:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:QR:56:THR:HB	18:QR:58:LEU:CD1	2.50	0.41
19:QS:28:LYS:HA	19:QS:47:HIS:HE1	1.86	0.41
22:RA:189:G:H2'	22:RA:205:G:N2	2.35	0.41
22:RA:336:C:H2'	22:RA:337:C:H6	1.83	0.41
22:RA:409:C:H2'	22:RA:410:G:H8	1.84	0.41
22:RA:460:A:C2	22:RA:470:A:C4	3.08	0.41
22:RA:466:A:N1	22:RA:795:C:O2'	2.48	0.41
22:RA:534:U:H2'	22:RA:535:C:C6	2.55	0.41
22:RA:551:G:O4'	22:RA:1220:A:N3	2.53	0.41
22:RA:1248:G:C5	37:RU:3:ARG:HB2	2.55	0.41
22:RA:1392:A:C6	22:RA:1393:A:C6	3.08	0.41
22:RA:1620:G:H2'	22:RA:1621:U:H6	1.83	0.41
22:RA:2320:A:C8	22:RA:2333:A:N6	2.88	0.41
22:RA:2531:A:H4'	28:RH:157:TYR:CE2	2.55	0.41
22:RA:2838:G:C6	22:RA:2839:G:C5	3.08	0.41
26:RF:113:ALA:HB1	26:RF:186:ILE:HG21	2.02	0.41
26:RF:129:PHE:O	26:RF:130:ALA:HB3	2.20	0.41
26:RF:177:ALA:HB1	26:RF:178:PRO:HD2	2.02	0.41
27:RG:47:LYS:HD3	27:RG:81:LYS:CB	2.49	0.41
32:RP:63:PRO:HA	51:R8:13:ARG:HB3	2.02	0.41
33:RQ:125:LEU:C	33:RQ:127:ILE:H	2.28	0.41
41:RY:39:VAL:HB	41:RY:40:GLU:H	1.57	0.41
42:RZ:125:LEU:HD23	42:RZ:164:ALA:O	2.21	0.41
46:R3:7:LYS:HA	46:R3:33:GLN:O	2.20	0.41
50:R7:47:ARG:HB2	50:R7:48:LYS:H	1.68	0.41
1:XA:253:U:H2'	1:XA:254:G:H8	1.84	0.41
1:XA:262:A:C6	1:XA:263:A:C6	3.08	0.41
1:XA:339:C:H2'	1:XA:340:U:C6	2.55	0.41
1:XA:691:G:H2'	1:XA:692:U:C6	2.55	0.41
1:XA:977:A:C8	1:XA:1223:C:C4	3.08	0.41
1:XA:1171:G:H2'	1:XA:1172:C:H6	1.84	0.41
2:XB:24:TRP:CD1	2:XB:24:TRP:H	2.38	0.41
9:XI:40:LEU:O	9:XI:42:ARG:N	2.48	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	2.53	0.41
22:YA:74:A:H5'	22:YA:75:G:O4'	2.19	0.41
22:YA:230:U:H2'	22:YA:231:C:H6	1.86	0.41
22:YA:307:G:H8	22:YA:307:G:O5'	2.02	0.41
22:YA:363(A):A:H2'	22:YA:363(B):G:C8	2.55	0.41
22:YA:389:G:H22	32:YP:72:PRO:CG	2.33	0.41
22:YA:422:A:C6	22:YA:423:A:C6	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:519:U:H2'	22:YA:520:G:C8	2.54	0.41
22:YA:654:A:HO2'	22:YA:654(A):G:P	2.44	0.41
22:YA:875:G:H2'	22:YA:876:C:O4'	2.20	0.41
22:YA:1173:G:H5"	22:YA:1174:A:OP1	2.20	0.41
22:YA:1204:A:C2	22:YA:1241:A:N1	2.84	0.41
22:YA:1483:G:C6	22:YA:1507:A:C8	3.08	0.41
22:YA:1657:C:H2'	22:YA:1658:C:H6	1.84	0.41
22:YA:1729:A:N6	22:YA:1731:G:C2	2.88	0.41
22:YA:1824:G:OP1	24:YD:52:ARG:HD3	2.21	0.41
22:YA:1956:U:H2'	22:YA:1957:C:H5'	2.01	0.41
22:YA:2261:C:OP1	43:Y0:17:GLN:HB2	2.19	0.41
22:YA:2531:A:H2'	22:YA:2532:G:C8	2.54	0.41
22:YA:2740:A:H2'	22:YA:2741:A:C8	2.55	0.41
23:YB:63:G:C6	23:YB:64:C:C4	3.08	0.41
24:YD:245:PRO:HA	24:YD:246:PRO:HD3	1.87	0.41
25:YE:134:ILE:C	25:YE:134:ILE:HD12	2.46	0.41
27:YG:86:MET:HA	27:YG:87:PRO:HD2	1.95	0.41
29:YI:6:LEU:HD13	29:YI:36:ALA:HA	2.01	0.41
29:YI:23:PRO:O	29:YI:27:ARG:HG2	2.20	0.41
29:YI:96:ASP:O	29:YI:97:ILE:C	2.63	0.41
30:YN:35:ARG:HB2	30:YN:42:TRP:CZ3	2.55	0.41
30:YN:65:LYS:O	30:YN:69:GLN:HG2	2.19	0.41
34:YR:3:HIS:O	34:YR:5:LYS:N	2.53	0.41
35:YS:83:LYS:HZ1	35:YS:109:GLY:HA2	1.84	0.41
42:YZ:152:ALA:HA	42:YZ:167:PRO:HB2	2.03	0.41
44:Y1:89:GLU:HA	44:Y1:93:GLU:HB2	2.02	0.41
47:Y4:24:THR:OG1	47:Y4:25:TYR:N	2.53	0.41
1:QA:224:C:H2'	1:QA:225:C:H6	1.85	0.41
1:QA:230:G:N2	1:QA:231:G:C4	2.88	0.41
1:QA:371:G:H1	1:QA:390:C:H42	1.69	0.41
1:QA:407:G:H2'	1:QA:408:A:C8	2.56	0.41
1:QA:530:G:HO2'	1:QA:531:U:P	2.42	0.41
1:QA:684:A:O2'	11:QK:39:PRO:O	2.34	0.41
1:QA:1194:U:H4'	5:QE:22:GLY:O	2.20	0.41
2:QB:219:VAL:O	2:QB:223:ILE:HG13	2.19	0.41
3:QC:189:ALA:O	3:QC:190:ARG:C	2.62	0.41
5:QE:47:LYS:HE2	5:QE:47:LYS:HB2	1.82	0.41
8:QH:12:ARG:NH1	8:QH:27:PRO:HD2	2.35	0.41
8:QH:20:TYR:CE2	8:QH:75:ARG:HD2	2.54	0.41
12:QL:27:LEU:C	12:QL:29:GLY:N	2.78	0.41
12:QL:27:LEU:HG	12:QL:62:SER:HB3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:QP:53:VAL:O	16:QP:57:ARG:HG2	2.21	0.41
19:QS:50:ALA:HB1	19:QS:57:HIS:HB3	2.02	0.41
22:RA:24:G:O2'	39:RW:78:GLU:O	2.35	0.41
22:RA:65:C:H1'	22:RA:456:C:H42	1.84	0.41
22:RA:297:C:H5"	41:RY:85:VAL:CG2	2.50	0.41
22:RA:462:C:C4	22:RA:463:G:N7	2.88	0.41
22:RA:571:A:C5	22:RA:575:A:C8	3.08	0.41
22:RA:581:C:H2'	22:RA:582:G:C8	2.55	0.41
22:RA:731:C:H2'	22:RA:732:C:H6	1.84	0.41
22:RA:750:A:C4	22:RA:753:C:H1'	2.56	0.41
22:RA:872:A:C6	22:RA:906:G:C2	3.08	0.41
22:RA:1204:A:H2	22:RA:1241:A:C2	2.38	0.41
22:RA:1342:A:C5	22:RA:1397:U:C6	3.08	0.41
22:RA:1785:A:N7	22:RA:1787:A:C5	2.88	0.41
22:RA:2266:A:H5'	22:RA:2267:A:N7	2.35	0.41
22:RA:2423:U:OP2	49:R6:5:VAL:HG23	2.20	0.41
23:RB:44:G:C2	23:RB:48:A:C2	3.08	0.41
24:RD:221:VAL:HG22	24:RD:226:MET:HE3	2.02	0.41
25:RE:76:ARG:N	25:RE:76:ARG:HD2	2.35	0.41
26:RF:178:PRO:HB2	26:RF:201:VAL:CG1	2.50	0.41
27:RG:6:ALA:HB3	27:RG:104:GLU:OE2	2.20	0.41
28:RH:4:ILE:HB	28:RH:6:ARG:HG2	2.02	0.41
28:RH:10:PRO:HD2	28:RH:50:VAL:O	2.20	0.41
29:RI:52:ARG:O	29:RI:56:LYS:HB3	2.19	0.41
31:RO:73:ASP:OD2	36:RT:32:TYR:OH	2.28	0.41
32:RP:47:ASP:CG	32:RP:49:ARG:HH11	2.28	0.41
32:RP:81:GLN:HG2	32:RP:106:LEU:HD23	2.02	0.41
33:RQ:40:ALA:O	33:RQ:42:ILE:HD12	2.21	0.41
33:RQ:58:PHE:HD1	33:RQ:61:GLY:HA3	1.85	0.41
33:RQ:68:ILE:HD13	33:RQ:103:MET:HG2	2.02	0.41
35:RS:108:GLY:O	35:RS:110:LEU:HG	2.20	0.41
41:RY:88:LYS:NZ	41:RY:88:LYS:HA	2.35	0.41
1:XA:114:U:H1'	1:XA:353:A:H1'	2.01	0.41
1:XA:540:G:H2'	1:XA:541:G:O4'	2.18	0.41
1:XA:1160:G:H2'	1:XA:1160:G:N3	2.35	0.41
1:XA:1352:C:OP1	21:XU:3:LYS:NZ	2.47	0.41
1:XA:1368:G:H5"	9:XI:112:LYS:HB3	2.01	0.41
1:XA:1372:U:H5"	9:XI:71:SER:HB3	2.02	0.41
8:XH:104:ARG:HD2	8:XH:138:TRP:CG	2.56	0.41
9:XI:46:ALA:HB2	9:XI:74:ILE:HG23	2.02	0.41
13:XM:12:ASN:N	13:XM:45:VAL:HG13	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:XP:56:ALA:HB1	16:XP:74:LEU:HD13	2.02	0.41
20:XT:53:LEU:HD12	20:XT:100:ILE:HG23	2.02	0.41
22:YA:935:C:H2'	22:YA:936:C:C6	2.55	0.41
22:YA:1001:A:H2'	22:YA:1002:G:O4'	2.20	0.41
22:YA:1216:G:P	37:YU:12:ARG:HH21	2.43	0.41
22:YA:1337:G:H2'	22:YA:1338:G:O4'	2.20	0.41
22:YA:2207:C:H2'	22:YA:2208:U:O4'	2.20	0.41
22:YA:2657:A:H1'	22:YA:2665:A:N6	2.35	0.41
22:YA:2749:A:C5	22:YA:2750:A:N7	2.88	0.41
22:YA:2777:G:OP2	22:YA:2781:A:O2'	2.22	0.41
24:YD:70:TRP:CD1	24:YD:70:TRP:C	2.97	0.41
26:YF:117:ARG:HD2	26:YF:120:GLU:OE2	2.20	0.41
27:YG:165:THR:OG1	27:YG:168:GLU:HG3	2.21	0.41
28:YH:19:VAL:HG22	28:YH:24:VAL:HG12	2.02	0.41
30:YN:7:LYS:HD2	30:YN:7:LYS:H	1.84	0.41
30:YN:18:ALA:HB3	30:YN:55:VAL:O	2.19	0.41
33:YQ:54:MET:HB3	33:YQ:64:ILE:HD13	2.01	0.41
38:YV:22:VAL:HG12	38:YV:23:GLU:H	1.85	0.41
50:Y7:47:ARG:HB2	50:Y7:47:ARG:HE	1.58	0.41
53:QV:19:G:C4	53:QV:57:A:C2	3.08	0.41
53:XV:20:U:H2'	53:XV:21:A:H5'	2.01	0.41
1:QA:752:G:H1'	1:QA:754:C:H41	1.84	0.41
1:QA:943:U:H1'	9:QI:124:GLN:HE22	1.86	0.41
1:QA:1182:G:H4'	1:QA:1183:A:H5"	2.02	0.41
13:QM:7:VAL:HB	27:RG:115:ARG:HH11	1.84	0.41
17:QQ:83:ASP:O	17:QQ:87:LYS:HG2	2.20	0.41
22:RA:17:G:C6	22:RA:18:C:N4	2.88	0.41
22:RA:65:C:O2'	22:RA:456:C:N3	2.47	0.41
22:RA:74:A:H8	22:RA:74:A:O5'	2.04	0.41
22:RA:304:G:C2	22:RA:314:A:C2	3.08	0.41
22:RA:573:G:O2'	22:RA:574:C:H3'	2.21	0.41
22:RA:675:A:N6	22:RA:676:A:N6	2.68	0.41
22:RA:704:G:H1'	22:RA:726:G:N2	2.35	0.41
22:RA:918:A:H1'	23:RB:80:U:O2'	2.20	0.41
22:RA:1239:G:H2'	22:RA:1240:U:O4'	2.20	0.41
22:RA:1270:C:H5"	22:RA:1271:G:H5'	2.01	0.41
22:RA:1526:G:C6	22:RA:1527:G:C2	3.09	0.41
22:RA:1651:G:OP2	34:RR:40:LYS:NZ	2.53	0.41
22:RA:2212:A:H1'	22:RA:2215:G:C4	2.56	0.41
29:RI:76:THR:HG21	29:RI:141:LYS:HE3	2.02	0.41
33:RQ:17:LEU:HD21	33:RQ:41:TRP:HD1	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RR:22:ARG:HA	34:RR:47:PHE:HE2	1.86	0.41
38:RV:76:LYS:HB2	38:RV:81:TYR:HB3	2.01	0.41
50:R7:1:MET:SD	50:R7:3:ARG:NH2	2.93	0.41
1:XA:44:G:C2	1:XA:45:U:H1'	2.56	0.41
1:XA:134:A:N6	16:XP:25:ARG:NH1	2.61	0.41
1:XA:191:G:C4	20:XT:105:SER:HB3	2.54	0.41
1:XA:503:C:O2'	1:XA:504:C:H5'	2.20	0.41
1:XA:789:U:O2'	1:XA:791:G:N7	2.47	0.41
1:XA:895:G:H2'	1:XA:896:C:C6	2.55	0.41
3:XC:150:LYS:HE3	3:XC:167:TRP:HE1	1.84	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
16:XP:17:TYR:HE1	16:XP:41:PRO:HG3	1.85	0.41
19:XS:40:ILE:CG1	19:XS:41:VAL:HG13	2.47	0.41
22:YA:811:U:O2'	32:YP:21:ARG:HG3	2.20	0.41
22:YA:1022:G:C5	22:YA:1140:C:N4	2.88	0.41
22:YA:1166:C:H2'	22:YA:1167:U:C6	2.55	0.41
22:YA:1287:A:C5	22:YA:1288:U:C4	3.09	0.41
22:YA:1411:C:H5'	22:YA:1412:A:OP2	2.20	0.41
22:YA:1654:A:OP2	34:YR:2:ARG:HD2	2.20	0.41
22:YA:1697:G:O2'	22:YA:1978:A:OP1	2.37	0.41
22:YA:1759:A:H4'	22:YA:2715:C:O4'	2.21	0.41
22:YA:2078:C:H42	22:YA:2241:A:N6	2.18	0.41
22:YA:2115:G:H4'	22:YA:2166:G:H4'	2.01	0.41
22:YA:2720:U:H2'	22:YA:2721:A:H8	1.86	0.41
23:YB:32:C:C2	23:YB:51:G:N2	2.88	0.41
23:YB:42:C:H5"	27:YG:69:ALA:HB2	2.00	0.41
23:YB:80:U:H3	23:YB:96:G:H1	1.69	0.41
23:YB:82:G:N3	23:YB:83:G:C8	2.88	0.41
24:YD:105:ILE:HD12	24:YD:105:ILE:HA	1.55	0.41
25:YE:86:PRO:HB2	25:YE:87:GLU:H	1.66	0.41
27:YG:166:ASP:OD1	27:YG:166:ASP:N	2.54	0.41
29:YI:21:VAL:HG22	29:YI:22:LYS:H	1.85	0.41
35:YS:51:ALA:HB1	35:YS:69:VAL:HG23	2.03	0.41
35:YS:107:GLU:N	35:YS:110:LEU:HD11	2.35	0.41
37:YU:69:CYS:HB3	37:YU:106:PHE:CZ	2.56	0.41
42:YZ:158:PRO:HA	42:YZ:159:PRO:HD2	1.82	0.41
43:Y0:7:LEU:O	53:XV:2:G:H4'	2.20	0.41
44:Y1:76:ARG:H	44:Y1:76:ARG:HD2	1.84	0.41
46:Y3:35:ARG:HB3	46:Y3:37:LEU:HD21	2.01	0.41
53:QV:4:G:C4	53:QV:5:G:C8	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:280:C:H3'	1:QA:281:G:H5'	2.03	0.41
1:QA:564:C:P	12:QL:15:ARG:HH21	2.43	0.41
1:QA:567:G:C2	1:QA:568:G:H1'	2.55	0.41
1:QA:1077:G:C6	1:QA:1081:G:O6	2.73	0.41
1:QA:1199:U:H4'	10:QJ:54:PHE:CZ	2.55	0.41
1:QA:1327:C:H2'	1:QA:1328:C:C6	2.56	0.41
1:QA:1336:C:H1'	1:QA:1337:G:C2	2.56	0.41
2:QB:184:VAL:N	2:QB:198:ASP:OD1	2.44	0.41
10:QJ:79:ARG:HD3	10:QJ:79:ARG:HA	1.78	0.41
16:QP:20:VAL:HG21	16:QP:32:TYR:CD1	2.56	0.41
21:QU:2:GLY:O	21:QU:5:ASP:N	2.47	0.41
22:RA:690:G:H21	24:RD:43:ARG:HH22	1.68	0.41
22:RA:1026:U:H1'	22:RA:1027:A:H5"	2.03	0.41
22:RA:1042:G:C6	22:RA:1043:C:N4	2.89	0.41
22:RA:1441:G:H2'	22:RA:1442:G:H8	1.84	0.41
22:RA:1484:G:H2'	22:RA:1485:G:H5"	2.02	0.41
22:RA:1568:G:H21	24:RD:58:HIS:HE2	1.67	0.41
22:RA:2120:G:N2	22:RA:2179:C:N3	2.69	0.41
22:RA:2307:G:C5	22:RA:2311:A:C2	3.09	0.41
22:RA:2422:A:OP2	49:R6:6:ARG:NH1	2.53	0.41
22:RA:2464:C:H2'	22:RA:2465:C:O4'	2.21	0.41
22:RA:2749:A:H2'	28:RH:59:ARG:HE	1.84	0.41
22:RA:2836:U:H2'	22:RA:2837:G:C8	2.55	0.41
22:RA:2850:A:H3'	22:RA:2851:A:H8	1.85	0.41
23:RB:11:C:H3'	23:RB:12:C:C6	2.56	0.41
23:RB:14:U:OP2	23:RB:70:C:O2'	2.37	0.41
27:RG:27:ASN:HB3	27:RG:30:GLU:HG3	2.01	0.41
33:RQ:18:LYS:HB3	33:RQ:19:GLY:H	1.50	0.41
34:RR:109:ALA:HA	34:RR:110:PRO:HD2	1.95	0.41
1:XA:464:G:O6	1:XA:466:C:H5'	2.20	0.41
1:XA:588:G:C6	1:XA:589:C:C4	3.08	0.41
1:XA:991:U:O2'	1:XA:992:U:P	2.78	0.41
8:XH:44:PHE:HE2	8:XH:109:ILE:CG2	2.34	0.41
12:XL:62:SER:HB2	12:XL:64:TYR:CD1	2.56	0.41
12:XL:68:ALA:HB2	12:XL:85:ILE:HD11	2.03	0.41
12:XL:102:ARG:HE	12:XL:102:ARG:HB3	1.71	0.41
17:XQ:59:ILE:HB	17:XQ:71:PHE:HB3	2.03	0.41
22:YA:72:U:H3	45:Y2:62:THR:HG22	1.84	0.41
22:YA:483:A:H5'	41:YY:49:VAL:HG22	2.02	0.41
22:YA:868:U:H3	22:YA:909:A:H61	1.67	0.41
22:YA:888:C:C3'	22:YA:889:C:H4'	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1449:A:N6	22:YA:1449(A):G:C2	2.88	0.41
22:YA:1635:G:C2	22:YA:1636:C:C2	3.09	0.41
22:YA:1854:A:C2	22:YA:2087:G:N3	2.86	0.41
22:YA:2018:G:C6	22:YA:2019:A:C5	3.08	0.41
22:YA:2094:G:H4'	29:YI:25:TYR:CZ	2.56	0.41
22:YA:2633:G:C6	22:YA:2634:G:C5	3.08	0.41
22:YA:2639:A:C2	22:YA:2640:G:H1'	2.56	0.41
25:YE:181:LEU:HD13	25:YE:181:LEU:HA	1.85	0.41
26:YF:107:LYS:CD	26:YF:207:GLY:H	2.30	0.41
38:YV:38:LEU:O	38:YV:51:VAL:HA	2.20	0.41
41:YY:84:ARG:O	41:YY:95:LYS:HD3	2.21	0.41
53:QV:41:C:C2	53:QV:42:G:C8	3.08	0.41
1:QA:103:C:P	20:QT:17:ARG:HH21	2.43	0.41
1:QA:236:G:H2'	1:QA:237:C:O4'	2.21	0.41
1:QA:1135:U:H4'	1:QA:1136:U:C5	2.55	0.41
1:QA:1259:C:N4	1:QA:1260:C:O2	2.54	0.41
1:QA:1293:G:H2'	1:QA:1294:G:C8	2.56	0.41
1:QA:1371:G:O3'	9:QI:69:GLY:HA3	2.20	0.41
2:QB:210:SER:O	2:QB:214:ILE:HG12	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	2.02	0.41
5:QE:127:ASN:HA	5:QE:128:PRO:HD3	1.89	0.41
11:QK:99:GLN:HG2	11:QK:105:VAL:HG21	2.03	0.41
13:QM:91:ARG:HB2	13:QM:98:VAL:HG13	2.03	0.41
20:QT:89:ARG:HH21	20:QT:104:LEU:HG	1.85	0.41
22:RA:55:G:H2'	22:RA:56:A:H8	1.85	0.41
22:RA:422:A:C6	22:RA:423:A:C6	3.09	0.41
22:RA:806:C:OP2	32:RP:41:ARG:NH1	2.32	0.41
22:RA:838:C:H2'	22:RA:839:U:H6	1.86	0.41
22:RA:890:A:H2'	22:RA:892:G:H8	1.86	0.41
22:RA:1053:C:H2'	22:RA:1054:A:O4'	2.21	0.41
22:RA:1054:A:N6	22:RA:1055:G:C6	2.88	0.41
22:RA:1070:A:C8	22:RA:1096:A:H2'	2.55	0.41
22:RA:1490:A:O2'	24:RD:99:ASP:OD2	2.39	0.41
22:RA:1492:G:H3'	22:RA:1493:C:C5'	2.51	0.41
22:RA:2020:A:O2'	22:RA:2021:C:H5'	2.20	0.41
22:RA:2584:U:H2'	22:RA:2585:U:C6	2.55	0.41
22:RA:2631:G:N3	22:RA:2810:A:H2	2.17	0.41
22:RA:2822:G:O5'	22:RA:2822:G:H8	2.02	0.41
26:RF:33:LEU:HD12	26:RF:33:LEU:HA	1.83	0.41
27:RG:124:SER:HB2	27:RG:131:TYR:CE1	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RS:14:VAL:HG21	35:RS:89:ARG:HG2	2.02	0.41
40:RX:51:VAL:HG13	40:RX:81:VAL:HG23	2.03	0.41
41:RY:54:LYS:HB3	41:RY:55:TYR:CE2	2.55	0.41
41:RY:84:ARG:HD3	41:RY:86:ARG:NH1	2.35	0.41
1:XA:11:G:C6	1:XA:12:U:C4	3.08	0.41
1:XA:147:G:C2	1:XA:148:G:C4	3.09	0.41
1:XA:237:C:H5"	17:XQ:25:ARG:CZ	2.50	0.41
1:XA:452:A:H62	1:XA:480:U:H3	1.67	0.41
1:XA:827:U:C5	1:XA:870:U:C4	3.09	0.41
1:XA:1235:U:O5'	1:XA:1235:U:H6	2.04	0.41
1:XA:1286:A:H2'	1:XA:1287:A:H4'	2.03	0.41
1:XA:1463:C:OP1	36:YT:111:ARG:HD2	2.20	0.41
6:XF:46:ARG:HB3	6:XF:60:PHE:CE1	2.55	0.41
16:XP:23:ASP:O	16:XP:26:ARG:HB2	2.21	0.41
22:YA:626:U:O4	32:YP:81:GLN:NE2	2.53	0.41
22:YA:815:C:H2'	22:YA:816:C:C6	2.55	0.41
22:YA:1050:A:C8	22:YA:2751:G:C4	3.09	0.41
22:YA:1288:U:O2'	22:YA:1647:G:N2	2.54	0.41
22:YA:1535:U:H5"	22:YA:1537:C:N4	2.36	0.41
22:YA:1696:G:C6	22:YA:1697:G:C4	3.08	0.41
22:YA:1804:C:H42	22:YA:1813:G:H1	1.67	0.41
22:YA:1805:U:O2	24:YD:50:THR:HB	2.21	0.41
22:YA:2248:C:H3'	22:YA:2249:U:H6	1.85	0.41
22:YA:2847:U:OP2	36:YT:98:LYS:NZ	2.54	0.41
23:YB:26:A:H2'	23:YB:27:C:O4'	2.20	0.41
23:YB:71:C:H2'	23:YB:72:G:H8	1.85	0.41
33:YQ:16:ARG:HB3	33:YQ:17:LEU:H	1.76	0.41
35:YS:43:GLU:OE2	43:Y0:49:LYS:HE2	2.20	0.41
35:YS:88:ASP:O	35:YS:89:ARG:HB3	2.21	0.41
37:YU:98:LEU:HD23	37:YU:99:ALA:N	2.36	0.41
38:YV:72:VAL:CG1	38:YV:85:LYS:HG2	2.50	0.41
41:YY:63:LYS:HD2	41:YY:63:LYS:HA	1.86	0.41
42:YZ:107:THR:HA	42:YZ:108:PRO:HD3	1.75	0.41
47:Y4:48:ARG:NH1	47:Y4:52:THR:H	2.19	0.41
53:QV:75:C:H2'	53:QV:76:A:O4'	2.20	0.41
53:XV:19:G:C2	53:XV:57:A:N3	2.89	0.41
1:QA:21:G:H2'	1:QA:22:G:C8	2.56	0.41
1:QA:129(A):G:C2	1:QA:188:U:O2'	2.74	0.41
1:QA:626:U:H2'	1:QA:627:G:O4'	2.21	0.41
1:QA:865:A:O5'	1:QA:865:A:H8	2.04	0.41
1:QA:888:G:HO2'	1:QA:1488:G:HO2'	1.67	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1098:C:H2'	1:QA:1099:G:O4'	2.21	0.41
1:QA:1238:A:C2	1:QA:1241:G:N3	2.89	0.41
2:QB:208:ILE:HA	2:QB:211:ILE:HD12	2.03	0.41
4:QD:38:TYR:HB2	4:QD:44:GLY:O	2.21	0.41
15:QO:32:LEU:HA	15:QO:32:LEU:HD23	1.76	0.41
22:RA:30:G:C5	22:RA:31:C:C4	3.09	0.41
22:RA:413:C:O5'	22:RA:413:C:H6	2.03	0.41
22:RA:483:A:H5"	41:RY:49:VAL:HG13	2.02	0.41
22:RA:558:G:OP1	30:RN:111:PRO:HD2	2.21	0.41
22:RA:603:A:O4'	22:RA:655:A:N6	2.53	0.41
22:RA:623:G:H2'	22:RA:624:C:C6	2.56	0.41
22:RA:768:G:H2'	22:RA:769:G:C8	2.54	0.41
22:RA:852:G:C2	22:RA:926:A:N3	2.89	0.41
22:RA:1213:A:N3	22:RA:1238:G:O2'	2.46	0.41
22:RA:1278:A:H5"	34:RR:36:THR:HG22	2.03	0.41
22:RA:1421:G:C2	22:RA:1422:G:C8	3.09	0.41
22:RA:2046:G:H2'	22:RA:2047:U:H6	1.84	0.41
22:RA:2352:A:C4	22:RA:2366:A:C2	3.09	0.41
22:RA:2760:C:C2'	22:RA:2761:G:H5"	2.50	0.41
22:RA:2776:A:H3'	22:RA:2776:A:OP1	2.21	0.41
23:RB:97:G:C4	23:RB:98:G:C8	3.08	0.41
24:RD:127:VAL:HA	24:RD:193:VAL:HG22	2.02	0.41
25:RE:92:THR:HB	25:RE:93:VAL:H	1.54	0.41
26:RF:164:ARG:HG3	26:RF:175:THR:OG1	2.20	0.41
29:RI:37:VAL:HG12	29:RI:38:LEU:H	1.86	0.41
30:RN:71:ILE:HG21	30:RN:84:LYS:HB3	2.02	0.41
42:RZ:116:VAL:HG12	42:RZ:117:LEU:O	2.21	0.41
49:R6:13:CYS:O	49:R6:21:TYR:HA	2.20	0.41
1:XA:358:U:H2'	1:XA:359:U:O4'	2.20	0.41
1:XA:678:U:O4	1:XA:679:C:N4	2.53	0.41
1:XA:750:G:O2'	15:XO:21:ASP:OD2	2.39	0.41
1:XA:792:A:H4'	1:XA:793:U:O5'	2.21	0.41
1:XA:957:U:N3	1:XA:960:U:OP2	2.53	0.41
1:XA:1104:G:H2'	1:XA:1105:A:O4'	2.20	0.41
1:XA:1122:U:O4	1:XA:1123:A:N6	2.53	0.41
1:XA:1250:A:H2'	1:XA:1251:A:C8	2.56	0.41
1:XA:1397:C:O4'	54:XX:8:A:N6	2.54	0.41
2:XB:80:ILE:HD11	2:XB:208:ILE:HG12	2.02	0.41
3:XC:119:ARG:HH21	3:XC:140:ARG:CZ	2.34	0.41
10:XJ:3:LYS:HD2	10:XJ:77:PRO:HD3	2.01	0.41
11:XK:48:ILE:HD13	11:XK:48:ILE:HA	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
18:XR:85:LEU:HD23	18:XR:88:LYS:HD2	2.03	0.41
22:YA:301:G:C4	22:YA:302:C:C5	3.09	0.41
22:YA:478:A:C6	22:YA:480:A:C6	3.09	0.41
22:YA:894:C:H2'	22:YA:895:U:C6	2.55	0.41
22:YA:1210:A:N3	22:YA:1212:G:N2	2.69	0.41
22:YA:1535:U:H3	22:YA:1537:C:H1'	1.85	0.41
22:YA:1955:U:O4	22:YA:2554:U:H5	2.04	0.41
22:YA:2494:G:C4	22:YA:2495:G:C8	3.08	0.41
22:YA:2695:C:H2'	22:YA:2696:U:H6	1.84	0.41
24:YD:158:ALA:O	24:YD:159:ALA:C	2.64	0.41
26:YF:125:LEU:HA	26:YF:194:MET:O	2.20	0.41
27:YG:103:LEU:O	27:YG:107:LEU:HG	2.21	0.41
29:YI:2:LYS:HA	29:YI:20:ASP:HA	2.02	0.41
29:YI:120:ILE:HG12	29:YI:126:TYR:CE1	2.55	0.41
37:YU:8:VAL:O	37:YU:12:ARG:HG3	2.20	0.41
41:YY:32:PRO:C	41:YY:34:LYS:H	2.29	0.41
42:YZ:180:VAL:HA	42:YZ:181:GLU:HA	1.84	0.41
51:Y8:37:SER:O	51:Y8:40:GLU:HB3	2.20	0.41
53:XV:16:C:O2	53:XV:60:U:H4'	2.20	0.41
53:XV:66:C:H2'	53:XV:67:C:C6	2.56	0.41
1:QA:147:G:H1	1:QA:175:C:N4	2.09	0.41
1:QA:364:A:H2'	1:QA:365:U:O2	2.21	0.41
1:QA:555:C:H2'	1:QA:556:C:C6	2.55	0.41
1:QA:676:A:C2	1:QA:677:U:C4	3.08	0.41
1:QA:688:G:H2'	1:QA:689:C:H6	1.85	0.41
1:QA:789:U:H1'	1:QA:792:A:C2	2.56	0.41
1:QA:1391:U:H2'	1:QA:1392:G:C8	2.56	0.41
2:QB:47:THR:HA	2:QB:202:PRO:HG2	2.00	0.41
3:QC:122:GLU:HA	3:QC:125:GLU:OE1	2.21	0.41
4:QD:173:TRP:CD1	4:QD:174:LEU:HG	2.55	0.41
5:QE:12:LEU:O	5:QE:13:ILE:HD12	2.21	0.41
19:QS:5:LEU:HD12	19:QS:5:LEU:HA	1.93	0.41
19:QS:36:ARG:HA	19:QS:71:LEU:HB2	2.03	0.41
22:RA:646:A:H2'	22:RA:647:G:O4'	2.21	0.41
22:RA:1059:G:C5	22:RA:1060:U:H1'	2.56	0.41
22:RA:2105:C:H2'	22:RA:2106:G:C8	2.55	0.41
22:RA:2477:C:H3'	52:R9:1:MET:HE3	2.01	0.41
22:RA:2602:A:OP1	53:QV:75:C:OP1	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2674:G:H2'	22:RA:2675:A:O4'	2.21	0.41
22:RA:2853:C:O2'	22:RA:2854:G:H5'	2.21	0.41
24:RD:111:LEU:HD23	24:RD:111:LEU:HA	1.78	0.41
24:RD:150:LYS:N	24:RD:150:LYS:HD3	2.36	0.41
25:RE:35:GLN:HB3	25:RE:48:GLN:HB2	2.02	0.41
29:RI:9:LEU:HD22	29:RI:9:LEU:N	2.36	0.41
30:RN:47:ALA:HB2	30:RN:112:LEU:HD11	2.02	0.41
33:RQ:66:ILE:HG13	33:RQ:67:ARG:N	2.36	0.41
34:RR:10:LEU:O	34:RR:12:ARG:HG3	2.21	0.41
36:RT:91:ARG:HB2	36:RT:121:ILE:HG13	2.03	0.41
44:R1:58:ILE:CD1	44:R1:86:SER:HB2	2.50	0.41
1:XA:7:G:C5	1:XA:298:A:C2	3.08	0.41
1:XA:665:A:H1'	1:XA:733:A:O4'	2.20	0.41
1:XA:667:G:H4'	15:XO:51:HIS:ND1	2.36	0.41
1:XA:715:A:H2'	1:XA:716:A:C8	2.54	0.41
1:XA:878:G:OP1	8:XH:88:LYS:HB3	2.20	0.41
1:XA:924:C:H2'	1:XA:925:G:C8	2.56	0.41
1:XA:1055:A:H1'	3:XC:156:ARG:NH1	2.35	0.41
1:XA:1306:A:H61	1:XA:1331:G:H1'	1.84	0.41
3:XC:138:VAL:HG13	3:XC:149:ALA:HB3	2.02	0.41
10:XJ:54:PHE:CD2	10:XJ:55:LYS:HG3	2.56	0.41
10:XJ:76:ASN:HA	10:XJ:77:PRO:HD2	1.96	0.41
20:XT:74:LYS:C	20:XT:76:ALA:H	2.29	0.41
22:YA:29:U:H4'	37:YU:7:GLY:O	2.20	0.41
22:YA:103:A:O5'	22:YA:103:A:H8	2.02	0.41
22:YA:729:G:C4	22:YA:1775:U:O2	2.74	0.41
22:YA:795:C:H2'	22:YA:796:C:C6	2.55	0.41
22:YA:828:U:H2'	22:YA:829:A:C8	2.55	0.41
22:YA:1056:G:O2'	22:YA:1086:A:H1'	2.20	0.41
22:YA:1324:G:C4	22:YA:1328:G:O6	2.73	0.41
22:YA:2111:C:H5	22:YA:2147:G:H22	1.68	0.41
22:YA:2232:U:OP1	44:Y1:40:ARG:NH1	2.49	0.41
22:YA:2712:U:C1'	22:YA:2712(A):A:C8	3.01	0.41
22:YA:2768:C:C4	22:YA:2769:C:C5	3.08	0.41
22:YA:2810:A:H2'	22:YA:2811:G:O4'	2.21	0.41
22:YA:2844:G:H8	22:YA:2844:G:O5'	2.04	0.41
24:YD:3:VAL:HG13	24:YD:17:THR:HG23	2.03	0.41
26:YF:9:ILE:HD11	26:YF:125:LEU:HG	2.03	0.41
27:YG:124:SER:HB2	27:YG:131:TYR:CE1	2.56	0.41
30:YN:29:LYS:H	30:YN:29:LYS:HG2	1.53	0.41
42:YZ:182:LYS:HG3	42:YZ:183:LEU:HD23	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:Y0:72:ARG:O	43:Y0:73:GLY:C	2.64	0.41
1:QA:189:U:O2	17:QQ:63:ARG:NH2	2.54	0.41
1:QA:340:U:C4	1:QA:341:C:C4	3.08	0.41
1:QA:348:G:H2'	1:QA:349:A:C8	2.54	0.41
1:QA:529:G:O6	12:QL:49:ASN:HA	2.21	0.41
1:QA:682:G:N3	1:QA:709:G:C2	2.88	0.41
1:QA:763:G:C6	1:QA:764:C:C4	3.09	0.41
1:QA:785:G:N2	1:QA:798:G:C4	2.89	0.41
1:QA:949:A:C2	1:QA:1233:G:N3	2.89	0.41
1:QA:1049:U:H5'	1:QA:1201:A:OP1	2.21	0.41
1:QA:1128:C:H4'	9:QI:16:ARG:HH22	1.85	0.41
1:QA:1178:G:H5"	9:QI:93:ARG:HH21	1.85	0.41
1:QA:1245:A:OP2	21:QU:9:ARG:NH2	2.54	0.41
3:QC:42:LEU:HD12	3:QC:42:LEU:HA	1.80	0.41
3:QC:83:ARG:O	3:QC:86:VAL:HG22	2.21	0.41
6:QF:35:ALA:HA	6:QF:67:MET:HB3	2.02	0.41
7:QG:45:ASP:O	7:QG:48:LYS:HB3	2.21	0.41
8:QH:41:ARG:NH2	8:QH:123:GLU:OE2	2.54	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
13:QM:3:ARG:CZ	27:RG:113:ARG:HH21	2.34	0.41
13:QM:105:THR:OG1	13:QM:106:ASN:N	2.54	0.41
19:QS:23:ASN:C	19:QS:25:LYS:H	2.29	0.41
22:RA:26:G:N1	22:RA:27:G:N2	2.69	0.41
22:RA:30:G:C6	22:RA:31:C:C4	3.09	0.41
22:RA:40:C:H2'	22:RA:41:C:O4'	2.21	0.41
22:RA:439:G:N2	22:RA:440:G:C4	2.89	0.41
22:RA:528:A:C2	22:RA:2042:A:H2'	2.55	0.41
22:RA:617:G:H5'	26:RF:40:GLN:NE2	2.36	0.41
22:RA:667:U:H2'	22:RA:668:G:O4'	2.20	0.41
22:RA:966:G:H2'	22:RA:967:C:H6	1.86	0.41
22:RA:1015:G:N1	22:RA:1016:G:C5	2.89	0.41
22:RA:1034:G:C6	22:RA:1035:U:C4	3.08	0.41
22:RA:1248:G:N7	37:RU:3:ARG:HB2	2.36	0.41
22:RA:1283:G:N2	22:RA:1286:A:OP2	2.49	0.41
22:RA:1542:G:N7	22:RA:1543:A:C5	2.89	0.41
22:RA:1589:C:H2'	22:RA:1590:U:C6	2.56	0.41
22:RA:1649:G:H2'	22:RA:1650:G:O4'	2.21	0.41
22:RA:1751:C:H2'	22:RA:1752:C:C6	2.55	0.41
22:RA:2485:G:C2	22:RA:2486:G:C8	3.09	0.41
22:RA:2568:C:H2'	22:RA:2569:G:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2816:C:O3'	34:RR:99:LYS:NZ	2.54	0.41
22:RA:2869:G:H2'	22:RA:2870:C:O4'	2.21	0.41
23:RB:115:G:H2'	23:RB:115:G:N3	2.36	0.41
24:RD:35:LYS:NZ	24:RD:64:ILE:O	2.41	0.41
24:RD:226:MET:HB3	24:RD:230:ASP:HB2	2.03	0.41
26:RF:179:GLU:CD	26:RF:179:GLU:H	2.27	0.41
27:RG:103:LEU:HA	27:RG:103:LEU:HD23	1.89	0.41
27:RG:131:TYR:O	27:RG:159:VAL:HG13	2.21	0.41
28:RH:33:LEU:HD11	28:RH:136:ILE:O	2.20	0.41
29:RI:60:GLU:HG3	29:RI:61:ARG:NH1	2.36	0.41
29:RI:102:SER:OG	29:RI:108:THR:HG22	2.21	0.41
29:RI:127:VAL:C	29:RI:128:LEU:HD22	2.45	0.41
30:RN:9:VAL:HG21	30:RN:48:MET:HB3	2.02	0.41
30:RN:57:ALA:O	30:RN:60:ILE:HD11	2.21	0.41
30:RN:73:THR:HB	30:RN:82:LEU:HD11	2.02	0.41
31:RO:26:LYS:HB2	31:RO:30:ALA:HB2	2.02	0.41
32:RP:62:LEU:HD13	32:RP:62:LEU:N	2.36	0.41
37:RU:61:TRP:O	37:RU:65:ILE:HG13	2.21	0.41
42:RZ:165:VAL:HG12	42:RZ:166:SER:N	2.36	0.41
47:R4:39:CYS:HB2	47:R4:41:PRO:HD2	2.02	0.41
49:R6:24:GLU:HB3	49:R6:25:LYS:H	1.74	0.41
1:XA:34:C:H1'	12:XL:32:PHE:CZ	2.56	0.41
1:XA:36:C:C4	1:XA:37:U:C4	3.09	0.41
1:XA:186:C:H2'	1:XA:186(A):C:C6	2.56	0.41
1:XA:354:G:C2	1:XA:355:C:C5	3.09	0.41
1:XA:376:G:O3'	16:XP:5:ARG:HD2	2.21	0.41
1:XA:731:G:H5'	1:XA:766:A:H4'	2.02	0.41
1:XA:812:C:H4'	1:XA:813:U:H5'	2.03	0.41
1:XA:820:U:H4'	1:XA:821:G:OP2	2.21	0.41
1:XA:881:G:P	12:XL:12:ARG:NH2	2.92	0.41
1:XA:1109:C:OP2	3:XC:176:HIS:ND1	2.54	0.41
1:XA:1189:C:H5"	1:XA:1190:G:OP2	2.21	0.41
1:XA:1223:C:P	19:XS:78:ARG:HH12	2.43	0.41
1:XA:1336:C:O2'	1:XA:1337:G:P	2.78	0.41
1:XA:1343:G:H4'	9:XI:122:ALA:HB3	2.03	0.41
1:XA:1348:U:H3	1:XA:1374:A:H2	1.66	0.41
2:XB:48:MET:HE2	2:XB:48:MET:HB3	1.94	0.41
2:XB:118:LEU:CB	2:XB:142:LEU:HD12	2.50	0.41
2:XB:126:GLU:O	2:XB:129:GLU:HB2	2.20	0.41
4:XD:52:SER:O	4:XD:55:ALA:HB3	2.21	0.41
4:XD:186:LEU:HD23	4:XD:186:LEU:HA	1.95	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XE:82:VAL:HB	5:XE:138:ALA:HB2	2.03	0.41
9:XI:79:LEU:O	9:XI:83:ARG:HG2	2.19	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
20:XT:43:LEU:HD23	20:XT:43:LEU:HA	1.88	0.41
22:YA:221:A:C4	22:YA:266:G:C8	3.09	0.41
22:YA:450:G:O6	22:YA:453:C:OP1	2.38	0.41
22:YA:581:C:C2	22:YA:582:G:C8	3.08	0.41
22:YA:649:G:C5	22:YA:650:C:C5	3.09	0.41
22:YA:706:A:H2'	22:YA:707:G:O4'	2.21	0.41
22:YA:1053:C:N4	22:YA:1106:G:H1	2.16	0.41
22:YA:1058:G:H2'	22:YA:1058:G:N3	2.36	0.41
22:YA:1120:G:H2'	22:YA:1121:C:C6	2.56	0.41
22:YA:1275:A:O2'	22:YA:1645:G:N3	2.54	0.41
22:YA:1754:C:H2'	22:YA:1755:A:O4'	2.21	0.41
22:YA:1811:G:H2'	22:YA:1812:A:O4'	2.20	0.41
22:YA:1844:C:H2'	22:YA:1845:G:C8	2.33	0.41
22:YA:1878:G:H2'	22:YA:1879:C:H6	1.83	0.41
22:YA:2309:A:C6	22:YA:2310:A:C2	3.08	0.41
22:YA:2320:A:C2	22:YA:2333:A:C8	3.09	0.41
22:YA:2334:G:C2	35:YS:12:PHE:CE2	3.09	0.41
22:YA:2473:U:OP1	22:YA:2529:G:N2	2.53	0.41
22:YA:2525:G:H2'	22:YA:2525:G:N3	2.35	0.41
22:YA:2584:U:H2'	22:YA:2585:U:C6	2.56	0.41
22:YA:2621:A:C6	22:YA:2622:C:C4	3.09	0.41
22:YA:2666:C:H5"	22:YA:2667:C:OP2	2.21	0.41
22:YA:2681:C:C4	22:YA:2724:C:H5	2.38	0.41
22:YA:2683:C:H5"	22:YA:2684:U:OP2	2.20	0.41
22:YA:2742:C:N4	22:YA:2763:G:N2	2.69	0.41
22:YA:2743:C:C2	22:YA:2762:G:N2	2.89	0.41
22:YA:2812:G:H2'	22:YA:2813:A:H8	1.86	0.41
22:YA:2858:C:H2'	22:YA:2859:G:O4'	2.21	0.41
22:YA:2867:G:O2'	22:YA:2868:A:OP2	2.33	0.41
24:YD:36:PRO:HB3	24:YD:61:LEU:HB3	2.03	0.41
25:YE:32:PRO:HA	25:YE:90:THR:HA	2.03	0.41
25:YE:41:LYS:HA	25:YE:41:LYS:HE2	2.02	0.41
25:YE:95:ILE:H	25:YE:95:ILE:CD1	2.31	0.41
26:YF:64:ILE:HA	26:YF:64:ILE:HD12	1.80	0.41
27:YG:146:TYR:C	27:YG:148:MET:H	2.29	0.41
29:YI:79:ILE:HA	29:YI:80:PRO:HD3	1.79	0.41
30:YN:7:LYS:NZ	30:YN:7:LYS:H	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YN:96:GLU:O	30:YN:100:GLU:HG3	2.20	0.41
34:YR:44:LEU:HD22	34:YR:48:VAL:HG23	2.02	0.41
35:YS:19:LYS:C	35:YS:21:THR:H	2.29	0.41
37:YU:17:ILE:HG23	37:YU:39:LEU:HD12	2.02	0.41
37:YU:92:ARG:HD2	37:YU:95:LEU:HD12	2.02	0.41
37:YU:96:ALA:HA	37:YU:98:LEU:HD23	2.03	0.41
41:YY:67:LEU:O	41:YY:68:HIS:C	2.62	0.41
42:YZ:165:VAL:HG12	42:YZ:166:SER:N	2.36	0.41
43:Y0:37:LEU:O	43:Y0:38:VAL:HG23	2.21	0.41
49:Y6:36:LEU:HD13	49:Y6:50:ARG:CZ	2.51	0.41
51:Y8:42:ARG:C	51:Y8:44:LYS:H	2.28	0.41
53:QV:64:G:C2	53:QV:65:C:C2	3.08	0.41
1:QA:144:G:H1	1:QA:178:C:N4	2.18	0.41
1:QA:230:G:N2	1:QA:231:G:N3	2.68	0.41
1:QA:324:G:N2	1:QA:327:A:C8	2.89	0.41
1:QA:401:C:O2'	1:QA:621:A:N3	2.50	0.41
1:QA:1049:U:OP1	14:QN:3:ARG:HD3	2.20	0.41
1:QA:1240:U:H1'	7:QG:42:ILE:HD11	2.03	0.41
4:QD:163:GLU:C	4:QD:165:MET:H	2.29	0.41
7:QG:93:PRO:O	7:QG:96:GLN:HB2	2.21	0.41
8:QH:44:PHE:HD1	8:QH:80:ILE:HG12	1.86	0.41
9:QI:40:LEU:HD11	9:QI:70:LYS:HG2	2.02	0.41
10:QJ:51:ARG:HG3	10:QJ:60:ARG:C	2.45	0.41
11:QK:124:LYS:C	11:QK:126:ARG:H	2.29	0.41
21:QU:10:ARG:HA	21:QU:13:ILE:HB	2.02	0.41
22:RA:337:C:H2'	22:RA:338:G:O4'	2.21	0.41
22:RA:797:C:H2'	22:RA:798:G:O4'	2.21	0.41
22:RA:805:G:OP2	32:RP:41:ARG:HG2	2.21	0.41
22:RA:1040:C:H2'	22:RA:1041:C:C6	2.55	0.41
22:RA:1162:G:O4'	38:RV:23:GLU:HG3	2.21	0.41
22:RA:1222:C:C2	22:RA:1229(A):G:C2	3.09	0.41
22:RA:2046:G:H2'	22:RA:2047:U:C6	2.55	0.41
22:RA:2441:C:O2'	22:RA:2442:C:H5'	2.21	0.41
22:RA:2452:C:H2'	22:RA:2453:A:C8	2.56	0.41
22:RA:2881:C:C2	22:RA:2882:A:C8	3.09	0.41
23:RB:11:C:OP2	23:RB:12:C:N4	2.34	0.41
23:RB:75:G:H1	23:RB:102:G:N2	2.18	0.41
24:RD:257:LEU:HD23	24:RD:257:LEU:HA	1.90	0.41
25:RE:184:VAL:HB	25:RE:185:LYS:H	1.65	0.41
26:RF:107:LYS:HE3	26:RF:206:ILE:HD12	2.02	0.41
28:RH:107:VAL:HB	28:RH:153:LYS:HE3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:R0:50:ASN:HB3	43:R0:63:VAL:HG22	2.03	0.41
1:XA:93:U:H2'	1:XA:95:G:C4'	2.51	0.41
1:XA:105:G:H2'	1:XA:106:C:C6	2.56	0.41
1:XA:181:G:O2'	1:XA:182:U:H6	2.04	0.41
1:XA:300:A:C5	1:XA:301:G:H1'	2.56	0.41
1:XA:791:G:C6	1:XA:792:A:N1	2.88	0.41
1:XA:917:G:C2	1:XA:918:A:C4	3.09	0.41
1:XA:971:G:H3'	1:XA:971:G:OP1	2.20	0.41
1:XA:1358:U:H5"	14:XN:34:TYR:HA	2.01	0.41
5:XE:51:VAL:HB	5:XE:52:PRO:HD3	2.03	0.41
5:XE:68:GLU:O	5:XE:68:GLU:HG3	2.21	0.41
8:XH:6:ILE:HB	8:XH:85:ARG:NH1	2.36	0.41
8:XH:12:ARG:HD3	8:XH:26:VAL:HB	2.03	0.41
22:YA:330:A:H2	22:YA:1210:A:H2'	1.85	0.41
22:YA:381:G:H2'	22:YA:382:G:H8	1.85	0.41
22:YA:1022:G:C6	22:YA:1140:C:N3	2.88	0.41
22:YA:1169:G:N2	22:YA:1181:C:C2	2.89	0.41
22:YA:1286:A:H1'	22:YA:1288:U:OP2	2.21	0.41
22:YA:2270:G:O5'	22:YA:2270:G:H8	2.03	0.41
22:YA:2320:A:C8	22:YA:2333:A:N6	2.89	0.41
22:YA:2493:U:H2'	22:YA:2494:G:O4'	2.21	0.41
22:YA:2686:G:C2	22:YA:2724:C:O2	2.74	0.41
24:YD:62:TYR:HA	24:YD:87:ASN:OD1	2.21	0.41
24:YD:145:VAL:HG11	24:YD:175:LEU:HD11	2.02	0.41
26:YF:28:ILE:H	26:YF:28:ILE:HG13	1.68	0.41
26:YF:67:GLN:O	26:YF:67:GLN:HG3	2.20	0.41
26:YF:198:ALA:HA	26:YF:201:VAL:HG12	2.03	0.41
32:YP:29:LYS:HB3	32:YP:30:THR:H	1.59	0.41
32:YP:106:LEU:O	32:YP:107:LYS:HB2	2.20	0.41
37:YU:92:ARG:NH2	38:YV:11:GLN:H	2.18	0.41
40:YX:31:HIS:HB3	40:YX:34:ALA:HB2	2.03	0.41
42:YZ:108:PRO:O	42:YZ:111:VAL:N	2.45	0.41
42:YZ:150:LEU:HD13	42:YZ:150:LEU:H	1.86	0.41
47:Y4:48:ARG:HH12	47:Y4:52:THR:H	1.68	0.41
54:QX:6:G:H1	55:QY:34:C:N4	2.18	0.41
1:QA:505:G:C5	1:QA:506:G:N7	2.89	0.40
1:QA:591:U:H2'	1:QA:592:G:H8	1.86	0.40
1:QA:865:A:N3	1:QA:918:A:O2'	2.43	0.40
1:QA:1224:G:N1	1:QA:1322:C:H1'	2.36	0.40
1:QA:1263:C:H42	1:QA:1272:G:H1	1.70	0.40
1:QA:1512:U:H3	1:QA:1523:G:H1	1.70	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:QE:147:ASP:O	5:QE:151:LEU:HG	2.21	0.40
7:QG:54:THR:O	7:QG:56:GLN:N	2.52	0.40
10:QJ:4:ILE:HA	10:QJ:100:THR:HG22	2.02	0.40
22:RA:342:G:H2'	22:RA:343:C:O4'	2.20	0.40
22:RA:1003:G:N2	22:RA:1153:C:C2	2.89	0.40
22:RA:1120:G:H2'	22:RA:1121:C:O4'	2.21	0.40
22:RA:1412:A:C6	22:RA:1591:G:C6	3.09	0.40
22:RA:2574:G:H2'	22:RA:2575:C:O4'	2.20	0.40
25:RE:55:ASN:HD22	25:RE:58:ARG:HB2	1.86	0.40
27:RG:47:LYS:HB2	27:RG:47:LYS:HE3	1.81	0.40
28:RH:30:LYS:HD2	28:RH:81:GLU:H	1.85	0.40
28:RH:41:MET:HE2	28:RH:41:MET:HB2	1.93	0.40
28:RH:103:LEU:HG	28:RH:105:LEU:HD12	2.02	0.40
29:RI:110:ASP:HB2	29:RI:130:TYR:OH	2.22	0.40
31:RO:63:VAL:HB	31:RO:106:LEU:HD11	2.02	0.40
43:R0:18:ALA:O	43:R0:20:ARG:NH1	2.54	0.40
47:R4:13:ARG:O	47:R4:30:GLU:HA	2.21	0.40
47:R4:23:GLU:HG3	47:R4:25:TYR:HE2	1.85	0.40
1:XA:374:A:N3	1:XA:374:A:H2'	2.35	0.40
1:XA:493:G:N2	1:XA:494:U:O4	2.54	0.40
1:XA:534:U:H6	1:XA:534:U:O5'	2.04	0.40
1:XA:539:A:OP2	12:XL:115:LYS:HE3	2.21	0.40
1:XA:637:G:C6	1:XA:638:G:C5	3.09	0.40
1:XA:875:C:O2'	8:XH:14:ARG:NH1	2.54	0.40
1:XA:892:A:H2'	1:XA:893:C:C6	2.56	0.40
1:XA:1091:U:H2'	1:XA:1093:A:OP2	2.20	0.40
4:XD:64:LEU:HD13	4:XD:198:VAL:HG11	2.02	0.40
4:XD:131:ARG:H	4:XD:131:ARG:HG2	1.67	0.40
4:XD:165:MET:O	4:XD:167:GLY:N	2.54	0.40
6:XF:25:ILE:HD13	6:XF:28:ARG:NH1	2.36	0.40
11:XK:19:ALA:CB	11:XK:32:ILE:HG22	2.51	0.40
12:XL:38:THR:CG2	12:XL:57:LYS:HB3	2.49	0.40
22:YA:26:G:C6	22:YA:27:G:C2	3.08	0.40
22:YA:107:C:H2'	22:YA:108:U:C6	2.54	0.40
22:YA:189:G:H1'	22:YA:207:A:H61	1.84	0.40
22:YA:258:G:C4	22:YA:259:G:C8	3.10	0.40
22:YA:271:G:C4	22:YA:272:G:N7	2.89	0.40
22:YA:321:G:H5"	26:YF:136:THR:HG23	2.03	0.40
22:YA:376:C:H2'	22:YA:377:C:C6	2.56	0.40
22:YA:460:A:C2	22:YA:470:A:C4	3.10	0.40
22:YA:604:G:H2'	22:YA:605:C:C6	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:845:G:H8	22:YA:845:G:OP2	2.04	0.40
22:YA:1019:U:H3	22:YA:1142(A):A:H62	1.69	0.40
22:YA:1105:U:C2	22:YA:1106:G:C8	3.09	0.40
22:YA:1273:U:C4	22:YA:2003:G:H1'	2.56	0.40
22:YA:1833:U:H2'	22:YA:1834:U:C6	2.54	0.40
22:YA:1932:A:C2	22:YA:1969:A:C2	3.09	0.40
22:YA:1957:C:H2'	22:YA:1958:C:H6	1.85	0.40
22:YA:2323:G:C6	22:YA:2324:C:C4	3.09	0.40
22:YA:2881:C:C2	22:YA:2882:A:C8	3.09	0.40
23:YB:63:G:C2	23:YB:64:C:C2	3.09	0.40
24:YD:201:HIS:O	24:YD:204:ILE:HG12	2.21	0.40
25:YE:49:LEU:HD12	25:YE:49:LEU:HA	1.72	0.40
27:YG:7:LEU:HD12	27:YG:104:GLU:HA	2.03	0.40
27:YG:18:GLU:OE1	27:YG:22:ARG:NH1	2.49	0.40
27:YG:61:ALA:HA	27:YG:64:THR:HG22	2.02	0.40
28:YH:4:ILE:C	28:YH:6:ARG:H	2.29	0.40
30:YN:65:LYS:H	30:YN:65:LYS:HG2	1.60	0.40
31:YO:4:PRO:O	31:YO:5:GLN:CB	2.69	0.40
1:QA:148:G:H1	1:QA:174:C:H42	1.68	0.40
1:QA:250:A:H8	1:QA:250:A:O5'	2.03	0.40
1:QA:355:C:C4	1:QA:356:A:N7	2.89	0.40
1:QA:509:A:C8	1:QA:509:A:H3'	2.56	0.40
1:QA:540:G:H2'	1:QA:541:G:O4'	2.20	0.40
1:QA:781:A:C5	1:QA:802:A:C2	3.09	0.40
1:QA:1428:A:H2'	1:QA:1429:C:O4'	2.21	0.40
3:QC:71:ALA:HB2	3:QC:109:PRO:HB3	2.04	0.40
5:QE:50:GLU:HG3	5:QE:52:PRO:HD2	2.04	0.40
22:RA:71:A:H2	40:RX:31:HIS:NE2	2.19	0.40
22:RA:84:A:C2	22:RA:103:A:C5	3.09	0.40
22:RA:188:G:N2	22:RA:208:C:O2	2.54	0.40
22:RA:977:G:N3	22:RA:1001:A:H2	2.19	0.40
22:RA:1020:A:OP1	22:RA:1034:G:N2	2.42	0.40
22:RA:1303:G:H1'	22:RA:1641:A:N1	2.37	0.40
22:RA:1519:G:C6	22:RA:1520:U:C4	3.09	0.40
22:RA:1614:A:H62	39:RW:93:ALA:CA	2.34	0.40
22:RA:2466:C:OP1	52:R9:4:ARG:HB2	2.20	0.40
22:RA:2751:G:C5	28:RH:2:SER:HB3	2.56	0.40
23:RB:14:U:H4'	23:RB:70:C:O2	2.21	0.40
24:RD:44:ASN:HB2	24:RD:49:ILE:HA	2.02	0.40
26:RF:181:LEU:HD22	26:RF:181:LEU:HA	1.79	0.40
30:RN:17:ASP:O	30:RN:19:GLU:N	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RP:62:LEU:O	51:R8:13:ARG:HB2	2.22	0.40
33:RQ:58:PHE:CD1	33:RQ:61:GLY:HA3	2.56	0.40
35:RS:62:LYS:HB3	35:RS:97:ARG:CD	2.44	0.40
36:RT:51:ARG:CG	36:RT:98:LYS:HG3	2.52	0.40
36:RT:109:GLU:O	36:RT:113:LYS:HB2	2.21	0.40
37:RU:83:LEU:HG	37:RU:88:ILE:HB	2.03	0.40
42:RZ:100:VAL:HA	42:RZ:101:PRO:HD3	1.84	0.40
42:RZ:117:LEU:HB2	42:RZ:174:VAL:HG22	2.03	0.40
51:R8:49:VAL:HG23	51:R8:53:PRO:HB3	2.04	0.40
1:XA:57:G:H2'	1:XA:58:C:O4'	2.21	0.40
1:XA:75:C:H2'	1:XA:76:G:O4'	2.21	0.40
1:XA:236:G:H2'	1:XA:237:C:C6	2.56	0.40
1:XA:344:A:O2'	1:XA:346:G:O6	2.22	0.40
1:XA:380:G:N2	1:XA:383:A:OP2	2.55	0.40
1:XA:735:C:H2'	1:XA:736:C:C6	2.50	0.40
1:XA:936:C:H42	1:XA:1379:G:H1	1.69	0.40
1:XA:1120:G:C6	1:XA:1121:U:C4	3.10	0.40
1:XA:1137:C:OP1	1:XA:1137:C:H4'	2.21	0.40
2:XB:166:ASP:HB3	2:XB:169:LYS:HB2	2.02	0.40
3:XC:42:LEU:HD12	3:XC:42:LEU:HA	1.87	0.40
5:XE:69:VAL:HA	5:XE:70:PRO:HD2	1.76	0.40
10:XJ:6:ILE:O	10:XJ:71:LEU:HD12	2.21	0.40
12:XL:90:VAL:O	12:XL:92:ASP:N	2.54	0.40
22:YA:219:G:H2'	22:YA:220:G:O4'	2.21	0.40
22:YA:389:G:H22	32:YP:72:PRO:HD3	1.86	0.40
22:YA:651:G:H4'	51:Y8:18:ALA:HB3	2.03	0.40
22:YA:676:A:H1'	22:YA:2443:C:H1'	2.03	0.40
22:YA:681:G:H2'	22:YA:682:G:O4'	2.21	0.40
22:YA:1062:G:H1'	22:YA:1088:A:C6	2.56	0.40
22:YA:1087:G:C4	22:YA:1089:G:H1'	2.57	0.40
22:YA:1359:A:H62	22:YA:1372:U:H3	1.62	0.40
22:YA:1363:C:H2'	22:YA:1364:G:O4'	2.21	0.40
22:YA:1932:A:C2	22:YA:1969:A:C4	3.09	0.40
22:YA:2477:C:O2	52:Y9:4:ARG:NH1	2.32	0.40
22:YA:2715:C:H2'	22:YA:2716:U:H6	1.86	0.40
22:YA:2852:G:C6	22:YA:2853:C:C4	3.10	0.40
23:YB:12:C:O4'	23:YB:15:A:N6	2.53	0.40
28:YH:109:PHE:HZ	28:YH:152:ARG:HG2	1.86	0.40
28:YH:125:VAL:HG22	28:YH:131:VAL:HG13	2.02	0.40
33:YQ:7:MET:HE2	33:YQ:7:MET:HB3	1.89	0.40
33:YQ:80:GLU:HB2	33:YQ:81:VAL:H	1.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:Y0:11:ARG:H	43:Y0:11:ARG:HG2	1.51	0.40
49:Y6:13:CYS:HB2	49:Y6:22:ALA:HB3	2.03	0.40
53:XV:17:C:N4	53:XV:17(A):U:O4	2.53	0.40
1:QA:185:A:H2'	1:QA:186:C:C6	2.56	0.40
1:QA:281:G:OP2	1:QA:281:G:H8	2.04	0.40
1:QA:439:A:OP2	1:QA:493:G:N1	2.43	0.40
1:QA:758:G:H5'	1:QA:880:C:H1'	2.02	0.40
1:QA:887:G:N2	1:QA:911:U:H1'	2.36	0.40
1:QA:1160:G:N3	1:QA:1160:G:H2'	2.36	0.40
1:QA:1279:A:OP2	10:QJ:9:ARG:NH1	2.55	0.40
6:QF:30:LEU:HD23	6:QF:75:LEU:HD11	2.02	0.40
9:QI:40:LEU:C	9:QI:42:ARG:H	2.30	0.40
11:QK:74:ALA:C	11:QK:76:GLY:H	2.30	0.40
22:RA:394:A:N1	22:RA:395:U:C2	2.89	0.40
22:RA:612:G:O2'	22:RA:616:A:N1	2.43	0.40
22:RA:654(B):C:H42	22:RA:654(T):C:H42	1.69	0.40
22:RA:764:A:C6	22:RA:781:A:C2	3.09	0.40
22:RA:960:A:N7	22:RA:962:G:C4	2.89	0.40
22:RA:1527:G:H5"	22:RA:1528:A:OP1	2.21	0.40
22:RA:2029:G:H2'	22:RA:2031:A:OP1	2.21	0.40
22:RA:2127:G:H22	22:RA:2162:G:H1'	1.86	0.40
22:RA:2500:U:H5"	22:RA:2501:C:OP2	2.21	0.40
22:RA:2819:G:C6	22:RA:2821:A:C2	3.08	0.40
22:RA:2842:G:H2'	22:RA:2843:G:O4'	2.21	0.40
24:RD:209:ALA:O	24:RD:212:SER:HB2	2.22	0.40
25:RE:26:ILE:O	25:RE:26:ILE:HG12	2.18	0.40
25:RE:36:ARG:HB3	25:RE:36:ARG:HH11	1.87	0.40
25:RE:197:ILE:HD11	25:RE:199:ARG:CZ	2.50	0.40
26:RF:29:ASN:HB3	26:RF:32:LEU:HD23	2.04	0.40
27:RG:117:PHE:HE1	27:RG:120:LEU:HD23	1.87	0.40
28:RH:98:LEU:HB2	28:RH:125:VAL:HB	2.03	0.40
32:RP:64:LYS:C	32:RP:66:GLY:N	2.77	0.40
32:RP:114:ILE:HD11	32:RP:130:PHE:CD1	2.57	0.40
33:RQ:72:LYS:HB3	33:RQ:94:VAL:O	2.21	0.40
35:RS:23:ARG:HB2	35:RS:86:ALA:HB2	2.03	0.40
41:RY:11:ASP:O	41:RY:26:LYS:HG3	2.21	0.40
42:RZ:5:LEU:HD21	42:RZ:44:PHE:HA	2.02	0.40
1:XA:96:G:H2'	1:XA:97:U:O4'	2.22	0.40
1:XA:129(A):G:C2	1:XA:188:U:O2'	2.74	0.40
1:XA:450:G:N7	1:XA:481:G:C6	2.89	0.40
1:XA:452:A:H4'	16:XP:72:ARG:NH2	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:509:A:H4'	1:XA:510:A:OP1	2.22	0.40
1:XA:955:U:H1'	1:XA:1227:A:H61	1.87	0.40
1:XA:1362:C:O2'	1:XA:1362(A):C:O4'	2.39	0.40
1:XA:1390:U:H2'	1:XA:1391:U:C6	2.56	0.40
2:XB:19:HIS:NE2	2:XB:206:ASP:HB2	2.36	0.40
9:XI:95:LYS:NZ	9:XI:96:LEU:HD13	2.36	0.40
11:XK:18:ARG:HB3	11:XK:33:THR:OG1	2.21	0.40
17:XQ:58:GLU:O	17:XQ:74:LEU:N	2.40	0.40
22:YA:7:G:H2'	22:YA:8:A:O4'	2.20	0.40
22:YA:552:G:C6	22:YA:553:U:C4	3.09	0.40
22:YA:640:C:H2'	22:YA:641:C:C6	2.56	0.40
22:YA:795:C:H6	22:YA:795:C:O5'	2.04	0.40
22:YA:864:G:H1'	22:YA:914:C:N4	2.36	0.40
22:YA:1024:G:C8	22:YA:1025:G:H2'	2.56	0.40
22:YA:1448:G:H2'	22:YA:1449:A:C8	2.57	0.40
22:YA:1566:A:O2'	22:YA:1567:A:H5'	2.22	0.40
22:YA:1630(A):C:N3	22:YA:1635:G:N1	2.64	0.40
22:YA:1685:C:H2'	22:YA:1686:C:H5"	2.03	0.40
22:YA:1779:U:C6	22:YA:1783:A:N7	2.89	0.40
22:YA:2023:G:H4'	22:YA:2617:C:O3'	2.20	0.40
22:YA:2133:G:N2	22:YA:2157:G:H2'	2.37	0.40
22:YA:2285:C:H5	49:Y6:27:LYS:HE2	1.85	0.40
22:YA:2466:C:H42	22:YA:2484:G:H1	1.70	0.40
22:YA:2532:G:H1'	22:YA:2663:G:N2	2.37	0.40
22:YA:2550:G:C6	22:YA:2551:C:C4	3.09	0.40
22:YA:2667:C:H1'	28:YH:109:PHE:HD2	1.86	0.40
22:YA:2674:G:H2'	22:YA:2675:A:C8	2.57	0.40
22:YA:2850:A:OP2	22:YA:2866:U:N3	2.54	0.40
23:YB:27:C:H5'	23:YB:28:C:OP2	2.22	0.40
26:YF:168:ARG:HG3	26:YF:175:THR:HG21	2.02	0.40
27:YG:99:MET:HG3	27:YG:100:TRP:N	2.36	0.40
37:YU:17:ILE:HD13	37:YU:17:ILE:HA	1.92	0.40
42:YZ:89:PHE:CE1	42:YZ:96:VAL:HG21	2.57	0.40
46:Y3:12:PRO:O	46:Y3:14:GLY:N	2.55	0.40
47:Y4:43:TYR:O	47:Y4:46:GLN:HA	2.20	0.40
52:Y9:2:LYS:HD2	52:Y9:2:LYS:HA	1.86	0.40
53:QV:29:G:C4	53:QV:30:G:C8	3.09	0.40
54:QX:1:A:C6	54:QX:2:U:C4	3.09	0.40
1:QA:119:A:H3'	1:QA:119:A:OP1	2.21	0.40
1:QA:148:G:H2'	1:QA:149:A:C8	2.55	0.40
1:QA:241:C:H42	1:QA:285:G:H1	1.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:321:A:N6	1:QA:329:A:OP2	2.51	0.40
1:QA:503:C:H2'	1:QA:504:C:H6	1.86	0.40
1:QA:872:A:C2	1:QA:874:G:C6	3.10	0.40
1:QA:924:C:N4	1:QA:925:G:O6	2.55	0.40
3:QC:43:LEU:HD22	3:QC:47:LEU:HD22	2.02	0.40
10:QJ:61:GLU:OE1	14:QN:58:LYS:HE2	2.21	0.40
13:QM:13:LYS:HG3	13:QM:44:ARG:NH1	2.36	0.40
16:QP:34:GLU:OE2	16:QP:55:ARG:NH1	2.53	0.40
22:RA:227:A:O2'	22:RA:228:A:OP2	2.38	0.40
22:RA:654(A):G:OP2	22:RA:654(A):G:H3'	2.21	0.40
22:RA:781:A:N1	22:RA:1776:G:O2'	2.50	0.40
22:RA:1007:C:H4'	30:RN:108:PRO:HD3	2.03	0.40
22:RA:1011:G:C6	22:RA:1013:C:C4	3.09	0.40
22:RA:1077:A:H3'	22:RA:1078:U:C5'	2.51	0.40
22:RA:1114:G:N1	22:RA:1115:G:C6	2.89	0.40
22:RA:1219:G:O2'	22:RA:1220:A:H5"	2.20	0.40
22:RA:1694:C:H6	22:RA:1694:C:H2'	1.65	0.40
22:RA:1937:A:C8	22:RA:1939:U:H2'	2.56	0.40
22:RA:2404:C:H1'	32:RP:67:MET:CE	2.44	0.40
22:RA:2885:C:N3	22:RA:2886:G:H1'	2.36	0.40
22:RA:2886:G:H2'	22:RA:2887:U:H6	1.87	0.40
24:RD:35:LYS:HB3	24:RD:63:ARG:HA	2.04	0.40
24:RD:132:PRO:HG3	24:RD:190:TYR:CE1	2.56	0.40
25:RE:7:VAL:HG11	36:RT:1:MET:HE3	2.03	0.40
29:RI:93:THR:O	29:RI:97:ILE:HG12	2.21	0.40
31:RO:66:LYS:HA	31:RO:79:PHE:O	2.22	0.40
33:RQ:83:MET:H	43:R0:7:LEU:HD12	1.87	0.40
35:RS:69:VAL:HG13	35:RS:101:LEU:HD22	2.03	0.40
42:RZ:153:SER:N	42:RZ:167:PRO:HB2	2.37	0.40
43:R0:34:GLY:O	43:R0:35:ASN:C	2.64	0.40
44:R1:87:PRO:O	44:R1:91:LYS:HB2	2.21	0.40
44:R1:95:LEU:HD23	44:R1:95:LEU:HA	1.94	0.40
1:XA:403:C:OP2	4:XD:74:GLN:NE2	2.54	0.40
1:XA:619:U:O2	4:XD:135:LEU:HD23	2.21	0.40
1:XA:663:A:H61	1:XA:742:G:H1	1.69	0.40
1:XA:872:A:C5	1:XA:874:G:C8	3.10	0.40
1:XA:977:A:H8	1:XA:1223:C:C2	2.40	0.40
1:XA:1002:G:N3	1:XA:1003:G:C8	2.89	0.40
1:XA:1004:A:N7	1:XA:1026:G:C8	2.89	0.40
1:XA:1151:A:O2'	1:XA:1152:A:O5'	2.34	0.40
1:XA:1342:C:H2'	1:XA:1343:G:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:20:SER:HB2	3:XC:40:ARG:NH2	2.29	0.40
3:XC:188:LEU:HD13	3:XC:188:LEU:HA	1.90	0.40
5:XE:31:LEU:HD23	5:XE:45:PHE:HD1	1.78	0.40
5:XE:34:VAL:HG11	5:XE:63:ARG:HG2	2.03	0.40
5:XE:89:ILE:HG12	5:XE:91:LEU:CD1	2.52	0.40
9:XI:75:ASP:HA	9:XI:78:LYS:HB3	2.04	0.40
13:XM:3:ARG:HG2	47:Y4:34:GLU:HB3	2.03	0.40
13:XM:68:GLY:HA3	27:YG:116:ASP:OD1	2.21	0.40
22:YA:768:G:C6	22:YA:769:G:C5	3.08	0.40
22:YA:1022:G:H22	22:YA:1142(A):A:H2	1.65	0.40
22:YA:1072:C:H42	22:YA:1092:C:N4	2.19	0.40
22:YA:1264:G:C3'	22:YA:1265:A:H5"	2.47	0.40
22:YA:2314:C:H2'	22:YA:2315:G:H8	1.87	0.40
22:YA:2466:C:H5"	52:Y9:6:SER:CB	2.51	0.40
22:YA:2467:C:H4'	33:YQ:123:HIS:CG	2.57	0.40
22:YA:2594:C:O2	22:YA:2594:C:H2'	2.21	0.40
22:YA:2634:G:H1	22:YA:2784:C:N4	2.18	0.40
28:YH:46:GLU:OE1	28:YH:51:ARG:NH1	2.54	0.40
29:YI:91:SER:OG	29:YI:92:VAL:N	2.54	0.40
35:YS:69:VAL:HA	35:YS:72:ALA:HB3	2.03	0.40
37:YU:19:LYS:O	37:YU:22:LYS:HB2	2.22	0.40
38:YV:21:ARG:HD2	38:YV:91:TYR:CE1	2.56	0.40
42:YZ:112:ARG:HG2	42:YZ:113:ALA:H	1.86	0.40
46:Y3:52:HIS:CD2	46:Y3:53:LEU:HG	2.57	0.40
47:Y4:14:ILE:O	47:Y4:14:ILE:HG23	2.21	0.40
49:Y6:11:LEU:HD13	49:Y6:11:LEU:HA	1.86	0.40
1:QA:266:G:H8	1:QA:266:G:H2'	1.81	0.40
1:QA:292:G:C5	1:QA:293:G:H1'	2.55	0.40
1:QA:437:U:O2'	4:QD:123:HIS:HD2	2.04	0.40
1:QA:899:C:H6	1:QA:899:C:O5'	2.05	0.40
1:QA:964:A:N3	1:QA:969:A:O2'	2.48	0.40
1:QA:1179:A:H2'	1:QA:1180:A:O4'	2.22	0.40
1:QA:1290:G:C4	1:QA:1291:G:C8	3.09	0.40
6:QF:21:LEU:O	6:QF:25:ILE:HG12	2.21	0.40
6:QF:33:TYR:CE1	6:QF:78:GLU:HG2	2.57	0.40
8:QH:83:ILE:HB	8:QH:137:VAL:HG13	2.03	0.40
13:QM:4:ILE:H	13:QM:9:ILE:CG2	2.35	0.40
13:QM:40:ASN:O	13:QM:43:THR:OG1	2.29	0.40
13:QM:93:ARG:NH1	22:RA:888:C:OP1	2.50	0.40
15:QO:54:ARG:HG2	15:QO:58:MET:HE2	2.03	0.40
20:QT:86:ARG:O	20:QT:90:GLN:HG3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:23:G:H21	39:RW:77:ASP:CG	2.29	0.40
22:RA:30:G:C6	22:RA:31:C:N4	2.90	0.40
22:RA:84:A:OP2	41:RY:8:LYS:NZ	2.48	0.40
22:RA:270(R):G:H1'	44:R1:78:LYS:HZ1	1.86	0.40
22:RA:304:G:H2'	22:RA:305:U:C6	2.56	0.40
22:RA:533:G:C6	22:RA:534:U:N3	2.90	0.40
22:RA:702:G:C2	22:RA:731:C:N3	2.90	0.40
22:RA:1265:A:OP2	22:RA:2615:U:OP1	2.40	0.40
22:RA:1630:G:H2'	22:RA:1630(A):C:C6	2.57	0.40
22:RA:1668:A:N7	22:RA:1674:G:C6	2.89	0.40
22:RA:1790:C:H2'	22:RA:1791:A:C4	2.56	0.40
22:RA:2233:U:H2'	22:RA:2234:G:C8	2.57	0.40
22:RA:2422:A:N7	51:R8:31:HIS:HE1	2.20	0.40
22:RA:2474:C:H5"	22:RA:2475:C:H5	1.86	0.40
22:RA:2639:A:C2	22:RA:2778:A:C8	3.10	0.40
24:RD:26:LYS:H	24:RD:26:LYS:HD2	1.87	0.40
24:RD:43:ARG:CB	24:RD:54:ARG:HB2	2.52	0.40
24:RD:96:HIS:CD2	24:RD:102:LYS:HG2	2.57	0.40
28:RH:167:GLU:HA	28:RH:168:PRO:HD3	1.90	0.40
30:RN:108:PRO:O	30:RN:113:GLY:HA3	2.21	0.40
31:RO:68:GLU:H	31:RO:68:GLU:CD	2.29	0.40
32:RP:25:SER:OG	32:RP:26:GLY:O	2.38	0.40
42:RZ:166:SER:HB3	42:RZ:168:GLU:N	2.34	0.40
50:R7:31:LEU:HD23	50:R7:31:LEU:HA	1.86	0.40
1:XA:28:G:O2'	1:XA:296:U:H5"	2.21	0.40
1:XA:191:G:C5	1:XA:192:U:C4	3.10	0.40
1:XA:514:C:H2'	1:XA:515:G:H8	1.84	0.40
1:XA:651:C:H2'	1:XA:652:U:C6	2.48	0.40
1:XA:675:A:H2'	1:XA:676:A:C8	2.51	0.40
1:XA:1097:C:O2'	1:XA:1169:A:N3	2.44	0.40
1:XA:1126:U:OP2	1:XA:1281:U:H1'	2.21	0.40
1:XA:1179:A:C6	1:XA:1180:A:C2	3.10	0.40
1:XA:1189:C:O2'	3:XC:176:HIS:HD2	2.04	0.40
1:XA:1325:C:H2'	1:XA:1326:C:H6	1.87	0.40
1:XA:1502:A:H2'	1:XA:1504:G:C8	2.57	0.40
2:XB:15:VAL:C	2:XB:16:HIS:CG	2.99	0.40
4:XD:108:LEU:HB3	4:XD:110:PHE:CD1	2.57	0.40
5:XE:12:LEU:HB3	5:XE:31:LEU:CB	2.51	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
11:XK:38:ASN:HA	11:XK:39:PRO:HD3	1.75	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:XS:15:LEU:HA	19:XS:18:LYS:HB3	2.04	0.40
22:YA:244:A:H2'	22:YA:245:G:O4'	2.20	0.40
22:YA:270(J):G:H1	22:YA:270(P):C:H42	1.70	0.40
22:YA:270(Z):U:O2'	22:YA:271(A):C:C6	2.74	0.40
22:YA:984:A:H5"	22:YA:985:C:C5	2.38	0.40
22:YA:1027:A:C6	22:YA:1126:A:C5	3.09	0.40
22:YA:1050:A:C6	22:YA:1051:G:C5	3.10	0.40
22:YA:2139:C:H2'	22:YA:2140:C:O4'	2.21	0.40
22:YA:2369:A:C6	22:YA:2370:G:C6	3.10	0.40
22:YA:2392:A:H2'	22:YA:2393:A:O4'	2.21	0.40
22:YA:2399:G:H8	22:YA:2399:G:O5'	2.05	0.40
22:YA:2849:U:O4	36:YT:23:ARG:NH2	2.54	0.40
23:YB:10:C:H2'	23:YB:11:C:H6	1.87	0.40
23:YB:21:G:N2	23:YB:63:G:C4	2.90	0.40
23:YB:85:G:C6	23:YB:86:G:N7	2.89	0.40
26:YF:122:LYS:HD3	26:YF:122:LYS:HA	1.86	0.40
29:YI:46:ALA:O	29:YI:50:ARG:HD3	2.21	0.40
29:YI:85:GLU:O	29:YI:86:THR:C	2.64	0.40
30:YN:46:VAL:O	30:YN:47:ALA:HB3	2.21	0.40
32:YP:1:MET:HB3	32:YP:1:MET:HE2	1.70	0.40
32:YP:68:GLN:HG2	51:Y8:12:LYS:HD3	2.03	0.40
38:YV:3:ALA:HA	38:YV:40:LEU:O	2.21	0.40
48:Y5:41:PRO:HA	48:Y5:42:PRO:HD3	1.95	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1593:G:O2'	23:YB:54:G:OP1[1_655]	2.14	0.06

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	QB	235/256 (92%)	174 (74%)	44 (19%)	17 (7%)	1 11
2	XB	235/256 (92%)	178 (76%)	42 (18%)	15 (6%)	1 13
3	QC	203/239 (85%)	163 (80%)	34 (17%)	6 (3%)	3 25
3	XC	203/239 (85%)	171 (84%)	29 (14%)	3 (2%)	8 35
4	QD	206/209 (99%)	176 (85%)	24 (12%)	6 (3%)	3 25
4	XD	206/209 (99%)	177 (86%)	24 (12%)	5 (2%)	4 28
5	QE	149/162 (92%)	136 (91%)	8 (5%)	5 (3%)	3 23
5	XE	149/162 (92%)	133 (89%)	13 (9%)	3 (2%)	6 31
6	QF	99/101 (98%)	95 (96%)	4 (4%)	0	100 100
6	XF	99/101 (98%)	94 (95%)	5 (5%)	0	100 100
7	QG	153/156 (98%)	135 (88%)	16 (10%)	2 (1%)	9 38
7	XG	153/156 (98%)	138 (90%)	13 (8%)	2 (1%)	9 38
8	QH	136/138 (99%)	121 (89%)	14 (10%)	1 (1%)	18 50
8	XH	136/138 (99%)	120 (88%)	12 (9%)	4 (3%)	3 25
9	QI	125/128 (98%)	103 (82%)	17 (14%)	5 (4%)	2 20
9	XI	125/128 (98%)	97 (78%)	24 (19%)	4 (3%)	3 24
10	QJ	97/105 (92%)	75 (77%)	19 (20%)	3 (3%)	3 24
10	XJ	97/105 (92%)	79 (81%)	13 (13%)	5 (5%)	1 16
11	QK	117/129 (91%)	100 (86%)	14 (12%)	3 (3%)	4 26
11	XK	117/129 (91%)	101 (86%)	14 (12%)	2 (2%)	7 33
12	QL	123/132 (93%)	98 (80%)	18 (15%)	7 (6%)	1 15
12	XL	123/132 (93%)	98 (80%)	15 (12%)	10 (8%)	1 9
13	QM	119/126 (94%)	95 (80%)	15 (13%)	9 (8%)	1 10
13	XM	119/126 (94%)	94 (79%)	16 (13%)	9 (8%)	1 10
14	QN	58/61 (95%)	48 (83%)	6 (10%)	4 (7%)	1 12
14	XN	58/61 (95%)	46 (79%)	6 (10%)	6 (10%)	0 5
15	QO	86/89 (97%)	80 (93%)	5 (6%)	1 (1%)	10 39
15	XO	86/89 (97%)	80 (93%)	4 (5%)	2 (2%)	5 29
16	QP	82/88 (93%)	74 (90%)	7 (8%)	1 (1%)	10 39
16	XP	82/88 (93%)	71 (87%)	10 (12%)	1 (1%)	10 39
17	QQ	98/105 (93%)	91 (93%)	5 (5%)	2 (2%)	6 31
17	XQ	98/105 (93%)	88 (90%)	10 (10%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
18	QR	68/88 (77%)	56 (82%)	9 (13%)	3 (4%)	2 18
18	XR	68/88 (77%)	61 (90%)	6 (9%)	1 (2%)	8 35
19	QS	82/93 (88%)	56 (68%)	15 (18%)	11 (13%)	0 3
19	XS	82/93 (88%)	54 (66%)	17 (21%)	11 (13%)	0 3
20	QT	97/106 (92%)	76 (78%)	15 (16%)	6 (6%)	1 14
20	XT	97/106 (92%)	75 (77%)	16 (16%)	6 (6%)	1 14
21	QU	23/27 (85%)	19 (83%)	3 (13%)	1 (4%)	2 18
21	XU	23/27 (85%)	18 (78%)	4 (17%)	1 (4%)	2 18
24	RD	270/276 (98%)	226 (84%)	32 (12%)	12 (4%)	2 18
24	YD	270/276 (98%)	227 (84%)	34 (13%)	9 (3%)	3 24
25	RE	203/206 (98%)	147 (72%)	36 (18%)	20 (10%)	0 6
25	YE	203/206 (98%)	142 (70%)	41 (20%)	20 (10%)	0 6
26	RF	200/210 (95%)	167 (84%)	20 (10%)	13 (6%)	1 13
26	YF	200/210 (95%)	167 (84%)	25 (12%)	8 (4%)	2 20
27	RG	179/182 (98%)	139 (78%)	26 (14%)	14 (8%)	1 10
27	YG	179/182 (98%)	142 (79%)	25 (14%)	12 (7%)	1 12
28	RH	168/180 (93%)	114 (68%)	33 (20%)	21 (12%)	0 3
28	YH	168/180 (93%)	121 (72%)	23 (14%)	24 (14%)	0 2
29	RI	144/148 (97%)	94 (65%)	31 (22%)	19 (13%)	0 3
29	YI	144/148 (97%)	100 (69%)	23 (16%)	21 (15%)	0 2
30	RN	136/140 (97%)	104 (76%)	20 (15%)	12 (9%)	0 8
30	YN	136/140 (97%)	106 (78%)	16 (12%)	14 (10%)	0 5
31	RO	120/122 (98%)	109 (91%)	9 (8%)	2 (2%)	7 33
31	YO	120/122 (98%)	108 (90%)	10 (8%)	2 (2%)	7 33
32	RP	148/150 (99%)	107 (72%)	27 (18%)	14 (10%)	0 7
32	YP	148/150 (99%)	108 (73%)	23 (16%)	17 (12%)	0 4
33	RQ	139/141 (99%)	99 (71%)	22 (16%)	18 (13%)	0 3
33	YQ	139/141 (99%)	98 (70%)	22 (16%)	19 (14%)	0 3
34	RR	116/118 (98%)	106 (91%)	5 (4%)	5 (4%)	2 18
34	YR	116/118 (98%)	99 (85%)	11 (10%)	6 (5%)	1 16
35	RS	109/112 (97%)	76 (70%)	22 (20%)	11 (10%)	0 6

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
35	YS	109/112 (97%)	78 (72%)	18 (16%)	13 (12%)	0 4
36	RT	135/146 (92%)	106 (78%)	17 (13%)	12 (9%)	0 7
36	YT	135/146 (92%)	108 (80%)	17 (13%)	10 (7%)	1 10
37	RU	115/118 (98%)	102 (89%)	9 (8%)	4 (4%)	3 23
37	YU	115/118 (98%)	101 (88%)	10 (9%)	4 (4%)	3 23
38	RV	99/101 (98%)	82 (83%)	11 (11%)	6 (6%)	1 14
38	YV	99/101 (98%)	79 (80%)	12 (12%)	8 (8%)	1 9
39	RW	111/113 (98%)	99 (89%)	8 (7%)	4 (4%)	2 22
39	YW	111/113 (98%)	100 (90%)	9 (8%)	2 (2%)	6 32
40	RX	90/96 (94%)	77 (86%)	11 (12%)	2 (2%)	5 29
40	YX	90/96 (94%)	82 (91%)	6 (7%)	2 (2%)	5 29
41	RY	100/110 (91%)	71 (71%)	13 (13%)	16 (16%)	0 2
41	YY	100/110 (91%)	70 (70%)	18 (18%)	12 (12%)	0 4
42	RZ	181/206 (88%)	118 (65%)	35 (19%)	28 (16%)	0 2
42	YZ	181/206 (88%)	113 (62%)	46 (25%)	22 (12%)	0 4
43	R0	80/85 (94%)	61 (76%)	15 (19%)	4 (5%)	1 16
43	Y0	80/85 (94%)	66 (82%)	13 (16%)	1 (1%)	9 38
44	R1	95/98 (97%)	75 (79%)	11 (12%)	9 (10%)	0 7
44	Y1	95/98 (97%)	72 (76%)	17 (18%)	6 (6%)	1 13
45	R2	67/72 (93%)	53 (79%)	9 (13%)	5 (8%)	1 10
45	Y2	67/72 (93%)	55 (82%)	6 (9%)	6 (9%)	0 7
46	R3	57/60 (95%)	52 (91%)	3 (5%)	2 (4%)	3 23
46	Y3	57/60 (95%)	52 (91%)	4 (7%)	1 (2%)	6 32
47	R4	69/71 (97%)	35 (51%)	18 (26%)	16 (23%)	0 0
47	Y4	69/71 (97%)	35 (51%)	15 (22%)	19 (28%)	0 0
48	R5	57/60 (95%)	44 (77%)	11 (19%)	2 (4%)	3 23
48	Y5	57/60 (95%)	46 (81%)	9 (16%)	2 (4%)	3 23
49	R6	47/54 (87%)	23 (49%)	13 (28%)	11 (23%)	0 0
49	Y6	47/54 (87%)	22 (47%)	17 (36%)	8 (17%)	0 2
50	R7	47/49 (96%)	45 (96%)	1 (2%)	1 (2%)	5 30
50	Y7	47/49 (96%)	43 (92%)	3 (6%)	1 (2%)	5 30

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
51	R8	62/65 (95%)	51 (82%)	6 (10%)	5 (8%)	1 9
51	Y8	62/65 (95%)	48 (77%)	10 (16%)	4 (6%)	1 13
52	R9	35/37 (95%)	35 (100%)	0	0	100 100
52	Y9	35/37 (95%)	31 (89%)	4 (11%)	0	100 100
All	All	11470/12128 (95%)	9180 (80%)	1546 (14%)	744 (6%)	1 13

All (744) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	QB	236	TYR
3	QC	12	LEU
3	QC	190	ARG
4	QD	28	SER
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
24	RD	26	LYS
24	RD	122	ASP
24	RD	242	ARG
25	RE	22	PRO
25	RE	53	PRO
25	RE	63	LEU
25	RE	68	ALA
25	RE	71	GLY
25	RE	93	VAL
28	RH	12	PRO
28	RH	86	GLU
28	RH	126	PRO
28	RH	127	GLU
28	RH	154	PRO
28	RH	168	PRO
28	RH	169	VAL
29	RI	15	VAL
29	RI	102	SER
29	RI	115	ALA
29	RI	133	HIS
30	RN	9	VAL

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Mol	Chain	Res	Type
30	RN	22	THR
30	RN	96	GLU
30	RN	131	GLN
31	RO	5	GLN
32	RP	6	LEU
32	RP	10	PRO
32	RP	15	ARG
32	RP	65	ARG
32	RP	95	VAL
32	RP	141	ALA
32	RP	148	LEU
33	RQ	22	LYS
33	RQ	66	ILE
33	RQ	78	PRO
33	RQ	90	VAL
33	RQ	139	GLU
34	RR	3	HIS
34	RR	4	LEU
35	RS	57	LYS
35	RS	88	ASP
35	RS	89	ARG
36	RT	2	ASN
36	RT	3	ARG
36	RT	106	SER
36	RT	112	ARG
36	RT	124	ASP
37	RU	91	ASP
38	RV	48	GLY
38	RV	50	PRO
38	RV	100	ARG
39	RW	111	HIS
41	RY	3	VAL
41	RY	50	ARG
41	RY	57	GLN
41	RY	77	PRO
41	RY	78	ALA
42	RZ	60	GLU
42	RZ	111	VAL
42	RZ	112	ARG
42	RZ	158	PRO
42	RZ	179	ASP
42	RZ	182	LYS

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Mol	Chain	Res	Type
43	R0	57	PHE
45	R2	47	ASN
45	R2	48	HIS
45	R2	70	GLN
45	R2	71	ASN
47	R4	16	CYS
47	R4	18	CYS
47	R4	40	HIS
47	R4	43	TYR
47	R4	49	PHE
47	R4	50	VAL
47	R4	53	GLU
48	R5	4	HIS
48	R5	47	PRO
49	R6	15	GLU
51	R8	34	TRP
51	R8	52	LYS
51	R8	62	LEU
2	XB	230	VAL
2	XB	236	TYR
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
24	YD	26	LYS
24	YD	28	GLU
24	YD	122	ASP
24	YD	123	ALA
25	YE	2	LYS
25	YE	19	ARG

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Mol	Chain	Res	Type
25	YE	22	PRO
25	YE	53	PRO
25	YE	63	LEU
25	YE	71	GLY
26	YF	73	ALA
26	YF	134	GLY
27	YG	96	ARG
28	YH	3	ARG
28	YH	12	PRO
28	YH	13	LYS
28	YH	86	GLU
28	YH	126	PRO
28	YH	127	GLU
28	YH	128	PRO
28	YH	168	PRO
28	YH	169	VAL
29	YI	113	ARG
29	YI	133	HIS
29	YI	145	VAL
30	YN	9	VAL
30	YN	22	THR
30	YN	36	GLY
32	YP	6	LEU
32	YP	10	PRO
32	YP	14	LYS
32	YP	15	ARG
32	YP	25	SER
32	YP	27	HIS
32	YP	95	VAL
32	YP	106	LEU
32	YP	148	LEU
33	YQ	18	LYS
33	YQ	22	LYS
33	YQ	25	ASP
33	YQ	79	LEU
33	YQ	86	GLY
33	YQ	90	VAL
33	YQ	134	ARG
34	YR	3	HIS
35	YS	82	ILE
35	YS	88	ASP
35	YS	107	GLU

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Mol	Chain	Res	Type
36	YT	2	ASN
36	YT	123	GLN
36	YT	124	ASP
37	YU	90	VAL
37	YU	91	ASP
37	YU	93	LYS
38	YV	45	THR
40	YX	68	ARG
41	YY	50	ARG
41	YY	57	GLN
41	YY	77	PRO
41	YY	78	ALA
42	YZ	7	ALA
42	YZ	53	ILE
42	YZ	152	ALA
42	YZ	159	PRO
42	YZ	165	VAL
44	Y1	30	VAL
44	Y1	84	GLY
44	Y1	91	LYS
44	Y1	95	LEU
45	Y2	16	LEU
45	Y2	43	GLN
45	Y2	47	ASN
45	Y2	48	HIS
47	Y4	24	THR
47	Y4	40	HIS
47	Y4	49	PHE
48	Y5	4	HIS
49	Y6	15	GLU
50	Y7	48	LYS
51	Y8	52	LYS
51	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

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Mol	Chain	Res	Type
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
24	RD	32	SER
25	RE	50	GLY
25	RE	60	ASN
25	RE	66	HIS
25	RE	72	VAL
25	RE	90	THR
25	RE	92	THR
25	RE	187	ALA
26	RF	17	ARG
26	RF	67	GLN
26	RF	73	ALA
26	RF	89	VAL
26	RF	134	GLY
26	RF	198	ALA
27	RG	4	ASP
27	RG	5	VAL
27	RG	14	GLU
27	RG	96	ARG
27	RG	137	GLU
27	RG	146	TYR
28	RH	8	PRO
28	RH	128	PRO
28	RH	137	ASP
28	RH	153	LYS
28	RH	155	SER
29	RI	11	ASN
29	RI	13	GLY

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Mol	Chain	Res	Type
29	RI	116	LEU
29	RI	117	GLU
32	RP	11	GLY
32	RP	90	ARG
32	RP	103	ALA
32	RP	106	LEU
33	RQ	6	ARG
33	RQ	25	ASP
33	RQ	27	VAL
33	RQ	133	ARG
34	RR	107	ASP
35	RS	4	LEU
35	RS	107	GLU
36	RT	37	GLY
37	RU	90	VAL
38	RV	49	THR
38	RV	79	VAL
40	RX	41	ASN
41	RY	45	VAL
41	RY	48	ALA
41	RY	63	LYS
42	RZ	6	LYS
42	RZ	12	GLY
42	RZ	53	ILE
42	RZ	62	PRO
42	RZ	152	ALA
42	RZ	177	PRO
42	RZ	181	GLU
44	R1	30	VAL
44	R1	80	LEU
44	R1	84	GLY
44	R1	91	LYS
44	R1	95	LEU
45	R2	43	GLN
46	R3	26	LEU
47	R4	24	THR
47	R4	30	GLU
47	R4	51	ASP
47	R4	66	SER
49	R6	7	ILE
49	R6	45	LYS
2	XB	15	VAL

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Mol	Chain	Res	Type
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
24	YD	238	GLY
24	YD	242	ARG
25	YE	7	VAL
25	YE	204	ALA
26	YF	128	ALA
26	YF	132	VAL
26	YF	181	LEU
27	YG	4	ASP
27	YG	36	LYS
28	YH	27	LYS
28	YH	50	VAL
28	YH	85	LYS
28	YH	152	ARG
28	YH	155	SER
29	YI	11	ASN
29	YI	84	GLY
29	YI	114	LEU
29	YI	122	GLU
30	YN	23	LEU
30	YN	96	GLU
31	YO	5	GLN
32	YP	66	GLY
32	YP	93	GLY
32	YP	141	ALA
33	YQ	6	ARG

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Mol	Chain	Res	Type
33	YQ	60	ARG
33	YQ	137	TYR
34	YR	4	LEU
34	YR	45	ARG
34	YR	107	ASP
35	YS	12	PHE
35	YS	57	LYS
35	YS	109	GLY
36	YT	13	ARG
36	YT	39	ARG
36	YT	106	SER
38	YV	31	ALA
38	YV	48	GLY
38	YV	79	VAL
39	YW	111	HIS
41	YY	58	GLY
41	YY	102	CYS
42	YZ	6	LYS
42	YZ	61	LEU
42	YZ	81	ARG
42	YZ	121	HIS
42	YZ	177	PRO
43	Y0	64	ASP
45	Y2	70	GLN
45	Y2	71	ASN
47	Y4	5	ILE
47	Y4	18	CYS
47	Y4	22	ILE
47	Y4	37	SER
47	Y4	43	TYR
47	Y4	50	VAL
49	Y6	7	ILE
49	Y6	16	CYS
49	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

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Mol	Chain	Res	Type
10	QJ	30	SER
11	QK	103	LEU
11	QK	125	PHE
12	QL	28	LYS
13	QM	13	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
24	RD	46	GLN
24	RD	239	ARG
25	RE	79	ARG
25	RE	204	ALA
26	RF	133	ASN
27	RG	32	PRO
27	RG	116	ASP
28	RH	5	GLY
28	RH	27	LYS
28	RH	55	PRO
28	RH	87	LEU
28	RH	138	LYS
29	RI	12	LEU
29	RI	65	ALA
29	RI	109	ILE
30	RN	8	GLN
30	RN	23	LEU
30	RN	95	PRO
30	RN	130	HIS
31	RO	97	ARG
32	RP	29	LYS
32	RP	67	MET
33	RQ	11	LYS
33	RQ	19	GLY
33	RQ	137	TYR
34	RR	74	LYS
35	RS	12	PHE
35	RS	61	ASN
36	RT	12	SER
36	RT	97	ALA

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Mol	Chain	Res	Type
37	RU	117	GLN
40	RX	67	GLY
41	RY	58	GLY
42	RZ	13	GLU
42	RZ	30	ASN
42	RZ	63	ASP
42	RZ	92	SER
42	RZ	104	PHE
42	RZ	159	PRO
42	RZ	165	VAL
43	R0	12	ASN
44	R1	76	ARG
46	R3	27	GLY
49	R6	16	CYS
49	R6	33	LYS
49	R6	35	GLU
49	R6	49	HIS
51	R8	31	HIS
51	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
13	XM	12	ASN
13	XM	42	ALA
19	XS	27	GLU
19	XS	28	LYS
24	YD	32	SER
25	YE	20	ALA
25	YE	50	GLY
25	YE	79	ARG
25	YE	90	THR

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Mol	Chain	Res	Type
25	YE	92	THR
25	YE	117	MET
25	YE	184	VAL
26	YF	198	ALA
28	YH	8	PRO
28	YH	10	PRO
28	YH	87	LEU
28	YH	137	ASP
28	YH	138	LYS
28	YH	153	LYS
28	YH	154	PRO
29	YI	10	GLU
29	YI	12	LEU
29	YI	15	VAL
29	YI	16	GLY
29	YI	83	ALA
29	YI	86	THR
29	YI	118	LYS
30	YN	7	LYS
30	YN	131	GLN
32	YP	16	ARG
32	YP	29	LYS
32	YP	65	ARG
33	YQ	19	GLY
33	YQ	105	GLU
33	YQ	133	ARG
34	YR	86	ARG
35	YS	4	LEU
35	YS	11	LYS
36	YT	97	ALA
38	YV	49	THR
38	YV	53	GLU
38	YV	100	ARG
41	YY	42	VAL
41	YY	63	LYS
42	YZ	62	PRO
42	YZ	112	ARG
42	YZ	115	GLY
46	Y3	3	ARG
47	Y4	9	LEU
47	Y4	23	GLU
47	Y4	30	GLU

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Mol	Chain	Res	Type
47	Y4	34	GLU
47	Y4	66	SER
48	Y5	47	PRO
49	Y6	19	ARG
49	Y6	49	HIS
51	Y8	30	ARG
51	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
18	QR	20	ALA
18	QR	54	ARG
20	QT	71	THR
21	QU	9	ARG
24	RD	3	VAL
24	RD	123	ALA
24	RD	237	GLU
25	RE	78	LEU
26	RF	66	PRO
26	RF	197	ASP
27	RG	36	LYS
27	RG	86	MET
28	RH	92	ILE
29	RI	10	GLU
29	RI	118	LYS
29	RI	122	GLU
32	RP	21	ARG
33	RQ	21	THR
33	RQ	28	ALA
33	RQ	86	GLY
33	RQ	104	PHE
33	RQ	105	GLU
34	RR	71	GLN
35	RS	109	GLY
36	RT	38	ASN
36	RT	39	ARG
37	RU	98	LEU

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Mol	Chain	Res	Type
39	RW	18	ARG
39	RW	63	ASP
39	RW	68	ARG
41	RY	4	LYS
41	RY	53	PRO
41	RY	99	CYS
42	RZ	81	ARG
42	RZ	83	PRO
42	RZ	108	PRO
42	RZ	151	HIS
43	R0	3	HIS
50	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
27	YG	14	GLU
27	YG	82	LEU
27	YG	86	MET
27	YG	116	ASP
28	YH	83	TYR
29	YI	115	ALA
30	YN	11	PRO
30	YN	28	THR
30	YN	47	ALA
33	YQ	104	PHE
33	YQ	140	ALA
35	YS	89	ARG
35	YS	96	GLY
36	YT	17	THR
40	YX	40	LYS

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Mol	Chain	Res	Type
41	YY	51	VAL
41	YY	53	PRO
42	YZ	13	GLU
42	YZ	92	SER
42	YZ	160	GLY
42	YZ	166	SER
47	Y4	16	CYS
47	Y4	25	TYR
47	Y4	54	GLY
47	Y4	60	GLN
49	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
24	RD	238	GLY
25	RE	54	GLN
26	RF	8	GLN
27	RG	82	LEU
28	RH	21	PRO
28	RH	83	TYR
29	RI	47	LEU
29	RI	145	VAL
30	RN	18	ALA
30	RN	57	ALA
30	RN	135	PRO
35	RS	97	ARG
35	RS	110	LEU
36	RT	40	THR
41	RY	39	VAL
41	RY	41	GLY
41	RY	62	GLU
42	RZ	116	VAL
44	R1	74	VAL

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Mol	Chain	Res	Type
44	R1	82	LEU
47	R4	5	ILE
47	R4	23	GLU
47	R4	28	LYS
47	R4	68	ARG
49	R6	9	LEU
49	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
24	YD	3	VAL
24	YD	46	GLN
25	YE	68	ALA
25	YE	82	ARG
25	YE	86	PRO
27	YG	5	VAL
27	YG	53	LEU
27	YG	117	PHE
28	YH	151	ILE
29	YI	18	VAL
29	YI	33	ARG
29	YI	80	PRO
29	YI	87	LYS
29	YI	112	LYS
30	YN	95	PRO
30	YN	127	ASP
30	YN	134	ARG
30	YN	135	PRO
32	YP	7	ARG
33	YQ	11	LYS
33	YQ	27	VAL
35	YS	94	TYR
35	YS	110	LEU
36	YT	86	ILE
37	YU	117	GLN
38	YV	50	PRO
41	YY	39	VAL

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Mol	Chain	Res	Type
42	YZ	168	GLU
44	Y1	74	VAL
47	Y4	14	ILE
49	Y6	21	TYR
2	QB	155	LEU
10	QJ	82	ILE
13	QM	10	PRO
14	QN	15	LYS
20	QT	98	PRO
24	RD	125	ILE
25	RE	82	ARG
26	RF	130	ALA
27	RG	52	ILE
27	RG	88	ILE
27	RG	117	PHE
29	RI	9	LEU
35	RS	82	ILE
41	RY	5	MET
42	RZ	61	LEU
44	R1	55	GLY
47	R4	11	PRO
49	R6	21	TYR
49	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
25	YE	72	VAL
26	YF	58	ALA
29	YI	9	LEU
31	YO	97	ARG
33	YQ	62	GLY
33	YQ	81	VAL
41	YY	3	VAL
42	YZ	96	VAL
44	Y1	55	GLY
2	QB	5	ILE
16	QP	46	PRO
25	RE	21	VAL
25	RE	86	PRO

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Mol	Chain	Res	Type
26	RF	25	PRO
28	RH	166	GLY
29	RI	144	VAL
43	R0	8	GLY
5	XE	74	GLY
12	XL	18	VAL
3	QC	81	GLY
5	QE	74	GLY
19	QS	46	GLY
24	RD	35	LYS
19	XS	26	GLY
19	XS	46	GLY
26	YF	66	PRO
36	YT	37	GLY
42	YZ	137	ILE
7	QG	50	ILE
9	QI	89	ASN
10	QJ	37	PRO
30	RN	134	ARG
33	RQ	81	VAL
36	RT	86	ILE
42	RZ	141	VAL
8	XH	51	VAL
16	XP	46	PRO
19	XS	31	ILE
25	YE	21	VAL
39	YW	14	PRO
42	YZ	147	GLY
26	RF	132	VAL
29	RI	18	VAL
38	RV	54	GLY
42	RZ	94	GLU
27	YG	52	ILE
27	YG	88	ILE
28	YH	7	LEU
32	YP	24	GLY
34	YR	117	VAL
2	QB	227	GLY
35	YS	60	GLY
42	YZ	95	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	QB	205/220 (93%)	169 (82%)	36 (18%)	2 12
2	XB	205/220 (93%)	181 (88%)	24 (12%)	5 24
3	QC	159/188 (85%)	147 (92%)	12 (8%)	12 39
3	XC	159/188 (85%)	145 (91%)	14 (9%)	9 33
4	QD	180/181 (99%)	155 (86%)	25 (14%)	3 18
4	XD	180/181 (99%)	155 (86%)	25 (14%)	3 18
5	QE	116/123 (94%)	102 (88%)	14 (12%)	5 22
5	XE	116/123 (94%)	100 (86%)	16 (14%)	3 18
6	QF	90/90 (100%)	79 (88%)	11 (12%)	5 22
6	XF	90/90 (100%)	78 (87%)	12 (13%)	4 20
7	QG	126/127 (99%)	115 (91%)	11 (9%)	9 33
7	XG	126/127 (99%)	112 (89%)	14 (11%)	6 25
8	QH	119/119 (100%)	105 (88%)	14 (12%)	5 23
8	XH	119/119 (100%)	106 (89%)	13 (11%)	6 26
9	QI	98/99 (99%)	80 (82%)	18 (18%)	1 10
9	XI	98/99 (99%)	77 (79%)	21 (21%)	1 7
10	QJ	89/92 (97%)	75 (84%)	14 (16%)	2 14
10	XJ	89/92 (97%)	74 (83%)	15 (17%)	2 13
11	QK	90/99 (91%)	79 (88%)	11 (12%)	5 22
11	XK	90/99 (91%)	81 (90%)	9 (10%)	7 29
12	QL	104/109 (95%)	91 (88%)	13 (12%)	4 21
12	XL	104/109 (95%)	90 (86%)	14 (14%)	4 19
13	QM	97/101 (96%)	73 (75%)	24 (25%)	1 4
13	XM	97/101 (96%)	79 (81%)	18 (19%)	1 10
14	QN	49/50 (98%)	40 (82%)	9 (18%)	1 10
14	XN	49/50 (98%)	42 (86%)	7 (14%)	3 17

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
15	QO	79/80 (99%)	72 (91%)	7 (9%)	9 33
15	XO	79/80 (99%)	68 (86%)	11 (14%)	3 18
16	QP	72/74 (97%)	62 (86%)	10 (14%)	3 18
16	XP	72/74 (97%)	65 (90%)	7 (10%)	8 30
17	QQ	95/97 (98%)	86 (90%)	9 (10%)	8 31
17	XQ	95/97 (98%)	88 (93%)	7 (7%)	13 39
18	QR	61/77 (79%)	50 (82%)	11 (18%)	2 12
18	XR	61/77 (79%)	50 (82%)	11 (18%)	2 12
19	QS	73/80 (91%)	58 (80%)	15 (20%)	1 8
19	XS	73/80 (91%)	56 (77%)	17 (23%)	1 5
20	QT	76/82 (93%)	66 (87%)	10 (13%)	4 20
20	XT	76/82 (93%)	66 (87%)	10 (13%)	4 20
21	QU	20/22 (91%)	20 (100%)	0	100 100
21	XU	20/22 (91%)	20 (100%)	0	100 100
24	RD	214/218 (98%)	170 (79%)	44 (21%)	1 8
24	YD	214/218 (98%)	176 (82%)	38 (18%)	2 12
25	RE	165/166 (99%)	122 (74%)	43 (26%)	0 4
25	YE	165/166 (99%)	134 (81%)	31 (19%)	1 10
26	RF	161/166 (97%)	127 (79%)	34 (21%)	1 7
26	YF	161/166 (97%)	134 (83%)	27 (17%)	2 13
27	RG	155/156 (99%)	135 (87%)	20 (13%)	4 20
27	YG	155/156 (99%)	131 (84%)	24 (16%)	2 15
28	RH	142/148 (96%)	116 (82%)	26 (18%)	2 11
28	YH	142/148 (96%)	112 (79%)	30 (21%)	1 7
29	RI	122/124 (98%)	79 (65%)	43 (35%)	0 1
29	YI	122/124 (98%)	83 (68%)	39 (32%)	0 2
30	RN	117/119 (98%)	94 (80%)	23 (20%)	1 8
30	YN	117/119 (98%)	94 (80%)	23 (20%)	1 8
31	RO	100/100 (100%)	91 (91%)	9 (9%)	9 32
31	YO	100/100 (100%)	85 (85%)	15 (15%)	3 15
32	RP	116/116 (100%)	83 (72%)	33 (28%)	0 3

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
32	YP	116/116 (100%)	81 (70%)	35 (30%)	0 2
33	RQ	111/111 (100%)	90 (81%)	21 (19%)	1 9
33	YQ	111/111 (100%)	94 (85%)	17 (15%)	3 15
34	RR	101/101 (100%)	81 (80%)	20 (20%)	1 8
34	YR	101/101 (100%)	80 (79%)	21 (21%)	1 7
35	RS	87/88 (99%)	67 (77%)	20 (23%)	1 6
35	YS	87/88 (99%)	65 (75%)	22 (25%)	0 4
36	RT	120/127 (94%)	101 (84%)	19 (16%)	2 14
36	YT	120/127 (94%)	93 (78%)	27 (22%)	1 6
37	RU	93/94 (99%)	79 (85%)	14 (15%)	3 15
37	YU	93/94 (99%)	79 (85%)	14 (15%)	3 15
38	RV	82/82 (100%)	63 (77%)	19 (23%)	1 5
38	YV	82/82 (100%)	66 (80%)	16 (20%)	1 9
39	RW	92/92 (100%)	73 (79%)	19 (21%)	1 7
39	YW	92/92 (100%)	76 (83%)	16 (17%)	2 12
40	RX	74/78 (95%)	61 (82%)	13 (18%)	2 12
40	YX	74/78 (95%)	59 (80%)	15 (20%)	1 8
41	RY	85/91 (93%)	56 (66%)	29 (34%)	0 1
41	YY	85/91 (93%)	62 (73%)	23 (27%)	0 3
42	RZ	162/179 (90%)	131 (81%)	31 (19%)	1 9
42	YZ	162/179 (90%)	111 (68%)	51 (32%)	0 2
43	R0	65/67 (97%)	54 (83%)	11 (17%)	2 13
43	Y0	65/67 (97%)	50 (77%)	15 (23%)	1 6
44	R1	82/83 (99%)	74 (90%)	8 (10%)	7 30
44	Y1	82/83 (99%)	69 (84%)	13 (16%)	2 14
45	R2	64/67 (96%)	49 (77%)	15 (23%)	1 5
45	Y2	64/67 (96%)	48 (75%)	16 (25%)	0 4
46	R3	51/52 (98%)	43 (84%)	8 (16%)	2 14
46	Y3	51/52 (98%)	44 (86%)	7 (14%)	3 19
47	R4	63/63 (100%)	44 (70%)	19 (30%)	0 2
47	Y4	63/63 (100%)	42 (67%)	21 (33%)	0 1

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
48	R5	51/52 (98%)	35 (69%)	16 (31%)	0 2
48	Y5	51/52 (98%)	37 (72%)	14 (28%)	0 3
49	R6	48/52 (92%)	32 (67%)	16 (33%)	0 1
49	Y6	48/52 (92%)	34 (71%)	14 (29%)	0 2
50	R7	42/42 (100%)	35 (83%)	7 (17%)	2 13
50	Y7	42/42 (100%)	35 (83%)	7 (17%)	2 13
51	R8	54/55 (98%)	43 (80%)	11 (20%)	1 8
51	Y8	54/55 (98%)	37 (68%)	17 (32%)	0 2
52	R9	34/34 (100%)	30 (88%)	4 (12%)	5 23
52	Y9	34/34 (100%)	31 (91%)	3 (9%)	9 33
All	All	9702/10066 (96%)	7957 (82%)	1745 (18%)	2 12

All (1745) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	5	ILE
2	QB	6	THR
2	QB	7	VAL
2	QB	8	LYS
2	QB	15	VAL
2	QB	23	ARG
2	QB	24	TRP
2	QB	32	ILE
2	QB	53	ARG
2	QB	60	ASP
2	QB	63	MET
2	QB	67	THR
2	QB	75	LYS
2	QB	76	GLN
2	QB	87	ARG
2	QB	92	TYR
2	QB	94	ASN
2	QB	101	MET
2	QB	109	SER
2	QB	119	GLU
2	QB	121	LEU
2	QB	155	LEU
2	QB	158	LEU

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Mol	Chain	Res	Type
2	QB	165	VAL
2	QB	168	THR
2	QB	170	GLU
2	QB	172	ILE
2	QB	175	ARG
2	QB	187	LEU
2	QB	196	LEU
2	QB	204	ASN
2	QB	213	LEU
2	QB	215	LEU
2	QB	217	ARG
2	QB	221	LEU
2	QB	239	VAL
3	QC	3	ASN
3	QC	5	ILE
3	QC	12	LEU
3	QC	16	ARG
3	QC	21	ARG
3	QC	45	LYS
3	QC	76	VAL
3	QC	94	LEU
3	QC	154	SER
3	QC	165	THR
3	QC	178	LEU
3	QC	206	GLU
4	QD	3	ARG
4	QD	14	ARG
4	QD	22	LYS
4	QD	26	CYS
4	QD	30	LYS
4	QD	33	MET
4	QD	50	ARG
4	QD	57	ARG
4	QD	58	LEU
4	QD	73	ARG
4	QD	76	ARG
4	QD	86	LYS
4	QD	88	VAL
4	QD	94	LEU
4	QD	96	LEU
4	QD	108	LEU
4	QD	122	ARG

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Mol	Chain	Res	Type
4	QD	127	THR
4	QD	131	ARG
4	QD	135	LEU
4	QD	154	ASN
4	QD	175	SER
4	QD	190	ASP
4	QD	192	GLU
4	QD	196	LEU
5	QE	12	LEU
5	QE	13	ILE
5	QE	31	LEU
5	QE	34	VAL
5	QE	41	VAL
5	QE	51	VAL
5	QE	68	GLU
5	QE	79	GLU
5	QE	81	GLU
5	QE	90	VAL
5	QE	98	THR
5	QE	101	ILE
5	QE	115	VAL
5	QE	153	LYS
6	QF	16	GLN
6	QF	21	LEU
6	QF	37	VAL
6	QF	43	LEU
6	QF	45	LEU
6	QF	70	ASP
6	QF	72	VAL
6	QF	75	LEU
6	QF	81	ILE
6	QF	91	VAL
6	QF	98	LEU
7	QG	8	GLU
7	QG	38	LEU
7	QG	54	THR
7	QG	80	VAL
7	QG	92	SER
7	QG	94	ARG
7	QG	104	LEU
7	QG	113	GLU
7	QG	135	VAL

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Mol	Chain	Res	Type
7	QG	136	LYS
7	QG	137	LYS
8	QH	1	MET
8	QH	24	THR
8	QH	25	ASP
8	QH	26	VAL
8	QH	39	LEU
8	QH	41	ARG
8	QH	45	ILE
8	QH	54	ASP
8	QH	99	GLU
8	QH	109	ILE
8	QH	112	LEU
8	QH	121	ASP
8	QH	125	ARG
8	QH	129	VAL
9	QI	7	THR
9	QI	9	ARG
9	QI	10	ARG
9	QI	11	LYS
9	QI	23	ASN
9	QI	41	VAL
9	QI	47	LEU
9	QI	56	LEU
9	QI	64	THR
9	QI	65	VAL
9	QI	75	ASP
9	QI	86	VAL
9	QI	95	LYS
9	QI	104	ARG
9	QI	105	ASP
9	QI	114	TYR
9	QI	118	LYS
9	QI	128	ARG
10	QJ	3	LYS
10	QJ	16	LEU
10	QJ	22	LYS
10	QJ	47	PHE
10	QJ	48	THR
10	QJ	54	PHE
10	QJ	57	LYS
10	QJ	58	ASP

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Mol	Chain	Res	Type
10	QJ	62	HIS
10	QJ	74	ILE
10	QJ	80	LYS
10	QJ	84	GLN
10	QJ	92	THR
10	QJ	96	ILE
11	QK	21	ILE
11	QK	26	ASN
11	QK	29	ILE
11	QK	30	VAL
11	QK	32	ILE
11	QK	57	THR
11	QK	63	LEU
11	QK	92	GLU
11	QK	103	LEU
11	QK	109	VAL
11	QK	114	VAL
12	QL	17	LYS
12	QL	18	VAL
12	QL	27	LEU
12	QL	33	ARG
12	QL	38	THR
12	QL	42	THR
12	QL	57	LYS
12	QL	59	ARG
12	QL	60	LEU
12	QL	73	GLU
12	QL	83	VAL
12	QL	85	ILE
12	QL	102	ARG
13	QM	8	GLU
13	QM	13	LYS
13	QM	17	VAL
13	QM	19	LEU
13	QM	45	VAL
13	QM	47	ASP
13	QM	48	LEU
13	QM	56	LEU
13	QM	57	ARG
13	QM	64	TRP
13	QM	66	LEU
13	QM	70	LEU

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Mol	Chain	Res	Type
13	QM	77	ASN
13	QM	78	ILE
13	QM	84	ILE
13	QM	88	ARG
13	QM	90	LEU
13	QM	98	VAL
13	QM	108	ARG
13	QM	111	LYS
13	QM	114	ARG
13	QM	115	LYS
13	QM	117	VAL
13	QM	122	LYS
14	QN	6	LEU
14	QN	12	ARG
14	QN	13	THR
14	QN	18	VAL
14	QN	33	VAL
14	QN	43	CYS
14	QN	44	LEU
14	QN	46	GLU
14	QN	57	ARG
15	QO	3	ILE
15	QO	4	THR
15	QO	26	GLU
15	QO	31	LEU
15	QO	39	LEU
15	QO	64	ARG
15	QO	82	ILE
16	QP	2	VAL
16	QP	20	VAL
16	QP	26	ARG
16	QP	28	ARG
16	QP	33	ILE
16	QP	53	VAL
16	QP	67	THR
16	QP	69	THR
16	QP	71	ARG
16	QP	74	LEU
17	QQ	37	LYS
17	QQ	38	ARG
17	QQ	43	LEU
17	QQ	52	LYS

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Mol	Chain	Res	Type
17	QQ	59	ILE
17	QQ	62	SER
17	QQ	68	ARG
17	QQ	74	LEU
17	QQ	101	ARG
18	QR	26	LEU
18	QR	29	PHE
18	QR	31	LEU
18	QR	32	ARG
18	QR	36	ASN
18	QR	46	GLU
18	QR	54	ARG
18	QR	76	LEU
18	QR	82	THR
18	QR	83	GLU
18	QR	86	VAL
19	QS	5	LEU
19	QS	10	PHE
19	QS	11	VAL
19	QS	12	ASP
19	QS	21	GLU
19	QS	28	LYS
19	QS	29	ARG
19	QS	30	LEU
19	QS	37	ARG
19	QS	43	GLU
19	QS	62	ILE
19	QS	63	THR
19	QS	67	VAL
19	QS	77	THR
19	QS	83	HIS
20	QT	17	ARG
20	QT	24	LEU
20	QT	41	ILE
20	QT	45	GLN
20	QT	72	LEU
20	QT	73	HIS
20	QT	75	ASN
20	QT	84	LEU
20	QT	93	GLU
20	QT	99	LEU
24	RD	3	VAL

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Mol	Chain	Res	Type
24	RD	5	LYS
24	RD	10	THR
24	RD	17	THR
24	RD	25	THR
24	RD	34	VAL
24	RD	40	THR
24	RD	44	ASN
24	RD	46	GLN
24	RD	49	ILE
24	RD	61	LEU
24	RD	64	ILE
24	RD	65	ILE
24	RD	69	ARG
24	RD	71	ASP
24	RD	73	VAL
24	RD	83	GLU
24	RD	87	ASN
24	RD	89	SER
24	RD	95	LEU
24	RD	98	VAL
24	RD	103	ARG
24	RD	105	ILE
24	RD	106	ILE
24	RD	111	LEU
24	RD	134	ARG
24	RD	136	ILE
24	RD	147	LEU
24	RD	150	LYS
24	RD	155	LEU
24	RD	157	ARG
24	RD	169	GLU
24	RD	173	VAL
24	RD	192	THR
24	RD	193	VAL
24	RD	212	SER
24	RD	221	VAL
24	RD	229	VAL
24	RD	237	GLU
24	RD	257	LEU
24	RD	259	THR
24	RD	261	LYS
24	RD	271	ILE

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Mol	Chain	Res	Type
24	RD	273	ARG
25	RE	2	LYS
25	RE	4	ILE
25	RE	7	VAL
25	RE	12	THR
25	RE	13	ARG
25	RE	14	ILE
25	RE	16	ARG
25	RE	26	ILE
25	RE	27	LEU
25	RE	33	VAL
25	RE	34	VAL
25	RE	38	THR
25	RE	41	LYS
25	RE	47	VAL
25	RE	49	LEU
25	RE	52	LEU
25	RE	54	GLN
25	RE	63	LEU
25	RE	75	VAL
25	RE	77	ILE
25	RE	79	ARG
25	RE	80	GLU
25	RE	82	ARG
25	RE	92	THR
25	RE	116	VAL
25	RE	117	MET
25	RE	119	ARG
25	RE	127	ASP
25	RE	134	ILE
25	RE	144	ARG
25	RE	146	THR
25	RE	154	LYS
25	RE	167	VAL
25	RE	175	VAL
25	RE	179	GLU
25	RE	181	LEU
25	RE	184	VAL
25	RE	185	LYS
25	RE	188	VAL
25	RE	197	ILE
25	RE	200	GLU

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Mol	Chain	Res	Type
25	RE	202	LYS
25	RE	203	LYS
26	RF	9	ILE
26	RF	11	VAL
26	RF	13	SER
26	RF	24	LEU
26	RF	28	ILE
26	RF	32	LEU
26	RF	33	LEU
26	RF	45	ARG
26	RF	52	LYS
26	RF	57	VAL
26	RF	65	TRP
26	RF	68	LYS
26	RF	70	THR
26	RF	74	ARG
26	RF	77	ASP
26	RF	78	ILE
26	RF	84	VAL
26	RF	104	LYS
26	RF	107	LYS
26	RF	108	LYS
26	RF	117	ARG
26	RF	127	GLU
26	RF	149	ASP
26	RF	154	VAL
26	RF	158	THR
26	RF	161	GLU
26	RF	165	ARG
26	RF	174	VAL
26	RF	176	LEU
26	RF	181	LEU
26	RF	183	VAL
26	RF	192	LEU
26	RF	194	MET
26	RF	197	ASP
27	RG	7	LEU
27	RG	10	LYS
27	RG	20	ILE
27	RG	26	GLN
27	RG	34	LEU
27	RG	43	LEU

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Mol	Chain	Res	Type
27	RG	45	GLU
27	RG	53	LEU
27	RG	54	GLU
27	RG	63	ILE
27	RG	67	LYS
27	RG	71	THR
27	RG	88	ILE
27	RG	94	LEU
27	RG	98	ARG
27	RG	118	ARG
27	RG	147	ASP
27	RG	159	VAL
27	RG	167	GLU
27	RG	174	GLU
28	RH	3	ARG
28	RH	4	ILE
28	RH	7	LEU
28	RH	9	ILE
28	RH	26	VAL
28	RH	27	LYS
28	RH	37	VAL
28	RH	42	ARG
28	RH	43	VAL
28	RH	44	VAL
28	RH	45	VAL
28	RH	50	VAL
28	RH	51	ARG
28	RH	59	ARG
28	RH	64	LEU
28	RH	77	LYS
28	RH	81	GLU
28	RH	88	LEU
28	RH	89	ILE
28	RH	105	LEU
28	RH	107	VAL
28	RH	132	ARG
28	RH	139	GLN
28	RH	153	LYS
28	RH	158	HIS
28	RH	169	VAL
29	RI	3	VAL
29	RI	4	ILE

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Mol	Chain	Res	Type
29	RI	6	LEU
29	RI	9	LEU
29	RI	10	GLU
29	RI	15	VAL
29	RI	19	VAL
29	RI	22	LYS
29	RI	33	ARG
29	RI	35	LEU
29	RI	38	LEU
29	RI	40	THR
29	RI	42	SER
29	RI	51	ILE
29	RI	57	ARG
29	RI	58	LEU
29	RI	68	LEU
29	RI	69	LYS
29	RI	70	GLU
29	RI	72	LEU
29	RI	77	LEU
29	RI	79	ILE
29	RI	81	VAL
29	RI	85	GLU
29	RI	86	THR
29	RI	88	ILE
29	RI	92	VAL
29	RI	93	THR
29	RI	97	ILE
29	RI	101	LEU
29	RI	102	SER
29	RI	112	LYS
29	RI	118	LYS
29	RI	127	VAL
29	RI	128	LEU
29	RI	129	THR
29	RI	130	TYR
29	RI	131	LYS
29	RI	133	HIS
29	RI	134	PRO
29	RI	135	GLU
29	RI	138	ILE
29	RI	142	VAL
30	RN	1	MET

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Mol	Chain	Res	Type
30	RN	2	LYS
30	RN	5	VAL
30	RN	7	LYS
30	RN	12	ARG
30	RN	14	VAL
30	RN	30	ILE
30	RN	32	THR
30	RN	33	LEU
30	RN	34	LEU
30	RN	43	THR
30	RN	48	MET
30	RN	60	ILE
30	RN	61	ARG
30	RN	62	VAL
30	RN	87	LEU
30	RN	90	MET
30	RN	96	GLU
30	RN	98	VAL
30	RN	107	LEU
30	RN	109	LYS
30	RN	120	LEU
30	RN	136	GLU
31	RO	9	GLU
31	RO	19	ILE
31	RO	24	VAL
31	RO	63	VAL
31	RO	69	ILE
31	RO	91	LEU
31	RO	98	VAL
31	RO	102	VAL
31	RO	115	VAL
32	RP	6	LEU
32	RP	7	ARG
32	RP	14	LYS
32	RP	15	ARG
32	RP	16	ARG
32	RP	18	ARG
32	RP	19	VAL
32	RP	21	ARG
32	RP	29	LYS
32	RP	30	THR
32	RP	36	LYS

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Mol	Chain	Res	Type
32	RP	41	ARG
32	RP	45	LEU
32	RP	50	ARG
32	RP	56	SER
32	RP	59	LEU
32	RP	61	ARG
32	RP	62	LEU
32	RP	67	MET
32	RP	68	GLN
32	RP	71	VAL
32	RP	75	ILE
32	RP	81	GLN
32	RP	88	LEU
32	RP	91	PHE
32	RP	100	LEU
32	RP	105	LEU
32	RP	112	LEU
32	RP	133	SER
32	RP	135	LEU
32	RP	138	LEU
32	RP	144	GLU
32	RP	146	VAL
33	RQ	17	LEU
33	RQ	26	TYR
33	RQ	27	VAL
33	RQ	35	VAL
33	RQ	45	GLN
33	RQ	54	MET
33	RQ	55	VAL
33	RQ	60	ARG
33	RQ	79	LEU
33	RQ	81	VAL
33	RQ	82	ARG
33	RQ	83	MET
33	RQ	85	LYS
33	RQ	91	GLU
33	RQ	96	VAL
33	RQ	103	MET
33	RQ	109	VAL
33	RQ	112	GLU
33	RQ	127	ILE
33	RQ	135	ASP

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Mol	Chain	Res	Type
33	RQ	139	GLU
34	RR	1	MET
34	RR	6	SER
34	RR	9	LYS
34	RR	18	LEU
34	RR	28	LEU
34	RR	29	LEU
34	RR	35	THR
34	RR	44	LEU
34	RR	45	ARG
34	RR	67	LEU
34	RR	71	GLN
34	RR	73	VAL
34	RR	75	LEU
34	RR	79	LEU
34	RR	91	GLN
34	RR	95	THR
34	RR	100	LEU
34	RR	104	ARG
34	RR	117	VAL
34	RR	118	GLU
35	RS	4	LEU
35	RS	12	PHE
35	RS	17	ARG
35	RS	18	ILE
35	RS	20	ARG
35	RS	24	LEU
35	RS	27	SER
35	RS	39	ILE
35	RS	44	LYS
35	RS	50	SER
35	RS	54	LEU
35	RS	56	LEU
35	RS	57	LYS
35	RS	58	LEU
35	RS	59	LYS
35	RS	69	VAL
35	RS	98	VAL
35	RS	101	LEU
35	RS	103	GLU
35	RS	106	ARG
36	RT	7	ILE

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Mol	Chain	Res	Type
36	RT	18	ASP
36	RT	27	THR
36	RT	30	VAL
36	RT	41	ARG
36	RT	42	ILE
36	RT	50	ILE
36	RT	51	ARG
36	RT	62	THR
36	RT	63	VAL
36	RT	65	LYS
36	RT	74	ARG
36	RT	78	LEU
36	RT	88	ILE
36	RT	89	VAL
36	RT	99	LEU
36	RT	112	ARG
36	RT	125	ARG
36	RT	128	GLU
37	RU	55	ARG
37	RU	59	ARG
37	RU	60	LEU
37	RU	64	ARG
37	RU	65	ILE
37	RU	74	LEU
37	RU	90	VAL
37	RU	92	ARG
37	RU	98	LEU
37	RU	100	VAL
37	RU	108	GLU
37	RU	111	GLU
37	RU	114	LYS
37	RU	117	GLN
38	RV	19	LYS
38	RV	21	ARG
38	RV	22	VAL
38	RV	24	LYS
38	RV	35	LEU
38	RV	37	VAL
38	RV	38	LEU
38	RV	45	THR
38	RV	46	VAL
38	RV	47	VAL

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Mol	Chain	Res	Type
38	RV	49	THR
38	RV	57	VAL
38	RV	61	VAL
38	RV	62	LEU
38	RV	72	VAL
38	RV	74	LYS
38	RV	78	LYS
38	RV	79	VAL
38	RV	99	ILE
39	RW	11	ARG
39	RW	16	LYS
39	RW	19	LEU
39	RW	20	VAL
39	RW	21	VAL
39	RW	23	LEU
39	RW	27	LYS
39	RW	30	GLU
39	RW	51	LEU
39	RW	60	ASN
39	RW	63	ASP
39	RW	67	ASP
39	RW	76	VAL
39	RW	82	LEU
39	RW	92	ARG
39	RW	95	ILE
39	RW	100	THR
39	RW	106	ILE
39	RW	107	LEU
40	RX	12	VAL
40	RX	15	GLU
40	RX	23	GLU
40	RX	27	THR
40	RX	30	VAL
40	RX	35	THR
40	RX	49	VAL
40	RX	52	VAL
40	RX	54	VAL
40	RX	65	ARG
40	RX	73	ARG
40	RX	80	ILE
40	RX	81	VAL
41	RY	3	VAL

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Mol	Chain	Res	Type
41	RY	13	VAL
41	RY	14	LEU
41	RY	26	LYS
41	RY	27	VAL
41	RY	30	VAL
41	RY	34	LYS
41	RY	37	VAL
41	RY	38	ILE
41	RY	39	VAL
41	RY	43	ASN
41	RY	45	VAL
41	RY	51	VAL
41	RY	55	TYR
41	RY	57	GLN
41	RY	61	ILE
41	RY	64	GLU
41	RY	67	LEU
41	RY	70	SER
41	RY	71	LYS
41	RY	75	ILE
41	RY	76	CYS
41	RY	87	LYS
41	RY	88	LYS
41	RY	90	LEU
41	RY	95	LYS
41	RY	96	ILE
41	RY	97	ARG
41	RY	102	CYS
42	RZ	5	LEU
42	RZ	20	ARG
42	RZ	24	LEU
42	RZ	29	TYR
42	RZ	35	ARG
42	RZ	41	LEU
42	RZ	53	ILE
42	RZ	56	VAL
42	RZ	58	VAL
42	RZ	70	LEU
42	RZ	71	VAL
42	RZ	94	GLU
42	RZ	98	MET
42	RZ	112	ARG

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Mol	Chain	Res	Type
42	RZ	117	LEU
42	RZ	119	GLU
42	RZ	121	HIS
42	RZ	145	GLU
42	RZ	146	ILE
42	RZ	150	LEU
42	RZ	151	HIS
42	RZ	155	LEU
42	RZ	163	LEU
42	RZ	166	SER
42	RZ	168	GLU
42	RZ	169	GLU
42	RZ	171	ILE
42	RZ	180	VAL
42	RZ	181	GLU
42	RZ	182	LYS
42	RZ	183	LEU
43	R0	5	LYS
43	R0	7	LEU
43	R0	10	THR
43	R0	14	ARG
43	R0	17	GLN
43	R0	23	VAL
43	R0	31	VAL
43	R0	36	ILE
43	R0	66	VAL
43	R0	74	ARG
43	R0	81	VAL
44	R1	7	ILE
44	R1	21	ARG
44	R1	41	ARG
44	R1	51	VAL
44	R1	62	VAL
44	R1	80	LEU
44	R1	90	ILE
44	R1	91	LYS
45	R2	5	GLU
45	R2	17	SER
45	R2	22	GLU
45	R2	23	LYS
45	R2	24	LEU
45	R2	27	GLU

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Mol	Chain	Res	Type
45	R2	32	LEU
45	R2	41	ILE
45	R2	47	ASN
45	R2	50	ILE
45	R2	53	LEU
45	R2	62	THR
45	R2	63	VAL
45	R2	65	ASN
45	R2	71	ASN
46	R3	6	VAL
46	R3	8	LEU
46	R3	18	ASP
46	R3	32	GLN
46	R3	40	THR
46	R3	48	GLU
46	R3	56	VAL
46	R3	59	VAL
47	R4	13	ARG
47	R4	15	ILE
47	R4	23	GLU
47	R4	33	VAL
47	R4	34	GLU
47	R4	35	VAL
47	R4	37	SER
47	R4	42	PHE
47	R4	49	PHE
47	R4	50	VAL
47	R4	52	THR
47	R4	57	GLU
47	R4	60	GLN
47	R4	61	ARG
47	R4	62	ARG
47	R4	63	TYR
47	R4	66	SER
47	R4	67	TYR
47	R4	68	ARG
48	R5	3	LYS
48	R5	4	HIS
48	R5	6	VAL
48	R5	9	LYS
48	R5	11	THR
48	R5	21	SER

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Mol	Chain	Res	Type
48	R5	25	LEU
48	R5	29	THR
48	R5	36	CYS
48	R5	40	LYS
48	R5	49	CYS
48	R5	51	TYR
48	R5	52	TYR
48	R5	56	LYS
48	R5	58	LEU
48	R5	60	VAL
49	R6	6	ARG
49	R6	8	LYS
49	R6	9	LEU
49	R6	10	LEU
49	R6	11	LEU
49	R6	17	LYS
49	R6	19	ARG
49	R6	23	THR
49	R6	27	LYS
49	R6	30	THR
49	R6	34	LEU
49	R6	35	GLU
49	R6	37	ARG
49	R6	44	ARG
49	R6	47	THR
49	R6	53	LYS
50	R7	1	MET
50	R7	2	LYS
50	R7	4	THR
50	R7	9	ARG
50	R7	14	LYS
50	R7	43	THR
50	R7	46	VAL
51	R8	14	VAL
51	R8	29	LYS
51	R8	34	TRP
51	R8	39	LYS
51	R8	44	LYS
51	R8	47	LYS
51	R8	49	VAL
51	R8	52	LYS
51	R8	59	LYS

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Mol	Chain	Res	Type
51	R8	62	LEU
51	R8	65	GLU
52	R9	1	MET
52	R9	17	ILE
52	R9	29	ASN
52	R9	33	LYS
2	XB	5	ILE
2	XB	7	VAL
2	XB	8	LYS
2	XB	15	VAL
2	XB	23	ARG
2	XB	36	ARG
2	XB	67	THR
2	XB	68	ILE
2	XB	71	VAL
2	XB	75	LYS
2	XB	92	TYR
2	XB	136	VAL
2	XB	145	LEU
2	XB	155	LEU
2	XB	172	ILE
2	XB	175	ARG
2	XB	178	ARG
2	XB	187	LEU
2	XB	195	ASP
2	XB	196	LEU
2	XB	200	ILE
2	XB	215	LEU
2	XB	223	ILE
2	XB	235	SER
3	XC	3	ASN
3	XC	5	ILE
3	XC	12	LEU
3	XC	14	ILE
3	XC	15	THR
3	XC	21	ARG
3	XC	27	LYS
3	XC	47	LEU
3	XC	56	ASP
3	XC	76	VAL
3	XC	95	THR
3	XC	178	LEU

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Mol	Chain	Res	Type
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
4	XD	50	ARG
4	XD	53	ASP
4	XD	58	LEU
4	XD	76	ARG
4	XD	84	LYS
4	XD	86	LYS
4	XD	88	VAL
4	XD	92	VAL
4	XD	96	LEU
4	XD	108	LEU
4	XD	122	ARG
4	XD	127	THR
4	XD	131	ARG
4	XD	137	SER
4	XD	150	GLU
4	XD	154	ASN
4	XD	175	SER
4	XD	190	ASP
4	XD	208	SER
5	XE	6	PHE
5	XE	7	GLU
5	XE	8	GLU
5	XE	10	MET
5	XE	11	ILE
5	XE	13	ILE
5	XE	18	ARG
5	XE	31	LEU
5	XE	41	VAL
5	XE	73	ASN
5	XE	76	ILE
5	XE	79	GLU
5	XE	89	ILE
5	XE	101	ILE
5	XE	147	ASP

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Mol	Chain	Res	Type
5	XE	153	LYS
6	XF	10	LEU
6	XF	21	LEU
6	XF	23	LYS
6	XF	36	ARG
6	XF	37	VAL
6	XF	45	LEU
6	XF	71	ARG
6	XF	72	VAL
6	XF	74	ASP
6	XF	91	VAL
6	XF	92	LYS
6	XF	98	LEU
7	XG	5	ARG
7	XG	8	GLU
7	XG	13	GLN
7	XG	27	ILE
7	XG	35	LYS
7	XG	54	THR
7	XG	63	LYS
7	XG	78	ARG
7	XG	80	VAL
7	XG	104	LEU
7	XG	113	GLU
7	XG	114	ARG
7	XG	136	LYS
7	XG	137	LYS
8	XH	1	MET
8	XH	12	ARG
8	XH	19	VAL
8	XH	24	THR
8	XH	26	VAL
8	XH	41	ARG
8	XH	54	ASP
8	XH	63	LEU
8	XH	80	ILE
8	XH	109	ILE
8	XH	112	LEU
8	XH	121	ASP
8	XH	137	VAL
9	XI	9	ARG
9	XI	41	VAL

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Mol	Chain	Res	Type
9	XI	44	VAL
9	XI	56	LEU
9	XI	63	ILE
9	XI	65	VAL
9	XI	70	LYS
9	XI	79	LEU
9	XI	95	LYS
9	XI	96	LEU
9	XI	99	LEU
9	XI	102	LEU
9	XI	104	ARG
9	XI	105	ASP
9	XI	108	VAL
9	XI	111	ARG
9	XI	112	LYS
9	XI	114	TYR
9	XI	118	LYS
9	XI	124	GLN
9	XI	128	ARG
10	XJ	3	LYS
10	XJ	17	ASP
10	XJ	45	ARG
10	XJ	47	PHE
10	XJ	49	VAL
10	XJ	57	LYS
10	XJ	62	HIS
10	XJ	70	ARG
10	XJ	72	VAL
10	XJ	74	ILE
10	XJ	80	LYS
10	XJ	84	GLN
10	XJ	90	LEU
10	XJ	96	ILE
10	XJ	98	ILE
11	XK	26	ASN
11	XK	29	ILE
11	XK	31	THR
11	XK	32	ILE
11	XK	36	ASP
11	XK	57	THR
11	XK	96	ARG
11	XK	109	VAL

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Mol	Chain	Res	Type
11	XK	114	VAL
12	XL	17	LYS
12	XL	18	VAL
12	XL	20	LYS
12	XL	23	LYS
12	XL	27	LEU
12	XL	33	ARG
12	XL	59	ARG
12	XL	62	SER
12	XL	81	SER
12	XL	83	VAL
12	XL	89	ARG
12	XL	91	LYS
12	XL	102	ARG
12	XL	126	LYS
13	XM	3	ARG
13	XM	13	LYS
13	XM	17	VAL
13	XM	19	LEU
13	XM	32	GLU
13	XM	45	VAL
13	XM	48	LEU
13	XM	56	LEU
13	XM	64	TRP
13	XM	66	LEU
13	XM	70	LEU
13	XM	84	ILE
13	XM	88	ARG
13	XM	98	VAL
13	XM	114	ARG
13	XM	115	LYS
13	XM	117	VAL
13	XM	122	LYS
14	XN	6	LEU
14	XN	12	ARG
14	XN	32	SER
14	XN	33	VAL
14	XN	40	CYS
14	XN	41	ARG
14	XN	44	LEU
15	XO	3	ILE
15	XO	6	GLU

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Mol	Chain	Res	Type
15	XO	8	LYS
15	XO	24	SER
15	XO	26	GLU
15	XO	39	LEU
15	XO	47	LYS
15	XO	65	ARG
15	XO	66	LEU
15	XO	82	ILE
15	XO	87	ILE
16	XP	2	VAL
16	XP	11	SER
16	XP	20	VAL
16	XP	28	ARG
16	XP	67	THR
16	XP	69	THR
16	XP	82	GLN
17	XQ	9	VAL
17	XQ	52	LYS
17	XQ	59	ILE
17	XQ	62	SER
17	XQ	68	ARG
17	XQ	74	LEU
17	XQ	101	ARG
18	XR	26	LEU
18	XR	29	PHE
18	XR	32	ARG
18	XR	36	ASN
18	XR	41	LYS
18	XR	46	GLU
18	XR	54	ARG
18	XR	76	LEU
18	XR	82	THR
18	XR	83	GLU
18	XR	86	VAL
19	XS	5	LEU
19	XS	10	PHE
19	XS	11	VAL
19	XS	12	ASP
19	XS	13	ASP
19	XS	21	GLU
19	XS	22	LEU
19	XS	29	ARG

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Mol	Chain	Res	Type
19	XS	30	LEU
19	XS	31	ILE
19	XS	37	ARG
19	XS	44	MET
19	XS	58	VAL
19	XS	63	THR
19	XS	78	ARG
19	XS	81	ARG
19	XS	83	HIS
20	XT	10	LEU
20	XT	13	LEU
20	XT	24	LEU
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
24	YD	3	VAL
24	YD	5	LYS
24	YD	17	THR
24	YD	24	ILE
24	YD	27	THR
24	YD	28	GLU
24	YD	30	GLU
24	YD	34	VAL
24	YD	38	LYS
24	YD	43	ARG
24	YD	44	ASN
24	YD	49	ILE
24	YD	61	LEU
24	YD	65	ILE
24	YD	73	VAL
24	YD	88	ARG
24	YD	94	LEU
24	YD	95	LEU
24	YD	103	ARG
24	YD	105	ILE
24	YD	106	ILE
24	YD	111	LEU
24	YD	112	GLN

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Mol	Chain	Res	Type
24	YD	115	GLN
24	YD	116	GLN
24	YD	141	VAL
24	YD	192	THR
24	YD	193	VAL
24	YD	202	LYS
24	YD	217	ARG
24	YD	218	ARG
24	YD	221	VAL
24	YD	229	VAL
24	YD	237	GLU
24	YD	242	ARG
24	YD	257	LEU
24	YD	259	THR
24	YD	273	ARG
25	YE	4	ILE
25	YE	12	THR
25	YE	13	ARG
25	YE	14	ILE
25	YE	16	ARG
25	YE	17	ASP
25	YE	26	ILE
25	YE	27	LEU
25	YE	33	VAL
25	YE	34	VAL
25	YE	41	LYS
25	YE	42	ASP
25	YE	49	LEU
25	YE	77	ILE
25	YE	79	ARG
25	YE	92	THR
25	YE	111	ARG
25	YE	116	VAL
25	YE	117	MET
25	YE	119	ARG
25	YE	127	ASP
25	YE	144	ARG
25	YE	146	THR
25	YE	154	LYS
25	YE	172	VAL
25	YE	175	VAL
25	YE	196	VAL

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Mol	Chain	Res	Type
25	YE	197	ILE
25	YE	200	GLU
25	YE	202	LYS
25	YE	203	LYS
26	YF	9	ILE
26	YF	32	LEU
26	YF	33	LEU
26	YF	38	ARG
26	YF	45	ARG
26	YF	64	ILE
26	YF	65	TRP
26	YF	70	THR
26	YF	78	ILE
26	YF	84	VAL
26	YF	105	VAL
26	YF	106	ARG
26	YF	107	LYS
26	YF	117	ARG
26	YF	127	GLU
26	YF	161	GLU
26	YF	164	ARG
26	YF	165	ARG
26	YF	170	LEU
26	YF	174	VAL
26	YF	176	LEU
26	YF	181	LEU
26	YF	183	VAL
26	YF	186	ILE
26	YF	196	LEU
26	YF	197	ASP
26	YF	206	ILE
27	YG	3	LEU
27	YG	7	LEU
27	YG	19	LEU
27	YG	22	ARG
27	YG	31	VAL
27	YG	34	LEU
27	YG	37	VAL
27	YG	43	LEU
27	YG	45	GLU
27	YG	58	GLN
27	YG	63	ILE

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Mol	Chain	Res	Type
27	YG	64	THR
27	YG	66	GLN
27	YG	67	LYS
27	YG	80	PHE
27	YG	82	LEU
27	YG	84	LYS
27	YG	88	ILE
27	YG	90	LEU
27	YG	94	LEU
27	YG	118	ARG
27	YG	145	THR
27	YG	159	VAL
27	YG	167	GLU
28	YH	3	ARG
28	YH	4	ILE
28	YH	6	ARG
28	YH	9	ILE
28	YH	27	LYS
28	YH	32	GLU
28	YH	37	VAL
28	YH	40	GLU
28	YH	41	MET
28	YH	43	VAL
28	YH	47	GLU
28	YH	53	GLU
28	YH	59	ARG
28	YH	76	VAL
28	YH	77	LYS
28	YH	88	LEU
28	YH	89	ILE
28	YH	103	LEU
28	YH	105	LEU
28	YH	122	THR
28	YH	129	THR
28	YH	132	ARG
28	YH	136	ILE
28	YH	140	LYS
28	YH	143	GLN
28	YH	149	ARG
28	YH	151	ILE
28	YH	153	LYS
28	YH	155	SER

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Mol	Chain	Res	Type
28	YH	169	VAL
29	YI	1	MET
29	YI	3	VAL
29	YI	9	LEU
29	YI	10	GLU
29	YI	12	LEU
29	YI	19	VAL
29	YI	25	TYR
29	YI	31	LEU
29	YI	35	LEU
29	YI	38	LEU
29	YI	40	THR
29	YI	41	GLU
29	YI	42	SER
29	YI	45	LYS
29	YI	56	LYS
29	YI	57	ARG
29	YI	67	ARG
29	YI	68	LEU
29	YI	70	GLU
29	YI	72	LEU
29	YI	75	LEU
29	YI	77	LEU
29	YI	81	VAL
29	YI	82	ARG
29	YI	85	GLU
29	YI	92	VAL
29	YI	96	ASP
29	YI	99	GLU
29	YI	102	SER
29	YI	118	LYS
29	YI	123	LEU
29	YI	128	LEU
29	YI	131	LYS
29	YI	135	GLU
29	YI	136	VAL
29	YI	138	ILE
29	YI	139	GLN
29	YI	142	VAL
29	YI	144	VAL
30	YN	2	LYS
30	YN	5	VAL

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Mol	Chain	Res	Type
30	YN	7	LYS
30	YN	8	GLN
30	YN	15	LEU
30	YN	32	THR
30	YN	34	LEU
30	YN	43	THR
30	YN	60	ILE
30	YN	61	ARG
30	YN	62	VAL
30	YN	65	LYS
30	YN	67	LEU
30	YN	73	THR
30	YN	90	MET
30	YN	96	GLU
30	YN	98	VAL
30	YN	99	LEU
30	YN	109	LYS
30	YN	112	LEU
30	YN	116	LEU
30	YN	120	LEU
30	YN	136	GLU
31	YO	2	ILE
31	YO	9	GLU
31	YO	19	ILE
31	YO	20	MET
31	YO	23	ARG
31	YO	24	VAL
31	YO	47	ILE
31	YO	49	ARG
31	YO	53	LYS
31	YO	66	LYS
31	YO	68	GLU
31	YO	85	VAL
31	YO	91	LEU
31	YO	98	VAL
31	YO	106	LEU
32	YP	6	LEU
32	YP	7	ARG
32	YP	9	ASN
32	YP	14	LYS
32	YP	16	ARG
32	YP	19	VAL

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Mol	Chain	Res	Type
32	YP	21	ARG
32	YP	27	HIS
32	YP	29	LYS
32	YP	32	THR
32	YP	36	LYS
32	YP	45	LEU
32	YP	46	LYS
32	YP	50	ARG
32	YP	61	ARG
32	YP	64	LYS
32	YP	65	ARG
32	YP	71	VAL
32	YP	75	ILE
32	YP	88	LEU
32	YP	91	PHE
32	YP	94	GLU
32	YP	98	GLU
32	YP	100	LEU
32	YP	101	VAL
32	YP	112	LEU
32	YP	115	LEU
32	YP	117	GLU
32	YP	123	LEU
32	YP	135	LEU
32	YP	139	LYS
32	YP	144	GLU
32	YP	146	VAL
32	YP	147	LEU
32	YP	149	GLU
33	YQ	5	ARG
33	YQ	10	ARG
33	YQ	25	ASP
33	YQ	42	ILE
33	YQ	45	GLN
33	YQ	55	VAL
33	YQ	59	ARG
33	YQ	75	THR
33	YQ	79	LEU
33	YQ	81	VAL
33	YQ	82	ARG
33	YQ	87	LYS
33	YQ	103	MET

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Mol	Chain	Res	Type
33	YQ	109	VAL
33	YQ	112	GLU
33	YQ	132	VAL
33	YQ	139	GLU
34	YR	18	LEU
34	YR	28	LEU
34	YR	29	LEU
34	YR	34	ILE
34	YR	36	THR
34	YR	40	LYS
34	YR	44	LEU
34	YR	51	LEU
34	YR	54	LEU
34	YR	57	ARG
34	YR	65	LEU
34	YR	67	LEU
34	YR	75	LEU
34	YR	79	LEU
34	YR	83	ILE
34	YR	95	THR
34	YR	99	LYS
34	YR	100	LEU
34	YR	102	GLU
34	YR	104	ARG
34	YR	105	ARG
35	YS	10	ARG
35	YS	11	LYS
35	YS	12	PHE
35	YS	14	VAL
35	YS	15	ARG
35	YS	17	ARG
35	YS	20	ARG
35	YS	25	ARG
35	YS	27	SER
35	YS	44	LYS
35	YS	54	LEU
35	YS	56	LEU
35	YS	58	LEU
35	YS	59	LYS
35	YS	69	VAL
35	YS	73	LEU
35	YS	78	LEU

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Mol	Chain	Res	Type
35	YS	83	LYS
35	YS	85	VAL
35	YS	103	GLU
35	YS	106	ARG
35	YS	111	GLU
36	YT	15	VAL
36	YT	17	THR
36	YT	23	ARG
36	YT	27	THR
36	YT	28	VAL
36	YT	40	THR
36	YT	41	ARG
36	YT	42	ILE
36	YT	50	ILE
36	YT	58	ASN
36	YT	65	LYS
36	YT	66	VAL
36	YT	74	ARG
36	YT	78	LEU
36	YT	85	LYS
36	YT	86	ILE
36	YT	87	ASP
36	YT	88	ILE
36	YT	89	VAL
36	YT	99	LEU
36	YT	110	ILE
36	YT	112	ARG
36	YT	115	ARG
36	YT	121	ILE
36	YT	125	ARG
36	YT	128	GLU
36	YT	134	GLU
37	YU	5	LYS
37	YU	11	ARG
37	YU	27	LEU
37	YU	51	LYS
37	YU	52	ARG
37	YU	60	LEU
37	YU	64	ARG
37	YU	74	LEU
37	YU	88	ILE
37	YU	91	ASP

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Mol	Chain	Res	Type
37	YU	98	LEU
37	YU	104	GLN
37	YU	108	GLU
37	YU	111	GLU
38	YV	6	LYS
38	YV	7	THR
38	YV	10	LYS
38	YV	19	LYS
38	YV	32	THR
38	YV	35	LEU
38	YV	39	LEU
38	YV	45	THR
38	YV	47	VAL
38	YV	57	VAL
38	YV	61	VAL
38	YV	66	ARG
38	YV	72	VAL
38	YV	78	LYS
38	YV	79	VAL
38	YV	99	ILE
39	YW	11	ARG
39	YW	16	LYS
39	YW	19	LEU
39	YW	23	LEU
39	YW	37	ARG
39	YW	51	LEU
39	YW	67	ASP
39	YW	69	LEU
39	YW	76	VAL
39	YW	88	ARG
39	YW	92	ARG
39	YW	95	ILE
39	YW	96	ILE
39	YW	100	THR
39	YW	106	ILE
39	YW	107	LEU
40	YX	12	VAL
40	YX	15	GLU
40	YX	27	THR
40	YX	36	LYS
40	YX	43	VAL
40	YX	49	VAL

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Mol	Chain	Res	Type
40	YX	52	VAL
40	YX	57	LEU
40	YX	59	VAL
40	YX	63	LYS
40	YX	65	ARG
40	YX	66	LEU
40	YX	80	ILE
40	YX	83	VAL
40	YX	88	LYS
41	YY	14	LEU
41	YY	26	LYS
41	YY	27	VAL
41	YY	28	LYS
41	YY	29	GLU
41	YY	34	LYS
41	YY	38	ILE
41	YY	44	ILE
41	YY	45	VAL
41	YY	51	VAL
41	YY	52	SER
41	YY	57	GLN
41	YY	61	ILE
41	YY	64	GLU
41	YY	67	LEU
41	YY	71	LYS
41	YY	73	ARG
41	YY	75	ILE
41	YY	84	ARG
41	YY	87	LYS
41	YY	90	LEU
41	YY	95	LYS
41	YY	97	ARG
42	YZ	5	LEU
42	YZ	6	LYS
42	YZ	8	TYR
42	YZ	19	ARG
42	YZ	20	ARG
42	YZ	24	LEU
42	YZ	35	ARG
42	YZ	37	VAL
42	YZ	41	LEU
42	YZ	42	VAL

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Mol	Chain	Res	Type
42	YZ	47	VAL
42	YZ	52	SER
42	YZ	53	ILE
42	YZ	56	VAL
42	YZ	58	VAL
42	YZ	59	LEU
42	YZ	60	GLU
42	YZ	71	VAL
42	YZ	72	ARG
42	YZ	74	VAL
42	YZ	76	LEU
42	YZ	78	LYS
42	YZ	81	ARG
42	YZ	86	VAL
42	YZ	91	LEU
42	YZ	94	GLU
42	YZ	105	VAL
42	YZ	119	GLU
42	YZ	121	HIS
42	YZ	124	ILE
42	YZ	128	VAL
42	YZ	131	ARG
42	YZ	133	ILE
42	YZ	137	ILE
42	YZ	139	VAL
42	YZ	140	ASP
42	YZ	141	VAL
42	YZ	144	LEU
42	YZ	145	GLU
42	YZ	146	ILE
42	YZ	150	LEU
42	YZ	151	HIS
42	YZ	153	SER
42	YZ	156	LYS
42	YZ	163	LEU
42	YZ	166	SER
42	YZ	168	GLU
42	YZ	169	GLU
42	YZ	174	VAL
42	YZ	178	GLU
42	YZ	182	LYS
43	Y0	9	SER

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Mol	Chain	Res	Type
43	Y0	10	THR
43	Y0	12	ASN
43	Y0	19	LYS
43	Y0	29	GLN
43	Y0	30	VAL
43	Y0	35	ASN
43	Y0	36	ILE
43	Y0	38	VAL
43	Y0	41	ARG
43	Y0	55	ARG
43	Y0	66	VAL
43	Y0	74	ARG
43	Y0	77	ARG
43	Y0	82	ARG
44	Y1	21	ARG
44	Y1	30	VAL
44	Y1	46	LEU
44	Y1	50	ARG
44	Y1	51	VAL
44	Y1	56	GLN
44	Y1	62	VAL
44	Y1	67	ILE
44	Y1	78	LYS
44	Y1	80	LEU
44	Y1	82	LEU
44	Y1	83	GLU
44	Y1	91	LYS
45	Y2	4	SER
45	Y2	9	GLN
45	Y2	16	LEU
45	Y2	23	LYS
45	Y2	24	LEU
45	Y2	27	GLU
45	Y2	28	LYS
45	Y2	32	LEU
45	Y2	34	GLU
45	Y2	41	ILE
45	Y2	47	ASN
45	Y2	50	ILE
45	Y2	52	ASP
45	Y2	53	LEU
45	Y2	64	LEU

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Mol	Chain	Res	Type
45	Y2	65	ASN
46	Y3	6	VAL
46	Y3	8	LEU
46	Y3	23	LEU
46	Y3	31	LEU
46	Y3	36	VAL
46	Y3	37	LEU
46	Y3	56	VAL
47	Y4	6	HIS
47	Y4	10	VAL
47	Y4	15	ILE
47	Y4	16	CYS
47	Y4	21	VAL
47	Y4	22	ILE
47	Y4	27	THR
47	Y4	34	GLU
47	Y4	35	VAL
47	Y4	39	CYS
47	Y4	42	PHE
47	Y4	43	TYR
47	Y4	48	ARG
47	Y4	49	PHE
47	Y4	50	VAL
47	Y4	53	GLU
47	Y4	57	GLU
47	Y4	61	ARG
47	Y4	63	TYR
47	Y4	68	ARG
47	Y4	71	ARG
48	Y5	3	LYS
48	Y5	4	HIS
48	Y5	6	VAL
48	Y5	11	THR
48	Y5	29	THR
48	Y5	36	CYS
48	Y5	37	LYS
48	Y5	40	LYS
48	Y5	48	GLU
48	Y5	49	CYS
48	Y5	51	TYR
48	Y5	52	TYR
48	Y5	56	LYS

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Mol	Chain	Res	Type
48	Y5	58	LEU
49	Y6	6	ARG
49	Y6	8	LYS
49	Y6	10	LEU
49	Y6	11	LEU
49	Y6	18	ARG
49	Y6	19	ARG
49	Y6	23	THR
49	Y6	27	LYS
49	Y6	30	THR
49	Y6	33	LYS
49	Y6	34	LEU
49	Y6	37	ARG
49	Y6	44	ARG
49	Y6	53	LYS
50	Y7	1	MET
50	Y7	4	THR
50	Y7	8	ASN
50	Y7	9	ARG
50	Y7	14	LYS
50	Y7	46	VAL
50	Y7	47	ARG
51	Y8	4	MET
51	Y8	13	ARG
51	Y8	14	VAL
51	Y8	16	ILE
51	Y8	29	LYS
51	Y8	30	ARG
51	Y8	34	TRP
51	Y8	39	LYS
51	Y8	43	GLN
51	Y8	44	LYS
51	Y8	47	LYS
51	Y8	52	LYS
51	Y8	56	GLU
51	Y8	58	ILE
51	Y8	59	LYS
51	Y8	64	TYR
51	Y8	65	GLU
52	Y9	1	MET
52	Y9	17	ILE
52	Y9	26	ILE

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

Mol	Chain	Res	Type
2	QB	19	HIS
2	QB	94	ASN
2	QB	204	ASN
2	QB	212	GLN
3	QC	139	GLN
7	QG	11	GLN
7	QG	64	GLN
7	QG	97	GLN
7	QG	153	HIS
10	QJ	13	HIS
10	QJ	78	ASN
13	QM	92	HIS
19	QS	47	HIS
19	QS	57	HIS
19	QS	83	HIS
20	QT	90	GLN
25	RE	55	ASN
25	RE	143	ASN
27	RG	40	ASN
27	RG	79	ASN
27	RG	123	ASN
28	RH	139	GLN
28	RH	143	GLN
28	RH	147	ASN
29	RI	104	GLN
30	RN	69	GLN
30	RN	130	HIS
31	RO	89	ASN
32	RP	81	GLN
33	RQ	45	GLN
35	RS	68	GLN
36	RT	79	HIS
36	RT	84	GLN
37	RU	72	HIS
37	RU	75	ASN
37	RU	94	ASN
41	RY	57	GLN
43	R0	12	ASN
43	R0	17	GLN
45	R2	43	GLN
45	R2	56	GLN

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Mol	Chain	Res	Type
51	R8	33	ASN
51	R8	43	GLN
52	R9	29	ASN
52	R9	32	HIS
2	XB	204	ASN
2	XB	212	GLN
3	XC	102	ASN
4	XD	119	GLN
4	XD	123	HIS
5	XE	65	ASN
5	XE	141	GLN
6	XF	27	GLN
7	XG	86	GLN
7	XG	106	GLN
7	XG	148	ASN
10	XJ	76	ASN
10	XJ	78	ASN
16	XP	13	HIS
24	YD	96	HIS
24	YD	164	GLN
28	YH	143	GLN
30	YN	133	GLN
31	YO	90	GLN
32	YP	84	ASN
33	YQ	57	HIS
34	YR	71	GLN
36	YT	58	ASN
39	YW	40	ASN
41	YY	57	GLN
42	YZ	54	HIS
47	Y4	60	GLN
52	Y9	29	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1498/1522 (98%)	341 (22%)	49 (3%)
1	XA	1498/1522 (98%)	353 (23%)	40 (2%)
22	RA	2879/2916 (98%)	749 (26%)	65 (2%)
22	YA	2880/2916 (98%)	735 (25%)	57 (1%)
23	RB	119/122 (97%)	29 (24%)	2 (1%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
23	YB	119/122 (97%)	32 (26%)	1 (0%)
53	QV	76/77 (98%)	22 (28%)	1 (1%)
53	XV	76/77 (98%)	27 (35%)	3 (3%)
54	QX	7/25 (28%)	4 (57%)	1 (14%)
54	XX	7/25 (28%)	3 (42%)	1 (14%)
55	QY	7/17 (41%)	3 (42%)	0
55	XY	7/17 (41%)	2 (28%)	0
56	Z6	1/3 (33%)	0	0
56	Z8	1/3 (33%)	0	0
All	All	9175/9364 (97%)	2300 (25%)	220 (2%)

All (2300) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	7	G
1	QA	9	G
1	QA	22	G
1	QA	32	A
1	QA	39	G
1	QA	43	C
1	QA	44	G
1	QA	47	C
1	QA	48	C
1	QA	50	A
1	QA	51	A
1	QA	64	G
1	QA	65	U
1	QA	66	G
1	QA	73	G
1	QA	79	G
1	QA	89	U
1	QA	91	C
1	QA	101	A
1	QA	105	G
1	QA	108	G
1	QA	116	A
1	QA	120	A
1	QA	121	C
1	QA	122	G
1	QA	129(A)	G
1	QA	130	A
1	QA	135	C

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Mol	Chain	Res	Type
1	QA	144	G
1	QA	146	G
1	QA	163	C
1	QA	173	U
1	QA	174	C
1	QA	182	U
1	QA	189	U
1	QA	190	G
1	QA	191(C)	G
1	QA	195	A
1	QA	197	A
1	QA	201	C
1	QA	208	U
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	250	A
1	QA	251	G
1	QA	260	G
1	QA	266	G
1	QA	267	C
1	QA	270	A
1	QA	271	C
1	QA	280	C
1	QA	281	G
1	QA	289	G
1	QA	298	A
1	QA	309	G
1	QA	314	C
1	QA	318	G
1	QA	321	A
1	QA	328	C
1	QA	329	A
1	QA	332	G
1	QA	344	A
1	QA	346	G
1	QA	347	G
1	QA	351	G
1	QA	352	C

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Mol	Chain	Res	Type
1	QA	353	A
1	QA	354	G
1	QA	367	U
1	QA	369	C
1	QA	372	C
1	QA	373	A
1	QA	384	G
1	QA	388	G
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	419	C
1	QA	422	C
1	QA	423	G
1	QA	429	U
1	QA	430	A
1	QA	440	A
1	QA	442	C
1	QA	453	A
1	QA	466	C
1	QA	467	G
1	QA	468	A
1	QA	478	A
1	QA	485	G
1	QA	486	U
1	QA	496	A
1	QA	497	U
1	QA	500	G
1	QA	505	G
1	QA	509	A
1	QA	510	A
1	QA	511	C
1	QA	518	C
1	QA	521	G
1	QA	527	G
1	QA	531	U
1	QA	532	A

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Mol	Chain	Res	Type
1	QA	533	A
1	QA	536	C
1	QA	545	C
1	QA	547	A
1	QA	558	G
1	QA	559	A
1	QA	561	U
1	QA	562	C
1	QA	563	A
1	QA	565	U
1	QA	566	G
1	QA	572	A
1	QA	573	A
1	QA	576	G
1	QA	577	G
1	QA	579	G
1	QA	604	G
1	QA	614	A
1	QA	618	C
1	QA	630	G
1	QA	631	G
1	QA	633	G
1	QA	652	U
1	QA	653	A
1	QA	665	A
1	QA	687	A
1	QA	688	G
1	QA	698	G
1	QA	701	C
1	QA	702	A
1	QA	703	G
1	QA	704	A
1	QA	723	U
1	QA	728	A
1	QA	729	A
1	QA	731	G
1	QA	748	C
1	QA	749	C
1	QA	753	A
1	QA	754	C
1	QA	755	G
1	QA	760	G

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Mol	Chain	Res	Type
1	QA	763	G
1	QA	778	G
1	QA	784	C
1	QA	792	A
1	QA	793	U
1	QA	794	A
1	QA	817	C
1	QA	819	A
1	QA	821	G
1	QA	828	A
1	QA	841	U
1	QA	842	C
1	QA	843	U
1	QA	848	C
1	QA	859	A
1	QA	870	U
1	QA	871	U
1	QA	872	A
1	QA	873	A
1	QA	884	U
1	QA	889	A
1	QA	891	U
1	QA	902	G
1	QA	914	A
1	QA	927	G
1	QA	934	C
1	QA	935	A
1	QA	940	C
1	QA	960	U
1	QA	961	U
1	QA	968	A
1	QA	969	A
1	QA	971	G
1	QA	972	C
1	QA	974	A
1	QA	976	G
1	QA	977	A
1	QA	978	A
1	QA	981	U
1	QA	991	U
1	QA	992	U
1	QA	993	G

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Mol	Chain	Res	Type
1	QA	994	A
1	QA	995	C
1	QA	1001	G
1	QA	1004	A
1	QA	1006	C
1	QA	1009	G
1	QA	1010	G
1	QA	1020	U
1	QA	1023	G
1	QA	1024	G
1	QA	1025	U
1	QA	1026	G
1	QA	1028	C
1	QA	1029	G
1	QA	1031	G
1	QA	1032(A)	G
1	QA	1036	G
1	QA	1038	C
1	QA	1040	U
1	QA	1042	G
1	QA	1043	C
1	QA	1046	A
1	QA	1054	C
1	QA	1055	A
1	QA	1057	G
1	QA	1066	C
1	QA	1067	A
1	QA	1070	U
1	QA	1079	G
1	QA	1081	G
1	QA	1086	U
1	QA	1094	G
1	QA	1095	U
1	QA	1096	C
1	QA	1101	A
1	QA	1112	C
1	QA	1121	U
1	QA	1124	G
1	QA	1125	U
1	QA	1126	U
1	QA	1127	G
1	QA	1129	C

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Mol	Chain	Res	Type
1	QA	1130	A
1	QA	1131	G
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G
1	QA	1140	C
1	QA	1157	A
1	QA	1158	C
1	QA	1159	U
1	QA	1160	G
1	QA	1161	C
1	QA	1163	C
1	QA	1170	A
1	QA	1171	G
1	QA	1177	G
1	QA	1178	G
1	QA	1181	G
1	QA	1182	G
1	QA	1183	A
1	QA	1185	G
1	QA	1186	G
1	QA	1187	G
1	QA	1191	A
1	QA	1193	G
1	QA	1194	U
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	1214	C
1	QA	1215	G
1	QA	1225	A
1	QA	1227	A
1	QA	1238	A
1	QA	1240	U
1	QA	1241	G
1	QA	1256	A

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Mol	Chain	Res	Type
1	QA	1257	U
1	QA	1258	G
1	QA	1263	C
1	QA	1267	C
1	QA	1268	A
1	QA	1270	C
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	1288	A
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
1	QA	1319	A
1	QA	1320	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	1362(A)	C
1	QA	1368	G
1	QA	1370	G
1	QA	1379	G
1	QA	1394	A
1	QA	1397	C
1	QA	1398	A

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Mol	Chain	Res	Type
1	QA	1411	C
1	QA	1419	G
1	QA	1442	G
1	QA	1446	A
1	QA	1447	G
1	QA	1452	C
1	QA	1453	G
1	QA	1454	G
1	QA	1492	A
1	QA	1499	A
1	QA	1503	A
1	QA	1504	G
1	QA	1505	G
1	QA	1506	U
1	QA	1517	G
1	QA	1519	A
1	QA	1520	G
1	QA	1529	G
1	QA	1530	G
22	RA	10	G
22	RA	15	G
22	RA	28	A
22	RA	34	C
22	RA	35	G
22	RA	43	G
22	RA	46	C
22	RA	51	G
22	RA	55	G
22	RA	61	G
22	RA	64	A
22	RA	71	A
22	RA	72	U
22	RA	74	A
22	RA	75	G
22	RA	81	G
22	RA	82	G
22	RA	83	G
22	RA	95	G
22	RA	96	G
22	RA	101	G
22	RA	102	G
22	RA	103	A

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Mol	Chain	Res	Type
22	RA	118	A
22	RA	120	U
22	RA	125	G
22	RA	127	A
22	RA	135	G
22	RA	138	G
22	RA	140	A
22	RA	161	U
22	RA	177	G
22	RA	181	A
22	RA	188	G
22	RA	196	A
22	RA	199	A
22	RA	201	C
22	RA	205	G
22	RA	206	U
22	RA	214	G
22	RA	215	G
22	RA	216	A
22	RA	221	A
22	RA	222	A
22	RA	223	A
22	RA	225	A
22	RA	228	A
22	RA	229	A
22	RA	230	U
22	RA	232	G
22	RA	233	A
22	RA	242	G
22	RA	243	U
22	RA	248	G
22	RA	249	C
22	RA	250	G
22	RA	252	G
22	RA	264	C
22	RA	265	A
22	RA	266	G
22	RA	269	U
22	RA	270(L)	U
22	RA	270(M)	U
22	RA	270(N)	G
22	RA	270(P)	C

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Mol	Chain	Res	Type
22	RA	270(T)	G
22	RA	271(C)	U
22	RA	271	G
22	RA	272	G
22	RA	273(F)	C
22	RA	275	G
22	RA	276	A
22	RA	277	C
22	RA	278	A
22	RA	286	C
22	RA	299	A
22	RA	311	A
22	RA	312	G
22	RA	317	G
22	RA	323	G
22	RA	324	A
22	RA	327	G
22	RA	329	G
22	RA	330	A
22	RA	331	A
22	RA	332	A
22	RA	333	G
22	RA	342	G
22	RA	343	C
22	RA	345	A
22	RA	346	A
22	RA	347	A
22	RA	352	G
22	RA	357	A
22	RA	364	C
22	RA	371	A
22	RA	372	G
22	RA	373	U
22	RA	394	A
22	RA	405	U
22	RA	407	G
22	RA	411	G
22	RA	412	A
22	RA	428	A
22	RA	434	U
22	RA	442	G
22	RA	444	C

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Mol	Chain	Res	Type
22	RA	447	A
22	RA	448	U
22	RA	454	A
22	RA	455	C
22	RA	456	C
22	RA	457	A
22	RA	458	G
22	RA	470	A
22	RA	481	G
22	RA	496	G
22	RA	504	U
22	RA	505	A
22	RA	509	C
22	RA	513	A
22	RA	521	G
22	RA	527	C
22	RA	529	A
22	RA	530	G
22	RA	532	A
22	RA	533	G
22	RA	537	C
22	RA	539	G
22	RA	540	G
22	RA	541	C
22	RA	544	C
22	RA	546	C
22	RA	549	G
22	RA	550	G
22	RA	554	U
22	RA	556	G
22	RA	563	G
22	RA	571	A
22	RA	573	G
22	RA	574	C
22	RA	575	A
22	RA	588	U
22	RA	603	A
22	RA	607	U
22	RA	609(A)	G
22	RA	613	U
22	RA	614	U
22	RA	615	G

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Mol	Chain	Res	Type
22	RA	617	G
22	RA	621	A
22	RA	622	G
22	RA	627	A
22	RA	628	G
22	RA	631	A
22	RA	634	C
22	RA	637	A
22	RA	638	G
22	RA	645	C
22	RA	646	A
22	RA	647	G
22	RA	651	G
22	RA	652	C
22	RA	654	A
22	RA	654(A)	G
22	RA	654(T)	C
22	RA	657	U
22	RA	659	C
22	RA	668	G
22	RA	669	G
22	RA	686	G
22	RA	701	G
22	RA	702	G
22	RA	704	G
22	RA	714	U
22	RA	717	G
22	RA	722	A
22	RA	726	G
22	RA	730	C
22	RA	747	U
22	RA	753	C
22	RA	758	C
22	RA	764	A
22	RA	771	G
22	RA	775	G
22	RA	776	G
22	RA	782	A
22	RA	784	A
22	RA	785	G
22	RA	788	A
22	RA	790	C

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Mol	Chain	Res	Type
22	RA	792	G
22	RA	793	A
22	RA	800	A
22	RA	801	G
22	RA	805	G
22	RA	809	G
22	RA	812	C
22	RA	819	A
22	RA	827	U
22	RA	828	U
22	RA	831	G
22	RA	846	C
22	RA	847	U
22	RA	856	C
22	RA	857	C
22	RA	859	G
22	RA	860	U
22	RA	882	G
22	RA	884	C
22	RA	885	C
22	RA	886	C
22	RA	888	C
22	RA	889	C
22	RA	893	C
22	RA	896	A
22	RA	897	C
22	RA	898	C
22	RA	899	A
22	RA	900	A
22	RA	901	A
22	RA	902	C
22	RA	904	C
22	RA	907	U
22	RA	910	A
22	RA	917	A
22	RA	918	A
22	RA	932	G
22	RA	933	A
22	RA	938	G
22	RA	941	A
22	RA	944	G
22	RA	945	A

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Mol	Chain	Res	Type
22	RA	946	G
22	RA	958	U
22	RA	961	C
22	RA	962	G
22	RA	972	G
22	RA	973	A
22	RA	974	G
22	RA	974(A)	C
22	RA	975	G
22	RA	980	A
22	RA	983	A
22	RA	990	A
22	RA	996	A
22	RA	1003	G
22	RA	1010	A
22	RA	1011	G
22	RA	1012	U
22	RA	1013	C
22	RA	1015	G
22	RA	1019	U
22	RA	1020	A
22	RA	1022	G
22	RA	1023	U
22	RA	1025	G
22	RA	1026	U
22	RA	1027	A
22	RA	1033	U
22	RA	1034	G
22	RA	1037	G
22	RA	1044	G
22	RA	1045	A
22	RA	1046	A
22	RA	1047	G
22	RA	1050	A
22	RA	1051	G
22	RA	1054	A
22	RA	1055	G
22	RA	1057	A
22	RA	1059	G
22	RA	1060	U
22	RA	1061	U
22	RA	1065	U

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Mol	Chain	Res	Type
22	RA	1066	U
22	RA	1067	A
22	RA	1068	G
22	RA	1070	A
22	RA	1071	G
22	RA	1073	A
22	RA	1077	A
22	RA	1078	U
22	RA	1079	C
22	RA	1080	C
22	RA	1082	U
22	RA	1083	U
22	RA	1084	A
22	RA	1085	A
22	RA	1086	A
22	RA	1087	G
22	RA	1088	A
22	RA	1091	G
22	RA	1093	G
22	RA	1095	A
22	RA	1096	A
22	RA	1101	U
22	RA	1104	C
22	RA	1105	U
22	RA	1110	G
22	RA	1111	A
22	RA	1112	G
22	RA	1115	G
22	RA	1122	G
22	RA	1128	A
22	RA	1130	U
22	RA	1131	G
22	RA	1135	C
22	RA	1136	G
22	RA	1139	G
22	RA	1142	U
22	RA	1142(A)	A
22	RA	1155	A
22	RA	1158	C
22	RA	1161	C
22	RA	1169	G
22	RA	1173	G

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Mol	Chain	Res	Type
22	RA	1174	A
22	RA	1175	U
22	RA	1176	G
22	RA	1178	C
22	RA	1179	C
22	RA	1183	G
22	RA	1186	G
22	RA	1191	G
22	RA	1195	G
22	RA	1196	C
22	RA	1204	A
22	RA	1205	U
22	RA	1206	G
22	RA	1210	A
22	RA	1211	U
22	RA	1212	G
22	RA	1219	G
22	RA	1220	A
22	RA	1221	C
22	RA	1225	C
22	RA	1227	A
22	RA	1236	G
22	RA	1238	G
22	RA	1246	A
22	RA	1247	A
22	RA	1248	G
22	RA	1252	G
22	RA	1253	A
22	RA	1256	G
22	RA	1265	A
22	RA	1271	G
22	RA	1272	A
22	RA	1273	U
22	RA	1282	U
22	RA	1287	A
22	RA	1300	U
22	RA	1301	A
22	RA	1302	A
22	RA	1312	U
22	RA	1313	U
22	RA	1314	C
22	RA	1319	G

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Mol	Chain	Res	Type
22	RA	1321	A
22	RA	1329	U
22	RA	1349	A
22	RA	1352	U
22	RA	1365	A
22	RA	1379	A
22	RA	1380	G
22	RA	1384	A
22	RA	1385	G
22	RA	1386	C
22	RA	1390	U
22	RA	1395	A
22	RA	1406	U
22	RA	1407	C
22	RA	1408	C
22	RA	1411	C
22	RA	1416	G
22	RA	1419	A
22	RA	1420	U
22	RA	1421	G
22	RA	1428	C
22	RA	1444(A)	A
22	RA	1445	C
22	RA	1449	A
22	RA	1449(A)	G
22	RA	1451	C
22	RA	1455	G
22	RA	1460	A
22	RA	1461	G
22	RA	1467	C
22	RA	1471	A
22	RA	1474	C
22	RA	1480	G
22	RA	1483	G
22	RA	1485	G
22	RA	1486	A
22	RA	1487	G
22	RA	1493	C
22	RA	1495	A
22	RA	1497	U
22	RA	1502	C
22	RA	1504	C

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Mol	Chain	Res	Type
22	RA	1505	C
22	RA	1506	C
22	RA	1507	A
22	RA	1508	A
22	RA	1510	A
22	RA	1513	C
22	RA	1514	U
22	RA	1515	C
22	RA	1522	G
22	RA	1523	U
22	RA	1534	G
22	RA	1535	U
22	RA	1536	A
22	RA	1537	C
22	RA	1538	G
22	RA	1543	A
22	RA	1544	C
22	RA	1545	A
22	RA	1548	C
22	RA	1558	A
22	RA	1559	G
22	RA	1560	G
22	RA	1569	A
22	RA	1578	U
22	RA	1579	A
22	RA	1580	A
22	RA	1581	G
22	RA	1585	C
22	RA	1586	A
22	RA	1593	G
22	RA	1598	C
22	RA	1608	A
22	RA	1609	A
22	RA	1610	A
22	RA	1616	A
22	RA	1617	C
22	RA	1618	A
22	RA	1630(A)	C
22	RA	1634	A
22	RA	1648	C
22	RA	1651	G
22	RA	1653	G

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Mol	Chain	Res	Type
22	RA	1654	A
22	RA	1655	A
22	RA	1664	A
22	RA	1667	G
22	RA	1673	U
22	RA	1674	G
22	RA	1688	U
22	RA	1695	G
22	RA	1696	G
22	RA	1697	G
22	RA	1701	A
22	RA	1703	G
22	RA	1725	G
22	RA	1728	G
22	RA	1729	A
22	RA	1730	U
22	RA	1731	G
22	RA	1733	G
22	RA	1742	C
22	RA	1746	G
22	RA	1752	C
22	RA	1763	G
22	RA	1764	G
22	RA	1766	U
22	RA	1769	G
22	RA	1773	A
22	RA	1776	G
22	RA	1780	A
22	RA	1782	C
22	RA	1791	A
22	RA	1799	G
22	RA	1800	C
22	RA	1815	A
22	RA	1816	G
22	RA	1820	U
22	RA	1829	A
22	RA	1834	U
22	RA	1835	G
22	RA	1847	A
22	RA	1858	G
22	RA	1864	U
22	RA	1869	G

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Mol	Chain	Res	Type
22	RA	1872	A
22	RA	1878	G
22	RA	1882	C
22	RA	1885	A
22	RA	1886	C
22	RA	1888	G
22	RA	1889	A
22	RA	1905	C
22	RA	1906	G
22	RA	1913	A
22	RA	1914	C
22	RA	1919	A
22	RA	1920	C
22	RA	1927	A
22	RA	1929	G
22	RA	1931	U
22	RA	1934	C
22	RA	1936	A
22	RA	1938	A
22	RA	1940	U
22	RA	1944	U
22	RA	1947	C
22	RA	1955	U
22	RA	1963	U
22	RA	1964	G
22	RA	1967	C
22	RA	1969	A
22	RA	1970	A
22	RA	1971	A
22	RA	1972	A
22	RA	1981	A
22	RA	1982	C
22	RA	1991	U
22	RA	1992	G
22	RA	1993	U
22	RA	1996	C
22	RA	2020	A
22	RA	2023	G
22	RA	2031	A
22	RA	2032	G
22	RA	2033	A
22	RA	2039	C

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Mol	Chain	Res	Type
22	RA	2043	C
22	RA	2049	G
22	RA	2051	A
22	RA	2054	A
22	RA	2055	C
22	RA	2056	G
22	RA	2059	A
22	RA	2060	A
22	RA	2061	G
22	RA	2062	A
22	RA	2063	C
22	RA	2067	G
22	RA	2069	G
22	RA	2080	G
22	RA	2089	U
22	RA	2099	U
22	RA	2101	G
22	RA	2102	U
22	RA	2107	C
22	RA	2111	C
22	RA	2112	G
22	RA	2113	U
22	RA	2114	A
22	RA	2115	G
22	RA	2116	G
22	RA	2117	A
22	RA	2119	A
22	RA	2126	A
22	RA	2127	G
22	RA	2128	C
22	RA	2131	G
22	RA	2132	U
22	RA	2133	G
22	RA	2134	A
22	RA	2135	A
22	RA	2136	C
22	RA	2145	C
22	RA	2147	G
22	RA	2148	G
22	RA	2150	U
22	RA	2160	G
22	RA	2161	C

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Mol	Chain	Res	Type
22	RA	2166	G
22	RA	2167	U
22	RA	2168	G
22	RA	2170	A
22	RA	2173	A
22	RA	2178	C
22	RA	2179	C
22	RA	2189	U
22	RA	2190	G
22	RA	2192	G
22	RA	2198	A
22	RA	2199	A
22	RA	2207	C
22	RA	2208	U
22	RA	2210	G
22	RA	2211	G
22	RA	2212	A
22	RA	2213	U
22	RA	2215	G
22	RA	2225	A
22	RA	2227	A
22	RA	2238	G
22	RA	2239	G
22	RA	2241	A
22	RA	2243	U
22	RA	2246	G
22	RA	2273	A
22	RA	2275	C
22	RA	2283	C
22	RA	2286	A
22	RA	2287	A
22	RA	2288	A
22	RA	2297	C
22	RA	2299	G
22	RA	2300	G
22	RA	2303	G
22	RA	2307	G
22	RA	2308	G
22	RA	2311	A
22	RA	2319	G
22	RA	2320	A
22	RA	2321	G

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Mol	Chain	Res	Type
22	RA	2325	G
22	RA	2334	G
22	RA	2336	A
22	RA	2345	G
22	RA	2346	A
22	RA	2347	C
22	RA	2350	C
22	RA	2352	A
22	RA	2353	G
22	RA	2354	G
22	RA	2358	G
22	RA	2383	G
22	RA	2384	G
22	RA	2385	C
22	RA	2387	U
22	RA	2392	A
22	RA	2398	U
22	RA	2402	C
22	RA	2403	C
22	RA	2405	G
22	RA	2406	U
22	RA	2410	G
22	RA	2422	A
22	RA	2423	U
22	RA	2424	C
22	RA	2425	A
22	RA	2429	G
22	RA	2430	A
22	RA	2431	U
22	RA	2435	A
22	RA	2439	A
22	RA	2440	C
22	RA	2441	C
22	RA	2443	C
22	RA	2445	G
22	RA	2448	A
22	RA	2469	A
22	RA	2470	G
22	RA	2474	C
22	RA	2475	C
22	RA	2482	G
22	RA	2487	G

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Mol	Chain	Res	Type
22	RA	2490	G
22	RA	2494	G
22	RA	2502	G
22	RA	2505	G
22	RA	2513	G
22	RA	2519	U
22	RA	2525	G
22	RA	2529	G
22	RA	2540	C
22	RA	2542	A
22	RA	2543	G
22	RA	2545	G
22	RA	2546	U
22	RA	2554	U
22	RA	2556	C
22	RA	2558	C
22	RA	2564	A
22	RA	2567	G
22	RA	2572	A
22	RA	2573	C
22	RA	2574	G
22	RA	2581	G
22	RA	2582	G
22	RA	2585	U
22	RA	2602	A
22	RA	2608	G
22	RA	2609	U
22	RA	2610	C
22	RA	2611	U
22	RA	2612	C
22	RA	2615	U
22	RA	2621	A
22	RA	2623	G
22	RA	2629	A
22	RA	2641	G
22	RA	2655	G
22	RA	2665	A
22	RA	2666	C
22	RA	2667	C
22	RA	2673	G
22	RA	2675	A
22	RA	2679	A

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Mol	Chain	Res	Type
22	RA	2682	U
22	RA	2689	U
22	RA	2690	C
22	RA	2702	U
22	RA	2703	C
22	RA	2707	G
22	RA	2712	U
22	RA	2712(A)	A
22	RA	2713	A
22	RA	2714	G
22	RA	2726	U
22	RA	2733	A
22	RA	2747	G
22	RA	2748	A
22	RA	2750	A
22	RA	2752	C
22	RA	2758	A
22	RA	2761	G
22	RA	2764	A
22	RA	2765	A
22	RA	2767	C
22	RA	2770	G
22	RA	2777	G
22	RA	2778	A
22	RA	2779	U
22	RA	2780	G
22	RA	2790	A
22	RA	2791	C
22	RA	2793	G
22	RA	2797	U
22	RA	2807	G
22	RA	2810	A
22	RA	2811	G
22	RA	2813	A
22	RA	2818	G
22	RA	2820	A
22	RA	2821	A
22	RA	2831	G
22	RA	2833	G
22	RA	2834	G
22	RA	2835	A
22	RA	2836	U

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Mol	Chain	Res	Type
22	RA	2839	G
22	RA	2849	U
22	RA	2867	G
22	RA	2868	A
22	RA	2872	G
22	RA	2876	G
22	RA	2880	C
22	RA	2885	C
22	RA	2886	G
22	RA	2891	G
22	RA	2892	A
22	RA	2894	G
23	RB	2	C
23	RB	9	G
23	RB	13	A
23	RB	15	A
23	RB	16	G
23	RB	21	G
23	RB	22	U
23	RB	24	G
23	RB	25	A
23	RB	26	A
23	RB	27	C
23	RB	29	A
23	RB	31	C
23	RB	32	C
23	RB	33	G
23	RB	40	U
23	RB	41	U
23	RB	42	C
23	RB	43	C
23	RB	44	G
23	RB	45	A
23	RB	56	G
23	RB	67	G
23	RB	73	A
23	RB	81	G
23	RB	89	G
23	RB	91	C
23	RB	109	G
23	RB	115	G
1	XA	6	G

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Mol	Chain	Res	Type
1	XA	9	G
1	XA	10	A
1	XA	12	U
1	XA	19	C
1	XA	32	A
1	XA	34	C
1	XA	39	G
1	XA	47	C
1	XA	48	C
1	XA	50	A
1	XA	51	A
1	XA	59	A
1	XA	61	G
1	XA	64	G
1	XA	65	U
1	XA	66	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	108	G
1	XA	115	G
1	XA	116	A
1	XA	121	C
1	XA	129(A)	G
1	XA	130	A
1	XA	138	G
1	XA	144	G
1	XA	147	G
1	XA	163	C
1	XA	168	G
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(C)	G

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Mol	Chain	Res	Type
1	XA	191(E)	G
1	XA	195	A
1	XA	197	A
1	XA	199	G
1	XA	201	C
1	XA	209	U
1	XA	216	G
1	XA	218	C
1	XA	220	G
1	XA	222	U
1	XA	226	G
1	XA	240	C
1	XA	243	A
1	XA	244	U
1	XA	245	C
1	XA	247	G
1	XA	251	G
1	XA	253	U
1	XA	266	G
1	XA	267	C
1	XA	270	A
1	XA	271	C
1	XA	280	C
1	XA	281	G
1	XA	289	G
1	XA	298	A
1	XA	299	G
1	XA	306	G
1	XA	314	C
1	XA	318	G
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	330	C
1	XA	332	G
1	XA	338	A
1	XA	345	C
1	XA	346	G
1	XA	347	G
1	XA	348	G
1	XA	349	A
1	XA	352	C

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Mol	Chain	Res	Type
1	XA	353	A
1	XA	354	G
1	XA	367	U
1	XA	372	C
1	XA	373	A
1	XA	384	G
1	XA	389	A
1	XA	397	A
1	XA	398	C
1	XA	406	G
1	XA	408	A
1	XA	409	G
1	XA	411	A
1	XA	412	A
1	XA	413	G
1	XA	414	A
1	XA	422	C
1	XA	423	G
1	XA	424	G
1	XA	427	U
1	XA	429	U
1	XA	430	A
1	XA	434	U
1	XA	452	A
1	XA	466	C
1	XA	467	G
1	XA	481	G
1	XA	482	A
1	XA	485	G
1	XA	486	U
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	513	C
1	XA	518	C
1	XA	527	G
1	XA	529	G
1	XA	531	U
1	XA	532	A

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Mol	Chain	Res	Type
1	XA	533	A
1	XA	542	G
1	XA	545	C
1	XA	546	G
1	XA	547	A
1	XA	548	G
1	XA	559	A
1	XA	561	U
1	XA	562	C
1	XA	563	A
1	XA	564	C
1	XA	572	A
1	XA	573	A
1	XA	576	G
1	XA	577	G
1	XA	579	G
1	XA	607	A
1	XA	617	G
1	XA	620	C
1	XA	630	G
1	XA	631	G
1	XA	633	G
1	XA	653	A
1	XA	657	G
1	XA	665	A
1	XA	688	G
1	XA	702	A
1	XA	703	G
1	XA	704	A
1	XA	721	G
1	XA	724	G
1	XA	731	G
1	XA	748	C
1	XA	749	C
1	XA	755	G
1	XA	760	G
1	XA	763	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	796	C

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Mol	Chain	Res	Type
1	XA	799	G
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	838	G
1	XA	841	U
1	XA	842	C
1	XA	843	U
1	XA	848	C
1	XA	853	G
1	XA	859	A
1	XA	864	A
1	XA	870	U
1	XA	871	U
1	XA	872	A
1	XA	873	A
1	XA	902	G
1	XA	914	A
1	XA	927	G
1	XA	934	C
1	XA	935	A
1	XA	936	C
1	XA	939	G
1	XA	950	U
1	XA	960	U
1	XA	961	U
1	XA	966	G
1	XA	967	C
1	XA	968	A
1	XA	969	A
1	XA	971	G
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

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Mol	Chain	Res	Type
1	XA	992	U
1	XA	993	G
1	XA	994	A
1	XA	1000	A
1	XA	1001	G
1	XA	1002	G
1	XA	1004	A
1	XA	1006	C
1	XA	1008	C
1	XA	1016	A
1	XA	1021	G
1	XA	1024	G
1	XA	1026	G
1	XA	1028	C
1	XA	1029	G
1	XA	1032(A)	G
1	XA	1032(B)	G
1	XA	1036	G
1	XA	1039	C
1	XA	1040	U
1	XA	1042	G
1	XA	1053	G
1	XA	1054	C
1	XA	1055	A
1	XA	1064	G
1	XA	1066	C
1	XA	1081	G
1	XA	1085	U
1	XA	1089	G
1	XA	1094	G
1	XA	1095	U
1	XA	1101	A
1	XA	1103	C
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

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Mol	Chain	Res	Type
1	XA	1139	G
1	XA	1140	C
1	XA	1146	A
1	XA	1152	A
1	XA	1157	A
1	XA	1158	C
1	XA	1159	U
1	XA	1160	G
1	XA	1161	C
1	XA	1162	C
1	XA	1170	A
1	XA	1176	A
1	XA	1177	G
1	XA	1181	G
1	XA	1182	G
1	XA	1183	A
1	XA	1187	G
1	XA	1188	A
1	XA	1189	C
1	XA	1190	G
1	XA	1193	G
1	XA	1195	C
1	XA	1196	U
1	XA	1201	A
1	XA	1211	U
1	XA	1212	U
1	XA	1214	C
1	XA	1220	G
1	XA	1225	A
1	XA	1226	C
1	XA	1238	A
1	XA	1240	U
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1264	C
1	XA	1270	C
1	XA	1272	G
1	XA	1275	A
1	XA	1277	C
1	XA	1278	U
1	XA	1280	A

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Mol	Chain	Res	Type
1	XA	1281	U
1	XA	1282	C
1	XA	1285	A
1	XA	1286	A
1	XA	1287	A
1	XA	1288	A
1	XA	1290	G
1	XA	1298	C
1	XA	1299	A
1	XA	1300	G
1	XA	1301	U
1	XA	1302	U
1	XA	1305	G
1	XA	1306	A
1	XA	1318	A
1	XA	1320	C
1	XA	1321	C
1	XA	1322	C
1	XA	1323	G
1	XA	1329	A
1	XA	1331	G
1	XA	1336	C
1	XA	1337	G
1	XA	1338	G
1	XA	1346	A
1	XA	1347	G
1	XA	1348	U
1	XA	1353	G
1	XA	1359	C
1	XA	1362(A)	C
1	XA	1363	A
1	XA	1378	C
1	XA	1379	G
1	XA	1394	A
1	XA	1397	C
1	XA	1401	G
1	XA	1419	G
1	XA	1442	G
1	XA	1443	G
1	XA	1446	A
1	XA	1452	C
1	XA	1453	G

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Mol	Chain	Res	Type
1	XA	1482	G
1	XA	1483	A
1	XA	1487	G
1	XA	1492	A
1	XA	1497	G
1	XA	1499	A
1	XA	1503	A
1	XA	1504	G
1	XA	1506	U
1	XA	1517	G
1	XA	1518	A
1	XA	1519	A
1	XA	1520	G
1	XA	1528	U
1	XA	1529	G
1	XA	1530	G
22	YA	9	U
22	YA	13	A
22	YA	15	G
22	YA	28	A
22	YA	34	C
22	YA	35	G
22	YA	46	C
22	YA	49	A
22	YA	55	G
22	YA	61	G
22	YA	63	U
22	YA	71	A
22	YA	72	U
22	YA	74	A
22	YA	75	G
22	YA	96	G
22	YA	97	C
22	YA	99	U
22	YA	101	G
22	YA	102	G
22	YA	103	A
22	YA	118	A
22	YA	119	A
22	YA	120	U
22	YA	121	G
22	YA	134	C

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Mol	Chain	Res	Type
22	YA	155	C
22	YA	161	U
22	YA	162	U
22	YA	173	G
22	YA	181	A
22	YA	188	G
22	YA	196	A
22	YA	199	A
22	YA	215	G
22	YA	216	A
22	YA	221	A
22	YA	222	A
22	YA	223	A
22	YA	224	G
22	YA	226	G
22	YA	228	A
22	YA	229	A
22	YA	230	U
22	YA	232	G
22	YA	242	G
22	YA	243	U
22	YA	248	G
22	YA	249	C
22	YA	250	G
22	YA	252	G
22	YA	261	G
22	YA	264	C
22	YA	265	A
22	YA	266	G
22	YA	269	U
22	YA	270(K)	C
22	YA	270(L)	U
22	YA	270(M)	U
22	YA	270(N)	G
22	YA	270(O)	U
22	YA	270(P)	C
22	YA	270(Q)	C
22	YA	270(W)	G
22	YA	270(Y)	G
22	YA	270(Z)	U
22	YA	271(A)	C
22	YA	271(C)	U

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Mol	Chain	Res	Type
22	YA	271	G
22	YA	274	G
22	YA	275	G
22	YA	276	A
22	YA	278	A
22	YA	279	C
22	YA	299	A
22	YA	300	A
22	YA	311	A
22	YA	312	G
22	YA	315	G
22	YA	316	C
22	YA	323	G
22	YA	324	A
22	YA	329	G
22	YA	330	A
22	YA	332	A
22	YA	342	G
22	YA	345	A
22	YA	352	G
22	YA	356	G
22	YA	363	G
22	YA	364	C
22	YA	371	A
22	YA	372	G
22	YA	373	U
22	YA	380	U
22	YA	386	G
22	YA	387	U
22	YA	394	A
22	YA	396	G
22	YA	405	U
22	YA	406	G
22	YA	411	G
22	YA	412	A
22	YA	428	A
22	YA	429	A
22	YA	442	G
22	YA	443	A
22	YA	444	C
22	YA	448	U
22	YA	451	C

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Mol	Chain	Res	Type
22	YA	454	A
22	YA	457	A
22	YA	470	A
22	YA	472	A
22	YA	479	A
22	YA	480	A
22	YA	481	G
22	YA	483	A
22	YA	494	G
22	YA	496	G
22	YA	501	A
22	YA	503	A
22	YA	504	U
22	YA	505	A
22	YA	508	G
22	YA	509	C
22	YA	512	G
22	YA	513	A
22	YA	518	G
22	YA	528	A
22	YA	531	C
22	YA	532	A
22	YA	533	G
22	YA	537	C
22	YA	539	G
22	YA	540	G
22	YA	546	C
22	YA	547	A
22	YA	549	G
22	YA	562	U
22	YA	563	G
22	YA	571	A
22	YA	573	G
22	YA	574	C
22	YA	575	A
22	YA	580	C
22	YA	586	A
22	YA	587	C
22	YA	588	U
22	YA	591	C
22	YA	599	G
22	YA	603	A

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Mol	Chain	Res	Type
22	YA	607	U
22	YA	613	U
22	YA	614	U
22	YA	615	G
22	YA	617	G
22	YA	618	G
22	YA	622	G
22	YA	627	A
22	YA	634	C
22	YA	637	A
22	YA	638	G
22	YA	645	C
22	YA	646	A
22	YA	649	G
22	YA	651	G
22	YA	654	A
22	YA	654(A)	G
22	YA	654(B)	C
22	YA	654(T)	C
22	YA	657	U
22	YA	664	C
22	YA	668	G
22	YA	670	A
22	YA	685	A
22	YA	686	G
22	YA	701	G
22	YA	702	G
22	YA	704	G
22	YA	716	A
22	YA	717	G
22	YA	719	C
22	YA	721	C
22	YA	722	A
22	YA	730	C
22	YA	740	U
22	YA	762	U
22	YA	776	G
22	YA	777	A
22	YA	782	A
22	YA	784	A
22	YA	785	G
22	YA	788	A

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Mol	Chain	Res	Type
22	YA	789	A
22	YA	790	C
22	YA	791	C
22	YA	792	G
22	YA	793	A
22	YA	800	A
22	YA	805	G
22	YA	812	C
22	YA	813	U
22	YA	819	A
22	YA	827	U
22	YA	828	U
22	YA	830	G
22	YA	845	G
22	YA	846	C
22	YA	847	U
22	YA	856	C
22	YA	857	C
22	YA	858	U
22	YA	860	U
22	YA	869	G
22	YA	880	G
22	YA	881	G
22	YA	882	G
22	YA	883	G
22	YA	884	C
22	YA	885	C
22	YA	886	C
22	YA	887	A
22	YA	889	C
22	YA	896	A
22	YA	897	C
22	YA	899	A
22	YA	900	A
22	YA	901	A
22	YA	907	U
22	YA	910	A
22	YA	914	C
22	YA	915	C
22	YA	917	A
22	YA	932	G
22	YA	938	G

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Mol	Chain	Res	Type
22	YA	941	A
22	YA	945	A
22	YA	946	G
22	YA	957	A
22	YA	959	A
22	YA	961	C
22	YA	973	A
22	YA	974	G
22	YA	974(A)	C
22	YA	975	G
22	YA	980	A
22	YA	983	A
22	YA	986	C
22	YA	995	C
22	YA	996	A
22	YA	1003	G
22	YA	1005	C
22	YA	1010	A
22	YA	1011	G
22	YA	1012	U
22	YA	1013	C
22	YA	1016	G
22	YA	1020	A
22	YA	1022	G
22	YA	1023	U
22	YA	1025	G
22	YA	1026	U
22	YA	1027	A
22	YA	1033	U
22	YA	1043	C
22	YA	1045	A
22	YA	1046	A
22	YA	1047	G
22	YA	1050	A
22	YA	1053	C
22	YA	1054	A
22	YA	1057	A
22	YA	1059	G
22	YA	1060	U
22	YA	1061	U
22	YA	1065	U
22	YA	1066	U

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Mol	Chain	Res	Type
22	YA	1067	A
22	YA	1068	G
22	YA	1069	A
22	YA	1070	A
22	YA	1071	G
22	YA	1077	A
22	YA	1078	U
22	YA	1079	C
22	YA	1082	U
22	YA	1083	U
22	YA	1084	A
22	YA	1085	A
22	YA	1086	A
22	YA	1088	A
22	YA	1089	G
22	YA	1090	U
22	YA	1091	G
22	YA	1095	A
22	YA	1096	A
22	YA	1097	U
22	YA	1099	G
22	YA	1103	A
22	YA	1104	C
22	YA	1110	G
22	YA	1111	A
22	YA	1122	G
22	YA	1126	A
22	YA	1128	A
22	YA	1130	U
22	YA	1131	G
22	YA	1135	C
22	YA	1136	G
22	YA	1139	G
22	YA	1142	U
22	YA	1142(A)	A
22	YA	1143	A
22	YA	1155	A
22	YA	1168	G
22	YA	1170	G
22	YA	1173	G
22	YA	1174	A
22	YA	1175	U

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Mol	Chain	Res	Type
22	YA	1176	G
22	YA	1178	C
22	YA	1179	C
22	YA	1194	A
22	YA	1195	G
22	YA	1204	A
22	YA	1205	U
22	YA	1210	A
22	YA	1211	U
22	YA	1218	C
22	YA	1220	A
22	YA	1221	C
22	YA	1228	G
22	YA	1230	C
22	YA	1236	G
22	YA	1237	A
22	YA	1238	G
22	YA	1240	U
22	YA	1241	A
22	YA	1242	A
22	YA	1244	G
22	YA	1250	G
22	YA	1252	G
22	YA	1253	A
22	YA	1255	U
22	YA	1256	G
22	YA	1257	C
22	YA	1265	A
22	YA	1271	G
22	YA	1272	A
22	YA	1273	U
22	YA	1300	U
22	YA	1301	A
22	YA	1306	C
22	YA	1309	G
22	YA	1313	U
22	YA	1319	G
22	YA	1321	A
22	YA	1329	U
22	YA	1349	A
22	YA	1352	U
22	YA	1365	A

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Mol	Chain	Res	Type
22	YA	1368	G
22	YA	1371	G
22	YA	1372	U
22	YA	1379	A
22	YA	1383	C
22	YA	1384	A
22	YA	1385	G
22	YA	1386	C
22	YA	1389	G
22	YA	1391	U
22	YA	1395	A
22	YA	1407	C
22	YA	1411	C
22	YA	1416	G
22	YA	1417	C
22	YA	1419	A
22	YA	1420	U
22	YA	1421	G
22	YA	1428	C
22	YA	1429	G
22	YA	1444(A)	A
22	YA	1445	C
22	YA	1449	A
22	YA	1449(A)	G
22	YA	1455	G
22	YA	1458	C
22	YA	1459	G
22	YA	1460	A
22	YA	1461	G
22	YA	1467	C
22	YA	1471	A
22	YA	1475	G
22	YA	1482	U
22	YA	1483	G
22	YA	1484	G
22	YA	1487	G
22	YA	1489	U
22	YA	1493	C
22	YA	1496	A
22	YA	1497	U
22	YA	1504	C
22	YA	1506	C

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Mol	Chain	Res	Type
22	YA	1507	A
22	YA	1508	A
22	YA	1510	A
22	YA	1511	A
22	YA	1515	C
22	YA	1516	U
22	YA	1522	G
22	YA	1525	G
22	YA	1533	C
22	YA	1534	G
22	YA	1535	U
22	YA	1536	A
22	YA	1537	C
22	YA	1540	G
22	YA	1543	A
22	YA	1544	C
22	YA	1545	A
22	YA	1545(A)	A
22	YA	1549	C
22	YA	1554	A
22	YA	1558	A
22	YA	1559	G
22	YA	1560	G
22	YA	1569	A
22	YA	1578	U
22	YA	1579	A
22	YA	1585	C
22	YA	1586	A
22	YA	1587	A
22	YA	1591	G
22	YA	1592	C
22	YA	1597	A
22	YA	1598	C
22	YA	1608	A
22	YA	1609	A
22	YA	1610	A
22	YA	1617	C
22	YA	1640	C
22	YA	1648	C
22	YA	1653	G
22	YA	1654	A
22	YA	1674	G

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Mol	Chain	Res	Type
22	YA	1678	G
22	YA	1682	G
22	YA	1686	C
22	YA	1693	U
22	YA	1694	C
22	YA	1695	G
22	YA	1698	A
22	YA	1699	G
22	YA	1700	A
22	YA	1701	A
22	YA	1725	G
22	YA	1729	A
22	YA	1730	U
22	YA	1731	G
22	YA	1732	A
22	YA	1733	G
22	YA	1742	C
22	YA	1743	G
22	YA	1750	G
22	YA	1753	G
22	YA	1754	C
22	YA	1756	G
22	YA	1762	A
22	YA	1763	G
22	YA	1764	G
22	YA	1773	A
22	YA	1780	A
22	YA	1781	C
22	YA	1787	A
22	YA	1791	A
22	YA	1799	G
22	YA	1800	C
22	YA	1801	G
22	YA	1805	U
22	YA	1816	G
22	YA	1824	G
22	YA	1826	G
22	YA	1829	A
22	YA	1835	G
22	YA	1847	A
22	YA	1848	A
22	YA	1858	G

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Mol	Chain	Res	Type
22	YA	1869	G
22	YA	1871	A
22	YA	1872	A
22	YA	1878	G
22	YA	1882	C
22	YA	1889	A
22	YA	1896	G
22	YA	1899	G
22	YA	1900	A
22	YA	1903	G
22	YA	1906	G
22	YA	1913	A
22	YA	1919	A
22	YA	1929	G
22	YA	1930	G
22	YA	1931	U
22	YA	1935	G
22	YA	1936	A
22	YA	1938	A
22	YA	1939	U
22	YA	1941	C
22	YA	1955	U
22	YA	1956	U
22	YA	1963	U
22	YA	1965	C
22	YA	1967	C
22	YA	1968	G
22	YA	1969	A
22	YA	1970	A
22	YA	1971	A
22	YA	1972	A
22	YA	1976	U
22	YA	1982	C
22	YA	1985	G
22	YA	1987	G
22	YA	1991	U
22	YA	1992	G
22	YA	1993	U
22	YA	1996	C
22	YA	2020	A
22	YA	2023	G
22	YA	2031	A

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Mol	Chain	Res	Type
22	YA	2033	A
22	YA	2043	C
22	YA	2055	C
22	YA	2056	G
22	YA	2059	A
22	YA	2060	A
22	YA	2061	G
22	YA	2062	A
22	YA	2063	C
22	YA	2069	G
22	YA	2072	G
22	YA	2098	U
22	YA	2107	C
22	YA	2108	C
22	YA	2111	C
22	YA	2112	G
22	YA	2113	U
22	YA	2114	A
22	YA	2115	G
22	YA	2116	G
22	YA	2117	A
22	YA	2119	A
22	YA	2120	G
22	YA	2126	A
22	YA	2127	G
22	YA	2128	C
22	YA	2131	G
22	YA	2132	U
22	YA	2133	G
22	YA	2136	C
22	YA	2145	C
22	YA	2147	G
22	YA	2148	G
22	YA	2158	A
22	YA	2159	G
22	YA	2166	G
22	YA	2167	U
22	YA	2168	G
22	YA	2173	A
22	YA	2177	C
22	YA	2183	C
22	YA	2189	U

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Mol	Chain	Res	Type
22	YA	2190	G
22	YA	2192	G
22	YA	2194	G
22	YA	2195	C
22	YA	2198	A
22	YA	2209	C
22	YA	2210	G
22	YA	2211	G
22	YA	2212	A
22	YA	2215	G
22	YA	2225	A
22	YA	2238	G
22	YA	2239	G
22	YA	2242	G
22	YA	2243	U
22	YA	2263	C
22	YA	2267	A
22	YA	2269	A
22	YA	2274	A
22	YA	2275	C
22	YA	2278	A
22	YA	2280	G
22	YA	2283	C
22	YA	2287	A
22	YA	2288	A
22	YA	2299	G
22	YA	2305	A
22	YA	2307	G
22	YA	2308	G
22	YA	2311	A
22	YA	2319	G
22	YA	2320	A
22	YA	2325	G
22	YA	2334	G
22	YA	2336	A
22	YA	2342	C
22	YA	2346	A
22	YA	2347	C
22	YA	2358	G
22	YA	2377	A
22	YA	2379	G
22	YA	2383	G

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Mol	Chain	Res	Type
22	YA	2385	C
22	YA	2392	A
22	YA	2394	C
22	YA	2398	U
22	YA	2402	C
22	YA	2403	C
22	YA	2406	U
22	YA	2410	G
22	YA	2423	U
22	YA	2424	C
22	YA	2425	A
22	YA	2429	G
22	YA	2430	A
22	YA	2431	U
22	YA	2435	A
22	YA	2439	A
22	YA	2440	C
22	YA	2441	C
22	YA	2448	A
22	YA	2453	A
22	YA	2468	G
22	YA	2469	A
22	YA	2475	C
22	YA	2491	U
22	YA	2494	G
22	YA	2497	A
22	YA	2502	G
22	YA	2505	G
22	YA	2518	A
22	YA	2524	G
22	YA	2525	G
22	YA	2529	G
22	YA	2531	A
22	YA	2542	A
22	YA	2543	G
22	YA	2554	U
22	YA	2562	U
22	YA	2566	A
22	YA	2567	G
22	YA	2573	C
22	YA	2574	G
22	YA	2582	G

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Mol	Chain	Res	Type
22	YA	2585	U
22	YA	2595	G
22	YA	2596	U
22	YA	2602	A
22	YA	2609	U
22	YA	2611	U
22	YA	2612	C
22	YA	2615	U
22	YA	2621	A
22	YA	2623	G
22	YA	2626	C
22	YA	2629	A
22	YA	2632	A
22	YA	2640	G
22	YA	2646	C
22	YA	2651	C
22	YA	2654	A
22	YA	2660	A
22	YA	2665	A
22	YA	2666	C
22	YA	2673	G
22	YA	2675	A
22	YA	2679	A
22	YA	2682	U
22	YA	2683	C
22	YA	2689	U
22	YA	2690	C
22	YA	2691	C
22	YA	2702	U
22	YA	2703	C
22	YA	2707	G
22	YA	2712	U
22	YA	2712(A)	A
22	YA	2713	A
22	YA	2714	G
22	YA	2718	G
22	YA	2719	G
22	YA	2720	U
22	YA	2726	U
22	YA	2733	A
22	YA	2734	A
22	YA	2739	U

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Mol	Chain	Res	Type
22	YA	2742	C
22	YA	2749	A
22	YA	2750	A
22	YA	2751	G
22	YA	2752	C
22	YA	2758	A
22	YA	2761	G
22	YA	2765	A
22	YA	2766	G
22	YA	2770	G
22	YA	2771	C
22	YA	2777	G
22	YA	2778	A
22	YA	2779	U
22	YA	2789	C
22	YA	2790	A
22	YA	2791	C
22	YA	2793	G
22	YA	2795	G
22	YA	2797	U
22	YA	2798	C
22	YA	2804	C
22	YA	2807	G
22	YA	2808	U
22	YA	2818	G
22	YA	2820	A
22	YA	2821	A
22	YA	2833	G
22	YA	2834	G
22	YA	2835	A
22	YA	2836	U
22	YA	2867	G
22	YA	2868	A
22	YA	2872	G
22	YA	2880	C
22	YA	2892	A
22	YA	2893	G
23	YB	2	C
23	YB	8	U
23	YB	13	A
23	YB	15	A
23	YB	16	G

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Mol	Chain	Res	Type
23	YB	21	G
23	YB	22	U
23	YB	24	G
23	YB	25	A
23	YB	29	A
23	YB	31	C
23	YB	32	C
23	YB	39	A
23	YB	40	U
23	YB	41	U
23	YB	42	C
23	YB	44	G
23	YB	45	A
23	YB	52	A
23	YB	53	A
23	YB	65	C
23	YB	67	G
23	YB	72	G
23	YB	73	A
23	YB	81	G
23	YB	82	G
23	YB	90	C
23	YB	91	C
23	YB	107	U
23	YB	108	C
23	YB	109	G
23	YB	115	G
53	QV	5	G
53	QV	7	G
53	QV	8	U
53	QV	16	C
53	QV	17(A)	U
53	QV	18	G
53	QV	19	G
53	QV	21	A
53	QV	22	G
53	QV	31	G
53	QV	41	C
53	QV	44	A
53	QV	47	U
53	QV	48	C
53	QV	50	U

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Mol	Chain	Res	Type
53	QV	54	U
53	QV	59	A
53	QV	63	G
53	QV	64	G
53	QV	67	C
53	QV	75	C
53	QV	76	A
54	QX	2	U
54	QX	3	G
54	QX	4	C
54	QX	7	G
55	QY	34	C
55	QY	36	G
55	QY	38	A
53	XV	4	G
53	XV	5	G
53	XV	7	G
53	XV	10	G
53	XV	11	A
53	XV	16	C
53	XV	17(A)	U
53	XV	18	G
53	XV	19	G
53	XV	20	U
53	XV	21	A
53	XV	30	G
53	XV	31	G
53	XV	47	U
53	XV	48	C
53	XV	49	G
53	XV	50	U
53	XV	52	G
53	XV	54	U
53	XV	58	A
53	XV	60	U
53	XV	61	C
53	XV	63	G
53	XV	64	G
53	XV	66	C
53	XV	75	C
53	XV	76	A
54	XX	3	G

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Mol	Chain	Res	Type
54	XX	4	C
54	XX	7	G
55	XY	34	C
55	XY	36	G

All (220) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
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	328	C
1	QA	353	A
1	QA	389	A
1	QA	410	G
1	QA	412	A
1	QA	421	U
1	QA	429	U
1	QA	452	A
1	QA	484	G
1	QA	485	G
1	QA	509	A
1	QA	530	G
1	QA	560	U
1	QA	687	A
1	QA	701	C
1	QA	703	G
1	QA	752	G
1	QA	753	A
1	QA	792	A
1	QA	913	A
1	QA	934	C
1	QA	991	U
1	QA	992	U
1	QA	1025	U
1	QA	1027	C

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Mol	Chain	Res	Type
1	QA	1065	U
1	QA	1157	A
1	QA	1200	C
1	QA	1280	A
1	QA	1285	A
1	QA	1297	C
1	QA	1336	C
1	QA	1337	G
1	QA	1346	A
1	QA	1347	G
1	QA	1446	A
1	QA	1453	G
1	QA	1498	U
1	QA	1503	A
1	QA	1528	U
22	RA	27	G
22	RA	71	A
22	RA	74	A
22	RA	99	U
22	RA	101	G
22	RA	196	A
22	RA	205	G
22	RA	222	A
22	RA	227	A
22	RA	229	A
22	RA	242	G
22	RA	271(B)	G
22	RA	271(C)	U
22	RA	345	A
22	RA	370	G
22	RA	372	G
22	RA	405	U
22	RA	508	G
22	RA	512	G
22	RA	587	C
22	RA	637	A
22	RA	752	A
22	RA	774	A
22	RA	846	C
22	RA	856	C
22	RA	859	G
22	RA	974(A)	C

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Mol	Chain	Res	Type
22	RA	1012	U
22	RA	1022	G
22	RA	1026	U
22	RA	1045	A
22	RA	1078	U
22	RA	1085	A
22	RA	1130	U
22	RA	1178	C
22	RA	1204	A
22	RA	1210	A
22	RA	1312	U
22	RA	1427	A
22	RA	1558	A
22	RA	1653	G
22	RA	1694	C
22	RA	1799	G
22	RA	1819	A
22	RA	1930	G
22	RA	1980	G
22	RA	1992	G
22	RA	2060	A
22	RA	2126	A
22	RA	2238	G
22	RA	2351	G
22	RA	2405	G
22	RA	2422	A
22	RA	2439	A
22	RA	2481	G
22	RA	2518	A
22	RA	2566	A
22	RA	2581	G
22	RA	2610	C
22	RA	2689	U
22	RA	2712	U
22	RA	2726	U
22	RA	2776	A
22	RA	2832	U
22	RA	2867	G
23	RB	24	G
23	RB	66	A
1	XA	31	G
1	XA	60	A

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Mol	Chain	Res	Type
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	328	C
1	XA	345	C
1	XA	388	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	560	U
1	XA	687	A
1	XA	703	G
1	XA	812	C
1	XA	913	A
1	XA	960	U
1	XA	991	U
1	XA	992	U
1	XA	1025	U
1	XA	1027	C
1	XA	1094	G
1	XA	1280	A
1	XA	1285	A
1	XA	1297	C
1	XA	1301	U
1	XA	1305	G
1	XA	1336	C
1	XA	1347	G
1	XA	1498	U
1	XA	1503	A
22	YA	27	G
22	YA	71	A
22	YA	99	U
22	YA	102	G

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Mol	Chain	Res	Type
22	YA	195	A
22	YA	221	A
22	YA	222	A
22	YA	229	A
22	YA	242	G
22	YA	278	A
22	YA	372	G
22	YA	404	C
22	YA	503	A
22	YA	508	G
22	YA	532	A
22	YA	587	C
22	YA	637	A
22	YA	653	A
22	YA	654	A
22	YA	846	C
22	YA	856	C
22	YA	859	G
22	YA	896	A
22	YA	974	G
22	YA	974(A)	C
22	YA	1012	U
22	YA	1022	G
22	YA	1026	U
22	YA	1045	A
22	YA	1078	U
22	YA	1085	A
22	YA	1109	C
22	YA	1130	U
22	YA	1178	C
22	YA	1204	A
22	YA	1210	A
22	YA	1427	A
22	YA	1558	A
22	YA	1653	G
22	YA	1698	A
22	YA	1799	G
22	YA	1899	G
22	YA	1930	G
22	YA	1955	U
22	YA	1992	G
22	YA	2126	A

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Mol	Chain	Res	Type
22	YA	2406	U
22	YA	2422	A
22	YA	2439	A
22	YA	2566	A
22	YA	2610	C
22	YA	2681	C
22	YA	2689	U
22	YA	2712	U
22	YA	2776	A
22	YA	2832	U
22	YA	2867	G
23	YB	66	A
53	QV	53	G
54	QX	6	G
53	XV	19	G
53	XV	53	G
53	XV	60	U
54	XX	3	G

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
56	PPU	Z6	76	56,22	37,40,41	1.34	5 (13%)	47,57,60	2.43	19 (40%)
56	PPU	Z8	76	56,22	37,40,41	1.35	6 (16%)	47,57,60	2.13	15 (31%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
56	PPU	Z6	76	56,22	-	3/25/43/44	0/4/4/4
56	PPU	Z8	76	56,22	-	1/25/43/44	0/4/4/4

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	Z6	76	PPU	C5-C4	4.61	1.47	1.39
56	Z8	76	PPU	C5-C4	4.22	1.46	1.39
56	Z8	76	PPU	C4-N9	-2.86	1.31	1.37
56	Z6	76	PPU	C5-C6	2.65	1.48	1.41
56	Z8	76	PPU	C2'-C3'	-2.48	1.49	1.53
56	Z8	76	PPU	C5-C6	2.43	1.47	1.41
56	Z6	76	PPU	C4-N9	-2.40	1.32	1.37
56	Z6	76	PPU	C5-N7	-2.35	1.34	1.39
56	Z8	76	PPU	C5-N7	-2.28	1.34	1.39
56	Z8	76	PPU	C8-N7	2.17	1.35	1.31
56	Z6	76	PPU	C8-N7	2.12	1.35	1.31

All (34) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	Z6	76	PPU	C3'-N3'-C	-5.92	114.20	123.20
56	Z6	76	PPU	C5-C4-N3	-5.54	119.09	126.72
56	Z8	76	PPU	C5-C4-N3	-5.28	119.44	126.72
56	Z6	76	PPU	N3-C4-N9	4.48	134.78	127.17
56	Z6	76	PPU	C10-N6-C6	-4.31	109.56	120.52
56	Z6	76	PPU	N1-C6-N6	4.14	121.89	116.86
56	Z8	76	PPU	C2-N1-C6	4.12	121.88	111.83
56	Z8	76	PPU	N3-C4-N9	4.11	134.16	127.17
56	Z8	76	PPU	N1-C6-N6	4.09	121.83	116.86
56	Z6	76	PPU	C2-N1-C6	3.89	121.34	111.83
56	Z6	76	PPU	O4'-C1'-N9	-3.57	101.24	108.09
56	Z8	76	PPU	C4-C5-N7	-3.55	106.53	110.58
56	Z8	76	PPU	C10-N6-C6	-3.52	111.56	120.52
56	Z6	76	PPU	C9-N6-C6	-3.43	111.81	120.52
56	Z6	76	PPU	C2-N3-C4	3.40	120.13	111.83
56	Z8	76	PPU	C4-N9-C8	3.37	109.28	105.74
56	Z6	76	PPU	CM-OC-CZ	3.29	124.55	117.50
56	Z6	76	PPU	C4-C5-N7	-3.28	106.83	110.58
56	Z8	76	PPU	C9-N6-C6	-3.28	112.19	120.52
56	Z8	76	PPU	O2'-C2'-C3'	-3.11	103.55	111.16
56	Z8	76	PPU	C2-N3-C4	3.04	119.25	111.83
56	Z8	76	PPU	C3'-N3'-C	-2.98	118.67	123.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	Z6	76	PPU	C4-N9-C8	2.97	108.86	105.74
56	Z6	76	PPU	CG-CB-CA	-2.86	108.28	114.13
56	Z6	76	PPU	C5-C6-N6	-2.70	121.06	125.33
56	Z6	76	PPU	N3-C2-N1	-2.63	124.60	128.58
56	Z6	76	PPU	O-C-N3'	-2.53	118.42	122.96
56	Z8	76	PPU	C4-C5-C6	2.41	118.40	115.91
56	Z6	76	PPU	C5-N7-C8	2.38	107.20	103.45
56	Z8	76	PPU	C5-N7-C8	2.36	107.16	103.45
56	Z8	76	PPU	N3-C2-N1	-2.33	125.05	128.58
56	Z8	76	PPU	N9-C8-N7	-2.32	110.65	113.94
56	Z6	76	PPU	N9-C8-N7	-2.08	110.98	113.94
56	Z6	76	PPU	C10-N6-C9	-2.06	109.56	116.18

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
56	Z6	76	PPU	CE1-CZ-OC-CM
56	Z6	76	PPU	CE2-CZ-OC-CM
56	Z6	76	PPU	C5-C6-N6-C9
56	Z8	76	PPU	C5-C6-N6-C9

There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	Z8	76	PPU	3	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 706 ligands modelled in this entry, 704 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	$\#\|Z\| > 2$
57	PAR	XA	1601	-	44,45,45	1.32	5 (11%)	63,67,67	1.31	4 (6%)
57	PAR	QA	1601	-	44,45,45	1.27	6 (13%)	63,67,67	1.32	8 (12%)

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
57	PAR	XA	1601	-	-	6/18/94/94	0/4/4/4
57	PAR	QA	1601	-	-	8/18/94/94	0/4/4/4

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
57	QA	1601	PAR	C52-C42	3.19	1.58	1.52
57	XA	1601	PAR	C11-C21	2.86	1.57	1.52
57	XA	1601	PAR	C52-C42	2.86	1.58	1.52
57	QA	1601	PAR	O54-C14	2.84	1.49	1.41
57	XA	1601	PAR	O54-C14	2.82	1.49	1.41
57	XA	1601	PAR	O51-C11	2.60	1.48	1.41
57	QA	1601	PAR	C11-C21	2.37	1.57	1.52
57	QA	1601	PAR	O51-C11	2.32	1.47	1.41
57	XA	1601	PAR	C14-C24	2.19	1.56	1.52
57	QA	1601	PAR	C14-C24	2.09	1.56	1.52
57	QA	1601	PAR	C31-C21	2.03	1.56	1.53

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
57	XA	1601	PAR	O33-C14-C24	5.07	116.37	108.08
57	XA	1601	PAR	C14-O54-C54	4.31	122.13	113.72
57	QA	1601	PAR	O33-C14-C24	4.04	114.69	108.08
57	QA	1601	PAR	C14-O54-C54	3.79	121.13	113.72
57	QA	1601	PAR	O11-C42-C32	-3.13	101.71	109.18
57	QA	1601	PAR	O11-C42-C52	3.12	115.34	107.42
57	QA	1601	PAR	O54-C54-C64	2.86	111.56	106.07

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
57	XA	1601	PAR	O54-C54-C64	2.75	111.35	106.07
57	XA	1601	PAR	C11-O51-C51	2.56	118.72	113.72
57	QA	1601	PAR	C22-C32-C42	2.15	114.77	109.50
57	QA	1601	PAR	O54-C54-C44	-2.14	105.85	109.70
57	QA	1601	PAR	O41-C41-C51	2.02	114.31	109.32

There are no chirality outliers.

All (14) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
57	QA	1601	PAR	C44-C54-C64-N64
57	QA	1601	PAR	O54-C54-C64-N64
57	XA	1601	PAR	O51-C51-C61-O61
57	QA	1601	PAR	O51-C51-C61-O61
57	XA	1601	PAR	C41-C51-C61-O61
57	QA	1601	PAR	C41-C51-C61-O61
57	XA	1601	PAR	C33-C43-C53-O53
57	XA	1601	PAR	O43-C43-C53-O53
57	QA	1601	PAR	O43-C13-O52-C52
57	XA	1601	PAR	O43-C13-O52-C52
57	QA	1601	PAR	C23-C13-O52-C52
57	XA	1601	PAR	C23-C13-O52-C52
57	QA	1601	PAR	C23-C33-O33-C14
57	QA	1601	PAR	C43-C33-O33-C14

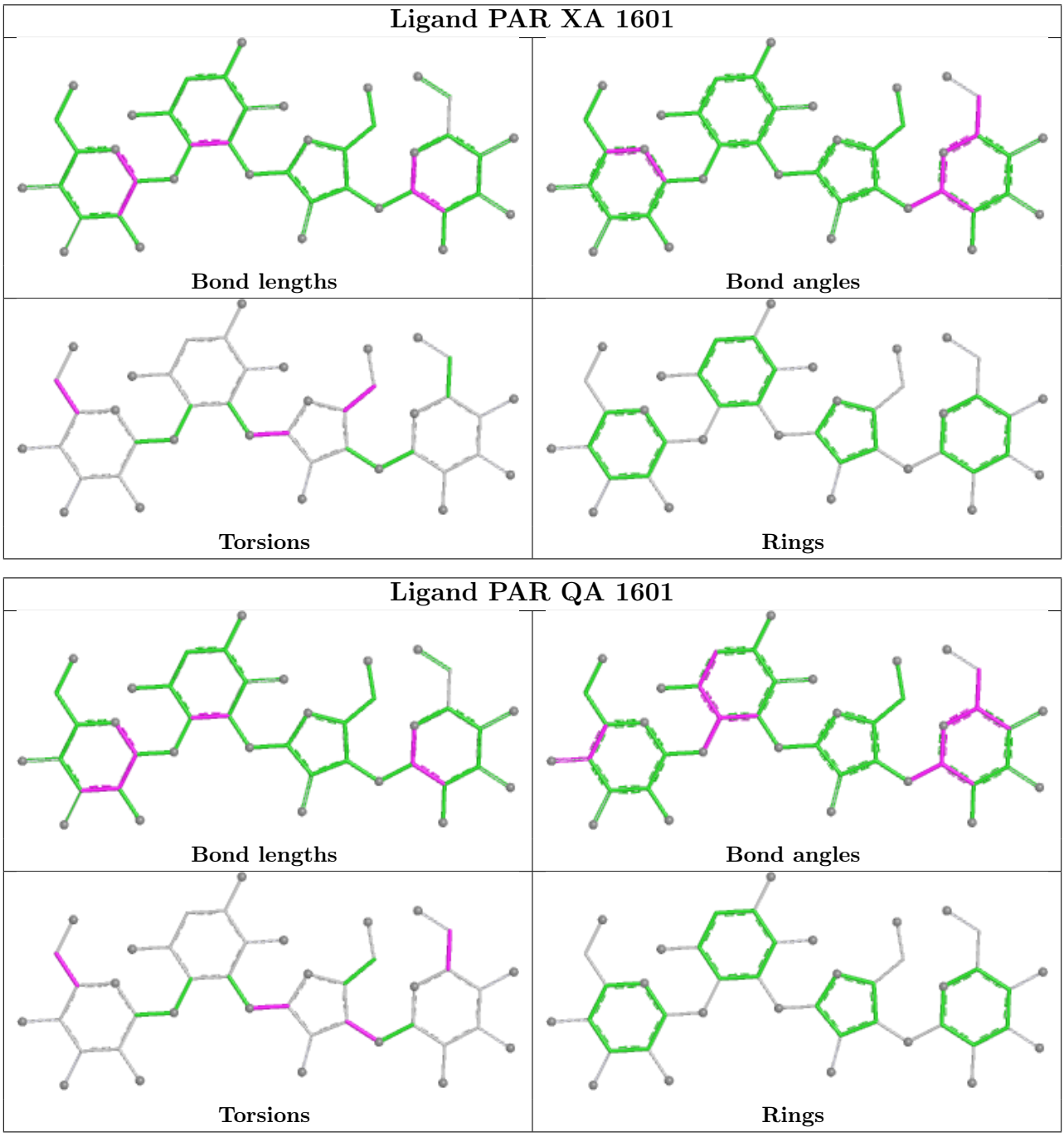
There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
57	XA	1601	PAR	2	0
57	QA	1601	PAR	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier.

The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	QA	1500/1522 (98%)	0.42	56 (3%) 45 28	28, 70, 146, 264	0
1	XA	1500/1522 (98%)	0.39	62 (4%) 41 26	18, 64, 151, 247	0
2	QB	237/256 (92%)	1.01	26 (10%) 10 11	48, 115, 166, 191	0
2	XB	237/256 (92%)	0.86	20 (8%) 17 13	35, 98, 150, 194	0
3	QC	205/239 (85%)	0.69	12 (5%) 28 19	45, 105, 149, 166	0
3	XC	205/239 (85%)	0.47	9 (4%) 39 24	35, 78, 130, 168	0
4	QD	208/209 (99%)	0.83	18 (8%) 16 13	27, 79, 119, 169	0
4	XD	208/209 (99%)	0.92	25 (12%) 9 10	34, 75, 127, 151	0
5	QE	151/162 (93%)	0.58	5 (3%) 49 30	37, 88, 135, 167	0
5	XE	151/162 (93%)	0.54	4 (2%) 57 35	29, 65, 115, 148	0
6	QF	101/101 (100%)	0.42	5 (4%) 34 22	21, 76, 112, 185	0
6	XF	101/101 (100%)	0.68	7 (6%) 23 16	32, 72, 115, 153	0
7	QG	155/156 (99%)	0.87	21 (13%) 7 8	46, 96, 152, 185	0
7	XG	155/156 (99%)	0.71	11 (7%) 22 16	40, 87, 145, 167	0
8	QH	138/138 (100%)	0.85	11 (7%) 18 14	41, 90, 125, 153	0
8	XH	138/138 (100%)	0.53	3 (2%) 62 39	33, 72, 108, 149	0
9	QI	127/128 (99%)	1.05	21 (16%) 4 6	67, 109, 148, 172	0
9	XI	127/128 (99%)	1.03	15 (11%) 9 10	28, 99, 147, 164	0
10	QJ	99/105 (94%)	0.91	11 (11%) 10 11	59, 114, 165, 205	0
10	XJ	99/105 (94%)	1.06	14 (14%) 6 7	41, 103, 147, 171	0
11	QK	119/129 (92%)	0.75	10 (8%) 17 13	35, 79, 130, 177	0
11	XK	119/129 (92%)	0.44	3 (2%) 58 36	24, 71, 125, 182	0
12	QL	125/132 (94%)	0.80	12 (9%) 13 12	30, 70, 120, 182	0
12	XL	125/132 (94%)	0.72	12 (9%) 13 12	15, 58, 120, 182	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
13	QM	121/126 (96%)	1.04	19 (15%) 5 6	36, 106, 144, 196	0
13	XM	121/126 (96%)	0.82	12 (9%) 13 12	38, 88, 137, 187	0
14	QN	60/61 (98%)	0.95	6 (10%) 12 12	58, 97, 124, 142	0
14	XN	60/61 (98%)	0.73	6 (10%) 12 12	34, 75, 109, 125	0
15	QO	88/89 (98%)	0.46	3 (3%) 48 29	30, 79, 123, 154	0
15	XO	88/89 (98%)	0.74	4 (4%) 38 24	28, 73, 108, 124	0
16	QP	84/88 (95%)	0.91	9 (10%) 11 11	35, 69, 107, 152	0
16	XP	84/88 (95%)	0.99	8 (9%) 14 12	34, 74, 129, 163	0
17	QQ	100/105 (95%)	0.75	6 (6%) 27 19	24, 83, 122, 140	0
17	XQ	100/105 (95%)	0.71	7 (7%) 22 16	39, 78, 113, 165	0
18	QR	70/88 (79%)	0.75	6 (8%) 16 13	26, 78, 137, 167	0
18	XR	70/88 (79%)	0.51	2 (2%) 53 33	24, 70, 120, 147	0
19	QS	84/93 (90%)	0.93	10 (11%) 9 10	68, 111, 151, 176	0
19	XS	84/93 (90%)	0.92	10 (11%) 9 10	32, 97, 148, 177	0
20	QT	99/106 (93%)	0.76	11 (11%) 10 11	34, 79, 133, 144	0
20	XT	99/106 (93%)	1.04	14 (14%) 6 7	44, 88, 140, 174	0
21	QU	25/27 (92%)	1.42	5 (20%) 3 3	36, 102, 144, 147	0
21	XU	25/27 (92%)	1.64	8 (32%) 1 1	67, 92, 119, 132	0
22	RA	2882/2916 (98%)	0.27	122 (4%) 40 25	14, 51, 198, 261	0
22	YA	2883/2916 (98%)	0.20	105 (3%) 46 29	8, 43, 187, 292	0
23	RB	120/122 (98%)	0.66	8 (6%) 24 17	53, 81, 118, 144	0
23	YB	120/122 (98%)	0.18	2 (1%) 69 43	36, 67, 98, 136	0
24	RD	272/276 (98%)	0.59	23 (8%) 16 13	9, 50, 100, 155	0
24	YD	272/276 (98%)	0.74	17 (6%) 26 18	2, 42, 86, 187	0
25	RE	205/206 (99%)	0.99	25 (12%) 8 9	17, 61, 126, 193	0
25	YE	205/206 (99%)	0.68	11 (5%) 31 21	3, 56, 124, 170	0
26	RF	202/210 (96%)	0.77	14 (6%) 23 16	9, 61, 124, 182	0
26	YF	202/210 (96%)	0.77	23 (11%) 10 10	10, 53, 113, 148	0
27	RG	181/182 (99%)	0.92	21 (11%) 9 10	42, 97, 145, 178	0
27	YG	181/182 (99%)	0.90	14 (7%) 19 15	40, 80, 130, 201	0
28	RH	170/180 (94%)	1.74	53 (31%) 1 1	67, 134, 177, 201	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
28	YH	170/180 (94%)	0.91	22 (12%) 7 8	24, 76, 126, 177	0
29	RI	146/148 (98%)	0.78	17 (11%) 9 10	24, 87, 130, 181	0
29	YI	146/148 (98%)	0.73	13 (8%) 15 13	19, 86, 127, 152	0
30	RN	138/140 (98%)	0.83	18 (13%) 7 8	29, 68, 121, 174	0
30	YN	138/140 (98%)	0.84	13 (9%) 14 13	13, 56, 111, 173	0
31	RO	122/122 (100%)	0.81	11 (9%) 15 13	11, 55, 102, 158	0
31	YO	122/122 (100%)	0.50	6 (4%) 35 22	9, 51, 88, 123	0
32	RP	150/150 (100%)	1.05	18 (12%) 9 10	13, 69, 133, 176	0
32	YP	150/150 (100%)	0.84	11 (7%) 21 16	12, 61, 122, 182	0
33	RQ	141/141 (100%)	1.03	23 (16%) 4 6	29, 71, 124, 164	0
33	YQ	141/141 (100%)	0.91	26 (18%) 3 4	16, 56, 115, 152	0
34	RR	118/118 (100%)	0.57	6 (5%) 33 22	3, 55, 102, 136	0
34	YR	118/118 (100%)	0.71	7 (5%) 28 19	27, 57, 95, 140	0
35	RS	111/112 (99%)	1.00	11 (9%) 13 12	34, 80, 124, 162	0
35	YS	111/112 (99%)	0.82	8 (7%) 21 16	27, 72, 113, 138	0
36	RT	137/146 (93%)	0.84	10 (7%) 21 16	27, 67, 143, 169	0
36	YT	137/146 (93%)	0.59	8 (5%) 29 19	19, 65, 135, 172	0
37	RU	117/118 (99%)	0.79	10 (8%) 16 13	12, 62, 111, 167	0
37	YU	117/118 (99%)	0.91	12 (10%) 12 12	13, 45, 111, 172	0
38	RV	101/101 (100%)	0.59	4 (3%) 42 26	16, 78, 131, 186	0
38	YV	101/101 (100%)	1.00	10 (9%) 13 12	21, 68, 139, 214	0
39	RW	113/113 (100%)	0.47	7 (6%) 26 18	15, 47, 106, 158	0
39	YW	113/113 (100%)	0.55	4 (3%) 47 29	16, 46, 106, 168	0
40	RX	92/96 (95%)	0.57	2 (2%) 62 39	17, 56, 103, 130	0
40	YX	92/96 (95%)	0.48	3 (3%) 49 30	9, 42, 86, 138	0
41	RY	102/110 (92%)	1.74	37 (36%) 1 1	28, 86, 142, 176	0
41	YY	102/110 (92%)	1.16	22 (21%) 2 3	30, 73, 138, 185	0
42	RZ	183/206 (88%)	0.62	7 (3%) 44 28	45, 92, 141, 160	0
42	YZ	183/206 (88%)	0.44	12 (6%) 24 17	21, 82, 136, 178	0
43	R0	82/85 (96%)	0.12	4 (4%) 35 22	9, 51, 88, 102	0
43	Y0	82/85 (96%)	0.14	2 (2%) 59 36	20, 48, 73, 92	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
44	R1	97/98 (98%)	1.18	16 (16%) 4 6	13, 60, 144, 182	0
44	Y1	97/98 (98%)	1.27	21 (21%) 2 3	7, 53, 136, 172	0
45	R2	69/72 (95%)	0.83	8 (11%) 9 10	36, 77, 136, 164	0
45	Y2	69/72 (95%)	0.89	7 (10%) 12 12	18, 57, 116, 159	0
46	R3	59/60 (98%)	0.78	3 (5%) 33 22	33, 76, 118, 142	0
46	Y3	59/60 (98%)	0.71	4 (6%) 23 17	19, 57, 109, 169	0
47	R4	71/71 (100%)	1.48	14 (19%) 3 3	61, 142, 196, 236	0
47	Y4	71/71 (100%)	1.27	13 (18%) 3 4	58, 131, 182, 223	0
48	R5	59/60 (98%)	0.96	8 (13%) 7 8	12, 66, 149, 160	0
48	Y5	59/60 (98%)	0.95	8 (13%) 7 8	17, 64, 166, 185	0
49	R6	49/54 (90%)	2.05	23 (46%) 0 1	101, 159, 184, 200	0
49	Y6	49/54 (90%)	1.62	16 (32%) 1 1	95, 152, 182, 209	0
50	R7	49/49 (100%)	0.77	5 (10%) 12 12	11, 41, 95, 153	0
50	Y7	49/49 (100%)	0.52	2 (4%) 41 26	6, 33, 78, 135	0
51	R8	64/65 (98%)	1.22	13 (20%) 3 3	18, 59, 121, 163	0
51	Y8	64/65 (98%)	1.08	13 (20%) 3 3	16, 52, 108, 164	0
52	R9	37/37 (100%)	3.11	27 (72%) 0 0	92, 141, 184, 204	0
52	Y9	37/37 (100%)	3.77	34 (91%) 0 0	102, 132, 168, 182	0
53	QV	77/77 (100%)	0.71	6 (7%) 19 14	35, 82, 137, 160	0
53	XV	77/77 (100%)	0.44	3 (3%) 43 27	11, 71, 111, 159	0
54	QX	8/25 (32%)	1.01	1 (12%) 8 9	44, 56, 107, 137	0
54	XX	8/25 (32%)	0.81	1 (12%) 8 9	37, 46, 104, 148	0
55	QY	8/17 (47%)	0.32	1 (12%) 8 9	62, 74, 124, 144	0
55	XY	8/17 (47%)	0.20	0 100 100	54, 71, 109, 122	0
56	Z6	2/3 (66%)	0.33	0 100 100	45, 45, 45, 52	0
56	Z8	2/3 (66%)	0.41	0 100 100	30, 30, 30, 32	0
All	All	20861/21492 (97%)	0.60	1588 (7%) 20 15	2, 66, 150, 292	0

All (1588) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
47	R4	49	PHE	8.4
29	YI	117	GLU	8.0

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Mol	Chain	Res	Type	RSRZ
50	R7	49	ARG	7.7
18	QR	88	LYS	7.7
22	RA	2159	G	7.5
52	Y9	26	ILE	7.2
7	QG	32	ARG	7.0
50	Y7	48	LYS	6.8
53	QV	1	C	6.7
7	XG	5	ARG	6.6
22	RA	2121	G	6.5
22	RA	2146	C	6.3
41	RY	29	GLU	6.3
50	R7	48	LYS	6.3
7	QG	81	GLY	6.3
52	Y9	12	ASP	6.2
4	XD	50	ARG	6.2
22	YA	2188	C	6.2
48	R5	2	ALA	6.0
48	Y5	2	ALA	6.0
45	Y2	11	GLU	5.9
28	RH	108	GLY	5.9
44	Y1	98	LEU	5.8
52	Y9	31	LYS	5.8
52	R9	11	CYS	5.8
52	Y9	2	LYS	5.7
27	YG	84	LYS	5.7
4	QD	49	ARG	5.7
42	YZ	113	ALA	5.7
36	YT	104	ASN	5.6
8	XH	1	MET	5.6
35	RS	20	ARG	5.6
4	QD	50	ARG	5.5
33	RQ	80	GLU	5.5
32	YP	13	ASN	5.5
52	R9	36	GLN	5.5
49	R6	5	VAL	5.5
52	R9	14	CYS	5.5
33	RQ	140	ALA	5.4
52	Y9	32	HIS	5.4
5	XE	21	ALA	5.4
44	Y1	92	LYS	5.4
54	XX	8	A	5.4
33	YQ	80	GLU	5.3

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Mol	Chain	Res	Type	RSRZ
38	YV	36	PRO	5.3
22	YA	2709	G	5.3
13	QM	122	LYS	5.3
22	YA	2116	G	5.3
47	R4	66	SER	5.3
44	R1	98	LEU	5.3
52	R9	12	ASP	5.3
52	Y9	29	ASN	5.2
9	QI	110	GLU	5.2
47	Y4	69	LYS	5.2
22	RA	2160	G	5.2
32	RP	13	ASN	5.2
10	QJ	46	ARG	5.2
52	R9	2	LYS	5.1
22	RA	2144	U	5.1
52	Y9	20	HIS	5.1
26	YF	131	GLY	5.0
1	XA	1182	G	5.0
47	Y4	40	HIS	5.0
12	XL	28	LYS	5.0
52	Y9	3	VAL	5.0
52	R9	13	LYS	5.0
14	XN	2	ALA	4.9
22	RA	2148	G	4.9
22	RA	2145	C	4.9
41	YY	2	ARG	4.9
45	Y2	12	GLU	4.9
49	Y6	23	THR	4.9
47	R4	69	LYS	4.8
22	RA	2142	C	4.8
52	Y9	21	GLY	4.8
52	Y9	8	LYS	4.8
47	R4	70	GLY	4.7
21	XU	2	GLY	4.7
38	YV	53	GLU	4.7
13	QM	121	LYS	4.7
9	XI	66	ARG	4.7
31	YO	80	ASP	4.7
27	YG	35	GLU	4.7
51	R8	65	GLU	4.7
27	YG	116	ASP	4.7
49	R6	42	TRP	4.7

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Mol	Chain	Res	Type	RSRZ
27	RG	75	LYS	4.7
4	XD	163	GLU	4.7
22	RA	161	U	4.7
51	R8	53	PRO	4.6
29	RI	12	LEU	4.6
28	RH	154	PRO	4.6
32	RP	109	GLY	4.6
52	Y9	37	GLY	4.6
52	R9	26	ILE	4.6
22	YA	2166	G	4.6
1	QA	82	U	4.6
41	RY	52	SER	4.6
28	RH	152	ARG	4.6
34	YR	69	ASP	4.6
29	YI	84	GLY	4.6
50	Y7	49	ARG	4.6
29	RI	20	ASP	4.5
25	YE	21	VAL	4.5
25	RE	193	GLY	4.5
33	YQ	91	GLU	4.5
33	YQ	90	VAL	4.5
33	RQ	112	GLU	4.5
52	Y9	15	LYS	4.5
11	QK	129	SER	4.4
28	RH	97	ARG	4.5
21	QU	2	GLY	4.4
42	RZ	114	GLY	4.4
41	RY	102	CYS	4.4
22	RA	2143	C	4.4
22	RA	2141	G	4.4
32	RP	79	ARG	4.4
52	R9	32	HIS	4.4
2	QB	79	ASP	4.4
52	Y9	25	VAL	4.4
47	R4	68	ARG	4.4
37	YU	97	ASP	4.4
1	QA	1348	U	4.4
30	RN	10	GLU	4.4
28	RH	88	LEU	4.4
52	R9	30	PRO	4.4
2	QB	179	LYS	4.4
22	RA	171	G	4.4

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Mol	Chain	Res	Type	RSRZ
35	RS	57	LYS	4.4
28	YH	3	ARG	4.3
1	XA	328	C	4.3
52	R9	31	LYS	4.3
1	QA	1531	A	4.3
22	YA	2697	G	4.3
25	RE	121	ASN	4.3
14	XN	17	LYS	4.3
26	YF	69	HIS	4.3
38	YV	58	VAL	4.3
25	RE	159	HIS	4.2
28	RH	43	VAL	4.2
25	RE	77	ILE	4.2
52	Y9	17	ILE	4.2
8	QH	1	MET	4.2
29	YI	17	GLN	4.2
29	RI	2	LYS	4.2
12	XL	129	ALA	4.2
12	QL	28	LYS	4.2
27	YG	26	GLN	4.2
1	QA	328	C	4.2
41	YY	102	CYS	4.2
1	XA	313	A	4.2
52	Y9	36	GLN	4.2
30	RN	50	ASP	4.1
36	RT	46	GLU	4.1
22	RA	2182	G	4.1
1	QA	88	C	4.1
1	XA	1437	C	4.1
13	QM	6	GLY	4.1
41	RY	103	GLY	4.1
29	YI	118	LYS	4.1
13	QM	101	GLN	4.1
41	RY	4	LYS	4.1
35	YS	2	ALA	4.1
1	XA	1531	A	4.1
22	YA	887	A	4.1
44	Y1	95	LEU	4.1
4	XD	73	ARG	4.1
16	XP	25	ARG	4.1
51	R8	40	GLU	4.0
13	XM	94	ARG	4.0

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Mol	Chain	Res	Type	RSRZ
22	RA	2156	G	4.0
52	Y9	6	SER	4.0
7	QG	33	ASP	4.0
30	YN	68	GLU	4.0
35	RS	64	GLU	4.0
28	RH	93	GLY	4.0
33	YQ	19	GLY	4.0
16	QP	54	GLU	4.0
26	YF	70	THR	4.0
36	YT	106	SER	4.0
49	R6	13	CYS	4.0
22	RA	34	C	4.0
44	R1	95	LEU	4.0
7	QG	78	ARG	4.0
47	R4	9	LEU	4.0
28	RH	89	ILE	3.9
52	R9	15	LYS	3.9
24	RD	33	LEU	3.9
51	Y8	64	TYR	3.9
6	XF	55	ASP	3.9
1	XA	1257	U	3.9
30	RN	115	ARG	3.9
47	R4	71	ARG	3.9
19	XS	11	VAL	3.9
28	RH	169	VAL	3.9
41	RY	45	VAL	3.9
52	R9	16	VAL	3.9
32	YP	74	GLU	3.9
32	RP	108	LYS	3.9
52	R9	23	VAL	3.9
53	XV	1	C	3.9
2	QB	231	GLU	3.9
47	R4	67	TYR	3.9
8	QH	4	ASP	3.9
10	XJ	98	ILE	3.9
13	XM	6	GLY	3.9
24	YD	30	GLU	3.9
25	YE	204	ALA	3.9
22	RA	1092	C	3.9
29	RI	1	MET	3.9
22	RA	2147	G	3.9
22	YA	2141	G	3.9

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Mol	Chain	Res	Type	RSRZ
51	Y8	40	GLU	3.9
27	RG	84	LYS	3.9
28	RH	109	PHE	3.9
38	YV	48	GLY	3.9
41	RY	96	ILE	3.8
2	QB	4	GLU	3.8
51	Y8	56	GLU	3.8
52	Y9	24	TYR	3.8
22	RA	2122	U	3.8
42	RZ	113	ALA	3.8
11	QK	92	GLU	3.8
12	XL	19	ARG	3.8
33	YQ	140	ALA	3.8
28	RH	111	HIS	3.8
20	XT	72	LEU	3.8
39	RW	22	ASP	3.8
23	RB	89(A)	A	3.8
22	RA	2112	G	3.8
22	RA	2149	G	3.8
52	R9	17	ILE	3.8
12	QL	19	ARG	3.8
52	Y9	1	MET	3.7
38	YV	45	THR	3.7
16	XP	29	ASP	3.7
30	YN	138	LEU	3.7
22	YA	2189	U	3.7
2	XB	217	ARG	3.7
34	RR	68	ARG	3.7
4	QD	32	ALA	3.7
7	QG	82	GLY	3.7
44	R1	85	LEU	3.7
28	RH	94	TYR	3.7
29	RI	18	VAL	3.7
1	QA	1182	G	3.7
52	R9	25	VAL	3.7
4	XD	76	ARG	3.7
25	RE	163	GLU	3.7
28	RH	112	PRO	3.7
52	Y9	22	ARG	3.7
52	Y9	34	GLN	3.7
41	RY	46	LYS	3.7
27	RG	152	LEU	3.7

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Mol	Chain	Res	Type	RSRZ
26	RF	131	GLY	3.6
33	YQ	87	LYS	3.6
18	QR	46	GLU	3.6
22	YA	2107	C	3.6
2	XB	160	ASP	3.6
2	QB	19	HIS	3.6
4	XD	32	ALA	3.6
41	RY	16	ALA	3.6
26	RF	83	PHE	3.6
1	QA	1451	A	3.6
44	R1	80	LEU	3.6
27	YG	52	ILE	3.6
33	YQ	24	GLY	3.6
38	YV	84	LYS	3.6
22	YA	2142	C	3.6
28	RH	104	GLU	3.6
28	RH	90	LYS	3.6
30	RN	84	LYS	3.6
22	RA	2169	A	3.6
1	XA	1436	U	3.6
22	RA	1026	U	3.6
41	RY	43	ASN	3.6
28	RH	162	ILE	3.6
22	RA	2179	C	3.6
6	QF	83	ASP	3.6
1	QA	108	G	3.6
17	QQ	24	GLU	3.6
22	RA	614	U	3.6
3	QC	190	ARG	3.6
9	XI	128	ARG	3.6
9	QI	27	THR	3.6
52	R9	33	LYS	3.5
7	QG	5	ARG	3.5
13	QM	7	VAL	3.5
22	RA	2135	A	3.5
20	XT	9	ASN	3.5
52	Y9	23	VAL	3.5
49	Y6	42	TRP	3.5
22	RA	1103	A	3.5
49	R6	27	LYS	3.5
49	Y6	8	LYS	3.5
13	QM	61	GLU	3.5

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Mol	Chain	Res	Type	RSRZ
8	QH	86	ILE	3.5
7	XG	34	GLY	3.5
24	RD	5	LYS	3.5
27	RG	138	GLN	3.5
33	RQ	10	ARG	3.5
49	R6	18	ARG	3.5
1	QA	1453	G	3.5
22	RA	2120	G	3.5
22	YA	2106	G	3.5
35	RS	37	ALA	3.5
49	Y6	22	ALA	3.5
28	RH	148	ILE	3.5
52	Y9	9	ARG	3.5
52	Y9	35	ARG	3.5
2	XB	133	LYS	3.4
47	R4	51	ASP	3.4
41	RY	2	ARG	3.4
44	Y1	96	LYS	3.4
33	YQ	112	GLU	3.4
52	Y9	16	VAL	3.4
22	RA	1306	C	3.4
51	R8	63	PRO	3.4
47	Y4	67	TYR	3.4
45	R2	11	GLU	3.4
15	XO	89	GLY	3.4
31	RO	45	GLU	3.4
38	YV	101	GLY	3.4
2	QB	195	ASP	3.4
2	XB	96	ARG	3.4
41	RY	17	SER	3.4
13	XM	8	GLU	3.4
21	XU	15	ARG	3.4
22	RA	2119	A	3.4
25	RE	21	VAL	3.4
13	QM	120	LYS	3.3
28	RH	110	SER	3.3
47	Y4	68	ARG	3.3
5	QE	81	GLU	3.3
22	YA	2143	C	3.3
42	YZ	168	GLU	3.3
28	RH	145	ALA	3.3
37	YU	90	VAL	3.3

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Mol	Chain	Res	Type	RSRZ
49	R6	38	LYS	3.3
27	RG	33	ARG	3.3
28	RH	100	GLY	3.3
27	YG	137	GLU	3.3
32	RP	35	HIS	3.3
35	RS	11	LYS	3.3
22	YA	2165	G	3.3
1	XA	110	C	3.3
11	XK	129	SER	3.3
49	R6	40	CYS	3.3
32	RP	74	GLU	3.3
52	R9	28	GLU	3.3
2	QB	16	HIS	3.3
5	QE	94	ALA	3.3
11	QK	89	ALA	3.3
47	Y4	37	SER	3.3
1	QA	89	U	3.3
47	R4	47	GLN	3.3
48	Y5	3	LYS	3.3
22	YA	2710	C	3.3
1	XA	111	G	3.3
22	YA	11	G	3.3
28	RH	99	VAL	3.3
28	YH	155	SER	3.3
33	YQ	21	THR	3.3
48	Y5	51	TYR	3.3
13	QM	75	ALA	3.2
41	RY	77	PRO	3.2
49	Y6	5	VAL	3.2
37	RU	97	ASP	3.2
46	Y3	18	ASP	3.2
16	QP	31	LYS	3.2
20	XT	14	LYS	3.2
25	YE	163	GLU	3.2
25	RE	76	ARG	3.2
41	YY	99	CYS	3.2
13	XM	7	VAL	3.2
24	YD	33	LEU	3.2
10	XJ	5	ARG	3.2
22	YA	614	U	3.2
37	RU	59	ARG	3.2
11	XK	128	ALA	3.2

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Mol	Chain	Res	Type	RSRZ
22	RA	1104	C	3.2
1	XA	324	G	3.2
2	QB	155	LEU	3.2
9	QI	75	ASP	3.2
22	YA	2190	G	3.2
28	YH	171	LEU	3.2
49	R6	7	ILE	3.2
6	QF	47	ARG	3.2
11	QK	127	LYS	3.2
20	QT	54	LYS	3.2
41	YY	63	LYS	3.2
41	YY	76	CYS	3.2
27	YG	80	PHE	3.2
46	R3	29	ARG	3.2
51	Y8	35	GLN	3.2
6	XF	95	GLU	3.2
28	RH	96	ALA	3.2
45	R2	8	LYS	3.2
48	R5	3	LYS	3.2
1	QA	230	G	3.2
22	RA	2155	G	3.2
21	XU	10	ARG	3.2
27	RG	91	ARG	3.2
36	RT	3	ARG	3.2
26	YF	8	GLN	3.2
41	YY	91	GLU	3.2
29	YI	144	VAL	3.2
38	YV	46	VAL	3.2
41	YY	6	HIS	3.2
1	XA	269	C	3.1
1	XA	312	C	3.1
22	RA	1305	C	3.1
22	RA	2170	A	3.1
26	YF	56	GLU	3.1
27	RG	137	GLU	3.1
34	RR	69	ASP	3.1
10	XJ	59	SER	3.1
47	Y4	66	SER	3.1
22	YA	2805	G	3.1
20	XT	80	ARG	3.1
22	RA	270(L)	U	3.1
23	RB	41	U	3.1

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Mol	Chain	Res	Type	RSRZ
25	RE	79	ARG	3.1
40	YX	68	ARG	3.1
16	XP	68	ASP	3.1
1	XA	262	A	3.1
22	YA	2145	C	3.1
10	QJ	55	LYS	3.1
12	QL	115	LYS	3.1
29	RI	16	GLY	3.1
16	QP	48	TRP	3.1
13	QM	8	GLU	3.1
51	R8	56	GLU	3.1
27	RG	116	ASP	3.1
4	XD	151	LYS	3.1
21	QU	10	ARG	3.1
28	RH	106	THR	3.1
1	XA	87	A	3.1
9	XI	106	ALA	3.1
22	RA	2138	C	3.1
22	YA	2146	C	3.1
45	R2	66	GLU	3.1
27	RG	80	PHE	3.1
3	XC	179	ARG	3.1
4	QD	30	LYS	3.1
5	XE	24	ARG	3.1
20	QT	74	LYS	3.1
41	RY	76	CYS	3.1
1	XA	1125	U	3.1
20	XT	19	SER	3.1
7	XG	32	ARG	3.1
13	QM	10	PRO	3.1
28	YH	152	ARG	3.1
30	YN	115	ARG	3.1
38	RV	36	PRO	3.1
25	RE	63	LEU	3.1
1	XA	842	C	3.1
28	YH	5	GLY	3.1
41	RY	22	GLY	3.1
51	R8	64	TYR	3.0
20	XT	79	ARG	3.0
33	YQ	1	MET	3.0
44	R1	11	ARG	3.0
34	YR	72	ASP	3.0

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Mol	Chain	Res	Type	RSRZ
37	YU	91	ASP	3.0
22	RA	1176	G	3.0
49	R6	14	THR	3.0
36	RT	106	SER	3.0
22	YA	1379	A	3.0
22	YA	2114	A	3.0
41	YY	46	LYS	3.0
49	R6	20	ASN	3.0
25	RE	149	ARG	3.0
28	RH	170	ARG	3.0
41	YY	62	GLU	3.0
51	Y8	61	LEU	3.0
1	XA	311	C	3.0
22	YA	2105	C	3.0
16	QP	33	ILE	3.0
46	Y3	32	GLN	3.0
39	YW	113	LYS	3.0
13	QM	102	ARG	3.0
44	Y1	97	LEU	3.0
49	Y6	26	ASN	3.0
1	QA	1124	G	3.0
22	RA	1059	G	3.0
22	RA	2211	G	3.0
7	QG	36	LYS	3.0
41	RY	33	LYS	3.0
45	Y2	15	LYS	3.0
7	QG	152	ALA	3.0
11	QK	128	ALA	3.0
41	RY	5	MET	3.0
12	XL	49	ASN	3.0
4	QD	80	GLU	3.0
10	QJ	64	GLU	3.0
12	QL	18	VAL	3.0
20	XT	70	SER	3.0
49	R6	23	THR	3.0
33	RQ	81	VAL	3.0
50	R7	23	ARG	3.0
22	YA	2187	G	3.0
22	YA	2706	G	3.0
17	XQ	24	GLU	3.0
47	Y4	39	CYS	3.0
52	Y9	14	CYS	3.0

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Mol	Chain	Res	Type	RSRZ
1	QA	934	C	3.0
1	XA	1527	C	3.0
22	RA	2140	C	3.0
22	YA	2140	C	3.0
51	Y8	45	GLY	3.0
1	XA	1450	U	3.0
7	XG	152	ALA	3.0
9	QI	105	ASP	3.0
4	XD	24	GLU	2.9
24	RD	237	GLU	2.9
26	RF	206	ILE	2.9
33	YQ	139	GLU	2.9
42	RZ	169	GLU	2.9
42	YZ	115	GLY	2.9
1	XA	815	A	2.9
7	QG	10	ARG	2.9
8	XH	3	THR	2.9
22	YA	2062	A	2.9
1	QA	1397	C	2.9
22	YA	1383	C	2.9
28	YH	39	PRO	2.9
33	RQ	139	GLU	2.9
1	QA	1125	U	2.9
4	XD	209	ARG	2.9
16	XP	75	ARG	2.9
28	RH	113	VAL	2.9
41	RY	24	VAL	2.9
41	RY	73	ARG	2.9
41	RY	98	VAL	2.9
27	YG	74	LYS	2.9
20	QT	73	HIS	2.9
28	RH	163	TYR	2.9
28	RH	164	TYR	2.9
4	QD	156	GLU	2.9
29	RI	137	PRO	2.9
33	YQ	111	GLU	2.9
7	QG	34	GLY	2.9
27	RG	136	ARG	2.9
28	YH	6	ARG	2.9
30	YN	46	VAL	2.9
1	QA	1181	G	2.9
1	QA	1190	G	2.9

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Mol	Chain	Res	Type	RSRZ
1	XA	306	G	2.9
1	XA	1438	G	2.9
13	XM	2	ALA	2.9
22	RA	2104	G	2.9
22	RA	2136	C	2.9
49	R6	22	ALA	2.9
43	R0	4	LYS	2.9
22	YA	270(M)	U	2.9
22	YA	2696	U	2.9
52	R9	10	ILE	2.9
3	QC	193	TYR	2.9
33	RQ	1	MET	2.9
2	XB	130	ARG	2.9
40	YX	65	ARG	2.9
20	XT	18	GLN	2.9
26	YF	132	VAL	2.9
29	RI	86	THR	2.9
7	QG	2	ALA	2.9
25	YE	205	ALA	2.9
22	RA	1057	A	2.9
53	XV	73	A	2.9
28	RH	71	LEU	2.9
44	Y1	80	LEU	2.9
17	XQ	13	ASP	2.9
26	YF	66	PRO	2.9
51	Y8	53	PRO	2.9
26	YF	27	GLU	2.9
32	YP	16	ARG	2.9
1	XA	314	C	2.9
1	XA	1129	C	2.9
22	YA	1013	C	2.9
22	YA	1836	C	2.9
22	YA	2695	C	2.9
1	QA	809	G	2.9
22	RA	2116	G	2.9
23	RB	89	G	2.9
26	RF	6	VAL	2.9
44	R1	65	SER	2.9
52	Y9	13	LYS	2.9
13	QM	2	ALA	2.9
29	YI	12	LEU	2.9
6	XF	56	PRO	2.9

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Mol	Chain	Res	Type	RSRZ
44	R1	89	GLU	2.9
49	R6	25	LYS	2.9
49	R6	46	HIS	2.8
22	RA	2062	A	2.8
33	RQ	21	THR	2.8
37	YU	96	ALA	2.8
22	YA	277	C	2.8
31	YO	17	ARG	2.8
33	RQ	133	ARG	2.8
22	YA	669	G	2.8
22	YA	1347	G	2.8
49	R6	8	LYS	2.8
49	Y6	38	LYS	2.8
52	R9	27	CYS	2.8
5	XE	83	GLU	2.8
21	XU	16	GLY	2.8
27	RG	126	ASP	2.8
45	Y2	70	GLN	2.8
52	R9	20	HIS	2.8
44	Y1	54	ALA	2.8
16	XP	1	MET	2.8
22	RA	2158	A	2.8
20	XT	11	SER	2.8
42	YZ	155	LEU	2.8
1	QA	1257	U	2.8
2	QB	40	HIS	2.8
19	QS	69	HIS	2.8
25	YE	193	GLY	2.8
22	RA	2107	C	2.8
22	RA	2175	C	2.8
22	YA	2804	C	2.8
25	YE	67	PHE	2.8
1	XA	108	G	2.8
22	RA	2125	G	2.8
22	RA	2154	G	2.8
40	RX	65	ARG	2.8
14	XN	14	PRO	2.8
4	XD	124	GLY	2.8
41	RY	64	GLU	2.8
1	QA	532	A	2.8
9	QI	43	ALA	2.8
22	YA	1177	A	2.8

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Mol	Chain	Res	Type	RSRZ
30	YN	134	ARG	2.8
36	RT	29	ARG	2.8
41	YY	86	ARG	2.8
41	RY	31	LEU	2.8
1	QA	312	C	2.8
1	XA	106	C	2.8
17	XQ	35	VAL	2.8
28	RH	114	VAL	2.8
28	RH	155	SER	2.8
48	Y5	52	TYR	2.8
9	XI	12	GLU	2.8
30	YN	49	GLY	2.8
41	YY	43	ASN	2.8
22	RA	2655	G	2.8
22	YA	2121	G	2.8
27	RG	115	ARG	2.8
29	YI	145	VAL	2.8
26	YF	161	GLU	2.8
24	RD	259	THR	2.8
24	YD	26	LYS	2.8
7	QG	41	ARG	2.7
11	QK	91	ARG	2.7
42	RZ	163	LEU	2.7
1	QA	1352	C	2.7
22	RA	2695	C	2.7
6	XF	17	SER	2.7
39	RW	13	SER	2.7
44	Y1	38	SER	2.7
33	YQ	7	MET	2.7
4	QD	145	GLU	2.7
14	XN	30	ALA	2.7
18	QR	83	GLU	2.7
43	R0	2	ALA	2.7
45	Y2	66	GLU	2.7
1	XA	1529	G	2.7
22	RA	2123	G	2.7
28	YH	59	ARG	2.7
42	RZ	33	LEU	2.7
22	RA	6	A	2.7
22	RA	1084	A	2.7
22	YA	2117	A	2.7
22	YA	2119	A	2.7

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Mol	Chain	Res	Type	RSRZ
31	YO	81	ASP	2.7
37	RU	91	ASP	2.7
39	RW	67	ASP	2.7
1	XA	1281	U	2.7
52	R9	1	MET	2.7
5	QE	20	GLN	2.7
48	R5	51	TYR	2.7
37	YU	89	GLU	2.7
1	XA	1397	C	2.7
7	QG	4	ARG	2.7
9	QI	10	ARG	2.7
28	RH	149	ARG	2.7
29	RI	11	ASN	2.7
52	Y9	4	ARG	2.7
16	XP	27	LYS	2.7
20	QT	38	LYS	2.7
34	YR	14	SER	2.7
26	YF	6	VAL	2.7
1	XA	81	G	2.7
1	XA	260	G	2.7
2	QB	11	LEU	2.7
22	RA	2117	A	2.7
22	RA	2790	A	2.7
13	XM	100	GLY	2.7
48	Y5	46	CYS	2.7
52	R9	37	GLY	2.7
13	QM	88	ARG	2.7
15	QO	26	GLU	2.7
27	RG	118	ARG	2.7
47	Y4	5	ILE	2.7
22	YA	2144	U	2.7
49	Y6	46	HIS	2.7
1	QA	1234	C	2.7
22	YA	1556	C	2.7
22	YA	2699	C	2.7
4	QD	47	ARG	2.7
4	QD	73	ARG	2.7
15	XO	20	GLY	2.7
30	YN	36	GLY	2.7
47	Y4	70	GLY	2.7
4	XD	9	CYS	2.7
13	QM	103	THR	2.7

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Mol	Chain	Res	Type	RSRZ
31	RO	9	GLU	2.7
7	QG	28	ASN	2.7
25	RE	143	ASN	2.7
21	QU	26	LYS	2.7
41	RY	81	LYS	2.7
1	QA	1349	A	2.7
22	YA	229	A	2.7
20	XT	16	HIS	2.7
41	RY	3	VAL	2.7
1	QA	181	G	2.7
1	QA	232	G	2.7
1	XA	1453	G	2.7
22	RA	1764	G	2.7
22	RA	2165	G	2.7
22	YA	1630	G	2.7
19	XS	76	PRO	2.7
26	RF	81	PRO	2.7
31	RO	81	ASP	2.7
41	RY	32	PRO	2.7
7	QG	79	ARG	2.7
20	QT	45	GLN	2.7
11	QK	25	TYR	2.7
28	RH	153	LYS	2.7
1	QA	311	C	2.7
22	RA	2129	C	2.7
22	YA	2137	C	2.7
53	QV	74	C	2.7
18	XR	42	ARG	2.6
39	YW	92	ARG	2.6
15	QO	84	LYS	2.6
22	RA	896	A	2.6
35	RS	93	LYS	2.6
4	QD	24	GLU	2.6
22	RA	2189	U	2.6
22	YA	1629	U	2.6
22	YA	1963	U	2.6
1	QA	310	G	2.6
22	YA	1296	G	2.6
12	QL	129	ALA	2.6
7	QG	35	LYS	2.6
13	QM	119	GLY	2.6
14	QN	2	ALA	2.6

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Mol	Chain	Res	Type	RSRZ
19	XS	56	GLN	2.6
33	RQ	87	LYS	2.6
33	YQ	22	LYS	2.6
52	Y9	33	LYS	2.6
22	RA	2108	C	2.6
22	RA	2188	C	2.6
29	YI	122	GLU	2.6
2	QB	181	PHE	2.6
36	YT	6	LEU	2.6
2	QB	15	VAL	2.6
19	XS	9	VAL	2.6
19	XS	67	VAL	2.6
28	RH	144	VAL	2.6
14	XN	15	LYS	2.6
22	RA	1420	U	2.6
22	YA	1026	U	2.6
3	QC	167	TRP	2.6
10	QJ	47	PHE	2.6
22	YA	270(N)	G	2.6
22	YA	2708	G	2.6
42	YZ	166	SER	2.6
6	XF	46	ARG	2.6
39	RW	92	ARG	2.6
2	QB	22	LYS	2.6
1	QA	1437	C	2.6
41	RY	82	PRO	2.6
28	RH	33	LEU	2.6
32	YP	1	MET	2.6
1	XA	325	A	2.6
8	QH	33	GLU	2.6
22	RA	1510	A	2.6
22	YA	529	A	2.6
34	YR	102	GLU	2.6
44	Y1	27	GLU	2.6
54	QX	8	A	2.6
1	XA	261	U	2.6
1	XA	1126	U	2.6
9	XI	126	SER	2.6
10	XJ	75	ILE	2.6
23	YB	1	U	2.6
44	R1	8	SER	2.6
16	XP	28	ARG	2.6

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Mol	Chain	Res	Type	RSRZ
31	RO	97	ARG	2.6
25	YE	63	LEU	2.6
28	RH	29	PRO	2.6
44	Y1	77	ALA	2.6
22	RA	2166	G	2.6
48	R5	49	CYS	2.6
55	QY	40	G	2.6
1	QA	1509	C	2.6
22	YA	2175	C	2.6
25	RE	37	ARG	2.6
36	RT	87	ASP	2.6
27	RG	74	LYS	2.6
28	RH	95	ARG	2.6
44	Y1	11	ARG	2.6
49	Y6	25	LYS	2.6
1	XA	134	A	2.6
2	QB	146	GLN	2.6
33	YQ	20	ALA	2.6
3	QC	159	GLY	2.6
22	RA	2180	U	2.6
9	QI	117	HIS	2.5
4	XD	12	CYS	2.5
33	RQ	32	TYR	2.5
51	R8	34	TRP	2.5
2	XB	12	GLU	2.5
10	QJ	45	ARG	2.5
10	XJ	55	LYS	2.5
13	XM	102	ARG	2.5
21	QU	6	ARG	2.5
30	RN	118	LYS	2.5
32	YP	15	ARG	2.5
33	YQ	48	GLU	2.5
36	YT	11	GLU	2.5
41	RY	62	GLU	2.5
48	Y5	55	ARG	2.5
27	RG	156	ASP	2.5
28	YH	64	LEU	2.5
38	YV	38	LEU	2.5
1	QA	1373	G	2.5
22	RA	1093	G	2.5
22	RA	1112	G	2.5
22	YA	2104	G	2.5

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Mol	Chain	Res	Type	RSRZ
26	YF	128	ALA	2.5
48	Y5	53	ALA	2.5
44	Y1	9	GLY	2.5
10	QJ	62	HIS	2.5
22	RA	172	C	2.5
22	YA	2700	C	2.5
18	QR	84	LYS	2.5
49	Y6	53	LYS	2.5
33	RQ	6	ARG	2.5
28	RH	50	VAL	2.5
31	RO	108	GLU	2.5
51	Y8	54	GLU	2.5
22	RA	2109	U	2.5
22	RA	2134	A	2.5
22	YA	2629	A	2.5
53	QV	73	A	2.5
37	RU	40	PHE	2.5
51	Y8	48	PHE	2.5
33	RQ	19	GLY	2.5
12	QL	47	LYS	2.5
19	QS	32	LYS	2.5
52	R9	24	TYR	2.5
28	YH	169	VAL	2.5
29	YI	85	GLU	2.5
51	R8	54	GLU	2.5
52	Y9	28	GLU	2.5
22	RA	2168	G	2.5
22	YA	10	G	2.5
22	YA	2108	C	2.5
12	QL	17	LYS	2.5
24	YD	235	GLY	2.5
37	RU	17	ILE	2.5
41	YY	81	LYS	2.5
22	RA	958	U	2.5
3	XC	15	THR	2.5
8	QH	18	ARG	2.5
33	YQ	10	ARG	2.5
49	R6	47	THR	2.5
24	RD	220	HIS	2.5
2	QB	93	VAL	2.5
9	XI	17	VAL	2.5
13	XM	98	VAL	2.5

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Mol	Chain	Res	Type	RSRZ
35	RS	111	GLU	2.5
27	YG	40	ASN	2.5
4	XD	48	ALA	2.5
29	RI	17	GLN	2.5
49	Y6	13	CYS	2.5
29	RI	134	PRO	2.5
19	XS	84	GLY	2.5
9	XI	10	ARG	2.5
16	QP	18	ARG	2.5
19	XS	81	ARG	2.5
27	RG	96	ARG	2.5
36	YT	111	ARG	2.5
37	RU	92	ARG	2.5
7	QG	80	VAL	2.5
22	YA	34	C	2.5
1	QA	631	G	2.5
1	XA	181	G	2.5
22	RA	10	G	2.5
22	RA	2115	G	2.5
22	YA	270(J)	G	2.5
22	YA	1933	G	2.5
28	YH	124	GLU	2.5
41	RY	91	GLU	2.5
42	YZ	169	GLU	2.5
53	QV	2	G	2.5
2	QB	152	PHE	2.5
1	XA	1451	A	2.5
22	RA	311	A	2.5
22	RA	1085	A	2.5
26	RF	104	LYS	2.5
35	YS	44	LYS	2.5
17	XQ	36	ILE	2.5
26	YF	81	PRO	2.5
24	RD	207	GLY	2.5
28	RH	98	LEU	2.5
28	RH	161	GLY	2.5
28	YH	101	ARG	2.5
29	RI	113	ARG	2.5
35	YS	41	ASP	2.5
37	RU	56	ASP	2.5
7	XG	153	HIS	2.4
26	YF	152	GLU	2.4

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Mol	Chain	Res	Type	RSRZ
27	YG	164	GLU	2.4
33	RQ	91	GLU	2.4
35	RS	8	GLU	2.4
39	RW	31	GLU	2.4
13	XM	106	ASN	2.4
10	QJ	85	LEU	2.4
43	R0	17	GLN	2.4
27	YG	142	PRO	2.4
41	RY	97	ARG	2.4
52	Y9	19	ARG	2.4
4	XD	2	GLY	2.4
1	XA	334	C	2.4
23	RB	88	C	2.4
22	RA	2150	U	2.4
28	RH	70	THR	2.4
41	YY	17	SER	2.4
1	QA	306	G	2.4
22	RA	1048	A	2.4
22	RA	2110	G	2.4
22	YA	2694	G	2.4
33	YQ	81	VAL	2.4
41	RY	85	VAL	2.4
4	QD	20	TYR	2.4
7	XG	85	TYR	2.4
24	RD	38	LYS	2.4
49	R6	21	TYR	2.4
2	QB	42	ILE	2.4
3	XC	28	GLN	2.4
11	QK	99	GLN	2.4
35	YS	20	ARG	2.4
42	YZ	167	PRO	2.4
24	RD	17	THR	2.4
24	YD	71	ASP	2.4
29	YI	20	ASP	2.4
29	RI	15	VAL	2.4
35	YS	46	VAL	2.4
52	R9	7	VAL	2.4
30	RN	72	TYR	2.4
4	XD	15	GLU	2.4
27	RG	30	GLU	2.4
36	YT	73	GLU	2.4
41	RY	68	HIS	2.4

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Mol	Chain	Res	Type	RSRZ
42	YZ	144	LEU	2.4
3	QC	160	ALA	2.4
9	QI	119	ALA	2.4
22	YA	161	U	2.4
22	YA	1761	C	2.4
23	RB	108	C	2.4
33	RQ	13	GLN	2.4
47	Y4	60	GLN	2.4
52	R9	34	GLN	2.4
22	YA	2711	A	2.4
21	XU	4	GLY	2.4
1	XA	105	G	2.4
14	XN	13	THR	2.4
32	RP	76	LYS	2.4
45	Y2	67	LYS	2.4
7	XG	80	VAL	2.4
45	R2	52	ASP	2.4
27	RG	53	LEU	2.4
28	YH	116	GLU	2.4
31	YO	108	GLU	2.4
33	RQ	105	GLU	2.4
36	RT	21	GLU	2.4
46	R3	60	GLU	2.4
4	QD	115	ARG	2.4
17	XQ	81	ARG	2.4
7	XG	125	MET	2.4
19	QS	2	PRO	2.4
20	QT	26	ASN	2.4
11	QK	123	LYS	2.4
24	YD	38	LYS	2.4
17	XQ	7	THR	2.4
1	XA	189	U	2.4
1	XA	210	U	2.4
44	Y1	7	ILE	2.4
32	RP	123	LEU	2.4
1	QA	131	C	2.4
1	XA	320	C	2.4
22	RA	2161	C	2.4
23	RB	90	C	2.4
25	RE	127	ASP	2.4
22	RA	1536	A	2.4
5	XE	81	GLU	2.4

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Mol	Chain	Res	Type	RSRZ
32	YP	65	ARG	2.4
27	RG	46	ALA	2.4
42	RZ	121	HIS	2.4
1	XA	1181	G	2.4
22	YA	1906	G	2.4
32	RP	39	LYS	2.4
48	R5	13	LYS	2.4
3	QC	171	GLY	2.4
33	YQ	122	GLY	2.4
24	RD	64	ILE	2.4
25	RE	7	VAL	2.4
49	R6	9	LEU	2.4
2	QB	217	ARG	2.4
26	YF	72	ARG	2.4
47	R4	65	ASP	2.4
2	XB	170	GLU	2.4
3	XC	166	GLU	2.4
4	XD	80	GLU	2.4
26	RF	56	GLU	2.4
33	YQ	141	GLN	2.3
22	RA	9	U	2.3
9	QI	33	PHE	2.3
31	YO	74	GLY	2.3
41	YY	79	CYS	2.3
1	QA	121	C	2.3
1	XA	308	C	2.3
22	RA	1069	A	2.3
28	YH	4	ILE	2.3
9	XI	7	THR	2.3
19	QS	11	VAL	2.3
4	XD	132	ARG	2.3
33	RQ	83	MET	2.3
33	RQ	115	MET	2.3
1	QA	183	G	2.3
1	QA	1178	G	2.3
1	XA	309	G	2.3
12	QL	23	LYS	2.3
22	RA	270(N)	G	2.3
22	RA	962	G	2.3
22	RA	2133	G	2.3
22	RA	2190	G	2.3
22	YA	1382	G	2.3

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Mol	Chain	Res	Type	RSRZ
24	RD	4	LYS	2.3
18	QR	38	GLU	2.3
28	RH	165	ALA	2.3
30	RN	8	GLN	2.3
2	QB	192	SER	2.3
5	QE	85	GLY	2.3
9	QI	47	LEU	2.3
17	QQ	80	GLY	2.3
25	YE	77	ILE	2.3
36	RT	104	ASN	2.3
16	QP	69	THR	2.3
25	RE	25	VAL	2.3
25	RE	92	THR	2.3
4	QD	131	ARG	2.3
37	RU	36	ARG	2.3
45	R2	7	ARG	2.3
6	XF	54	LYS	2.3
1	XA	63	C	2.3
12	XL	128	ALA	2.3
9	XI	105	ASP	2.3
22	RA	155	C	2.3
22	RA	1073	A	2.3
22	RA	2139	C	2.3
22	YA	1638	C	2.3
22	YA	2179	C	2.3
24	RD	2	ALA	2.3
25	RE	28	ALA	2.3
35	RS	55	ALA	2.3
44	R1	77	ALA	2.3
28	RH	137	ASP	2.3
12	QL	27	LEU	2.3
29	RI	116	LEU	2.3
35	RS	87	PHE	2.3
21	XU	11	GLY	2.3
24	RD	167	GLY	2.3
25	RE	153	GLY	2.3
25	RE	194	GLY	2.3
32	YP	118	GLY	2.3
39	YW	91	GLY	2.3
42	YZ	121	HIS	2.3
32	YP	71	VAL	2.3
7	QG	31	MET	2.3

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Mol	Chain	Res	Type	RSRZ
8	XH	91	ARG	2.3
9	QI	16	ARG	2.3
17	QQ	81	ARG	2.3
18	XR	88	LYS	2.3
24	RD	31	LYS	2.3
26	YF	95	ARG	2.3
30	YN	61	ARG	2.3
32	YP	79	ARG	2.3
33	YQ	6	ARG	2.3
41	YY	19	LYS	2.3
49	R6	43	CYS	2.3
1	QA	1220	G	2.3
1	XA	1511	G	2.3
22	RA	642	G	2.3
22	RA	1624	G	2.3
22	YA	1059	G	2.3
22	YA	1176	G	2.3
11	XK	25	TYR	2.3
19	QS	80	TYR	2.3
8	QH	2	LEU	2.3
30	RN	57	ALA	2.3
2	QB	116	GLU	2.3
21	XU	13	ILE	2.3
26	RF	82	ILE	2.3
28	RH	81	GLU	2.3
29	YI	79	ILE	2.3
45	R2	56	GLN	2.3
33	RQ	138	ASP	2.3
39	RW	94	ASP	2.3
22	RA	2167	U	2.3
26	YF	13	SER	2.3
33	YQ	100	GLY	2.3
10	XJ	101	VAL	2.3
48	R5	60	VAL	2.3
4	QD	77	ASN	2.3
2	XB	169	LYS	2.3
9	QI	127	LYS	2.3
15	XO	68	ARG	2.3
22	YA	1755	A	2.3
22	YA	2169	A	2.3
30	YN	118	LYS	2.3
32	YP	61	ARG	2.3

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Mol	Chain	Res	Type	RSRZ
44	R1	88	LYS	2.3
1	QA	980	C	2.3
22	YA	1625	C	2.3
26	YF	97	TYR	2.3
29	RI	83	ALA	2.3
34	YR	21	TYR	2.3
49	R6	39	TYR	2.3
24	RD	126	GLN	2.3
4	XD	37	PRO	2.3
9	XI	8	GLY	2.3
10	XJ	58	ASP	2.3
14	QN	55	GLY	2.3
25	RE	10	GLY	2.3
33	YQ	31	ASP	2.3
38	RV	79	VAL	2.3
44	R1	68	PRO	2.3
51	Y8	63	PRO	2.3
20	QT	68	LYS	2.3
26	YF	93	LYS	2.3
30	RN	109	LYS	2.3
28	RH	59	ARG	2.3
28	YH	41	MET	2.3
44	R1	3	LYS	2.3
10	XJ	69	ASN	2.3
19	QS	53	ASN	2.3
40	RX	68	ARG	2.3
1	QA	1511	G	2.3
22	RA	270(I)	G	2.3
22	RA	270(J)	G	2.3
22	RA	545	G	2.3
22	RA	1074	G	2.3
22	YA	2147	G	2.3
28	RH	171	LEU	2.3
32	RP	105	LEU	2.3
22	RA	1101	U	2.3
28	RH	151	ILE	2.3
49	Y6	7	ILE	2.3
33	RQ	20	ALA	2.3
34	RR	71	GLN	2.3
22	YA	2693	A	2.3
24	RD	28	GLU	2.3
28	RH	86	GLU	2.3

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Mol	Chain	Res	Type	RSRZ
28	YH	53	GLU	2.3
44	R1	27	GLU	2.3
4	XD	22	LYS	2.3
23	RB	84	C	2.3
29	RI	118	LYS	2.3
30	RN	9	VAL	2.3
37	RU	34	LYS	2.3
41	YY	49	VAL	2.3
48	Y5	57	VAL	2.3
33	YQ	135	ASP	2.3
53	QV	34	C	2.3
38	YV	7	THR	2.2
17	QQ	22	LEU	2.2
52	Y9	5	ALA	2.2
24	RD	181	GLU	2.2
30	RN	68	GLU	2.2
2	QB	81	VAL	2.2
19	QS	41	VAL	2.2
1	QA	1450	U	2.2
1	XA	1240	U	2.2
2	XB	144	ARG	2.2
10	QJ	5	ARG	2.2
22	RA	1087	G	2.2
22	YA	162	U	2.2
22	YA	1012	U	2.2
22	YA	2113	U	2.2
24	YD	69	ARG	2.2
41	YY	66	PRO	2.2
53	XV	47	U	2.2
9	QI	102	LEU	2.2
20	QT	72	LEU	2.2
27	RG	166	ASP	2.2
31	YO	73	ASP	2.2
7	QG	84	ASN	2.2
1	QA	1130	A	2.2
1	QA	1374	A	2.2
1	XA	532	A	2.2
22	YA	1384	A	2.2
22	YA	2176	A	2.2
25	RE	204	ALA	2.2
10	QJ	7	LYS	2.2
22	YA	2136	C	2.2

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Mol	Chain	Res	Type	RSRZ
24	RD	26	LYS	2.2
32	RP	132	LYS	2.2
9	QI	126	SER	2.2
48	R5	52	TYR	2.2
3	QC	161	GLU	2.2
8	QH	97	VAL	2.2
26	RF	62	ARG	2.2
28	RH	11	VAL	2.2
28	RH	60	ARG	2.2
32	RP	15	ARG	2.2
33	RQ	102	VAL	2.2
36	RT	89	VAL	2.2
48	R5	57	VAL	2.2
52	R9	22	ARG	2.2
4	XD	26	CYS	2.2
52	Y9	11	CYS	2.2
47	R4	24	THR	2.2
10	QJ	98	ILE	2.2
41	RY	11	ASP	2.2
42	YZ	179	ASP	2.2
9	QI	11	LYS	2.2
9	XI	127	LYS	2.2
16	QP	12	LYS	2.2
26	YF	58	ALA	2.2
28	RH	75	ALA	2.2
7	XG	77	SER	2.2
49	Y6	39	TYR	2.2
1	XA	493	G	2.2
1	XA	1202	G	2.2
9	QI	42	ARG	2.2
22	YA	2125	G	2.2
22	YA	2168	G	2.2
18	QR	86	VAL	2.2
24	YD	176	ARG	2.2
27	RG	72	ARG	2.2
30	RN	46	VAL	2.2
51	Y8	57	ARG	2.2
34	RR	7	GLY	2.2
39	RW	30	GLU	2.2
42	RZ	159	PRO	2.2
47	Y4	17	GLY	2.2
1	QA	815	A	2.2

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Mol	Chain	Res	Type	RSRZ
22	RA	1054	A	2.2
22	RA	1762	A	2.2
30	YN	63	THR	2.2
4	XD	31	CYS	2.2
52	Y9	27	CYS	2.2
1	QA	1369	C	2.2
1	XA	322	C	2.2
22	RA	2105	C	2.2
22	YA	2803	C	2.2
8	QH	52	ASP	2.2
12	QL	114	LYS	2.2
16	QP	52	ASP	2.2
25	YE	121	ASN	2.2
31	RO	56	ASP	2.2
35	RS	33	LYS	2.2
41	RY	63	LYS	2.2
47	R4	6	HIS	2.2
49	R6	45	LYS	2.2
16	XP	24	ALA	2.2
37	YU	4	ALA	2.2
45	Y2	9	GLN	2.2
19	XS	78	ARG	2.2
41	YY	50	ARG	2.2
2	XB	229	VAL	2.2
3	QC	75	VAL	2.2
24	YD	185	VAL	2.2
28	YH	125	VAL	2.2
29	YI	136	VAL	2.2
37	RU	90	VAL	2.2
3	XC	161	GLU	2.2
44	Y1	72	GLU	2.2
9	XI	116	LYS	2.2
13	XM	115	LYS	2.2
44	Y1	32	LYS	2.2
49	Y6	45	LYS	2.2
27	YG	4	ASP	2.2
31	RO	37	ASP	2.2
1	QA	1365	G	2.2
1	XA	413	G	2.2
22	YA	1559	G	2.2
22	YA	1932	A	2.2
22	YA	2120	G	2.2

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Mol	Chain	Res	Type	RSRZ
22	YA	2602	A	2.2
53	QV	64	G	2.2
6	XF	86	ARG	2.2
37	YU	92	ARG	2.2
2	XB	15	VAL	2.2
8	QH	51	VAL	2.2
12	XL	64	TYR	2.2
24	RD	34	VAL	2.2
41	RY	35	TYR	2.2
41	RY	55	TYR	2.2
13	QM	78	ILE	2.2
14	QN	38	GLY	2.2
22	RA	1100	C	2.2
26	RF	207	GLY	2.2
51	R8	48	PHE	2.2
4	QD	22	LYS	2.2
10	XJ	57	LYS	2.2
31	RO	96	THR	2.2
51	R8	5	LYS	2.2
44	Y1	16	ASN	2.2
2	QB	69	LEU	2.2
10	XJ	65	LEU	2.2
12	XL	26	ALA	2.1
24	YD	93	ALA	2.1
32	RP	87	ASP	2.1
22	RA	2118	U	2.1
34	YR	2	ARG	2.1
2	QB	229	VAL	2.1
5	QE	97	GLY	2.1
3	QC	35	GLU	2.1
4	XD	72	GLU	2.1
13	QM	32	GLU	2.1
20	XT	21	LYS	2.1
24	YD	256	GLY	2.1
29	RI	122	GLU	2.1
30	RN	7	LYS	2.1
36	YT	69	GLY	2.1
44	R1	79	GLY	2.1
9	QI	64	THR	2.1
22	RA	1095	A	2.1
1	XA	1124	G	2.1
22	RA	11	G	2.1

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Mol	Chain	Res	Type	RSRZ
22	YA	1929	G	2.1
30	YN	1	MET	2.1
51	R8	50	LEU	2.1
19	XS	53	ASN	2.1
20	QT	22	ARG	2.1
24	RD	69	ARG	2.1
30	RN	12	ARG	2.1
1	XA	307	C	2.1
1	XA	1066	C	2.1
9	QI	124	GLN	2.1
12	XL	116	SER	2.1
22	RA	1304	C	2.1
22	YA	889	C	2.1
35	YS	27	SER	2.1
47	Y4	36	CYS	2.1
7	QG	85	TYR	2.1
37	YU	19	LYS	2.1
37	YU	85	LYS	2.1
41	YY	95	LYS	2.1
43	R0	5	LYS	2.1
10	QJ	10	GLY	2.1
15	QO	2	PRO	2.1
38	RV	41	GLY	2.1
43	Y0	22	GLY	2.1
28	YH	18	GLU	2.1
2	XB	90	MET	2.1
4	XD	96	LEU	2.1
23	YB	41	U	2.1
4	QD	3	ARG	2.1
9	QI	121	ARG	2.1
46	R3	25	ALA	2.1
30	RN	133	GLN	2.1
3	XC	26	LYS	2.1
12	XL	46	LYS	2.1
24	YD	59	LYS	2.1
50	R7	46	VAL	2.1
1	QA	1346	A	2.1
3	XC	62	ASP	2.1
22	RA	2173	A	2.1
21	XU	14	TRP	2.1
3	QC	158	GLY	2.1
13	QM	85	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
31	RO	100	GLY	2.1
2	XB	134	GLU	2.1
28	YH	86	GLU	2.1
39	YW	31	GLU	2.1
44	Y1	75	GLU	2.1
22	YA	270(I)	G	2.1
22	YA	2124	G	2.1
30	RN	22	THR	2.1
1	XA	103	C	2.1
22	RA	1509	C	2.1
22	RA	2137	C	2.1
24	YD	262	ARG	2.1
32	RP	12	ALA	2.1
7	XG	84	ASN	2.1
8	QH	87	SER	2.1
12	XL	7	ILE	2.1
31	RO	13	ASN	2.1
42	YZ	153	SER	2.1
44	Y1	13	ILE	2.1
52	Y9	10	ILE	2.1
7	QG	86	GLN	2.1
12	XL	47	LYS	2.1
17	XQ	87	LYS	2.1
33	RQ	63	LYS	2.1
35	YS	11	LYS	2.1
41	YY	33	LYS	2.1
9	QI	109	VAL	2.1
24	RD	53	PHE	2.1
32	RP	71	VAL	2.1
41	RY	49	VAL	2.1
13	QM	92	HIS	2.1
32	RP	27	HIS	2.1
9	XI	75	ASP	2.1
27	YG	129	GLY	2.1
30	RN	42	TRP	2.1
6	QF	56	PRO	2.1
24	YD	36	PRO	2.1
24	YD	28	GLU	2.1
44	Y1	93	GLU	2.1
45	R2	31	GLU	2.1
49	R6	24	GLU	2.1
3	XC	164	ARG	2.1

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Mol	Chain	Res	Type	RSRZ
10	XJ	46	ARG	2.1
37	YU	59	ARG	2.1
1	XA	452	A	2.1
22	RA	1111	A	2.1
22	RA	1847	A	2.1
22	YA	1156	A	2.1
26	YF	206	ILE	2.1
32	RP	150	ALA	2.1
51	Y8	58	ILE	2.1
52	R9	5	ALA	2.1
44	Y1	42	GLN	2.1
51	R8	35	GLN	2.1
28	RH	141	VAL	2.1
2	XB	11	LEU	2.1
2	XB	238	LEU	2.1
13	XM	96	LEU	2.1
20	XT	24	LEU	2.1
25	RE	78	LEU	2.1
1	XA	1132	C	2.1
1	QA	1272	G	2.1
1	XA	230	G	2.1
2	XB	99	GLY	2.1
4	XD	102	ASP	2.1
10	XJ	73	ASP	2.1
20	QT	69	GLY	2.1
22	RA	270(K)	C	2.1
22	YA	530	G	2.1
22	YA	1056	G	2.1
22	YA	1678	G	2.1
26	RF	23	ASP	2.1
31	RO	74	GLY	2.1
33	YQ	25	ASP	2.1
36	YT	107	ASP	2.1
51	Y8	28	GLY	2.1
9	XI	64	THR	2.1
17	QQ	7	THR	2.1
2	QB	82	ARG	2.1
3	XC	30	ARG	2.1
8	QH	84	ARG	2.1
28	YH	51	ARG	2.1
29	YI	113	ARG	2.1
41	YY	97	ARG	2.1

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Mol	Chain	Res	Type	RSRZ
50	R7	41	ARG	2.1
1	QA	429	U	2.1
1	QA	723	U	2.1
1	XA	5	U	2.1
2	QB	41	ILE	2.1
22	RA	1094	U	2.1
22	YA	2712	U	2.1
41	RY	26	LYS	2.1
44	R1	81	LYS	2.1
51	R8	29	LYS	2.1
34	YR	101	ALA	2.1
14	QN	37	PHE	2.1
19	XS	74	PHE	2.1
25	RE	122	PHE	2.1
20	QT	9	ASN	2.1
32	RP	38	GLN	2.1
45	R2	60	LEU	2.1
1	QA	1286	A	2.0
4	QD	16	GLY	2.0
7	XG	154	TYR	2.0
17	QQ	54	GLY	2.0
22	YA	899	A	2.0
24	RD	55	GLY	2.0
24	YD	152	GLY	2.0
25	RE	74	PRO	2.0
3	QC	79	ARG	2.0
9	QI	111	ARG	2.0
12	XL	92	ASP	2.0
20	XT	25	ARG	2.0
21	QU	15	ARG	2.0
11	QK	11	LYS	2.0
12	QL	13	LYS	2.0
12	QL	16	GLU	2.0
14	QN	7	ILE	2.0
14	QN	46	GLU	2.0
26	RF	161	GLU	2.0
28	YH	40	GLU	2.0
36	RT	115	ARG	2.0
42	YZ	49	ARG	2.0
46	Y3	60	GLU	2.0
26	RF	90	PHE	2.0
2	XB	155	LEU	2.0

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Mol	Chain	Res	Type	RSRZ
19	QS	30	LEU	2.0
22	RA	1102	C	2.0
22	YA	270(K)	C	2.0
34	RR	18	LEU	2.0
49	Y6	40	CYS	2.0
40	YX	54	VAL	2.0
49	Y6	52	VAL	2.0
1	QA	251	G	2.0
22	RA	1107	G	2.0
22	RA	2181	G	2.0
22	YA	1025	G	2.0
22	YA	2659	G	2.0
1	QA	97	U	2.0
22	RA	12	U	2.0
13	XM	24	GLY	2.0
24	YD	55	GLY	2.0
30	YN	110	GLY	2.0
2	XB	30	ARG	2.0
2	QB	97	TRP	2.0
2	XB	200	ILE	2.0
10	XJ	4	ILE	2.0
15	XO	3	ILE	2.0
16	QP	72	ARG	2.0
19	QS	3	ARG	2.0
25	YE	199	ARG	2.0
37	YU	81	HIS	2.0
28	RH	72	ILE	2.0
44	Y1	33	LYS	2.0
4	QD	163	GLU	2.0
41	YY	40	GLU	2.0
47	Y4	51	ASP	2.0
3	QC	149	ALA	2.0
6	QF	101	ALA	2.0
10	XJ	27	ALA	2.0
19	QS	15	LEU	2.0
24	RD	37	LEU	2.0
27	YG	158	ALA	2.0
32	YP	150	ALA	2.0
33	YQ	79	LEU	2.0
36	RT	114	LEU	2.0
9	XI	41	VAL	2.0
22	RA	276	A	2.0

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Mol	Chain	Res	Type	RSRZ
22	YA	276	A	2.0
23	RB	53	A	2.0
26	YF	89	VAL	2.0
37	YU	9	VAL	2.0
38	RV	80	GLN	2.0
43	Y0	17	GLN	2.0
46	Y3	59	VAL	2.0
49	R6	52	VAL	2.0
24	RD	203	ASN	2.0
26	YF	133	ASN	2.0
2	XB	18	GLY	2.0
4	XD	118	ARG	2.0
20	XT	23	ARG	2.0
26	YF	44	ARG	2.0
34	RR	32	GLY	2.0
28	YH	136	ILE	2.0
1	QA	123	C	2.0
4	XD	156	GLU	2.0
22	RA	1079	C	2.0
25	RE	183	LEU	2.0
26	RF	152	GLU	2.0
28	RH	119	GLU	2.0
30	RN	112	LEU	2.0
30	YN	88	GLU	2.0
33	RQ	104	PHE	2.0
35	YS	43	GLU	2.0
6	QF	55	ASP	2.0
25	YE	174	ASP	2.0
1	QA	1126	U	2.0
1	QA	1351	U	2.0
44	R1	4	VAL	2.0
47	R4	50	VAL	2.0

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

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	PPU	Z6	76	37/38	0.95	0.12	37,37,37,37	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	PPU	Z8	76	37/38	0.96	0.10	30,30,30,30	0

6.3 Carbohydrates (i)

There are no oligosaccharides in this entry.

6.4 Ligands (i)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	XM	201	1/1	0.19	0.11	98,98,98,98	0
58	MG	YA	3060	1/1	0.37	0.20	8,8,8,8	0
58	MG	RA	3067	1/1	0.44	1.04	74,74,74,74	0
58	MG	QA	1664	1/1	0.46	0.28	56,56,56,56	0
58	MG	YD	301	1/1	0.46	0.74	74,74,74,74	0
58	MG	YA	3041	1/1	0.47	0.75	74,74,74,74	0
58	MG	YA	3018	1/1	0.48	0.69	74,74,74,74	0
58	MG	YA	3205	1/1	0.49	0.48	62,62,62,62	0
58	MG	RA	3227	1/1	0.51	0.27	60,60,60,60	0
58	MG	XA	1617	1/1	0.53	0.80	74,74,74,74	0
58	MG	Y0	101	1/1	0.55	0.59	74,74,74,74	0
58	MG	YA	3099	1/1	0.58	0.66	74,74,74,74	0
58	MG	RA	3235	1/1	0.60	0.56	74,74,74,74	0
58	MG	RA	3209	1/1	0.61	0.22	47,47,47,47	0
58	MG	YA	3256	1/1	0.61	0.79	74,74,74,74	0
58	MG	YA	3049	1/1	0.62	0.82	74,74,74,74	0
58	MG	YA	3095	1/1	0.64	0.42	19,19,19,19	0
58	MG	YA	3046	1/1	0.64	0.59	74,74,74,74	0
58	MG	YA	3015	1/1	0.67	0.73	74,74,74,74	0
58	MG	RA	3196	1/1	0.67	0.26	63,63,63,63	0
58	MG	YA	3014	1/1	0.67	0.67	74,74,74,74	0
58	MG	YA	3003	1/1	0.68	0.62	74,74,74,74	0
58	MG	YA	3080	1/1	0.69	0.81	74,74,74,74	0
58	MG	RA	3056	1/1	0.70	0.60	74,74,74,74	0
58	MG	RA	3013	1/1	0.71	0.14	29,29,29,29	0
58	MG	YA	3260	1/1	0.71	0.72	74,74,74,74	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	XA	1665	1/1	0.71	0.20	33,33,33,33	0
58	MG	RA	3037	1/1	0.71	0.75	74,74,74,74	0
58	MG	YA	3170	1/1	0.74	0.30	33,33,33,33	0
58	MG	QA	1647	1/1	0.74	0.20	38,38,38,38	0
58	MG	YA	3130	1/1	0.74	0.21	21,21,21,21	0
58	MG	QA	1619	1/1	0.75	0.33	12,12,12,12	0
58	MG	XA	1663	1/1	0.76	0.19	32,32,32,32	0
58	MG	YA	3207	1/1	0.76	0.16	55,55,55,55	0
58	MG	RA	3144	1/1	0.77	0.32	32,32,32,32	0
58	MG	RA	3047	1/1	0.77	0.32	19,19,19,19	0
58	MG	RA	3099	1/1	0.77	0.38	11,11,11,11	0
58	MG	RA	3105	1/1	0.77	0.23	14,14,14,14	0
58	MG	RA	3031	1/1	0.78	0.36	9,9,9,9	0
58	MG	XA	1643	1/1	0.78	0.53	74,74,74,74	0
58	MG	QA	1616	1/1	0.79	0.17	52,52,52,52	0
58	MG	RA	3102	1/1	0.80	0.39	21,21,21,21	0
58	MG	RA	3165	1/1	0.80	0.28	30,30,30,30	0
58	MG	RA	3009	1/1	0.80	0.70	74,74,74,74	0
58	MG	RA	3154	1/1	0.81	0.14	59,59,59,59	0
58	MG	QA	1621	1/1	0.81	0.22	38,38,38,38	0
58	MG	RA	3046	1/1	0.81	0.30	24,24,24,24	0
58	MG	QA	1648	1/1	0.81	0.14	43,43,43,43	0
58	MG	YA	3263	1/1	0.81	0.17	40,40,40,40	0
58	MG	YA	3155	1/1	0.81	0.26	45,45,45,45	0
58	MG	RA	3224	1/1	0.81	0.50	142,142,142,142	0
58	MG	RA	3214	1/1	0.82	0.13	24,24,24,24	0
58	MG	YA	3118	1/1	0.82	0.32	8,8,8,8	0
58	MG	RA	3223	1/1	0.82	0.27	54,54,54,54	0
58	MG	RA	3018	1/1	0.82	0.23	5,5,5,5	0
58	MG	RA	3063	1/1	0.82	0.51	19,19,19,19	0
58	MG	RA	3159	1/1	0.82	0.18	23,23,23,23	0
58	MG	QA	1677	1/1	0.83	0.27	47,47,47,47	0
58	MG	RA	3187	1/1	0.83	0.32	42,42,42,42	0
58	MG	RA	3081	1/1	0.83	0.26	18,18,18,18	0
58	MG	RA	3157	1/1	0.83	0.14	37,37,37,37	0
58	MG	YA	3172	1/1	0.83	0.21	40,40,40,40	0
58	MG	RA	3095	1/1	0.83	0.26	18,18,18,18	0
58	MG	RA	3093	1/1	0.84	0.26	12,12,12,12	0
58	MG	RA	3036	1/1	0.84	0.37	18,18,18,18	0
58	MG	YA	3214	1/1	0.84	0.26	50,50,50,50	0
58	MG	RA	3054	1/1	0.84	0.23	18,18,18,18	0
58	MG	YA	3053	1/1	0.84	0.20	8,8,8,8	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	RA	3101	1/1	0.84	0.25	18,18,18,18	0
58	MG	YA	3024	1/1	0.84	0.43	10,10,10,10	0
58	MG	YA	3081	1/1	0.84	0.35	10,10,10,10	0
58	MG	QA	1613	1/1	0.85	0.26	8,8,8,8	0
58	MG	RA	3134	1/1	0.85	0.14	17,17,17,17	0
58	MG	RA	3006	1/1	0.85	0.12	10,10,10,10	0
58	MG	RA	3076	1/1	0.85	0.12	7,7,7,7	0
58	MG	QA	1666	1/1	0.85	0.14	68,68,68,68	0
58	MG	RA	3091	1/1	0.85	0.28	9,9,9,9	0
58	MG	YA	3139	1/1	0.85	0.18	8,8,8,8	0
58	MG	YA	3140	1/1	0.85	0.28	8,8,8,8	0
58	MG	YA	3068	1/1	0.85	0.24	20,20,20,20	0
58	MG	YA	3156	1/1	0.85	0.32	29,29,29,29	0
58	MG	XA	1656	1/1	0.86	0.24	17,17,17,17	0
58	MG	RA	3155	1/1	0.86	0.41	54,54,54,54	0
58	MG	QA	1672	1/1	0.86	0.13	19,19,19,19	0
58	MG	RA	3138	1/1	0.86	0.18	38,38,38,38	0
58	MG	RA	3119	1/1	0.86	0.19	20,20,20,20	0
58	MG	YA	3007	1/1	0.86	0.30	8,8,8,8	0
58	MG	YA	3069	1/1	0.86	0.23	12,12,12,12	0
58	MG	RA	3182	1/1	0.86	0.23	22,22,22,22	0
58	MG	RA	3150	1/1	0.86	0.24	27,27,27,27	0
58	MG	YA	3215	1/1	0.86	0.15	42,42,42,42	0
58	MG	YA	3235	1/1	0.86	0.08	26,26,26,26	0
58	MG	RA	3191	1/1	0.86	0.14	46,46,46,46	0
58	MG	RA	3126	1/1	0.86	0.20	16,16,16,16	0
58	MG	YA	3117	1/1	0.86	0.20	28,28,28,28	0
58	MG	YA	3027	1/1	0.86	0.20	21,21,21,21	0
58	MG	YA	3038	1/1	0.86	0.27	16,16,16,16	0
58	MG	RA	3027	1/1	0.87	0.41	15,15,15,15	0
58	MG	XA	1619	1/1	0.87	0.28	5,5,5,5	0
58	MG	YA	3012	1/1	0.87	0.27	10,10,10,10	0
58	MG	XA	1622	1/1	0.87	0.30	6,6,6,6	0
58	MG	YA	3161	1/1	0.87	0.16	23,23,23,23	0
58	MG	YA	3164	1/1	0.87	0.24	44,44,44,44	0
58	MG	RA	3029	1/1	0.87	0.22	2,2,2,2	0
58	MG	QF	201	1/1	0.87	0.14	36,36,36,36	0
58	MG	YA	3194	1/1	0.87	0.17	36,36,36,36	0
58	MG	YA	3199	1/1	0.87	0.22	12,12,12,12	0
58	MG	YA	3078	1/1	0.87	0.21	9,9,9,9	0
58	MG	RA	3124	1/1	0.87	0.23	2,2,2,2	0
58	MG	YA	3025	1/1	0.87	0.23	16,16,16,16	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	YA	3085	1/1	0.87	0.26	17,17,17,17	0
58	MG	YA	3216	1/1	0.87	0.17	55,55,55,55	0
58	MG	YA	3093	1/1	0.87	0.26	10,10,10,10	0
58	MG	YA	3255	1/1	0.87	0.31	12,12,12,12	0
58	MG	RA	3238	1/1	0.87	0.23	32,32,32,32	0
58	MG	YA	3028	1/1	0.87	0.20	15,15,15,15	0
58	MG	XA	1680	1/1	0.87	0.20	45,45,45,45	0
58	MG	YB	201	1/1	0.87	0.16	33,33,33,33	0
58	MG	YA	3040	1/1	0.87	0.22	19,19,19,19	0
58	MG	RA	3240	1/1	0.87	0.20	5,5,5,5	0
58	MG	RA	3084	1/1	0.88	0.28	14,14,14,14	0
58	MG	YA	3187	1/1	0.88	0.14	41,41,41,41	0
58	MG	RA	3204	1/1	0.88	0.19	50,50,50,50	0
58	MG	QA	1625	1/1	0.88	0.20	29,29,29,29	0
58	MG	QA	1663	1/1	0.88	0.15	19,19,19,19	0
58	MG	YA	3035	1/1	0.88	0.29	12,12,12,12	0
58	MG	QA	1632	1/1	0.88	0.14	42,42,42,42	0
58	MG	RA	3127	1/1	0.88	0.16	22,22,22,22	0
58	MG	RA	3162	1/1	0.88	0.24	18,18,18,18	0
58	MG	RA	3164	1/1	0.88	0.07	45,45,45,45	0
58	MG	YA	3251	1/1	0.88	0.39	10,10,10,10	0
58	MG	YA	3005	1/1	0.88	0.22	26,26,26,26	0
58	MG	RA	3130	1/1	0.88	0.28	15,15,15,15	0
58	MG	QA	1602	1/1	0.88	0.21	6,6,6,6	0
58	MG	XA	1616	1/1	0.88	0.29	5,5,5,5	0
58	MG	RA	3079	1/1	0.88	0.18	25,25,25,25	0
58	MG	QA	1667	1/1	0.88	0.24	35,35,35,35	0
58	MG	YA	3079	1/1	0.88	0.19	22,22,22,22	0
58	MG	RA	3115	1/1	0.89	0.18	21,21,21,21	0
58	MG	YA	3019	1/1	0.89	0.28	13,13,13,13	0
58	MG	RA	3083	1/1	0.89	0.17	32,32,32,32	0
58	MG	XA	1659	1/1	0.89	0.09	36,36,36,36	0
58	MG	RA	3070	1/1	0.89	0.31	4,4,4,4	0
58	MG	RA	3143	1/1	0.89	0.18	5,5,5,5	0
58	MG	RA	3199	1/1	0.89	0.18	63,63,63,63	0
58	MG	RA	3094	1/1	0.89	0.20	16,16,16,16	0
58	MG	XA	1612	1/1	0.89	0.23	10,10,10,10	0
58	MG	YA	3096	1/1	0.89	0.26	6,6,6,6	0
58	MG	RA	3146	1/1	0.89	0.29	25,25,25,25	0
58	MG	YA	3224	1/1	0.89	0.30	18,18,18,18	0
58	MG	YA	3042	1/1	0.89	0.17	15,15,15,15	0
58	MG	YA	3245	1/1	0.89	0.16	33,33,33,33	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	RA	3212	1/1	0.89	0.27	73,73,73,73	0
58	MG	YA	3047	1/1	0.89	0.25	3,3,3,3	0
58	MG	RA	3213	1/1	0.89	0.12	9,9,9,9	0
58	MG	RA	3087	1/1	0.89	0.29	10,10,10,10	0
58	MG	YA	3058	1/1	0.89	0.30	20,20,20,20	0
58	MG	XA	1642	1/1	0.89	0.23	47,47,47,47	0
58	MG	YA	3160	1/1	0.89	0.06	16,16,16,16	0
58	MG	YA	3063	1/1	0.89	0.25	12,12,12,12	0
58	MG	YA	3032	1/1	0.90	0.29	1,1,1,1	0
58	MG	RA	3088	1/1	0.90	0.10	7,7,7,7	0
58	MG	YA	3036	1/1	0.90	0.09	11,11,11,11	0
58	MG	QA	1603	1/1	0.90	0.27	11,11,11,11	0
58	MG	RA	3060	1/1	0.90	0.28	15,15,15,15	0
58	MG	YA	3158	1/1	0.90	0.16	21,21,21,21	0
58	MG	QA	1639	1/1	0.90	0.15	33,33,33,33	0
58	MG	RA	3198	1/1	0.90	0.11	26,26,26,26	0
58	MG	YA	3044	1/1	0.90	0.35	2,2,2,2	0
58	MG	XA	1654	1/1	0.90	0.09	54,54,54,54	0
58	MG	QA	1641	1/1	0.90	0.24	43,43,43,43	0
58	MG	YA	3174	1/1	0.90	0.26	10,10,10,10	0
58	MG	YA	3180	1/1	0.90	0.30	19,19,19,19	0
58	MG	YA	3182	1/1	0.90	0.11	3,3,3,3	0
58	MG	QA	1618	1/1	0.90	0.14	17,17,17,17	0
58	MG	QA	1604	1/1	0.90	0.14	5,5,5,5	0
58	MG	YA	3198	1/1	0.90	0.43	18,18,18,18	0
58	MG	RA	3148	1/1	0.90	0.23	47,47,47,47	0
58	MG	YA	3204	1/1	0.90	0.32	42,42,42,42	0
58	MG	RA	3149	1/1	0.90	0.26	4,4,4,4	0
58	MG	YA	3206	1/1	0.90	0.37	52,52,52,52	0
58	MG	RA	3078	1/1	0.90	0.20	16,16,16,16	0
58	MG	RA	3215	1/1	0.90	0.10	13,13,13,13	0
58	MG	QA	1612	1/1	0.90	0.25	15,15,15,15	0
58	MG	RA	3114	1/1	0.90	0.26	10,10,10,10	0
58	MG	RA	3042	1/1	0.90	0.15	1,1,1,1	0
58	MG	YA	3233	1/1	0.90	0.18	34,34,34,34	0
58	MG	RA	3116	1/1	0.90	0.20	8,8,8,8	0
57	PAR	QA	1601	42/42	0.90	0.14	42,42,42,42	0
58	MG	RA	3011	1/1	0.90	0.19	0,0,0,0	0
58	MG	RA	3243	1/1	0.90	0.19	1,1,1,1	0
58	MG	RA	3247	1/1	0.90	0.17	9,9,9,9	0
58	MG	XA	1609	1/1	0.90	0.17	51,51,51,51	0
58	MG	QA	1665	1/1	0.90	0.11	37,37,37,37	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	YA	3116	1/1	0.90	0.11	14,14,14,14	0
58	MG	YB	202	1/1	0.90	0.24	19,19,19,19	0
58	MG	RA	3172	1/1	0.90	0.15	42,42,42,42	0
58	MG	YA	3029	1/1	0.90	0.26	12,12,12,12	0
58	MG	RA	3211	1/1	0.91	0.11	16,16,16,16	0
58	MG	QA	1614	1/1	0.91	0.23	2,2,2,2	0
58	MG	YA	3147	1/1	0.91	0.08	9,9,9,9	0
58	MG	XA	1655	1/1	0.91	0.13	68,68,68,68	0
58	MG	RA	3007	1/1	0.91	0.27	8,8,8,8	0
58	MG	RA	3096	1/1	0.91	0.20	17,17,17,17	0
58	MG	QA	1623	1/1	0.91	0.17	46,46,46,46	0
58	MG	RA	3168	1/1	0.91	0.22	3,3,3,3	0
58	MG	YA	3163	1/1	0.91	0.18	21,21,21,21	0
58	MG	XA	1679	1/1	0.91	0.09	18,18,18,18	0
58	MG	YA	3050	1/1	0.91	0.23	5,5,5,5	0
58	MG	YA	3052	1/1	0.91	0.08	12,12,12,12	0
58	MG	RA	3169	1/1	0.91	0.16	13,13,13,13	0
58	MG	YA	3055	1/1	0.91	0.25	6,6,6,6	0
58	MG	QA	1674	1/1	0.91	0.14	8,8,8,8	0
58	MG	RA	3233	1/1	0.91	0.11	42,42,42,42	0
58	MG	YA	3188	1/1	0.91	0.12	13,13,13,13	0
58	MG	YA	3192	1/1	0.91	0.22	21,21,21,21	0
58	MG	RA	3044	1/1	0.91	0.19	8,8,8,8	0
58	MG	QA	1657	1/1	0.91	0.12	19,19,19,19	0
58	MG	QA	1660	1/1	0.91	0.15	36,36,36,36	0
58	MG	YA	3201	1/1	0.91	0.05	57,57,57,57	0
58	MG	RA	3192	1/1	0.91	0.15	17,17,17,17	0
58	MG	RA	3193	1/1	0.91	0.13	47,47,47,47	0
58	MG	RP	201	1/1	0.91	0.41	118,118,118,118	0
58	MG	RA	3195	1/1	0.91	0.13	7,7,7,7	0
58	MG	YA	3084	1/1	0.91	0.14	12,12,12,12	0
58	MG	RA	3051	1/1	0.91	0.28	1,1,1,1	0
58	MG	YA	3086	1/1	0.91	0.23	3,3,3,3	0
58	MG	YA	3219	1/1	0.91	0.26	22,22,22,22	0
58	MG	YA	3090	1/1	0.91	0.19	26,26,26,26	0
58	MG	YA	3227	1/1	0.91	0.19	39,39,39,39	0
58	MG	YA	3092	1/1	0.91	0.16	28,28,28,28	0
58	MG	RA	3019	1/1	0.91	0.11	8,8,8,8	0
58	MG	YA	3236	1/1	0.91	0.22	18,18,18,18	0
58	MG	RA	3023	1/1	0.91	0.17	9,9,9,9	0
58	MG	YA	3247	1/1	0.91	0.10	34,34,34,34	0
58	MG	RA	3202	1/1	0.91	0.12	0,0,0,0	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	XA	1620	1/1	0.91	0.16	15,15,15,15	0
58	MG	YA	3103	1/1	0.91	0.15	8,8,8,8	0
58	MG	YA	3106	1/1	0.91	0.16	16,16,16,16	0
58	MG	YA	3115	1/1	0.91	0.15	17,17,17,17	0
58	MG	RA	3001	1/1	0.91	0.18	16,16,16,16	0
58	MG	YA	3034	1/1	0.91	0.23	7,7,7,7	0
58	MG	XA	1637	1/1	0.91	0.25	14,14,14,14	0
58	MG	RA	3002	1/1	0.91	0.12	30,30,30,30	0
58	MG	QA	1629	1/1	0.92	0.14	11,11,11,11	0
58	MG	RA	3142	1/1	0.92	0.29	20,20,20,20	0
58	MG	XA	1650	1/1	0.92	0.18	14,14,14,14	0
58	MG	YA	3030	1/1	0.92	0.30	18,18,18,18	0
57	PAR	XA	1601	42/42	0.92	0.13	38,38,38,38	0
58	MG	RA	3234	1/1	0.92	0.70	69,69,69,69	0
58	MG	RA	3049	1/1	0.92	0.30	12,12,12,12	0
58	MG	RA	3120	1/1	0.92	0.18	4,4,4,4	0
58	MG	YA	3094	1/1	0.92	0.16	12,12,12,12	0
58	MG	QA	1645	1/1	0.92	0.13	4,4,4,4	0
58	MG	RA	3171	1/1	0.92	0.06	31,31,31,31	0
58	MG	RA	3205	1/1	0.92	0.23	17,17,17,17	0
58	MG	YA	3100	1/1	0.92	0.24	8,8,8,8	0
58	MG	RA	3010	1/1	0.92	0.22	14,14,14,14	0
58	MG	XB	301	1/1	0.92	0.32	41,41,41,41	0
58	MG	YA	3108	1/1	0.92	0.31	7,7,7,7	0
58	MG	RA	3173	1/1	0.92	0.20	35,35,35,35	0
58	MG	YA	3002	1/1	0.92	0.20	0,0,0,0	0
58	MG	RA	3103	1/1	0.92	0.16	5,5,5,5	0
58	MG	XA	1613	1/1	0.92	0.21	8,8,8,8	0
58	MG	YA	3221	1/1	0.92	0.04	19,19,19,19	0
58	MG	YA	3127	1/1	0.92	0.27	23,23,23,23	0
58	MG	RA	3183	1/1	0.92	0.05	11,11,11,11	0
58	MG	YA	3131	1/1	0.92	0.13	16,16,16,16	0
58	MG	YA	3133	1/1	0.92	0.26	32,32,32,32	0
58	MG	YA	3134	1/1	0.92	0.13	19,19,19,19	0
58	MG	YA	3237	1/1	0.92	0.21	36,36,36,36	0
58	MG	YA	3008	1/1	0.92	0.21	8,8,8,8	0
58	MG	RA	3024	1/1	0.92	0.24	11,11,11,11	0
58	MG	RA	3133	1/1	0.92	0.14	7,7,7,7	0
58	MG	YA	3149	1/1	0.92	0.23	16,16,16,16	0
58	MG	RA	3216	1/1	0.92	0.18	2,2,2,2	0
58	MG	YA	3062	1/1	0.92	0.18	4,4,4,4	0
58	MG	RA	3220	1/1	0.92	0.15	13,13,13,13	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	XA	1632	1/1	0.92	0.11	9,9,9,9	0
58	MG	YA	3023	1/1	0.92	0.23	18,18,18,18	0
58	MG	XA	1635	1/1	0.92	0.14	26,26,26,26	0
58	MG	RA	3005	1/1	0.92	0.24	24,24,24,24	0
58	MG	RA	3231	1/1	0.93	0.14	16,16,16,16	0
58	MG	YA	3138	1/1	0.93	0.14	6,6,6,6	0
58	MG	RA	3136	1/1	0.93	0.07	5,5,5,5	0
58	MG	RA	3160	1/1	0.93	0.14	19,19,19,19	0
58	MG	YA	3145	1/1	0.93	0.12	20,20,20,20	0
58	MG	YA	3146	1/1	0.93	0.25	40,40,40,40	0
58	MG	RA	3137	1/1	0.93	0.21	14,14,14,14	0
58	MG	RA	3074	1/1	0.93	0.20	6,6,6,6	0
58	MG	RA	3239	1/1	0.93	0.11	0,0,0,0	0
58	MG	XA	1667	1/1	0.93	0.11	34,34,34,34	0
58	MG	XA	1668	1/1	0.93	0.16	0,0,0,0	0
58	MG	XA	1670	1/1	0.93	0.20	27,27,27,27	0
58	MG	XA	1671	1/1	0.93	0.13	33,33,33,33	0
58	MG	YA	3054	1/1	0.93	0.10	14,14,14,14	0
58	MG	XA	1674	1/1	0.93	0.18	4,4,4,4	0
58	MG	XA	1675	1/1	0.93	0.35	14,14,14,14	0
58	MG	RA	3085	1/1	0.93	0.20	7,7,7,7	0
58	MG	RA	3086	1/1	0.93	0.21	22,22,22,22	0
58	MG	YA	3175	1/1	0.93	0.22	14,14,14,14	0
58	MG	XA	1683	1/1	0.93	0.17	10,10,10,10	0
58	MG	RA	3012	1/1	0.93	0.26	31,31,31,31	0
58	MG	YA	3183	1/1	0.93	0.16	19,19,19,19	0
58	MG	QA	1620	1/1	0.93	0.14	3,3,3,3	0
58	MG	YA	3073	1/1	0.93	0.23	4,4,4,4	0
58	MG	YA	3077	1/1	0.93	0.18	6,6,6,6	0
58	MG	RP	202	1/1	0.93	0.16	76,76,76,76	0
58	MG	YA	3196	1/1	0.93	0.09	41,41,41,41	0
58	MG	YA	3197	1/1	0.93	0.20	42,42,42,42	0
58	MG	R5	101	1/1	0.93	0.21	11,11,11,11	0
58	MG	XA	1604	1/1	0.93	0.27	9,9,9,9	0
58	MG	RA	3208	1/1	0.93	0.07	30,30,30,30	0
58	MG	YA	3203	1/1	0.93	0.16	18,18,18,18	0
58	MG	YA	3083	1/1	0.93	0.21	5,5,5,5	0
58	MG	RA	3125	1/1	0.93	0.22	19,19,19,19	0
58	MG	YA	3011	1/1	0.93	0.20	9,9,9,9	0
58	MG	RA	3026	1/1	0.93	0.22	7,7,7,7	0
58	MG	YA	3087	1/1	0.93	0.24	5,5,5,5	0
58	MG	YA	3089	1/1	0.93	0.20	13,13,13,13	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	XA	1615	1/1	0.93	0.13	19,19,19,19	0
58	MG	YA	3217	1/1	0.93	0.11	18,18,18,18	0
58	MG	YA	3218	1/1	0.93	0.12	59,59,59,59	0
58	MG	RA	3175	1/1	0.93	0.23	14,14,14,14	0
58	MG	QA	1643	1/1	0.93	0.14	21,21,21,21	0
58	MG	RA	3106	1/1	0.93	0.13	6,6,6,6	0
58	MG	YA	3020	1/1	0.93	0.27	8,8,8,8	0
58	MG	RA	3184	1/1	0.93	0.15	23,23,23,23	0
58	MG	RA	3185	1/1	0.93	0.12	16,16,16,16	0
58	MG	XA	1624	1/1	0.93	0.14	22,22,22,22	0
58	MG	XA	1630	1/1	0.93	0.17	15,15,15,15	0
58	MG	YA	3243	1/1	0.93	0.15	13,13,13,13	0
58	MG	RA	3111	1/1	0.93	0.15	12,12,12,12	0
58	MG	RA	3221	1/1	0.93	0.17	30,30,30,30	0
58	MG	XA	1636	1/1	0.93	0.23	8,8,8,8	0
58	MG	RA	3188	1/1	0.93	0.11	48,48,48,48	0
58	MG	YA	3033	1/1	0.93	0.23	12,12,12,12	0
58	MG	QA	1670	1/1	0.93	0.30	5,5,5,5	0
58	MG	YA	3261	1/1	0.93	0.07	16,16,16,16	0
58	MG	YA	3120	1/1	0.93	0.41	46,46,46,46	0
58	MG	RA	3158	1/1	0.93	0.14	15,15,15,15	0
58	MG	XA	1648	1/1	0.93	0.15	19,19,19,19	0
58	MG	RA	3229	1/1	0.93	0.09	23,23,23,23	0
58	MG	YA	3039	1/1	0.93	0.20	20,20,20,20	0
58	MG	Y5	101	1/1	0.93	0.20	13,13,13,13	0
58	MG	RA	3008	1/1	0.94	0.25	6,6,6,6	0
58	MG	YA	3178	1/1	0.94	0.15	17,17,17,17	0
58	MG	YA	3037	1/1	0.94	0.18	16,16,16,16	0
58	MG	RA	3082	1/1	0.94	0.16	10,10,10,10	0
58	MG	XA	1672	1/1	0.94	0.13	16,16,16,16	0
58	MG	YA	3185	1/1	0.94	0.12	22,22,22,22	0
58	MG	RA	3025	1/1	0.94	0.21	3,3,3,3	0
58	MG	QA	1624	1/1	0.94	0.10	26,26,26,26	0
58	MG	YA	3190	1/1	0.94	0.13	8,8,8,8	0
58	MG	YA	3191	1/1	0.94	0.15	9,9,9,9	0
58	MG	RA	3228	1/1	0.94	0.07	13,13,13,13	0
58	MG	YA	3101	1/1	0.94	0.21	5,5,5,5	0
58	MG	QA	1607	1/1	0.94	0.16	22,22,22,22	0
58	MG	YA	3105	1/1	0.94	0.17	19,19,19,19	0
58	MG	RA	3230	1/1	0.94	0.12	41,41,41,41	0
58	MG	RA	3201	1/1	0.94	0.16	34,34,34,34	0
58	MG	YA	3200	1/1	0.94	0.07	6,6,6,6	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	YA	3113	1/1	0.94	0.24	17,17,17,17	0
58	MG	XA	1625	1/1	0.94	0.18	5,5,5,5	0
58	MG	QA	1635	1/1	0.94	0.09	76,76,76,76	0
58	MG	RA	3203	1/1	0.94	0.13	15,15,15,15	0
58	MG	QA	1671	1/1	0.94	0.20	6,6,6,6	0
58	MG	RA	3237	1/1	0.94	0.24	6,6,6,6	0
58	MG	YA	3213	1/1	0.94	0.13	31,31,31,31	0
58	MG	RA	3004	1/1	0.94	0.27	40,40,40,40	0
58	MG	YA	3129	1/1	0.94	0.19	20,20,20,20	0
58	MG	YA	3056	1/1	0.94	0.09	5,5,5,5	0
58	MG	XA	1640	1/1	0.94	0.16	27,27,27,27	0
58	MG	XA	1641	1/1	0.94	0.29	11,11,11,11	0
58	MG	RA	3206	1/1	0.94	0.05	5,5,5,5	0
58	MG	YA	3137	1/1	0.94	0.14	10,10,10,10	0
58	MG	RA	3117	1/1	0.94	0.17	11,11,11,11	0
58	MG	YA	3017	1/1	0.94	0.10	11,11,11,11	0
58	MG	YA	3230	1/1	0.94	0.24	42,42,42,42	0
58	MG	XA	1645	1/1	0.94	0.13	5,5,5,5	0
58	MG	YA	3142	1/1	0.94	0.11	31,31,31,31	0
58	MG	RA	3014	1/1	0.94	0.14	28,28,28,28	0
58	MG	RA	3246	1/1	0.94	0.29	33,33,33,33	0
58	MG	YA	3239	1/1	0.94	0.12	41,41,41,41	0
58	MG	XA	1651	1/1	0.94	0.24	33,33,33,33	0
58	MG	YA	3244	1/1	0.94	0.21	0,0,0,0	0
58	MG	RA	3092	1/1	0.94	0.24	0,0,0,0	0
58	MG	YA	3151	1/1	0.94	0.20	3,3,3,3	0
58	MG	YA	3153	1/1	0.94	0.15	14,14,14,14	0
58	MG	YA	3253	1/1	0.94	0.15	22,22,22,22	0
58	MG	RA	3071	1/1	0.94	0.18	11,11,11,11	0
58	MG	RA	3072	1/1	0.94	0.12	18,18,18,18	0
58	MG	YA	3259	1/1	0.94	0.16	5,5,5,5	0
58	MG	YA	3082	1/1	0.94	0.11	17,17,17,17	0
58	MG	XA	1657	1/1	0.94	0.06	19,19,19,19	0
58	MG	RA	3015	1/1	0.94	0.21	0,0,0,0	0
58	MG	XA	1662	1/1	0.94	0.29	12,12,12,12	0
58	MG	QA	1638	1/1	0.94	0.10	14,14,14,14	0
58	MG	XA	1605	1/1	0.94	0.46	15,15,15,15	0
58	MG	YD	302	1/1	0.94	0.21	5,5,5,5	0
58	MG	YX	101	1/1	0.94	0.10	47,47,47,47	0
58	MG	QA	1626	1/1	0.94	0.12	17,17,17,17	0
58	MG	QA	1675	1/1	0.94	0.19	32,32,32,32	0
58	MG	QV	101	1/1	0.94	0.15	22,22,22,22	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	RA	3218	1/1	0.95	0.05	17,17,17,17	0
58	MG	QA	1605	1/1	0.95	0.20	6,6,6,6	0
58	MG	XA	1628	1/1	0.95	0.14	18,18,18,18	0
58	MG	RA	3178	1/1	0.95	0.13	25,25,25,25	0
58	MG	RA	3038	1/1	0.95	0.29	4,4,4,4	0
58	MG	YA	3088	1/1	0.95	0.12	6,6,6,6	0
58	MG	YA	3184	1/1	0.95	0.07	23,23,23,23	0
58	MG	RA	3040	1/1	0.95	0.15	13,13,13,13	0
58	MG	YA	3186	1/1	0.95	0.10	25,25,25,25	0
58	MG	RA	3225	1/1	0.95	0.13	33,33,33,33	0
58	MG	YA	3091	1/1	0.95	0.16	29,29,29,29	0
58	MG	RA	3021	1/1	0.95	0.20	18,18,18,18	0
58	MG	RA	3140	1/1	0.95	0.10	34,34,34,34	0
58	MG	RA	3186	1/1	0.95	0.10	17,17,17,17	0
58	MG	RA	3075	1/1	0.95	0.16	9,9,9,9	0
58	MG	RA	3043	1/1	0.95	0.21	10,10,10,10	0
58	MG	RA	3189	1/1	0.95	0.10	14,14,14,14	0
58	MG	XA	1646	1/1	0.95	0.15	21,21,21,21	0
58	MG	RA	3190	1/1	0.95	0.11	40,40,40,40	0
58	MG	RA	3104	1/1	0.95	0.14	11,11,11,11	0
58	MG	QA	1633	1/1	0.95	0.06	15,15,15,15	0
58	MG	QA	1649	1/1	0.95	0.14	32,32,32,32	0
58	MG	RA	3108	1/1	0.95	0.07	6,6,6,6	0
58	MG	QA	1615	1/1	0.95	0.18	9,9,9,9	0
58	MG	RA	3113	1/1	0.95	0.08	1,1,1,1	0
58	MG	QA	1658	1/1	0.95	0.18	39,39,39,39	0
58	MG	QA	1668	1/1	0.95	0.11	0,0,0,0	0
58	MG	RA	3052	1/1	0.95	0.18	1,1,1,1	0
58	MG	YA	3119	1/1	0.95	0.20	9,9,9,9	0
58	MG	RA	3028	1/1	0.95	0.16	17,17,17,17	0
58	MG	XA	1666	1/1	0.95	0.17	85,85,85,85	0
58	MG	YA	3128	1/1	0.95	0.23	6,6,6,6	0
58	MG	YA	3045	1/1	0.95	0.15	5,5,5,5	0
58	MG	RA	3016	1/1	0.95	0.15	8,8,8,8	0
58	MG	R8	101	1/1	0.95	0.12	6,6,6,6	0
58	MG	R8	102	1/1	0.95	0.12	2,2,2,2	0
58	MG	YA	3228	1/1	0.95	0.06	9,9,9,9	0
58	MG	XA	1602	1/1	0.95	0.26	15,15,15,15	0
58	MG	YA	3231	1/1	0.95	0.11	34,34,34,34	0
58	MG	RA	3161	1/1	0.95	0.16	10,10,10,10	0
58	MG	YA	3234	1/1	0.95	0.16	17,17,17,17	0
58	MG	XA	1673	1/1	0.95	0.13	6,6,6,6	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	RA	3057	1/1	0.95	0.15	4,4,4,4	0
58	MG	XA	1608	1/1	0.95	0.09	1,1,1,1	0
58	MG	XA	1676	1/1	0.95	0.16	19,19,19,19	0
58	MG	YA	3241	1/1	0.95	0.15	18,18,18,18	0
58	MG	YA	3242	1/1	0.95	0.11	9,9,9,9	0
58	MG	RA	3121	1/1	0.95	0.14	36,36,36,36	0
58	MG	XA	1610	1/1	0.95	0.16	6,6,6,6	0
58	MG	XA	1681	1/1	0.95	0.22	31,31,31,31	0
58	MG	XA	1682	1/1	0.95	0.21	35,35,35,35	0
58	MG	YA	3248	1/1	0.95	0.11	8,8,8,8	0
58	MG	YA	3150	1/1	0.95	0.15	16,16,16,16	0
58	MG	YA	3065	1/1	0.95	0.10	31,31,31,31	0
58	MG	YA	3254	1/1	0.95	0.20	16,16,16,16	0
58	MG	YA	3152	1/1	0.95	0.18	27,27,27,27	0
58	MG	RA	3017	1/1	0.95	0.24	18,18,18,18	0
58	MG	YA	3258	1/1	0.95	0.16	4,4,4,4	0
58	MG	YA	3154	1/1	0.95	0.11	11,11,11,11	0
58	MG	RA	3210	1/1	0.95	0.23	8,8,8,8	0
58	MG	RA	3090	1/1	0.95	0.22	6,6,6,6	0
58	MG	YA	3076	1/1	0.95	0.27	10,10,10,10	0
58	MG	RA	3034	1/1	0.95	0.21	6,6,6,6	0
58	MG	RA	3064	1/1	0.95	0.21	4,4,4,4	0
58	MG	YA	3162	1/1	0.95	0.07	11,11,11,11	0
58	MG	XA	1618	1/1	0.95	0.17	0,0,0,0	0
58	MG	RA	3066	1/1	0.95	0.08	7,7,7,7	0
58	MG	YA	3169	1/1	0.95	0.12	16,16,16,16	0
58	MG	QA	1610	1/1	0.95	0.04	21,21,21,21	0
58	MG	RA	3174	1/1	0.95	0.08	17,17,17,17	0
58	MG	YA	3181	1/1	0.96	0.12	0,0,0,0	0
58	MG	RA	3163	1/1	0.96	0.05	34,34,34,34	0
58	MG	QA	1617	1/1	0.96	0.11	46,46,46,46	0
58	MG	RA	3222	1/1	0.96	0.04	2,2,2,2	0
58	MG	XA	1658	1/1	0.96	0.14	3,3,3,3	0
58	MG	RA	3194	1/1	0.96	0.16	0,0,0,0	0
58	MG	YA	3098	1/1	0.96	0.23	8,8,8,8	0
58	MG	QA	1644	1/1	0.96	0.07	26,26,26,26	0
58	MG	RA	3089	1/1	0.96	0.14	6,6,6,6	0
58	MG	XA	1611	1/1	0.96	0.14	11,11,11,11	0
58	MG	RA	3226	1/1	0.96	0.09	1,1,1,1	0
58	MG	RA	3197	1/1	0.96	0.20	81,81,81,81	0
58	MG	YA	3195	1/1	0.96	0.12	5,5,5,5	0
58	MG	RA	3059	1/1	0.96	0.19	8,8,8,8	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	YA	3107	1/1	0.96	0.15	9,9,9,9	0
58	MG	XA	1669	1/1	0.96	0.10	55,55,55,55	0
58	MG	QA	1656	1/1	0.96	0.07	44,44,44,44	0
58	MG	RA	3147	1/1	0.96	0.07	32,32,32,32	0
58	MG	YA	3043	1/1	0.96	0.23	5,5,5,5	0
58	MG	RA	3107	1/1	0.96	0.05	2,2,2,2	0
58	MG	RA	3232	1/1	0.96	0.05	15,15,15,15	0
58	MG	RA	3045	1/1	0.96	0.14	2,2,2,2	0
58	MG	XA	1621	1/1	0.96	0.17	19,19,19,19	0
58	MG	YA	3121	1/1	0.96	0.06	6,6,6,6	0
58	MG	YA	3210	1/1	0.96	0.09	17,17,17,17	0
58	MG	YA	3212	1/1	0.96	0.06	10,10,10,10	0
58	MG	YA	3124	1/1	0.96	0.21	6,6,6,6	0
58	MG	RA	3129	1/1	0.96	0.13	21,21,21,21	0
58	MG	XA	1678	1/1	0.96	0.09	2,2,2,2	0
58	MG	XA	1623	1/1	0.96	0.05	28,28,28,28	0
58	MG	RA	3177	1/1	0.96	0.17	15,15,15,15	0
58	MG	RA	3151	1/1	0.96	0.05	3,3,3,3	0
58	MG	RA	3153	1/1	0.96	0.09	0,0,0,0	0
58	MG	RA	3033	1/1	0.96	0.19	6,6,6,6	0
58	MG	YA	3223	1/1	0.96	0.04	34,34,34,34	0
58	MG	YA	3057	1/1	0.96	0.31	11,11,11,11	0
58	MG	YA	3226	1/1	0.96	0.11	11,11,11,11	0
58	MG	RA	3131	1/1	0.96	0.16	7,7,7,7	0
58	MG	YA	3059	1/1	0.96	0.12	11,11,11,11	0
58	MG	YA	3229	1/1	0.96	0.11	14,14,14,14	0
58	MG	XA	1633	1/1	0.96	0.12	7,7,7,7	0
58	MG	YA	3141	1/1	0.96	0.09	19,19,19,19	0
58	MG	XA	1634	1/1	0.96	0.17	7,7,7,7	0
58	MG	RA	3241	1/1	0.96	0.12	8,8,8,8	0
58	MG	RA	3242	1/1	0.96	0.23	13,13,13,13	0
58	MG	YA	3067	1/1	0.96	0.16	17,17,17,17	0
58	MG	YA	3006	1/1	0.96	0.16	26,26,26,26	0
58	MG	RA	3156	1/1	0.96	0.15	9,9,9,9	0
58	MG	YA	3240	1/1	0.96	0.23	12,12,12,12	0
58	MG	YA	3071	1/1	0.96	0.04	1,1,1,1	0
58	MG	YA	3072	1/1	0.96	0.17	22,22,22,22	0
58	MG	XA	1639	1/1	0.96	0.07	45,45,45,45	0
58	MG	YA	3009	1/1	0.96	0.19	15,15,15,15	0
58	MG	YA	3010	1/1	0.96	0.24	15,15,15,15	0
58	MG	YA	3246	1/1	0.96	0.08	0,0,0,0	0
58	MG	QA	1609	1/1	0.96	0.08	32,32,32,32	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	QA	1646	1/1	0.96	0.07	28,28,28,28	0
58	MG	YA	3249	1/1	0.96	0.16	20,20,20,20	0
58	MG	YA	3250	1/1	0.96	0.15	15,15,15,15	0
58	MG	YA	3159	1/1	0.96	0.09	12,12,12,12	0
58	MG	YA	3252	1/1	0.96	0.24	1,1,1,1	0
58	MG	YA	3013	1/1	0.96	0.23	3,3,3,3	0
58	MG	RB	202	1/1	0.96	0.14	29,29,29,29	0
58	MG	RE	301	1/1	0.96	0.08	9,9,9,9	0
58	MG	XA	1644	1/1	0.96	0.08	4,4,4,4	0
58	MG	RA	3135	1/1	0.96	0.07	12,12,12,12	0
58	MG	YA	3165	1/1	0.96	0.17	1,1,1,1	0
58	MG	QA	1631	1/1	0.96	0.09	50,50,50,50	0
58	MG	XA	1647	1/1	0.96	0.07	22,22,22,22	0
58	MG	YA	3171	1/1	0.96	0.07	22,22,22,22	0
58	MG	YA	3022	1/1	0.96	0.21	7,7,7,7	0
58	MG	YA	3173	1/1	0.96	0.06	15,15,15,15	0
58	MG	R0	101	1/1	0.96	0.13	2,2,2,2	0
58	MG	QA	1669	1/1	0.96	0.24	18,18,18,18	0
58	MG	YP	201	1/1	0.96	0.22	54,54,54,54	0
58	MG	YP	202	1/1	0.96	0.08	1,1,1,1	0
58	MG	YQ	201	1/1	0.96	0.09	90,90,90,90	0
58	MG	YA	3176	1/1	0.96	0.05	45,45,45,45	0
58	MG	QM	201	1/1	0.96	0.09	51,51,51,51	0
58	MG	YA	3179	1/1	0.96	0.13	26,26,26,26	0
58	MG	RA	3219	1/1	0.96	0.16	8,8,8,8	0
58	MG	RA	3097	1/1	0.97	0.18	5,5,5,5	0
58	MG	RA	3152	1/1	0.97	0.16	14,14,14,14	0
58	MG	QA	1661	1/1	0.97	0.14	50,50,50,50	0
58	MG	QA	1676	1/1	0.97	0.08	13,13,13,13	0
58	MG	YA	3220	1/1	0.97	0.11	1,1,1,1	0
58	MG	XA	1660	1/1	0.97	0.04	22,22,22,22	0
58	MG	RA	3080	1/1	0.97	0.15	10,10,10,10	0
58	MG	YA	3016	1/1	0.97	0.09	7,7,7,7	0
58	MG	YA	3109	1/1	0.97	0.10	10,10,10,10	0
58	MG	YA	3110	1/1	0.97	0.13	4,4,4,4	0
58	MG	YA	3111	1/1	0.97	0.05	26,26,26,26	0
58	MG	YA	3112	1/1	0.97	0.09	13,13,13,13	0
58	MG	RA	3245	1/1	0.97	0.28	7,7,7,7	0
58	MG	YA	3114	1/1	0.97	0.18	6,6,6,6	0
58	MG	XA	1664	1/1	0.97	0.08	22,22,22,22	0
58	MG	YA	3064	1/1	0.97	0.12	4,4,4,4	0
58	MG	RA	3058	1/1	0.97	0.07	5,5,5,5	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	YA	3177	1/1	0.97	0.06	4,4,4,4	0
58	MG	RA	3020	1/1	0.97	0.13	4,4,4,4	0
58	MG	XA	1627	1/1	0.97	0.11	12,12,12,12	0
58	MG	QA	1640	1/1	0.97	0.05	13,13,13,13	0
58	MG	RA	3032	1/1	0.97	0.11	14,14,14,14	0
58	MG	YA	3122	1/1	0.97	0.07	9,9,9,9	0
58	MG	XA	1631	1/1	0.97	0.12	4,4,4,4	0
58	MG	RE	302	1/1	0.97	0.12	15,15,15,15	0
58	MG	RA	3022	1/1	0.97	0.18	24,24,24,24	0
58	MG	QA	1627	1/1	0.97	0.07	30,30,30,30	0
58	MG	RA	3048	1/1	0.97	0.14	2,2,2,2	0
58	MG	RA	3069	1/1	0.97	0.13	19,19,19,19	0
58	MG	RA	3139	1/1	0.97	0.13	12,12,12,12	0
58	MG	XA	1677	1/1	0.97	0.12	2,2,2,2	0
58	MG	XA	1638	1/1	0.97	0.15	4,4,4,4	0
58	MG	YA	3193	1/1	0.97	0.10	14,14,14,14	0
58	MG	QA	1630	1/1	0.97	0.08	7,7,7,7	0
58	MG	RA	3141	1/1	0.97	0.12	40,40,40,40	0
58	MG	RA	3050	1/1	0.97	0.12	9,9,9,9	0
58	MG	RA	3170	1/1	0.97	0.05	9,9,9,9	0
58	MG	YA	3257	1/1	0.97	0.23	14,14,14,14	0
58	MG	XA	1606	1/1	0.97	0.22	3,3,3,3	0
58	MG	YA	3143	1/1	0.97	0.06	0,0,0,0	0
58	MG	YA	3144	1/1	0.97	0.05	6,6,6,6	0
58	MG	RA	3200	1/1	0.97	0.07	9,9,9,9	0
58	MG	QA	1659	1/1	0.97	0.06	42,42,42,42	0
58	MG	YA	3264	1/1	0.97	0.30	5,5,5,5	0
58	MG	YA	3265	1/1	0.97	0.13	24,24,24,24	0
58	MG	YA	3001	1/1	0.97	0.20	23,23,23,23	0
58	MG	RA	3073	1/1	0.97	0.09	10,10,10,10	0
58	MG	RA	3118	1/1	0.97	0.18	16,16,16,16	0
58	MG	YA	3004	1/1	0.97	0.12	11,11,11,11	0
58	MG	YA	3208	1/1	0.97	0.11	35,35,35,35	0
58	MG	YA	3209	1/1	0.97	0.10	7,7,7,7	0
58	MG	QA	1650	1/1	0.97	0.07	53,53,53,53	0
58	MG	RA	3053	1/1	0.97	0.07	2,2,2,2	0
58	MG	RA	3039	1/1	0.97	0.17	7,7,7,7	0
58	MG	RA	3077	1/1	0.97	0.17	6,6,6,6	0
58	MG	RA	3180	1/1	0.97	0.06	17,17,17,17	0
58	MG	XV	101	1/1	0.97	0.09	3,3,3,3	0
58	MG	XV	102	1/1	0.97	0.14	2,2,2,2	0
58	MG	QA	1634	1/1	0.98	0.10	23,23,23,23	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	YA	3225	1/1	0.98	0.13	12,12,12,12	0
58	MG	RA	3176	1/1	0.98	0.04	21,21,21,21	0
58	MG	RA	3100	1/1	0.98	0.05	0,0,0,0	0
58	MG	YA	3123	1/1	0.98	0.14	1,1,1,1	0
58	MG	RA	3061	1/1	0.98	0.08	0,0,0,0	0
58	MG	YA	3125	1/1	0.98	0.07	11,11,11,11	0
58	MG	YA	3126	1/1	0.98	0.04	0,0,0,0	0
58	MG	RA	3207	1/1	0.98	0.18	7,7,7,7	0
58	MG	QA	1642	1/1	0.98	0.04	38,38,38,38	0
58	MG	XA	1652	1/1	0.98	0.03	32,32,32,32	0
58	MG	XA	1653	1/1	0.98	0.09	42,42,42,42	0
58	MG	RA	3181	1/1	0.98	0.12	21,21,21,21	0
58	MG	RA	3128	1/1	0.98	0.09	9,9,9,9	0
58	MG	QA	1652	1/1	0.98	0.05	13,13,13,13	0
58	MG	YA	3135	1/1	0.98	0.04	6,6,6,6	0
58	MG	QA	1653	1/1	0.98	0.10	0,0,0,0	0
58	MG	RA	3030	1/1	0.98	0.07	8,8,8,8	0
58	MG	YA	3189	1/1	0.98	0.06	30,30,30,30	0
58	MG	YA	3048	1/1	0.98	0.13	4,4,4,4	0
58	MG	RA	3244	1/1	0.98	0.06	0,0,0,0	0
58	MG	RA	3068	1/1	0.98	0.35	13,13,13,13	0
58	MG	QA	1654	1/1	0.98	0.07	12,12,12,12	0
58	MG	RA	3003	1/1	0.98	0.12	4,4,4,4	0
58	MG	RB	201	1/1	0.98	0.11	16,16,16,16	0
58	MG	YA	3097	1/1	0.98	0.04	11,11,11,11	0
58	MG	RA	3109	1/1	0.98	0.09	0,0,0,0	0
58	MG	RD	301	1/1	0.98	0.07	12,12,12,12	0
58	MG	YA	3148	1/1	0.98	0.05	15,15,15,15	0
58	MG	QA	1655	1/1	0.98	0.07	14,14,14,14	0
58	MG	RA	3112	1/1	0.98	0.08	7,7,7,7	0
58	MG	YA	3202	1/1	0.98	0.08	38,38,38,38	0
58	MG	RF	301	1/1	0.98	0.07	13,13,13,13	0
58	MG	YA	3104	1/1	0.98	0.06	0,0,0,0	0
58	MG	QA	1608	1/1	0.98	0.08	4,4,4,4	0
58	MG	YA	3061	1/1	0.98	0.09	15,15,15,15	0
58	MG	YA	3262	1/1	0.98	0.19	26,26,26,26	0
58	MG	YA	3021	1/1	0.98	0.15	8,8,8,8	0
58	MG	QA	1636	1/1	0.98	0.21	1,1,1,1	0
58	MG	YA	3157	1/1	0.98	0.05	0,0,0,0	0
58	MG	QA	1637	1/1	0.98	0.06	17,17,17,17	0
58	MG	RA	3166	1/1	0.98	0.05	5,5,5,5	0
58	MG	QA	1611	1/1	0.98	0.05	1,1,1,1	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
58	MG	QA	1628	1/1	0.98	0.04	10,10,10,10	0
58	MG	QA	1606	1/1	0.98	0.30	10,10,10,10	0
58	MG	RA	3145	1/1	0.98	0.10	3,3,3,3	0
58	MG	RA	3041	1/1	0.98	0.20	9,9,9,9	0
58	MG	QA	1662	1/1	0.98	0.06	0,0,0,0	0
58	MG	YA	3168	1/1	0.98	0.06	3,3,3,3	0
58	MG	YA	3075	1/1	0.98	0.06	12,12,12,12	0
58	MG	XA	1607	1/1	0.98	0.24	7,7,7,7	0
58	MG	YA	3222	1/1	0.98	0.09	13,13,13,13	0
58	MG	RA	3098	1/1	0.98	0.09	10,10,10,10	0
58	MG	RA	3110	1/1	0.99	0.04	19,19,19,19	0
58	MG	RA	3035	1/1	0.99	0.07	2,2,2,2	0
58	MG	YA	3136	1/1	0.99	0.03	0,0,0,0	0
58	MG	RA	3062	1/1	0.99	0.09	21,21,21,21	0
58	MG	YA	3026	1/1	0.99	0.32	5,5,5,5	0
58	MG	YA	3066	1/1	0.99	0.26	6,6,6,6	0
58	MG	YA	3166	1/1	0.99	0.03	11,11,11,11	0
58	MG	YA	3167	1/1	0.99	0.08	15,15,15,15	0
58	MG	XA	1626	1/1	0.99	0.06	15,15,15,15	0
58	MG	RA	3167	1/1	0.99	0.10	1,1,1,1	0
58	MG	QA	1622	1/1	0.99	0.07	12,12,12,12	0
58	MG	YA	3070	1/1	0.99	0.05	1,1,1,1	0
58	MG	XA	1629	1/1	0.99	0.04	4,4,4,4	0
58	MG	YA	3031	1/1	0.99	0.04	5,5,5,5	0
58	MG	YA	3051	1/1	0.99	0.16	13,13,13,13	0
58	MG	YA	3232	1/1	0.99	0.04	35,35,35,35	0
58	MG	YA	3074	1/1	0.99	0.03	1,1,1,1	0
58	MG	XA	1614	1/1	0.99	0.09	21,21,21,21	0
58	MG	RA	3179	1/1	0.99	0.04	4,4,4,4	0
58	MG	RA	3236	1/1	0.99	0.27	13,13,13,13	0
58	MG	YB	203	1/1	0.99	0.03	4,4,4,4	0
58	MG	XA	1649	1/1	0.99	0.04	17,17,17,17	0
58	MG	YA	3238	1/1	0.99	0.07	76,76,76,76	0
58	MG	YA	3102	1/1	0.99	0.03	8,8,8,8	0
58	MG	XA	1603	1/1	0.99	0.09	1,1,1,1	0
58	MG	RA	3132	1/1	0.99	0.05	9,9,9,9	0
58	MG	YA	3211	1/1	0.99	0.15	55,55,55,55	0
58	MG	QA	1673	1/1	0.99	0.10	9,9,9,9	0
58	MG	RA	3065	1/1	0.99	0.10	0,0,0,0	0
58	MG	QA	1651	1/1	0.99	0.03	5,5,5,5	0
58	MG	YA	3132	1/1	0.99	0.03	7,7,7,7	0
58	MG	RA	3055	1/1	0.99	0.04	10,10,10,10	0

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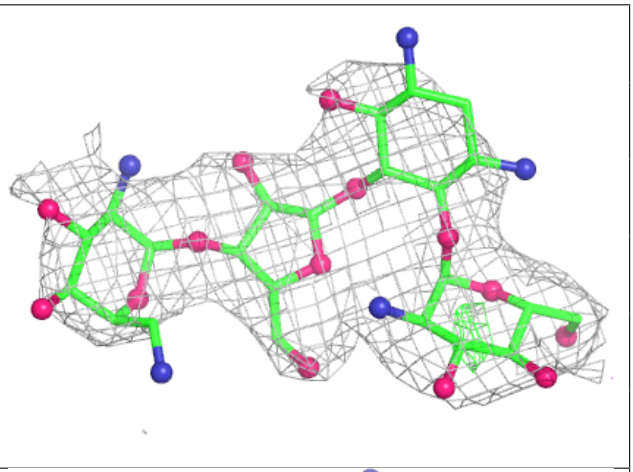
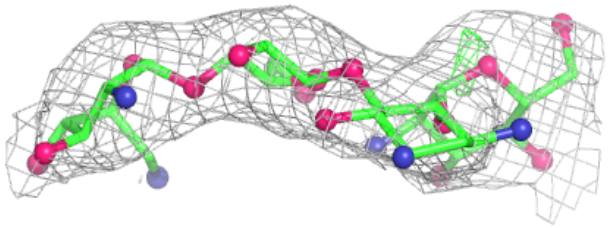
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
59	ZN	QN	101	1/1	0.99	0.04	86,86,86,86	0
59	ZN	XD	301	1/1	0.99	0.13	10,10,10,10	0
58	MG	RA	3123	1/1	1.00	0.02	10,10,10,10	0
58	MG	RA	3122	1/1	1.00	0.02	5,5,5,5	0
59	ZN	QD	301	1/1	1.00	0.09	27,27,27,27	0
58	MG	XA	1661	1/1	1.00	0.04	2,2,2,2	0
58	MG	RA	3217	1/1	1.00	0.03	8,8,8,8	0
59	ZN	XN	101	1/1	1.00	0.02	70,70,70,70	0

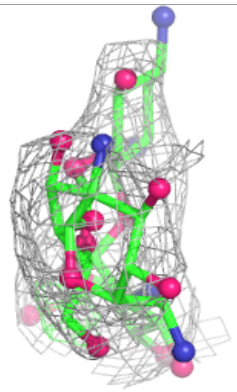
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around PAR QA 1601:

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

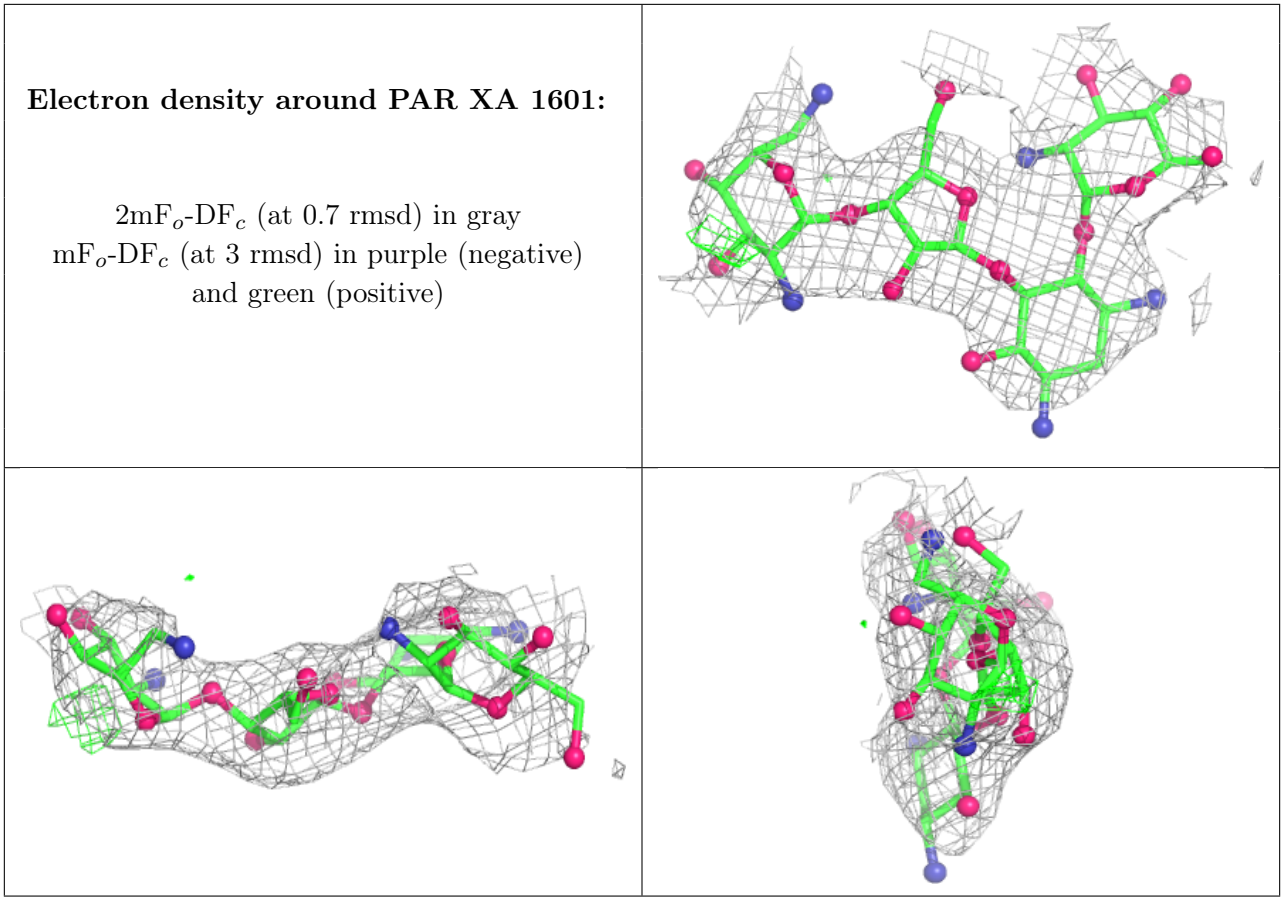






Electron density around PAR XA 1601:

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



6.5 Other polymers

There are no such residues in this entry.