Full wwPDB X-ray Structure Validation Report (i)

Sep 17, 2023 – 12:58 AM EDT

PDB ID	:	4TUD
Title	:	Crystal structure of ASL-SufJ bound to Codon ACC-C on the Ribosome
Authors	:	Fagan, C.E.; Dunham, C.M.
Deposited on	:	2014-06-24
Resolution	:	3.60 Å(reported)

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

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

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

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

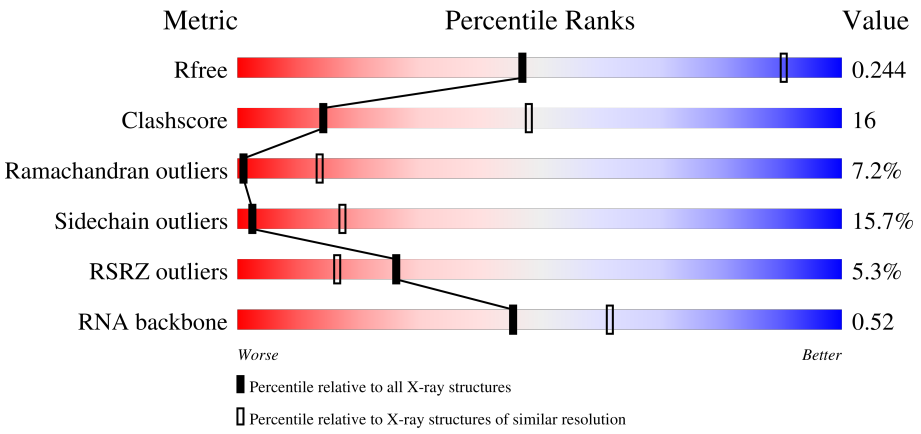
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh &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

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.60 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1257 (3.70-3.50)
Clashscore	141614	1353 (3.70-3.50)
Ramachandran outliers	138981	1307 (3.70-3.50)
Sidechain outliers	138945	1307 (3.70-3.50)
RSRZ outliers	127900	1161 (3.70-3.50)
RNA backbone	3102	1017 (4.20-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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% 55% 34% 8% ••
1	XA	1522	4% 55% 34% 10% ••
2	QB	256	10% 49% 36% 7% • 7%
2	XB	256	6% 47% 35% 9% • 7%

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Mol	Chain	Length	Quality of chain
3	QC	239	5% 54% 30% • 14%
3	XC	239	3% 52% 30% • 14%
4	QD	209	2% 68% 26% 5%
4	XD	209	66% 26% 6% •
5	QE	162	2% 57% 32% • 7%
5	XE	162	2% 52% 37% • 7%
6	QF	101	4% 69% 28% •
6	XF	101	% 64% 33% •
7	QG	156	4% 66% 30% • •
7	XG	156	4% 72% 24% • •
8	QH	138	% 60% 36% •
8	XH	138	% 65% 30% 5%
9	QI	128	16% 56% 38% 5% • •
9	XI	128	10% 55% 34% 9% • •
10	QJ	105	24% 44% 41% 9% • 6%
10	XJ	105	24% 42% 43% 10% 6%
11	QK	129	5% 58% 29% 5% 8%
11	XK	129	6% 61% 29% • 8%
12	QL	132	3% 30% 48% 14% • 5%
12	XL	132	3% 32% 45% 15% • 5%
13	QM	126	7% 48% 38% 10% •
13	XM	126	7% 49% 37% 10% •
14	QN	61	3% 41% 48% 10% •
14	XN	61	5% 51% 39% 7% • •
15	QO	89	6% 66% 27% 6% •

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Mol	Chain	Length	Quality of chain
15	XO	89	67% 24% 8%
16	QP	88	% 70% 19% 6% 5%
16	XP	88	53% 39% 5%
17	QQ	105	6% 61% 32% 5%
17	XQ	105	70% 22% 5%
18	QR	88	3% 52% 22% 20%
18	XR	88	3% 45% 30% 5% 20%
19	QS	93	2% 39% 35% 15% 10%
19	XS	93	31% 44% 12% 10%
20	QT	106	2% 49% 39% 6% 7%
20	XT	106	3% 43% 42% 8% 7%
21	QU	27	26% 48% 44% 7%
21	XU	27	15% 59% 33% 7%
22	QV	77	12% 66% 22% 12%
22	XV	77	17% 61% 23% 16%
23	QX	25	4% 32% 64%
23	XX	25	4% 28% 8% 64%
24	QY	18	67% 17% 17%
24	XY	18	56% 28% 17%
25	RA	2915	6% 55% 34% 9%
25	YA	2915	6% 56% 33% 9%
26	RB	122	% 55% 33% 11%
26	YB	122	6% 50% 37% 11%
27	RD	276	54% 36% 9%
27	YD	276	30% 52% 14%

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Mol	Chain	Length	Quality of chain
28	RE	206	%, 22%, 48%, 24%, 5%
28	YE	206	%, 23%, 46%, 25%, 5%
29	RF	210	60%, 29%, 8%
29	YF	210	%, 34%, 48%, 12%
30	RG	182	4%, 51%, 40%, 8%
30	YG	182	10%, 53%, 36%, 8%
31	RH	180	17%, 24%, 43%, 19%, 8%, 6%
31	YH	180	2%, 22%, 45%, 19%, 8%, 6%
32	RI	148	3%, 38%, 45%, 14%
32	YI	148	9%, 42%, 40%, 17%
33	RN	140	50%, 41%, 7%
33	YN	140	%, 49%, 39%, 9%
34	RO	122	69%, 27%
34	YO	122	69%, 28%
35	RP	150	2%, 52%, 34%, 10%
35	YP	150	5%, 48%, 33%, 15%
36	RQ	141	2%, 31%, 50%, 16%
36	YQ	141	%, 31%, 49%, 17%
37	RR	118	45%, 45%, 10%
37	YR	118	55%, 34%, 11%
38	RS	112	6%, 44%, 38%, 15%
38	YS	112	13%, 12%, 62%, 21%
39	RT	146	2%, 45%, 39%, 9%, 6%
39	YT	146	3%, 42%, 41%, 10%, 6%
40	RU	118	5%, 67%, 25%, 6%

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Mol	Chain	Length	Quality of chain
40	YU	118	2% 49% 42% 8%
41	RV	101	2% 57% 32% 9%
41	YV	101	45% 44% 11%
42	RW	113	62% 28% 9%
42	YW	113	2% 65% 26% 9%
43	RX	96	57% 31% 7%
43	YX	96	54% 35% 6%
44	RY	110	18% 28% 49% 15% 7%
44	YY	110	5% 43% 34% 15% 7%
45	RZ	206	7% 53% 25% 9% 11%
45	YZ	206	6% 45% 37% 7% 11%
46	R0	85	67% 26%
46	Y0	85	56% 39%
47	R1	98	% 62% 28% 7%
47	Y1	98	3% 57% 33% 7%
48	R2	72	% 56% 32% 7%
48	Y2	72	3% 24% 53% 18%
49	R3	60	72% 22% 5%
49	Y3	60	58% 30% 10%
50	R4	71	13% 6% 44% 41% 10%
50	Y4	71	11% 24% 38% 30% 8%
51	R5	60	13% 18% 48% 27% 5%
51	Y5	60	2% 38% 40% 18%
52	R6	54	57% 20% 41% 28% 9%
52	Y6	54	65% 28% 43% 17% 9%

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Mol	Chain	Length	Quality of chain
53	R7	49	4% 65% 27% 8%
53	Y7	49	6% 65% 27% 8%
54	R8	65	2% 22% 45% 25% 8%
54	Y8	65	25% 42% 28% 5%
55	R9	37	81% 68% 27% 5%
55	Y9	37	86% 65% 32%
56	Z5	3	67% 33%
56	Z6	3	33% 67%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
57	MG	QA	1624	-	-	-	X
57	MG	QA	1626	-	-	-	X
57	MG	QA	1637	-	-	-	X
57	MG	QA	1667	-	-	-	X
57	MG	QA	1668	-	-	-	X
57	MG	QA	1685	-	-	-	X
57	MG	QA	1690	-	-	-	X
57	MG	QV	101	-	-	-	X
57	MG	R8	101	-	-	-	X
57	MG	RA	3101	-	-	-	X
57	MG	RA	3131	-	-	-	X
57	MG	RA	3137	-	-	-	X
57	MG	RA	3154	-	-	-	X
57	MG	RA	3157	-	-	-	X
57	MG	RA	3166	-	-	-	X
57	MG	RA	3170	-	-	-	X
57	MG	RA	3185	-	-	-	X
57	MG	RA	3189	-	-	-	X
57	MG	RA	3195	-	-	-	X
57	MG	RA	3201	-	-	-	X
57	MG	RA	3223	-	-	-	X
57	MG	RA	3237	-	-	-	X
57	MG	RA	3240	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
57	MG	RA	3245	-	-	-	X
57	MG	RA	3266	-	-	-	X
57	MG	RA	3271	-	-	-	X
57	MG	RA	3273	-	-	-	X
57	MG	RA	3278	-	-	-	X
57	MG	RA	3280	-	-	-	X
57	MG	RQ	201	-	-	-	X
57	MG	XA	1605	-	-	-	X
57	MG	XA	1645	-	-	-	X
57	MG	XA	1649	-	-	-	X
57	MG	XA	1650	-	-	-	X
57	MG	XA	1675	-	-	-	X
57	MG	XA	1682	-	-	-	X
57	MG	XA	1702	-	-	-	X
57	MG	XA	1703	-	-	-	X
57	MG	Y0	101	-	-	-	X
57	MG	YA	3007	-	-	-	X
57	MG	YA	3083	-	-	-	X
57	MG	YA	3105	-	-	-	X
57	MG	YA	3115	-	-	-	X
57	MG	YA	3128	-	-	-	X
57	MG	YA	3142	-	-	-	X
57	MG	YA	3171	-	-	-	X
57	MG	YA	3172	-	-	-	X
57	MG	YA	3175	-	-	-	X
57	MG	YA	3188	-	-	-	X
57	MG	YA	3216	-	-	-	X
57	MG	YA	3226	-	-	-	X
57	MG	YA	3241	-	-	-	X
57	MG	YA	3255	-	-	-	X
57	MG	YA	3260	-	-	-	X
57	MG	YA	3267	-	-	-	X
57	MG	YA	3282	-	-	-	X
57	MG	YA	3283	-	-	-	X
57	MG	YD	301	-	-	-	X

2 Entry composition (i)

There are 59 unique types of molecules in this entry. The entry contains 292106 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 23 is a RNA chain called messenger RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
23	QX	9	173	76	31	57	9	0	0	0
23	XX	9	173	76	31	57	9	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
24	QY	15	319	142	55	107	15	0	0	0
24	XY	15	319	142	55	107	15	0	0	0

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
51	R5	59	459	288	90	76	5	0	0	0
51	Y5	58	454	285	89	75	5	0	0	0

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

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

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

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

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

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

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

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

- Molecule 56 is a RNA chain called CC-Puro.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
56	Z5	3	74	40	13	19	2	0	0	0
56	Z6	3	74	40	13	19	2	0	0	0

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Mg		
57	QA	90	90	90	0	0
57	QF	1	1	1	0	0
57	QK	1	1	1	0	0
57	QM	1	1	1	0	0
57	QT	1	1	1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Mg		
57	QV	2	2	2	0	0
57	QY	1	1	1	0	0
57	RA	281	281	281	0	0
57	RB	3	3	3	0	0
57	RD	1	1	1	0	0
57	RE	2	2	2	0	0
57	RF	1	1	1	0	0
57	RQ	1	1	1	0	0
57	RR	2	2	2	0	0
57	R0	2	2	2	0	0
57	R3	1	1	1	0	0
57	R5	1	1	1	0	0
57	R8	1	1	1	0	0
57	XA	104	104	104	0	0
57	XD	1	1	1	0	0
57	XV	3	3	3	0	0
57	XX	1	1	1	0	0
57	XY	1	1	1	0	0
57	YA	291	291	291	0	0
57	YB	3	3	3	0	0
57	YD	1	1	1	0	0

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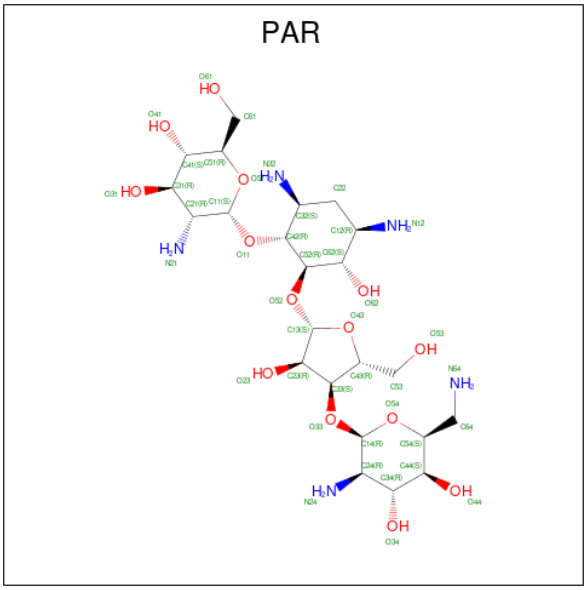
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	YE	2	Total 2	Mg 2	0	0
57	YP	3	Total 3	Mg 3	0	0
57	YR	2	Total 2	Mg 2	0	0
57	YY	1	Total 1	Mg 1	0	0
57	Y0	1	Total 1	Mg 1	0	0
57	Y1	1	Total 1	Mg 1	0	0
57	Y3	1	Total 1	Mg 1	0	0
57	Y5	1	Total 1	Mg 1	0	0
57	Y7	1	Total 1	Mg 1	0	0

- Molecule 58 is PAROMOMYCIN (three-letter code: PAR) (formula: $C_{23}H_{45}N_5O_{14}$).



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

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

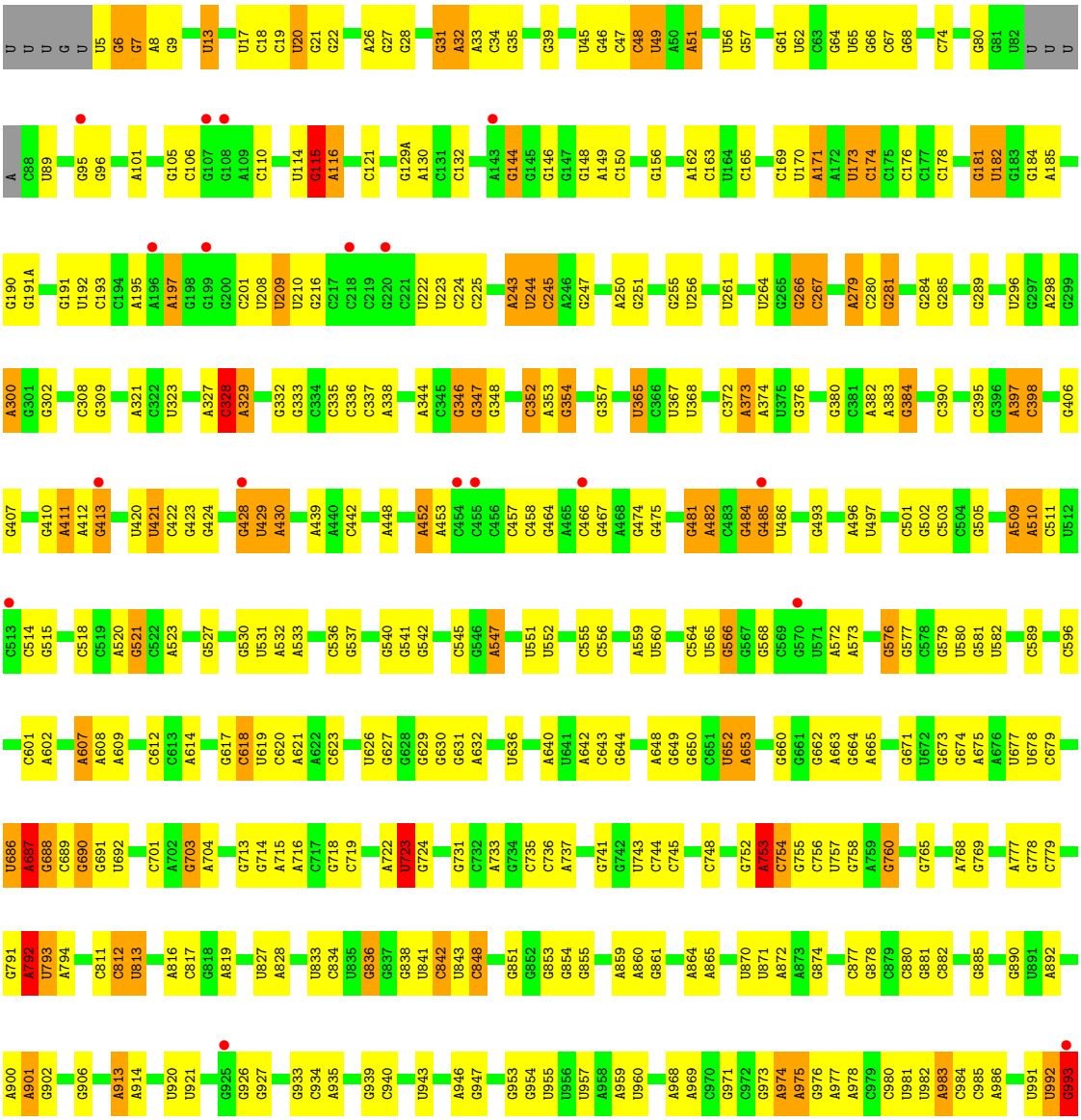
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Zn		
59	QD	1	1	1	0	0
59	QN	1	1	1	0	0
59	XD	1	1	1	0	0
59	XN	1	1	1	0	0

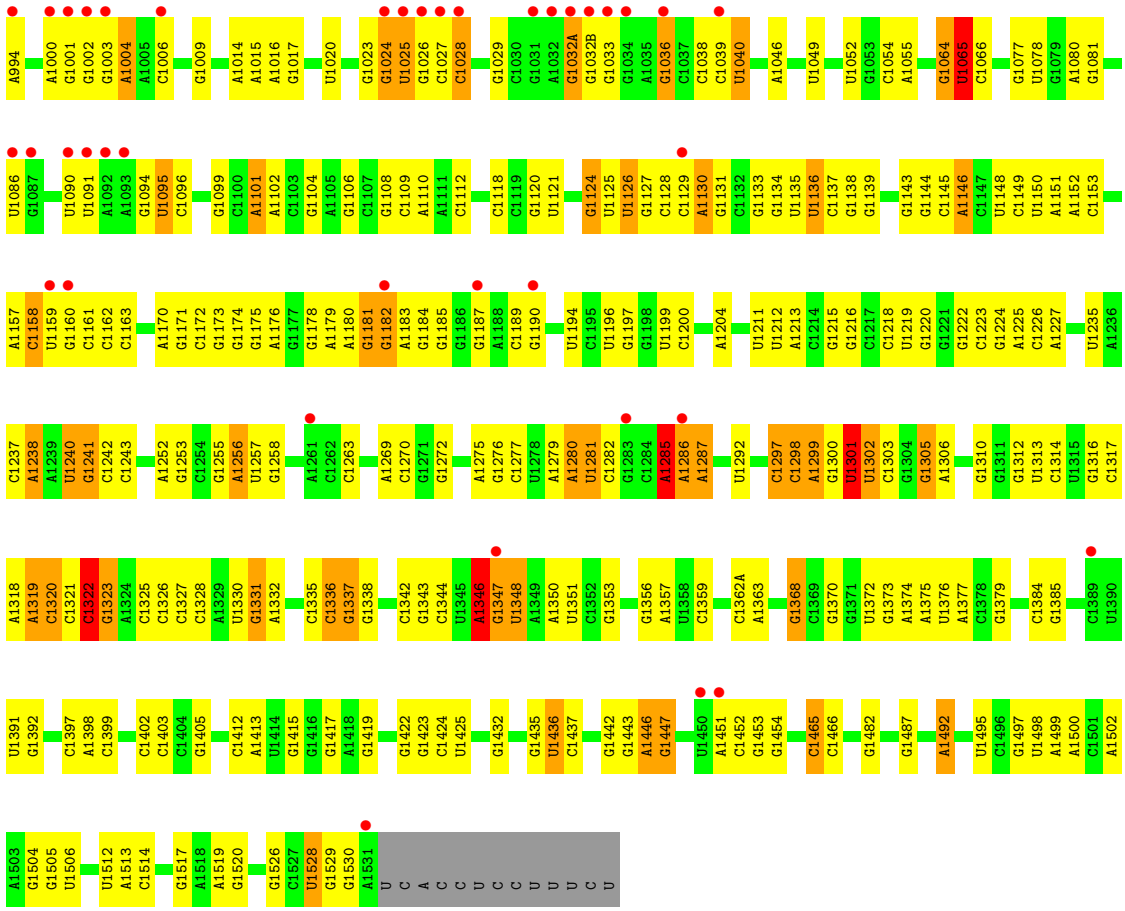
3 Residue-property plots (i)

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

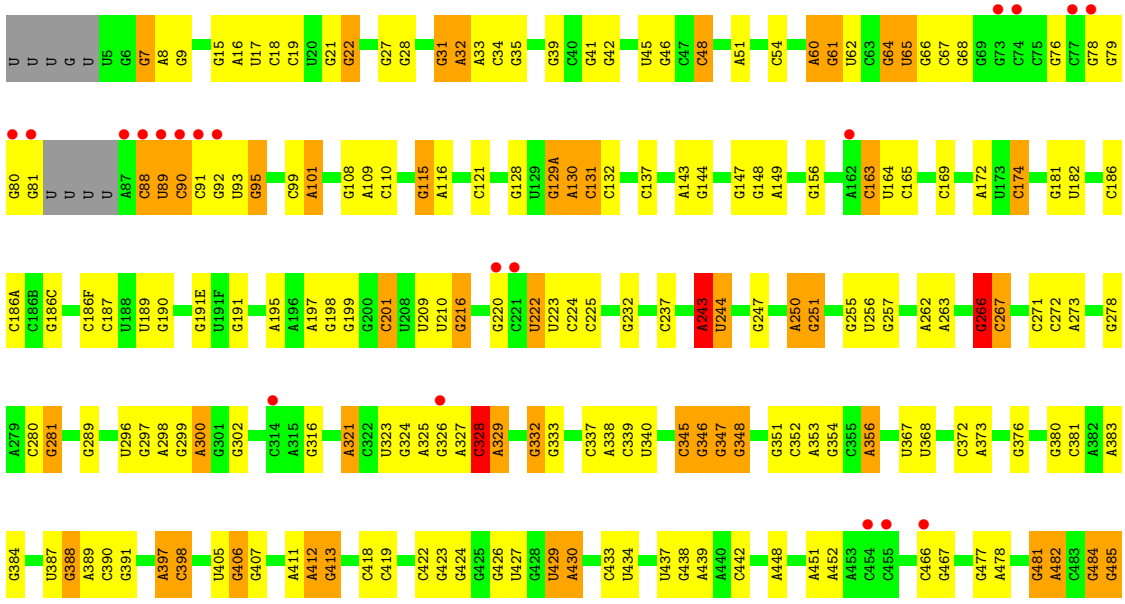
Chain QA:

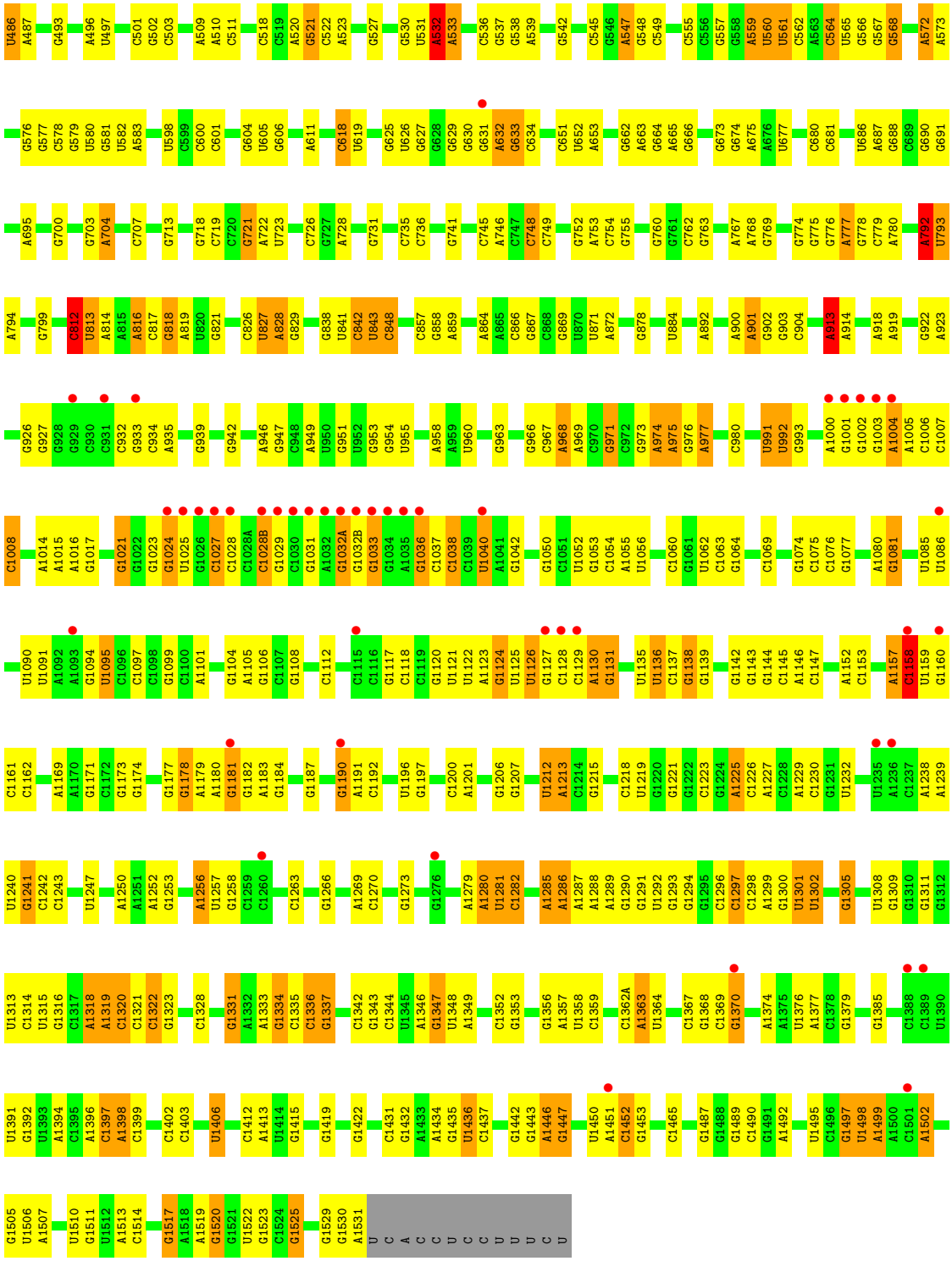




- Molecule 1: 16S rRNA

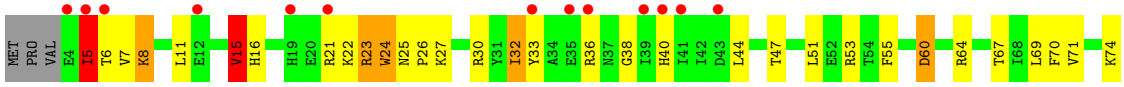
Chain XA:

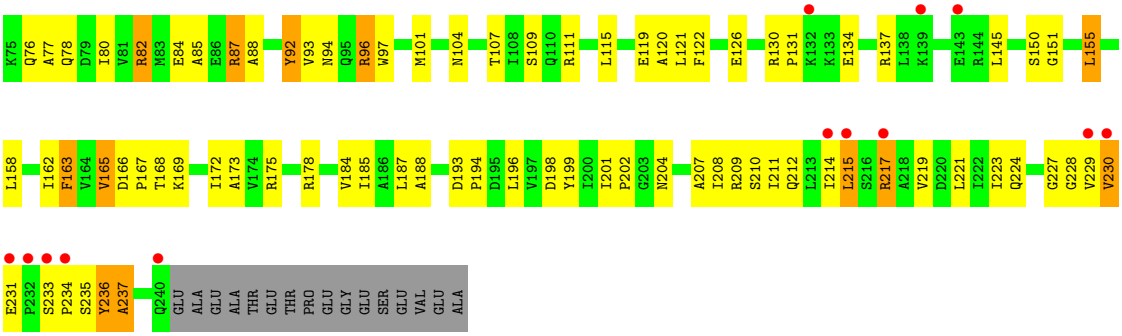




• Molecule 2: 30S ribosomal protein S2

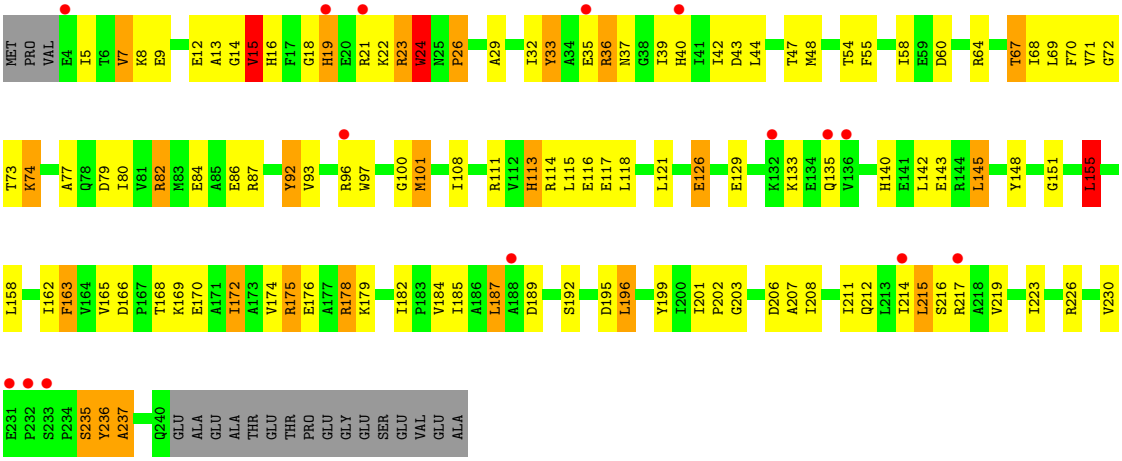
Chain QB:





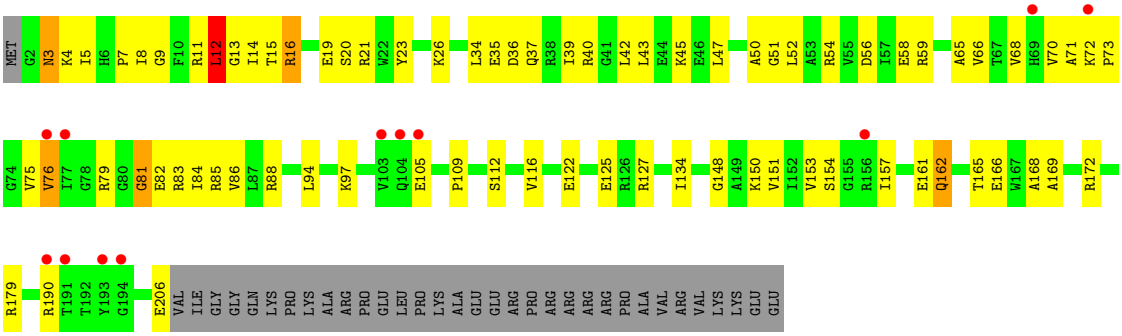
- Molecule 2: 30S ribosomal protein S2

Chain XB:



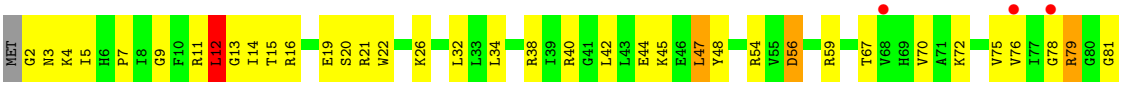
- Molecule 3: 30S ribosomal protein S3

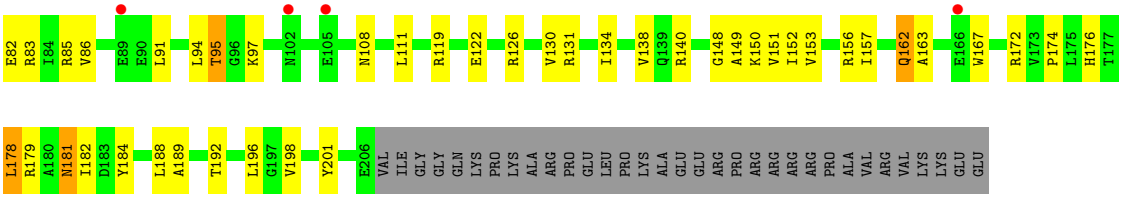
Chain QC:



- Molecule 3: 30S ribosomal protein S3

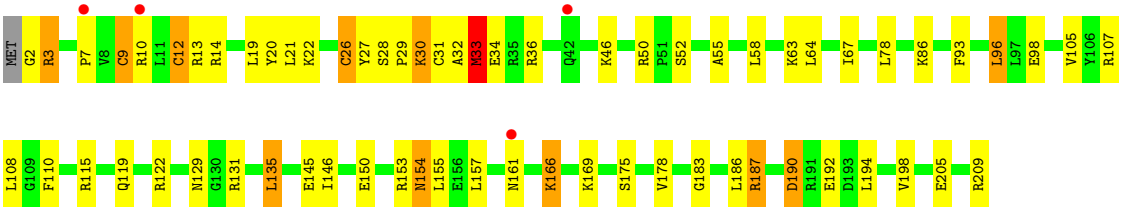
Chain XC:





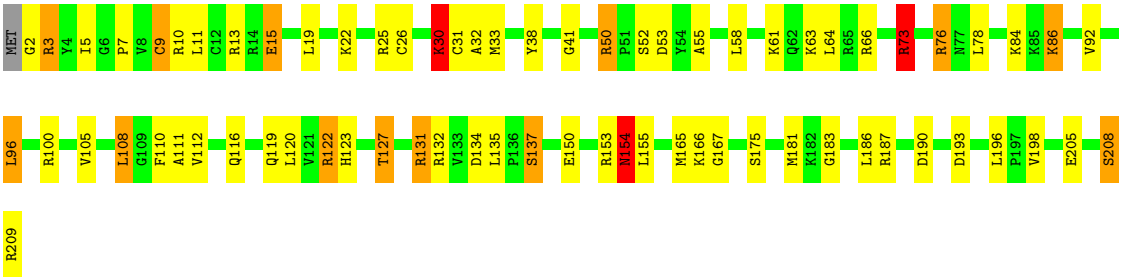
- Molecule 4: 30S ribosomal protein S4

Chain QD:



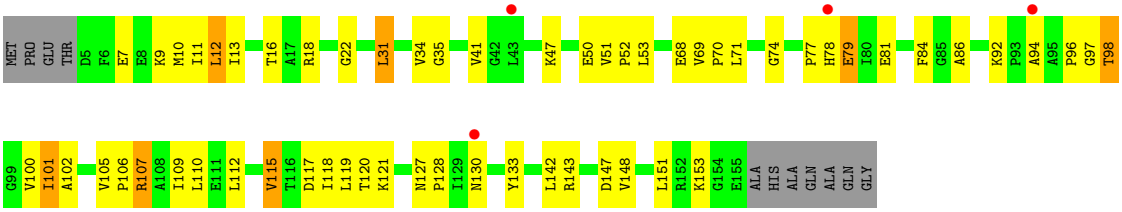
- Molecule 4: 30S ribosomal protein S4

Chain XD:



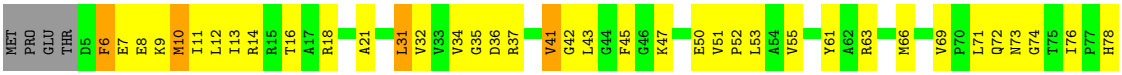
- Molecule 5: 30S ribosomal protein S5

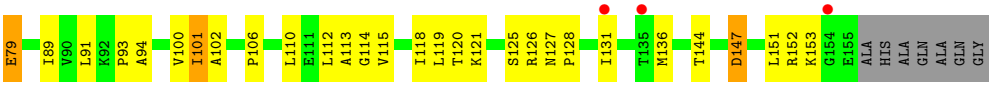
Chain QE:



- Molecule 5: 30S ribosomal protein S5

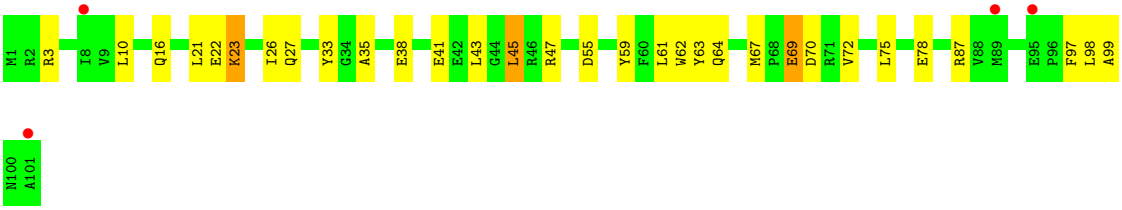
Chain XE:





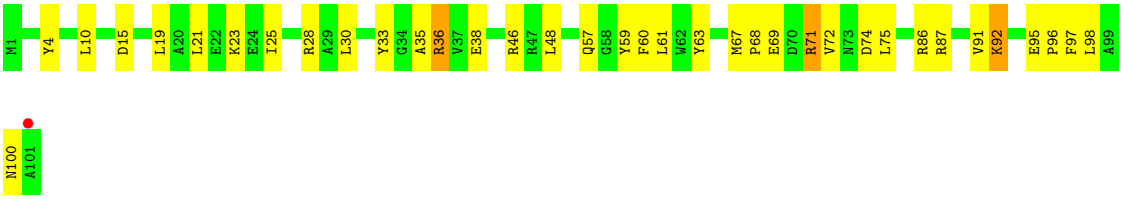
• Molecule 6: 30S ribosomal protein S6

Chain QF:



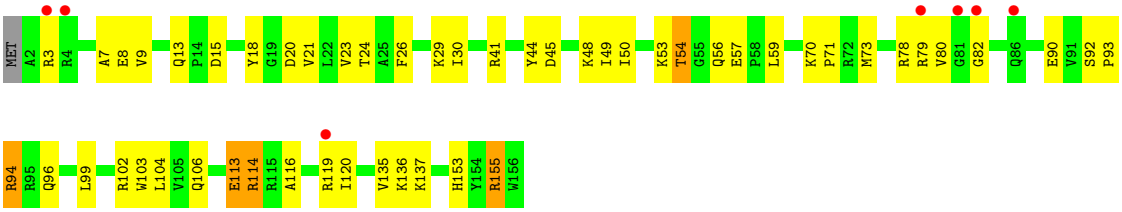
• Molecule 6: 30S ribosomal protein S6

Chain XF:



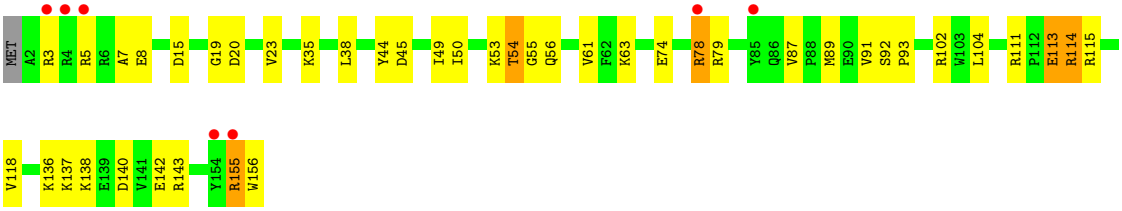
• Molecule 7: 30S ribosomal protein S7

Chain QG:



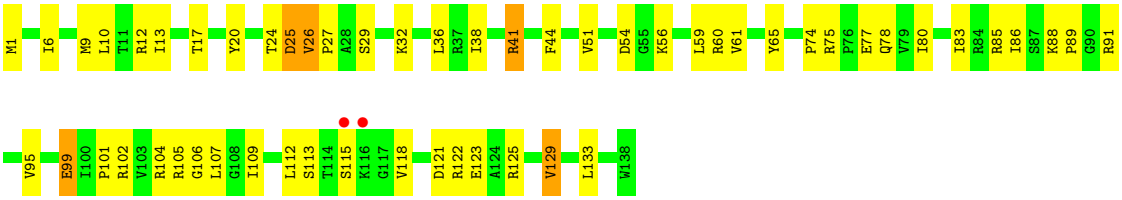
• Molecule 7: 30S ribosomal protein S7

Chain XG:



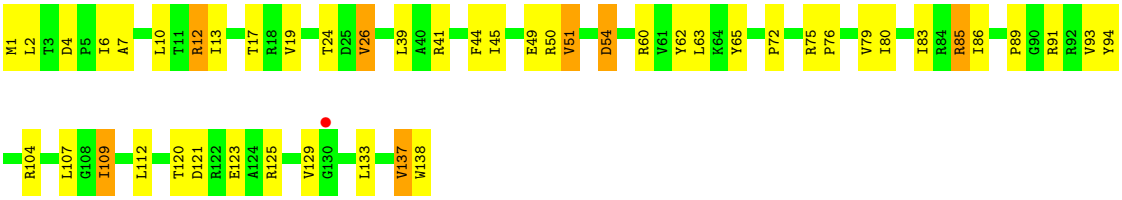
• Molecule 8: 30S ribosomal protein S8

Chain QH:



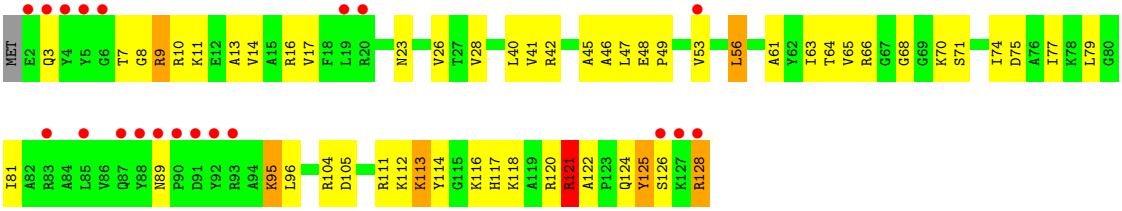
- Molecule 8: 30S ribosomal protein S8

Chain XH:



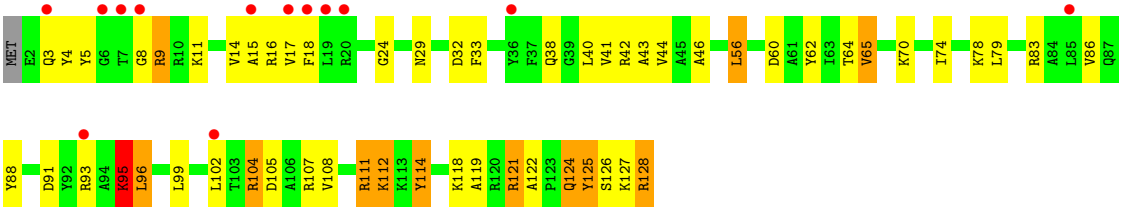
- Molecule 9: 30S ribosomal protein S9

Chain QI:



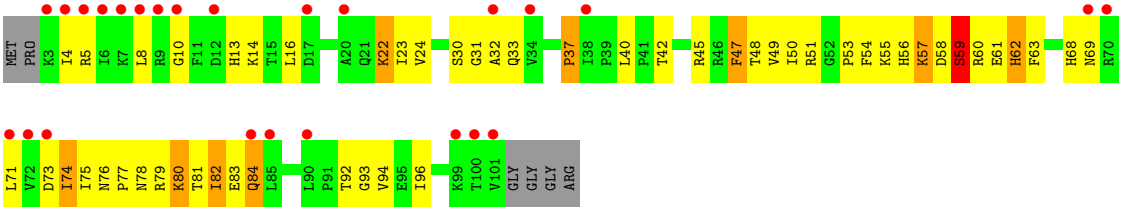
- Molecule 9: 30S ribosomal protein S9

Chain XI:



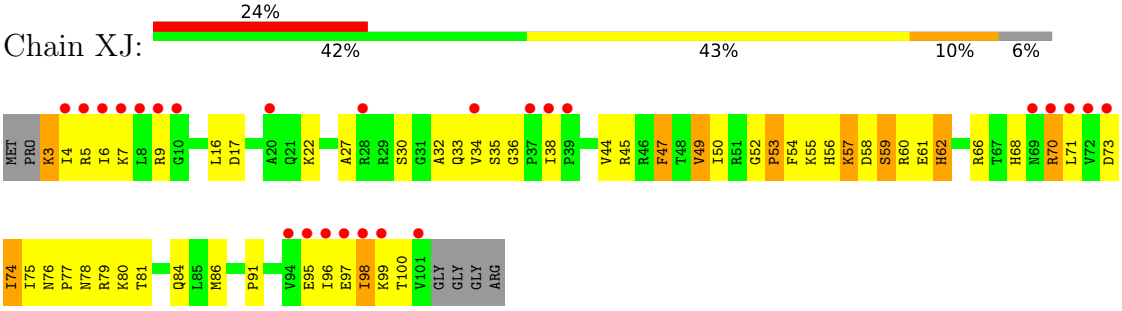
- Molecule 10: 30S ribosomal protein S10

Chain QJ:



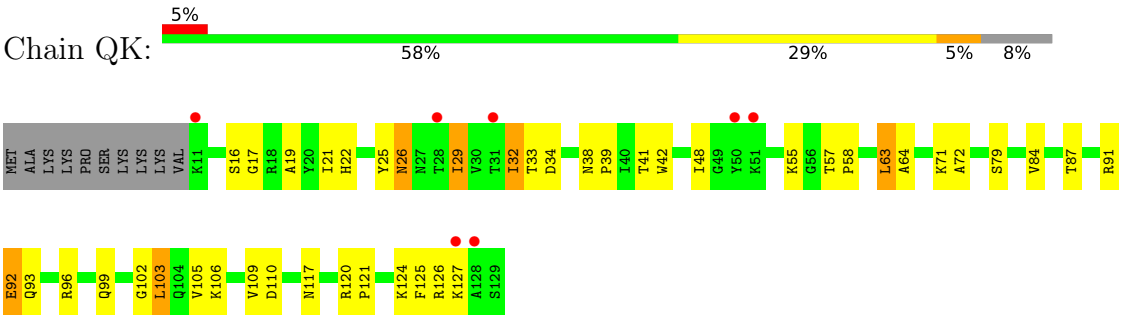
• Molecule 10: 30S ribosomal protein S10

Chain XJ:



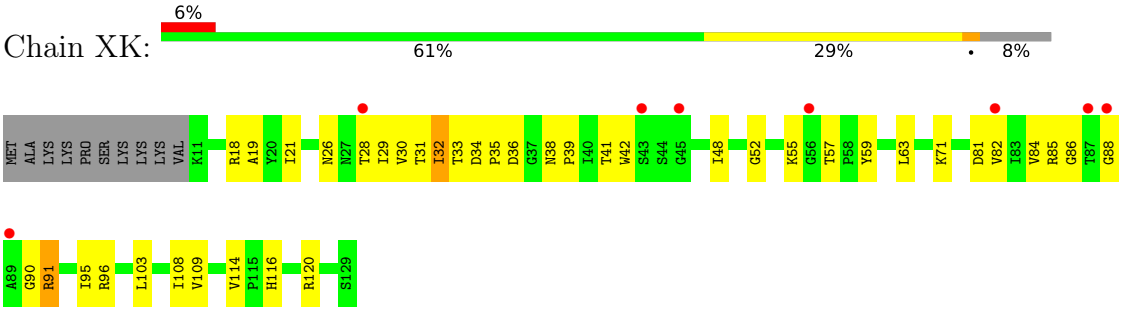
• Molecule 11: 30S ribosomal protein S11

Chain QK:



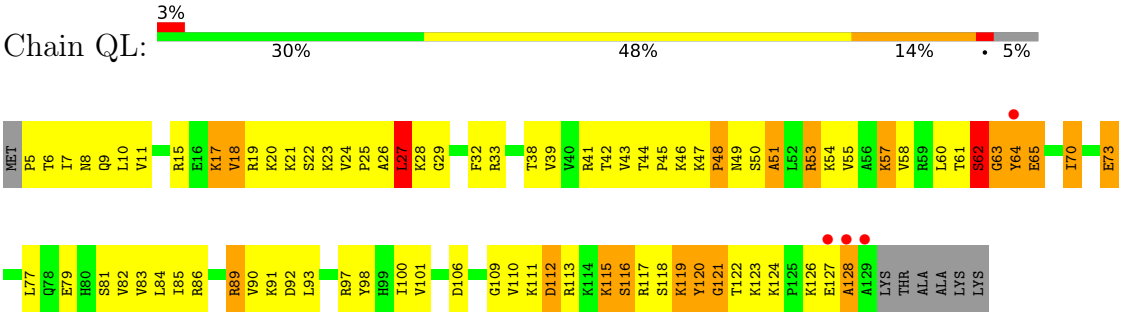
• Molecule 11: 30S ribosomal protein S11

Chain XK:



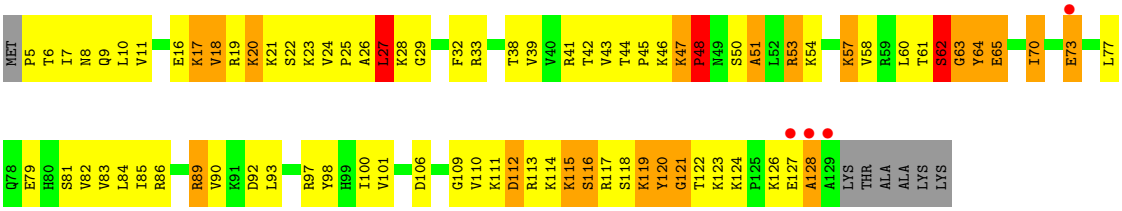
• Molecule 12: 30S ribosomal protein S12

Chain QL:



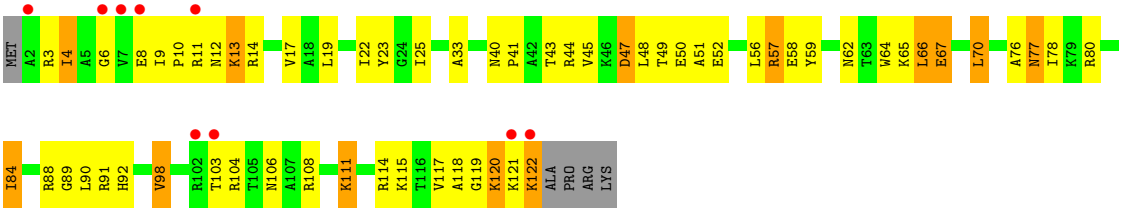
• Molecule 12: 30S ribosomal protein S12

Chain XL:



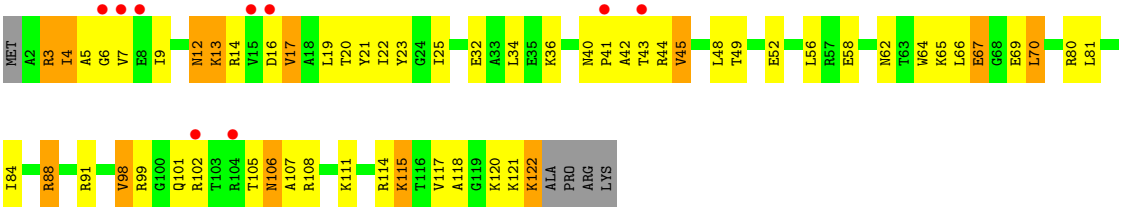
- Molecule 13: 30S ribosomal protein S13

Chain QM:



- Molecule 13: 30S ribosomal protein S13

Chain XM:

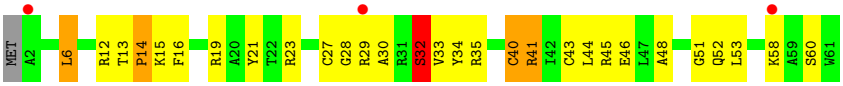


- Molecule 14: 30S ribosomal protein S14 type Z

Chain QN:

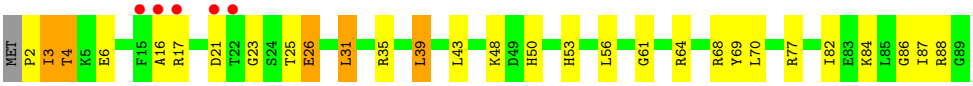
- Molecule 14: 30S ribosomal protein S14 type Z

Chain XN:



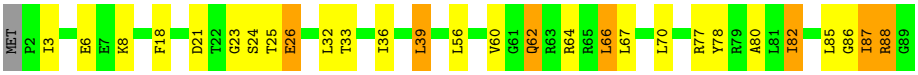
- Molecule 15: 30S ribosomal protein S15

Chain QO:



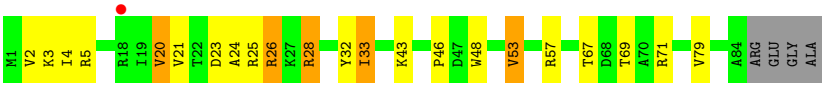
• Molecule 15: 30S ribosomal protein S15

Chain XO:



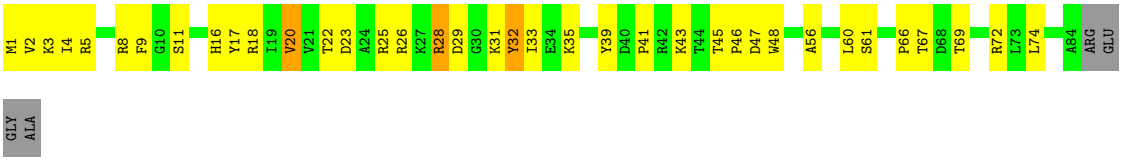
• Molecule 16: 30S ribosomal protein S16

Chain QP:



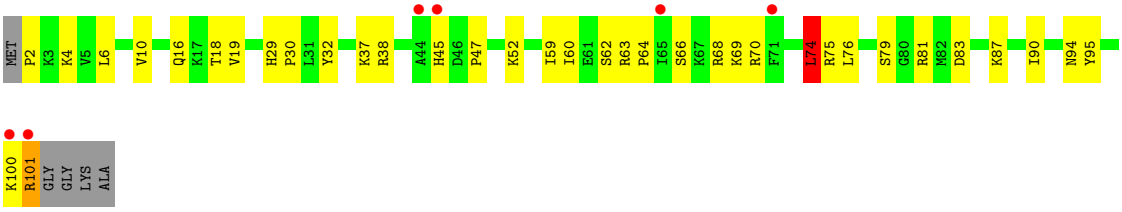
• Molecule 16: 30S ribosomal protein S16

Chain XP:



• Molecule 17: 30S ribosomal protein S17

Chain QQ:

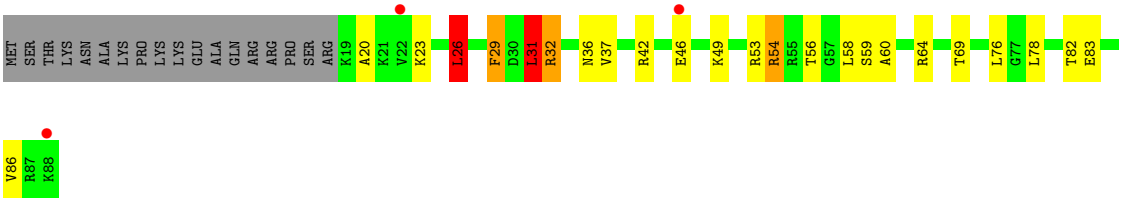


• Molecule 17: 30S ribosomal protein S17

Chain XQ:

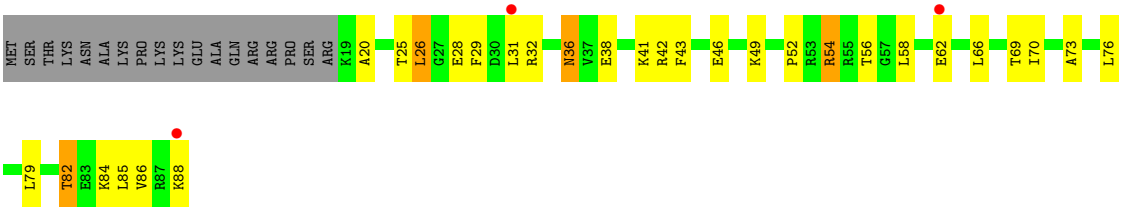
• Molecule 18: 30S ribosomal protein S18

Chain QR:



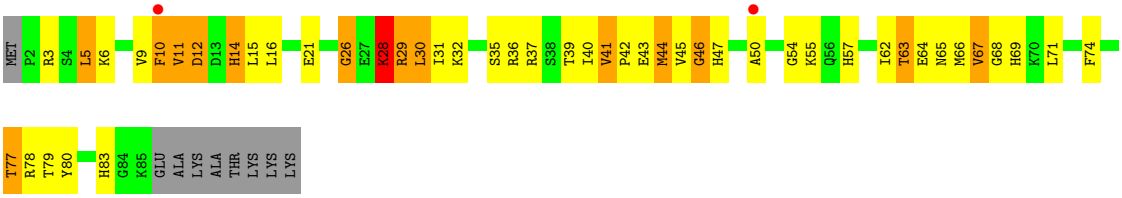
- Molecule 18: 30S ribosomal protein S18

Chain XR:



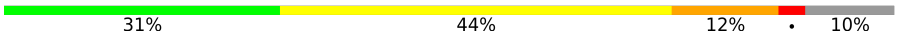
- Molecule 19: 30S ribosomal protein S19

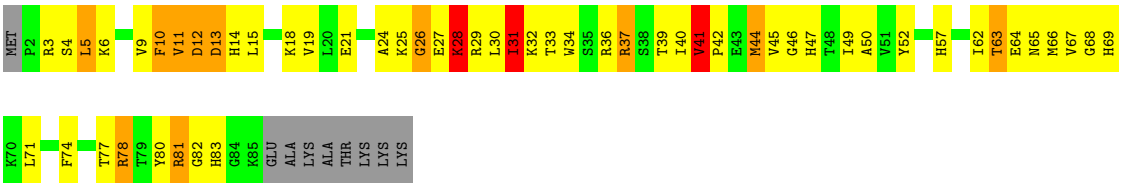
Chain QS:



- Molecule 19: 30S ribosomal protein S19

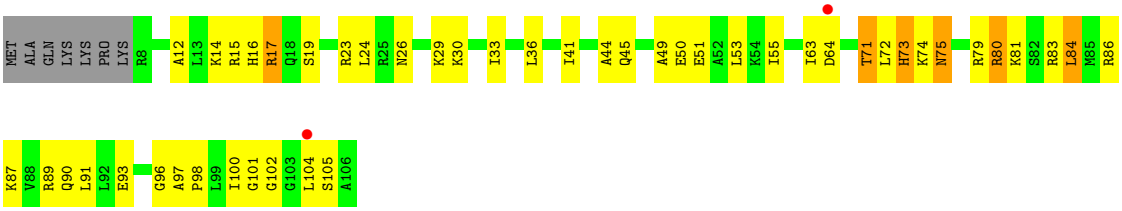
Chain XS:





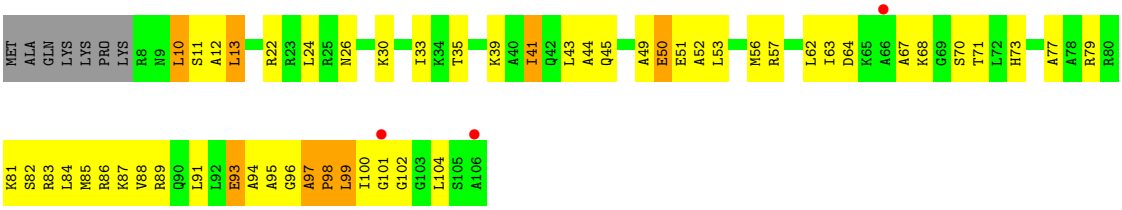
- Molecule 20: 30S ribosomal protein S20

Chain QT:



• Molecule 20: 30S ribosomal protein S20

Chain XT: 3% 43% 42% 8% 7%

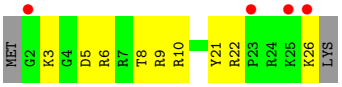


• Molecule 21: 30S ribosomal protein Thx

Chain QU: 26% 48% 44% 7%

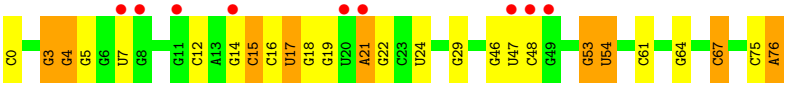
• Molecule 21: 30S ribosomal protein Thx

Chain XU: 15% 59% 33% 7%



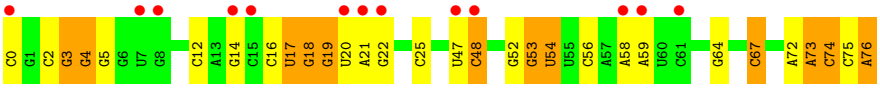
• Molecule 22: P-site tRNA-fMet

Chain QV: 12% 66% 22% 12%



• Molecule 22: P-site tRNA-fMet

Chain XV: 17% 61% 23% 16%



• Molecule 23: messenger RNA

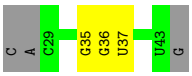
Chain QX: 4% 32% • 64%

• Molecule 23: messenger RNA

Chain XX:

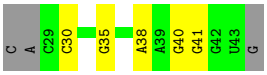
• Molecule 24: A-site ASL-SufJ

Chain QY:



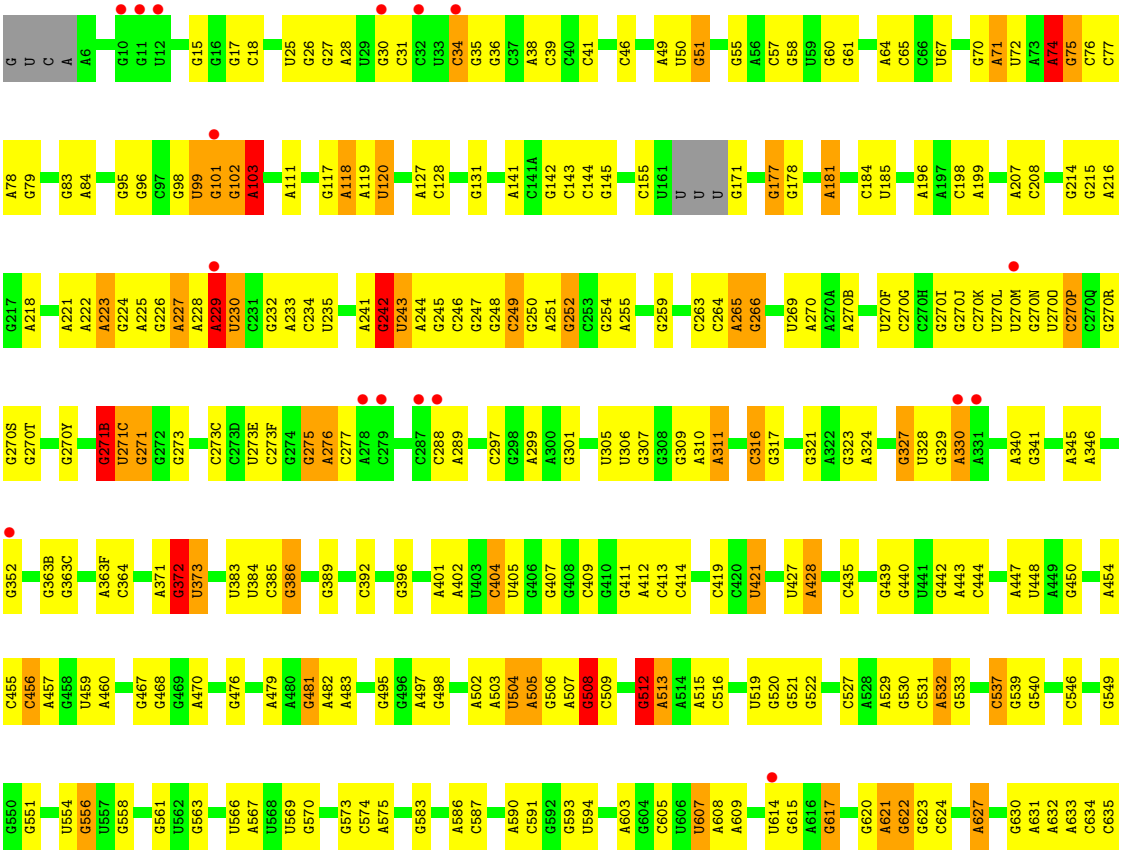
• Molecule 24: A-site ASL-SufJ

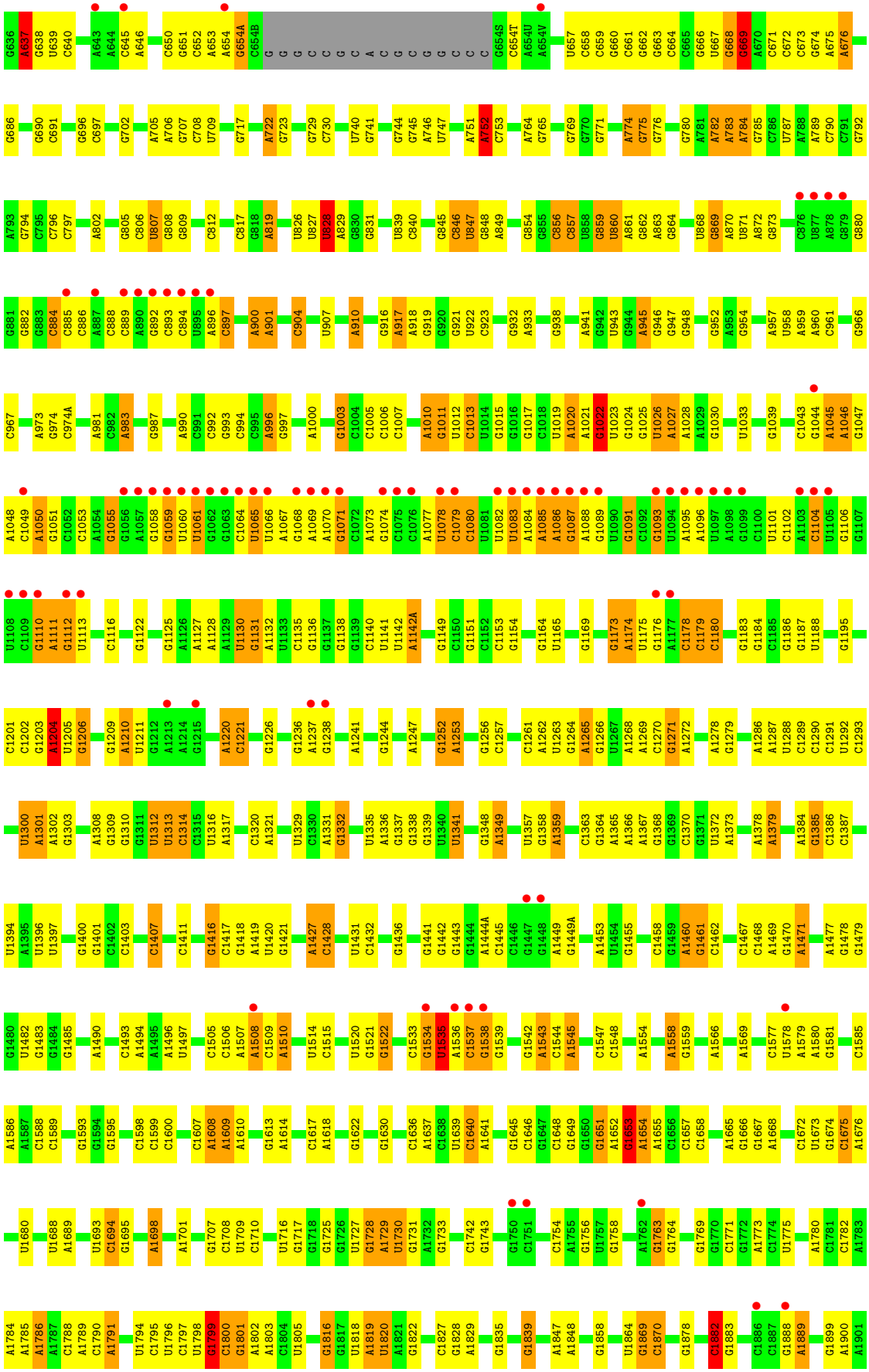
Chain XY:



• Molecule 25: 23S rRNA

Chain RA:

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C650 G651 C652 A653 A654
G654A C654B G G G C C G C A C G C G G C C C G654S C654T A654U A654V
U657 C658 C659 G660 C661 G662 G663 C664
C665 G666 U667 G668 G669 A670 C671 C672 C673 G674 A675 A676
G686
G690 G691
G696 G697
G702
A705 A706 G707 C708 U709
G717
A722 G723
G729 G730
U740 G741
G744 G745 A746 U747
A751 A752 C753
A764 G765
G769 G770 G771
A774 G775 G776
G780 A781 A782 A783 A784 G785 C786 U787 A788 A789 C790 C791 G792
A793 G794 C795 C796 C797
A802
G805 C806 U807 G808 G809
C812
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U826 U827 U828 A829
G830 G831
U839 C840
G845 C846 U847 G848 A849
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U868 G869 A870 U871 A872 G873
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G881 G882 G883 C884 C885 C886
A887 C888 C889
A890 G892 C893 C894 U895 A896 C897
A900 A901
C904
U907
A910
G916 A917 A918 G919
G920 G921 U922 C923
G932 A933
G938
A941 G942 U943 G944 A945 G946 G947 G948
G952 A953 G954
A957 U958 A959 A960 C961
G966
C967
A973 G974 C974A
A981 C982 A983
G987
A990 C991 C992 G993 C994 C995 A996 G997
A1000
G1003 C1004 C1005 C1006 C1007
A1010 G1011 U1012 C1013 U1014 G1015 G1016 G1017 C1018 U1019 A1020 A1021 G1022 U1023 G1024 G1025 U1026 A1027 A1028 A1029 G1030
U1033
G1039
C1043 G1044 A1045 A1046 G1047
A1048 C1049 A1050 G1051 C1052 C1053
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C1116
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G1169
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G1183 G1184 C1185 G1186 G1187 U1188
G1195
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U1300 A1301 A1302 G1303
A1308 G1309 G1310 G1311 U1312 U1313 C1314 C1315 U1316 A1317 C1320 A1321 U1329 C1330 A1331 G1332 U1335 A1336 G1337 G1338 G1339 U1340 U1341 G1348 A1349 U1357 C1358 A1359 C1363 G1364 A1365 A1366 A1367 G1368 G1369 C1370 G1371 U1372 A1373 A1378 A1379 A1384 G1385 C1386 C1387
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C1407
C1411
G1416 C1417 G1418 A1419 U1420 G1421 A1427 C1428 U1431 C1432 G1436 G1441 G1442 G1443 C1444 A1444A C1445 C1446 G1447 G1448 A1449 G1449A A1453 U1454 G1455 C1458 G1459 A1460 G1461 C1462 C1467 C1468 A1469 G1470 A1471 A1477 G1478 G1479
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A1586 A1587 C1588 C1589
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C1598 C1599 C1600
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U1680
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A1698
A1701
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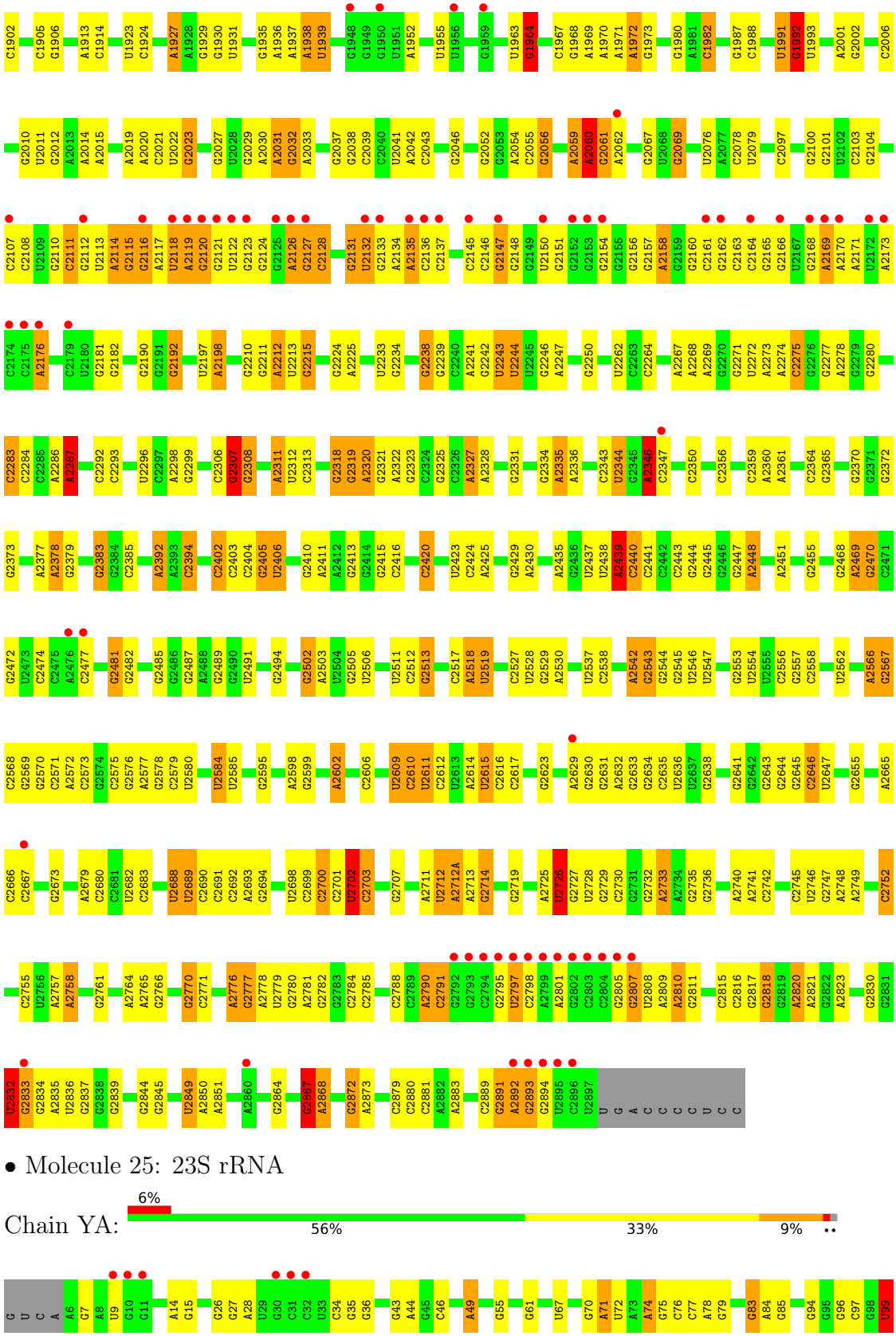
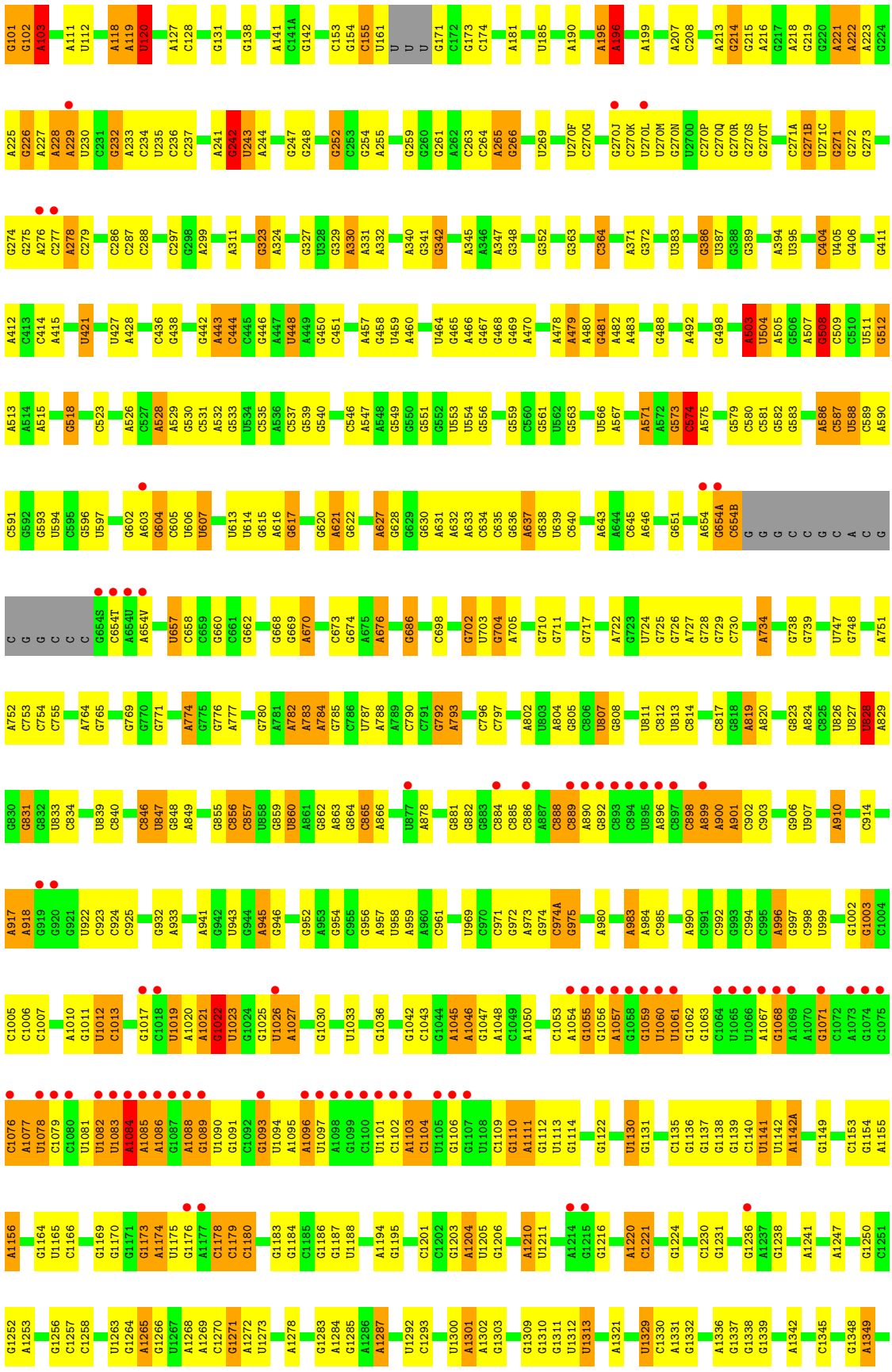


• Molecule 25: 23S rRNA

Chain YA: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A225 G226 A227 A228 A229 U230 C231 G232 A233 C234 U235 C236 C237 A241 G242 U243 A244 G247 G248 G252 C253 G254 A255 G259 G260 G261 A262 C263 C264 A265 G266 U269 U270F C270G G270J C270K U270L U270M G270N U270O C270P C270Q G270R G270S G270T C271A G271B U271C G271 G272 G273
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A412 C413 C414 A415 U421 U427 A428 C436 G438 G442 A443 C444 C445 G446 A447 U448 A449 G450 C451 A457 G458 U459 A460 U464 G465 A466 G467 G468 G469 A470 A478 A479 A480 G481 A482 A483 G488 A492 G498 A503 U504 A505 G506 A507 G508 C509 C510 U511 G512
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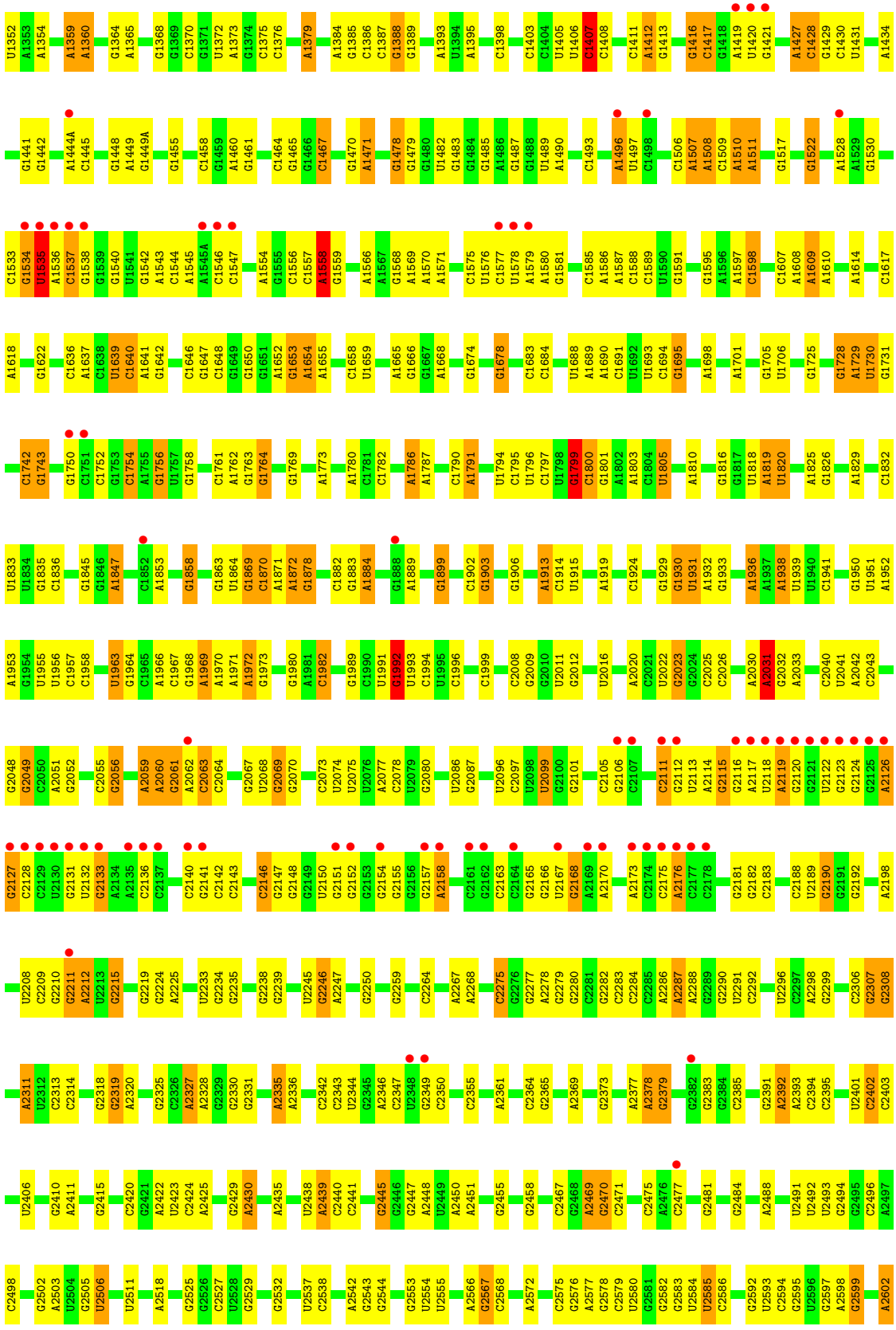
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C1742 G1743 G1750 C1751 C1752 G1753 C1754 A1755 G1756 U1757 G1758 C1761 A1762 G1763 G1764 G1769 A1773 A1780 C1781 C1782 A1786 A1787 C1790 A1791 U1794 C1795 U1796 C1797 U1798 G1799 C1800 G1801 A1802 A1803 C1804 U1805 A1810 G1816 G1817 U1818 A1819 U1820 A1825 G1826 A1829 C1832
U1833 U1834 G1835 C1836 G1845 G1846 A1847 C1852 A1853 G1858 G1863 U1864 G1869 C1870 A1871 A1872 G1878 C1882 G1883 A1884 G1888 A1889 G1899 C1902 G1903 G1906 A1913 C1914 U1915 A1919 C1924 G1929 G1930 U1931 A1932 G1933 A1936 A1937 A1938 U1939 U1940 C1941 G1950 U1951 A1952
A1953 G1954 U1955 U1956 C1957 C1958 U1963 G1964 C1965 A1966 C1967 G1968 A1969 A1970 A1971 A1972 G1973 G1980 A1981 C1982 G1989 C1990 U1991 G1992 U1993 C1994 U1995 C1996 C1999 C2008 C2009 G2010 U2011 G2012 U2016 A2020 C2021 U2022 G2023 G2024 C2025 C2026 A2030 A2031 G2032 A2033 C2040 U2041 A2042 C2043
G2048 G2049 C2050 A2051 G2052 C2055 G2056 A2059 A2060 G2061 A2062 C2063 C2064 G2067 U2068 G2069 G2070 C2073 U2074 U2075 U2076 A2077 C2078 U2079 G2080 U2086 G2087 U2096 C2097 U2098 U2099 G2100 G2101 C2105 G2106 C2107 C2111 G2112 U2113 A2114 G2115 G2116 A2117 U2118 A2119 G2120 G2121 U2122 G2123 G2124 G2125 A2126
G2127 C2128 C2129 U2130 G2131 U2132 G2133 A2134 A2135 C2136 C2137 C2140 G2141 C2142 C2143 C2146 G2147 G2148 G2149 U2150 G2151 G2152 G2153 G2154 G2155 G2156 G2157 A2158 C2161 G2162 C2163 C2164 G2165 G2166 U2167 G2168 A2169 A2170 A2173 C2174 C2175 A2176 C2177 C2178 G2181 G2182 C2183 C2188 U2189 G2190 G2191 G2192 A2198
U2208 C2209 G2210 G2211 A2212 U2213 G2215 G2219 G2224 A2225 U2233 G2234 G2235 G2238 G2239 U2245 G2246 A2247 G2250 G2259 C2264 A2267 A2268 C2275 G2276 G2277 A2278 G2279 G2280 C2281 G2282 C2283 C2284 C2285 A2286 A2287 A2288 G2289 G2290 U2291 C2292 U2296 C2297 A2298 G2299 C2306 G2307 G2308
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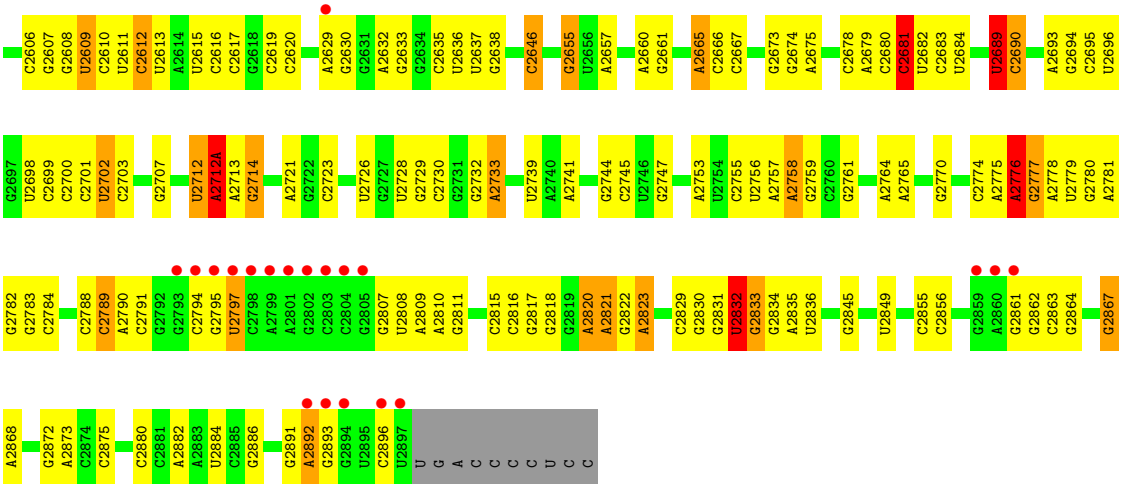
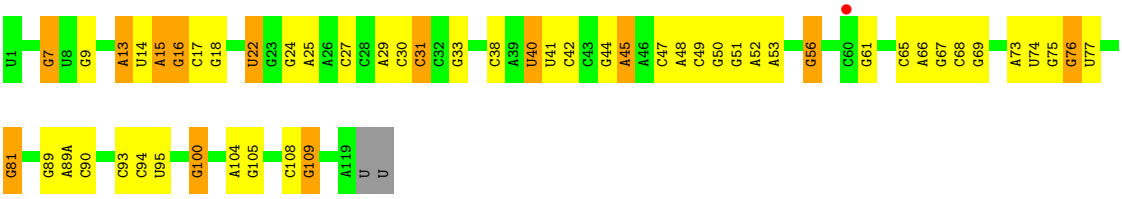
C2498 G2502 A2503 U2504 G2505 U2506 U2511 A2518 G2525 G2526 C2527 U2528 G2529 G2532 U2537 C2538 A2542 G2543 G2544 G2553 U2554 U2555 A2566 G2567 C2568 A2572 C2575 G2576 A2577 G2578 C2579 U2580 G2581 G2582 G2583 U2584 U2585 C2586 G2592 U2593 C2594 G2595 U2596 G2597 A2598 G2599 A2602



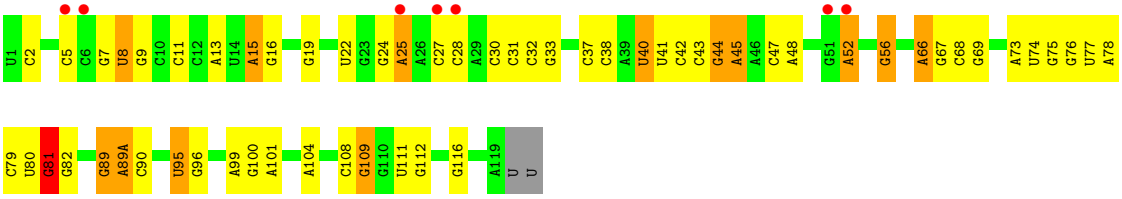
- Molecule 26: 5S rRNA

Chain RB:



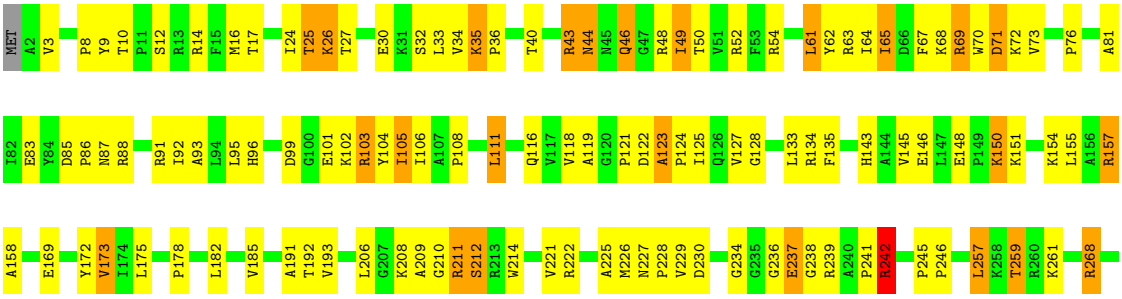
- Molecule 26: 5S rRNA

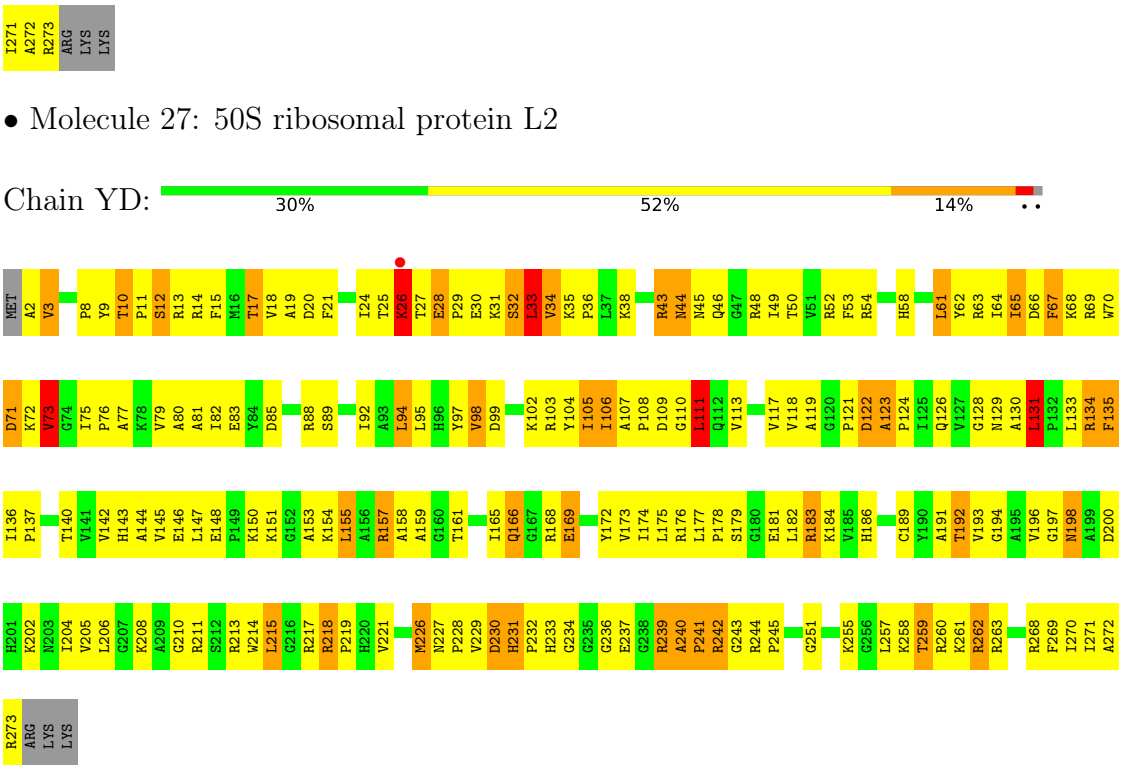
Chain YB:

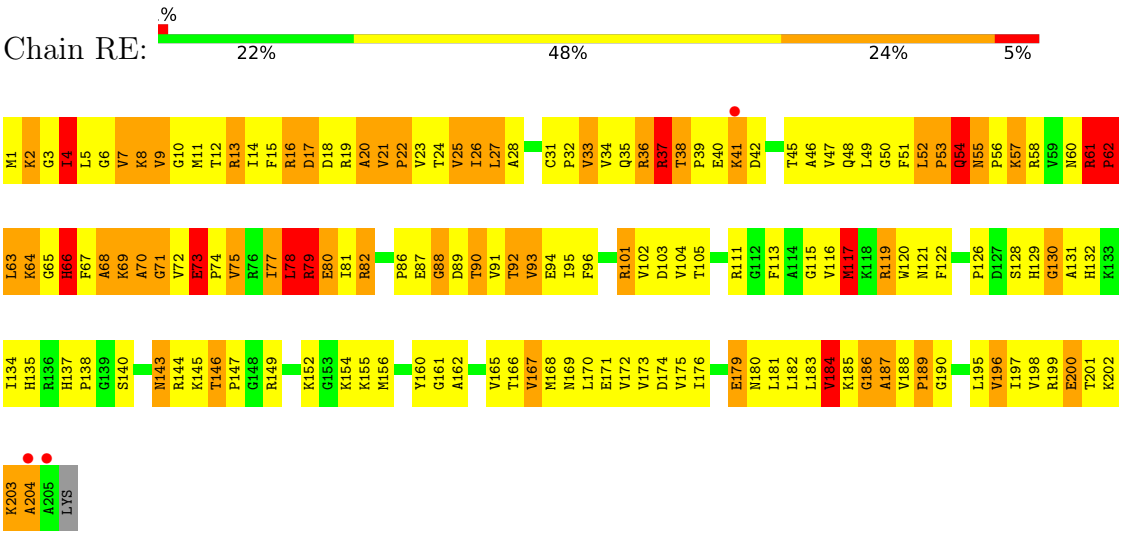


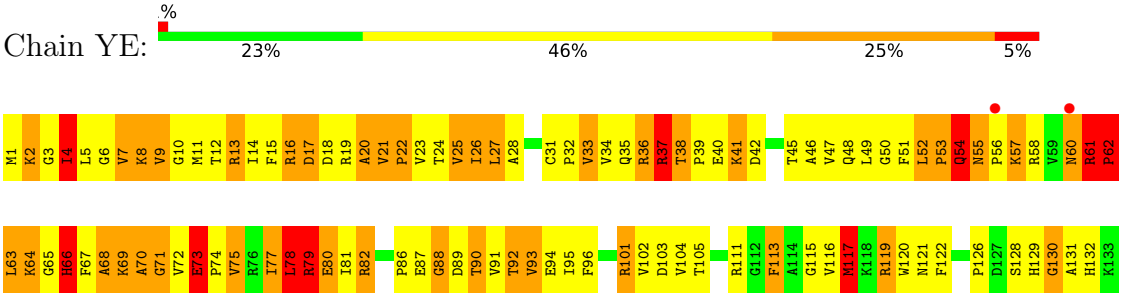
- Molecule 27: 50S ribosomal protein L2

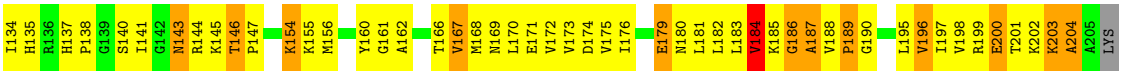
Chain RD:




I271 A272 R273 ARG LYS LYS
• Molecule 27: 50S ribosomal protein L2
Chain YD:
30%
52%
14%
MET A2 V3 P8 Y9 T10 P11 S12 R13 R14 F15 M16 T17 V18 A19 D20 F21 I24 T25 K26 T27 E28 P29 E30 K31 S32 L33 V34 K35 P36 L37 K38 R43 N44 M45 Q46 G47 R48 I49 T50 V51 R52 F53 R54 H58 L61 Y62 R63 I64 I65 D66 F67 K68 R69 W70
D71 K72 V73 G74 I75 P76 A77 K78 V79 A80 A81 I82 E83 Y84 D85 R88 S89 I92 A93 L94 L95 H96 Y97 V98 D99 K102 R103 Y104 I105 I106 A107 P108 D109 G110 L111 Q112 V113 V117 V118 A119 G120 P121 D122 A123 P124 I125 Q126 V127 G128 N129 A130 L131 P132 L133 R134 F135
I136 P137 T140 V141 V142 H143 A144 A145 E146 L147 E148 P149 K150 K151 G152 A153 K154 L155 A156 R157 A158 A159 G160 T161 I165 Q166 G167 R168 E169 Y172 V173 I174 L175 R176 L177 P178 S179 G180 E181 L182 R183 K184 V185 H186 C189 Y190 A191 T192 V193 G194 A195 V196 G197 N198 A199 D200
H201 K202 W203 I204 V205 L206 G207 K208 A209 G210 R211 S212 R213 W214 L215 G216 R217 R218 P219 H220 V221 M226 N227 P228 V229 D230 H231 P232 H233 G234 G235 G236 E237 G238 R239 A240 P241 R242 G243 R244 P245 G251 K255 G256 L257 K258 T259 R260 K261 R262 R263 R268 F269 I270 I271 A272
R273 ARG LYS LYS


• Molecule 28: 50S ribosomal protein L3
Chain RE:
%
22%
48%
24%
5%
M1 K2 G3 I4 L5 G6 V7 K8 V9 G10 M11 T12 R13 I14 F15 R16 D17 D18 R19 A20 V21 P22 V23 T24 V25 I26 L27 A28 C31 P32 V33 V34 Q35 R36 R37 T38 P39 E40 K41 D42 T45 A46 V47 Q48 L49 G50 F51 L52 P53 Q54 N55 P56 K57 R58 V59 N60 R61 P62
L63 K64 G65 H66 F67 A68 K69 A70 G71 V72 E73 P74 V75 R76 I77 L78 R79 E80 I81 R82 P86 E87 G88 D89 T90 V91 T92 V93 E94 I95 F96 R101 V102 D103 V104 T105 R111 G112 F113 A114 G115 V116 M117 K118 R119 W120 N121 F122 P126 D127 S128 H129 G130 A131 H132 K133
I134 H135 R136 H137 P138 G139 S140 N143 R144 K145 T146 P147 G148 R149 K152 G153 K154 K155 M156 Y160 G161 A162 V165 T166 V167 M168 N169 L170 E171 V172 V173 D174 V175 I176 E179 N180 L181 L182 L183 V184 K185 G186 A187 V188 P189 G190 L195 V196 I197 V198 R199 E200 T201 K202
K203 A204 A205 LYS


• Molecule 28: 50S ribosomal protein L3
Chain YE:
%
23%
46%
25%
5%
M1 K2 G3 I4 L5 G6 V7 K8 V9 G10 M11 T12 R13 I14 F15 R16 D17 D18 R19 A20 V21 P22 V23 T24 V25 I26 L27 A28 C31 P32 V33 V34 Q35 R36 R37 T38 P39 E40 K41 D42 T45 A46 V47 Q48 L49 G50 F51 L52 P53 Q54 N55 P56 K57 R58 V59 N60 R61 P62
L63 K64 G65 H66 F67 A68 K69 A70 G71 V72 E73 P74 V75 R76 I77 L78 R79 E80 I81 R82 P86 E87 G88 D89 T90 V91 T92 V93 E94 I95 F96 R101 V102 D103 V104 T105 R111 G112 F113 A114 G115 V116 M117 K118 R119 W120 N121 F122 P126 D127 S128 H129 G130 A131 H132 K133

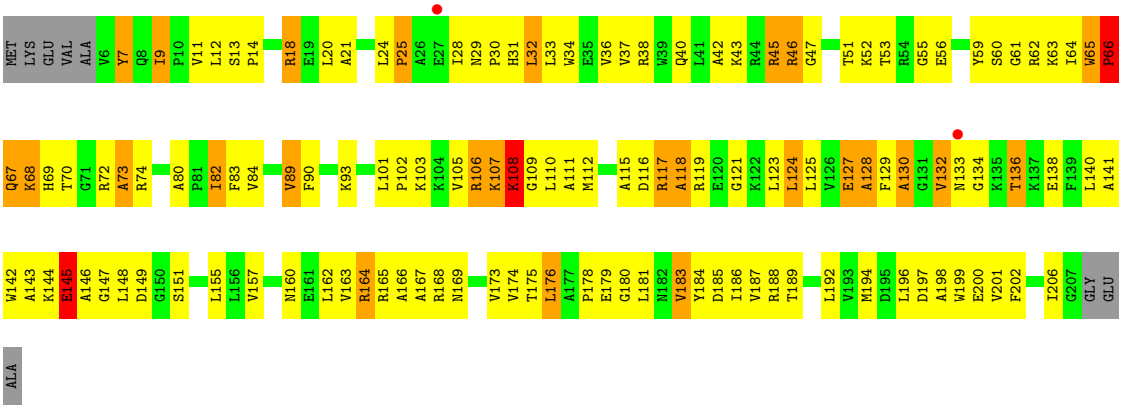


• Molecule 29: 50S ribosomal protein L4

Chain RF:

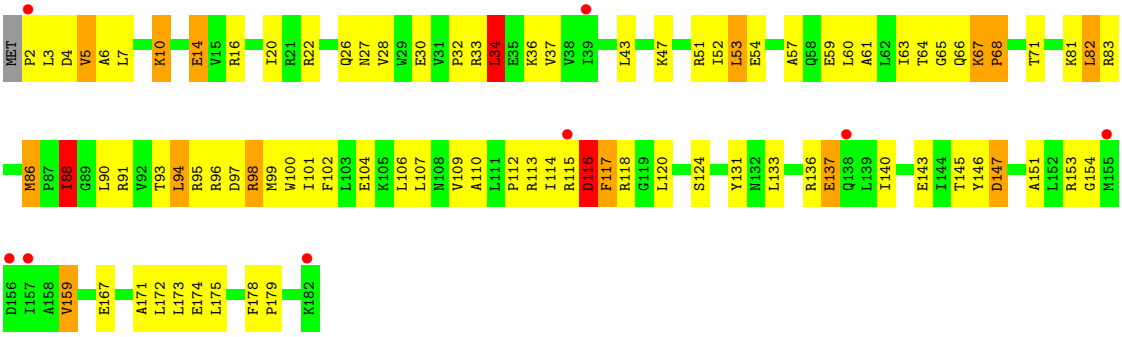
• Molecule 29: 50S ribosomal protein L4

Chain YF:



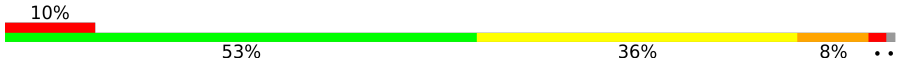
• Molecule 30: 50S ribosomal protein L5

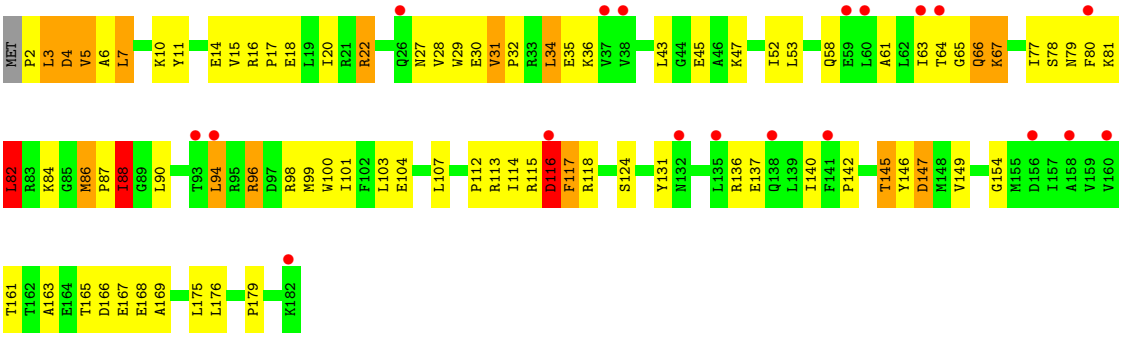
Chain RG:



• Molecule 30: 50S ribosomal protein L5

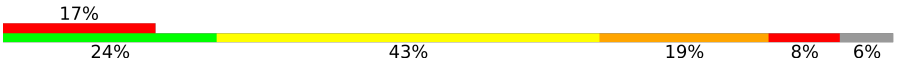
Chain YG:

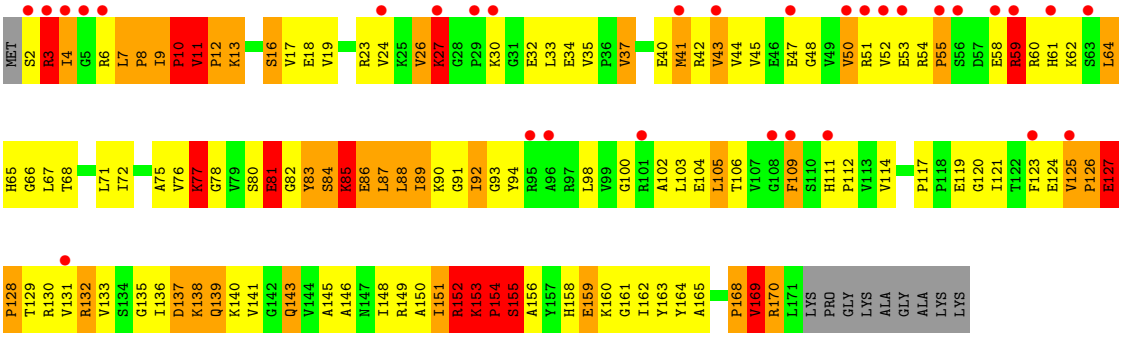




- Molecule 31: 50S ribosomal protein L6

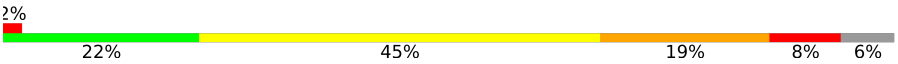
Chain RH:

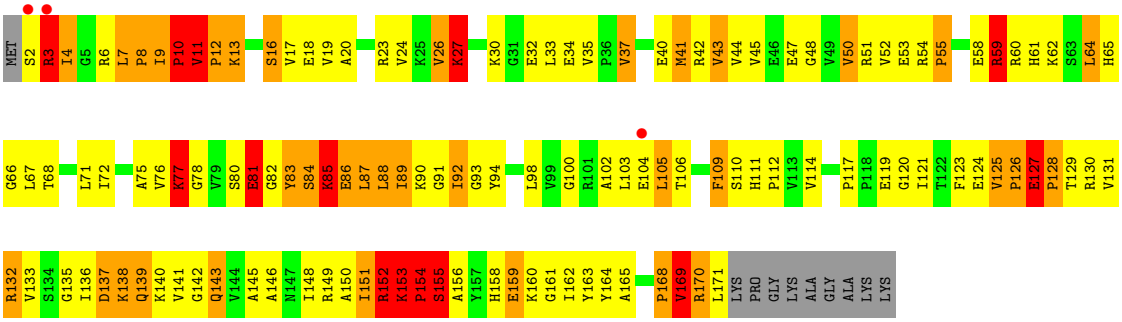




- Molecule 31: 50S ribosomal protein L6

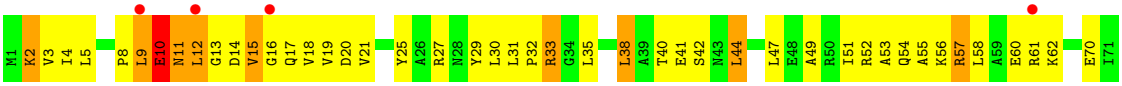
Chain YH:

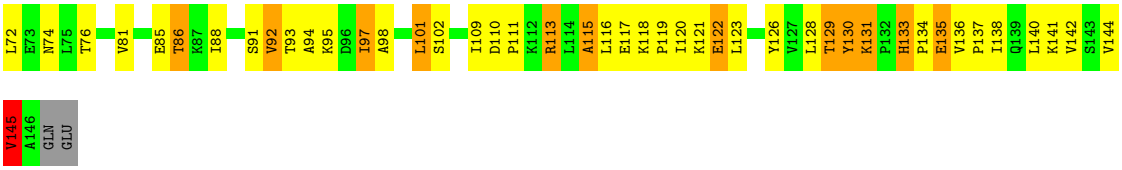




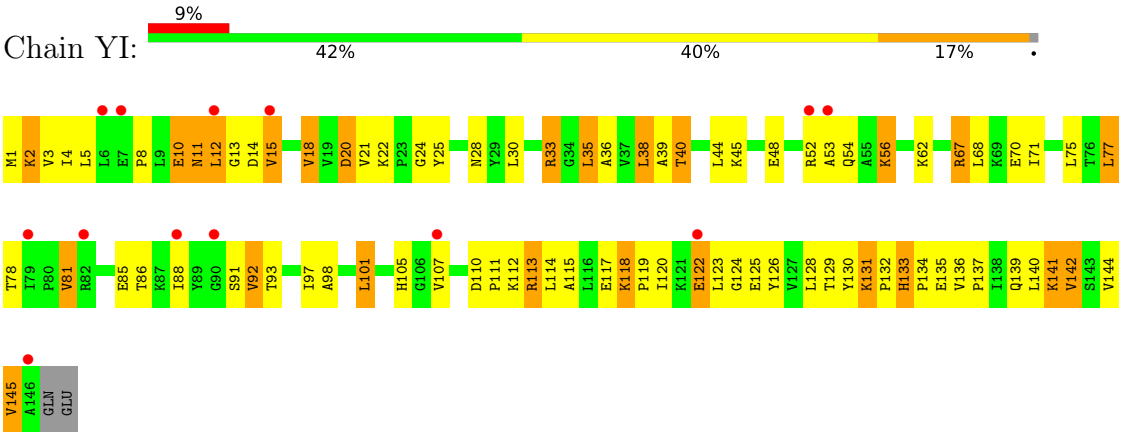
- Molecule 32: 50S ribosomal protein L9

Chain RI:

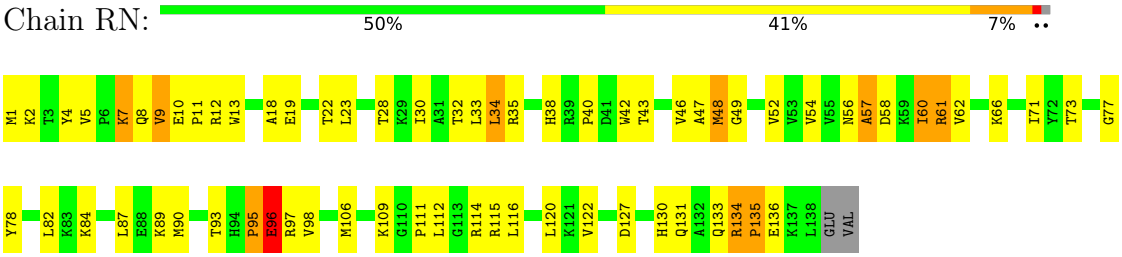




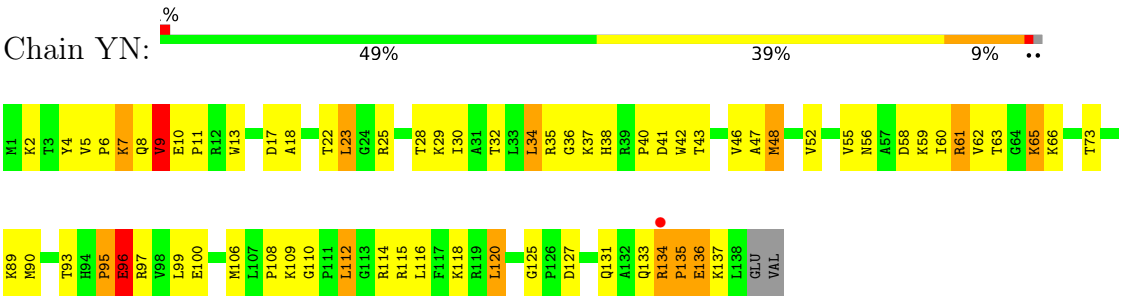
• Molecule 32: 50S ribosomal protein L9



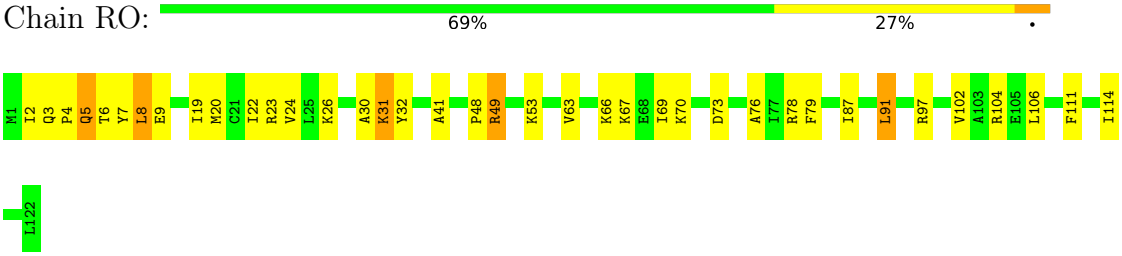
• Molecule 33: 50S ribosomal protein L13



• Molecule 33: 50S ribosomal protein L13

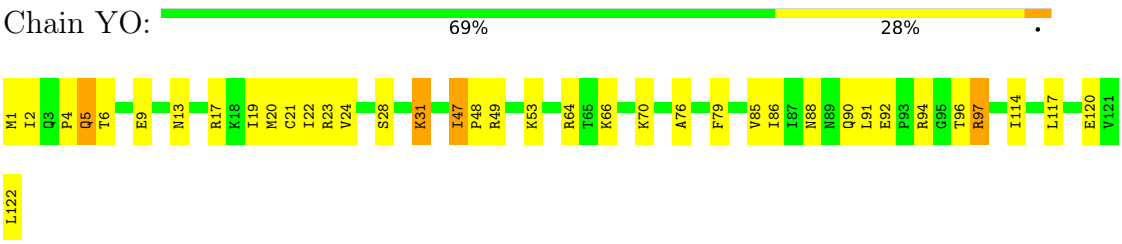


• Molecule 34: 50S ribosomal protein L14



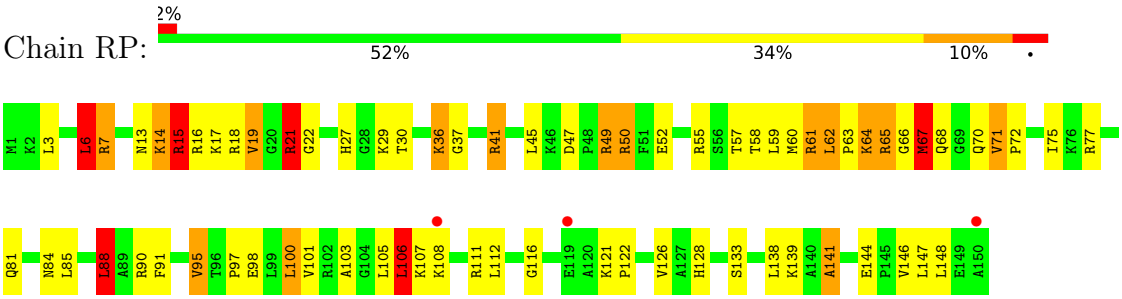
• Molecule 34: 50S ribosomal protein L14

Chain YO:



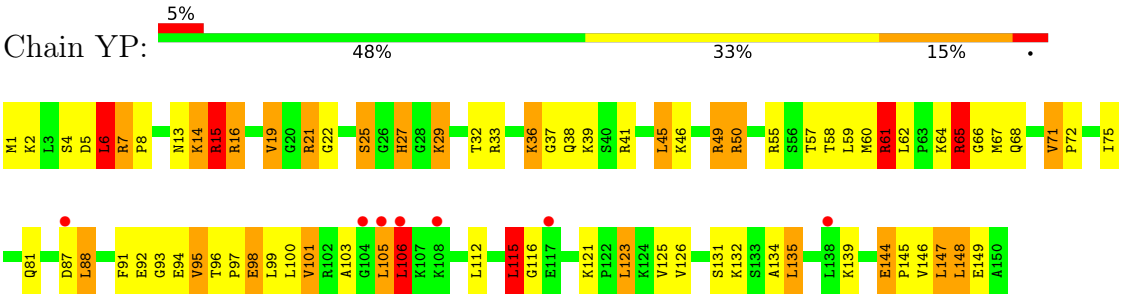
• Molecule 35: 50S ribosomal protein L15

Chain RP:



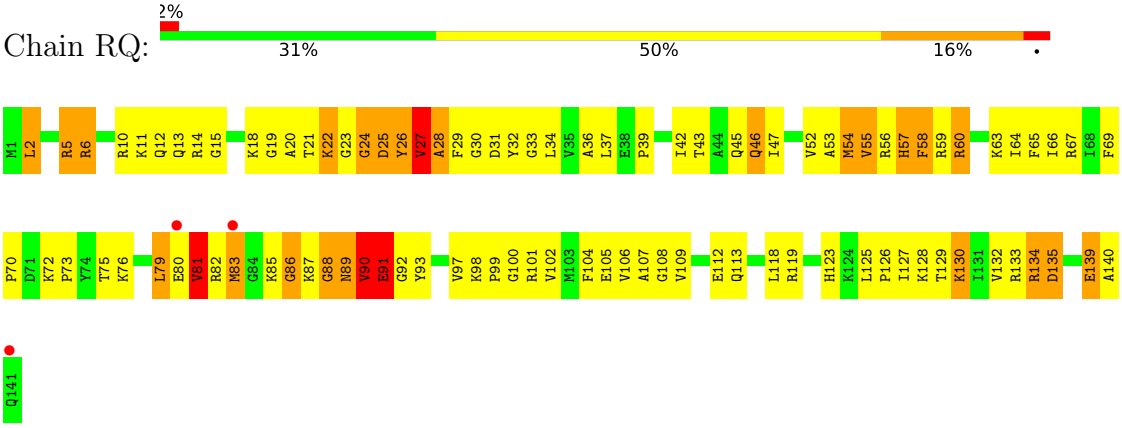
• Molecule 35: 50S ribosomal protein L15

Chain YP:



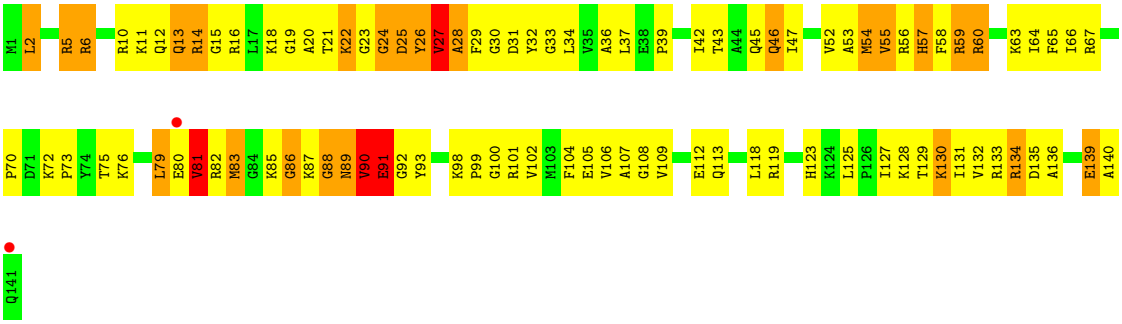
• Molecule 36: 50S ribosomal protein L16

Chain RQ:



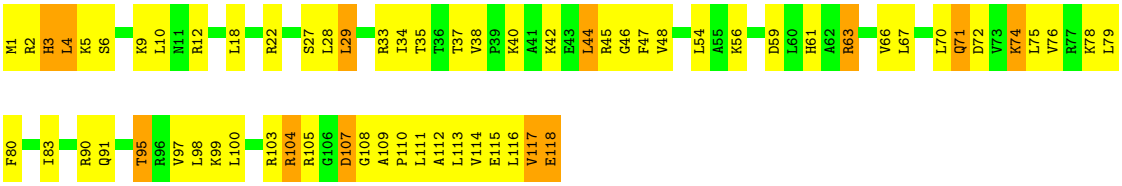
• Molecule 36: 50S ribosomal protein L16

Chain YQ:



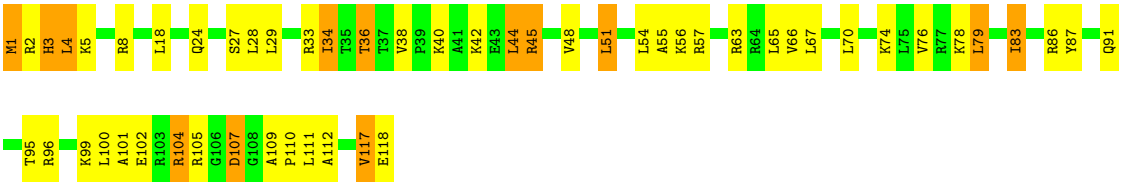
• Molecule 37: 50S ribosomal protein L17

Chain RR:



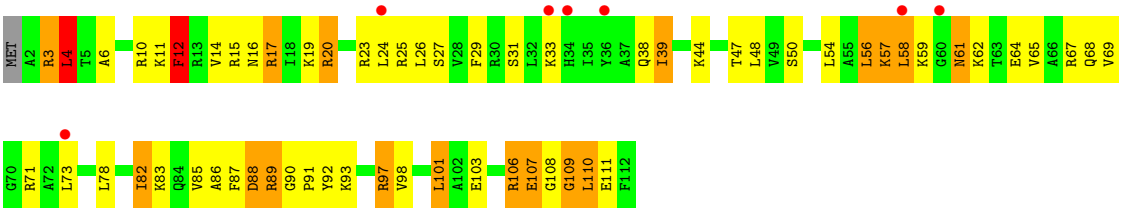
• Molecule 37: 50S ribosomal protein L17

Chain YR:



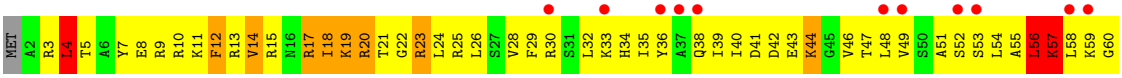
• Molecule 38: 50S ribosomal protein L18

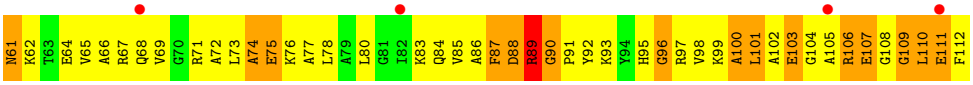
Chain RS:



• Molecule 38: 50S ribosomal protein L18

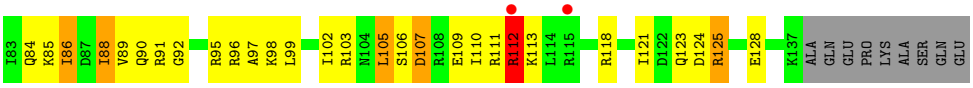
Chain YS:





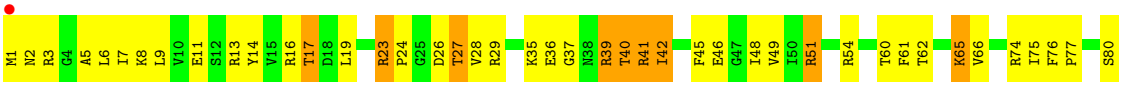
• Molecule 39: 50S ribosomal protein L19

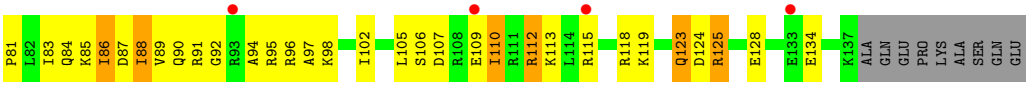
Chain RT:



• Molecule 39: 50S ribosomal protein L19

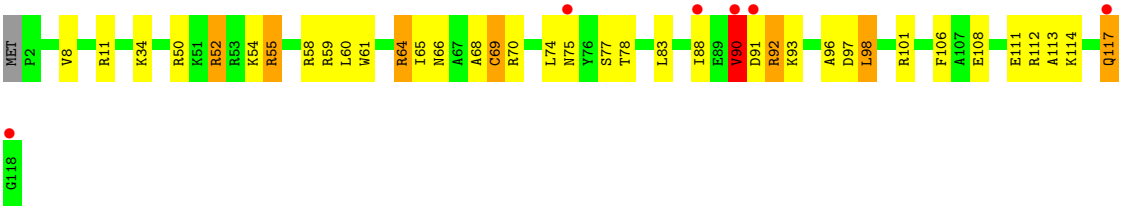
Chain YT:





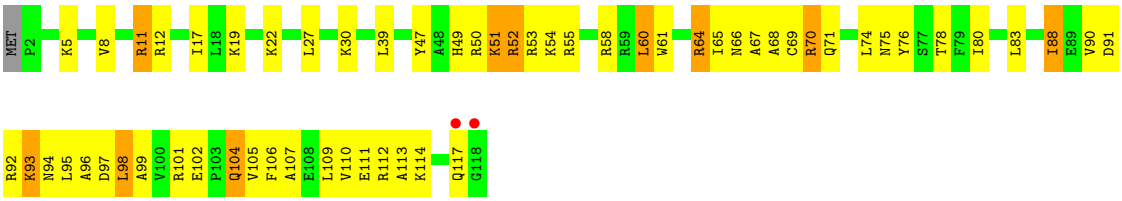
• Molecule 40: 50S ribosomal protein L20

Chain RU:



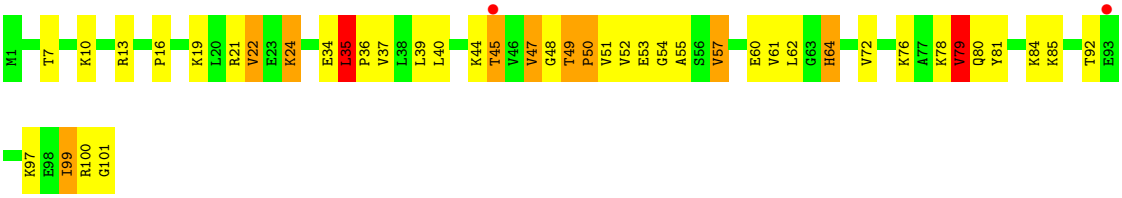
• Molecule 40: 50S ribosomal protein L20

Chain YU:



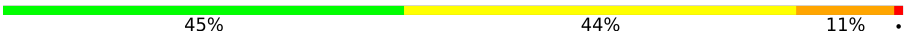
• Molecule 41: 50S ribosomal protein L21

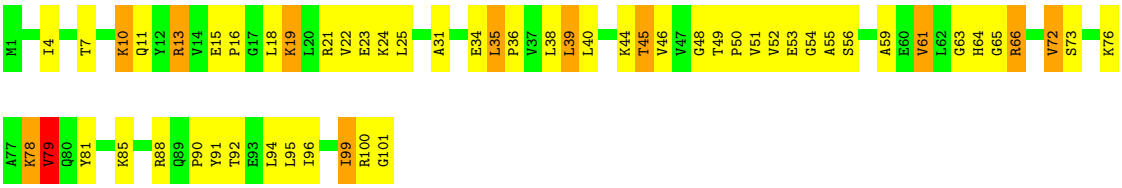
Chain RV:



• Molecule 41: 50S ribosomal protein L21

Chain YV:



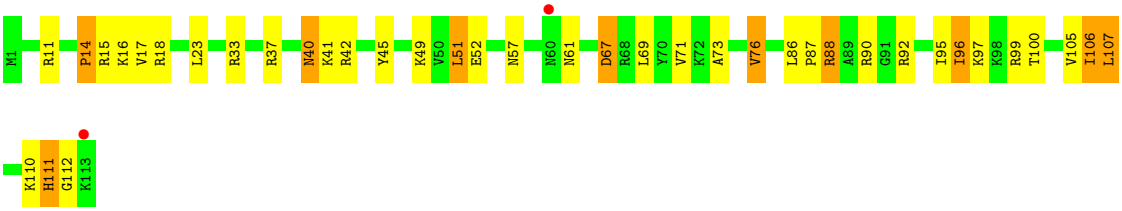


• Molecule 42: 50S ribosomal protein L22

Chain RW:

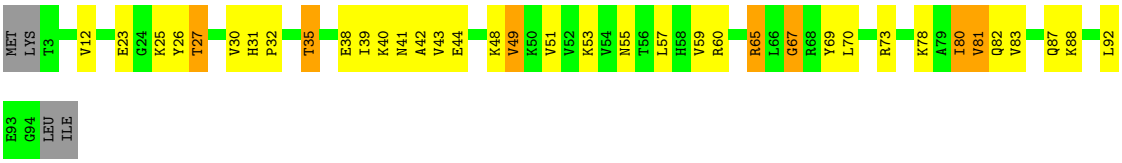
• Molecule 42: 50S ribosomal protein L22

Chain YW:



• Molecule 43: 50S ribosomal protein L23

Chain RX:



• Molecule 43: 50S ribosomal protein L23

Chain YX: 54% 35% 6% •

MET LYS T3 D6 P11 V12 E15 K16 Y26 T27 H31 A34 T35 K36 T37 E38 I39 K40 V43 E44 V49 K53 L57 H58 V59 R60 G61 K62 K63 K64 R65 L66 G67 R68 Y69 L70 G71 K72 R73 P74 D75 K78 A79 I80 V81 Q82 V83 A84 P85

K88 L92 E93 G94 LEU ILE

• Molecule 44: 50S ribosomal protein L24

Chain RY: 18% 28% 49% 15% 7%

MET R2 V3 K4 M5 D11 T12 V13 L14 S17 K21 G22 K26 V27 K28 E29 K34 V37 I38 V39 E40 G41 V42 N43 I44 V45 K46 K47 A48 V49 R50 V51 S52 P53 K54 Y55 P56 Q57 G58 G59 F60 I61 E62 K63 E64 A65 P66 L67 H68 A69 S70 K71 V72 R73

P74 I75 C76 P77 A78 C79 G80 K81 P82 T83 R84 V85 R86 K87 K88 F89 L90 E91 N92 K95 I96 R97 V98 C99 A100 K101 C102 G103 GLY ALA LEU ASP THR GLU GLU

• Molecule 44: 50S ribosomal protein L24

Chain YY: 5% 43% 34% 15% • 7%

MET R2 V3 K8 L14 K26 V27 K28 E29 K34 Y35 I38 V39 V42 N43 I44 V45 K46 K47 A48 V49 R50 V51 S52 P53 P56 Q57 G58 G59 F60 I61 E62 K63 E64 A65 P66 L67 H68 A69 S70 K71 V72 R73 P74 I75 C76 P77 A78 C79 G80 K81 R84

V85 R86 K87 K88 F89 L90 E91 N92 G93 K94 K95 I96 R97 V98 C99 A100 K101 C102 G103 GLY ALA LEU ASP THR GLU GLU

• Molecule 45: 50S ribosomal protein L25

Chain RZ: 7% 53% 25% 9% • 11%

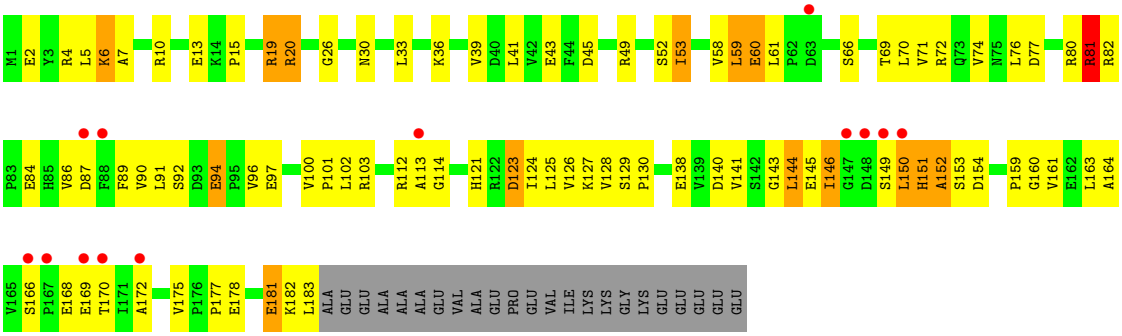
M1 E2 L5 K6 A7 E13 R19 R20 K23 L24 P25 G26 V27 K36 V39 F44 D45 R49 Q50 A51 S52 I53 H54 V58 L59 E60 L61 P62 S66 L70 V74 N75 L76 D77 K78 R81 R82 P83 E84 H85 V86 D87 L91 S92 D93 E94

E97 P101 L102 R103 P108 A109 G110 V111 R112 V116 L117 Q118 E119 I120 H121 L125 V128 S129 P130 F136 I137 E138 V141 S142 G143 L144 E145 D148 S149 L150 H151 A152 S153 D154 L157 V161 E162 L163 A164 V165 S166 P167 E168 E169 T170 I171 A172 A173 V174

V175 P176 P177 K182 L183 ALA GLU GLU ALA ALA ALA GLU VAL ALA GLU PRO GLU VAL ILE LYS LYS GLY LYS GLU GLU GLU GLU GLU

• Molecule 45: 50S ribosomal protein L25

Chain YZ: 6% 45% 37% 7% 11%

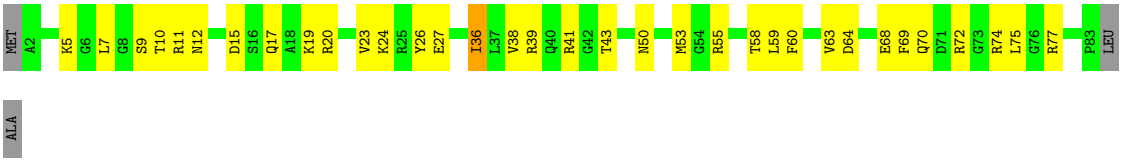


- Molecule 46: 50S ribosomal protein L27

Chain R0:

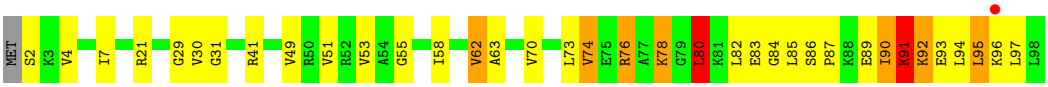
- Molecule 46: 50S ribosomal protein L27

Chain Y0:



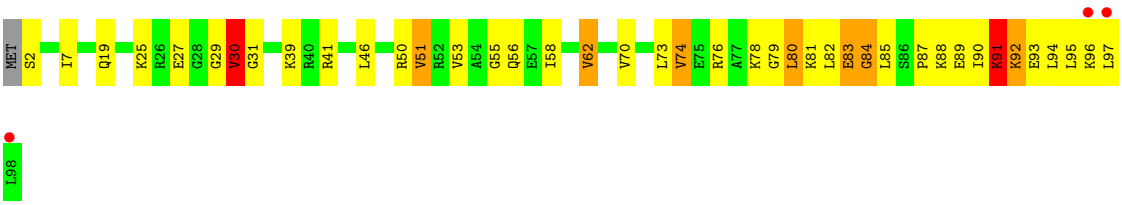
- Molecule 47: 50S ribosomal protein L28

Chain R1:



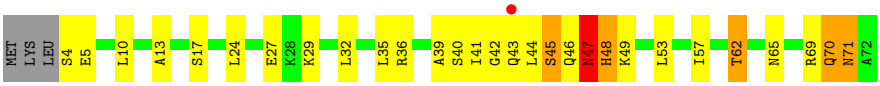
- Molecule 47: 50S ribosomal protein L28

Chain Y1:



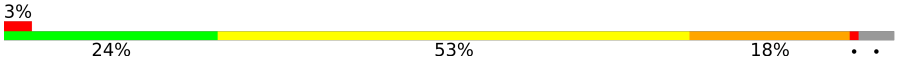
- Molecule 48: 50S ribosomal protein L29

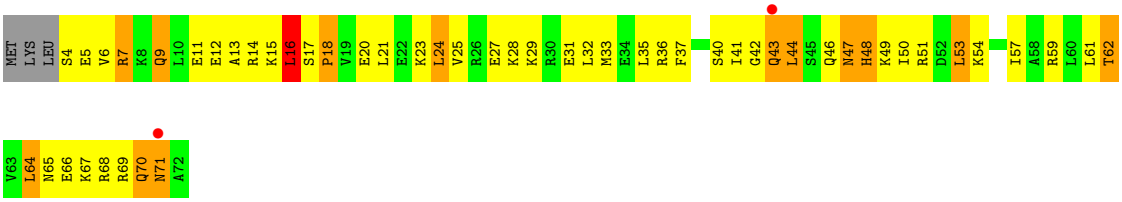
Chain R2:



• Molecule 48: 50S ribosomal protein L29

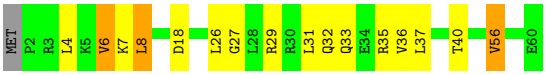
Chain Y2:





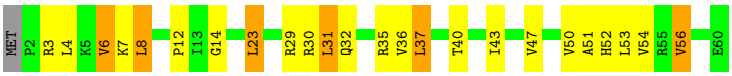
• Molecule 49: 50S ribosomal protein L30

Chain R3:



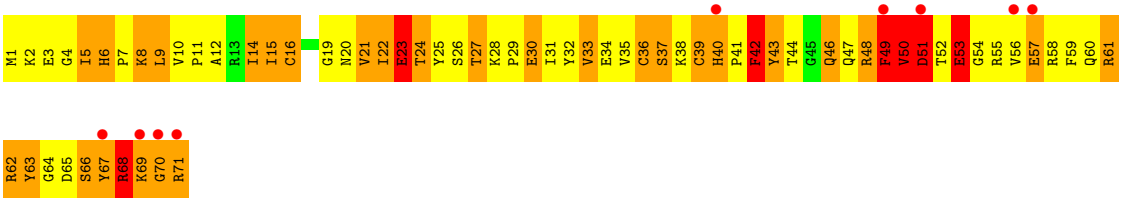
• Molecule 49: 50S ribosomal protein L30

Chain Y3:



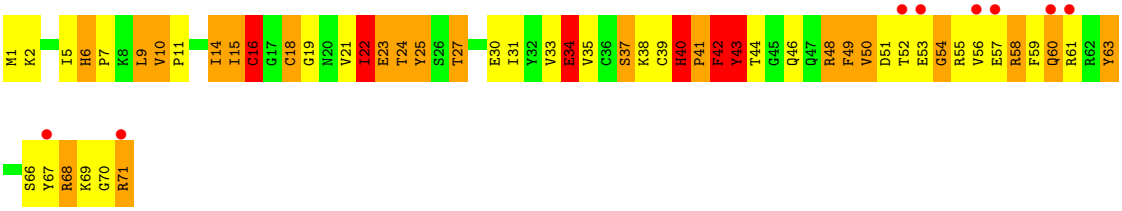
• Molecule 50: 50S ribosomal protein L31

Chain R4:



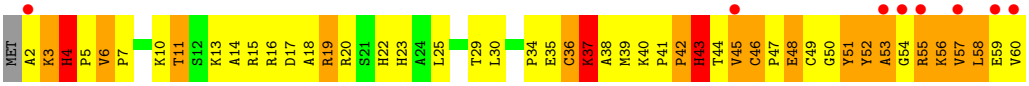
• Molecule 50: 50S ribosomal protein L31

Chain Y4:



• Molecule 51: 50S ribosomal protein L32

Chain R5:

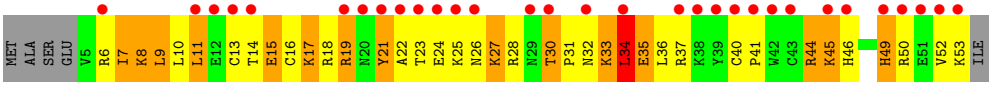


• Molecule 51: 50S ribosomal protein L32

Chain Y5:

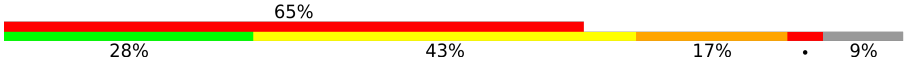
• Molecule 52: 50S ribosomal protein L33

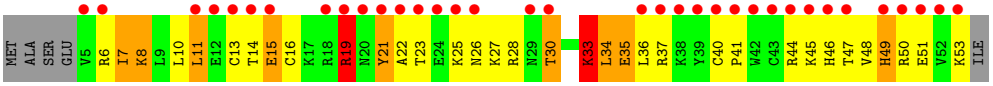
Chain R6:



• Molecule 52: 50S ribosomal protein L33

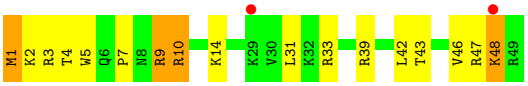
Chain Y6:





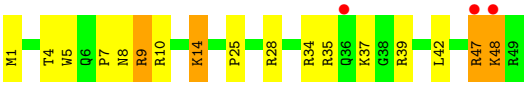
• Molecule 53: 50S ribosomal protein L34

Chain R7:



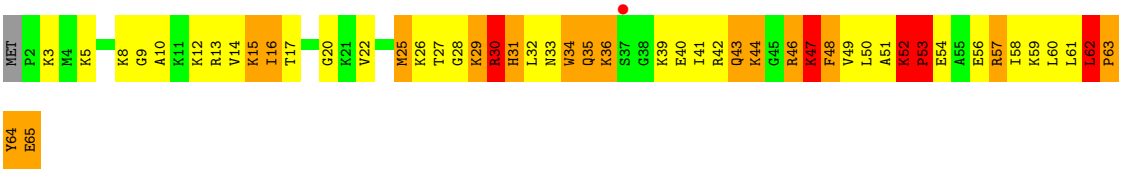
• Molecule 53: 50S ribosomal protein L34

Chain Y7:



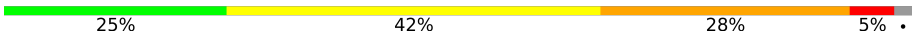
• Molecule 54: 50S ribosomal protein L35

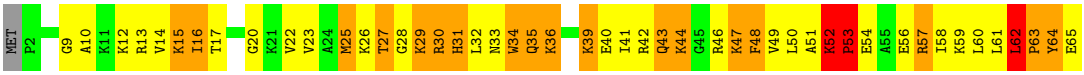
Chain R8:



- Molecule 54: 50S ribosomal protein L35

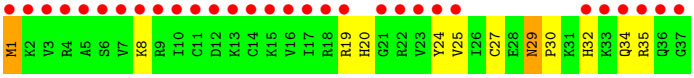
Chain Y8:





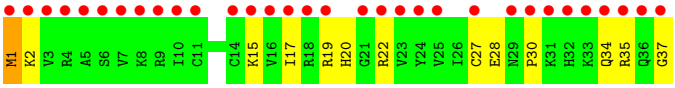
- Molecule 55: 50S ribosomal protein L36

Chain R9:



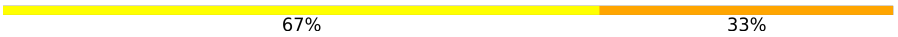
- Molecule 55: 50S ribosomal protein L36

Chain Y9:



- Molecule 56: CC-Puro

Chain Z5:



- Molecule 56: CC-Puro

Chain Z6:

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	210.46Å 450.70Å 621.07Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.85 – 3.60 49.85 – 3.40	Depositor EDS
% Data completeness (in resolution range)	99.8 (49.85-3.60) 97.8 (49.85-3.40)	Depositor EDS
R_{merge}	0.19	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.17 (at 3.40Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.3_1479)	Depositor
R, R_{free}	0.205 , 0.244 0.205 , 0.244	Depositor DCC
R_{free} test set	36000 reflections (4.59%)	wwPDB-VP
Wilson B-factor (Å^2)	102.3	Xtriage
Anisotropy	0.188	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 101.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.43$, $< L^2 > = 0.26$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.91	EDS
Total number of atoms	292106	wwPDB-VP
Average B, all atoms (Å^2)	108.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.55% 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: ZN, PPU, MG, 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	0.32	0/36098	0.86	40/56341 (0.1%)
1	XA	0.33	0/36101	0.87	28/56346 (0.0%)
2	QB	0.31	0/1959	0.52	0/2642
2	XB	0.32	0/1959	0.54	0/2642
3	QC	0.32	0/1629	0.54	0/2195
3	XC	0.37	0/1629	0.57	0/2195
4	QD	0.27	0/1733	0.45	0/2318
4	XD	0.40	0/1733	0.60	0/2318
5	QE	0.40	1/1171 (0.1%)	0.60	0/1576
5	XE	0.39	0/1171	0.60	0/1576
6	QF	0.39	0/856	0.55	0/1154
6	XF	0.39	0/856	0.58	0/1154
7	QG	0.34	0/1276	0.50	0/1709
7	XG	0.35	0/1276	0.51	0/1709
8	QH	0.34	0/1136	0.55	0/1527
8	XH	0.38	0/1136	0.58	0/1527
9	QI	0.31	0/1029	0.55	0/1379
9	XI	0.34	0/1029	0.58	0/1379
10	QJ	0.37	0/814	0.62	2/1095 (0.2%)
10	XJ	0.39	1/814 (0.1%)	0.63	1/1095 (0.1%)
11	QK	0.39	0/900	0.59	1/1213 (0.1%)
11	XK	0.39	0/900	0.59	0/1213
12	QL	0.49	1/991 (0.1%)	0.80	1/1327 (0.1%)
12	XL	0.49	0/991	0.83	3/1327 (0.2%)
13	QM	0.32	0/974	0.58	0/1303
13	XM	0.37	0/974	0.62	0/1303
14	QN	0.37	0/501	0.63	0/664
14	XN	0.43	0/501	0.66	0/664
15	QO	0.36	0/745	0.54	0/992
15	XO	0.40	0/745	0.55	0/992
16	QP	0.37	0/721	0.57	0/970
16	XP	0.36	0/721	0.57	0/970

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
17	QQ	0.35	0/847	0.54	0/1131
17	XQ	0.36	0/847	0.54	0/1131
18	QR	0.36	0/579	0.64	1/768 (0.1%)
18	XR	0.37	0/579	0.60	0/768
19	QS	0.34	0/689	0.61	0/926
19	XS	0.39	0/689	0.69	1/926 (0.1%)
20	QT	0.39	0/765	0.67	0/1007
20	XT	0.32	0/765	0.62	0/1007
21	QU	0.31	0/221	0.55	0/288
21	XU	0.31	0/221	0.62	0/288
22	QV	0.42	1/1836 (0.1%)	0.87	0/2859
22	XV	0.41	1/1836 (0.1%)	0.85	0/2859
23	QX	0.26	0/192	0.68	0/297
23	XX	0.32	0/192	0.77	0/297
24	QY	0.21	0/355	0.74	0/551
24	XY	0.29	0/355	0.89	0/551
25	RA	0.40	1/69521 (0.0%)	0.92	86/108529 (0.1%)
25	YA	0.43	1/69521 (0.0%)	0.94	81/108529 (0.1%)
26	RB	0.36	0/2878	0.95	6/4490 (0.1%)
26	YB	0.36	0/2878	0.99	12/4490 (0.3%)
27	RD	0.51	0/2165	0.70	0/2919
27	YD	0.56	0/2165	0.90	4/2919 (0.1%)
28	RE	0.52	0/1601	0.91	2/2160 (0.1%)
28	YE	0.52	0/1601	0.91	2/2160 (0.1%)
29	RF	0.30	0/1620	0.48	0/2194
29	YF	0.50	0/1620	0.76	0/2194
30	RG	0.32	0/1499	0.57	1/2016 (0.0%)
30	YG	0.40	0/1499	0.60	0/2016
31	RH	0.45	0/1332	0.85	3/1802 (0.2%)
31	YH	0.45	0/1332	0.85	4/1802 (0.2%)
32	RI	0.27	0/1151	0.56	0/1558
32	YI	0.29	0/1151	0.56	0/1558
33	RN	0.41	0/1131	0.62	0/1525
33	YN	0.43	0/1131	0.63	0/1525
34	RO	0.42	0/943	0.62	1/1269 (0.1%)
34	YO	0.50	0/943	0.65	0/1269
35	RP	0.29	0/1162	0.60	1/1544 (0.1%)
35	YP	0.32	0/1162	0.64	0/1544
36	RQ	0.54	0/1143	0.91	3/1527 (0.2%)
36	YQ	0.54	0/1143	0.89	3/1527 (0.2%)
37	RR	0.43	0/982	0.69	0/1312
37	YR	0.45	0/982	0.73	0/1312
38	RS	0.36	0/892	0.64	0/1187

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
38	YS	0.46	0/892	0.82	1/1187 (0.1%)
39	RT	0.42	0/1155	0.63	0/1542
39	YT	0.44	0/1155	0.66	0/1542
40	RU	0.40	0/982	0.65	0/1306
40	YU	0.51	0/982	0.70	0/1306
41	RV	0.38	0/790	0.62	1/1057 (0.1%)
41	YV	0.46	0/790	0.73	1/1057 (0.1%)
42	RW	0.50	0/911	0.67	0/1220
42	YW	0.45	0/911	0.68	0/1220
43	RX	0.47	0/739	0.62	0/993
43	YX	0.48	0/739	0.65	0/993
44	RY	0.44	0/798	0.68	0/1064
44	YY	0.46	0/798	0.69	0/1064
45	RZ	0.26	0/1493	0.52	0/2026
45	YZ	0.28	0/1493	0.55	0/2026
46	R0	0.47	0/657	0.68	0/874
46	Y0	0.49	0/657	0.70	0/874
47	R1	0.44	0/770	0.66	0/1022
47	Y1	0.46	0/770	0.69	0/1022
48	R2	0.38	0/583	0.64	0/771
48	Y2	0.51	0/583	0.83	1/771 (0.1%)
49	R3	0.35	0/474	0.56	0/635
49	Y3	0.42	0/474	0.59	0/635
50	R4	0.39	0/594	0.78	1/795 (0.1%)
50	Y4	0.44	0/594	0.73	1/795 (0.1%)
51	R5	0.49	0/473	0.74	0/639
51	Y5	0.49	0/468	0.72	0/632
52	R6	0.35	0/431	0.69	0/575
52	Y6	0.37	0/431	0.67	0/575
53	R7	0.49	0/438	0.67	0/575
53	Y7	0.56	0/438	0.71	0/575
54	R8	0.61	0/525	0.92	1/691 (0.1%)
54	Y8	0.62	0/525	0.93	1/691 (0.1%)
55	R9	0.27	0/310	0.46	0/407
55	Y9	0.32	0/310	0.48	0/407
56	Z5	0.79	0/40	1.80	1/60 (1.7%)
56	Z6	0.79	0/40	1.79	1/60 (1.7%)
All	All	0.39	7/316398 (0.0%)	0.85	297/473030 (0.1%)

All (7) bond length outliers are listed below:

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	QV	0	C	OP3-P	-10.47	1.48	1.61
22	XV	0	C	OP3-P	-10.29	1.48	1.61
25	YA	1021	A	N9-C4	-5.52	1.34	1.37
12	QL	48	PRO	N-CD	5.45	1.55	1.47
5	QE	70	PRO	N-CD	5.40	1.55	1.47
10	XJ	53	PRO	N-CD	5.21	1.55	1.47
25	RA	2287	A	N9-C4	-5.07	1.34	1.37

All (297) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
28	YE	21	VAL	C-N-CD	-10.10	98.37	120.60
28	RE	21	VAL	C-N-CD	-10.09	98.40	120.60
26	YB	95	U	C5-C4-O4	9.62	131.67	125.90
26	YB	81	G	C5-C6-O6	-9.09	123.15	128.60
1	XA	1495	U	N1-C2-O2	8.95	129.07	122.80
25	YA	2598	A	N1-C6-N6	8.88	123.93	118.60
36	YQ	81	VAL	CB-CA-C	-8.71	94.85	111.40
25	YA	103	A	N1-C6-N6	8.65	123.79	118.60
25	YA	807	U	C2-N3-C4	-8.61	121.83	127.00
36	RQ	81	VAL	CB-CA-C	-8.60	95.05	111.40
25	YA	673	C	C2-N3-C4	-8.43	115.69	119.90
1	QA	1158	C	N1-C2-O2	8.17	123.80	118.90
1	QA	1158	C	C2-N1-C1'	8.15	127.76	118.80
26	RB	95	U	C5-C4-O4	7.89	130.64	125.90
1	XA	328	C	C2-N1-C1'	7.83	127.42	118.80
25	RA	2420	C	O5'-P-OP1	-7.68	98.79	105.70
1	XA	1158	C	C2-N1-C1'	7.66	127.22	118.80
25	RA	2598	A	N1-C6-N6	7.60	123.16	118.60
25	RA	103	A	N1-C6-N6	7.59	123.15	118.60
25	YA	2447	G	C6-N1-C2	-7.59	120.55	125.10
25	RA	807	U	C2-N3-C4	-7.46	122.53	127.00
25	RA	2702	U	C2-N1-C1'	7.21	126.36	117.70
25	RA	783	A	C5-N7-C8	-7.14	100.33	103.90
25	YA	2712(A)	A	N7-C8-N9	7.08	117.34	113.80
25	YA	2595	G	C2-N3-C4	-7.06	108.37	111.90
36	YQ	81	VAL	N-CA-C	7.05	130.04	111.00
36	RQ	81	VAL	N-CA-C	7.01	129.93	111.00
25	YA	783	A	C5-N7-C8	-6.99	100.40	103.90
26	RB	81	G	C5-C6-O6	-6.97	124.42	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	XA	812	C	P-O3'-C3'	6.89	127.97	119.70
1	QA	365	U	C5-C4-O4	6.87	130.02	125.90
1	QA	49	U	C5-C4-O4	6.83	130.00	125.90
25	YA	1535	U	C2-N1-C1'	6.77	125.82	117.70
25	RA	673	C	C2-N3-C4	-6.76	116.52	119.90
25	YA	2584	U	N3-C2-O2	-6.75	117.48	122.20
25	YA	774	A	C2-N3-C4	-6.74	107.23	110.60
56	Z6	74	C	N1-C2-O2	6.70	122.92	118.90
56	Z5	74	C	N1-C2-O2	6.69	122.92	118.90
26	YB	81	G	C6-N1-C2	-6.67	121.10	125.10
25	YA	1992	G	P-O3'-C3'	6.65	127.68	119.70
25	YA	120	U	C5-C4-O4	6.64	129.89	125.90
25	YA	807	U	C5-C4-O4	-6.61	121.94	125.90
1	QA	13	U	C5-C4-O4	6.60	129.86	125.90
25	RA	2702	U	C5-C6-N1	6.58	125.99	122.70
25	RA	1130	U	P-O3'-C3'	6.57	127.59	119.70
27	YD	131	LEU	CA-CB-CG	6.56	130.39	115.30
26	YB	81	G	N3-C4-N9	6.56	129.94	126.00
25	YA	2031	A	O4'-C1'-N9	6.55	113.44	108.20
25	YA	103	A	C4-C5-C6	6.53	120.26	117.00
25	YA	1312	U	C5-C4-O4	6.51	129.81	125.90
25	RA	2335	A	O4'-C1'-N9	6.50	113.40	108.20
11	QK	102	GLY	N-CA-C	-6.47	96.92	113.10
1	XA	1158	C	N1-C2-O2	6.47	122.78	118.90
25	YA	945	A	N1-C6-N6	6.45	122.47	118.60
25	YA	2335	A	O4'-C1'-N9	6.44	113.35	108.20
25	RA	856	C	C6-N1-C2	-6.43	117.73	120.30
25	YA	1407	C	N1-C2-O2	6.40	122.74	118.90
1	QA	1495	U	N1-C2-O2	6.40	127.28	122.80
25	YA	1950	G	O4'-C1'-N9	6.36	113.28	108.20
25	RA	1204	A	O4'-C1'-N9	6.32	113.26	108.20
25	YA	1535	U	N1-C2-O2	6.29	127.21	122.80
25	RA	1786	A	C5-N7-C8	-6.28	100.76	103.90
1	QA	1158	C	N3-C2-O2	-6.27	117.51	121.90
1	QA	792	A	P-O3'-C3'	6.26	127.22	119.70
10	QJ	59	SER	O-C-N	6.23	132.67	122.70
25	RA	669	G	C4-N9-C1'	6.22	134.59	126.50
25	RA	1786	A	N7-C8-N9	6.22	116.91	113.80
25	RA	2287	A	C5-N7-C8	-6.20	100.80	103.90
25	RA	2060	A	P-O3'-C3'	6.18	127.12	119.70
1	XA	792	A	O4'-C1'-N9	6.18	113.15	108.20
50	Y4	40	HIS	C-N-CD	6.18	141.38	128.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	YA	2598	A	C4-C5-C6	6.18	120.09	117.00
25	RA	828	U	N3-C2-O2	-6.17	117.88	122.20
25	YA	1141	U	N1-C2-N3	6.17	118.60	114.90
25	RA	783	A	N7-C8-N9	6.15	116.88	113.80
25	RA	2447	G	C6-N1-C2	-6.14	121.42	125.10
25	RA	2378	A	N1-C6-N6	6.13	122.28	118.60
25	RA	1359	A	N1-C6-N6	6.13	122.28	118.60
25	RA	1786	A	C6-C5-N7	-6.13	128.01	132.30
25	RA	537	C	C2-N1-C1'	6.12	125.53	118.80
25	YA	574	C	N1-C2-O2	-6.10	115.24	118.90
25	YA	2867	G	P-O3'-C3'	6.08	126.99	119.70
25	RA	1332	G	C6-C5-N7	-6.06	126.77	130.40
25	RA	1786	A	N1-C6-N6	6.05	122.23	118.60
25	YA	676	A	C5-N7-C8	-6.04	100.88	103.90
1	QA	1065	U	P-O3'-C3'	6.03	126.93	119.70
1	QA	901	A	N1-C6-N6	6.01	122.20	118.60
25	RA	1535	U	C2-N1-C1'	6.01	124.91	117.70
27	YD	240	ALA	C-N-CD	6.01	141.02	128.40
1	XA	1436	U	C2-N3-C4	-6.00	123.40	127.00
41	YV	35	LEU	CA-CB-CG	5.99	129.08	115.30
1	QA	49	U	N3-C4-O4	-5.98	115.22	119.40
25	YA	103	A	C6-C5-N7	-5.95	128.13	132.30
30	RG	34	LEU	CA-CB-CG	5.95	128.99	115.30
1	QA	993	G	N3-C4-N9	5.94	129.57	126.00
25	YA	1558	A	P-O3'-C3'	5.94	126.83	119.70
25	YA	2447	G	N3-C4-C5	-5.94	125.63	128.60
25	YA	83	G	C2-N3-C4	-5.93	108.93	111.90
26	RB	76	G	C6-N1-C2	-5.92	121.55	125.10
31	RH	125	VAL	C-N-CD	-5.90	107.62	120.60
31	YH	125	VAL	C-N-CD	-5.89	107.63	120.60
25	RA	1931	U	N3-C2-O2	-5.88	118.09	122.20
12	XL	119	LYS	N-CA-C	-5.87	95.16	111.00
26	RB	31	C	N1-C2-O2	5.85	122.41	118.90
12	QL	119	LYS	N-CA-C	-5.85	95.20	111.00
1	XA	754	C	C2-N1-C1'	5.85	125.23	118.80
28	YE	58	ARG	N-CA-C	-5.84	95.23	111.00
1	QA	13	U	N3-C4-O4	-5.84	115.31	119.40
25	RA	1992	G	P-O3'-C3'	5.83	126.70	119.70
25	YA	1021	A	C5-N7-C8	-5.83	100.98	103.90
25	RA	1799	G	P-O3'-C3'	5.83	126.69	119.70
28	RE	58	ARG	N-CA-C	-5.83	95.26	111.00
26	YB	81	G	C6-C5-N7	-5.82	126.91	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	YA	242	G	O4'-C1'-N9	5.81	112.85	108.20
25	YA	2447	G	C5-C6-N1	5.79	114.40	111.50
25	YA	783	A	C4-C5-N7	5.79	113.59	110.70
48	Y2	16	LEU	N-CA-C	-5.78	95.41	111.00
25	RA	2595	G	C2-N3-C4	-5.77	109.01	111.90
12	XL	47	LYS	C-N-CD	5.77	140.51	128.40
1	QA	1065	U	OP2-P-O3'	5.77	117.89	105.20
12	XL	48	PRO	CA-N-CD	-5.75	103.45	111.50
25	YA	1535	U	N3-C2-O2	-5.75	118.18	122.20
25	YA	2681	C	P-O3'-C3'	5.75	126.60	119.70
25	YA	49	A	C5-N7-C8	-5.74	101.03	103.90
25	YA	906	G	C5-C6-O6	5.74	132.04	128.60
1	QA	365	U	C2-N3-C4	5.73	130.44	127.00
25	YA	99	U	P-O3'-C3'	5.73	126.57	119.70
1	QA	812	C	P-O3'-C3'	5.73	126.57	119.70
1	QA	1158	C	C6-N1-C2	-5.72	118.01	120.30
25	YA	1312	U	C2-N1-C1'	-5.72	110.83	117.70
1	XA	532	A	P-O3'-C3'	5.72	126.56	119.70
25	YA	1799	G	P-O3'-C3'	5.71	126.56	119.70
1	XA	1495	U	N3-C2-O2	-5.70	118.21	122.20
25	RA	2439	A	P-O3'-C3'	5.69	126.52	119.70
25	YA	528	A	C2-N3-C4	-5.69	107.76	110.60
25	RA	242	G	P-O3'-C3'	5.68	126.52	119.70
25	YA	2598	A	C6-C5-N7	-5.68	128.32	132.30
10	QJ	59	SER	CA-C-N	-5.68	104.70	117.20
1	XA	1406	U	C2-N3-C4	-5.67	123.60	127.00
25	YA	1786	A	N7-C8-N9	5.66	116.63	113.80
25	RA	1558	A	P-O3'-C3'	5.66	126.49	119.70
25	RA	637	A	P-O3'-C3'	5.64	126.47	119.70
1	XA	243	A	P-O3'-C3'	5.64	126.47	119.70
1	QA	328	C	P-O3'-C3'	5.64	126.47	119.70
1	QA	993	G	C4-N9-C1'	5.62	133.81	126.50
1	XA	328	C	N1-C2-O2	5.62	122.27	118.90
25	YA	1141	U	C2-N3-C4	-5.62	123.63	127.00
25	RA	383	U	N1-C2-O2	5.61	126.73	122.80
25	YA	508	G	P-O3'-C3'	5.61	126.43	119.70
26	YB	95	U	N3-C4-O4	-5.61	115.47	119.40
10	XJ	52	GLY	C-N-CD	5.61	140.17	128.40
25	YA	1141	U	O4'-C1'-N1	5.60	112.68	108.20
1	XA	913	A	P-O3'-C3'	5.59	126.41	119.70
25	RA	752	A	C8-N9-C4	-5.59	103.56	105.80
25	RA	2318	G	O4'-C1'-N9	5.59	112.67	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	RA	229	A	P-O3'-C3'	5.59	126.41	119.70
26	YB	81	G	C5-C6-N1	5.58	114.29	111.50
25	RA	960	A	N1-C6-N6	5.58	121.94	118.60
25	RA	404	C	P-O3'-C3'	5.57	126.38	119.70
50	R4	39	CYS	N-CA-C	-5.56	95.98	111.00
1	QA	1465	C	C2-N3-C4	-5.56	117.12	119.90
25	YA	676	A	C2-N3-C4	-5.54	107.83	110.60
1	QA	993	G	C8-N9-C1'	-5.54	119.81	127.00
25	RA	669	G	C8-N9-C1'	-5.53	119.81	127.00
26	YB	76	G	N3-C2-N2	-5.51	116.04	119.90
1	QA	1158	C	C6-N1-C1'	-5.51	114.19	120.80
25	RA	1313	U	C2-N1-C1'	5.51	124.31	117.70
1	QA	1436	U	C2-N3-C4	-5.50	123.70	127.00
25	RA	673	C	C5-C4-N4	-5.50	116.35	120.20
1	QA	723	U	C2-N1-C1'	5.50	124.30	117.70
1	XA	328	C	P-O3'-C3'	5.50	126.30	119.70
25	RA	74	A	P-O3'-C3'	5.49	126.29	119.70
1	XA	901	A	N1-C6-N6	5.49	121.89	118.60
26	YB	76	G	C6-N1-C2	-5.49	121.81	125.10
1	QA	1301	U	C2-N1-C1'	5.49	124.28	117.70
1	QA	690	G	O4'-C1'-N9	5.48	112.58	108.20
25	YA	1084	A	O4'-C1'-N9	5.47	112.58	108.20
1	XA	328	C	C6-N1-C1'	-5.47	114.24	120.80
31	YH	127	GLU	N-CA-C	-5.47	96.24	111.00
31	RH	127	GLU	N-CA-C	-5.46	96.25	111.00
1	XA	1158	C	C6-N1-C1'	-5.45	114.26	120.80
25	YA	1130	U	P-O3'-C3'	5.45	126.24	119.70
27	YD	251	GLY	N-CA-C	5.44	126.71	113.10
25	RA	1312	U	P-O3'-C3'	5.43	126.22	119.70
1	QA	1346	A	P-O3'-C3'	5.43	126.22	119.70
25	RA	1022	G	P-O3'-C3'	5.41	126.20	119.70
1	QA	1436	U	C5-C4-O4	-5.41	122.65	125.90
25	YA	673	C	N3-C4-C5	5.41	124.06	121.90
26	YB	31	C	N1-C2-O2	5.40	122.14	118.90
1	QA	1297	C	P-O3'-C3'	5.39	126.17	119.70
1	XA	300	A	N1-C6-N6	5.38	121.83	118.60
25	RA	372	G	OP2-P-O3'	5.38	117.04	105.20
25	YA	2832	U	P-O3'-C3'	5.37	126.15	119.70
25	YA	503	A	P-O3'-C3'	5.37	126.14	119.70
1	XA	827	U	N3-C2-O2	-5.37	118.44	122.20
31	YH	100	GLY	N-CA-C	-5.36	99.70	113.10
25	RA	1653	G	P-O3'-C3'	5.36	126.13	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	RA	1698	A	O4'-C1'-N9	5.36	112.49	108.20
27	YD	111	LEU	CA-CB-CG	5.36	127.63	115.30
1	QA	687	A	P-O3'-C3'	5.35	126.12	119.70
25	YA	1022	G	P-O3'-C3'	5.35	126.12	119.70
25	RA	508	G	P-O3'-C3'	5.34	126.11	119.70
31	RH	100	GLY	N-CA-C	-5.34	99.75	113.10
1	QA	20	U	C5-C4-O4	5.33	129.10	125.90
1	XA	1465	C	C2-N3-C4	-5.33	117.24	119.90
1	QA	300	A	N1-C6-N6	5.32	121.79	118.60
25	RA	2702	U	N1-C2-O2	5.32	126.52	122.80
25	YA	945	A	C6-C5-N7	-5.32	128.57	132.30
54	Y8	36	LYS	N-CA-C	-5.32	96.64	111.00
25	RA	1882	C	C2-N1-C1'	5.32	124.65	118.80
25	RA	1964	G	N9-C4-C5	-5.31	103.28	105.40
25	RA	783	A	C8-N9-C4	-5.30	103.68	105.80
25	YA	2689	U	P-O3'-C3'	5.30	126.06	119.70
25	YA	2378	A	N1-C6-N6	5.29	121.78	118.60
25	RA	2439	A	C8-N9-C4	-5.29	103.69	105.80
25	YA	383	U	N1-C2-O2	5.29	126.50	122.80
25	RA	2468	G	C4-N9-C1'	5.28	133.36	126.50
18	QR	31	LEU	CA-CB-CG	5.27	127.42	115.30
25	RA	2867	G	P-O3'-C3'	5.27	126.02	119.70
54	R8	36	LYS	N-CA-C	-5.27	96.78	111.00
19	XS	41	VAL	C-N-CD	-5.26	109.02	120.60
1	XA	1027	C	OP1-P-O3'	5.26	116.77	105.20
35	RP	88	LEU	CA-CB-CG	5.25	127.38	115.30
1	XA	1465	C	C5-C4-N4	-5.25	116.53	120.20
25	RA	2346	A	N1-C2-N3	5.24	131.92	129.30
25	YA	1313	U	C2-N1-C1'	5.24	123.99	117.70
25	YA	1810	A	N1-C6-N6	5.24	121.74	118.60
25	RA	676	A	O4'-C1'-N9	5.24	112.39	108.20
25	RA	2307	G	O4'-C1'-N9	5.23	112.39	108.20
25	YA	446	G	N9-C4-C5	-5.23	103.31	105.40
1	QA	1322	C	N1-C2-O2	5.22	122.03	118.90
34	RO	8	LEU	CA-CB-CG	5.22	127.31	115.30
25	RA	227	A	P-O3'-C3'	5.22	125.96	119.70
25	RA	2278	A	O4'-C1'-N9	5.22	112.37	108.20
1	QA	1528	U	P-O3'-C3'	5.21	125.96	119.70
25	YA	2506	U	C2-N1-C1'	5.21	123.96	117.70
36	YQ	5	ARG	N-CA-C	-5.21	96.92	111.00
25	RA	2344	U	N1-C2-O2	-5.21	119.15	122.80
25	YA	828	U	N3-C2-O2	-5.21	118.55	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	YA	1653	G	P-O3'-C3'	5.21	125.95	119.70
25	YA	271(B)	G	P-O3'-C3'	5.21	125.95	119.70
25	RA	1914	C	C2-N1-C1'	5.20	124.52	118.80
25	RA	2832	U	P-O3'-C3'	5.20	125.94	119.70
25	YA	1019	U	C2-N3-C4	-5.20	123.88	127.00
1	QA	1322	C	C2-N1-C1'	5.19	124.51	118.80
1	XA	266	G	C5-C6-O6	5.19	131.71	128.60
1	XA	115	G	P-O3'-C3'	5.19	125.93	119.70
38	YS	110	LEU	CA-CB-CG	5.18	127.22	115.30
36	RQ	5	ARG	N-CA-C	-5.18	97.02	111.00
25	RA	271(B)	G	P-O3'-C3'	5.18	125.91	119.70
25	YA	637	A	P-O3'-C3'	5.18	125.91	119.70
25	RA	2688	U	N3-C2-O2	-5.17	118.58	122.20
26	YB	89(A)	A	N1-C6-N6	5.17	121.70	118.60
41	RV	35	LEU	CA-CB-CG	5.16	127.17	115.30
1	QA	913	A	P-O3'-C3'	5.16	125.89	119.70
1	QA	1285	A	P-O3'-C3'	5.16	125.89	119.70
25	YA	1805	U	N1-C2-N3	5.16	117.99	114.90
1	QA	753	A	P-O3'-C3'	5.15	125.88	119.70
25	YA	2776	A	P-O3'-C3'	5.14	125.87	119.70
26	RB	76	G	N3-C2-N2	-5.14	116.30	119.90
25	RA	1786	A	C4-C5-N7	5.14	113.27	110.70
25	YA	2595	G	N9-C4-C5	-5.14	103.35	105.40
25	RA	828	U	C5-C4-O4	5.13	128.98	125.90
25	YA	676	A	O4'-C1'-N9	5.13	112.30	108.20
25	RA	2726	U	C2-N1-C1'	5.12	123.85	117.70
25	YA	676	A	N7-C8-N9	5.12	116.36	113.80
25	RA	512	G	P-O3'-C3'	5.12	125.84	119.70
1	XA	388	G	C4-N9-C1'	5.12	133.15	126.50
25	RA	103	A	C4-C5-C6	5.12	119.56	117.00
25	RA	752	A	P-O3'-C3'	5.11	125.84	119.70
1	QA	115	G	P-O3'-C3'	5.11	125.83	119.70
25	RA	2584	U	N3-C2-O2	-5.11	118.63	122.20
1	XA	812	C	OP2-P-O3'	5.11	116.43	105.20
25	YA	196	A	O4'-C1'-N9	5.11	112.28	108.20
1	QA	484	G	P-O3'-C3'	5.10	125.83	119.70
26	YB	81	G	C4-C5-N7	5.10	112.84	110.80
25	RA	2447	G	N3-C4-C5	-5.09	126.05	128.60
25	RA	229	A	OP2-P-O3'	5.09	116.40	105.20
25	RA	1407	C	N1-C2-O2	5.09	121.95	118.90
25	YA	404	C	P-O3'-C3'	5.08	125.80	119.70
25	YA	1950	G	N7-C8-N9	5.08	115.64	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	RA	673	C	N3-C4-C5	5.07	123.93	121.90
25	RA	1332	G	C4-N9-C1'	5.07	133.09	126.50
25	RA	1535	U	N1-C2-O2	5.06	126.34	122.80
25	RA	2287	A	N3-C4-C5	5.06	130.34	126.80
25	YA	49	A	N7-C8-N9	5.06	116.33	113.80
25	YA	574	C	N3-C2-O2	5.06	125.44	121.90
25	YA	2447	G	N3-C4-N9	5.05	129.03	126.00
25	RA	2439	A	N7-C8-N9	5.04	116.32	113.80
26	RB	100	G	C8-N9-C1'	5.04	133.55	127.00
1	XA	992	U	P-O3'-C3'	5.03	125.74	119.70
25	RA	1535	U	N3-C2-O2	-5.02	118.69	122.20
25	RA	1694	C	P-O3'-C3'	5.01	125.72	119.70
25	YA	748	G	O4'-C1'-N9	5.01	112.21	108.20
25	YA	1936	A	C4-N9-C1'	5.01	135.32	126.30
31	YH	127	GLU	C-N-CD	-5.01	109.58	120.60
25	RA	1882	C	N1-C2-O2	5.00	121.90	118.90

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	QA	32247	0	16278	452	0
1	XA	32249	0	16279	446	1
2	QB	1924	0	1975	62	0
2	XB	1924	0	1975	83	0
3	QC	1605	0	1668	50	0
3	XC	1605	0	1668	61	0
4	QD	1703	0	1764	57	0
4	XD	1703	0	1762	51	0
5	QE	1155	0	1213	49	0
5	XE	1155	0	1213	52	0
6	QF	843	0	857	16	0
6	XF	843	0	857	25	0
7	QG	1257	0	1296	37	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	XG	1257	0	1296	24	0
8	QH	1116	0	1177	40	0
8	XH	1116	0	1177	28	0
9	QI	1010	0	1037	37	0
9	XI	1010	0	1037	43	0
10	QJ	801	0	849	66	0
10	XJ	801	0	849	57	0
11	QK	885	0	903	28	0
11	XK	885	0	904	25	0
12	QL	975	0	1062	91	0
12	XL	975	0	1062	99	0
13	QM	964	0	1034	47	0
13	XM	964	0	1034	44	0
14	QN	492	0	529	25	0
14	XN	492	0	529	22	0
15	QO	734	0	771	20	0
15	XO	734	0	771	16	0
16	QP	705	0	725	13	0
16	XP	705	0	725	24	0
17	QQ	834	0	904	21	0
17	XQ	834	0	904	19	0
18	QR	574	0	644	11	0
18	XR	574	0	644	20	0
19	QS	674	0	699	76	0
19	XS	674	0	699	54	0
20	QT	763	0	861	36	0
20	XT	763	0	861	62	0
21	QU	217	0	234	11	0
21	XU	217	0	234	6	0
22	QV	1644	0	836	13	0
22	XV	1644	0	836	20	0
23	QX	173	0	87	0	0
23	XX	173	0	87	1	0
24	QY	319	0	162	1	0
24	XY	319	0	162	3	0
25	RA	62071	0	31287	845	0
25	YA	62071	0	31287	861	0
26	RB	2573	0	1306	38	0
26	YB	2573	0	1306	46	0
27	RD	2115	0	2195	99	0
27	YD	2115	0	2195	318	0
28	RE	1568	0	1634	273	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
28	YE	1568	0	1634	287	0
29	RF	1585	0	1632	57	0
29	YF	1585	0	1632	175	0
30	RG	1474	0	1535	99	0
30	YG	1474	0	1535	69	0
31	RH	1307	0	1382	224	0
31	YH	1307	0	1382	232	0
32	RI	1136	0	1223	63	1
32	YI	1136	0	1223	51	0
33	RN	1104	0	1180	39	0
33	YN	1104	0	1180	57	0
34	RO	933	0	996	27	0
34	YO	933	0	996	30	0
35	RP	1145	0	1228	71	0
35	YP	1145	0	1227	80	0
36	RQ	1122	0	1179	162	0
36	YQ	1122	0	1179	162	0
37	RR	968	0	1033	47	0
37	YR	968	0	1033	33	0
38	RS	882	0	943	50	0
38	YS	882	0	943	163	0
39	RT	1141	0	1202	62	0
39	YT	1141	0	1202	55	0
40	RU	964	0	1022	29	0
40	YU	964	0	1022	60	0
41	RV	779	0	852	22	0
41	YV	779	0	852	46	0
42	RW	900	0	964	25	0
42	YW	900	0	964	27	0
43	RX	725	0	778	28	0
43	YX	725	0	778	24	0
44	RY	785	0	878	52	0
44	YY	785	0	878	43	0
45	RZ	1461	0	1493	43	0
45	YZ	1461	0	1493	59	0
46	R0	648	0	672	25	0
46	Y0	648	0	672	36	0
47	R1	763	0	848	24	0
47	Y1	763	0	848	30	0
48	R2	581	0	629	21	0
48	Y2	581	0	629	78	0
49	R3	469	0	518	6	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
49	Y3	469	0	518	16	0
50	R4	581	0	575	211	0
50	Y4	581	0	577	100	0
51	R5	459	0	480	79	0
51	Y5	454	0	475	40	0
52	R6	424	0	450	29	0
52	Y6	424	0	450	29	0
53	R7	430	0	480	19	0
53	Y7	430	0	480	21	0
54	R8	517	0	582	94	0
54	Y8	517	0	582	107	0
55	R9	307	0	338	10	0
55	Y9	307	0	338	12	0
56	Z5	74	0	51	6	0
56	Z6	74	0	51	12	0
57	QA	90	0	0	0	0
57	QF	1	0	0	0	0
57	QK	1	0	0	0	0
57	QM	1	0	0	0	0
57	QT	1	0	0	0	0
57	QV	2	0	0	0	0
57	QY	1	0	0	0	0
57	R0	2	0	0	0	0
57	R3	1	0	0	0	0
57	R5	1	0	0	0	0
57	R8	1	0	0	0	0
57	RA	281	0	0	0	0
57	RB	3	0	0	0	0
57	RD	1	0	0	0	0
57	RE	2	0	0	0	0
57	RF	1	0	0	0	0
57	RQ	1	0	0	0	0
57	RR	2	0	0	0	0
57	XA	104	0	0	0	0
57	XD	1	0	0	0	0
57	XV	3	0	0	0	0
57	XX	1	0	0	0	0
57	XY	1	0	0	0	0
57	Y0	1	0	0	0	0
57	Y1	1	0	0	0	0
57	Y3	1	0	0	0	0
57	Y5	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	Y7	1	0	0	0	0
57	YA	291	0	0	0	0
57	YB	3	0	0	0	0
57	YD	1	0	0	0	0
57	YE	2	0	0	0	0
57	YP	3	0	0	0	0
57	YR	2	0	0	0	0
57	YY	1	0	0	0	0
58	QA	42	0	45	1	0
58	XA	42	0	45	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	292106	0	198346	7612	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 (7612) 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)
31:RH:127:GLU:CG	31:RH:128:PRO:HD3	1.35	1.54
31:YH:127:GLU:CG	31:YH:128:PRO:HD3	1.36	1.52
30:RG:112:PRO:HB3	50:R4:37:SER:CB	1.45	1.45
30:RG:112:PRO:CB	50:R4:37:SER:HB2	1.46	1.42
19:QS:68:GLY:CA	50:R4:68:ARG:HG2	1.51	1.38
30:RG:67:LYS:HE2	50:R4:6:HIS:CE1	1.62	1.32
51:Y5:49:CYS:SG	51:Y5:60:VAL:HG12	1.75	1.26
36:RQ:59:ARG:O	36:RQ:60:ARG:HD2	1.38	1.22
31:YH:127:GLU:CB	31:YH:128:PRO:HD3	1.69	1.21
19:QS:68:GLY:HA3	50:R4:68:ARG:CG	1.70	1.21
31:RH:127:GLU:HG2	31:RH:128:PRO:CD	1.69	1.21
31:YH:127:GLU:HG2	31:YH:128:PRO:CD	1.70	1.20
30:RG:67:LYS:HZ1	50:R4:6:HIS:CD2	1.60	1.20
28:RE:14:ILE:HD11	39:RT:14:TYR:OH	1.35	1.19
31:RH:127:GLU:CB	31:RH:128:PRO:HD3	1.69	1.18
10:QJ:50:ILE:HD11	10:QJ:57:LYS:HD3	1.23	1.16
31:RH:132:ARG:HH11	31:RH:132:ARG:HB2	1.10	1.15
19:QS:68:GLY:HA3	50:R4:68:ARG:CB	1.76	1.14
10:QJ:50:ILE:HD12	10:QJ:57:LYS:HG2	1.27	1.14

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:255:G:O6	1:XA:266:G:O6	1.67	1.13
19:QS:69:HIS:ND1	50:R4:69:LYS:HE2	1.62	1.13
25:YA:1359:A:N6	25:YA:1372:U:N3	1.97	1.13
35:RP:61:ARG:HE	54:R8:13:ARG:HD2	1.11	1.11
31:YH:132:ARG:HB2	31:YH:132:ARG:HH11	1.10	1.11
27:YD:44:ASN:HB2	27:YD:48:ARG:O	1.50	1.11
28:YE:179:GLU:HB3	28:YE:181:LEU:HD23	1.31	1.11
29:YF:101:LEU:HD12	29:YF:102:PRO:HD2	1.21	1.11
28:RE:179:GLU:HB3	28:RE:181:LEU:HD23	1.32	1.11
31:RH:86:GLU:HG3	31:RH:165:ALA:H	1.06	1.10
32:RI:53:ALA:O	32:RI:57:ARG:HG2	1.51	1.10
45:YZ:182:LYS:HG3	45:YZ:183:LEU:HA	1.21	1.10
28:YE:50:GLY:HA2	28:YE:77:ILE:HA	1.30	1.10
36:YQ:81:VAL:HG23	46:Y0:7:LEU:HD21	1.26	1.09
31:YH:152:ARG:HG3	31:YH:153:LYS:HE2	1.34	1.09
30:RG:3:LEU:HD21	50:R4:25:TYR:CE1	1.88	1.08
27:YD:131:LEU:HB2	27:YD:136:ILE:HD11	1.35	1.08
31:YH:86:GLU:HG3	31:YH:165:ALA:H	1.05	1.08
19:QS:68:GLY:CA	50:R4:68:ARG:CG	2.26	1.07
31:RH:152:ARG:HG3	31:RH:153:LYS:HE2	1.34	1.07
30:RG:67:LYS:NZ	50:R4:6:HIS:CD2	2.22	1.07
28:RE:21:VAL:HB	28:RE:22:PRO:HB3	1.37	1.06
28:RE:50:GLY:HA2	28:RE:77:ILE:HA	1.31	1.06
50:R4:71:ARG:HH11	50:R4:71:ARG:HG3	1.13	1.06
22:XV:73:A:H5"	22:XV:74:C:H5'	1.31	1.06
50:Y4:37:SER:HA	50:Y4:41:PRO:HG2	1.38	1.06
32:YI:144:VAL:O	32:YI:145:VAL:HG22	1.55	1.06
54:Y8:52:LYS:H	54:Y8:53:PRO:CD	1.69	1.06
28:RE:63:LEU:HD12	28:RE:64:LYS:H	1.18	1.06
25:YA:155:C:N4	25:YA:171:G:H1	1.54	1.06
31:YH:153:LYS:HB3	31:YH:154:PRO:HD2	1.07	1.06
28:YE:21:VAL:HB	28:YE:22:PRO:HB3	1.37	1.06
28:YE:63:LEU:HD12	28:YE:64:LYS:H	1.18	1.05
36:RQ:59:ARG:O	36:RQ:60:ARG:CD	2.05	1.04
31:YH:127:GLU:CG	31:YH:128:PRO:CD	2.31	1.04
31:RH:127:GLU:CB	31:RH:128:PRO:CD	2.35	1.04
53:Y7:9:ARG:NH2	53:Y7:48:LYS:HB2	1.72	1.04
25:YA:67:U:N3	25:YA:74:A:H2	1.56	1.04
36:RQ:81:VAL:O	36:RQ:82:ARG:CD	2.06	1.03
38:YS:83:LYS:O	38:YS:109:GLY:HA3	1.57	1.03
25:RA:1169:G:H1	25:RA:1180:C:N4	1.57	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YS:106:ARG:HA	38:YS:110:LEU:HD11	1.39	1.03
54:R8:52:LYS:H	54:R8:53:PRO:CD	1.69	1.03
4:XD:9:CYS:SG	4:XD:22:LYS:NZ	2.31	1.03
10:XJ:50:ILE:CD1	10:XJ:57:LYS:HG2	1.89	1.03
25:YA:67:U:N3	25:YA:74:A:C2	2.27	1.03
31:YH:127:GLU:CB	31:YH:128:PRO:CD	2.35	1.03
36:YQ:65:PHE:O	36:YQ:66:ILE:HG12	1.59	1.03
36:RQ:80:GLU:O	36:RQ:81:VAL:HG13	1.59	1.02
36:YQ:81:VAL:O	36:YQ:82:ARG:CD	2.06	1.02
27:YD:35:LYS:HG2	27:YD:64:ILE:N	1.73	1.02
29:YF:67:GLN:O	29:YF:68:LYS:HB2	1.56	1.02
36:YQ:12:GLN:HG2	36:YQ:73:PRO:HD2	1.41	1.02
53:R7:9:ARG:HH21	53:R7:48:LYS:HD2	1.19	1.02
50:Y4:37:SER:HA	50:Y4:41:PRO:CD	1.90	1.02
36:RQ:12:GLN:HG2	36:RQ:73:PRO:HD2	1.42	1.02
1:XA:954:G:H21	1:XA:1227:A:H62	1.03	1.02
33:YN:63:THR:HG23	33:YN:66:LYS:HZ2	1.24	1.02
31:RH:153:LYS:HB3	31:RH:154:PRO:HD2	1.06	1.01
29:YF:46:ARG:HH11	29:YF:46:ARG:HG2	1.20	1.01
50:Y4:37:SER:HA	50:Y4:41:PRO:CG	1.90	1.01
25:RA:155:C:H42	25:RA:171:G:H1	1.03	1.01
29:YF:67:GLN:O	29:YF:67:GLN:HG3	1.58	1.01
53:Y7:9:ARG:HH21	53:Y7:48:LYS:HD2	1.21	1.01
36:RQ:65:PHE:O	36:RQ:66:ILE:HG12	1.59	1.00
36:RQ:81:VAL:O	36:RQ:82:ARG:NE	1.94	1.00
36:YQ:80:GLU:O	36:YQ:81:VAL:HG13	1.59	1.00
50:R4:56:VAL:HA	50:R4:60:GLN:HB2	1.43	1.00
1:XA:838:G:H1	1:XA:848:C:H42	1.03	1.00
50:Y4:37:SER:HA	50:Y4:41:PRO:HD2	1.41	1.00
38:YS:26:LEU:HD12	38:YS:39:ILE:HD11	1.40	1.00
31:RH:153:LYS:HB3	31:RH:154:PRO:CD	1.92	1.00
48:Y2:50:ILE:HD12	48:Y2:51:ARG:N	1.76	1.00
31:RH:127:GLU:CG	31:RH:128:PRO:CD	2.30	0.99
4:QD:9:CYS:SG	4:QD:22:LYS:HE2	2.02	0.99
19:QS:68:GLY:HA3	50:R4:68:ARG:HB2	1.41	0.99
25:RA:2135:A:H62	25:RA:2156:G:N2	1.61	0.99
29:YF:185:ASP:HA	29:YF:188:ARG:HD3	1.41	0.99
35:RP:61:ARG:NE	54:R8:13:ARG:HD2	1.77	0.99
31:YH:153:LYS:HB3	31:YH:154:PRO:CD	1.92	0.99
28:RE:201:THR:HG22	28:RE:203:LYS:H	1.26	0.99
28:YE:201:THR:HG22	28:YE:203:LYS:H	1.26	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:77:LYS:HB3	31:RH:77:LYS:HZ3	1.22	0.99
51:Y5:49:CYS:SG	51:Y5:60:VAL:CG1	2.50	0.98
1:XA:1008:C:H42	1:XA:1021:G:H1	0.99	0.98
36:YQ:81:VAL:O	36:YQ:82:ARG:NE	1.94	0.98
35:RP:62:LEU:CD2	54:R8:25:MET:HB2	1.92	0.98
25:RA:2135:A:N6	25:RA:2156:G:H21	1.62	0.98
36:RQ:79:LEU:O	36:RQ:79:LEU:HD22	1.64	0.98
48:Y2:50:ILE:HD12	48:Y2:51:ARG:H	1.24	0.98
31:YH:86:GLU:HG3	31:YH:165:ALA:N	1.79	0.98
28:RE:20:ALA:O	28:RE:21:VAL:HG22	1.64	0.97
36:YQ:79:LEU:O	36:YQ:79:LEU:HD13	1.63	0.97
19:QS:68:GLY:HA2	50:R4:68:ARG:HG2	1.46	0.97
1:XA:201:C:H42	1:XA:216:G:H1	1.08	0.97
27:YD:44:ASN:HB3	27:YD:49:ILE:HA	1.45	0.97
36:YQ:81:VAL:CG2	46:Y0:7:LEU:HD21	1.95	0.97
10:QJ:50:ILE:HD11	10:QJ:57:LYS:CD	1.93	0.97
1:XA:80:G:H1	1:XA:89:U:H3	1.04	0.97
36:YQ:79:LEU:O	36:YQ:79:LEU:HD22	1.64	0.97
38:YS:83:LYS:NZ	38:YS:109:GLY:HA2	1.77	0.97
36:RQ:79:LEU:O	36:RQ:79:LEU:HD13	1.63	0.97
25:YA:2701:C:H3'	25:YA:2702:U:H5"	1.45	0.96
1:XA:1002:G:H1	1:XA:1038:C:H42	1.07	0.96
28:YE:20:ALA:O	28:YE:21:VAL:HG22	1.64	0.96
25:RA:2308:G:N1	25:RA:2311:A:C2	2.34	0.95
29:YF:101:LEU:HD12	29:YF:102:PRO:CD	1.96	0.95
10:QJ:50:ILE:CD1	10:QJ:57:LYS:HG2	1.95	0.95
30:RG:3:LEU:HD21	50:R4:25:TYR:CD1	2.00	0.95
27:YD:227:ASN:HB3	27:YD:228:PRO:HD2	1.44	0.95
31:RH:86:GLU:HG3	31:RH:165:ALA:N	1.79	0.95
29:YF:103:LYS:HA	29:YF:106:ARG:HG3	1.48	0.95
36:YQ:79:LEU:CD1	46:Y0:5:LYS:HD3	1.97	0.95
1:QA:1028:C:H42	1:QA:1033:G:H1	1.06	0.95
12:QL:6:THR:H	12:QL:9:GLN:HE21	1.15	0.95
28:YE:78:LEU:HG	28:YE:79:ARG:HE	1.30	0.94
31:YH:153:LYS:CB	31:YH:154:PRO:HD2	1.98	0.94
50:R4:36:CYS:O	50:R4:39:CYS:HB2	1.67	0.94
48:Y2:13:ALA:HA	48:Y2:16:LEU:HD23	1.48	0.94
19:QS:42:PRO:CG	50:R4:63:TYR:HE2	1.81	0.94
30:RG:3:LEU:HD11	50:R4:25:TYR:CE1	2.01	0.94
31:YH:77:LYS:NZ	31:YH:77:LYS:HB3	1.82	0.94
35:YP:65:ARG:HH21	54:Y8:46:ARG:HH22	0.97	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:78:LEU:HG	28:RE:79:ARG:HE	1.31	0.94
30:RG:67:LYS:HE2	50:R4:6:HIS:NE2	1.82	0.94
25:YA:2712:U:HO2'	25:YA:2712(A):A:H8	0.98	0.94
27:YD:28:GLU:HB2	27:YD:29:PRO:CD	1.98	0.94
31:YH:77:LYS:HB3	31:YH:77:LYS:HZ3	1.31	0.93
51:R5:56:LYS:H	51:R5:56:LYS:HD2	1.31	0.93
2:QB:185:ILE:HG22	2:QB:199:TYR:HB2	1.48	0.93
19:QS:69:HIS:CE1	50:R4:69:LYS:HE2	2.03	0.93
25:YA:2056:G:N2	51:Y5:4:HIS:O	2.01	0.93
31:YH:127:GLU:HB3	31:YH:128:PRO:CD	1.99	0.93
36:RQ:59:ARG:O	36:RQ:60:ARG:CG	2.17	0.93
40:YU:90:VAL:HG22	41:YV:39:LEU:HB3	1.51	0.93
25:RA:882:G:H1	25:RA:894:C:N4	1.65	0.93
36:RQ:34:LEU:HD11	36:RQ:129:THR:HB	1.50	0.93
25:RA:2015:A:H1'	51:R5:2:ALA:HA	1.50	0.93
27:YD:108:PRO:HB3	27:YD:143:HIS:CE1	2.04	0.93
27:YD:108:PRO:HB3	27:YD:143:HIS:HE1	1.32	0.93
35:YP:65:ARG:NH2	54:Y8:46:ARG:HH22	1.67	0.93
25:RA:631:A:OP2	54:R8:46:ARG:NH2	2.01	0.92
25:RA:1138:G:H21	33:RN:106:MET:HE3	1.34	0.92
31:RH:127:GLU:HB3	31:RH:128:PRO:CD	1.99	0.92
35:RP:62:LEU:HD21	54:R8:25:MET:HB2	1.52	0.92
51:R5:58:LEU:HD13	51:R5:60:VAL:HG12	1.48	0.92
38:YS:59:LYS:HG2	38:YS:60:GLY:H	1.31	0.92
28:YE:14:ILE:HG12	28:YE:15:PHE:H	1.33	0.92
25:RA:1359:A:N1	25:RA:1372:U:O4	2.02	0.92
19:QS:68:GLY:CA	50:R4:68:ARG:CB	2.48	0.92
31:RH:153:LYS:CB	31:RH:154:PRO:HD2	1.97	0.92
38:YS:67:ARG:NH1	38:YS:67:ARG:HB2	1.85	0.91
31:RH:77:LYS:HB3	31:RH:77:LYS:NZ	1.82	0.91
25:YA:1533:C:H42	25:YA:1538:G:H1	1.10	0.91
25:RA:1359:A:C6	25:RA:1372:U:O4	2.23	0.91
28:YE:14:ILE:HD11	39:YT:14:TYR:OH	1.69	0.91
36:YQ:34:LEU:HD11	36:YQ:129:THR:HB	1.50	0.91
25:YA:1138:G:H21	33:YN:106:MET:HE3	1.34	0.91
27:YD:10:THR:HG23	27:YD:13:ARG:HB3	1.51	0.91
1:QA:13:U:O4	1:QA:20:U:O4	1.88	0.91
25:RA:882:G:H1	25:RA:894:C:H42	0.92	0.91
25:RA:1064:C:H42	25:RA:1074:G:H1	1.16	0.91
33:YN:7:LYS:H	33:YN:7:LYS:HD2	1.36	0.91
28:RE:14:ILE:HG12	28:RE:15:PHE:H	1.33	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YQ:79:LEU:HD12	46:Y0:5:LYS:CD	2.01	0.91
48:Y2:65:ASN:HB3	48:Y2:69:ARG:HH12	1.34	0.91
10:XJ:50:ILE:HD11	10:XJ:57:LYS:HG2	1.54	0.90
30:RG:179:PRO:HG3	50:R4:38:LYS:NZ	1.86	0.90
31:RH:4:ILE:HG13	31:RH:6:ARG:CZ	2.01	0.90
1:QA:1316:G:H22	1:QA:1319:A:H5"	1.36	0.90
4:QD:166:LYS:HD3	27:YD:134:ARG:HH12	1.37	0.90
25:YA:676:A:H8	25:YA:2069:G:H21	1.20	0.90
22:XV:73:A:C5'	22:XV:74:C:H5'	2.01	0.90
25:RA:2308:G:N1	25:RA:2311:A:H2	1.70	0.90
25:RA:2308:G:H1	25:RA:2311:A:H2	0.91	0.90
31:YH:4:ILE:HG13	31:YH:6:ARG:CZ	2.01	0.90
1:QA:1002:G:H1	1:QA:1038:C:H42	1.12	0.90
36:RQ:59:ARG:O	36:RQ:60:ARG:HG3	1.72	0.90
27:YD:147:LEU:HD13	27:YD:155:LEU:HD11	1.51	0.90
25:RA:1310:G:OP2	53:R7:9:ARG:NH1	2.03	0.90
51:R5:40:LYS:HZ1	51:R5:48:GLU:HB2	1.36	0.90
27:YD:69:ARG:HH21	27:YD:130:ALA:HB2	1.37	0.89
31:YH:26:VAL:HG13	31:YH:27:LYS:H	1.35	0.89
25:YA:1169:G:H1	25:YA:1180:C:H42	1.14	0.89
27:YD:44:ASN:HD22	27:YD:44:ASN:H	1.19	0.89
27:YD:183:ARG:HG2	27:YD:183:ARG:HH11	1.34	0.89
54:Y8:52:LYS:H	54:Y8:53:PRO:HD3	1.35	0.89
31:RH:26:VAL:HG13	31:RH:27:LYS:H	1.36	0.89
31:RH:10:PRO:HD2	31:RH:50:VAL:O	1.72	0.89
30:RG:5:VAL:HG22	50:R4:25:TYR:CE2	2.08	0.89
28:YE:63:LEU:HD12	28:YE:64:LYS:N	1.87	0.89
54:Y8:59:LYS:NZ	54:Y8:59:LYS:HB2	1.87	0.89
12:XL:6:THR:H	12:XL:9:GLN:HE21	1.15	0.89
35:YP:65:ARG:HH21	54:Y8:46:ARG:NH2	1.71	0.89
1:XA:838:G:H1	1:XA:848:C:N4	1.69	0.89
25:RA:2287:A:N6	25:RA:2344:U:H3	1.69	0.89
30:RG:113:ARG:HG2	50:R4:34:GLU:OE2	1.73	0.89
51:R5:3:LYS:HA	51:R5:3:LYS:HE3	1.55	0.89
25:YA:620:G:H4'	25:YA:621:A:H5"	1.53	0.89
31:YH:10:PRO:HD2	31:YH:50:VAL:O	1.72	0.89
5:QE:101:ILE:HD13	5:QE:101:ILE:H	1.35	0.88
10:QJ:55:LYS:HE3	10:QJ:56:HIS:HE2	1.39	0.88
44:YY:79:CYS:SG	44:YY:80:GLY:N	2.45	0.88
39:RT:26:ASP:HB3	39:RT:92:GLY:H	1.36	0.88
1:XA:1008:C:N4	1:XA:1021:G:H1	1.71	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:R8:52:LYS:H	54:R8:53:PRO:HD3	1.35	0.88
28:RE:63:LEU:HD12	28:RE:64:LYS:N	1.88	0.88
35:YP:65:ARG:NH2	54:Y8:46:ARG:NH2	2.22	0.88
1:XA:1316:G:H22	1:XA:1319:A:H5"	1.38	0.88
38:YS:106:ARG:NH1	38:YS:106:ARG:HB2	1.88	0.88
25:RA:1247:A:OP2	35:RP:15:ARG:NH2	2.05	0.88
28:RE:77:ILE:HD12	28:RE:78:LEU:N	1.89	0.88
25:YA:1899:G:H21	25:YA:1902:C:H41	1.21	0.88
25:YA:2580:U:H4'	28:YE:130:GLY:HA3	1.55	0.88
3:QC:162:GLN:NE2	3:QC:162:GLN:HA	1.88	0.87
54:R8:59:LYS:HB2	54:R8:59:LYS:NZ	1.88	0.87
25:YA:1359:A:N6	25:YA:1372:U:H3	1.68	0.87
27:YD:44:ASN:CB	27:YD:49:ILE:HA	2.04	0.87
27:YD:27:THR:HG23	27:YD:28:GLU:H	1.38	0.87
28:YE:77:ILE:HD12	28:YE:78:LEU:N	1.89	0.87
25:RA:155:C:N4	25:RA:171:G:H1	1.73	0.87
25:RA:1043:C:H42	25:RA:1112:G:H1	1.20	0.87
19:QS:68:GLY:HA3	50:R4:68:ARG:HG2	1.31	0.87
36:YQ:64:ILE:HA	36:YQ:106:VAL:HG12	1.54	0.87
30:RG:67:LYS:CE	50:R4:6:HIS:CE1	2.56	0.87
25:YA:847:U:O4	25:YA:933:A:N1	2.07	0.87
27:YD:181:GLU:HA	27:YD:272:ALA:HB3	1.57	0.87
36:YQ:81:VAL:HG23	46:Y0:7:LEU:CD2	2.04	0.87
36:RQ:64:ILE:HA	36:RQ:106:VAL:HG12	1.54	0.87
29:YF:29:ASN:H	29:YF:112:MET:HE3	1.40	0.87
44:YY:76:CYS:HB3	44:YY:96:ILE:HD13	1.57	0.87
29:YF:7:TYR:HB3	29:YF:21:ALA:HB1	1.53	0.86
25:YA:2451:A:C6	56:Z6:101:PPU:HE2	2.09	0.86
19:QS:68:GLY:C	50:R4:68:ARG:HG2	1.94	0.86
51:Y5:40:LYS:HG2	51:Y5:47:PRO:HD2	1.56	0.86
25:RA:2808:U:H3	25:RA:2892:A:H62	1.24	0.86
25:YA:1057:A:N1	25:YA:1081:U:O4	2.09	0.86
10:QJ:55:LYS:HE3	10:QJ:56:HIS:NE2	1.90	0.86
25:RA:2701:C:H3'	25:RA:2702:U:H5"	1.58	0.86
35:RP:58:THR:O	35:RP:61:ARG:NH2	2.08	0.86
36:YQ:79:LEU:HD12	46:Y0:5:LYS:HD3	1.55	0.86
31:YH:127:GLU:HG2	31:YH:128:PRO:HD3	0.86	0.86
1:XA:1422:G:H5"	34:YO:48:PRO:HB3	1.56	0.86
30:RG:179:PRO:HG3	50:R4:38:LYS:HZ1	1.35	0.86
27:YD:35:LYS:HG2	27:YD:64:ILE:H	1.41	0.86
45:RZ:110:GLY:HA2	45:RZ:111:VAL:O	1.75	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:XS:68:GLY:HA3	50:Y4:68:ARG:HB2	1.58	0.86
20:XT:41:ILE:HG22	20:XT:91:LEU:CD1	2.06	0.86
27:RD:43:ARG:NH1	27:RD:44:ASN:OD1	2.08	0.85
1:XA:27:G:H4'	4:XD:209:ARG:HG3	1.57	0.85
25:YA:1826:G:H4'	27:YD:242:ARG:HH21	1.41	0.85
28:RE:61:ARG:O	28:RE:63:LEU:HG	1.77	0.85
36:YQ:75:THR:HA	36:YQ:88:GLY:O	1.76	0.85
28:RE:14:ILE:HD11	39:RT:14:TYR:HH	1.41	0.85
38:YS:106:ARG:HB2	38:YS:106:ARG:HH11	1.40	0.85
36:RQ:75:THR:HA	36:RQ:88:GLY:O	1.76	0.85
20:XT:41:ILE:HG22	20:XT:91:LEU:HD12	1.57	0.85
25:YA:498:G:N3	44:YY:47:LYS:NZ	2.24	0.85
45:YZ:151:HIS:HB3	45:YZ:170:THR:HA	1.59	0.85
10:XJ:55:LYS:HE3	10:XJ:56:HIS:HE2	1.38	0.85
51:R5:39:MET:O	51:R5:40:LYS:HG3	1.77	0.85
10:XJ:55:LYS:HE3	10:XJ:56:HIS:NE2	1.90	0.85
31:YH:89:ILE:HD11	31:YH:129:THR:HB	1.59	0.85
28:RE:81:ILE:O	28:RE:82:ARG:HB2	1.75	0.85
29:YF:82:ILE:HG13	29:YF:82:ILE:O	1.73	0.85
42:YW:18:ARG:HG3	42:YW:76:VAL:HG13	1.58	0.85
1:QA:1346:A:H5"	9:QI:120:ARG:HH12	1.39	0.85
28:RE:95:ILE:HD12	28:RE:95:ILE:H	1.41	0.85
31:RH:89:ILE:HD11	31:RH:129:THR:HB	1.58	0.85
38:YS:83:LYS:HG2	38:YS:109:GLY:CA	2.07	0.85
28:RE:24:THR:HG21	28:RE:188:VAL:HG11	1.59	0.84
45:RZ:111:VAL:HG22	45:RZ:112:ARG:H	1.39	0.84
27:YD:17:THR:HG22	27:YD:205:VAL:H	1.41	0.84
27:YD:28:GLU:HB2	27:YD:29:PRO:HD2	1.56	0.84
31:RH:127:GLU:HG2	31:RH:128:PRO:HD3	0.86	0.84
54:R8:59:LYS:NZ	54:R8:59:LYS:CB	2.40	0.84
28:YE:95:ILE:H	28:YE:95:ILE:HD12	1.41	0.84
31:YH:54:ARG:NH1	31:YH:62:LYS:HG2	1.92	0.84
30:RG:67:LYS:CE	50:R4:6:HIS:NE2	2.39	0.84
44:RY:79:CYS:SG	44:RY:80:GLY:N	2.45	0.84
25:YA:49:A:N7	25:YA:120:U:C5	2.45	0.84
38:YS:106:ARG:HA	38:YS:110:LEU:CD1	2.08	0.84
28:YE:61:ARG:O	28:YE:63:LEU:HG	1.77	0.84
29:YF:53:THR:HG23	29:YF:56:GLU:OE1	1.77	0.84
35:YP:59:LEU:O	54:Y8:13:ARG:NH1	2.09	0.84
2:QB:80:ILE:HD11	2:QB:208:ILE:HG23	1.58	0.84
25:RA:2287:A:H62	25:RA:2344:U:H3	0.85	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:81:ILE:O	28:YE:82:ARG:HB2	1.75	0.84
39:YT:26:ASP:HB3	39:YT:92:GLY:H	1.42	0.84
32:RI:53:ALA:O	32:RI:57:ARG:CG	2.25	0.84
36:YQ:30:GLY:HA2	36:YQ:107:ALA:HB2	1.60	0.84
25:YA:1359:A:N6	25:YA:1372:U:C4	2.46	0.84
1:XA:954:G:H4'	13:XM:121:LYS:HG3	1.58	0.84
38:YS:89:ARG:HD2	38:YS:92:TYR:O	1.78	0.84
31:RH:54:ARG:NH1	31:RH:62:LYS:HG2	1.92	0.83
31:RH:105:LEU:HD13	31:RH:105:LEU:H	1.42	0.83
35:RP:126:VAL:HG12	35:RP:147:LEU:HD21	1.59	0.83
22:XV:5:G:H1	22:XV:67:C:H42	1.24	0.83
29:YF:32:LEU:HD13	29:YF:105:VAL:HG13	1.59	0.83
31:YH:13:LYS:HE2	31:YH:13:LYS:HA	1.60	0.83
25:RA:676:A:H8	25:RA:2069:G:H21	1.25	0.83
12:QL:38:THR:HG23	12:QL:39:VAL:HG23	1.60	0.83
30:YG:27:ASN:HB3	30:YG:30:GLU:HG3	1.60	0.83
50:Y4:18:CYS:CB	50:Y4:39:CYS:HB3	2.08	0.83
51:R5:40:LYS:HD3	51:R5:46:CYS:HB3	1.60	0.83
53:R7:9:ARG:NH2	53:R7:48:LYS:HD2	1.93	0.83
40:YU:88:ILE:HG22	40:YU:90:VAL:HG23	1.60	0.83
28:RE:35:GLN:HG2	28:RE:37:ARG:HE	1.44	0.83
28:YE:7:VAL:HG23	28:YE:8:LYS:H	1.44	0.83
25:RA:2128:C:H42	25:RA:2160:G:H1	1.26	0.83
1:XA:954:G:N2	1:XA:1227:A:H62	1.77	0.83
1:QA:13:U:C4	1:QA:20:U:O4	2.32	0.83
25:RA:996:A:H4'	40:RU:92:ARG:HE	1.42	0.82
25:YA:241:A:H4'	25:YA:242:G:H5'	1.61	0.82
27:YD:25:THR:CG2	27:YD:82:ILE:H	1.93	0.82
28:RE:15:PHE:CE1	28:RE:20:ALA:HB2	2.14	0.82
36:RQ:30:GLY:HA2	36:RQ:107:ALA:HB2	1.60	0.82
12:XL:38:THR:HG23	12:XL:39:VAL:HG23	1.60	0.82
28:YE:15:PHE:CE1	28:YE:20:ALA:HB2	2.14	0.82
31:YH:153:LYS:HG2	31:YH:162:ILE:HG13	1.61	0.82
48:Y2:16:LEU:HG	48:Y2:16:LEU:O	1.78	0.82
44:RY:29:GLU:HB3	44:RY:38:ILE:HG12	1.61	0.82
31:YH:105:LEU:HD13	31:YH:105:LEU:H	1.42	0.82
45:YZ:182:LYS:CG	45:YZ:183:LEU:HA	2.08	0.82
1:QA:448:A:OP2	1:QA:485:G:N2	2.12	0.82
38:YS:19:LYS:O	38:YS:20:ARG:HB3	1.80	0.82
28:RE:7:VAL:HG23	28:RE:8:LYS:H	1.44	0.82
54:R8:59:LYS:HB2	54:R8:59:LYS:HZ2	1.44	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y1:7:ILE:HD12	47:Y1:62:VAL:HG11	1.62	0.82
10:QJ:50:ILE:HD12	10:QJ:57:LYS:CG	2.09	0.82
27:YD:35:LYS:NZ	27:YD:104:TYR:HB2	1.93	0.82
37:RR:33:ARG:NH2	51:R5:55:ARG:HG2	1.95	0.82
25:YA:483:A:H4'	44:YY:49:VAL:HA	1.59	0.81
1:QA:1086:U:H3	1:QA:1099:G:H22	1.23	0.81
12:QL:86:ARG:HB2	12:QL:101:VAL:HG22	1.62	0.81
31:RH:132:ARG:HB2	31:RH:132:ARG:NH1	1.95	0.81
36:RQ:90:VAL:HG13	36:RQ:91:GLU:N	1.95	0.81
50:R4:33:VAL:HG12	50:R4:34:GLU:H	1.44	0.81
38:YS:88:ASP:O	38:YS:89:ARG:HB3	1.78	0.81
31:RH:8:PRO:C	31:RH:9:ILE:HG12	2.00	0.81
31:RH:153:LYS:HG2	31:RH:162:ILE:HG13	1.61	0.81
51:Y5:16:ARG:NH1	51:Y5:17:ASP:OD1	2.13	0.81
31:RH:152:ARG:O	31:RH:153:LYS:HB2	1.80	0.81
28:YE:24:THR:HG21	28:YE:188:VAL:HG11	1.59	0.81
36:YQ:90:VAL:HG13	36:YQ:91:GLU:N	1.95	0.81
25:RA:2135:A:H62	25:RA:2156:G:H21	0.85	0.81
31:YH:10:PRO:O	31:YH:11:VAL:HG13	1.80	0.81
48:Y2:43:GLN:O	48:Y2:44:LEU:HG	1.81	0.81
54:Y8:59:LYS:NZ	54:Y8:59:LYS:CB	2.39	0.81
25:RA:662:G:OP1	35:RP:15:ARG:NH1	2.14	0.81
28:RE:3:GLY:O	28:RE:4:ILE:HB	1.81	0.81
30:RG:3:LEU:HD11	50:R4:25:TYR:HE1	1.45	0.81
25:YA:1689:A:H62	25:YA:1698:A:H2	1.29	0.81
28:YE:50:GLY:CA	28:YE:77:ILE:HA	2.10	0.81
31:YH:8:PRO:C	31:YH:9:ILE:HG12	2.00	0.81
38:YS:36:TYR:HD2	38:YS:52:SER:HB3	1.46	0.81
13:QM:14:ARG:H	13:QM:44:ARG:HD3	1.45	0.81
25:RA:2056:G:N2	51:R5:4:HIS:O	2.13	0.81
31:RH:26:VAL:HG13	31:RH:27:LYS:N	1.96	0.81
28:YE:116:VAL:HG21	28:YE:122:PHE:CD2	2.16	0.81
5:QE:50:GLU:HB3	5:QE:53:LEU:HD13	1.61	0.81
31:RH:13:LYS:HE2	31:RH:13:LYS:HA	1.60	0.81
54:R8:52:LYS:N	54:R8:53:PRO:CD	2.43	0.81
28:RE:52:LEU:HB2	28:RE:75:VAL:HG23	1.62	0.80
28:RE:116:VAL:HG21	28:RE:122:PHE:CD2	2.16	0.80
1:XA:1086:U:H3	1:XA:1099:G:H22	1.29	0.80
29:YF:155:LEU:HD13	29:YF:174:VAL:HG13	1.62	0.80
2:XB:69:LEU:HB3	2:XB:162:ILE:HG22	1.62	0.80
31:YH:152:ARG:O	31:YH:153:LYS:HB2	1.79	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:R5:4:HIS:HB3	51:R5:5:PRO:CD	2.11	0.80
27:YD:27:THR:HG23	27:YD:28:GLU:N	1.96	0.80
1:QA:8:A:N6	4:QD:205:GLU:O	2.14	0.80
25:YA:888:C:H3'	25:YA:889:C:H4'	1.62	0.80
25:YA:1728:G:N1	25:YA:1730:U:OP2	2.14	0.80
36:YQ:80:GLU:O	36:YQ:81:VAL:CG1	2.30	0.80
50:Y4:37:SER:CA	50:Y4:41:PRO:HG2	2.11	0.80
25:RA:617:G:OP1	29:RF:40:GLN:NE2	2.12	0.80
28:RE:50:GLY:CA	28:RE:77:ILE:HA	2.10	0.80
33:RN:42:TRP:O	40:RU:64:ARG:NH2	2.15	0.80
39:RT:24:PRO:HA	39:RT:49:VAL:HG13	1.61	0.80
28:YE:3:GLY:O	28:YE:4:ILE:HB	1.81	0.80
28:YE:52:LEU:HB2	28:YE:75:VAL:HG23	1.61	0.80
38:YS:106:ARG:CA	38:YS:110:LEU:HD21	2.10	0.80
28:RE:201:THR:CG2	28:RE:203:LYS:HB3	2.12	0.80
25:YA:819:A:OP2	25:YA:1187:G:N2	2.13	0.80
1:QA:1028:C:N4	1:QA:1033:G:H1	1.79	0.80
13:QM:3:ARG:HA	13:QM:9:ILE:HG21	1.62	0.80
25:RA:2810:A:O3'	28:RE:61:ARG:HG3	1.80	0.80
25:RA:2839:G:H5'	37:RR:46:GLY:HA2	1.64	0.80
28:YE:35:GLN:HG2	28:YE:37:ARG:HE	1.44	0.80
28:YE:201:THR:CG2	28:YE:203:LYS:HB3	2.12	0.80
25:RA:873:G:H1	25:RA:904:C:H42	1.28	0.80
25:RA:1169:G:H1	25:RA:1180:C:H42	0.84	0.80
12:XL:86:ARG:HB2	12:XL:101:VAL:HG22	1.62	0.80
29:YF:198:ALA:HA	29:YF:201:VAL:HG12	1.62	0.80
44:YY:76:CYS:SG	44:YY:77:PRO:HD2	2.22	0.80
20:XT:84:LEU:O	20:XT:88:VAL:HG23	1.82	0.80
54:Y8:52:LYS:N	54:Y8:53:PRO:CD	2.43	0.80
25:RA:1064:C:N4	25:RA:1074:G:H1	1.80	0.79
25:RA:2849:U:OP1	39:RT:95:ARG:NH1	2.15	0.79
1:XA:1002:G:H1	1:XA:1038:C:N4	1.79	0.79
27:YD:68:LYS:HB2	27:YD:70:TRP:CH2	2.17	0.79
27:YD:121:PRO:HB3	27:YD:135:PHE:HE2	1.47	0.79
31:YH:26:VAL:HG13	31:YH:27:LYS:N	1.96	0.79
33:YN:63:THR:HG23	33:YN:66:LYS:NZ	1.97	0.79
50:Y4:37:SER:HB3	50:Y4:41:PRO:O	1.83	0.79
11:QK:21:ILE:HB	11:QK:84:VAL:HG12	1.65	0.79
25:RA:301:G:H1	25:RA:316:C:H42	1.29	0.79
28:RE:137:HIS:HB3	28:RE:138:PRO:HD2	1.65	0.79
25:YA:155:C:H42	25:YA:171:G:H1	0.81	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YS:111:GLU:OE1	38:YS:111:GLU:HA	1.80	0.79
25:RA:1754:C:H5"	39:RT:113:LYS:HE3	1.64	0.79
36:RQ:81:VAL:O	36:RQ:82:ARG:CG	2.31	0.79
1:XA:538:G:H5"	12:XL:114:LYS:HB2	1.63	0.79
13:XM:65:LYS:HD3	13:XM:69:GLU:HG3	1.63	0.79
25:YA:780:G:H21	25:YA:783:A:H62	1.29	0.79
27:YD:34:VAL:O	27:YD:34:VAL:HG13	1.81	0.79
31:YH:126:PRO:CG	31:YH:127:GLU:H	1.95	0.79
31:YH:169:VAL:HG22	31:YH:170:ARG:H	1.48	0.79
43:YX:67:GLY:O	43:YX:69:TYR:N	2.15	0.79
31:RH:10:PRO:O	31:RH:11:VAL:HG13	1.80	0.79
3:XC:32:LEU:HD13	3:XC:59:ARG:HD3	1.64	0.79
36:YQ:81:VAL:O	36:YQ:82:ARG:CG	2.31	0.79
1:QA:1298:C:OP2	7:QG:114:ARG:NH2	2.15	0.79
25:RA:67:U:H3	25:RA:74:A:H2	1.31	0.79
25:RA:847:U:C4	25:RA:933:A:N1	2.51	0.79
31:RH:126:PRO:CG	31:RH:127:GLU:H	1.96	0.79
27:YD:17:THR:CG2	27:YD:205:VAL:H	1.96	0.79
37:RR:104:ARG:HD2	37:RR:111:LEU:HD21	1.63	0.79
28:YE:24:THR:HG21	28:YE:188:VAL:CG1	2.13	0.79
4:QD:166:LYS:HD3	27:YD:134:ARG:NH1	1.97	0.79
20:QT:100:ILE:HG13	20:QT:102:GLY:H	1.48	0.79
25:RA:1980:G:O2'	25:RA:1982:C:OP2	2.00	0.79
25:RA:2107:C:H42	25:RA:2182:G:H1	1.28	0.79
28:RE:111:ARG:HE	28:RE:160:TYR:HE1	1.31	0.79
31:RH:86:GLU:CG	31:RH:165:ALA:H	1.94	0.79
48:R2:46:GLN:O	48:R2:47:ASN:HB2	1.80	0.79
1:XA:1130:A:O2'	9:XI:3:GLN:NE2	2.15	0.79
25:YA:1338:G:N7	43:YX:62:LYS:NZ	2.31	0.79
25:YA:1533:C:N4	25:YA:1538:G:H1	1.80	0.79
25:YA:2747:G:OP1	31:YH:138:LYS:NZ	2.15	0.79
50:Y4:38:LYS:N	50:Y4:41:PRO:HD2	1.98	0.79
12:QL:6:THR:N	12:QL:9:GLN:HE21	1.80	0.79
15:QO:26:GLU:OE2	15:QO:77:ARG:NH1	2.16	0.79
25:RA:67:U:N3	25:RA:74:A:C2	2.50	0.79
36:RQ:80:GLU:OE1	46:R0:7:LEU:HB3	1.82	0.79
12:XL:6:THR:N	12:XL:9:GLN:HE21	1.80	0.79
25:RA:847:U:O4	25:RA:933:A:N1	2.15	0.79
31:YH:153:LYS:CG	31:YH:162:ILE:H	1.96	0.79
35:YP:58:THR:O	35:YP:61:ARG:NE	2.15	0.79
35:RP:59:LEU:O	54:R8:13:ARG:NH1	2.15	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:77:ALA:HB2	2:XB:211:ILE:HD13	1.64	0.78
31:YH:86:GLU:CG	31:YH:165:ALA:H	1.94	0.78
3:XC:59:ARG:HH12	3:XC:97:LYS:HE3	1.48	0.78
36:YQ:59:ARG:H	36:YQ:59:ARG:HD3	1.48	0.78
36:RQ:119:ARG:HG2	36:RQ:119:ARG:HH11	1.48	0.78
20:XT:50:GLU:HG3	20:XT:51:GLU:H	1.49	0.78
25:YA:265:A:N6	25:YA:427:U:O2'	2.16	0.78
27:YD:27:THR:HG21	27:YD:83:GLU:HB3	1.63	0.78
28:YE:137:HIS:HB3	28:YE:138:PRO:HD2	1.64	0.78
45:YZ:181:GLU:HG2	45:YZ:183:LEU:HG	1.65	0.78
25:RA:2580:U:H4'	28:RE:130:GLY:HA3	1.65	0.78
33:RN:95:PRO:O	33:RN:97:ARG:N	2.15	0.78
35:YP:62:LEU:HD21	54:Y8:25:MET:HB2	1.65	0.78
51:Y5:49:CYS:SG	51:Y5:60:VAL:N	2.52	0.78
11:QK:99:GLN:HG2	11:QK:105:VAL:HG21	1.65	0.78
25:RA:2293:C:H5"	38:RS:89:ARG:HH12	1.47	0.78
36:RQ:80:GLU:O	36:RQ:81:VAL:CG1	2.30	0.78
10:QJ:50:ILE:HA	10:QJ:60:ARG:HG2	1.66	0.78
25:RA:2729:G:H1'	28:RE:187:ALA:HB2	1.64	0.78
36:RQ:20:ALA:HB1	36:RQ:99:PRO:HB2	1.65	0.78
25:YA:83:G:N2	25:YA:103:A:OP2	2.17	0.78
31:YH:132:ARG:HB2	31:YH:132:ARG:NH1	1.94	0.78
31:YH:150:ALA:O	31:YH:152:ARG:N	2.14	0.78
25:RA:49:A:N7	25:RA:120:U:C4	2.52	0.78
31:RH:153:LYS:CG	31:RH:162:ILE:H	1.96	0.78
1:XA:954:G:H21	1:XA:1227:A:N6	1.82	0.78
27:YD:94:LEU:HD22	27:YD:95:LEU:N	1.98	0.78
1:QA:677:U:H3	1:QA:713:G:H22	1.27	0.78
30:RG:3:LEU:CD2	50:R4:25:TYR:CE1	2.67	0.78
50:R4:22:ILE:O	50:R4:24:THR:HG23	1.84	0.78
27:YD:34:VAL:HG21	27:YD:103:ARG:HA	1.66	0.78
27:YD:54:ARG:HG3	27:YD:54:ARG:NH1	1.98	0.78
27:RD:69:ARG:NH2	27:RD:128:GLY:O	2.17	0.78
28:RE:24:THR:HG21	28:RE:188:VAL:CG1	2.13	0.78
1:XA:201:C:N4	1:XA:216:G:H1	1.81	0.78
19:XS:42:PRO:HD3	50:Y4:63:TYR:CE1	2.19	0.78
22:XV:73:A:H5"	22:XV:74:C:C5'	2.13	0.78
25:YA:2680:C:H5'	28:YE:189:PRO:HA	1.66	0.78
28:YE:4:ILE:HD12	28:YE:28:ALA:HB1	1.66	0.78
33:YN:7:LYS:HD2	33:YN:7:LYS:N	1.94	0.78
34:YO:88:ASN:HD21	34:YO:92:GLU:HB2	1.47	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:Y4:1:MET:SD	50:Y4:6:HIS:NE2	2.56	0.78
28:RE:4:ILE:HD12	28:RE:28:ALA:HB1	1.67	0.77
3:XC:20:SER:HB2	3:XC:40:ARG:HH22	1.50	0.77
10:XJ:57:LYS:HD2	10:XJ:60:ARG:NH2	1.99	0.77
13:XM:14:ARG:H	13:XM:44:ARG:HD3	1.49	0.77
27:YD:25:THR:HG22	27:YD:82:ILE:H	1.46	0.77
29:YF:145:GLU:HG3	29:YF:145:GLU:O	1.81	0.77
33:YN:63:THR:CG2	33:YN:66:LYS:NZ	2.47	0.77
3:XC:162:GLN:HA	3:XC:162:GLN:HE21	1.46	0.77
25:YA:222:A:H3'	25:YA:421:U:H5'	1.66	0.77
31:YH:152:ARG:HG3	31:YH:153:LYS:CE	2.13	0.77
29:YF:11:VAL:HB	29:YF:18:ARG:HG3	1.64	0.77
10:QJ:50:ILE:CD1	10:QJ:57:LYS:CD	2.63	0.77
10:QJ:50:ILE:CD1	10:QJ:57:LYS:CG	2.62	0.77
25:YA:2068:U:H3	25:YA:2430:A:H2	1.30	0.77
29:YF:20:LEU:HD12	29:YF:21:ALA:H	1.49	0.77
38:YS:106:ARG:HA	38:YS:110:LEU:HD21	1.64	0.77
50:R4:58:ARG:O	50:R4:63:TYR:HB2	1.84	0.77
25:YA:1247:A:OP2	35:YP:15:ARG:NH1	2.18	0.77
31:RH:150:ALA:O	31:RH:152:ARG:N	2.14	0.77
27:YD:44:ASN:HD22	27:YD:44:ASN:N	1.79	0.77
36:YQ:119:ARG:HG2	36:YQ:119:ARG:HH11	1.48	0.77
25:YA:847:U:C4	25:YA:933:A:N1	2.53	0.77
33:YN:95:PRO:O	33:YN:97:ARG:N	2.18	0.77
31:RH:153:LYS:HA	31:RH:153:LYS:NZ	1.99	0.77
36:RQ:20:ALA:CB	36:RQ:99:PRO:HD2	2.14	0.77
36:RQ:66:ILE:HG13	36:RQ:67:ARG:N	1.99	0.77
50:R4:1:MET:HB2	50:R4:6:HIS:NE2	2.00	0.77
27:YD:25:THR:O	27:YD:27:THR:N	2.17	0.77
29:YF:183:VAL:O	29:YF:187:VAL:HG23	1.85	0.77
54:Y8:59:LYS:CB	54:Y8:59:LYS:HZ3	1.96	0.77
27:YD:153:ALA:O	27:YD:154:LYS:HG3	1.85	0.77
36:YQ:59:ARG:H	36:YQ:59:ARG:CD	1.98	0.77
32:YI:144:VAL:O	32:YI:145:VAL:CG2	2.33	0.76
36:YQ:20:ALA:CB	36:YQ:99:PRO:HD2	2.15	0.76
25:RA:1754:C:OP1	39:RT:96:ARG:NH1	2.17	0.76
36:RQ:90:VAL:HG13	36:RQ:91:GLU:H	1.49	0.76
16:XP:45:THR:HG22	16:XP:47:ASP:H	1.50	0.76
31:YH:153:LYS:HA	31:YH:153:LYS:NZ	2.00	0.76
36:YQ:20:ALA:HB1	36:YQ:99:PRO:HB2	1.65	0.76
36:YQ:66:ILE:HG13	36:YQ:67:ARG:N	1.99	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YS:60:GLY:O	38:YS:61:ASN:HB3	1.83	0.76
1:QA:954:G:H21	1:QA:1227:A:H62	1.32	0.76
25:RA:1264:G:H5'	51:R5:11:THR:HG21	1.66	0.76
25:YA:1899:G:H21	25:YA:1902:C:N4	1.83	0.76
28:YE:111:ARG:HE	28:YE:160:TYR:HE1	1.31	0.76
36:YQ:60:ARG:NH1	45:YZ:114:GLY:H	1.83	0.76
1:QA:49:U:C5	1:QA:365:U:O4	2.38	0.76
1:XA:975:A:HO2'	14:XN:32:SER:HG	1.31	0.76
25:YA:2211:G:H21	25:YA:2212:A:H2	1.31	0.76
29:YF:29:ASN:H	29:YF:112:MET:CE	1.97	0.76
25:YA:2633:G:H1'	28:YE:62:PRO:HG2	1.65	0.76
29:YF:101:LEU:CD1	29:YF:102:PRO:HD2	2.11	0.76
33:YN:63:THR:CG2	33:YN:66:LYS:HZ2	1.99	0.76
35:YP:61:ARG:HD2	54:Y8:13:ARG:CD	2.16	0.76
19:QS:42:PRO:CG	50:R4:63:TYR:CE2	2.66	0.76
37:RR:3:HIS:O	37:RR:5:LYS:N	2.19	0.76
20:XT:50:GLU:HG3	20:XT:51:GLU:N	2.01	0.76
37:YR:74:LYS:O	37:YR:76:VAL:N	2.18	0.76
31:RH:169:VAL:HG22	31:RH:170:ARG:H	1.48	0.76
38:RS:62:LYS:HB3	38:RS:97:ARG:HD3	1.66	0.76
45:RZ:94:GLU:HB2	45:RZ:130:PRO:HD2	1.68	0.76
51:R5:47:PRO:O	51:R5:48:GLU:HG3	1.86	0.76
36:YQ:90:VAL:HG13	36:YQ:91:GLU:H	1.49	0.76
3:QC:23:TYR:CD1	10:QJ:10:GLY:HA2	2.21	0.76
25:RA:1071:G:O6	25:RA:1091:G:O6	2.04	0.76
28:YE:23:VAL:HG21	28:YE:183:LEU:HD23	1.68	0.76
29:YF:29:ASN:HB3	29:YF:112:MET:HE1	1.68	0.76
50:Y4:37:SER:CA	50:Y4:41:PRO:HD2	2.15	0.76
51:R5:40:LYS:CD	51:R5:46:CYS:HB3	2.15	0.75
1:XA:1443:G:N2	25:YA:2864:G:OP1	2.18	0.75
27:YD:69:ARG:HH21	27:YD:130:ALA:CB	1.99	0.75
28:YE:63:LEU:CD1	28:YE:65:GLY:H	1.99	0.75
31:RH:152:ARG:HG3	31:RH:153:LYS:CE	2.13	0.75
50:R4:71:ARG:HG3	50:R4:71:ARG:NH1	1.90	0.75
28:YE:36:ARG:HH21	28:YE:88:GLY:HA2	1.51	0.75
25:RA:71:A:H2	43:RX:31:HIS:HE2	1.33	0.75
32:RI:54:GLN:O	32:RI:58:LEU:CB	2.34	0.75
31:YH:125:VAL:HA	31:YH:126:PRO:HB3	1.69	0.75
28:RE:14:ILE:HD11	39:RT:14:TYR:CZ	2.21	0.75
31:RH:150:ALA:C	31:RH:152:ARG:H	1.88	0.75
44:RY:95:LYS:HB3	44:RY:100:ALA:HA	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:142:VAL:HG23	27:YD:193:VAL:HA	1.66	0.75
39:YT:27:THR:HG23	39:YT:90:GLN:HB3	1.67	0.75
54:Y8:59:LYS:HB2	54:Y8:59:LYS:HZ2	1.49	0.75
25:RA:2815:C:H5'	51:R5:29:THR:HG21	1.69	0.75
28:RE:63:LEU:CD1	28:RE:65:GLY:H	1.99	0.75
30:RG:67:LYS:HG2	50:R4:5:ILE:O	1.86	0.75
44:RY:87:LYS:HD3	44:RY:92:ASN:HB3	1.69	0.75
50:R4:34:GLU:HG3	50:R4:35:VAL:H	1.51	0.75
25:YA:571:A:H5'	25:YA:2030:A:H62	1.52	0.75
37:RR:56:LYS:NZ	37:RR:90:ARG:O	2.20	0.75
52:R6:41:PRO:HG2	52:R6:45:LYS:H	1.52	0.75
27:YD:146:GLU:HB2	27:YD:189:CYS:HB3	1.67	0.75
19:QS:69:HIS:ND1	50:R4:69:LYS:CE	2.47	0.75
28:RE:36:ARG:HH21	28:RE:88:GLY:HA2	1.51	0.75
29:RF:113:ALA:HB1	29:RF:186:ILE:HG21	1.68	0.75
25:YA:1169:G:H1	25:YA:1180:C:N4	1.85	0.75
29:YF:7:TYR:HB3	29:YF:21:ALA:CB	2.16	0.75
32:YI:144:VAL:HG13	32:YI:145:VAL:HG13	1.68	0.75
25:RA:2807:G:N1	25:RA:2893:G:O6	2.19	0.75
31:RH:153:LYS:HG2	31:RH:162:ILE:H	1.52	0.75
37:RR:74:LYS:O	37:RR:76:VAL:N	2.18	0.75
31:YH:150:ALA:C	31:YH:152:ARG:H	1.88	0.75
41:YV:24:LYS:HA	41:YV:92:THR:HG23	1.68	0.75
28:YE:61:ARG:HB2	28:YE:62:PRO:HD3	1.69	0.74
25:RA:27:G:N2	25:RA:513:A:OP2	2.20	0.74
25:RA:1048:A:H2	25:RA:1112:G:H21	1.34	0.74
30:RG:5:VAL:HG22	50:R4:25:TYR:CD2	2.21	0.74
32:RI:93:THR:HG22	32:RI:119:PRO:HB3	1.68	0.74
32:RI:98:ALA:HB2	32:RI:111:PRO:HB3	1.69	0.74
44:RY:86:ARG:HB2	44:RY:95:LYS:HD2	1.69	0.74
53:R7:9:ARG:HH21	53:R7:48:LYS:CD	1.99	0.74
33:YN:13:TRP:HB2	33:YN:133:GLN:HG3	1.69	0.74
25:RA:141:A:H8	25:RA:1595:G:H21	1.33	0.74
25:RA:622:G:OP2	35:RP:108:LYS:NZ	2.18	0.74
27:YD:30:GLU:HG3	27:YD:63:ARG:CZ	2.17	0.74
5:QE:69:VAL:HG12	5:QE:71:LEU:HD23	1.70	0.74
25:RA:957:A:H5'	36:RQ:76:LYS:HD2	1.70	0.74
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.21	0.74
25:YA:662:G:OP1	35:YP:15:ARG:NH2	2.19	0.74
29:YF:136:THR:HG22	29:YF:166:ALA:O	1.87	0.74
28:RE:10:GLY:HA3	39:RT:8:LYS:HD2	1.67	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2655:G:N2	25:YA:2665:A:OP2	2.20	0.74
45:YZ:103:ARG:HB2	45:YZ:138:GLU:HG2	1.69	0.74
8:QH:29:SER:HB3	8:QH:32:LYS:HG3	1.69	0.74
25:YA:270(T):G:H5"	47:Y1:97:LEU:HD22	1.68	0.74
30:YG:161:THR:HG22	30:YG:163:ALA:H	1.53	0.74
31:YH:153:LYS:HG2	31:YH:162:ILE:H	1.52	0.74
36:YQ:79:LEU:O	36:YQ:79:LEU:CD2	2.36	0.74
38:YS:36:TYR:CD2	38:YS:52:SER:HB3	2.23	0.74
39:YT:51:ARG:HG2	39:YT:98:LYS:HG3	1.70	0.74
19:QS:69:HIS:CE1	50:R4:69:LYS:CE	2.69	0.74
28:RE:201:THR:HG22	28:RE:203:LYS:HB3	1.70	0.74
37:RR:33:ARG:HH22	51:R5:55:ARG:HG2	1.52	0.74
5:XE:100:VAL:HG22	5:XE:118:ILE:HG22	1.69	0.74
25:YA:943:U:OP2	35:YP:36:LYS:NZ	2.20	0.74
29:YF:129:PHE:HA	29:YF:142:TRP:NE1	2.02	0.74
1:QA:346:G:OP1	39:RT:41:ARG:NH2	2.20	0.74
1:QA:1252:A:H61	1:QA:1285:A:H61	1.36	0.74
13:QM:121:LYS:HE2	13:QM:121:LYS:HA	1.68	0.74
25:RA:74:A:H4'	25:RA:75:G:O5'	1.88	0.74
25:YA:2849:U:O4	39:YT:23:ARG:NH2	2.20	0.74
27:YD:54:ARG:HG3	27:YD:54:ARG:HH11	1.49	0.74
28:YE:78:LEU:HG	28:YE:79:ARG:NE	2.03	0.74
30:RG:34:LEU:HB2	30:RG:172:LEU:HD21	1.69	0.74
36:RQ:79:LEU:O	36:RQ:79:LEU:CD1	2.35	0.74
3:XC:162:GLN:HA	3:XC:162:GLN:NE2	2.03	0.74
25:RA:1169:G:N2	25:RA:1180:C:N3	2.30	0.74
50:R4:41:PRO:O	50:R4:42:PHE:HB3	1.87	0.74
10:XJ:50:ILE:HD12	10:XJ:57:LYS:HG2	1.68	0.74
25:RA:884:C:O2	25:RA:892:G:N1	2.21	0.73
25:RA:1649:G:O2'	37:RR:107:ASP:OD2	2.06	0.73
25:YA:252:G:OP2	35:YP:50:ARG:NH1	2.21	0.73
31:YH:153:LYS:HG3	31:YH:161:GLY:CA	2.18	0.73
38:YS:62:LYS:HB3	38:YS:97:ARG:HD3	1.68	0.73
43:YX:27:THR:HB	43:YX:80:ILE:HB	1.69	0.73
28:RE:61:ARG:HB2	28:RE:62:PRO:HD3	1.69	0.73
27:YD:131:LEU:HB2	27:YD:136:ILE:CD1	2.17	0.73
5:QE:101:ILE:HD13	5:QE:101:ILE:N	2.03	0.73
28:RE:203:LYS:HD2	28:RE:203:LYS:O	1.88	0.73
25:YA:2287:A:H62	25:YA:2344:U:H3	1.36	0.73
50:Y4:9:LEU:H	50:Y4:27:THR:HG23	1.53	0.73
25:RA:1332:G:H21	25:RA:1610:A:H8	1.37	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:77:ILE:HD12	28:RE:78:LEU:H	1.52	0.73
36:RQ:79:LEU:HD12	46:R0:5:LYS:HD3	1.69	0.73
25:RA:270(T):G:H5"	47:R1:97:LEU:HD22	1.69	0.73
28:RE:23:VAL:HG21	28:RE:183:LEU:HD23	1.68	0.73
31:RH:84:SER:O	31:RH:85:LYS:HB2	1.89	0.73
31:RH:153:LYS:HG3	31:RH:161:GLY:CA	2.18	0.73
32:RI:4:ILE:HD11	32:RI:44:LEU:HD12	1.69	0.73
39:RT:36:GLU:HG3	39:RT:41:ARG:HD3	1.70	0.73
1:QA:1002:G:H1	1:QA:1038:C:N4	1.85	0.73
36:YQ:79:LEU:O	36:YQ:79:LEU:CD1	2.35	0.73
51:Y5:56:LYS:HG2	51:Y5:58:LEU:HB3	1.70	0.73
54:Y8:61:LEU:O	54:Y8:62:LEU:HB2	1.88	0.73
3:QC:58:GLU:HB2	3:QC:65:ALA:HB3	1.70	0.73
4:XD:7:PRO:HB2	4:XD:10:ARG:HD2	1.69	0.73
25:YA:855:G:O2'	46:Y0:27:GLU:OE2	2.07	0.73
48:Y2:29:LYS:HD3	48:Y2:57:ILE:HD13	1.71	0.73
28:YE:55:ASN:C	28:YE:57:LYS:H	1.91	0.73
30:RG:6:ALA:HB2	50:R4:23:GLU:OE2	1.88	0.73
27:YD:77:ALA:CB	27:YD:97:TYR:HA	2.18	0.73
28:YE:77:ILE:HD12	28:YE:78:LEU:H	1.52	0.73
36:RQ:90:VAL:CG1	36:RQ:91:GLU:H	2.02	0.73
1:XA:31:G:O2'	1:XA:48:C:N4	2.21	0.73
25:YA:1113:U:OP1	31:YH:2:SER:N	2.21	0.73
25:YA:1818:U:H2'	27:YD:157:ARG:HG3	1.71	0.73
25:YA:2810:A:O3'	28:YE:61:ARG:HG3	1.88	0.73
28:YE:15:PHE:CE1	39:YT:81:PRO:HD2	2.24	0.73
28:YE:203:LYS:HD2	28:YE:203:LYS:O	1.88	0.73
30:YG:64:THR:HG23	30:YG:66:GLN:H	1.54	0.73
30:YG:112:PRO:HB3	50:Y4:37:SER:HB2	1.70	0.73
50:Y4:18:CYS:SG	50:Y4:19:GLY:N	2.62	0.73
3:QC:20:SER:HB2	3:QC:40:ARG:HH22	1.54	0.72
45:RZ:19:ARG:NH1	45:RZ:84:GLU:O	2.22	0.72
27:YD:35:LYS:HZ1	27:YD:65:ILE:HA	1.52	0.72
1:QA:1318:A:H4'	19:QS:11:VAL:HG11	1.70	0.72
10:QJ:55:LYS:HG3	10:QJ:56:HIS:N	2.04	0.72
25:RA:1385:G:O2'	25:RA:1396:U:O2	2.07	0.72
28:RE:55:ASN:C	28:RE:57:LYS:H	1.91	0.72
28:RE:56:PRO:O	28:RE:57:LYS:HB2	1.89	0.72
30:RG:107:LEU:O	50:R4:38:LYS:HE2	1.88	0.72
31:RH:125:VAL:HA	31:RH:126:PRO:HB3	1.68	0.72
36:YQ:90:VAL:CG1	36:YQ:91:GLU:H	2.02	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:9:VAL:HG13	7:QG:94:ARG:HH21	1.54	0.72
25:RA:2010:G:H5"	42:RW:42:ARG:HB2	1.71	0.72
25:RA:2701:C:H3'	25:RA:2702:U:C5'	2.19	0.72
28:RE:13:ARG:HA	28:RE:22:PRO:HA	1.71	0.72
31:RH:30:LYS:HD2	31:RH:81:GLU:H	1.54	0.72
31:RH:54:ARG:HH12	31:RH:62:LYS:HG2	1.54	0.72
31:RH:80:SER:O	31:RH:81:GLU:HB2	1.89	0.72
25:YA:1607:C:N4	25:YA:1622:G:OP2	2.22	0.72
25:YA:2115:G:N2	25:YA:2165:G:N7	2.37	0.72
28:YE:21:VAL:HB	28:YE:22:PRO:CB	2.18	0.72
31:YH:132:ARG:HH11	31:YH:132:ARG:CB	1.97	0.72
31:YH:152:ARG:O	31:YH:153:LYS:HD2	1.90	0.72
38:YS:26:LEU:HD23	38:YS:26:LEU:O	1.90	0.72
54:Y8:29:LYS:HD3	54:Y8:44:LYS:HB2	1.71	0.72
1:QA:1135:U:H4'	1:QA:1136:U:H5	1.54	0.72
51:R5:40:LYS:CE	51:R5:46:CYS:HB3	2.19	0.72
26:YB:38:C:H42	26:YB:44:G:H1	1.37	0.72
31:YH:54:ARG:HH12	31:YH:62:LYS:HG2	1.54	0.72
31:YH:125:VAL:HG12	31:YH:126:PRO:HG3	1.71	0.72
25:RA:483:A:H4'	44:RY:49:VAL:HA	1.71	0.72
25:RA:997:G:OP1	40:RU:93:LYS:HD3	1.90	0.72
28:RE:78:LEU:HG	28:RE:79:ARG:NE	2.03	0.72
36:RQ:79:LEU:HD22	36:RQ:79:LEU:C	2.07	0.72
1:XA:1305:G:H22	1:XA:1331:G:H2'	1.54	0.72
10:XJ:55:LYS:HG3	10:XJ:56:HIS:N	2.04	0.72
12:XL:126:LYS:HB2	12:XL:126:LYS:NZ	2.04	0.72
20:XT:83:ARG:HA	20:XT:86:ARG:HB3	1.71	0.72
29:YF:124:LEU:HD12	29:YF:125:LEU:N	2.04	0.72
54:Y8:16:ILE:HD11	54:Y8:57:ARG:HG2	1.70	0.72
1:QA:346:G:H1'	1:QA:347:G:H5'	1.70	0.72
28:RE:28:ALA:HB3	28:RE:93:VAL:HG22	1.72	0.72
54:R8:16:ILE:HD11	54:R8:57:ARG:HG2	1.70	0.72
5:XE:10:MET:HB3	5:XE:32:VAL:HG22	1.70	0.72
31:YH:153:LYS:HA	31:YH:153:LYS:HZ3	1.52	0.72
38:YS:83:LYS:C	38:YS:109:GLY:HA3	2.10	0.72
50:Y4:48:ARG:HH12	50:Y4:52:THR:HG22	1.54	0.72
1:QA:1224:G:C6	1:QA:1322:C:H1'	2.24	0.72
12:QL:126:LYS:HB2	12:QL:126:LYS:NZ	2.04	0.72
20:QT:36:LEU:HD12	20:QT:55:ILE:HG23	1.72	0.72
31:RH:89:ILE:CD1	31:RH:129:THR:HB	2.19	0.72
1:XA:1003:G:H1	1:XA:1037:C:H42	1.36	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1204:A:OP1	14:QN:3:ARG:NH2	2.23	0.72
5:QE:78:HIS:CE1	5:QE:142:LEU:HD23	2.24	0.72
17:QQ:4:LYS:HE3	17:QQ:6:LEU:HD21	1.72	0.72
51:R5:58:LEU:CD1	51:R5:60:VAL:HG12	2.19	0.72
29:YF:32:LEU:HD12	29:YF:32:LEU:O	1.90	0.72
25:RA:819:A:OP2	25:RA:1187:G:N2	2.21	0.72
31:RH:26:VAL:CG1	31:RH:27:LYS:H	2.02	0.72
32:RI:3:VAL:HG12	32:RI:38:LEU:HA	1.71	0.72
36:RQ:79:LEU:O	36:RQ:79:LEU:CD2	2.36	0.72
54:R8:61:LEU:O	54:R8:62:LEU:HB2	1.88	0.72
25:YA:1863:G:HO2'	25:YA:2411:A:HO2'	1.37	0.72
28:YE:197:ILE:HD11	28:YE:199:ARG:HH12	1.55	0.72
29:YF:157:VAL:HB	29:YF:194:MET:HB3	1.70	0.72
34:YO:47:ILE:HG13	34:YO:48:PRO:HD2	1.72	0.72
54:Y8:60:LEU:C	54:Y8:63:PRO:HD2	2.10	0.72
28:RE:197:ILE:HD11	28:RE:199:ARG:HH12	1.55	0.72
31:RH:152:ARG:O	31:RH:153:LYS:HD2	1.90	0.72
54:R8:60:LEU:O	54:R8:63:PRO:HD2	1.90	0.72
25:YA:602:G:O2'	25:YA:604:G:O2'	2.06	0.72
25:YA:674:G:H1'	29:YF:74:ARG:HD3	1.72	0.72
28:YE:13:ARG:HA	28:YE:22:PRO:HA	1.71	0.72
28:YE:56:PRO:O	28:YE:57:LYS:HB2	1.89	0.72
29:YF:32:LEU:HD12	29:YF:32:LEU:C	2.10	0.72
31:YH:26:VAL:CG1	31:YH:27:LYS:H	2.02	0.72
28:RE:93:VAL:H	28:RE:95:ILE:HD12	1.54	0.71
28:YE:201:THR:HG22	28:YE:203:LYS:HB3	1.70	0.71
29:YF:9:ILE:HD11	29:YF:125:LEU:HG	1.70	0.71
38:YS:83:LYS:HZ1	38:YS:109:GLY:HA2	1.50	0.71
38:YS:103:GLU:O	38:YS:106:ARG:HG3	1.90	0.71
44:YY:51:VAL:HG13	44:YY:52:SER:H	1.55	0.71
48:Y2:41:ILE:C	48:Y2:41:ILE:HD12	2.10	0.71
53:Y7:9:ARG:HH21	53:Y7:48:LYS:CD	1.99	0.71
1:QA:501:C:OP1	12:QL:117:ARG:NH2	2.23	0.71
28:RE:21:VAL:HB	28:RE:22:PRO:CB	2.18	0.71
38:YS:83:LYS:HG2	38:YS:109:GLY:N	2.04	0.71
48:Y2:27:GLU:OE1	48:Y2:27:GLU:N	2.19	0.71
1:QA:49:U:C4	1:QA:365:U:O4	2.43	0.71
31:RH:125:VAL:HG12	31:RH:126:PRO:HG3	1.70	0.71
25:YA:573:G:N1	25:YA:2031:A:OP2	2.17	0.71
25:YA:1021:A:OP2	33:YN:65:LYS:NZ	2.23	0.71
31:YH:128:PRO:HD2	31:YH:129:THR:H	1.55	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YS:67:ARG:O	38:YS:71:ARG:HG3	1.89	0.71
46:R0:68:GLU:OE1	46:R0:82:ARG:NH1	2.23	0.71
1:XA:448:A:OP2	1:XA:485:G:N2	2.17	0.71
29:YF:185:ASP:HA	29:YF:188:ARG:CD	2.20	0.71
33:YN:89:LYS:O	33:YN:93:THR:HG22	1.90	0.71
36:YQ:79:LEU:HD22	36:YQ:79:LEU:C	2.06	0.71
54:Y8:60:LEU:O	54:Y8:63:PRO:HD2	1.90	0.71
25:RA:900:A:H3'	25:RA:901:A:H8	1.56	0.71
30:RG:61:ALA:HB2	30:RG:68:PRO:HD3	1.72	0.71
49:R3:8:LEU:HD13	49:R3:31:LEU:HD23	1.71	0.71
50:R4:29:PRO:O	50:R4:30:GLU:HB2	1.89	0.71
9:XI:114:TYR:HE2	10:XJ:60:ARG:H	1.38	0.71
25:YA:483:A:H5'	44:YY:49:VAL:HG22	1.73	0.71
25:YA:2133:G:H1'	25:YA:2158:A:H61	1.56	0.71
29:YF:185:ASP:OD1	29:YF:188:ARG:NH1	2.24	0.71
31:YH:30:LYS:HD2	31:YH:81:GLU:H	1.54	0.71
31:YH:80:SER:O	31:YH:81:GLU:HB2	1.89	0.71
34:YO:2:ILE:HD12	34:YO:6:THR:HG21	1.71	0.71
48:Y2:7:ARG:HH11	48:Y2:7:ARG:HG3	1.55	0.71
54:Y8:58:ILE:HD13	54:Y8:61:LEU:HD11	1.72	0.71
2:QB:115:LEU:HB2	2:QB:145:LEU:HD12	1.73	0.71
38:YS:83:LYS:HZ2	38:YS:109:GLY:HA2	1.55	0.71
40:YU:92:ARG:HD2	41:YV:11:GLN:HB2	1.73	0.71
44:YY:29:GLU:HB3	44:YY:38:ILE:HG23	1.70	0.71
1:QA:617:G:H1	1:QA:623:C:H42	1.38	0.71
35:RP:95:VAL:HG13	35:RP:100:LEU:HD21	1.73	0.71
52:R6:17:LYS:HB3	52:R6:44:ARG:HH22	1.55	0.71
8:XH:10:LEU:HD22	8:XH:83:ILE:HD11	1.72	0.71
25:YA:2287:A:N6	25:YA:2344:U:N3	2.38	0.71
27:YD:263:ARG:NH1	27:YD:263:ARG:HB2	2.06	0.71
45:YZ:182:LYS:HG3	45:YZ:183:LEU:HD23	1.70	0.71
1:QA:664:G:H22	1:QA:741:G:H1	1.37	0.71
54:R8:59:LYS:CB	54:R8:59:LYS:HZ3	2.02	0.71
25:YA:630:G:N2	25:YA:633:A:OP2	2.23	0.71
30:YG:67:LYS:HE2	50:Y4:6:HIS:CE1	2.26	0.71
31:YH:84:SER:O	31:YH:85:LYS:HB2	1.89	0.71
25:RA:1045:A:C8	25:RA:1111:A:N6	2.59	0.71
25:RA:2392:A:H1'	35:RP:60:MET:HE3	1.73	0.71
1:XA:323:U:O3'	20:XT:22:ARG:HD3	1.91	0.71
10:XJ:57:LYS:HD2	10:XJ:60:ARG:CZ	2.21	0.71
35:YP:59:LEU:HA	35:YP:61:ARG:HE	1.56	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YP:126:VAL:HG13	35:YP:145:PRO:HB2	1.72	0.71
1:QA:191:G:O2'	20:QT:101:GLY:O	2.09	0.71
4:QD:32:ALA:O	4:QD:34:GLU:N	2.23	0.71
25:RA:2014:A:O2'	51:R5:2:ALA:HB2	1.91	0.71
25:RA:2633:G:H1'	28:RE:62:PRO:HG2	1.72	0.71
25:YA:102:G:OP2	48:Y2:7:ARG:NH2	2.24	0.71
27:YD:244:ARG:HB2	27:YD:245:PRO:HD2	1.71	0.71
31:YH:89:ILE:CD1	31:YH:129:THR:HB	2.20	0.71
36:YQ:79:LEU:HD13	46:Y0:5:LYS:HD3	1.70	0.71
44:YY:42:VAL:HG12	44:YY:65:ALA:HB3	1.71	0.71
13:QM:76:ALA:O	50:R4:71:ARG:NH2	2.24	0.70
28:YE:93:VAL:H	28:YE:95:ILE:HD12	1.54	0.70
29:YF:66:PRO:O	29:YF:67:GLN:HB3	1.89	0.70
32:YI:5:LEU:HD21	32:YI:12:LEU:HB3	1.72	0.70
35:RP:71:VAL:HG13	35:RP:72:PRO:HD3	1.71	0.70
54:R8:58:ILE:HD13	54:R8:61:LEU:HD11	1.72	0.70
28:YE:28:ALA:HB3	28:YE:93:VAL:HG22	1.72	0.70
31:YH:59:ARG:HH11	31:YH:59:ARG:HG3	1.56	0.70
25:RA:882:G:N2	25:RA:894:C:N3	2.37	0.70
54:R8:60:LEU:C	54:R8:63:PRO:HD2	2.11	0.70
19:QS:69:HIS:HD1	50:R4:69:LYS:HE2	1.51	0.70
25:RA:265:A:N6	25:RA:427:U:O2'	2.24	0.70
32:RI:54:GLN:O	32:RI:58:LEU:HB2	1.91	0.70
12:XL:24:VAL:HG12	12:XL:24:VAL:O	1.90	0.70
25:YA:482:A:H4'	44:YY:47:LYS:HD2	1.73	0.70
30:YG:47:LYS:HD3	30:YG:81:LYS:HB2	1.72	0.70
31:YH:103:LEU:HD12	31:YH:131:VAL:HG21	1.73	0.70
35:YP:61:ARG:HD2	54:Y8:13:ARG:HD3	1.73	0.70
39:YT:77:PRO:HB2	39:YT:80:SER:HB2	1.73	0.70
5:QE:71:LEU:CD1	5:QE:115:VAL:H	2.04	0.70
19:QS:41:VAL:HB	19:QS:42:PRO:HA	1.74	0.70
31:RH:132:ARG:HH11	31:RH:132:ARG:CB	1.97	0.70
39:RT:18:ASP:OD1	39:RT:18:ASP:N	2.19	0.70
48:R2:29:LYS:HE3	48:R2:57:ILE:HG21	1.73	0.70
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.72	0.70
1:XA:1305:G:N2	1:XA:1331:G:H2'	2.06	0.70
1:XA:1342:C:H4'	9:XI:125:TYR:HB3	1.73	0.70
25:YA:259:G:O2'	25:YA:621:A:O2'	2.09	0.70
28:YE:14:ILE:HG12	28:YE:15:PHE:N	2.06	0.70
29:YF:178:PRO:HG2	29:YF:179:GLU:OE2	1.90	0.70
31:YH:152:ARG:O	31:YH:153:LYS:CB	2.39	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YI:3:VAL:HG12	32:YI:38:LEU:HA	1.71	0.70
36:YQ:32:TYR:CD1	36:YQ:133:ARG:HA	2.27	0.70
50:Y4:39:CYS:H	50:Y4:41:PRO:CD	2.02	0.70
19:QS:40:ILE:HD11	19:QS:62:ILE:HD12	1.74	0.70
31:RH:154:PRO:O	31:RH:155:SER:HB2	1.91	0.70
36:RQ:32:TYR:CD1	36:RQ:133:ARG:HA	2.27	0.70
42:RW:29:LEU:HD22	42:RW:69:LEU:HD11	1.72	0.70
54:R8:29:LYS:HD3	54:R8:44:LYS:HB2	1.71	0.70
14:XN:48:ALA:HB2	14:XN:53:LEU:HD12	1.73	0.70
25:YA:1103:A:H5'	25:YA:1104:C:H5	1.56	0.70
27:YD:43:ARG:HB3	27:YD:54:ARG:HB2	1.73	0.70
31:YH:154:PRO:HG2	31:YH:162:ILE:O	1.92	0.70
31:RH:154:PRO:HG2	31:RH:162:ILE:O	1.92	0.70
35:RP:61:ARG:HE	54:R8:13:ARG:CD	1.96	0.70
29:YF:164:ARG:HG3	29:YF:175:THR:OG1	1.91	0.70
29:YF:178:PRO:HB2	29:YF:201:VAL:HG11	1.73	0.70
31:RH:152:ARG:O	31:RH:153:LYS:CB	2.40	0.70
51:R5:40:LYS:HE2	51:R5:47:PRO:HD2	1.73	0.70
1:XA:1368:G:OP1	9:XI:111:ARG:NH2	2.24	0.70
2:XB:185:ILE:HG22	2:XB:199:TYR:HB2	1.74	0.70
10:XJ:50:ILE:HA	10:XJ:60:ARG:HG2	1.72	0.70
10:XJ:61:GLU:OE2	14:XN:45:ARG:NH1	2.25	0.70
25:YA:1113:U:H5'	31:YH:2:SER:HB2	1.72	0.70
42:YW:17:VAL:HG12	42:YW:76:VAL:HG11	1.73	0.70
1:QA:27:G:H4'	4:QD:209:ARG:HG3	1.73	0.70
31:RH:128:PRO:HD2	31:RH:129:THR:H	1.55	0.70
18:XR:58:LEU:HD23	18:XR:62:GLU:HB3	1.74	0.70
29:YF:101:LEU:O	29:YF:106:ARG:NH1	2.23	0.70
38:YS:42:ASP:O	38:YS:43:GLU:HB2	1.90	0.70
1:QA:156:G:H1	1:QA:165:C:H42	1.40	0.70
27:YD:65:ILE:O	27:YD:65:ILE:HD13	1.91	0.70
28:YE:103:ASP:OD1	28:YE:201:THR:HA	1.92	0.70
36:YQ:43:THR:OG1	36:YQ:46:GLN:HB2	1.91	0.70
12:QL:24:VAL:O	12:QL:24:VAL:HG12	1.90	0.69
25:YA:918:A:N3	26:YB:80:U:O2'	2.22	0.69
25:YA:1533:C:N3	25:YA:1538:G:N2	2.35	0.69
25:YA:2630:G:H1	25:YA:2788:C:H42	1.39	0.69
27:RD:93:ALA:HB3	27:RD:105:ILE:HG22	1.74	0.69
20:XT:100:ILE:HG13	20:XT:102:GLY:H	1.57	0.69
38:YS:54:LEU:O	38:YS:54:LEU:HD13	1.91	0.69
10:QJ:48:THR:HA	10:QJ:62:HIS:HB3	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:QT:44:ALA:HB1	20:QT:91:LEU:HB2	1.73	0.69
4:XD:105:VAL:HG13	4:XD:110:PHE:HB2	1.74	0.69
10:XJ:55:LYS:HG3	10:XJ:56:HIS:CD2	2.27	0.69
20:XT:53:LEU:HD12	20:XT:100:ILE:HG23	1.73	0.69
25:YA:1013:C:H42	25:YA:1149:G:H1	1.39	0.69
50:Y4:39:CYS:HB2	50:Y4:41:PRO:HD3	1.73	0.69
1:QA:1002:G:H2'	1:QA:1003:G:H8	1.57	0.69
10:QJ:55:LYS:HG3	10:QJ:56:HIS:CD2	2.27	0.69
31:RH:59:ARG:HH11	31:RH:59:ARG:HG3	1.56	0.69
1:XA:1128:C:N3	1:XA:1144:G:N2	2.40	0.69
6:XF:68:PRO:HG2	6:XF:71:ARG:HG3	1.74	0.69
27:YD:65:ILE:HD11	27:YD:67:PHE:CD2	2.27	0.69
38:YS:106:ARG:N	38:YS:110:LEU:HD21	2.07	0.69
48:Y2:47:ASN:O	48:Y2:49:LYS:N	2.25	0.69
25:RA:67:U:N3	25:RA:74:A:H2	1.85	0.69
25:RA:2015:A:C1'	51:R5:2:ALA:HA	2.23	0.69
28:RE:103:ASP:OD1	28:RE:201:THR:HA	1.92	0.69
31:RH:4:ILE:HG13	31:RH:6:ARG:NE	2.08	0.69
29:YF:65:TRP:HZ3	29:YF:73:ALA:O	1.74	0.69
28:RE:7:VAL:HG23	28:RE:8:LYS:N	2.07	0.69
31:RH:103:LEU:HD12	31:RH:131:VAL:HG21	1.73	0.69
27:YD:89:SER:HB2	27:YD:159:ALA:HB2	1.75	0.69
31:YH:150:ALA:C	31:YH:152:ARG:N	2.44	0.69
52:Y6:11:LEU:HD11	52:Y6:51:GLU:HG3	1.75	0.69
54:Y8:23:VAL:HG12	54:Y8:46:ARG:NH1	2.08	0.69
1:QA:1189:C:OP1	10:QJ:51:ARG:NH2	2.26	0.69
28:RE:65:GLY:HA2	28:RE:70:ALA:CB	2.23	0.69
36:RQ:43:THR:OG1	36:RQ:46:GLN:HB2	1.91	0.69
51:R5:4:HIS:HB3	51:R5:5:PRO:HD3	1.75	0.69
27:YD:76:PRO:O	27:YD:98:VAL:HG23	1.91	0.69
40:YU:92:ARG:HG2	40:YU:92:ARG:O	1.91	0.69
25:RA:1899:G:H21	25:RA:1902:C:H41	1.39	0.69
32:RI:5:LEU:HD11	32:RI:19:VAL:HG12	1.73	0.69
36:RQ:80:GLU:HG3	36:RQ:81:VAL:H	1.58	0.69
45:RZ:110:GLY:N	45:RZ:111:VAL:HG12	2.08	0.69
51:R5:40:LYS:HE2	51:R5:47:PRO:CD	2.21	0.69
51:R5:40:LYS:HG2	51:R5:47:PRO:HD2	1.75	0.69
1:XA:255:G:O6	1:XA:266:G:C6	2.45	0.69
1:XA:1321:C:H3'	1:XA:1322:C:H5"	1.74	0.69
2:XB:74:LYS:HE3	2:XB:166:ASP:CB	2.21	0.69
25:YA:1021:A:H61	25:YA:1142(A):A:H61	1.39	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:17:THR:HG22	27:YD:205:VAL:N	2.08	0.69
27:YD:17:THR:CG2	27:YD:204:ILE:HA	2.23	0.69
31:YH:89:ILE:O	31:YH:89:ILE:HG12	1.92	0.69
42:RW:29:LEU:HG	42:RW:33:ARG:HD2	1.74	0.69
19:XS:10:PHE:HB2	19:XS:39:THR:H	1.54	0.69
27:YD:35:LYS:HB3	27:YD:63:ARG:HA	1.75	0.69
28:YE:7:VAL:HG23	28:YE:8:LYS:N	2.07	0.69
31:YH:154:PRO:O	31:YH:155:SER:HB2	1.91	0.69
37:YR:33:ARG:NH2	51:Y5:55:ARG:HG2	2.08	0.69
25:RA:2543:G:H2'	25:RA:2544:G:C8	2.28	0.69
32:RI:41:GLU:HA	32:RI:44:LEU:HB2	1.74	0.69
25:YA:2451:A:N1	56:Z6:101:PPU:HE2	2.07	0.69
40:YU:92:ARG:NH1	41:YV:11:GLN:O	2.26	0.69
25:RA:1359:A:N6	25:RA:1372:U:C4	2.61	0.68
45:RZ:60:GLU:HA	45:RZ:66:SER:HA	1.75	0.68
1:XA:991:U:O4	1:XA:1212:U:O2'	2.09	0.68
14:XN:13:THR:N	14:XN:14:PRO:HD2	2.08	0.68
25:YA:2527:C:H5"	55:Y9:30:PRO:HB2	1.75	0.68
45:YZ:60:GLU:HA	45:YZ:66:SER:HA	1.75	0.68
47:Y1:73:LEU:HD13	47:Y1:90:ILE:HG22	1.76	0.68
1:QA:1348:U:H3	1:QA:1374:A:H2	1.39	0.68
31:YH:4:ILE:HG13	31:YH:6:ARG:NE	2.08	0.68
36:YQ:60:ARG:NH1	45:YZ:114:GLY:N	2.40	0.68
38:YS:106:ARG:CA	38:YS:110:LEU:HD11	2.19	0.68
3:QC:3:ASN:N	3:QC:3:ASN:OD1	2.26	0.68
27:RD:25:THR:O	27:RD:27:THR:N	2.26	0.68
35:YP:19:VAL:HG13	35:YP:21:ARG:H	1.57	0.68
38:YS:100:ALA:HA	38:YS:103:GLU:HG2	1.75	0.68
30:RG:47:LYS:HD3	30:RG:81:LYS:HB2	1.76	0.68
30:RG:66:GLN:NE2	30:RG:93:THR:O	2.26	0.68
28:YE:65:GLY:HA2	28:YE:70:ALA:CB	2.23	0.68
38:YS:57:LYS:HD3	38:YS:57:LYS:H	1.58	0.68
39:YT:123:GLN:O	39:YT:125:ARG:N	2.26	0.68
25:RA:2123:G:H2'	25:RA:2124:G:H8	1.57	0.68
1:XA:838:G:N2	1:XA:848:C:N3	2.37	0.68
25:YA:242:G:H4'	25:YA:243:U:O5'	1.92	0.68
25:YA:1903:G:OP2	27:YD:241:PRO:HB2	1.93	0.68
31:YH:126:PRO:HB2	31:YH:130:ARG:O	1.93	0.68
50:Y4:18:CYS:HG	50:Y4:39:CYS:HG	1.40	0.68
50:R4:15:ILE:HD13	50:R4:15:ILE:N	2.09	0.68
1:XA:1352:C:OP1	21:XU:3:LYS:NZ	2.22	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
25:YA:1980:G:O2'	25:YA:1982:C:OP2	2.10	0.68
26:YB:77:U:P	45:YZ:19:ARG:HH22	2.15	0.68
36:YQ:80:GLU:HG3	36:YQ:81:VAL:H	1.58	0.68
25:RA:270(R):G:N3	47:R1:78:LYS:NZ	2.38	0.68
1:XA:619:U:H3	4:XD:135:LEU:HD23	1.57	0.68
31:YH:126:PRO:HG2	31:YH:127:GLU:H	1.58	0.68
35:YP:88:LEU:HD12	35:YP:95:VAL:HG11	1.76	0.68
54:Y8:23:VAL:CG1	54:Y8:46:ARG:NH1	2.57	0.68
25:RA:1359:A:N1	25:RA:1372:U:C4	2.61	0.68
31:RH:88:LEU:H	31:RH:88:LEU:HD22	1.58	0.68
31:RH:126:PRO:HB2	31:RH:130:ARG:O	1.93	0.68
36:RQ:104:PHE:HE2	36:RQ:125:LEU:HD11	1.59	0.68
37:RR:38:VAL:HG22	37:RR:112:ALA:HB2	1.75	0.68
25:YA:587:C:OP2	35:YP:21:ARG:NH2	2.26	0.68
27:YD:241:PRO:O	27:YD:243:GLY:N	2.27	0.68
28:YE:16:ARG:HG3	28:YE:16:ARG:O	1.92	0.68
31:YH:4:ILE:HG13	31:YH:6:ARG:NH1	2.09	0.68
11:QK:58:PRO:HB2	11:QK:93:GLN:HG3	1.75	0.68
25:RA:586:A:H5'	29:RF:89:VAL:HG21	1.75	0.68
25:RA:1019:U:H3	25:RA:1142(A):A:H62	1.42	0.68
36:RQ:12:GLN:CG	36:RQ:73:PRO:HD2	2.21	0.68
51:R5:20:ARG:HA	51:R5:23:HIS:ND1	2.09	0.68
25:YA:2753:A:O2'	55:Y9:15:LYS:NZ	2.27	0.68
29:YF:34:TRP:CE3	35:YP:8:PRO:HB3	2.29	0.68
31:YH:126:PRO:CD	31:YH:127:GLU:H	2.07	0.68
36:YQ:66:ILE:HG13	36:YQ:67:ARG:H	1.58	0.68
10:QJ:61:GLU:OE2	14:QN:45:ARG:NH1	2.26	0.68
19:QS:42:PRO:HG2	50:R4:63:TYR:HE2	1.59	0.68
25:RA:414:C:O2	25:RA:1864:U:O2'	2.11	0.68
19:XS:40:ILE:HG12	19:XS:41:VAL:HG13	1.76	0.68
25:YA:1952:A:C5	34:YO:22:ILE:HD12	2.29	0.68
45:YZ:145:GLU:HG3	45:YZ:146:ILE:HG12	1.76	0.68
48:Y2:23:LYS:O	48:Y2:27:GLU:OE1	2.11	0.68
5:QE:11:ILE:HG13	5:QE:31:LEU:HB3	1.76	0.67
16:QP:4:ILE:HG12	16:QP:21:VAL:HG12	1.75	0.67
28:RE:116:VAL:O	28:RE:117:MET:HB3	1.94	0.67
30:RG:6:ALA:H	50:R4:23:GLU:CG	2.07	0.67
30:RG:83:ARG:H	30:RG:86:MET:HG3	1.59	0.67
31:RH:126:PRO:HG2	31:RH:127:GLU:H	1.59	0.67
1:XA:1356:G:H2'	1:XA:1357:A:H8	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:9:VAL:HB	28:YE:25:VAL:HG23	1.76	0.67
33:YN:133:GLN:HB2	33:YN:135:PRO:HD3	1.76	0.67
36:YQ:133:ARG:O	36:YQ:134:ARG:HB2	1.94	0.67
38:YS:35:ILE:HD13	38:YS:101:LEU:HD23	1.76	0.67
48:Y2:64:LEU:HD22	48:Y2:68:ARG:HD2	1.77	0.67
2:QB:27:LYS:HD2	2:QB:193:ASP:HB2	1.75	0.67
25:RA:2392:A:H2	25:RA:2424:C:H42	1.40	0.67
36:RQ:20:ALA:HB1	36:RQ:99:PRO:HD2	1.76	0.67
36:RQ:90:VAL:CG1	36:RQ:91:GLU:N	2.57	0.67
36:RQ:133:ARG:O	36:RQ:134:ARG:HB2	1.94	0.67
1:XA:191:G:O2'	20:XT:101:GLY:O	2.13	0.67
27:YD:35:LYS:HZ1	27:YD:104:TYR:HB2	1.57	0.67
36:YQ:33:GLY:HA2	36:YQ:105:GLU:HA	1.76	0.67
36:YQ:90:VAL:CG1	36:YQ:91:GLU:N	2.57	0.67
38:YS:52:SER:O	38:YS:56:LEU:HD22	1.93	0.67
28:RE:13:ARG:CB	28:RE:13:ARG:HH11	2.07	0.67
25:YA:1270:C:H5"	25:YA:1271:G:H5'	1.76	0.67
27:YD:44:ASN:N	27:YD:44:ASN:ND2	2.42	0.67
31:YH:77:LYS:HG2	31:YH:77:LYS:O	1.94	0.67
36:YQ:104:PHE:CE2	36:YQ:125:LEU:HD11	2.29	0.67
1:QA:1346:A:H5"	9:QI:120:ARG:NH1	2.09	0.67
5:QE:7:GLU:HG2	5:QE:112:LEU:HD22	1.77	0.67
5:QE:102:ALA:O	5:QE:107:ARG:NH1	2.27	0.67
19:QS:29:ARG:HD3	19:QS:30:LEU:HD13	1.77	0.67
28:RE:10:GLY:H	28:RE:25:VAL:HG23	1.60	0.67
36:RQ:104:PHE:CE2	36:RQ:125:LEU:HD11	2.29	0.67
5:XE:31:LEU:HD23	5:XE:45:PHE:CD1	2.30	0.67
31:YH:88:LEU:H	31:YH:88:LEU:HD22	1.58	0.67
36:YQ:81:VAL:C	36:YQ:82:ARG:HG2	2.15	0.67
38:YS:67:ARG:HB2	38:YS:67:ARG:CZ	2.24	0.67
25:RA:1359:A:N6	25:RA:1372:U:C5	2.61	0.67
26:RB:13:A:N1	26:RB:69:G:O2'	2.25	0.67
28:RE:14:ILE:HG12	28:RE:15:PHE:N	2.06	0.67
50:R4:33:VAL:HG12	50:R4:34:GLU:N	2.10	0.67
28:YE:13:ARG:CB	28:YE:13:ARG:HH11	2.07	0.67
28:YE:26:ILE:HD13	28:YE:27:LEU:N	2.10	0.67
30:YG:6:ALA:H	50:Y4:23:GLU:HG2	1.60	0.67
45:YZ:19:ARG:NH1	45:YZ:84:GLU:O	2.24	0.67
51:Y5:48:GLU:HA	51:Y5:59:GLU:CG	2.24	0.67
31:RH:77:LYS:HZ3	31:RH:77:LYS:CB	2.03	0.67
31:RH:89:ILE:O	31:RH:89:ILE:HG12	1.93	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:126:PRO:CD	31:RH:127:GLU:H	2.07	0.67
28:YE:116:VAL:O	28:YE:117:MET:HB3	1.94	0.67
36:YQ:12:GLN:CG	36:YQ:73:PRO:HD2	2.21	0.67
36:YQ:90:VAL:O	36:YQ:92:GLY:N	2.25	0.67
50:Y4:39:CYS:H	50:Y4:41:PRO:HD3	1.60	0.67
19:QS:42:PRO:HD3	50:R4:63:TYR:OH	1.94	0.67
20:QT:26:ASN:HB2	20:QT:71:THR:HG23	1.76	0.67
27:RD:182:LEU:H	27:RD:272:ALA:HB3	1.59	0.67
31:RH:124:GLU:HB3	31:RH:132:ARG:HD2	1.77	0.67
31:RH:125:VAL:CG1	31:RH:126:PRO:HG3	2.25	0.67
32:RI:133:HIS:HB2	32:RI:134:PRO:HD2	1.76	0.67
53:R7:9:ARG:NH2	53:R7:48:LYS:HB2	2.10	0.67
1:XA:1023:G:H3'	1:XA:1024:G:H5"	1.75	0.67
53:Y7:9:ARG:CZ	53:Y7:48:LYS:HB2	2.24	0.67
1:QA:1312:G:H1	1:QA:1325:C:H42	1.41	0.67
25:RA:1021:A:H61	25:RA:1142(A):A:H61	1.42	0.67
28:RE:16:ARG:HG3	28:RE:16:ARG:O	1.93	0.67
31:RH:4:ILE:HG13	31:RH:6:ARG:NH1	2.09	0.67
36:RQ:32:TYR:HD1	36:RQ:133:ARG:HA	1.60	0.67
36:RQ:81:VAL:C	36:RQ:82:ARG:HG2	2.14	0.67
36:RQ:90:VAL:O	36:RQ:92:GLY:N	2.25	0.67
39:RT:84:GLN:HG2	39:RT:85:LYS:HG2	1.76	0.67
45:RZ:110:GLY:HA2	45:RZ:111:VAL:C	2.13	0.67
8:XH:120:THR:H	8:XH:123:GLU:HB2	1.59	0.67
20:XT:44:ALA:HB1	20:XT:91:LEU:HB2	1.77	0.67
36:YQ:104:PHE:HE2	36:YQ:125:LEU:HD11	1.59	0.67
37:YR:78:LYS:HE2	37:YR:83:ILE:HD11	1.77	0.67
50:Y4:37:SER:CB	50:Y4:41:PRO:O	2.42	0.67
25:RA:1043:C:N4	25:RA:1112:G:H1	1.93	0.67
30:RG:3:LEU:HD11	50:R4:25:TYR:CZ	2.29	0.67
41:RV:72:VAL:HG13	41:RV:85:LYS:HB3	1.75	0.67
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.30	0.67
2:XB:168:THR:HB	2:XB:192:SER:HB2	1.77	0.67
28:YE:62:PRO:O	28:YE:64:LYS:N	2.28	0.67
29:YF:103:LYS:HA	29:YF:106:ARG:CG	2.21	0.67
29:YF:184:TYR:O	29:YF:188:ARG:HG3	1.94	0.67
39:YT:16:ARG:NH2	39:YT:83:ILE:O	2.27	0.67
25:RA:83:G:N2	25:RA:103:A:OP2	2.26	0.67
36:RQ:66:ILE:HG13	36:RQ:67:ARG:H	1.57	0.67
10:XJ:7:LYS:HB2	10:XJ:97:GLU:HB2	1.76	0.67
25:YA:2126:A:N6	25:YA:2163:C:O2'	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:35:LYS:CA	27:YD:64:ILE:HG22	2.25	0.67
1:QA:838:G:C6	1:QA:842:C:H1'	2.30	0.66
25:RA:530:G:O2'	25:RA:532:A:N7	2.28	0.66
25:RA:1287:A:N7	37:RR:107:ASP:HB2	2.09	0.66
25:RA:2306:C:H3'	25:RA:2307:G:H5"	1.77	0.66
27:RD:49:ILE:HD11	27:RD:52:ARG:HA	1.77	0.66
50:R4:37:SER:C	50:R4:39:CYS:H	1.99	0.66
25:YA:277:C:H5'	25:YA:278:A:H5"	1.77	0.66
25:YA:2757:A:OP1	55:Y9:19:ARG:HA	1.94	0.66
35:YP:64:LYS:C	35:YP:66:GLY:H	1.97	0.66
25:RA:2298:A:H62	25:RA:2318:G:H8	1.41	0.66
28:RE:36:ARG:HB3	28:RE:36:ARG:HH11	1.60	0.66
31:RH:77:LYS:O	31:RH:77:LYS:HG2	1.94	0.66
2:XB:174:VAL:HG13	2:XB:184:VAL:HG11	1.76	0.66
29:YF:46:ARG:HH11	29:YF:46:ARG:CG	2.04	0.66
25:RA:2327:A:H2'	25:RA:2328:A:C8	2.30	0.66
55:R9:27:CYS:SG	55:R9:29:ASN:ND2	2.69	0.66
20:XT:84:LEU:O	20:XT:84:LEU:HD22	1.95	0.66
32:YI:4:ILE:HG12	32:YI:18:VAL:HG22	1.77	0.66
33:YN:8:GLN:C	33:YN:9:VAL:HG13	2.15	0.66
36:YQ:32:TYR:HD1	36:YQ:133:ARG:HA	1.60	0.66
36:YQ:79:LEU:HD12	46:Y0:5:LYS:HD2	1.75	0.66
19:QS:39:THR:HG22	19:QS:40:ILE:H	1.61	0.66
41:YV:52:VAL:HG21	41:YV:55:ALA:HB3	1.76	0.66
25:RA:2112:G:O6	25:RA:2169:A:N6	2.27	0.66
36:RQ:88:GLY:C	36:RQ:90:VAL:N	2.47	0.66
25:YA:2470:G:H5'	36:YQ:56:ARG:HH22	1.60	0.66
27:YD:68:LYS:HB2	27:YD:70:TRP:CZ3	2.31	0.66
27:YD:172:TYR:HB3	27:YD:184:LYS:HG2	1.77	0.66
28:YE:28:ALA:O	28:YE:93:VAL:HG23	1.96	0.66
28:YE:37:ARG:NE	28:YE:37:ARG:HA	2.11	0.66
32:YI:8:PRO:HD3	32:YI:15:VAL:HG13	1.78	0.66
36:YQ:88:GLY:C	36:YQ:90:VAL:N	2.47	0.66
38:YS:106:ARG:HA	38:YS:110:LEU:CD2	2.25	0.66
42:YW:45:TYR:CZ	42:YW:49:LYS:HD2	2.30	0.66
44:YY:49:VAL:O	44:YY:51:VAL:N	2.29	0.66
1:QA:542:G:OP1	4:QD:10:ARG:NH2	2.28	0.66
12:QL:25:PRO:C	12:QL:27:LEU:H	1.98	0.66
28:RE:9:VAL:HB	28:RE:25:VAL:HG23	1.76	0.66
28:RE:174:ASP:CG	28:RE:175:VAL:H	1.98	0.66
13:XM:105:THR:O	13:XM:107:ALA:N	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1309:G:H4'	53:Y7:7:PRO:HB2	1.76	0.66
44:YY:97:ARG:HE	44:YY:98:VAL:HB	1.61	0.66
48:Y2:65:ASN:HB3	48:Y2:69:ARG:NH1	2.10	0.66
54:Y8:30:ARG:O	54:Y8:31:HIS:HB2	1.96	0.66
1:QA:1255:G:OP1	10:QJ:45:ARG:NH2	2.28	0.66
3:QC:70:VAL:HG12	3:QC:72:LYS:H	1.60	0.66
25:RA:2470:G:H5'	36:RQ:56:ARG:HH22	1.60	0.66
28:RE:101:ARG:CZ	28:RE:171:GLU:HB2	2.25	0.66
31:RH:168:PRO:O	31:RH:169:VAL:HG12	1.96	0.66
36:RQ:33:GLY:HA2	36:RQ:105:GLU:HA	1.76	0.66
5:XE:41:VAL:CG1	5:XE:113:ALA:HB2	2.25	0.66
25:YA:2667:C:H1'	31:YH:109:PHE:HD2	1.60	0.66
27:YD:135:PHE:N	27:YD:135:PHE:CD1	2.62	0.66
25:RA:1262:A:N3	51:R5:10:LYS:HE3	2.10	0.66
28:RE:26:ILE:HD13	28:RE:27:LEU:N	2.10	0.66
47:R1:7:ILE:HG12	47:R1:91:LYS:NZ	2.11	0.66
12:XL:26:ALA:O	12:XL:27:LEU:O	2.14	0.66
19:XS:50:ALA:HB1	19:XS:57:HIS:HB3	1.77	0.66
30:YG:179:PRO:HG3	50:Y4:38:LYS:HZ2	1.61	0.66
36:YQ:20:ALA:HB1	36:YQ:99:PRO:HD2	1.77	0.66
25:RA:2114:A:N6	25:RA:2119:A:N7	2.43	0.66
25:RA:2667:C:H1'	31:RH:109:PHE:HD2	1.61	0.66
30:RG:3:LEU:CD1	50:R4:25:TYR:CE1	2.76	0.66
28:YE:174:ASP:CG	28:YE:175:VAL:H	1.98	0.66
31:YH:125:VAL:CG1	31:YH:126:PRO:HG3	2.25	0.66
3:QC:162:GLN:HA	3:QC:162:GLN:HE21	1.59	0.66
44:RY:49:VAL:O	44:RY:51:VAL:N	2.29	0.66
20:XT:83:ARG:O	20:XT:86:ARG:HB3	1.96	0.66
25:YA:1216:G:OP2	40:YU:12:ARG:NH2	2.28	0.66
25:YA:2111:C:N3	25:YA:2118:U:O2'	2.29	0.66
27:YD:183:ARG:HH11	27:YD:183:ARG:CG	2.07	0.66
33:YN:35:ARG:O	33:YN:37:LYS:N	2.29	0.66
38:YS:88:ASP:OD1	38:YS:90:GLY:N	2.28	0.66
25:RA:242:G:H5'	54:R8:62:LEU:HD22	1.77	0.65
25:RA:884:C:N3	25:RA:892:G:O6	2.30	0.65
25:RA:2439:A:H5'	25:RA:2439:A:C8	2.31	0.65
28:RE:62:PRO:O	28:RE:64:LYS:N	2.28	0.65
28:YE:13:ARG:NH1	28:YE:21:VAL:HG12	2.11	0.65
28:YE:36:ARG:HB3	28:YE:36:ARG:HH11	1.60	0.65
41:YV:21:ARG:HD2	41:YV:91:TYR:CD1	2.31	0.65
47:Y1:29:GLY:O	47:Y1:31:GLY:N	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:RD:108:PRO:HG2	27:RD:111:LEU:HG	1.78	0.65
39:RT:102:ILE:HB	39:RT:110:ILE:HD13	1.78	0.65
50:R4:16:CYS:SG	50:R4:33:VAL:HB	2.35	0.65
1:XA:973:G:H3'	1:XA:974:A:H5"	1.77	0.65
12:XL:39:VAL:HB	12:XL:57:LYS:HB2	1.78	0.65
25:YA:2245:U:H5'	25:YA:2246:G:H5'	1.76	0.65
26:YB:75:G:H5"	45:YZ:36:LYS:HE2	1.78	0.65
27:YD:121:PRO:HB3	27:YD:135:PHE:CE2	2.30	0.65
28:YE:101:ARG:CZ	28:YE:171:GLU:HB2	2.26	0.65
31:YH:124:GLU:HB3	31:YH:132:ARG:HD2	1.77	0.65
38:YS:107:GLU:H	38:YS:110:LEU:HD11	1.60	0.65
39:YT:16:ARG:HD3	39:YT:19:LEU:HD11	1.77	0.65
3:QC:9:GLY:HA2	3:QC:12:LEU:HD23	1.78	0.65
12:QL:21:LYS:HD2	12:QL:21:LYS:N	2.11	0.65
31:RH:150:ALA:C	31:RH:152:ARG:N	2.44	0.65
25:YA:1509:C:N3	25:YA:1511:A:N6	2.45	0.65
25:YA:1803:A:H4'	27:YD:259:THR:CG2	2.26	0.65
25:YA:2635:C:H5'	28:YE:77:ILE:HD13	1.78	0.65
25:YA:2815:C:H5'	51:Y5:29:THR:HG21	1.76	0.65
27:YD:80:ALA:HB3	27:YD:94:LEU:CD1	2.25	0.65
40:YU:8:VAL:HG23	40:YU:11:ARG:HH21	1.62	0.65
25:RA:1184:G:OP1	49:R3:29:ARG:NH1	2.28	0.65
27:RD:27:THR:HG21	27:RD:81:ALA:HB1	1.78	0.65
28:RE:28:ALA:O	28:RE:93:VAL:HG23	1.95	0.65
30:RG:67:LYS:CE	50:R4:6:HIS:CD2	2.79	0.65
30:RG:113:ARG:HG2	50:R4:34:GLU:CD	2.17	0.65
36:RQ:59:ARG:C	36:RQ:60:ARG:HG3	2.16	0.65
27:YD:27:THR:CG2	27:YD:28:GLU:H	2.08	0.65
27:YD:145:VAL:HG12	27:YD:146:GLU:O	1.95	0.65
28:YE:10:GLY:H	28:YE:25:VAL:HG23	1.60	0.65
33:YN:8:GLN:O	33:YN:9:VAL:HG22	1.96	0.65
1:QA:715:A:H2'	1:QA:716:A:C8	2.31	0.65
1:QA:1243:C:OP2	21:QU:10:ARG:NH2	2.29	0.65
16:QP:53:VAL:HG12	16:QP:79:VAL:HG22	1.77	0.65
19:QS:28:LYS:HB2	19:QS:47:HIS:CE1	2.32	0.65
19:QS:68:GLY:HA2	50:R4:68:ARG:CG	2.14	0.65
20:XT:97:ALA:O	20:XT:99:LEU:N	2.30	0.65
25:YA:1479:G:N7	25:YA:1510:A:N6	2.44	0.65
25:YA:1496:A:H8	25:YA:1577:C:HO2'	1.43	0.65
25:YA:2233:U:H2'	25:YA:2234:G:C8	2.32	0.65
48:Y2:42:GLY:O	48:Y2:44:LEU:N	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:620:C:C2	4:QD:135:LEU:HG	2.32	0.65
1:QA:1004:A:H1'	1:QA:1036:G:H22	1.61	0.65
2:QB:82:ARG:HA	2:QB:92:TYR:CE2	2.31	0.65
12:QL:115:LYS:O	12:QL:117:ARG:HG3	1.97	0.65
25:RA:1693:U:O2'	27:RD:14:ARG:NH2	2.29	0.65
25:RA:2233:U:H2'	25:RA:2234:G:C8	2.31	0.65
31:RH:128:PRO:CD	31:RH:129:THR:H	2.09	0.65
50:R4:49:PHE:O	50:R4:50:VAL:HG23	1.97	0.65
52:R6:11:LEU:HD23	52:R6:26:ASN:HB3	1.78	0.65
25:YA:2327:A:H2'	25:YA:2328:A:C8	2.32	0.65
28:YE:201:THR:HG22	28:YE:203:LYS:N	2.07	0.65
45:YZ:58:VAL:O	45:YZ:60:GLU:N	2.29	0.65
45:YZ:97:GLU:HB3	45:YZ:125:LEU:HD11	1.79	0.65
48:Y2:69:ARG:NH1	48:Y2:69:ARG:HB2	2.11	0.65
51:Y5:56:LYS:H	51:Y5:56:LYS:HD2	1.60	0.65
1:XA:971:G:N2	1:XA:1363:A:OP2	2.29	0.65
31:YH:168:PRO:O	31:YH:169:VAL:HG12	1.96	0.65
25:RA:49:A:N7	25:RA:120:U:C5	2.65	0.65
25:RA:1359:A:C6	25:RA:1372:U:C4	2.85	0.65
44:RY:38:ILE:HG22	44:RY:66:PRO:HA	1.79	0.65
50:R4:36:CYS:O	50:R4:37:SER:O	2.14	0.65
1:XA:439:A:OP2	1:XA:493:G:N1	2.25	0.65
35:YP:62:LEU:CD2	54:Y8:25:MET:HB2	2.27	0.65
45:YZ:94:GLU:HB2	45:YZ:130:PRO:HD2	1.78	0.65
46:Y0:10:THR:HG22	46:Y0:12:ASN:H	1.62	0.65
54:Y8:52:LYS:HG3	54:Y8:52:LYS:O	1.97	0.65
25:RA:1899:G:H21	25:RA:1902:C:N4	1.95	0.65
1:XA:1256:A:OP2	3:XC:26:LYS:NZ	2.23	0.65
12:XL:21:LYS:HD2	12:XL:21:LYS:N	2.11	0.65
12:XL:25:PRO:C	12:XL:27:LEU:H	1.98	0.65
12:XL:115:LYS:O	12:XL:117:ARG:HG3	1.96	0.65
1:QA:191:G:H1'	20:QT:105:SER:HB3	1.78	0.65
12:QL:26:ALA:O	12:QL:27:LEU:O	2.14	0.65
25:RA:2292:C:OP2	38:RS:17:ARG:NH2	2.30	0.65
27:RD:35:LYS:HG2	27:RD:64:ILE:N	2.12	0.65
35:RP:19:VAL:HG13	35:RP:21:ARG:H	1.62	0.65
2:XB:178:ARG:NH1	2:XB:196:LEU:O	2.28	0.65
3:XC:122:GLU:OE1	3:XC:126:ARG:NH2	2.29	0.65
11:XK:21:ILE:HB	11:XK:84:VAL:HG12	1.78	0.65
25:YA:67:U:H3	25:YA:74:A:H2	0.78	0.65
27:YD:77:ALA:HB2	27:YD:97:TYR:HA	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:176:ARG:HG2	27:YD:176:ARG:HH11	1.61	0.65
31:YH:128:PRO:CD	31:YH:129:THR:H	2.09	0.65
36:YQ:23:GLY:HA3	36:YQ:101:ARG:NH1	2.12	0.65
36:YQ:81:VAL:O	36:YQ:82:ARG:HG2	1.97	0.65
51:Y5:48:GLU:HA	51:Y5:59:GLU:HG3	1.78	0.65
54:Y8:56:GLU:OE1	54:Y8:56:GLU:N	2.30	0.65
1:QA:13:U:C5	1:QA:20:U:O4	2.50	0.64
12:QL:39:VAL:HB	12:QL:57:LYS:HB2	1.79	0.64
13:QM:3:ARG:HD2	13:QM:9:ILE:HG12	1.79	0.64
25:RA:2680:C:H5'	28:RE:189:PRO:HA	1.78	0.64
27:RD:65:ILE:HD11	27:RD:67:PHE:CE2	2.31	0.64
28:RE:13:ARG:NH1	28:RE:21:VAL:HG12	2.11	0.64
28:RE:37:ARG:NE	28:RE:37:ARG:HA	2.11	0.64
28:RE:104:VAL:HG11	28:RE:188:VAL:CG2	2.27	0.64
31:RH:51:ARG:HH11	31:RH:51:ARG:HG3	1.61	0.64
31:RH:105:LEU:H	31:RH:105:LEU:CD1	2.09	0.64
51:R5:56:LYS:H	51:R5:56:LYS:CD	2.07	0.64
27:YD:44:ASN:HB3	27:YD:49:ILE:HG22	1.78	0.64
36:RQ:81:VAL:O	36:RQ:82:ARG:HG2	1.97	0.64
51:R5:40:LYS:HD3	51:R5:46:CYS:CB	2.26	0.64
1:XA:1286:A:H5"	21:XU:26:LYS:HD2	1.80	0.64
48:Y2:40:SER:C	48:Y2:42:GLY:H	2.00	0.64
50:Y4:18:CYS:SG	50:Y4:39:CYS:CB	2.85	0.64
25:RA:2816:C:O3'	37:RR:99:LYS:NZ	2.30	0.64
27:RD:8:PRO:HB3	27:RD:14:ARG:HB2	1.79	0.64
28:RE:35:GLN:CG	28:RE:37:ARG:HE	2.11	0.64
31:RH:148:ILE:O	31:RH:151:ILE:HG12	1.98	0.64
5:XE:72:GLN:HE21	5:XE:144:THR:HG22	1.61	0.64
10:XJ:50:ILE:HD11	10:XJ:57:LYS:CG	2.26	0.64
15:XO:26:GLU:OE2	15:XO:77:ARG:NH1	2.31	0.64
25:YA:1805:U:O2	27:YD:50:THR:HB	1.97	0.64
31:YH:105:LEU:H	31:YH:105:LEU:CD1	2.09	0.64
28:RE:50:GLY:HA3	28:RE:74:PRO:HG3	1.79	0.64
34:RO:4:PRO:O	34:RO:5:GLN:HB2	1.96	0.64
37:RR:33:ARG:NH2	51:R5:55:ARG:CG	2.61	0.64
25:YA:780:G:N2	25:YA:783:A:H62	1.95	0.64
42:YW:41:LYS:HE3	51:Y5:25:LEU:HD21	1.80	0.64
50:Y4:18:CYS:HB3	50:Y4:39:CYS:CB	2.28	0.64
1:QA:1347:G:N2	1:QA:1374:A:OP2	2.28	0.64
5:QE:11:ILE:HD11	5:QE:31:LEU:HD12	1.80	0.64
25:RA:2576:G:O2'	25:RA:2579:C:OP2	2.13	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RQ:10:ARG:O	36:RQ:11:LYS:HB2	1.98	0.64
40:RU:90:VAL:O	40:RU:92:ARG:N	2.30	0.64
54:R8:56:GLU:OE1	54:R8:56:GLU:N	2.30	0.64
1:XA:1450:U:O2'	1:XA:1451:A:N7	2.30	0.64
25:YA:1210:A:H5'	25:YA:1210:A:H8	1.60	0.64
28:YE:104:VAL:HG11	28:YE:188:VAL:CG2	2.27	0.64
29:YF:11:VAL:HG12	29:YF:12:LEU:N	2.13	0.64
29:YF:175:THR:O	29:YF:176:LEU:HB2	1.95	0.64
31:YH:51:ARG:HG3	31:YH:51:ARG:HH11	1.61	0.64
35:YP:14:LYS:O	35:YP:16:ARG:N	2.31	0.64
13:QM:122:LYS:O	13:QM:122:LYS:HD3	1.97	0.64
25:RA:2308:G:O6	25:RA:2311:A:N1	2.31	0.64
36:RQ:135:ASP:CG	45:RZ:81:ARG:HH12	2.01	0.64
3:XC:11:ARG:O	3:XC:13:GLY:N	2.30	0.64
25:YA:226:G:O2'	25:YA:228:A:N6	2.31	0.64
25:YA:2286:A:H4'	25:YA:2287:A:O4'	1.98	0.64
25:YA:2701:C:H3'	25:YA:2702:U:C5'	2.24	0.64
29:YF:155:LEU:HD13	29:YF:174:VAL:CG1	2.27	0.64
31:YH:117:PRO:HB3	31:YH:123:PHE:CE2	2.33	0.64
36:YQ:81:VAL:O	36:YQ:82:ARG:HD3	1.97	0.64
38:YS:78:LEU:HD11	38:YS:107:GLU:O	1.98	0.64
25:RA:2126:A:N6	25:RA:2163:C:O2'	2.31	0.64
27:RD:35:LYS:HG2	27:RD:64:ILE:H	1.63	0.64
51:R5:40:LYS:NZ	51:R5:48:GLU:HB2	2.10	0.64
25:YA:1019:U:H3	25:YA:1142(A):A:H62	1.44	0.64
29:YF:45:ARG:HH11	29:YF:45:ARG:CG	2.09	0.64
37:YR:51:LEU:HD13	37:YR:66:VAL:HG13	1.79	0.64
1:QA:1348:U:H4'	9:QI:120:ARG:HD2	1.78	0.64
31:RH:92:ILE:H	31:RH:92:ILE:HD12	1.62	0.64
36:RQ:23:GLY:HA3	36:RQ:101:ARG:NH1	2.12	0.64
36:RQ:30:GLY:HA3	36:RQ:106:VAL:O	1.98	0.64
54:R8:52:LYS:HG3	54:R8:52:LYS:O	1.97	0.64
20:XT:83:ARG:O	20:XT:87:LYS:N	2.31	0.64
27:YD:122:ASP:CG	27:YD:123:ALA:H	2.00	0.64
31:YH:148:ILE:O	31:YH:151:ILE:HG12	1.97	0.64
40:YU:90:VAL:HG12	40:YU:91:ASP:H	1.61	0.64
1:QA:1055:A:O2'	3:QC:161:GLU:OE2	2.16	0.64
10:QJ:77:PRO:O	10:QJ:79:ARG:NH1	2.30	0.64
43:RX:43:VAL:HG13	43:RX:51:VAL:HG21	1.78	0.64
5:XE:147:ASP:O	5:XE:151:LEU:HG	1.97	0.64
8:XH:7:ALA:HB2	8:XH:85:ARG:HD3	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:67:U:O4	25:YA:74:A:N1	2.31	0.64
25:YA:2308:G:H1	25:YA:2311:A:H2	1.43	0.64
28:YE:14:ILE:CG1	28:YE:15:PHE:H	2.08	0.64
31:YH:3:ARG:HA	31:YH:3:ARG:NE	2.12	0.64
36:YQ:63:LYS:HD2	45:YZ:175:VAL:HG21	1.79	0.64
39:YT:36:GLU:HG3	39:YT:41:ARG:HE	1.62	0.64
50:Y4:18:CYS:HB3	50:Y4:39:CYS:HB3	1.78	0.64
12:QL:18:VAL:HG23	12:QL:19:ARG:H	1.63	0.64
32:RI:4:ILE:HD13	32:RI:47:LEU:HD22	1.80	0.64
1:XA:181:G:HO2'	1:XA:182:U:H6	1.46	0.64
28:YE:69:LYS:O	28:YE:71:GLY:N	2.27	0.64
31:YH:92:ILE:H	31:YH:92:ILE:HD12	1.63	0.64
25:RA:674:G:H1'	29:RF:74:ARG:HD3	1.80	0.63
25:RA:2610:C:H4'	25:RA:2611:U:OP2	1.97	0.63
31:RH:117:PRO:HB3	31:RH:123:PHE:CE2	2.33	0.63
37:RR:104:ARG:HD3	37:RR:109:ALA:HB3	1.79	0.63
1:XA:156:G:H1	1:XA:165:C:H42	1.45	0.63
1:XA:1003:G:H1	1:XA:1037:C:N4	1.96	0.63
2:XB:79:ASP:HA	2:XB:82:ARG:HB2	1.80	0.63
2:XB:187:LEU:HA	2:XB:201:ILE:HB	1.79	0.63
3:XC:19:GLU:O	3:XC:40:ARG:NH2	2.30	0.63
22:XV:5:G:H1	22:XV:67:C:N4	1.95	0.63
25:YA:49:A:N7	25:YA:120:U:C4	2.65	0.63
25:YA:878:A:N6	25:YA:899:A:O2'	2.31	0.63
27:YD:135:PHE:N	27:YD:135:PHE:HD1	1.96	0.63
28:YE:50:GLY:HA3	28:YE:74:PRO:HG3	1.79	0.63
29:YF:46:ARG:HG2	29:YF:46:ARG:NH1	2.00	0.63
40:YU:50:ARG:O	40:YU:54:LYS:NZ	2.31	0.63
40:YU:92:ARG:CZ	41:YV:11:GLN:H	2.11	0.63
1:QA:1095:U:P	1:QA:1108:G:H1	2.21	0.63
2:QB:5:ILE:HG21	2:QB:221:LEU:HD23	1.79	0.63
2:QB:24:TRP:H	2:QB:24:TRP:HD1	1.45	0.63
10:QJ:4:ILE:HB	10:QJ:74:ILE:HG13	1.81	0.63
25:RA:389:G:H1	35:RP:70:GLN:HB3	1.63	0.63
28:RE:201:THR:HG21	28:RE:203:LYS:HB3	1.80	0.63
38:RS:26:LEU:HB3	38:RS:87:PHE:HA	1.81	0.63
12:XL:18:VAL:HG23	12:XL:19:ARG:H	1.62	0.63
25:YA:607:U:H3	25:YA:621:A:H2	1.43	0.63
27:YD:18:VAL:HG12	27:YD:19:ALA:O	1.99	0.63
38:YS:26:LEU:HD22	38:YS:87:PHE:HD1	1.63	0.63
31:RH:3:ARG:NE	31:RH:3:ARG:HA	2.12	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:R4:71:ARG:HH11	50:R4:71:ARG:CG	1.97	0.63
28:YE:201:THR:HG21	28:YE:203:LYS:HB3	1.80	0.63
30:YG:67:LYS:HZ1	50:Y4:1:MET:HB2	1.63	0.63
36:YQ:104:PHE:O	36:YQ:105:GLU:HB3	1.98	0.63
54:Y8:48:PHE:N	54:Y8:48:PHE:CD1	2.66	0.63
25:RA:2031:A:N3	25:RA:2455:G:O2'	2.29	0.63
36:RQ:104:PHE:O	36:RQ:105:GLU:HB3	1.98	0.63
47:R1:29:GLY:O	47:R1:31:GLY:N	2.29	0.63
27:YD:230:ASP:O	27:YD:231:HIS:HB2	1.98	0.63
48:Y2:40:SER:C	48:Y2:42:GLY:N	2.51	0.63
50:Y4:23:GLU:O	50:Y4:25:TYR:N	2.31	0.63
50:Y4:48:ARG:O	50:Y4:50:VAL:N	2.31	0.63
1:QA:547:A:OP2	4:QD:2:GLY:N	2.31	0.63
1:QA:1078:U:H1'	5:QE:130:ASN:HD21	1.63	0.63
1:QA:1392:G:H21	1:QA:1502:A:H8	1.45	0.63
19:QS:40:ILE:HG23	19:QS:41:VAL:HG22	1.79	0.63
19:QS:68:GLY:O	50:R4:68:ARG:HG2	1.97	0.63
28:RE:131:ALA:HB1	28:RE:135:HIS:CE1	2.34	0.63
30:RG:145:THR:HG23	50:R4:28:LYS:NZ	2.13	0.63
36:RQ:20:ALA:HB1	36:RQ:99:PRO:CB	2.28	0.63
36:RQ:81:VAL:O	36:RQ:82:ARG:HD3	1.98	0.63
37:RR:33:ARG:HG3	37:RR:115:GLU:HB3	1.79	0.63
25:YA:2689:U:H4'	25:YA:2690:C:O5'	1.98	0.63
34:YO:13:ASN:ND2	34:YO:96:THR:O	2.30	0.63
35:YP:101:VAL:HG23	35:YP:106:LEU:HB3	1.80	0.63
1:QA:31:G:O2'	1:QA:48:C:N4	2.31	0.63
12:QL:86:ARG:HB2	12:QL:101:VAL:CG2	2.28	0.63
26:RB:89(A):A:C5	26:RB:90:C:H1'	2.34	0.63
31:RH:153:LYS:HG3	31:RH:161:GLY:HA3	1.80	0.63
36:RQ:66:ILE:CG1	36:RQ:67:ARG:H	2.12	0.63
40:RU:66:ASN:O	40:RU:70:ARG:HB2	1.98	0.63
48:R2:65:ASN:HB3	48:R2:69:ARG:HH22	1.61	0.63
50:R4:39:CYS:HB3	50:R4:41:PRO:HD2	1.79	0.63
12:XL:62:SER:O	12:XL:64:TYR:HD1	1.82	0.63
13:XM:91:ARG:HB2	13:XM:98:VAL:HG13	1.80	0.63
20:XT:49:ALA:O	20:XT:52:ALA:HB3	1.98	0.63
27:YD:72:LYS:HG2	27:YD:103:ARG:NH2	2.13	0.63
31:YH:153:LYS:HG3	31:YH:161:GLY:HA3	1.81	0.63
33:YN:4:TYR:O	40:YU:64:ARG:NH1	2.32	0.63
40:YU:83:LEU:HD12	40:YU:113:ALA:HB2	1.79	0.63
40:YU:92:ARG:O	40:YU:94:ASN:N	2.29	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:Y5:40:LYS:HZ1	51:Y5:48:GLU:HB2	1.63	0.63
12:QL:85:ILE:HD11	12:QL:98:TYR:HB2	1.81	0.63
25:RA:1244:G:H4'	35:RP:7:ARG:HB2	1.81	0.63
25:RA:1543:A:H1'	25:RA:1545:A:O4'	1.98	0.63
38:RS:15:ARG:HH11	38:RS:25:ARG:HH21	1.44	0.63
13:XM:23:TYR:HB3	13:XM:67:GLU:HA	1.81	0.63
29:YF:67:GLN:O	29:YF:67:GLN:CG	2.32	0.63
36:YQ:10:ARG:O	36:YQ:11:LYS:HB2	1.98	0.63
36:YQ:20:ALA:HB1	36:YQ:99:PRO:CB	2.28	0.63
36:YQ:30:GLY:HA3	36:YQ:106:VAL:O	1.98	0.63
44:YY:91:GLU:HG3	44:YY:92:ASN:H	1.63	0.63
48:Y2:46:GLN:OE1	48:Y2:46:GLN:HA	1.97	0.63
1:QA:954:G:H4'	13:QM:121:LYS:HG3	1.81	0.63
12:QL:62:SER:O	12:QL:64:TYR:HD1	1.82	0.63
25:RA:49:A:N7	25:RA:120:U:O4	2.31	0.63
25:RA:2011:U:OP2	42:RW:16:LYS:NZ	2.29	0.63
33:RN:13:TRP:HB2	33:RN:133:GLN:HG3	1.81	0.63
1:XA:606:G:N3	1:XA:632:A:N6	2.45	0.63
10:XJ:58:ASP:O	10:XJ:59:SER:CB	2.46	0.63
12:XL:86:ARG:HB2	12:XL:101:VAL:CG2	2.28	0.63
1:QA:1422:G:H5"	34:RO:48:PRO:HB3	1.80	0.63
10:QJ:58:ASP:O	10:QJ:59:SER:CB	2.46	0.63
33:RN:133:GLN:HB2	33:RN:135:PRO:HD3	1.79	0.63
36:RQ:20:ALA:HB1	36:RQ:99:PRO:CD	2.29	0.63
44:RY:51:VAL:HG13	44:RY:52:SER:H	1.64	0.63
25:YA:468:G:N7	53:Y7:39:ARG:NH2	2.46	0.63
28:YE:35:GLN:CG	28:YE:37:ARG:NE	2.62	0.63
29:YF:132:VAL:HG23	29:YF:133:ASN:N	2.14	0.63
54:Y8:59:LYS:HZ3	54:Y8:59:LYS:HB3	1.62	0.63
8:QH:10:LEU:HD22	8:QH:83:ILE:HD11	1.80	0.62
25:RA:301:G:H1	25:RA:316:C:N4	1.96	0.62
26:RB:50:G:H5"	38:RS:61:ASN:HD21	1.62	0.62
31:RH:136:ILE:H	31:RH:136:ILE:HD12	1.64	0.62
10:XJ:32:ALA:HB3	10:XJ:76:ASN:HB2	1.79	0.62
25:YA:2646:C:OP2	25:YA:2732:G:O2'	2.17	0.62
28:YE:4:ILE:CD1	28:YE:28:ALA:HB1	2.29	0.62
28:YE:13:ARG:HH12	28:YE:21:VAL:HG12	1.64	0.62
51:Y5:4:HIS:HB3	51:Y5:5:PRO:HD3	1.81	0.62
52:Y6:41:PRO:HG2	52:Y6:45:LYS:H	1.63	0.62
53:Y7:9:ARG:NH2	53:Y7:48:LYS:HD2	2.05	0.62
1:XA:1152:A:OP1	10:XJ:68:HIS:NE2	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XI:24:GLY:N	9:XI:60:ASP:OD1	2.29	0.62
25:YA:1509:C:H3'	25:YA:1510:A:H5"	1.80	0.62
29:YF:129:PHE:O	29:YF:130:ALA:HB3	1.99	0.62
32:YI:130:TYR:HB3	32:YI:136:VAL:HG13	1.82	0.62
35:YP:147:LEU:O	35:YP:148:LEU:HB2	1.97	0.62
36:YQ:80:GLU:OE1	46:Y0:7:LEU:HG	1.98	0.62
38:YS:22:GLY:O	38:YS:23:ARG:O	2.17	0.62
25:RA:1496:A:H8	25:RA:1577:C:HO2'	1.47	0.62
25:RA:2543:G:H2'	25:RA:2544:G:H8	1.63	0.62
25:RA:2547:U:O2	34:RO:23:ARG:NH2	2.32	0.62
54:R8:48:PHE:N	54:R8:48:PHE:CD1	2.66	0.62
1:XA:677:U:H3	1:XA:713:G:H22	1.47	0.62
19:XS:13:ASP:OD1	19:XS:13:ASP:N	2.32	0.62
22:XV:76:A:H4'	22:XV:76:A:OP1	1.99	0.62
30:YG:115:ARG:NH2	30:YG:137:GLU:OE1	2.32	0.62
38:YS:48:LEU:HD12	38:YS:48:LEU:N	2.14	0.62
39:YT:1:MET:O	39:YT:3:ARG:N	2.29	0.62
7:QG:155:ARG:HD3	7:QG:155:ARG:H	1.65	0.62
10:QJ:53:PRO:HA	14:QN:42:ILE:HD12	1.82	0.62
29:YF:107:LYS:O	29:YF:108:LYS:C	2.36	0.62
30:YG:3:LEU:HD12	30:YG:4:ASP:H	1.64	0.62
31:YH:86:GLU:O	31:YH:87:LEU:HB2	1.99	0.62
8:QH:6:ILE:HB	8:QH:85:ARG:NH1	2.15	0.62
20:QT:33:ILE:HD12	20:QT:63:ILE:CG1	2.30	0.62
25:RA:2343:C:O2'	25:RA:2373:G:O2'	2.11	0.62
25:RA:2818:G:OP2	37:RR:42:LYS:NZ	2.32	0.62
32:RI:55:ALA:HA	32:RI:58:LEU:HB3	1.82	0.62
39:RT:54:ARG:HA	39:RT:59:THR:HG23	1.82	0.62
1:XA:559:A:OP1	5:XE:126:ARG:NH2	2.32	0.62
2:XB:212:GLN:NE2	2:XB:235:SER:HB2	2.15	0.62
5:XE:41:VAL:HG13	5:XE:113:ALA:HB2	1.81	0.62
27:YD:35:LYS:HA	27:YD:64:ILE:HG22	1.81	0.62
25:RA:1782:C:H1'	25:RA:2609:U:H5"	1.81	0.62
28:RE:35:GLN:CG	28:RE:37:ARG:NE	2.62	0.62
29:RF:143:ALA:HB1	29:RF:148:LEU:HB2	1.81	0.62
31:RH:137:ASP:HB3	31:RH:140:LYS:HB2	1.81	0.62
36:RQ:86:GLY:C	36:RQ:88:GLY:H	2.03	0.62
43:RX:53:LYS:HB2	43:RX:82:GLN:HB3	1.80	0.62
25:YA:957:A:H5'	36:YQ:76:LYS:HD2	1.80	0.62
25:YA:958:U:OP2	36:YQ:14:ARG:NH1	2.32	0.62
25:YA:2745:C:H1'	31:YH:143:GLN:HG2	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2789:C:H1'	25:YA:2892:A:H2	1.64	0.62
28:YE:131:ALA:HB1	28:YE:135:HIS:CE1	2.34	0.62
31:YH:136:ILE:H	31:YH:136:ILE:HD12	1.64	0.62
48:Y2:70:GLN:O	48:Y2:71:ASN:HB2	2.00	0.62
25:RA:2777:G:OP2	25:RA:2781:A:O2'	2.16	0.62
47:R1:7:ILE:HG12	47:R1:91:LYS:HZ1	1.61	0.62
1:XA:28:G:O2'	1:XA:296:U:OP1	2.17	0.62
1:XA:67:C:H2'	1:XA:68:G:C8	2.35	0.62
27:YD:133:LEU:HD21	27:YD:191:ALA:CB	2.29	0.62
29:YF:28:ILE:HG22	29:YF:112:MET:HB3	1.80	0.62
29:YF:28:ILE:HD13	29:YF:30:PRO:HD3	1.80	0.62
48:Y2:69:ARG:HB2	48:Y2:69:ARG:CZ	2.29	0.62
25:RA:1443:G:H1	25:RA:1548:C:H42	1.45	0.62
2:XB:54:THR:HG21	2:XB:201:ILE:HD11	1.82	0.62
2:XB:92:TYR:CE1	2:XB:151:GLY:HA3	2.35	0.62
7:XG:111:ARG:NH1	7:XG:113:GLU:OE2	2.31	0.62
25:YA:774:A:H2	25:YA:787:U:HO2'	1.48	0.62
25:YA:1287:A:N7	37:YR:107:ASP:HB2	2.15	0.62
38:YS:100:ALA:HA	38:YS:103:GLU:CG	2.30	0.62
48:Y2:17:SER:HB2	48:Y2:18:PRO:CA	2.30	0.62
48:Y2:41:ILE:HG12	48:Y2:44:LEU:HD12	1.82	0.62
1:QA:1322:C:O2'	1:QA:1323:G:H5'	2.00	0.62
25:RA:252:G:OP2	35:RP:50:ARG:NH1	2.32	0.62
25:RA:863:A:O3'	26:RB:100:G:N2	2.32	0.62
26:RB:33:G:H5'	30:RG:2:PRO:HG3	1.82	0.62
28:RE:13:ARG:HH12	28:RE:21:VAL:HG12	1.64	0.62
25:YA:2151:G:H2'	25:YA:2152:G:H8	1.65	0.62
38:YS:17:ARG:HG3	38:YS:18:ILE:N	2.14	0.62
46:Y0:27:GLU:HG3	46:Y0:68:GLU:HA	1.82	0.62
1:QA:1023:G:H3'	1:QA:1024:G:H5"	1.80	0.62
1:QA:1143:G:H2'	1:QA:1144:G:H8	1.64	0.62
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.33	0.62
25:RA:2636:U:OP1	28:RE:79:ARG:HA	1.99	0.62
27:RD:35:LYS:HD2	27:RD:104:TYR:CD1	2.35	0.62
1:XA:346:G:H1'	1:XA:347:G:H5'	1.82	0.62
2:XB:12:GLU:O	2:XB:16:HIS:ND1	2.21	0.62
4:XD:111:ALA:HB2	4:XD:120:LEU:HD12	1.82	0.62
27:YD:134:ARG:HD3	27:YD:135:PHE:CE1	2.35	0.62
27:YD:182:LEU:H	27:YD:272:ALA:HB3	1.63	0.62
28:YE:51:PHE:O	28:YE:52:LEU:C	2.38	0.62
28:YE:104:VAL:HG11	28:YE:188:VAL:HG23	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:939:G:H5"	7:QG:102:ARG:NH2	2.15	0.61
4:QD:3:ARG:HH11	4:QD:115:ARG:HD2	1.65	0.61
4:QD:9:CYS:HB2	4:QD:22:LYS:HZ1	1.65	0.61
25:RA:1337:G:OP2	43:RX:73:ARG:NH2	2.33	0.61
30:RG:3:LEU:CG	50:R4:25:TYR:CE1	2.83	0.61
31:RH:152:ARG:O	31:RH:153:LYS:CD	2.48	0.61
50:R4:23:GLU:O	50:R4:25:TYR:N	2.33	0.61
50:R4:61:ARG:O	50:R4:63:TYR:N	2.33	0.61
10:XJ:5:ARG:HH21	10:XJ:99:LYS:HD2	1.64	0.61
25:YA:221:A:H4'	25:YA:222:A:O5'	2.00	0.61
25:YA:469:G:N7	53:Y7:37:LYS:NZ	2.48	0.61
25:YA:1996:C:OP1	34:YO:31:LYS:NZ	2.32	0.61
25:YA:2030:A:H4'	25:YA:2031:A:H8	1.65	0.61
25:YA:2788:C:O2'	25:YA:2809:A:N3	2.32	0.61
29:YF:32:LEU:CD1	29:YF:105:VAL:HG13	2.29	0.61
35:YP:71:VAL:HG13	35:YP:72:PRO:HD3	1.81	0.61
11:QK:121:PRO:HD2	11:QK:126:ARG:HD3	1.81	0.61
12:QL:126:LYS:C	12:QL:128:ALA:H	2.03	0.61
25:RA:884:C:N3	25:RA:892:G:C6	2.69	0.61
25:RA:2107:C:N4	25:RA:2182:G:H1	1.97	0.61
25:RA:2377:A:H2'	25:RA:2378:A:C8	2.35	0.61
28:RE:35:GLN:HG2	28:RE:37:ARG:NE	2.14	0.61
28:RE:201:THR:HG22	28:RE:203:LYS:N	2.07	0.61
5:XE:42:GLY:HA3	5:XE:66:MET:HG2	1.82	0.61
9:XI:29:ASN:OD1	9:XI:65:VAL:N	2.29	0.61
25:YA:226:G:HO2'	25:YA:228:A:N6	1.98	0.61
25:YA:2335:A:O2'	25:YA:2336:A:O5'	2.17	0.61
36:YQ:54:MET:O	36:YQ:57:HIS:HB3	2.00	0.61
1:QA:842:C:O2'	1:QA:848:C:N4	2.32	0.61
4:QD:52:SER:H	4:QD:55:ALA:HB3	1.65	0.61
4:QD:108:LEU:HD21	4:QD:183:GLY:HA3	1.83	0.61
15:QO:82:ILE:O	15:QO:86:GLY:N	2.32	0.61
19:QS:42:PRO:HG3	50:R4:63:TYR:CE2	2.34	0.61
25:RA:1071:G:N1	25:RA:1091:G:N7	2.48	0.61
25:RA:1614:A:H62	42:RW:93:ALA:HB2	1.65	0.61
25:RA:1689:A:H62	25:RA:1698:A:H2	1.47	0.61
31:RH:153:LYS:CB	31:RH:154:PRO:CD	2.69	0.61
50:R4:35:VAL:O	50:R4:37:SER:N	2.26	0.61
25:YA:443:A:C5	29:YF:45:ARG:HD2	2.35	0.61
14:QN:13:THR:N	14:QN:14:PRO:HD2	2.15	0.61
25:RA:708:C:H42	25:RA:723:G:H1	1.48	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RF:107:LYS:HE3	29:RF:206:ILE:HD12	1.82	0.61
36:RQ:83:MET:HB2	46:R0:7:LEU:HD12	1.82	0.61
47:R1:53:VAL:HG22	47:R1:74:VAL:HG13	1.83	0.61
55:R9:25:VAL:HB	55:R9:34:GLN:HB2	1.81	0.61
20:XT:26:ASN:HB2	20:XT:71:THR:HG23	1.82	0.61
25:YA:654(A):G:H8	25:YA:654(A):G:OP2	1.84	0.61
25:YA:1614:A:H61	42:YW:88:ARG:H	1.46	0.61
27:YD:27:THR:O	27:YD:29:PRO:HD2	1.99	0.61
36:YQ:66:ILE:CG1	36:YQ:67:ARG:H	2.12	0.61
48:Y2:41:ILE:HD11	48:Y2:44:LEU:HG	1.82	0.61
3:QC:14:ILE:O	3:QC:16:ARG:N	2.33	0.61
25:RA:2126:A:H4'	25:RA:2127:G:O5'	2.00	0.61
27:RD:35:LYS:HZ1	27:RD:104:TYR:HB2	1.64	0.61
1:XA:542:G:OP1	4:XD:10:ARG:NH2	2.34	0.61
1:XA:1014:A:H4'	19:XS:14:HIS:CD2	2.36	0.61
25:YA:1103:A:H5'	25:YA:1104:C:C5	2.35	0.61
25:YA:1803:A:H4'	27:YD:259:THR:HG21	1.83	0.61
27:YD:25:THR:HG21	27:YD:81:ALA:CA	2.31	0.61
27:YD:70:TRP:CH2	27:YD:150:LYS:HA	2.35	0.61
27:YD:227:ASN:CB	27:YD:228:PRO:HD2	2.24	0.61
31:YH:6:ARG:HG3	31:YH:7:LEU:N	2.15	0.61
36:YQ:2:LEU:HD23	36:YQ:2:LEU:H	1.65	0.61
1:QA:1292:U:OP1	7:QG:41:ARG:NH2	2.32	0.61
26:RB:15:A:H5'	26:RB:16:G:C8	2.35	0.61
30:RG:6:ALA:H	50:R4:23:GLU:HG2	1.64	0.61
31:RH:86:GLU:O	31:RH:87:LEU:HB2	1.99	0.61
35:RP:62:LEU:HD21	54:R8:25:MET:CB	2.27	0.61
27:YD:35:LYS:HE3	27:YD:64:ILE:C	2.21	0.61
27:YD:137:PRO:HB2	27:YD:140:THR:HG23	1.81	0.61
54:Y8:29:LYS:HD3	54:Y8:44:LYS:CB	2.30	0.61
1:QA:1055:A:N7	1:QA:1200:C:N4	2.48	0.61
10:QJ:40:LEU:HB2	10:QJ:69:ASN:HB3	1.83	0.61
11:QK:22:HIS:HB3	11:QK:29:ILE:HG23	1.83	0.61
21:QU:6:ARG:HE	21:QU:15:ARG:NH2	1.99	0.61
25:RA:2489:G:N2	25:RA:2491:U:O4	2.32	0.61
25:RA:2747:G:H21	25:RA:2757:A:H62	1.48	0.61
29:RF:101:LEU:O	29:RF:106:ARG:NH1	2.33	0.61
54:R8:29:LYS:HD3	54:R8:44:LYS:CB	2.30	0.61
8:XH:4:ASP:OD2	8:XH:85:ARG:NH1	2.33	0.61
15:XO:87:ILE:HG22	15:XO:88:ARG:H	1.65	0.61
26:YB:77:U:OP1	45:YZ:19:ARG:NH2	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:2:ALA:HB3	27:YD:20:ASP:HB3	1.83	0.61
28:YE:35:GLN:HG2	28:YE:37:ARG:NE	2.14	0.61
28:YE:35:GLN:CG	28:YE:37:ARG:HE	2.11	0.61
28:YE:95:ILE:HD12	28:YE:95:ILE:N	2.15	0.61
38:YS:49:VAL:HG22	38:YS:80:LEU:HD12	1.82	0.61
31:RH:6:ARG:HG3	31:RH:7:LEU:N	2.15	0.61
50:R4:71:ARG:NH1	50:R4:71:ARG:CG	2.60	0.61
2:XB:67:THR:HG21	2:XB:155:LEU:HG	1.81	0.61
12:XL:126:LYS:C	12:XL:128:ALA:H	2.04	0.61
20:XT:100:ILE:HG13	20:XT:102:GLY:N	2.16	0.61
25:YA:111:A:O3'	48:Y2:69:ARG:NH2	2.33	0.61
25:YA:784:A:N7	27:YD:229:VAL:HG21	2.16	0.61
25:YA:1077:A:H5'	25:YA:1078:U:H5"	1.82	0.61
27:YD:133:LEU:HD21	27:YD:191:ALA:HB2	1.82	0.61
27:YD:147:LEU:CD1	27:YD:155:LEU:HD11	2.26	0.61
29:YF:164:ARG:HG2	29:YF:164:ARG:HH11	1.66	0.61
31:YH:137:ASP:HB3	31:YH:140:LYS:HB2	1.81	0.61
36:YQ:86:GLY:C	36:YQ:88:GLY:N	2.52	0.61
36:YQ:88:GLY:C	36:YQ:90:VAL:H	2.02	0.61
54:Y8:22:VAL:HG21	54:Y8:53:PRO:HB2	1.83	0.61
1:QA:6:G:N2	5:QE:98:THR:OG1	2.34	0.61
20:QT:36:LEU:CD1	20:QT:55:ILE:HG23	2.31	0.61
22:QV:24:U:O2'	25:RA:1923:U:OP1	2.17	0.61
30:RG:5:VAL:HA	50:R4:23:GLU:HG3	1.82	0.61
36:RQ:2:LEU:H	36:RQ:2:LEU:HD23	1.65	0.61
54:R8:59:LYS:HZ3	54:R8:59:LYS:HB3	1.66	0.61
12:XL:85:ILE:HD11	12:XL:98:TYR:HB2	1.81	0.61
25:YA:1022:G:N2	25:YA:1023:U:O4	2.33	0.61
25:YA:2729:G:H1'	28:YE:187:ALA:HB2	1.82	0.61
28:YE:52:LEU:HB3	28:YE:54:GLN:OE1	2.00	0.61
29:YF:119:ARG:HH11	29:YF:119:ARG:HG2	1.64	0.61
31:YH:152:ARG:O	31:YH:153:LYS:CD	2.48	0.61
36:YQ:20:ALA:HB1	36:YQ:99:PRO:CD	2.30	0.61
38:YS:89:ARG:O	38:YS:90:GLY:O	2.19	0.61
40:YU:52:ARG:HA	40:YU:55:ARG:HG3	1.83	0.61
47:Y1:83:GLU:O	47:Y1:85:LEU:N	2.34	0.61
51:Y5:49:CYS:HG	51:Y5:60:VAL:HG12	1.60	0.61
14:QN:6:LEU:HD23	14:QN:23:ARG:HH22	1.64	0.61
36:RQ:88:GLY:C	36:RQ:90:VAL:H	2.02	0.61
42:RW:25:ARG:NH2	42:RW:74:ALA:O	2.33	0.61
51:R5:52:TYR:O	51:R5:53:ALA:HB3	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1405:G:OP2	58:QA:1691:PAR:O34	2.19	0.60
12:QL:10:LEU:HB3	17:QQ:32:TYR:CE2	2.36	0.60
25:RA:1263:U:O2'	51:R5:11:THR:HG23	2.01	0.60
28:RE:52:LEU:HB3	28:RE:54:GLN:OE1	2.00	0.60
40:RU:90:VAL:HG11	41:RV:40:LEU:HD12	1.82	0.60
5:XE:37:ARG:HA	5:XE:114:GLY:H	1.66	0.60
17:XQ:11:VAL:HG12	17:XQ:85:VAL:HG13	1.83	0.60
25:YA:1184:G:OP1	49:Y3:29:ARG:NH1	2.34	0.60
27:YD:35:LYS:NZ	27:YD:65:ILE:HA	2.15	0.60
27:YD:54:ARG:HH11	27:YD:54:ARG:CG	2.14	0.60
28:YE:9:VAL:HG11	39:YT:7:ILE:HG22	1.82	0.60
28:YE:131:ALA:HB1	28:YE:135:HIS:HE1	1.65	0.60
36:YQ:66:ILE:CG1	36:YQ:67:ARG:N	2.64	0.60
48:Y2:16:LEU:O	48:Y2:16:LEU:CG	2.49	0.60
50:Y4:41:PRO:O	50:Y4:42:PHE:HB3	2.00	0.60
50:Y4:56:VAL:HA	50:Y4:60:GLN:HB2	1.83	0.60
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.83	0.60
25:RA:1013:C:H42	25:RA:1149:G:H1	1.48	0.60
25:RA:2331:G:O2'	46:R0:43:THR:HG22	2.01	0.60
38:RS:88:ASP:O	38:RS:89:ARG:HB3	2.01	0.60
25:YA:1053:C:H42	25:YA:1106:G:H1	1.50	0.60
25:YA:2438:U:O3'	25:YA:2439:A:H3'	2.00	0.60
25:YA:2445:G:OP1	29:YF:74:ARG:NH2	2.34	0.60
25:YA:2784:C:H5"	28:YE:41:LYS:NZ	2.15	0.60
27:YD:35:LYS:HG2	27:YD:64:ILE:CG2	2.31	0.60
28:YE:37:ARG:NE	28:YE:37:ARG:CA	2.64	0.60
51:Y5:16:ARG:HG2	51:Y5:16:ARG:HH11	1.66	0.60
1:QA:503:C:OP2	12:QL:116:SER:HB3	2.01	0.60
1:QA:816:A:OP1	1:QA:1526:G:O2'	2.19	0.60
3:QC:8:ILE:HG23	3:QC:16:ARG:HG2	1.83	0.60
25:RA:873:G:H1	25:RA:904:C:N4	1.98	0.60
25:RA:2212:A:H1'	25:RA:2215:G:C5	2.37	0.60
25:RA:2250:G:C6	36:RQ:82:ARG:HD2	2.36	0.60
25:RA:2788:C:O2'	25:RA:2809:A:N3	2.35	0.60
31:RH:126:PRO:CD	31:RH:127:GLU:N	2.64	0.60
36:RQ:54:MET:O	36:RQ:57:HIS:HB3	2.00	0.60
37:RR:70:LEU:O	37:RR:72:ASP:N	2.31	0.60
39:RT:77:PRO:HB2	39:RT:80:SER:HB2	1.83	0.60
45:RZ:111:VAL:HG13	45:RZ:112:ARG:N	2.16	0.60
1:XA:1226:C:O2'	13:XM:111:LYS:NZ	2.34	0.60
1:XA:1336:C:H1'	1:XA:1337:G:C2	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:74:LYS:HE3	2:XB:166:ASP:HB2	1.82	0.60
31:YH:44:VAL:O	31:YH:44:VAL:HG22	2.01	0.60
33:YN:8:GLN:O	33:YN:9:VAL:HG13	2.01	0.60
1:QA:411:A:H62	1:QA:413:G:H21	1.48	0.60
3:QC:11:ARG:O	3:QC:13:GLY:N	2.34	0.60
4:QD:9:CYS:HB2	4:QD:22:LYS:NZ	2.17	0.60
28:RE:4:ILE:CD1	28:RE:28:ALA:HB1	2.29	0.60
28:RE:51:PHE:O	28:RE:52:LEU:C	2.38	0.60
36:RQ:66:ILE:CG1	36:RQ:67:ARG:N	2.64	0.60
44:RY:87:LYS:O	44:RY:88:LYS:NZ	2.32	0.60
1:XA:1005:A:HO2'	1:XA:1037:C:HO2'	1.50	0.60
28:YE:53:PRO:HG2	28:YE:54:GLN:NE2	2.17	0.60
38:YS:99:LYS:O	38:YS:102:ALA:N	2.34	0.60
1:QA:1124:G:H3'	1:QA:1145:C:N4	2.15	0.60
25:RA:993:G:OP1	40:RU:50:ARG:NH2	2.35	0.60
25:RA:1187:G:H5"	41:RV:81:TYR:CE1	2.36	0.60
28:RE:104:VAL:HG11	28:RE:188:VAL:HG23	1.82	0.60
30:RG:114:ILE:HD13	30:RG:140:ILE:HG21	1.82	0.60
31:RH:44:VAL:O	31:RH:44:VAL:HG22	2.01	0.60
35:RP:85:LEU:HA	35:RP:88:LEU:HD22	1.83	0.60
36:RQ:86:GLY:C	36:RQ:88:GLY:N	2.52	0.60
12:XL:5:PRO:HA	12:XL:9:GLN:NE2	2.17	0.60
20:XT:26:ASN:CB	20:XT:71:THR:OG1	2.50	0.60
25:YA:2636:U:OP1	28:YE:79:ARG:HA	2.01	0.60
27:YD:25:THR:HG21	27:YD:81:ALA:HA	1.83	0.60
27:YD:35:LYS:NZ	27:YD:64:ILE:O	2.32	0.60
27:YD:72:LYS:HE3	27:YD:75:ILE:HD12	1.82	0.60
27:YD:263:ARG:CB	27:YD:263:ARG:HH11	2.15	0.60
28:YE:63:LEU:CD1	28:YE:64:LYS:H	2.04	0.60
34:YO:96:THR:O	34:YO:97:ARG:HB3	2.01	0.60
38:YS:11:LYS:HB2	38:YS:91:PRO:HD3	1.84	0.60
39:YT:84:GLN:OE1	39:YT:85:LYS:NZ	2.34	0.60
7:QG:26:PHE:O	7:QG:30:ILE:HG12	2.01	0.60
25:RA:1053:C:H42	25:RA:1106:G:H1	1.50	0.60
1:XA:664:G:H22	1:XA:741:G:H1	1.50	0.60
1:XA:1004:A:H8	1:XA:1036:G:H22	1.50	0.60
1:XA:1128:C:C2	1:XA:1144:G:N2	2.69	0.60
25:YA:155:C:N3	25:YA:171:G:N2	2.40	0.60
27:YD:166:GLN:HE21	27:YD:166:GLN:CA	2.14	0.60
9:QI:13:ALA:HB2	9:QI:68:GLY:HA3	1.82	0.60
12:QL:54:LYS:CD	12:QL:54:LYS:N	2.65	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:QO:39:LEU:HD13	15:QO:56:LEU:HB2	1.82	0.60
25:RA:2361:A:O5'	54:R8:27:THR:OG1	2.20	0.60
27:RD:44:ASN:HB3	27:RD:49:ILE:HA	1.83	0.60
27:RD:70:TRP:CH2	27:RD:150:LYS:HA	2.36	0.60
28:RE:4:ILE:C	28:RE:5:LEU:HD23	2.22	0.60
36:RQ:80:GLU:C	36:RQ:81:VAL:HG13	2.22	0.60
1:XA:503:C:OP2	12:XL:116:SER:HB3	2.02	0.60
12:XL:54:LYS:CD	12:XL:54:LYS:N	2.65	0.60
25:YA:1203:G:H3'	25:YA:1204:A:H5"	1.82	0.60
25:YA:2250:G:C6	36:YQ:82:ARG:HD2	2.36	0.60
27:YD:35:LYS:HD3	27:YD:63:ARG:CB	2.32	0.60
27:YD:147:LEU:HD13	27:YD:155:LEU:CD1	2.29	0.60
29:YF:175:THR:O	29:YF:176:LEU:CB	2.48	0.60
30:YG:28:VAL:HG23	30:YG:29:TRP:CD1	2.36	0.60
36:YQ:63:LYS:HE2	36:YQ:65:PHE:CE1	2.37	0.60
45:YZ:80:ARG:HH21	45:YZ:82:ARG:HH22	1.49	0.60
54:Y8:53:PRO:CD	54:Y8:54:GLU:H	2.15	0.60
28:RE:53:PRO:HG2	28:RE:54:GLN:NE2	2.16	0.60
29:RF:9:ILE:HD11	29:RF:125:LEU:HG	1.83	0.60
1:XA:130:A:N3	1:XA:263:A:O2'	2.32	0.60
25:YA:76:C:O2'	48:Y2:62:THR:HG21	2.02	0.60
25:YA:2306:C:H3'	25:YA:2307:G:H5"	1.84	0.60
28:YE:93:VAL:N	28:YE:95:ILE:HD12	2.17	0.60
37:YR:42:LYS:HA	37:YR:45:ARG:HD2	1.84	0.60
2:QB:15:VAL:H	2:QB:16:HIS:CE1	2.20	0.60
5:QE:9:LYS:HB3	5:QE:112:LEU:HD11	1.82	0.60
25:RA:263:C:H2'	25:RA:264:C:O4'	2.02	0.60
25:RA:2808:U:O4	25:RA:2892:A:N7	2.35	0.60
28:RE:27:LEU:HD21	39:RT:1:MET:HE1	1.82	0.60
28:RE:63:LEU:CD1	28:RE:64:LYS:H	2.04	0.60
28:RE:131:ALA:HB1	28:RE:135:HIS:HE1	1.65	0.60
1:XA:243:A:H4'	1:XA:244:U:O5'	2.02	0.60
27:YD:21:PHE:HB3	27:YD:24:ILE:HG13	1.83	0.60
27:YD:35:LYS:CG	27:YD:64:ILE:N	2.56	0.60
28:YE:93:VAL:N	28:YE:95:ILE:CD1	2.65	0.60
35:YP:61:ARG:HD2	54:Y8:13:ARG:HD2	1.83	0.60
45:YZ:144:LEU:HD11	45:YZ:149:SER:HA	1.83	0.60
25:RA:26:G:H1'	25:RA:515:A:H61	1.67	0.60
25:RA:857:C:H4'	46:R0:23:VAL:HG21	1.82	0.60
25:RA:2438:U:O3'	25:RA:2439:A:H3'	2.02	0.60
28:RE:37:ARG:NE	28:RE:37:ARG:CA	2.64	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RF:184:TYR:CE2	29:RF:188:ARG:HD2	2.37	0.60
31:RH:30:LYS:CD	31:RH:81:GLU:H	2.15	0.60
31:RH:89:ILE:O	31:RH:91:GLY:N	2.35	0.60
32:RI:115:ALA:HB3	32:RI:128:LEU:HD12	1.84	0.60
13:XM:3:ARG:HA	13:XM:9:ILE:HG21	1.83	0.60
25:YA:1012:U:O4	33:YN:25:ARG:HA	2.01	0.60
25:YA:2267:A:H5"	25:YA:2268:A:H5'	1.82	0.60
25:YA:2298:A:H62	25:YA:2318:G:H8	1.47	0.60
26:YB:81:G:O6	26:YB:95:U:O2	2.19	0.60
28:YE:68:ALA:O	28:YE:69:LYS:HG3	2.02	0.60
29:YF:63:LYS:HE2	29:YF:67:GLN:HB3	1.83	0.60
36:YQ:80:GLU:C	36:YQ:81:VAL:HG13	2.22	0.60
55:Y9:35:ARG:HH21	55:Y9:37:GLY:HA3	1.67	0.60
1:QA:1118:C:H1'	1:QA:1179:A:C4	2.37	0.59
25:RA:2336:A:H61	46:R0:43:THR:HG21	1.66	0.59
25:RA:2746:U:H5"	31:RH:138:LYS:HE2	1.83	0.59
30:RG:64:THR:HG23	30:RG:66:GLN:H	1.66	0.59
31:RH:117:PRO:HB3	31:RH:123:PHE:CD2	2.37	0.59
2:XB:92:TYR:HE1	2:XB:151:GLY:HA3	1.66	0.59
2:XB:235:SER:O	2:XB:237:ALA:N	2.35	0.59
22:XV:56:C:O2'	30:YG:78:SER:HB2	2.03	0.59
29:YF:123:LEU:HD12	29:YF:124:LEU:N	2.17	0.59
31:YH:30:LYS:CD	31:YH:81:GLU:H	2.15	0.59
5:QE:100:VAL:O	5:QE:107:ARG:NH2	2.35	0.59
25:RA:297:C:H5"	44:RY:85:VAL:HG21	1.84	0.59
28:RE:69:LYS:O	28:RE:71:GLY:N	2.27	0.59
28:RE:95:ILE:HD12	28:RE:95:ILE:N	2.15	0.59
28:RE:116:VAL:O	28:RE:117:MET:CB	2.49	0.59
36:RQ:81:VAL:HG23	36:RQ:82:ARG:H	1.67	0.59
39:RT:105:LEU:O	39:RT:107:ASP:N	2.36	0.59
45:RZ:5:LEU:HD11	45:RZ:39:VAL:HB	1.83	0.59
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.38	0.59
25:YA:84:A:O5'	44:YY:8:LYS:HD3	2.02	0.59
25:YA:660:G:O3'	29:YF:38:ARG:NH2	2.36	0.59
25:YA:1036:G:OP1	31:YH:59:ARG:HB2	2.01	0.59
25:YA:2031:A:N3	25:YA:2455:G:O2'	2.30	0.59
25:YA:2099:U:H3	25:YA:2190:G:H1	1.49	0.59
27:YD:172:TYR:CD1	27:YD:186:HIS:HA	2.37	0.59
31:YH:4:ILE:HD13	31:YH:4:ILE:N	2.17	0.59
35:YP:92:GLU:HA	35:YP:123:LEU:HD23	1.84	0.59
36:YQ:86:GLY:C	36:YQ:88:GLY:H	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YS:110:LEU:HA	38:YS:112:PHE:CE2	2.37	0.59
53:Y7:9:ARG:HH21	53:Y7:48:LYS:HB2	1.62	0.59
25:RA:1089:G:H21	25:RA:1102:C:H42	1.49	0.59
25:RA:2712:U:HO2'	25:RA:2712(A):A:H8	1.50	0.59
28:RE:61:ARG:HB2	28:RE:62:PRO:CD	2.33	0.59
28:RE:68:ALA:O	28:RE:69:LYS:HG3	2.02	0.59
31:RH:4:ILE:HD13	31:RH:4:ILE:N	2.18	0.59
36:RQ:63:LYS:HE2	36:RQ:65:PHE:CE1	2.37	0.59
1:XA:1396:A:H4'	1:XA:1397:C:H5"	1.85	0.59
6:XF:61:LEU:HB3	6:XF:63:TYR:HE1	1.66	0.59
28:YE:51:PHE:HD2	28:YE:52:LEU:HG	1.67	0.59
31:YH:55:PRO:HG2	31:YH:61:HIS:CE1	2.37	0.59
54:Y8:22:VAL:CG2	54:Y8:53:PRO:HB2	2.32	0.59
54:Y8:56:GLU:O	54:Y8:59:LYS:N	2.35	0.59
1:QA:176:C:O2'	1:QA:1451:A:N6	2.36	0.59
1:QA:1128:C:OP1	9:QI:66:ARG:NH2	2.28	0.59
1:QA:1175:G:H2'	1:QA:1176:A:C8	2.38	0.59
25:RA:321:G:OP1	29:RF:135:LYS:NZ	2.30	0.59
25:RA:994:C:OP2	40:RU:54:LYS:NZ	2.34	0.59
32:RI:92:VAL:HG13	32:RI:120:ILE:HG23	1.84	0.59
27:YD:12:SER:C	27:YD:14:ARG:H	2.06	0.59
27:YD:174:ILE:HD12	27:YD:174:ILE:N	2.16	0.59
28:YE:116:VAL:O	28:YE:117:MET:CB	2.49	0.59
32:YI:129:THR:HA	32:YI:137:PRO:HA	1.84	0.59
1:QA:261:U:OP2	20:QT:79:ARG:NH2	2.36	0.59
9:QI:9:ARG:HB3	9:QI:14:VAL:HG13	1.84	0.59
10:QJ:42:THR:HG23	10:QJ:68:HIS:HA	1.83	0.59
31:RH:82:GLY:O	31:RH:135:GLY:O	2.20	0.59
38:RS:38:GLN:OE1	38:RS:47:THR:OG1	2.18	0.59
25:YA:142:G:H1'	43:YX:37:THR:HG21	1.84	0.59
25:YA:1796:U:H2'	25:YA:1797:C:C6	2.37	0.59
31:YH:86:GLU:O	31:YH:131:VAL:O	2.20	0.59
31:YH:126:PRO:CD	31:YH:127:GLU:N	2.64	0.59
31:YH:159:GLU:O	31:YH:160:LYS:HG2	2.03	0.59
35:YP:5:ASP:O	35:YP:6:LEU:O	2.20	0.59
1:QA:439:A:OP2	1:QA:493:G:N1	2.29	0.59
1:QA:1348:U:N3	1:QA:1374:A:H2	2.01	0.59
7:QG:73:MET:HG2	7:QG:90:GLU:HA	1.83	0.59
25:RA:273(C):C:H42	25:RA:363(C):G:H1	1.51	0.59
25:RA:1657:C:H2'	25:RA:1658:C:C6	2.37	0.59
25:RA:2439:A:H5'	25:RA:2439:A:H8	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2667:C:H1'	31:RH:109:PHE:CD2	2.38	0.59
28:RE:116:VAL:CG2	28:RE:122:PHE:CD2	2.86	0.59
51:R5:40:LYS:NZ	51:R5:46:CYS:HB3	2.18	0.59
54:R8:22:VAL:HG21	54:R8:53:PRO:HB2	1.83	0.59
5:XE:72:GLN:NE2	5:XE:144:THR:HG22	2.17	0.59
12:XL:70:ILE:HD13	12:XL:77:LEU:HD12	1.83	0.59
25:YA:443:A:H5"	25:YA:444:C:OP1	2.02	0.59
25:YA:2343:C:O2'	25:YA:2373:G:O2'	2.19	0.59
28:YE:4:ILE:C	28:YE:5:LEU:HD23	2.22	0.59
29:YF:11:VAL:HG11	29:YF:18:ARG:HE	1.67	0.59
31:YH:124:GLU:HB3	31:YH:132:ARG:HG3	1.85	0.59
42:YW:86:LEU:HD12	42:YW:87:PRO:HD2	1.83	0.59
49:Y3:6:VAL:HG13	49:Y3:56:VAL:HG13	1.84	0.59
3:QC:50:ALA:HB2	3:QC:75:VAL:HB	1.85	0.59
25:RA:2405:G:O2'	25:RA:2411:A:N6	2.36	0.59
25:RA:2543:G:H21	25:RA:2646:C:H5"	1.68	0.59
25:RA:2832:U:H4'	25:RA:2833:G:H5"	1.83	0.59
1:XA:143:A:H2	1:XA:220:G:H1	1.50	0.59
1:XA:1314:C:OP2	19:XS:4:SER:OG	2.19	0.59
53:Y7:35:ARG:HG3	53:Y7:42:LEU:HD11	1.85	0.59
1:QA:673:G:H2'	1:QA:674:G:C8	2.38	0.59
25:RA:1055:G:H1	25:RA:1104:C:H42	1.51	0.59
28:RE:36:ARG:H	28:RE:37:ARG:HH21	1.49	0.59
28:RE:93:VAL:N	28:RE:95:ILE:CD1	2.65	0.59
31:RH:92:ILE:HG22	31:RH:93:GLY:N	2.18	0.59
50:R4:65:ASP:O	50:R4:66:SER:CB	2.51	0.59
54:R8:22:VAL:CG2	54:R8:53:PRO:HB2	2.32	0.59
5:XE:45:PHE:CE2	5:XE:47:LYS:HD2	2.38	0.59
25:YA:1489:U:HO2'	25:YA:1490:A:H8	1.51	0.59
25:YA:2667:C:N3	31:YH:110:SER:OG	2.33	0.59
27:YD:27:THR:CG2	27:YD:83:GLU:HB3	2.33	0.59
27:YD:177:LEU:HD11	27:YD:183:ARG:HB2	1.85	0.59
28:YE:36:ARG:H	28:YE:37:ARG:HH21	1.49	0.59
28:YE:61:ARG:HB2	28:YE:62:PRO:CD	2.33	0.59
31:YH:4:ILE:HG13	31:YH:6:ARG:CD	2.33	0.59
38:YS:88:ASP:O	38:YS:89:ARG:CB	2.48	0.59
50:Y4:18:CYS:CB	50:Y4:39:CYS:CB	2.79	0.59
25:RA:884:C:C2	25:RA:892:G:N1	2.70	0.59
31:RH:55:PRO:HG2	31:RH:61:HIS:CE1	2.37	0.59
42:RW:86:LEU:HD12	42:RW:87:PRO:HD2	1.85	0.59
50:R4:12:ALA:CB	50:R4:29:PRO:HA	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:R6:52:VAL:HG22	52:R6:53:LYS:HG3	1.84	0.59
1:XA:501:C:H2'	1:XA:502:G:H8	1.68	0.59
1:XA:826:C:H2'	1:XA:827:U:O2	2.03	0.59
1:XA:1347:G:OP2	9:XI:107:ARG:HG2	2.03	0.59
1:XA:1446:A:O2'	1:XA:1447:G:O5'	2.21	0.59
20:XT:41:ILE:HG22	20:XT:91:LEU:HD11	1.82	0.59
27:YD:137:PRO:HB2	27:YD:140:THR:CG2	2.33	0.59
31:YH:82:GLY:O	31:YH:135:GLY:O	2.20	0.59
42:YW:111:HIS:CD2	42:YW:112:GLY:H	2.20	0.59
12:QL:54:LYS:N	12:QL:54:LYS:HD2	2.18	0.59
12:QL:126:LYS:HB2	12:QL:126:LYS:HZ3	1.68	0.59
13:QM:49:THR:HB	13:QM:52:GLU:HG3	1.85	0.59
25:RA:2023:G:H5'	25:RA:2617:C:H4'	1.85	0.59
31:RH:86:GLU:O	31:RH:131:VAL:O	2.20	0.59
31:RH:127:GLU:HG2	31:RH:128:PRO:CG	2.33	0.59
12:XL:18:VAL:O	12:XL:19:ARG:HB2	2.03	0.59
29:YF:174:VAL:HG13	29:YF:174:VAL:O	2.03	0.59
48:Y2:64:LEU:CD2	48:Y2:68:ARG:HD2	2.33	0.59
12:QL:5:PRO:HA	12:QL:9:GLN:NE2	2.17	0.58
12:QL:70:ILE:HD13	12:QL:77:LEU:HD12	1.83	0.58
27:RD:71:ASP:OD2	27:RD:103:ARG:NH2	2.36	0.58
27:RD:85:ASP:HB2	27:RD:92:ILE:HD13	1.84	0.58
28:RE:72:VAL:O	28:RE:73:GLU:O	2.21	0.58
28:RE:93:VAL:N	28:RE:95:ILE:HD12	2.17	0.58
36:RQ:132:VAL:HG11	45:RZ:81:ARG:CZ	2.33	0.58
47:R1:92:LYS:HG3	47:R1:96:LYS:HB2	1.84	0.58
10:XJ:76:ASN:O	10:XJ:78:ASN:ND2	2.36	0.58
25:YA:2365:G:H4'	46:Y0:60:PHE:CZ	2.38	0.58
27:YD:27:THR:CG2	27:YD:28:GLU:N	2.66	0.58
33:YN:40:PRO:HB3	40:YU:68:ALA:HB2	1.85	0.58
35:YP:5:ASP:O	35:YP:6:LEU:C	2.41	0.58
36:YQ:81:VAL:HG23	36:YQ:82:ARG:H	1.67	0.58
1:XA:347:G:H1'	1:XA:348:G:H5"	1.83	0.58
29:YF:63:LYS:HE2	29:YF:67:GLN:CB	2.32	0.58
30:YG:136:ARG:O	30:YG:154:GLY:HA2	2.02	0.58
31:YH:89:ILE:O	31:YH:91:GLY:N	2.35	0.58
37:YR:67:LEU:HD13	37:YR:76:VAL:HG21	1.84	0.58
1:QA:1126:U:H1'	1:QA:1280:A:N7	2.19	0.58
25:RA:519:U:H2'	25:RA:520:G:H8	1.68	0.58
25:RA:2032:G:H21	28:RE:146:THR:HG23	1.69	0.58
50:R4:22:ILE:HG22	50:R4:23:GLU:N	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:R4:63:TYR:C	50:R4:65:ASP:H	2.05	0.58
1:XA:1392:G:H21	1:XA:1502:A:H8	1.49	0.58
14:XN:23:ARG:HD2	14:XN:28:GLY:O	2.03	0.58
20:XT:26:ASN:HB3	20:XT:71:THR:OG1	2.03	0.58
27:YD:165:ILE:HA	27:YD:175:LEU:HD23	1.83	0.58
36:YQ:55:VAL:HG22	36:YQ:56:ARG:N	2.18	0.58
43:YX:61:GLY:N	43:YX:75:ASP:OD1	2.36	0.58
45:YZ:72:ARG:NH2	45:YZ:97:GLU:O	2.27	0.58
47:Y1:51:VAL:HG11	47:Y1:74:VAL:HG21	1.84	0.58
48:Y2:17:SER:CB	48:Y2:18:PRO:HA	2.33	0.58
48:Y2:32:LEU:HD11	48:Y2:54:LYS:HG3	1.84	0.58
50:Y4:39:CYS:N	50:Y4:41:PRO:HD3	2.17	0.58
1:QA:523:A:H61	12:QL:92:ASP:HB2	1.68	0.58
16:QP:21:VAL:O	16:QP:33:ILE:HG12	2.03	0.58
25:RA:270(G):C:H42	25:RA:270(S):G:H1	1.49	0.58
25:RA:981:A:N1	25:RA:2027:G:O2'	2.35	0.58
25:RA:987:G:O2'	25:RA:1000:A:N3	2.32	0.58
25:RA:996:A:OP2	40:RU:92:ARG:NH2	2.36	0.58
27:RD:44:ASN:CB	27:RD:49:ILE:HA	2.33	0.58
28:RE:6:GLY:HA3	28:RE:26:ILE:HD11	1.85	0.58
30:RG:145:THR:HG23	50:R4:28:LYS:HZ1	1.67	0.58
35:RP:14:LYS:O	35:RP:16:ARG:N	2.36	0.58
50:R4:48:ARG:NH1	50:R4:52:THR:H	2.01	0.58
54:R8:56:GLU:O	54:R8:59:LYS:N	2.35	0.58
1:XA:523:A:H61	12:XL:92:ASP:HB2	1.67	0.58
1:XA:532:A:O2'	1:XA:533:A:OP1	2.16	0.58
2:XB:72:GLY:HA2	2:XB:165:VAL:HG22	1.85	0.58
2:XB:96:ARG:H	2:XB:96:ARG:HD2	1.67	0.58
8:XH:39:LEU:HB3	8:XH:45:ILE:HG12	1.85	0.58
12:XL:82:VAL:HG23	12:XL:106:ASP:OD2	2.04	0.58
20:XT:10:LEU:HG	20:XT:12:ALA:H	1.68	0.58
20:XT:84:LEU:HD22	20:XT:88:VAL:HG23	1.85	0.58
25:YA:2593:U:H2'	25:YA:2594:C:H6	1.68	0.58
31:YH:92:ILE:HG22	31:YH:93:GLY:N	2.18	0.58
41:YV:44:LYS:O	41:YV:46:VAL:N	2.36	0.58
4:QD:105:VAL:HG13	4:QD:110:PHE:HB2	1.84	0.58
13:QM:58:GLU:O	13:QM:62:ASN:ND2	2.31	0.58
25:RA:1026:U:H4'	25:RA:1027:A:OP1	2.03	0.58
32:RI:54:GLN:O	32:RI:58:LEU:HB3	2.03	0.58
35:RP:47:ASP:OD2	35:RP:50:ARG:NH2	2.36	0.58
6:XF:36:ARG:NH1	6:XF:38:GLU:OE2	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:XS:68:GLY:HA2	50:Y4:68:ARG:HG2	1.85	0.58
25:YA:2287:A:N6	25:YA:2344:U:C2	2.72	0.58
25:YA:2511:U:O4	25:YA:2575:C:N3	2.36	0.58
27:YD:44:ASN:HB3	27:YD:49:ILE:CA	2.27	0.58
28:YE:51:PHE:CD2	28:YE:52:LEU:HG	2.38	0.58
29:YF:34:TRP:CZ3	35:YP:8:PRO:HB3	2.39	0.58
29:YF:89:VAL:HG12	29:YF:90:PHE:N	2.18	0.58
31:YH:85:LYS:HA	31:YH:86:GLU:OE1	2.04	0.58
31:YH:117:PRO:HB3	31:YH:123:PHE:CD2	2.37	0.58
36:YQ:66:ILE:HA	36:YQ:104:PHE:HA	1.85	0.58
48:Y2:51:ARG:HA	48:Y2:54:LYS:HB2	1.86	0.58
48:Y2:69:ARG:NH1	48:Y2:69:ARG:CB	2.67	0.58
1:QA:395:C:H4'	32:YI:118:LYS:HE2	1.85	0.58
2:QB:77:ALA:HB2	2:QB:211:ILE:HD13	1.86	0.58
4:QD:169:LYS:NZ	6:XF:25:ILE:HD11	2.18	0.58
12:QL:33:ARG:O	12:QL:85:ILE:HG22	2.03	0.58
25:RA:1508:A:O2'	25:RA:1509:C:O4'	2.22	0.58
25:RA:2679:A:H5'	28:RE:165:VAL:HG11	1.85	0.58
27:RD:35:LYS:HD2	27:RD:104:TYR:CE1	2.39	0.58
50:R4:42:PHE:CG	50:R4:43:TYR:N	2.72	0.58
54:R8:46:ARG:O	54:R8:47:LYS:HB3	2.03	0.58
3:XC:14:ILE:HG12	3:XC:15:THR:H	1.68	0.58
12:XL:54:LYS:N	12:XL:54:LYS:HD2	2.19	0.58
13:XM:13:LYS:HA	13:XM:44:ARG:HD2	1.83	0.58
25:YA:263:C:H2'	25:YA:264:C:O4'	2.04	0.58
25:YA:2377:A:O2'	38:YS:111:GLU:O	2.17	0.58
26:YB:15:A:H5'	26:YB:16:G:C8	2.38	0.58
27:YD:242:ARG:N	27:YD:242:ARG:HD2	2.18	0.58
31:YH:4:ILE:HD13	31:YH:4:ILE:H	1.68	0.58
36:YQ:90:VAL:C	36:YQ:92:GLY:H	2.07	0.58
38:YS:88:ASP:CG	38:YS:90:GLY:H	2.06	0.58
25:RA:1030:G:OP2	36:RQ:128:LYS:HE2	2.03	0.58
27:RD:182:LEU:N	27:RD:272:ALA:HB3	2.17	0.58
31:RH:125:VAL:HG12	31:RH:126:PRO:CG	2.34	0.58
31:RH:159:GLU:O	31:RH:160:LYS:HG2	2.03	0.58
33:RN:13:TRP:O	33:RN:135:PRO:HD2	2.02	0.58
51:R5:60:VAL:OXT	51:R5:60:VAL:HG13	2.03	0.58
9:XI:43:ALA:HA	9:XI:74:ILE:HD13	1.86	0.58
17:XQ:55:ASP:HA	17:XQ:79:SER:HA	1.85	0.58
20:XT:63:ILE:HG22	20:XT:77:ALA:HB1	1.86	0.58
25:YA:2832:U:H4'	25:YA:2833:G:H5"	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YI:98:ALA:HB2	32:YI:111:PRO:HB3	1.85	0.58
38:YS:42:ASP:C	38:YS:44:LYS:H	2.06	0.58
50:Y4:39:CYS:H	50:Y4:41:PRO:HD2	1.69	0.58
30:RG:136:ARG:O	30:RG:154:GLY:HA2	2.03	0.58
31:RH:4:ILE:HG13	31:RH:6:ARG:CD	2.33	0.58
12:XL:45:PRO:HD3	12:XL:51:ALA:O	2.04	0.58
19:XS:80:TYR:O	19:XS:82:GLY:N	2.36	0.58
25:YA:1652:A:OP1	37:YR:8:ARG:NH1	2.36	0.58
25:YA:1820:U:C2	27:YD:202:LYS:HB3	2.39	0.58
28:YE:78:LEU:HD23	28:YE:79:ARG:HD2	1.86	0.58
29:YF:138:GLU:O	29:YF:141:ALA:HB3	2.03	0.58
31:YH:41:MET:HE1	31:YH:64:LEU:HB3	1.86	0.58
34:YO:64:ARG:HG2	34:YO:79:PHE:CG	2.38	0.58
37:YR:27:SER:HB3	37:YR:34:ILE:HD11	1.84	0.58
48:Y2:15:LYS:H	48:Y2:67:LYS:CE	2.17	0.58
1:QA:1277:C:HO2'	1:QA:1279:A:H8	1.52	0.58
8:QH:121:ASP:N	8:QH:121:ASP:OD1	2.35	0.58
13:QM:78:ILE:HG23	13:QM:92:HIS:CD2	2.39	0.58
25:RA:954:G:OP1	36:RQ:15:GLY:N	2.33	0.58
28:RE:51:PHE:CD2	28:RE:52:LEU:HG	2.39	0.58
45:RZ:150:LEU:HD21	45:RZ:172:ALA:HB3	1.86	0.58
50:R4:15:ILE:HG22	50:R4:19:GLY:O	2.03	0.58
51:R5:50:GLY:O	51:R5:51:TYR:HB2	2.03	0.58
1:XA:316:G:OP2	1:XA:351:G:O2'	2.21	0.58
2:XB:93:VAL:HG11	2:XB:97:TRP:HD1	1.69	0.58
25:YA:270(Q):C:OP1	32:YI:45:LYS:NZ	2.24	0.58
27:YD:71:ASP:HB3	27:YD:103:ARG:HH22	1.68	0.58
28:YE:63:LEU:HD13	28:YE:65:GLY:H	1.68	0.58
38:YS:67:ARG:NH1	38:YS:67:ARG:CB	2.64	0.58
45:YZ:52:SER:O	45:YZ:52:SER:OG	2.17	0.58
45:YZ:126:VAL:HG12	45:YZ:163:LEU:HA	1.86	0.58
48:Y2:21:LEU:O	48:Y2:25:VAL:HG23	2.04	0.58
27:RD:24:ILE:HD11	27:RD:91:ARG:HD2	1.84	0.58
31:RH:85:LYS:HA	31:RH:86:GLU:OE1	2.04	0.58
32:RI:5:LEU:HD13	32:RI:17:GLN:HB3	1.86	0.58
36:RQ:47:ILE:CD1	36:RQ:70:PRO:HD3	2.34	0.58
1:XA:80:G:O6	1:XA:89:U:O4	2.21	0.58
2:XB:15:VAL:H	2:XB:16:HIS:CE1	2.22	0.58
25:YA:1055:G:H1	25:YA:1104:C:H42	1.52	0.58
28:YE:72:VAL:O	28:YE:73:GLU:O	2.21	0.58
28:YE:111:ARG:NE	28:YE:160:TYR:HE1	2.01	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:116:VAL:CG2	28:YE:122:PHE:CD2	2.86	0.58
35:YP:39:LYS:HG3	35:YP:45:LEU:HD22	1.86	0.58
36:YQ:47:ILE:CD1	36:YQ:70:PRO:HD3	2.34	0.58
1:QA:382:A:H2'	1:QA:383:A:C8	2.39	0.57
1:QA:1286:A:H5"	21:QU:26:LYS:HD2	1.84	0.57
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.39	0.57
1:QA:1391:U:H2'	1:QA:1392:G:C8	2.38	0.57
19:QS:68:GLY:CA	50:R4:68:ARG:HB2	2.21	0.57
25:RA:1061:U:H5'	25:RA:1070:A:H1'	1.84	0.57
25:RA:2119:A:N6	25:RA:2170:A:N7	2.52	0.57
25:RA:2420:C:H41	54:R8:30:ARG:HD2	1.68	0.57
31:RH:124:GLU:HB3	31:RH:132:ARG:HG3	1.84	0.57
31:RH:125:VAL:HA	31:RH:126:PRO:CB	2.29	0.57
36:RQ:90:VAL:C	36:RQ:92:GLY:H	2.07	0.57
44:RY:95:LYS:NZ	44:RY:99:CYS:O	2.37	0.57
50:R4:38:LYS:C	50:R4:40:HIS:N	2.52	0.57
51:R5:55:ARG:NH1	51:R5:58:LEU:HD11	2.19	0.57
1:XA:1349:A:OP2	9:XI:118:LYS:NZ	2.29	0.57
3:XC:70:VAL:HG21	3:XC:76:VAL:HG11	1.85	0.57
3:XC:95:THR:HG22	3:XC:97:LYS:HG3	1.84	0.57
7:XG:89:MET:HE1	7:XG:156:TRP:H	1.69	0.57
12:XL:83:VAL:HG22	12:XL:84:LEU:H	1.69	0.57
29:YF:160:ASN:OD1	29:YF:162:LEU:HB2	2.04	0.57
37:YR:24:GLN:OE1	37:YR:36:THR:HG21	2.04	0.57
39:YT:24:PRO:HA	39:YT:49:VAL:HG13	1.85	0.57
40:YU:90:VAL:CG2	41:YV:39:LEU:HB3	2.31	0.57
48:Y2:16:LEU:O	48:Y2:17:SER:HB3	2.04	0.57
1:QA:1312:G:H5"	50:R4:67:TYR:OH	2.03	0.57
1:QA:1368:G:H5'	9:QI:112:LYS:HB3	1.84	0.57
19:QS:65:ASN:O	50:R4:59:PHE:CZ	2.57	0.57
25:RA:71:A:H2	43:RX:31:HIS:NE2	2.01	0.57
25:RA:102:G:H4'	25:RA:103:A:O5'	2.04	0.57
25:RA:2133:G:H1'	25:RA:2158:A:H61	1.68	0.57
28:RE:111:ARG:NE	28:RE:160:TYR:HE1	2.01	0.57
30:RG:3:LEU:HD11	50:R4:25:TYR:OH	2.04	0.57
31:RH:84:SER:O	31:RH:133:VAL:O	2.22	0.57
36:RQ:66:ILE:HA	36:RQ:104:PHE:HA	1.85	0.57
50:R4:27:THR:O	50:R4:28:LYS:HB3	2.04	0.57
54:R8:30:ARG:O	54:R8:31:HIS:CB	2.51	0.57
1:XA:1002:G:H2'	1:XA:1003:G:H8	1.69	0.57
1:XA:1525:G:OP1	11:XK:120:ARG:NH2	2.36	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:956:G:OP2	36:YQ:14:ARG:NH2	2.29	0.57
25:YA:1265:A:H8	25:YA:1265:A:OP1	1.86	0.57
25:YA:1557:C:OP2	25:YA:1558:A:O2'	2.21	0.57
28:YE:63:LEU:HD12	28:YE:65:GLY:H	1.69	0.57
32:YI:129:THR:HG22	32:YI:137:PRO:HB3	1.86	0.57
37:YR:117:VAL:HG22	37:YR:118:GLU:H	1.68	0.57
1:QA:1064:G:O2'	1:QA:1065:U:O5'	2.18	0.57
3:QC:134:ILE:HG23	3:QC:151:VAL:HB	1.85	0.57
7:QG:26:PHE:CE2	7:QG:30:ILE:HD11	2.38	0.57
13:QM:120:LYS:O	13:QM:121:LYS:HB2	2.04	0.57
25:RA:2131:G:N2	25:RA:2158:A:N7	2.52	0.57
25:RA:2698:U:H2'	25:RA:2699:C:C6	2.40	0.57
37:RR:117:VAL:O	37:RR:118:GLU:HB2	2.04	0.57
50:R4:3:GLU:HG3	50:R4:4:GLY:N	2.19	0.57
50:R4:15:ILE:HG22	50:R4:20:ASN:HA	1.86	0.57
54:R8:53:PRO:CD	54:R8:54:GLU:H	2.15	0.57
4:XD:154:ASN:OD1	4:XD:154:ASN:N	2.37	0.57
25:YA:593:G:O3'	54:Y8:61:LEU:HD22	2.03	0.57
38:YS:26:LEU:CD2	38:YS:87:PHE:HD1	2.17	0.57
38:YS:95:HIS:CG	38:YS:96:GLY:H	2.21	0.57
42:YW:73:ALA:HB3	42:YW:106:ILE:HD13	1.84	0.57
46:Y0:50:ASN:HB3	46:Y0:63:VAL:HG22	1.86	0.57
7:QG:79:ARG:HH12	7:QG:82:GLY:HA2	1.69	0.57
25:RA:551:G:H5'	25:RA:1220:A:H1'	1.87	0.57
25:RA:1728:G:H3'	25:RA:1729:A:H5"	1.86	0.57
30:RG:22:ARG:HH21	30:RG:171:ALA:HB1	1.68	0.57
31:RH:41:MET:HE1	31:RH:64:LEU:HB3	1.85	0.57
33:RN:54:VAL:HB	33:RN:122:VAL:HG22	1.85	0.57
42:RW:71:VAL:HA	42:RW:107:LEU:HD12	1.86	0.57
2:XB:96:ARG:HD3	2:XB:148:TYR:HE1	1.70	0.57
12:XL:33:ARG:O	12:XL:85:ILE:HG22	2.03	0.57
25:YA:1045:A:C6	25:YA:1111:A:N7	2.73	0.57
25:YA:1165:U:H2'	25:YA:1166:C:C6	2.39	0.57
25:YA:1728:G:H3'	25:YA:1729:A:H5"	1.86	0.57
25:YA:2555:U:C2	56:Z6:74:C:C5	2.92	0.57
25:YA:2585:U:H5	56:Z6:101:PPU:HO2'	1.50	0.57
27:YD:35:LYS:HG2	27:YD:64:ILE:CA	2.34	0.57
28:YE:203:LYS:HE3	28:YE:204:ALA:HB2	1.87	0.57
29:YF:192:LEU:HD21	29:YF:194:MET:CE	2.35	0.57
31:YH:3:ARG:HA	31:YH:3:ARG:HE	1.69	0.57
31:YH:127:GLU:HG2	31:YH:128:PRO:CG	2.33	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YP:59:LEU:HA	35:YP:61:ARG:NE	2.20	0.57
38:YS:106:ARG:O	38:YS:107:GLU:HB2	2.04	0.57
1:QA:745:C:OP1	1:QA:851:G:O2'	2.23	0.57
1:QA:1104:G:H4'	2:QB:111:ARG:NH1	2.20	0.57
2:QB:51:LEU:HD23	2:QB:201:ILE:HD12	1.86	0.57
3:QC:134:ILE:HG22	3:QC:168:ALA:HB3	1.86	0.57
13:QM:14:ARG:N	13:QM:44:ARG:HD3	2.18	0.57
13:QM:65:LYS:HB3	50:R4:50:VAL:HG21	1.86	0.57
20:QT:53:LEU:HD12	20:QT:100:ILE:HG23	1.86	0.57
25:RA:259:G:HO2'	25:RA:621:A:HO2'	1.52	0.57
25:RA:1113:U:OP1	31:RH:2:SER:N	2.37	0.57
25:RA:1332:G:N2	25:RA:1609:A:O2'	2.38	0.57
25:RA:2420:C:N4	54:R8:30:ARG:HD2	2.19	0.57
27:RD:145:VAL:HG13	27:RD:191:ALA:HB2	1.86	0.57
28:RE:51:PHE:HD2	28:RE:52:LEU:HG	1.68	0.57
30:RG:68:PRO:HB2	30:RG:90:LEU:HD12	1.86	0.57
31:RH:4:ILE:HD13	31:RH:4:ILE:H	1.68	0.57
44:RY:76:CYS:SG	44:RY:77:PRO:HD2	2.45	0.57
50:R4:39:CYS:O	50:R4:40:HIS:HB2	2.03	0.57
51:R5:2:ALA:O	51:R5:3:LYS:HD2	2.05	0.57
1:XA:405:U:OP2	4:XD:3:ARG:NH2	2.37	0.57
1:XA:521:G:H4'	12:XL:73:GLU:HG3	1.87	0.57
22:XV:76:A:O2'	56:Z6:101:PPU:O	2.18	0.57
25:YA:1258:C:O4'	29:YF:84:VAL:HG11	2.05	0.57
28:YE:41:LYS:HE2	28:YE:41:LYS:HA	1.86	0.57
38:YS:5:THR:HG23	38:YS:8:GLU:OE2	2.05	0.57
45:YZ:89:PHE:HE2	45:YZ:96:VAL:HG21	1.69	0.57
7:QG:15:ASP:OD1	7:QG:44:TYR:OH	2.22	0.57
25:RA:307:G:H21	25:RA:330:A:H62	1.50	0.57
28:RE:63:LEU:HD13	28:RE:65:GLY:H	1.68	0.57
28:RE:74:PRO:HG2	28:RE:77:ILE:HG23	1.86	0.57
28:RE:102:VAL:HG13	28:RE:172:VAL:CG2	2.34	0.57
36:RQ:55:VAL:HG22	36:RQ:56:ARG:N	2.18	0.57
46:R0:18:ALA:O	46:R0:20:ARG:NH1	2.36	0.57
1:XA:201:C:N3	1:XA:216:G:N2	2.44	0.57
28:YE:6:GLY:HA3	28:YE:26:ILE:HD11	1.85	0.57
30:YG:113:ARG:HH21	50:Y4:34:GLU:HG2	1.68	0.57
6:QF:3:ARG:NH1	6:QF:38:GLU:OE2	2.37	0.57
25:RA:1657:C:H2'	25:RA:1658:C:H6	1.69	0.57
27:RD:241:PRO:O	27:RD:242:ARG:HB2	2.04	0.57
11:XK:21:ILE:HG13	11:XK:30:VAL:HG12	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1666:G:HO2'	34:YO:6:THR:HG1	1.52	0.57
25:YA:2395:C:O2'	47:Y1:30:VAL:HG12	2.05	0.57
25:YA:2469:A:H5"	25:YA:2470:G:C8	2.39	0.57
27:YD:25:THR:HG21	27:YD:82:ILE:H	1.70	0.57
28:YE:102:VAL:HG13	28:YE:172:VAL:CG2	2.34	0.57
29:YF:32:LEU:HD13	29:YF:105:VAL:CG1	2.33	0.57
37:YR:33:ARG:HH21	51:Y5:55:ARG:HG2	1.69	0.57
38:YS:26:LEU:HD12	38:YS:39:ILE:CD1	2.23	0.57
3:QC:73:PRO:HG3	3:QC:105:GLU:HG3	1.87	0.57
12:QL:46:LYS:HG2	12:QL:47:LYS:H	1.70	0.57
13:QM:23:TYR:HB3	13:QM:67:GLU:HG2	1.87	0.57
19:QS:42:PRO:CD	50:R4:63:TYR:HE2	2.18	0.57
22:QV:53:G:H4'	22:QV:54:U:OP1	2.04	0.57
25:RA:259:G:H21	25:RA:621:A:H8	1.52	0.57
25:RA:654(A):G:H1	25:RA:654(T):C:N4	2.02	0.57
26:RB:38:C:H42	26:RB:44:G:H1	1.53	0.57
35:RP:64:LYS:O	35:RP:66:GLY:N	2.38	0.57
50:R4:37:SER:HB3	50:R4:42:PHE:CE1	2.38	0.57
53:R7:9:ARG:HH21	53:R7:48:LYS:HB2	1.70	0.57
1:XA:325:A:OP2	20:XT:70:SER:OG	2.16	0.57
9:XI:15:ALA:HB2	9:XI:65:VAL:HG23	1.86	0.57
16:XP:20:VAL:HG23	16:XP:35:LYS:HA	1.86	0.57
19:XS:32:LYS:HA	19:XS:50:ALA:HB3	1.86	0.57
20:XT:53:LEU:O	20:XT:57:ARG:NH1	2.38	0.57
25:YA:2284:C:H41	52:Y6:25:LYS:NZ	2.03	0.57
27:YD:34:VAL:O	27:YD:34:VAL:CG1	2.51	0.57
27:YD:69:ARG:C	27:YD:71:ASP:H	2.08	0.57
38:YS:72:ALA:O	38:YS:76:LYS:HG3	2.04	0.57
1:QA:660:G:H1	1:QA:745:C:H42	1.53	0.57
1:QA:1002:G:H2'	1:QA:1003:G:C8	2.38	0.57
1:QA:1143:G:H2'	1:QA:1144:G:C8	2.39	0.57
28:RE:41:LYS:HA	28:RE:41:LYS:HE2	1.87	0.57
28:RE:63:LEU:HD12	28:RE:65:GLY:H	1.69	0.57
31:RH:126:PRO:CG	31:RH:127:GLU:N	2.65	0.57
27:YD:25:THR:HG21	27:YD:81:ALA:HB1	1.85	0.57
27:YD:36:PRO:HB2	27:YD:61:LEU:HG	1.87	0.57
1:QA:13:U:O4	1:QA:20:U:C4	2.56	0.57
1:QA:1064:G:HO2'	1:QA:1065:U:P	2.28	0.57
1:QA:1199:U:H4'	10:QJ:54:PHE:CD2	2.40	0.57
4:QD:154:ASN:N	4:QD:154:ASN:OD1	2.37	0.57
5:QE:94:ALA:HB2	5:QE:119:LEU:HG	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1479:G:N7	25:RA:1510:A:N6	2.53	0.57
25:RA:2451:A:C6	56:Z5:101:PPU:HE2	2.39	0.57
27:RD:44:ASN:HB2	27:RD:48:ARG:O	2.05	0.57
27:RD:108:PRO:HB3	27:RD:143:HIS:CE1	2.40	0.57
41:RV:52:VAL:HG21	41:RV:55:ALA:HB3	1.87	0.57
54:R8:33:ASN:O	54:R8:34:TRP:C	2.42	0.57
25:YA:593:G:H2'	25:YA:594:U:C6	2.39	0.57
25:YA:2756:U:OP2	55:Y9:19:ARG:NH2	2.38	0.57
29:YF:118:ALA:O	29:YF:121:GLY:N	2.33	0.57
34:YO:85:VAL:HG11	34:YO:114:ILE:HD11	1.87	0.57
38:YS:67:ARG:CB	38:YS:67:ARG:HH11	2.18	0.57
10:QJ:49:VAL:HG13	14:QN:41:ARG:HB2	1.87	0.56
13:QM:80:ARG:CZ	50:R4:70:GLY:HA3	2.35	0.56
31:RH:153:LYS:HA	31:RH:153:LYS:HZ3	1.69	0.56
38:RS:106:ARG:HA	38:RS:110:LEU:HD11	1.86	0.56
25:YA:190:A:OP2	47:Y1:39:LYS:HE3	2.05	0.56
25:YA:229:A:OP1	25:YA:229:A:H4'	2.04	0.56
25:YA:589:C:H2'	25:YA:590:A:C8	2.40	0.56
25:YA:1063:G:H22	25:YA:1076:C:H1'	1.70	0.56
27:YD:92:ILE:HD12	27:YD:104:TYR:CD2	2.39	0.56
30:YG:81:LYS:O	30:YG:82:LEU:HB2	2.04	0.56
31:YH:84:SER:O	31:YH:133:VAL:O	2.22	0.56
50:Y4:71:ARG:HB2	50:Y4:71:ARG:HH11	1.68	0.56
12:QL:45:PRO:HD3	12:QL:51:ALA:O	2.04	0.56
12:QL:58:VAL:O	12:QL:65:GLU:HA	2.06	0.56
19:QS:41:VAL:HB	19:QS:42:PRO:CA	2.35	0.56
25:RA:630:G:N2	25:RA:633:A:OP2	2.34	0.56
25:RA:1666:G:HO2'	34:RO:6:THR:HG1	1.53	0.56
1:XA:1095:U:P	1:XA:1108:G:H1	2.28	0.56
1:XA:1318:A:H5'	19:XS:11:VAL:HG11	1.87	0.56
20:XT:26:ASN:HB2	20:XT:71:THR:CG2	2.34	0.56
25:YA:784:A:C5	27:YD:229:VAL:HG21	2.40	0.56
26:YB:24:G:O6	26:YB:56:G:O2'	2.22	0.56
31:YH:77:LYS:HZ3	31:YH:77:LYS:CB	2.11	0.56
54:Y8:33:ASN:O	54:Y8:34:TRP:C	2.42	0.56
1:QA:521:G:H4'	12:QL:73:GLU:HG3	1.86	0.56
1:QA:954:G:H2'	1:QA:955:U:C6	2.41	0.56
1:QA:1240:U:OP1	7:QG:119:ARG:NH2	2.38	0.56
1:QA:1256:A:OP1	3:QC:26:LYS:NZ	2.36	0.56
1:QA:1269:A:N1	1:QA:1312:G:O2'	2.33	0.56
5:QE:105:VAL:O	5:QE:109:ILE:HG13	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QH:102:ARG:NH1	8:QH:105:ARG:NH2	2.53	0.56
12:QL:82:VAL:HG23	12:QL:106:ASP:OD2	2.04	0.56
25:RA:229:A:H4'	25:RA:230:U:H5'	1.86	0.56
25:RA:1470:G:O2'	25:RA:1522:G:O6	2.23	0.56
25:RA:2128:C:N4	25:RA:2160:G:H1	1.97	0.56
25:RA:2836:U:H2'	25:RA:2837:G:C8	2.40	0.56
28:RE:37:ARG:NE	28:RE:37:ARG:N	2.53	0.56
28:RE:78:LEU:HD23	28:RE:79:ARG:HD2	1.86	0.56
50:R4:64:GLY:C	50:R4:66:SER:H	2.07	0.56
52:R6:25:LYS:CE	54:R8:34:TRP:HZ2	2.18	0.56
1:XA:1392:G:N2	1:XA:1502:A:H8	2.03	0.56
25:YA:848:G:H2'	25:YA:849:A:C8	2.41	0.56
27:YD:2:ALA:O	27:YD:3:VAL:HB	2.06	0.56
27:YD:69:ARG:HD3	27:YD:105:ILE:HD11	1.87	0.56
27:YD:183:ARG:HD2	27:YD:270:ILE:HG12	1.88	0.56
28:YE:32:PRO:O	28:YE:34:VAL:HG13	2.06	0.56
28:YE:69:LYS:C	28:YE:71:GLY:H	2.08	0.56
32:YI:39:ALA:HB1	32:YI:44:LEU:HD13	1.87	0.56
35:YP:65:ARG:O	35:YP:68:GLN:NE2	2.38	0.56
38:YS:32:LEU:O	38:YS:62:LYS:HE2	2.05	0.56
38:YS:103:GLU:O	38:YS:106:ARG:CG	2.52	0.56
41:YV:59:ALA:HB2	41:YV:96:ILE:HD13	1.87	0.56
48:Y2:31:GLU:O	48:Y2:35:LEU:HG	2.05	0.56
1:QA:464:G:N2	1:QA:467:G:N7	2.53	0.56
1:QA:959:A:O2'	1:QA:984:C:O2'	2.24	0.56
2:QB:82:ARG:HA	2:QB:92:TYR:HE2	1.70	0.56
19:QS:5:LEU:HD21	50:R4:67:TYR:CZ	2.41	0.56
25:RA:27:G:HO2'	25:RA:28:A:H8	1.51	0.56
25:RA:27:G:H1'	25:RA:513:A:N6	2.21	0.56
25:RA:746:A:C5	25:RA:2611:U:H5"	2.41	0.56
25:RA:2335:A:O2'	25:RA:2336:A:H2'	2.05	0.56
27:RD:148:GLU:HB2	27:RD:151:LYS:HD2	1.87	0.56
28:RE:183:LEU:N	28:RE:183:LEU:HD12	2.20	0.56
30:RG:3:LEU:CD1	50:R4:25:TYR:OH	2.53	0.56
31:RH:3:ARG:HA	31:RH:3:ARG:HE	1.69	0.56
37:RR:67:LEU:HD13	37:RR:76:VAL:HG21	1.86	0.56
51:R5:55:ARG:HD3	51:R5:56:LYS:N	2.21	0.56
1:XA:110:C:O2'	16:XP:25:ARG:O	2.19	0.56
1:XA:1007:C:H2'	1:XA:1008:C:H5"	1.87	0.56
1:XA:1128:C:H42	1:XA:1143:G:H1	1.54	0.56
28:YE:74:PRO:HG2	28:YE:77:ILE:HG23	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YH:126:PRO:CG	31:YH:127:GLU:N	2.65	0.56
36:YQ:37:LEU:HD21	36:YQ:130:LYS:HE3	1.87	0.56
48:Y2:17:SER:HB2	48:Y2:18:PRO:HA	1.86	0.56
1:QA:51:A:N7	1:QA:114:U:O2'	2.39	0.56
25:RA:84:A:N1	25:RA:98:G:O2'	2.30	0.56
25:RA:1065:U:H3	25:RA:1073:A:H61	1.54	0.56
28:RE:174:ASP:CG	28:RE:175:VAL:N	2.58	0.56
28:RE:203:LYS:HE3	28:RE:204:ALA:HB2	1.86	0.56
36:RQ:79:LEU:O	36:RQ:79:LEU:CG	2.52	0.56
50:R4:48:ARG:O	50:R4:50:VAL:N	2.38	0.56
1:XA:8:A:N6	4:XD:205:GLU:O	2.38	0.56
1:XA:1221:G:O3'	19:XS:77:THR:HG21	2.05	0.56
12:XL:111:LYS:O	12:XL:112:ASP:HB2	2.05	0.56
25:YA:27:G:H22	25:YA:512:G:H2'	1.71	0.56
25:YA:1430:C:H2'	25:YA:1431:U:C6	2.40	0.56
25:YA:2392:A:C8	35:YP:60:MET:HG2	2.39	0.56
29:YF:197:ASP:O	29:YF:199:TRP:N	2.38	0.56
31:YH:125:VAL:HG12	31:YH:126:PRO:CG	2.34	0.56
36:YQ:79:LEU:O	36:YQ:79:LEU:CG	2.52	0.56
38:YS:14:VAL:HG13	38:YS:15:ARG:N	2.21	0.56
39:YT:60:THR:HG22	39:YT:77:PRO:HA	1.86	0.56
52:Y6:25:LYS:HE2	52:Y6:27:LYS:HE3	1.87	0.56
54:Y8:50:LEU:HD12	54:Y8:51:ALA:H	1.70	0.56
12:QL:18:VAL:O	12:QL:19:ARG:HB2	2.04	0.56
17:QQ:90:ILE:O	17:QQ:94:ASN:ND2	2.38	0.56
25:RA:1278:A:H4'	37:RR:34:ILE:HD12	1.86	0.56
28:RE:152:LYS:HB2	33:RN:77:GLY:O	2.06	0.56
54:R8:52:LYS:H	54:R8:53:PRO:HD2	1.66	0.56
1:XA:973:G:OP1	10:XJ:57:LYS:NZ	2.38	0.56
4:XD:11:LEU:HD13	4:XD:66:ARG:HG2	1.87	0.56
13:XM:65:LYS:HB3	50:Y4:50:VAL:HG21	1.88	0.56
25:YA:330:A:HO2'	25:YA:331:A:H8	1.53	0.56
25:YA:2811:G:H5'	28:YE:60:ASN:HB2	1.87	0.56
27:YD:35:LYS:CE	27:YD:104:TYR:HB2	2.35	0.56
28:YE:195:LEU:HD12	28:YE:196:VAL:H	1.71	0.56
43:YX:11:PRO:HD3	48:Y2:37:PHE:CD2	2.39	0.56
1:QA:323:U:H5'	20:QT:23:ARG:HB2	1.87	0.56
10:QJ:5:ARG:HG3	10:QJ:71:LEU:HD11	1.86	0.56
25:RA:242:G:C8	54:R8:5:LYS:HG2	2.41	0.56
25:RA:2287:A:N1	25:RA:2346:A:H2	2.03	0.56
26:RB:24:G:O6	26:RB:56:G:O2'	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:32:PRO:O	28:RE:34:VAL:HG13	2.06	0.56
28:RE:69:LYS:C	28:RE:71:GLY:H	2.09	0.56
28:RE:117:MET:HG3	28:RE:117:MET:O	2.06	0.56
29:RF:28:ILE:HG22	29:RF:112:MET:HB3	1.88	0.56
32:RI:110:ASP:N	32:RI:130:TYR:OH	2.33	0.56
41:RV:44:LYS:HE2	41:RV:45:THR:H	1.70	0.56
50:R4:41:PRO:O	50:R4:42:PHE:CB	2.53	0.56
1:XA:690:G:H2'	1:XA:691:G:O4'	2.05	0.56
1:XA:946:A:H2'	1:XA:947:G:C8	2.41	0.56
5:XE:35:GLY:HA3	5:XE:112:LEU:O	2.06	0.56
13:XM:80:ARG:NH2	50:Y4:70:GLY:HA3	2.21	0.56
25:YA:573:G:OP2	41:YV:78:LYS:NZ	2.39	0.56
25:YA:796:C:H2'	25:YA:797:C:C6	2.41	0.56
25:YA:1187:G:H5"	41:YV:81:TYR:CE1	2.39	0.56
25:YA:2068:U:N3	25:YA:2430:A:H2	2.03	0.56
25:YA:2467:C:H4'	36:YQ:123:HIS:CD2	2.41	0.56
27:YD:239:ARG:O	27:YD:240:ALA:HB2	2.05	0.56
28:YE:37:ARG:NE	28:YE:37:ARG:N	2.54	0.56
28:YE:183:LEU:HD12	28:YE:183:LEU:N	2.20	0.56
38:YS:5:THR:OG1	38:YS:7:TYR:HB3	2.06	0.56
41:YV:66:ARG:HH11	41:YV:88:ARG:HD3	1.71	0.56
25:RA:817:C:O2'	25:RA:839:U:H5"	2.06	0.56
25:RA:910:A:N3	25:RA:2264:C:O2'	2.33	0.56
25:RA:2638:G:OP2	28:RE:82:ARG:NH2	2.39	0.56
43:RX:31:HIS:CD2	43:RX:32:PRO:HD2	2.41	0.56
7:XG:54:THR:O	7:XG:56:GLN:N	2.39	0.56
16:XP:20:VAL:HG21	16:XP:32:TYR:CD2	2.40	0.56
20:XT:44:ALA:CB	20:XT:91:LEU:HB2	2.36	0.56
25:YA:2392:A:H2	25:YA:2424:C:H42	1.52	0.56
25:YA:2817:G:OP1	37:YR:99:LYS:NZ	2.27	0.56
29:YF:155:LEU:CD1	29:YF:174:VAL:HG13	2.32	0.56
42:YW:71:VAL:HA	42:YW:107:LEU:HD12	1.87	0.56
44:YY:95:LYS:HB3	44:YY:100:ALA:HA	1.87	0.56
48:Y2:41:ILE:HD11	48:Y2:44:LEU:CG	2.36	0.56
25:RA:1022:G:H22	25:RA:1142(A):A:H2	1.52	0.56
25:RA:2123:G:H2'	25:RA:2124:G:C8	2.40	0.56
31:RH:59:ARG:HH11	31:RH:59:ARG:CG	2.19	0.56
36:RQ:37:LEU:HD21	36:RQ:130:LYS:HE3	1.87	0.56
54:R8:50:LEU:HD12	54:R8:51:ALA:H	1.70	0.56
1:XA:618:C:H5'	1:XA:619:U:H5"	1.88	0.56
2:XB:84:GLU:HB3	2:XB:219:VAL:HG21	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:9:GLY:HA2	3:XC:12:LEU:HD23	1.88	0.56
3:XC:130:VAL:O	3:XC:134:ILE:HG12	2.06	0.56
4:XD:122:ARG:NH1	4:XD:134:ASP:O	2.39	0.56
12:XL:79:GLU:O	12:XL:79:GLU:HG2	2.05	0.56
25:YA:1930:G:N2	25:YA:1969:A:OP2	2.32	0.56
35:YP:65:ARG:NE	54:Y8:15:LYS:HB2	2.21	0.56
35:YP:87:ASP:HB3	35:YP:105:LEU:HD21	1.88	0.56
48:Y2:15:LYS:H	48:Y2:67:LYS:NZ	2.02	0.56
1:QA:1152:A:H5"	10:QJ:13:HIS:CD2	2.41	0.56
5:QE:148:VAL:HG21	8:QH:107:LEU:HD22	1.87	0.56
8:QH:106:GLY:O	8:QH:122:ARG:NH2	2.36	0.56
12:QL:111:LYS:O	12:QL:112:ASP:HB2	2.05	0.56
25:RA:142:G:H2'	25:RA:143:C:C6	2.41	0.56
25:RA:1210:A:H5"	25:RA:1210:A:H8	1.71	0.56
34:RO:78:ARG:HH21	39:RT:103:ARG:NH2	2.03	0.56
36:RQ:12:GLN:OE1	36:RQ:72:LYS:HD2	2.06	0.56
50:R4:9:LEU:H	50:R4:27:THR:HG22	1.71	0.56
3:XC:174:PRO:HD2	3:XC:182:ILE:HD11	1.88	0.56
5:XE:50:GLU:HB3	5:XE:53:LEU:HD13	1.88	0.56
12:XL:58:VAL:O	12:XL:65:GLU:HA	2.05	0.56
25:YA:213:A:H2'	25:YA:214:G:O4'	2.06	0.56
25:YA:1441:G:H2'	25:YA:1442:G:H8	1.71	0.56
25:YA:2212:A:H1'	25:YA:2215:G:C4	2.41	0.56
34:YO:97:ARG:HA	34:YO:117:LEU:HD22	1.88	0.56
45:YZ:125:LEU:HG	45:YZ:164:ALA:HB3	1.87	0.56
1:QA:1310:G:OP1	13:QM:77:ASN:ND2	2.39	0.55
25:RA:620:G:H4'	25:RA:621:A:H5"	1.87	0.55
25:RA:2735:G:H2'	25:RA:2736:G:H8	1.71	0.55
32:RI:13:GLY:HA3	32:RI:17:GLN:CD	2.26	0.55
50:R4:48:ARG:HH12	50:R4:52:THR:HG22	1.71	0.55
52:R6:36:LEU:HB2	52:R6:50:ARG:HA	1.89	0.55
2:XB:21:ARG:O	2:XB:23:ARG:HD3	2.05	0.55
2:XB:158:LEU:HD13	2:XB:182:ILE:HD11	1.89	0.55
25:YA:820:A:N3	25:YA:943:U:O2'	2.34	0.55
25:YA:1508:A:O2'	25:YA:1509:C:O4'	2.22	0.55
25:YA:2635:C:H5"	28:YE:78:LEU:HA	1.88	0.55
28:YE:117:MET:HG3	28:YE:117:MET:O	2.06	0.55
28:YE:174:ASP:CG	28:YE:175:VAL:N	2.58	0.55
29:YF:198:ALA:CA	29:YF:201:VAL:HG12	2.34	0.55
10:QJ:16:LEU:HD23	10:QJ:94:VAL:HG13	1.88	0.55
25:RA:1209:G:O2'	25:RA:1237:A:N1	2.32	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:RT:26:ASP:O	39:RT:49:VAL:HG12	2.07	0.55
42:RW:86:LEU:HD22	42:RW:96:ILE:HD11	1.88	0.55
1:XA:674:G:H2'	1:XA:675:A:H8	1.71	0.55
1:XA:735:C:H2'	1:XA:736:C:H6	1.71	0.55
5:XE:91:LEU:HD12	5:XE:120:THR:HG22	1.88	0.55
6:XF:97:PHE:HD1	18:XR:31:LEU:HD21	1.70	0.55
25:YA:49:A:C8	25:YA:120:U:C5	2.93	0.55
25:YA:751:A:H5'	42:YW:90:ARG:HA	1.88	0.55
39:YT:3:ARG:HG3	39:YT:7:ILE:HG12	1.88	0.55
39:YT:29:ARG:HB2	39:YT:46:GLU:HG3	1.88	0.55
45:YZ:121:HIS:ND1	45:YZ:123:ASP:O	2.39	0.55
54:Y8:23:VAL:HG12	54:Y8:46:ARG:HH12	1.72	0.55
12:QL:83:VAL:HG22	12:QL:84:LEU:H	1.70	0.55
25:RA:443:A:H1'	25:RA:1201:C:O4'	2.07	0.55
25:RA:1140:C:OP2	33:RN:66:LYS:NZ	2.40	0.55
25:RA:1403:C:H5"	25:RA:1471:A:H1'	1.88	0.55
28:RE:4:ILE:HD13	28:RE:5:LEU:H	1.71	0.55
28:RE:26:ILE:HD13	28:RE:26:ILE:C	2.26	0.55
44:RY:81:LYS:HB2	44:RY:96:ILE:HG22	1.88	0.55
10:XJ:34:VAL:HG22	10:XJ:74:ILE:HG22	1.89	0.55
25:YA:1952:A:C6	34:YO:22:ILE:HD12	2.41	0.55
36:YQ:25:ASP:N	36:YQ:102:VAL:HG23	2.22	0.55
38:YS:59:LYS:CG	38:YS:60:GLY:H	2.11	0.55
2:QB:71:VAL:HG12	2:QB:93:VAL:HB	1.88	0.55
8:QH:86:ILE:HG13	8:QH:133:LEU:HD22	1.89	0.55
32:RI:2:LYS:HA	32:RI:20:ASP:HA	1.87	0.55
41:RV:7:THR:HG23	41:RV:22:VAL:HG11	1.88	0.55
44:RY:96:ILE:HG12	44:RY:101:LYS:HB2	1.88	0.55
5:XE:94:ALA:HB2	5:XE:119:LEU:HG	1.87	0.55
12:XL:83:VAL:HG22	12:XL:84:LEU:N	2.21	0.55
25:YA:1936:A:H61	25:YA:1963:U:H3	1.51	0.55
25:YA:2126:A:H4'	25:YA:2127:G:O5'	2.05	0.55
31:YH:26:VAL:CG1	31:YH:27:LYS:N	2.63	0.55
35:YP:95:VAL:HG13	35:YP:100:LEU:HD21	1.89	0.55
36:YQ:12:GLN:OE1	36:YQ:72:LYS:HD2	2.06	0.55
39:YT:39:ARG:HG2	39:YT:40:THR:H	1.72	0.55
39:YT:94:ALA:O	39:YT:95:ARG:HB2	2.06	0.55
40:YU:92:ARG:HH21	41:YV:10:LYS:HG2	1.69	0.55
41:YV:38:LEU:H	41:YV:51:VAL:HG13	1.70	0.55
48:Y2:43:GLN:O	48:Y2:44:LEU:CG	2.54	0.55
50:Y4:18:CYS:SG	50:Y4:39:CYS:HB3	2.47	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:713:G:H2'	1:QA:714:G:C8	2.41	0.55
2:QB:5:ILE:HD12	2:QB:224:GLN:HG2	1.88	0.55
25:RA:1819:A:H2'	27:RD:178:PRO:HB2	1.89	0.55
28:RE:67:PHE:O	28:RE:69:LYS:N	2.39	0.55
40:RU:52:ARG:HA	40:RU:55:ARG:HG3	1.88	0.55
54:R8:63:PRO:O	54:R8:64:TYR:HB2	2.07	0.55
1:XA:28:G:OP1	4:XD:76:ARG:NH1	2.40	0.55
15:XO:18:PHE:CE1	15:XO:21:ASP:HB2	2.41	0.55
25:YA:1045:A:C8	25:YA:1111:A:N6	2.74	0.55
25:YA:2420:C:H41	54:Y8:30:ARG:HD2	1.70	0.55
26:YB:45:A:OP2	30:YG:96:ARG:NH1	2.40	0.55
26:YB:89(A):A:C5	26:YB:90:C:H1'	2.42	0.55
27:YD:43:ARG:CB	27:YD:54:ARG:HB2	2.37	0.55
28:YE:26:ILE:HD13	28:YE:26:ILE:C	2.26	0.55
30:YG:67:LYS:HZ1	50:Y4:6:HIS:CD2	2.24	0.55
32:YI:11:ASN:O	32:YI:12:LEU:HB2	2.07	0.55
52:Y6:28:ARG:HB3	52:Y6:30:THR:H	1.70	0.55
25:RA:389:G:N1	35:RP:70:GLN:HB3	2.21	0.55
26:RB:50:G:H5"	38:RS:61:ASN:ND2	2.22	0.55
28:RE:3:GLY:HA3	28:RE:81:ILE:HD12	1.88	0.55
28:RE:195:LEU:HD12	28:RE:196:VAL:H	1.71	0.55
44:RY:37:VAL:HG21	44:RY:72:VAL:HG21	1.88	0.55
47:R1:53:VAL:HG11	47:R1:90:ILE:HD11	1.88	0.55
1:XA:560:U:O2'	1:XA:561:U:OP2	2.22	0.55
4:XD:22:LYS:HE3	4:XD:26:CYS:SG	2.46	0.55
25:YA:1007:C:H4'	33:YN:108:PRO:HD3	1.88	0.55
25:YA:2572:A:C8	28:YE:144:ARG:HB3	2.42	0.55
28:YE:20:ALA:O	28:YE:21:VAL:CG2	2.48	0.55
32:YI:92:VAL:HG13	32:YI:120:ILE:HG23	1.87	0.55
9:QI:77:ILE:O	9:QI:81:ILE:HG12	2.07	0.55
25:RA:155:C:N3	25:RA:171:G:N2	2.41	0.55
25:RA:1064:C:N3	25:RA:1074:G:N2	2.49	0.55
30:RG:67:LYS:HE2	50:R4:6:HIS:ND1	2.16	0.55
35:RP:106:LEU:O	35:RP:107:LYS:HB2	2.07	0.55
36:RQ:25:ASP:N	36:RQ:102:VAL:HG23	2.21	0.55
44:RY:95:LYS:CB	44:RY:100:ALA:HA	2.36	0.55
1:XA:356:A:N3	1:XA:368:U:O2'	2.30	0.55
1:XA:949:A:N7	13:XM:106:ASN:ND2	2.55	0.55
1:XA:1106:G:H5"	3:XC:172:ARG:HG2	1.87	0.55
2:XB:82:ARG:NH1	2:XB:86:GLU:OE2	2.40	0.55
8:XH:86:ILE:HG22	8:XH:93:VAL:HG21	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XI:16:ARG:HB2	9:XI:64:THR:HB	1.89	0.55
25:YA:1427:A:H4'	25:YA:1428:C:O5'	2.07	0.55
25:YA:2074:U:H2'	25:YA:2075:U:C6	2.42	0.55
25:YA:2745:C:H4'	31:YH:142:GLY:O	2.07	0.55
26:YB:30:C:OP2	38:YS:32:LEU:HD11	2.05	0.55
27:YD:94:LEU:HD22	27:YD:95:LEU:H	1.69	0.55
27:YD:221:VAL:HG22	27:YD:226:MET:HE2	1.88	0.55
28:YE:4:ILE:HD13	28:YE:5:LEU:H	1.71	0.55
33:YN:56:ASN:N	33:YN:125:GLY:O	2.22	0.55
38:YS:107:GLU:N	38:YS:110:LEU:HD11	2.22	0.55
10:QJ:78:ASN:O	10:QJ:81:THR:OG1	2.24	0.55
27:RD:35:LYS:NZ	27:RD:104:TYR:HB2	2.22	0.55
32:RI:76:THR:HG21	32:RI:141:LYS:HE3	1.87	0.55
43:RX:25:LYS:HD3	43:RX:80:ILE:HD11	1.89	0.55
1:XA:1074:G:OP2	5:XE:61:TYR:OH	2.20	0.55
11:XK:34:ASP:OD1	11:XK:38:ASN:N	2.39	0.55
25:YA:863:A:O2'	26:YB:100:G:O2'	2.23	0.55
25:YA:2308:G:H22	25:YA:2311:A:H2	1.55	0.55
28:YE:3:GLY:HA3	28:YE:81:ILE:HD12	1.88	0.55
28:YE:15:PHE:CD1	39:YT:81:PRO:CD	2.90	0.55
28:YE:21:VAL:HG23	28:YE:22:PRO:HD3	1.89	0.55
28:YE:53:PRO:O	28:YE:74:PRO:HA	2.07	0.55
28:YE:67:PHE:O	28:YE:69:LYS:N	2.39	0.55
29:YF:24:LEU:HB3	29:YF:115:ALA:HB2	1.88	0.55
29:YF:28:ILE:HD12	29:YF:28:ILE:O	2.06	0.55
36:YQ:21:THR:O	36:YQ:22:LYS:O	2.25	0.55
36:YQ:64:ILE:HA	36:YQ:106:VAL:CG1	2.33	0.55
39:YT:26:ASP:O	39:YT:49:VAL:HG12	2.07	0.55
41:YV:34:GLU:O	41:YV:36:PRO:HD3	2.06	0.55
41:YV:61:VAL:HG23	41:YV:63:GLY:H	1.71	0.55
46:Y0:27:GLU:HB2	46:Y0:69:PHE:HD1	1.72	0.55
1:QA:953:G:N7	13:QM:104:ARG:NH2	2.53	0.55
1:QA:1402:C:H2'	1:QA:1403:C:O4'	2.07	0.55
14:QN:48:ALA:HB2	14:QN:53:LEU:HD12	1.89	0.55
25:RA:259:G:O2'	25:RA:621:A:O2'	2.25	0.55
25:RA:774:A:H2	25:RA:787:U:HO2'	1.54	0.55
25:RA:1261:C:OP2	42:RW:83:LYS:NZ	2.40	0.55
29:RF:197:ASP:N	29:RF:197:ASP:OD1	2.39	0.55
31:RH:12:PRO:O	31:RH:13:LYS:HB2	2.07	0.55
32:RI:47:LEU:O	32:RI:51:ILE:HG13	2.06	0.55
48:R2:46:GLN:O	48:R2:47:ASN:CB	2.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:R4:65:ASP:O	50:R4:66:SER:HB3	2.07	0.55
1:XA:1296:C:OP1	13:XM:44:ARG:NH2	2.39	0.55
48:Y2:31:GLU:HB2	48:Y2:53:LEU:HD11	1.89	0.55
1:QA:589:C:H42	1:QA:650:G:H1	1.55	0.55
1:QA:983:A:N1	1:QA:1222:G:N2	2.55	0.55
1:QA:1095:U:H5"	1:QA:1109:C:O2	2.05	0.55
4:QD:31:CYS:SG	4:QD:33:MET:HB2	2.47	0.55
25:RA:1226:G:H4'	41:RV:84:LYS:HG2	1.88	0.55
25:RA:1278:A:H2'	25:RA:1279:G:C8	2.42	0.55
25:RA:1754:C:P	39:RT:96:ARG:HH12	2.28	0.55
28:RE:21:VAL:HG23	28:RE:22:PRO:HD3	1.89	0.55
31:RH:8:PRO:O	31:RH:9:ILE:HG23	2.07	0.55
39:RT:1:MET:O	39:RT:3:ARG:N	2.40	0.55
50:R4:36:CYS:SG	50:R4:39:CYS:CB	2.95	0.55
22:XV:19:G:H5'	22:XV:20:U:H5	1.71	0.55
25:YA:574:C:N3	28:YE:145:LYS:NZ	2.49	0.55
25:YA:2741:A:OP1	55:Y9:22:ARG:NH1	2.38	0.55
26:YB:40:U:O2'	26:YB:45:A:N6	2.39	0.55
29:YF:32:LEU:HD12	29:YF:36:VAL:HG23	1.89	0.55
35:YP:61:ARG:CD	54:Y8:13:ARG:HD2	2.37	0.55
38:YS:18:ILE:C	38:YS:19:LYS:O	2.44	0.55
39:YT:62:THR:HG22	39:YT:75:ILE:HG12	1.89	0.55
54:Y8:30:ARG:O	54:Y8:31:HIS:CB	2.55	0.55
1:QA:686:U:H1'	11:QK:42:TRP:HE1	1.72	0.54
12:QL:79:GLU:HG2	12:QL:79:GLU:O	2.06	0.54
25:RA:764:A:H5'	27:RD:210:GLY:HA2	1.89	0.54
1:XA:198:G:H2'	1:XA:199:G:H8	1.72	0.54
1:XA:272:C:H2'	1:XA:273:A:H8	1.71	0.54
1:XA:1347:G:N2	1:XA:1374:A:OP2	2.36	0.54
5:XE:12:LEU:HD21	5:XE:14:ARG:HD3	1.89	0.54
25:YA:2032:G:H21	28:YE:146:THR:HG23	1.71	0.54
25:YA:2422:A:N7	54:Y8:31:HIS:HE1	2.04	0.54
28:YE:54:GLN:NE2	28:YE:54:GLN:N	2.56	0.54
30:YG:112:PRO:HG2	50:Y4:37:SER:O	2.08	0.54
37:YR:55:ALA:HB2	37:YR:79:LEU:HD13	1.89	0.54
42:YW:14:PRO:O	42:YW:17:VAL:N	2.40	0.54
1:QA:1376:U:H2'	1:QA:1377:A:C8	2.42	0.54
9:QI:26:VAL:HG22	9:QI:61:ALA:HB3	1.89	0.54
10:QJ:8:LEU:HB3	10:QJ:16:LEU:HD21	1.88	0.54
25:RA:1543:A:O2'	25:RA:1544:C:H3'	2.06	0.54
26:RB:52:A:O2'	26:RB:53:A:N7	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:690:G:H22	11:XK:55:LYS:NZ	2.05	0.54
1:XA:1002:G:H2'	1:XA:1003:G:C8	2.42	0.54
1:XA:1097:C:O2'	1:XA:1169:A:N3	2.33	0.54
8:XH:54:ASP:N	8:XH:54:ASP:OD1	2.39	0.54
25:YA:994:C:O2'	25:YA:996:A:OP1	2.24	0.54
25:YA:1818:U:C2'	27:YD:157:ARG:HG3	2.35	0.54
25:YA:2602:A:N1	56:Z6:101:PPU:H8	2.22	0.54
26:YB:28:C:OP2	38:YS:33:LYS:HE3	2.06	0.54
27:YD:31:LYS:O	27:YD:35:LYS:O	2.24	0.54
28:YE:176:ILE:HG22	28:YE:179:GLU:H	1.72	0.54
29:YF:129:PHE:O	29:YF:130:ALA:CB	2.55	0.54
31:YH:8:PRO:O	31:YH:9:ILE:HG23	2.08	0.54
38:YS:36:TYR:HD2	38:YS:52:SER:CB	2.18	0.54
50:Y4:37:SER:C	50:Y4:41:PRO:HD2	2.27	0.54
51:Y5:55:ARG:HG3	51:Y5:57:VAL:H	1.72	0.54
1:QA:1392:G:N2	1:QA:1502:A:H8	2.04	0.54
1:QA:1443:G:C6	39:RT:118:ARG:HB2	2.42	0.54
25:RA:2404:C:O3'	35:RP:77:ARG:NH2	2.40	0.54
31:RH:128:PRO:CD	31:RH:129:THR:N	2.71	0.54
33:RN:40:PRO:HB3	40:RU:68:ALA:HB2	1.89	0.54
40:RU:112:ARG:NH2	41:RV:47:VAL:HG13	2.23	0.54
47:R1:58:ILE:HD11	47:R1:86:SER:HB2	1.88	0.54
1:XA:302:G:O3'	12:XL:17:LYS:HE2	2.07	0.54
1:XA:1128:C:N4	1:XA:1144:G:H1	2.05	0.54
1:XA:1499:A:H1'	1:XA:1520:G:H5'	1.88	0.54
3:XC:150:LYS:HE2	3:XC:152:ILE:HD11	1.88	0.54
10:XJ:33:GLN:HB2	10:XJ:75:ILE:HD11	1.88	0.54
25:YA:259:G:H21	25:YA:621:A:H8	1.56	0.54
25:YA:1056:G:H4'	25:YA:1086:A:H8	1.72	0.54
25:YA:2732:G:H3'	25:YA:2733:A:O4'	2.07	0.54
28:YE:14:ILE:HG23	28:YE:15:PHE:N	2.22	0.54
28:YE:15:PHE:CE1	39:YT:81:PRO:CD	2.91	0.54
31:YH:86:GLU:HG3	31:YH:165:ALA:CB	2.38	0.54
40:YU:76:TYR:CZ	40:YU:80:ILE:HG13	2.43	0.54
50:Y4:39:CYS:CB	50:Y4:41:PRO:HD3	2.36	0.54
50:Y4:54:GLY:O	50:Y4:59:PHE:HB2	2.07	0.54
1:QA:864:A:H5'	5:QE:86:ALA:HB2	1.87	0.54
1:QA:1106:G:H5"	3:QC:172:ARG:HG2	1.88	0.54
10:QJ:13:HIS:CE1	10:QJ:14:LYS:HE3	2.42	0.54
12:QL:83:VAL:HG22	12:QL:84:LEU:N	2.21	0.54
13:QM:22:ILE:HB	13:QM:25:ILE:HD12	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:QM:65:LYS:HE2	50:R4:50:VAL:HG11	1.90	0.54
25:RA:958:U:OP2	36:RQ:14:ARG:NH1	2.32	0.54
25:RA:2015:A:N3	51:R5:2:ALA:N	2.55	0.54
25:RA:2378:A:OP1	38:RS:111:GLU:HG2	2.08	0.54
25:RA:2553:G:N2	56:Z5:101:PPU:H2	2.22	0.54
28:RE:101:ARG:HB3	28:RE:201:THR:OG1	2.07	0.54
31:RH:86:GLU:HG3	31:RH:165:ALA:CB	2.38	0.54
36:RQ:58:PHE:O	36:RQ:59:ARG:C	2.43	0.54
37:RR:103:ARG:NH1	37:RR:108:GLY:O	2.41	0.54
54:R8:32:LEU:O	54:R8:36:LYS:HE3	2.07	0.54
1:XA:263:A:OP2	20:XT:79:ARG:NH1	2.40	0.54
4:XD:92:VAL:O	4:XD:96:LEU:HD22	2.07	0.54
10:XJ:9:ARG:HB2	10:XJ:95:GLU:HB3	1.88	0.54
12:XL:126:LYS:HB2	12:XL:126:LYS:HZ2	1.72	0.54
13:XM:22:ILE:HD12	13:XM:25:ILE:HD12	1.89	0.54
16:XP:43:LYS:HG2	16:XP:48:TRP:CE3	2.42	0.54
25:YA:910:A:C5	36:YQ:13:GLN:HG3	2.41	0.54
25:YA:1020:A:N1	25:YA:1141:U:H2'	2.23	0.54
25:YA:1142(A):A:H4'	33:YN:25:ARG:HH22	1.71	0.54
25:YA:1870:C:H2'	25:YA:1871:A:O4'	2.08	0.54
25:YA:2593:U:H2'	25:YA:2594:C:C6	2.42	0.54
27:YD:155:LEU:HD23	27:YD:177:LEU:CD2	2.36	0.54
31:YH:153:LYS:CE	31:YH:153:LYS:HA	2.38	0.54
33:YN:35:ARG:HB2	33:YN:42:TRP:CH2	2.42	0.54
37:YR:56:LYS:NZ	37:YR:87:TYR:O	2.40	0.54
46:Y0:20:ARG:O	46:Y0:24:LYS:NZ	2.39	0.54
1:QA:877:C:H5"	8:QH:88:LYS:HD3	1.88	0.54
25:RA:1796:U:H2'	25:RA:1797:C:C6	2.42	0.54
30:RG:16:ARG:NH2	30:RG:28:VAL:O	2.41	0.54
33:RN:30:ILE:HG22	33:RN:34:LEU:HD22	1.88	0.54
36:RQ:39:PRO:HB3	36:RQ:99:PRO:HD3	1.90	0.54
45:RZ:45:ASP:OD1	45:RZ:49:ARG:NE	2.36	0.54
45:RZ:108:PRO:HA	45:RZ:142:SER:HA	1.90	0.54
48:R2:42:GLY:O	48:R2:44:LEU:N	2.35	0.54
50:R4:37:SER:HB3	50:R4:42:PHE:CD1	2.43	0.54
1:XA:1032(A):G:H2'	1:XA:1032(B):G:H8	1.72	0.54
7:XG:49:ILE:O	7:XG:53:LYS:HB3	2.07	0.54
25:YA:528:A:N1	25:YA:2042:A:H2'	2.22	0.54
25:YA:704:G:H1'	25:YA:727:A:N6	2.22	0.54
25:YA:2636:U:H2'	25:YA:2637:U:C6	2.42	0.54
27:YD:206:LEU:O	27:YD:211:ARG:NH1	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:134:ILE:C	28:YE:134:ILE:HD12	2.28	0.54
29:YF:62:ARG:HB3	29:YF:62:ARG:NH1	2.22	0.54
1:QA:1375:A:H4'	7:QG:29:LYS:HE3	1.88	0.54
9:QI:121:ARG:NH1	9:QI:122:ALA:O	2.39	0.54
10:QJ:61:GLU:HG3	14:QN:58:LYS:HZ3	1.73	0.54
25:RA:443:A:N7	29:RF:45:ARG:HD2	2.22	0.54
25:RA:996:A:H4'	40:RU:92:ARG:NE	2.17	0.54
25:RA:1204:A:H2	25:RA:1241:A:N1	2.06	0.54
25:RA:1607:C:N4	25:RA:1622:G:OP2	2.33	0.54
25:RA:2693:A:H2'	25:RA:2694:G:H8	1.72	0.54
28:RE:15:PHE:CE1	39:RT:81:PRO:HD3	2.42	0.54
28:RE:186:GLY:O	28:RE:188:VAL:N	2.41	0.54
29:RF:181:LEU:HD13	29:RF:186:ILE:HD11	1.89	0.54
36:RQ:21:THR:O	36:RQ:22:LYS:O	2.25	0.54
43:RX:83:VAL:CG1	43:RX:87:GLN:HB2	2.38	0.54
1:XA:932:C:H42	1:XA:1385:G:H1	1.56	0.54
3:XC:150:LYS:HB3	3:XC:201:TYR:HB2	1.90	0.54
12:XL:6:THR:OG1	12:XL:9:GLN:HG3	2.08	0.54
18:XR:31:LEU:HD23	18:XR:31:LEU:H	1.73	0.54
25:YA:676:A:H8	25:YA:2069:G:N2	1.99	0.54
25:YA:996:A:H4'	40:YU:92:ARG:HE	1.72	0.54
27:YD:124:PRO:HB2	27:YD:126:GLN:NE2	2.22	0.54
27:YD:211:ARG:HD2	27:YD:214:TRP:CZ3	2.43	0.54
30:YG:15:VAL:HG21	30:YG:176:LEU:HD23	1.90	0.54
31:YH:91:GLY:O	31:YH:94:TYR:HB2	2.08	0.54
54:Y8:32:LEU:O	54:Y8:36:LYS:HE3	2.07	0.54
1:QA:1133:G:H2'	1:QA:1134:G:H8	1.73	0.54
1:QA:1347:G:HO2'	1:QA:1348:U:P	2.30	0.54
2:QB:84:GLU:HB3	2:QB:219:VAL:HG21	1.89	0.54
25:RA:1899:G:N2	25:RA:1902:C:H41	2.05	0.54
25:RA:2037:G:H2'	25:RA:2038:G:C8	2.43	0.54
28:RE:14:ILE:CG1	28:RE:15:PHE:H	2.08	0.54
28:RE:176:ILE:HG22	28:RE:179:GLU:H	1.71	0.54
30:RG:67:LYS:NZ	50:R4:6:HIS:CG	2.75	0.54
31:RH:91:GLY:O	31:RH:94:TYR:HB2	2.08	0.54
36:RQ:60:ARG:HH12	36:RQ:113:GLN:HE22	1.55	0.54
39:RT:111:ARG:O	39:RT:112:ARG:HG3	2.08	0.54
51:R5:55:ARG:HD3	51:R5:56:LYS:H	1.73	0.54
1:XA:93:U:H2'	1:XA:95:G:O4'	2.08	0.54
1:XA:1328:C:OP1	21:XU:21:TYR:OH	2.22	0.54
27:YD:25:THR:O	27:YD:25:THR:HG23	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:118:VAL:HG22	27:YD:119:ALA:H	1.72	0.54
27:YD:158:ALA:HB3	27:YD:161:THR:HG21	1.90	0.54
28:YE:51:PHE:O	28:YE:74:PRO:HB3	2.08	0.54
31:YH:125:VAL:HA	31:YH:126:PRO:CB	2.29	0.54
1:QA:1032(A):G:H2'	1:QA:1032(B):G:H8	1.73	0.54
1:QA:1226:C:H2'	13:QM:103:THR:HB	1.90	0.54
4:QD:150:GLU:HA	4:QD:153:ARG:HG2	1.90	0.54
25:RA:848:G:H2'	25:RA:849:A:C8	2.42	0.54
25:RA:1538:G:H2'	25:RA:1539:G:H8	1.73	0.54
25:RA:2319:G:O6	38:RS:4:LEU:HB2	2.06	0.54
30:RG:112:PRO:CB	50:R4:37:SER:CB	2.35	0.54
32:RI:11:ASN:O	32:RI:12:LEU:HB2	2.08	0.54
50:R4:51:ASP:O	50:R4:51:ASP:OD1	2.25	0.54
13:XM:3:ARG:HA	13:XM:9:ILE:CG2	2.37	0.54
27:YD:34:VAL:C	27:YD:35:LYS:HG3	2.28	0.54
27:YD:183:ARG:HG2	27:YD:183:ARG:NH1	2.12	0.54
29:YF:127:GLU:O	29:YF:129:PHE:N	2.39	0.54
30:YG:116:ASP:O	50:Y4:42:PHE:HE2	1.90	0.54
32:YI:21:VAL:HG21	32:YI:25:TYR:HD2	1.73	0.54
1:QA:17:U:H2'	1:QA:18:C:C6	2.43	0.54
1:QA:376:G:H5"	16:QP:5:ARG:HD2	1.89	0.54
1:QA:1502:A:H2	1:QA:1505:G:H1	1.55	0.54
19:QS:10:PHE:HE1	19:QS:16:LEU:HD22	1.73	0.54
25:RA:1348:G:H2'	25:RA:1349:A:H5"	1.88	0.54
25:RA:1655:A:O3'	28:RE:115:GLY:HA3	2.06	0.54
25:RA:2517:C:N3	25:RA:2542:A:N6	2.56	0.54
28:RE:53:PRO:O	28:RE:74:PRO:HA	2.07	0.54
29:RF:24:LEU:HD23	29:RF:115:ALA:HA	1.89	0.54
30:RG:67:LYS:HE2	50:R4:6:HIS:CD2	2.43	0.54
36:RQ:79:LEU:CD1	46:R0:5:LYS:HD3	2.37	0.54
43:RX:60:ARG:NH1	53:R7:47:ARG:HH22	2.06	0.54
25:YA:2882:A:OP1	37:YR:96:ARG:NH1	2.40	0.54
27:YD:80:ALA:HB3	27:YD:94:LEU:HD13	1.88	0.54
28:YE:101:ARG:HB3	28:YE:201:THR:OG1	2.08	0.54
29:YF:53:THR:C	29:YF:55:GLY:H	2.11	0.54
31:YH:126:PRO:HD2	31:YH:127:GLU:H	1.72	0.54
33:YN:6:PRO:HG3	33:YN:41:ASP:HB2	1.89	0.54
36:YQ:79:LEU:CD1	46:Y0:5:LYS:CD	2.68	0.54
1:QA:1172:C:H2'	1:QA:1173:G:C8	2.43	0.54
2:QB:235:SER:O	2:QB:237:ALA:N	2.41	0.54
4:QD:27:TYR:OH	6:XF:15:ASP:OD2	2.26	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:QE:7:GLU:N	5:QE:35:GLY:O	2.36	0.54
12:QL:83:VAL:CG2	12:QL:100:ILE:HG23	2.38	0.54
25:RA:2416:C:H5"	35:RP:64:LYS:HE3	1.90	0.54
28:RE:51:PHE:O	28:RE:74:PRO:HB3	2.08	0.54
31:RH:139:GLN:O	31:RH:143:GLN:HB2	2.09	0.54
36:RQ:81:VAL:C	36:RQ:82:ARG:CG	2.76	0.54
36:RQ:81:VAL:HG23	46:R0:7:LEU:CD1	2.38	0.54
37:RR:45:ARG:HA	37:RR:95:THR:HG21	1.90	0.54
39:RT:37:GLY:O	39:RT:39:ARG:N	2.34	0.54
3:XC:14:ILE:O	3:XC:16:ARG:N	2.35	0.54
7:XG:20:ASP:HB3	7:XG:23:VAL:HG23	1.89	0.54
10:XJ:4:ILE:HG12	10:XJ:100:THR:HG22	1.89	0.54
12:XL:83:VAL:CG2	12:XL:100:ILE:HG23	2.38	0.54
19:XS:68:GLY:HA3	50:Y4:68:ARG:CB	2.35	0.54
25:YA:247:G:O6	54:Y8:12:LYS:NZ	2.28	0.54
27:YD:28:GLU:O	27:YD:29:PRO:C	2.45	0.54
28:YE:186:GLY:O	28:YE:188:VAL:N	2.40	0.54
29:YF:147:GLY:O	29:YF:148:LEU:HD23	2.08	0.54
31:YH:59:ARG:HH11	31:YH:59:ARG:CG	2.20	0.54
32:YI:53:ALA:O	32:YI:56:LYS:CG	2.56	0.54
33:YN:30:ILE:HG23	33:YN:52:VAL:HG11	1.90	0.54
36:YQ:39:PRO:HB3	36:YQ:99:PRO:HD3	1.90	0.54
38:YS:13:ARG:HD2	38:YS:13:ARG:O	2.07	0.54
45:YZ:182:LYS:HG3	45:YZ:183:LEU:CA	2.15	0.54
1:QA:690:G:H2'	1:QA:691:G:O4'	2.08	0.53
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.42	0.53
8:QH:51:VAL:HG11	8:QH:60:ARG:HG3	1.90	0.53
12:QL:6:THR:OG1	12:QL:9:GLN:HG3	2.08	0.53
25:RA:884:C:O2	25:RA:892:G:C2	2.61	0.53
28:RE:54:GLN:NE2	28:RE:54:GLN:N	2.55	0.53
31:RH:153:LYS:HA	31:RH:153:LYS:CE	2.37	0.53
51:R5:60:VAL:OXT	51:R5:60:VAL:CG1	2.56	0.53
54:R8:52:LYS:N	54:R8:53:PRO:HD2	2.22	0.53
1:XA:1502:A:H2	1:XA:1505:G:H1	1.56	0.53
10:XJ:32:ALA:H	10:XJ:78:ASN:HD21	1.55	0.53
25:YA:99:U:H4'	25:YA:101:G:H5'	1.90	0.53
54:Y8:63:PRO:O	54:Y8:64:TYR:HB2	2.07	0.53
1:QA:957:U:H4'	19:QS:79:THR:HB	1.90	0.53
3:QC:84:ILE:HD11	3:QC:88:ARG:HH21	1.73	0.53
25:RA:184:C:H2'	25:RA:185:U:C6	2.42	0.53
27:RD:44:ASN:HD22	27:RD:44:ASN:N	2.06	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RQ:119:ARG:HG2	36:RQ:119:ARG:NH1	2.20	0.53
1:XA:129(A):G:O2'	1:XA:189:U:H3'	2.08	0.53
1:XA:156:G:H1	1:XA:165:C:N4	2.05	0.53
1:XA:1124:G:H3'	1:XA:1145:C:N4	2.23	0.53
3:XC:15:THR:HG23	3:XC:181:ASN:HD22	1.73	0.53
12:XL:42:THR:HA	12:XL:53:ARG:O	2.08	0.53
25:YA:27:G:H1'	25:YA:513:A:N6	2.22	0.53
25:YA:479:A:N3	25:YA:481:G:H5"	2.24	0.53
25:YA:669:G:H2'	25:YA:669:G:N3	2.22	0.53
25:YA:833:U:H2'	25:YA:834:C:C6	2.44	0.53
25:YA:996:A:OP2	40:YU:92:ARG:NH2	2.41	0.53
25:YA:1847:A:H8	25:YA:1847:A:OP1	1.90	0.53
27:YD:85:ASP:OD2	27:YD:88:ARG:HG2	2.07	0.53
29:YF:51:THR:O	29:YF:93:LYS:NZ	2.38	0.53
29:YF:197:ASP:O	29:YF:198:ALA:HB3	2.06	0.53
38:YS:74:ALA:HB1	38:YS:107:GLU:HB3	1.89	0.53
48:Y2:41:ILE:HD11	48:Y2:44:LEU:HB2	1.89	0.53
1:QA:7:G:H21	5:QE:121:LYS:HG2	1.72	0.53
12:QL:42:THR:HA	12:QL:53:ARG:O	2.08	0.53
25:RA:1798:U:C5'	27:RD:259:THR:HG22	2.38	0.53
25:RA:2097:C:N3	25:RA:2192:G:O6	2.41	0.53
31:RH:26:VAL:CG1	31:RH:27:LYS:N	2.64	0.53
34:RO:2:ILE:HD13	34:RO:8:LEU:HD11	1.90	0.53
41:RV:99:ILE:O	41:RV:101:GLY:N	2.42	0.53
54:R8:29:LYS:HB2	54:R8:44:LYS:HG2	1.90	0.53
1:XA:1126:U:H1'	1:XA:1280:A:C5	2.43	0.53
1:XA:1399:C:C2	1:XA:1502:A:N6	2.76	0.53
2:XB:82:ARG:HA	2:XB:92:TYR:CE2	2.43	0.53
5:XE:37:ARG:HA	5:XE:114:GLY:N	2.23	0.53
12:XL:32:PHE:HE1	12:XL:86:ARG:HG3	1.73	0.53
25:YA:639:U:H2'	25:YA:640:C:C6	2.44	0.53
25:YA:823:G:H2'	25:YA:824:A:C8	2.43	0.53
25:YA:862:G:H2'	25:YA:863:A:O4'	2.08	0.53
25:YA:2277:G:C5'	36:YQ:85:LYS:HG3	2.39	0.53
25:YA:2780:G:OP2	33:YN:118:LYS:HE2	2.08	0.53
26:YB:38:C:N4	26:YB:44:G:H1	2.04	0.53
35:YP:65:ARG:HB2	54:Y8:12:LYS:O	2.08	0.53
41:YV:66:ARG:NH1	41:YV:88:ARG:HD3	2.23	0.53
45:YZ:124:ILE:HG22	45:YZ:126:VAL:HG13	1.90	0.53
54:Y8:58:ILE:O	54:Y8:61:LEU:HG	2.08	0.53
3:QC:35:GLU:HG2	3:QC:59:ARG:NH2	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:QO:6:GLU:OE2	15:QO:6:GLU:N	2.35	0.53
22:QV:53:G:HO2'	22:QV:54:U:H5	1.55	0.53
25:RA:637:A:O5'	35:RP:116:GLY:HA2	2.09	0.53
25:RA:676:A:N1	25:RA:802:A:N1	2.56	0.53
25:RA:2137:C:H42	25:RA:2154:G:H1	1.56	0.53
39:RT:33:LYS:HD2	39:RT:82:LEU:HA	1.89	0.53
50:R4:37:SER:C	50:R4:39:CYS:N	2.62	0.53
51:R5:16:ARG:NH1	51:R5:17:ASP:OD1	2.41	0.53
51:R5:44:THR:O	51:R5:46:CYS:N	2.41	0.53
2:XB:60:ASP:O	2:XB:64:ARG:HG2	2.09	0.53
2:XB:162:ILE:O	2:XB:185:ILE:HG12	2.08	0.53
9:XI:111:ARG:NE	9:XI:112:LYS:O	2.38	0.53
10:XJ:50:ILE:CD1	10:XJ:57:LYS:CG	2.77	0.53
11:XK:84:VAL:HG11	11:XK:95:ILE:HD11	1.90	0.53
17:XQ:4:LYS:HE3	17:XQ:6:LEU:HD21	1.90	0.53
25:YA:857:C:OP2	46:Y0:77:ARG:NH2	2.41	0.53
25:YA:2576:G:O2'	25:YA:2579:C:OP2	2.20	0.53
33:YN:40:PRO:O	40:YU:64:ARG:HD2	2.09	0.53
39:YT:112:ARG:O	39:YT:112:ARG:NE	2.39	0.53
55:Y9:27:CYS:SG	55:Y9:28:GLU:N	2.82	0.53
1:QA:1280:A:O2'	1:QA:1281:U:OP1	2.22	0.53
20:QT:44:ALA:CB	20:QT:91:LEU:HB2	2.38	0.53
25:RA:2502:G:H5"	25:RA:2503:A:H5"	1.91	0.53
28:RE:14:ILE:HG23	28:RE:15:PHE:N	2.22	0.53
29:RF:66:PRO:O	29:RF:68:LYS:N	2.41	0.53
38:RS:106:ARG:HA	38:RS:110:LEU:HD21	1.91	0.53
45:RZ:163:LEU:H	45:RZ:163:LEU:HD12	1.72	0.53
54:R8:58:ILE:O	54:R8:61:LEU:HG	2.08	0.53
25:YA:26:G:H1'	25:YA:515:A:H61	1.71	0.53
25:YA:67:U:C2	25:YA:74:A:H2	2.23	0.53
25:YA:587:C:N3	35:YP:33:ARG:NH1	2.57	0.53
25:YA:782:A:C2	27:YD:226:MET:HB3	2.43	0.53
25:YA:1332:G:N2	25:YA:1609:A:HO2'	2.06	0.53
25:YA:2308:G:N1	25:YA:2311:A:C2	2.65	0.53
27:YD:25:THR:HG21	27:YD:81:ALA:CB	2.38	0.53
29:YF:179:GLU:H	29:YF:179:GLU:CD	2.11	0.53
31:YH:12:PRO:O	31:YH:13:LYS:HB2	2.07	0.53
39:YT:51:ARG:CG	39:YT:98:LYS:HG3	2.38	0.53
40:YU:102:GLU:OE1	41:YV:13:ARG:NH2	2.41	0.53
1:QA:243:A:H4'	1:QA:244:U:O5'	2.07	0.53
1:QA:279:A:OP2	17:QQ:95:TYR:OH	2.16	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:QJ:51:ARG:NH2	14:QN:58:LYS:HZ3	2.07	0.53
25:RA:1798:U:H5'	27:RD:259:THR:HG22	1.90	0.53
28:RE:152:LYS:HG2	33:RN:78:TYR:CE1	2.43	0.53
32:RI:133:HIS:HB2	32:RI:134:PRO:CD	2.39	0.53
45:RZ:27:VAL:HG13	45:RZ:87:ASP:HB3	1.91	0.53
1:XA:7:G:H5'	1:XA:298:A:O4'	2.09	0.53
1:XA:1062:U:H2'	1:XA:1063:C:C6	2.43	0.53
25:YA:969:U:O3'	49:Y3:14:GLY:HA2	2.09	0.53
27:YD:25:THR:CG2	27:YD:81:ALA:HB1	2.38	0.53
27:YD:35:LYS:CG	27:YD:64:ILE:H	2.15	0.53
50:Y4:39:CYS:O	50:Y4:40:HIS:HB2	2.08	0.53
1:QA:34:C:H2'	1:QA:35:G:H8	1.74	0.53
1:QA:811:C:H4'	1:QA:900:A:N6	2.24	0.53
1:QA:1080:A:H5"	5:QE:16:THR:HG21	1.89	0.53
1:QA:1252:A:H61	1:QA:1285:A:N6	2.06	0.53
9:QI:71:SER:HA	9:QI:74:ILE:HD12	1.90	0.53
25:RA:586:A:N1	25:RA:809:G:O2'	2.36	0.53
25:RA:2150:U:H2'	25:RA:2151:G:H8	1.74	0.53
28:RE:134:ILE:C	28:RE:134:ILE:HD12	2.28	0.53
32:RI:88:ILE:O	32:RI:121:LYS:NZ	2.39	0.53
35:RP:122:PRO:HA	35:RP:141:ALA:HB1	1.90	0.53
44:RY:98:VAL:HG13	44:RY:99:CYS:SG	2.48	0.53
48:R2:10:LEU:O	48:R2:13:ALA:N	2.41	0.53
48:R2:65:ASN:HB3	48:R2:69:ARG:NH2	2.24	0.53
1:XA:1313:U:OP1	19:XS:5:LEU:HB2	2.08	0.53
8:XH:121:ASP:HB2	8:XH:125:ARG:NH2	2.24	0.53
19:XS:36:ARG:NH1	19:XS:52:TYR:O	2.42	0.53
25:YA:833:U:H1'	35:YP:55:ARG:NH1	2.23	0.53
25:YA:910:A:H62	36:YQ:12:GLN:HA	1.72	0.53
25:YA:1183:G:H4'	49:Y3:29:ARG:HH22	1.74	0.53
25:YA:1665:A:H1'	34:YO:1:MET:HG3	1.91	0.53
25:YA:1668:A:OP1	34:YO:5:GLN:HG3	2.09	0.53
25:YA:1693:U:H1'	27:YD:14:ARG:HH22	1.73	0.53
25:YA:1782:C:H1'	25:YA:2609:U:H5"	1.90	0.53
25:YA:2011:U:OP1	42:YW:42:ARG:NH1	2.41	0.53
25:YA:2319:G:N7	38:YS:3:ARG:HB3	2.24	0.53
25:YA:2698:U:H2'	25:YA:2699:C:C6	2.43	0.53
32:YI:78:THR:HG22	32:YI:141:LYS:HG3	1.90	0.53
33:YN:96:GLU:HG2	33:YN:97:ARG:N	2.24	0.53
38:YS:10:ARG:O	38:YS:14:VAL:HG12	2.09	0.53
39:YT:16:ARG:HE	39:YT:19:LEU:HD21	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:YT:105:LEU:O	39:YT:107:ASP:N	2.42	0.53
48:Y2:50:ILE:CD1	48:Y2:51:ARG:N	2.60	0.53
53:Y7:9:ARG:NH1	53:Y7:47:ARG:HG3	2.24	0.53
4:QD:9:CYS:SG	4:QD:31:CYS:C	2.80	0.53
25:RA:49:A:C8	25:RA:120:U:C5	2.96	0.53
25:RA:2286:A:H4'	25:RA:2287:A:O4'	2.09	0.53
25:RA:2415:G:H4'	35:RP:67:MET:N	2.24	0.53
45:RZ:117:LEU:HA	45:RZ:174:VAL:HA	1.91	0.53
50:R4:54:GLY:O	50:R4:71:ARG:HA	2.08	0.53
51:R5:55:ARG:HG3	51:R5:57:VAL:H	1.74	0.53
1:XA:923:A:OP1	5:XE:21:ALA:HB2	2.09	0.53
1:XA:963:G:H21	10:XJ:54:PHE:HE1	1.56	0.53
20:XT:95:ALA:O	20:XT:97:ALA:N	2.42	0.53
25:YA:451:C:H4'	29:YF:52:LYS:NZ	2.24	0.53
25:YA:1403:C:H5"	25:YA:1471:A:H1'	1.91	0.53
25:YA:1678:G:N2	25:YA:1989:G:H22	2.06	0.53
25:YA:1693:U:H1'	27:YD:14:ARG:NH2	2.23	0.53
27:YD:77:ALA:HB2	27:YD:97:TYR:CG	2.44	0.53
31:YH:12:PRO:HG3	31:YH:48:GLY:O	2.09	0.53
31:YH:40:GLU:O	31:YH:41:MET:HB2	2.09	0.53
31:YH:128:PRO:CD	31:YH:129:THR:N	2.71	0.53
36:YQ:76:LYS:O	36:YQ:88:GLY:HA3	2.09	0.53
1:QA:1130:A:O2'	9:QI:3:GLN:OE1	2.26	0.53
1:QA:1312:G:H1	1:QA:1325:C:N4	2.07	0.53
1:QA:1321:C:C4	1:QA:1322:C:C4	2.97	0.53
1:QA:1330:U:H4'	13:QM:23:TYR:CE2	2.44	0.53
3:QC:161:GLU:OE2	3:QC:161:GLU:HA	2.09	0.53
6:QF:10:LEU:HD13	6:QF:61:LEU:HD13	1.90	0.53
19:QS:44:MET:O	19:QS:46:GLY:N	2.40	0.53
22:QV:21:A:H61	22:QV:46:G:H2'	1.74	0.53
25:RA:519:U:H2'	25:RA:520:G:C8	2.43	0.53
25:RA:1680:U:O2'	25:RA:1763:G:N7	2.33	0.53
31:RH:40:GLU:O	31:RH:41:MET:HB2	2.08	0.53
31:RH:126:PRO:HD2	31:RH:127:GLU:H	1.72	0.53
47:R1:80:LEU:HD23	47:R1:80:LEU:H	1.74	0.53
50:R4:15:ILE:HD13	50:R4:15:ILE:H	1.74	0.53
1:XA:327:A:O2'	1:XA:328:C:O4'	2.27	0.53
1:XA:328:C:H4'	1:XA:329:A:H5'	1.90	0.53
1:XA:339:C:OP2	34:YO:97:ARG:NH1	2.41	0.53
1:XA:542:G:H5'	4:XD:41:GLY:HA3	1.90	0.53
1:XA:1032(A):G:H2'	1:XA:1032(B):G:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:XR:25:THR:HB	18:XR:26:LEU:HD23	1.91	0.53
19:XS:31:ILE:HG23	19:XS:49:ILE:HA	1.91	0.53
25:YA:813:U:H2'	25:YA:814:C:C6	2.43	0.53
26:YB:44:G:H1'	26:YB:47:C:N4	2.24	0.53
29:YF:116:ASP:OD1	29:YF:119:ARG:NH2	2.41	0.53
31:YH:89:ILE:O	31:YH:89:ILE:CG1	2.56	0.53
31:YH:121:ILE:HG12	31:YH:135:GLY:HA3	1.91	0.53
32:YI:133:HIS:HB2	32:YI:134:PRO:HD2	1.91	0.53
43:YX:6:ASP:OD2	48:Y2:29:LYS:NZ	2.42	0.53
52:Y6:26:ASN:ND2	52:Y6:35:GLU:OE2	2.42	0.53
1:QA:973:G:H3'	1:QA:974:A:H5"	1.90	0.53
1:QA:1227:A:OP1	19:QS:80:TYR:OH	2.15	0.53
5:QE:71:LEU:HD13	5:QE:115:VAL:H	1.73	0.53
25:RA:1588:C:H2'	25:RA:1589:C:C6	2.44	0.53
25:RA:2116:G:H1	25:RA:2162:G:P	2.33	0.53
25:RA:2377:A:O2'	38:RS:111:GLU:O	2.16	0.53
26:RB:75:G:H5"	45:RZ:36:LYS:HE2	1.90	0.53
28:RE:20:ALA:O	28:RE:21:VAL:CG2	2.48	0.53
31:RH:76:VAL:C	31:RH:78:GLY:H	2.13	0.53
32:RI:40:THR:HG22	32:RI:42:SER:H	1.73	0.53
32:RI:86:THR:H	32:RI:123:LEU:HD12	1.74	0.53
1:XA:89:U:O2'	1:XA:90:C:OP1	2.27	0.53
2:XB:44:LEU:H	2:XB:44:LEU:HD12	1.74	0.53
12:XL:46:LYS:HG2	12:XL:47:LYS:H	1.73	0.53
25:YA:1348:G:H2'	25:YA:1349:A:H5"	1.90	0.53
25:YA:2855:C:H2'	25:YA:2856:C:H6	1.73	0.53
27:YD:35:LYS:HD3	27:YD:63:ARG:CA	2.39	0.53
27:YD:233:HIS:CD2	27:YD:233:HIS:N	2.75	0.53
28:YE:119:ARG:HD3	28:YE:160:TYR:HB2	1.91	0.53
31:YH:2:SER:O	31:YH:3:ARG:C	2.47	0.53
31:YH:139:GLN:O	31:YH:143:GLN:HB2	2.09	0.53
38:YS:56:LEU:O	38:YS:58:LEU:HD22	2.09	0.53
44:YY:35:TYR:CE2	44:YY:69:ALA:HB3	2.44	0.53
52:Y6:40:CYS:HB2	52:Y6:45:LYS:HD3	1.90	0.53
1:QA:768:A:N3	1:QA:1512:U:O2'	2.39	0.52
25:RA:2392:A:C8	35:RP:60:MET:HG2	2.44	0.52
28:RE:7:VAL:O	28:RE:196:VAL:HG13	2.09	0.52
31:RH:44:VAL:O	31:RH:44:VAL:CG2	2.57	0.52
1:XA:625:G:H4'	16:XP:16:HIS:CD2	2.45	0.52
1:XA:1280:A:O2'	1:XA:1281:U:OP1	2.21	0.52
25:YA:606:U:H4'	25:YA:658:C:H4'	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:643:A:N1	25:YA:2369:A:O2'	2.37	0.52
25:YA:754:C:H2'	25:YA:755:C:C6	2.44	0.52
27:YD:263:ARG:HB2	27:YD:263:ARG:HH11	1.68	0.52
29:YF:140:LEU:O	29:YF:143:ALA:HB3	2.09	0.52
30:YG:96:ARG:O	30:YG:98:ARG:N	2.42	0.52
31:YH:44:VAL:O	31:YH:44:VAL:CG2	2.57	0.52
31:YH:76:VAL:C	31:YH:78:GLY:H	2.13	0.52
33:YN:13:TRP:O	33:YN:135:PRO:HD2	2.08	0.52
36:YQ:136:ALA:HB1	45:YZ:52:SER:HB2	1.90	0.52
1:QA:1275:A:H2'	1:QA:1276:G:O4'	2.09	0.52
25:RA:2727:G:O3'	34:RO:70:LYS:HE2	2.10	0.52
28:RE:61:ARG:O	28:RE:63:LEU:N	2.42	0.52
29:RF:32:LEU:O	29:RF:36:VAL:HG23	2.09	0.52
31:RH:12:PRO:HG3	31:RH:48:GLY:O	2.09	0.52
36:RQ:76:LYS:O	36:RQ:88:GLY:HA3	2.09	0.52
41:RV:60:GLU:HB2	41:RV:97:LYS:HE3	1.91	0.52
42:RW:110:LYS:HG3	42:RW:111:HIS:ND1	2.23	0.52
48:R2:4:SER:OG	48:R2:5:GLU:OE2	2.16	0.52
50:R4:47:GLN:O	50:R4:48:ARG:HB2	2.07	0.52
1:XA:686:U:H1'	11:XK:42:TRP:HE1	1.74	0.52
1:XA:1358:U:OP1	14:XN:35:ARG:HG3	2.08	0.52
5:XE:152:ARG:NH2	8:XH:107:LEU:O	2.40	0.52
8:XH:91:ARG:HB2	12:XL:7:ILE:HG13	1.91	0.52
28:YE:7:VAL:O	28:YE:196:VAL:HG13	2.09	0.52
28:YE:39:PRO:HG2	28:YE:40:GLU:OE1	2.09	0.52
28:YE:64:LYS:C	28:YE:66:HIS:H	2.12	0.52
29:YF:129:PHE:O	29:YF:142:TRP:CD1	2.62	0.52
1:QA:1109:C:H2'	1:QA:1110:A:O4'	2.10	0.52
13:QM:66:LEU:HA	13:QM:70:LEU:HB2	1.91	0.52
13:QM:121:LYS:HE2	13:QM:121:LYS:CA	2.36	0.52
20:QT:33:ILE:HD12	20:QT:63:ILE:HG13	1.90	0.52
25:RA:78:A:H2'	25:RA:79:G:C8	2.44	0.52
25:RA:1039:G:H1	25:RA:1116:C:H42	1.57	0.52
27:RD:108:PRO:HB3	27:RD:143:HIS:HE1	1.73	0.52
35:RP:19:VAL:HG12	35:RP:27:HIS:HB2	1.91	0.52
36:RQ:29:PHE:HB3	36:RQ:65:PHE:CZ	2.44	0.52
3:XC:40:ARG:O	3:XC:44:GLU:HB2	2.09	0.52
25:YA:459:U:H2'	25:YA:460:A:H8	1.74	0.52
25:YA:2355:C:O3'	46:Y0:24:LYS:HD2	2.09	0.52
27:YD:66:ASP:OD2	27:YD:69:ARG:HG2	2.09	0.52
27:YD:155:LEU:CD1	27:YD:155:LEU:N	2.71	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:137:HIS:HB3	28:YE:138:PRO:CD	2.37	0.52
29:YF:9:ILE:HD11	29:YF:125:LEU:CG	2.36	0.52
32:YI:115:ALA:HB3	32:YI:128:LEU:HD12	1.92	0.52
33:YN:110:GLY:O	33:YN:114:ARG:HG3	2.09	0.52
54:Y8:61:LEU:O	54:Y8:62:LEU:CB	2.57	0.52
2:QB:134:GLU:HA	2:QB:137:ARG:HB3	1.92	0.52
25:RA:2527:C:H5"	55:R9:30:PRO:HB2	1.92	0.52
27:RD:206:LEU:O	27:RD:211:ARG:NH1	2.38	0.52
30:RG:82:LEU:HA	30:RG:86:MET:SD	2.48	0.52
37:RR:59:ASP:OD2	37:RR:61:HIS:HB3	2.08	0.52
50:R4:48:ARG:CZ	50:R4:51:ASP:HA	2.40	0.52
50:R4:49:PHE:CD1	50:R4:49:PHE:N	2.77	0.52
1:XA:255:G:H2'	1:XA:256:U:C6	2.45	0.52
3:XC:189:ALA:HB3	3:XC:196:LEU:HB2	1.91	0.52
7:XG:15:ASP:HB3	7:XG:19:GLY:H	1.75	0.52
25:YA:724:U:H2'	25:YA:725:G:O4'	2.10	0.52
29:YF:162:LEU:HD23	29:YF:165:ARG:NH2	2.25	0.52
30:YG:142:PRO:HB3	50:Y4:14:ILE:HD11	1.91	0.52
36:YQ:29:PHE:HB3	36:YQ:65:PHE:CZ	2.44	0.52
1:QA:255:G:H1'	17:QQ:16:GLN:NE2	2.25	0.52
1:QA:946:A:H2'	1:QA:947:G:C8	2.44	0.52
1:QA:1318:A:H4'	19:QS:11:VAL:CG1	2.39	0.52
31:RH:24:VAL:HG23	31:RH:24:VAL:O	2.09	0.52
1:XA:337:C:H2'	1:XA:338:A:C8	2.45	0.52
2:XB:35:GLU:O	2:XB:36:ARG:HD3	2.10	0.52
5:XE:78:HIS:HB3	8:XH:107:LEU:HD12	1.90	0.52
16:XP:8:ARG:O	16:XP:9:PHE:HD1	1.92	0.52
19:XS:68:GLY:CA	50:Y4:68:ARG:HB2	2.37	0.52
25:YA:2123:G:H2'	25:YA:2124:G:H8	1.74	0.52
38:YS:25:ARG:CB	38:YS:25:ARG:HH11	2.22	0.52
38:YS:62:LYS:HB3	38:YS:97:ARG:CD	2.39	0.52
50:Y4:42:PHE:O	50:Y4:44:THR:N	2.42	0.52
1:QA:690:G:H22	11:QK:55:LYS:NZ	2.08	0.52
1:QA:1306:A:N6	1:QA:1331:G:H1'	2.24	0.52
1:QA:1423:G:OP1	34:RO:49:ARG:NH2	2.43	0.52
3:QC:37:GLN:NE2	14:QN:52:GLN:OE1	2.32	0.52
25:RA:1257:C:H4'	29:RF:83:PHE:CD1	2.44	0.52
25:RA:1816:G:H8	27:RD:62:TYR:CZ	2.27	0.52
28:RE:170:LEU:CD2	28:RE:185:LYS:HB2	2.40	0.52
30:RG:143:GLU:O	50:R4:28:LYS:NZ	2.39	0.52
50:R4:63:TYR:C	50:R4:65:ASP:N	2.62	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:856:C:O2'	25:YA:857:C:OP1	2.26	0.52
25:YA:902:C:H2'	25:YA:903:C:H6	1.75	0.52
25:YA:1268:A:H2'	25:YA:1269:A:O4'	2.10	0.52
25:YA:2393:A:H5'	35:YP:62:LEU:HB3	1.92	0.52
27:YD:35:LYS:HG2	27:YD:64:ILE:HG22	1.91	0.52
27:YD:36:PRO:HA	27:YD:62:TYR:O	2.09	0.52
27:YD:133:LEU:HG	27:YD:189:CYS:O	2.10	0.52
31:YH:24:VAL:HG23	31:YH:24:VAL:O	2.09	0.52
36:YQ:119:ARG:HG2	36:YQ:119:ARG:NH1	2.20	0.52
1:QA:671:G:H1	1:QA:735:C:H42	1.56	0.52
8:QH:91:ARG:HB2	12:QL:7:ILE:HG13	1.91	0.52
10:QJ:50:ILE:HD11	10:QJ:57:LYS:CG	2.35	0.52
22:QV:76:A:H2'	25:RA:2602:A:N6	2.24	0.52
25:RA:83:G:H1	25:RA:102:G:H1'	1.73	0.52
25:RA:442:G:H1'	29:RF:48:THR:HG21	1.91	0.52
25:RA:482:A:H4'	44:RY:47:LYS:HD2	1.90	0.52
25:RA:1058:G:O6	25:RA:1080:C:N3	2.43	0.52
25:RA:1286:A:O2'	25:RA:1288:U:OP2	2.21	0.52
31:RH:121:ILE:HG12	31:RH:135:GLY:HA3	1.91	0.52
44:RY:84:ARG:O	44:RY:95:LYS:HD3	2.09	0.52
19:XS:19:VAL:HG11	19:XS:44:MET:HG2	1.91	0.52
25:YA:1655:A:O3'	28:YE:115:GLY:HA3	2.09	0.52
25:YA:2080:G:H5'	47:Y1:19:GLN:HG3	1.92	0.52
25:YA:2758:A:C2	25:YA:2759:G:H1'	2.45	0.52
27:YD:174:ILE:N	27:YD:174:ILE:CD1	2.73	0.52
28:YE:61:ARG:O	28:YE:63:LEU:N	2.42	0.52
29:YF:108:LYS:O	29:YF:112:MET:HG3	2.10	0.52
1:QA:173:U:H5"	1:QA:197:A:O4'	2.10	0.52
1:QA:565:U:H5"	1:QA:566:G:H2'	1.90	0.52
1:QA:1313:U:OP1	19:QS:5:LEU:HB2	2.10	0.52
12:QL:32:PHE:HE1	12:QL:86:ARG:HG3	1.73	0.52
25:RA:1991:U:H2'	25:RA:1992:G:H5"	1.91	0.52
25:RA:2511:U:O4	25:RA:2575:C:N3	2.43	0.52
27:RD:133:LEU:HB3	27:RD:173:VAL:HG11	1.91	0.52
28:RE:39:PRO:HG2	28:RE:40:GLU:OE1	2.09	0.52
28:RE:55:ASN:C	28:RE:57:LYS:N	2.62	0.52
28:RE:179:GLU:OE1	28:RE:179:GLU:HA	2.10	0.52
50:R4:40:HIS:N	50:R4:41:PRO:CD	2.73	0.52
1:XA:814:A:H2'	1:XA:816:A:H5"	1.92	0.52
5:XE:43:LEU:HD22	5:XE:136:MET:HG3	1.92	0.52
20:XT:81:LYS:O	20:XT:85:MET:HG2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1688:U:H5'	25:YA:1689:A:OP1	2.10	0.52
25:YA:2277:G:H5"	36:YQ:85:LYS:HG3	1.91	0.52
25:YA:2335:A:O2'	25:YA:2336:A:H2'	2.10	0.52
27:YD:43:ARG:NH1	27:YD:44:ASN:OD1	2.42	0.52
28:YE:7:VAL:CG2	28:YE:8:LYS:H	2.11	0.52
28:YE:176:ILE:HG22	28:YE:176:ILE:O	2.10	0.52
30:YG:88:ILE:O	30:YG:88:ILE:HD13	2.09	0.52
38:YS:67:ARG:HB2	38:YS:67:ARG:HH11	1.65	0.52
42:YW:40:ASN:O	42:YW:41:LYS:HG2	2.10	0.52
49:Y3:40:THR:HB	49:Y3:43:ILE:HG12	1.92	0.52
1:QA:1222:G:OP1	19:QS:77:THR:HG21	2.09	0.52
12:QL:127:GLU:O	12:QL:128:ALA:HB3	2.10	0.52
25:RA:392:C:H5"	25:RA:409:C:H5"	1.92	0.52
25:RA:1007:C:H5"	33:RN:35:ARG:NH1	2.25	0.52
25:RA:1059:G:O6	25:RA:1079:C:N4	2.43	0.52
25:RA:2805:G:H2'	25:RA:2807:G:C8	2.45	0.52
26:RB:29:A:H2'	26:RB:30:C:C6	2.45	0.52
27:RD:206:LEU:HD22	27:RD:211:ARG:HG2	1.92	0.52
28:RE:54:GLN:O	28:RE:55:ASN:HB2	2.09	0.52
28:RE:116:VAL:HG22	28:RE:122:PHE:HB2	1.91	0.52
31:RH:4:ILE:O	31:RH:6:ARG:N	2.43	0.52
41:RV:34:GLU:O	41:RV:36:PRO:HD3	2.10	0.52
44:RY:87:LYS:HA	44:RY:92:ASN:HB3	1.91	0.52
50:R4:14:ILE:HG23	50:R4:14:ILE:O	2.10	0.52
50:R4:54:GLY:HA2	50:R4:57:GLU:HG2	1.92	0.52
1:XA:1347:G:H22	1:XA:1374:A:P	2.33	0.52
2:XB:29:ALA:O	2:XB:32:ILE:HG22	2.10	0.52
4:XD:9:CYS:HB3	4:XD:32:ALA:HB2	1.92	0.52
10:XJ:78:ASN:O	10:XJ:81:THR:OG1	2.25	0.52
14:XN:43:CYS:HA	14:XN:46:GLU:HG3	1.92	0.52
28:YE:10:GLY:HA3	39:YT:8:LYS:HD2	1.92	0.52
28:YE:55:ASN:C	28:YE:57:LYS:N	2.62	0.52
30:YG:113:ARG:HG2	50:Y4:34:GLU:OE2	2.10	0.52
31:YH:6:ARG:C	31:YH:8:PRO:HD2	2.30	0.52
38:YS:106:ARG:HA	38:YS:110:LEU:CG	2.39	0.52
51:Y5:49:CYS:SG	51:Y5:60:VAL:HG13	2.49	0.52
51:Y5:56:LYS:HD3	51:Y5:58:LEU:HD23	1.92	0.52
52:Y6:13:CYS:O	52:Y6:21:TYR:HA	2.09	0.52
1:QA:481:G:O2'	1:QA:482:A:O5'	2.23	0.52
8:QH:77:GLU:HG2	8:QH:78:GLN:H	1.74	0.52
11:QK:32:ILE:HG13	11:QK:72:ALA:HB2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:49:A:H61	25:RA:177:G:H2'	1.75	0.52
25:RA:1268:A:H2'	25:RA:1269:A:O4'	2.10	0.52
25:RA:2061:G:OP2	25:RA:2502:G:H5'	2.10	0.52
25:RA:2443:C:H2'	25:RA:2444:G:H8	1.74	0.52
28:RE:54:GLN:NE2	28:RE:54:GLN:H	2.08	0.52
31:RH:2:SER:O	31:RH:3:ARG:C	2.47	0.52
42:RW:60:ASN:HD22	42:RW:60:ASN:H	1.56	0.52
1:XA:1178:G:N2	1:XA:1181:G:N7	2.58	0.52
3:XC:47:LEU:HD11	3:XC:76:VAL:HB	1.91	0.52
9:XI:70:LYS:O	9:XI:74:ILE:HG13	2.10	0.52
12:XL:127:GLU:O	12:XL:128:ALA:HB3	2.10	0.52
22:XV:3:G:O2'	22:XV:4:G:H8	1.92	0.52
25:YA:28:A:N6	25:YA:512:G:H1'	2.24	0.52
28:YE:170:LEU:CD2	28:YE:185:LYS:HB2	2.40	0.52
29:YF:67:GLN:O	29:YF:68:LYS:CB	2.39	0.52
32:YI:53:ALA:O	32:YI:56:LYS:HG3	2.10	0.52
38:YS:89:ARG:HG2	38:YS:89:ARG:HH11	1.74	0.52
40:YU:107:ALA:O	40:YU:110:VAL:HB	2.10	0.52
41:YV:25:LEU:H	41:YV:92:THR:HG21	1.74	0.52
52:Y6:7:ILE:HG13	52:Y6:8:LYS:H	1.75	0.52
1:QA:581:G:OP1	15:QO:61:GLY:HA3	2.09	0.51
20:QT:33:ILE:HD12	20:QT:63:ILE:HG12	1.89	0.51
25:RA:479:A:N3	25:RA:481:G:H5"	2.25	0.51
25:RA:635:C:O2'	25:RA:639:U:OP1	2.27	0.51
25:RA:654(A):G:N2	25:RA:654(T):C:N3	2.57	0.51
25:RA:1460:A:H4'	25:RA:1461:G:OP2	2.11	0.51
25:RA:2364:C:OP1	46:R0:55:ARG:NH1	2.43	0.51
25:RA:2732:G:H3'	25:RA:2733:A:O4'	2.10	0.51
31:RH:55:PRO:HG2	31:RH:61:HIS:ND1	2.25	0.51
39:RT:111:ARG:C	39:RT:113:LYS:H	2.12	0.51
43:RX:59:VAL:HG21	43:RX:78:LYS:HE3	1.91	0.51
47:R1:2:SER:HB2	47:R1:4:VAL:HG12	1.92	0.51
50:R4:50:VAL:O	50:R4:51:ASP:C	2.48	0.51
1:XA:250:A:H4'	1:XA:251:G:O5'	2.10	0.51
1:XA:255:G:H1	1:XA:271:C:H42	1.58	0.51
1:XA:255:G:H4'	17:XQ:17:LYS:HD3	1.93	0.51
1:XA:792:A:H4'	1:XA:793:U:O5'	2.10	0.51
1:XA:1412:C:H2'	1:XA:1413:A:C8	2.46	0.51
7:XG:78:ARG:HG3	7:XG:79:ARG:N	2.25	0.51
13:XM:14:ARG:N	13:XM:44:ARG:HD3	2.21	0.51
25:YA:94:G:H21	48:Y2:47:ASN:HD22	1.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:833:U:H1'	35:YP:55:ARG:HH12	1.75	0.51
25:YA:1598:C:H5'	43:YX:36:LYS:HB3	1.92	0.51
28:YE:54:GLN:O	28:YE:55:ASN:HB2	2.09	0.51
28:YE:95:ILE:H	28:YE:95:ILE:CD1	2.19	0.51
30:YG:77:ILE:HD13	30:YG:82:LEU:HD12	1.92	0.51
31:YH:153:LYS:HG3	31:YH:161:GLY:HA2	1.91	0.51
39:YT:88:ILE:HD12	39:YT:90:GLN:N	2.25	0.51
47:Y1:83:GLU:HG2	47:Y1:84:GLY:N	2.24	0.51
18:QR:32:ARG:HA	18:QR:69:THR:HG21	1.91	0.51
25:RA:2415:G:H4'	35:RP:67:MET:H	1.75	0.51
28:RE:105:THR:HB	28:RE:197:ILE:HG12	1.92	0.51
31:RH:126:PRO:HD2	31:RH:127:GLU:N	2.25	0.51
1:XA:538:G:OP1	12:XL:113:ARG:HD2	2.10	0.51
2:XB:170:GLU:O	2:XB:174:VAL:HG23	2.11	0.51
4:XD:13:ARG:HD2	4:XD:38:TYR:O	2.10	0.51
5:XE:13:ILE:HD11	5:XE:55:VAL:HG22	1.91	0.51
12:XL:23:LYS:O	12:XL:24:VAL:HG23	2.10	0.51
25:YA:729:G:C5	27:YD:208:LYS:HB2	2.45	0.51
25:YA:1026:U:H1'	25:YA:1027:A:O5'	2.10	0.51
25:YA:1683:C:H2'	25:YA:1684:C:C6	2.46	0.51
25:YA:1799:G:H4'	25:YA:1800:C:O5'	2.09	0.51
25:YA:2246:G:H2'	25:YA:2247:A:C8	2.45	0.51
27:YD:67:PHE:CE2	27:YD:157:ARG:NH2	2.79	0.51
29:YF:125:LEU:HA	29:YF:194:MET:O	2.10	0.51
1:QA:530:G:H1'	24:QY:36:G:O2'	2.11	0.51
10:QJ:31:GLY:HA3	10:QJ:78:ASN:ND2	2.26	0.51
21:QU:6:ARG:HE	21:QU:15:ARG:HH21	1.58	0.51
35:RP:111:ARG:HG2	35:RP:128:HIS:CD2	2.45	0.51
37:RR:33:ARG:HD3	37:RR:113:LEU:HG	1.93	0.51
4:XD:108:LEU:HB3	4:XD:110:PHE:CE1	2.46	0.51
20:XT:83:ARG:CA	20:XT:86:ARG:HB3	2.39	0.51
25:YA:270(R):G:H2'	25:YA:270(S):G:C8	2.44	0.51
25:YA:518:G:H5'	42:YW:18:ARG:HH12	1.75	0.51
25:YA:593:G:O2'	54:Y8:61:LEU:HD13	2.09	0.51
25:YA:1416:G:H2'	25:YA:1417:C:C6	2.46	0.51
25:YA:2224:G:OP1	27:YD:268:ARG:HD3	2.10	0.51
27:YD:30:GLU:HG3	27:YD:63:ARG:NH2	2.26	0.51
27:YD:35:LYS:HD2	27:YD:104:TYR:CD1	2.45	0.51
27:YD:259:THR:O	27:YD:260:ARG:C	2.49	0.51
28:YE:51:PHE:CD2	28:YE:52:LEU:N	2.76	0.51
28:YE:203:LYS:HE3	28:YE:204:ALA:CB	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YI:124:GLY:H	32:YI:142:VAL:HG23	1.75	0.51
37:YR:83:ILE:HG22	37:YR:87:TYR:HE2	1.76	0.51
1:QA:617:G:H1	1:QA:623:C:N4	2.07	0.51
25:RA:1803:A:O2'	27:RD:259:THR:HG21	2.10	0.51
27:RD:12:SER:HB2	27:RD:208:LYS:HB3	1.92	0.51
28:RE:105:THR:HG23	28:RE:166:THR:OG1	2.10	0.51
31:RH:89:ILE:O	31:RH:89:ILE:CG1	2.57	0.51
51:R5:40:LYS:HD3	51:R5:46:CYS:SG	2.51	0.51
1:XA:67:C:H2'	1:XA:68:G:H8	1.75	0.51
1:XA:501:C:H2'	1:XA:502:G:C8	2.45	0.51
9:XI:11:LYS:H	9:XI:104:ARG:HH21	1.57	0.51
25:YA:1992:G:H5'	25:YA:1994:C:H41	1.74	0.51
25:YA:2023:G:H5'	25:YA:2617:C:H4'	1.93	0.51
54:Y8:52:LYS:N	54:Y8:53:PRO:HD2	2.22	0.51
1:QA:337:C:H2'	1:QA:338:A:C8	2.46	0.51
1:QA:756:C:H2'	1:QA:757:U:O4'	2.10	0.51
1:QA:1342:C:H4'	9:QI:125:TYR:HB3	1.91	0.51
1:QA:1343:G:H2'	1:QA:1344:C:C6	2.46	0.51
4:QD:31:CYS:N	4:QD:32:ALA:HA	2.25	0.51
25:RA:590:A:H2'	25:RA:591:C:C6	2.46	0.51
28:RE:64:LYS:C	28:RE:66:HIS:H	2.12	0.51
28:RE:77:ILE:O	28:RE:78:LEU:C	2.48	0.51
35:RP:59:LEU:HD12	35:RP:61:ARG:NH1	2.25	0.51
36:RQ:25:ASP:HA	36:RQ:100:GLY:O	2.11	0.51
36:RQ:64:ILE:HA	36:RQ:106:VAL:CG1	2.33	0.51
42:RW:67:ASP:OD1	42:RW:67:ASP:N	2.33	0.51
44:RY:74:PRO:O	44:RY:80:GLY:HA2	2.11	0.51
54:R8:61:LEU:O	54:R8:62:LEU:CB	2.57	0.51
1:XA:555:C:OP1	12:XL:20:LYS:NZ	2.44	0.51
1:XA:892:A:O2'	1:XA:1415:G:H4'	2.10	0.51
1:XA:1308:U:OP1	13:XM:98:VAL:HG23	2.11	0.51
6:XF:4:TYR:HD1	6:XF:92:LYS:HA	1.76	0.51
7:XG:155:ARG:NH2	7:XG:155:ARG:O	2.43	0.51
12:XL:24:VAL:O	12:XL:24:VAL:CG1	2.58	0.51
17:XQ:100:LYS:O	17:XQ:101:ARG:NE	2.42	0.51
20:XT:10:LEU:O	20:XT:13:LEU:HG	2.11	0.51
22:XV:14:G:H22	22:XV:48:C:H42	1.58	0.51
25:YA:617:G:OP1	29:YF:40:GLN:NE2	2.43	0.51
25:YA:860:U:H5	25:YA:917:A:C2	2.29	0.51
28:YE:77:ILE:O	28:YE:78:LEU:C	2.47	0.51
30:YG:67:LYS:HG3	50:Y4:6:HIS:ND1	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:YN:38:HIS:O	40:YU:67:ALA:HB1	2.10	0.51
48:Y2:15:LYS:H	48:Y2:67:LYS:HE2	1.73	0.51
51:Y5:42:PRO:HB2	51:Y5:43:HIS:ND1	2.25	0.51
54:Y8:23:VAL:HG11	54:Y8:46:ARG:NH1	2.25	0.51
5:QE:101:ILE:CD1	5:QE:119:LEU:HD23	2.41	0.51
10:QJ:55:LYS:CG	10:QJ:56:HIS:N	2.70	0.51
25:RA:372:G:O2'	25:RA:373:U:P	2.68	0.51
25:RA:859:G:H2'	25:RA:916:G:O6	2.10	0.51
25:RA:1085:A:O2'	25:RA:1086:A:OP1	2.21	0.51
25:RA:1101:U:H2'	25:RA:1102:C:H6	1.76	0.51
25:RA:1264:G:H5'	51:R5:11:THR:CG2	2.38	0.51
36:RQ:81:VAL:HG23	46:R0:7:LEU:HD13	1.92	0.51
39:RT:28:VAL:HG23	39:RT:88:ILE:HA	1.92	0.51
43:RX:35:THR:HG23	43:RX:38:GLU:HG2	1.93	0.51
50:R4:12:ALA:HB1	50:R4:30:GLU:H	1.76	0.51
1:XA:718:G:N2	18:XR:82:THR:HG23	2.25	0.51
1:XA:953:G:H2'	1:XA:954:G:O4'	2.10	0.51
25:YA:265:A:O2'	25:YA:266:G:H4'	2.11	0.51
25:YA:1614:A:N6	42:YW:88:ARG:H	2.07	0.51
25:YA:2667:C:H1'	31:YH:109:PHE:CD2	2.43	0.51
28:YE:54:GLN:NE2	28:YE:54:GLN:H	2.08	0.51
38:YS:95:HIS:CG	38:YS:96:GLY:N	2.77	0.51
41:YV:65:GLY:HA3	41:YV:91:TYR:CZ	2.46	0.51
53:Y7:9:ARG:NH2	53:Y7:48:LYS:CB	2.62	0.51
54:Y8:29:LYS:HB2	54:Y8:44:LYS:HG2	1.90	0.51
1:QA:1252:A:N6	1:QA:1285:A:H61	2.07	0.51
5:QE:84:PHE:CE2	5:QE:130:ASN:ND2	2.74	0.51
5:QE:101:ILE:O	5:QE:120:THR:OG1	2.29	0.51
8:QH:20:TYR:HE2	8:QH:75:ARG:HD2	1.76	0.51
13:QM:77:ASN:HA	50:R4:71:ARG:HH12	1.75	0.51
20:QT:14:LYS:HA	20:QT:17:ARG:HG3	1.91	0.51
20:QT:50:GLU:HG3	20:QT:51:GLU:N	2.26	0.51
25:RA:38:A:H2'	25:RA:39:C:C6	2.46	0.51
25:RA:1636:C:H2'	25:RA:1637:A:C8	2.46	0.51
25:RA:1899:G:N2	25:RA:1902:C:N4	2.59	0.51
25:RA:2115:G:N1	25:RA:2164:C:OP2	2.43	0.51
28:RE:119:ARG:HD3	28:RE:160:TYR:HB2	1.92	0.51
28:RE:137:HIS:HB3	28:RE:138:PRO:CD	2.37	0.51
40:RU:90:VAL:HG22	41:RV:39:LEU:HB3	1.93	0.51
45:RZ:182:LYS:H	45:RZ:182:LYS:HD3	1.75	0.51
50:R4:61:ARG:C	50:R4:63:TYR:H	2.14	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:R8:10:ALA:O	54:R8:14:VAL:HG12	2.11	0.51
1:XA:1391:U:H2'	1:XA:1392:G:C8	2.46	0.51
13:XM:120:LYS:C	13:XM:121:LYS:HG2	2.29	0.51
25:YA:1278:A:H4'	37:YR:34:ILE:HD12	1.91	0.51
25:YA:1339:G:H5"	43:YX:16:LYS:HD3	1.93	0.51
25:YA:2146:C:H4'	25:YA:2147:G:C8	2.45	0.51
26:YB:44:G:H1'	26:YB:47:C:H42	1.76	0.51
27:YD:94:LEU:HD13	27:YD:94:LEU:C	2.31	0.51
27:YD:134:ARG:HB2	27:YD:135:PHE:HD1	1.75	0.51
27:YD:210:GLY:O	27:YD:213:ARG:N	2.43	0.51
29:YF:65:TRP:HZ2	29:YF:72:ARG:NH2	2.09	0.51
29:YF:192:LEU:HD21	29:YF:194:MET:HE2	1.92	0.51
30:YG:16:ARG:O	30:YG:20:ILE:HG12	2.10	0.51
31:YH:55:PRO:HG2	31:YH:61:HIS:ND1	2.26	0.51
37:YR:104:ARG:HD3	37:YR:111:LEU:HD21	1.92	0.51
39:YT:109:GLU:O	39:YT:113:LYS:HB2	2.11	0.51
45:YZ:10:ARG:NH2	45:YZ:26:GLY:O	2.44	0.51
47:Y1:70:VAL:O	47:Y1:74:VAL:HG23	2.10	0.51
1:QA:244:U:OP2	17:QQ:100:LYS:NZ	2.43	0.51
25:RA:1188:U:H4'	41:RV:79:VAL:HG22	1.92	0.51
25:RA:1462:C:H4'	25:RA:2703:C:H5'	1.93	0.51
26:RB:40:U:O4	50:R4:2:LYS:N	2.34	0.51
29:RF:135:LYS:HB3	29:RF:138:GLU:HG3	1.93	0.51
30:RG:88:ILE:O	30:RG:88:ILE:HD13	2.10	0.51
50:R4:42:PHE:O	50:R4:44:THR:N	2.44	0.51
1:XA:130:A:C8	17:XQ:63:ARG:HG3	2.46	0.51
1:XA:1243:C:H42	1:XA:1294:G:H1	1.59	0.51
1:XA:1314:C:OP1	19:XS:6:LYS:HE3	2.11	0.51
2:XB:21:ARG:HB2	2:XB:39:ILE:HA	1.91	0.51
13:XM:122:LYS:O	13:XM:122:LYS:HD3	2.11	0.51
15:XO:33:THR:HG21	15:XO:85:LEU:HD22	1.93	0.51
20:XT:50:GLU:CG	20:XT:51:GLU:N	2.73	0.51
25:YA:49:A:N7	25:YA:120:U:H5	2.04	0.51
25:YA:1342:A:OP1	43:YX:36:LYS:NZ	2.44	0.51
25:YA:1754:C:OP1	39:YT:96:ARG:NH1	2.44	0.51
25:YA:1826:G:H4'	27:YD:242:ARG:NH2	2.18	0.51
25:YA:2567:G:H2'	25:YA:2568:C:C6	2.46	0.51
27:YD:72:LYS:NZ	27:YD:99:ASP:OD2	2.35	0.51
31:YH:72:ILE:O	31:YH:75:ALA:HB3	2.11	0.51
31:YH:126:PRO:HD2	31:YH:127:GLU:N	2.25	0.51
36:YQ:25:ASP:HA	36:YQ:100:GLY:O	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:YY:81:LYS:HG2	44:YY:97:ARG:HD3	1.93	0.51
49:Y3:43:ILE:O	49:Y3:47:VAL:HG23	2.10	0.51
51:Y5:38:ALA:HB3	51:Y5:40:LYS:HE3	1.92	0.51
51:Y5:45:VAL:HG11	51:Y5:57:VAL:HG12	1.93	0.51
1:QA:1305:G:H1'	1:QA:1332:A:N6	2.25	0.51
19:QS:5:LEU:CD1	50:R4:67:TYR:CE2	2.93	0.51
25:RA:590:A:OP1	29:RF:95:ARG:NH1	2.44	0.51
25:RA:947:G:H2'	25:RA:948:G:C8	2.46	0.51
25:RA:2415:G:H4'	35:RP:66:GLY:HA3	1.91	0.51
28:RE:37:ARG:HE	28:RE:37:ARG:N	2.09	0.51
31:RH:131:VAL:CG1	31:RH:132:ARG:N	2.74	0.51
31:RH:153:LYS:HG3	31:RH:161:GLY:HA2	1.91	0.51
36:RQ:36:ALA:HB1	36:RQ:127:ILE:HD12	1.93	0.51
1:XA:224:C:H2'	1:XA:225:C:C6	2.46	0.51
6:XF:97:PHE:CD1	18:XR:31:LEU:HD21	2.46	0.51
19:XS:26:GLY:O	19:XS:28:LYS:N	2.43	0.51
25:YA:1752:C:H42	25:YA:1756:G:H1	1.59	0.51
25:YA:2022:U:O2'	25:YA:2617:C:H5'	2.10	0.51
27:YD:28:GLU:OE1	27:YD:29:PRO:HD2	2.11	0.51
28:YE:37:ARG:HE	28:YE:37:ARG:N	2.09	0.51
29:YF:198:ALA:C	29:YF:200:GLU:N	2.62	0.51
38:YS:83:LYS:HG2	38:YS:109:GLY:HA2	1.90	0.51
38:YS:86:ALA:O	38:YS:87:PHE:HB3	2.09	0.51
42:YW:106:ILE:O	42:YW:106:ILE:HG12	2.07	0.51
1:QA:7:G:H5'	1:QA:298:A:O4'	2.11	0.51
1:QA:612:C:O2	1:QA:629:G:N2	2.44	0.51
1:QA:1305:G:H22	1:QA:1331:G:H2'	1.75	0.51
25:RA:111:A:H4'	48:R2:69:ARG:NH2	2.25	0.51
25:RA:860:U:H5	25:RA:917:A:C2	2.29	0.51
25:RA:945:A:C4	25:RA:2448:A:C2	2.99	0.51
25:RA:2699:C:H2'	25:RA:2700:C:O4'	2.10	0.51
31:RH:6:ARG:C	31:RH:8:PRO:HD2	2.30	0.51
31:RH:72:ILE:O	31:RH:75:ALA:HB3	2.11	0.51
38:RS:56:LEU:HD23	38:RS:58:LEU:HD22	1.92	0.51
1:XA:17:U:H2'	1:XA:18:C:C6	2.45	0.51
1:XA:324:G:OP1	20:XT:70:SER:HB2	2.10	0.51
1:XA:438:G:H4'	4:XD:123:HIS:CD2	2.46	0.51
1:XA:1135:U:H4'	1:XA:1136:U:H5	1.76	0.51
3:XC:138:VAL:HG22	3:XC:151:VAL:HG23	1.93	0.51
4:XD:78:LEU:HD22	4:XD:96:LEU:HB3	1.92	0.51
11:XK:41:THR:HG21	11:XK:71:LYS:HB3	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:479:A:HO2'	25:YA:481:G:H8	1.58	0.51
25:YA:523:C:O2	25:YA:553:U:O2'	2.29	0.51
25:YA:580:C:H2'	25:YA:581:C:C6	2.46	0.51
25:YA:1405:U:H2'	25:YA:1406:U:C6	2.46	0.51
25:YA:2747:G:P	31:YH:138:LYS:HZ3	2.31	0.51
31:YH:19:VAL:HG13	31:YH:43:VAL:CG2	2.41	0.51
33:YN:42:TRP:O	40:YU:64:ARG:NH2	2.37	0.51
35:YP:49:ARG:HG3	54:Y8:59:LYS:HG2	1.92	0.51
35:YP:68:GLN:HG2	54:Y8:12:LYS:HG2	1.93	0.51
36:YQ:58:PHE:O	36:YQ:58:PHE:HD1	1.94	0.51
38:YS:83:LYS:HG2	38:YS:109:GLY:H	1.76	0.51
50:Y4:39:CYS:CA	50:Y4:41:PRO:HD3	2.41	0.51
1:QA:74:C:H42	1:QA:96:G:H1	1.59	0.50
1:QA:1336:C:O2'	1:QA:1337:G:OP2	2.21	0.50
1:QA:1372:U:H2'	1:QA:1373:G:O4'	2.10	0.50
6:QF:69:GLU:CD	6:QF:69:GLU:H	2.15	0.50
9:QI:8:GLY:HA2	9:QI:79:LEU:HD12	1.91	0.50
13:QM:77:ASN:HA	50:R4:71:ARG:NH1	2.26	0.50
25:RA:70:G:H21	25:RA:71:A:H62	1.59	0.50
31:RH:152:ARG:C	31:RH:153:LYS:HE2	2.32	0.50
32:RI:120:ILE:HD11	32:RI:126:TYR:CZ	2.46	0.50
36:RQ:133:ARG:HG2	36:RQ:134:ARG:N	2.26	0.50
39:RT:118:ARG:HH21	39:RT:121:ILE:HG21	1.76	0.50
50:R4:39:CYS:HB3	50:R4:41:PRO:CD	2.40	0.50
20:XT:89:ARG:HH21	20:XT:104:LEU:HD11	1.76	0.50
25:YA:636:G:OP1	35:YP:132:LYS:HB2	2.11	0.50
25:YA:1329:U:H5"	25:YA:1330:C:H5	1.76	0.50
25:YA:1496:A:H8	25:YA:1577:C:O2'	1.94	0.50
28:YE:116:VAL:HG22	28:YE:122:PHE:HB2	1.91	0.50
31:YH:103:LEU:CD1	31:YH:131:VAL:HG21	2.41	0.50
32:YI:62:LYS:HE3	32:YI:134:PRO:HG2	1.93	0.50
36:YQ:133:ARG:HG2	36:YQ:134:ARG:N	2.26	0.50
1:QA:302:G:O3'	12:QL:17:LYS:HE2	2.11	0.50
1:QA:860:A:H2'	1:QA:861:G:O4'	2.11	0.50
1:QA:1492:A:OP1	12:QL:47:LYS:HB3	2.11	0.50
12:QL:23:LYS:O	12:QL:24:VAL:HG23	2.10	0.50
13:QM:33:ALA:HA	13:QM:59:TYR:HE2	1.76	0.50
16:QP:3:LYS:HG3	16:QP:24:ALA:HB2	1.92	0.50
25:RA:690:G:H2'	25:RA:691:C:C6	2.45	0.50
25:RA:2336:A:H61	46:R0:43:THR:CG2	2.24	0.50
25:RA:2378:A:O5'	25:RA:2378:A:H8	1.95	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2635:C:OP1	28:RE:78:LEU:HD12	2.11	0.50
28:RE:27:LEU:HD21	39:RT:1:MET:CE	2.41	0.50
43:RX:40:LYS:HG3	43:RX:51:VAL:HB	1.92	0.50
2:XB:9:GLU:HB3	2:XB:48:MET:SD	2.50	0.50
10:XJ:50:ILE:HD11	10:XJ:57:LYS:HD3	1.93	0.50
12:XL:27:LEU:C	12:XL:29:GLY:N	2.64	0.50
25:YA:28:A:H61	25:YA:512:G:H1'	1.76	0.50
25:YA:1263:U:O2'	51:Y5:11:THR:HG23	2.10	0.50
29:YF:32:LEU:O	29:YF:36:VAL:HG23	2.11	0.50
29:YF:108:LYS:HA	29:YF:108:LYS:NZ	2.27	0.50
30:YG:5:VAL:HG11	30:YG:100:TRP:HB3	1.93	0.50
31:YH:4:ILE:O	31:YH:6:ARG:N	2.43	0.50
38:YS:87:PHE:O	38:YS:88:ASP:O	2.29	0.50
41:YV:52:VAL:HG23	41:YV:55:ALA:H	1.76	0.50
48:Y2:36:ARG:O	48:Y2:40:SER:HB2	2.10	0.50
50:Y4:10:VAL:HG22	50:Y4:11:PRO:HD2	1.93	0.50
54:Y8:23:VAL:CG1	54:Y8:46:ARG:HH11	2.25	0.50
56:Z6:101:PPU:HN2	56:Z6:101:PPU:HD2	1.76	0.50
1:QA:80:G:H1	1:QA:89:U:H3	1.60	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
11:QK:33:THR:HG22	11:QK:39:PRO:HA	1.92	0.50
25:RA:943:U:OP2	35:RP:36:LYS:NZ	2.42	0.50
28:RE:176:ILE:HG22	28:RE:176:ILE:O	2.10	0.50
31:RH:151:ILE:C	31:RH:152:ARG:O	2.49	0.50
31:RH:169:VAL:HG13	31:RH:170:ARG:N	2.26	0.50
33:RN:46:VAL:HG13	33:RN:48:MET:HG3	1.93	0.50
39:RT:19:LEU:HD22	39:RT:86:ILE:HG22	1.94	0.50
51:R5:37:LYS:HD2	51:R5:37:LYS:O	2.12	0.50
56:Z5:101:PPU:HN2	56:Z5:101:PPU:HD2	1.76	0.50
10:XJ:57:LYS:CD	10:XJ:60:ARG:CZ	2.89	0.50
19:XS:15:LEU:O	19:XS:19:VAL:N	2.36	0.50
19:XS:40:ILE:HG23	19:XS:67:VAL:O	2.11	0.50
25:YA:984:A:H5"	25:YA:985:C:H5	1.76	0.50
25:YA:1430:C:H2'	25:YA:1431:U:H6	1.74	0.50
25:YA:2635:C:H5'	28:YE:77:ILE:CD1	2.41	0.50
31:YH:152:ARG:C	31:YH:153:LYS:HE2	2.32	0.50
38:YS:26:LEU:CD2	38:YS:87:PHE:CD1	2.94	0.50
38:YS:89:ARG:HD2	38:YS:89:ARG:O	2.11	0.50
25:RA:709:U:H3	25:RA:722:A:H61	1.58	0.50
28:RE:14:ILE:CG1	39:RT:14:TYR:CZ	2.95	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:14:ILE:CD1	39:RT:14:TYR:CZ	2.94	0.50
28:RE:37:ARG:HE	28:RE:37:ARG:H	1.59	0.50
28:RE:203:LYS:HE3	28:RE:204:ALA:CB	2.40	0.50
31:RH:16:SER:O	31:RH:17:VAL:HG23	2.12	0.50
1:XA:34:C:H2'	1:XA:35:G:C8	2.47	0.50
1:XA:321:A:H4'	1:XA:1436:U:H5'	1.94	0.50
2:XB:111:ARG:HH21	2:XB:114:ARG:HG2	1.76	0.50
3:XC:54:ARG:HD3	3:XC:56:ASP:OD1	2.10	0.50
4:XD:108:LEU:HD21	4:XD:183:GLY:HA3	1.93	0.50
12:XL:62:SER:C	12:XL:64:TYR:H	2.14	0.50
19:XS:4:SER:O	19:XS:5:LEU:HD13	2.11	0.50
25:YA:1354:A:OP1	27:YD:38:LYS:HE2	2.11	0.50
25:YA:2119:A:H61	25:YA:2168:G:H22	1.59	0.50
25:YA:2776:A:OP1	25:YA:2776:A:H3'	2.11	0.50
27:YD:10:THR:HG23	27:YD:13:ARG:CB	2.34	0.50
27:YD:233:HIS:CD2	27:YD:233:HIS:H	2.29	0.50
31:YH:133:VAL:HG12	31:YH:141:VAL:HG13	1.93	0.50
42:YW:57:ASN:O	42:YW:61:ASN:HB2	2.10	0.50
48:Y2:41:ILE:HD11	48:Y2:44:LEU:CB	2.42	0.50
1:QA:1321:C:H3'	1:QA:1322:C:H5"	1.93	0.50
2:QB:231:GLU:HG3	2:QB:233:SER:H	1.77	0.50
9:QI:95:LYS:NZ	9:QI:96:LEU:HD13	2.26	0.50
13:QM:40:ASN:HD22	13:QM:43:THR:HG23	1.77	0.50
13:QM:40:ASN:ND2	13:QM:43:THR:HG23	2.27	0.50
25:RA:2611:U:OP2	25:RA:2611:U:H6	1.94	0.50
28:RE:61:ARG:CB	28:RE:62:PRO:HD3	2.41	0.50
30:RG:65:GLY:O	50:R4:7:PRO:HD2	2.12	0.50
31:RH:143:GLN:HE21	31:RH:143:GLN:C	2.15	0.50
35:RP:36:LYS:HD2	35:RP:37:GLY:H	1.76	0.50
39:RT:111:ARG:O	39:RT:113:LYS:N	2.42	0.50
53:R7:5:TRP:NE1	53:R7:7:PRO:HG3	2.25	0.50
1:XA:673:G:H2'	1:XA:674:G:C8	2.46	0.50
2:XB:80:ILE:HD11	2:XB:208:ILE:HG23	1.93	0.50
2:XB:114:ARG:O	2:XB:117:GLU:HB2	2.11	0.50
6:XF:86:ARG:O	6:XF:87:ARG:HG2	2.12	0.50
25:YA:998:C:OP2	40:YU:93:LYS:NZ	2.43	0.50
28:YE:105:THR:HG23	28:YE:166:THR:OG1	2.10	0.50
34:YO:120:GLU:HG2	34:YO:122:LEU:HG	1.94	0.50
36:YQ:108:GLY:O	36:YQ:109:VAL:HG23	2.12	0.50
48:Y2:9:GLN:O	48:Y2:12:GLU:HB3	2.10	0.50
1:QA:736:C:H2'	1:QA:737:A:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:QI:118:LYS:O	9:QI:120:ARG:N	2.40	0.50
10:QJ:47:PHE:CE1	10:QJ:63:PHE:HB2	2.47	0.50
12:QL:62:SER:C	12:QL:64:TYR:H	2.14	0.50
13:QM:80:ARG:HB2	50:R4:71:ARG:NH2	2.27	0.50
25:RA:443:A:H3'	29:RF:45:ARG:NH1	2.26	0.50
25:RA:746:A:C6	25:RA:2611:U:H5"	2.47	0.50
25:RA:1308:A:H2'	25:RA:1309:G:O4'	2.12	0.50
25:RA:2022:U:O2'	25:RA:2617:C:H5'	2.12	0.50
25:RA:2556:C:H2'	25:RA:2557:G:O4'	2.12	0.50
25:RA:2689:U:H4'	25:RA:2690:C:C6	2.47	0.50
36:RQ:108:GLY:O	36:RQ:109:VAL:HG23	2.12	0.50
42:RW:60:ASN:HD22	42:RW:60:ASN:N	2.09	0.50
44:RY:97:ARG:HH21	44:RY:98:VAL:HB	1.77	0.50
47:R1:62:VAL:HG23	47:R1:63:ALA:O	2.11	0.50
51:R5:48:GLU:HA	51:R5:59:GLU:HG2	1.94	0.50
51:R5:50:GLY:O	51:R5:51:TYR:CB	2.59	0.50
4:XD:112:VAL:HG12	4:XD:116:GLN:OE1	2.12	0.50
25:YA:443:A:N7	29:YF:45:ARG:HD2	2.27	0.50
25:YA:1140:C:OP1	33:YN:23:LEU:HB3	2.11	0.50
25:YA:1668:A:H5"	34:YO:5:GLN:HG2	1.94	0.50
25:YA:2469:A:H2	25:YA:2481:G:H21	1.59	0.50
26:YB:52:A:H62	38:YS:33:LYS:HG3	1.76	0.50
27:YD:182:LEU:H	27:YD:272:ALA:CB	2.25	0.50
31:YH:24:VAL:HG21	31:YH:72:ILE:HG12	1.94	0.50
31:YH:143:GLN:HE21	31:YH:143:GLN:C	2.15	0.50
31:YH:169:VAL:HG13	31:YH:170:ARG:N	2.26	0.50
36:YQ:132:VAL:HG12	36:YQ:133:ARG:N	2.27	0.50
38:YS:26:LEU:HD22	38:YS:87:PHE:CD1	2.46	0.50
41:YV:61:VAL:HA	41:YV:94:LEU:HD23	1.93	0.50
45:YZ:152:ALA:O	45:YZ:154:ASP:N	2.41	0.50
1:QA:156:G:H1	1:QA:165:C:N4	2.09	0.50
22:QV:15:C:H5"	22:QV:16:C:H5	1.77	0.50
27:RD:62:TYR:CE2	27:RD:64:ILE:HA	2.46	0.50
27:RD:175:LEU:HD12	27:RD:185:VAL:HG21	1.92	0.50
29:RF:157:VAL:HG21	29:RF:181:LEU:HD21	1.93	0.50
31:RH:133:VAL:HG12	31:RH:141:VAL:HG13	1.93	0.50
36:RQ:2:LEU:HD23	36:RQ:2:LEU:N	2.27	0.50
36:RQ:80:GLU:HG3	36:RQ:81:VAL:N	2.27	0.50
54:R8:56:GLU:O	54:R8:57:ARG:C	2.50	0.50
1:XA:501:C:OP1	12:XL:117:ARG:NH2	2.39	0.50
2:XB:162:ILE:HD11	2:XB:184:VAL:HG22	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:189:ASP:HB3	2:XB:203:GLY:O	2.12	0.50
5:XE:43:LEU:HD22	5:XE:136:MET:CG	2.42	0.50
5:XE:76:ILE:HG13	5:XE:93:PRO:HB3	1.94	0.50
20:XT:64:ASP:HA	20:XT:67:ALA:HB3	1.93	0.50
25:YA:287:C:H2'	25:YA:288:C:C6	2.46	0.50
25:YA:898:C:H2'	25:YA:899:A:H5'	1.94	0.50
25:YA:971:C:O2'	25:YA:983:A:N3	2.40	0.50
25:YA:1683:C:H2'	25:YA:1684:C:H6	1.77	0.50
25:YA:2052:G:C8	28:YE:141:ILE:HD11	2.46	0.50
26:YB:81:G:O6	26:YB:95:U:C2	2.65	0.50
27:YD:35:LYS:HE2	27:YD:104:TYR:HB2	1.94	0.50
28:YE:2:LYS:HG2	28:YE:95:ILE:CG2	2.42	0.50
28:YE:9:VAL:HG11	39:YT:7:ILE:CG2	2.41	0.50
28:YE:105:THR:HB	28:YE:197:ILE:HG12	1.92	0.50
32:YI:33:ARG:HB3	32:YI:35:LEU:HG	1.92	0.50
38:YS:35:ILE:CD1	38:YS:101:LEU:HD23	2.41	0.50
44:YY:97:ARG:HH21	44:YY:98:VAL:HB	1.76	0.50
53:Y7:5:TRP:NE1	53:Y7:7:PRO:HG3	2.26	0.50
1:QA:900:A:H2'	1:QA:901:A:C8	2.47	0.50
1:QA:1016:A:H2'	1:QA:1017:G:O4'	2.12	0.50
3:QC:14:ILE:HG12	3:QC:15:THR:N	2.27	0.50
4:QD:28:SER:HB3	4:QD:29:PRO:HD2	1.94	0.50
11:QK:17:GLY:N	11:QK:79:SER:O	2.44	0.50
12:QL:28:LYS:O	12:QL:29:GLY:C	2.50	0.50
13:QM:89:GLY:O	13:QM:92:HIS:HB2	2.11	0.50
25:RA:77:C:H5"	48:R2:10:LEU:HD11	1.93	0.50
25:RA:247:G:H4'	25:RA:386:G:C5	2.47	0.50
25:RA:1301:A:O2'	25:RA:1302:A:H3'	2.11	0.50
25:RA:1899:G:O2'	25:RA:1900:A:H5"	2.11	0.50
28:RE:2:LYS:HG2	28:RE:95:ILE:CG2	2.42	0.50
31:RH:153:LYS:O	31:RH:154:PRO:O	2.30	0.50
35:RP:88:LEU:HD12	35:RP:95:VAL:HG11	1.93	0.50
39:RT:39:ARG:HG2	39:RT:40:THR:H	1.76	0.50
50:R4:1:MET:HG3	50:R4:1:MET:O	2.12	0.50
1:XA:1281:U:H5'	1:XA:1282:C:OP2	2.12	0.50
2:XB:21:ARG:O	2:XB:23:ARG:N	2.44	0.50
25:YA:442:G:O4'	29:YF:46:ARG:HD3	2.12	0.50
25:YA:674:G:C1'	29:YF:74:ARG:HD3	2.40	0.50
25:YA:754:C:H2'	25:YA:755:C:H6	1.77	0.50
25:YA:839:U:H2'	25:YA:840:C:C6	2.47	0.50
25:YA:1412:A:H2'	25:YA:1413:G:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1853:A:N3	25:YA:2233:U:O2'	2.37	0.50
25:YA:2774:C:H2'	25:YA:2775:A:O4'	2.11	0.50
25:YA:2875:C:H4'	39:YT:5:ALA:HB2	1.93	0.50
27:YD:65:ILE:HD13	27:YD:65:ILE:C	2.32	0.50
28:YE:14:ILE:HD11	39:YT:14:TYR:CZ	2.46	0.50
31:YH:16:SER:O	31:YH:17:VAL:HG23	2.12	0.50
31:YH:131:VAL:CG1	31:YH:132:ARG:N	2.74	0.50
52:Y6:47:THR:HG22	52:Y6:48:VAL:HG12	1.94	0.50
1:QA:284:G:H2'	1:QA:285:G:C8	2.47	0.50
2:QB:162:ILE:HD11	2:QB:184:VAL:HG22	1.93	0.50
10:QJ:22:LYS:HZ2	10:QJ:23:ILE:HA	1.77	0.50
12:QL:15:ARG:CG	17:QQ:32:TYR:OH	2.60	0.50
19:QS:42:PRO:CD	50:R4:63:TYR:CE2	2.95	0.50
19:QS:65:ASN:O	50:R4:59:PHE:CE2	2.65	0.50
25:RA:223:A:N1	25:RA:407:G:O2'	2.37	0.50
25:RA:807:U:H2'	25:RA:808:G:C8	2.47	0.50
25:RA:1019:U:HO2'	25:RA:1021:A:H2	1.57	0.50
25:RA:1203:G:H3'	25:RA:1204:A:H5"	1.94	0.50
25:RA:1786:A:H1'	25:RA:1938:A:N6	2.27	0.50
25:RA:2365:G:H4'	46:R0:60:PHE:CZ	2.47	0.50
31:RH:19:VAL:HG13	31:RH:43:VAL:CG2	2.41	0.50
31:RH:103:LEU:CD1	31:RH:131:VAL:HG21	2.41	0.50
32:RI:94:ALA:H	32:RI:116:LEU:HD13	1.77	0.50
38:RS:67:ARG:O	38:RS:71:ARG:HG3	2.12	0.50
39:RT:42:ILE:HD12	39:RT:42:ILE:H	1.77	0.50
43:RX:40:LYS:O	43:RX:42:ALA:N	2.45	0.50
48:R2:48:HIS:C	48:R2:48:HIS:CD2	2.86	0.50
50:R4:10:VAL:HG23	50:R4:11:PRO:HD2	1.93	0.50
50:R4:23:GLU:C	50:R4:24:THR:HG1	2.16	0.50
1:XA:537:G:H5"	12:XL:113:ARG:NH1	2.27	0.50
1:XA:1221:G:OP1	19:XS:36:ARG:HD3	2.12	0.50
2:XB:32:ILE:HD11	2:XB:40:HIS:HB3	1.94	0.50
12:XL:28:LYS:O	12:XL:29:GLY:C	2.50	0.50
15:XO:67:LEU:HB3	15:XO:78:TYR:HE1	1.77	0.50
19:XS:41:VAL:HB	19:XS:42:PRO:CA	2.42	0.50
25:YA:2638:G:P	28:YE:82:ARG:HH22	2.34	0.50
27:YD:76:PRO:HA	27:YD:118:VAL:HG23	1.93	0.50
27:YD:218:ARG:HB3	27:YD:219:PRO:HD2	1.94	0.50
28:YE:46:ALA:HB1	28:YE:80:GLU:HB2	1.94	0.50
33:YN:58:ASP:OD1	33:YN:58:ASP:N	2.45	0.50
36:YQ:36:ALA:HB1	36:YQ:127:ILE:HD12	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:YX:53:LYS:HB3	43:YX:82:GLN:HB3	1.93	0.50
46:Y0:70:GLN:OE1	46:Y0:72:ARG:HD3	2.12	0.50
54:Y8:56:GLU:O	54:Y8:57:ARG:C	2.50	0.50
12:QL:24:VAL:O	12:QL:24:VAL:CG1	2.58	0.49
19:QS:42:PRO:HD3	50:R4:63:TYR:CE2	2.47	0.49
20:QT:64:ASP:CG	20:QT:81:LYS:HZ2	2.15	0.49
25:RA:531:C:OP1	25:RA:561:G:N1	2.45	0.49
25:RA:569:U:O2'	25:RA:983:A:N1	2.38	0.49
25:RA:1005:C:O2'	33:RN:28:THR:HG21	2.12	0.49
25:RA:1416:G:H2'	25:RA:1417:C:C6	2.47	0.49
25:RA:2469:A:H2	25:RA:2481:G:H21	1.60	0.49
28:RE:61:ARG:O	28:RE:62:PRO:C	2.50	0.49
29:RF:178:PRO:HB2	29:RF:201:VAL:HG11	1.93	0.49
31:RH:19:VAL:HG13	31:RH:43:VAL:HG23	1.93	0.49
32:RI:8:PRO:HD3	32:RI:15:VAL:HG13	1.94	0.49
33:RN:34:LEU:O	33:RN:49:GLY:HA3	2.12	0.49
39:RT:34:VAL:HG12	39:RT:36:GLU:HG2	1.94	0.49
45:RZ:166:SER:HB2	45:RZ:168:GLU:N	2.27	0.49
50:R4:68:ARG:HD3	50:R4:69:LYS:HG2	1.92	0.49
1:XA:564:C:H5'	17:XQ:32:TYR:CE1	2.47	0.49
10:XJ:49:VAL:HG22	14:XN:41:ARG:HB2	1.94	0.49
11:XK:86:GLY:O	11:XK:91:ARG:HD3	2.11	0.49
30:YG:79:ASN:HD22	30:YG:79:ASN:N	2.08	0.49
35:YP:64:LYS:C	35:YP:66:GLY:N	2.65	0.49
1:QA:280:C:H3'	1:QA:281:G:H5'	1.93	0.49
1:QA:827:U:O2	1:QA:874:G:N2	2.46	0.49
1:QA:1015:A:H2'	1:QA:1016:A:C8	2.47	0.49
3:QC:14:ILE:HG12	3:QC:15:THR:H	1.76	0.49
4:QD:22:LYS:HE2	4:QD:31:CYS:O	2.12	0.49
6:QF:97:PHE:O	18:QR:31:LEU:HD23	2.12	0.49
25:RA:845:G:H8	25:RA:845:G:OP2	1.95	0.49
26:RB:22:U:H3	26:RB:61:G:H1	1.60	0.49
28:RE:119:ARG:HD3	28:RE:160:TYR:CD2	2.47	0.49
30:RG:3:LEU:CD1	50:R4:25:TYR:CZ	2.93	0.49
30:RG:115:ARG:NH2	30:RG:137:GLU:OE1	2.45	0.49
37:RR:44:LEU:HD22	37:RR:48:VAL:HG23	1.94	0.49
50:R4:57:GLU:O	50:R4:61:ARG:O	2.30	0.49
1:XA:406:G:H5'	4:XD:5:ILE:HD13	1.93	0.49
6:XF:97:PHE:HB2	18:XR:32:ARG:CZ	2.41	0.49
13:XM:49:THR:HB	13:XM:52:GLU:H	1.77	0.49
13:XM:121:LYS:CA	13:XM:121:LYS:HE2	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:XP:28:ARG:NH1	16:XP:29:ASP:OD2	2.45	0.49
25:YA:1013:C:N4	25:YA:1149:G:H1	2.07	0.49
25:YA:1257:C:O2'	29:YF:84:VAL:HG12	2.12	0.49
27:YD:2:ALA:CB	27:YD:20:ASP:HB3	2.42	0.49
28:YE:179:GLU:OE1	28:YE:179:GLU:HA	2.10	0.49
29:YF:11:VAL:CG1	29:YF:12:LEU:N	2.75	0.49
38:YS:52:SER:O	38:YS:56:LEU:CD2	2.60	0.49
1:QA:284:G:H2'	1:QA:285:G:H8	1.78	0.49
1:QA:501:C:H2'	1:QA:502:G:C8	2.46	0.49
1:QA:1432:G:OP1	39:RT:107:ASP:HB2	2.12	0.49
3:QC:157:ILE:HD11	3:QC:166:GLU:HB2	1.95	0.49
8:QH:95:VAL:HB	8:QH:99:GLU:O	2.13	0.49
9:QI:46:ALA:HB2	9:QI:74:ILE:HG23	1.94	0.49
25:RA:780:G:H21	25:RA:783:A:H62	1.59	0.49
25:RA:1300:U:H4'	25:RA:1301:A:H5"	1.94	0.49
26:RB:15:A:H5'	26:RB:16:G:H8	1.77	0.49
26:RB:44:G:H1'	26:RB:47:C:N4	2.26	0.49
28:RE:55:ASN:O	28:RE:57:LYS:N	2.44	0.49
39:RT:36:GLU:HG3	39:RT:41:ARG:CD	2.39	0.49
43:RX:26:TYR:HB3	43:RX:92:LEU:HD12	1.93	0.49
1:XA:1095:U:OP2	1:XA:1108:G:N1	2.36	0.49
11:XK:82:VAL:HB	11:XK:108:ILE:HG12	1.94	0.49
13:XM:20:THR:C	13:XM:22:ILE:H	2.15	0.49
14:XN:23:ARG:NH1	14:XN:30:ALA:HB2	2.27	0.49
20:XT:49:ALA:HB1	20:XT:99:LEU:HB2	1.94	0.49
25:YA:2681:C:H5'	28:YE:11:MET:SD	2.52	0.49
27:YD:2:ALA:CB	27:YD:20:ASP:CB	2.90	0.49
27:YD:35:LYS:CG	27:YD:64:ILE:HG22	2.42	0.49
32:YI:120:ILE:HD11	32:YI:126:TYR:CZ	2.47	0.49
36:YQ:132:VAL:HG11	45:YZ:81:ARG:CZ	2.42	0.49
48:Y2:69:ARG:CB	48:Y2:69:ARG:HH11	2.25	0.49
1:QA:34:C:H2'	1:QA:35:G:C8	2.47	0.49
1:QA:420:U:H4'	1:QA:421:U:H5	1.77	0.49
1:QA:1104:G:O5'	2:QB:111:ARG:HD2	2.11	0.49
2:QB:235:SER:OG	2:QB:236:TYR:N	2.46	0.49
8:QH:9:MET:HG3	8:QH:26:VAL:HG21	1.94	0.49
18:QR:26:LEU:HD22	18:QR:42:ARG:HD2	1.94	0.49
25:RA:1309:G:H4'	53:R7:7:PRO:HB2	1.94	0.49
25:RA:1386:C:H2'	25:RA:1387:C:H6	1.77	0.49
28:RE:179:GLU:O	28:RE:180:ASN:HB2	2.12	0.49
30:RG:110:ALA:HB1	30:RG:140:ILE:HD12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RP:65:ARG:HB2	54:R8:12:LYS:O	2.12	0.49
38:RS:15:ARG:NH1	38:RS:25:ARG:HH21	2.11	0.49
39:RT:41:ARG:NH1	39:RT:41:ARG:HB2	2.26	0.49
40:RU:92:ARG:O	40:RU:92:ARG:HG2	2.12	0.49
50:R4:9:LEU:H	50:R4:27:THR:CG2	2.25	0.49
1:XA:1104:G:O5'	2:XB:111:ARG:HD2	2.11	0.49
1:XA:1128:C:N4	1:XA:1144:G:N1	2.59	0.49
2:XB:24:TRP:CZ3	2:XB:26:PRO:HA	2.48	0.49
9:XI:40:LEU:C	9:XI:42:ARG:H	2.15	0.49
25:YA:573:G:O2'	25:YA:574:C:H3'	2.13	0.49
25:YA:1388:G:O2'	25:YA:1389:G:H5'	2.13	0.49
25:YA:1818:U:O2'	27:YD:154:LYS:O	2.29	0.49
25:YA:2040:C:H2'	25:YA:2041:U:C6	2.47	0.49
25:YA:2630:G:H1	25:YA:2788:C:N4	2.07	0.49
27:YD:227:ASN:HB3	27:YD:228:PRO:CD	2.30	0.49
28:YE:37:ARG:HE	28:YE:37:ARG:H	1.59	0.49
28:YE:61:ARG:CB	28:YE:62:PRO:CD	2.90	0.49
31:YH:153:LYS:O	31:YH:154:PRO:O	2.29	0.49
36:YQ:2:LEU:HD23	36:YQ:2:LEU:N	2.27	0.49
1:QA:244:U:H4'	1:QA:245:C:O5'	2.12	0.49
1:QA:664:G:P	18:QR:64:ARG:HH21	2.36	0.49
12:QL:6:THR:O	12:QL:7:ILE:C	2.51	0.49
25:RA:593:G:O2'	54:R8:61:LEU:HD13	2.12	0.49
25:RA:2287:A:N1	25:RA:2346:A:C2	2.81	0.49
25:RA:2313:C:H5"	30:RG:91:ARG:HD3	1.93	0.49
25:RA:2528:U:OP1	55:R9:30:PRO:HG2	2.12	0.49
28:RE:23:VAL:HG12	28:RE:173:VAL:HG21	1.94	0.49
30:RG:54:GLU:HA	30:RG:57:ALA:HB3	1.93	0.49
31:RH:23:ARG:HD2	31:RH:34:GLU:OE2	2.12	0.49
31:RH:120:GLY:HA3	31:RH:140:LYS:NZ	2.28	0.49
32:RI:57:ARG:O	32:RI:61:ARG:HG2	2.12	0.49
51:R5:20:ARG:C	51:R5:22:HIS:H	2.14	0.49
53:R7:31:LEU:HD22	53:R7:42:LEU:HD13	1.95	0.49
1:XA:485:G:H1'	1:XA:486:U:H5	1.77	0.49
1:XA:1513:A:H2'	1:XA:1514:C:C6	2.48	0.49
13:XM:81:LEU:HD13	13:XM:88:ARG:HD2	1.94	0.49
25:YA:458:G:O2'	25:YA:469:G:O6	2.28	0.49
25:YA:1336:A:H2'	25:YA:1337:G:H8	1.78	0.49
28:YE:17:ASP:N	28:YE:17:ASP:OD1	2.46	0.49
31:YH:103:LEU:HD23	31:YH:103:LEU:H	1.77	0.49
33:YN:34:LEU:HD21	33:YN:120:LEU:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YS:60:GLY:O	38:YS:61:ASN:CB	2.55	0.49
40:YU:61:TRP:CD2	40:YU:94:ASN:HA	2.47	0.49
45:YZ:5:LEU:HB3	45:YZ:59:LEU:HA	1.94	0.49
1:QA:1446:A:O2'	1:QA:1447:G:O5'	2.28	0.49
2:QB:96:ARG:H	2:QB:96:ARG:HD2	1.76	0.49
3:QC:73:PRO:O	3:QC:76:VAL:HG22	2.12	0.49
3:QC:162:GLN:NE2	3:QC:162:GLN:CA	2.68	0.49
5:QE:101:ILE:HG13	5:QE:119:LEU:HD23	1.95	0.49
14:QN:15:LYS:HD2	14:QN:16:PHE:CE2	2.47	0.49
25:RA:307:G:N2	25:RA:309:G:H3'	2.28	0.49
25:RA:623:G:H2'	25:RA:624:C:C6	2.48	0.49
25:RA:2712:U:OP1	25:RA:2714:G:H4'	2.13	0.49
27:RD:228:PRO:HD3	27:RD:234:GLY:C	2.33	0.49
33:RN:134:ARG:N	33:RN:135:PRO:HD3	2.28	0.49
36:RQ:29:PHE:N	36:RQ:105:GLU:OE2	2.41	0.49
44:RY:81:LYS:NZ	44:RY:98:VAL:HG11	2.28	0.49
45:RZ:152:ALA:O	45:RZ:154:ASP:N	2.41	0.49
46:R0:32:ARG:H	46:R0:35:ASN:ND2	2.10	0.49
49:R3:6:VAL:HG13	49:R3:56:VAL:HG13	1.94	0.49
50:R4:42:PHE:O	50:R4:44:THR:O	2.31	0.49
1:XA:1301:U:O2'	1:XA:1302:U:OP1	2.29	0.49
1:XA:1315:U:H2'	1:XA:1316:G:O4'	2.12	0.49
10:XJ:35:SER:OG	10:XJ:73:ASP:HB2	2.13	0.49
25:YA:1188:U:H4'	41:YV:79:VAL:HG22	1.95	0.49
27:YD:72:LYS:O	27:YD:73:VAL:C	2.51	0.49
27:YD:130:ALA:C	27:YD:131:LEU:HD12	2.33	0.49
28:YE:61:ARG:O	28:YE:62:PRO:C	2.51	0.49
31:YH:19:VAL:HG13	31:YH:43:VAL:HG23	1.93	0.49
33:YN:17:ASP:O	33:YN:56:ASN:HB2	2.12	0.49
36:YQ:29:PHE:N	36:YQ:105:GLU:OE2	2.41	0.49
43:YX:57:LEU:HD11	43:YX:78:LYS:HD2	1.94	0.49
46:Y0:53:MET:HA	46:Y0:58:THR:O	2.13	0.49
50:Y4:15:ILE:H	50:Y4:15:ILE:HD13	1.76	0.49
54:Y8:52:LYS:H	54:Y8:53:PRO:HD2	1.66	0.49
1:QA:1286:A:H8	1:QA:1287:A:H4'	1.78	0.49
2:QB:21:ARG:O	2:QB:23:ARG:N	2.46	0.49
5:QE:71:LEU:HD11	5:QE:115:VAL:H	1.77	0.49
10:QJ:80:LYS:HE2	1:XA:1162:C:H1'	1.94	0.49
25:RA:639:U:H2'	25:RA:640:C:C6	2.48	0.49
25:RA:1337:G:H2'	25:RA:1338:G:H8	1.78	0.49
25:RA:1427:A:H4'	25:RA:1428:C:O5'	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1654:A:OP2	37:RR:2:ARG:HD2	2.12	0.49
25:RA:2122:U:H3	25:RA:2176:A:H61	1.60	0.49
28:RE:46:ALA:HB1	28:RE:80:GLU:HB2	1.94	0.49
30:RG:60:LEU:O	30:RG:64:THR:HG22	2.12	0.49
31:RH:98:LEU:HD12	31:RH:102:ALA:O	2.13	0.49
31:RH:103:LEU:H	31:RH:103:LEU:HD23	1.77	0.49
31:RH:124:GLU:HB3	31:RH:132:ARG:CG	2.42	0.49
31:RH:128:PRO:HD2	31:RH:129:THR:N	2.25	0.49
35:RP:65:ARG:NH2	54:R8:46:ARG:HH12	2.11	0.49
36:RQ:132:VAL:HG12	36:RQ:133:ARG:N	2.27	0.49
45:RZ:70:LEU:HB2	45:RZ:91:LEU:HD21	1.95	0.49
50:R4:10:VAL:CG2	50:R4:11:PRO:HD2	2.43	0.49
50:R4:47:GLN:O	50:R4:48:ARG:CB	2.61	0.49
52:R6:15:GLU:CD	52:R6:41:PRO:HB3	2.32	0.49
54:R8:33:ASN:O	54:R8:35:GLN:N	2.46	0.49
1:XA:255:G:C6	1:XA:266:G:O6	2.60	0.49
1:XA:272:C:H2'	1:XA:273:A:C8	2.48	0.49
1:XA:1077:G:N2	1:XA:1080:A:OP2	2.40	0.49
2:XB:178:ARG:HG3	8:XH:72:PRO:HA	1.95	0.49
12:XL:6:THR:O	12:XL:7:ILE:C	2.51	0.49
13:XM:121:LYS:HE2	13:XM:121:LYS:N	2.28	0.49
22:XV:2:C:H2'	22:XV:3:G:H5'	1.93	0.49
25:YA:70:G:H21	25:YA:71:A:N6	2.11	0.49
25:YA:94:G:N3	48:Y2:47:ASN:ND2	2.60	0.49
25:YA:102:G:H4'	25:YA:103:A:O5'	2.11	0.49
25:YA:676:A:N1	25:YA:802:A:N1	2.60	0.49
25:YA:1045:A:O2'	25:YA:1046:A:OP2	2.25	0.49
25:YA:1057:A:H62	25:YA:1086:A:H2'	1.77	0.49
25:YA:1265:A:H3'	51:Y5:19:ARG:NH1	2.28	0.49
28:YE:179:GLU:O	28:YE:180:ASN:HB2	2.12	0.49
30:YG:94:LEU:HD12	30:YG:99:MET:HA	1.95	0.49
38:YS:11:LYS:HG2	38:YS:11:LYS:O	2.12	0.49
38:YS:25:ARG:HH12	38:YS:42:ASP:CG	2.16	0.49
38:YS:99:LYS:O	38:YS:101:LEU:N	2.45	0.49
52:Y6:41:PRO:HD2	52:Y6:46:HIS:N	2.28	0.49
54:Y8:10:ALA:O	54:Y8:14:VAL:HG12	2.11	0.49
54:Y8:58:ILE:O	54:Y8:61:LEU:HD12	2.13	0.49
1:QA:501:C:H2'	1:QA:502:G:H8	1.77	0.49
1:QA:673:G:O3'	6:QF:87:ARG:NH2	2.45	0.49
1:QA:1175:G:H2'	1:QA:1176:A:H8	1.75	0.49
3:QC:47:LEU:HD23	3:QC:68:VAL:HG11	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:QN:27:CYS:SG	14:QN:29:ARG:HB2	2.53	0.49
17:QQ:18:THR:HG23	17:QQ:69:LYS:HE3	1.94	0.49
19:QS:41:VAL:HA	19:QS:44:MET:HG3	1.94	0.49
20:QT:79:ARG:O	20:QT:83:ARG:HG3	2.12	0.49
25:RA:127:A:H5"	25:RA:128:C:C6	2.48	0.49
25:RA:498:G:N3	44:RY:47:LYS:NZ	2.60	0.49
25:RA:1101:U:H2'	25:RA:1102:C:C6	2.47	0.49
25:RA:2271:G:OP1	46:R0:18:ALA:HB1	2.13	0.49
25:RA:2320:A:N3	25:RA:2320:A:H2'	2.28	0.49
28:RE:95:ILE:H	28:RE:95:ILE:CD1	2.19	0.49
29:RF:150:GLY:HA2	29:RF:172:TRP:CE3	2.48	0.49
29:RF:160:ASN:HB3	29:RF:163:VAL:HB	1.95	0.49
30:RG:112:PRO:CG	50:R4:37:SER:HB2	2.30	0.49
31:RH:54:ARG:HD3	31:RH:65:HIS:ND1	2.27	0.49
36:RQ:86:GLY:O	36:RQ:88:GLY:N	2.46	0.49
43:RX:27:THR:HB	43:RX:80:ILE:HB	1.94	0.49
44:RY:47:LYS:HG2	44:RY:60:PHE:HD1	1.77	0.49
54:R8:41:ILE:HG13	54:R8:42:ARG:N	2.28	0.49
1:XA:41:G:H2'	1:XA:42:G:C8	2.47	0.49
1:XA:481:G:O2'	1:XA:482:A:O5'	2.30	0.49
1:XA:974:A:OP2	14:XN:41:ARG:NH1	2.46	0.49
3:XC:148:GLY:HA3	3:XC:172:ARG:O	2.12	0.49
5:XE:10:MET:SD	5:XE:13:ILE:HD13	2.53	0.49
25:YA:581:C:H2'	25:YA:582:G:C8	2.47	0.49
25:YA:729:G:OP2	27:YD:13:ARG:NH1	2.46	0.49
25:YA:738:G:C6	25:YA:739:G:C2	3.01	0.49
25:YA:1113:U:H2'	25:YA:1114:G:C8	2.47	0.49
25:YA:1506:C:H3'	25:YA:1507:A:H5"	1.94	0.49
25:YA:1761:C:H42	25:YA:1762:A:H62	1.60	0.49
27:YD:123:ALA:HB3	27:YD:131:LEU:HG	1.94	0.49
30:YG:113:ARG:HH21	50:Y4:34:GLU:CG	2.24	0.49
31:YH:54:ARG:HD3	31:YH:65:HIS:ND1	2.27	0.49
31:YH:98:LEU:HD12	31:YH:102:ALA:O	2.13	0.49
52:Y6:41:PRO:O	52:Y6:45:LYS:HE3	2.12	0.49
54:Y8:16:ILE:CD1	54:Y8:57:ARG:HG2	2.42	0.49
1:QA:411:A:N6	1:QA:413:G:H21	2.11	0.49
7:QG:57:GLU:OE1	7:QG:57:GLU:N	2.41	0.49
25:RA:271(B):G:O2'	25:RA:421:U:OP2	2.20	0.49
25:RA:661:C:H4'	35:RP:13:ASN:OD1	2.13	0.49
25:RA:784:A:O4'	27:RD:227:ASN:ND2	2.45	0.49
28:RE:119:ARG:HD3	28:RE:160:TYR:HD2	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:42:ARG:O	31:RH:52:VAL:HA	2.12	0.49
36:RQ:23:GLY:O	36:RQ:24:GLY:O	2.30	0.49
50:R4:22:ILE:H	50:R4:22:ILE:HD12	1.77	0.49
51:R5:48:GLU:HA	51:R5:59:GLU:CG	2.43	0.49
51:R5:52:TYR:O	51:R5:53:ALA:CB	2.60	0.49
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.47	0.49
2:XB:73:THR:OG1	2:XB:170:GLU:OE2	2.23	0.49
13:XM:14:ARG:HG2	13:XM:17:VAL:HG23	1.95	0.49
20:XT:26:ASN:HB2	20:XT:71:THR:OG1	2.12	0.49
25:YA:1465:G:H5'	25:YA:1528:A:H1'	1.94	0.49
25:YA:2585:U:C5	56:Z6:101:PPU:O2'	2.66	0.49
27:YD:25:THR:O	27:YD:27:THR:HG22	2.12	0.49
28:YE:119:ARG:HD3	28:YE:160:TYR:CD2	2.47	0.49
40:YU:95:LEU:HD22	41:YV:4:ILE:HD12	1.93	0.49
40:YU:98:LEU:O	40:YU:102:GLU:N	2.37	0.49
52:Y6:21:TYR:HE2	52:Y6:53:LYS:HE3	1.77	0.49
54:Y8:33:ASN:O	54:Y8:35:GLN:N	2.46	0.49
1:QA:368:U:OP1	32:YI:91:SER:OG	2.31	0.49
1:QA:1014:A:H4'	19:QS:14:HIS:CD2	2.48	0.49
1:QA:1305:G:HO2'	1:QA:1306:A:H8	1.60	0.49
4:QD:20:TYR:HA	4:QD:26:CYS:SG	2.53	0.49
13:QM:23:TYR:HE1	13:QM:70:LEU:HD12	1.77	0.49
19:QS:64:GLU:HG3	50:R4:55:ARG:HH12	1.77	0.49
25:RA:26:G:H1'	25:RA:515:A:N6	2.28	0.49
25:RA:249:C:O2	54:R8:12:LYS:HE3	2.13	0.49
25:RA:1178:C:H2'	25:RA:1179:C:C6	2.47	0.49
25:RA:1790:C:H5"	25:RA:1791:A:OP1	2.13	0.49
26:RB:44:G:H5"	26:RB:45:A:OP1	2.13	0.49
31:RH:12:PRO:HD3	31:RH:48:GLY:O	2.13	0.49
31:RH:123:PHE:O	31:RH:125:VAL:HG23	2.13	0.49
51:R5:45:VAL:O	51:R5:45:VAL:HG12	2.13	0.49
52:R6:14:THR:O	52:R6:49:HIS:HA	2.12	0.49
54:R8:58:ILE:O	54:R8:61:LEU:HD12	2.13	0.49
1:XA:955:U:H1'	1:XA:1227:A:N6	2.28	0.49
1:XA:1316:G:O2'	1:XA:1318:A:N7	2.41	0.49
3:XC:79:ARG:HH12	3:XC:82:GLU:HG3	1.77	0.49
6:XF:35:ALA:HA	6:XF:67:MET:HB3	1.94	0.49
11:XK:59:TYR:CZ	11:XK:63:LEU:HD11	2.47	0.49
25:YA:27:G:N2	25:YA:512:G:H2'	2.28	0.49
25:YA:1164:G:H2'	25:YA:1165:U:C6	2.48	0.49
25:YA:1359:A:N6	25:YA:1373:A:C4	2.81	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2008:C:H2'	25:YA:2009:G:H8	1.78	0.49
25:YA:2287:A:N6	25:YA:2344:U:H3	2.03	0.49
27:YD:198:ASN:C	27:YD:198:ASN:HD22	2.16	0.49
31:YH:42:ARG:O	31:YH:52:VAL:HA	2.13	0.49
31:YH:124:GLU:HB3	31:YH:132:ARG:CG	2.43	0.49
33:YN:63:THR:CG2	33:YN:66:LYS:HZ3	2.24	0.49
35:YP:27:HIS:ND1	35:YP:27:HIS:N	2.61	0.49
35:YP:46:LYS:HB3	35:YP:46:LYS:HE3	1.63	0.49
38:YS:48:LEU:N	38:YS:48:LEU:CD1	2.76	0.49
39:YT:107:ASP:H	39:YT:110:ILE:HG22	1.78	0.49
42:YW:51:LEU:HD23	42:YW:105:VAL:HG11	1.94	0.49
44:YY:86:ARG:HB2	44:YY:95:LYS:HD2	1.94	0.49
54:Y8:35:GLN:OE1	54:Y8:35:GLN:HA	2.12	0.49
1:QA:1149:C:H2'	1:QA:1150:U:C6	2.48	0.48
7:QG:20:ASP:HB3	7:QG:23:VAL:HG23	1.94	0.48
25:RA:245:G:O2'	25:RA:384:U:O2	2.24	0.48
25:RA:2283:C:H2'	25:RA:2284:C:O4'	2.13	0.48
25:RA:2392:A:H8	35:RP:60:MET:HG2	1.77	0.48
30:RG:98:ARG:HE	30:RG:98:ARG:HB2	1.38	0.48
31:RH:24:VAL:HG21	31:RH:72:ILE:HG12	1.94	0.48
36:RQ:31:ASP:O	36:RQ:32:TYR:CG	2.66	0.48
44:RY:47:LYS:HG2	44:RY:60:PHE:CD1	2.48	0.48
47:R1:53:VAL:HB	47:R1:58:ILE:HD12	1.93	0.48
49:R3:4:LEU:O	49:R3:36:VAL:HA	2.13	0.48
52:R6:25:LYS:HE2	52:R6:27:LYS:HD3	1.94	0.48
1:XA:1402:C:H2'	1:XA:1403:C:O4'	2.14	0.48
2:XB:47:THR:HA	2:XB:202:PRO:HG2	1.95	0.48
6:XF:19:LEU:HD21	6:XF:59:TYR:CE1	2.47	0.48
25:YA:674:G:H2'	25:YA:804:A:H61	1.78	0.48
25:YA:922:U:H2'	25:YA:923:C:C6	2.48	0.48
25:YA:2067:G:O2'	25:YA:2069:G:H5"	2.13	0.48
25:YA:2599:G:OP2	27:YD:236:GLY:HA2	2.12	0.48
34:YO:4:PRO:O	34:YO:5:GLN:HB2	2.11	0.48
35:YP:59:LEU:CA	35:YP:61:ARG:HE	2.24	0.48
36:YQ:86:GLY:O	36:YQ:88:GLY:N	2.46	0.48
43:YX:11:PRO:HD3	48:Y2:37:PHE:CE2	2.48	0.48
45:YZ:5:LEU:HD11	45:YZ:39:VAL:HB	1.95	0.48
1:QA:1218:C:H2'	1:QA:1219:U:C6	2.49	0.48
4:QD:9:CYS:SG	4:QD:22:LYS:CE	2.91	0.48
10:QJ:24:VAL:HG21	10:QJ:37:PRO:HD3	1.95	0.48
11:QK:48:ILE:HD11	11:QK:64:ALA:HA	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:38:THR:CG2	12:QL:57:LYS:HB3	2.44	0.48
15:QO:87:ILE:HG22	15:QO:88:ARG:H	1.78	0.48
16:QP:43:LYS:HA	16:QP:48:TRP:HB3	1.95	0.48
19:QS:26:GLY:O	19:QS:28:LYS:N	2.41	0.48
19:QS:77:THR:HG22	19:QS:78:ARG:HD3	1.96	0.48
25:RA:729:G:H2'	25:RA:1775:U:H1'	1.95	0.48
28:RE:38:THR:O	28:RE:42:ASP:HB2	2.13	0.48
28:RE:77:ILE:CD1	28:RE:78:LEU:N	2.70	0.48
31:RH:137:ASP:CB	31:RH:140:LYS:HB2	2.43	0.48
32:RI:74:ASN:N	32:RI:74:ASN:OD1	2.45	0.48
37:RR:97:VAL:HG22	37:RR:114:VAL:CG2	2.43	0.48
39:RT:16:ARG:HD3	39:RT:19:LEU:HD11	1.94	0.48
43:RX:39:ILE:O	43:RX:43:VAL:HG12	2.13	0.48
1:XA:397:A:H5'	1:XA:398:C:OP1	2.13	0.48
1:XA:426:G:OP1	4:XD:38:TYR:OH	2.17	0.48
1:XA:429:U:H1'	1:XA:430:A:H5"	1.94	0.48
1:XA:1120:G:H2'	1:XA:1121:U:C6	2.47	0.48
6:XF:36:ARG:CZ	6:XF:38:GLU:HG2	2.44	0.48
16:XP:26:ARG:HH21	16:XP:31:LYS:HB3	1.77	0.48
25:YA:1470:G:O2'	25:YA:1522:G:O6	2.31	0.48
28:YE:38:THR:O	28:YE:42:ASP:HB2	2.13	0.48
28:YE:47:VAL:O	28:YE:48:GLN:C	2.52	0.48
31:YH:151:ILE:C	31:YH:152:ARG:O	2.49	0.48
36:YQ:23:GLY:O	36:YQ:24:GLY:O	2.30	0.48
36:YQ:34:LEU:HD23	36:YQ:104:PHE:HD2	1.77	0.48
38:YS:55:ALA:O	38:YS:56:LEU:HB3	2.14	0.48
47:Y1:41:ARG:HH11	47:Y1:41:ARG:HG3	1.78	0.48
50:Y4:39:CYS:N	50:Y4:41:PRO:CD	2.74	0.48
1:QA:115:G:H4'	1:QA:116:A:O5'	2.12	0.48
1:QA:1227:A:OP2	13:QM:111:LYS:HE3	2.12	0.48
1:QA:1376:U:P	7:QG:94:ARG:HH12	2.35	0.48
2:QB:80:ILE:HG21	2:QB:212:GLN:HA	1.95	0.48
7:QG:113:GLU:HG3	7:QG:119:ARG:HG2	1.94	0.48
15:QO:16:ALA:HB1	15:QO:21:ASP:HB3	1.95	0.48
22:QV:21:A:N6	22:QV:46:G:H2'	2.28	0.48
25:RA:142:G:H2'	25:RA:143:C:H6	1.78	0.48
25:RA:1588:C:H2'	25:RA:1589:C:H6	1.78	0.48
26:RB:38:C:O2	26:RB:48:A:H1'	2.14	0.48
30:RG:179:PRO:HB3	50:R4:38:LYS:HD2	1.95	0.48
36:RQ:34:LEU:HD23	36:RQ:104:PHE:HD2	1.77	0.48
51:R5:56:LYS:HD2	51:R5:56:LYS:N	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:376:G:H5"	16:XP:5:ARG:HD2	1.95	0.48
2:XB:74:LYS:HE2	2:XB:169:LYS:HG3	1.94	0.48
5:XE:31:LEU:HD23	5:XE:45:PHE:HD1	1.78	0.48
5:XE:50:GLU:HG3	5:XE:52:PRO:HD2	1.95	0.48
11:XK:18:ARG:NH2	11:XK:35:PRO:O	2.45	0.48
12:XL:119:LYS:C	12:XL:120:TYR:HD1	2.16	0.48
25:YA:247:G:H4'	25:YA:386:G:C5	2.48	0.48
25:YA:2469:A:H5'	25:YA:2470:G:OP2	2.14	0.48
25:YA:2477:C:H2'	55:Y9:1:MET:HG3	1.95	0.48
27:YD:44:ASN:H	27:YD:44:ASN:ND2	1.97	0.48
27:YD:48:ARG:HG3	27:YD:48:ARG:HH11	1.78	0.48
29:YF:155:LEU:HD23	29:YF:186:ILE:HA	1.95	0.48
31:YH:23:ARG:HD2	31:YH:34:GLU:OE2	2.12	0.48
31:YH:137:ASP:CB	31:YH:140:LYS:HB2	2.43	0.48
35:YP:147:LEU:HB3	35:YP:148:LEU:H	1.41	0.48
36:YQ:64:ILE:HG13	45:YZ:178:GLU:OE1	2.13	0.48
38:YS:33:LYS:HB3	38:YS:34:HIS:CD2	2.48	0.48
41:YV:15:GLU:O	41:YV:18:LEU:HB2	2.13	0.48
51:Y5:41:PRO:O	51:Y5:44:THR:OG1	2.32	0.48
7:QG:155:ARG:O	7:QG:155:ARG:NH2	2.46	0.48
13:QM:49:THR:HG22	13:QM:51:ALA:H	1.79	0.48
21:QU:5:ASP:O	21:QU:11:GLY:HA3	2.13	0.48
25:RA:327:G:N2	44:RY:70:SER:OG	2.47	0.48
25:RA:740:U:H2'	25:RA:741:G:C8	2.48	0.48
25:RA:1210:A:H5"	25:RA:1210:A:C8	2.47	0.48
25:RA:2335:A:O2'	25:RA:2336:A:O5'	2.27	0.48
25:RA:2346:A:H5"	25:RA:2383:G:H1'	1.96	0.48
26:RB:15:A:H1'	26:RB:109:G:C8	2.48	0.48
28:RE:78:LEU:CD2	28:RE:79:ARG:HD2	2.44	0.48
31:RH:10:PRO:C	31:RH:11:VAL:HG22	2.34	0.48
33:RN:4:TYR:O	40:RU:64:ARG:NH1	2.46	0.48
36:RQ:112:GLU:CD	36:RQ:112:GLU:H	2.17	0.48
36:RQ:134:ARG:HH12	45:RZ:119:GLU:HG3	1.78	0.48
37:RR:2:ARG:HA	37:RR:5:LYS:HE3	1.95	0.48
38:RS:64:GLU:O	38:RS:68:GLN:HG3	2.13	0.48
45:RZ:45:ASP:O	45:RZ:49:ARG:HG2	2.13	0.48
50:R4:42:PHE:O	50:R4:43:TYR:C	2.51	0.48
54:R8:56:GLU:O	54:R8:58:ILE:N	2.47	0.48
1:XA:900:A:H2'	1:XA:901:A:C8	2.48	0.48
1:XA:975:A:N6	1:XA:1367:C:O4'	2.47	0.48
6:XF:10:LEU:HD22	6:XF:61:LEU:HD11	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:XT:89:ARG:NH2	20:XT:104:LEU:HD11	2.27	0.48
25:YA:1101:U:H2'	25:YA:1102:C:C6	2.48	0.48
25:YA:1742:C:H5'	25:YA:1743:G:OP2	2.13	0.48
25:YA:1951:U:O2	25:YA:1953:A:H8	1.96	0.48
25:YA:2585:U:H5	56:Z6:101:PPU:O2'	1.96	0.48
28:YE:77:ILE:CD1	28:YE:78:LEU:N	2.70	0.48
29:YF:107:LYS:O	29:YF:110:LEU:N	2.47	0.48
30:YG:166:ASP:HA	30:YG:169:ALA:HB3	1.95	0.48
31:YH:82:GLY:O	31:YH:83:TYR:O	2.31	0.48
36:YQ:31:ASP:O	36:YQ:32:TYR:CG	2.66	0.48
36:YQ:112:GLU:H	36:YQ:112:GLU:CD	2.17	0.48
48:Y2:16:LEU:O	48:Y2:17:SER:CB	2.56	0.48
1:QA:1004:A:P	1:QA:1025:U:H3	2.35	0.48
10:QJ:32:ALA:HB3	10:QJ:76:ASN:HB2	1.96	0.48
12:QL:119:LYS:C	12:QL:120:TYR:HD1	2.16	0.48
15:QO:26:GLU:H	15:QO:26:GLU:HG2	1.42	0.48
25:RA:198:C:O2'	25:RA:199:A:H5'	2.13	0.48
25:RA:806:C:P	35:RP:41:ARG:HH11	2.36	0.48
25:RA:1972:A:H2'	25:RA:1973:G:H8	1.77	0.48
25:RA:2296:U:OP2	38:RS:6:ALA:HB2	2.14	0.48
25:RA:2683:C:OP1	39:RT:53:ARG:NH2	2.46	0.48
29:RF:102:PRO:HB2	29:RF:105:VAL:HG23	1.94	0.48
31:RH:104:GLU:HG3	31:RH:114:VAL:HG22	1.96	0.48
54:R8:30:ARG:O	54:R8:31:HIS:HB2	2.12	0.48
54:R8:35:GLN:OE1	54:R8:35:GLN:HA	2.12	0.48
3:XC:7:PRO:O	3:XC:11:ARG:HG2	2.13	0.48
3:XC:134:ILE:HG23	3:XC:151:VAL:HB	1.94	0.48
8:XH:91:ARG:HG3	12:XL:7:ILE:HG21	1.96	0.48
9:XI:9:ARG:HB2	9:XI:14:VAL:HA	1.96	0.48
12:XL:38:THR:CG2	12:XL:57:LYS:HB3	2.44	0.48
15:XO:70:LEU:HD11	15:XO:77:ARG:HG3	1.96	0.48
25:YA:26:G:H1'	25:YA:515:A:N6	2.28	0.48
25:YA:531:C:OP1	25:YA:561:G:N1	2.46	0.48
25:YA:1263:U:H1'	51:Y5:10:LYS:HG3	1.95	0.48
25:YA:2250:G:C8	25:YA:2496:C:H5"	2.47	0.48
25:YA:2335:A:HO2'	25:YA:2336:A:P	2.37	0.48
25:YA:2392:A:H8	35:YP:60:MET:HG2	1.79	0.48
25:YA:2470:G:H5'	36:YQ:56:ARG:NH2	2.28	0.48
25:YA:2660:A:H2'	25:YA:2661:G:O4'	2.14	0.48
26:YB:40:U:H1'	26:YB:45:A:H61	1.77	0.48
28:YE:174:ASP:O	28:YE:182:LEU:HD12	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YH:7:LEU:N	31:YH:8:PRO:CD	2.77	0.48
31:YH:12:PRO:HD3	31:YH:48:GLY:O	2.13	0.48
31:YH:13:LYS:HE2	31:YH:13:LYS:CA	2.40	0.48
39:YT:102:ILE:HB	39:YT:110:ILE:HD13	1.95	0.48
44:YY:35:TYR:CD2	44:YY:69:ALA:HB3	2.49	0.48
45:YZ:69:THR:HG22	45:YZ:90:VAL:HG22	1.96	0.48
1:QA:1162:C:H42	1:QA:1174:G:H1	1.62	0.48
1:QA:1305:G:N2	1:QA:1331:G:H2'	2.29	0.48
1:QA:1384:C:H2'	1:QA:1385:G:H8	1.79	0.48
3:QC:150:LYS:HG3	3:QC:169:ALA:HB2	1.96	0.48
25:RA:468:G:N7	53:R7:39:ARG:NH2	2.58	0.48
25:RA:1378:A:OP1	53:R7:10:ARG:NH2	2.47	0.48
25:RA:1520:U:H2'	25:RA:1521:G:O4'	2.13	0.48
25:RA:1651:G:H2'	25:RA:1652:A:O4'	2.14	0.48
25:RA:1819:A:H4'	25:RA:1820:U:O5'	2.13	0.48
25:RA:2512:C:H5"	25:RA:2513:G:OP2	2.14	0.48
29:RF:103:LYS:HA	29:RF:106:ARG:HG3	1.94	0.48
50:R4:60:GLN:O	50:R4:63:TYR:HB3	2.14	0.48
1:XA:41:G:H2'	1:XA:42:G:H8	1.79	0.48
1:XA:262:A:H2'	1:XA:263:A:C8	2.48	0.48
1:XA:939:G:H5"	7:XG:102:ARG:NH2	2.29	0.48
1:XA:1239:A:H62	1:XA:1299:A:H62	1.61	0.48
3:XC:130:VAL:HG21	3:XC:157:ILE:HG23	1.94	0.48
12:XL:85:ILE:HD11	12:XL:98:TYR:CB	2.42	0.48
19:XS:42:PRO:HD3	50:Y4:63:TYR:HE1	1.74	0.48
20:XT:56:MET:HG3	20:XT:88:VAL:HG21	1.96	0.48
25:YA:529:A:H8	25:YA:530:G:C6	2.32	0.48
25:YA:900:A:H5'	25:YA:901:A:OP2	2.13	0.48
25:YA:954:G:OP1	36:YQ:15:GLY:N	2.44	0.48
29:YF:45:ARG:NH1	29:YF:45:ARG:HG2	2.28	0.48
29:YF:198:ALA:O	29:YF:201:VAL:HG12	2.13	0.48
31:YH:120:GLY:HA3	31:YH:140:LYS:NZ	2.27	0.48
31:YH:127:GLU:HB3	31:YH:128:PRO:HD2	1.92	0.48
38:YS:18:ILE:O	38:YS:19:LYS:O	2.31	0.48
41:YV:76:LYS:HB2	41:YV:81:TYR:HB3	1.95	0.48
43:YX:63:LYS:O	43:YX:64:LYS:HD2	2.14	0.48
1:QA:222:U:H2'	1:QA:223:U:C6	2.48	0.48
2:QB:163:PHE:HD1	2:QB:185:ILE:HG13	1.78	0.48
20:QT:12:ALA:O	20:QT:15:ARG:HB2	2.14	0.48
25:RA:67:U:O4	25:RA:74:A:N1	2.46	0.48
25:RA:507:A:H5"	25:RA:508:G:H5'	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:666:G:H4'	35:RP:49:ARG:NH1	2.29	0.48
25:RA:2267:A:H5"	25:RA:2268:A:H5'	1.95	0.48
25:RA:2477:C:H2'	55:R9:1:MET:HG3	1.95	0.48
28:RE:61:ARG:CB	28:RE:62:PRO:CD	2.90	0.48
30:RG:82:LEU:HD21	30:RG:88:ILE:HG13	1.96	0.48
44:RY:51:VAL:O	44:RY:56:PRO:HA	2.14	0.48
1:XA:1069:C:H42	1:XA:1106:G:H1	1.62	0.48
1:XA:1157:A:H1'	1:XA:1158:C:C4	2.48	0.48
2:XB:101:MET:HA	2:XB:108:ILE:HG13	1.96	0.48
9:XI:114:TYR:N	9:XI:114:TYR:CD1	2.81	0.48
25:YA:594:U:H5'	54:Y8:61:LEU:HD21	1.96	0.48
25:YA:1113:U:H2'	25:YA:1114:G:H8	1.78	0.48
25:YA:1535:U:N3	25:YA:1537:C:H1'	2.29	0.48
25:YA:1678:G:H8	25:YA:1678:G:O5'	1.96	0.48
25:YA:1869:G:H5'	25:YA:1870:C:OP2	2.13	0.48
27:YD:25:THR:O	27:YD:26:LYS:C	2.52	0.48
27:YD:35:LYS:CG	27:YD:64:ILE:CG2	2.92	0.48
27:YD:35:LYS:HD2	27:YD:104:TYR:CE1	2.49	0.48
27:YD:130:ALA:HA	27:YD:192:THR:HA	1.95	0.48
28:YE:15:PHE:CD1	39:YT:81:PRO:HD2	2.49	0.48
28:YE:23:VAL:HG12	28:YE:173:VAL:HG21	1.94	0.48
29:YF:128:ALA:O	29:YF:129:PHE:HB2	2.14	0.48
31:YH:124:GLU:HB3	31:YH:132:ARG:CD	2.44	0.48
32:YI:133:HIS:HB2	32:YI:134:PRO:CD	2.43	0.48
36:YQ:42:ILE:HD12	36:YQ:42:ILE:N	2.29	0.48
40:YU:60:LEU:HD22	40:YU:60:LEU:O	2.14	0.48
40:YU:97:ASP:OD2	40:YU:101:ARG:NH1	2.46	0.48
1:QA:45:U:H2'	1:QA:46:G:C8	2.49	0.48
2:QB:97:TRP:CH2	2:QB:173:ALA:HA	2.49	0.48
8:QH:102:ARG:NH1	8:QH:105:ARG:HH22	2.12	0.48
9:QI:40:LEU:O	9:QI:42:ARG:N	2.46	0.48
17:QQ:100:LYS:O	17:QQ:101:ARG:NE	2.47	0.48
25:RA:954:G:O2'	25:RA:2274:A:N1	2.40	0.48
25:RA:1509:C:H3'	25:RA:1510:A:H5"	1.95	0.48
25:RA:1794:U:H2'	25:RA:1795:C:H6	1.79	0.48
25:RA:2146:C:H4'	25:RA:2147:G:C8	2.49	0.48
25:RA:2645:G:H3'	25:RA:2646:C:H5'	1.95	0.48
28:RE:93:VAL:H	28:RE:95:ILE:CD1	2.23	0.48
30:RG:179:PRO:HG3	50:R4:38:LYS:HZ2	1.76	0.48
31:RH:7:LEU:N	31:RH:8:PRO:CD	2.77	0.48
32:RI:29:TYR:HD2	32:RI:30:LEU:HD23	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RQ:87:LYS:O	36:RQ:89:ASN:N	2.43	0.48
43:RX:60:ARG:HH12	53:R7:47:ARG:HH22	1.60	0.48
45:RZ:111:VAL:HG22	45:RZ:112:ARG:N	2.19	0.48
1:XA:565:U:H5"	1:XA:566:G:H2'	1.96	0.48
3:XC:34:LEU:HD23	3:XC:38:ARG:HG3	1.95	0.48
16:XP:22:THR:HA	16:XP:33:ILE:HG12	1.96	0.48
25:YA:459:U:H2'	25:YA:460:A:C8	2.49	0.48
25:YA:771:G:OP1	53:Y7:14:LYS:HE3	2.14	0.48
25:YA:814:C:H41	35:YP:25:SER:HA	1.79	0.48
25:YA:1061:U:H3'	25:YA:1062:G:H5"	1.96	0.48
25:YA:1972:A:H2'	25:YA:1973:G:H8	1.78	0.48
25:YA:2292:C:P	38:YS:17:ARG:HH22	2.36	0.48
28:YE:93:VAL:C	28:YE:95:ILE:H	2.17	0.48
30:YG:98:ARG:NH1	50:Y4:1:MET:SD	2.86	0.48
36:YQ:19:GLY:O	36:YQ:98:LYS:HD3	2.14	0.48
42:YW:67:ASP:N	42:YW:67:ASP:OD1	2.46	0.48
48:Y2:33:MET:O	48:Y2:37:PHE:HD1	1.95	0.48
48:Y2:69:ARG:HH11	48:Y2:69:ARG:HB3	1.79	0.48
1:QA:67:C:H2'	1:QA:68:G:C8	2.49	0.48
1:QA:333:G:H4'	20:QT:16:HIS:NE2	2.29	0.48
1:QA:985:C:H2'	1:QA:986:A:H8	1.78	0.48
1:QA:1347:G:O2'	1:QA:1348:U:P	2.72	0.48
1:QA:1513:A:H2'	1:QA:1514:C:C6	2.49	0.48
12:QL:85:ILE:HD11	12:QL:98:TYR:CB	2.43	0.48
13:QM:3:ARG:NH2	30:RG:113:ARG:HH21	2.12	0.48
20:QT:26:ASN:CB	20:QT:71:THR:HG23	2.44	0.48
25:RA:593:G:O3'	54:R8:61:LEU:HD22	2.14	0.48
25:RA:1069:A:H2'	25:RA:1073:A:N7	2.29	0.48
25:RA:1443:G:H1	25:RA:1548:C:N4	2.11	0.48
25:RA:1688:U:H1'	25:RA:1701:A:C6	2.49	0.48
25:RA:2402:C:H5	25:RA:2415:G:H22	1.60	0.48
29:RF:133:ASN:O	29:RF:135:LYS:N	2.46	0.48
30:RG:3:LEU:HG	50:R4:25:TYR:CZ	2.49	0.48
30:RG:81:LYS:O	30:RG:82:LEU:HB2	2.13	0.48
31:RH:131:VAL:HG12	31:RH:132:ARG:N	2.29	0.48
32:RI:31:LEU:HD11	32:RI:38:LEU:HG	1.96	0.48
36:RQ:21:THR:HB	36:RQ:22:LYS:H	1.42	0.48
51:R5:49:CYS:SG	51:R5:58:LEU:HB2	2.53	0.48
54:R8:43:GLN:C	54:R8:44:LYS:HD2	2.34	0.48
1:XA:1358:U:P	14:XN:35:ARG:HG3	2.54	0.48
5:XE:110:LEU:HD13	5:XE:118:ILE:HG21	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:3:ARG:HG2	50:Y4:34:GLU:HB3	1.95	0.48
25:YA:394:A:H2'	25:YA:395:U:O4'	2.14	0.48
25:YA:1230:C:H2'	25:YA:1231:G:C8	2.49	0.48
25:YA:2361:A:OP1	54:Y8:27:THR:HG23	2.14	0.48
25:YA:2789:C:H1'	25:YA:2892:A:C2	2.47	0.48
28:YE:15:PHE:CD1	28:YE:20:ALA:HB2	2.49	0.48
28:YE:55:ASN:O	28:YE:57:LYS:N	2.44	0.48
28:YE:64:LYS:C	28:YE:66:HIS:N	2.68	0.48
29:YF:129:PHE:CD2	29:YF:163:VAL:HG21	2.48	0.48
31:YH:10:PRO:C	31:YH:11:VAL:HG22	2.34	0.48
31:YH:41:MET:HG3	31:YH:54:ARG:HA	1.96	0.48
31:YH:153:LYS:CB	31:YH:154:PRO:CD	2.69	0.48
36:YQ:60:ARG:NH2	36:YQ:60:ARG:HB2	2.28	0.48
38:YS:66:ALA:HA	38:YS:69:VAL:HG12	1.96	0.48
45:YZ:10:ARG:HH21	45:YZ:26:GLY:H	1.61	0.48
52:Y6:27:LYS:NZ	52:Y6:27:LYS:HB2	2.28	0.48
1:QA:407:G:O4'	4:QD:119:GLN:NE2	2.47	0.48
1:QA:1237:C:O2'	1:QA:1300:G:N2	2.45	0.48
5:QE:101:ILE:N	5:QE:101:ILE:CD1	2.73	0.48
9:QI:17:VAL:HG11	9:QI:81:ILE:HA	1.95	0.48
10:QJ:78:ASN:O	10:QJ:82:ILE:HG12	2.14	0.48
25:RA:95:G:H1'	48:R2:47:ASN:HB3	1.95	0.48
25:RA:859:G:O2'	25:RA:860:U:P	2.72	0.48
25:RA:1266:G:OP2	51:R5:20:ARG:NE	2.45	0.48
25:RA:1386:C:H2'	25:RA:1387:C:C6	2.49	0.48
25:RA:1728:G:H3'	25:RA:1729:A:C5'	2.44	0.48
25:RA:2630:G:H2'	25:RA:2631:G:C8	2.49	0.48
28:RE:64:LYS:C	28:RE:66:HIS:N	2.68	0.48
35:RP:13:ASN:C	35:RP:15:ARG:H	2.17	0.48
36:RQ:19:GLY:O	36:RQ:98:LYS:HD3	2.14	0.48
54:R8:53:PRO:CD	54:R8:54:GLU:N	2.77	0.48
1:XA:297:G:H4'	1:XA:557:G:H4'	1.96	0.48
1:XA:520:A:N1	1:XA:536:C:H1'	2.29	0.48
1:XA:522:C:H41	12:XL:53:ARG:NH2	2.12	0.48
1:XA:1376:U:H2'	1:XA:1377:A:C8	2.49	0.48
5:XE:6:PHE:CE1	5:XE:36:ASP:HB3	2.48	0.48
8:XH:49:GLU:HG2	8:XH:62:TYR:HE2	1.78	0.48
10:XJ:55:LYS:HG3	10:XJ:56:HIS:H	1.78	0.48
19:XS:39:THR:HG22	19:XS:40:ILE:H	1.79	0.48
22:XV:53:G:H4'	22:XV:54:U:OP1	2.12	0.48
25:YA:141:A:H8	25:YA:1595:G:H21	1.60	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:414:C:O2	25:YA:1864:U:O2'	2.25	0.48
25:YA:1173:G:H5"	25:YA:1174:A:OP1	2.14	0.48
25:YA:1655:A:H4'	28:YE:115:GLY:N	2.29	0.48
25:YA:1688:U:H1'	25:YA:1701:A:C6	2.48	0.48
25:YA:2619:C:H2'	25:YA:2620:C:C6	2.49	0.48
26:YB:44:G:H5"	26:YB:45:A:OP1	2.14	0.48
27:YD:27:THR:O	27:YD:29:PRO:CD	2.62	0.48
28:YE:61:ARG:CB	28:YE:62:PRO:HD3	2.41	0.48
28:YE:119:ARG:HD3	28:YE:160:TYR:HD2	1.78	0.48
33:YN:134:ARG:N	33:YN:135:PRO:HD3	2.29	0.48
38:YS:56:LEU:C	38:YS:56:LEU:HD23	2.34	0.48
54:Y8:53:PRO:CD	54:Y8:54:GLU:N	2.77	0.48
1:QA:620:C:H2'	1:QA:621:A:O4'	2.14	0.47
1:QA:878:G:H5'	8:QH:89:PRO:HG2	1.95	0.47
1:QA:1148:U:OP1	9:QI:7:THR:HG21	2.13	0.47
4:QD:107:ARG:HH21	4:QD:194:LEU:HD21	1.78	0.47
12:QL:47:LYS:HA	12:QL:48:PRO:C	2.35	0.47
12:QL:50:SER:O	12:QL:51:ALA:HB2	2.14	0.47
25:RA:654(A):G:H1	25:RA:654(T):C:H42	1.60	0.47
25:RA:1599:C:H2'	25:RA:1600:C:H6	1.77	0.47
25:RA:2413:G:H21	35:RP:70:GLN:HE22	1.60	0.47
27:RD:25:THR:O	27:RD:27:THR:HG22	2.14	0.47
28:RE:93:VAL:C	28:RE:95:ILE:H	2.17	0.47
28:RE:120:TRP:O	28:RE:121:ASN:HB2	2.14	0.47
36:RQ:42:ILE:HD12	36:RQ:42:ILE:N	2.29	0.47
36:RQ:119:ARG:O	36:RQ:123:HIS:HD2	1.97	0.47
43:RX:83:VAL:HG11	43:RX:87:GLN:HB2	1.96	0.47
52:R6:18:ARG:HB2	52:R6:44:ARG:HH12	1.77	0.47
10:XJ:38:ILE:HD11	10:XJ:71:LEU:HD23	1.96	0.47
10:XJ:53:PRO:O	14:XN:41:ARG:NH2	2.39	0.47
25:YA:1429:G:H2'	25:YA:1430:C:C6	2.49	0.47
27:YD:33:LEU:HB3	27:YD:34:VAL:H	1.49	0.47
31:YH:45:VAL:HG13	31:YH:45:VAL:O	2.14	0.47
31:YH:154:PRO:CG	31:YH:162:ILE:O	2.61	0.47
36:YQ:59:ARG:CD	36:YQ:59:ARG:N	2.72	0.47
44:YY:44:ILE:HG13	44:YY:45:VAL:N	2.28	0.47
54:Y8:41:ILE:HG13	54:Y8:42:ARG:N	2.28	0.47
1:QA:686:U:O4	1:QA:703:G:H1'	2.14	0.47
1:QA:1039:C:H2'	1:QA:1040:U:O4'	2.13	0.47
1:QA:1152:A:H2'	1:QA:1153:C:C6	2.49	0.47
6:QF:41:GLU:HB2	6:QF:62:TRP:CE3	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:QJ:55:LYS:HG3	10:QJ:56:HIS:H	1.78	0.47
20:QT:30:LYS:O	20:QT:33:ILE:HB	2.14	0.47
25:RA:1047:G:H2'	25:RA:1110:G:N1	2.29	0.47
25:RA:2776:A:OP1	25:RA:2776:A:H3'	2.14	0.47
26:RB:49:C:H2'	26:RB:50:G:C8	2.49	0.47
28:RE:174:ASP:O	28:RE:182:LEU:HD12	2.14	0.47
31:RH:45:VAL:HG13	31:RH:45:VAL:O	2.13	0.47
31:RH:124:GLU:HB3	31:RH:132:ARG:CD	2.43	0.47
36:RQ:57:HIS:ND1	36:RQ:58:PHE:N	2.62	0.47
48:R2:41:ILE:HD11	48:R2:44:LEU:HD12	1.96	0.47
55:R9:27:CYS:SG	55:R9:32:HIS:HB2	2.55	0.47
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
9:XI:126:SER:O	9:XI:128:ARG:N	2.43	0.47
15:XO:66:LEU:HD12	15:XO:66:LEU:HA	1.66	0.47
25:YA:232:G:H8	25:YA:232:G:OP2	1.96	0.47
25:YA:658:C:O2'	29:YF:102:PRO:HG3	2.13	0.47
25:YA:2831:G:O2'	25:YA:2884:U:OP1	2.19	0.47
29:YF:132:VAL:O	29:YF:133:ASN:C	2.51	0.47
29:YF:196:LEU:C	29:YF:197:ASP:O	2.50	0.47
31:YH:131:VAL:HG12	31:YH:132:ARG:N	2.29	0.47
38:YS:40:ILE:HG22	38:YS:41:ASP:N	2.28	0.47
45:YZ:15:PRO:O	45:YZ:19:ARG:HB2	2.13	0.47
47:Y1:91:LYS:HB3	47:Y1:92:LYS:H	1.44	0.47
10:QJ:50:ILE:HD12	10:QJ:57:LYS:HA	1.95	0.47
12:QL:15:ARG:HG3	17:QQ:32:TYR:OH	2.15	0.47
12:QL:27:LEU:C	12:QL:29:GLY:N	2.64	0.47
17:QQ:76:LEU:HD21	17:QQ:79:SER:HB2	1.97	0.47
20:QT:41:ILE:HG22	20:QT:91:LEU:HD12	1.96	0.47
25:RA:1058:G:N1	25:RA:1080:C:O2	2.36	0.47
25:RA:1359:A:C6	25:RA:1373:A:C5	3.02	0.47
25:RA:2277:G:H5'	36:RQ:85:LYS:HG3	1.95	0.47
30:RG:145:THR:O	30:RG:147:ASP:N	2.47	0.47
33:RN:7:LYS:H	33:RN:7:LYS:HD2	1.80	0.47
51:R5:57:VAL:O	51:R5:57:VAL:HG13	2.14	0.47
1:XA:21:G:H2'	1:XA:22:G:C8	2.48	0.47
1:XA:35:G:N2	12:XL:118:SER:OG	2.43	0.47
3:XC:70:VAL:HG12	3:XC:72:LYS:H	1.79	0.47
12:XL:43:VAL:HG23	12:XL:93:LEU:HD22	1.97	0.47
18:XR:36:ASN:O	18:XR:36:ASN:ND2	2.41	0.47
20:XT:93:GLU:OE1	20:XT:94:ALA:N	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:XT:98:PRO:O	20:XT:100:ILE:N	2.46	0.47
25:YA:1043:C:H42	25:YA:1112:G:H1	1.60	0.47
25:YA:1338:G:O2'	25:YA:1393:A:N1	2.41	0.47
25:YA:1690:A:H2'	25:YA:1691:C:O4'	2.15	0.47
29:YF:155:LEU:HA	29:YF:174:VAL:HG12	1.95	0.47
39:YT:11:GLU:OE1	39:YT:11:GLU:N	2.43	0.47
45:YZ:182:LYS:CG	45:YZ:183:LEU:HD23	2.39	0.47
1:QA:28:G:O2'	1:QA:296:U:OP1	2.27	0.47
1:QA:184:G:H2'	1:QA:185:A:H8	1.79	0.47
1:QA:300:A:H8	1:QA:300:A:O5'	1.98	0.47
1:QA:481:G:HO2'	1:QA:482:A:P	2.35	0.47
1:QA:1277:C:O2'	1:QA:1279:A:H8	1.97	0.47
2:QB:25:ASN:O	2:QB:27:LYS:N	2.47	0.47
2:QB:178:ARG:HH21	8:QH:74:PRO:HG3	1.79	0.47
10:QJ:55:LYS:CG	10:QJ:56:HIS:H	2.27	0.47
12:QL:127:GLU:O	12:QL:128:ALA:CB	2.62	0.47
13:QM:57:ARG:HB2	13:QM:57:ARG:HH11	1.80	0.47
25:RA:99:U:H4'	25:RA:101:G:O5'	2.14	0.47
25:RA:207:A:H2'	25:RA:208:C:O4'	2.14	0.47
25:RA:516:C:OP1	51:R5:13:LYS:NZ	2.47	0.47
25:RA:1050:A:H2'	25:RA:1051:G:O4'	2.14	0.47
25:RA:2633:G:H2'	25:RA:2634:G:O4'	2.14	0.47
28:RE:56:PRO:O	28:RE:57:LYS:CB	2.61	0.47
28:RE:195:LEU:HD12	28:RE:196:VAL:N	2.29	0.47
31:RH:82:GLY:O	31:RH:83:TYR:O	2.31	0.47
31:RH:154:PRO:CG	31:RH:162:ILE:O	2.61	0.47
39:RT:64:ARG:HD2	39:RT:73:GLU:OE1	2.14	0.47
47:R1:91:LYS:O	47:R1:94:LEU:N	2.36	0.47
50:R4:55:ARG:C	50:R4:59:PHE:HB3	2.35	0.47
1:XA:828:A:H2'	1:XA:829:G:O4'	2.14	0.47
3:XC:79:ARG:NH1	3:XC:82:GLU:HG3	2.29	0.47
9:XI:4:TYR:CZ	9:XI:88:TYR:HB2	2.49	0.47
9:XI:121:ARG:NH1	9:XI:122:ALA:O	2.47	0.47
24:XY:30:C:H42	24:XY:41:G:H1	1.63	0.47
25:YA:103:A:O5'	25:YA:103:A:H8	1.97	0.47
25:YA:341:G:H2'	25:YA:342:G:O4'	2.13	0.47
25:YA:518:G:H5'	42:YW:18:ARG:NH1	2.30	0.47
25:YA:811:U:H3'	35:YP:22:GLY:HA2	1.96	0.47
25:YA:2298:A:H2'	25:YA:2299:G:O4'	2.14	0.47
26:YB:75:G:C5'	45:YZ:36:LYS:HE2	2.43	0.47
28:YE:111:ARG:HA	37:YR:1:MET:CG	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YH:127:GLU:OE2	31:YH:130:ARG:NH2	2.48	0.47
36:YQ:34:LEU:HD11	36:YQ:129:THR:CB	2.35	0.47
38:YS:56:LEU:O	38:YS:57:LYS:C	2.53	0.47
41:YV:44:LYS:O	41:YV:46:VAL:HG12	2.13	0.47
51:Y5:46:CYS:O	51:Y5:48:GLU:N	2.38	0.47
1:QA:110:C:O2'	16:QP:25:ARG:O	2.28	0.47
1:QA:754:C:H1'	15:QO:69:TYR:CD2	2.49	0.47
1:QA:1152:A:OP1	10:QJ:68:HIS:NE2	2.47	0.47
4:QD:169:LYS:HZ3	6:XF:25:ILE:HD11	1.78	0.47
6:QF:61:LEU:HB3	6:QF:63:TYR:HE1	1.79	0.47
10:QJ:84:GLN:H	10:QJ:84:GLN:HG3	1.49	0.47
14:QN:41:ARG:CZ	14:QN:42:ILE:HD11	2.44	0.47
25:RA:76:C:H1'	48:R2:62:THR:HG21	1.96	0.47
25:RA:2224:G:OP1	27:RD:268:ARG:HD3	2.15	0.47
26:RB:15:A:H1'	26:RB:109:G:N9	2.29	0.47
28:RE:129:HIS:O	28:RE:130:GLY:C	2.53	0.47
28:RE:197:ILE:CD1	28:RE:199:ARG:HH12	2.26	0.47
31:RH:67:LEU:O	31:RH:71:LEU:HB2	2.14	0.47
44:RY:76:CYS:HB2	44:RY:101:LYS:HG3	1.95	0.47
1:XA:60:A:H4'	1:XA:61:G:O5'	2.15	0.47
1:XA:198:G:H2'	1:XA:199:G:C8	2.48	0.47
3:XC:22:TRP:CD1	3:XC:59:ARG:HD2	2.49	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
10:XJ:47:PHE:HB3	14:XN:34:TYR:CE2	2.50	0.47
12:XL:50:SER:O	12:XL:51:ALA:HB2	2.14	0.47
18:XR:66:LEU:O	18:XR:70:ILE:HG13	2.14	0.47
20:XT:35:THR:O	20:XT:39:LYS:HG3	2.14	0.47
25:YA:27:G:HO2'	25:YA:28:A:H8	1.61	0.47
25:YA:1006:C:O2	33:YN:106:MET:HG2	2.15	0.47
25:YA:1441:G:H2'	25:YA:1442:G:C8	2.49	0.47
25:YA:1728:G:H3'	25:YA:1729:A:C5'	2.44	0.47
25:YA:2277:G:OP1	36:YQ:85:LYS:HB2	2.14	0.47
28:YE:56:PRO:O	28:YE:57:LYS:CB	2.61	0.47
29:YF:127:GLU:OE1	29:YF:127:GLU:HA	2.07	0.47
31:YH:104:GLU:HG3	31:YH:114:VAL:HG22	1.96	0.47
46:Y0:19:LYS:HA	46:Y0:19:LYS:HD3	1.66	0.47
48:Y2:17:SER:CB	48:Y2:18:PRO:CA	2.92	0.47
49:Y3:23:LEU:HD13	49:Y3:50:VAL:HG11	1.96	0.47
54:Y8:43:GLN:C	54:Y8:44:LYS:HD2	2.34	0.47
54:Y8:56:GLU:O	54:Y8:58:ILE:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:70:PHE:O	2:QB:93:VAL:N	2.48	0.47
7:QG:99:LEU:HD22	7:QG:103:TRP:CZ2	2.49	0.47
25:RA:78:A:H2'	25:RA:79:G:H8	1.78	0.47
25:RA:675:A:N3	25:RA:2443:C:O2'	2.43	0.47
25:RA:752:A:H3'	53:R7:1:MET:SD	2.54	0.47
25:RA:1078:U:O2'	25:RA:1079:C:O5'	2.32	0.47
25:RA:1666:G:O2'	34:RO:6:THR:OG1	2.25	0.47
25:RA:2867:G:O2'	25:RA:2868:A:P	2.71	0.47
28:RE:17:ASP:N	28:RE:17:ASP:OD1	2.46	0.47
29:RF:33:LEU:HD12	29:RF:33:LEU:HA	1.76	0.47
36:RQ:66:ILE:H	36:RQ:104:PHE:HA	1.80	0.47
40:RU:97:ASP:OD2	40:RU:101:ARG:NH1	2.48	0.47
42:RW:63:ASP:OD1	42:RW:63:ASP:N	2.48	0.47
44:RY:21:LYS:HG3	44:RY:22:GLY:N	2.30	0.47
50:R4:8:LYS:O	50:R4:9:LEU:CB	2.62	0.47
50:R4:36:CYS:O	50:R4:37:SER:C	2.52	0.47
1:XA:1075:C:OP1	2:XB:179:LYS:HE2	2.15	0.47
2:XB:84:GLU:OE1	2:XB:87:ARG:NH2	2.43	0.47
12:XL:115:LYS:O	12:XL:117:ARG:N	2.47	0.47
25:YA:826:U:H2'	25:YA:828:U:O4'	2.15	0.47
25:YA:1930:G:O2'	25:YA:1931:U:P	2.73	0.47
27:YD:32:SER:O	27:YD:33:LEU:CB	2.60	0.47
27:YD:35:LYS:HD3	27:YD:63:ARG:HB3	1.96	0.47
28:YE:65:GLY:HA2	28:YE:70:ALA:HB3	1.95	0.47
28:YE:89:ASP:O	28:YE:90:THR:O	2.33	0.47
29:YF:53:THR:C	29:YF:55:GLY:N	2.68	0.47
30:YG:28:VAL:O	30:YG:31:VAL:HG13	2.14	0.47
30:YG:34:LEU:HD22	30:YG:35:GLU:N	2.30	0.47
30:YG:112:PRO:CG	50:Y4:37:SER:O	2.63	0.47
30:YG:114:ILE:HD13	30:YG:140:ILE:HG21	1.95	0.47
31:YH:123:PHE:O	31:YH:125:VAL:HG23	2.13	0.47
35:YP:62:LEU:HD21	54:Y8:25:MET:CB	2.42	0.47
38:YS:19:LYS:O	38:YS:20:ARG:CB	2.55	0.47
38:YS:59:LYS:HG2	38:YS:60:GLY:N	2.13	0.47
1:QA:411:A:C5	1:QA:413:G:H1'	2.49	0.47
1:QA:555:C:H2'	1:QA:556:C:C6	2.49	0.47
1:QA:722:A:H4'	1:QA:723:U:C4	2.50	0.47
1:QA:983:A:H1'	1:QA:1049:U:O2	2.15	0.47
1:QA:1077:G:N2	1:QA:1080:A:OP2	2.43	0.47
1:QA:1126:U:H1'	1:QA:1280:A:C5	2.49	0.47
1:QA:1129:C:H4'	1:QA:1130:A:H5'	1.96	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	1.80	0.47
2:QB:211:ILE:O	2:QB:215:LEU:HB2	2.14	0.47
9:QI:28:VAL:HG22	9:QI:63:ILE:HB	1.96	0.47
19:QS:35:SER:O	19:QS:71:LEU:HD12	2.15	0.47
25:RA:607:U:OP1	29:RF:102:PRO:HA	2.15	0.47
25:RA:880:G:O6	25:RA:897:C:N3	2.48	0.47
25:RA:1289:C:H2'	25:RA:1290:C:C6	2.49	0.47
25:RA:2111:C:N3	25:RA:2118:U:O2'	2.43	0.47
25:RA:2116:G:N1	25:RA:2162:G:OP1	2.42	0.47
25:RA:2537:U:H2'	25:RA:2538:C:C6	2.49	0.47
25:RA:2635:C:H5"	28:RE:78:LEU:HA	1.97	0.47
25:RA:2725:A:O2'	25:RA:2726:U:H5"	2.13	0.47
25:RA:2808:U:H3	25:RA:2892:A:N6	2.03	0.47
26:RB:31:C:H42	26:RB:51:G:H1	1.63	0.47
27:RD:61:LEU:HA	27:RD:61:LEU:HD12	1.77	0.47
27:RD:211:ARG:HD2	27:RD:214:TRP:CZ3	2.50	0.47
28:RE:3:GLY:HA3	28:RE:81:ILE:HG21	1.97	0.47
30:RG:112:PRO:HB3	50:R4:37:SER:HB2	0.59	0.47
39:RT:123:GLN:O	39:RT:125:ARG:N	2.48	0.47
47:R1:76:ARG:H	47:R1:76:ARG:HD2	1.79	0.47
54:R8:44:LYS:HD2	54:R8:44:LYS:N	2.30	0.47
1:XA:278:G:OP2	17:XQ:92:ARG:NH2	2.48	0.47
1:XA:632:A:C8	1:XA:633:G:C8	3.03	0.47
1:XA:769:G:H4'	1:XA:1513:A:H4'	1.95	0.47
1:XA:951:G:OP2	13:XM:102:ARG:NH2	2.48	0.47
1:XA:1000:A:H2'	1:XA:1001:G:C8	2.49	0.47
1:XA:1003:G:N2	1:XA:1037:C:N3	2.58	0.47
1:XA:1225:A:N3	1:XA:1225:A:H2'	2.30	0.47
2:XB:18:GLY:H	2:XB:42:ILE:HG22	1.80	0.47
2:XB:93:VAL:HG11	2:XB:97:TRP:CD1	2.50	0.47
2:XB:201:ILE:HG21	2:XB:214:ILE:HG21	1.95	0.47
9:XI:114:TYR:HD2	10:XJ:60:ARG:HB2	1.79	0.47
10:XJ:55:LYS:CD	10:XJ:56:HIS:CD2	2.98	0.47
11:XK:48:ILE:HG13	11:XK:63:LEU:HB2	1.97	0.47
17:XQ:67:LYS:O	17:XQ:68:ARG:HB3	2.15	0.47
25:YA:141:A:C8	25:YA:1408:C:H1'	2.50	0.47
25:YA:286:C:H2'	25:YA:287:C:H6	1.80	0.47
25:YA:436:C:H2'	25:YA:438:G:H8	1.79	0.47
25:YA:483:A:C5'	44:YY:49:VAL:HG22	2.43	0.47
25:YA:535:C:O3'	40:YU:53:ARG:NH1	2.48	0.47
25:YA:1266:G:O5'	42:YW:15:ARG:NH2	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1932:A:H2'	25:YA:1933:G:O4'	2.15	0.47
27:YD:72:LYS:CG	27:YD:103:ARG:NH2	2.76	0.47
27:YD:134:ARG:HB2	27:YD:135:PHE:CD1	2.50	0.47
28:YE:52:LEU:HB2	28:YE:75:VAL:CG2	2.40	0.47
30:YG:11:TYR:HA	30:YG:15:VAL:HB	1.95	0.47
32:YI:77:LEU:HD22	32:YI:101:LEU:HG	1.96	0.47
33:YN:30:ILE:HG22	33:YN:34:LEU:HD22	1.96	0.47
34:YO:76:ALA:HB3	39:YT:75:ILE:HD12	1.96	0.47
35:YP:49:ARG:HG3	54:Y8:59:LYS:CG	2.45	0.47
38:YS:46:VAL:HG12	38:YS:47:THR:N	2.28	0.47
42:YW:110:LYS:HG3	42:YW:111:HIS:H	1.80	0.47
47:Y1:53:VAL:HG22	47:Y1:74:VAL:HG13	1.96	0.47
50:Y4:38:LYS:C	50:Y4:40:HIS:H	2.16	0.47
1:QA:328:C:H4'	1:QA:329:A:H5'	1.97	0.47
1:QA:335:C:H2'	1:QA:336:C:C6	2.50	0.47
3:QC:82:GLU:O	3:QC:86:VAL:HG13	2.14	0.47
7:QG:18:TYR:HD2	7:QG:59:LEU:HD22	1.79	0.47
25:RA:270(O):U:H5"	25:RA:270(P):C:OP2	2.15	0.47
25:RA:2712:U:O2'	25:RA:2712(A):A:C8	2.65	0.47
25:RA:2781:A:H5"	25:RA:2782:G:H5'	1.96	0.47
25:RA:2790:A:H2'	25:RA:2791:C:H5"	1.96	0.47
28:RE:65:GLY:HA2	28:RE:70:ALA:HB3	1.95	0.47
35:RP:61:ARG:HG3	54:R8:13:ARG:HH11	1.80	0.47
36:RQ:34:LEU:HD11	36:RQ:129:THR:CB	2.35	0.47
41:RV:24:LYS:HG3	41:RV:92:THR:HG23	1.97	0.47
50:R4:53:GLU:O	50:R4:57:GLU:HG3	2.13	0.47
54:R8:40:GLU:C	54:R8:42:ARG:N	2.68	0.47
1:XA:1060:C:C5	3:XC:2:GLY:HA2	2.50	0.47
10:XJ:55:LYS:CG	10:XJ:56:HIS:H	2.27	0.47
25:YA:153:C:OP1	47:Y1:88:LYS:HE2	2.15	0.47
25:YA:2415:G:H4'	35:YP:67:MET:N	2.30	0.47
25:YA:2695:C:H2'	25:YA:2696:U:C6	2.50	0.47
25:YA:2747:G:O6	25:YA:2755:C:H5"	2.14	0.47
27:YD:136:ILE:HD12	27:YD:136:ILE:N	2.30	0.47
28:YE:61:ARG:O	28:YE:63:LEU:CG	2.57	0.47
28:YE:78:LEU:CD2	28:YE:79:ARG:HD2	2.43	0.47
28:YE:120:TRP:O	28:YE:121:ASN:HB2	2.14	0.47
31:YH:67:LEU:O	31:YH:71:LEU:HB2	2.15	0.47
31:YH:94:TYR:N	31:YH:94:TYR:CD1	2.82	0.47
32:YI:54:GLN:C	32:YI:56:LYS:N	2.66	0.47
32:YI:67:ARG:HH21	32:YI:68:LEU:HB2	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YP:135:LEU:O	35:YP:139:LYS:HB2	2.15	0.47
36:YQ:80:GLU:HG3	36:YQ:81:VAL:N	2.27	0.47
38:YS:28:VAL:HG11	38:YS:98:VAL:HG12	1.97	0.47
1:QA:1280:A:HO2'	1:QA:1281:U:P	2.37	0.47
1:QA:1305:G:O2'	1:QA:1306:A:H8	1.98	0.47
7:QG:78:ARG:HG3	7:QG:79:ARG:N	2.29	0.47
13:QM:84:ILE:HD12	13:QM:84:ILE:HA	1.74	0.47
25:RA:744:G:H2'	25:RA:745:G:O4'	2.14	0.47
25:RA:2667:C:O2	31:RH:109:PHE:HB3	2.14	0.47
25:RA:2682:U:O2'	28:RE:13:ARG:HG2	2.15	0.47
27:RD:12:SER:O	27:RD:16:MET:HB2	2.14	0.47
31:RH:18:GLU:HA	31:RH:18:GLU:OE2	2.14	0.47
31:RH:41:MET:HG3	31:RH:54:ARG:HA	1.96	0.47
38:RS:48:LEU:HD23	38:RS:82:ILE:HD11	1.96	0.47
38:RS:56:LEU:O	38:RS:58:LEU:N	2.48	0.47
51:R5:20:ARG:C	51:R5:22:HIS:N	2.68	0.47
1:XA:501:C:O3'	12:XL:118:SER:HB2	2.15	0.47
1:XA:1015:A:H2'	1:XA:1016:A:C8	2.49	0.47
1:XA:1308:U:H2'	1:XA:1309:G:H8	1.79	0.47
5:XE:89:ILE:HG12	5:XE:91:LEU:HD13	1.97	0.47
12:XL:127:GLU:O	12:XL:128:ALA:CB	2.62	0.47
19:XS:41:VAL:HB	19:XS:42:PRO:HA	1.96	0.47
19:XS:69:HIS:CE1	50:Y4:69:LYS:HD3	2.50	0.47
25:YA:67:U:C4	25:YA:74:A:N1	2.83	0.47
25:YA:467:G:OP2	53:Y7:34:ARG:NH1	2.48	0.47
25:YA:483:A:O2'	44:YY:59:GLY:HA2	2.15	0.47
25:YA:1336:A:H2'	25:YA:1337:G:C8	2.50	0.47
25:YA:2150:U:H2'	25:YA:2151:G:C8	2.50	0.47
25:YA:2577:A:H5"	25:YA:2578:G:H5'	1.96	0.47
25:YA:2636:U:OP1	28:YE:79:ARG:HG3	2.14	0.47
27:YD:145:VAL:O	27:YD:153:ALA:HA	2.14	0.47
27:YD:205:VAL:O	27:YD:206:LEU:C	2.52	0.47
28:YE:20:ALA:C	28:YE:21:VAL:HG13	2.35	0.47
28:YE:22:PRO:O	28:YE:22:PRO:CG	2.63	0.47
29:YF:162:LEU:HD23	29:YF:165:ARG:HH21	1.79	0.47
31:YH:9:ILE:O	31:YH:10:PRO:O	2.33	0.47
1:QA:520:A:N1	1:QA:536:C:H1'	2.30	0.47
1:QA:551:U:H2'	1:QA:552:U:C6	2.51	0.47
1:QA:1179:A:H2'	1:QA:1180:A:O4'	2.14	0.47
2:QB:32:ILE:HD13	2:QB:40:HIS:HB3	1.96	0.47
11:QK:16:SER:OG	11:QK:106:LYS:NZ	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:921:G:H4'	25:RA:2269:A:C5	2.49	0.47
25:RA:1020:A:H61	25:RA:1141:U:HO2'	1.63	0.47
25:RA:1264:G:H3'	25:RA:1265:A:H5"	1.97	0.47
25:RA:2784:C:H5"	28:RE:41:LYS:NZ	2.30	0.47
27:RD:118:VAL:HG22	27:RD:119:ALA:N	2.29	0.47
28:RE:63:LEU:O	28:RE:64:LYS:CB	2.62	0.47
28:RE:188:VAL:HG13	28:RE:188:VAL:O	2.14	0.47
29:RF:192:LEU:HD22	29:RF:194:MET:HG2	1.97	0.47
31:RH:9:ILE:O	31:RH:10:PRO:O	2.33	0.47
34:RO:76:ALA:HB3	39:RT:75:ILE:HB	1.97	0.47
39:RT:16:ARG:HE	39:RT:19:LEU:HD21	1.80	0.47
40:RU:8:VAL:HG23	40:RU:11:ARG:HH21	1.80	0.47
1:XA:299:G:H2'	1:XA:300:A:C8	2.50	0.47
17:XQ:63:ARG:HG2	17:XQ:64:PRO:HD2	1.97	0.47
25:YA:49:A:C8	25:YA:120:U:H5	2.33	0.47
25:YA:270(J):G:H2'	25:YA:270(K):C:O4'	2.15	0.47
25:YA:2030:A:H4'	25:YA:2031:A:C8	2.49	0.47
25:YA:2811:G:OP2	25:YA:2811:G:H8	1.97	0.47
26:YB:24:G:H1'	26:YB:27:C:N4	2.30	0.47
27:YD:231:HIS:ND1	27:YD:232:PRO:HD2	2.30	0.47
28:YE:188:VAL:O	28:YE:188:VAL:HG13	2.15	0.47
31:YH:86:GLU:O	31:YH:132:ARG:HA	2.15	0.47
31:YH:89:ILE:HD13	31:YH:89:ILE:H	1.80	0.47
33:YN:114:ARG:O	33:YN:115:ARG:HB3	2.14	0.47
51:Y5:33:CYS:SG	51:Y5:34:PRO:HD2	2.55	0.47
54:Y8:16:ILE:HD11	54:Y8:57:ARG:CG	2.44	0.47
1:QA:537:G:H5"	12:QL:113:ARG:HH12	1.79	0.46
1:QA:833:U:H2'	1:QA:834:C:C6	2.50	0.46
1:QA:939:G:H1	1:QA:1344:C:H42	1.61	0.46
19:QS:5:LEU:HD11	50:R4:67:TYR:CE2	2.50	0.46
25:RA:751:A:C6	25:RA:789:A:C5	3.03	0.46
25:RA:807:U:H2'	25:RA:808:G:H8	1.79	0.46
25:RA:826:U:H2'	25:RA:828:U:O4'	2.16	0.46
25:RA:1083:U:H2'	25:RA:1085:A:H5"	1.97	0.46
28:RE:87:GLU:O	28:RE:89:ASP:N	2.48	0.46
30:RG:22:ARG:HH22	30:RG:175:LEU:HD21	1.79	0.46
31:RH:127:GLU:OE2	31:RH:130:ARG:NH2	2.47	0.46
32:RI:144:VAL:HG22	32:RI:145:VAL:H	1.79	0.46
42:RW:23:LEU:O	42:RW:27:LYS:HD2	2.14	0.46
43:RX:49:VAL:HG13	43:RX:83:VAL:HG13	1.95	0.46
47:R1:89:GLU:HA	47:R1:93:GLU:HB2	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:R4:3:GLU:HG3	50:R4:4:GLY:H	1.79	0.46
1:XA:332:G:H2'	1:XA:333:G:H8	1.80	0.46
1:XA:748:C:H1'	1:XA:749:C:H5	1.79	0.46
1:XA:1292:U:H2'	1:XA:1293:G:C8	2.50	0.46
4:XD:63:LYS:HD2	4:XD:198:VAL:HG22	1.97	0.46
19:XS:41:VAL:HA	19:XS:44:MET:HG3	1.97	0.46
25:YA:1568:G:H5"	27:YD:61:LEU:HD22	1.97	0.46
25:YA:2553:G:H1'	25:YA:2582:G:N3	2.30	0.46
25:YA:2758:A:C4	31:YH:67:LEU:HD21	2.50	0.46
28:YE:101:ARG:HD2	28:YE:171:GLU:HA	1.98	0.46
28:YE:103:ASP:OD2	28:YE:168:MET:HG2	2.15	0.46
44:YY:73:ARG:HE	44:YY:73:ARG:HB3	1.47	0.46
50:Y4:2:LYS:HA	50:Y4:2:LYS:HD2	1.67	0.46
54:Y8:9:GLY:O	54:Y8:13:ARG:HG2	2.15	0.46
54:Y8:29:LYS:HE3	54:Y8:41:ILE:O	2.15	0.46
54:Y8:40:GLU:C	54:Y8:42:ARG:N	2.68	0.46
1:QA:1272:G:O5'	1:QA:1272:G:H8	1.98	0.46
4:QD:64:LEU:HB2	4:QD:198:VAL:HG11	1.97	0.46
12:QL:115:LYS:O	12:QL:117:ARG:N	2.47	0.46
17:QQ:74:LEU:HB3	17:QQ:75:ARG:H	1.63	0.46
20:QT:89:ARG:NH2	20:QT:105:SER:O	2.36	0.46
25:RA:57:C:H2'	25:RA:58:G:O4'	2.16	0.46
25:RA:270(B):A:N1	25:RA:273:G:O2'	2.40	0.46
25:RA:270(I):G:H2'	25:RA:270(J):G:C8	2.50	0.46
25:RA:1805:U:O2	27:RD:50:THR:HB	2.15	0.46
25:RA:2485:G:OP1	36:RQ:46:GLN:NE2	2.36	0.46
25:RA:2518:A:H4'	25:RA:2519:U:OP1	2.14	0.46
31:RH:153:LYS:HG3	31:RH:162:ILE:H	1.78	0.46
43:RX:55:ASN:HB2	43:RX:80:ILE:HG23	1.96	0.46
51:R5:43:HIS:N	51:R5:43:HIS:ND1	2.63	0.46
1:XA:266:G:H5"	1:XA:267:C:C5	2.50	0.46
1:XA:1376:U:H2'	1:XA:1377:A:H8	1.80	0.46
4:XD:30:LYS:C	4:XD:32:ALA:H	2.18	0.46
7:XG:115:ARG:HB2	7:XG:118:VAL:HG22	1.97	0.46
9:XI:83:ARG:O	9:XI:86:VAL:HG12	2.15	0.46
19:XS:33:THR:OG1	19:XS:34:TRP:N	2.49	0.46
25:YA:464:U:H2'	25:YA:465:G:O4'	2.15	0.46
25:YA:792:G:H5"	25:YA:793:A:H5'	1.96	0.46
25:YA:1210:A:H5'	25:YA:1210:A:C8	2.47	0.46
25:YA:1264:G:H3'	25:YA:1265:A:H5"	1.96	0.46
25:YA:1790:C:H5"	25:YA:1791:A:OP1	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2277:G:OP2	46:Y0:10:THR:HG21	2.15	0.46
25:YA:2278:A:OP1	36:YQ:11:LYS:HD2	2.15	0.46
27:YD:198:ASN:C	27:YD:198:ASN:ND2	2.69	0.46
29:YF:46:ARG:CG	29:YF:46:ARG:NH1	2.71	0.46
30:YG:67:LYS:HG3	50:Y4:6:HIS:CE1	2.50	0.46
31:YH:18:GLU:HA	31:YH:18:GLU:OE2	2.15	0.46
35:YP:19:VAL:HG12	35:YP:27:HIS:HB2	1.95	0.46
38:YS:24:LEU:HB2	38:YS:85:VAL:HG12	1.98	0.46
44:YY:87:LYS:HD3	44:YY:92:ASN:HB3	1.98	0.46
45:YZ:128:VAL:HB	45:YZ:161:VAL:HG13	1.96	0.46
4:QD:187:ARG:NH2	4:QD:190:ASP:HB2	2.31	0.46
5:QE:84:PHE:HE2	5:QE:130:ASN:ND2	2.13	0.46
19:QS:15:LEU:H	19:QS:15:LEU:HD23	1.79	0.46
19:QS:63:THR:HG23	19:QS:65:ASN:OD1	2.15	0.46
20:QT:75:ASN:OD1	20:QT:75:ASN:N	2.40	0.46
25:RA:96:G:H4'	48:R2:48:HIS:CE1	2.50	0.46
25:RA:566:U:OP1	35:RP:29:LYS:HE2	2.15	0.46
25:RA:1089:G:H21	25:RA:1102:C:N4	2.13	0.46
25:RA:1478:G:O2'	25:RA:1479:G:H5'	2.16	0.46
25:RA:2439:A:O2'	25:RA:2440:C:OP2	2.31	0.46
25:RA:2566:A:H4'	25:RA:2567:G:O5'	2.14	0.46
25:RA:2630:G:H2'	25:RA:2631:G:H8	1.81	0.46
27:RD:70:TRP:CD2	27:RD:150:LYS:HD2	2.49	0.46
28:RE:33:VAL:HG12	28:RE:90:THR:H	1.81	0.46
28:RE:54:GLN:CA	28:RE:54:GLN:HE21	2.27	0.46
30:RG:5:VAL:CG2	50:R4:25:TYR:CE2	2.91	0.46
31:RH:86:GLU:O	31:RH:132:ARG:HA	2.15	0.46
32:RI:144:VAL:O	32:RI:145:VAL:HG12	2.15	0.46
36:RQ:133:ARG:CG	36:RQ:134:ARG:N	2.78	0.46
39:RT:20:PRO:HD2	39:RT:86:ILE:HG23	1.97	0.46
1:XA:109:A:C6	1:XA:326:G:C6	3.04	0.46
1:XA:903:G:H2'	1:XA:904:C:C6	2.51	0.46
3:XC:14:ILE:HG12	3:XC:15:THR:N	2.30	0.46
3:XC:178:LEU:HD13	3:XC:178:LEU:HA	1.84	0.46
7:XG:92:SER:HA	7:XG:93:PRO:HD2	1.79	0.46
9:XI:18:PHE:HB2	9:XI:62:TYR:HB3	1.97	0.46
25:YA:297:C:H5"	44:YY:85:VAL:CG2	2.46	0.46
25:YA:996:A:H4'	40:YU:92:ARG:NE	2.30	0.46
25:YA:2543:G:H2'	25:YA:2544:G:C8	2.50	0.46
28:YE:3:GLY:HA3	28:YE:81:ILE:HG21	1.97	0.46
29:YF:108:LYS:HA	29:YF:108:LYS:HZ3	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YG:65:GLY:HA3	50:Y4:9:LEU:HD12	1.97	0.46
46:Y0:17:GLN:O	46:Y0:19:LYS:HE3	2.14	0.46
1:QA:191:G:C1'	20:QT:105:SER:HB3	2.45	0.46
1:QA:1298:C:O2'	1:QA:1299:A:OP2	2.26	0.46
2:QB:166:ASP:OD2	2:QB:169:LYS:HB2	2.15	0.46
4:QD:78:LEU:HD22	4:QD:96:LEU:HB3	1.97	0.46
5:QE:69:VAL:CG1	5:QE:71:LEU:HD23	2.42	0.46
12:QL:126:LYS:C	12:QL:128:ALA:N	2.69	0.46
16:QP:3:LYS:O	16:QP:21:VAL:HA	2.15	0.46
25:RA:305:U:H2'	25:RA:306:U:C6	2.50	0.46
25:RA:1173:G:H4'	25:RA:1174:A:N7	2.31	0.46
28:RE:20:ALA:C	28:RE:21:VAL:HG13	2.35	0.46
28:RE:47:VAL:O	28:RE:48:GLN:C	2.52	0.46
38:RS:61:ASN:O	38:RS:65:VAL:HG23	2.14	0.46
44:RY:89:PHE:O	44:RY:90:LEU:HD13	2.15	0.46
50:R4:56:VAL:HA	50:R4:60:GLN:CB	2.28	0.46
51:R5:54:GLY:O	51:R5:55:ARG:C	2.54	0.46
52:R6:13:CYS:HB2	52:R6:22:ALA:HB3	1.98	0.46
1:XA:477:G:H2'	1:XA:478:A:C8	2.51	0.46
1:XA:1241:G:H2'	1:XA:1242:C:C6	2.51	0.46
25:YA:286:C:H2'	25:YA:287:C:C6	2.50	0.46
25:YA:323:G:H2'	29:YF:169:ASN:OD1	2.15	0.46
25:YA:414:C:H2'	25:YA:415:A:C8	2.49	0.46
25:YA:686:G:N2	25:YA:788:A:H61	2.14	0.46
25:YA:774:A:H2	25:YA:787:U:O2'	1.98	0.46
25:YA:828:U:H2'	25:YA:829:A:C8	2.50	0.46
25:YA:1030:G:OP2	36:YQ:128:LYS:HE2	2.15	0.46
25:YA:1407:C:H42	25:YA:1595:G:H1	1.64	0.46
25:YA:1467:C:C5	25:YA:1546:C:H2'	2.50	0.46
25:YA:2635:C:OP1	28:YE:78:LEU:HD12	2.15	0.46
27:YD:18:VAL:CG1	27:YD:19:ALA:N	2.78	0.46
27:YD:35:LYS:HE3	27:YD:65:ILE:N	2.31	0.46
27:YD:117:VAL:CG2	27:YD:128:GLY:C	2.84	0.46
27:YD:183:ARG:CG	27:YD:183:ARG:NH1	2.69	0.46
27:YD:211:ARG:HG2	27:YD:211:ARG:HH11	1.80	0.46
29:YF:184:TYR:CD2	29:YF:188:ARG:HD2	2.50	0.46
31:YH:4:ILE:HG13	31:YH:6:ARG:HD3	1.97	0.46
31:YH:53:GLU:OE1	31:YH:53:GLU:HA	2.16	0.46
31:YH:106:THR:HG22	31:YH:112:PRO:HB3	1.97	0.46
32:YI:97:ILE:HD12	32:YI:140:LEU:HD11	1.97	0.46
36:YQ:63:LYS:HE2	36:YQ:65:PHE:CZ	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YQ:66:ILE:H	36:YQ:104:PHE:HA	1.80	0.46
36:YQ:109:VAL:HG13	36:YQ:113:GLN:OE1	2.16	0.46
38:YS:61:ASN:O	38:YS:65:VAL:HG23	2.15	0.46
38:YS:110:LEU:HA	38:YS:112:PHE:CZ	2.50	0.46
1:QA:1095:U:H2'	1:QA:1096:C:C6	2.51	0.46
1:QA:1306:A:N6	1:QA:1331:G:O2'	2.48	0.46
1:QA:1320:C:N4	19:QS:36:ARG:HG3	2.30	0.46
2:QB:8:LYS:H	2:QB:8:LYS:HD3	1.79	0.46
6:QF:10:LEU:N	6:QF:59:TYR:O	2.46	0.46
10:QJ:55:LYS:CD	10:QJ:56:HIS:CD2	2.98	0.46
12:QL:6:THR:H	12:QL:9:GLN:NE2	1.97	0.46
14:QN:24:CYS:HB3	14:QN:29:ARG:H	1.80	0.46
19:QS:5:LEU:CD2	50:R4:67:TYR:CZ	2.99	0.46
25:RA:483:A:H1'	44:RY:59:GLY:O	2.15	0.46
25:RA:862:G:H2'	25:RA:863:A:O4'	2.16	0.46
25:RA:1366:A:H2'	25:RA:1367:A:O4'	2.15	0.46
25:RA:1490:A:O2'	27:RD:99:ASP:OD1	2.33	0.46
25:RA:1794:U:H2'	25:RA:1795:C:C6	2.51	0.46
28:RE:61:ARG:O	28:RE:63:LEU:CG	2.57	0.46
30:RG:98:ARG:O	30:RG:101:ILE:HG13	2.16	0.46
38:RS:78:LEU:HD11	38:RS:107:GLU:O	2.15	0.46
50:R4:38:LYS:C	50:R4:40:HIS:H	2.07	0.46
54:R8:52:LYS:O	54:R8:52:LYS:CG	2.64	0.46
1:XA:128:G:O2'	17:XQ:3:LYS:NZ	2.38	0.46
1:XA:666:G:H5'	1:XA:726:C:H1'	1.98	0.46
1:XA:1028(B):C:N3	1:XA:1032(A):G:N2	2.64	0.46
1:XA:1056:U:H5'	3:XC:163:ALA:HB2	1.98	0.46
1:XA:1397:C:H4'	1:XA:1398:A:OP2	2.16	0.46
2:XB:163:PHE:CD1	2:XB:185:ILE:HG13	2.50	0.46
6:XF:48:LEU:HG	6:XF:57:GLN:HA	1.98	0.46
9:XI:46:ALA:HA	9:XI:78:LYS:HB2	1.98	0.46
13:XM:58:GLU:O	13:XM:62:ASN:ND2	2.33	0.46
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.97	0.46
19:XS:41:VAL:HG23	19:XS:67:VAL:HG13	1.98	0.46
22:XV:16:C:N4	22:XV:17:U:O4	2.48	0.46
22:XV:19:G:H5'	22:XV:20:U:C5	2.49	0.46
25:YA:1053:C:N4	25:YA:1106:G:H1	2.14	0.46
27:YD:102:LYS:O	27:YD:103:ARG:HG3	2.15	0.46
27:YD:165:ILE:C	27:YD:166:GLN:HE21	2.18	0.46
28:YE:54:GLN:CA	28:YE:54:GLN:HE21	2.27	0.46
30:YG:34:LEU:HD12	30:YG:100:TRP:CH2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YQ:87:LYS:O	36:YQ:89:ASN:N	2.43	0.46
38:YS:13:ARG:O	38:YS:14:VAL:HB	2.15	0.46
40:YU:83:LEU:HG	40:YU:88:ILE:HG13	1.97	0.46
44:YY:94:LYS:HD2	44:YY:101:LYS:HZ3	1.81	0.46
47:Y1:96:LYS:H	47:Y1:97:LEU:HD12	1.81	0.46
48:Y2:7:ARG:HG3	48:Y2:7:ARG:NH1	2.24	0.46
51:Y5:48:GLU:HA	51:Y5:59:GLU:HG2	1.97	0.46
1:QA:6:G:N2	5:QE:98:THR:HG1	2.14	0.46
1:QA:1301:U:HO2'	1:QA:1302:U:P	2.38	0.46
1:QA:1347:G:O2'	1:QA:1348:U:OP2	2.22	0.46
4:QD:46:LYS:HD3	4:QD:46:LYS:HA	1.69	0.46
25:RA:297:C:H5"	44:RY:85:VAL:CG2	2.45	0.46
25:RA:706:A:H2'	25:RA:707:G:O4'	2.15	0.46
25:RA:1026:U:H1'	25:RA:1027:A:H5"	1.98	0.46
27:RD:43:ARG:HH11	27:RD:44:ASN:CG	2.16	0.46
31:RH:37:VAL:HG11	31:RH:68:THR:HG23	1.98	0.46
31:RH:59:ARG:CG	31:RH:59:ARG:NH1	2.79	0.46
32:RI:57:ARG:HA	32:RI:60:GLU:HB3	1.97	0.46
32:RI:88:ILE:HG12	32:RI:122:GLU:H	1.81	0.46
54:R8:29:LYS:HE3	54:R8:41:ILE:O	2.15	0.46
1:XA:186:C:H2'	1:XA:186(A):C:C6	2.51	0.46
1:XA:1147:C:O2	9:XI:16:ARG:NH1	2.48	0.46
7:XG:74:GLU:HG2	7:XG:91:VAL:HG22	1.98	0.46
13:XM:36:LYS:C	13:XM:36:LYS:HD3	2.36	0.46
25:YA:627:A:H4'	25:YA:628:G:H5'	1.98	0.46
25:YA:1048:A:P	25:YA:1110:G:H22	2.39	0.46
25:YA:1266:G:O2'	25:YA:2012:G:O6	2.24	0.46
25:YA:1310:G:OP2	53:Y7:9:ARG:NH1	2.48	0.46
25:YA:1332:G:H21	25:YA:1610:A:H8	1.62	0.46
25:YA:1636:C:H2'	25:YA:1637:A:C8	2.50	0.46
25:YA:1695:G:H1'	27:YD:8:PRO:O	2.16	0.46
25:YA:2378:A:C5	25:YA:2379:G:H1'	2.50	0.46
25:YA:2572:A:N7	28:YE:144:ARG:HB3	2.30	0.46
26:YB:33:G:H5'	30:YG:2:PRO:HG3	1.98	0.46
26:YB:116:G:H4'	38:YS:54:LEU:HD13	1.98	0.46
27:YD:48:ARG:HG3	27:YD:48:ARG:NH1	2.31	0.46
27:YD:61:LEU:HB3	27:YD:63:ARG:NH1	2.31	0.46
27:YD:148:GLU:HB2	27:YD:151:LYS:HD2	1.98	0.46
31:YH:128:PRO:HD2	31:YH:129:THR:N	2.25	0.46
31:YH:151:ILE:O	31:YH:152:ARG:O	2.34	0.46
35:YP:65:ARG:HE	54:Y8:15:LYS:HB2	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YS:74:ALA:O	38:YS:75:GLU:C	2.54	0.46
54:Y8:44:LYS:HD2	54:Y8:44:LYS:N	2.30	0.46
1:QA:1220:G:O3'	19:QS:36:ARG:HD3	2.16	0.46
4:QD:7:PRO:HB2	4:QD:10:ARG:HD2	1.98	0.46
12:QL:27:LEU:HD13	12:QL:28:LYS:N	2.30	0.46
25:RA:482:A:O2'	25:RA:497:A:N1	2.42	0.46
25:RA:705:A:H1'	27:RD:9:TYR:CE2	2.51	0.46
25:RA:1153:C:H2'	25:RA:1154:G:O4'	2.16	0.46
25:RA:1534:G:N3	25:RA:1534:G:H2'	2.30	0.46
25:RA:2437:U:H2'	25:RA:2438:U:C6	2.50	0.46
28:RE:50:GLY:CA	28:RE:74:PRO:HG3	2.46	0.46
28:RE:89:ASP:O	28:RE:90:THR:O	2.33	0.46
28:RE:172:VAL:HG13	28:RE:182:LEU:HD11	1.98	0.46
32:RI:40:THR:O	32:RI:44:LEU:N	2.44	0.46
32:RI:113:ARG:HG3	32:RI:131:LYS:NZ	2.30	0.46
36:RQ:66:ILE:O	36:RQ:104:PHE:N	2.49	0.46
1:XA:1158:C:H4'	2:XB:133:LYS:NZ	2.30	0.46
2:XB:55:PHE:HD1	2:XB:58:ILE:HG13	1.81	0.46
15:XO:56:LEU:O	15:XO:60:VAL:HG23	2.16	0.46
25:YA:185:U:H4'	25:YA:218:A:H4'	1.98	0.46
25:YA:528:A:C2	25:YA:2042:A:H2'	2.50	0.46
27:YD:14:ARG:HG3	27:YD:15:PHE:N	2.31	0.46
27:YD:105:ILE:HG23	27:YD:106:ILE:O	2.15	0.46
28:YE:63:LEU:O	28:YE:64:LYS:CB	2.62	0.46
28:YE:87:GLU:O	28:YE:89:ASP:N	2.48	0.46
28:YE:137:HIS:CB	28:YE:138:PRO:HD2	2.41	0.46
32:YI:125:GLU:OE1	32:YI:141:LYS:HB3	2.15	0.46
36:YQ:87:LYS:O	36:YQ:87:LYS:HG2	2.15	0.46
40:YU:75:ASN:HB3	40:YU:78:THR:H	1.81	0.46
49:Y3:8:LEU:HD22	49:Y3:31:LEU:HD22	1.96	0.46
52:Y6:33:LYS:HE2	52:Y6:33:LYS:HB2	1.76	0.46
54:Y8:23:VAL:HG11	54:Y8:46:ARG:HH11	1.80	0.46
54:Y8:48:PHE:N	54:Y8:48:PHE:HD1	2.14	0.46
1:QA:688:G:H2'	1:QA:689:C:H6	1.80	0.46
1:QA:1225:A:H2'	1:QA:1225:A:N3	2.31	0.46
2:QB:165:VAL:HG23	2:QB:166:ASP:H	1.81	0.46
10:QJ:55:LYS:CG	10:QJ:56:HIS:CD2	2.97	0.46
12:QL:43:VAL:HG23	12:QL:93:LEU:HD22	1.96	0.46
20:QT:29:LYS:O	20:QT:33:ILE:HG12	2.16	0.46
25:RA:103:A:O5'	25:RA:103:A:H8	1.99	0.46
25:RA:242:G:N2	25:RA:254:G:H2'	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:634:C:H2'	25:RA:635:C:C6	2.50	0.46
25:RA:1607:C:H5"	25:RA:1608:A:H5'	1.98	0.46
25:RA:2277:G:P	36:RQ:85:LYS:HB2	2.55	0.46
31:RH:4:ILE:H	31:RH:4:ILE:CD1	2.25	0.46
36:RQ:23:GLY:O	36:RQ:24:GLY:C	2.54	0.46
36:RQ:30:GLY:CA	36:RQ:107:ALA:HB2	2.39	0.46
36:RQ:109:VAL:HG13	36:RQ:113:GLN:OE1	2.16	0.46
38:RS:24:LEU:HB2	38:RS:85:VAL:HG12	1.96	0.46
41:RV:51:VAL:HG12	41:RV:53:GLU:H	1.80	0.46
44:RY:17:SER:OG	44:RY:71:LYS:HD2	2.16	0.46
45:RZ:54:HIS:CD2	45:RZ:101:PRO:HG3	2.50	0.46
51:R5:41:PRO:HA	51:R5:42:PRO:HD3	1.82	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
16:XP:1:MET:O	16:XP:3:LYS:HG3	2.16	0.46
20:XT:26:ASN:O	20:XT:30:LYS:HB2	2.16	0.46
25:YA:287:C:H2'	25:YA:288:C:H6	1.81	0.46
25:YA:783:A:H8	25:YA:784:A:H4'	1.81	0.46
25:YA:1509:C:H2'	25:YA:1511:A:C8	2.51	0.46
25:YA:2492:U:H2'	25:YA:2493:U:C6	2.50	0.46
27:YD:36:PRO:HB3	27:YD:62:TYR:O	2.16	0.46
27:YD:79:VAL:HG21	27:YD:111:LEU:HD21	1.98	0.46
28:YE:111:ARG:NE	28:YE:160:TYR:CE1	2.76	0.46
28:YE:129:HIS:O	28:YE:130:GLY:C	2.53	0.46
31:YH:51:ARG:HG3	31:YH:51:ARG:NH1	2.30	0.46
31:YH:86:GLU:O	31:YH:87:LEU:CB	2.64	0.46
31:YH:88:LEU:HD22	31:YH:163:TYR:O	2.16	0.46
33:YN:9:VAL:HG23	33:YN:10:GLU:N	2.31	0.46
38:YS:108:GLY:O	38:YS:110:LEU:N	2.48	0.46
47:Y1:80:LEU:HB2	47:Y1:81:LYS:H	1.61	0.46
1:QA:687:A:O2'	1:QA:701:C:N4	2.49	0.46
1:QA:1145:C:O2'	1:QA:1146:A:N7	2.49	0.46
1:QA:1151:A:H2'	1:QA:1152:A:C8	2.51	0.46
9:QI:45:ALA:O	9:QI:48:GLU:HG2	2.15	0.46
25:RA:1050:A:O2'	25:RA:2752:C:H1'	2.16	0.46
25:RA:1336:A:H2'	25:RA:1337:G:C8	2.50	0.46
25:RA:1791:A:N6	25:RA:1828:G:O2'	2.42	0.46
25:RA:2292:C:P	38:RS:17:ARG:HH22	2.38	0.46
26:RB:65:C:H41	26:RB:108:C:H2'	1.81	0.46
28:RE:103:ASP:OD2	28:RE:168:MET:HG2	2.15	0.46
29:RF:11:VAL:HG12	29:RF:12:LEU:H	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RH:4:ILE:HG13	31:RH:6:ARG:HD3	1.97	0.46
31:RH:13:LYS:HE2	31:RH:13:LYS:CA	2.40	0.46
32:RI:29:TYR:O	32:RI:33:ARG:HB2	2.16	0.46
36:RQ:85:LYS:HD3	36:RQ:86:GLY:H	1.80	0.46
38:RS:83:LYS:O	38:RS:109:GLY:HA3	2.15	0.46
42:RW:86:LEU:O	42:RW:94:ASP:N	2.44	0.46
45:RZ:74:VAL:HG13	45:RZ:86:VAL:HG22	1.98	0.46
50:R4:50:VAL:O	50:R4:50:VAL:HG13	2.15	0.46
52:R6:33:LYS:HG3	52:R6:34:LEU:HD13	1.98	0.46
1:XA:237:C:H5"	17:XQ:25:ARG:CZ	2.45	0.46
1:XA:411:A:N9	1:XA:413:G:H1'	2.31	0.46
1:XA:626:U:H2'	1:XA:627:G:C8	2.50	0.46
1:XA:652:U:C4	1:XA:752:G:N3	2.84	0.46
1:XA:767:A:H2'	1:XA:768:A:O4'	2.15	0.46
2:XB:114:ARG:O	2:XB:118:LEU:HG	2.16	0.46
9:XI:18:PHE:HD2	9:XI:62:TYR:HD2	1.62	0.46
12:XL:27:LEU:HD13	12:XL:28:LYS:N	2.30	0.46
25:YA:594:U:H5'	54:Y8:61:LEU:CD2	2.45	0.46
25:YA:1434:A:H61	25:YA:1558:A:N6	2.14	0.46
25:YA:1914:C:H2'	25:YA:1915:U:O4'	2.16	0.46
25:YA:2154:G:H2'	25:YA:2155:G:H8	1.81	0.46
27:YD:2:ALA:HB1	27:YD:20:ASP:CB	2.46	0.46
28:YE:188:VAL:HA	28:YE:189:PRO:HD2	1.79	0.46
28:YE:195:LEU:HD12	28:YE:196:VAL:N	2.29	0.46
35:YP:115:LEU:HB3	35:YP:131:SER:HB2	1.98	0.46
42:YW:110:LYS:HG3	42:YW:111:HIS:ND1	2.31	0.46
1:QA:411:A:C4	1:QA:413:G:H1'	2.51	0.46
1:QA:618:C:H5'	1:QA:619:U:H5"	1.98	0.46
4:QD:9:CYS:SG	4:QD:32:ALA:N	2.89	0.46
25:RA:663:G:OP1	35:RP:17:LYS:HA	2.15	0.46
25:RA:1292:U:H2'	25:RA:1293:C:C6	2.51	0.46
25:RA:1341:U:H2'	25:RA:1397:U:O2	2.16	0.46
25:RA:2275:C:O2	36:RQ:83:MET:HG3	2.16	0.46
25:RA:2691:C:H2'	25:RA:2692:C:H6	1.80	0.46
27:RD:68:LYS:HD2	27:RD:70:TRP:CZ2	2.51	0.46
28:RE:47:VAL:O	28:RE:47:VAL:HG23	2.16	0.46
28:RE:95:ILE:O	28:RE:95:ILE:HG22	2.16	0.46
29:RF:20:LEU:HD23	29:RF:125:LEU:HD12	1.98	0.46
29:RF:182:ASN:O	29:RF:186:ILE:HG12	2.16	0.46
31:RH:88:LEU:HD22	31:RH:163:TYR:O	2.17	0.46
34:RO:31:LYS:HB3	34:RO:32:TYR:CD2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RQ:26:TYR:O	36:RQ:27:VAL:O	2.34	0.46
36:RQ:63:LYS:HE2	36:RQ:65:PHE:CZ	2.50	0.46
36:RQ:87:LYS:O	36:RQ:87:LYS:HG2	2.15	0.46
39:RT:26:ASP:HB2	39:RT:90:GLN:O	2.16	0.46
1:XA:345:C:H4'	1:XA:346:G:O5'	2.16	0.46
1:XA:562:C:O2'	12:XL:16:GLU:O	2.22	0.46
1:XA:1003:G:H2'	1:XA:1004:A:H4'	1.98	0.46
1:XA:1080:A:H5'	5:XE:16:THR:HG21	1.98	0.46
1:XA:1223:C:P	19:XS:78:ARG:HH12	2.38	0.46
1:XA:1311:G:H5"	50:Y4:58:ARG:HH12	1.81	0.46
9:XI:114:TYR:N	9:XI:114:TYR:HD1	2.14	0.46
25:YA:481:G:OP2	44:YY:47:LYS:HG3	2.16	0.46
25:YA:990:A:N6	25:YA:1186:G:H1'	2.31	0.46
25:YA:1094:U:O2'	25:YA:1096:A:OP1	2.18	0.46
25:YA:2612:C:C5	25:YA:2613:U:H5	2.34	0.46
27:YD:11:PRO:O	27:YD:12:SER:CB	2.64	0.46
27:YD:118:VAL:O	27:YD:129:ASN:HA	2.16	0.46
27:YD:206:LEU:HA	27:YD:206:LEU:HD23	1.49	0.46
28:YE:51:PHE:HD2	28:YE:52:LEU:H	1.59	0.46
31:YH:109:PHE:CE1	31:YH:152:ARG:NH1	2.84	0.46
36:YQ:11:LYS:HE2	36:YQ:87:LYS:HA	1.98	0.46
37:YR:51:LEU:HD12	37:YR:70:LEU:HG	1.97	0.46
37:YR:78:LYS:O	37:YR:83:ILE:HG12	2.16	0.46
38:YS:5:THR:HG1	38:YS:7:TYR:HB3	1.80	0.46
38:YS:109:GLY:O	38:YS:110:LEU:HB2	2.16	0.46
44:YY:51:VAL:HG13	44:YY:52:SER:N	2.28	0.46
1:QA:19:C:P	5:QE:127:ASN:HD22	2.38	0.45
1:QA:608:A:H2'	1:QA:609:A:O4'	2.17	0.45
1:QA:1443:G:N2	25:RA:2864:G:OP1	2.45	0.45
25:RA:184:C:H2'	25:RA:185:U:H6	1.81	0.45
25:RA:796:C:H2'	25:RA:797:C:C6	2.51	0.45
25:RA:1045:A:H4'	25:RA:1046:A:O5'	2.16	0.45
25:RA:2643:G:H2'	25:RA:2644:G:O4'	2.15	0.45
25:RA:2811:G:H8	25:RA:2811:G:OP2	1.99	0.45
31:RH:89:ILE:H	31:RH:89:ILE:HD13	1.81	0.45
36:RQ:81:VAL:HG23	36:RQ:82:ARG:N	2.32	0.45
37:RR:37:THR:OG1	37:RR:40:LYS:HG3	2.17	0.45
38:RS:16:ASN:HA	38:RS:19:LYS:HD3	1.98	0.45
40:RU:69:CYS:HB3	40:RU:106:PHE:HZ	1.81	0.45
47:R1:73:LEU:HB3	47:R1:90:ILE:HG23	1.97	0.45
1:XA:437:U:H2'	1:XA:438:G:O4'	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1052:U:O2'	1:XA:1055:A:OP2	2.18	0.45
1:XA:1297:C:O2'	7:XG:114:ARG:NH2	2.49	0.45
12:XL:126:LYS:C	12:XL:128:ALA:N	2.69	0.45
19:XS:47:HIS:O	19:XS:62:ILE:HG12	2.17	0.45
20:XT:33:ILE:HG23	20:XT:63:ILE:HG12	1.98	0.45
25:YA:443:A:H1'	25:YA:1201:C:O4'	2.14	0.45
25:YA:443:A:H3'	29:YF:45:ARG:NH1	2.31	0.45
25:YA:1068:G:O2'	25:YA:1096:A:N3	2.48	0.45
25:YA:2016:U:O2'	51:Y5:7:PRO:O	2.29	0.45
25:YA:2032:G:H21	28:YE:146:THR:CG2	2.29	0.45
25:YA:2728:U:H2'	25:YA:2729:G:C8	2.51	0.45
27:YD:241:PRO:O	27:YD:242:ARG:C	2.53	0.45
28:YE:1:MET:HA	28:YE:200:GLU:OE2	2.16	0.45
29:YF:31:HIS:O	29:YF:34:TRP:HB3	2.15	0.45
29:YF:167:ALA:HB1	29:YF:173:VAL:HG11	1.98	0.45
30:YG:146:TYR:O	30:YG:149:VAL:HG22	2.16	0.45
36:YQ:85:LYS:HD3	36:YQ:86:GLY:H	1.81	0.45
41:YV:19:LYS:HG3	41:YV:95:LEU:HD23	1.98	0.45
1:QA:132:C:O3'	20:QT:74:LYS:NZ	2.40	0.45
1:QA:261:U:N3	1:QA:264:U:OP2	2.36	0.45
1:QA:853:G:H2'	1:QA:854:G:H8	1.81	0.45
1:QA:954:G:H21	1:QA:1227:A:N6	2.08	0.45
1:QA:1065:U:O5'	1:QA:1190:G:N2	2.49	0.45
3:QC:19:GLU:HA	3:QC:54:ARG:HH12	1.81	0.45
6:QF:99:ALA:HB1	18:QR:23:LYS:NZ	2.31	0.45
7:QG:20:ASP:OD1	7:QG:21:VAL:N	2.49	0.45
12:QL:61:THR:O	12:QL:63:GLY:N	2.45	0.45
25:RA:363(B):G:H2'	25:RA:363(C):G:H8	1.82	0.45
25:RA:1093:G:OP1	31:RH:170:ARG:HD2	2.16	0.45
25:RA:1729:A:H2'	25:RA:1730:U:H6	1.81	0.45
25:RA:2567:G:H2'	25:RA:2568:C:C6	2.51	0.45
27:RD:121:PRO:HB3	27:RD:135:PHE:CE2	2.52	0.45
37:RR:33:ARG:HG2	37:RR:34:ILE:N	2.30	0.45
44:RY:81:LYS:HZ3	44:RY:98:VAL:HG11	1.80	0.45
50:R4:15:ILE:HG22	50:R4:20:ASN:CA	2.45	0.45
52:R6:26:ASN:ND2	52:R6:35:GLU:OE2	2.49	0.45
52:R6:44:ARG:O	52:R6:45:LYS:HB2	2.16	0.45
55:R9:8:LYS:O	55:R9:34:GLN:NE2	2.49	0.45
1:XA:130:A:O2'	1:XA:131:C:O5'	2.30	0.45
1:XA:1118:C:H1'	1:XA:1179:A:C5	2.50	0.45
3:XC:78:GLY:HA3	3:XC:83:ARG:HB3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:XJ:55:LYS:CG	10:XJ:56:HIS:CD2	2.97	0.45
12:XL:113:ARG:NH2	12:XL:120:TYR:CE2	2.84	0.45
25:YA:554:U:H2'	25:YA:556:G:C8	2.50	0.45
25:YA:1754:C:P	39:YT:96:ARG:HH12	2.39	0.45
28:YE:77:ILE:O	28:YE:78:LEU:O	2.35	0.45
29:YF:7:TYR:N	29:YF:7:TYR:CD1	2.84	0.45
29:YF:65:TRP:CH2	29:YF:72:ARG:HB3	2.50	0.45
36:YQ:65:PHE:O	36:YQ:66:ILE:CG1	2.48	0.45
39:YT:95:ARG:HD2	39:YT:95:ARG:HA	1.75	0.45
40:YU:58:ARG:HA	40:YU:61:TRP:CE3	2.51	0.45
41:YV:19:LYS:HA	41:YV:94:LEU:O	2.15	0.45
44:YY:84:ARG:HB3	44:YY:95:LYS:HD3	1.97	0.45
1:QA:56:U:H2'	1:QA:57:G:C8	2.52	0.45
1:QA:181:G:O2'	1:QA:182:U:O5'	2.34	0.45
1:QA:1436:U:H2'	1:QA:1437:C:O4'	2.16	0.45
7:QG:45:ASP:O	7:QG:49:ILE:HG12	2.16	0.45
8:QH:20:TYR:HA	8:QH:65:TYR:CZ	2.51	0.45
10:QJ:55:LYS:HG3	10:QJ:56:HIS:CG	2.51	0.45
12:QL:113:ARG:NH2	12:QL:120:TYR:CE2	2.85	0.45
19:QS:5:LEU:HD22	50:R4:67:TYR:OH	2.16	0.45
25:RA:39:C:O2	29:RF:46:ARG:NH2	2.50	0.45
25:RA:224:G:O6	25:RA:419:C:O2'	2.32	0.45
25:RA:1639:U:H2'	25:RA:1640:C:H5"	1.98	0.45
27:RD:76:PRO:HB2	27:RD:116:GLN:OE1	2.17	0.45
28:RE:15:PHE:CD1	28:RE:20:ALA:HB2	2.50	0.45
28:RE:21:VAL:HG23	28:RE:22:PRO:CD	2.46	0.45
30:RG:106:LEU:HA	30:RG:110:ALA:HB3	1.98	0.45
36:RQ:5:ARG:O	36:RQ:6:ARG:O	2.34	0.45
36:RQ:93:TYR:CD1	36:RQ:93:TYR:N	2.84	0.45
1:XA:539:A:OP2	12:XL:115:LYS:HE3	2.17	0.45
1:XA:975:A:H5'	1:XA:975:A:H8	1.81	0.45
2:XB:70:PHE:O	2:XB:93:VAL:N	2.34	0.45
3:XC:48:TYR:OH	3:XC:122:GLU:OE2	2.22	0.45
6:XF:100:ASN:O	18:XR:28:GLU:HG2	2.16	0.45
9:XI:95:LYS:HZ3	9:XI:96:LEU:HD13	1.82	0.45
10:XJ:50:ILE:HD11	10:XJ:57:LYS:CD	2.46	0.45
12:XL:126:LYS:HB2	12:XL:126:LYS:HZ3	1.81	0.45
15:XO:6:GLU:H	15:XO:6:GLU:CD	2.15	0.45
25:YA:70:G:H21	25:YA:71:A:H62	1.63	0.45
25:YA:478:A:C6	25:YA:480:A:C6	3.05	0.45
25:YA:846:C:C2	25:YA:847:U:C5	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:957:A:N1	25:YA:2458:G:H4'	2.32	0.45
25:YA:1154:G:OP2	40:YU:58:ARG:NH1	2.44	0.45
25:YA:2745:C:O2	31:YH:139:GLN:NE2	2.39	0.45
25:YA:2886:G:O2'	51:Y5:32:PRO:HD2	2.17	0.45
27:YD:65:ILE:HD11	27:YD:67:PHE:CE2	2.51	0.45
28:YE:13:ARG:HH11	28:YE:13:ARG:HB3	1.82	0.45
28:YE:47:VAL:O	28:YE:47:VAL:HG23	2.16	0.45
35:YP:121:LYS:O	35:YP:123:LEU:N	2.49	0.45
36:YQ:23:GLY:O	36:YQ:24:GLY:C	2.54	0.45
38:YS:5:THR:OG1	38:YS:8:GLU:HG3	2.16	0.45
38:YS:78:LEU:HD21	38:YS:108:GLY:HA2	1.99	0.45
40:YU:66:ASN:O	40:YU:70:ARG:HB2	2.17	0.45
44:YY:56:PRO:O	44:YY:58:GLY:N	2.49	0.45
45:YZ:128:VAL:HG22	45:YZ:129:SER:H	1.82	0.45
47:Y1:58:ILE:HD12	47:Y1:58:ILE:N	2.31	0.45
1:QA:854:G:C2	1:QA:855:G:C8	3.05	0.45
1:QA:1002:G:N2	1:QA:1038:C:N3	2.56	0.45
1:QA:1151:A:H2'	1:QA:1152:A:H8	1.82	0.45
1:QA:1216:G:H5"	14:QN:5:ALA:HB2	1.98	0.45
7:QG:113:GLU:CG	7:QG:119:ARG:HG2	2.47	0.45
14:QN:32:SER:O	14:QN:32:SER:OG	2.26	0.45
19:QS:32:LYS:HA	19:QS:50:ALA:HB3	1.98	0.45
25:RA:506:G:O3'	25:RA:507:A:H8	1.98	0.45
25:RA:608:A:H2'	25:RA:609:A:C8	2.51	0.45
25:RA:1086:A:O2'	25:RA:1087:G:N7	2.46	0.45
25:RA:1341:U:OP2	25:RA:1394:U:O2'	2.27	0.45
25:RA:2115:G:N2	25:RA:2165:G:N7	2.64	0.45
25:RA:2811:G:P	28:RE:61:ARG:HG3	2.57	0.45
27:RD:30:GLU:HG3	27:RD:63:ARG:CZ	2.47	0.45
31:RH:86:GLU:O	31:RH:87:LEU:CB	2.64	0.45
31:RH:94:TYR:CD1	31:RH:94:TYR:N	2.82	0.45
31:RH:106:THR:HG22	31:RH:112:PRO:HB3	1.97	0.45
31:RH:137:ASP:HB2	31:RH:140:LYS:HE3	1.98	0.45
31:RH:151:ILE:O	31:RH:152:ARG:O	2.34	0.45
36:RQ:104:PHE:O	36:RQ:105:GLU:CB	2.65	0.45
51:R5:16:ARG:O	51:R5:20:ARG:HG3	2.16	0.45
51:R5:36:CYS:C	51:R5:38:ALA:H	2.19	0.45
2:XB:140:HIS:HA	2:XB:143:GLU:OE1	2.17	0.45
5:XE:110:LEU:HD13	5:XE:118:ILE:HD13	1.98	0.45
25:YA:451:C:H4'	29:YF:52:LYS:HZ1	1.80	0.45
25:YA:1178:C:H2'	25:YA:1179:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2119:A:H61	25:YA:2168:G:N2	2.14	0.45
26:YB:89:G:H8	26:YB:89:G:OP2	1.99	0.45
27:YD:69:ARG:C	27:YD:71:ASP:N	2.69	0.45
28:YE:33:VAL:HG12	28:YE:90:THR:H	1.81	0.45
29:YF:117:ARG:NH2	29:YF:189:THR:O	2.50	0.45
36:YQ:26:TYR:O	36:YQ:27:VAL:O	2.34	0.45
36:YQ:30:GLY:CA	36:YQ:107:ALA:HB2	2.39	0.45
40:YU:68:ALA:O	40:YU:71:GLN:HB2	2.16	0.45
41:YV:36:PRO:HA	41:YV:56:SER:OG	2.16	0.45
44:YY:101:LYS:HG2	44:YY:102:CYS:H	1.81	0.45
1:QA:397:A:H5'	1:QA:398:C:OP1	2.15	0.45
1:QA:509:A:H2'	1:QA:510:A:C8	2.52	0.45
1:QA:778:G:H2'	1:QA:779:C:O4'	2.17	0.45
1:QA:1032(A):G:H2'	1:QA:1032(B):G:C8	2.50	0.45
4:QD:98:GLU:OE2	4:QD:107:ARG:NE	2.49	0.45
7:QG:49:ILE:O	7:QG:53:LYS:HB3	2.16	0.45
9:QI:126:SER:O	9:QI:128:ARG:N	2.45	0.45
10:QJ:58:ASP:O	10:QJ:59:SER:HB2	2.17	0.45
25:RA:36:G:N3	25:RA:450:G:O2'	2.49	0.45
25:RA:922:U:H2'	25:RA:923:C:C6	2.52	0.45
25:RA:1053:C:N4	25:RA:1106:G:H1	2.14	0.45
25:RA:1331:A:O2'	25:RA:1332:G:H8	2.00	0.45
25:RA:2197:U:H1'	25:RA:2198:A:C8	2.52	0.45
25:RA:2572:A:C8	28:RE:144:ARG:HB3	2.51	0.45
26:RB:16:G:H1	26:RB:68:C:H42	1.63	0.45
28:RE:1:MET:HA	28:RE:200:GLU:OE2	2.16	0.45
29:RF:65:TRP:O	29:RF:67:GLN:N	2.42	0.45
31:RH:109:PHE:CE1	31:RH:152:ARG:NH1	2.84	0.45
36:RQ:83:MET:H	46:R0:7:LEU:HD12	1.82	0.45
37:RR:103:ARG:NH1	42:RW:40:ASN:OD1	2.50	0.45
1:XA:8:A:C8	5:XE:101:ILE:HG22	2.52	0.45
1:XA:64:G:H4'	1:XA:65:U:O5'	2.16	0.45
18:XR:73:ALA:HB3	18:XR:79:LEU:HD12	1.98	0.45
20:XT:33:ILE:HD13	20:XT:62:LEU:HB3	1.98	0.45
25:YA:465:G:C6	25:YA:466:A:N6	2.84	0.45
25:YA:1434:A:H61	25:YA:1558:A:H62	1.62	0.45
25:YA:2638:G:OP2	28:YE:82:ARG:NH2	2.50	0.45
25:YA:2721:A:H1'	25:YA:2873:A:O2'	2.16	0.45
27:YD:109:ASP:HB2	27:YD:197:GLY:CA	2.46	0.45
27:YD:198:ASN:ND2	27:YD:198:ASN:O	2.50	0.45
28:YE:11:MET:HE3	28:YE:186:GLY:HA2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:95:ILE:HG22	28:YE:95:ILE:O	2.16	0.45
28:YE:199:ARG:HH11	28:YE:199:ARG:HG3	1.82	0.45
31:YH:16:SER:OG	31:YH:17:VAL:N	2.50	0.45
36:YQ:104:PHE:O	36:YQ:105:GLU:CB	2.65	0.45
37:YR:101:ALA:CB	51:Y5:47:PRO:HD3	2.47	0.45
39:YT:102:ILE:HA	39:YT:105:LEU:CD2	2.47	0.45
40:YU:90:VAL:HG13	41:YV:4:ILE:HG21	1.98	0.45
45:YZ:149:SER:HB2	45:YZ:172:ALA:O	2.16	0.45
47:Y1:85:LEU:HD13	47:Y1:85:LEU:HA	1.86	0.45
47:Y1:91:LYS:HA	47:Y1:91:LYS:HE3	1.98	0.45
50:Y4:37:SER:HB3	50:Y4:42:PHE:CD1	2.51	0.45
52:Y6:15:GLU:CD	52:Y6:41:PRO:HB3	2.37	0.45
1:QA:337:C:H2'	1:QA:338:A:H8	1.80	0.45
1:QA:1112:C:H1'	3:QC:179:ARG:HH11	1.81	0.45
1:QA:1172:C:H2'	1:QA:1173:G:H8	1.81	0.45
2:QB:163:PHE:HA	2:QB:185:ILE:HG13	1.98	0.45
8:QH:104:ARG:O	8:QH:107:LEU:HB2	2.16	0.45
10:QJ:80:LYS:HE2	1:XA:1162:C:O2'	2.16	0.45
12:QL:64:TYR:O	12:QL:65:GLU:HB2	2.16	0.45
25:RA:270(J):G:H2'	25:RA:270(K):C:O4'	2.16	0.45
25:RA:1316:U:H2'	25:RA:1317:A:H8	1.81	0.45
25:RA:1335:U:OP2	43:RX:65:ARG:NH2	2.50	0.45
25:RA:1357:U:H2'	25:RA:1358:G:O4'	2.17	0.45
25:RA:1952:A:C2	34:RO:22:ILE:HG23	2.52	0.45
25:RA:2512:C:H4'	28:RE:122:PHE:CE2	2.51	0.45
28:RE:22:PRO:CG	28:RE:22:PRO:O	2.63	0.45
30:RG:10:LYS:O	30:RG:14:GLU:HB3	2.17	0.45
32:RI:14:ASP:O	32:RI:16:GLY:N	2.50	0.45
33:RN:19:GLU:HB2	33:RN:56:ASN:HD22	1.80	0.45
34:RO:22:ILE:HG12	34:RO:41:ALA:HA	1.98	0.45
34:RO:48:PRO:O	34:RO:49:ARG:HG2	2.17	0.45
38:RS:10:ARG:O	38:RS:14:VAL:HG12	2.17	0.45
48:R2:47:ASN:O	48:R2:48:HIS:CG	2.70	0.45
1:XA:427:U:OP1	4:XD:13:ARG:NH2	2.50	0.45
1:XA:1318:A:O2'	19:XS:37:ARG:HD3	2.17	0.45
3:XC:153:VAL:HG22	3:XC:198:VAL:HG22	1.98	0.45
7:XG:15:ASP:OD1	7:XG:44:TYR:OH	2.35	0.45
13:XM:115:LYS:HE3	13:XM:115:LYS:HB2	1.75	0.45
15:XO:32:LEU:HD11	15:XO:62:GLN:HG2	1.99	0.45
19:XS:63:THR:HG23	19:XS:66:MET:HG2	1.99	0.45
20:XT:53:LEU:HB2	20:XT:100:ILE:CG2	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:XV:17:U:H5"	22:XV:18:G:OP2	2.17	0.45
25:YA:195:A:H5"	25:YA:196:A:O5'	2.16	0.45
25:YA:2275:C:O2	36:YQ:83:MET:HG3	2.17	0.45
25:YA:2330:G:H2'	25:YA:2331:G:O4'	2.17	0.45
25:YA:2820:A:O2'	25:YA:2821:A:OP1	2.34	0.45
26:YB:15:A:H1'	26:YB:109:G:N9	2.32	0.45
26:YB:48:A:OP1	38:YS:30:ARG:NH2	2.50	0.45
27:YD:25:THR:CG2	27:YD:25:THR:O	2.65	0.45
27:YD:68:LYS:HD2	27:YD:70:TRP:CZ2	2.52	0.45
29:YF:155:LEU:HA	29:YF:174:VAL:CG1	2.46	0.45
29:YF:196:LEU:O	29:YF:200:GLU:HG2	2.17	0.45
31:YH:7:LEU:C	31:YH:7:LEU:HD12	2.37	0.45
37:YR:24:GLN:HE21	37:YR:44:LEU:HG	1.81	0.45
37:YR:109:ALA:HA	37:YR:110:PRO:HD2	1.77	0.45
39:YT:6:LEU:HA	39:YT:9:LEU:HB2	1.99	0.45
44:YY:87:LYS:HA	44:YY:92:ASN:HB3	1.98	0.45
45:YZ:141:VAL:HG23	45:YZ:144:LEU:HB2	1.98	0.45
48:Y2:28:LYS:HB3	48:Y2:57:ILE:HG12	1.98	0.45
54:Y8:52:LYS:O	54:Y8:52:LYS:CG	2.64	0.45
1:QA:1263:C:H42	1:QA:1272:G:H1	1.64	0.45
1:QA:1301:U:O2'	1:QA:1302:U:OP1	2.31	0.45
1:QA:1336:C:H1'	1:QA:1337:G:C6	2.52	0.45
6:QF:45:LEU:HD12	6:QF:59:TYR:HD2	1.82	0.45
11:QK:91:ARG:NH1	11:QK:110:ASP:OD2	2.48	0.45
25:RA:27:G:H22	25:RA:512:G:H1'	1.81	0.45
25:RA:483:A:H5'	44:RY:49:VAL:HG22	1.99	0.45
25:RA:1935:G:H1'	25:RA:1964:G:N2	2.32	0.45
27:RD:118:VAL:HG22	27:RD:119:ALA:H	1.82	0.45
30:RG:102:PHE:O	30:RG:106:LEU:N	2.50	0.45
35:RP:65:ARG:NE	54:R8:15:LYS:HB2	2.32	0.45
37:RR:29:LEU:HD12	37:RR:29:LEU:HA	1.74	0.45
52:R6:34:LEU:HD13	52:R6:34:LEU:H	1.81	0.45
54:R8:9:GLY:O	54:R8:13:ARG:HG2	2.16	0.45
8:XH:75:ARG:HA	8:XH:76:PRO:HD2	1.71	0.45
8:XH:86:ILE:HG13	8:XH:133:LEU:HD22	1.98	0.45
12:XL:64:TYR:O	12:XL:65:GLU:HB2	2.16	0.45
25:YA:581:C:H2'	25:YA:582:G:H8	1.81	0.45
25:YA:992:C:OP1	40:YU:47:TYR:OH	2.25	0.45
25:YA:1048:A:OP2	25:YA:1110:G:N2	2.50	0.45
25:YA:2122:U:H2'	25:YA:2123:G:C8	2.52	0.45
25:YA:2151:G:H2'	25:YA:2152:G:C8	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:92:ILE:HD12	27:YD:104:TYR:HD2	1.82	0.45
28:YE:2:LYS:O	28:YE:199:ARG:HA	2.17	0.45
28:YE:4:ILE:HG12	28:YE:91:VAL:HG11	1.99	0.45
42:YW:97:LYS:HE2	42:YW:99:ARG:NH2	2.31	0.45
49:Y3:31:LEU:O	49:Y3:32:GLN:HB2	2.17	0.45
1:QA:537:G:H5"	12:QL:113:ARG:NH1	2.31	0.45
1:QA:678:U:H2'	1:QA:679:C:C6	2.52	0.45
8:QH:6:ILE:HB	8:QH:85:ARG:HH11	1.82	0.45
8:QH:6:ILE:O	8:QH:10:LEU:HG	2.17	0.45
11:QK:41:THR:HG21	11:QK:71:LYS:HB2	1.99	0.45
25:RA:1266:G:O2'	25:RA:2012:G:O6	2.27	0.45
25:RA:2293:C:OP1	38:RS:89:ARG:NH1	2.49	0.45
25:RA:2469:A:OP1	25:RA:2469:A:H4'	2.17	0.45
28:RE:2:LYS:O	28:RE:199:ARG:HA	2.17	0.45
37:RR:42:LYS:HA	37:RR:45:ARG:HD2	1.98	0.45
37:RR:78:LYS:HE2	37:RR:83:ILE:HD11	1.98	0.45
47:R1:83:GLU:OE2	47:R1:83:GLU:N	2.49	0.45
51:R5:15:ARG:HA	51:R5:18:ALA:HB3	1.99	0.45
54:R8:15:LYS:C	54:R8:15:LYS:HD3	2.37	0.45
1:XA:148:G:H1	1:XA:174:C:H42	1.64	0.45
7:XG:45:ASP:O	7:XG:49:ILE:HG12	2.17	0.45
13:XM:65:LYS:O	13:XM:70:LEU:HD23	2.17	0.45
13:XM:121:LYS:HE2	13:XM:121:LYS:HA	1.98	0.45
16:XP:17:TYR:CE2	16:XP:41:PRO:HG3	2.52	0.45
19:XS:24:ALA:O	19:XS:25:LYS:HB3	2.16	0.45
19:XS:65:ASN:O	50:Y4:59:PHE:CE2	2.70	0.45
25:YA:1089:G:H21	25:YA:1102:C:H42	1.65	0.45
25:YA:1364:G:C8	47:Y1:2:SER:N	2.84	0.45
25:YA:1769:G:O2'	25:YA:1958:C:OP1	2.29	0.45
25:YA:1819:A:H4'	25:YA:1820:U:O5'	2.17	0.45
27:YD:226:MET:H	27:YD:226:MET:HG2	1.53	0.45
29:YF:45:ARG:CG	29:YF:45:ARG:NH1	2.71	0.45
30:YG:67:LYS:NZ	50:Y4:6:HIS:CD2	2.85	0.45
36:YQ:34:LEU:HB2	36:YQ:118:LEU:HD22	1.99	0.45
38:YS:111:GLU:O	38:YS:112:PHE:CD2	2.70	0.45
1:QA:1161:C:O2	1:QA:1176:A:N6	2.49	0.45
1:QA:1163:C:H42	1:QA:1173:G:H1	1.64	0.45
2:QB:51:LEU:HD22	2:QB:55:PHE:HE2	1.82	0.45
13:QM:50:GLU:OE1	50:R4:32:TYR:CE2	2.70	0.45
22:QV:15:C:O2'	22:QV:61:C:OP1	2.35	0.45
25:RA:2041:U:H2'	25:RA:2042:A:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RB:52:A:N6	38:RS:33:LYS:HG3	2.32	0.45
28:RE:2:LYS:HG2	28:RE:95:ILE:HG22	1.99	0.45
31:RH:149:ARG:HA	31:RH:162:ILE:HG21	1.99	0.45
34:RO:111:PHE:HB3	34:RO:114:ILE:HG13	1.98	0.45
36:RQ:10:ARG:O	36:RQ:11:LYS:CB	2.64	0.45
36:RQ:11:LYS:HE2	36:RQ:87:LYS:HA	1.98	0.45
44:RY:68:HIS:CE1	44:RY:70:SER:HB3	2.52	0.45
54:R8:17:THR:O	54:R8:20:GLY:N	2.46	0.45
1:XA:148:G:H2'	1:XA:149:A:H8	1.82	0.45
1:XA:164:U:H2'	1:XA:165:C:C6	2.52	0.45
1:XA:339:C:H2'	1:XA:340:U:C6	2.52	0.45
1:XA:1000:A:N1	1:XA:1040:U:O4	2.50	0.45
2:XB:115:LEU:HD13	2:XB:145:LEU:HB3	1.98	0.45
4:XD:50:ARG:H	4:XD:50:ARG:HG3	1.63	0.45
8:XH:51:VAL:HG11	8:XH:60:ARG:HG3	1.98	0.45
10:XJ:16:LEU:HD11	10:XJ:70:ARG:HB2	1.98	0.45
10:XJ:55:LYS:HG3	10:XJ:56:HIS:CG	2.51	0.45
11:XK:28:THR:OG1	11:XK:90:GLY:HA3	2.17	0.45
12:XL:117:ARG:NH2	12:XL:124:LYS:HD3	2.32	0.45
25:YA:138:G:N2	43:YX:44:GLU:OE2	2.31	0.45
25:YA:207:A:H2'	25:YA:208:C:O4'	2.17	0.45
25:YA:579:G:H2'	25:YA:580:C:C6	2.52	0.45
36:YQ:133:ARG:CG	36:YQ:134:ARG:N	2.78	0.45
38:YS:3:ARG:O	38:YS:4:LEU:O	2.35	0.45
46:Y0:23:VAL:HA	46:Y0:38:VAL:HA	1.99	0.45
50:Y4:16:CYS:HB3	50:Y4:33:VAL:HB	1.98	0.45
54:Y8:36:LYS:HB3	54:Y8:40:GLU:HG2	1.99	0.45
1:QA:35:G:N2	12:QL:118:SER:OG	2.46	0.45
1:QA:308:C:H2'	1:QA:309:G:H8	1.82	0.45
1:QA:390:C:O3'	16:QP:28:ARG:NH2	2.50	0.45
1:QA:1120:G:H2'	1:QA:1121:U:H6	1.82	0.45
2:QB:76:GLN:O	2:QB:208:ILE:HG12	2.18	0.45
4:QD:175:SER:HB3	4:QD:186:LEU:HD11	1.99	0.45
10:QJ:40:LEU:HB2	10:QJ:69:ASN:CB	2.47	0.45
19:QS:10:PHE:HB2	19:QS:39:THR:H	1.82	0.45
19:QS:42:PRO:HG2	50:R4:63:TYR:CE2	2.46	0.45
25:RA:769:G:H5'	25:RA:1379:A:N6	2.32	0.45
25:RA:1431:U:H2'	25:RA:1432:C:C6	2.51	0.45
25:RA:2451:A:N1	56:Z5:101:PPU:HE2	2.32	0.45
25:RA:2599:G:OP2	27:RD:236:GLY:HA2	2.17	0.45
25:RA:2785:C:O2'	28:RE:64:LYS:HD3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:36:ARG:HH11	28:RE:36:ARG:CB	2.28	0.45
34:RO:87:ILE:HD12	34:RO:91:LEU:HD12	1.99	0.45
36:RQ:59:ARG:C	36:RQ:60:ARG:CG	2.73	0.45
36:RQ:90:VAL:C	36:RQ:92:GLY:N	2.70	0.45
36:RQ:119:ARG:HH11	36:RQ:119:ARG:CG	2.25	0.45
45:RZ:58:VAL:O	45:RZ:60:GLU:N	2.47	0.45
45:RZ:108:PRO:HB2	45:RZ:109:ALA:H	1.62	0.45
48:R2:41:ILE:HD11	48:R2:44:LEU:HB2	1.99	0.45
54:R8:36:LYS:HB3	54:R8:40:GLU:HG2	1.99	0.45
4:XD:26:CYS:SG	4:XD:31:CYS:CB	3.02	0.45
4:XD:86:LYS:HD2	4:XD:86:LYS:H	1.82	0.45
8:XH:65:TYR:HA	8:XH:79:VAL:HG23	1.98	0.45
17:XQ:43:LEU:HD12	17:XQ:68:ARG:HG2	1.98	0.45
20:XT:82:SER:O	20:XT:86:ARG:HB2	2.17	0.45
25:YA:459:U:OP2	25:YA:469:G:N1	2.44	0.45
25:YA:2349:G:OP2	54:Y8:42:ARG:HD3	2.17	0.45
25:YA:2729:G:N3	28:YE:187:ALA:HB2	2.32	0.45
26:YB:74:U:H2'	26:YB:75:G:O4'	2.17	0.45
27:YD:145:VAL:HG12	27:YD:146:GLU:N	2.32	0.45
27:YD:166:GLN:CA	27:YD:166:GLN:NE2	2.78	0.45
28:YE:21:VAL:HG23	28:YE:22:PRO:CD	2.46	0.45
29:YF:144:LYS:C	29:YF:146:ALA:H	2.21	0.45
32:YI:144:VAL:C	32:YI:145:VAL:HG22	2.31	0.45
34:YO:17:ARG:NH2	34:YO:47:ILE:HD13	2.32	0.45
36:YQ:5:ARG:O	36:YQ:6:ARG:O	2.35	0.45
36:YQ:58:PHE:O	36:YQ:58:PHE:CD1	2.70	0.45
38:YS:78:LEU:HD21	38:YS:108:GLY:CA	2.47	0.45
50:Y4:22:ILE:HG22	50:Y4:23:GLU:H	1.82	0.45
1:QA:130:A:C8	17:QQ:63:ARG:HG3	2.52	0.44
1:QA:580:U:H2'	1:QA:581:G:O4'	2.17	0.44
1:QA:674:G:H2'	1:QA:675:A:C8	2.52	0.44
5:QE:101:ILE:HD11	5:QE:119:LEU:HD23	1.99	0.44
19:QS:66:MET:HB2	19:QS:74:PHE:CZ	2.51	0.44
25:RA:330:A:H2	25:RA:1210:A:H2'	1.82	0.44
25:RA:631:A:H2'	25:RA:632:A:O4'	2.16	0.44
25:RA:1614:A:N1	42:RW:91:GLY:HA2	2.32	0.44
25:RA:2308:G:C6	25:RA:2311:A:N1	2.85	0.44
25:RA:2816:C:O2	25:RA:2883:A:O2'	2.32	0.44
28:RE:77:ILE:O	28:RE:78:LEU:O	2.34	0.44
29:RF:9:ILE:HG23	29:RF:20:LEU:O	2.17	0.44
51:R5:56:LYS:O	51:R5:58:LEU:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:R8:48:PHE:N	54:R8:48:PHE:HD1	2.14	0.44
1:XA:1008:C:N3	1:XA:1021:G:N2	2.51	0.44
1:XA:1117:G:H5"	9:XI:104:ARG:NH1	2.31	0.44
1:XA:1191:A:H5"	3:XC:4:LYS:HZ2	1.82	0.44
2:XB:12:GLU:C	2:XB:14:GLY:H	2.21	0.44
2:XB:217:ARG:HE	2:XB:217:ARG:HB2	1.54	0.44
3:XC:47:LEU:HA	3:XC:47:LEU:HD12	1.82	0.44
4:XD:25:ARG:NH1	4:XD:30:LYS:HG3	2.32	0.44
19:XS:66:MET:HB2	19:XS:74:PHE:CZ	2.53	0.44
25:YA:574:C:O2	28:YE:145:LYS:HE3	2.16	0.44
25:YA:2636:U:H2'	25:YA:2637:U:H6	1.82	0.44
25:YA:2693:A:H2'	25:YA:2694:G:H8	1.82	0.44
27:YD:45:ASN:CG	27:YD:46:GLN:N	2.68	0.44
27:YD:52:ARG:HB2	27:YD:53:PHE:CD2	2.52	0.44
27:YD:166:GLN:NE2	27:YD:166:GLN:HA	2.32	0.44
31:YH:137:ASP:HB2	31:YH:140:LYS:HE3	1.98	0.44
38:YS:89:ARG:O	38:YS:90:GLY:C	2.55	0.44
47:Y1:79:GLY:N	47:Y1:80:LEU:HD23	2.32	0.44
1:QA:105:G:H2'	1:QA:106:C:C6	2.52	0.44
1:QA:607:A:H2'	1:QA:608:A:O4'	2.18	0.44
2:QB:30:ARG:HH21	2:QB:194:PRO:HG2	1.81	0.44
3:QC:34:LEU:HG	14:QN:25:VAL:HG11	2.00	0.44
6:QF:41:GLU:HB3	6:QF:62:TRP:HB3	2.00	0.44
25:RA:185:U:H4'	25:RA:218:A:H4'	1.99	0.44
25:RA:1007:C:H5"	33:RN:35:ARG:HH11	1.81	0.44
25:RA:1316:U:H2'	25:RA:1317:A:C8	2.51	0.44
25:RA:1952:A:C5	34:RO:22:ILE:HD12	2.52	0.44
25:RA:2131:G:H4'	25:RA:2132:U:H4'	1.98	0.44
31:RH:84:SER:O	31:RH:85:LYS:CB	2.64	0.44
32:RI:128:LEU:HD13	32:RI:128:LEU:HA	1.77	0.44
37:RR:28:LEU:HD12	37:RR:48:VAL:HG11	1.99	0.44
40:RU:65:ILE:HG12	40:RU:96:ALA:CB	2.47	0.44
44:RY:42:VAL:HG12	44:RY:65:ALA:HB3	1.99	0.44
52:R6:32:ASN:N	52:R6:32:ASN:OD1	2.49	0.44
1:XA:530:G:O6	23:XX:21:C:H1'	2.17	0.44
1:XA:1266:G:N2	1:XA:1269:A:OP2	2.42	0.44
10:XJ:61:GLU:OE1	14:XN:58:LYS:HE2	2.17	0.44
12:XL:120:TYR:N	12:XL:120:TYR:CD1	2.85	0.44
25:YA:127:A:H5"	25:YA:128:C:C6	2.52	0.44
25:YA:2579:C:H4'	28:YE:134:ILE:HG12	1.99	0.44
25:YA:2829:C:H2'	25:YA:2830:G:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YB:100:G:H2'	26:YB:101:A:C8	2.52	0.44
27:YD:177:LEU:O	27:YD:179:SER:N	2.51	0.44
28:YE:50:GLY:CA	28:YE:74:PRO:HG3	2.46	0.44
32:YI:93:THR:O	32:YI:97:ILE:HG12	2.17	0.44
36:YQ:93:TYR:CD1	36:YQ:93:TYR:N	2.85	0.44
38:YS:83:LYS:CE	38:YS:109:GLY:HA2	2.47	0.44
42:YW:33:ARG:NH2	42:YW:52:GLU:OE1	2.50	0.44
43:YX:35:THR:O	43:YX:39:ILE:HG13	2.16	0.44
54:Y8:15:LYS:HD3	54:Y8:15:LYS:C	2.37	0.44
54:Y8:47:LYS:HD2	54:Y8:48:PHE:N	2.33	0.44
1:QA:724:G:O6	1:QA:733:A:N6	2.50	0.44
1:QA:920:U:H2'	1:QA:921:U:C6	2.52	0.44
1:QA:992:U:H1'	1:QA:993:G:OP2	2.17	0.44
1:QA:1285:A:H4'	1:QA:1286:A:O5'	2.17	0.44
1:QA:1336:C:H4'	1:QA:1337:G:O5'	2.16	0.44
25:RA:25:U:H5'	42:RW:79:GLY:HA2	2.00	0.44
25:RA:242:G:H4'	25:RA:243:U:O5'	2.16	0.44
25:RA:861:A:H2'	25:RA:862:G:O4'	2.17	0.44
25:RA:1291:C:H2'	25:RA:1292:U:C6	2.53	0.44
25:RA:1882:C:H5'	25:RA:1883:G:OP2	2.16	0.44
25:RA:2469:A:H5'	25:RA:2470:G:OP2	2.17	0.44
27:RD:70:TRP:HZ3	27:RD:146:GLU:OE2	2.01	0.44
28:RE:4:ILE:HG12	28:RE:91:VAL:HG11	1.99	0.44
28:RE:101:ARG:HD2	28:RE:171:GLU:HA	1.98	0.44
30:RG:37:VAL:O	30:RG:94:LEU:HG	2.17	0.44
31:RH:7:LEU:C	31:RH:7:LEU:HD12	2.37	0.44
31:RH:51:ARG:HG3	31:RH:51:ARG:NH1	2.30	0.44
31:RH:53:GLU:OE1	31:RH:53:GLU:HA	2.16	0.44
50:R4:33:VAL:CG1	50:R4:34:GLU:H	2.22	0.44
1:XA:222:U:H2'	1:XA:223:U:C6	2.52	0.44
1:XA:1016:A:H2'	1:XA:1017:G:O4'	2.16	0.44
5:XE:41:VAL:CG2	5:XE:113:ALA:HB2	2.48	0.44
7:XG:138:LYS:HE2	7:XG:142:GLU:OE2	2.17	0.44
9:XI:111:ARG:HH22	10:XJ:62:HIS:CE1	2.36	0.44
19:XS:68:GLY:CA	50:Y4:68:ARG:CB	2.96	0.44
25:YA:142:G:H1'	43:YX:37:THR:CG2	2.46	0.44
25:YA:436:C:H2'	25:YA:438:G:C8	2.53	0.44
25:YA:589:C:H2'	25:YA:590:A:H8	1.80	0.44
25:YA:1045:A:C5	25:YA:1111:A:N7	2.85	0.44
25:YA:1138:G:N2	33:YN:106:MET:HE3	2.16	0.44
25:YA:1930:G:HO2'	25:YA:1931:U:P	2.41	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2674:G:H2'	25:YA:2675:A:C8	2.52	0.44
27:YD:80:ALA:O	27:YD:113:VAL:HG13	2.16	0.44
31:YH:37:VAL:HG11	31:YH:68:THR:HG23	1.98	0.44
36:YQ:66:ILE:O	36:YQ:104:PHE:N	2.49	0.44
38:YS:56:LEU:O	38:YS:57:LYS:O	2.36	0.44
40:YU:66:ASN:HB2	40:YU:76:TYR:HB2	1.99	0.44
1:QA:1226:C:O2'	13:QM:103:THR:O	2.30	0.44
1:QA:1350:A:OP2	9:QI:118:LYS:NZ	2.48	0.44
25:RA:1174:A:H2'	25:RA:1174:A:N3	2.32	0.44
25:RA:1204:A:H1'	25:RA:1206:G:C4	2.52	0.44
25:RA:1220:A:H5'	25:RA:1221:C:OP2	2.17	0.44
25:RA:2059:A:H5'	25:RA:2060:A:OP2	2.17	0.44
25:RA:2076:U:OP2	25:RA:2238:G:N2	2.44	0.44
25:RA:2405:G:O2'	25:RA:2406:U:P	2.76	0.44
27:RD:105:ILE:HD12	27:RD:105:ILE:HA	1.63	0.44
29:RF:149:ASP:OD1	29:RF:149:ASP:N	2.46	0.44
33:RN:114:ARG:O	33:RN:115:ARG:HB3	2.17	0.44
35:RP:52:GLU:OE1	35:RP:55:ARG:NH1	2.50	0.44
50:R4:15:ILE:CG2	50:R4:20:ASN:ND2	2.81	0.44
1:XA:1076:C:H42	1:XA:1081:G:H1	1.65	0.44
20:XT:87:LYS:O	20:XT:91:LEU:HG	2.18	0.44
25:YA:2101:G:H1	25:YA:2188:C:H42	1.63	0.44
26:YB:78:A:H2'	26:YB:79:C:O4'	2.18	0.44
26:YB:111:U:H2'	26:YB:112:G:H8	1.81	0.44
28:YE:172:VAL:HG13	28:YE:182:LEU:HD11	1.98	0.44
29:YF:33:LEU:HD23	35:YP:1:MET:SD	2.57	0.44
29:YF:149:ASP:OD2	29:YF:151:SER:HB3	2.17	0.44
31:YH:59:ARG:CG	31:YH:59:ARG:NH1	2.79	0.44
32:YI:21:VAL:HG22	32:YI:22:LYS:H	1.81	0.44
33:YN:134:ARG:O	33:YN:136:GLU:N	2.50	0.44
34:YO:86:ILE:HG22	34:YO:94:ARG:HD3	2.00	0.44
39:YT:61:PHE:CE1	39:YT:76:PHE:HB2	2.53	0.44
47:Y1:53:VAL:HB	47:Y1:58:ILE:HD13	1.98	0.44
52:Y6:25:LYS:HD2	54:Y8:34:TRP:CZ2	2.52	0.44
1:QA:514:C:H2'	1:QA:515:G:C8	2.52	0.44
2:QB:71:VAL:HA	2:QB:93:VAL:HB	2.00	0.44
6:QF:23:LYS:O	6:QF:27:GLN:HG2	2.17	0.44
7:QG:113:GLU:H	7:QG:113:GLU:HG2	1.39	0.44
10:QJ:33:GLN:O	10:QJ:75:ILE:HG12	2.17	0.44
10:QJ:51:ARG:NE	10:QJ:60:ARG:O	2.45	0.44
11:QK:96:ARG:HA	11:QK:99:GLN:HE21	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:120:TYR:N	12:QL:120:TYR:CD1	2.86	0.44
19:QS:67:VAL:HB	50:R4:59:PHE:CE1	2.51	0.44
25:RA:67:U:C2	25:RA:74:A:H2	2.33	0.44
25:RA:273(E):U:H2'	25:RA:273(F):C:O4'	2.17	0.44
25:RA:1024:G:H8	25:RA:1024:G:O5'	2.00	0.44
25:RA:1309:G:P	53:R7:9:ARG:HD3	2.56	0.44
25:RA:1819:A:H5"	27:RD:158:ALA:HB3	2.00	0.44
28:RE:11:MET:O	28:RE:12:THR:HB	2.18	0.44
28:RE:15:PHE:CE1	39:RT:81:PRO:CD	3.01	0.44
30:RG:51:ARG:O	30:RG:53:LEU:N	2.48	0.44
30:RG:95:ARG:C	30:RG:99:MET:HG2	2.38	0.44
31:RH:84:SER:OG	31:RH:85:LYS:N	2.51	0.44
32:RI:5:LEU:HD23	32:RI:9:LEU:HD11	1.99	0.44
38:RS:11:LYS:HG3	38:RS:91:PRO:HD3	1.98	0.44
43:RX:57:LEU:HD11	43:RX:78:LYS:HD2	1.99	0.44
47:R1:49:VAL:HG11	47:R1:70:VAL:HG11	1.98	0.44
54:R8:16:ILE:CD1	54:R8:57:ARG:HG2	2.42	0.44
54:R8:47:LYS:HD2	54:R8:48:PHE:N	2.33	0.44
1:XA:232:G:H1'	1:XA:262:A:N1	2.31	0.44
1:XA:406:G:C5'	4:XD:5:ILE:HD13	2.48	0.44
1:XA:1095:U:OP1	1:XA:1108:G:N2	2.45	0.44
1:XA:1129:C:O2'	1:XA:1131:G:N7	2.50	0.44
1:XA:1286:A:H2	21:XU:22:ARG:HH22	1.66	0.44
1:XA:1292:U:H2'	1:XA:1293:G:H8	1.82	0.44
7:XG:87:VAL:HG11	7:XG:155:ARG:HA	1.99	0.44
10:XJ:57:LYS:CD	10:XJ:60:ARG:NH2	2.78	0.44
10:XJ:58:ASP:O	10:XJ:59:SER:HB2	2.17	0.44
15:XO:82:ILE:O	15:XO:86:GLY:N	2.51	0.44
25:YA:1530:G:O6	25:YA:1542:G:N2	2.51	0.44
25:YA:2313:C:H2'	25:YA:2314:C:H6	1.81	0.44
25:YA:2377:A:H2'	25:YA:2378:A:C8	2.53	0.44
25:YA:2832:U:H4'	25:YA:2833:G:C5'	2.48	0.44
27:YD:12:SER:C	27:YD:14:ARG:N	2.70	0.44
29:YF:24:LEU:HD12	29:YF:24:LEU:N	2.33	0.44
39:YT:42:ILE:HG21	39:YT:84:GLN:NE2	2.32	0.44
40:YU:104:GLN:OE1	40:YU:105:VAL:HG23	2.18	0.44
44:YY:51:VAL:O	44:YY:56:PRO:HA	2.17	0.44
48:Y2:41:ILE:HD12	48:Y2:41:ILE:O	2.16	0.44
50:Y4:48:ARG:CZ	50:Y4:51:ASP:HA	2.47	0.44
52:Y6:34:LEU:HD13	52:Y6:34:LEU:H	1.82	0.44
1:QA:279:A:OP1	1:QA:280:C:O2'	2.29	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:429:U:H3'	4:QD:22:LYS:HZ1	1.83	0.44
1:QA:753:A:H4'	1:QA:754:C:O5'	2.17	0.44
1:QA:1120:G:H2'	1:QA:1121:U:C6	2.52	0.44
1:QA:1298:C:H4'	1:QA:1299:A:C4	2.52	0.44
2:QB:228:GLY:O	2:QB:230:VAL:N	2.50	0.44
12:QL:120:TYR:O	12:QL:121:GLY:O	2.36	0.44
15:QO:39:LEU:HA	15:QO:39:LEU:HD23	1.68	0.44
22:QV:16:C:C4	22:QV:17:U:H5	2.36	0.44
25:RA:38:A:N3	29:RF:48:THR:OG1	2.50	0.44
25:RA:504:U:H5"	25:RA:505:A:H5'	1.99	0.44
25:RA:1270:C:H5"	25:RA:1271:G:H5'	1.99	0.44
25:RA:1799:G:H4'	25:RA:1800:C:O5'	2.16	0.44
25:RA:1827:C:OP2	27:RD:222:ARG:NH1	2.47	0.44
30:RG:95:ARG:O	30:RG:99:MET:HG2	2.17	0.44
33:RN:116:LEU:HD23	33:RN:116:LEU:HA	1.78	0.44
36:RQ:63:LYS:HD2	45:RZ:175:VAL:HG21	2.00	0.44
39:RT:107:ASP:O	39:RT:111:ARG:NH1	2.51	0.44
41:RV:16:PRO:HB3	41:RV:97:LYS:O	2.17	0.44
41:RV:35:LEU:CD2	41:RV:57:VAL:HG22	2.47	0.44
41:RV:49:THR:HB	41:RV:50:PRO:HD2	1.99	0.44
45:RZ:157:LEU:HD23	45:RZ:161:VAL:HG12	1.98	0.44
50:R4:68:ARG:HH11	50:R4:69:LYS:HG2	1.82	0.44
52:R6:40:CYS:HA	52:R6:41:PRO:HD2	1.85	0.44
54:R8:58:ILE:O	54:R8:61:LEU:CG	2.66	0.44
55:R9:24:TYR:CE2	55:R9:35:ARG:HG3	2.53	0.44
1:XA:186(A):C:H5'	20:XT:82:SER:HA	1.99	0.44
1:XA:901:A:O5'	1:XA:901:A:H8	2.01	0.44
1:XA:1320:C:N4	19:XS:36:ARG:HG3	2.33	0.44
2:XB:33:TYR:HB2	2:XB:43:ASP:HB2	1.99	0.44
3:XC:82:GLU:O	3:XC:86:VAL:HG13	2.17	0.44
6:XF:33:TYR:HB2	6:XF:75:LEU:HD12	1.99	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
18:XR:52:PRO:HB2	18:XR:54:ARG:HG2	2.00	0.44
24:XY:40:G:H5'	24:XY:41:G:OP2	2.18	0.44
25:YA:78:A:H2'	25:YA:79:G:H8	1.81	0.44
25:YA:218:A:C2	25:YA:235:U:H4'	2.53	0.44
25:YA:1062:G:H2'	25:YA:1063:G:C8	2.52	0.44
25:YA:1641:A:H2'	25:YA:1642:G:O4'	2.17	0.44
25:YA:1796:U:H2'	25:YA:1797:C:H6	1.83	0.44
25:YA:2364:C:H2'	25:YA:2365:G:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2378:A:H8	25:YA:2378:A:O5'	2.01	0.44
25:YA:2469:A:H4'	25:YA:2469:A:OP1	2.17	0.44
29:YF:201:VAL:HG13	29:YF:202:PHE:N	2.33	0.44
30:YG:67:LYS:NZ	50:Y4:1:MET:HB2	2.30	0.44
30:YG:114:ILE:HB	30:YG:117:PHE:HB2	2.00	0.44
36:YQ:60:ARG:HB2	36:YQ:60:ARG:HH21	1.83	0.44
45:YZ:100:VAL:HA	45:YZ:101:PRO:HD3	1.86	0.44
1:QA:21:G:H2'	1:QA:22:G:C8	2.53	0.44
1:QA:959:A:HO2'	1:QA:984:C:HO2'	1.54	0.44
1:QA:1399:C:C2	1:QA:1502:A:N6	2.86	0.44
25:RA:270(R):G:H2'	25:RA:270(S):G:C8	2.53	0.44
25:RA:1013:C:N4	25:RA:1149:G:H1	2.16	0.44
25:RA:2262:U:H4'	25:RA:2328:A:C2	2.53	0.44
25:RA:2272:U:H5"	25:RA:2273:A:OP1	2.18	0.44
27:RD:34:VAL:HG22	27:RD:35:LYS:HG3	2.00	0.44
27:RD:65:ILE:HD13	27:RD:65:ILE:H	1.82	0.44
50:R4:50:VAL:O	50:R4:50:VAL:CG1	2.63	0.44
1:XA:8:A:N6	4:XD:208:SER:O	2.51	0.44
1:XA:163:C:H2'	1:XA:164:U:C6	2.53	0.44
8:XH:83:ILE:HB	8:XH:137:VAL:HG13	2.00	0.44
15:XO:32:LEU:O	15:XO:36:ILE:HG13	2.18	0.44
16:XP:39:TYR:CZ	16:XP:41:PRO:HB3	2.53	0.44
21:XU:5:ASP:HB3	21:XU:8:THR:OG1	2.17	0.44
25:YA:1137:G:H2'	25:YA:1138:G:C8	2.53	0.44
25:YA:1174:A:H2'	25:YA:1174:A:N3	2.33	0.44
25:YA:1284:A:H2'	25:YA:1285:G:O4'	2.18	0.44
25:YA:1313:U:H4'	25:YA:1332:G:H4'	1.99	0.44
25:YA:2784:C:H5"	28:YE:41:LYS:HZ2	1.80	0.44
26:YB:5:C:O2'	26:YB:27:C:O2	2.35	0.44
27:YD:17:THR:HG21	27:YD:204:ILE:HA	1.99	0.44
27:YD:30:GLU:HG3	27:YD:63:ARG:NE	2.32	0.44
27:YD:44:ASN:CB	27:YD:49:ILE:HG22	2.46	0.44
27:YD:145:VAL:HB	27:YD:155:LEU:HB2	1.99	0.44
28:YE:2:LYS:HG2	28:YE:95:ILE:HG22	1.99	0.44
29:YF:184:TYR:CE2	29:YF:188:ARG:HD2	2.52	0.44
30:YG:10:LYS:HE2	30:YG:175:LEU:O	2.18	0.44
36:YQ:27:VAL:HG13	36:YQ:28:ALA:N	2.32	0.44
39:YT:48:ILE:HD12	39:YT:48:ILE:H	1.83	0.44
41:YV:99:ILE:HD13	41:YV:99:ILE:H	1.82	0.44
46:Y0:43:THR:O	46:Y0:43:THR:HG23	2.17	0.44
1:QA:201:C:N4	1:QA:209:U:O2	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:718:G:H5'	11:QK:117:ASN:ND2	2.32	0.44
1:QA:1128:C:H4'	9:QI:16:ARG:HH12	1.81	0.44
1:QA:1129:C:H4'	1:QA:1130:A:H8	1.82	0.44
1:QA:1152:A:H5"	10:QJ:13:HIS:HD2	1.83	0.44
1:QA:1252:A:H2'	1:QA:1253:G:O4'	2.18	0.44
3:QC:70:VAL:HG21	3:QC:76:VAL:HG11	2.00	0.44
3:QC:81:GLY:O	3:QC:85:ARG:HB2	2.18	0.44
5:QE:47:LYS:HE2	5:QE:47:LYS:HB2	1.82	0.44
9:QI:16:ARG:O	9:QI:63:ILE:HA	2.17	0.44
11:QK:92:GLU:HB3	11:QK:96:ARG:NH1	2.33	0.44
12:QL:117:ARG:NH2	12:QL:124:LYS:HD3	2.32	0.44
25:RA:1636:C:H2'	25:RA:1637:A:H8	1.81	0.44
25:RA:1727:U:H2'	25:RA:1728:G:O4'	2.18	0.44
26:RB:104:A:H2'	26:RB:105:G:O4'	2.17	0.44
27:RD:49:ILE:CD1	27:RD:52:ARG:HA	2.47	0.44
28:RE:51:PHE:CD2	28:RE:52:LEU:N	2.76	0.44
30:RG:109:VAL:HG13	50:R4:33:VAL:HG11	2.00	0.44
31:RH:109:PHE:C	31:RH:111:HIS:H	2.21	0.44
31:RH:125:VAL:CG1	31:RH:126:PRO:CG	2.94	0.44
38:RS:29:PHE:HD1	38:RS:92:TYR:HH	1.65	0.44
43:RX:87:GLN:O	43:RX:88:LYS:HG3	2.18	0.44
51:R5:52:TYR:CD1	51:R5:52:TYR:N	2.85	0.44
54:R8:29:LYS:O	54:R8:30:ARG:C	2.56	0.44
54:R8:40:GLU:O	54:R8:43:GLN:N	2.50	0.44
1:XA:376:G:OP1	16:XP:5:ARG:HB2	2.18	0.44
1:XA:779:C:H2'	1:XA:780:A:O4'	2.18	0.44
1:XA:866:C:C4	1:XA:867:G:H1'	2.53	0.44
1:XA:1090:U:H2'	1:XA:1091:U:H6	1.82	0.44
1:XA:1369:C:H2'	1:XA:1370:G:C8	2.53	0.44
13:XM:120:LYS:O	13:XM:121:LYS:CB	2.65	0.44
15:XO:77:ARG:HA	15:XO:80:ALA:HB3	1.99	0.44
25:YA:219:G:N3	25:YA:234:C:O2'	2.47	0.44
25:YA:1153:C:H2'	25:YA:1154:G:O4'	2.18	0.44
25:YA:1204:A:H1'	25:YA:1206:G:C8	2.53	0.44
25:YA:1535:U:C2	25:YA:1537:C:H1'	2.52	0.44
25:YA:2567:G:H2'	25:YA:2568:C:H6	1.81	0.44
27:YD:143:HIS:HD2	27:YD:144:ALA:HB2	1.82	0.44
27:YD:155:LEU:N	27:YD:155:LEU:HD12	2.32	0.44
27:YD:272:ALA:HB1	27:YD:273:ARG:H	1.58	0.44
28:YE:120:TRP:CE3	28:YE:155:LYS:HD3	2.53	0.44
29:YF:65:TRP:CZ2	29:YF:72:ARG:NH2	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YG:98:ARG:O	30:YG:101:ILE:HG13	2.17	0.44
31:YH:6:ARG:CG	31:YH:7:LEU:N	2.81	0.44
31:YH:109:PHE:C	31:YH:111:HIS:H	2.21	0.44
33:YN:112:LEU:HG	33:YN:112:LEU:O	2.17	0.44
38:YS:14:VAL:CG1	38:YS:15:ARG:N	2.81	0.44
38:YS:112:PHE:O	38:YS:112:PHE:CD1	2.70	0.44
41:YV:15:GLU:HG3	41:YV:16:PRO:HD2	1.99	0.44
47:Y1:70:VAL:O	47:Y1:73:LEU:HB2	2.18	0.44
1:QA:792:A:H4'	1:QA:793:U:O5'	2.18	0.44
1:QA:881:G:H2'	1:QA:882:C:O4'	2.18	0.44
1:QA:1016:A:O5'	1:QA:1016:A:H8	2.01	0.44
2:QB:74:LYS:O	2:QB:78:GLN:HG3	2.18	0.44
4:QD:63:LYS:O	4:QD:67:ILE:HG13	2.17	0.44
5:QE:101:ILE:O	5:QE:101:ILE:HG12	2.18	0.44
7:QG:116:ALA:HA	7:QG:119:ARG:HE	1.83	0.44
15:QO:50:HIS:O	15:QO:53:HIS:HB3	2.17	0.44
25:RA:275:G:H3'	25:RA:276:A:H5"	2.00	0.44
25:RA:1028:A:N6	25:RA:1125:G:H2'	2.32	0.44
25:RA:1496:A:H8	25:RA:1577:C:O2'	1.98	0.44
25:RA:1535:U:H5'	25:RA:1537:C:N3	2.32	0.44
25:RA:1987:G:H2'	25:RA:1988:C:H6	1.83	0.44
25:RA:2046:G:H5'	51:R5:19:ARG:HB2	2.00	0.44
25:RA:2420:C:O5'	25:RA:2420:C:H6	2.01	0.44
25:RA:2506:U:O4'	56:Z5:101:PPU:HD1	2.17	0.44
25:RA:2844:G:H3'	25:RA:2845:G:H8	1.83	0.44
27:RD:85:ASP:HA	27:RD:86:PRO:HD2	1.72	0.44
28:RE:36:ARG:HB3	28:RE:36:ARG:NH1	2.30	0.44
28:RE:199:ARG:HH11	28:RE:199:ARG:HG3	1.82	0.44
30:RG:171:ALA:O	30:RG:175:LEU:HG	2.18	0.44
36:RQ:34:LEU:HB2	36:RQ:118:LEU:HD22	1.99	0.44
38:RS:19:LYS:O	38:RS:20:ARG:HB3	2.18	0.44
43:RX:67:GLY:O	43:RX:69:TYR:N	2.43	0.44
44:RY:81:LYS:HB2	44:RY:96:ILE:CG2	2.48	0.44
45:RZ:151:HIS:HA	45:RZ:170:THR:HA	1.99	0.44
1:XA:19:C:OP1	5:XE:125:SER:OG	2.26	0.44
1:XA:538:G:O3'	12:XL:114:LYS:HD3	2.18	0.44
1:XA:857:C:H2'	1:XA:858:G:O4'	2.18	0.44
1:XA:1138:G:H3'	1:XA:1138:G:N3	2.32	0.44
1:XA:1288:A:N3	1:XA:1352:C:O2'	2.37	0.44
1:XA:1289:A:OP1	21:XU:10:ARG:NH1	2.50	0.44
4:XD:100:ARG:NH1	4:XD:137:SER:HB3	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XD:153:ARG:NH1	4:XD:181:MET:HB2	2.32	0.44
5:XE:9:LYS:HB2	5:XE:9:LYS:HE3	1.89	0.44
11:XK:19:ALA:HB2	11:XK:32:ILE:HG22	2.00	0.44
13:XM:14:ARG:H	13:XM:44:ARG:CD	2.25	0.44
13:XM:23:TYR:HE2	13:XM:70:LEU:HD12	1.83	0.44
25:YA:118:A:O5'	25:YA:119:A:H5"	2.18	0.44
25:YA:616:A:C4	29:YF:180:GLY:HA2	2.53	0.44
25:YA:1360:A:H8	25:YA:1360:A:H5"	1.82	0.44
25:YA:1786:A:H1'	25:YA:1938:A:N6	2.33	0.44
25:YA:2031:A:C6	25:YA:2498:C:H1'	2.52	0.44
27:YD:44:ASN:HB2	27:YD:49:ILE:HA	1.93	0.44
27:YD:102:LYS:O	27:YD:103:ARG:CG	2.66	0.44
32:YI:30:LEU:HB3	32:YI:36:ALA:HB3	2.00	0.44
38:YS:57:LYS:O	38:YS:58:LEU:HB3	2.18	0.44
4:QD:21:LEU:HD21	4:QD:67:ILE:HA	2.00	0.43
5:QE:18:ARG:HE	5:QE:18:ARG:HB3	1.52	0.43
10:QJ:47:PHE:HE1	10:QJ:63:PHE:HB2	1.83	0.43
12:QL:27:LEU:HD13	12:QL:28:LYS:H	1.83	0.43
15:QO:48:LYS:HD3	15:QO:48:LYS:HA	1.75	0.43
16:QP:23:ASP:O	16:QP:26:ARG:HB2	2.17	0.43
25:RA:747:U:N1	51:R5:2:ALA:HB3	2.33	0.43
25:RA:860:U:C5	25:RA:917:A:C2	3.06	0.43
25:RA:992:C:H2'	25:RA:993:G:H8	1.82	0.43
25:RA:1441:G:H2'	25:RA:1442:G:H8	1.81	0.43
25:RA:1816:G:C8	27:RD:62:TYR:CZ	3.06	0.43
25:RA:2406:U:C2	35:RP:72:PRO:HB2	2.53	0.43
25:RA:2795:G:H21	25:RA:2801:A:H62	1.65	0.43
27:RD:145:VAL:HG11	27:RD:175:LEU:HD11	2.00	0.43
28:RE:13:ARG:HH11	28:RE:13:ARG:HB3	1.82	0.43
29:RF:150:GLY:HA2	29:RF:172:TRP:CD2	2.52	0.43
31:RH:119:GLU:CD	31:RH:120:GLY:H	2.22	0.43
34:RO:106:LEU:HA	34:RO:106:LEU:HD23	1.81	0.43
37:RR:27:SER:HB3	37:RR:34:ILE:HD11	2.00	0.43
37:RR:54:LEU:HD23	37:RR:66:VAL:HG23	1.99	0.43
39:RT:19:LEU:HA	39:RT:20:PRO:HD3	1.86	0.43
44:RY:42:VAL:O	44:RY:65:ALA:N	2.45	0.43
52:R6:41:PRO:HD2	52:R6:46:HIS:H	1.83	0.43
1:XA:522:C:H41	12:XL:53:ARG:HH22	1.66	0.43
1:XA:1308:U:H2'	1:XA:1309:G:C8	2.53	0.43
1:XA:1525:G:P	11:XK:120:ARG:HH22	2.40	0.43
3:XC:108:ASN:HB3	3:XC:111:LEU:HD12	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:XJ:32:ALA:H	10:XJ:78:ASN:ND2	2.16	0.43
14:XN:29:ARG:HD3	14:XN:40:CYS:HB2	1.99	0.43
15:XO:39:LEU:HD13	15:XO:56:LEU:HB2	2.00	0.43
25:YA:273:G:H1	25:YA:364:C:H42	1.65	0.43
25:YA:890:A:HO2'	25:YA:892:G:H8	1.65	0.43
25:YA:997:G:OP1	40:YU:93:LYS:HD2	2.18	0.43
25:YA:1795:C:O2	27:YD:255:LYS:HE2	2.18	0.43
25:YA:2096:U:H2'	25:YA:2097:C:C6	2.53	0.43
25:YA:2712:U:O2'	25:YA:2712(A):A:P	2.76	0.43
26:YB:8:U:H3	26:YB:112:G:H1	1.66	0.43
27:YD:213:ARG:HD2	27:YD:213:ARG:HA	1.59	0.43
28:YE:48:GLN:HE21	28:YE:48:GLN:HB3	1.55	0.43
28:YE:111:ARG:HA	37:YR:1:MET:HG3	1.99	0.43
30:YG:67:LYS:O	30:YG:67:LYS:HD2	2.17	0.43
31:YH:53:GLU:CD	31:YH:54:ARG:H	2.21	0.43
32:YI:2:LYS:HA	32:YI:20:ASP:HA	2.00	0.43
32:YI:20:ASP:OD1	32:YI:20:ASP:N	2.45	0.43
38:YS:38:GLN:CG	38:YS:47:THR:HG21	2.48	0.43
38:YS:83:LYS:O	38:YS:109:GLY:CA	2.46	0.43
47:Y1:25:LYS:C	47:Y1:27:GLU:H	2.21	0.43
50:Y4:35:VAL:C	50:Y4:37:SER:H	2.20	0.43
52:Y6:7:ILE:HD12	52:Y6:7:ILE:HA	1.85	0.43
52:Y6:41:PRO:HD2	52:Y6:46:HIS:H	1.81	0.43
1:QA:243:A:H4'	1:QA:244:U:H3'	1.99	0.43
1:QA:266:G:O2'	1:QA:267:C:OP2	2.29	0.43
1:QA:652:U:H1'	1:QA:653:A:H2	1.82	0.43
1:QA:662:G:H2'	1:QA:663:A:C8	2.53	0.43
1:QA:986:A:H1'	19:QS:54:GLY:O	2.18	0.43
4:QD:63:LYS:HD2	4:QD:198:VAL:HG22	2.00	0.43
7:QG:9:VAL:HG13	7:QG:94:ARG:NH2	2.27	0.43
12:QL:119:LYS:HB2	12:QL:120:TYR:HD1	1.83	0.43
19:QS:42:PRO:HD3	50:R4:63:TYR:CZ	2.52	0.43
19:QS:68:GLY:HA2	50:R4:68:ARG:CB	2.44	0.43
20:QT:16:HIS:O	20:QT:19:SER:HB3	2.18	0.43
25:RA:270(G):C:N4	25:RA:270(S):G:H1	2.16	0.43
25:RA:871:U:H4'	36:RQ:69:PHE:CE2	2.52	0.43
25:RA:1510:A:N3	25:RA:1510:A:H2'	2.33	0.43
25:RA:2100:G:H2'	25:RA:2101:G:H8	1.83	0.43
25:RA:2528:U:H2'	25:RA:2530:A:O5'	2.18	0.43
25:RA:2688:U:H2'	25:RA:2719:G:N2	2.33	0.43
28:RE:3:GLY:CA	28:RE:81:ILE:HG21	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:16:ARG:O	28:RE:18:ASP:O	2.36	0.43
28:RE:143:ASN:N	28:RE:143:ASN:ND2	2.65	0.43
30:RG:57:ALA:HB1	30:RG:68:PRO:HG2	1.99	0.43
31:RH:137:ASP:OD1	31:RH:138:LYS:N	2.51	0.43
32:RI:9:LEU:O	32:RI:10:GLU:HG3	2.18	0.43
33:RN:33:LEU:HA	33:RN:38:HIS:CE1	2.53	0.43
35:RP:65:ARG:HH21	54:R8:46:ARG:HH12	1.65	0.43
38:RS:12:PHE:HD1	38:RS:12:PHE:HA	1.71	0.43
44:RY:47:LYS:O	44:RY:49:VAL:N	2.51	0.43
50:R4:15:ILE:N	50:R4:15:ILE:CD1	2.78	0.43
50:R4:42:PHE:CD1	50:R4:42:PHE:C	2.90	0.43
1:XA:137:C:O2'	16:XP:61:SER:O	2.35	0.43
1:XA:545:C:OP1	4:XD:61:LYS:NZ	2.52	0.43
1:XA:1069:C:O2'	1:XA:1192:C:H1'	2.18	0.43
1:XA:1320:C:C4	19:XS:36:ARG:HG3	2.53	0.43
1:XA:1343:G:H2'	1:XA:1344:C:C6	2.53	0.43
2:XB:80:ILE:HG21	2:XB:212:GLN:HA	1.99	0.43
3:XC:72:LYS:HB3	3:XC:75:VAL:HG23	2.00	0.43
12:XL:120:TYR:O	12:XL:121:GLY:O	2.36	0.43
16:XP:4:ILE:HB	16:XP:66:PRO:HB3	2.00	0.43
17:XQ:62:SER:HB3	17:XQ:72:ARG:HE	1.83	0.43
25:YA:226:G:H2'	25:YA:227:A:C8	2.53	0.43
25:YA:503:A:H4'	25:YA:504:U:H5'	2.00	0.43
25:YA:1007:C:OP1	33:YN:35:ARG:NH1	2.50	0.43
25:YA:2607:G:H2'	25:YA:2608:G:O4'	2.18	0.43
25:YA:2777:G:OP2	25:YA:2781:A:O2'	2.26	0.43
27:YD:10:THR:O	27:YD:11:PRO:C	2.56	0.43
27:YD:11:PRO:O	27:YD:12:SER:OG	2.29	0.43
27:YD:35:LYS:HB3	27:YD:36:PRO:HA	2.00	0.43
27:YD:95:LEU:HD12	27:YD:95:LEU:O	2.17	0.43
28:YE:3:GLY:CA	28:YE:81:ILE:HG21	2.49	0.43
28:YE:69:LYS:C	28:YE:71:GLY:N	2.71	0.43
29:YF:42:ALA:O	29:YF:45:ARG:HB2	2.19	0.43
29:YF:174:VAL:CG1	29:YF:174:VAL:O	2.65	0.43
36:YQ:81:VAL:HG23	36:YQ:82:ARG:N	2.32	0.43
43:YX:70:LEU:HD23	43:YX:70:LEU:H	1.83	0.43
1:QA:192:U:H2'	1:QA:193:C:H6	1.83	0.43
1:QA:474:G:H2'	1:QA:475:G:H8	1.83	0.43
1:QA:978:A:O2'	1:QA:1322:C:N3	2.48	0.43
1:QA:981:U:H5'	14:QN:21:TYR:CE2	2.53	0.43
1:QA:1014:A:H4'	19:QS:14:HIS:NE2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1144:G:N2	1:QA:1146:A:H62	2.15	0.43
1:QA:1223:C:P	19:QS:78:ARG:HH12	2.41	0.43
1:QA:1465:C:H2'	1:QA:1466:C:O4'	2.17	0.43
4:QD:129:ASN:HA	4:QD:145:GLU:HB2	2.00	0.43
17:QQ:60:ILE:HB	17:QQ:74:LEU:HD23	2.00	0.43
25:RA:234:C:H2'	25:RA:235:U:H6	1.83	0.43
25:RA:1049:C:O2	25:RA:1113:U:H4'	2.18	0.43
25:RA:1672:C:N4	25:RA:1673:U:O4	2.51	0.43
25:RA:2889:C:H3'	25:RA:2891:G:H8	1.82	0.43
27:RD:35:LYS:HZ1	27:RD:65:ILE:HA	1.83	0.43
28:RE:203:LYS:HD2	28:RE:203:LYS:C	2.38	0.43
30:RG:6:ALA:H	50:R4:23:GLU:HG3	1.82	0.43
36:RQ:27:VAL:HG13	36:RQ:28:ALA:N	2.32	0.43
45:RZ:153:SER:HB2	45:RZ:167:PRO:HB3	2.00	0.43
50:R4:48:ARG:C	50:R4:49:PHE:HD1	2.22	0.43
54:R8:58:ILE:O	54:R8:61:LEU:CD1	2.67	0.43
1:XA:376:G:H1	1:XA:387:U:H3	1.65	0.43
1:XA:633:G:H5'	1:XA:634:C:OP2	2.18	0.43
1:XA:967:C:H5"	1:XA:968:A:OP2	2.19	0.43
5:XE:79:GLU:H	5:XE:79:GLU:HG3	1.46	0.43
9:XI:118:LYS:O	9:XI:119:ALA:HB3	2.18	0.43
12:XL:6:THR:H	12:XL:9:GLN:NE2	1.97	0.43
12:XL:27:LEU:HD13	12:XL:28:LYS:H	1.83	0.43
25:YA:586:A:H5'	29:YF:89:VAL:HG21	2.00	0.43
25:YA:1224:G:P	41:YV:66:ARG:HH22	2.40	0.43
25:YA:1899:G:N2	25:YA:1902:C:N4	2.61	0.43
28:YE:3:GLY:HA3	28:YE:81:ILE:CD1	2.48	0.43
30:YG:112:PRO:CB	50:Y4:37:SER:HB2	2.44	0.43
31:YH:35:VAL:CG2	31:YH:75:ALA:HB2	2.49	0.43
31:YH:137:ASP:OD1	31:YH:138:LYS:N	2.51	0.43
32:YI:48:GLU:OE1	32:YI:52:ARG:NH2	2.51	0.43
32:YI:93:THR:HG22	32:YI:119:PRO:HB3	2.00	0.43
35:YP:115:LEU:HA	35:YP:134:ALA:HB2	1.99	0.43
36:YQ:21:THR:HB	36:YQ:22:LYS:H	1.42	0.43
37:YR:38:VAL:HG22	37:YR:112:ALA:HB2	2.00	0.43
41:YV:55:ALA:HB2	41:YV:101:GLY:HA2	1.99	0.43
43:YX:72:LYS:HG2	43:YX:73:ARG:O	2.18	0.43
45:YZ:30:ASN:OD1	45:YZ:33:LEU:N	2.49	0.43
47:Y1:94:LEU:HD23	47:Y1:94:LEU:HA	1.81	0.43
48:Y2:4:SER:OG	48:Y2:5:GLU:OE2	2.26	0.43
48:Y2:59:ARG:O	48:Y2:62:THR:HG23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:Y5:56:LYS:CG	51:Y5:58:LEU:HB3	2.45	0.43
54:Y8:58:ILE:O	54:Y8:61:LEU:CD1	2.67	0.43
55:Y9:1:MET:O	55:Y9:34:GLN:HG2	2.18	0.43
1:QA:327:A:O2'	1:QA:328:C:O4'	2.32	0.43
1:QA:452:A:H2'	1:QA:453:A:C8	2.54	0.43
1:QA:642:A:N3	8:QH:113:SER:OG	2.46	0.43
1:QA:791:G:H2'	1:QA:792:A:H5'	2.00	0.43
1:QA:892:A:O2'	1:QA:1415:G:H4'	2.19	0.43
1:QA:1314:C:P	19:QS:6:LYS:HD2	2.57	0.43
1:QA:1446:A:HO2'	1:QA:1447:G:P	2.42	0.43
2:QB:8:LYS:HE3	2:QB:11:LEU:HB3	2.00	0.43
10:QJ:47:PHE:CE2	14:QN:37:PHE:HE1	2.36	0.43
11:QK:19:ALA:HB2	11:QK:32:ILE:HG22	2.00	0.43
12:QL:22:SER:C	12:QL:24:VAL:H	2.22	0.43
15:QO:17:ARG:HD3	15:QO:26:GLU:HG3	1.99	0.43
18:QR:37:VAL:HG22	18:QR:78:LEU:HB3	2.00	0.43
22:QV:12:C:O2'	25:RA:1924:C:H4'	2.19	0.43
25:RA:674:G:C1'	29:RF:74:ARG:HD3	2.48	0.43
25:RA:1303:G:H1'	25:RA:1641:A:N1	2.33	0.43
25:RA:1839:G:C8	25:RA:1927:A:H1'	2.52	0.43
25:RA:1987:G:H2'	25:RA:1988:C:C6	2.54	0.43
25:RA:2078:C:C4	25:RA:2079:U:C4	3.06	0.43
25:RA:2277:G:OP1	36:RQ:85:LYS:HB2	2.18	0.43
25:RA:2377:A:H4'	38:RS:111:GLU:O	2.17	0.43
28:RE:31:CYS:HB3	28:RE:49:LEU:HG	2.01	0.43
28:RE:52:LEU:HB2	28:RE:75:VAL:CG2	2.40	0.43
31:RH:92:ILE:CD1	31:RH:160:LYS:HD3	2.48	0.43
31:RH:136:ILE:HD12	31:RH:136:ILE:N	2.32	0.43
32:RI:72:LEU:HD11	32:RI:101:LEU:HD11	2.00	0.43
44:RY:97:ARG:HE	44:RY:98:VAL:HB	1.83	0.43
50:R4:39:CYS:O	50:R4:40:HIS:CB	2.66	0.43
52:R6:28:ARG:HG3	52:R6:31:PRO:HD2	2.00	0.43
54:R8:40:GLU:O	54:R8:41:ILE:C	2.56	0.43
1:XA:34:C:H2'	1:XA:35:G:H8	1.82	0.43
19:XS:81:ARG:HE	19:XS:81:ARG:HB2	1.35	0.43
25:YA:635:C:O2'	25:YA:639:U:OP1	2.36	0.43
25:YA:998:C:H2'	25:YA:999:U:O4'	2.18	0.43
25:YA:1059:G:C6	25:YA:1060:U:H1'	2.53	0.43
25:YA:1533:C:H2'	25:YA:1534:G:N7	2.34	0.43
25:YA:1639:U:H2'	25:YA:1640:C:H5"	2.01	0.43
27:YD:43:ARG:CZ	27:YD:49:ILE:HG21	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:51:PHE:O	28:YE:74:PRO:CB	2.67	0.43
28:YE:143:ASN:N	28:YE:143:ASN:ND2	2.65	0.43
31:YH:92:ILE:CD1	31:YH:160:LYS:HD3	2.48	0.43
31:YH:153:LYS:HG3	31:YH:162:ILE:H	1.78	0.43
32:YI:123:LEU:HD23	32:YI:142:VAL:HB	1.99	0.43
43:YX:53:LYS:H	43:YX:82:GLN:HB3	1.83	0.43
50:Y4:6:HIS:HA	50:Y4:7:PRO:HD2	1.82	0.43
54:Y8:58:ILE:O	54:Y8:61:LEU:CG	2.66	0.43
1:QA:144:G:H1	1:QA:178:C:H42	1.66	0.43
1:QA:1235:U:O2'	1:QA:1305:G:O5'	2.36	0.43
1:QA:1320:C:H42	19:QS:36:ARG:HG3	1.83	0.43
2:QB:167:PRO:HG3	2:QB:188:ALA:HB2	2.00	0.43
8:QH:13:ILE:O	8:QH:17:THR:HG23	2.19	0.43
10:QJ:55:LYS:CE	10:QJ:56:HIS:NE2	2.73	0.43
11:QK:38:ASN:HA	11:QK:39:PRO:HD3	1.88	0.43
12:QL:44:THR:HA	12:QL:45:PRO:HD3	1.70	0.43
25:RA:67:U:C4	25:RA:74:A:N1	2.87	0.43
25:RA:363(B):G:H2'	25:RA:363(C):G:C8	2.53	0.43
25:RA:1265:A:H8	25:RA:1265:A:OP1	2.01	0.43
25:RA:1716:U:O2'	25:RA:1717:G:H5'	2.18	0.43
25:RA:1771:C:HO2'	25:RA:1786:A:H8	1.64	0.43
25:RA:2632:A:O2'	25:RA:2811:G:O2'	2.17	0.43
28:RE:48:GLN:HE21	28:RE:48:GLN:HB3	1.55	0.43
28:RE:52:LEU:O	28:RE:74:PRO:HA	2.18	0.43
28:RE:120:TRP:CE3	28:RE:155:LYS:HD3	2.53	0.43
34:RO:22:ILE:HD13	34:RO:22:ILE:HA	1.77	0.43
39:RT:1:MET:O	39:RT:3:ARG:HG2	2.19	0.43
50:R4:49:PHE:N	50:R4:49:PHE:HD1	2.17	0.43
50:R4:59:PHE:CE1	50:R4:70:GLY:N	2.86	0.43
1:XA:131:C:H2'	1:XA:132:C:C6	2.53	0.43
1:XA:903:G:H2'	1:XA:904:C:H6	1.83	0.43
1:XA:1016:A:H8	1:XA:1016:A:O5'	2.01	0.43
1:XA:1213:A:N1	1:XA:1215:G:H1'	2.33	0.43
1:XA:1250:A:H2	1:XA:1370:G:H1'	1.83	0.43
1:XA:1436:U:H2'	1:XA:1437:C:O4'	2.18	0.43
1:XA:1450:U:O3'	1:XA:1451:A:H8	2.02	0.43
4:XD:112:VAL:N	4:XD:116:GLN:OE1	2.38	0.43
12:XL:27:LEU:C	12:XL:29:GLY:H	2.20	0.43
15:XO:25:THR:HG21	15:XO:70:LEU:HB2	2.01	0.43
19:XS:42:PRO:CD	50:Y4:63:TYR:CE1	2.98	0.43
22:XV:72:A:N6	22:XV:73:A:C6	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:243:U:OP2	25:YA:254:G:N1	2.49	0.43
25:YA:347:A:H2'	25:YA:348:G:C8	2.52	0.43
25:YA:888:C:H3'	25:YA:889:C:C4'	2.43	0.43
25:YA:890:A:O2'	25:YA:892:G:H8	2.02	0.43
25:YA:1093:G:OP1	31:YH:170:ARG:HD2	2.17	0.43
25:YA:1332:G:N2	25:YA:1609:A:O2'	2.51	0.43
27:YD:44:ASN:HB3	27:YD:49:ILE:CG2	2.47	0.43
28:YE:11:MET:O	28:YE:12:THR:HB	2.18	0.43
30:YG:47:LYS:HB2	30:YG:47:LYS:HE3	1.73	0.43
30:YG:113:ARG:HE	50:Y4:34:GLU:HG3	1.83	0.43
34:YO:88:ASN:OD1	34:YO:90:GLN:HB2	2.19	0.43
38:YS:86:ALA:O	38:YS:87:PHE:CB	2.65	0.43
41:YV:52:VAL:O	41:YV:54:GLY:N	2.51	0.43
44:YY:87:LYS:HB2	44:YY:87:LYS:NZ	2.33	0.43
48:Y2:27:GLU:H	48:Y2:27:GLU:CD	2.17	0.43
1:QA:184:G:H2'	1:QA:185:A:C8	2.54	0.43
4:QD:157:LEU:O	4:QD:161:ASN:ND2	2.43	0.43
12:QL:120:TYR:O	12:QL:121:GLY:C	2.57	0.43
17:QQ:63:ARG:HG2	17:QQ:64:PRO:HD2	2.00	0.43
25:RA:30:G:H2'	25:RA:31:C:C6	2.53	0.43
25:RA:118:A:N3	25:RA:178:G:H1'	2.33	0.43
25:RA:270:A:OP2	25:RA:270(Y):G:N1	2.49	0.43
25:RA:1247:A:OP1	29:RF:95:ARG:NH2	2.51	0.43
25:RA:1252:G:C2	25:RA:1253:A:C2	3.07	0.43
25:RA:1803:A:N1	25:RA:1822:G:O2'	2.43	0.43
25:RA:2241:A:H2'	25:RA:2242:G:C8	2.53	0.43
25:RA:2370:G:H21	52:R6:45:LYS:HE2	1.83	0.43
25:RA:2867:G:HO2'	25:RA:2868:A:H8	1.66	0.43
28:RE:69:LYS:C	28:RE:71:GLY:N	2.71	0.43
32:RI:95:LYS:HA	32:RI:111:PRO:HG3	2.00	0.43
33:RN:61:ARG:HA	33:RN:61:ARG:HE	1.82	0.43
38:RS:93:LYS:HE3	38:RS:93:LYS:HB2	1.66	0.43
44:RY:46:LYS:HB2	44:RY:61:ILE:HG22	2.00	0.43
50:R4:22:ILE:CG2	50:R4:23:GLU:N	2.81	0.43
7:XG:140:ASP:HA	7:XG:143:ARG:NH1	2.34	0.43
19:XS:67:VAL:HG11	50:Y4:59:PHE:O	2.19	0.43
20:XT:84:LEU:HD22	20:XT:84:LEU:C	2.37	0.43
25:YA:698:C:O2'	25:YA:734:A:N6	2.51	0.43
25:YA:1754:C:H5	39:YT:96:ARG:NH2	2.17	0.43
26:YB:37:C:O2	38:YS:95:HIS:NE2	2.51	0.43
27:YD:17:THR:HG22	27:YD:204:ILE:HA	1.97	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:30:GLU:CD	27:YD:63:ARG:HE	2.21	0.43
28:YE:155:LYS:O	28:YE:156:MET:HG3	2.19	0.43
29:YF:192:LEU:HD21	29:YF:194:MET:HE3	2.00	0.43
37:YR:34:ILE:HA	37:YR:34:ILE:HD13	1.72	0.43
38:YS:42:ASP:C	38:YS:44:LYS:N	2.72	0.43
39:YT:35:LYS:H	39:YT:35:LYS:HD2	1.84	0.43
50:Y4:43:TYR:CD1	50:Y4:43:TYR:C	2.92	0.43
54:Y8:40:GLU:O	54:Y8:43:GLN:N	2.50	0.43
1:QA:162:A:H8	1:QA:162:A:O5'	2.02	0.43
1:QA:373:A:H2'	1:QA:374:A:H8	1.84	0.43
1:QA:692:U:OP1	11:QK:124:LYS:NZ	2.30	0.43
1:QA:792:A:H1'	1:QA:793:U:OP2	2.19	0.43
1:QA:933:G:OP2	7:QG:3:ARG:HB2	2.19	0.43
9:QI:116:LYS:HE2	9:QI:122:ALA:HB2	2.01	0.43
13:QM:44:ARG:HB2	13:QM:47:ASP:OD2	2.19	0.43
25:RA:1784:A:H4'	25:RA:1785:A:O5'	2.18	0.43
25:RA:1818:U:H2'	27:RD:157:ARG:HG3	2.01	0.43
28:RE:51:PHE:O	28:RE:74:PRO:CB	2.67	0.43
29:RF:148:LEU:HD11	29:RF:193:VAL:HG21	2.01	0.43
30:RG:3:LEU:CG	50:R4:25:TYR:CZ	3.02	0.43
32:RI:30:LEU:HD22	32:RI:35:LEU:HD11	2.00	0.43
33:RN:58:ASP:HB3	33:RN:95:PRO:HB3	2.00	0.43
44:RY:55:TYR:CD1	44:RY:55:TYR:N	2.87	0.43
1:XA:255:G:H2'	1:XA:256:U:H6	1.84	0.43
1:XA:1232:U:OP1	9:XI:124:GLN:NE2	2.51	0.43
2:XB:172:ILE:O	2:XB:175:ARG:HB3	2.18	0.43
2:XB:215:LEU:HD22	2:XB:215:LEU:HA	1.73	0.43
14:XN:27:CYS:SG	14:XN:29:ARG:HB2	2.58	0.43
25:YA:78:A:H2'	25:YA:79:G:C8	2.53	0.43
25:YA:225:A:H5'	25:YA:226:G:OP2	2.18	0.43
25:YA:769:G:H5'	25:YA:1379:A:N6	2.33	0.43
25:YA:1309:G:P	53:Y7:9:ARG:HD3	2.59	0.43
25:YA:1375:C:H2'	25:YA:1376:C:H6	1.84	0.43
25:YA:1728:G:H2'	25:YA:1731:G:O6	2.19	0.43
25:YA:1756:G:H4'	25:YA:1758:G:O4'	2.18	0.43
25:YA:2086:U:H2'	25:YA:2087:G:C8	2.54	0.43
25:YA:2133:G:H1'	25:YA:2158:A:N6	2.27	0.43
25:YA:2296:U:C6	38:YS:9:ARG:NH1	2.87	0.43
25:YA:2420:C:OP1	54:Y8:34:TRP:N	2.49	0.43
25:YA:2572:A:C8	28:YE:144:ARG:CB	3.01	0.43
27:YD:181:GLU:HA	27:YD:272:ALA:CB	2.38	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YE:13:ARG:HH11	28:YE:13:ARG:HB2	1.81	0.43
28:YE:16:ARG:O	28:YE:18:ASP:O	2.36	0.43
31:YH:136:ILE:HD12	31:YH:136:ILE:N	2.31	0.43
31:YH:149:ARG:HA	31:YH:162:ILE:HG21	1.99	0.43
34:YO:88:ASN:ND2	34:YO:92:GLU:HB2	2.22	0.43
35:YP:64:LYS:O	35:YP:66:GLY:N	2.52	0.43
37:YR:70:LEU:HD23	37:YR:70:LEU:HA	1.84	0.43
44:YY:80:GLY:O	44:YY:81:LYS:HG3	2.18	0.43
45:YZ:112:ARG:O	45:YZ:114:GLY:N	2.51	0.43
48:Y2:62:THR:O	48:Y2:65:ASN:HB2	2.19	0.43
1:QA:170:U:O2'	1:QA:171:A:H5'	2.18	0.43
1:QA:352:C:O2'	1:QA:354:G:OP1	2.28	0.43
1:QA:686:U:H2'	1:QA:687:A:C8	2.53	0.43
1:QA:1170:A:H8	1:QA:1170:A:O5'	2.02	0.43
1:QA:1298:C:H4'	1:QA:1299:A:N9	2.34	0.43
1:QA:1502:A:H2	1:QA:1505:G:N1	2.16	0.43
9:QI:112:LYS:HD3	9:QI:113:LYS:O	2.18	0.43
12:QL:27:LEU:C	12:QL:29:GLY:H	2.20	0.43
16:QP:20:VAL:HG21	16:QP:32:TYR:CE2	2.54	0.43
18:QR:29:PHE:N	18:QR:29:PHE:CD1	2.87	0.43
18:QR:53:ARG:HH21	18:QR:60:ALA:N	2.17	0.43
20:QT:87:LYS:HD2	20:QT:87:LYS:HA	1.67	0.43
22:QV:3:G:HO2'	22:QV:4:G:H8	1.67	0.43
25:RA:1788:C:H2'	25:RA:1789:A:O4'	2.19	0.43
25:RA:2293:C:H5"	38:RS:89:ARG:NH1	2.24	0.43
25:RA:2749:A:H4'	31:RH:62:LYS:HB3	2.01	0.43
28:RE:18:ASP:O	28:RE:19:ARG:C	2.56	0.43
32:RI:21:VAL:HG21	32:RI:25:TYR:HD2	1.84	0.43
32:RI:129:THR:HA	32:RI:137:PRO:HA	1.99	0.43
34:RO:104:ARG:HD3	39:RT:36:GLU:OE2	2.19	0.43
38:RS:88:ASP:CG	38:RS:89:ARG:H	2.21	0.43
42:RW:20:VAL:HG22	42:RW:47:VAL:HG21	2.00	0.43
45:RZ:5:LEU:HD21	45:RZ:44:PHE:HA	2.01	0.43
45:RZ:5:LEU:HB3	45:RZ:6:LYS:H	1.56	0.43
45:RZ:141:VAL:HA	45:RZ:144:LEU:HD23	2.00	0.43
50:R4:2:LYS:HD2	50:R4:2:LYS:HA	1.61	0.43
1:XA:99:C:H2'	1:XA:101:A:C8	2.54	0.43
1:XA:412:A:H4'	1:XA:413:G:O5'	2.18	0.43
1:XA:418:C:H2'	1:XA:419:C:C6	2.53	0.43
1:XA:1229:A:H2'	1:XA:1230:C:C6	2.54	0.43
2:XB:212:GLN:NE2	2:XB:216:SER:HB2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:XJ:6:ILE:HG22	10:XJ:98:ILE:HG23	2.01	0.43
12:XL:22:SER:C	12:XL:24:VAL:H	2.22	0.43
16:XP:45:THR:HG22	16:XP:47:ASP:N	2.26	0.43
20:XT:98:PRO:C	20:XT:100:ILE:H	2.21	0.43
25:YA:924:C:H2'	25:YA:925:C:C6	2.54	0.43
25:YA:1858:G:O2'	25:YA:1884:A:N6	2.51	0.43
25:YA:2250:G:C5	36:YQ:82:ARG:HD2	2.53	0.43
25:YA:2537:U:H2'	25:YA:2538:C:C6	2.54	0.43
28:YE:52:LEU:O	28:YE:74:PRO:HA	2.18	0.43
30:YG:67:LYS:CE	50:Y4:6:HIS:CE1	3.01	0.43
31:YH:86:GLU:H	31:YH:86:GLU:CD	2.16	0.43
31:YH:120:GLY:O	31:YH:136:ILE:HD12	2.19	0.43
33:YN:134:ARG:H	33:YN:135:PRO:HD3	1.83	0.43
34:YO:64:ARG:HG2	34:YO:79:PHE:CD1	2.54	0.43
35:YP:97:PRO:HD3	35:YP:126:VAL:O	2.19	0.43
38:YS:105:ALA:C	38:YS:110:LEU:HD21	2.38	0.43
40:YU:60:LEU:HD11	40:YU:64:ARG:CZ	2.48	0.43
1:QA:26:A:O2'	4:QD:209:ARG:NH2	2.51	0.43
3:QC:11:ARG:HB3	3:QC:15:THR:HB	2.00	0.43
3:QC:148:GLY:HA3	3:QC:172:ARG:O	2.18	0.43
5:QE:50:GLU:HG3	5:QE:52:PRO:HD2	2.00	0.43
6:QF:62:TRP:CH2	6:QF:64:GLN:HB2	2.54	0.43
9:QI:17:VAL:HG11	9:QI:81:ILE:HD13	2.00	0.43
25:RA:570:G:H2'	25:RA:2030:A:C5	2.54	0.43
25:RA:696:G:H2'	25:RA:697:C:H6	1.84	0.43
25:RA:806:C:OP2	35:RP:41:ARG:NH1	2.49	0.43
25:RA:846:C:C2	25:RA:847:U:C5	3.06	0.43
25:RA:1709:U:H2'	25:RA:1710:C:C6	2.54	0.43
26:RB:48:A:H2'	26:RB:49:C:C6	2.54	0.43
29:RF:101:LEU:HD12	29:RF:102:PRO:HD2	2.00	0.43
31:RH:6:ARG:CG	31:RH:7:LEU:N	2.81	0.43
31:RH:35:VAL:CG2	31:RH:75:ALA:HB2	2.48	0.43
32:RI:128:LEU:N	32:RI:138:ILE:O	2.45	0.43
33:RN:89:LYS:O	33:RN:93:THR:HG22	2.19	0.43
39:RT:107:ASP:O	39:RT:110:ILE:HG22	2.19	0.43
44:RY:54:LYS:HB3	44:RY:55:TYR:CD1	2.53	0.43
52:R6:7:ILE:HG13	52:R6:8:LYS:H	1.84	0.43
1:XA:80:G:O6	1:XA:88:C:N4	2.51	0.43
1:XA:186(F):C:H2'	1:XA:187:C:O4'	2.19	0.43
1:XA:1142:G:H2'	1:XA:1143:G:O4'	2.19	0.43
1:XA:1406:U:O2	1:XA:1517:G:N2	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:37:ASN:C	2:XB:39:ILE:H	2.20	0.43
2:XB:100:GLY:N	2:XB:176:GLU:OE2	2.47	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
9:XI:8:GLY:HA2	9:XI:79:LEU:HD12	2.01	0.43
14:XN:6:LEU:HD23	14:XN:23:ARG:HH22	1.83	0.43
25:YA:1155:A:OP1	40:YU:55:ARG:HD2	2.19	0.43
25:YA:2636:U:H1'	25:YA:2783:G:N2	2.34	0.43
25:YA:2684:U:H1'	34:YO:70:LYS:HD2	1.99	0.43
25:YA:2820:A:O5'	37:YR:4:LEU:HD23	2.18	0.43
28:YE:23:VAL:HG12	28:YE:184:VAL:O	2.19	0.43
29:YF:45:ARG:HH11	29:YF:45:ARG:HG2	1.82	0.43
30:YG:67:LYS:NZ	50:Y4:6:HIS:NE2	2.64	0.43
30:YG:145:THR:O	30:YG:147:ASP:N	2.44	0.43
40:YU:92:ARG:HD2	41:YV:11:GLN:CB	2.47	0.43
50:Y4:39:CYS:C	50:Y4:41:PRO:HD3	2.39	0.43
52:Y6:28:ARG:HH21	52:Y6:30:THR:HG23	1.84	0.43
53:Y7:47:ARG:HB2	53:Y7:48:LYS:H	1.60	0.43
1:QA:429:U:H1'	1:QA:430:A:H5"	2.01	0.43
1:QA:1184:G:H2'	1:QA:1185:G:H8	1.84	0.43
1:QA:1222:G:C2	1:QA:1223:C:C2	3.07	0.43
1:QA:1417:G:C6	1:QA:1482:G:C6	3.07	0.43
4:QD:78:LEU:HA	4:QD:78:LEU:HD23	1.76	0.43
8:QH:25:ASP:N	8:QH:25:ASP:OD1	2.50	0.43
10:QJ:22:LYS:HB3	10:QJ:22:LYS:HE3	1.68	0.43
12:QL:91:LYS:HE2	12:QL:91:LYS:HB2	1.76	0.43
15:QO:25:THR:HG21	15:QO:70:LEU:HB2	2.00	0.43
19:QS:41:VAL:HG12	19:QS:44:MET:HB2	2.01	0.43
19:QS:65:ASN:O	50:R4:59:PHE:HZ	2.00	0.43
20:QT:84:LEU:HD23	20:QT:84:LEU:HA	1.86	0.43
25:RA:50:U:H4'	25:RA:51:G:OP2	2.19	0.43
25:RA:870:A:OP1	36:RQ:6:ARG:NH2	2.52	0.43
25:RA:1266:G:O5'	42:RW:15:ARG:NH2	2.52	0.43
25:RA:1287:A:C5	25:RA:1288:U:C4	3.07	0.43
25:RA:1653:G:H4'	25:RA:1654:A:O5'	2.19	0.43
25:RA:2019:A:H4'	40:RU:34:LYS:HD2	2.00	0.43
25:RA:2250:G:C4	36:RQ:82:ARG:HG3	2.53	0.43
25:RA:2577:A:H5"	25:RA:2578:G:H5'	2.00	0.43
27:RD:35:LYS:HE3	27:RD:64:ILE:C	2.39	0.43
27:RD:169:GLU:N	27:RD:172:TYR:O	2.51	0.43
40:RU:69:CYS:HB3	40:RU:106:PHE:CZ	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:R0:51:VAL:N	46:R0:62:LEU:HD12	2.33	0.43
48:R2:39:ALA:HA	48:R2:45:SER:HB2	2.00	0.43
50:R4:43:TYR:O	50:R4:46:GLN:HA	2.19	0.43
50:R4:48:ARG:NH1	50:R4:51:ASP:HA	2.34	0.43
1:XA:89:U:HO2'	1:XA:90:C:P	2.42	0.43
1:XA:1129:C:H4'	1:XA:1130:A:H5'	2.01	0.43
1:XA:1161:C:H2'	1:XA:1162:C:C6	2.54	0.43
1:XA:1247:U:H1'	1:XA:1291:G:N2	2.34	0.43
2:XB:7:VAL:HG21	2:XB:217:ARG:NH1	2.34	0.43
2:XB:68:ILE:HB	2:XB:70:PHE:HE1	1.84	0.43
5:XE:131:ILE:HD13	5:XE:131:ILE:HA	1.84	0.43
8:XH:13:ILE:O	8:XH:17:THR:HG23	2.19	0.43
8:XH:104:ARG:HD2	8:XH:138:TRP:CD2	2.53	0.43
13:XM:4:ILE:HG22	13:XM:5:ALA:N	2.34	0.43
25:YA:751:A:C5'	42:YW:90:ARG:HA	2.48	0.43
25:YA:1283:G:N2	25:YA:1285:G:H3'	2.34	0.43
25:YA:1575:C:H2'	25:YA:1576:U:O4'	2.19	0.43
25:YA:1650:G:C2	25:YA:2008:C:C2	3.06	0.43
25:YA:1819:A:H5"	27:YD:158:ALA:CB	2.49	0.43
25:YA:2073:C:H5'	27:YD:229:VAL:HG22	2.00	0.43
25:YA:2208:U:O2'	25:YA:2209:C:H5'	2.19	0.43
25:YA:2678:C:H2'	25:YA:2679:A:O4'	2.19	0.43
25:YA:2695:C:H2'	25:YA:2696:U:H6	1.84	0.43
27:YD:31:LYS:C	27:YD:32:SER:O	2.54	0.43
31:YH:125:VAL:HG12	31:YH:126:PRO:CD	2.49	0.43
32:YI:101:LEU:HD22	32:YI:107:VAL:HB	2.00	0.43
36:YQ:57:HIS:ND1	36:YQ:58:PHE:N	2.66	0.43
38:YS:30:ARG:NH2	38:YS:92:TYR:HD1	2.17	0.43
39:YT:80:SER:HA	39:YT:81:PRO:HD3	1.89	0.43
45:YZ:20:ARG:O	45:YZ:20:ARG:HD3	2.18	0.43
45:YZ:102:LEU:HG	45:YZ:123:ASP:HA	2.01	0.43
47:Y1:58:ILE:HG23	47:Y1:87:PRO:HG3	2.01	0.43
48:Y2:6:VAL:O	48:Y2:7:ARG:C	2.57	0.43
49:Y3:51:ALA:HA	49:Y3:54:VAL:HG12	2.01	0.43
50:Y4:14:ILE:HG13	50:Y4:31:ILE:HB	1.99	0.43
54:Y8:23:VAL:CG1	54:Y8:46:ARG:HH12	2.28	0.43
1:QA:32:A:C2	1:QA:33:A:C4	3.07	0.42
1:QA:836:G:C6	1:QA:851:G:C6	3.07	0.42
2:QB:178:ARG:NH2	8:QH:74:PRO:HG3	2.34	0.42
5:QE:97:GLY:N	5:QE:117:ASP:OD2	2.21	0.42
8:QH:101:PRO:HG2	8:QH:133:LEU:HD11	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:QQ:45:HIS:NE2	17:QQ:47:PRO:HG3	2.34	0.42
25:RA:71:A:H5"	25:RA:72:U:H3'	2.01	0.42
25:RA:311:A:C6	25:RA:328:U:C4	3.07	0.42
25:RA:439:G:H2'	25:RA:440:G:H8	1.83	0.42
25:RA:729:G:C8	27:RD:208:LYS:HD2	2.54	0.42
25:RA:774:A:HO2'	25:RA:775:G:P	2.41	0.42
25:RA:829:A:N7	25:RA:2247:A:O2'	2.46	0.42
25:RA:2250:G:C5	36:RQ:82:ARG:HD2	2.54	0.42
25:RA:2360:A:H2'	25:RA:2361:A:O4'	2.19	0.42
25:RA:2394:C:OP1	35:RP:63:PRO:HD2	2.19	0.42
25:RA:2470:G:H5'	36:RQ:56:ARG:NH2	2.32	0.42
25:RA:2758:A:C4	31:RH:67:LEU:HD21	2.54	0.42
26:RB:17:C:H2'	26:RB:18:G:O4'	2.18	0.42
27:RD:72:LYS:NZ	27:RD:99:ASP:OD2	2.43	0.42
28:RE:23:VAL:HG12	28:RE:184:VAL:O	2.19	0.42
31:RH:26:VAL:CG1	31:RH:33:LEU:HB2	2.49	0.42
31:RH:120:GLY:O	31:RH:136:ILE:HD12	2.19	0.42
33:RN:96:GLU:HB2	33:RN:122:VAL:HG12	2.00	0.42
35:RP:61:ARG:CD	54:R8:13:ARG:HD2	2.48	0.42
35:RP:62:LEU:CD2	54:R8:25:MET:CB	2.80	0.42
37:RR:113:LEU:HD12	37:RR:113:LEU:HA	1.88	0.42
40:RU:75:ASN:HB2	40:RU:78:THR:H	1.84	0.42
1:XA:407:G:O4'	4:XD:119:GLN:NE2	2.51	0.42
1:XA:580:U:H2'	1:XA:581:G:O4'	2.18	0.42
1:XA:818:G:O2'	1:XA:819:A:H5'	2.19	0.42
3:XC:91:LEU:O	3:XC:95:THR:OG1	2.19	0.42
7:XG:38:LEU:HD12	7:XG:38:LEU:O	2.20	0.42
10:XJ:44:VAL:HG13	10:XJ:66:ARG:HG2	2.00	0.42
25:YA:236:C:H2'	25:YA:237:C:C6	2.54	0.42
25:YA:1062:G:H1'	25:YA:1088:A:N6	2.34	0.42
25:YA:1204:A:H1'	25:YA:1206:G:C4	2.53	0.42
25:YA:1534:G:H2'	25:YA:1534:G:N3	2.34	0.42
25:YA:2619:C:H2'	25:YA:2620:C:H6	1.83	0.42
29:YF:63:LYS:CE	29:YF:67:GLN:HB2	2.49	0.42
38:YS:99:LYS:C	38:YS:101:LEU:N	2.72	0.42
41:YV:64:HIS:ND1	41:YV:92:THR:HG22	2.34	0.42
45:YZ:74:VAL:HG13	45:YZ:86:VAL:HG22	2.00	0.42
48:Y2:48:HIS:O	48:Y2:49:LYS:C	2.57	0.42
49:Y3:7:LYS:HE2	49:Y3:32:GLN:O	2.19	0.42
52:Y6:41:PRO:HG2	52:Y6:45:LYS:N	2.29	0.42
54:Y8:53:PRO:HD2	54:Y8:54:GLU:H	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:32:A:H2'	1:QA:33:A:C8	2.54	0.42
1:QA:61:G:H2'	1:QA:62:U:O4'	2.19	0.42
1:QA:765:G:N2	1:QA:813:U:OP2	2.40	0.42
1:QA:890:G:O2'	1:QA:906:G:O6	2.24	0.42
1:QA:1412:C:H2'	1:QA:1413:A:C8	2.54	0.42
9:QI:48:GLU:N	9:QI:49:PRO:HD2	2.35	0.42
15:QO:43:LEU:HA	15:QO:43:LEU:HD23	1.74	0.42
25:RA:566:U:H2'	25:RA:567:A:O4'	2.18	0.42
25:RA:1003:G:O2'	25:RA:1010:A:N1	2.43	0.42
25:RA:1078:U:HO2'	25:RA:1079:C:P	2.42	0.42
25:RA:2114:A:N6	25:RA:2119:A:H62	2.18	0.42
25:RA:2645:G:C3'	25:RA:2646:C:H5'	2.48	0.42
27:RD:245:PRO:HA	27:RD:246:PRO:HD3	1.95	0.42
28:RE:3:GLY:HA3	28:RE:81:ILE:CD1	2.47	0.42
28:RE:7:VAL:HG21	39:RT:1:MET:HE1	2.01	0.42
29:RF:51:THR:HG23	29:RF:92:PRO:HG2	2.02	0.42
29:RF:107:LYS:HB3	29:RF:107:LYS:HE2	1.77	0.42
31:RH:53:GLU:CD	31:RH:54:ARG:H	2.21	0.42
41:RV:64:HIS:CG	41:RV:92:THR:HG22	2.52	0.42
45:RZ:52:SER:O	45:RZ:52:SER:OG	2.33	0.42
52:R6:8:LYS:O	52:R6:27:LYS:HA	2.18	0.42
54:R8:28:GLY:O	54:R8:29:LYS:O	2.37	0.42
1:XA:7:G:H21	5:XE:121:LYS:HG2	1.84	0.42
1:XA:186:C:O3'	20:XT:82:SER:HB3	2.19	0.42
1:XA:567:G:H2'	1:XA:568:G:O4'	2.19	0.42
1:XA:707:C:OP1	11:XK:85:ARG:NH1	2.52	0.42
5:XE:42:GLY:CA	5:XE:66:MET:HG2	2.49	0.42
18:XR:56:THR:HB	18:XR:58:LEU:HD12	2.01	0.42
20:XT:53:LEU:HB2	20:XT:100:ILE:HG23	2.00	0.42
22:XV:12:C:O2'	25:YA:1924:C:H4'	2.19	0.42
25:YA:2336:A:H61	46:Y0:43:THR:CG2	2.33	0.42
25:YA:2572:A:OP1	28:YE:143:ASN:HB3	2.19	0.42
25:YA:2667:C:C1'	31:YH:109:PHE:HD2	2.28	0.42
27:YD:108:PRO:HG2	27:YD:111:LEU:HB2	2.01	0.42
28:YE:36:ARG:HH11	28:YE:36:ARG:CB	2.28	0.42
28:YE:203:LYS:HD2	28:YE:203:LYS:C	2.39	0.42
30:YG:64:THR:CG2	30:YG:66:GLN:H	2.27	0.42
35:YP:96:THR:O	35:YP:99:LEU:HB3	2.18	0.42
36:YQ:25:ASP:H	36:YQ:102:VAL:HG23	1.84	0.42
38:YS:64:GLU:O	38:YS:68:GLN:HG3	2.19	0.42
49:Y3:4:LEU:HD22	49:Y3:56:VAL:HG12	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:Y7:25:PRO:HA	53:Y7:28:ARG:CZ	2.49	0.42
1:QA:1305:G:H5'	21:QU:4:GLY:HA3	2.01	0.42
1:QA:1327:C:H2'	1:QA:1328:C:C6	2.54	0.42
3:QC:59:ARG:HH12	3:QC:97:LYS:HE3	1.84	0.42
7:QG:102:ARG:HG2	7:QG:106:GLN:OE1	2.20	0.42
10:QJ:79:ARG:HA	10:QJ:79:ARG:HD3	1.78	0.42
17:QQ:29:HIS:CG	17:QQ:30:PRO:HD2	2.54	0.42
25:RA:65:C:H1'	25:RA:456:C:H42	1.84	0.42
25:RA:708:C:N4	25:RA:723:G:H1	2.15	0.42
25:RA:2110:G:O2'	25:RA:2120:G:OP1	2.29	0.42
26:RB:13:A:O2'	26:RB:14:U:H3'	2.20	0.42
27:RD:123:ALA:HA	27:RD:124:PRO:HD2	1.77	0.42
28:RE:104:VAL:CG1	28:RE:188:VAL:HG23	2.49	0.42
28:RE:155:LYS:O	28:RE:156:MET:HG3	2.19	0.42
28:RE:188:VAL:HA	28:RE:189:PRO:HD2	1.79	0.42
30:RG:97:ASP:HA	30:RG:100:TRP:HD1	1.85	0.42
31:RH:16:SER:OG	31:RH:17:VAL:N	2.50	0.42
31:RH:58:GLU:O	31:RH:60:ARG:N	2.53	0.42
32:RI:135:GLU:HB2	32:RI:136:VAL:H	1.59	0.42
35:RP:6:LEU:HB3	35:RP:7:ARG:H	1.54	0.42
48:R2:70:GLN:O	48:R2:71:ASN:HB2	2.19	0.42
1:XA:1000:A:H2'	1:XA:1001:G:H8	1.84	0.42
1:XA:1108:G:H5'	3:XC:176:HIS:HD1	1.85	0.42
1:XA:1443:G:C6	39:YT:118:ARG:HB2	2.55	0.42
19:XS:68:GLY:CA	50:Y4:68:ARG:HG2	2.47	0.42
20:XT:43:LEU:HD23	20:XT:43:LEU:HA	1.88	0.42
25:YA:448:U:O4	25:YA:583:G:H1'	2.19	0.42
25:YA:972:G:H3'	25:YA:973:A:H2'	2.01	0.42
25:YA:1204:A:H1'	25:YA:1206:G:N9	2.34	0.42
25:YA:1728:G:N3	25:YA:1728:G:H5"	2.34	0.42
25:YA:1952:A:C5	34:YO:22:ILE:CD1	3.02	0.42
25:YA:2048:G:H2'	25:YA:2049:G:O4'	2.20	0.42
25:YA:2592:G:C6	25:YA:2593:U:N3	2.88	0.42
27:YD:33:LEU:O	27:YD:35:LYS:N	2.52	0.42
28:YE:94:GLU:C	28:YE:96:PHE:N	2.73	0.42
28:YE:197:ILE:CD1	28:YE:199:ARG:HH12	2.26	0.42
35:YP:101:VAL:C	35:YP:103:ALA:H	2.23	0.42
40:YU:109:LEU:HD23	40:YU:109:LEU:HA	1.89	0.42
44:YY:67:LEU:HD12	44:YY:67:LEU:HA	1.78	0.42
45:YZ:150:LEU:HB2	45:YZ:154:ASP:OD2	2.20	0.42
50:Y4:60:GLN:O	50:Y4:63:TYR:HB3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:Y6:15:GLU:HG2	52:Y6:49:HIS:NE2	2.34	0.42
1:QA:811:C:H4'	1:QA:900:A:H61	1.84	0.42
1:QA:865:A:H5'	1:QA:1078:U:C5	2.55	0.42
1:QA:1126:U:OP2	1:QA:1281:U:H1'	2.20	0.42
1:QA:1298:C:C4	7:QG:114:ARG:HD2	2.54	0.42
2:QB:21:ARG:HG3	2:QB:38:GLY:O	2.20	0.42
2:QB:44:LEU:H	2:QB:44:LEU:HD12	1.83	0.42
2:QB:230:VAL:HB	2:QB:231:GLU:H	1.60	0.42
12:QL:38:THR:HG22	12:QL:57:LYS:HB3	2.01	0.42
13:QM:4:ILE:H	13:QM:9:ILE:HG22	1.84	0.42
25:RA:34:C:N4	25:RA:447:A:H61	2.16	0.42
25:RA:709:U:H3	25:RA:722:A:N6	2.17	0.42
25:RA:747:U:N3	51:R5:2:ALA:N	2.68	0.42
25:RA:775:G:C4	25:RA:794:G:C8	3.08	0.42
25:RA:1637:A:H4'	25:RA:2711:A:O2'	2.20	0.42
25:RA:2298:A:C2	25:RA:2299:G:H1'	2.53	0.42
25:RA:2578:G:C5	28:RE:140:SER:HB2	2.54	0.42
28:RE:35:GLN:HB3	28:RE:48:GLN:HB2	2.01	0.42
28:RE:54:GLN:N	28:RE:54:GLN:CD	2.73	0.42
28:RE:137:HIS:CB	28:RE:138:PRO:HD2	2.42	0.42
33:RN:30:ILE:HG23	33:RN:52:VAL:HG11	1.99	0.42
33:RN:35:ARG:HB2	33:RN:42:TRP:CZ3	2.54	0.42
36:RQ:25:ASP:CG	45:RZ:78:LYS:HD3	2.40	0.42
36:RQ:65:PHE:O	36:RQ:66:ILE:CG1	2.47	0.42
50:R4:54:GLY:HA2	50:R4:57:GLU:CG	2.50	0.42
50:R4:68:ARG:O	50:R4:69:LYS:HB2	2.17	0.42
52:R6:11:LEU:HD13	52:R6:11:LEU:HA	1.81	0.42
52:R6:17:LYS:HB3	52:R6:44:ARG:NH2	2.30	0.42
1:XA:433:C:H2'	1:XA:434:U:H6	1.84	0.42
1:XA:600:C:H2'	1:XA:601:C:C6	2.54	0.42
1:XA:812:C:H6	1:XA:812:C:H2'	1.72	0.42
1:XA:1522:U:H2'	1:XA:1523:G:C8	2.55	0.42
2:XB:7:VAL:HG11	2:XB:217:ARG:CZ	2.49	0.42
6:XF:30:LEU:HB3	6:XF:35:ALA:HB3	2.01	0.42
7:XG:89:MET:CE	7:XG:156:TRP:H	2.32	0.42
25:YA:173:G:H2'	25:YA:174:C:C6	2.55	0.42
25:YA:270(F):U:H2'	25:YA:270(G):C:C6	2.54	0.42
25:YA:330:A:O2'	25:YA:331:A:H8	2.01	0.42
25:YA:654(B):C:H42	25:YA:654(T):C:H42	1.66	0.42
25:YA:1022:G:OP2	33:YN:65:LYS:HE3	2.20	0.42
25:YA:1076:C:H2'	25:YA:1077:A:H5"	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1292:U:H2'	25:YA:1293:C:C6	2.54	0.42
25:YA:2063:C:C4	25:YA:2064:C:C4	3.07	0.42
25:YA:2212:A:H1'	25:YA:2215:G:C5	2.54	0.42
26:YB:104:A:H5'	45:YZ:72:ARG:HD3	2.02	0.42
28:YE:117:MET:HA	28:YE:122:PHE:N	2.35	0.42
30:YG:16:ARG:N	30:YG:17:PRO:HD2	2.34	0.42
31:YH:77:LYS:HB3	31:YH:77:LYS:HZ2	1.78	0.42
32:YI:24:GLY:O	32:YI:28:ASN:HB2	2.19	0.42
36:YQ:20:ALA:HA	36:YQ:98:LYS:HB3	2.02	0.42
38:YS:15:ARG:O	38:YS:19:LYS:HD3	2.20	0.42
38:YS:110:LEU:HD23	38:YS:112:PHE:CE1	2.55	0.42
39:YT:45:PHE:CE1	39:YT:65:LYS:HE3	2.55	0.42
51:Y5:58:LEU:HD13	51:Y5:60:VAL:OXT	2.19	0.42
54:Y8:28:GLY:O	54:Y8:29:LYS:O	2.36	0.42
1:QA:640:A:O2'	8:QH:115:SER:HB2	2.19	0.42
1:QA:975:A:H5'	1:QA:975:A:H8	1.84	0.42
1:QA:985:C:H2'	1:QA:986:A:C8	2.55	0.42
2:QB:60:ASP:O	2:QB:64:ARG:HG2	2.19	0.42
3:QC:112:SER:O	3:QC:116:VAL:HG23	2.20	0.42
6:QF:22:GLU:O	6:QF:26:ILE:HG13	2.19	0.42
8:QH:51:VAL:HG21	8:QH:60:ARG:HG2	2.01	0.42
13:QM:119:GLY:O	22:QV:29:G:OP1	2.37	0.42
19:QS:10:PHE:CG	19:QS:11:VAL:N	2.88	0.42
25:RA:27:G:N2	25:RA:512:G:H1'	2.33	0.42
25:RA:826:U:H4'	35:RP:55:ARG:HB3	2.00	0.42
25:RA:2666:C:H3'	25:RA:2667:C:H6	1.84	0.42
25:RA:2837:G:H1	25:RA:2881:C:H42	1.66	0.42
27:RD:33:LEU:HB3	27:RD:34:VAL:H	1.64	0.42
27:RD:96:HIS:NE2	27:RD:102:LYS:HE2	2.34	0.42
28:RE:24:THR:HB	28:RE:184:VAL:HG23	2.02	0.42
28:RE:144:ARG:HB3	28:RE:145:LYS:H	1.58	0.42
30:RG:107:LEU:O	50:R4:38:LYS:CE	2.62	0.42
30:RG:159:VAL:HG21	30:RG:173:LEU:HD11	2.00	0.42
31:RH:89:ILE:CD1	31:RH:89:ILE:H	2.32	0.42
31:RH:136:ILE:O	31:RH:137:ASP:O	2.38	0.42
45:RZ:93:ASP:OD1	45:RZ:93:ASP:N	2.53	0.42
45:RZ:136:PHE:HE2	45:RZ:138:GLU:HB3	1.83	0.42
48:R2:36:ARG:O	48:R2:40:SER:N	2.50	0.42
51:R5:20:ARG:HA	51:R5:23:HIS:CE1	2.54	0.42
1:XA:547:A:OP2	4:XD:2:GLY:N	2.52	0.42
1:XA:1434:A:H2'	1:XA:1435:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:113:HIS:O	2:XB:116:GLU:HB2	2.20	0.42
8:XH:121:ASP:OD1	8:XH:121:ASP:N	2.46	0.42
9:XI:91:ASP:C	9:XI:93:ARG:H	2.21	0.42
9:XI:125:TYR:HD1	9:XI:126:SER:H	1.67	0.42
12:XL:120:TYR:O	12:XL:121:GLY:C	2.57	0.42
13:XM:7:VAL:O	13:XM:9:ILE:HG23	2.19	0.42
25:YA:154:G:H2'	25:YA:155:C:O4'	2.19	0.42
25:YA:448:U:C4	25:YA:583:G:H1'	2.54	0.42
25:YA:488:G:H1'	25:YA:492:A:N6	2.35	0.42
25:YA:511:U:H5"	25:YA:512:G:OP2	2.20	0.42
25:YA:817:C:O2'	25:YA:839:U:H5"	2.19	0.42
25:YA:1071:G:O6	25:YA:1091:G:O6	2.37	0.42
25:YA:1303:G:H1'	25:YA:1641:A:N1	2.35	0.42
25:YA:1794:U:H2'	25:YA:1795:C:C6	2.55	0.42
25:YA:2420:C:N4	54:Y8:30:ARG:HD2	2.35	0.42
25:YA:2699:C:H2'	25:YA:2700:C:O4'	2.20	0.42
25:YA:2795:G:H3'	25:YA:2797:U:C5'	2.50	0.42
27:YD:155:LEU:HD23	27:YD:177:LEU:HD21	2.00	0.42
27:YD:177:LEU:C	27:YD:179:SER:H	2.23	0.42
28:YE:104:VAL:CG1	28:YE:188:VAL:HG23	2.49	0.42
28:YE:143:ASN:HB2	28:YE:147:PRO:HD2	2.00	0.42
28:YE:179:GLU:CB	28:YE:181:LEU:HD23	2.23	0.42
29:YF:62:ARG:NH1	29:YF:62:ARG:CB	2.82	0.42
29:YF:128:ALA:O	29:YF:129:PHE:CB	2.67	0.42
30:YG:31:VAL:HA	30:YG:32:PRO:HD3	1.83	0.42
31:YH:58:GLU:O	31:YH:60:ARG:N	2.52	0.42
31:YH:89:ILE:CD1	31:YH:89:ILE:H	2.32	0.42
34:YO:21:CYS:O	34:YO:22:ILE:HD13	2.19	0.42
42:YW:86:LEU:HD22	42:YW:96:ILE:HD12	2.01	0.42
46:Y0:41:ARG:NE	46:Y0:41:ARG:HA	2.33	0.42
46:Y0:53:MET:CB	46:Y0:59:LEU:HD23	2.50	0.42
1:QA:514:C:H2'	1:QA:515:G:H8	1.83	0.42
1:QA:652:U:O4	1:QA:752:G:H2'	2.20	0.42
1:QA:1090:U:H2'	1:QA:1091:U:C6	2.54	0.42
2:QB:92:TYR:CD1	2:QB:151:GLY:HA3	2.55	0.42
3:QC:42:LEU:HD12	3:QC:42:LEU:HA	1.80	0.42
4:QD:108:LEU:HD12	4:QD:108:LEU:HA	1.93	0.42
14:QN:41:ARG:NH2	14:QN:42:ILE:HD11	2.35	0.42
14:QN:47:LEU:HD23	14:QN:47:LEU:HA	1.74	0.42
21:QU:2:GLY:O	21:QU:5:ASP:N	2.47	0.42
25:RA:265:A:O2'	25:RA:266:G:H4'	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:556:G:H8	25:RA:556:G:O5'	2.03	0.42
25:RA:1707:G:C6	25:RA:1708:C:C4	3.08	0.42
25:RA:2370:G:N3	52:R6:45:LYS:NZ	2.67	0.42
25:RA:2469:A:H5"	25:RA:2470:G:C8	2.54	0.42
28:RE:7:VAL:CG2	28:RE:8:LYS:H	2.11	0.42
31:RH:125:VAL:HG12	31:RH:126:PRO:CD	2.49	0.42
33:RN:10:GLU:HA	33:RN:11:PRO:HD3	1.65	0.42
36:RQ:27:VAL:HG11	36:RQ:134:ARG:HG3	2.01	0.42
37:RR:63:ARG:HA	37:RR:80:PHE:CZ	2.54	0.42
40:RU:83:LEU:HD12	40:RU:113:ALA:HB2	2.01	0.42
44:RY:39:VAL:HB	44:RY:40:GLU:H	1.57	0.42
1:XA:45:U:H2'	1:XA:46:G:C8	2.55	0.42
1:XA:1308:U:OP2	13:XM:99:ARG:HD2	2.18	0.42
1:XA:1431:C:H2'	1:XA:1432:G:O4'	2.20	0.42
2:XB:19:HIS:CE1	2:XB:206:ASP:HB2	2.54	0.42
2:XB:223:ILE:HA	2:XB:226:ARG:HB3	2.02	0.42
9:XI:32:ASP:OD1	9:XI:33:PHE:N	2.53	0.42
25:YA:1054:A:H5'	25:YA:1055:G:OP2	2.20	0.42
25:YA:1285:G:N2	25:YA:1329:U:OP1	2.44	0.42
25:YA:1761:C:N4	25:YA:1762:A:H62	2.17	0.42
25:YA:2025:C:H2'	25:YA:2026:C:C6	2.55	0.42
25:YA:2059:A:H5'	25:YA:2060:A:OP2	2.19	0.42
25:YA:2182:G:H2'	25:YA:2183:C:C6	2.55	0.42
25:YA:2757:A:P	55:Y9:20:HIS:H	2.43	0.42
25:YA:2884:U:C2	51:Y5:51:TYR:HE1	2.38	0.42
26:YB:89:G:H2'	26:YB:89(A):A:C8	2.54	0.42
27:YD:2:ALA:O	27:YD:3:VAL:CB	2.68	0.42
27:YD:71:ASP:CB	27:YD:103:ARG:HH22	2.32	0.42
27:YD:158:ALA:HB3	27:YD:161:THR:CG2	2.49	0.42
27:YD:263:ARG:NH1	27:YD:263:ARG:CB	2.75	0.42
29:YF:123:LEU:HD12	29:YF:124:LEU:H	1.82	0.42
29:YF:183:VAL:HG22	29:YF:184:TYR:N	2.35	0.42
31:YH:26:VAL:CG1	31:YH:33:LEU:HB2	2.49	0.42
31:YH:125:VAL:CG1	31:YH:126:PRO:CG	2.94	0.42
33:YN:96:GLU:HG2	33:YN:97:ARG:H	1.84	0.42
33:YN:137:LYS:HD2	33:YN:137:LYS:HA	1.77	0.42
35:YP:97:PRO:O	35:YP:98:GLU:HB3	2.19	0.42
38:YS:49:VAL:HG21	38:YS:77:ALA:HA	2.02	0.42
43:YX:84:ALA:HB1	43:YX:85:PRO:HD2	2.02	0.42
45:YZ:169:GLU:HG2	45:YZ:170:THR:N	2.34	0.42
49:Y3:8:LEU:HB3	49:Y3:31:LEU:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:Y5:31:VAL:HG13	51:Y5:42:PRO:HG3	2.00	0.42
52:Y6:14:THR:HG21	52:Y6:19:ARG:HH21	1.85	0.42
1:QA:49:U:O4	1:QA:365:U:O4	2.38	0.42
1:QA:149:A:H2'	1:QA:150:C:C6	2.55	0.42
1:QA:457:C:H2'	1:QA:458:C:H6	1.85	0.42
1:QA:601:C:H2'	1:QA:602:A:C8	2.54	0.42
1:QA:636:U:H5'	17:QQ:2:PRO:HG3	2.02	0.42
1:QA:939:G:H2'	1:QA:940:C:C6	2.54	0.42
1:QA:1241:G:H2'	1:QA:1242:C:C6	2.55	0.42
1:QA:1351:U:O4	9:QI:118:LYS:HE3	2.19	0.42
2:QB:69:LEU:O	2:QB:162:ILE:HA	2.19	0.42
4:QD:22:LYS:HB2	4:QD:26:CYS:HB2	2.01	0.42
4:QD:78:LEU:HB3	4:QD:93:PHE:HE1	1.84	0.42
10:QJ:81:THR:C	10:QJ:83:GLU:H	2.23	0.42
15:QO:87:ILE:HG22	15:QO:88:ARG:N	2.35	0.42
17:QQ:10:VAL:HG13	17:QQ:19:VAL:HB	2.01	0.42
25:RA:966:G:H2'	25:RA:967:C:C6	2.55	0.42
25:RA:2757:A:P	55:R9:20:HIS:H	2.43	0.42
25:RA:2810:A:H61	25:RA:2891:G:H2'	1.85	0.42
25:RA:2832:U:HO2'	25:RA:2833:G:P	2.43	0.42
27:RD:35:LYS:HB3	27:RD:36:PRO:HA	2.01	0.42
28:RE:28:ALA:HB3	28:RE:93:VAL:CG2	2.46	0.42
28:RE:101:ARG:C	28:RE:201:THR:OG1	2.58	0.42
28:RE:121:ASN:O	28:RE:122:PHE:C	2.57	0.42
28:RE:143:ASN:HB2	28:RE:147:PRO:HD2	2.01	0.42
30:RG:173:LEU:O	30:RG:178:PHE:HB2	2.20	0.42
35:RP:62:LEU:HD22	35:RP:62:LEU:H	1.85	0.42
39:RT:51:ARG:HG3	39:RT:98:LYS:HG3	2.02	0.42
43:RX:44:GLU:O	43:RX:48:LYS:N	2.52	0.42
44:RY:50:ARG:H	44:RY:50:ARG:HG2	1.67	0.42
50:R4:61:ARG:C	50:R4:63:TYR:N	2.73	0.42
52:R6:28:ARG:HB3	52:R6:30:THR:H	1.84	0.42
1:XA:32:A:H2'	1:XA:33:A:C8	2.54	0.42
1:XA:673:G:H5"	6:XF:87:ARG:NH1	2.35	0.42
1:XA:1080:A:H5"	1:XA:1081:G:OP2	2.20	0.42
1:XA:1219:U:OP1	14:XN:19:ARG:NH2	2.47	0.42
1:XA:1451:A:H5"	1:XA:1452:C:H5'	2.01	0.42
9:XI:4:TYR:CE1	9:XI:88:TYR:HB2	2.55	0.42
13:XM:3:ARG:HG3	13:XM:9:ILE:HG21	2.01	0.42
13:XM:40:ASN:ND2	13:XM:43:THR:HG23	2.34	0.42
18:XR:43:PHE:CE1	18:XR:58:LEU:HD11	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:7:G:H1	25:YA:2896:C:H42	1.66	0.42
25:YA:27:G:O2'	25:YA:513:A:N6	2.52	0.42
25:YA:43:G:H2'	25:YA:44:A:O4'	2.20	0.42
25:YA:1331:A:O2'	25:YA:1332:G:H8	2.02	0.42
25:YA:1398:C:OP1	43:YX:53:LYS:NZ	2.53	0.42
25:YA:1930:G:H2'	25:YA:1968:G:C6	2.55	0.42
25:YA:2123:G:H2'	25:YA:2124:G:C8	2.54	0.42
25:YA:2168:G:N2	25:YA:2170:A:H62	2.18	0.42
25:YA:2264:C:N4	46:Y0:15:ASP:OD2	2.50	0.42
27:YD:12:SER:O	27:YD:14:ARG:N	2.51	0.42
28:YE:176:ILE:HD12	28:YE:176:ILE:N	2.35	0.42
29:YF:11:VAL:HG12	29:YF:12:LEU:H	1.85	0.42
29:YF:109:GLY:O	29:YF:110:LEU:C	2.58	0.42
29:YF:132:VAL:HG23	29:YF:133:ASN:H	1.83	0.42
30:YG:103:LEU:HA	30:YG:103:LEU:HD23	1.83	0.42
31:YH:84:SER:OG	31:YH:85:LYS:N	2.51	0.42
31:YH:136:ILE:O	31:YH:137:ASP:O	2.38	0.42
32:YI:14:ASP:OD1	32:YI:14:ASP:N	2.52	0.42
40:YU:30:LYS:HA	40:YU:30:LYS:HD3	1.89	0.42
41:YV:65:GLY:O	41:YV:90:PRO:HA	2.20	0.42
46:Y0:27:GLU:HB2	46:Y0:69:PHE:CD1	2.53	0.42
51:Y5:56:LYS:H	51:Y5:56:LYS:CD	2.29	0.42
52:Y6:10:LEU:HG	54:Y8:34:TRP:CD1	2.55	0.42
1:QA:690:G:H22	11:QK:55:LYS:HZ1	1.67	0.42
1:QA:943:U:H1'	9:QI:124:GLN:HE22	1.84	0.42
2:QB:27:LYS:HD2	2:QB:193:ASP:CB	2.46	0.42
3:QC:162:GLN:HE21	3:QC:162:GLN:CA	2.27	0.42
8:QH:54:ASP:O	8:QH:56:LYS:HG3	2.20	0.42
8:QH:105:ARG:HA	8:QH:105:ARG:HD3	1.78	0.42
18:QR:53:ARG:HE	18:QR:59:SER:C	2.22	0.42
22:QV:5:G:H1	22:QV:67:C:H42	1.66	0.42
25:RA:270(I):G:H2'	25:RA:270(J):G:H8	1.83	0.42
25:RA:271(C):U:O2'	25:RA:271:G:OP1	2.31	0.42
25:RA:389:G:H22	35:RP:72:PRO:HD3	1.85	0.42
25:RA:569:U:C4	25:RA:570:G:C6	3.07	0.42
25:RA:634:C:H2'	25:RA:635:C:H6	1.85	0.42
25:RA:2029:G:H2'	25:RA:2031:A:OP1	2.20	0.42
26:RB:74:U:H2'	26:RB:75:G:O4'	2.18	0.42
28:RE:117:MET:HA	28:RE:122:PHE:N	2.35	0.42
28:RE:176:ILE:N	28:RE:176:ILE:HD12	2.35	0.42
29:RF:28:ILE:H	29:RF:28:ILE:HG13	1.69	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RG:116:ASP:OD1	30:RG:116:ASP:N	2.53	0.42
30:RG:151:ALA:HB3	30:RG:153:ARG:NH1	2.35	0.42
31:RH:86:GLU:H	31:RH:86:GLU:CD	2.15	0.42
32:RI:8:PRO:HG3	32:RI:14:ASP:HB2	2.02	0.42
36:RQ:118:LEU:HD23	36:RQ:118:LEU:HA	1.87	0.42
38:RS:39:ILE:HD11	38:RS:73:LEU:HD11	2.00	0.42
42:RW:75:TYR:CZ	42:RW:104:THR:HG21	2.54	0.42
50:R4:26:SER:C	50:R4:27:THR:O	2.58	0.42
51:R5:56:LYS:O	51:R5:57:VAL:C	2.57	0.42
54:R8:56:GLU:C	54:R8:58:ILE:N	2.73	0.42
1:XA:61:G:H2'	1:XA:62:U:O4'	2.19	0.42
1:XA:280:C:H3'	1:XA:281:G:H5'	2.02	0.42
1:XA:626:U:H2'	1:XA:627:G:H8	1.84	0.42
1:XA:1179:A:H2'	1:XA:1180:A:O4'	2.20	0.42
3:XC:32:LEU:HD22	3:XC:59:ARG:NH1	2.34	0.42
12:XL:11:VAL:HG11	17:XQ:36:ILE:HG21	2.01	0.42
13:XM:16:ASP:HB3	13:XM:41:PRO:HB3	2.01	0.42
20:XT:44:ALA:O	20:XT:91:LEU:O	2.37	0.42
24:XY:38:A:O2'	25:YA:1913:A:N1	2.45	0.42
25:YA:507:A:H5"	25:YA:508:G:H5'	2.02	0.42
25:YA:1027:A:C2	25:YA:2488:A:H5'	2.55	0.42
25:YA:1048:A:C5	25:YA:1111:A:H2	2.37	0.42
26:YB:15:A:H1'	26:YB:109:G:C4	2.55	0.42
26:YB:52:A:N6	38:YS:33:LYS:HG3	2.33	0.42
27:YD:25:THR:HG23	27:YD:27:THR:HB	2.02	0.42
28:YE:28:ALA:HB3	28:YE:93:VAL:CG2	2.47	0.42
28:YE:31:CYS:HB3	28:YE:49:LEU:HG	2.01	0.42
28:YE:35:GLN:HB3	28:YE:48:GLN:HB2	2.01	0.42
28:YE:36:ARG:HB3	28:YE:36:ARG:NH1	2.31	0.42
33:YN:29:LYS:H	33:YN:29:LYS:HG2	1.52	0.42
35:YP:144:GLU:OE1	35:YP:144:GLU:N	2.53	0.42
36:YQ:20:ALA:HB2	36:YQ:99:PRO:HD2	1.99	0.42
38:YS:52:SER:HB2	38:YS:55:ALA:CB	2.49	0.42
38:YS:111:GLU:O	38:YS:112:PHE:HD2	2.02	0.42
39:YT:26:ASP:HB2	39:YT:91:ARG:HA	2.00	0.42
52:Y6:25:LYS:CE	54:Y8:34:TRP:HZ2	2.33	0.42
54:Y8:40:GLU:O	54:Y8:41:ILE:C	2.56	0.42
1:QA:114:U:H2'	1:QA:115:G:C8	2.54	0.42
1:QA:1128:C:H4'	9:QI:16:ARG:HH22	1.85	0.42
1:QA:1424:C:H2'	1:QA:1425:U:O4'	2.20	0.42
3:QC:23:TYR:HB3	10:QJ:93:GLY:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:36:ASP:HA	3:QC:39:ILE:HD12	2.02	0.42
5:QE:79:GLU:HB3	5:QE:92:LYS:HA	2.02	0.42
7:QG:13:GLN:O	7:QG:24:THR:HG21	2.20	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
11:QK:120:ARG:HA	11:QK:121:PRO:HD3	1.87	0.42
25:RA:288:C:H2'	25:RA:289:A:H8	1.84	0.42
25:RA:384:U:H2'	25:RA:385:C:H6	1.85	0.42
25:RA:558:G:OP1	33:RN:111:PRO:HD2	2.20	0.42
25:RA:2733:A:N1	28:RE:203:LYS:O	2.53	0.42
28:RE:128:SER:O	28:RE:129:HIS:HB2	2.20	0.42
29:RF:110:LEU:HD11	29:RF:181:LEU:HD12	2.01	0.42
32:RI:4:ILE:HG12	32:RI:18:VAL:HG22	2.01	0.42
35:RP:97:PRO:HD3	35:RP:126:VAL:O	2.20	0.42
37:RR:33:ARG:NH2	51:R5:55:ARG:CB	2.83	0.42
37:RR:98:LEU:HB3	51:R5:45:VAL:HG23	2.02	0.42
38:RS:14:VAL:HG11	38:RS:90:GLY:O	2.20	0.42
38:RS:108:GLY:O	38:RS:110:LEU:HG	2.20	0.42
51:R5:40:LYS:HE2	51:R5:47:PRO:HG2	2.02	0.42
52:R6:45:LYS:HD3	52:R6:45:LYS:HA	1.75	0.42
1:XA:582:U:H2'	1:XA:583:A:C8	2.55	0.42
1:XA:745:C:H2'	1:XA:746:A:C8	2.54	0.42
7:XG:15:ASP:O	7:XG:19:GLY:HA2	2.20	0.42
25:YA:507:A:H5"	25:YA:508:G:H3'	2.02	0.42
25:YA:559:G:H22	40:YU:49:HIS:CE1	2.38	0.42
25:YA:566:U:H2'	25:YA:567:A:O4'	2.20	0.42
25:YA:1204:A:H2	25:YA:1241:A:N1	2.18	0.42
25:YA:2077:A:H2'	25:YA:2078:C:H6	1.84	0.42
26:YB:66:A:H2	26:YB:68:C:H41	1.66	0.42
27:YD:196:VAL:O	27:YD:196:VAL:CG1	2.68	0.42
28:YE:128:SER:O	28:YE:129:HIS:HB2	2.19	0.42
31:YH:105:LEU:CD1	31:YH:105:LEU:N	2.81	0.42
31:YH:119:GLU:CD	31:YH:120:GLY:H	2.22	0.42
36:YQ:27:VAL:HG11	36:YQ:134:ARG:HG3	2.00	0.42
36:YQ:34:LEU:HD23	36:YQ:104:PHE:CD2	2.55	0.42
38:YS:95:HIS:O	38:YS:96:GLY:C	2.58	0.42
46:Y0:53:MET:HB3	46:Y0:59:LEU:HD23	2.01	0.42
1:QA:986:A:O2'	19:QS:55:LYS:O	2.38	0.42
1:QA:1080:A:C5'	5:QE:16:THR:HG21	2.50	0.42
1:QA:1237:C:H5"	1:QA:1238:A:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1312:G:OP2	50:R4:67:TYR:HE1	2.03	0.42
1:QA:1325:C:OP2	21:QU:6:ARG:NH2	2.42	0.42
1:QA:1326:C:OP1	21:QU:17:THR:OG1	2.29	0.42
2:QB:88:ALA:HB2	2:QB:219:VAL:HG13	2.02	0.42
2:QB:217:ARG:HE	2:QB:217:ARG:HB2	1.29	0.42
3:QC:56:ASP:O	3:QC:66:VAL:HA	2.19	0.42
4:QD:30:LYS:C	4:QD:32:ALA:HA	2.41	0.42
9:QI:95:LYS:HZ1	9:QI:96:LEU:HD13	1.85	0.42
9:QI:111:ARG:HG2	9:QI:112:LYS:N	2.35	0.42
10:QJ:76:ASN:HA	10:QJ:77:PRO:HD2	1.86	0.42
25:RA:401:A:H2'	25:RA:402:A:O4'	2.20	0.42
25:RA:476:G:H4'	25:RA:502:A:N1	2.35	0.42
25:RA:1542:G:H5"	25:RA:1543:A:OP2	2.20	0.42
25:RA:1665:A:H4'	34:RO:67:LYS:HB2	2.02	0.42
25:RA:2120:G:H2'	25:RA:2121:G:H8	1.85	0.42
25:RA:2135:A:H1'	25:RA:2160:G:H5'	2.01	0.42
27:RD:43:ARG:HB2	27:RD:54:ARG:HB2	2.02	0.42
32:RI:93:THR:O	32:RI:97:ILE:HG12	2.19	0.42
37:RR:109:ALA:HA	37:RR:110:PRO:HD2	1.95	0.42
47:R1:90:ILE:O	47:R1:94:LEU:HB2	2.20	0.42
48:R2:35:LEU:HD11	48:R2:49:LYS:HB3	2.01	0.42
53:R7:47:ARG:HB2	53:R7:48:LYS:H	1.68	0.42
1:XA:15:G:C2	1:XA:16:A:C4	3.08	0.42
1:XA:390:C:H2'	1:XA:391:G:C8	2.54	0.42
1:XA:520:A:O2'	12:XL:73:GLU:HG2	2.19	0.42
1:XA:719:C:O2'	18:XR:49:LYS:HB3	2.18	0.42
1:XA:1152:A:H2'	1:XA:1153:C:C6	2.55	0.42
1:XA:1336:C:O2'	1:XA:1337:G:P	2.77	0.42
4:XD:127:THR:HA	4:XD:132:ARG:HA	2.02	0.42
10:XJ:3:LYS:HB2	10:XJ:75:ILE:O	2.19	0.42
11:XK:109:VAL:HG11	18:XR:84:LYS:HD3	2.02	0.42
12:XL:53:ARG:HH12	12:XL:92:ASP:CB	2.33	0.42
12:XL:89:ARG:HB3	12:XL:97:ARG:HA	2.02	0.42
12:XL:119:LYS:HB2	12:XL:120:TYR:HD1	1.83	0.42
20:XT:97:ALA:HA	20:XT:98:PRO:HD3	1.97	0.42
22:XV:76:A:H2'	25:YA:2602:A:N6	2.34	0.42
25:YA:36:G:N3	25:YA:450:G:O2'	2.50	0.42
25:YA:582:G:H2'	25:YA:583:G:C8	2.55	0.42
25:YA:2074:U:HO2'	25:YA:2597:G:HO2'	1.64	0.42
25:YA:2142:C:H2'	25:YA:2143:C:C6	2.55	0.42
26:YB:7:G:H4'	38:YS:29:PHE:CD2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:14:ARG:CG	27:YD:15:PHE:N	2.83	0.42
27:YD:110:GLY:O	27:YD:111:LEU:C	2.58	0.42
28:YE:18:ASP:O	28:YE:19:ARG:C	2.56	0.42
33:YN:46:VAL:HG13	33:YN:48:MET:HG3	2.02	0.42
38:YS:51:ALA:HB3	38:YS:73:LEU:HD23	2.01	0.42
40:YU:92:ARG:NH2	41:YV:10:LYS:HG2	2.35	0.42
43:YX:26:TYR:HB3	43:YX:92:LEU:HD12	2.02	0.42
1:QA:266:G:H5"	1:QA:267:C:C5	2.55	0.41
1:QA:540:G:H2'	1:QA:541:G:O4'	2.20	0.41
1:QA:582:U:OP1	15:QO:68:ARG:NH2	2.48	0.41
1:QA:743:U:H2'	1:QA:744:C:C6	2.55	0.41
1:QA:769:G:H4'	1:QA:1513:A:H4'	2.02	0.41
1:QA:1101:A:H4'	1:QA:1102:A:O5'	2.20	0.41
2:QB:184:VAL:N	2:QB:198:ASP:OD2	2.44	0.41
4:QD:12:CYS:HA	4:QD:19:LEU:HD21	2.02	0.41
18:QR:56:THR:HB	18:QR:58:LEU:CD1	2.50	0.41
19:QS:50:ALA:HB1	19:QS:57:HIS:HB3	2.02	0.41
20:QT:53:LEU:HD23	20:QT:53:LEU:HA	1.88	0.41
25:RA:270(F):U:H2'	25:RA:270(G):C:C6	2.55	0.41
25:RA:307:G:H22	25:RA:310:A:P	2.43	0.41
25:RA:918:A:C5	25:RA:919:G:H1'	2.55	0.41
25:RA:2472:G:H22	25:RA:2477:C:H5"	1.84	0.41
25:RA:2584:U:H2'	25:RA:2585:U:H2'	2.02	0.41
25:RA:2646:C:H2'	25:RA:2647:U:O4'	2.19	0.41
30:RG:47:LYS:HD3	30:RG:81:LYS:CB	2.49	0.41
31:RH:66:GLY:O	31:RH:67:LEU:C	2.58	0.41
31:RH:128:PRO:CG	31:RH:129:THR:H	2.33	0.41
31:RH:169:VAL:HG22	31:RH:170:ARG:N	2.26	0.41
32:RI:101:LEU:HD13	32:RI:109:ILE:HD13	2.02	0.41
35:RP:98:GLU:HA	35:RP:101:VAL:HG12	2.01	0.41
38:RS:78:LEU:HD23	38:RS:78:LEU:HA	1.86	0.41
39:RT:26:ASP:HB3	39:RT:92:GLY:N	2.18	0.41
49:R3:7:LYS:HA	49:R3:33:GLN:O	2.20	0.41
50:R4:38:LYS:HG3	50:R4:44:THR:OG1	2.20	0.41
1:XA:918:A:H2'	1:XA:919:A:C8	2.55	0.41
1:XA:977:A:H8	1:XA:1223:C:C2	2.38	0.41
5:XE:102:ALA:HB1	5:XE:106:PRO:HG2	2.01	0.41
12:XL:8:ASN:O	12:XL:11:VAL:HG23	2.20	0.41
13:XM:20:THR:O	13:XM:22:ILE:N	2.51	0.41
25:YA:1825:A:H2'	25:YA:1826:G:C8	2.55	0.41
25:YA:2816:C:H2'	25:YA:2817:G:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2864:G:OP1	39:YT:119:LYS:HD2	2.20	0.41
27:YD:109:ASP:HB2	27:YD:197:GLY:HA2	2.03	0.41
27:YD:165:ILE:O	27:YD:166:GLN:NE2	2.53	0.41
27:YD:215:LEU:H	27:YD:215:LEU:HG	1.59	0.41
29:YF:101:LEU:HD12	29:YF:102:PRO:N	2.33	0.41
36:YQ:118:LEU:HD13	36:YQ:131:ILE:HG23	2.02	0.41
38:YS:26:LEU:HB3	38:YS:87:PHE:HA	2.03	0.41
41:YV:72:VAL:HG13	41:YV:85:LYS:HG2	2.01	0.41
44:YY:51:VAL:HG23	44:YY:57:GLN:N	2.35	0.41
44:YY:96:ILE:HG13	44:YY:98:VAL:H	1.85	0.41
47:Y1:76:ARG:H	47:Y1:76:ARG:HD2	1.83	0.41
53:Y7:47:ARG:HB2	53:Y7:47:ARG:HE	1.58	0.41
56:Z6:75:C:N4	56:Z6:101:PPU:H102	2.35	0.41
1:QA:576:G:O6	1:QA:880:C:O2'	2.33	0.41
1:QA:926:G:C6	1:QA:1505:G:C6	3.08	0.41
1:QA:1328:C:OP1	21:QU:21:TYR:OH	2.23	0.41
5:QE:84:PHE:CZ	5:QE:133:TYR:HD2	2.38	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
8:QH:36:LEU:HD12	8:QH:59:LEU:HD13	2.02	0.41
8:QH:38:ILE:HD12	8:QH:118:VAL:HG12	2.02	0.41
8:QH:54:ASP:OD1	8:QH:54:ASP:N	2.53	0.41
14:QN:23:ARG:NH1	14:QN:30:ALA:HB2	2.35	0.41
15:QO:2:PRO:HB2	15:QO:3:ILE:H	1.56	0.41
25:RA:1453:A:N6	25:RA:2702:U:H1'	2.35	0.41
25:RA:1675:C:H2'	25:RA:1676:A:O4'	2.20	0.41
25:RA:1801:G:OP2	27:RD:154:LYS:HE2	2.19	0.41
25:RA:1869:G:H5'	25:RA:1870:C:OP2	2.20	0.41
25:RA:2277:G:OP2	46:R0:10:THR:HG21	2.19	0.41
25:RA:2638:G:P	28:RE:82:ARG:HH22	2.43	0.41
28:RE:13:ARG:HH11	28:RE:13:ARG:HB2	1.82	0.41
28:RE:94:GLU:C	28:RE:96:PHE:N	2.73	0.41
30:RG:27:ASN:HB3	30:RG:30:GLU:HG3	2.01	0.41
36:RQ:20:ALA:HA	36:RQ:98:LYS:HB3	2.02	0.41
40:RU:58:ARG:NH1	40:RU:93:LYS:HE2	2.35	0.41
44:RY:88:LYS:NZ	44:RY:88:LYS:HA	2.35	0.41
45:RZ:97:GLU:HB3	45:RZ:125:LEU:HD11	2.02	0.41
49:R3:35:ARG:HB3	49:R3:37:LEU:HD21	2.01	0.41
1:XA:878:G:H5'	8:XH:89:PRO:HG2	2.02	0.41
1:XA:1122:U:O4	1:XA:1123:A:N6	2.53	0.41
1:XA:1173:G:H2'	1:XA:1174:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:XF:95:GLU:HA	6:XF:96:PRO:HD3	1.88	0.41
8:XH:104:ARG:HD2	8:XH:138:TRP:CG	2.56	0.41
9:XI:125:TYR:HD1	9:XI:126:SER:N	2.18	0.41
20:XT:11:SER:HA	20:XT:13:LEU:HD12	2.01	0.41
25:YA:141:A:H8	25:YA:1408:C:H1'	1.85	0.41
25:YA:588:U:O4	25:YA:670:A:H1'	2.20	0.41
25:YA:630:G:OP2	54:Y8:15:LYS:NZ	2.47	0.41
25:YA:725:G:C6	25:YA:726:G:N1	2.88	0.41
25:YA:807:U:H2'	25:YA:808:G:C8	2.55	0.41
25:YA:1083:U:H2'	25:YA:1085:A:OP2	2.20	0.41
25:YA:1764:G:C6	25:YA:1989:G:C2	3.08	0.41
25:YA:1845:G:OP1	27:YD:258:LYS:NZ	2.42	0.41
25:YA:1957:C:H2'	25:YA:1958:C:C6	2.55	0.41
25:YA:2061:G:H5"	25:YA:2503:A:C2	2.55	0.41
25:YA:2219:G:OP1	27:YD:172:TYR:OH	2.27	0.41
25:YA:2259:G:C2	25:YA:2282:G:C6	3.08	0.41
25:YA:2712:U:O2'	25:YA:2712(A):A:OP1	2.38	0.41
25:YA:2712:U:OP1	25:YA:2714:G:H4'	2.21	0.41
27:YD:145:VAL:O	27:YD:154:LYS:N	2.48	0.41
28:YE:4:ILE:HG22	28:YE:198:VAL:HB	2.02	0.41
28:YE:35:GLN:HG3	28:YE:37:ARG:NH2	2.35	0.41
29:YF:183:VAL:O	29:YF:184:TYR:C	2.57	0.41
30:YG:86:MET:HA	30:YG:87:PRO:HD2	1.95	0.41
31:YH:84:SER:O	31:YH:85:LYS:CB	2.64	0.41
33:YN:18:ALA:HB3	33:YN:55:VAL:O	2.19	0.41
33:YN:35:ARG:HB2	33:YN:42:TRP:CZ3	2.55	0.41
37:YR:2:ARG:HG2	37:YR:5:LYS:NZ	2.35	0.41
37:YR:3:HIS:O	37:YR:5:LYS:N	2.53	0.41
38:YS:83:LYS:HE3	38:YS:84:GLN:CG	2.49	0.41
44:YY:84:ARG:O	44:YY:95:LYS:HD3	2.20	0.41
48:Y2:61:LEU:HD23	48:Y2:61:LEU:HA	1.85	0.41
49:Y3:35:ARG:HB3	49:Y3:37:LEU:HD21	2.01	0.41
1:QA:114:U:O2'	1:QA:115:G:H5'	2.21	0.41
1:QA:148:G:H1	1:QA:174:C:H42	1.67	0.41
1:QA:692:U:H5	11:QK:26:ASN:OD1	2.03	0.41
1:QA:1004:A:O5'	1:QA:1025:U:N3	2.49	0.41
1:QA:1347:G:H1'	1:QA:1348:U:H5	1.85	0.41
2:QB:208:ILE:HA	2:QB:211:ILE:HD12	2.02	0.41
3:QC:134:ILE:HD11	3:QC:153:VAL:HG21	2.02	0.41
7:QG:70:LYS:HA	7:QG:71:PRO:HD2	1.90	0.41
12:QL:90:VAL:HG12	12:QL:92:ASP:H	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:QM:91:ARG:HB2	13:QM:98:VAL:HG13	2.03	0.41
14:QN:29:ARG:HG2	14:QN:31:ARG:O	2.20	0.41
16:QP:53:VAL:O	16:QP:57:ARG:HG2	2.21	0.41
20:QT:26:ASN:HB3	20:QT:71:THR:OG1	2.20	0.41
25:RA:1011:G:O5'	40:RU:77:SER:HB2	2.21	0.41
25:RA:1436:G:H1'	25:RA:1477:A:O2'	2.20	0.41
25:RA:2006:C:O2'	25:RA:2823:A:N3	2.47	0.41
25:RA:2103:C:H2'	25:RA:2104:G:C8	2.55	0.41
25:RA:2111:C:H41	25:RA:2147:G:N2	2.18	0.41
25:RA:2250:G:C2	36:RQ:82:ARG:HB3	2.55	0.41
25:RA:2356:C:OP1	46:R0:24:LYS:NZ	2.45	0.41
25:RA:2745:C:O2	31:RH:139:GLN:NE2	2.51	0.41
27:RD:35:LYS:HE3	27:RD:63:ARG:C	2.41	0.41
31:RH:105:LEU:CD1	31:RH:105:LEU:N	2.81	0.41
31:RH:146:ALA:HA	31:RH:164:TYR:OH	2.21	0.41
35:RP:21:ARG:HB3	35:RP:22:GLY:H	1.60	0.41
41:RV:76:LYS:HB2	41:RV:81:TYR:HB3	2.01	0.41
47:R1:85:LEU:HA	47:R1:87:PRO:HD2	2.02	0.41
50:R4:64:GLY:C	50:R4:66:SER:N	2.73	0.41
51:R5:40:LYS:HE2	51:R5:47:PRO:CG	2.49	0.41
1:XA:64:G:H5'	1:XA:65:U:OP1	2.21	0.41
1:XA:913:A:OP1	12:XL:46:LYS:NZ	2.46	0.41
1:XA:1359:C:OP2	14:XN:35:ARG:NH1	2.54	0.41
1:XA:1443:G:H5'	1:XA:1446:A:OP2	2.20	0.41
3:XC:42:LEU:HD12	3:XC:42:LEU:HA	1.87	0.41
9:XI:40:LEU:O	9:XI:42:ARG:N	2.48	0.41
11:XK:18:ARG:HA	11:XK:81:ASP:H	1.86	0.41
11:XK:48:ILE:HD13	11:XK:48:ILE:HA	1.83	0.41
12:XL:109:GLY:HA3	12:XL:121:GLY:O	2.20	0.41
16:XP:56:ALA:HB1	16:XP:74:LEU:HD13	2.03	0.41
16:XP:60:LEU:HD23	16:XP:60:LEU:HA	1.80	0.41
19:XS:40:ILE:CG1	19:XS:41:VAL:HG13	2.47	0.41
19:XS:64:GLU:HG3	50:Y4:55:ARG:HH12	1.84	0.41
25:YA:605:C:H1'	25:YA:657:U:O2'	2.20	0.41
25:YA:1081:U:H5'	25:YA:1082:U:H5"	2.01	0.41
25:YA:1678:G:H22	25:YA:1989:G:H22	1.67	0.41
25:YA:1872:A:H5'	25:YA:1878:G:OP2	2.19	0.41
25:YA:2335:A:O2'	25:YA:2336:A:H8	2.03	0.41
25:YA:2401:U:H2'	25:YA:2402:C:H5"	2.03	0.41
27:YD:269:PHE:N	27:YD:269:PHE:CD1	2.88	0.41
29:YF:53:THR:O	29:YF:55:GLY:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YF:80:ALA:O	29:YF:83:PHE:HB2	2.20	0.41
29:YF:176:LEU:HD11	29:YF:180:GLY:O	2.19	0.41
30:YG:165:THR:OG1	30:YG:168:GLU:HG3	2.21	0.41
30:YG:166:ASP:OD1	30:YG:166:ASP:N	2.54	0.41
35:YP:57:THR:C	35:YP:59:LEU:H	2.24	0.41
36:YQ:83:MET:HB2	46:Y0:7:LEU:HB3	2.03	0.41
40:YU:69:CYS:HB3	40:YU:106:PHE:CZ	2.55	0.41
47:Y1:89:GLU:HA	47:Y1:93:GLU:HB2	2.02	0.41
1:QA:1316:G:H5"	14:QN:17:LYS:HE3	2.02	0.41
2:QB:130:ARG:HA	2:QB:131:PRO:HD3	1.82	0.41
2:QB:219:VAL:O	2:QB:223:ILE:HG13	2.20	0.41
5:QE:127:ASN:HA	5:QE:128:PRO:HD3	1.89	0.41
12:QL:126:LYS:HB2	12:QL:126:LYS:HZ2	1.85	0.41
13:QM:65:LYS:HE2	50:R4:50:VAL:CG1	2.51	0.41
13:QM:80:ARG:HB2	50:R4:71:ARG:HH22	1.83	0.41
15:QO:31:LEU:O	15:QO:35:ARG:HG3	2.20	0.41
25:RA:839:U:H2'	25:RA:840:C:C6	2.54	0.41
25:RA:1055:G:H1	25:RA:1104:C:N4	2.18	0.41
25:RA:1400:G:H2'	25:RA:1401:G:C8	2.55	0.41
25:RA:1668:A:OP1	34:RO:5:GLN:HG3	2.20	0.41
25:RA:1937:A:O2'	25:RA:1939:U:OP2	2.26	0.41
25:RA:1972:A:H2'	25:RA:1973:G:C8	2.55	0.41
25:RA:2359:C:H2'	25:RA:2360:A:O4'	2.20	0.41
27:RD:101:GLU:OE1	27:RD:103:ARG:NH1	2.53	0.41
29:RF:135:LYS:HA	29:RF:135:LYS:HD2	1.75	0.41
30:RG:6:ALA:HB3	30:RG:104:GLU:OE2	2.20	0.41
32:RI:33:ARG:HB3	32:RI:35:LEU:HD23	2.02	0.41
34:RO:73:ASP:OD2	39:RT:32:TYR:OH	2.28	0.41
37:RR:22:ARG:HA	37:RR:47:PHE:HE2	1.86	0.41
52:R6:13:CYS:O	52:R6:21:TYR:HA	2.20	0.41
54:R8:3:LYS:HE2	54:R8:3:LYS:HB3	1.82	0.41
1:XA:777:A:H2'	1:XA:778:G:C8	2.55	0.41
1:XA:858:G:O6	1:XA:869:G:H3'	2.21	0.41
1:XA:1190:G:OP1	3:XC:4:LYS:HA	2.20	0.41
2:XB:80:ILE:HD11	2:XB:208:ILE:HG12	2.02	0.41
3:XC:85:ARG:HD2	3:XC:85:ARG:HA	1.83	0.41
5:XE:69:VAL:O	5:XE:71:LEU:N	2.52	0.41
9:XI:46:ALA:HB2	9:XI:74:ILE:HG23	2.01	0.41
12:XL:62:SER:HB2	12:XL:64:TYR:CD1	2.56	0.41
17:XQ:62:SER:CB	17:XQ:72:ARG:HE	2.33	0.41
18:XR:38:GLU:O	18:XR:42:ARG:NH1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:270(R):G:H2'	25:YA:270(S):G:H8	1.85	0.41
25:YA:345:A:N3	25:YA:347:A:N6	2.68	0.41
25:YA:551:G:H5'	25:YA:1220:A:H1'	2.02	0.41
25:YA:587:C:P	35:YP:21:ARG:HH22	2.43	0.41
25:YA:613:U:H5'	25:YA:616:A:N6	2.35	0.41
25:YA:1386:C:H2'	25:YA:1387:C:C6	2.55	0.41
25:YA:1803:A:O3'	27:YD:259:THR:HG21	2.20	0.41
25:YA:2506:U:H1'	56:Z6:101:PPU:HN'3	1.85	0.41
25:YA:2729:G:H2'	25:YA:2730:C:C6	2.56	0.41
27:YD:9:TYR:CZ	27:YD:13:ARG:HD3	2.54	0.41
27:YD:145:VAL:CG1	27:YD:146:GLU:N	2.84	0.41
27:YD:182:LEU:N	27:YD:272:ALA:HB3	2.32	0.41
28:YE:54:GLN:N	28:YE:54:GLN:CD	2.73	0.41
28:YE:167:VAL:CG1	28:YE:189:PRO:HD3	2.50	0.41
29:YF:64:ILE:HG23	29:YF:65:TRP:CD1	2.54	0.41
32:YI:68:LEU:HA	32:YI:71:ILE:HG22	2.02	0.41
38:YS:92:TYR:HB2	38:YS:98:VAL:HG11	2.02	0.41
46:Y0:36:ILE:HD11	46:Y0:39:ARG:HG2	2.02	0.41
50:Y4:24:THR:OG1	50:Y4:25:TYR:N	2.53	0.41
50:Y4:68:ARG:HB2	50:Y4:69:LYS:H	1.51	0.41
1:QA:352:C:H42	1:QA:357:G:N2	2.17	0.41
1:QA:380:G:C2	1:QA:384:G:C6	3.09	0.41
1:QA:757:U:H2'	1:QA:758:G:O4'	2.21	0.41
15:QO:4:THR:HB	15:QO:6:GLU:CD	2.41	0.41
17:QQ:83:ASP:O	17:QQ:87:LYS:HG2	2.20	0.41
19:QS:28:LYS:HA	19:QS:47:HIS:HE1	1.86	0.41
25:RA:60:G:C2	25:RA:74:A:C5	3.08	0.41
25:RA:181:A:H1'	25:RA:435:C:H5'	2.01	0.41
25:RA:521:G:H2'	25:RA:522:G:H8	1.85	0.41
25:RA:566:U:P	41:RV:80:GLN:HE21	2.44	0.41
25:RA:671:C:H2'	25:RA:672:C:C6	2.55	0.41
25:RA:952:G:C6	25:RA:966:G:C6	3.08	0.41
25:RA:1006:C:O2'	33:RN:106:MET:O	2.33	0.41
25:RA:1043:C:N3	25:RA:1112:G:N2	2.47	0.41
25:RA:1796:U:H2'	25:RA:1797:C:H6	1.82	0.41
25:RA:2570:G:H2'	25:RA:2571:C:O4'	2.21	0.41
26:RB:76:G:H2'	26:RB:77:U:O4'	2.20	0.41
27:RD:111:LEU:HD23	27:RD:111:LEU:HA	1.78	0.41
28:RE:35:GLN:HG3	28:RE:37:ARG:NH2	2.36	0.41
28:RE:111:ARG:NE	28:RE:160:TYR:CE1	2.76	0.41
31:RH:86:GLU:HG3	31:RH:165:ALA:CA	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:RN:47:ALA:HB2	33:RN:112:LEU:HD11	2.02	0.41
34:RO:7:TYR:CE1	34:RO:20:MET:HB2	2.56	0.41
36:RQ:34:LEU:HD23	36:RQ:104:PHE:CD2	2.55	0.41
43:RX:40:LYS:C	43:RX:42:ALA:H	2.23	0.41
53:R7:1:MET:SD	53:R7:3:ARG:NH2	2.93	0.41
1:XA:433:C:H2'	1:XA:434:U:C6	2.56	0.41
1:XA:721:G:H4'	1:XA:722:A:O4'	2.20	0.41
1:XA:980:C:HO2'	14:XN:21:TYR:HE1	1.63	0.41
1:XA:1014:A:C2	1:XA:1219:U:H1'	2.56	0.41
1:XA:1206:G:C6	1:XA:1207:G:C5	3.08	0.41
1:XA:1497:G:H2'	1:XA:1498:U:H5'	2.03	0.41
12:XL:10:LEU:HB3	17:XQ:32:TYR:CE2	2.55	0.41
16:XP:17:TYR:HE2	16:XP:41:PRO:HG3	1.85	0.41
16:XP:23:ASP:O	16:XP:26:ARG:HB2	2.21	0.41
25:YA:264:C:C2'	25:YA:265:A:H5"	2.50	0.41
25:YA:330:A:H2	25:YA:1210:A:H2'	1.86	0.41
25:YA:952:G:P	36:YQ:16:ARG:HH12	2.43	0.41
25:YA:1311:G:C8	53:Y7:47:ARG:NH1	2.88	0.41
25:YA:1359:A:H2'	25:YA:1360:A:O5'	2.20	0.41
25:YA:1510:A:N3	25:YA:1510:A:H2'	2.35	0.41
25:YA:1534:G:O2'	25:YA:1535:U:H4'	2.21	0.41
25:YA:1786:A:C2	25:YA:2606:C:H1'	2.55	0.41
25:YA:1832:C:N4	25:YA:1833:U:C4	2.89	0.41
25:YA:1999:C:H4'	25:YA:2723:C:O2	2.21	0.41
25:YA:2391:G:OP2	54:Y8:32:LEU:HD13	2.21	0.41
27:YD:158:ALA:O	27:YD:196:VAL:HG11	2.21	0.41
29:YF:20:LEU:HD12	29:YF:21:ALA:N	2.26	0.41
29:YF:129:PHE:O	29:YF:142:TRP:HD1	2.03	0.41
30:YG:124:SER:HB2	30:YG:131:TYR:CE1	2.56	0.41
33:YN:59:LYS:HE3	33:YN:61:ARG:HH22	1.85	0.41
36:YQ:27:VAL:HG22	36:YQ:105:GLU:CD	2.41	0.41
38:YS:93:LYS:HE3	38:YS:93:LYS:HB2	1.93	0.41
45:YZ:6:LYS:NZ	45:YZ:43:GLU:HG3	2.36	0.41
47:Y1:83:GLU:C	47:Y1:85:LEU:H	2.23	0.41
54:Y8:14:VAL:CG1	54:Y8:60:LEU:HD11	2.50	0.41
1:QA:626:U:C2	1:QA:627:G:C8	3.08	0.41
1:QA:648:A:H2'	1:QA:649:G:C8	2.55	0.41
2:QB:210:SER:O	2:QB:214:ILE:HG12	2.21	0.41
4:QD:146:ILE:H	4:QD:146:ILE:HD12	1.85	0.41
5:QE:101:ILE:HD11	5:QE:119:LEU:HA	2.02	0.41
12:QL:109:GLY:HA3	12:QL:121:GLY:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:QN:4:LYS:O	14:QN:7:ILE:HG12	2.20	0.41
16:QP:20:VAL:HG21	16:QP:32:TYR:CD2	2.56	0.41
19:QS:36:ARG:HA	19:QS:71:LEU:HB2	2.02	0.41
20:QT:30:LYS:NZ	20:QT:80:ARG:NH1	2.69	0.41
20:QT:89:ARG:HH21	20:QT:104:LEU:HG	1.85	0.41
25:RA:1164:G:H2'	25:RA:1165:U:C6	2.55	0.41
25:RA:2443:C:H2'	25:RA:2444:G:C8	2.55	0.41
25:RA:2712:U:O2'	25:RA:2712(A):A:P	2.78	0.41
25:RA:2741:A:H2'	25:RA:2742:C:O4'	2.21	0.41
28:RE:93:VAL:HG21	28:RE:180:ASN:HA	2.03	0.41
30:RG:47:LYS:HB2	30:RG:47:LYS:HE3	1.81	0.41
30:RG:124:SER:HB2	30:RG:131:TYR:CE1	2.56	0.41
37:RR:33:ARG:HH21	51:R5:55:ARG:HB3	1.86	0.41
38:RS:14:VAL:HG21	38:RS:89:ARG:HG2	2.02	0.41
44:RY:54:LYS:HB3	44:RY:55:TYR:CE1	2.55	0.41
44:RY:84:ARG:HD3	44:RY:86:ARG:NH1	2.35	0.41
50:R4:4:GLY:O	50:R4:5:ILE:C	2.59	0.41
56:Z5:75:C:N4	56:Z5:101:PPU:H102	2.35	0.41
1:XA:680:C:H2'	1:XA:681:C:C6	2.56	0.41
1:XA:1032(B):G:H2'	1:XA:1033:G:C8	2.56	0.41
1:XA:1333:A:H2'	1:XA:1334:G:O4'	2.20	0.41
2:XB:118:LEU:CB	2:XB:142:LEU:HD12	2.50	0.41
3:XC:150:LYS:HE3	3:XC:167:TRP:HE1	1.84	0.41
4:XD:131:ARG:H	4:XD:131:ARG:HG2	1.67	0.41
4:XD:186:LEU:HD23	4:XD:186:LEU:HA	1.94	0.41
5:XE:101:ILE:HG13	5:XE:119:LEU:HD23	2.01	0.41
6:XF:46:ARG:HB3	6:XF:60:PHE:CE1	2.55	0.41
13:XM:12:ASN:N	13:XM:45:VAL:HG13	2.36	0.41
25:YA:85:G:HO2'	25:YA:103:A:H2	1.62	0.41
25:YA:590:A:H2'	25:YA:591:C:C6	2.55	0.41
25:YA:1301:A:O2'	25:YA:1302:A:H3'	2.21	0.41
25:YA:1654:A:C2	28:YE:113:PHE:CD2	3.09	0.41
25:YA:2477:C:H2'	55:Y9:1:MET:CG	2.50	0.41
25:YA:2572:A:H62	28:YE:145:LYS:HG3	1.85	0.41
27:YD:168:ARG:O	27:YD:169:GLU:HB2	2.19	0.41
28:YE:36:ARG:O	28:YE:37:ARG:C	2.59	0.41
28:YE:161:GLY:O	28:YE:162:ALA:HB3	2.20	0.41
29:YF:68:LYS:O	29:YF:69:HIS:HB2	2.20	0.41
30:YG:103:LEU:O	30:YG:107:LEU:HG	2.21	0.41
31:YH:146:ALA:HB2	31:YH:164:TYR:OH	2.21	0.41
32:YI:88:ILE:HG12	32:YI:122:GLU:N	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YQ:90:VAL:C	36:YQ:92:GLY:N	2.71	0.41
40:YU:98:LEU:HD23	40:YU:99:ALA:N	2.35	0.41
41:YV:22:VAL:HG12	41:YV:23:GLU:H	1.85	0.41
44:YY:63:LYS:HA	44:YY:63:LYS:HD2	1.86	0.41
1:QA:980:C:H5"	1:QA:981:U:C5	2.55	0.41
1:QA:1403:C:H1'	1:QA:1500:A:N1	2.36	0.41
2:QB:120:ALA:C	2:QB:122:PHE:H	2.23	0.41
5:QE:110:LEU:HD13	5:QE:118:ILE:HG12	2.01	0.41
9:QI:40:LEU:HD11	9:QI:70:LYS:HG2	2.02	0.41
11:QK:25:TYR:CZ	11:QK:87:THR:HB	2.55	0.41
12:QL:8:ASN:O	12:QL:11:VAL:HG23	2.20	0.41
21:QU:10:ARG:HA	21:QU:13:ILE:HB	2.01	0.41
25:RA:117:G:OP2	25:RA:119:A:O2'	2.29	0.41
25:RA:439:G:H2'	25:RA:440:G:C8	2.55	0.41
25:RA:994:C:H1'	41:RV:10:LYS:HE2	2.03	0.41
25:RA:1889:A:N1	25:RA:2234:G:H1'	2.35	0.41
25:RA:2615:U:H2'	25:RA:2616:C:H6	1.85	0.41
25:RA:2747:G:O6	25:RA:2755:C:H5"	2.20	0.41
26:RB:29:A:OP2	38:RS:31:SER:HB2	2.21	0.41
28:RE:167:VAL:CG1	28:RE:189:PRO:HD3	2.50	0.41
28:RE:179:GLU:CB	28:RE:181:LEU:HD23	2.24	0.41
28:RE:197:ILE:HD11	28:RE:199:ARG:NH1	2.30	0.41
31:RH:45:VAL:O	31:RH:45:VAL:CG1	2.68	0.41
31:RH:137:ASP:HB2	31:RH:140:LYS:CE	2.51	0.41
32:RI:49:ALA:O	32:RI:52:ARG:HG2	2.20	0.41
33:RN:57:ALA:C	33:RN:60:ILE:HD11	2.40	0.41
33:RN:71:ILE:HG21	33:RN:84:LYS:HB3	2.02	0.41
35:RP:121:LYS:HE2	35:RP:121:LYS:HB2	1.75	0.41
36:RQ:139:GLU:CG	36:RQ:140:ALA:N	2.84	0.41
37:RR:10:LEU:O	37:RR:12:ARG:HG3	2.21	0.41
43:RX:51:VAL:HG13	43:RX:81:VAL:HG23	2.03	0.41
46:R0:23:VAL:HA	46:R0:38:VAL:HG22	2.01	0.41
54:R8:14:VAL:CG1	54:R8:60:LEU:HD11	2.50	0.41
54:R8:16:ILE:HD11	54:R8:57:ARG:CG	2.44	0.41
1:XA:611:A:H61	1:XA:629:G:H1	1.69	0.41
1:XA:695:A:OP1	11:XK:52:GLY:HA3	2.21	0.41
1:XA:700:G:H4'	1:XA:704:A:H1'	2.03	0.41
5:XE:71:LEU:HD11	5:XE:113:ALA:O	2.21	0.41
10:XJ:3:LYS:HD2	10:XJ:77:PRO:HD3	2.01	0.41
11:XK:38:ASN:HA	11:XK:39:PRO:HD3	1.75	0.41
11:XK:88:GLY:C	11:XK:90:GLY:H	2.23	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:XL:90:VAL:HG12	12:XL:92:ASP:H	1.86	0.41
16:XP:8:ARG:C	16:XP:9:PHE:HD1	2.24	0.41
17:XQ:59:ILE:HB	17:XQ:71:PHE:HB3	2.03	0.41
19:XS:78:ARG:H	19:XS:78:ARG:HG2	1.56	0.41
25:YA:864:G:C6	25:YA:865:C:N4	2.89	0.41
25:YA:1042:G:H1	25:YA:1113:U:H3	1.67	0.41
25:YA:1588:C:H2'	25:YA:1589:C:H6	1.86	0.41
25:YA:2073:C:C5'	27:YD:229:VAL:HG22	2.51	0.41
25:YA:2290:G:H2'	25:YA:2291:U:O4'	2.21	0.41
27:YD:134:ARG:H	27:YD:134:ARG:HG3	1.55	0.41
28:YE:24:THR:HB	28:YE:184:VAL:HG23	2.02	0.41
31:YH:169:VAL:HG22	31:YH:170:ARG:N	2.26	0.41
33:YN:96:GLU:O	33:YN:100:GLU:HG3	2.20	0.41
45:YZ:77:ASP:OD2	45:YZ:80:ARG:HD3	2.21	0.41
50:Y4:48:ARG:NH1	50:Y4:52:THR:H	2.19	0.41
54:Y8:26:LYS:HD3	54:Y8:26:LYS:HA	1.86	0.41
54:Y8:56:GLU:C	54:Y8:58:ILE:N	2.73	0.41
1:QA:560:U:H5'	1:QA:566:G:N2	2.36	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:166:LYS:HG3	4:QD:178:VAL:HG11	2.02	0.41
5:QE:12:LEU:O	5:QE:13:ILE:HD12	2.21	0.41
12:QL:53:ARG:HH12	12:QL:92:ASP:CB	2.33	0.41
12:QL:117:ARG:HB3	12:QL:122:THR:HB	2.02	0.41
13:QM:40:ASN:HA	13:QM:41:PRO:HD3	1.89	0.41
25:RA:660:G:O3'	29:RF:38:ARG:NH2	2.54	0.41
25:RA:747:U:C1'	51:R5:2:ALA:HB3	2.50	0.41
25:RA:863:A:H2'	25:RA:864:G:C8	2.55	0.41
25:RA:1645:G:H5"	25:RA:1646:C:H5'	2.02	0.41
25:RA:1728:G:H2'	25:RA:1731:G:O6	2.21	0.41
25:RA:1802:A:N1	25:RA:1822:G:H1'	2.35	0.41
25:RA:2545:G:H2'	25:RA:2546:U:O4'	2.20	0.41
25:RA:2557:G:H2'	25:RA:2558:C:C6	2.56	0.41
25:RA:2770:G:H5"	25:RA:2771:C:OP2	2.20	0.41
27:RD:127:VAL:HA	27:RD:193:VAL:HG22	2.02	0.41
28:RE:4:ILE:HG22	28:RE:198:VAL:HB	2.02	0.41
31:RH:145:ALA:O	31:RH:148:ILE:HB	2.21	0.41
33:RN:57:ALA:O	33:RN:60:ILE:HD11	2.21	0.41
33:RN:73:THR:HB	33:RN:82:LEU:HD11	2.02	0.41
36:RQ:20:ALA:HB1	36:RQ:99:PRO:CG	2.51	0.41
39:RT:91:ARG:HB2	39:RT:121:ILE:HG13	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:RZ:76:LEU:HD23	45:RZ:76:LEU:H	1.86	0.41
47:R1:58:ILE:CD1	47:R1:86:SER:HB2	2.50	0.41
53:R7:31:LEU:HD23	53:R7:31:LEU:HA	1.86	0.41
54:R8:26:LYS:HA	54:R8:26:LYS:HD3	1.86	0.41
1:XA:547:A:OP1	4:XD:73:ARG:NH2	2.52	0.41
1:XA:598:U:H4'	8:XH:94:TYR:CD2	2.56	0.41
1:XA:762:C:H2'	1:XA:763:G:H8	1.83	0.41
1:XA:1004:A:C2	1:XA:1024:G:H2'	2.56	0.41
1:XA:1055:A:H1'	3:XC:156:ARG:NH1	2.36	0.41
3:XC:138:VAL:HG13	3:XC:149:ALA:HB3	2.02	0.41
4:XD:52:SER:O	4:XD:55:ALA:HB3	2.21	0.41
4:XD:64:LEU:HD13	4:XD:198:VAL:HG11	2.02	0.41
5:XE:127:ASN:HA	5:XE:128:PRO:HD3	1.81	0.41
8:XH:6:ILE:HB	8:XH:85:ARG:NH1	2.36	0.41
8:XH:44:PHE:HE2	8:XH:109:ILE:CG2	2.34	0.41
12:XL:25:PRO:HD2	12:XL:97:ARG:HH11	1.86	0.41
12:XL:62:SER:O	12:XL:64:TYR:N	2.54	0.41
14:XN:51:GLY:O	14:XN:53:LEU:N	2.53	0.41
18:XR:85:LEU:HD23	18:XR:88:LYS:HD2	2.03	0.41
25:YA:1137:G:H2'	25:YA:1138:G:H8	1.86	0.41
25:YA:1220:A:H5'	25:YA:1221:C:OP2	2.20	0.41
25:YA:1952:A:C2	34:YO:22:ILE:HG23	2.55	0.41
25:YA:2615:U:H2'	25:YA:2616:C:H6	1.86	0.41
25:YA:2732:G:H3'	25:YA:2733:A:C4'	2.51	0.41
25:YA:2861:G:H2'	25:YA:2862:G:H8	1.86	0.41
31:YH:170:ARG:HB3	31:YH:171:LEU:H	1.47	0.41
32:YI:81:VAL:HG21	32:YI:88:ILE:HD12	2.03	0.41
41:YV:38:LEU:O	41:YV:51:VAL:HA	2.21	0.41
41:YV:72:VAL:CG1	41:YV:85:LYS:HG2	2.50	0.41
46:Y0:72:ARG:HB2	46:Y0:75:LEU:HB2	2.03	0.41
48:Y2:41:ILE:HD12	48:Y2:43:GLN:N	2.35	0.41
54:Y8:25:MET:HB3	54:Y8:26:LYS:H	1.69	0.41
1:QA:224:C:H2'	1:QA:225:C:C6	2.56	0.41
1:QA:245:C:C2	1:QA:284:G:C2	3.09	0.41
1:QA:255:G:H2'	1:QA:256:U:C6	2.55	0.41
1:QA:643:C:H2'	1:QA:644:G:H8	1.86	0.41
1:QA:1052:U:O2'	1:QA:1055:A:OP2	2.21	0.41
1:QA:1152:A:H2'	1:QA:1153:C:H6	1.85	0.41
1:QA:1181:G:N7	1:QA:1182:G:N2	2.69	0.41
2:QB:104:ASN:OD1	2:QB:107:THR:OG1	2.30	0.41
3:QC:83:ARG:O	3:QC:86:VAL:HG22	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:96:LEU:HD13	4:QD:96:LEU:HA	1.83	0.41
4:QD:135:LEU:HD13	4:QD:135:LEU:HA	1.91	0.41
5:QE:143:ARG:HH21	8:QH:77:GLU:CD	2.23	0.41
5:QE:147:ASP:O	5:QE:151:LEU:HG	2.21	0.41
7:QG:45:ASP:O	7:QG:48:LYS:HB3	2.21	0.41
7:QG:54:THR:O	7:QG:56:GLN:N	2.52	0.41
7:QG:93:PRO:O	7:QG:96:GLN:HB2	2.21	0.41
7:QG:153:HIS:CE1	11:QK:57:THR:HG23	2.56	0.41
8:QH:41:ARG:NH2	8:QH:123:GLU:OE2	2.54	0.41
12:QL:21:LYS:N	12:QL:21:LYS:CD	2.83	0.41
20:QT:86:ARG:O	20:QT:90:GLN:HG3	2.21	0.41
25:RA:250:G:H2'	25:RA:251:A:C8	2.56	0.41
25:RA:265:A:N6	25:RA:428:A:C8	2.89	0.41
25:RA:265:A:C6	25:RA:428:A:C4	3.09	0.41
25:RA:605:C:O2	25:RA:657:U:O2'	2.39	0.41
25:RA:782:A:O2'	27:RD:225:ALA:HB1	2.21	0.41
25:RA:868:U:H2'	25:RA:869:G:O4'	2.21	0.41
25:RA:1131:G:HO2'	25:RA:1132:A:H8	1.68	0.41
25:RA:1263:U:H2'	25:RA:1264:G:C8	2.56	0.41
25:RA:1363:C:H2'	25:RA:1364:G:H8	1.85	0.41
25:RA:1468:C:H2'	25:RA:1469:A:C8	2.56	0.41
25:RA:2181:G:H2'	25:RA:2182:G:C8	2.56	0.41
25:RA:2319:G:N7	38:RS:3:ARG:HB3	2.35	0.41
25:RA:2757:A:OP1	55:R9:19:ARG:HA	2.20	0.41
26:RB:38:C:N4	26:RB:44:G:H1	2.17	0.41
26:RB:44:G:C2	26:RB:48:A:C2	3.09	0.41
27:RD:35:LYS:NZ	27:RD:64:ILE:O	2.40	0.41
27:RD:226:MET:HB3	27:RD:230:ASP:HB2	2.03	0.41
27:RD:257:LEU:HD23	27:RD:257:LEU:HA	1.90	0.41
29:RF:78:ILE:H	29:RF:78:ILE:HG13	1.73	0.41
29:RF:167:ALA:HB1	29:RF:173:VAL:HG11	2.03	0.41
30:RG:131:TYR:O	30:RG:159:VAL:HG13	2.21	0.41
33:RN:9:VAL:HG21	33:RN:48:MET:HB3	2.02	0.41
34:RO:26:LYS:HB2	34:RO:30:ALA:HB2	2.02	0.41
36:RQ:27:VAL:HG22	36:RQ:105:GLU:CD	2.41	0.41
36:RQ:139:GLU:HG2	36:RQ:140:ALA:N	2.36	0.41
37:RR:70:LEU:C	37:RR:72:ASP:H	2.21	0.41
38:RS:62:LYS:HB3	38:RS:97:ARG:CD	2.44	0.41
39:RT:51:ARG:CG	39:RT:98:LYS:HG3	2.51	0.41
40:RU:61:TRP:O	40:RU:65:ILE:HG13	2.21	0.41
50:R4:12:ALA:HB1	50:R4:30:GLU:N	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:R4:14:ILE:HA	50:R4:31:ILE:O	2.21	0.41
1:XA:539:A:OP1	12:XL:114:LYS:HE2	2.20	0.41
1:XA:604:G:H2'	1:XA:605:U:O4'	2.20	0.41
1:XA:662:G:H2'	1:XA:663:A:C8	2.56	0.41
1:XA:1213:A:C6	1:XA:1215:G:H1'	2.55	0.41
1:XA:1285:A:H4'	1:XA:1286:A:O5'	2.20	0.41
2:XB:126:GLU:O	2:XB:129:GLU:HB2	2.20	0.41
11:XK:19:ALA:CB	11:XK:32:ILE:HG22	2.50	0.41
12:XL:38:THR:HG22	12:XL:57:LYS:HB3	2.01	0.41
12:XL:53:ARG:HH12	12:XL:92:ASP:HB3	1.85	0.41
20:XT:68:LYS:HB2	20:XT:68:LYS:HE3	1.87	0.41
25:YA:112:U:P	48:Y2:69:ARG:HH21	2.43	0.41
25:YA:340:A:H2'	25:YA:341:G:O4'	2.21	0.41
25:YA:389:G:H22	35:YP:72:PRO:CG	2.34	0.41
25:YA:833:U:H2'	25:YA:834:C:H6	1.83	0.41
25:YA:974(A):C:H4'	25:YA:975:G:O5'	2.20	0.41
25:YA:975:G:H1'	25:YA:990:A:C2	2.56	0.41
25:YA:1448:G:O2'	25:YA:1528:A:N6	2.54	0.41
25:YA:1537:C:H2'	25:YA:1538:G:C8	2.56	0.41
25:YA:1820:U:O2'	27:YD:159:ALA:HB3	2.21	0.41
25:YA:2105:C:H2'	25:YA:2106:G:C8	2.56	0.41
25:YA:2784:C:H5"	28:YE:41:LYS:HZ3	1.83	0.41
25:YA:2832:U:HO2'	25:YA:2833:G:P	2.43	0.41
25:YA:2862:G:H2'	25:YA:2863:C:H6	1.85	0.41
26:YB:24:G:H5"	26:YB:25:A:OP1	2.20	0.41
26:YB:89(A):A:N6	26:YB:90:C:O2	2.54	0.41
27:YD:117:VAL:HG22	27:YD:118:VAL:N	2.35	0.41
27:YD:147:LEU:CD1	27:YD:155:LEU:HD21	2.51	0.41
27:YD:154:LYS:C	27:YD:155:LEU:HD12	2.41	0.41
27:YD:197:GLY:O	27:YD:198:ASN:HB3	2.21	0.41
28:YE:62:PRO:O	28:YE:63:LEU:C	2.59	0.41
28:YE:101:ARG:C	28:YE:201:THR:OG1	2.58	0.41
29:YF:13:SER:OG	29:YF:14:PRO:HD2	2.21	0.41
30:YG:179:PRO:HG3	50:Y4:38:LYS:NZ	2.34	0.41
31:YH:20:ALA:HB3	31:YH:23:ARG:HG2	2.03	0.41
31:YH:26:VAL:HG12	31:YH:33:LEU:HB2	2.03	0.41
31:YH:86:GLU:HG3	31:YH:165:ALA:CA	2.49	0.41
31:YH:137:ASP:HB2	31:YH:140:LYS:CE	2.51	0.41
31:YH:146:ALA:HA	31:YH:164:TYR:OH	2.21	0.41
33:YN:8:GLN:C	33:YN:9:VAL:CG1	2.85	0.41
35:YP:36:LYS:HZ3	35:YP:36:LYS:HG2	1.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YP:100:LEU:HD13	35:YP:100:LEU:HA	1.87	0.41
35:YP:135:LEU:HD23	35:YP:135:LEU:HA	1.76	0.41
37:YR:44:LEU:HD22	37:YR:48:VAL:HG23	2.02	0.41
38:YS:66:ALA:HA	38:YS:69:VAL:CG1	2.51	0.41
40:YU:8:VAL:O	40:YU:12:ARG:HG3	2.21	0.41
40:YU:17:ILE:HG23	40:YU:39:LEU:HD12	2.02	0.41
43:YX:31:HIS:HB3	43:YX:34:ALA:HB2	2.03	0.41
45:YZ:97:GLU:HG3	45:YZ:127:LYS:NZ	2.35	0.41
45:YZ:152:ALA:HB2	45:YZ:168:GLU:HA	2.03	0.41
48:Y2:18:PRO:C	48:Y2:20:GLU:H	2.24	0.41
49:Y3:52:HIS:CD2	49:Y3:53:LEU:HG	2.56	0.41
1:QA:664:G:N2	1:QA:741:G:H1	2.12	0.41
3:QC:7:PRO:O	3:QC:11:ARG:NH1	2.54	0.41
4:QD:169:LYS:HZ2	6:XF:25:ILE:HD11	1.86	0.41
8:QH:44:PHE:HD1	8:QH:80:ILE:HG12	1.86	0.41
12:QL:43:VAL:HG13	12:QL:55:VAL:HG21	2.03	0.41
25:RA:413:C:H2'	25:RA:414:C:C6	2.55	0.41
25:RA:530:G:H1'	25:RA:2021:C:O2'	2.21	0.41
25:RA:667:U:H2'	25:RA:668:G:O4'	2.21	0.41
25:RA:676:A:H2	25:RA:802:A:H61	1.64	0.41
25:RA:1127:A:H2'	25:RA:1128:A:H5"	2.03	0.41
25:RA:1418:G:H8	25:RA:1418:G:O5'	2.04	0.41
25:RA:2544:G:H1'	25:RA:2646:C:H4'	2.03	0.41
25:RA:2795:G:H3'	25:RA:2797:U:C5'	2.50	0.41
25:RA:2817:G:C4	25:RA:2830:G:N2	2.89	0.41
25:RA:2850:A:C2	25:RA:2851:A:C4	3.09	0.41
27:RD:150:LYS:N	27:RD:150:LYS:HD3	2.36	0.41
28:RE:51:PHE:CG	28:RE:52:LEU:N	2.89	0.41
28:RE:62:PRO:O	28:RE:63:LEU:C	2.59	0.41
28:RE:92:THR:HB	28:RE:93:VAL:H	1.57	0.41
28:RE:147:PRO:HB2	28:RE:149:ARG:HG2	2.03	0.41
28:RE:161:GLY:O	28:RE:162:ALA:HB3	2.20	0.41
29:RF:60:SER:OG	29:RF:61:GLY:N	2.54	0.41
32:RI:29:TYR:C	32:RI:32:PRO:HD2	2.41	0.41
32:RI:88:ILE:HG12	32:RI:88:ILE:H	1.70	0.41
34:RO:63:VAL:HB	34:RO:106:LEU:HD11	2.02	0.41
35:RP:65:ARG:HE	54:R8:15:LYS:HB2	1.86	0.41
36:RQ:52:VAL:O	36:RQ:53:ALA:C	2.59	0.41
46:R0:72:ARG:HB2	46:R0:75:LEU:HB2	2.03	0.41
50:R4:68:ARG:HB2	50:R4:69:LYS:H	1.35	0.41
1:XA:922:G:C6	1:XA:923:A:C6	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1252:A:H2'	1:XA:1253:G:O4'	2.21	0.41
1:XA:1489:G:H2'	1:XA:1490:C:O4'	2.21	0.41
2:XB:19:HIS:NE2	2:XB:206:ASP:HB2	2.36	0.41
6:XF:25:ILE:HD13	6:XF:28:ARG:NH1	2.35	0.41
9:XI:79:LEU:O	9:XI:83:ARG:HG2	2.19	0.41
9:XI:95:LYS:NZ	9:XI:96:LEU:HD13	2.36	0.41
12:XL:117:ARG:HB3	12:XL:122:THR:HB	2.02	0.41
19:XS:36:ARG:HA	19:XS:71:LEU:HB2	2.03	0.41
20:XT:83:ARG:C	20:XT:86:ARG:HB3	2.40	0.41
20:XT:87:LYS:HA	20:XT:87:LYS:HD2	1.74	0.41
25:YA:271:G:H2'	25:YA:272:G:H8	1.86	0.41
25:YA:631:A:H2'	25:YA:632:A:O4'	2.21	0.41
25:YA:1002:G:H2'	25:YA:1003:G:O4'	2.21	0.41
25:YA:1517:G:H4'	25:YA:1556:C:O2'	2.20	0.41
25:YA:1992:G:H5'	25:YA:1994:C:N4	2.36	0.41
25:YA:2175:C:H2'	25:YA:2176:A:O4'	2.21	0.41
25:YA:2582:G:N2	25:YA:2583:G:H1'	2.35	0.41
25:YA:2599:G:OP2	27:YD:236:GLY:CA	2.69	0.41
26:YB:78:A:C2	26:YB:99:A:C4	3.09	0.41
27:YD:31:LYS:O	27:YD:32:SER:O	2.39	0.41
27:YD:228:PRO:HD3	27:YD:234:GLY:O	2.21	0.41
28:YE:63:LEU:CD1	28:YE:64:LYS:N	2.71	0.41
29:YF:62:ARG:HB3	29:YF:62:ARG:CZ	2.51	0.41
30:YG:7:LEU:HD12	30:YG:104:GLU:HA	2.03	0.41
31:YH:145:ALA:O	31:YH:148:ILE:HB	2.21	0.41
32:YI:40:THR:O	32:YI:44:LEU:HB2	2.21	0.41
34:YO:4:PRO:O	34:YO:5:GLN:CB	2.69	0.41
35:YP:37:GLY:O	35:YP:41:ARG:HG2	2.21	0.41
36:YQ:20:ALA:HB1	36:YQ:99:PRO:CG	2.51	0.41
36:YQ:139:GLU:CG	36:YQ:140:ALA:N	2.84	0.41
38:YS:20:ARG:HE	38:YS:21:THR:HA	1.86	0.41
38:YS:53:SER:HA	38:YS:56:LEU:CD2	2.50	0.41
40:YU:96:ALA:HA	40:YU:98:LEU:HD23	2.03	0.41
52:Y6:36:LEU:HD13	52:Y6:50:ARG:CZ	2.51	0.41
1:QA:347:G:O2'	1:QA:348:G:H5"	2.21	0.40
1:QA:582:U:C2	1:QA:760:G:C6	3.09	0.40
1:QA:1306:A:H61	1:QA:1331:G:H1'	1.85	0.40
10:QJ:31:GLY:HA3	10:QJ:78:ASN:CG	2.41	0.40
13:QM:3:ARG:HH22	30:RG:113:ARG:HH21	1.69	0.40
25:RA:627:A:N7	35:RP:84:ASN:ND2	2.69	0.40
25:RA:943:U:OP2	35:RP:36:LYS:HG2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1332:G:H8	25:RA:1332:G:H2'	1.71	0.40
25:RA:2322:A:H2'	25:RA:2323:G:O4'	2.21	0.40
26:RB:7:G:H5'	38:RS:29:PHE:CE2	2.56	0.40
31:RH:26:VAL:HG12	31:RH:33:LEU:HB2	2.03	0.40
32:RI:97:ILE:HG12	32:RI:97:ILE:H	1.62	0.40
36:RQ:39:PRO:HA	36:RQ:97:VAL:O	2.21	0.40
40:RU:66:ASN:CG	40:RU:70:ARG:HH21	2.21	0.40
42:RW:38:TYR:CD2	51:R5:30:LEU:HD21	2.56	0.40
43:RX:67:GLY:C	43:RX:69:TYR:H	2.23	0.40
45:RZ:103:ARG:HD3	45:RZ:136:PHE:CD2	2.55	0.40
47:R1:95:LEU:HD23	47:R1:95:LEU:HA	1.94	0.40
50:R4:42:PHE:CZ	50:R4:43:TYR:HB3	2.57	0.40
54:R8:64:TYR:HB3	54:R8:65:GLU:H	1.40	0.40
1:XA:224:C:H2'	1:XA:225:C:H6	1.86	0.40
1:XA:486:U:H2'	1:XA:487:A:H8	1.85	0.40
1:XA:578:C:O2'	1:XA:728:A:N3	2.40	0.40
1:XA:933:G:OP2	7:XG:3:ARG:HB2	2.22	0.40
1:XA:1336:C:O2'	1:XA:1337:G:O5'	2.35	0.40
3:XC:119:ARG:HH21	3:XC:140:ARG:CZ	2.34	0.40
3:XC:188:LEU:HD13	3:XC:188:LEU:HA	1.90	0.40
10:XJ:6:ILE:O	10:XJ:71:LEU:HD12	2.21	0.40
10:XJ:76:ASN:HA	10:XJ:77:PRO:HD2	1.96	0.40
12:XL:44:THR:HA	12:XL:45:PRO:HD3	1.71	0.40
12:XL:61:THR:O	12:XL:63:GLY:N	2.45	0.40
13:XM:34:LEU:HD23	13:XM:34:LEU:HA	1.86	0.40
25:YA:14:A:C6	25:YA:526:A:C2	3.10	0.40
25:YA:244:A:C2	25:YA:255:A:C4	3.09	0.40
25:YA:480:A:H1'	44:YY:44:ILE:HG12	2.03	0.40
25:YA:710:G:H2'	25:YA:711:G:C8	2.56	0.40
25:YA:823:G:H2'	25:YA:824:A:H8	1.84	0.40
25:YA:1972:A:H2'	25:YA:1973:G:C8	2.55	0.40
25:YA:2140:C:H2'	25:YA:2141:G:H8	1.86	0.40
25:YA:2291:U:H2'	25:YA:2292:C:C6	2.56	0.40
25:YA:2308:G:H2'	25:YA:2308:G:N3	2.36	0.40
28:YE:92:THR:HB	28:YE:93:VAL:H	1.57	0.40
29:YF:118:ALA:HA	29:YF:123:LEU:HB3	2.02	0.40
30:YG:61:ALA:HA	30:YG:64:THR:HG22	2.02	0.40
31:YH:66:GLY:O	31:YH:67:LEU:C	2.58	0.40
36:YQ:52:VAL:O	36:YQ:53:ALA:C	2.59	0.40
38:YS:102:ALA:C	38:YS:104:GLY:N	2.73	0.40
44:YY:89:PHE:C	44:YY:90:LEU:HD13	2.41	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:Y4:43:TYR:O	50:Y4:46:GLN:HA	2.20	0.40
52:Y6:13:CYS:HB2	52:Y6:22:ALA:HB3	2.03	0.40
54:Y8:17:THR:O	54:Y8:20:GLY:N	2.47	0.40
54:Y8:40:GLU:O	54:Y8:42:ARG:N	2.54	0.40
55:Y9:2:LYS:HA	55:Y9:2:LYS:HD2	1.86	0.40
1:QA:458:C:H2'	1:QA:464:G:H8	1.86	0.40
3:QC:43:LEU:HD22	3:QC:47:LEU:HD22	2.02	0.40
3:QC:71:ALA:HB2	3:QC:109:PRO:HB3	2.03	0.40
11:QK:99:GLN:HG2	11:QK:105:VAL:CG2	2.45	0.40
12:QL:62:SER:HB2	12:QL:64:TYR:CD1	2.56	0.40
25:RA:17:G:H2'	25:RA:18:C:C6	2.56	0.40
25:RA:495:G:N3	42:RW:61:ASN:ND2	2.66	0.40
25:RA:1332:G:N2	25:RA:1610:A:C8	2.82	0.40
25:RA:1786:A:C2	25:RA:2606:C:H1'	2.57	0.40
25:RA:2335:A:HO2'	25:RA:2336:A:P	2.44	0.40
25:RA:2729:G:H2'	25:RA:2730:C:C6	2.56	0.40
25:RA:2740:A:H2'	25:RA:2741:A:C8	2.56	0.40
25:RA:2820:A:O5'	37:RR:4:LEU:HD23	2.21	0.40
26:RB:65:C:N4	26:RB:108:C:H2'	2.36	0.40
27:RD:34:VAL:C	27:RD:35:LYS:HG3	2.40	0.40
27:RD:96:HIS:CD2	27:RD:102:LYS:HG2	2.56	0.40
36:RQ:76:LYS:HB3	36:RQ:90:VAL:CG1	2.51	0.40
38:RS:69:VAL:HG13	38:RS:101:LEU:HD22	2.03	0.40
38:RS:83:LYS:C	38:RS:109:GLY:HA3	2.42	0.40
40:RU:83:LEU:HG	40:RU:88:ILE:HB	2.03	0.40
52:R6:24:GLU:HB3	52:R6:25:LYS:H	1.74	0.40
54:R8:53:PRO:HD2	54:R8:54:GLU:H	1.84	0.40
1:XA:186(C):G:C6	1:XA:191(E):G:C6	3.09	0.40
1:XA:380:G:N2	1:XA:383:A:OP2	2.55	0.40
1:XA:842:C:H5'	1:XA:843:U:OP1	2.21	0.40
1:XA:1129:C:H5'	1:XA:1130:A:OP1	2.22	0.40
1:XA:1226:C:H4'	19:XS:80:TYR:CZ	2.57	0.40
2:XB:74:LYS:HE2	2:XB:74:LYS:HB3	1.93	0.40
7:XG:89:MET:HE3	7:XG:155:ARG:HB2	2.04	0.40
11:XK:18:ARG:HB3	11:XK:33:THR:OG1	2.21	0.40
22:XV:58:A:H4'	22:XV:59:A:OP1	2.21	0.40
25:YA:77:C:O3'	48:Y2:14:ARG:NH2	2.54	0.40
25:YA:728:G:H4'	27:YD:13:ARG:HD2	2.03	0.40
25:YA:856:C:HO2'	25:YA:857:C:P	2.43	0.40
25:YA:1570:A:H2'	25:YA:1571:A:C8	2.57	0.40
25:YA:2845:G:H5"	39:YT:54:ARG:O	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:68:LYS:HG3	27:YD:68:LYS:O	2.20	0.40
27:YD:107:ALA:HA	27:YD:108:PRO:HD2	2.01	0.40
28:YE:119:ARG:HG2	28:YE:160:TYR:HB2	2.03	0.40
29:YF:59:TYR:HB3	29:YF:60:SER:H	1.70	0.40
29:YF:198:ALA:HA	29:YF:201:VAL:CG1	2.41	0.40
31:YH:45:VAL:O	31:YH:45:VAL:CG1	2.69	0.40
31:YH:128:PRO:CG	31:YH:129:THR:H	2.33	0.40
32:YI:131:LYS:HB3	32:YI:132:PRO:HA	2.01	0.40
35:YP:1:MET:HB3	35:YP:2:LYS:H	1.72	0.40
38:YS:89:ARG:HG2	38:YS:89:ARG:NH1	2.36	0.40
40:YU:19:LYS:O	40:YU:22:LYS:HB2	2.21	0.40
45:YZ:91:LEU:HB3	45:YZ:130:PRO:HB3	2.02	0.40
48:Y2:11:GLU:HA	48:Y2:14:ARG:HD2	2.02	0.40
48:Y2:18:PRO:C	48:Y2:20:GLU:N	2.73	0.40
48:Y2:37:PHE:O	48:Y2:40:SER:HB3	2.21	0.40
48:Y2:53:LEU:O	48:Y2:57:ILE:HG13	2.21	0.40
48:Y2:65:ASN:O	48:Y2:66:GLU:C	2.59	0.40
1:QA:1014:A:C2	1:QA:1219:U:H1'	2.56	0.40
6:QF:33:TYR:CE1	6:QF:78:GLU:HG2	2.56	0.40
6:QF:35:ALA:HA	6:QF:67:MET:HB3	2.02	0.40
25:RA:225:A:H5'	25:RA:226:G:OP2	2.21	0.40
25:RA:244:A:C2	25:RA:255:A:C4	3.10	0.40
25:RA:340:A:H2'	25:RA:341:G:O4'	2.22	0.40
25:RA:593:G:H2'	25:RA:594:U:C6	2.56	0.40
25:RA:1314:C:C2	25:RA:1339:G:N2	2.89	0.40
25:RA:2872:G:C2	25:RA:2873:A:N6	2.90	0.40
26:RB:40:U:H1'	26:RB:45:A:H61	1.87	0.40
27:RD:26:LYS:H	27:RD:26:LYS:HD2	1.87	0.40
28:RE:119:ARG:HG2	28:RE:160:TYR:HB2	2.04	0.40
29:RF:143:ALA:O	29:RF:148:LEU:N	2.53	0.40
36:RQ:66:ILE:O	36:RQ:67:ARG:HB2	2.22	0.40
50:R4:21:VAL:O	50:R4:22:ILE:O	2.40	0.40
50:R4:63:TYR:O	50:R4:65:ASP:N	2.54	0.40
1:XA:339:C:H2'	1:XA:340:U:H6	1.87	0.40
1:XA:405:U:H5"	1:XA:406:G:O4'	2.22	0.40
1:XA:719:C:H1'	18:XR:49:LYS:HB3	2.02	0.40
4:XD:165:MET:O	4:XD:167:GLY:N	2.54	0.40
5:XE:51:VAL:HB	5:XE:52:PRO:HD3	2.04	0.40
8:XH:12:ARG:HD3	8:XH:26:VAL:HB	2.03	0.40
25:YA:831:G:O2'	35:YP:38:GLN:OE1	2.29	0.40
25:YA:857:C:H1'	46:Y0:26:TYR:CE1	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:910:A:C6	36:YQ:13:GLN:HG3	2.57	0.40
25:YA:1658:C:H2'	25:YA:1659:U:C6	2.57	0.40
25:YA:1705:G:C6	25:YA:1706:U:C4	3.09	0.40
25:YA:2781:A:H5"	25:YA:2782:G:H5'	2.02	0.40
26:YB:16:G:C6	26:YB:69:G:C2	3.09	0.40
27:YD:13:ARG:HG2	27:YD:13:ARG:O	2.20	0.40
28:YE:93:VAL:HG21	28:YE:180:ASN:HA	2.03	0.40
35:YP:115:LEU:HB2	35:YP:116:GLY:H	1.53	0.40
36:YQ:139:GLU:HG2	36:YQ:140:ALA:N	2.36	0.40
38:YS:59:LYS:CG	38:YS:60:GLY:N	2.80	0.40
40:YU:17:ILE:HD13	40:YU:17:ILE:HA	1.92	0.40
50:Y4:14:ILE:O	50:Y4:14:ILE:HG23	2.21	0.40
52:Y6:28:ARG:HB3	52:Y6:30:THR:C	2.41	0.40
1:QA:1194:U:H4'	5:QE:22:GLY:CA	2.51	0.40
4:QD:63:LYS:HB2	4:QD:63:LYS:HE3	1.78	0.40
12:QL:53:ARG:HH12	12:QL:92:ASP:HB3	1.86	0.40
12:QL:89:ARG:HB3	12:QL:97:ARG:HA	2.02	0.40
25:RA:144:C:H2'	25:RA:145:G:C8	2.57	0.40
25:RA:459:U:H2'	25:RA:460:A:H8	1.85	0.40
25:RA:669:G:H2'	25:RA:669:G:N3	2.37	0.40
25:RA:676:A:H8	25:RA:2069:G:N2	2.05	0.40
25:RA:990:A:C6	25:RA:1186:G:H1'	2.57	0.40
25:RA:1202:C:O2'	35:RP:3:LEU:HD13	2.21	0.40
25:RA:2107:C:N3	25:RA:2182:G:N2	2.56	0.40
25:RA:2682:U:O4	25:RA:2728:U:H1'	2.21	0.40
27:RD:44:ASN:HB2	27:RD:49:ILE:HA	2.02	0.40
27:RD:209:ALA:O	27:RD:212:SER:HB2	2.22	0.40
28:RE:5:LEU:O	28:RE:28:ALA:HA	2.22	0.40
29:RF:7:TYR:O	29:RF:21:ALA:HA	2.21	0.40
30:RG:59:GLU:O	30:RG:63:ILE:HG23	2.20	0.40
30:RG:117:PHE:HE1	30:RG:120:LEU:HD23	1.87	0.40
32:RI:128:LEU:HD23	32:RI:140:LEU:HD21	2.02	0.40
34:RO:66:LYS:HA	34:RO:79:PHE:O	2.21	0.40
35:RP:18:ARG:HH11	35:RP:27:HIS:CD2	2.40	0.40
36:RQ:46:GLN:OE1	36:RQ:126:PRO:HG3	2.22	0.40
37:RR:116:LEU:HD23	37:RR:116:LEU:HA	1.83	0.40
38:RS:23:ARG:HB2	38:RS:86:ALA:HB2	2.03	0.40
39:RT:109:GLU:O	39:RT:113:LYS:HB2	2.21	0.40
44:RY:11:ASP:O	44:RY:26:LYS:HG3	2.21	0.40
46:R0:12:ASN:HB3	46:R0:13:GLY:H	1.67	0.40
46:R0:43:THR:HG23	46:R0:43:THR:O	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:R4:49:PHE:O	50:R4:50:VAL:CG2	2.69	0.40
51:R5:6:VAL:HA	51:R5:7:PRO:HD3	1.81	0.40
1:XA:19:C:O2'	1:XA:572:A:N1	2.45	0.40
1:XA:477:G:H2'	1:XA:478:A:H8	1.86	0.40
1:XA:484:G:H4'	1:XA:485:G:O5'	2.22	0.40
1:XA:501:C:H1'	1:XA:549:C:H1'	2.02	0.40
1:XA:775:G:H2'	1:XA:776:G:O4'	2.22	0.40
1:XA:1112:C:O2	3:XC:179:ARG:HG2	2.21	0.40
1:XA:1357:A:C5	1:XA:1358:U:C4	3.09	0.40
1:XA:1446:A:HO2'	1:XA:1447:G:P	2.44	0.40
3:XC:56:ASP:HB2	3:XC:67:THR:HB	2.03	0.40
4:XD:120:LEU:HD23	4:XD:120:LEU:HA	1.88	0.40
5:XE:12:LEU:HB3	5:XE:31:LEU:CB	2.51	0.40
5:XE:34:VAL:HG11	5:XE:63:ARG:HG2	2.02	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
14:XN:27:CYS:HB3	14:XN:43:CYS:SG	2.61	0.40
19:XS:15:LEU:HA	19:XS:18:LYS:HB3	2.04	0.40
25:YA:596:G:H2'	25:YA:597:U:O4'	2.21	0.40
25:YA:702:G:H5'	25:YA:703:U:OP2	2.21	0.40
25:YA:1084:A:H2	25:YA:1085:A:N6	2.20	0.40
25:YA:1264:G:OP1	51:Y5:19:ARG:NH2	2.34	0.40
25:YA:1478:G:O2'	25:YA:1479:G:H5'	2.21	0.40
25:YA:1858:G:H2'	25:YA:1883:G:H22	1.87	0.40
25:YA:2052:G:H8	28:YE:141:ILE:HD11	1.87	0.40
25:YA:2555:U:O2	56:Z6:74:C:C6	2.74	0.40
25:YA:2578:G:C5	28:YE:140:SER:HB2	2.56	0.40
27:YD:72:LYS:HG2	27:YD:103:ARG:HH22	1.85	0.40
28:YE:57:LYS:HD2	28:YE:57:LYS:HA	1.96	0.40
29:YF:33:LEU:O	29:YF:37:VAL:HG23	2.21	0.40
29:YF:36:VAL:HG11	29:YF:183:VAL:HG11	2.04	0.40
29:YF:61:GLY:O	29:YF:62:ARG:C	2.57	0.40
30:YG:18:GLU:OE1	30:YG:22:ARG:NH1	2.49	0.40
32:YI:75:LEU:HD23	32:YI:105:HIS:HD2	1.85	0.40
38:YS:24:LEU:HD22	38:YS:24:LEU:N	2.37	0.40
38:YS:99:LYS:HE2	38:YS:103:GLU:OE2	2.20	0.40
40:YU:61:TRP:O	40:YU:65:ILE:HG13	2.22	0.40
41:YV:21:ARG:HD2	41:YV:91:TYR:CE1	2.56	0.40
48:Y2:15:LYS:H	48:Y2:67:LYS:HZ3	1.70	0.40
50:Y4:48:ARG:HH12	50:Y4:52:THR:H	1.69	0.40
1:QA:428:G:O3'	4:QD:36:ARG:NH2	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:481:G:O2'	1:QA:482:A:P	2.79	0.40
1:QA:719:C:O2'	18:QR:49:LYS:HB3	2.22	0.40
1:QA:1000:A:N1	1:QA:1040:U:O4	2.55	0.40
10:QJ:13:HIS:HB3	10:QJ:68:HIS:CE1	2.56	0.40
13:QM:4:ILE:H	13:QM:9:ILE:CG2	2.35	0.40
25:RA:246:C:N4	54:R8:8:LYS:HG3	2.37	0.40
25:RA:467:G:OP1	53:R7:33:ARG:NH1	2.53	0.40
25:RA:847:U:O4	25:RA:933:A:C6	2.74	0.40
25:RA:2001:A:H2'	25:RA:2002:G:C8	2.56	0.40
25:RA:2243:U:H2'	25:RA:2244:U:C6	2.57	0.40
26:RB:93:C:H2'	26:RB:94:C:H6	1.86	0.40
29:RF:127:GLU:C	29:RF:129:PHE:H	2.25	0.40
31:RH:52:VAL:HG21	31:RH:68:THR:HG22	2.03	0.40
31:RH:127:GLU:HB3	31:RH:128:PRO:HD2	1.92	0.40
32:RI:62:LYS:HA	32:RI:133:HIS:NE2	2.37	0.40
46:R0:68:GLU:HG2	46:R0:80:HIS:HB2	2.04	0.40
47:R1:73:LEU:HD23	47:R1:73:LEU:HA	1.83	0.40
50:R4:26:SER:O	50:R4:27:THR:O	2.40	0.40
54:R8:53:PRO:CG	54:R8:54:GLU:N	2.84	0.40
1:XA:256:U:H2'	1:XA:257:G:O4'	2.22	0.40
1:XA:327:A:C5	1:XA:329:A:C5	3.09	0.40
1:XA:619:U:N3	4:XD:135:LEU:HD23	2.30	0.40
1:XA:651:C:H2'	1:XA:652:U:C6	2.57	0.40
1:XA:812:C:H1'	1:XA:813:U:OP2	2.21	0.40
1:XA:1036:G:H5'	1:XA:1037:C:OP2	2.21	0.40
1:XA:1105:A:H2'	1:XA:1106:G:H8	1.87	0.40
2:XB:166:ASP:HB3	2:XB:169:LYS:HB2	2.02	0.40
5:XE:89:ILE:HG12	5:XE:91:LEU:CD1	2.52	0.40
19:XS:65:ASN:O	50:Y4:59:PHE:CZ	2.74	0.40
25:YA:1156:A:C8	40:YU:51:LYS:HG3	2.57	0.40
25:YA:2532:G:O2'	25:YA:2657:A:N1	2.49	0.40
25:YA:2683:C:O2'	28:YE:13:ARG:NH2	2.54	0.40
25:YA:2822:G:H2'	25:YA:2823:A:H5"	2.03	0.40
26:YB:95:U:H2'	26:YB:96:G:C8	2.56	0.40
27:YD:35:LYS:CE	27:YD:64:ILE:C	2.89	0.40
27:YD:142:VAL:HA	27:YD:194:GLY:H	1.86	0.40
27:YD:230:ASP:OD1	27:YD:230:ASP:N	2.54	0.40
28:YE:27:LEU:HG	28:YE:27:LEU:O	2.22	0.40
28:YE:93:VAL:H	28:YE:95:ILE:CD1	2.22	0.40
28:YE:154:LYS:HD3	28:YE:154:LYS:C	2.42	0.40
29:YF:119:ARG:HH11	29:YF:119:ARG:CG	2.29	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YF:124:LEU:HD12	29:YF:125:LEU:O	2.22	0.40
29:YF:198:ALA:C	29:YF:200:GLU:H	2.25	0.40
31:YH:6:ARG:C	31:YH:8:PRO:CD	2.89	0.40
38:YS:83:LYS:HE3	38:YS:84:GLN:HG3	2.02	0.40
45:YZ:45:ASP:O	45:YZ:49:ARG:HG2	2.22	0.40
49:Y3:12:PRO:O	49:Y3:14:GLY:N	2.55	0.40
50:Y4:14:ILE:HG22	50:Y4:21:VAL:O	2.21	0.40
54:Y8:39:LYS:HD2	54:Y8:39:LYS:O	2.22	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)
32:RI:91:SER:OG	1:XA:368:U:OP1[4_555]	2.13	0.07

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	QB	235/256 (92%)	174 (74%)	44 (19%)	17 (7%)	1	13
2	XB	235/256 (92%)	177 (75%)	43 (18%)	15 (6%)	1	17
3	QC	203/239 (85%)	164 (81%)	33 (16%)	6 (3%)	4	33
3	XC	203/239 (85%)	172 (85%)	28 (14%)	3 (2%)	10	47
4	QD	206/209 (99%)	186 (90%)	17 (8%)	3 (2%)	10	47
4	XD	206/209 (99%)	176 (85%)	25 (12%)	5 (2%)	6	37
5	QE	149/162 (92%)	136 (91%)	9 (6%)	4 (3%)	5	35
5	XE	149/162 (92%)	134 (90%)	13 (9%)	2 (1%)	12	50
6	QF	99/101 (98%)	95 (96%)	4 (4%)	0	100	100
6	XF	99/101 (98%)	94 (95%)	5 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	QG	153/156 (98%)	135 (88%)	16 (10%)	2 (1%)	12	50
7	XG	153/156 (98%)	138 (90%)	13 (8%)	2 (1%)	12	50
8	QH	136/138 (99%)	121 (89%)	14 (10%)	1 (1%)	22	61
8	XH	136/138 (99%)	120 (88%)	12 (9%)	4 (3%)	4	33
9	QI	125/128 (98%)	103 (82%)	17 (14%)	5 (4%)	3	26
9	XI	125/128 (98%)	97 (78%)	24 (19%)	4 (3%)	4	31
10	QJ	97/105 (92%)	77 (79%)	16 (16%)	4 (4%)	3	26
10	XJ	97/105 (92%)	79 (81%)	13 (13%)	5 (5%)	2	20
11	QK	117/129 (91%)	101 (86%)	14 (12%)	2 (2%)	9	45
11	XK	117/129 (91%)	101 (86%)	14 (12%)	2 (2%)	9	45
12	QL	123/132 (93%)	85 (69%)	24 (20%)	14 (11%)	0	6
12	XL	123/132 (93%)	85 (69%)	24 (20%)	14 (11%)	0	6
13	QM	119/126 (94%)	95 (80%)	15 (13%)	9 (8%)	1	12
13	XM	119/126 (94%)	94 (79%)	16 (13%)	9 (8%)	1	12
14	QN	58/61 (95%)	50 (86%)	4 (7%)	4 (7%)	1	14
14	XN	58/61 (95%)	46 (79%)	6 (10%)	6 (10%)	0	7
15	QO	86/89 (97%)	80 (93%)	5 (6%)	1 (1%)	13	51
15	XO	86/89 (97%)	80 (93%)	4 (5%)	2 (2%)	6	38
16	QP	82/88 (93%)	73 (89%)	8 (10%)	1 (1%)	13	51
16	XP	82/88 (93%)	72 (88%)	9 (11%)	1 (1%)	13	51
17	QQ	98/105 (93%)	91 (93%)	5 (5%)	2 (2%)	7	41
17	XQ	98/105 (93%)	88 (90%)	10 (10%)	0	100	100
18	QR	68/88 (77%)	56 (82%)	9 (13%)	3 (4%)	2	23
18	XR	68/88 (77%)	61 (90%)	6 (9%)	1 (2%)	10	47
19	QS	82/93 (88%)	55 (67%)	16 (20%)	11 (13%)	0	4
19	XS	82/93 (88%)	54 (66%)	18 (22%)	10 (12%)	0	5
20	QT	97/106 (92%)	76 (78%)	15 (16%)	6 (6%)	1	17
20	XT	97/106 (92%)	77 (79%)	16 (16%)	4 (4%)	3	26
21	QU	23/27 (85%)	19 (83%)	3 (13%)	1 (4%)	2	24
21	XU	23/27 (85%)	18 (78%)	4 (17%)	1 (4%)	2	24
27	RD	270/276 (98%)	226 (84%)	32 (12%)	12 (4%)	2	23

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
27	YD	270/276 (98%)	204 (76%)	47 (17%)	19 (7%)	1	14
28	RE	203/206 (98%)	120 (59%)	41 (20%)	42 (21%)	0	1
28	YE	203/206 (98%)	120 (59%)	41 (20%)	42 (21%)	0	1
29	RF	200/210 (95%)	181 (90%)	13 (6%)	6 (3%)	4	33
29	YF	200/210 (95%)	144 (72%)	36 (18%)	20 (10%)	0	8
30	RG	179/182 (98%)	139 (78%)	25 (14%)	15 (8%)	1	10
30	YG	179/182 (98%)	142 (79%)	25 (14%)	12 (7%)	1	15
31	RH	168/180 (93%)	94 (56%)	36 (21%)	38 (23%)	0	1
31	YH	168/180 (93%)	94 (56%)	36 (21%)	38 (23%)	0	1
32	RI	144/148 (97%)	109 (76%)	24 (17%)	11 (8%)	1	12
32	YI	144/148 (97%)	108 (75%)	23 (16%)	13 (9%)	1	9
33	RN	136/140 (97%)	104 (76%)	20 (15%)	12 (9%)	1	9
33	YN	136/140 (97%)	107 (79%)	16 (12%)	13 (10%)	0	8
34	RO	120/122 (98%)	109 (91%)	9 (8%)	2 (2%)	9	45
34	YO	120/122 (98%)	108 (90%)	10 (8%)	2 (2%)	9	45
35	RP	148/150 (99%)	109 (74%)	26 (18%)	13 (9%)	1	9
35	YP	148/150 (99%)	101 (68%)	35 (24%)	12 (8%)	1	11
36	RQ	139/141 (99%)	95 (68%)	30 (22%)	14 (10%)	0	7
36	YQ	139/141 (99%)	97 (70%)	28 (20%)	14 (10%)	0	7
37	RR	116/118 (98%)	106 (91%)	5 (4%)	5 (4%)	2	24
37	YR	116/118 (98%)	99 (85%)	11 (10%)	6 (5%)	2	20
38	RS	109/112 (97%)	76 (70%)	22 (20%)	11 (10%)	0	7
38	YS	109/112 (97%)	62 (57%)	29 (27%)	18 (16%)	0	3
39	RT	135/146 (92%)	108 (80%)	15 (11%)	12 (9%)	1	9
39	YT	135/146 (92%)	108 (80%)	17 (13%)	10 (7%)	1	13
40	RU	115/118 (98%)	102 (89%)	9 (8%)	4 (4%)	3	30
40	YU	115/118 (98%)	102 (89%)	11 (10%)	2 (2%)	9	45
41	RV	99/101 (98%)	82 (83%)	11 (11%)	6 (6%)	1	17
41	YV	99/101 (98%)	79 (80%)	12 (12%)	8 (8%)	1	11
42	RW	111/113 (98%)	99 (89%)	8 (7%)	4 (4%)	3	29
42	YW	111/113 (98%)	100 (90%)	9 (8%)	2 (2%)	8	43

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
43	RX	90/96 (94%)	77 (86%)	11 (12%)	2 (2%)	6	39
43	YX	90/96 (94%)	82 (91%)	6 (7%)	2 (2%)	6	39
44	RY	100/110 (91%)	71 (71%)	13 (13%)	16 (16%)	0	3
44	YY	100/110 (91%)	70 (70%)	18 (18%)	12 (12%)	0	5
45	RZ	181/206 (88%)	127 (70%)	34 (19%)	20 (11%)	0	6
45	YZ	181/206 (88%)	135 (75%)	28 (16%)	18 (10%)	0	8
46	R0	80/85 (94%)	66 (82%)	13 (16%)	1 (1%)	12	50
46	Y0	80/85 (94%)	73 (91%)	7 (9%)	0	100	100
47	R1	95/98 (97%)	75 (79%)	11 (12%)	9 (10%)	0	8
47	Y1	95/98 (97%)	72 (76%)	17 (18%)	6 (6%)	1	17
48	R2	67/72 (93%)	54 (81%)	9 (13%)	4 (6%)	1	17
48	Y2	67/72 (93%)	46 (69%)	12 (18%)	9 (13%)	0	4
49	R3	57/60 (95%)	52 (91%)	3 (5%)	2 (4%)	3	30
49	Y3	57/60 (95%)	53 (93%)	3 (5%)	1 (2%)	8	43
50	R4	69/71 (97%)	22 (32%)	21 (30%)	26 (38%)	0	0
50	Y4	69/71 (97%)	34 (49%)	14 (20%)	21 (30%)	0	0
51	R5	57/60 (95%)	33 (58%)	10 (18%)	14 (25%)	0	0
51	Y5	56/60 (93%)	46 (82%)	8 (14%)	2 (4%)	3	29
52	R6	47/54 (87%)	23 (49%)	13 (28%)	11 (23%)	0	0
52	Y6	47/54 (87%)	22 (47%)	17 (36%)	8 (17%)	0	2
53	R7	47/49 (96%)	45 (96%)	1 (2%)	1 (2%)	7	40
53	Y7	47/49 (96%)	43 (92%)	3 (6%)	1 (2%)	7	40
54	R8	62/65 (95%)	36 (58%)	14 (23%)	12 (19%)	0	2
54	Y8	62/65 (95%)	38 (61%)	15 (24%)	9 (14%)	0	4
55	R9	35/37 (95%)	35 (100%)	0	0	100	100
55	Y9	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
All	All	11469/12128 (95%)	9030 (79%)	1608 (14%)	831 (7%)	1	13

All (831) Ramachandran outliers are listed below:

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

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Mol	Chain	Res	Type
3	QC	190	ARG
4	QD	33	MET
12	QL	18	VAL
12	QL	27	LEU
12	QL	62	SER
12	QL	121	GLY
13	QM	67	GLU
13	QM	106	ASN
13	QM	118	ALA
14	QN	16	PHE
19	QS	12	ASP
19	QS	45	VAL
20	QT	49	ALA
27	RD	26	LYS
27	RD	122	ASP
27	RD	242	ARG
28	RE	4	ILE
28	RE	7	VAL
28	RE	9	VAL
28	RE	22	PRO
28	RE	54	GLN
28	RE	57	LYS
28	RE	60	ASN
28	RE	63	LEU
28	RE	64	LYS
28	RE	68	ALA
28	RE	70	ALA
28	RE	73	GLU
28	RE	90	THR
28	RE	92	THR
28	RE	93	VAL
28	RE	169	ASN
28	RE	187	ALA
28	RE	189	PRO
29	RF	89	VAL
29	RF	134	GLY
31	RH	10	PRO
31	RH	12	PRO
31	RH	83	TYR
31	RH	85	LYS
31	RH	86	GLU
31	RH	87	LEU

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Mol	Chain	Res	Type
31	RH	90	LYS
31	RH	92	ILE
31	RH	126	PRO
31	RH	127	GLU
31	RH	128	PRO
31	RH	137	ASP
31	RH	138	LYS
31	RH	153	LYS
31	RH	154	PRO
31	RH	155	SER
31	RH	169	VAL
32	RI	115	ALA
33	RN	9	VAL
33	RN	22	THR
33	RN	96	GLU
33	RN	131	GLN
34	RO	5	GLN
35	RP	15	ARG
35	RP	61	ARG
35	RP	148	LEU
36	RQ	6	ARG
36	RQ	18	LYS
36	RQ	22	LYS
36	RQ	27	VAL
36	RQ	81	VAL
36	RQ	90	VAL
36	RQ	134	ARG
37	RR	3	HIS
37	RR	4	LEU
38	RS	57	LYS
38	RS	88	ASP
38	RS	89	ARG
39	RT	2	ASN
39	RT	3	ARG
39	RT	106	SER
39	RT	112	ARG
39	RT	124	ASP
40	RU	91	ASP
41	RV	48	GLY
41	RV	50	PRO
41	RV	100	ARG
42	RW	111	HIS

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Mol	Chain	Res	Type
44	RY	3	VAL
44	RY	50	ARG
44	RY	57	GLN
44	RY	77	PRO
44	RY	78	ALA
45	RZ	6	LYS
45	RZ	111	VAL
48	R2	70	GLN
48	R2	71	ASN
50	R4	5	ILE
50	R4	14	ILE
50	R4	16	CYS
50	R4	22	ILE
50	R4	23	GLU
50	R4	36	CYS
50	R4	37	SER
50	R4	40	HIS
50	R4	42	PHE
50	R4	43	TYR
50	R4	49	PHE
50	R4	50	VAL
50	R4	51	ASP
50	R4	53	GLU
50	R4	62	ARG
50	R4	66	SER
50	R4	68	ARG
51	R5	4	HIS
51	R5	35	GLU
51	R5	51	TYR
51	R5	53	ALA
52	R6	15	GLU
54	R8	29	LYS
54	R8	31	HIS
54	R8	34	TRP
54	R8	52	LYS
54	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

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Mol	Chain	Res	Type
12	XL	18	VAL
12	XL	27	LEU
12	XL	62	SER
12	XL	121	GLY
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	96	GLY
27	YD	26	LYS
27	YD	28	GLU
27	YD	123	ALA
27	YD	231	HIS
28	YE	4	ILE
28	YE	7	VAL
28	YE	9	VAL
28	YE	22	PRO
28	YE	54	GLN
28	YE	57	LYS
28	YE	60	ASN
28	YE	63	LEU
28	YE	64	LYS
28	YE	68	ALA
28	YE	70	ALA
28	YE	73	GLU
28	YE	90	THR
28	YE	92	THR
28	YE	93	VAL
28	YE	169	ASN
28	YE	187	ALA
28	YE	189	PRO
29	YF	25	PRO
29	YF	66	PRO
29	YF	68	LYS
29	YF	73	ALA
29	YF	89	VAL
29	YF	128	ALA
29	YF	176	LEU

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Mol	Chain	Res	Type
30	YG	96	ARG
31	YH	10	PRO
31	YH	12	PRO
31	YH	83	TYR
31	YH	85	LYS
31	YH	86	GLU
31	YH	87	LEU
31	YH	90	LYS
31	YH	92	ILE
31	YH	126	PRO
31	YH	127	GLU
31	YH	128	PRO
31	YH	137	ASP
31	YH	138	LYS
31	YH	153	LYS
31	YH	154	PRO
31	YH	155	SER
31	YH	169	VAL
32	YI	133	HIS
32	YI	145	VAL
33	YN	9	VAL
33	YN	22	THR
33	YN	36	GLY
35	YP	6	LEU
35	YP	15	ARG
35	YP	95	VAL
35	YP	148	LEU
36	YQ	6	ARG
36	YQ	18	LYS
36	YQ	22	LYS
36	YQ	27	VAL
36	YQ	81	VAL
36	YQ	90	VAL
36	YQ	134	ARG
37	YR	3	HIS
38	YS	4	LEU
38	YS	12	PHE
38	YS	14	VAL
38	YS	23	ARG
38	YS	56	LEU
38	YS	57	LYS
38	YS	88	ASP

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Mol	Chain	Res	Type
38	YS	89	ARG
38	YS	90	GLY
38	YS	107	GLU
39	YT	2	ASN
39	YT	123	GLN
39	YT	124	ASP
40	YU	93	LYS
41	YV	45	THR
43	YX	68	ARG
44	YY	50	ARG
44	YY	57	GLN
44	YY	77	PRO
44	YY	78	ALA
45	YZ	6	LYS
45	YZ	146	ILE
45	YZ	152	ALA
45	YZ	159	PRO
45	YZ	166	SER
47	Y1	30	VAL
47	Y1	84	GLY
47	Y1	91	LYS
47	Y1	95	LEU
48	Y2	16	LEU
48	Y2	43	GLN
48	Y2	47	ASN
48	Y2	48	HIS
48	Y2	71	ASN
50	Y4	24	THR
50	Y4	40	HIS
50	Y4	49	PHE
52	Y6	15	GLU
53	Y7	48	LYS
54	Y8	29	LYS
54	Y8	31	HIS
54	Y8	34	TRP
54	Y8	52	LYS
54	Y8	62	LEU
2	QB	15	VAL
2	QB	96	ARG
2	QB	229	VAL
2	QB	230	VAL
2	QB	237	ALA

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Mol	Chain	Res	Type
3	QC	79	ARG
4	QD	166	LYS
5	QE	115	VAL
8	QH	129	VAL
9	QI	41	VAL
9	QI	117	HIS
10	QJ	59	SER
11	QK	103	LEU
12	QL	49	ASN
12	QL	65	GLU
12	QL	110	VAL
12	QL	115	LYS
12	QL	116	SER
12	QL	128	ALA
13	QM	12	ASN
13	QM	120	LYS
14	QN	12	ARG
17	QQ	74	LEU
17	QQ	81	ARG
19	QS	3	ARG
19	QS	11	VAL
19	QS	26	GLY
19	QS	31	ILE
19	QS	41	VAL
27	RD	32	SER
28	RE	8	LYS
28	RE	37	ARG
28	RE	53	PRO
28	RE	61	ARG
28	RE	78	LEU
28	RE	88	GLY
28	RE	186	GLY
28	RE	190	GLY
28	RE	204	ALA
29	RF	67	GLN
29	RF	73	ALA
30	RG	4	ASP
30	RG	5	VAL
30	RG	14	GLU
30	RG	96	ARG
30	RG	137	GLU
30	RG	146	TYR

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Mol	Chain	Res	Type
31	RH	3	ARG
31	RH	8	PRO
31	RH	55	PRO
31	RH	59	ARG
31	RH	84	SER
31	RH	151	ILE
31	RH	156	ALA
31	RH	168	PRO
32	RI	10	GLU
32	RI	11	ASN
32	RI	15	VAL
32	RI	133	HIS
32	RI	145	VAL
35	RP	6	LEU
35	RP	65	ARG
35	RP	67	MET
35	RP	103	ALA
35	RP	106	LEU
35	RP	141	ALA
36	RQ	13	GLN
36	RQ	24	GLY
36	RQ	28	ALA
36	RQ	57	HIS
37	RR	107	ASP
38	RS	4	LEU
38	RS	107	GLU
39	RT	37	GLY
40	RU	90	VAL
41	RV	49	THR
41	RV	79	VAL
43	RX	41	ASN
44	RY	45	VAL
44	RY	48	ALA
44	RY	63	LYS
45	RZ	51	ALA
45	RZ	108	PRO
45	RZ	116	VAL
45	RZ	153	SER
45	RZ	177	PRO
47	R1	30	VAL
47	R1	80	LEU
47	R1	84	GLY

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Mol	Chain	Res	Type
47	R1	91	LYS
47	R1	95	LEU
48	R2	43	GLN
49	R3	26	LEU
50	R4	9	LEU
50	R4	24	THR
51	R5	43	HIS
51	R5	55	ARG
52	R6	7	ILE
52	R6	45	LYS
2	XB	15	VAL
4	XD	30	LYS
4	XD	166	LYS
5	XE	115	VAL
7	XG	55	GLY
8	XH	50	ARG
9	XI	41	VAL
9	XI	127	LYS
10	XJ	30	SER
10	XJ	86	MET
12	XL	65	GLU
12	XL	110	VAL
12	XL	115	LYS
12	XL	116	SER
12	XL	128	ALA
13	XM	6	GLY
13	XM	21	TYR
19	XS	41	VAL
19	XS	45	VAL
20	XT	99	LEU
27	YD	3	VAL
27	YD	32	SER
27	YD	58	HIS
27	YD	122	ASP
27	YD	169	GLU
28	YE	8	LYS
28	YE	20	ALA
28	YE	53	PRO
28	YE	61	ARG
28	YE	78	LEU
28	YE	88	GLY
28	YE	186	GLY

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Mol	Chain	Res	Type
28	YE	190	GLY
28	YE	204	ALA
29	YF	18	ARG
29	YF	107	LYS
29	YF	108	LYS
29	YF	111	ALA
29	YF	132	VAL
29	YF	134	GLY
29	YF	168	ARG
30	YG	4	ASP
30	YG	36	LYS
31	YH	3	ARG
31	YH	8	PRO
31	YH	55	PRO
31	YH	59	ARG
31	YH	84	SER
31	YH	151	ILE
31	YH	156	ALA
31	YH	168	PRO
32	YI	12	LEU
33	YN	23	LEU
33	YN	96	GLU
34	YO	5	GLN
35	YP	106	LEU
36	YQ	24	GLY
36	YQ	28	ALA
37	YR	4	LEU
37	YR	45	ARG
37	YR	107	ASP
38	YS	61	ASN
38	YS	87	PHE
38	YS	96	GLY
38	YS	100	ALA
38	YS	109	GLY
39	YT	13	ARG
39	YT	39	ARG
39	YT	106	SER
41	YV	31	ALA
41	YV	48	GLY
41	YV	79	VAL
42	YW	111	HIS
44	YY	58	GLY

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Mol	Chain	Res	Type
44	YY	102	CYS
45	YZ	53	ILE
45	YZ	59	LEU
45	YZ	81	ARG
48	Y2	24	LEU
48	Y2	44	LEU
48	Y2	70	GLN
50	Y4	5	ILE
50	Y4	18	CYS
50	Y4	22	ILE
50	Y4	37	SER
50	Y4	43	TYR
50	Y4	50	VAL
52	Y6	7	ILE
52	Y6	16	CYS
52	Y6	33	LYS
2	QB	26	PRO
2	QB	87	ARG
2	QB	207	ALA
3	QC	4	LYS
3	QC	51	GLY
4	QD	155	LEU
5	QE	77	PRO
10	QJ	30	SER
12	QL	51	ALA
12	QL	123	LYS
14	QN	14	PRO
15	QO	23	GLY
19	QS	9	VAL
19	QS	14	HIS
19	QS	28	LYS
20	QT	96	GLY
27	RD	46	GLN
27	RD	239	ARG
28	RE	20	ALA
28	RE	62	PRO
28	RE	69	LYS
28	RE	71	GLY
28	RE	82	ARG
28	RE	117	MET
28	RE	130	GLY
28	RE	132	HIS

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Mol	Chain	Res	Type
29	RF	66	PRO
29	RF	133	ASN
30	RG	32	PRO
30	RG	116	ASP
31	RH	50	VAL
31	RH	81	GLU
31	RH	152	ARG
32	RI	102	SER
32	RI	118	LYS
32	RI	122	GLU
33	RN	8	GLN
33	RN	23	LEU
33	RN	95	PRO
33	RN	130	HIS
34	RO	97	ARG
36	RQ	88	GLY
36	RQ	91	GLU
37	RR	74	LYS
38	RS	12	PHE
38	RS	61	ASN
39	RT	12	SER
39	RT	97	ALA
40	RU	117	GLN
43	RX	67	GLY
44	RY	58	GLY
45	RZ	166	SER
47	R1	76	ARG
48	R2	47	ASN
49	R3	27	GLY
50	R4	27	THR
50	R4	46	GLN
52	R6	33	LYS
52	R6	35	GLU
52	R6	49	HIS
54	R8	46	ARG
54	R8	47	LYS
2	XB	13	ALA
2	XB	22	LYS
2	XB	24	TRP
2	XB	135	GLN
2	XB	207	ALA
4	XD	73	ARG

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Mol	Chain	Res	Type
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
12	XL	51	ALA
12	XL	123	LYS
13	XM	4	ILE
13	XM	12	ASN
13	XM	42	ALA
19	XS	27	GLU
19	XS	28	LYS
27	YD	111	LEU
27	YD	239	ARG
27	YD	242	ARG
27	YD	262	ARG
28	YE	37	ARG
28	YE	62	PRO
28	YE	69	LYS
28	YE	71	GLY
28	YE	82	ARG
28	YE	117	MET
28	YE	130	GLY
28	YE	132	HIS
31	YH	50	VAL
31	YH	81	GLU
31	YH	152	ARG
32	YI	11	ASN
32	YI	113	ARG
32	YI	117	GLU
32	YI	122	GLU
33	YN	131	GLN
35	YP	29	LYS
36	YQ	13	GLN
36	YQ	57	HIS
36	YQ	88	GLY
36	YQ	91	GLU
37	YR	86	ARG
38	YS	19	LYS
38	YS	74	ALA

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Mol	Chain	Res	Type
38	YS	75	GLU
39	YT	97	ALA
41	YV	49	THR
41	YV	53	GLU
41	YV	100	ARG
44	YY	63	LYS
45	YZ	13	GLU
45	YZ	92	SER
45	YZ	113	ALA
45	YZ	181	GLU
49	Y3	3	ARG
50	Y4	23	GLU
50	Y4	30	GLU
50	Y4	34	GLU
50	Y4	66	SER
51	Y5	47	PRO
52	Y6	19	ARG
52	Y6	49	HIS
2	QB	22	LYS
2	QB	126	GLU
2	QB	209	ARG
9	QI	56	LEU
11	QK	125	PHE
12	QL	64	TYR
13	QM	6	GLY
13	QM	13	LYS
18	QR	20	ALA
18	QR	54	ARG
20	QT	71	THR
20	QT	73	HIS
21	QU	9	ARG
27	RD	3	VAL
27	RD	123	ALA
27	RD	237	GLU
28	RE	66	HIS
28	RE	126	PRO
30	RG	36	LYS
30	RG	86	MET
31	RH	13	LYS
31	RH	109	PHE
31	RH	159	GLU
32	RI	117	GLU

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Mol	Chain	Res	Type
35	RP	21	ARG
35	RP	90	ARG
35	RP	95	VAL
37	RR	71	GLN
38	RS	109	GLY
39	RT	38	ASN
39	RT	39	ARG
40	RU	98	LEU
42	RW	18	ARG
42	RW	63	ASP
42	RW	68	ARG
44	RY	4	LYS
44	RY	53	PRO
44	RY	99	CYS
45	RZ	7	ALA
45	RZ	13	GLU
45	RZ	92	SER
45	RZ	112	ARG
50	R4	8	LYS
51	R5	14	ALA
51	R5	37	LYS
51	R5	42	PRO
51	R5	45	VAL
51	R5	48	GLU
52	R6	16	CYS
53	R7	48	LYS
54	R8	25	MET
54	R8	30	ARG
54	R8	53	PRO
54	R8	57	ARG
2	XB	19	HIS
2	XB	101	MET
2	XB	155	LEU
8	XH	129	VAL
12	XL	64	TYR
14	XN	15	LYS
14	XN	32	SER
15	XO	88	ARG
18	XR	20	ALA
19	XS	9	VAL
20	XT	98	PRO
21	XU	9	ARG

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Mol	Chain	Res	Type
27	YD	12	SER
27	YD	73	VAL
28	YE	66	HIS
28	YE	126	PRO
29	YF	43	LYS
29	YF	130	ALA
29	YF	145	GLU
30	YG	14	GLU
30	YG	82	LEU
30	YG	86	MET
30	YG	116	ASP
31	YH	13	LYS
31	YH	47	GLU
31	YH	109	PHE
31	YH	159	GLU
32	YI	10	GLU
32	YI	114	LEU
33	YN	11	PRO
33	YN	28	THR
33	YN	47	ALA
35	YP	25	SER
35	YP	61	ARG
35	YP	93	GLY
39	YT	17	THR
43	YX	40	LYS
44	YY	42	VAL
44	YY	51	VAL
44	YY	53	PRO
50	Y4	9	LEU
50	Y4	16	CYS
50	Y4	25	TYR
50	Y4	42	PHE
50	Y4	54	GLY
50	Y4	60	GLN
52	Y6	35	GLU
54	Y8	25	MET
54	Y8	53	PRO
54	Y8	57	ARG
2	QB	234	PRO
5	QE	96	PRO
7	QG	7	ALA
9	QI	121	ARG

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Mol	Chain	Res	Type
12	QL	63	GLY
13	QM	4	ILE
18	QR	26	LEU
20	QT	97	ALA
27	RD	238	GLY
28	RE	79	ARG
30	RG	82	LEU
30	RG	117	PHE
31	RH	11	VAL
31	RH	27	LYS
31	RH	47	GLU
31	RH	77	LYS
31	RH	170	ARG
32	RI	12	LEU
33	RN	18	ALA
33	RN	57	ALA
33	RN	135	PRO
35	RP	57	THR
38	RS	97	ARG
38	RS	110	LEU
44	RY	5	MET
44	RY	39	VAL
44	RY	41	GLY
44	RY	62	GLU
45	RZ	61	LEU
45	RZ	66	SER
45	RZ	81	ARG
45	RZ	130	PRO
46	R0	18	ALA
47	R1	74	VAL
47	R1	82	LEU
50	R4	30	GLU
50	R4	69	LYS
52	R6	9	LEU
52	R6	19	ARG
54	R8	64	TYR
2	XB	121	LEU
3	XC	181	ASN
10	XJ	27	ALA
12	XL	63	GLY
13	XM	101	GLN
15	XO	23	GLY

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Mol	Chain	Res	Type
20	XT	97	ALA
27	YD	33	LEU
28	YE	79	ARG
29	YF	47	GLY
29	YF	118	ALA
29	YF	136	THR
30	YG	5	VAL
30	YG	53	LEU
31	YH	11	VAL
31	YH	27	LYS
31	YH	77	LYS
31	YH	170	ARG
32	YI	18	VAL
32	YI	118	LYS
33	YN	95	PRO
33	YN	134	ARG
33	YN	135	PRO
35	YP	7	ARG
35	YP	65	ARG
35	YP	115	LEU
39	YT	86	ILE
40	YU	117	GLN
41	YV	50	PRO
44	YY	3	VAL
44	YY	39	VAL
45	YZ	7	ALA
45	YZ	143	GLY
45	YZ	153	SER
47	Y1	74	VAL
50	Y4	14	ILE
51	Y5	5	PRO
52	Y6	21	TYR
54	Y8	64	TYR
2	QB	155	LEU
2	QB	204	ASN
10	QJ	82	ILE
13	QM	10	PRO
14	QN	15	LYS
20	QT	98	PRO
27	RD	125	ILE
30	RG	52	ILE
30	RG	88	ILE

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Mol	Chain	Res	Type
31	RH	7	LEU
31	RH	26	VAL
38	RS	82	ILE
39	RT	40	THR
47	R1	55	GLY
50	R4	33	VAL
50	R4	70	GLY
51	R5	57	VAL
52	R6	21	TYR
52	R6	34	LEU
2	XB	126	GLU
2	XB	237	ALA
10	XJ	91	PRO
14	XN	60	SER
27	YD	178	PRO
27	YD	241	PRO
30	YG	117	PHE
31	YH	7	LEU
31	YH	26	VAL
33	YN	127	ASP
34	YO	97	ARG
45	YZ	61	LEU
45	YZ	177	PRO
47	Y1	55	GLY
2	QB	5	ILE
16	QP	46	PRO
28	RE	86	PRO
28	RE	184	VAL
36	RQ	86	GLY
45	RZ	53	ILE
2	XB	26	PRO
5	XE	74	GLY
28	YE	86	PRO
28	YE	184	VAL
32	YI	15	VAL
36	YQ	86	GLY
3	QC	81	GLY
5	QE	74	GLY
19	QS	46	GLY
27	RD	35	LYS
45	RZ	94	GLU
51	R5	46	CYS

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Mol	Chain	Res	Type
19	XS	26	GLY
19	XS	46	GLY
39	YT	37	GLY
42	YW	14	PRO
45	YZ	160	GLY
9	QI	89	ASN
10	QJ	37	PRO
33	RN	134	ARG
39	RT	86	ILE
45	RZ	62	PRO
45	RZ	165	VAL
51	R5	34	PRO
8	XH	51	VAL
16	XP	46	PRO
19	XS	31	ILE
27	YD	34	VAL
50	Y4	41	PRO
7	QG	50	ILE
28	RE	52	LEU
28	RE	55	ASN
41	RV	54	GLY
28	YE	52	LEU
28	YE	55	ASN
30	YG	52	ILE
30	YG	88	ILE
32	YI	13	GLY
37	YR	117	VAL
2	QB	227	GLY
30	RG	68	PRO
12	XL	48	PRO
48	Y2	18	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.

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	QB	205/220 (93%)	172 (84%)	33 (16%)	2 16
2	XB	205/220 (93%)	180 (88%)	25 (12%)	5 26
3	QC	159/188 (85%)	145 (91%)	14 (9%)	10 40
3	XC	159/188 (85%)	145 (91%)	14 (9%)	10 40
4	QD	180/181 (99%)	161 (89%)	19 (11%)	6 32
4	XD	180/181 (99%)	154 (86%)	26 (14%)	3 20
5	QE	116/123 (94%)	103 (89%)	13 (11%)	6 30
5	XE	116/123 (94%)	104 (90%)	12 (10%)	7 34
6	QF	90/90 (100%)	78 (87%)	12 (13%)	4 23
6	XF	90/90 (100%)	82 (91%)	8 (9%)	9 40
7	QG	126/127 (99%)	114 (90%)	12 (10%)	8 37
7	XG	126/127 (99%)	114 (90%)	12 (10%)	8 37
8	QH	119/119 (100%)	109 (92%)	10 (8%)	11 42
8	XH	119/119 (100%)	106 (89%)	13 (11%)	6 32
9	QI	98/99 (99%)	81 (83%)	17 (17%)	2 12
9	XI	98/99 (99%)	79 (81%)	19 (19%)	1 9
10	QJ	89/92 (97%)	79 (89%)	10 (11%)	6 30
10	XJ	89/92 (97%)	75 (84%)	14 (16%)	2 17
11	QK	90/99 (91%)	81 (90%)	9 (10%)	7 35
11	XK	90/99 (91%)	81 (90%)	9 (10%)	7 35
12	QL	104/109 (95%)	90 (86%)	14 (14%)	4 23
12	XL	104/109 (95%)	89 (86%)	15 (14%)	3 20
13	QM	97/101 (96%)	73 (75%)	24 (25%)	0 4
13	XM	97/101 (96%)	78 (80%)	19 (20%)	1 8
14	QN	49/50 (98%)	40 (82%)	9 (18%)	1 10
14	XN	49/50 (98%)	42 (86%)	7 (14%)	3 21
15	QO	79/80 (99%)	72 (91%)	7 (9%)	9 40
15	XO	79/80 (99%)	69 (87%)	10 (13%)	4 24
16	QP	72/74 (97%)	63 (88%)	9 (12%)	4 25
16	XP	72/74 (97%)	64 (89%)	8 (11%)	6 31

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
17	QQ	95/97 (98%)	87 (92%)	8 (8%)	11	42
17	XQ	95/97 (98%)	89 (94%)	6 (6%)	18	53
18	QR	61/77 (79%)	50 (82%)	11 (18%)	1	11
18	XR	61/77 (79%)	52 (85%)	9 (15%)	3	19
19	QS	73/80 (91%)	59 (81%)	14 (19%)	1	9
19	XS	73/80 (91%)	57 (78%)	16 (22%)	1	6
20	QT	76/82 (93%)	67 (88%)	9 (12%)	5	28
20	XT	76/82 (93%)	68 (90%)	8 (10%)	7	33
21	QU	20/22 (91%)	20 (100%)	0	100	100
21	XU	20/22 (91%)	19 (95%)	1 (5%)	24	59
27	RD	214/218 (98%)	175 (82%)	39 (18%)	1	10
27	YD	214/218 (98%)	177 (83%)	37 (17%)	2	12
28	RE	165/166 (99%)	127 (77%)	38 (23%)	1	5
28	YE	165/166 (99%)	127 (77%)	38 (23%)	1	5
29	RF	161/166 (97%)	142 (88%)	19 (12%)	5	28
29	YF	161/166 (97%)	140 (87%)	21 (13%)	4	24
30	RG	155/156 (99%)	135 (87%)	20 (13%)	4	24
30	YG	155/156 (99%)	133 (86%)	22 (14%)	3	21
31	RH	142/148 (96%)	114 (80%)	28 (20%)	1	8
31	YH	142/148 (96%)	114 (80%)	28 (20%)	1	8
32	RI	122/124 (98%)	99 (81%)	23 (19%)	1	9
32	YI	122/124 (98%)	97 (80%)	25 (20%)	1	7
33	RN	117/119 (98%)	97 (83%)	20 (17%)	2	13
33	YN	117/119 (98%)	96 (82%)	21 (18%)	2	11
34	RO	100/100 (100%)	90 (90%)	10 (10%)	7	35
34	YO	100/100 (100%)	88 (88%)	12 (12%)	5	27
35	RP	116/116 (100%)	86 (74%)	30 (26%)	0	4
35	YP	116/116 (100%)	79 (68%)	37 (32%)	0	2
36	RQ	111/111 (100%)	93 (84%)	18 (16%)	2	15
36	YQ	111/111 (100%)	92 (83%)	19 (17%)	2	13
37	RR	101/101 (100%)	83 (82%)	18 (18%)	2	11

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
37	YR	101/101 (100%)	80 (79%)	21 (21%)	1	7
38	RS	87/88 (99%)	69 (79%)	18 (21%)	1	7
38	YS	87/88 (99%)	74 (85%)	13 (15%)	3	19
39	RT	120/127 (94%)	101 (84%)	19 (16%)	2	17
39	YT	120/127 (94%)	99 (82%)	21 (18%)	2	12
40	RU	93/94 (99%)	79 (85%)	14 (15%)	3	19
40	YU	93/94 (99%)	78 (84%)	15 (16%)	2	16
41	RV	82/82 (100%)	66 (80%)	16 (20%)	1	9
41	YV	82/82 (100%)	67 (82%)	15 (18%)	1	10
42	RW	92/92 (100%)	73 (79%)	19 (21%)	1	7
42	YW	92/92 (100%)	76 (83%)	16 (17%)	2	12
43	RX	74/78 (95%)	64 (86%)	10 (14%)	4	23
43	YX	74/78 (95%)	60 (81%)	14 (19%)	1	9
44	RY	85/91 (93%)	63 (74%)	22 (26%)	0	4
44	YY	85/91 (93%)	64 (75%)	21 (25%)	0	4
45	RZ	162/179 (90%)	138 (85%)	24 (15%)	3	19
45	YZ	162/179 (90%)	144 (89%)	18 (11%)	6	31
46	R0	65/67 (97%)	60 (92%)	5 (8%)	13	45
46	Y0	65/67 (97%)	59 (91%)	6 (9%)	9	39
47	R1	82/83 (99%)	73 (89%)	9 (11%)	6	31
47	Y1	82/83 (99%)	70 (85%)	12 (15%)	3	20
48	R2	64/67 (96%)	55 (86%)	9 (14%)	3	21
48	Y2	64/67 (96%)	57 (89%)	7 (11%)	6	32
49	R3	51/52 (98%)	45 (88%)	6 (12%)	5	28
49	Y3	51/52 (98%)	43 (84%)	8 (16%)	2	17
50	R4	63/63 (100%)	46 (73%)	17 (27%)	0	3
50	Y4	63/63 (100%)	44 (70%)	19 (30%)	0	2
51	R5	51/52 (98%)	39 (76%)	12 (24%)	1	5
51	Y5	51/52 (98%)	39 (76%)	12 (24%)	1	5
52	R6	48/52 (92%)	35 (73%)	13 (27%)	0	3
52	Y6	48/52 (92%)	38 (79%)	10 (21%)	1	7

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
53	R7	42/42 (100%)	34 (81%)	8 (19%)	1 9
53	Y7	42/42 (100%)	35 (83%)	7 (17%)	2 14
54	R8	54/55 (98%)	39 (72%)	15 (28%)	0 3
54	Y8	54/55 (98%)	38 (70%)	16 (30%)	0 2
55	R9	34/34 (100%)	32 (94%)	2 (6%)	19 55
55	Y9	34/34 (100%)	32 (94%)	2 (6%)	19 55
All	All	9702/10066 (96%)	8183 (84%)	1519 (16%)	2 17

All (1519) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	5	ILE
2	QB	6	THR
2	QB	7	VAL
2	QB	8	LYS
2	QB	15	VAL
2	QB	23	ARG
2	QB	24	TRP
2	QB	32	ILE
2	QB	33	TYR
2	QB	36	ARG
2	QB	53	ARG
2	QB	60	ASP
2	QB	67	THR
2	QB	82	ARG
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	150	SER
2	QB	155	LEU
2	QB	158	LEU
2	QB	163	PHE
2	QB	165	VAL
2	QB	168	THR
2	QB	172	ILE
2	QB	175	ARG

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Mol	Chain	Res	Type
2	QB	187	LEU
2	QB	196	LEU
2	QB	215	LEU
2	QB	217	ARG
3	QC	3	ASN
3	QC	5	ILE
3	QC	12	LEU
3	QC	16	ARG
3	QC	21	ARG
3	QC	45	LYS
3	QC	52	LEU
3	QC	76	VAL
3	QC	94	LEU
3	QC	127	ARG
3	QC	154	SER
3	QC	162	GLN
3	QC	165	THR
3	QC	206	GLU
4	QD	3	ARG
4	QD	9	CYS
4	QD	12	CYS
4	QD	13	ARG
4	QD	14	ARG
4	QD	26	CYS
4	QD	30	LYS
4	QD	33	MET
4	QD	50	ARG
4	QD	58	LEU
4	QD	86	LYS
4	QD	96	LEU
4	QD	122	ARG
4	QD	131	ARG
4	QD	135	LEU
4	QD	154	ASN
4	QD	187	ARG
4	QD	190	ASP
4	QD	192	GLU
5	QE	10	MET
5	QE	12	LEU
5	QE	31	LEU
5	QE	34	VAL
5	QE	41	VAL

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Mol	Chain	Res	Type
5	QE	51	VAL
5	QE	68	GLU
5	QE	79	GLU
5	QE	81	GLU
5	QE	98	THR
5	QE	101	ILE
5	QE	107	ARG
5	QE	153	LYS
6	QF	16	GLN
6	QF	21	LEU
6	QF	23	LYS
6	QF	43	LEU
6	QF	45	LEU
6	QF	47	ARG
6	QF	55	ASP
6	QF	69	GLU
6	QF	70	ASP
6	QF	72	VAL
6	QF	75	LEU
6	QF	98	LEU
7	QG	8	GLU
7	QG	54	THR
7	QG	80	VAL
7	QG	92	SER
7	QG	94	ARG
7	QG	104	LEU
7	QG	113	GLU
7	QG	114	ARG
7	QG	135	VAL
7	QG	136	LYS
7	QG	137	LYS
7	QG	155	ARG
8	QH	1	MET
8	QH	24	THR
8	QH	25	ASP
8	QH	26	VAL
8	QH	41	ARG
8	QH	99	GLU
8	QH	109	ILE
8	QH	112	LEU
8	QH	125	ARG
8	QH	129	VAL

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Mol	Chain	Res	Type
9	QI	9	ARG
9	QI	10	ARG
9	QI	11	LYS
9	QI	23	ASN
9	QI	47	LEU
9	QI	56	LEU
9	QI	64	THR
9	QI	65	VAL
9	QI	75	ASP
9	QI	95	LYS
9	QI	104	ARG
9	QI	105	ASP
9	QI	113	LYS
9	QI	114	TYR
9	QI	121	ARG
9	QI	125	TYR
9	QI	128	ARG
10	QJ	22	LYS
10	QJ	47	PHE
10	QJ	57	LYS
10	QJ	62	HIS
10	QJ	73	ASP
10	QJ	74	ILE
10	QJ	80	LYS
10	QJ	84	GLN
10	QJ	92	THR
10	QJ	96	ILE
11	QK	26	ASN
11	QK	29	ILE
11	QK	32	ILE
11	QK	34	ASP
11	QK	63	LEU
11	QK	92	GLU
11	QK	103	LEU
11	QK	109	VAL
11	QK	127	LYS
12	QL	17	LYS
12	QL	20	LYS
12	QL	27	LEU
12	QL	41	ARG
12	QL	53	ARG
12	QL	57	LYS

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Mol	Chain	Res	Type
12	QL	60	LEU
12	QL	62	SER
12	QL	70	ILE
12	QL	73	GLU
12	QL	81	SER
12	QL	89	ARG
12	QL	112	ASP
12	QL	120	TYR
13	QM	8	GLU
13	QM	11	ARG
13	QM	13	LYS
13	QM	17	VAL
13	QM	19	LEU
13	QM	45	VAL
13	QM	47	ASP
13	QM	48	LEU
13	QM	56	LEU
13	QM	57	ARG
13	QM	64	TRP
13	QM	66	LEU
13	QM	70	LEU
13	QM	77	ASN
13	QM	84	ILE
13	QM	88	ARG
13	QM	90	LEU
13	QM	98	VAL
13	QM	108	ARG
13	QM	111	LYS
13	QM	114	ARG
13	QM	115	LYS
13	QM	117	VAL
13	QM	122	LYS
14	QN	6	LEU
14	QN	12	ARG
14	QN	13	THR
14	QN	18	VAL
14	QN	33	VAL
14	QN	43	CYS
14	QN	44	LEU
14	QN	46	GLU
14	QN	57	ARG
15	QO	3	ILE

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Mol	Chain	Res	Type
15	QO	4	THR
15	QO	26	GLU
15	QO	31	LEU
15	QO	39	LEU
15	QO	64	ARG
15	QO	84	LYS
16	QP	2	VAL
16	QP	20	VAL
16	QP	26	ARG
16	QP	28	ARG
16	QP	33	ILE
16	QP	53	VAL
16	QP	67	THR
16	QP	69	THR
16	QP	71	ARG
17	QQ	37	LYS
17	QQ	38	ARG
17	QQ	52	LYS
17	QQ	59	ILE
17	QQ	62	SER
17	QQ	68	ARG
17	QQ	74	LEU
17	QQ	101	ARG
18	QR	26	LEU
18	QR	29	PHE
18	QR	31	LEU
18	QR	32	ARG
18	QR	36	ASN
18	QR	46	GLU
18	QR	54	ARG
18	QR	76	LEU
18	QR	82	THR
18	QR	83	GLU
18	QR	86	VAL
19	QS	5	LEU
19	QS	10	PHE
19	QS	12	ASP
19	QS	21	GLU
19	QS	28	LYS
19	QS	29	ARG
19	QS	30	LEU
19	QS	37	ARG

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Mol	Chain	Res	Type
19	QS	43	GLU
19	QS	44	MET
19	QS	63	THR
19	QS	67	VAL
19	QS	77	THR
19	QS	83	HIS
20	QT	17	ARG
20	QT	24	LEU
20	QT	45	GLN
20	QT	72	LEU
20	QT	73	HIS
20	QT	75	ASN
20	QT	80	ARG
20	QT	84	LEU
20	QT	93	GLU
27	RD	10	THR
27	RD	17	THR
27	RD	25	THR
27	RD	40	THR
27	RD	43	ARG
27	RD	44	ASN
27	RD	46	GLN
27	RD	49	ILE
27	RD	61	LEU
27	RD	65	ILE
27	RD	69	ARG
27	RD	71	ASP
27	RD	73	VAL
27	RD	83	GLU
27	RD	87	ASN
27	RD	88	ARG
27	RD	95	LEU
27	RD	103	ARG
27	RD	105	ILE
27	RD	106	ILE
27	RD	111	LEU
27	RD	134	ARG
27	RD	150	LYS
27	RD	155	LEU
27	RD	157	ARG
27	RD	173	VAL
27	RD	192	THR

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Mol	Chain	Res	Type
27	RD	211	ARG
27	RD	212	SER
27	RD	221	VAL
27	RD	229	VAL
27	RD	237	GLU
27	RD	242	ARG
27	RD	257	LEU
27	RD	259	THR
27	RD	261	LYS
27	RD	268	ARG
27	RD	271	ILE
27	RD	273	ARG
28	RE	2	LYS
28	RE	4	ILE
28	RE	13	ARG
28	RE	16	ARG
28	RE	17	ASP
28	RE	25	VAL
28	RE	26	ILE
28	RE	27	LEU
28	RE	33	VAL
28	RE	36	ARG
28	RE	37	ARG
28	RE	38	THR
28	RE	41	LYS
28	RE	45	THR
28	RE	54	GLN
28	RE	61	ARG
28	RE	62	PRO
28	RE	66	HIS
28	RE	73	GLU
28	RE	75	VAL
28	RE	77	ILE
28	RE	78	LEU
28	RE	79	ARG
28	RE	80	GLU
28	RE	101	ARG
28	RE	113	PHE
28	RE	117	MET
28	RE	119	ARG
28	RE	143	ASN
28	RE	146	THR

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Mol	Chain	Res	Type
28	RE	154	LYS
28	RE	167	VAL
28	RE	179	GLU
28	RE	184	VAL
28	RE	196	VAL
28	RE	200	GLU
28	RE	202	LYS
28	RE	203	LYS
29	RF	9	ILE
29	RF	11	VAL
29	RF	13	SER
29	RF	28	ILE
29	RF	32	LEU
29	RF	33	LEU
29	RF	45	ARG
29	RF	65	TRP
29	RF	70	THR
29	RF	74	ARG
29	RF	84	VAL
29	RF	104	LYS
29	RF	108	LYS
29	RF	117	ARG
29	RF	174	VAL
29	RF	181	LEU
29	RF	192	LEU
29	RF	194	MET
29	RF	197	ASP
30	RG	7	LEU
30	RG	10	LYS
30	RG	20	ILE
30	RG	26	GLN
30	RG	33	ARG
30	RG	34	LEU
30	RG	43	LEU
30	RG	53	LEU
30	RG	67	LYS
30	RG	71	THR
30	RG	88	ILE
30	RG	94	LEU
30	RG	98	ARG
30	RG	116	ASP
30	RG	118	ARG

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Mol	Chain	Res	Type
30	RG	133	LEU
30	RG	147	ASP
30	RG	159	VAL
30	RG	167	GLU
30	RG	174	GLU
31	RH	3	ARG
31	RH	4	ILE
31	RH	9	ILE
31	RH	10	PRO
31	RH	11	VAL
31	RH	16	SER
31	RH	27	LYS
31	RH	32	GLU
31	RH	37	VAL
31	RH	41	MET
31	RH	43	VAL
31	RH	59	ARG
31	RH	64	LEU
31	RH	77	LYS
31	RH	81	GLU
31	RH	85	LYS
31	RH	88	LEU
31	RH	89	ILE
31	RH	105	LEU
31	RH	132	ARG
31	RH	139	GLN
31	RH	143	GLN
31	RH	152	ARG
31	RH	153	LYS
31	RH	154	PRO
31	RH	155	SER
31	RH	158	HIS
31	RH	169	VAL
32	RI	2	LYS
32	RI	9	LEU
32	RI	10	GLU
32	RI	27	ARG
32	RI	33	ARG
32	RI	38	LEU
32	RI	44	LEU
32	RI	56	LYS
32	RI	57	ARG

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Mol	Chain	Res	Type
32	RI	70	GLU
32	RI	81	VAL
32	RI	85	GLU
32	RI	86	THR
32	RI	92	VAL
32	RI	97	ILE
32	RI	101	LEU
32	RI	113	ARG
32	RI	129	THR
32	RI	130	TYR
32	RI	131	LYS
32	RI	135	GLU
32	RI	142	VAL
32	RI	145	VAL
33	RN	1	MET
33	RN	2	LYS
33	RN	5	VAL
33	RN	7	LYS
33	RN	12	ARG
33	RN	32	THR
33	RN	34	LEU
33	RN	43	THR
33	RN	48	MET
33	RN	60	ILE
33	RN	61	ARG
33	RN	62	VAL
33	RN	87	LEU
33	RN	90	MET
33	RN	96	GLU
33	RN	98	VAL
33	RN	109	LYS
33	RN	120	LEU
33	RN	127	ASP
33	RN	136	GLU
34	RO	3	GLN
34	RO	9	GLU
34	RO	19	ILE
34	RO	24	VAL
34	RO	31	LYS
34	RO	49	ARG
34	RO	53	LYS
34	RO	69	ILE

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Mol	Chain	Res	Type
34	RO	91	LEU
34	RO	102	VAL
35	RP	6	LEU
35	RP	7	ARG
35	RP	14	LYS
35	RP	15	ARG
35	RP	19	VAL
35	RP	21	ARG
35	RP	30	THR
35	RP	36	LYS
35	RP	41	ARG
35	RP	45	LEU
35	RP	49	ARG
35	RP	50	ARG
35	RP	62	LEU
35	RP	64	LYS
35	RP	67	MET
35	RP	68	GLN
35	RP	71	VAL
35	RP	75	ILE
35	RP	81	GLN
35	RP	88	LEU
35	RP	91	PHE
35	RP	100	LEU
35	RP	105	LEU
35	RP	106	LEU
35	RP	112	LEU
35	RP	133	SER
35	RP	138	LEU
35	RP	139	LYS
35	RP	144	GLU
35	RP	146	VAL
36	RQ	2	LEU
36	RQ	25	ASP
36	RQ	26	TYR
36	RQ	27	VAL
36	RQ	45	GLN
36	RQ	46	GLN
36	RQ	54	MET
36	RQ	55	VAL
36	RQ	58	PHE
36	RQ	60	ARG

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Mol	Chain	Res	Type
36	RQ	79	LEU
36	RQ	83	MET
36	RQ	89	ASN
36	RQ	90	VAL
36	RQ	91	GLU
36	RQ	130	LYS
36	RQ	135	ASP
36	RQ	139	GLU
37	RR	1	MET
37	RR	6	SER
37	RR	9	LYS
37	RR	18	LEU
37	RR	29	LEU
37	RR	35	THR
37	RR	44	LEU
37	RR	63	ARG
37	RR	71	GLN
37	RR	75	LEU
37	RR	79	LEU
37	RR	91	GLN
37	RR	95	THR
37	RR	100	LEU
37	RR	104	ARG
37	RR	105	ARG
37	RR	117	VAL
37	RR	118	GLU
38	RS	3	ARG
38	RS	4	LEU
38	RS	12	PHE
38	RS	17	ARG
38	RS	20	ARG
38	RS	27	SER
38	RS	39	ILE
38	RS	44	LYS
38	RS	50	SER
38	RS	54	LEU
38	RS	56	LEU
38	RS	57	LYS
38	RS	58	LEU
38	RS	59	LYS
38	RS	98	VAL
38	RS	101	LEU

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Mol	Chain	Res	Type
38	RS	103	GLU
38	RS	106	ARG
39	RT	18	ASP
39	RT	27	THR
39	RT	30	VAL
39	RT	41	ARG
39	RT	42	ILE
39	RT	43	GLN
39	RT	50	ILE
39	RT	51	ARG
39	RT	62	THR
39	RT	65	LYS
39	RT	74	ARG
39	RT	88	ILE
39	RT	89	VAL
39	RT	99	LEU
39	RT	105	LEU
39	RT	107	ASP
39	RT	112	ARG
39	RT	125	ARG
39	RT	128	GLU
40	RU	52	ARG
40	RU	55	ARG
40	RU	59	ARG
40	RU	60	LEU
40	RU	64	ARG
40	RU	69	CYS
40	RU	74	LEU
40	RU	90	VAL
40	RU	92	ARG
40	RU	98	LEU
40	RU	108	GLU
40	RU	111	GLU
40	RU	114	LYS
40	RU	117	GLN
41	RV	13	ARG
41	RV	19	LYS
41	RV	21	ARG
41	RV	22	VAL
41	RV	24	LYS
41	RV	35	LEU
41	RV	37	VAL

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Mol	Chain	Res	Type
41	RV	45	THR
41	RV	47	VAL
41	RV	57	VAL
41	RV	61	VAL
41	RV	62	LEU
41	RV	64	HIS
41	RV	78	LYS
41	RV	79	VAL
41	RV	99	ILE
42	RW	11	ARG
42	RW	16	LYS
42	RW	18	ARG
42	RW	19	LEU
42	RW	20	VAL
42	RW	23	LEU
42	RW	27	LYS
42	RW	30	GLU
42	RW	40	ASN
42	RW	51	LEU
42	RW	60	ASN
42	RW	63	ASP
42	RW	67	ASP
42	RW	76	VAL
42	RW	82	LEU
42	RW	92	ARG
42	RW	100	THR
42	RW	106	ILE
42	RW	107	LEU
43	RX	12	VAL
43	RX	23	GLU
43	RX	27	THR
43	RX	30	VAL
43	RX	35	THR
43	RX	49	VAL
43	RX	65	ARG
43	RX	70	LEU
43	RX	80	ILE
43	RX	81	VAL
44	RY	2	ARG
44	RY	13	VAL
44	RY	14	LEU
44	RY	27	VAL

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Mol	Chain	Res	Type
44	RY	34	LYS
44	RY	37	VAL
44	RY	38	ILE
44	RY	43	ASN
44	RY	45	VAL
44	RY	55	TYR
44	RY	57	GLN
44	RY	61	ILE
44	RY	67	LEU
44	RY	70	SER
44	RY	75	ILE
44	RY	76	CYS
44	RY	87	LYS
44	RY	90	LEU
44	RY	95	LYS
44	RY	96	ILE
44	RY	97	ARG
44	RY	102	CYS
45	RZ	2	GLU
45	RZ	5	LEU
45	RZ	19	ARG
45	RZ	20	ARG
45	RZ	52	SER
45	RZ	60	GLU
45	RZ	76	LEU
45	RZ	81	ARG
45	RZ	87	ASP
45	RZ	93	ASP
45	RZ	94	GLU
45	RZ	111	VAL
45	RZ	112	ARG
45	RZ	121	HIS
45	RZ	128	VAL
45	RZ	145	GLU
45	RZ	150	LEU
45	RZ	151	HIS
45	RZ	163	LEU
45	RZ	166	SER
45	RZ	168	GLU
45	RZ	174	VAL
45	RZ	182	LYS
45	RZ	183	LEU

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Mol	Chain	Res	Type
46	R0	7	LEU
46	R0	10	THR
46	R0	36	ILE
46	R0	53	MET
46	R0	74	ARG
47	R1	21	ARG
47	R1	41	ARG
47	R1	51	VAL
47	R1	62	VAL
47	R1	78	LYS
47	R1	80	LEU
47	R1	90	ILE
47	R1	91	LYS
47	R1	92	LYS
48	R2	17	SER
48	R2	24	LEU
48	R2	27	GLU
48	R2	32	LEU
48	R2	45	SER
48	R2	47	ASN
48	R2	48	HIS
48	R2	53	LEU
48	R2	62	THR
49	R3	6	VAL
49	R3	8	LEU
49	R3	18	ASP
49	R3	32	GLN
49	R3	40	THR
49	R3	56	VAL
50	R4	6	HIS
50	R4	15	ILE
50	R4	21	VAL
50	R4	23	GLU
50	R4	42	PHE
50	R4	48	ARG
50	R4	49	PHE
50	R4	50	VAL
50	R4	51	ASP
50	R4	53	GLU
50	R4	57	GLU
50	R4	61	ARG
50	R4	62	ARG

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Mol	Chain	Res	Type
50	R4	63	TYR
50	R4	67	TYR
50	R4	68	ARG
50	R4	71	ARG
51	R5	3	LYS
51	R5	4	HIS
51	R5	6	VAL
51	R5	11	THR
51	R5	19	ARG
51	R5	25	LEU
51	R5	36	CYS
51	R5	37	LYS
51	R5	43	HIS
51	R5	52	TYR
51	R5	56	LYS
51	R5	58	LEU
52	R6	6	ARG
52	R6	8	LYS
52	R6	9	LEU
52	R6	10	LEU
52	R6	11	LEU
52	R6	17	LYS
52	R6	19	ARG
52	R6	23	THR
52	R6	27	LYS
52	R6	30	THR
52	R6	34	LEU
52	R6	37	ARG
52	R6	44	ARG
53	R7	1	MET
53	R7	2	LYS
53	R7	4	THR
53	R7	9	ARG
53	R7	10	ARG
53	R7	14	LYS
53	R7	43	THR
53	R7	46	VAL
54	R8	15	LYS
54	R8	16	ILE
54	R8	30	ARG
54	R8	35	GLN
54	R8	39	LYS

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Mol	Chain	Res	Type
54	R8	43	GLN
54	R8	44	LYS
54	R8	47	LYS
54	R8	48	PHE
54	R8	49	VAL
54	R8	52	LYS
54	R8	53	PRO
54	R8	62	LEU
54	R8	63	PRO
54	R8	65	GLU
55	R9	1	MET
55	R9	29	ASN
2	XB	5	ILE
2	XB	7	VAL
2	XB	8	LYS
2	XB	15	VAL
2	XB	23	ARG
2	XB	24	TRP
2	XB	33	TYR
2	XB	36	ARG
2	XB	67	THR
2	XB	71	VAL
2	XB	74	LYS
2	XB	82	ARG
2	XB	92	TYR
2	XB	113	HIS
2	XB	145	LEU
2	XB	155	LEU
2	XB	163	PHE
2	XB	172	ILE
2	XB	175	ARG
2	XB	178	ARG
2	XB	187	LEU
2	XB	195	ASP
2	XB	196	LEU
2	XB	215	LEU
2	XB	235	SER
3	XC	3	ASN
3	XC	5	ILE
3	XC	12	LEU
3	XC	21	ARG
3	XC	45	LYS

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Mol	Chain	Res	Type
3	XC	47	LEU
3	XC	56	ASP
3	XC	94	LEU
3	XC	95	THR
3	XC	131	ARG
3	XC	162	GLN
3	XC	178	LEU
3	XC	184	TYR
3	XC	192	THR
4	XD	3	ARG
4	XD	9	CYS
4	XD	15	GLU
4	XD	19	LEU
4	XD	30	LYS
4	XD	33	MET
4	XD	50	ARG
4	XD	53	ASP
4	XD	58	LEU
4	XD	73	ARG
4	XD	76	ARG
4	XD	84	LYS
4	XD	86	LYS
4	XD	96	LEU
4	XD	108	LEU
4	XD	122	ARG
4	XD	127	THR
4	XD	131	ARG
4	XD	137	SER
4	XD	150	GLU
4	XD	154	ASN
4	XD	175	SER
4	XD	187	ARG
4	XD	190	ASP
4	XD	193	ASP
4	XD	208	SER
5	XE	6	PHE
5	XE	7	GLU
5	XE	10	MET
5	XE	11	ILE
5	XE	18	ARG
5	XE	31	LEU
5	XE	41	VAL

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Mol	Chain	Res	Type
5	XE	73	ASN
5	XE	79	GLU
5	XE	101	ILE
5	XE	147	ASP
5	XE	153	LYS
6	XF	21	LEU
6	XF	23	LYS
6	XF	36	ARG
6	XF	71	ARG
6	XF	74	ASP
6	XF	91	VAL
6	XF	92	LYS
6	XF	98	LEU
7	XG	5	ARG
7	XG	8	GLU
7	XG	35	LYS
7	XG	54	THR
7	XG	63	LYS
7	XG	78	ARG
7	XG	104	LEU
7	XG	113	GLU
7	XG	114	ARG
7	XG	136	LYS
7	XG	137	LYS
7	XG	155	ARG
8	XH	1	MET
8	XH	12	ARG
8	XH	19	VAL
8	XH	24	THR
8	XH	26	VAL
8	XH	41	ARG
8	XH	54	ASP
8	XH	63	LEU
8	XH	80	ILE
8	XH	85	ARG
8	XH	109	ILE
8	XH	112	LEU
8	XH	137	VAL
9	XI	9	ARG
9	XI	38	GLN
9	XI	44	VAL
9	XI	56	LEU

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Mol	Chain	Res	Type
9	XI	65	VAL
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	121	ARG
9	XI	124	GLN
9	XI	125	TYR
9	XI	128	ARG
10	XJ	3	LYS
10	XJ	17	ASP
10	XJ	22	LYS
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	74	ILE
10	XJ	80	LYS
10	XJ	84	GLN
10	XJ	96	ILE
10	XJ	98	ILE
11	XK	26	ASN
11	XK	29	ILE
11	XK	31	THR
11	XK	32	ILE
11	XK	36	ASP
11	XK	57	THR
11	XK	96	ARG
11	XK	114	VAL
11	XK	116	HIS
12	XL	17	LYS
12	XL	20	LYS
12	XL	27	LEU
12	XL	41	ARG

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Mol	Chain	Res	Type
12	XL	48	PRO
12	XL	53	ARG
12	XL	57	LYS
12	XL	60	LEU
12	XL	62	SER
12	XL	70	ILE
12	XL	73	GLU
12	XL	81	SER
12	XL	89	ARG
12	XL	112	ASP
12	XL	120	TYR
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	108	ARG
13	XM	114	ARG
13	XM	115	LYS
13	XM	117	VAL
13	XM	122	LYS
14	XN	6	LEU
14	XN	12	ARG
14	XN	32	SER
14	XN	33	VAL
14	XN	40	CYS
14	XN	41	ARG
14	XN	44	LEU
15	XO	3	ILE
15	XO	8	LYS
15	XO	24	SER
15	XO	26	GLU
15	XO	39	LEU

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Mol	Chain	Res	Type
15	XO	62	GLN
15	XO	64	ARG
15	XO	66	LEU
15	XO	82	ILE
15	XO	87	ILE
16	XP	2	VAL
16	XP	11	SER
16	XP	20	VAL
16	XP	28	ARG
16	XP	32	TYR
16	XP	67	THR
16	XP	69	THR
16	XP	72	ARG
17	XQ	52	LYS
17	XQ	59	ILE
17	XQ	62	SER
17	XQ	68	ARG
17	XQ	74	LEU
17	XQ	101	ARG
18	XR	26	LEU
18	XR	29	PHE
18	XR	36	ASN
18	XR	41	LYS
18	XR	46	GLU
18	XR	54	ARG
18	XR	76	LEU
18	XR	82	THR
18	XR	86	VAL
19	XS	5	LEU
19	XS	10	PHE
19	XS	11	VAL
19	XS	12	ASP
19	XS	13	ASP
19	XS	21	GLU
19	XS	28	LYS
19	XS	29	ARG
19	XS	30	LEU
19	XS	31	ILE
19	XS	37	ARG
19	XS	44	MET
19	XS	63	THR
19	XS	78	ARG

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Mol	Chain	Res	Type
19	XS	81	ARG
19	XS	83	HIS
20	XT	10	LEU
20	XT	13	LEU
20	XT	24	LEU
20	XT	41	ILE
20	XT	45	GLN
20	XT	50	GLU
20	XT	73	HIS
20	XT	93	GLU
21	XU	6	ARG
27	YD	10	THR
27	YD	17	THR
27	YD	26	LYS
27	YD	33	LEU
27	YD	43	ARG
27	YD	44	ASN
27	YD	61	LEU
27	YD	65	ILE
27	YD	67	PHE
27	YD	71	ASP
27	YD	73	VAL
27	YD	94	LEU
27	YD	98	VAL
27	YD	105	ILE
27	YD	106	ILE
27	YD	131	LEU
27	YD	134	ARG
27	YD	135	PHE
27	YD	155	LEU
27	YD	157	ARG
27	YD	166	GLN
27	YD	173	VAL
27	YD	183	ARG
27	YD	192	THR
27	YD	198	ASN
27	YD	200	ASP
27	YD	215	LEU
27	YD	217	ARG
27	YD	218	ARG
27	YD	226	MET
27	YD	230	ASP

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Mol	Chain	Res	Type
27	YD	237	GLU
27	YD	257	LEU
27	YD	259	THR
27	YD	261	LYS
27	YD	262	ARG
27	YD	271	ILE
28	YE	2	LYS
28	YE	4	ILE
28	YE	13	ARG
28	YE	16	ARG
28	YE	17	ASP
28	YE	25	VAL
28	YE	26	ILE
28	YE	27	LEU
28	YE	33	VAL
28	YE	36	ARG
28	YE	37	ARG
28	YE	38	THR
28	YE	41	LYS
28	YE	45	THR
28	YE	54	GLN
28	YE	61	ARG
28	YE	62	PRO
28	YE	66	HIS
28	YE	73	GLU
28	YE	75	VAL
28	YE	77	ILE
28	YE	78	LEU
28	YE	79	ARG
28	YE	80	GLU
28	YE	101	ARG
28	YE	113	PHE
28	YE	117	MET
28	YE	119	ARG
28	YE	143	ASN
28	YE	146	THR
28	YE	154	LYS
28	YE	167	VAL
28	YE	179	GLU
28	YE	184	VAL
28	YE	196	VAL
28	YE	200	GLU

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Mol	Chain	Res	Type
28	YE	202	LYS
28	YE	203	LYS
29	YF	7	TYR
29	YF	9	ILE
29	YF	25	PRO
29	YF	32	LEU
29	YF	45	ARG
29	YF	46	ARG
29	YF	65	TRP
29	YF	66	PRO
29	YF	67	GLN
29	YF	70	THR
29	YF	82	ILE
29	YF	106	ARG
29	YF	108	LYS
29	YF	117	ARG
29	YF	124	LEU
29	YF	127	GLU
29	YF	145	GLU
29	YF	164	ARG
29	YF	181	LEU
29	YF	183	VAL
29	YF	206	ILE
30	YG	3	LEU
30	YG	7	LEU
30	YG	22	ARG
30	YG	31	VAL
30	YG	34	LEU
30	YG	43	LEU
30	YG	45	GLU
30	YG	58	GLN
30	YG	63	ILE
30	YG	66	GLN
30	YG	67	LYS
30	YG	80	PHE
30	YG	82	LEU
30	YG	84	LYS
30	YG	88	ILE
30	YG	90	LEU
30	YG	94	LEU
30	YG	116	ASP
30	YG	118	ARG

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Mol	Chain	Res	Type
30	YG	145	THR
30	YG	147	ASP
30	YG	167	GLU
31	YH	3	ARG
31	YH	4	ILE
31	YH	9	ILE
31	YH	10	PRO
31	YH	11	VAL
31	YH	16	SER
31	YH	27	LYS
31	YH	32	GLU
31	YH	37	VAL
31	YH	41	MET
31	YH	43	VAL
31	YH	59	ARG
31	YH	64	LEU
31	YH	77	LYS
31	YH	81	GLU
31	YH	85	LYS
31	YH	88	LEU
31	YH	89	ILE
31	YH	105	LEU
31	YH	132	ARG
31	YH	139	GLN
31	YH	143	GLN
31	YH	152	ARG
31	YH	153	LYS
31	YH	154	PRO
31	YH	155	SER
31	YH	158	HIS
31	YH	169	VAL
32	YI	1	MET
32	YI	2	LYS
32	YI	10	GLU
32	YI	20	ASP
32	YI	33	ARG
32	YI	35	LEU
32	YI	38	LEU
32	YI	40	THR
32	YI	56	LYS
32	YI	67	ARG
32	YI	70	GLU

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Mol	Chain	Res	Type
32	YI	77	LEU
32	YI	81	VAL
32	YI	85	GLU
32	YI	86	THR
32	YI	92	VAL
32	YI	101	LEU
32	YI	110	ASP
32	YI	112	LYS
32	YI	113	ARG
32	YI	131	LYS
32	YI	135	GLU
32	YI	139	GLN
32	YI	141	LYS
32	YI	142	VAL
33	YN	2	LYS
33	YN	5	VAL
33	YN	7	LYS
33	YN	9	VAL
33	YN	32	THR
33	YN	34	LEU
33	YN	43	THR
33	YN	48	MET
33	YN	60	ILE
33	YN	61	ARG
33	YN	62	VAL
33	YN	65	LYS
33	YN	73	THR
33	YN	90	MET
33	YN	96	GLU
33	YN	99	LEU
33	YN	109	LYS
33	YN	112	LEU
33	YN	116	LEU
33	YN	120	LEU
33	YN	136	GLU
34	YO	9	GLU
34	YO	19	ILE
34	YO	20	MET
34	YO	23	ARG
34	YO	24	VAL
34	YO	28	SER
34	YO	31	LYS

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Mol	Chain	Res	Type
34	YO	47	ILE
34	YO	49	ARG
34	YO	53	LYS
34	YO	66	LYS
34	YO	91	LEU
35	YP	4	SER
35	YP	6	LEU
35	YP	7	ARG
35	YP	13	ASN
35	YP	14	LYS
35	YP	15	ARG
35	YP	16	ARG
35	YP	19	VAL
35	YP	21	ARG
35	YP	27	HIS
35	YP	29	LYS
35	YP	32	THR
35	YP	36	LYS
35	YP	45	LEU
35	YP	49	ARG
35	YP	50	ARG
35	YP	61	ARG
35	YP	65	ARG
35	YP	71	VAL
35	YP	75	ILE
35	YP	81	GLN
35	YP	88	LEU
35	YP	91	PHE
35	YP	94	GLU
35	YP	98	GLU
35	YP	101	VAL
35	YP	105	LEU
35	YP	106	LEU
35	YP	112	LEU
35	YP	115	LEU
35	YP	123	LEU
35	YP	125	VAL
35	YP	135	LEU
35	YP	144	GLU
35	YP	146	VAL
35	YP	147	LEU
35	YP	149	GLU

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Mol	Chain	Res	Type
36	YQ	2	LEU
36	YQ	14	ARG
36	YQ	25	ASP
36	YQ	26	TYR
36	YQ	27	VAL
36	YQ	45	GLN
36	YQ	46	GLN
36	YQ	54	MET
36	YQ	55	VAL
36	YQ	59	ARG
36	YQ	60	ARG
36	YQ	79	LEU
36	YQ	83	MET
36	YQ	89	ASN
36	YQ	90	VAL
36	YQ	91	GLU
36	YQ	130	LYS
36	YQ	135	ASP
36	YQ	139	GLU
37	YR	1	MET
37	YR	18	LEU
37	YR	28	LEU
37	YR	29	LEU
37	YR	34	ILE
37	YR	36	THR
37	YR	40	LYS
37	YR	44	LEU
37	YR	51	LEU
37	YR	54	LEU
37	YR	57	ARG
37	YR	63	ARG
37	YR	65	LEU
37	YR	79	LEU
37	YR	83	ILE
37	YR	91	GLN
37	YR	95	THR
37	YR	100	LEU
37	YR	102	GLU
37	YR	104	ARG
37	YR	105	ARG
38	YS	4	LEU
38	YS	12	PHE

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Mol	Chain	Res	Type
38	YS	17	ARG
38	YS	18	ILE
38	YS	20	ARG
38	YS	44	LYS
38	YS	56	LEU
38	YS	57	LYS
38	YS	89	ARG
38	YS	101	LEU
38	YS	103	GLU
38	YS	106	ARG
38	YS	111	GLU
39	YT	17	THR
39	YT	23	ARG
39	YT	27	THR
39	YT	28	VAL
39	YT	40	THR
39	YT	41	ARG
39	YT	42	ILE
39	YT	51	ARG
39	YT	65	LYS
39	YT	66	VAL
39	YT	74	ARG
39	YT	86	ILE
39	YT	87	ASP
39	YT	88	ILE
39	YT	89	VAL
39	YT	110	ILE
39	YT	112	ARG
39	YT	115	ARG
39	YT	125	ARG
39	YT	128	GLU
39	YT	134	GLU
40	YU	5	LYS
40	YU	11	ARG
40	YU	27	LEU
40	YU	51	LYS
40	YU	52	ARG
40	YU	60	LEU
40	YU	64	ARG
40	YU	70	ARG
40	YU	74	LEU
40	YU	88	ILE

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Mol	Chain	Res	Type
40	YU	98	LEU
40	YU	104	GLN
40	YU	111	GLU
40	YU	112	ARG
40	YU	114	LYS
41	YV	7	THR
41	YV	10	LYS
41	YV	13	ARG
41	YV	19	LYS
41	YV	35	LEU
41	YV	39	LEU
41	YV	40	LEU
41	YV	45	THR
41	YV	61	VAL
41	YV	66	ARG
41	YV	72	VAL
41	YV	73	SER
41	YV	78	LYS
41	YV	79	VAL
41	YV	99	ILE
42	YW	11	ARG
42	YW	16	LYS
42	YW	23	LEU
42	YW	37	ARG
42	YW	40	ASN
42	YW	51	LEU
42	YW	67	ASP
42	YW	69	LEU
42	YW	76	VAL
42	YW	88	ARG
42	YW	92	ARG
42	YW	95	ILE
42	YW	96	ILE
42	YW	100	THR
42	YW	106	ILE
42	YW	107	LEU
43	YX	6	ASP
43	YX	12	VAL
43	YX	15	GLU
43	YX	27	THR
43	YX	36	LYS
43	YX	43	VAL

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Mol	Chain	Res	Type
43	YX	49	VAL
43	YX	57	LEU
43	YX	59	VAL
43	YX	63	LYS
43	YX	65	ARG
43	YX	66	LEU
43	YX	80	ILE
43	YX	88	LYS
44	YY	14	LEU
44	YY	26	LYS
44	YY	27	VAL
44	YY	28	LYS
44	YY	29	GLU
44	YY	34	LYS
44	YY	38	ILE
44	YY	44	ILE
44	YY	57	GLN
44	YY	61	ILE
44	YY	64	GLU
44	YY	67	LEU
44	YY	71	LYS
44	YY	73	ARG
44	YY	75	ILE
44	YY	86	ARG
44	YY	87	LYS
44	YY	89	PHE
44	YY	90	LEU
44	YY	95	LYS
44	YY	97	ARG
45	YZ	2	GLU
45	YZ	4	ARG
45	YZ	19	ARG
45	YZ	20	ARG
45	YZ	41	LEU
45	YZ	53	ILE
45	YZ	60	GLU
45	YZ	70	LEU
45	YZ	71	VAL
45	YZ	76	LEU
45	YZ	81	ARG
45	YZ	87	ASP
45	YZ	94	GLU

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Mol	Chain	Res	Type
45	YZ	123	ASP
45	YZ	140	ASP
45	YZ	144	LEU
45	YZ	150	LEU
45	YZ	151	HIS
46	Y0	9	SER
46	Y0	11	ARG
46	Y0	36	ILE
46	Y0	55	ARG
46	Y0	64	ASP
46	Y0	74	ARG
47	Y1	30	VAL
47	Y1	46	LEU
47	Y1	50	ARG
47	Y1	51	VAL
47	Y1	56	GLN
47	Y1	62	VAL
47	Y1	78	LYS
47	Y1	80	LEU
47	Y1	82	LEU
47	Y1	83	GLU
47	Y1	91	LYS
47	Y1	92	LYS
48	Y2	7	ARG
48	Y2	9	GLN
48	Y2	16	LEU
48	Y2	24	LEU
48	Y2	53	LEU
48	Y2	62	THR
48	Y2	64	LEU
49	Y3	6	VAL
49	Y3	8	LEU
49	Y3	23	LEU
49	Y3	30	ARG
49	Y3	31	LEU
49	Y3	36	VAL
49	Y3	37	LEU
49	Y3	56	VAL
50	Y4	6	HIS
50	Y4	10	VAL
50	Y4	15	ILE
50	Y4	16	CYS

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Mol	Chain	Res	Type
50	Y4	22	ILE
50	Y4	27	THR
50	Y4	34	GLU
50	Y4	42	PHE
50	Y4	43	TYR
50	Y4	48	ARG
50	Y4	49	PHE
50	Y4	53	GLU
50	Y4	57	GLU
50	Y4	58	ARG
50	Y4	61	ARG
50	Y4	63	TYR
50	Y4	67	TYR
50	Y4	68	ARG
50	Y4	71	ARG
51	Y5	11	THR
51	Y5	29	THR
51	Y5	36	CYS
51	Y5	37	LYS
51	Y5	40	LYS
51	Y5	48	GLU
51	Y5	49	CYS
51	Y5	51	TYR
51	Y5	52	TYR
51	Y5	56	LYS
51	Y5	58	LEU
51	Y5	60	VAL
52	Y6	6	ARG
52	Y6	8	LYS
52	Y6	11	LEU
52	Y6	19	ARG
52	Y6	23	THR
52	Y6	30	THR
52	Y6	33	LYS
52	Y6	34	LEU
52	Y6	37	ARG
52	Y6	44	ARG
53	Y7	1	MET
53	Y7	4	THR
53	Y7	8	ASN
53	Y7	9	ARG
53	Y7	10	ARG

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Mol	Chain	Res	Type
53	Y7	14	LYS
53	Y7	47	ARG
54	Y8	15	LYS
54	Y8	16	ILE
54	Y8	27	THR
54	Y8	30	ARG
54	Y8	35	GLN
54	Y8	39	LYS
54	Y8	43	GLN
54	Y8	44	LYS
54	Y8	47	LYS
54	Y8	48	PHE
54	Y8	49	VAL
54	Y8	52	LYS
54	Y8	53	PRO
54	Y8	62	LEU
54	Y8	63	PRO
54	Y8	65	GLU
55	Y9	1	MET
55	Y9	17	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (31) such sidechains are listed below:

Mol	Chain	Res	Type
2	QB	212	GLN
3	QC	162	GLN
5	QE	130	ASN
10	QJ	13	HIS
10	QJ	78	ASN
12	QL	9	GLN
17	QQ	16	GLN
19	QS	47	HIS
28	RE	48	GLN
31	RH	143	GLN
31	RH	147	ASN
36	RQ	123	HIS
50	R4	6	HIS
55	R9	29	ASN
55	R9	32	HIS
2	XB	212	GLN
3	XC	162	GLN
5	XE	72	GLN

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Mol	Chain	Res	Type
9	XI	3	GLN
10	XJ	78	ASN
12	XL	9	GLN
27	YD	44	ASN
27	YD	143	HIS
27	YD	166	GLN
27	YD	198	ASN
28	YE	48	GLN
31	YH	143	GLN
31	YH	147	ASN
46	Y0	29	GLN
48	Y2	9	GLN
54	Y8	31	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1499/1522 (98%)	260 (17%)	40 (2%)
1	XA	1498/1522 (98%)	283 (18%)	33 (2%)
22	QV	76/77 (98%)	18 (23%)	1 (1%)
22	XV	76/77 (98%)	18 (23%)	1 (1%)
23	QX	7/25 (28%)	1 (14%)	0
23	XX	7/25 (28%)	1 (14%)	0
24	QY	14/18 (77%)	2 (14%)	0
24	XY	14/18 (77%)	1 (7%)	0
25	RA	2879/2915 (98%)	571 (19%)	49 (1%)
25	YA	2879/2915 (98%)	580 (20%)	49 (1%)
26	RB	119/122 (97%)	18 (15%)	1 (0%)
26	YB	119/122 (97%)	25 (21%)	1 (0%)
56	Z5	1/3 (33%)	0	0
56	Z6	1/3 (33%)	0	0
All	All	9189/9364 (98%)	1778 (19%)	175 (1%)

All (1778) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	6	G
1	QA	7	G
1	QA	9	G
1	QA	32	A
1	QA	39	G

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Mol	Chain	Res	Type
1	QA	47	C
1	QA	48	C
1	QA	51	A
1	QA	64	G
1	QA	65	U
1	QA	66	G
1	QA	95	G
1	QA	101	A
1	QA	116	A
1	QA	121	C
1	QA	129(A)	G
1	QA	144	G
1	QA	146	G
1	QA	163	C
1	QA	169	C
1	QA	171	A
1	QA	173	U
1	QA	174	C
1	QA	182	U
1	QA	190	G
1	QA	191(A)	G
1	QA	195	A
1	QA	197	A
1	QA	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	251	G
1	QA	267	C
1	QA	279	A
1	QA	281	G
1	QA	289	G
1	QA	321	A
1	QA	328	C
1	QA	329	A
1	QA	332	G
1	QA	344	A
1	QA	346	G
1	QA	347	G

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Mol	Chain	Res	Type
1	QA	352	C
1	QA	353	A
1	QA	354	G
1	QA	367	U
1	QA	372	C
1	QA	373	A
1	QA	384	G
1	QA	397	A
1	QA	398	C
1	QA	406	G
1	QA	411	A
1	QA	412	A
1	QA	413	G
1	QA	421	U
1	QA	422	C
1	QA	423	G
1	QA	424	G
1	QA	429	U
1	QA	430	A
1	QA	442	C
1	QA	452	A
1	QA	466	C
1	QA	482	A
1	QA	485	G
1	QA	486	U
1	QA	496	A
1	QA	497	U
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
1	QA	533	A
1	QA	545	C
1	QA	547	A
1	QA	559	A
1	QA	564	C
1	QA	566	G

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Mol	Chain	Res	Type
1	QA	568	G
1	QA	572	A
1	QA	573	A
1	QA	576	G
1	QA	577	G
1	QA	579	G
1	QA	596	C
1	QA	607	A
1	QA	614	A
1	QA	618	C
1	QA	630	G
1	QA	631	G
1	QA	632	A
1	QA	652	U
1	QA	653	A
1	QA	665	A
1	QA	686	U
1	QA	688	G
1	QA	703	G
1	QA	704	A
1	QA	723	U
1	QA	731	G
1	QA	748	C
1	QA	753	A
1	QA	754	C
1	QA	755	G
1	QA	760	G
1	QA	777	A
1	QA	792	A
1	QA	793	U
1	QA	794	A
1	QA	813	U
1	QA	817	C
1	QA	819	A
1	QA	828	A
1	QA	836	G
1	QA	841	U
1	QA	842	C
1	QA	843	U
1	QA	848	C
1	QA	859	A
1	QA	870	U

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Mol	Chain	Res	Type
1	QA	871	U
1	QA	872	A
1	QA	885	G
1	QA	902	G
1	QA	914	A
1	QA	927	G
1	QA	934	C
1	QA	935	A
1	QA	960	U
1	QA	968	A
1	QA	969	A
1	QA	971	G
1	QA	974	A
1	QA	975	A
1	QA	976	G
1	QA	977	A
1	QA	982	U
1	QA	983	A
1	QA	991	U
1	QA	992	U
1	QA	993	G
1	QA	994	A
1	QA	1001	G
1	QA	1004	A
1	QA	1006	C
1	QA	1009	G
1	QA	1020	U
1	QA	1024	G
1	QA	1025	U
1	QA	1026	G
1	QA	1028	C
1	QA	1029	G
1	QA	1032(A)	G
1	QA	1036	G
1	QA	1040	U
1	QA	1046	A
1	QA	1054	C
1	QA	1064	G
1	QA	1065	U
1	QA	1066	C
1	QA	1081	G
1	QA	1094	G

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Mol	Chain	Res	Type
1	QA	1095	U
1	QA	1101	A
1	QA	1124	G
1	QA	1125	U
1	QA	1126	U
1	QA	1127	G
1	QA	1130	A
1	QA	1131	G
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G
1	QA	1146	A
1	QA	1157	A
1	QA	1158	C
1	QA	1159	U
1	QA	1160	G
1	QA	1171	G
1	QA	1178	G
1	QA	1181	G
1	QA	1182	G
1	QA	1183	A
1	QA	1187	G
1	QA	1196	U
1	QA	1197	G
1	QA	1211	U
1	QA	1212	U
1	QA	1213	A
1	QA	1215	G
1	QA	1238	A
1	QA	1240	U
1	QA	1241	G
1	QA	1256	A
1	QA	1257	U
1	QA	1258	G
1	QA	1270	C
1	QA	1280	A
1	QA	1281	U
1	QA	1282	C
1	QA	1286	A
1	QA	1287	A
1	QA	1297	C

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Mol	Chain	Res	Type
1	QA	1298	C
1	QA	1299	A
1	QA	1301	U
1	QA	1302	U
1	QA	1303	C
1	QA	1305	G
1	QA	1317	C
1	QA	1319	A
1	QA	1320	C
1	QA	1322	C
1	QA	1323	G
1	QA	1331	G
1	QA	1335	C
1	QA	1337	G
1	QA	1338	G
1	QA	1346	A
1	QA	1347	G
1	QA	1348	U
1	QA	1353	G
1	QA	1359	C
1	QA	1362(A)	C
1	QA	1363	A
1	QA	1368	G
1	QA	1370	G
1	QA	1379	G
1	QA	1397	C
1	QA	1398	A
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	1487	G
1	QA	1492	A
1	QA	1497	G
1	QA	1499	A
1	QA	1504	G
1	QA	1506	U
1	QA	1517	G
1	QA	1519	A

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Mol	Chain	Res	Type
1	QA	1520	G
1	QA	1529	G
1	QA	1530	G
22	QV	3	G
22	QV	4	G
22	QV	7	U
22	QV	14	G
22	QV	15	C
22	QV	17	U
22	QV	18	G
22	QV	19	G
22	QV	21	A
22	QV	22	G
22	QV	47	U
22	QV	48	C
22	QV	53	G
22	QV	54	U
22	QV	64	G
22	QV	67	C
22	QV	75	C
22	QV	76	A
23	QX	19	A
24	QY	35	G
24	QY	37	U
25	RA	15	G
25	RA	34	C
25	RA	35	G
25	RA	41	C
25	RA	46	C
25	RA	51	G
25	RA	55	G
25	RA	61	G
25	RA	64	A
25	RA	71	A
25	RA	74	A
25	RA	75	G
25	RA	101	G
25	RA	102	G
25	RA	103	A
25	RA	118	A
25	RA	120	U
25	RA	131	G

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Mol	Chain	Res	Type
25	RA	177	G
25	RA	181	A
25	RA	196	A
25	RA	214	G
25	RA	215	G
25	RA	216	A
25	RA	221	A
25	RA	222	A
25	RA	223	A
25	RA	228	A
25	RA	229	A
25	RA	230	U
25	RA	232	G
25	RA	233	A
25	RA	242	G
25	RA	243	U
25	RA	248	G
25	RA	249	C
25	RA	252	G
25	RA	265	A
25	RA	266	G
25	RA	269	U
25	RA	270(L)	U
25	RA	270(M)	U
25	RA	270(N)	G
25	RA	270(P)	C
25	RA	271(C)	U
25	RA	271	G
25	RA	275	G
25	RA	276	A
25	RA	277	C
25	RA	299	A
25	RA	311	A
25	RA	316	C
25	RA	317	G
25	RA	323	G
25	RA	324	A
25	RA	327	G
25	RA	329	G
25	RA	330	A
25	RA	345	A
25	RA	346	A

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Mol	Chain	Res	Type
25	RA	352	G
25	RA	363(F)	A
25	RA	364	C
25	RA	371	A
25	RA	372	G
25	RA	373	U
25	RA	386	G
25	RA	396	G
25	RA	405	U
25	RA	411	G
25	RA	412	A
25	RA	421	U
25	RA	428	A
25	RA	444	C
25	RA	448	U
25	RA	454	A
25	RA	455	C
25	RA	456	C
25	RA	457	A
25	RA	470	A
25	RA	481	G
25	RA	503	A
25	RA	504	U
25	RA	505	A
25	RA	508	G
25	RA	509	C
25	RA	512	G
25	RA	513	A
25	RA	527	C
25	RA	529	A
25	RA	532	A
25	RA	533	G
25	RA	537	C
25	RA	539	G
25	RA	540	G
25	RA	546	C
25	RA	549	G
25	RA	554	U
25	RA	556	G
25	RA	563	G
25	RA	573	G
25	RA	574	C

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Mol	Chain	Res	Type
25	RA	575	A
25	RA	583	G
25	RA	587	C
25	RA	603	A
25	RA	607	U
25	RA	614	U
25	RA	615	G
25	RA	617	G
25	RA	621	A
25	RA	622	G
25	RA	627	A
25	RA	637	A
25	RA	638	G
25	RA	645	C
25	RA	646	A
25	RA	650	C
25	RA	651	G
25	RA	652	C
25	RA	653	A
25	RA	654	A
25	RA	654(A)	G
25	RA	658	C
25	RA	659	C
25	RA	664	C
25	RA	668	G
25	RA	669	G
25	RA	686	G
25	RA	702	G
25	RA	717	G
25	RA	722	A
25	RA	730	C
25	RA	752	A
25	RA	753	C
25	RA	765	G
25	RA	771	G
25	RA	775	G
25	RA	776	G
25	RA	782	A
25	RA	784	A
25	RA	785	G
25	RA	790	C
25	RA	792	G

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Mol	Chain	Res	Type
25	RA	805	G
25	RA	812	C
25	RA	819	A
25	RA	827	U
25	RA	828	U
25	RA	831	G
25	RA	846	C
25	RA	847	U
25	RA	854	G
25	RA	856	C
25	RA	857	C
25	RA	859	G
25	RA	860	U
25	RA	869	G
25	RA	872	A
25	RA	884	C
25	RA	885	C
25	RA	886	C
25	RA	888	C
25	RA	889	C
25	RA	893	C
25	RA	896	A
25	RA	897	C
25	RA	900	A
25	RA	901	A
25	RA	904	C
25	RA	907	U
25	RA	910	A
25	RA	917	A
25	RA	932	G
25	RA	938	G
25	RA	941	A
25	RA	945	A
25	RA	946	G
25	RA	959	A
25	RA	961	C
25	RA	973	A
25	RA	974	G
25	RA	974(A)	C
25	RA	983	A
25	RA	996	A
25	RA	1003	G

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Mol	Chain	Res	Type
25	RA	1010	A
25	RA	1011	G
25	RA	1012	U
25	RA	1013	C
25	RA	1015	G
25	RA	1017	G
25	RA	1020	A
25	RA	1023	U
25	RA	1025	G
25	RA	1026	U
25	RA	1027	A
25	RA	1033	U
25	RA	1044	G
25	RA	1046	A
25	RA	1050	A
25	RA	1055	G
25	RA	1059	G
25	RA	1060	U
25	RA	1061	U
25	RA	1065	U
25	RA	1066	U
25	RA	1067	A
25	RA	1068	G
25	RA	1071	G
25	RA	1077	A
25	RA	1078	U
25	RA	1079	C
25	RA	1080	C
25	RA	1082	U
25	RA	1083	U
25	RA	1084	A
25	RA	1085	A
25	RA	1086	A
25	RA	1087	G
25	RA	1088	A
25	RA	1091	G
25	RA	1093	G
25	RA	1095	A
25	RA	1096	A
25	RA	1104	C
25	RA	1110	G
25	RA	1111	A

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Mol	Chain	Res	Type
25	RA	1112	G
25	RA	1122	G
25	RA	1130	U
25	RA	1131	G
25	RA	1135	C
25	RA	1136	G
25	RA	1142	U
25	RA	1142(A)	A
25	RA	1151	G
25	RA	1173	G
25	RA	1174	A
25	RA	1175	U
25	RA	1176	G
25	RA	1178	C
25	RA	1179	C
25	RA	1180	C
25	RA	1183	G
25	RA	1195	G
25	RA	1204	A
25	RA	1205	U
25	RA	1206	G
25	RA	1210	A
25	RA	1211	U
25	RA	1220	A
25	RA	1221	C
25	RA	1236	G
25	RA	1238	G
25	RA	1252	G
25	RA	1253	A
25	RA	1256	G
25	RA	1265	A
25	RA	1271	G
25	RA	1272	A
25	RA	1300	U
25	RA	1301	A
25	RA	1312	U
25	RA	1313	U
25	RA	1314	C
25	RA	1320	C
25	RA	1321	A
25	RA	1329	U
25	RA	1341	U

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Mol	Chain	Res	Type
25	RA	1349	A
25	RA	1365	A
25	RA	1368	G
25	RA	1370	C
25	RA	1379	A
25	RA	1384	A
25	RA	1385	G
25	RA	1407	C
25	RA	1411	C
25	RA	1416	G
25	RA	1419	A
25	RA	1420	U
25	RA	1421	G
25	RA	1428	C
25	RA	1444(A)	A
25	RA	1445	C
25	RA	1449	A
25	RA	1449(A)	G
25	RA	1455	G
25	RA	1458	C
25	RA	1460	A
25	RA	1461	G
25	RA	1467	C
25	RA	1471	A
25	RA	1482	U
25	RA	1483	G
25	RA	1485	G
25	RA	1493	C
25	RA	1494	A
25	RA	1497	U
25	RA	1505	C
25	RA	1506	C
25	RA	1507	A
25	RA	1508	A
25	RA	1510	A
25	RA	1514	U
25	RA	1515	C
25	RA	1522	G
25	RA	1533	C
25	RA	1534	G
25	RA	1535	U
25	RA	1536	A

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Mol	Chain	Res	Type
25	RA	1537	C
25	RA	1538	G
25	RA	1543	A
25	RA	1545	A
25	RA	1547	C
25	RA	1554	A
25	RA	1558	A
25	RA	1559	G
25	RA	1566	A
25	RA	1569	A
25	RA	1578	U
25	RA	1579	A
25	RA	1580	A
25	RA	1581	G
25	RA	1585	C
25	RA	1586	A
25	RA	1593	G
25	RA	1598	C
25	RA	1608	A
25	RA	1609	A
25	RA	1613	G
25	RA	1617	C
25	RA	1618	A
25	RA	1630	G
25	RA	1640	C
25	RA	1648	C
25	RA	1651	G
25	RA	1654	A
25	RA	1667	G
25	RA	1674	G
25	RA	1675	C
25	RA	1695	G
25	RA	1725	G
25	RA	1728	G
25	RA	1729	A
25	RA	1730	U
25	RA	1733	G
25	RA	1742	C
25	RA	1743	G
25	RA	1756	G
25	RA	1758	G
25	RA	1763	G

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Mol	Chain	Res	Type
25	RA	1764	G
25	RA	1769	G
25	RA	1773	A
25	RA	1780	A
25	RA	1791	A
25	RA	1799	G
25	RA	1800	C
25	RA	1801	G
25	RA	1816	G
25	RA	1820	U
25	RA	1829	A
25	RA	1835	G
25	RA	1839	G
25	RA	1847	A
25	RA	1848	A
25	RA	1858	G
25	RA	1869	G
25	RA	1870	C
25	RA	1878	G
25	RA	1882	C
25	RA	1888	G
25	RA	1889	A
25	RA	1905	C
25	RA	1906	G
25	RA	1913	A
25	RA	1927	A
25	RA	1929	G
25	RA	1930	G
25	RA	1936	A
25	RA	1938	A
25	RA	1939	U
25	RA	1955	U
25	RA	1963	U
25	RA	1964	G
25	RA	1967	C
25	RA	1968	G
25	RA	1969	A
25	RA	1970	A
25	RA	1971	A
25	RA	1972	A
25	RA	1982	C
25	RA	1991	U

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Mol	Chain	Res	Type
25	RA	1993	U
25	RA	2020	A
25	RA	2023	G
25	RA	2031	A
25	RA	2032	G
25	RA	2033	A
25	RA	2039	C
25	RA	2043	C
25	RA	2052	G
25	RA	2054	A
25	RA	2055	C
25	RA	2056	G
25	RA	2059	A
25	RA	2060	A
25	RA	2061	G
25	RA	2062	A
25	RA	2067	G
25	RA	2069	G
25	RA	2108	C
25	RA	2111	C
25	RA	2113	U
25	RA	2114	A
25	RA	2115	G
25	RA	2116	G
25	RA	2117	A
25	RA	2118	U
25	RA	2119	A
25	RA	2120	G
25	RA	2126	A
25	RA	2127	G
25	RA	2128	C
25	RA	2131	G
25	RA	2132	U
25	RA	2134	A
25	RA	2135	A
25	RA	2136	C
25	RA	2145	C
25	RA	2147	G
25	RA	2148	G
25	RA	2157	G
25	RA	2158	A
25	RA	2161	C

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Mol	Chain	Res	Type
25	RA	2166	G
25	RA	2168	G
25	RA	2169	A
25	RA	2171	A
25	RA	2173	A
25	RA	2176	A
25	RA	2190	G
25	RA	2192	G
25	RA	2198	A
25	RA	2210	G
25	RA	2211	G
25	RA	2212	A
25	RA	2213	U
25	RA	2215	G
25	RA	2225	A
25	RA	2238	G
25	RA	2239	G
25	RA	2243	U
25	RA	2244	U
25	RA	2246	G
25	RA	2275	C
25	RA	2280	G
25	RA	2283	C
25	RA	2287	A
25	RA	2307	G
25	RA	2308	G
25	RA	2311	A
25	RA	2312	U
25	RA	2319	G
25	RA	2320	A
25	RA	2321	G
25	RA	2325	G
25	RA	2327	A
25	RA	2334	G
25	RA	2346	A
25	RA	2347	C
25	RA	2350	C
25	RA	2372	G
25	RA	2379	G
25	RA	2383	G
25	RA	2385	C
25	RA	2392	A

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Mol	Chain	Res	Type
25	RA	2394	C
25	RA	2402	C
25	RA	2403	C
25	RA	2406	U
25	RA	2410	G
25	RA	2423	U
25	RA	2425	A
25	RA	2429	G
25	RA	2430	A
25	RA	2435	A
25	RA	2439	A
25	RA	2440	C
25	RA	2441	C
25	RA	2445	G
25	RA	2448	A
25	RA	2469	A
25	RA	2470	G
25	RA	2474	C
25	RA	2482	G
25	RA	2487	G
25	RA	2494	G
25	RA	2502	G
25	RA	2505	G
25	RA	2513	G
25	RA	2519	U
25	RA	2529	G
25	RA	2542	A
25	RA	2543	G
25	RA	2554	U
25	RA	2562	U
25	RA	2567	G
25	RA	2569	G
25	RA	2573	C
25	RA	2602	A
25	RA	2609	U
25	RA	2611	U
25	RA	2612	C
25	RA	2614	A
25	RA	2615	U
25	RA	2623	G
25	RA	2629	A
25	RA	2641	G

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Mol	Chain	Res	Type
25	RA	2646	C
25	RA	2655	G
25	RA	2665	A
25	RA	2673	G
25	RA	2689	U
25	RA	2700	C
25	RA	2702	U
25	RA	2703	C
25	RA	2707	G
25	RA	2712	U
25	RA	2712(A)	A
25	RA	2713	A
25	RA	2714	G
25	RA	2726	U
25	RA	2733	A
25	RA	2748	A
25	RA	2752	C
25	RA	2758	A
25	RA	2761	G
25	RA	2764	A
25	RA	2765	A
25	RA	2766	G
25	RA	2770	G
25	RA	2777	G
25	RA	2778	A
25	RA	2779	U
25	RA	2780	G
25	RA	2790	A
25	RA	2791	C
25	RA	2797	U
25	RA	2798	C
25	RA	2807	G
25	RA	2810	A
25	RA	2818	G
25	RA	2820	A
25	RA	2821	A
25	RA	2833	G
25	RA	2834	G
25	RA	2835	A
25	RA	2849	U
25	RA	2867	G
25	RA	2868	A

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Mol	Chain	Res	Type
25	RA	2872	G
25	RA	2879	C
25	RA	2880	C
25	RA	2891	G
25	RA	2892	A
25	RA	2893	G
25	RA	2894	G
26	RB	7	G
26	RB	9	G
26	RB	13	A
26	RB	15	A
26	RB	16	G
26	RB	22	U
26	RB	25	A
26	RB	27	C
26	RB	40	U
26	RB	41	U
26	RB	42	C
26	RB	45	A
26	RB	56	G
26	RB	67	G
26	RB	73	A
26	RB	81	G
26	RB	89	G
26	RB	109	G
1	XA	7	G
1	XA	9	G
1	XA	22	G
1	XA	32	A
1	XA	39	G
1	XA	48	C
1	XA	51	A
1	XA	54	C
1	XA	61	G
1	XA	64	G
1	XA	65	U
1	XA	66	G
1	XA	76	G
1	XA	79	G
1	XA	81	G
1	XA	88	C
1	XA	89	U

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Mol	Chain	Res	Type
1	XA	90	C
1	XA	91	C
1	XA	92	G
1	XA	95	G
1	XA	101	A
1	XA	108	G
1	XA	116	A
1	XA	121	C
1	XA	129(A)	G
1	XA	130	A
1	XA	131	C
1	XA	144	G
1	XA	147	G
1	XA	163	C
1	XA	169	C
1	XA	172	A
1	XA	174	C
1	XA	190	G
1	XA	195	A
1	XA	197	A
1	XA	201	C
1	XA	209	U
1	XA	210	U
1	XA	216	G
1	XA	222	U
1	XA	244	U
1	XA	247	G
1	XA	251	G
1	XA	267	C
1	XA	281	G
1	XA	289	G
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	332	G
1	XA	345	C
1	XA	346	G
1	XA	347	G
1	XA	348	G
1	XA	352	C
1	XA	353	A
1	XA	354	G

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Mol	Chain	Res	Type
1	XA	356	A
1	XA	367	U
1	XA	372	C
1	XA	373	A
1	XA	381	C
1	XA	384	G
1	XA	389	A
1	XA	397	A
1	XA	398	C
1	XA	406	G
1	XA	412	A
1	XA	413	G
1	XA	422	C
1	XA	423	G
1	XA	424	G
1	XA	429	U
1	XA	430	A
1	XA	442	C
1	XA	451	A
1	XA	452	A
1	XA	466	C
1	XA	467	G
1	XA	482	A
1	XA	485	G
1	XA	486	U
1	XA	496	A
1	XA	497	U
1	XA	509	A
1	XA	510	A
1	XA	511	C
1	XA	518	C
1	XA	521	G
1	XA	527	G
1	XA	531	U
1	XA	532	A
1	XA	533	A
1	XA	547	A
1	XA	548	G
1	XA	559	A
1	XA	561	U
1	XA	564	C
1	XA	568	G

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Mol	Chain	Res	Type
1	XA	572	A
1	XA	573	A
1	XA	576	G
1	XA	577	G
1	XA	579	G
1	XA	618	C
1	XA	630	G
1	XA	631	G
1	XA	632	A
1	XA	633	G
1	XA	653	A
1	XA	665	A
1	XA	688	G
1	XA	704	A
1	XA	721	G
1	XA	723	U
1	XA	731	G
1	XA	748	C
1	XA	753	A
1	XA	755	G
1	XA	760	G
1	XA	774	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	799	G
1	XA	813	U
1	XA	816	A
1	XA	817	C
1	XA	818	G
1	XA	821	G
1	XA	828	A
1	XA	841	U
1	XA	842	C
1	XA	843	U
1	XA	848	C
1	XA	859	A
1	XA	864	A
1	XA	871	U
1	XA	872	A
1	XA	884	U

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Mol	Chain	Res	Type
1	XA	902	G
1	XA	914	A
1	XA	926	G
1	XA	927	G
1	XA	934	C
1	XA	935	A
1	XA	942	G
1	XA	958	A
1	XA	960	U
1	XA	966	G
1	XA	968	A
1	XA	969	A
1	XA	971	G
1	XA	974	A
1	XA	975	A
1	XA	976	G
1	XA	977	A
1	XA	991	U
1	XA	992	U
1	XA	993	G
1	XA	1004	A
1	XA	1006	C
1	XA	1008	C
1	XA	1021	G
1	XA	1024	G
1	XA	1025	U
1	XA	1028	C
1	XA	1028(B)	C
1	XA	1029	G
1	XA	1031	G
1	XA	1032(A)	G
1	XA	1033	G
1	XA	1036	G
1	XA	1038	C
1	XA	1040	U
1	XA	1042	G
1	XA	1050	G
1	XA	1053	G
1	XA	1054	C
1	XA	1064	G
1	XA	1081	G
1	XA	1085	U

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Mol	Chain	Res	Type
1	XA	1094	G
1	XA	1095	U
1	XA	1101	A
1	XA	1124	G
1	XA	1125	U
1	XA	1126	U
1	XA	1127	G
1	XA	1130	A
1	XA	1131	G
1	XA	1136	U
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1146	A
1	XA	1157	A
1	XA	1158	C
1	XA	1159	U
1	XA	1160	G
1	XA	1171	G
1	XA	1177	G
1	XA	1178	G
1	XA	1181	G
1	XA	1182	G
1	XA	1183	A
1	XA	1184	G
1	XA	1187	G
1	XA	1190	G
1	XA	1196	U
1	XA	1197	G
1	XA	1200	C
1	XA	1201	A
1	XA	1212	U
1	XA	1213	A
1	XA	1225	A
1	XA	1238	A
1	XA	1240	U
1	XA	1241	G
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1263	C
1	XA	1270	C

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Mol	Chain	Res	Type
1	XA	1273	G
1	XA	1279	A
1	XA	1280	A
1	XA	1281	U
1	XA	1282	C
1	XA	1286	A
1	XA	1287	A
1	XA	1290	G
1	XA	1297	C
1	XA	1298	C
1	XA	1300	G
1	XA	1301	U
1	XA	1302	U
1	XA	1305	G
1	XA	1318	A
1	XA	1319	A
1	XA	1320	C
1	XA	1322	C
1	XA	1323	G
1	XA	1331	G
1	XA	1334	G
1	XA	1335	C
1	XA	1336	C
1	XA	1337	G
1	XA	1346	A
1	XA	1347	G
1	XA	1348	U
1	XA	1353	G
1	XA	1362(A)	C
1	XA	1363	A
1	XA	1364	U
1	XA	1370	G
1	XA	1379	G
1	XA	1394	A
1	XA	1397	C
1	XA	1398	A
1	XA	1419	G
1	XA	1442	G
1	XA	1446	A
1	XA	1447	G
1	XA	1452	C
1	XA	1453	G

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Mol	Chain	Res	Type
1	XA	1487	G
1	XA	1492	A
1	XA	1497	G
1	XA	1499	A
1	XA	1502	A
1	XA	1506	U
1	XA	1507	A
1	XA	1517	G
1	XA	1519	A
1	XA	1520	G
1	XA	1525	G
1	XA	1529	G
1	XA	1530	G
1	XA	1531	A
22	XV	3	G
22	XV	4	G
22	XV	17	U
22	XV	18	G
22	XV	19	G
22	XV	21	A
22	XV	22	G
22	XV	25	C
22	XV	47	U
22	XV	48	C
22	XV	52	G
22	XV	54	U
22	XV	64	G
22	XV	67	C
22	XV	73	A
22	XV	74	C
22	XV	75	C
22	XV	76	A
23	XX	19	A
24	XY	35	G
25	YA	9	U
25	YA	15	G
25	YA	34	C
25	YA	35	G
25	YA	46	C
25	YA	55	G
25	YA	61	G
25	YA	71	A

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Mol	Chain	Res	Type
25	YA	72	U
25	YA	74	A
25	YA	75	G
25	YA	96	G
25	YA	97	C
25	YA	101	G
25	YA	102	G
25	YA	103	A
25	YA	118	A
25	YA	119	A
25	YA	120	U
25	YA	131	G
25	YA	155	C
25	YA	161	U
25	YA	181	A
25	YA	196	A
25	YA	199	A
25	YA	214	G
25	YA	215	G
25	YA	216	A
25	YA	221	A
25	YA	222	A
25	YA	223	A
25	YA	226	G
25	YA	228	A
25	YA	229	A
25	YA	230	U
25	YA	232	G
25	YA	233	A
25	YA	242	G
25	YA	243	U
25	YA	248	G
25	YA	252	G
25	YA	261	G
25	YA	265	A
25	YA	266	G
25	YA	269	U
25	YA	270(L)	U
25	YA	270(M)	U
25	YA	270(N)	G
25	YA	270(P)	C
25	YA	271(A)	C

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Mol	Chain	Res	Type
25	YA	271(B)	G
25	YA	271(C)	U
25	YA	271	G
25	YA	274	G
25	YA	275	G
25	YA	276	A
25	YA	278	A
25	YA	279	C
25	YA	299	A
25	YA	311	A
25	YA	323	G
25	YA	324	A
25	YA	327	G
25	YA	329	G
25	YA	330	A
25	YA	332	A
25	YA	342	G
25	YA	352	G
25	YA	363	G
25	YA	364	C
25	YA	371	A
25	YA	372	G
25	YA	386	G
25	YA	387	U
25	YA	405	U
25	YA	406	G
25	YA	411	G
25	YA	412	A
25	YA	421	U
25	YA	428	A
25	YA	443	A
25	YA	444	C
25	YA	448	U
25	YA	457	A
25	YA	470	A
25	YA	479	A
25	YA	481	G
25	YA	504	U
25	YA	505	A
25	YA	508	G
25	YA	509	C
25	YA	512	G

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Mol	Chain	Res	Type
25	YA	518	G
25	YA	532	A
25	YA	533	G
25	YA	537	C
25	YA	539	G
25	YA	540	G
25	YA	546	C
25	YA	547	A
25	YA	549	G
25	YA	563	G
25	YA	571	A
25	YA	573	G
25	YA	574	C
25	YA	575	A
25	YA	586	A
25	YA	588	U
25	YA	603	A
25	YA	604	G
25	YA	607	U
25	YA	614	U
25	YA	615	G
25	YA	617	G
25	YA	621	A
25	YA	622	G
25	YA	627	A
25	YA	634	C
25	YA	637	A
25	YA	638	G
25	YA	645	C
25	YA	646	A
25	YA	651	G
25	YA	654(A)	G
25	YA	654(B)	C
25	YA	654(V)	A
25	YA	657	U
25	YA	668	G
25	YA	670	A
25	YA	686	G
25	YA	702	G
25	YA	705	A
25	YA	717	G
25	YA	722	A

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Mol	Chain	Res	Type
25	YA	730	C
25	YA	734	A
25	YA	747	U
25	YA	753	C
25	YA	764	A
25	YA	765	G
25	YA	776	G
25	YA	777	A
25	YA	782	A
25	YA	784	A
25	YA	785	G
25	YA	790	C
25	YA	792	G
25	YA	793	A
25	YA	805	G
25	YA	812	C
25	YA	819	A
25	YA	827	U
25	YA	828	U
25	YA	831	G
25	YA	847	U
25	YA	856	C
25	YA	857	C
25	YA	859	G
25	YA	860	U
25	YA	865	C
25	YA	866	A
25	YA	881	G
25	YA	882	G
25	YA	884	C
25	YA	885	C
25	YA	886	C
25	YA	888	C
25	YA	889	C
25	YA	896	A
25	YA	898	C
25	YA	899	A
25	YA	900	A
25	YA	901	A
25	YA	907	U
25	YA	910	A
25	YA	914	C

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Mol	Chain	Res	Type
25	YA	917	A
25	YA	918	A
25	YA	932	G
25	YA	941	A
25	YA	945	A
25	YA	946	G
25	YA	959	A
25	YA	961	C
25	YA	974	G
25	YA	974(A)	C
25	YA	975	G
25	YA	980	A
25	YA	983	A
25	YA	996	A
25	YA	1003	G
25	YA	1005	C
25	YA	1010	A
25	YA	1011	G
25	YA	1012	U
25	YA	1013	C
25	YA	1017	G
25	YA	1022	G
25	YA	1023	U
25	YA	1025	G
25	YA	1026	U
25	YA	1027	A
25	YA	1033	U
25	YA	1045	A
25	YA	1046	A
25	YA	1047	G
25	YA	1050	A
25	YA	1055	G
25	YA	1057	A
25	YA	1059	G
25	YA	1060	U
25	YA	1061	U
25	YA	1067	A
25	YA	1068	G
25	YA	1071	G
25	YA	1076	C
25	YA	1077	A
25	YA	1078	U

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Mol	Chain	Res	Type
25	YA	1079	C
25	YA	1082	U
25	YA	1083	U
25	YA	1084	A
25	YA	1085	A
25	YA	1086	A
25	YA	1088	A
25	YA	1089	G
25	YA	1090	U
25	YA	1093	G
25	YA	1095	A
25	YA	1096	A
25	YA	1097	U
25	YA	1103	A
25	YA	1104	C
25	YA	1110	G
25	YA	1111	A
25	YA	1122	G
25	YA	1131	G
25	YA	1135	C
25	YA	1136	G
25	YA	1139	G
25	YA	1142	U
25	YA	1142(A)	A
25	YA	1156	A
25	YA	1170	G
25	YA	1173	G
25	YA	1174	A
25	YA	1175	U
25	YA	1176	G
25	YA	1179	C
25	YA	1180	C
25	YA	1194	A
25	YA	1195	G
25	YA	1204	A
25	YA	1205	U
25	YA	1210	A
25	YA	1211	U
25	YA	1220	A
25	YA	1221	C
25	YA	1236	G
25	YA	1238	G

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Mol	Chain	Res	Type
25	YA	1250	G
25	YA	1252	G
25	YA	1253	A
25	YA	1256	G
25	YA	1265	A
25	YA	1271	G
25	YA	1272	A
25	YA	1273	U
25	YA	1287	A
25	YA	1300	U
25	YA	1301	A
25	YA	1321	A
25	YA	1329	U
25	YA	1345	C
25	YA	1349	A
25	YA	1352	U
25	YA	1359	A
25	YA	1360	A
25	YA	1365	A
25	YA	1368	G
25	YA	1370	C
25	YA	1379	A
25	YA	1384	A
25	YA	1385	G
25	YA	1388	G
25	YA	1395	A
25	YA	1407	C
25	YA	1411	C
25	YA	1412	A
25	YA	1416	G
25	YA	1417	C
25	YA	1419	A
25	YA	1420	U
25	YA	1421	G
25	YA	1428	C
25	YA	1444(A)	A
25	YA	1445	C
25	YA	1449	A
25	YA	1449(A)	G
25	YA	1455	G
25	YA	1458	C
25	YA	1460	A

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Mol	Chain	Res	Type
25	YA	1461	G
25	YA	1464	C
25	YA	1467	C
25	YA	1471	A
25	YA	1478	G
25	YA	1482	U
25	YA	1483	G
25	YA	1485	G
25	YA	1487	G
25	YA	1493	C
25	YA	1496	A
25	YA	1497	U
25	YA	1507	A
25	YA	1508	A
25	YA	1510	A
25	YA	1511	A
25	YA	1522	G
25	YA	1534	G
25	YA	1535	U
25	YA	1536	A
25	YA	1537	C
25	YA	1540	G
25	YA	1543	A
25	YA	1544	C
25	YA	1545	A
25	YA	1547	C
25	YA	1554	A
25	YA	1558	A
25	YA	1559	G
25	YA	1566	A
25	YA	1569	A
25	YA	1578	U
25	YA	1579	A
25	YA	1580	A
25	YA	1581	G
25	YA	1585	C
25	YA	1586	A
25	YA	1587	A
25	YA	1591	G
25	YA	1597	A
25	YA	1598	C
25	YA	1608	A

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Mol	Chain	Res	Type
25	YA	1609	A
25	YA	1617	C
25	YA	1618	A
25	YA	1639	U
25	YA	1640	C
25	YA	1646	C
25	YA	1647	G
25	YA	1648	C
25	YA	1654	A
25	YA	1674	G
25	YA	1678	G
25	YA	1695	G
25	YA	1725	G
25	YA	1728	G
25	YA	1729	A
25	YA	1730	U
25	YA	1742	C
25	YA	1743	G
25	YA	1750	G
25	YA	1754	C
25	YA	1756	G
25	YA	1763	G
25	YA	1764	G
25	YA	1773	A
25	YA	1780	A
25	YA	1787	A
25	YA	1791	A
25	YA	1799	G
25	YA	1800	C
25	YA	1801	G
25	YA	1816	G
25	YA	1820	U
25	YA	1829	A
25	YA	1835	G
25	YA	1836	C
25	YA	1847	A
25	YA	1858	G
25	YA	1869	G
25	YA	1870	C
25	YA	1872	A
25	YA	1878	G
25	YA	1882	C

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Mol	Chain	Res	Type
25	YA	1884	A
25	YA	1889	A
25	YA	1899	G
25	YA	1903	G
25	YA	1906	G
25	YA	1913	A
25	YA	1919	A
25	YA	1929	G
25	YA	1930	G
25	YA	1931	U
25	YA	1938	A
25	YA	1939	U
25	YA	1941	C
25	YA	1955	U
25	YA	1956	U
25	YA	1963	U
25	YA	1964	G
25	YA	1966	A
25	YA	1967	C
25	YA	1969	A
25	YA	1970	A
25	YA	1971	A
25	YA	1972	A
25	YA	1982	C
25	YA	1991	U
25	YA	1992	G
25	YA	1993	U
25	YA	2020	A
25	YA	2023	G
25	YA	2031	A
25	YA	2033	A
25	YA	2043	C
25	YA	2049	G
25	YA	2051	A
25	YA	2055	C
25	YA	2056	G
25	YA	2059	A
25	YA	2060	A
25	YA	2061	G
25	YA	2062	A
25	YA	2063	C
25	YA	2069	G

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Mol	Chain	Res	Type
25	YA	2070	G
25	YA	2099	U
25	YA	2111	C
25	YA	2112	G
25	YA	2113	U
25	YA	2114	A
25	YA	2115	G
25	YA	2116	G
25	YA	2117	A
25	YA	2119	A
25	YA	2120	G
25	YA	2126	A
25	YA	2127	G
25	YA	2128	C
25	YA	2131	G
25	YA	2132	U
25	YA	2133	G
25	YA	2136	C
25	YA	2146	C
25	YA	2148	G
25	YA	2157	G
25	YA	2158	A
25	YA	2166	G
25	YA	2167	U
25	YA	2168	G
25	YA	2173	A
25	YA	2176	A
25	YA	2181	G
25	YA	2189	U
25	YA	2190	G
25	YA	2192	G
25	YA	2198	A
25	YA	2210	G
25	YA	2211	G
25	YA	2212	A
25	YA	2215	G
25	YA	2225	A
25	YA	2235	G
25	YA	2238	G
25	YA	2239	G
25	YA	2246	G
25	YA	2275	C

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Mol	Chain	Res	Type
25	YA	2279	G
25	YA	2280	G
25	YA	2283	C
25	YA	2287	A
25	YA	2288	A
25	YA	2307	G
25	YA	2308	G
25	YA	2311	A
25	YA	2319	G
25	YA	2320	A
25	YA	2325	G
25	YA	2327	A
25	YA	2342	C
25	YA	2346	A
25	YA	2347	C
25	YA	2350	C
25	YA	2379	G
25	YA	2383	G
25	YA	2385	C
25	YA	2392	A
25	YA	2394	C
25	YA	2402	C
25	YA	2403	C
25	YA	2406	U
25	YA	2410	G
25	YA	2423	U
25	YA	2425	A
25	YA	2429	G
25	YA	2430	A
25	YA	2435	A
25	YA	2439	A
25	YA	2440	C
25	YA	2441	C
25	YA	2445	G
25	YA	2448	A
25	YA	2450	A
25	YA	2469	A
25	YA	2470	G
25	YA	2471	C
25	YA	2475	C
25	YA	2484	G
25	YA	2491	U

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Mol	Chain	Res	Type
25	YA	2494	G
25	YA	2502	G
25	YA	2505	G
25	YA	2518	A
25	YA	2525	G
25	YA	2529	G
25	YA	2542	A
25	YA	2554	U
25	YA	2566	A
25	YA	2567	G
25	YA	2585	U
25	YA	2586	C
25	YA	2599	G
25	YA	2602	A
25	YA	2609	U
25	YA	2610	C
25	YA	2611	U
25	YA	2612	C
25	YA	2629	A
25	YA	2632	A
25	YA	2646	C
25	YA	2655	G
25	YA	2665	A
25	YA	2666	C
25	YA	2673	G
25	YA	2682	U
25	YA	2689	U
25	YA	2690	C
25	YA	2702	U
25	YA	2703	C
25	YA	2707	G
25	YA	2712	U
25	YA	2712(A)	A
25	YA	2713	A
25	YA	2714	G
25	YA	2726	U
25	YA	2733	A
25	YA	2739	U
25	YA	2744	G
25	YA	2758	A
25	YA	2761	G
25	YA	2764	A

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Mol	Chain	Res	Type
25	YA	2765	A
25	YA	2770	G
25	YA	2777	G
25	YA	2778	A
25	YA	2779	U
25	YA	2789	C
25	YA	2790	A
25	YA	2791	C
25	YA	2794	C
25	YA	2797	U
25	YA	2807	G
25	YA	2808	U
25	YA	2818	G
25	YA	2820	A
25	YA	2821	A
25	YA	2823	A
25	YA	2833	G
25	YA	2834	G
25	YA	2835	A
25	YA	2836	U
25	YA	2868	A
25	YA	2872	G
25	YA	2880	C
25	YA	2891	G
25	YA	2892	A
25	YA	2893	G
26	YB	2	C
26	YB	8	U
26	YB	9	G
26	YB	11	C
26	YB	13	A
26	YB	15	A
26	YB	19	G
26	YB	22	U
26	YB	25	A
26	YB	32	C
26	YB	40	U
26	YB	41	U
26	YB	42	C
26	YB	43	C
26	YB	44	G
26	YB	45	A

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Mol	Chain	Res	Type
26	YB	52	A
26	YB	56	G
26	YB	67	G
26	YB	73	A
26	YB	81	G
26	YB	82	G
26	YB	89	G
26	YB	108	C
26	YB	109	G

All (175) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	QA	5	U
1	QA	31	G
1	QA	64	G
1	QA	115	G
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	410	G
1	QA	412	A
1	QA	428	G
1	QA	429	U
1	QA	481	G
1	QA	484	G
1	QA	485	G
1	QA	509	A
1	QA	687	A
1	QA	703	G
1	QA	753	A
1	QA	792	A
1	QA	812	C
1	QA	913	A
1	QA	991	U
1	QA	992	U
1	QA	1025	U
1	QA	1027	C
1	QA	1064	G

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Mol	Chain	Res	Type
1	QA	1065	U
1	QA	1280	A
1	QA	1285	A
1	QA	1297	C
1	QA	1301	U
1	QA	1336	C
1	QA	1346	A
1	QA	1347	G
1	QA	1446	A
1	QA	1498	U
1	QA	1528	U
22	QV	53	G
25	RA	74	A
25	RA	99	U
25	RA	102	G
25	RA	227	A
25	RA	229	A
25	RA	241	A
25	RA	242	G
25	RA	271(B)	G
25	RA	271(C)	U
25	RA	372	G
25	RA	404	C
25	RA	503	A
25	RA	508	G
25	RA	512	G
25	RA	637	A
25	RA	752	A
25	RA	774	A
25	RA	846	C
25	RA	856	C
25	RA	859	G
25	RA	1022	G
25	RA	1026	U
25	RA	1045	A
25	RA	1078	U
25	RA	1085	A
25	RA	1130	U
25	RA	1178	C
25	RA	1210	A
25	RA	1312	U
25	RA	1427	A

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Mol	Chain	Res	Type
25	RA	1460	A
25	RA	1558	A
25	RA	1653	G
25	RA	1694	C
25	RA	1799	G
25	RA	1819	A
25	RA	1992	G
25	RA	2060	A
25	RA	2126	A
25	RA	2405	G
25	RA	2439	A
25	RA	2481	G
25	RA	2518	A
25	RA	2566	A
25	RA	2610	C
25	RA	2712	U
25	RA	2776	A
25	RA	2832	U
25	RA	2867	G
26	RB	66	A
1	XA	31	G
1	XA	60	A
1	XA	64	G
1	XA	78	G
1	XA	89	U
1	XA	115	G
1	XA	243	A
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	429	U
1	XA	481	G
1	XA	484	G
1	XA	485	G
1	XA	509	A
1	XA	532	A
1	XA	560	U
1	XA	687	A
1	XA	703	G

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Mol	Chain	Res	Type
1	XA	812	C
1	XA	913	A
1	XA	992	U
1	XA	1027	C
1	XA	1285	A
1	XA	1301	U
1	XA	1336	C
1	XA	1347	G
1	XA	1397	C
1	XA	1446	A
1	XA	1498	U
22	XV	53	G
25	YA	99	U
25	YA	102	G
25	YA	195	A
25	YA	221	A
25	YA	222	A
25	YA	229	A
25	YA	242	G
25	YA	271(B)	G
25	YA	278	A
25	YA	404	C
25	YA	503	A
25	YA	508	G
25	YA	587	C
25	YA	637	A
25	YA	654	A
25	YA	704	G
25	YA	752	A
25	YA	846	C
25	YA	856	C
25	YA	859	G
25	YA	974(A)	C
25	YA	1022	G
25	YA	1026	U
25	YA	1045	A
25	YA	1078	U
25	YA	1084	A
25	YA	1085	A
25	YA	1109	C
25	YA	1130	U
25	YA	1178	C

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Mol	Chain	Res	Type
25	YA	1210	A
25	YA	1427	A
25	YA	1558	A
25	YA	1653	G
25	YA	1694	C
25	YA	1799	G
25	YA	1819	A
25	YA	1930	G
25	YA	1992	G
25	YA	2126	A
25	YA	2439	A
25	YA	2566	A
25	YA	2610	C
25	YA	2681	C
25	YA	2689	U
25	YA	2712	U
25	YA	2776	A
25	YA	2832	U
25	YA	2867	G
26	YB	66	A

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	101	56,25	32,40,41	2.55	6 (18%)	33,57,60	2.14	5 (15%)
56	PPU	Z5	101	56,25	32,40,41	2.56	6 (18%)	33,57,60	2.16	5 (15%)

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	101	56,25	-	2/21/43/44	0/4/4/4
56	PPU	Z5	101	56,25	-	2/21/43/44	0/4/4/4

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	Z6	101	PPU	O-C	9.32	1.41	1.23
56	Z5	101	PPU	O-C	9.27	1.41	1.23
56	Z6	101	PPU	C9-N6	-5.99	1.31	1.45
56	Z5	101	PPU	C9-N6	-5.95	1.31	1.45
56	Z5	101	PPU	C-N3'	5.73	1.46	1.34
56	Z6	101	PPU	C-N3'	5.66	1.46	1.34
56	Z5	101	PPU	C10-N6	-5.59	1.32	1.45
56	Z6	101	PPU	C10-N6	-5.54	1.32	1.45
56	Z5	101	PPU	O4'-C1'	2.73	1.44	1.41
56	Z6	101	PPU	O4'-C1'	2.69	1.44	1.41
56	Z5	101	PPU	C4-N3	-2.11	1.32	1.35
56	Z6	101	PPU	C4-N3	-2.01	1.32	1.35

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	Z5	101	PPU	C3'-N3'-C	-8.65	110.16	123.21
56	Z6	101	PPU	C3'-N3'-C	-8.56	110.30	123.21
56	Z5	101	PPU	N3-C2-N1	-4.64	121.42	128.68
56	Z6	101	PPU	N3-C2-N1	-4.54	121.58	128.68
56	Z6	101	PPU	CA-C-N3'	4.05	121.77	116.15
56	Z5	101	PPU	CA-C-N3'	3.98	121.68	116.15
56	Z5	101	PPU	CM-OC-CZ	-3.40	110.12	117.51
56	Z6	101	PPU	C4-C5-N7	-3.40	105.86	109.40
56	Z6	101	PPU	CM-OC-CZ	-3.37	110.19	117.51
56	Z5	101	PPU	C4-C5-N7	-3.33	105.93	109.40

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
56	Z5	101	PPU	O-C-CA-N
56	Z6	101	PPU	O-C-CA-N
56	Z5	101	PPU	N3'-C-CA-N
56	Z6	101	PPU	N3'-C-CA-N

There are no ring outliers.

2 monomers are involved in 16 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	Z6	101	PPU	10	0
56	Z5	101	PPU	6	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 817 ligands modelled in this entry, 815 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
58	PAR	QA	1691	-	45,45,45	1.76	9 (20%)	64,67,67	1.34	6 (9%)
58	PAR	XA	1705	-	45,45,45	1.73	9 (20%)	64,67,67	1.29	7 (10%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
58	PAR	QA	1691	-	-	6/18/94/94	0/4/4/4
58	PAR	XA	1705	-	-	6/18/94/94	0/4/4/4

All (18) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	QA	1691	PAR	C64-C54	5.48	1.59	1.52
58	XA	1705	PAR	C64-C54	4.92	1.58	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	XA	1705	PAR	O54-C14	3.70	1.51	1.41
58	XA	1705	PAR	C14-C24	3.52	1.59	1.52
58	XA	1705	PAR	O51-C11	3.35	1.50	1.41
58	QA	1691	PAR	O51-C11	3.24	1.50	1.41
58	QA	1691	PAR	C52-C42	3.21	1.58	1.52
58	QA	1691	PAR	C14-C24	3.12	1.58	1.52
58	XA	1705	PAR	C11-C21	3.08	1.58	1.52
58	XA	1705	PAR	C52-C42	3.01	1.58	1.52
58	QA	1691	PAR	O54-C14	2.95	1.49	1.41
58	QA	1691	PAR	C11-C21	2.94	1.58	1.52
58	QA	1691	PAR	C31-C21	2.53	1.56	1.53
58	QA	1691	PAR	O54-C54	2.21	1.49	1.44
58	XA	1705	PAR	C21-N21	2.21	1.50	1.47
58	XA	1705	PAR	C62-C52	2.03	1.57	1.52
58	XA	1705	PAR	C41-C51	2.02	1.57	1.53
58	QA	1691	PAR	C44-C54	2.01	1.57	1.53

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
58	QA	1691	PAR	C14-O54-C54	5.18	123.86	113.69
58	XA	1705	PAR	O33-C14-C24	4.38	115.76	108.22
58	XA	1705	PAR	O52-C13-C23	3.64	115.50	107.96
58	QA	1691	PAR	O52-C13-C23	3.58	115.38	107.96
58	XA	1705	PAR	O54-C54-C64	3.16	111.88	106.01
58	XA	1705	PAR	C14-O54-C54	3.12	119.81	113.69
58	QA	1691	PAR	O54-C54-C64	3.08	111.74	106.01
58	QA	1691	PAR	O33-C14-C24	2.64	112.77	108.22
58	XA	1705	PAR	C11-O51-C51	2.59	118.77	113.69
58	QA	1691	PAR	C22-C32-C42	2.40	115.61	109.53
58	XA	1705	PAR	O11-C11-C21	2.29	112.17	108.22
58	QA	1691	PAR	O11-C42-C32	-2.26	103.80	109.18
58	XA	1705	PAR	O11-C42-C32	-2.04	104.31	109.18

There are no chirality outliers.

All (12) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
58	XA	1705	PAR	O43-C43-C53-O53
58	QA	1691	PAR	O51-C51-C61-O61
58	QA	1691	PAR	O43-C43-C53-O53
58	QA	1691	PAR	C33-C43-C53-O53

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Mol	Chain	Res	Type	Atoms
58	XA	1705	PAR	C33-C43-C53-O53
58	QA	1691	PAR	C41-C51-C61-O61
58	XA	1705	PAR	C23-C13-O52-C52
58	QA	1691	PAR	C44-C54-C64-N64
58	XA	1705	PAR	C52-C42-O11-C11
58	XA	1705	PAR	O43-C13-O52-C52
58	QA	1691	PAR	C52-C42-O11-C11
58	XA	1705	PAR	C43-C33-O33-C14

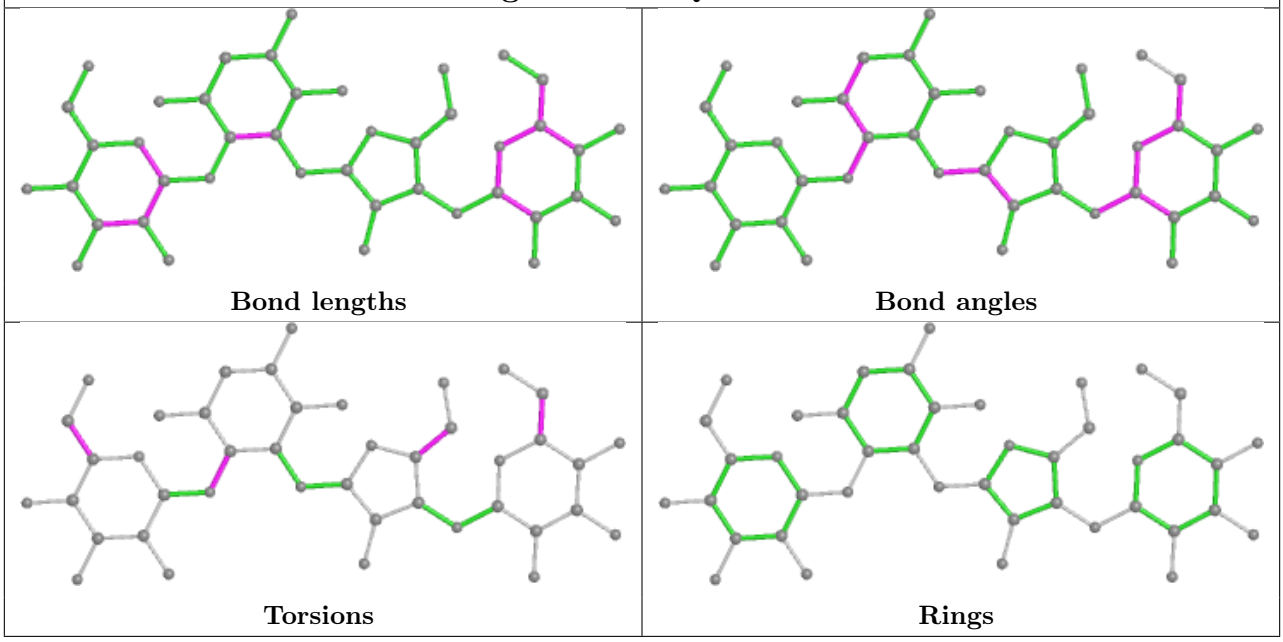
There are no ring outliers.

1 monomer is involved in 1 short contact:

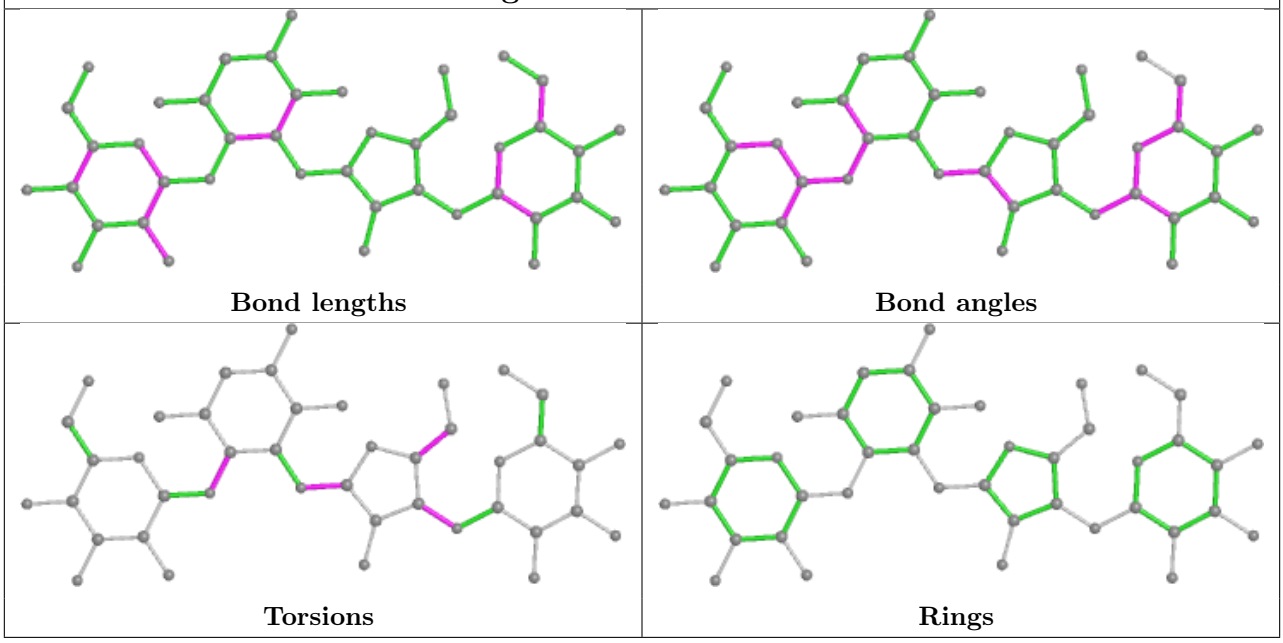
Mol	Chain	Res	Type	Clashes	Symm-Clashes
58	QA	1691	PAR	1	0

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.

Ligand PAR QA 1691



Ligand PAR XA 1705



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data (i)

6.1 Protein, DNA and RNA chains (i)

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	QA	1500/1522 (98%)	0.28	57 (3%)	40	26	57, 104, 185, 383	0
1	XA	1500/1522 (98%)	0.40	65 (4%)	35	22	51, 103, 207, 434	0
2	QB	237/256 (92%)	0.49	26 (10%)	5	3	84, 155, 246, 386	0
2	XB	237/256 (92%)	0.30	15 (6%)	20	11	81, 153, 230, 296	0
3	QC	205/239 (85%)	0.27	12 (5%)	22	13	87, 140, 198, 246	0
3	XC	205/239 (85%)	0.21	7 (3%)	45	30	74, 125, 191, 265	0
4	QD	208/209 (99%)	-0.05	4 (1%)	66	51	67, 119, 174, 208	0
4	XD	208/209 (99%)	-0.17	0	100	100	59, 102, 153, 201	0
5	QE	151/162 (93%)	0.32	4 (2%)	56	40	67, 121, 174, 270	0
5	XE	151/162 (93%)	0.21	3 (1%)	65	49	64, 99, 154, 224	0
6	QF	101/101 (100%)	0.06	4 (3%)	38	25	61, 101, 141, 186	0
6	XF	101/101 (100%)	0.15	1 (0%)	82	70	62, 117, 176, 247	0
7	QG	155/156 (99%)	0.25	7 (4%)	33	21	68, 122, 169, 283	0
7	XG	155/156 (99%)	0.19	7 (4%)	33	21	90, 141, 199, 237	0
8	QH	138/138 (100%)	-0.16	2 (1%)	75	61	79, 122, 158, 186	0
8	XH	138/138 (100%)	-0.19	1 (0%)	87	78	68, 110, 153, 210	0
9	QI	127/128 (99%)	0.55	20 (15%)	2	1	91, 148, 201, 230	0
9	XI	127/128 (99%)	0.78	13 (10%)	6	4	84, 175, 244, 299	0
10	QJ	99/105 (94%)	1.16	25 (25%)	0	0	82, 161, 241, 373	0
10	XJ	99/105 (94%)	1.19	25 (25%)	0	0	79, 163, 228, 273	0
11	QK	119/129 (92%)	0.36	7 (5%)	22	13	56, 101, 162, 256	0
11	XK	119/129 (92%)	0.48	8 (6%)	17	10	67, 110, 177, 274	0
12	QL	125/132 (94%)	0.10	4 (3%)	47	32	69, 104, 168, 283	0
12	XL	125/132 (94%)	0.15	4 (3%)	47	32	53, 84, 144, 324	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
13	QM	121/126 (96%)	0.14	9 (7%)	14	9	71, 128, 203, 279	0
13	XM	121/126 (96%)	0.22	9 (7%)	14	9	86, 136, 197, 303	0
14	QN	60/61 (98%)	0.14	2 (3%)	46	31	91, 134, 169, 183	0
14	XN	60/61 (98%)	0.25	3 (5%)	28	18	72, 118, 153, 169	0
15	QO	88/89 (98%)	0.19	5 (5%)	23	14	67, 104, 163, 177	0
15	XO	88/89 (98%)	-0.04	0	100	100	68, 104, 164, 190	0
16	QP	84/88 (95%)	0.47	1 (1%)	79	66	73, 105, 160, 205	0
16	XP	84/88 (95%)	0.35	0	100	100	82, 111, 164, 246	0
17	QQ	100/105 (95%)	0.25	6 (6%)	21	12	70, 112, 153, 202	0
17	XQ	100/105 (95%)	0.09	0	100	100	66, 107, 155, 172	0
18	QR	70/88 (79%)	0.41	3 (4%)	35	22	65, 103, 146, 201	0
18	XR	70/88 (79%)	0.47	3 (4%)	35	22	71, 117, 165, 215	0
19	QS	84/93 (90%)	0.31	2 (2%)	59	42	94, 147, 213, 259	0
19	XS	84/93 (90%)	0.21	0	100	100	78, 146, 191, 257	0
20	QT	99/106 (93%)	0.06	2 (2%)	65	49	74, 119, 177, 200	0
20	XT	99/106 (93%)	0.28	3 (3%)	50	34	77, 138, 193, 294	0
21	QU	25/27 (92%)	1.89	7 (28%)	0	0	75, 120, 182, 217	0
21	XU	25/27 (92%)	1.44	4 (16%)	1	1	87, 134, 191, 194	0
22	QV	77/77 (100%)	0.66	9 (11%)	4	3	55, 115, 175, 233	0
22	XV	77/77 (100%)	0.89	13 (16%)	1	1	49, 105, 172, 220	0
23	QX	9/25 (36%)	0.33	1 (11%)	5	3	75, 96, 133, 165	0
23	XX	9/25 (36%)	0.38	1 (11%)	5	3	71, 83, 133, 180	0
24	QY	15/18 (83%)	-0.12	0	100	100	95, 123, 212, 232	0
24	XY	15/18 (83%)	0.09	0	100	100	84, 117, 186, 205	0
25	RA	2882/2915 (98%)	0.35	164 (5%)	23	14	39, 80, 234, 425	0
25	YA	2882/2915 (98%)	0.35	174 (6%)	21	12	34, 77, 235, 417	0
26	RB	120/122 (98%)	0.03	1 (0%)	86	75	84, 112, 143, 194	0
26	YB	120/122 (98%)	0.27	7 (5%)	23	13	77, 126, 164, 215	0
27	RD	272/276 (98%)	-0.19	0	100	100	39, 71, 108, 261	0
27	YD	272/276 (98%)	-0.24	1 (0%)	92	86	35, 71, 111, 288	0
28	RE	205/206 (99%)	0.08	3 (1%)	73	60	52, 98, 171, 310	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
28	YE	205/206 (99%)	0.14	2 (0%) 82 70	34, 95, 173, 258	0
29	RF	202/210 (96%)	0.01	1 (0%) 91 83	40, 88, 154, 206	0
29	YF	202/210 (96%)	-0.17	2 (0%) 82 70	29, 81, 144, 195	0
30	RG	181/182 (99%)	0.22	8 (4%) 34 21	72, 122, 179, 230	0
30	YG	181/182 (99%)	0.43	19 (10%) 6 3	89, 136, 196, 248	0
31	RH	170/180 (94%)	0.97	31 (18%) 1 0	106, 194, 282, 354	0
31	YH	170/180 (94%)	0.21	3 (1%) 68 53	73, 117, 176, 235	0
32	RI	146/148 (98%)	0.14	4 (2%) 54 38	60, 141, 186, 279	0
32	YI	146/148 (98%)	0.42	13 (8%) 9 5	83, 154, 200, 232	0
33	RN	138/140 (98%)	-0.31	0 100 100	67, 100, 163, 207	0
33	YN	138/140 (98%)	-0.27	1 (0%) 87 78	63, 99, 168, 191	0
34	RO	122/122 (100%)	-0.11	0 100 100	52, 95, 138, 173	0
34	YO	122/122 (100%)	-0.18	0 100 100	42, 74, 109, 166	0
35	RP	150/150 (100%)	0.10	3 (2%) 65 49	45, 96, 164, 244	0
35	YP	150/150 (100%)	0.23	7 (4%) 31 19	30, 89, 148, 315	0
36	RQ	141/141 (100%)	0.05	3 (2%) 63 48	57, 103, 163, 249	0
36	YQ	141/141 (100%)	-0.09	2 (1%) 75 61	51, 95, 157, 272	0
37	RR	118/118 (100%)	-0.32	0 100 100	54, 81, 120, 145	0
37	YR	118/118 (100%)	-0.17	0 100 100	51, 86, 126, 180	0
38	RS	111/112 (99%)	0.30	7 (6%) 20 11	67, 115, 168, 265	0
38	YS	111/112 (99%)	0.70	15 (13%) 3 2	85, 134, 190, 269	0
39	RT	137/146 (93%)	0.02	3 (2%) 62 45	64, 107, 210, 292	0
39	YT	137/146 (93%)	0.03	5 (3%) 42 28	60, 93, 177, 240	0
40	RU	117/118 (99%)	0.28	6 (5%) 28 17	48, 83, 146, 225	0
40	YU	117/118 (99%)	0.05	2 (1%) 70 55	43, 87, 148, 282	0
41	RV	101/101 (100%)	0.09	2 (1%) 65 49	51, 108, 171, 279	0
41	YV	101/101 (100%)	-0.05	0 100 100	55, 115, 179, 318	0
42	RW	113/113 (100%)	-0.34	0 100 100	42, 71, 130, 212	0
42	YW	113/113 (100%)	-0.26	2 (1%) 68 53	47, 74, 140, 251	0
43	RX	92/96 (95%)	-0.35	0 100 100	52, 83, 125, 147	0
43	YX	92/96 (95%)	-0.20	0 100 100	51, 78, 122, 171	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
44	RY	102/110 (92%)	0.85	20 (19%)	1	0	55, 114, 227, 327	0
44	YY	102/110 (92%)	0.02	5 (4%)	29	18	59, 104, 184, 353	0
45	RZ	183/206 (88%)	0.58	14 (7%)	13	8	82, 141, 220, 276	0
45	YZ	183/206 (88%)	0.39	13 (7%)	16	9	77, 141, 224, 346	0
46	R0	82/85 (96%)	-0.05	0	100	100	62, 84, 115, 132	0
46	Y0	82/85 (96%)	0.06	0	100	100	57, 93, 121, 148	0
47	R1	97/98 (98%)	0.14	1 (1%)	82	70	44, 83, 188, 262	0
47	Y1	97/98 (98%)	0.14	3 (3%)	49	33	43, 85, 163, 203	0
48	R2	69/72 (95%)	0.11	1 (1%)	75	61	64, 110, 179, 234	0
48	Y2	69/72 (95%)	0.03	2 (2%)	51	35	51, 91, 147, 262	0
49	R3	59/60 (98%)	0.27	0	100	100	61, 99, 152, 191	0
49	Y3	59/60 (98%)	-0.17	0	100	100	56, 99, 165, 237	0
50	R4	71/71 (100%)	0.81	9 (12%)	3	2	114, 191, 338, 387	0
50	Y4	71/71 (100%)	0.40	8 (11%)	5	3	122, 190, 287, 387	0
51	R5	59/60 (98%)	0.67	8 (13%)	3	2	46, 92, 234, 303	0
51	Y5	58/60 (96%)	0.03	1 (1%)	70	55	43, 97, 260, 296	0
52	R6	49/54 (90%)	2.86	31 (63%)	0	0	109, 153, 219, 278	0
52	Y6	49/54 (90%)	3.45	35 (71%)	0	0	117, 165, 246, 359	0
53	R7	49/49 (100%)	0.31	2 (4%)	37	24	39, 61, 133, 189	0
53	Y7	49/49 (100%)	0.55	3 (6%)	21	12	34, 55, 138, 211	0
54	R8	64/65 (98%)	0.13	1 (1%)	72	57	49, 83, 154, 240	0
54	Y8	64/65 (98%)	0.02	0	100	100	53, 84, 145, 225	0
55	R9	37/37 (100%)	4.04	30 (81%)	0	0	152, 197, 266, 308	0
55	Y9	37/37 (100%)	4.35	32 (86%)	0	0	121, 172, 251, 289	0
56	Z5	2/3 (66%)	0.50	0	100	100	66, 66, 66, 77	0
56	Z6	2/3 (66%)	0.86	0	100	100	74, 74, 74, 74	0
All	All	20875/21492 (97%)	0.28	1114 (5%)	26	16	29, 102, 206, 434	0

All (1114) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
25	RA	2799	A	21.9
25	YA	1536	A	17.5

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Mol	Chain	Res	Type	RSRZ
25	RA	2801	A	14.5
25	YA	1057	A	12.6
2	QB	4	GLU	11.1
55	R9	14	CYS	10.5
55	Y9	6	SER	10.4
52	R6	13	CYS	10.4
2	QB	231	GLU	10.3
25	YA	1058	G	10.1
25	RA	2802	G	9.9
52	Y6	43	CYS	9.9
55	Y9	34	GLN	9.8
40	RU	118	GLY	9.7
25	RA	1057	A	9.5
25	RA	1536	A	9.4
25	YA	2173	A	9.4
25	RA	2798	C	9.3
55	Y9	5	ALA	9.3
1	XA	1025	U	9.2
25	RA	1061	U	8.9
25	RA	2795	G	8.9
25	YA	2125	G	8.9
51	R5	60	VAL	8.9
55	Y9	36	GLN	8.9
44	RY	52	SER	8.8
25	YA	2801	A	8.6
55	R9	36	GLN	8.6
25	RA	1060	U	8.5
25	RA	2894	G	8.4
25	YA	2799	A	8.3
55	R9	1	MET	8.3
55	Y9	4	ARG	8.2
1	XA	1001	G	8.2
31	RH	3	ARG	8.1
55	R9	34	GLN	8.1
25	RA	1059	G	8.0
25	RA	1088	A	7.8
25	RA	1096	A	7.6
1	QA	1032	A	7.6
9	XI	8	GLY	7.6
1	XA	1026	G	7.5
25	RA	2797	U	7.4
25	RA	1103	A	7.3

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Mol	Chain	Res	Type	RSRZ
50	R4	70	GLY	7.3
52	R6	14	THR	7.3
40	YU	117	GLN	7.3
25	YA	2119	A	7.2
55	R9	25	VAL	7.2
25	RA	2174	C	7.1
52	Y6	42	TRP	7.0
25	RA	1058	G	7.0
40	YU	118	GLY	7.0
52	Y6	26	ASN	7.0
25	RA	2173	A	6.9
25	YA	2795	G	6.8
25	RA	889	C	6.8
12	XL	129	ALA	6.8
25	RA	2119	A	6.7
25	RA	2896	C	6.7
52	Y6	39	TYR	6.7
25	YA	1056	G	6.7
44	RY	86	ARG	6.6
20	XT	106	ALA	6.5
55	Y9	7	VAL	6.5
55	R9	4	ARG	6.4
1	XA	89	U	6.4
25	YA	1059	G	6.3
31	YH	3	ARG	6.3
55	Y9	32	HIS	6.2
31	RH	2	SER	6.2
52	Y6	40	CYS	6.2
13	QM	7	VAL	6.2
52	Y6	49	HIS	6.2
25	YA	2174	C	6.2
1	XA	1033	G	6.2
51	R5	54	GLY	6.2
25	YA	2151	G	6.1
25	RA	2125	G	6.1
1	XA	1027	C	6.1
55	R9	35	ARG	6.1
25	RA	11	G	6.1
44	RY	58	GLY	6.1
1	XA	90	C	6.1
55	Y9	1	MET	6.0
25	YA	2804	C	6.0

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Mol	Chain	Res	Type	RSRZ
1	QA	1027	C	6.0
25	YA	1060	U	6.0
25	RA	1082	U	6.0
25	YA	1537	C	6.0
44	RY	50	ARG	5.9
25	RA	1095	A	5.9
1	XA	91	C	5.9
25	RA	2803	C	5.9
25	YA	2803	C	5.8
52	Y6	22	ALA	5.8
25	YA	1075	C	5.8
55	Y9	35	ARG	5.8
52	Y6	6	ARG	5.7
25	RA	1083	U	5.7
25	RA	2794	C	5.6
25	RA	890	A	5.6
22	QV	47	U	5.6
55	R9	6	SER	5.5
25	YA	654	A	5.5
55	R9	37	GLY	5.5
10	XJ	71	LEU	5.5
55	R9	5	ALA	5.5
1	XA	1034	G	5.4
2	QB	234	PRO	5.4
25	YA	2132	U	5.4
25	RA	10	G	5.4
25	YA	1086	A	5.4
55	Y9	2	LYS	5.4
25	YA	2107	C	5.4
52	Y6	14	THR	5.4
52	Y6	44	ARG	5.4
25	RA	1070	A	5.3
52	Y6	24	GLU	5.3
45	YZ	113	ALA	5.3
25	YA	1066	U	5.3
1	QA	1001	G	5.3
51	R5	53	ALA	5.3
52	Y6	13	CYS	5.3
1	XA	1002	G	5.2
25	RA	2895	U	5.2
22	QV	8	G	5.2
55	R9	24	TYR	5.2

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Mol	Chain	Res	Type	RSRZ
28	RE	205	ALA	5.2
52	Y6	45	LYS	5.2
31	RH	43	VAL	5.2
44	RY	57	GLN	5.2
13	XM	7	VAL	5.1
25	RA	1065	U	5.1
40	RU	117	GLN	5.1
25	RA	2804	C	5.1
22	XV	8	G	5.1
52	R6	50	ARG	5.1
52	R6	39	TYR	5.1
25	YA	2798	C	5.1
12	QL	129	ALA	5.1
10	XJ	98	ILE	5.0
25	YA	1420	U	5.0
9	XI	6	GLY	5.0
25	YA	1061	U	5.0
52	R6	42	TRP	5.0
25	RA	1087	G	5.0
25	YA	2892	A	5.0
1	XA	1036	G	5.0
52	Y6	38	LYS	5.0
7	QG	82	GLY	5.0
55	Y9	8	LYS	5.0
25	YA	2133	G	5.0
31	RH	41	MET	5.0
18	QR	88	LYS	4.9
18	XR	88	LYS	4.9
52	R6	29	ASN	4.9
52	R6	41	PRO	4.9
10	XJ	73	ASP	4.9
25	YA	2129	C	4.9
55	R9	16	VAL	4.9
21	QU	5	ASP	4.9
1	QA	1032(A)	G	4.8
2	QB	240	GLN	4.8
10	XJ	69	ASN	4.8
25	RA	1098	A	4.8
31	RH	4	ILE	4.8
1	XA	1032	A	4.8
25	RA	1084	A	4.8
2	QB	40	HIS	4.8

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Mol	Chain	Res	Type	RSRZ
52	R6	22	ALA	4.8
25	RA	1097	U	4.7
10	QJ	10	GLY	4.7
25	YA	2170	A	4.7
55	Y9	23	VAL	4.7
2	QB	232	PRO	4.7
51	R5	55	ARG	4.7
21	QU	25	LYS	4.7
1	XA	88	C	4.7
25	RA	654	A	4.7
25	YA	2175	C	4.7
10	XJ	95	GLU	4.7
25	RA	1176	G	4.7
52	R6	23	THR	4.6
52	Y6	37	ARG	4.6
52	R6	26	ASN	4.6
48	Y2	43	GLN	4.6
55	Y9	37	GLY	4.6
17	QQ	101	ARG	4.6
1	XA	1031	G	4.6
25	YA	276	A	4.6
1	XA	80	G	4.6
22	XV	47	U	4.5
3	QC	194	GLY	4.5
1	XA	1032(B)	G	4.5
52	R6	24	GLU	4.5
44	RY	59	GLY	4.5
25	RA	2793	G	4.5
52	R6	12	GLU	4.5
25	RA	1104	C	4.5
10	QJ	71	LEU	4.5
9	QI	4	TYR	4.5
50	R4	49	PHE	4.4
25	YA	2802	G	4.4
25	YA	2896	C	4.4
10	QJ	70	ARG	4.4
44	RY	49	VAL	4.4
55	R9	11	CYS	4.4
1	QA	1451	A	4.4
52	Y6	18	ARG	4.4
2	QB	230	VAL	4.3
1	QA	1026	G	4.3

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Mol	Chain	Res	Type	RSRZ
25	YA	1083	U	4.3
25	RA	1056	G	4.3
25	YA	1535	U	4.3
45	RZ	143	GLY	4.3
25	YA	2178	C	4.3
1	QA	1032(B)	G	4.3
1	XA	1451	A	4.3
25	YA	1082	U	4.3
25	YA	2797	U	4.3
25	YA	1096	A	4.2
55	Y9	24	TYR	4.2
7	XG	154	TYR	4.2
21	QU	26	LYS	4.2
53	R7	48	LYS	4.2
12	XL	127	GLU	4.2
25	RA	1066	U	4.2
25	YA	2117	A	4.2
1	QA	1129	C	4.2
2	QB	139	LYS	4.2
25	YA	2126	A	4.2
55	R9	3	VAL	4.2
9	QI	3	GLN	4.2
25	YA	2176	A	4.2
52	R6	46	HIS	4.1
25	RA	1177	A	4.1
2	QB	6	THR	4.1
2	QB	233	SER	4.1
25	RA	2170	A	4.1
25	RA	1089	G	4.1
2	XB	40	HIS	4.1
25	YA	1578	U	4.1
52	Y6	29	ASN	4.1
55	Y9	18	ARG	4.1
55	R9	12	ASP	4.1
13	QM	8	GLU	4.0
52	R6	40	CYS	4.0
25	YA	1055	G	4.0
55	Y9	3	VAL	4.0
25	YA	277	C	4.0
25	YA	889	C	4.0
52	Y6	25	LYS	4.0
1	XA	1028(B)	C	4.0

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Mol	Chain	Res	Type	RSRZ
12	XL	128	ALA	4.0
25	YA	1103	A	4.0
52	Y6	53	LYS	4.0
55	Y9	10	ILE	4.0
25	RA	1064	C	4.0
7	QG	81	GLY	4.0
55	R9	7	VAL	4.0
25	RA	2152	G	4.0
25	YA	1534	G	4.0
10	QJ	84	GLN	4.0
25	RA	2132	U	4.0
9	XI	7	THR	4.0
9	XI	15	ALA	4.0
25	YA	897	C	4.0
25	YA	2130	U	4.0
2	QB	21	ARG	4.0
55	Y9	29	ASN	4.0
55	R9	2	LYS	3.9
9	QI	90	PRO	3.9
25	YA	1068	G	3.9
1	QA	1000	A	3.9
25	RA	2133	G	3.9
25	YA	1084	A	3.9
1	XA	1032(A)	G	3.9
25	RA	2121	G	3.9
25	YA	1064	C	3.9
51	Y5	54	GLY	3.9
25	YA	2136	C	3.9
9	XI	19	LEU	3.9
10	XJ	5	ARG	3.8
7	XG	85	TYR	3.8
52	R6	30	THR	3.8
25	YA	2894	G	3.8
31	RH	52	VAL	3.8
55	Y9	25	VAL	3.8
4	QD	7	PRO	3.8
25	YA	892	G	3.8
25	YA	1088	A	3.8
55	Y9	22	ARG	3.8
25	RA	2175	C	3.8
10	XJ	72	VAL	3.8
7	XG	78	ARG	3.8

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Mol	Chain	Res	Type	RSRZ
50	R4	51	ASP	3.8
7	QG	86	GLN	3.8
25	RA	1109	C	3.8
1	QA	1036	G	3.8
55	R9	33	LYS	3.8
55	Y9	33	LYS	3.8
10	XJ	4	ILE	3.7
22	XV	7	U	3.7
10	QJ	69	ASN	3.7
1	XA	73	G	3.7
22	QV	20	U	3.7
55	R9	10	ILE	3.7
52	R6	49	HIS	3.7
45	YZ	149	SER	3.7
53	Y7	47	ARG	3.7
25	YA	2127	G	3.7
25	RA	2176	A	3.7
2	XB	132	LYS	3.7
52	Y6	12	GLU	3.7
1	XA	1236	A	3.7
25	YA	1421	G	3.7
7	XG	4	ARG	3.7
52	R6	43	CYS	3.7
25	RA	2833	G	3.7
25	YA	1087	G	3.7
25	RA	877	U	3.7
50	R4	71	ARG	3.6
1	QA	1286	A	3.6
1	XA	1028	C	3.6
25	RA	1068	G	3.6
25	YA	1017	G	3.6
52	Y6	41	PRO	3.6
22	XV	20	U	3.6
25	RA	1062	G	3.6
25	RA	1093	G	3.6
25	RA	2805	G	3.6
38	YS	36	TYR	3.6
3	QC	104	GLN	3.6
30	RG	138	GLN	3.6
32	YI	146	ALA	3.6
25	YA	2897	U	3.6
2	QB	19	HIS	3.6

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Mol	Chain	Res	Type	RSRZ
25	YA	654(U)	A	3.5
55	R9	23	VAL	3.5
44	YY	91	GLU	3.5
52	Y6	46	HIS	3.5
47	Y1	96	LYS	3.5
52	Y6	20	ASN	3.5
2	XB	231	GLU	3.5
25	RA	331	A	3.5
2	QB	217	ARG	3.5
51	R5	59	GLU	3.5
1	XA	78	G	3.5
52	Y6	5	VAL	3.5
25	RA	1071	G	3.5
25	YA	2121	G	3.5
12	QL	127	GLU	3.5
52	R6	45	LYS	3.5
25	RA	2164	C	3.5
25	YA	1102	C	3.5
15	QO	15	PHE	3.5
50	Y4	71	ARG	3.4
9	QI	20	ARG	3.4
10	QJ	5	ARG	3.4
10	XJ	97	GLU	3.4
3	QC	76	VAL	3.4
10	XJ	9	ARG	3.4
25	RA	1075	C	3.4
38	YS	111	GLU	3.4
25	RA	1063	G	3.4
55	Y9	21	GLY	3.4
25	RA	1085	A	3.4
21	XU	2	GLY	3.4
31	RH	95	ARG	3.4
31	RH	30	LYS	3.4
55	Y9	31	LYS	3.4
25	YA	654(T)	C	3.4
10	XJ	70	ARG	3.4
39	RT	115	ARG	3.4
30	YG	63	ILE	3.4
10	XJ	8	LEU	3.4
44	RY	89	PHE	3.4
52	R6	52	VAL	3.4
25	RA	2168	G	3.3

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Mol	Chain	Res	Type	RSRZ
25	YA	30	G	3.3
25	YA	1106	G	3.3
25	YA	1888	G	3.3
1	QA	1389	C	3.3
2	QB	229	VAL	3.3
32	RI	61	ARG	3.3
1	QA	1002	G	3.3
31	RH	29	PRO	3.3
25	RA	2169	A	3.3
38	YS	37	ALA	3.3
25	YA	1105	U	3.3
38	YS	105	ALA	3.3
10	QJ	85	LEU	3.3
25	YA	1579	A	3.3
30	YG	156	ASP	3.3
25	RA	1074	G	3.3
25	YA	895	U	3.3
10	QJ	8	LEU	3.3
38	YS	48	LEU	3.2
21	XU	26	LYS	3.2
25	RA	894	C	3.2
2	QB	132	LYS	3.2
52	Y6	51	GLU	3.2
10	XJ	99	LYS	3.2
13	QM	6	GLY	3.2
25	YA	1069	A	3.2
45	RZ	93	ASP	3.2
25	YA	893	C	3.2
10	XJ	7	LYS	3.2
9	QI	127	LYS	3.2
25	RA	288	C	3.2
25	RA	1049	C	3.2
25	RA	1886	C	3.2
55	Y9	9	ARG	3.2
10	QJ	34	VAL	3.2
2	XB	96	ARG	3.2
52	R6	37	ARG	3.2
2	XB	4	GLU	3.2
35	YP	105	LEU	3.2
52	Y6	15	GLU	3.2
10	QJ	38	ILE	3.2
38	YS	59	LYS	3.2

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Mol	Chain	Res	Type	RSRZ
1	XA	1160	G	3.2
25	RA	229	A	3.2
25	YA	11	G	3.2
25	YA	654(S)	G	3.2
25	YA	2860	A	3.2
11	QK	128	ALA	3.2
1	QA	1028	C	3.2
45	RZ	144	LEU	3.2
11	QK	11	LYS	3.2
25	YA	1085	A	3.2
52	Y6	23	THR	3.2
25	RA	2161	C	3.1
1	XA	1235	U	3.1
55	R9	22	ARG	3.1
25	YA	2124	G	3.1
25	YA	2211	G	3.1
25	YA	2893	G	3.1
55	R9	19	ARG	3.1
1	QA	1025	U	3.1
25	YA	2118	U	3.1
1	QA	1033	G	3.1
1	XA	1129	C	3.1
25	RA	1537	C	3.1
25	YA	2161	C	3.1
26	YB	27	C	3.1
9	QI	2	GLU	3.1
25	YA	2122	U	3.1
1	XA	1260	C	3.1
1	XA	1389	C	3.1
3	QC	193	TYR	3.1
25	YA	2629	A	3.1
2	XB	136	VAL	3.1
18	XR	31	LEU	3.1
53	Y7	48	LYS	3.1
55	Y9	30	PRO	3.1
1	XA	1000	A	3.1
1	XA	220	G	3.1
25	RA	1750	G	3.1
25	RA	2116	G	3.1
25	RA	1094	U	3.1
25	YA	1079	C	3.1
35	RP	150	ALA	3.1

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Mol	Chain	Res	Type	RSRZ
44	RY	53	PRO	3.1
35	YP	106	LEU	3.1
1	QA	1190	G	3.1
25	YA	654(A)	G	3.1
55	R9	18	ARG	3.0
55	Y9	16	VAL	3.0
18	QR	46	GLU	3.0
25	RA	885	C	3.0
55	Y9	17	ILE	3.0
1	QA	994	A	3.0
25	RA	2135	A	3.0
25	YA	890	A	3.0
25	YA	2135	A	3.0
1	XA	466	C	3.0
25	YA	2128	C	3.0
11	XK	89	ALA	3.0
25	RA	878	A	3.0
25	YA	1026	U	3.0
25	YA	919	G	3.0
25	YA	2131	G	3.0
52	R6	51	GLU	3.0
3	QC	103	VAL	3.0
25	RA	2136	C	3.0
13	XM	15	VAL	3.0
25	YA	270(L)	U	3.0
21	QU	18	TYR	3.0
1	XA	1190	G	3.0
52	R6	21	TYR	3.0
10	QJ	90	LEU	3.0
25	RA	2118	U	3.0
9	QI	89	ASN	3.0
1	QA	485	G	3.0
25	YA	2162	G	3.0
32	YI	6	LEU	3.0
1	QA	1092	A	3.0
25	YA	1101	U	3.0
25	RA	1086	A	3.0
31	RH	109	PHE	3.0
25	RA	645	C	3.0
25	YA	1097	U	3.0
25	YA	2123	G	3.0
10	XJ	101	VAL	3.0

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Mol	Chain	Res	Type	RSRZ
7	XG	5	ARG	3.0
32	RI	16	GLY	3.0
1	QA	1091	U	3.0
50	R4	40	HIS	3.0
50	Y4	67	TYR	3.0
25	RA	2154	G	2.9
28	YE	60	ASN	2.9
25	YA	1419	A	2.9
22	QV	7	U	2.9
21	XU	25	LYS	2.9
25	RA	2162	G	2.9
6	QF	89	MET	2.9
25	RA	2179	C	2.9
1	QA	220	G	2.9
47	Y1	97	LEU	2.9
51	R5	57	VAL	2.9
52	Y6	21	TYR	2.9
25	RA	2153	G	2.9
50	R4	69	LYS	2.9
36	YQ	80	GLU	2.9
31	RH	101	ARG	2.9
1	XA	1035	A	2.9
2	QB	5	ILE	2.9
2	XB	19	HIS	2.9
25	RA	1112	G	2.9
25	YA	2116	G	2.9
25	YA	2349	G	2.9
31	RH	61	HIS	2.9
40	RU	90	VAL	2.9
31	RH	108	GLY	2.9
32	YI	12	LEU	2.9
2	XB	233	SER	2.9
27	YD	26	LYS	2.9
1	XA	81	G	2.9
1	XA	1276	G	2.9
25	RA	2120	G	2.9
2	XB	35	GLU	2.8
44	YY	92	ASN	2.8
45	YZ	88	PHE	2.8
3	QC	191	THR	2.8
31	RH	47	GLU	2.8
1	XA	74	C	2.8

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Mol	Chain	Res	Type	RSRZ
22	QV	48	C	2.8
25	YA	1577	C	2.8
40	RU	88	ILE	2.8
50	Y4	56	VAL	2.8
13	QM	121	LYS	2.8
9	QI	53	VAL	2.8
25	RA	1079	C	2.8
25	YA	2177	C	2.8
21	XU	23	PRO	2.8
25	RA	896	A	2.8
25	YA	654(V)	A	2.8
55	R9	9	ARG	2.8
25	RA	2792	G	2.8
55	Y9	11	CYS	2.8
10	XJ	38	ILE	2.8
1	QA	993	G	2.8
25	RA	1950	G	2.8
9	QI	128	ARG	2.8
25	RA	1105	U	2.8
2	QB	143	GLU	2.8
32	YI	82	ARG	2.8
1	XA	221	C	2.8
50	Y4	60	GLN	2.8
5	XE	135	THR	2.8
10	QJ	101	VAL	2.8
22	XV	48	C	2.8
25	YA	1545(A)	A	2.8
13	XM	6	GLY	2.8
25	YA	2859	G	2.8
25	RA	270(M)	U	2.8
25	RA	287	C	2.8
25	RA	1113	U	2.8
25	YA	2140	C	2.8
3	QC	69	HIS	2.7
45	RZ	25	PRO	2.7
14	QN	2	ALA	2.7
25	YA	1538	G	2.7
25	YA	2477	C	2.7
30	RG	182	LYS	2.7
38	YS	49	VAL	2.7
7	XG	155	ARG	2.7
30	RG	156	ASP	2.7

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Mol	Chain	Res	Type	RSRZ
55	Y9	19	ARG	2.7
10	QJ	32	ALA	2.7
15	QO	17	ARG	2.7
25	YA	1177	A	2.7
36	YQ	141	GLN	2.7
1	QA	1024	G	2.7
25	RA	2137	C	2.7
25	YA	894	C	2.7
25	YA	1074	G	2.7
25	YA	1176	G	2.7
25	YA	2141	G	2.7
25	YA	2164	C	2.7
25	RA	1508	A	2.7
45	YZ	167	PRO	2.7
55	Y9	27	CYS	2.7
1	QA	1283	G	2.7
10	XJ	6	ILE	2.7
15	QO	22	THR	2.7
21	QU	24	ARG	2.7
44	RY	103	GLY	2.7
25	YA	2382	G	2.7
52	Y6	47	THR	2.7
36	RQ	80	GLU	2.7
9	XI	17	VAL	2.7
45	YZ	172	ALA	2.7
9	QI	87	GLN	2.7
9	XI	93	ARG	2.7
30	YG	94	LEU	2.7
25	YA	896	A	2.7
45	RZ	149	SER	2.7
48	R2	43	GLN	2.7
25	RA	1078	U	2.7
11	XK	56	GLY	2.7
1	XA	1181	G	2.7
17	QQ	71	PHE	2.7
25	RA	1448	G	2.7
52	R6	25	LYS	2.7
55	Y9	15	LYS	2.7
2	XB	135	GLN	2.6
38	YS	52	SER	2.6
10	QJ	99	LYS	2.6
13	XM	43	THR	2.6

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Mol	Chain	Res	Type	RSRZ
26	YB	28	C	2.6
10	XJ	39	PRO	2.6
3	QC	77	ILE	2.6
25	RA	1099	G	2.6
31	RH	51	ARG	2.6
35	YP	104	GLY	2.6
30	YG	59	GLU	2.6
31	RH	96	ALA	2.6
45	RZ	148	ASP	2.6
11	XK	28	THR	2.6
25	RA	887	A	2.6
25	RA	2860	A	2.6
25	YA	1528	A	2.6
1	QA	1031	G	2.6
9	QI	83	ARG	2.6
30	YG	116	ASP	2.6
52	Y6	30	THR	2.6
38	RS	36	TYR	2.6
10	QJ	7	LYS	2.6
2	XB	217	ARG	2.6
25	RA	2893	G	2.6
45	YZ	147	GLY	2.6
17	QQ	100	LYS	2.6
44	RY	88	LYS	2.6
25	YA	229	A	2.6
31	RH	5	GLY	2.6
4	QD	161	ASN	2.6
25	RA	2122	U	2.6
52	R6	20	ASN	2.6
1	QA	1160	G	2.6
1	XA	631	G	2.6
10	XJ	94	VAL	2.6
25	YA	1751	C	2.6
25	YA	1073	A	2.6
7	QG	4	ARG	2.6
1	XA	933	G	2.6
25	RA	1215	G	2.6
25	YA	2861	G	2.6
30	RG	39	ILE	2.6
25	RA	12	U	2.6
44	RY	47	LYS	2.6
5	QE	78	HIS	2.6

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Mol	Chain	Res	Type	RSRZ
45	RZ	87	ASP	2.6
45	YZ	148	ASP	2.6
52	Y6	52	VAL	2.6
25	YA	884	C	2.6
1	QA	1086	U	2.6
23	XX	15	A	2.6
25	RA	2166	G	2.6
39	YT	133	GLU	2.6
55	R9	32	HIS	2.6
10	XJ	34	VAL	2.6
31	RH	125	VAL	2.6
3	QC	190	ARG	2.6
44	YY	2	ARG	2.6
2	QB	41	ILE	2.5
9	XI	3	GLN	2.5
1	XA	1030	C	2.5
28	RE	204	ALA	2.5
9	QI	91	ASP	2.5
47	R1	96	LYS	2.5
1	QA	454	C	2.5
1	XA	931	C	2.5
25	YA	1078	U	2.5
50	R4	57	GLU	2.5
25	YA	1444(A)	A	2.5
30	YG	80	PHE	2.5
3	XC	102	ASN	2.5
10	XJ	10	GLY	2.5
1	XA	454	C	2.5
25	YA	899	A	2.5
31	RH	59	ARG	2.5
22	XV	14	G	2.5
25	RA	1044	G	2.5
25	RA	1447	G	2.5
2	QB	215	LEU	2.5
30	RG	2	PRO	2.5
38	RS	60	GLY	2.5
45	RZ	23	LYS	2.5
1	XA	1388	C	2.5
26	YB	52	A	2.5
32	RI	12	LEU	2.5
31	RH	50	VAL	2.5
1	QA	1034	G	2.5

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Mol	Chain	Res	Type	RSRZ
25	RA	2112	G	2.5
25	RA	2123	G	2.5
1	QA	455	C	2.5
30	YG	182	LYS	2.5
50	Y4	52	THR	2.5
36	RQ	141	GLN	2.5
39	RT	112	ARG	2.5
1	QA	413	G	2.5
25	RA	614	U	2.5
30	YG	160	VAL	2.5
4	QD	10	ARG	2.5
2	QB	12	GLU	2.5
25	YA	1100	C	2.5
25	YA	2169	A	2.5
44	RY	55	TYR	2.5
17	QQ	44	ALA	2.5
31	RH	55	PRO	2.5
25	RA	1238	G	2.5
20	XT	101	GLY	2.5
3	XC	76	VAL	2.5
10	XJ	96	ILE	2.5
1	QA	466	C	2.5
25	RA	32	C	2.5
25	RA	876	C	2.5
25	RA	2629	A	2.5
45	YZ	170	THR	2.5
9	XI	18	PHE	2.5
35	RP	119	GLU	2.5
22	QV	21	A	2.5
25	YA	32	C	2.5
25	YA	2794	C	2.5
31	RH	56	SER	2.5
51	R5	45	VAL	2.5
55	Y9	14	CYS	2.5
1	QA	1087	G	2.4
1	XA	1024	G	2.4
1	QA	196	A	2.4
2	XB	232	PRO	2.4
32	YI	122	GLU	2.4
40	RU	91	ASP	2.4
51	R5	2	ALA	2.4
9	XI	102	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
13	XM	16	ASP	2.4
20	QT	104	LEU	2.4
30	YG	93	THR	2.4
30	YG	138	GLN	2.4
25	RA	1110	G	2.4
25	RA	1534	G	2.4
25	YA	31	C	2.4
1	XA	87	A	2.4
14	XN	2	ALA	2.4
1	XA	1370	G	2.4
25	RA	893	C	2.4
25	RA	2347	C	2.4
31	YH	104	GLU	2.4
52	R6	11	LEU	2.4
10	QJ	4	ILE	2.4
1	QA	1159	U	2.4
13	QM	102	ARG	2.4
52	R6	32	ASN	2.4
5	QE	94	ALA	2.4
6	QF	101	ALA	2.4
10	QJ	9	ARG	2.4
4	QD	42	GLN	2.4
44	RY	95	LYS	2.4
11	XK	43	SER	2.4
25	RA	2126	A	2.4
25	YA	1080	C	2.4
30	YG	37	VAL	2.4
41	RV	93	GLU	2.4
55	R9	17	ILE	2.4
1	XA	1003	G	2.4
22	QV	11	G	2.4
47	Y1	98	LEU	2.4
11	QK	50	TYR	2.4
25	YA	603	A	2.4
11	XK	82	VAL	2.4
32	YI	7	GLU	2.4
5	XE	154	GLY	2.4
10	QJ	73	ASP	2.4
25	YA	2793	G	2.4
30	YG	141	PHE	2.4
31	YH	2	SER	2.4
12	QL	128	ALA	2.4

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Mol	Chain	Res	Type	RSRZ
1	XA	1086	U	2.4
31	RH	6	ARG	2.4
1	QA	1261	A	2.4
1	XA	455	C	2.4
22	XV	15	C	2.4
25	RA	1213	A	2.4
25	RA	1237	A	2.4
25	RA	2062	A	2.4
25	YA	2062	A	2.4
39	YT	1	MET	2.4
44	YY	50	ARG	2.4
1	XA	1029	G	2.4
25	RA	1108	U	2.4
25	RA	1959	G	2.4
25	RA	2477	C	2.4
25	YA	1214	A	2.4
39	RT	1	MET	2.4
1	QA	1531	A	2.4
25	RA	1069	A	2.4
25	RA	279	C	2.4
3	QC	156	ARG	2.3
48	Y2	71	ASN	2.3
32	YI	107	VAL	2.3
1	QA	428	G	2.3
25	YA	920	G	2.3
22	XV	58	A	2.3
30	YG	38	VAL	2.3
25	YA	2137	C	2.3
26	RB	60	C	2.3
3	XC	89	GLU	2.3
45	RZ	84	GLU	2.3
52	Y6	11	LEU	2.3
10	QJ	20	ALA	2.3
31	RH	27	LYS	2.3
50	R4	67	TYR	2.3
25	YA	1067	A	2.3
45	YZ	166	SER	2.3
45	YZ	169	GLU	2.3
41	RV	45	THR	2.3
9	XI	36	TYR	2.3
38	RS	34	HIS	2.3
10	QJ	3	LYS	2.3

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Mol	Chain	Res	Type	RSRZ
11	QK	51	LYS	2.3
55	R9	8	LYS	2.3
22	XV	22	G	2.3
25	YA	1215	G	2.3
25	YA	2154	G	2.3
29	YF	133	ASN	2.3
35	YP	138	LEU	2.3
44	YY	99	CYS	2.3
52	R6	34	LEU	2.3
52	Y6	36	LEU	2.3
55	R9	15	LYS	2.3
13	QM	103	THR	2.3
9	XI	85	LEU	2.3
25	RA	643	A	2.3
9	QI	92	TYR	2.3
15	QO	21	ASP	2.3
25	YA	10	G	2.3
32	RI	9	LEU	2.3
35	YP	108	LYS	2.3
42	YW	113	LYS	2.3
32	YI	88	ILE	2.3
50	Y4	61	ARG	2.3
25	YA	1065	U	2.3
22	XV	0	C	2.3
25	YA	1498	C	2.3
9	QI	126	SER	2.3
31	RH	131	VAL	2.3
10	XJ	28	ARG	2.3
25	YA	2348	U	2.3
12	XL	73	GLU	2.3
1	QA	925	G	2.3
10	XJ	20	ALA	2.3
25	YA	2152	G	2.3
38	YS	30	ARG	2.3
44	RY	48	ALA	2.3
32	YI	79	ILE	2.3
5	QE	130	ASN	2.3
25	YA	2167	U	2.3
52	R6	19	ARG	2.3
1	XA	1115	C	2.3
1	XA	1158	C	2.3
18	QR	22	VAL	2.3

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Mol	Chain	Res	Type	RSRZ
32	YI	15	VAL	2.3
45	RZ	86	VAL	2.3
18	XR	62	GLU	2.3
1	QA	1003	G	2.3
11	XK	45	GLY	2.3
33	YN	134	ARG	2.3
13	XM	102	ARG	2.3
25	YA	1098	A	2.3
32	YI	90	GLY	2.3
9	QI	19	LEU	2.3
25	YA	1546	C	2.3
1	QA	1187	G	2.2
1	QA	1450	U	2.2
7	XG	3	ARG	2.2
25	YA	2112	G	2.2
1	XA	77	C	2.2
9	XI	20	ARG	2.2
1	XA	1127	G	2.2
13	XM	8	GLU	2.2
25	YA	2120	G	2.2
38	YS	68	GLN	2.2
25	RA	2892	A	2.2
1	QA	218	C	2.2
25	YA	2111	C	2.2
8	XH	130	GLY	2.2
6	QF	8	ILE	2.2
25	RA	2172	U	2.2
38	YS	58	LEU	2.2
23	QX	23	A	2.2
45	RZ	83	PRO	2.2
1	QA	1039	C	2.2
7	QG	3	ARG	2.2
9	QI	93	ARG	2.2
14	XN	58	LYS	2.2
25	RA	1751	C	2.2
38	RS	73	LEU	2.2
28	YE	56	PRO	2.2
25	RA	2807	G	2.2
1	XA	1040	U	2.2
25	RA	2150	U	2.2
2	QB	43	ASP	2.2
7	QG	79	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
13	QM	11	ARG	2.2
14	XN	29	ARG	2.2
15	QO	16	ALA	2.2
30	RG	115	ARG	2.2
30	YG	158	ALA	2.2
52	Y6	19	ARG	2.2
45	RZ	5	LEU	2.2
2	QB	33	TYR	2.2
22	QV	49	G	2.2
25	RA	2127	G	2.2
25	YA	1107	G	2.2
25	RA	2107	C	2.2
28	RE	41	LYS	2.2
40	RU	75	ASN	2.2
42	YW	60	ASN	2.2
2	QB	35	GLU	2.2
38	YS	82	ILE	2.2
1	QA	570	G	2.2
1	XA	326	G	2.2
25	RA	30	G	2.2
25	RA	101	G	2.2
25	RA	654(V)	A	2.2
25	YA	877	U	2.2
25	RA	879	G	2.2
25	YA	1236	G	2.2
25	YA	1750	G	2.2
25	YA	2106	G	2.2
25	YA	2805	G	2.2
25	YA	1018	C	2.2
31	RH	58	GLU	2.2
35	YP	87	ASP	2.2
45	YZ	87	ASP	2.2
9	QI	85	LEU	2.2
44	RY	56	PRO	2.2
44	RY	84	ARG	2.2
45	YZ	63	ASP	2.2
1	QA	107	G	2.2
1	QA	199	G	2.2
1	XA	92	G	2.2
8	QH	115	SER	2.2
13	QM	2	ALA	2.2
25	RA	1948	G	2.2

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Mol	Chain	Res	Type	RSRZ
30	RG	155	MET	2.2
50	R4	56	VAL	2.2
30	YG	132	ASN	2.2
25	YA	9	U	2.2
1	XA	1004	A	2.2
39	YT	93	ARG	2.2
10	XJ	37	PRO	2.2
1	QA	1006	C	2.2
19	QS	50	ALA	2.2
25	RA	2145	C	2.2
25	YA	886	C	2.2
26	YB	51	G	2.2
55	R9	13	LYS	2.2
25	RA	1956	U	2.2
1	XA	1093	A	2.1
2	XB	21	ARG	2.1
9	QI	88	TYR	2.1
39	YT	115	ARG	2.1
2	XB	214	ILE	2.1
29	YF	27	GLU	2.1
38	YS	38	GLN	2.1
22	QV	14	G	2.1
16	QP	18	ARG	2.1
32	YI	52	ARG	2.1
19	QS	10	PHE	2.1
1	QA	1182	G	2.1
10	QJ	12	ASP	2.1
25	YA	1093	G	2.1
39	YT	109	GLU	2.1
32	YI	53	ALA	2.1
29	RF	192	LEU	2.1
30	RG	157	ILE	2.1
1	QA	143	A	2.1
6	QF	95	GLU	2.1
11	XK	87	THR	2.1
1	XA	1501	C	2.1
10	QJ	72	VAL	2.1
25	RA	1076	C	2.1
1	QA	108	G	2.1
3	XC	105	GLU	2.1
25	YA	270(J)	G	2.1
25	YA	2157	G	2.1

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Mol	Chain	Res	Type	RSRZ
21	QU	2	GLY	2.1
3	XC	68	VAL	2.1
20	QT	64	ASP	2.1
30	YG	26	GLN	2.1
53	Y7	36	GLN	2.1
9	QI	5	TYR	2.1
12	QL	64	TYR	2.1
31	RH	53	GLU	2.1
22	XV	61	C	2.1
25	YA	1076	C	2.1
52	R6	38	LYS	2.1
38	RS	24	LEU	2.1
10	QJ	6	ILE	2.1
35	RP	108	LYS	2.1
38	RS	33	LYS	2.1
45	RZ	145	GLU	2.1
1	XA	162	A	2.1
26	YB	6	C	2.1
1	QA	95	G	2.1
1	XA	929	G	2.1
14	QN	60	SER	2.1
25	RA	2147	G	2.1
25	RA	330	A	2.1
25	YA	2158	A	2.1
38	RS	58	LEU	2.1
25	YA	1547	C	2.1
25	YA	1852	C	2.1
26	YB	5	C	2.1
3	XC	78	GLY	2.1
55	R9	21	GLY	2.1
25	RA	352	G	2.1
52	R6	53	LYS	2.1
2	QB	36	ARG	2.1
7	QG	119	ARG	2.1
11	QK	31	THR	2.1
11	QK	127	LYS	2.1
31	RH	111	HIS	2.1
25	RA	895	U	2.1
25	RA	2476	A	2.1
25	YA	1496	A	2.1
1	XA	314	C	2.1
25	RA	34	C	2.1

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Mol	Chain	Res	Type	RSRZ
30	YG	135	LEU	2.1
31	RH	123	PHE	2.1
20	XT	66	ALA	2.1
30	YG	64	THR	2.1
52	Y6	50	ARG	2.1
44	RY	45	VAL	2.1
1	QA	1093	A	2.0
22	XV	59	A	2.0
25	RA	1762	A	2.0
31	RH	63	SER	2.0
38	YS	53	SER	2.0
1	QA	1347	G	2.0
2	QB	39	ILE	2.0
25	RA	1538	G	2.0
25	YA	1089	G	2.0
10	QJ	17	ASP	2.0
21	QU	10	ARG	2.0
1	XA	1128	C	2.0
25	RA	2667	C	2.0
30	YG	60	LEU	2.0
50	Y4	53	GLU	2.0
50	Y4	57	GLU	2.0
5	XE	131	ILE	2.0
54	R8	37	SER	2.0
11	QK	28	THR	2.0
44	RY	85	VAL	2.0
2	XB	188	ALA	2.0
25	RA	892	G	2.0
25	YA	1071	G	2.0
25	YA	1099	G	2.0
13	XM	104	ARG	2.0
52	R6	6	ARG	2.0
5	QE	43	LEU	2.0
1	QA	1090	U	2.0
3	QC	105	GLU	2.0
13	QM	122	LYS	2.0
17	QQ	65	ILE	2.0
25	RA	278	A	2.0
25	YA	1054	A	2.0
38	YS	33	LYS	2.0
53	R7	29	LYS	2.0
3	XC	166	GLU	2.0

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Mol	Chain	Res	Type	RSRZ
35	YP	117	GLU	2.0
2	QB	214	ILE	2.0
6	XF	101	ALA	2.0
9	QI	6	GLY	2.0
22	XV	21	A	2.0
26	YB	25	A	2.0
13	XM	41	PRO	2.0
45	YZ	150	LEU	2.0
1	QA	513	C	2.0
25	RA	1578	U	2.0
25	RA	1888	G	2.0
10	QJ	100	THR	2.0
44	RY	83	THR	2.0
45	RZ	170	THR	2.0
3	QC	72	LYS	2.0
8	QH	116	LYS	2.0
31	RH	24	VAL	2.0
36	RQ	83	MET	2.0
11	XK	88	GLY	2.0
17	QQ	45	HIS	2.0

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

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	PPU	Z6	101	37/38	0.94	0.30	54,60,68,70	0
56	PPU	Z5	101	37/38	0.95	0.27	68,69,69,69	0

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

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

median, 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
57	MG	YA	3172	1/1	-0.09	0.73	151,151,151,151	0
57	MG	RA	3101	1/1	0.05	0.41	53,53,53,53	0
57	MG	RA	3131	1/1	0.35	0.56	68,68,68,68	0
57	MG	Y0	101	1/1	0.35	0.59	72,72,72,72	0
57	MG	YA	3260	1/1	0.36	0.64	145,145,145,145	0
57	MG	QA	1667	1/1	0.39	0.74	75,75,75,75	0
57	MG	XA	1644	1/1	0.44	0.20	100,100,100,100	0
57	MG	RA	3099	1/1	0.45	0.24	40,40,40,40	0
57	MG	QA	1626	1/1	0.47	0.47	124,124,124,124	0
57	MG	RA	3170	1/1	0.47	0.87	40,40,40,40	0
57	MG	RA	3061	1/1	0.51	0.26	81,81,81,81	0
57	MG	YA	3255	1/1	0.51	0.71	67,67,67,67	0
57	MG	R8	101	1/1	0.52	0.97	86,86,86,86	0
57	MG	QA	1624	1/1	0.52	0.74	76,76,76,76	0
57	MG	RA	3025	1/1	0.54	0.25	50,50,50,50	0
57	MG	XA	1661	1/1	0.54	0.33	58,58,58,58	0
57	MG	YA	3185	1/1	0.56	0.38	84,84,84,84	0
57	MG	YA	3128	1/1	0.57	0.47	51,51,51,51	0
57	MG	XA	1645	1/1	0.57	0.54	59,59,59,59	0
57	MG	XA	1682	1/1	0.58	1.16	68,68,68,68	0
57	MG	R0	101	1/1	0.60	0.31	41,41,41,41	0
57	MG	RA	3273	1/1	0.60	0.65	63,63,63,63	0
57	MG	YA	3071	1/1	0.60	0.26	39,39,39,39	0
57	MG	RA	3185	1/1	0.61	0.47	45,45,45,45	0
57	MG	RA	3166	1/1	0.61	0.56	93,93,93,93	0
57	MG	RA	3149	1/1	0.61	0.25	41,41,41,41	0
57	MG	YA	3267	1/1	0.62	0.60	66,66,66,66	0
57	MG	YA	3142	1/1	0.62	0.60	56,56,56,56	0
57	MG	YA	3171	1/1	0.63	0.54	55,55,55,55	0
57	MG	RF	301	1/1	0.63	0.35	86,86,86,86	0
57	MG	RA	3137	1/1	0.63	0.65	45,45,45,45	0
57	MG	YA	3282	1/1	0.63	0.71	66,66,66,66	0
57	MG	YA	3196	1/1	0.63	0.36	65,65,65,65	0
57	MG	YA	3119	1/1	0.64	0.39	46,46,46,46	0
57	MG	YA	3046	1/1	0.65	0.39	30,30,30,30	0
57	MG	RA	3123	1/1	0.65	0.28	52,52,52,52	0
57	MG	YA	3083	1/1	0.65	0.41	47,47,47,47	0
57	MG	QT	201	1/1	0.65	0.32	70,70,70,70	0
57	MG	RA	3111	1/1	0.65	0.33	42,42,42,42	0
57	MG	YA	3157	1/1	0.66	0.20	53,53,53,53	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3271	1/1	0.66	0.45	47,47,47,47	0
57	MG	YA	3216	1/1	0.66	0.61	77,77,77,77	0
57	MG	YA	3155	1/1	0.66	0.39	61,61,61,61	0
57	MG	RA	3279	1/1	0.67	0.39	48,48,48,48	0
57	MG	RA	3135	1/1	0.68	0.19	79,79,79,79	0
57	MG	XA	1688	1/1	0.68	0.29	57,57,57,57	0
57	MG	RA	3201	1/1	0.69	0.56	69,69,69,69	0
57	MG	RA	3203	1/1	0.70	0.27	60,60,60,60	0
57	MG	RA	3248	1/1	0.70	0.33	52,52,52,52	0
57	MG	QA	1668	1/1	0.70	0.73	75,75,75,75	0
57	MG	YA	3182	1/1	0.70	0.29	63,63,63,63	0
57	MG	RA	3193	1/1	0.70	0.15	35,35,35,35	0
57	MG	YD	301	1/1	0.70	0.57	52,52,52,52	0
57	MG	RA	3178	1/1	0.70	0.18	60,60,60,60	0
57	MG	YA	3188	1/1	0.71	0.98	57,57,57,57	0
57	MG	RA	3189	1/1	0.71	0.45	75,75,75,75	0
57	MG	YA	3161	1/1	0.71	0.27	69,69,69,69	0
57	MG	RA	3157	1/1	0.72	0.90	41,41,41,41	0
57	MG	RA	3278	1/1	0.72	0.98	69,69,69,69	0
57	MG	YA	3064	1/1	0.72	0.18	42,42,42,42	0
57	MG	RA	3194	1/1	0.73	0.34	45,45,45,45	0
57	MG	RQ	201	1/1	0.73	1.52	91,91,91,91	0
57	MG	YA	3208	1/1	0.73	0.27	48,48,48,48	0
57	MG	RA	3082	1/1	0.73	0.37	41,41,41,41	0
57	MG	YA	3133	1/1	0.73	0.31	48,48,48,48	0
57	MG	QA	1656	1/1	0.74	0.28	64,64,64,64	0
57	MG	QA	1637	1/1	0.74	0.78	92,92,92,92	0
57	MG	XA	1675	1/1	0.74	0.52	56,56,56,56	0
57	MG	QA	1647	1/1	0.74	0.21	39,39,39,39	0
57	MG	QM	201	1/1	0.74	0.13	87,87,87,87	0
57	MG	QV	101	1/1	0.75	0.54	55,55,55,55	0
57	MG	R5	101	1/1	0.75	0.32	49,49,49,49	0
57	MG	XA	1650	1/1	0.75	1.27	67,67,67,67	0
57	MG	RA	3116	1/1	0.75	0.20	66,66,66,66	0
57	MG	XA	1649	1/1	0.76	0.60	77,77,77,77	0
57	MG	YA	3226	1/1	0.76	0.48	40,40,40,40	0
57	MG	XA	1703	1/1	0.76	0.62	58,58,58,58	0
57	MG	YA	3259	1/1	0.76	0.39	71,71,71,71	0
57	MG	RA	3067	1/1	0.76	0.16	39,39,39,39	0
57	MG	RA	3195	1/1	0.76	0.48	48,48,48,48	0
57	MG	RA	3211	1/1	0.76	0.12	60,60,60,60	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3240	1/1	0.76	1.46	77,77,77,77	0
57	MG	YA	3115	1/1	0.76	0.65	70,70,70,70	0
57	MG	RA	3252	1/1	0.77	0.34	66,66,66,66	0
57	MG	XA	1686	1/1	0.77	0.18	69,69,69,69	0
57	MG	QA	1685	1/1	0.77	0.41	60,60,60,60	0
57	MG	YA	3177	1/1	0.77	0.37	54,54,54,54	0
57	MG	XA	1702	1/1	0.77	0.80	75,75,75,75	0
57	MG	QA	1636	1/1	0.77	0.20	87,87,87,87	0
57	MG	RA	3134	1/1	0.77	0.29	68,68,68,68	0
57	MG	YA	3283	1/1	0.77	0.81	75,75,75,75	0
57	MG	QA	1639	1/1	0.77	0.38	62,62,62,62	0
57	MG	XA	1605	1/1	0.77	0.85	55,55,55,55	0
57	MG	RA	3073	1/1	0.78	0.16	61,61,61,61	0
57	MG	QA	1632	1/1	0.78	0.23	50,50,50,50	0
57	MG	YA	3175	1/1	0.78	0.67	56,56,56,56	0
57	MG	XA	1697	1/1	0.78	0.22	68,68,68,68	0
57	MG	YA	3137	1/1	0.78	0.17	64,64,64,64	0
57	MG	RA	3207	1/1	0.78	0.28	70,70,70,70	0
57	MG	YA	3103	1/1	0.78	0.14	23,23,23,23	0
57	MG	YA	3192	1/1	0.78	0.27	66,66,66,66	0
57	MG	YA	3105	1/1	0.78	0.60	41,41,41,41	0
57	MG	QA	1690	1/1	0.78	0.71	79,79,79,79	0
57	MG	QA	1683	1/1	0.79	0.27	96,96,96,96	0
57	MG	RA	3164	1/1	0.79	0.24	56,56,56,56	0
57	MG	YA	3241	1/1	0.79	0.48	37,37,37,37	0
57	MG	RA	3223	1/1	0.79	0.69	46,46,46,46	0
57	MG	XA	1657	1/1	0.79	0.27	47,47,47,47	0
57	MG	YA	3007	1/1	0.79	0.47	62,62,62,62	0
57	MG	XA	1659	1/1	0.79	0.18	89,89,89,89	0
57	MG	RA	3237	1/1	0.79	0.60	72,72,72,72	0
57	MG	RA	3154	1/1	0.79	0.93	60,60,60,60	0
57	MG	RA	3245	1/1	0.79	0.50	55,55,55,55	0
57	MG	RA	3280	1/1	0.79	0.57	60,60,60,60	0
57	MG	Y7	101	1/1	0.79	0.25	52,52,52,52	0
57	MG	YA	3194	1/1	0.80	0.28	85,85,85,85	0
57	MG	RA	3266	1/1	0.80	0.45	48,48,48,48	0
57	MG	XA	1662	1/1	0.80	0.32	29,29,29,29	0
57	MG	RA	3184	1/1	0.80	0.22	102,102,102,102	0
57	MG	YA	3193	1/1	0.80	0.33	44,44,44,44	0
57	MG	RA	3274	1/1	0.81	0.99	57,57,57,57	0
57	MG	RA	3176	1/1	0.81	0.43	58,58,58,58	0
57	MG	RA	3155	1/1	0.81	0.55	46,46,46,46	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3179	1/1	0.81	0.50	61,61,61,61	0
57	MG	RA	3214	1/1	0.81	0.85	64,64,64,64	0
57	MG	RA	3089	1/1	0.81	0.34	70,70,70,70	0
57	MG	YA	3162	1/1	0.81	0.29	64,64,64,64	0
57	MG	RA	3234	1/1	0.81	0.94	63,63,63,63	0
57	MG	R0	102	1/1	0.81	0.53	64,64,64,64	0
57	MG	RA	3162	1/1	0.81	0.55	62,62,62,62	0
57	MG	YA	3219	1/1	0.81	0.32	48,48,48,48	0
57	MG	YA	3178	1/1	0.82	0.19	55,55,55,55	0
57	MG	YA	3130	1/1	0.82	0.15	57,57,57,57	0
57	MG	QA	1687	1/1	0.82	1.02	59,59,59,59	0
57	MG	RA	3204	1/1	0.82	0.64	76,76,76,76	0
57	MG	YA	3224	1/1	0.82	0.69	56,56,56,56	0
57	MG	YA	3288	1/1	0.82	0.77	54,54,54,54	0
57	MG	YA	3289	1/1	0.82	0.78	63,63,63,63	0
57	MG	YB	203	1/1	0.82	0.46	61,61,61,61	0
57	MG	YA	3066	1/1	0.82	0.21	26,26,26,26	0
57	MG	XA	1687	1/1	0.82	0.10	120,120,120,120	0
57	MG	XA	1606	1/1	0.82	0.40	42,42,42,42	0
57	MG	QA	1657	1/1	0.83	0.37	64,64,64,64	0
57	MG	YA	3124	1/1	0.83	0.24	32,32,32,32	0
57	MG	RA	3257	1/1	0.83	0.51	59,59,59,59	0
57	MG	RA	3213	1/1	0.83	0.30	66,66,66,66	0
57	MG	RA	3138	1/1	0.83	0.22	59,59,59,59	0
57	MG	QA	1603	1/1	0.83	1.27	83,83,83,83	0
57	MG	YA	3191	1/1	0.83	0.70	38,38,38,38	0
57	MG	YA	3270	1/1	0.83	0.60	68,68,68,68	0
57	MG	RA	3150	1/1	0.83	0.43	47,47,47,47	0
57	MG	XA	1676	1/1	0.83	0.86	58,58,58,58	0
57	MG	RA	3126	1/1	0.83	0.25	84,84,84,84	0
57	MG	XA	1684	1/1	0.83	0.23	52,52,52,52	0
57	MG	YA	3200	1/1	0.83	0.28	93,93,93,93	0
57	MG	QA	1618	1/1	0.83	1.26	70,70,70,70	0
57	MG	QA	1670	1/1	0.83	0.26	45,45,45,45	0
57	MG	QA	1627	1/1	0.83	0.22	44,44,44,44	0
57	MG	YA	3206	1/1	0.84	0.54	33,33,33,33	0
57	MG	XD	302	1/1	0.84	0.36	90,90,90,90	0
57	MG	YA	3272	1/1	0.84	0.55	43,43,43,43	0
57	MG	QA	1629	1/1	0.84	0.95	64,64,64,64	0
57	MG	YA	3149	1/1	0.84	0.50	36,36,36,36	0
57	MG	YA	3287	1/1	0.84	1.16	81,81,81,81	0
57	MG	RA	3054	1/1	0.84	0.16	51,51,51,51	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3259	1/1	0.84	0.80	52,52,52,52	0
57	MG	YA	3195	1/1	0.84	0.52	44,44,44,44	0
57	MG	YA	3131	1/1	0.84	0.47	65,65,65,65	0
57	MG	RA	3114	1/1	0.84	0.31	55,55,55,55	0
57	MG	YA	3204	1/1	0.84	0.40	75,75,75,75	0
57	MG	QA	1684	1/1	0.85	0.34	76,76,76,76	0
57	MG	YA	3235	1/1	0.85	1.22	52,52,52,52	0
57	MG	RA	3171	1/1	0.85	0.30	50,50,50,50	0
57	MG	RA	3129	1/1	0.85	0.17	69,69,69,69	0
57	MG	RA	3258	1/1	0.85	0.57	60,60,60,60	0
57	MG	RA	3215	1/1	0.85	0.65	41,41,41,41	0
57	MG	YA	3138	1/1	0.85	0.61	50,50,50,50	0
57	MG	RA	3160	1/1	0.85	0.44	74,74,74,74	0
57	MG	RA	3267	1/1	0.85	0.81	54,54,54,54	0
57	MG	RA	3268	1/1	0.85	0.64	57,57,57,57	0
57	MG	RA	3008	1/1	0.85	0.57	44,44,44,44	0
57	MG	RA	3180	1/1	0.85	0.21	75,75,75,75	0
57	MG	RA	3120	1/1	0.85	0.19	69,69,69,69	0
57	MG	YA	3166	1/1	0.85	0.27	90,90,90,90	0
57	MG	QA	1682	1/1	0.85	0.70	67,67,67,67	0
57	MG	XA	1646	1/1	0.85	0.15	49,49,49,49	0
57	MG	YR	201	1/1	0.85	0.88	54,54,54,54	0
57	MG	XA	1694	1/1	0.85	0.16	117,117,117,117	0
57	MG	XA	1696	1/1	0.85	0.31	37,37,37,37	0
57	MG	YA	3266	1/1	0.86	0.32	62,62,62,62	0
57	MG	RA	3206	1/1	0.86	0.10	69,69,69,69	0
57	MG	XA	1668	1/1	0.86	0.55	51,51,51,51	0
57	MG	YA	3271	1/1	0.86	0.61	63,63,63,63	0
57	MG	YA	3184	1/1	0.86	0.37	55,55,55,55	0
57	MG	YA	3116	1/1	0.86	0.27	43,43,43,43	0
57	MG	RA	3022	1/1	0.86	0.25	36,36,36,36	0
57	MG	YA	3223	1/1	0.86	0.60	39,39,39,39	0
57	MG	RA	3109	1/1	0.86	0.34	48,48,48,48	0
57	MG	XA	1629	1/1	0.86	0.17	62,62,62,62	0
57	MG	XA	1699	1/1	0.86	1.21	64,64,64,64	0
57	MG	YA	3074	1/1	0.86	0.73	44,44,44,44	0
57	MG	YE	302	1/1	0.86	0.41	30,30,30,30	0
57	MG	YP	201	1/1	0.86	0.34	66,66,66,66	0
57	MG	YP	202	1/1	0.86	0.32	48,48,48,48	0
57	MG	YP	203	1/1	0.86	0.92	53,53,53,53	0
57	MG	YA	3081	1/1	0.86	0.27	47,47,47,47	0
57	MG	RA	3270	1/1	0.86	0.69	62,62,62,62	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3251	1/1	0.86	0.44	65,65,65,65	0
57	MG	YA	3176	1/1	0.87	0.60	57,57,57,57	0
57	MG	YA	3123	1/1	0.87	0.31	34,34,34,34	0
57	MG	YA	3244	1/1	0.87	0.22	35,35,35,35	0
57	MG	YA	3247	1/1	0.87	0.71	56,56,56,56	0
57	MG	QA	1619	1/1	0.87	0.65	58,58,58,58	0
57	MG	YA	3156	1/1	0.87	0.44	51,51,51,51	0
57	MG	RA	3200	1/1	0.87	0.16	74,74,74,74	0
57	MG	QA	1643	1/1	0.87	0.25	50,50,50,50	0
57	MG	QA	1676	1/1	0.87	0.30	66,66,66,66	0
57	MG	RA	3276	1/1	0.87	1.05	68,68,68,68	0
57	MG	XA	1658	1/1	0.87	0.76	72,72,72,72	0
57	MG	RA	3006	1/1	0.87	0.43	29,29,29,29	0
57	MG	XA	1701	1/1	0.87	0.35	67,67,67,67	0
57	MG	QA	1680	1/1	0.88	0.48	54,54,54,54	0
57	MG	RA	3220	1/1	0.88	0.42	44,44,44,44	0
57	MG	RA	3190	1/1	0.88	0.40	45,45,45,45	0
57	MG	RA	3227	1/1	0.88	0.54	41,41,41,41	0
57	MG	XA	1648	1/1	0.88	0.37	92,92,92,92	0
57	MG	RA	3281	1/1	0.88	0.10	145,145,145,145	0
57	MG	RE	302	1/1	0.88	0.28	41,41,41,41	0
57	MG	RA	3265	1/1	0.88	0.74	60,60,60,60	0
57	MG	RA	3002	1/1	0.88	0.62	41,41,41,41	0
57	MG	YA	3173	1/1	0.88	0.51	46,46,46,46	0
57	MG	RR	202	1/1	0.88	0.57	30,30,30,30	0
57	MG	RA	3049	1/1	0.88	0.50	47,47,47,47	0
57	MG	RA	3169	1/1	0.88	0.28	53,53,53,53	0
57	MG	RA	3242	1/1	0.88	0.22	58,58,58,58	0
57	MG	YA	3232	1/1	0.88	0.44	46,46,46,46	0
57	MG	RA	3212	1/1	0.88	0.84	56,56,56,56	0
57	MG	QA	1602	1/1	0.88	0.78	37,37,37,37	0
57	MG	XA	1678	1/1	0.88	0.23	82,82,82,82	0
57	MG	QA	1640	1/1	0.88	0.47	51,51,51,51	0
57	MG	YA	3253	1/1	0.88	0.10	87,87,87,87	0
57	MG	YA	3144	1/1	0.88	0.57	45,45,45,45	0
57	MG	YA	3020	1/1	0.89	0.38	30,30,30,30	0
57	MG	YA	3261	1/1	0.89	0.53	59,59,59,59	0
57	MG	YA	3265	1/1	0.89	0.86	44,44,44,44	0
57	MG	RA	3122	1/1	0.89	0.24	33,33,33,33	0
57	MG	RA	3172	1/1	0.89	0.56	57,57,57,57	0
57	MG	YA	3214	1/1	0.89	0.89	77,77,77,77	0
57	MG	RA	3173	1/1	0.89	0.84	84,84,84,84	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3112	1/1	0.89	0.53	42,42,42,42	0
57	MG	YA	3281	1/1	0.89	0.57	72,72,72,72	0
57	MG	R3	101	1/1	0.89	0.52	49,49,49,49	0
57	MG	XA	1693	1/1	0.89	0.36	62,62,62,62	0
57	MG	YA	3284	1/1	0.89	0.49	47,47,47,47	0
57	MG	YA	3286	1/1	0.89	0.75	61,61,61,61	0
57	MG	RA	3262	1/1	0.89	0.65	57,57,57,57	0
57	MG	QA	1631	1/1	0.89	0.14	68,68,68,68	0
57	MG	RA	3247	1/1	0.89	0.80	59,59,59,59	0
57	MG	YA	3237	1/1	0.89	0.29	76,76,76,76	0
57	MG	YA	3240	1/1	0.89	0.64	39,39,39,39	0
57	MG	QA	1659	1/1	0.89	0.60	50,50,50,50	0
57	MG	RD	301	1/1	0.89	0.27	66,66,66,66	0
57	MG	XA	1632	1/1	0.89	0.88	65,65,65,65	0
57	MG	RA	3249	1/1	0.89	0.85	62,62,62,62	0
57	MG	QA	1663	1/1	0.89	0.93	68,68,68,68	0
57	MG	YA	3258	1/1	0.89	0.67	52,52,52,52	0
57	MG	XA	1680	1/1	0.89	0.83	61,61,61,61	0
57	MG	YA	3129	1/1	0.90	0.07	58,58,58,58	0
57	MG	RA	3152	1/1	0.90	0.23	32,32,32,32	0
57	MG	XA	1704	1/1	0.90	0.26	68,68,68,68	0
57	MG	RA	3269	1/1	0.90	0.90	70,70,70,70	0
57	MG	XV	101	1/1	0.90	0.41	53,53,53,53	0
57	MG	RA	3153	1/1	0.90	0.39	59,59,59,59	0
57	MG	RA	3065	1/1	0.90	0.28	17,17,17,17	0
57	MG	YA	3040	1/1	0.90	0.12	30,30,30,30	0
57	MG	YA	3146	1/1	0.90	0.30	41,41,41,41	0
57	MG	QA	1621	1/1	0.90	0.29	62,62,62,62	0
57	MG	YA	3150	1/1	0.90	0.18	69,69,69,69	0
57	MG	RA	3133	1/1	0.90	0.33	21,21,21,21	0
57	MG	XA	1626	1/1	0.90	0.26	38,38,38,38	0
57	MG	YA	3209	1/1	0.90	0.18	64,64,64,64	0
57	MG	QA	1615	1/1	0.90	0.33	58,58,58,58	0
57	MG	RA	3043	1/1	0.90	0.31	43,43,43,43	0
57	MG	YA	3218	1/1	0.90	0.23	50,50,50,50	0
57	MG	XA	1635	1/1	0.90	0.17	36,36,36,36	0
57	MG	RA	3163	1/1	0.90	0.54	39,39,39,39	0
57	MG	YA	3167	1/1	0.90	0.17	41,41,41,41	0
57	MG	RA	3048	1/1	0.90	0.17	30,30,30,30	0
57	MG	RA	3165	1/1	0.90	0.19	37,37,37,37	0
57	MG	QA	1625	1/1	0.90	0.64	68,68,68,68	0
57	MG	RA	3147	1/1	0.90	0.15	57,57,57,57	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3238	1/1	0.90	0.45	15,15,15,15	0
57	MG	RA	3264	1/1	0.90	0.87	43,43,43,43	0
57	MG	QA	1686	1/1	0.90	0.42	80,80,80,80	0
57	MG	RA	3197	1/1	0.90	0.27	47,47,47,47	0
57	MG	RA	3010	1/1	0.90	0.49	48,48,48,48	0
57	MG	RA	3243	1/1	0.91	0.46	53,53,53,53	0
57	MG	YA	3135	1/1	0.91	0.14	40,40,40,40	0
57	MG	RA	3108	1/1	0.91	0.47	39,39,39,39	0
57	MG	YA	3256	1/1	0.91	0.44	46,46,46,46	0
57	MG	RA	3174	1/1	0.91	0.31	44,44,44,44	0
57	MG	QA	1638	1/1	0.91	0.35	74,74,74,74	0
57	MG	YA	3143	1/1	0.91	0.84	61,61,61,61	0
57	MG	XA	1618	1/1	0.91	0.61	52,52,52,52	0
57	MG	YA	3262	1/1	0.91	0.55	63,63,63,63	0
57	MG	XA	1679	1/1	0.91	0.18	41,41,41,41	0
57	MG	QA	1650	1/1	0.91	0.10	72,72,72,72	0
57	MG	YA	3201	1/1	0.91	0.47	79,79,79,79	0
57	MG	XA	1681	1/1	0.91	0.15	58,58,58,58	0
57	MG	XA	1627	1/1	0.91	0.11	36,36,36,36	0
57	MG	RA	3250	1/1	0.91	0.56	47,47,47,47	0
57	MG	RA	3199	1/1	0.91	0.41	64,64,64,64	0
57	MG	RA	3216	1/1	0.91	0.48	41,41,41,41	0
57	MG	RA	3255	1/1	0.91	0.43	64,64,64,64	0
57	MG	XA	1690	1/1	0.91	0.37	57,57,57,57	0
57	MG	RA	3219	1/1	0.91	0.25	34,34,34,34	0
57	MG	YA	3220	1/1	0.91	0.28	45,45,45,45	0
57	MG	YA	3169	1/1	0.91	0.58	39,39,39,39	0
57	MG	QA	1688	1/1	0.91	0.45	54,54,54,54	0
57	MG	YA	3291	1/1	0.91	0.13	57,57,57,57	0
57	MG	RA	3221	1/1	0.91	0.46	20,20,20,20	0
57	MG	RA	3113	1/1	0.91	0.32	34,34,34,34	0
57	MG	RA	3202	1/1	0.91	0.70	46,46,46,46	0
57	MG	QA	1628	1/1	0.91	0.36	55,55,55,55	0
57	MG	QA	1620	1/1	0.91	0.24	62,62,62,62	0
57	MG	YA	3239	1/1	0.91	0.64	48,48,48,48	0
57	MG	RA	3058	1/1	0.91	0.25	21,21,21,21	0
57	MG	QA	1604	1/1	0.91	0.95	64,64,64,64	0
57	MG	YA	3132	1/1	0.91	0.46	51,51,51,51	0
57	MG	YA	3008	1/1	0.92	0.18	17,17,17,17	0
57	MG	YA	3187	1/1	0.92	0.22	60,60,60,60	0
57	MG	YA	3250	1/1	0.92	0.20	53,53,53,53	0
57	MG	RA	3168	1/1	0.92	0.34	40,40,40,40	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3031	1/1	0.92	0.34	29,29,29,29	0
57	MG	QA	1645	1/1	0.92	0.70	52,52,52,52	0
57	MG	YA	3045	1/1	0.92	0.28	14,14,14,14	0
57	MG	XA	1653	1/1	0.92	0.26	48,48,48,48	0
57	MG	XA	1656	1/1	0.92	0.30	67,67,67,67	0
57	MG	RA	3118	1/1	0.92	0.46	47,47,47,47	0
57	MG	YA	3199	1/1	0.92	0.30	83,83,83,83	0
57	MG	XA	1628	1/1	0.92	0.12	47,47,47,47	0
57	MG	XA	1689	1/1	0.92	0.39	55,55,55,55	0
57	MG	YA	3152	1/1	0.92	0.15	40,40,40,40	0
57	MG	YA	3078	1/1	0.92	0.16	40,40,40,40	0
57	MG	RA	3277	1/1	0.92	0.52	51,51,51,51	0
57	MG	RA	3192	1/1	0.92	0.83	45,45,45,45	0
57	MG	XA	1633	1/1	0.92	0.39	47,47,47,47	0
57	MG	XA	1664	1/1	0.92	0.42	50,50,50,50	0
57	MG	QA	1664	1/1	0.92	0.45	52,52,52,52	0
57	MG	XA	1670	1/1	0.92	0.53	57,57,57,57	0
57	MG	YA	3168	1/1	0.92	0.21	52,52,52,52	0
57	MG	YA	3222	1/1	0.92	0.76	54,54,54,54	0
57	MG	YA	3118	1/1	0.92	0.24	66,66,66,66	0
57	MG	XA	1672	1/1	0.92	0.34	57,57,57,57	0
57	MG	YA	3225	1/1	0.92	0.52	42,42,42,42	0
57	MG	XA	1673	1/1	0.92	0.85	54,54,54,54	0
57	MG	XA	1642	1/1	0.92	0.23	40,40,40,40	0
57	MG	YA	3127	1/1	0.92	0.15	58,58,58,58	0
57	MG	YA	3236	1/1	0.92	0.43	29,29,29,29	0
57	MG	RA	3224	1/1	0.92	0.22	57,57,57,57	0
57	MG	RA	3136	1/1	0.92	0.46	42,42,42,42	0
57	MG	RA	3088	1/1	0.92	0.70	49,49,49,49	0
57	MG	YY	201	1/1	0.92	0.24	67,67,67,67	0
57	MG	XV	103	1/1	0.92	0.69	36,36,36,36	0
57	MG	RA	3272	1/1	0.92	0.61	61,61,61,61	0
57	MG	XA	1674	1/1	0.93	0.51	39,39,39,39	0
57	MG	RE	301	1/1	0.93	0.16	26,26,26,26	0
57	MG	YA	3246	1/1	0.93	0.30	32,32,32,32	0
57	MG	YA	3001	1/1	0.93	0.22	23,23,23,23	0
57	MG	YA	3186	1/1	0.93	0.32	52,52,52,52	0
57	MG	XA	1637	1/1	0.93	0.55	55,55,55,55	0
57	MG	XA	1638	1/1	0.93	0.17	62,62,62,62	0
57	MG	QA	1677	1/1	0.93	0.48	45,45,45,45	0
57	MG	QA	1623	1/1	0.93	0.51	64,64,64,64	0
57	MG	QA	1665	1/1	0.93	0.86	55,55,55,55	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3139	1/1	0.93	0.41	40,40,40,40	0
57	MG	RA	3044	1/1	0.93	0.62	29,29,29,29	0
57	MG	XA	1683	1/1	0.93	0.21	74,74,74,74	0
57	MG	YA	3264	1/1	0.93	0.40	34,34,34,34	0
57	MG	YA	3055	1/1	0.93	0.52	63,63,63,63	0
57	MG	YA	3145	1/1	0.93	0.23	14,14,14,14	0
57	MG	RA	3183	1/1	0.93	0.17	68,68,68,68	0
57	MG	YA	3268	1/1	0.93	0.91	103,103,103,103	0
57	MG	YA	3065	1/1	0.93	0.35	49,49,49,49	0
57	MG	QV	102	1/1	0.93	0.27	43,43,43,43	0
57	MG	RA	3098	1/1	0.93	0.33	52,52,52,52	0
57	MG	YA	3275	1/1	0.93	0.18	82,82,82,82	0
57	MG	YA	3280	1/1	0.93	0.63	64,64,64,64	0
57	MG	YA	3153	1/1	0.93	0.21	79,79,79,79	0
57	MG	RA	3186	1/1	0.93	0.19	38,38,38,38	0
57	MG	RA	3167	1/1	0.93	0.50	40,40,40,40	0
57	MG	XA	1604	1/1	0.93	0.57	53,53,53,53	0
57	MG	YA	3285	1/1	0.93	0.18	66,66,66,66	0
57	MG	YA	3158	1/1	0.93	0.29	50,50,50,50	0
57	MG	XA	1692	1/1	0.93	0.43	68,68,68,68	0
57	MG	RA	3121	1/1	0.93	0.13	45,45,45,45	0
57	MG	QA	1673	1/1	0.93	0.23	55,55,55,55	0
57	MG	QA	1646	1/1	0.93	0.19	80,80,80,80	0
57	MG	RA	3217	1/1	0.93	0.45	48,48,48,48	0
57	MG	RA	3107	1/1	0.93	0.36	37,37,37,37	0
57	MG	YA	3230	1/1	0.93	0.66	23,23,23,23	0
57	MG	QF	201	1/1	0.93	0.24	70,70,70,70	0
57	MG	YA	3122	1/1	0.93	0.50	26,26,26,26	0
57	MG	XA	1669	1/1	0.93	0.26	55,55,55,55	0
57	MG	RA	3009	1/1	0.93	0.23	45,45,45,45	0
57	MG	YR	202	1/1	0.93	0.60	46,46,46,46	0
57	MG	YA	3126	1/1	0.93	0.39	26,26,26,26	0
57	MG	QK	201	1/1	0.93	0.13	64,64,64,64	0
57	MG	RA	3175	1/1	0.93	0.27	61,61,61,61	0
58	PAR	QA	1691	42/42	0.93	0.23	82,82,83,83	0
57	MG	XA	1617	1/1	0.94	0.25	21,21,21,21	0
57	MG	RA	3026	1/1	0.94	0.35	16,16,16,16	0
57	MG	XA	1619	1/1	0.94	0.52	43,43,43,43	0
57	MG	XA	1622	1/1	0.94	0.51	53,53,53,53	0
57	MG	YA	3092	1/1	0.94	0.68	32,32,32,32	0
57	MG	YA	3100	1/1	0.94	0.79	48,48,48,48	0
57	MG	RA	3028	1/1	0.94	0.34	20,20,20,20	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3249	1/1	0.94	0.46	52,52,52,52	0
57	MG	RA	3068	1/1	0.94	0.49	35,35,35,35	0
57	MG	YA	3112	1/1	0.94	0.24	62,62,62,62	0
57	MG	RA	3031	1/1	0.94	0.34	50,50,50,50	0
57	MG	RA	3232	1/1	0.94	0.86	59,59,59,59	0
57	MG	YA	3179	1/1	0.94	0.56	22,22,22,22	0
57	MG	XA	1630	1/1	0.94	0.33	46,46,46,46	0
57	MG	RA	3233	1/1	0.94	0.28	77,77,77,77	0
57	MG	RA	3034	1/1	0.94	0.49	31,31,31,31	0
57	MG	QA	1649	1/1	0.94	0.20	77,77,77,77	0
57	MG	YA	3263	1/1	0.94	0.42	53,53,53,53	0
57	MG	RA	3238	1/1	0.94	0.47	55,55,55,55	0
57	MG	YA	3125	1/1	0.94	1.04	60,60,60,60	0
57	MG	RA	3239	1/1	0.94	0.15	54,54,54,54	0
57	MG	QA	1633	1/1	0.94	0.36	35,35,35,35	0
57	MG	QA	1654	1/1	0.94	0.07	87,87,87,87	0
57	MG	QA	1609	1/1	0.94	0.14	55,55,55,55	0
57	MG	RA	3013	1/1	0.94	0.48	22,22,22,22	0
57	MG	RA	3177	1/1	0.94	0.11	40,40,40,40	0
57	MG	RA	3156	1/1	0.94	0.32	50,50,50,50	0
57	MG	YA	3276	1/1	0.94	0.28	65,65,65,65	0
57	MG	YA	3277	1/1	0.94	0.67	51,51,51,51	0
57	MG	RA	3102	1/1	0.94	0.21	27,27,27,27	0
57	MG	RA	3158	1/1	0.94	0.11	47,47,47,47	0
57	MG	RA	3104	1/1	0.94	0.30	49,49,49,49	0
57	MG	RA	3130	1/1	0.94	0.47	68,68,68,68	0
57	MG	RA	3253	1/1	0.94	0.35	49,49,49,49	0
57	MG	YA	3140	1/1	0.94	0.24	52,52,52,52	0
57	MG	RA	3254	1/1	0.94	0.41	53,53,53,53	0
57	MG	RA	3001	1/1	0.94	0.41	35,35,35,35	0
57	MG	QA	1681	1/1	0.94	0.34	50,50,50,50	0
57	MG	RA	3187	1/1	0.94	0.14	79,79,79,79	0
57	MG	XA	1665	1/1	0.94	0.40	51,51,51,51	0
57	MG	YA	3221	1/1	0.94	0.33	41,41,41,41	0
57	MG	RA	3188	1/1	0.94	0.41	34,34,34,34	0
57	MG	YA	3042	1/1	0.94	0.36	9,9,9,9	0
57	MG	RA	3260	1/1	0.94	0.13	63,63,63,63	0
57	MG	XA	1603	1/1	0.94	0.53	31,31,31,31	0
57	MG	YA	3053	1/1	0.94	0.23	23,23,23,23	0
57	MG	YA	3227	1/1	0.94	0.52	20,20,20,20	0
57	MG	RA	3261	1/1	0.94	0.44	80,80,80,80	0
57	MG	RA	3064	1/1	0.94	0.17	19,19,19,19	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3110	1/1	0.94	0.21	54,54,54,54	0
57	MG	Y1	101	1/1	0.94	0.29	37,37,37,37	0
57	MG	Y3	101	1/1	0.94	0.49	35,35,35,35	0
57	MG	XA	1612	1/1	0.94	0.25	54,54,54,54	0
57	MG	XA	1615	1/1	0.94	0.13	33,33,33,33	0
57	MG	RA	3086	1/1	0.95	0.31	37,37,37,37	0
57	MG	RA	3117	1/1	0.95	0.34	64,64,64,64	0
57	MG	RA	3209	1/1	0.95	0.52	22,22,22,22	0
57	MG	RA	3087	1/1	0.95	0.31	30,30,30,30	0
57	MG	XA	1647	1/1	0.95	0.57	74,74,74,74	0
57	MG	XA	1698	1/1	0.95	0.28	77,77,77,77	0
57	MG	RA	3119	1/1	0.95	0.26	40,40,40,40	0
57	MG	RA	3181	1/1	0.95	0.27	57,57,57,57	0
57	MG	QA	1678	1/1	0.95	0.47	53,53,53,53	0
57	MG	XA	1652	1/1	0.95	0.17	70,70,70,70	0
57	MG	QA	1679	1/1	0.95	0.34	54,54,54,54	0
57	MG	XA	1655	1/1	0.95	0.33	62,62,62,62	0
57	MG	YA	3136	1/1	0.95	0.32	17,17,17,17	0
57	MG	RA	3091	1/1	0.95	0.41	27,27,27,27	0
57	MG	QY	101	1/1	0.95	0.15	61,61,61,61	0
57	MG	XX	101	1/1	0.95	0.55	68,68,68,68	0
57	MG	RA	3057	1/1	0.95	0.44	32,32,32,32	0
57	MG	YA	3141	1/1	0.95	0.65	217,217,217,217	0
57	MG	YA	3004	1/1	0.95	0.41	17,17,17,17	0
57	MG	RA	3127	1/1	0.95	0.57	65,65,65,65	0
57	MG	XA	1660	1/1	0.95	0.15	46,46,46,46	0
57	MG	YA	3017	1/1	0.95	0.10	27,27,27,27	0
57	MG	RA	3100	1/1	0.95	0.69	45,45,45,45	0
57	MG	YA	3147	1/1	0.95	0.17	65,65,65,65	0
57	MG	YA	3148	1/1	0.95	0.08	68,68,68,68	0
57	MG	YA	3021	1/1	0.95	0.64	25,25,25,25	0
57	MG	YA	3252	1/1	0.95	0.55	51,51,51,51	0
57	MG	YA	3025	1/1	0.95	0.21	22,22,22,22	0
57	MG	YA	3151	1/1	0.95	0.16	44,44,44,44	0
57	MG	RA	3222	1/1	0.95	0.48	23,23,23,23	0
57	MG	QA	1606	1/1	0.95	0.59	39,39,39,39	0
57	MG	RA	3263	1/1	0.95	0.12	70,70,70,70	0
57	MG	XA	1667	1/1	0.95	0.68	56,56,56,56	0
57	MG	XA	1609	1/1	0.95	0.32	39,39,39,39	0
57	MG	YA	3047	1/1	0.95	0.41	23,23,23,23	0
57	MG	YA	3048	1/1	0.95	0.53	23,23,23,23	0
57	MG	XA	1610	1/1	0.95	0.17	30,30,30,30	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3054	1/1	0.95	0.42	24,24,24,24	0
57	MG	QA	1601	1/1	0.95	0.54	55,55,55,55	0
57	MG	YA	3056	1/1	0.95	0.24	29,29,29,29	0
57	MG	YA	3062	1/1	0.95	0.42	31,31,31,31	0
57	MG	YA	3269	1/1	0.95	0.37	61,61,61,61	0
57	MG	XA	1671	1/1	0.95	0.72	54,54,54,54	0
57	MG	RA	3226	1/1	0.95	0.52	25,25,25,25	0
57	MG	XA	1616	1/1	0.95	0.42	47,47,47,47	0
57	MG	YA	3067	1/1	0.95	0.73	34,34,34,34	0
57	MG	RA	3062	1/1	0.95	0.45	12,12,12,12	0
57	MG	YA	3073	1/1	0.95	0.25	38,38,38,38	0
57	MG	YA	3278	1/1	0.95	0.43	58,58,58,58	0
57	MG	RA	3063	1/1	0.95	0.71	19,19,19,19	0
57	MG	YA	3077	1/1	0.95	0.27	24,24,24,24	0
57	MG	QA	1660	1/1	0.95	0.53	30,30,30,30	0
57	MG	RA	3196	1/1	0.95	0.18	43,43,43,43	0
57	MG	RA	3235	1/1	0.95	0.23	36,36,36,36	0
57	MG	YA	3089	1/1	0.95	0.50	54,54,54,54	0
57	MG	RA	3236	1/1	0.95	0.69	64,64,64,64	0
57	MG	YA	3093	1/1	0.95	0.32	40,40,40,40	0
57	MG	YA	3189	1/1	0.95	0.30	39,39,39,39	0
57	MG	YA	3190	1/1	0.95	0.17	70,70,70,70	0
57	MG	RA	3033	1/1	0.95	0.71	48,48,48,48	0
57	MG	QA	1651	1/1	0.95	0.30	85,85,85,85	0
57	MG	QA	1612	1/1	0.95	0.28	23,23,23,23	0
57	MG	YA	3107	1/1	0.95	0.58	24,24,24,24	0
57	MG	YA	3111	1/1	0.95	0.63	45,45,45,45	0
57	MG	RA	3145	1/1	0.95	0.12	34,34,34,34	0
57	MG	YA	3197	1/1	0.95	0.15	30,30,30,30	0
57	MG	RA	3069	1/1	0.95	0.49	27,27,27,27	0
57	MG	QA	1630	1/1	0.95	0.18	64,64,64,64	0
57	MG	RA	3244	1/1	0.95	0.22	41,41,41,41	0
57	MG	RA	3045	1/1	0.95	0.20	17,17,17,17	0
57	MG	YA	3205	1/1	0.95	0.35	84,84,84,84	0
57	MG	YA	3120	1/1	0.95	0.24	36,36,36,36	0
57	MG	YA	3121	1/1	0.95	0.30	37,37,37,37	0
57	MG	XA	1639	1/1	0.95	0.23	54,54,54,54	0
58	PAR	XA	1705	42/42	0.95	0.23	68,68,69,69	0
57	MG	YA	3027	1/1	0.96	0.80	31,31,31,31	0
57	MG	YA	3215	1/1	0.96	0.12	36,36,36,36	0
57	MG	YA	3028	1/1	0.96	0.27	22,22,22,22	0
57	MG	YA	3134	1/1	0.96	0.52	31,31,31,31	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	QA	1635	1/1	0.96	0.17	51,51,51,51	0
57	MG	YA	3033	1/1	0.96	0.34	18,18,18,18	0
57	MG	YA	3038	1/1	0.96	0.30	21,21,21,21	0
57	MG	QA	1622	1/1	0.96	0.25	80,80,80,80	0
57	MG	RA	3012	1/1	0.96	0.47	24,24,24,24	0
57	MG	YA	3043	1/1	0.96	0.46	42,42,42,42	0
57	MG	YA	3044	1/1	0.96	0.46	13,13,13,13	0
57	MG	RB	203	1/1	0.96	0.39	46,46,46,46	0
57	MG	XA	1677	1/1	0.96	0.09	62,62,62,62	0
57	MG	QA	1642	1/1	0.96	0.11	35,35,35,35	0
57	MG	XA	1636	1/1	0.96	0.17	82,82,82,82	0
57	MG	YA	3233	1/1	0.96	0.37	47,47,47,47	0
57	MG	RA	3014	1/1	0.96	0.17	20,20,20,20	0
57	MG	RA	3159	1/1	0.96	0.22	45,45,45,45	0
57	MG	RA	3124	1/1	0.96	0.36	39,39,39,39	0
57	MG	RA	3055	1/1	0.96	0.52	29,29,29,29	0
57	MG	YA	3058	1/1	0.96	0.41	19,19,19,19	0
57	MG	XA	1643	1/1	0.96	0.45	42,42,42,42	0
57	MG	RR	201	1/1	0.96	0.33	50,50,50,50	0
57	MG	RA	3018	1/1	0.96	0.58	27,27,27,27	0
57	MG	RA	3020	1/1	0.96	0.48	17,17,17,17	0
57	MG	RA	3059	1/1	0.96	0.44	14,14,14,14	0
57	MG	YA	3070	1/1	0.96	0.21	19,19,19,19	0
57	MG	QA	1613	1/1	0.96	0.42	40,40,40,40	0
57	MG	YA	3251	1/1	0.96	0.53	25,25,25,25	0
57	MG	YA	3159	1/1	0.96	0.26	47,47,47,47	0
57	MG	YA	3160	1/1	0.96	0.68	48,48,48,48	0
57	MG	QA	1674	1/1	0.96	0.50	55,55,55,55	0
57	MG	QA	1661	1/1	0.96	0.58	65,65,65,65	0
57	MG	YA	3165	1/1	0.96	0.60	38,38,38,38	0
57	MG	XA	1651	1/1	0.96	0.23	38,38,38,38	0
57	MG	XA	1695	1/1	0.96	0.33	57,57,57,57	0
57	MG	XA	1601	1/1	0.96	0.69	43,43,43,43	0
57	MG	QA	1644	1/1	0.96	0.63	62,62,62,62	0
57	MG	YA	3170	1/1	0.96	0.16	63,63,63,63	0
57	MG	YA	3086	1/1	0.96	0.41	23,23,23,23	0
57	MG	YA	3088	1/1	0.96	0.39	21,21,21,21	0
57	MG	QA	1605	1/1	0.96	0.49	30,30,30,30	0
57	MG	YA	3174	1/1	0.96	0.12	53,53,53,53	0
57	MG	RA	3032	1/1	0.96	0.47	16,16,16,16	0
57	MG	XA	1700	1/1	0.96	0.66	61,61,61,61	0
57	MG	YA	3097	1/1	0.96	0.35	36,36,36,36	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3098	1/1	0.96	0.55	45,45,45,45	0
57	MG	RA	3003	1/1	0.96	0.39	27,27,27,27	0
57	MG	YA	3274	1/1	0.96	0.28	44,44,44,44	0
57	MG	YA	3180	1/1	0.96	0.09	62,62,62,62	0
57	MG	YA	3181	1/1	0.96	0.37	26,26,26,26	0
57	MG	RA	3142	1/1	0.96	0.20	58,58,58,58	0
57	MG	YA	3183	1/1	0.96	0.11	58,58,58,58	0
57	MG	YA	3104	1/1	0.96	0.32	47,47,47,47	0
57	MG	QA	1655	1/1	0.96	0.10	120,120,120,120	0
57	MG	XA	1611	1/1	0.96	0.10	32,32,32,32	0
57	MG	YA	3109	1/1	0.96	0.31	44,44,44,44	0
57	MG	RA	3070	1/1	0.96	0.42	43,43,43,43	0
57	MG	RA	3205	1/1	0.96	0.33	51,51,51,51	0
57	MG	XA	1663	1/1	0.96	0.23	35,35,35,35	0
57	MG	RA	3241	1/1	0.96	0.14	49,49,49,49	0
57	MG	XY	101	1/1	0.96	0.11	54,54,54,54	0
57	MG	RA	3148	1/1	0.96	0.29	37,37,37,37	0
57	MG	YA	3002	1/1	0.96	0.54	22,22,22,22	0
57	MG	YB	202	1/1	0.96	0.12	83,83,83,83	0
57	MG	XA	1666	1/1	0.96	0.30	71,71,71,71	0
57	MG	YA	3006	1/1	0.96	0.16	18,18,18,18	0
57	MG	RA	3115	1/1	0.96	0.15	58,58,58,58	0
57	MG	YA	3198	1/1	0.96	1.00	72,72,72,72	0
57	MG	RA	3035	1/1	0.96	0.28	21,21,21,21	0
57	MG	YA	3010	1/1	0.96	0.55	40,40,40,40	0
57	MG	RA	3275	1/1	0.96	0.27	58,58,58,58	0
57	MG	YA	3202	1/1	0.96	0.56	56,56,56,56	0
57	MG	YA	3019	1/1	0.96	0.42	34,34,34,34	0
57	MG	RA	3038	1/1	0.96	0.38	33,33,33,33	0
57	MG	RA	3246	1/1	0.96	0.59	64,64,64,64	0
57	MG	YA	3023	1/1	0.96	0.50	20,20,20,20	0
57	MG	QA	1666	1/1	0.96	0.54	71,71,71,71	0
57	MG	YA	3211	1/1	0.96	0.19	51,51,51,51	0
57	MG	YA	3213	1/1	0.96	0.84	55,55,55,55	0
57	MG	RA	3097	1/1	0.97	0.44	24,24,24,24	0
57	MG	QA	1689	1/1	0.97	0.26	80,80,80,80	0
57	MG	RA	3228	1/1	0.97	0.37	46,46,46,46	0
57	MG	RA	3191	1/1	0.97	0.59	57,57,57,57	0
57	MG	XA	1613	1/1	0.97	0.22	26,26,26,26	0
57	MG	YA	3154	1/1	0.97	0.46	52,52,52,52	0
57	MG	YA	3075	1/1	0.97	0.41	21,21,21,21	0
57	MG	XV	102	1/1	0.97	0.41	47,47,47,47	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3015	1/1	0.97	0.38	17,17,17,17	0
57	MG	YA	3080	1/1	0.97	0.27	25,25,25,25	0
57	MG	QA	1641	1/1	0.97	0.17	45,45,45,45	0
57	MG	RA	3039	1/1	0.97	0.29	39,39,39,39	0
57	MG	YA	3084	1/1	0.97	0.41	32,32,32,32	0
57	MG	YA	3085	1/1	0.97	0.64	39,39,39,39	0
57	MG	YA	3163	1/1	0.97	0.38	59,59,59,59	0
57	MG	YA	3242	1/1	0.97	0.43	27,27,27,27	0
57	MG	RA	3128	1/1	0.97	0.27	30,30,30,30	0
57	MG	RA	3040	1/1	0.97	0.39	29,29,29,29	0
57	MG	XA	1620	1/1	0.97	0.07	56,56,56,56	0
57	MG	YA	3090	1/1	0.97	0.26	54,54,54,54	0
57	MG	YA	3005	1/1	0.97	0.26	14,14,14,14	0
57	MG	RA	3103	1/1	0.97	0.24	28,28,28,28	0
57	MG	YA	3095	1/1	0.97	0.62	28,28,28,28	0
57	MG	RA	3198	1/1	0.97	0.25	21,21,21,21	0
57	MG	YA	3254	1/1	0.97	0.14	53,53,53,53	0
57	MG	QA	1652	1/1	0.97	0.24	44,44,44,44	0
57	MG	RA	3132	1/1	0.97	0.16	43,43,43,43	0
57	MG	YA	3257	1/1	0.97	0.29	38,38,38,38	0
57	MG	YA	3102	1/1	0.97	0.49	25,25,25,25	0
57	MG	YA	3012	1/1	0.97	0.26	22,22,22,22	0
57	MG	YA	3013	1/1	0.97	0.52	13,13,13,13	0
57	MG	YA	3015	1/1	0.97	0.27	12,12,12,12	0
57	MG	RA	3106	1/1	0.97	0.27	24,24,24,24	0
57	MG	QA	1675	1/1	0.97	0.38	75,75,75,75	0
57	MG	RA	3007	1/1	0.97	0.42	20,20,20,20	0
57	MG	QA	1658	1/1	0.97	0.23	50,50,50,50	0
57	MG	YA	3114	1/1	0.97	0.18	45,45,45,45	0
57	MG	XA	1634	1/1	0.97	0.27	92,92,92,92	0
57	MG	QA	1653	1/1	0.97	0.69	69,69,69,69	0
57	MG	YA	3117	1/1	0.97	0.48	23,23,23,23	0
57	MG	RA	3050	1/1	0.97	0.37	22,22,22,22	0
57	MG	RA	3139	1/1	0.97	0.44	23,23,23,23	0
57	MG	RA	3208	1/1	0.97	0.41	25,25,25,25	0
57	MG	YA	3273	1/1	0.97	0.54	57,57,57,57	0
57	MG	RA	3077	1/1	0.97	0.32	39,39,39,39	0
57	MG	YA	3036	1/1	0.97	0.39	16,16,16,16	0
57	MG	YA	3037	1/1	0.97	0.30	30,30,30,30	0
57	MG	XA	1641	1/1	0.97	0.67	68,68,68,68	0
57	MG	YA	3039	1/1	0.97	0.33	28,28,28,28	0
57	MG	YA	3279	1/1	0.97	0.56	65,65,65,65	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3143	1/1	0.97	0.55	55,55,55,55	0
57	MG	RA	3144	1/1	0.97	0.29	70,70,70,70	0
57	MG	RA	3078	1/1	0.97	0.54	30,30,30,30	0
57	MG	RA	3146	1/1	0.97	0.49	50,50,50,50	0
57	MG	RA	3051	1/1	0.97	0.42	14,14,14,14	0
57	MG	RA	3083	1/1	0.97	0.37	23,23,23,23	0
57	MG	XA	1691	1/1	0.97	0.32	66,66,66,66	0
57	MG	RA	3052	1/1	0.97	0.55	29,29,29,29	0
57	MG	YA	3203	1/1	0.97	0.12	76,76,76,76	0
57	MG	YA	3049	1/1	0.97	0.28	18,18,18,18	0
57	MG	YA	3290	1/1	0.97	0.86	52,52,52,52	0
57	MG	YA	3050	1/1	0.97	0.55	23,23,23,23	0
57	MG	YB	201	1/1	0.97	0.47	71,71,71,71	0
57	MG	YA	3052	1/1	0.97	0.27	28,28,28,28	0
57	MG	RA	3029	1/1	0.97	0.31	22,22,22,22	0
57	MG	RA	3151	1/1	0.97	0.35	36,36,36,36	0
57	MG	YA	3210	1/1	0.97	0.11	53,53,53,53	0
57	MG	XA	1602	1/1	0.97	0.29	19,19,19,19	0
57	MG	YA	3212	1/1	0.97	0.40	49,49,49,49	0
57	MG	QA	1608	1/1	0.97	0.06	28,28,28,28	0
57	MG	YA	3057	1/1	0.97	0.15	19,19,19,19	0
57	MG	QA	1634	1/1	0.97	0.17	68,68,68,68	0
57	MG	YA	3059	1/1	0.97	0.24	20,20,20,20	0
57	MG	YA	3217	1/1	0.97	0.18	34,34,34,34	0
57	MG	YA	3060	1/1	0.97	0.11	59,59,59,59	0
57	MG	XA	1654	1/1	0.97	0.11	84,84,84,84	0
57	MG	QA	1662	1/1	0.97	0.44	34,34,34,34	0
57	MG	RA	3094	1/1	0.97	0.66	30,30,30,30	0
57	MG	XA	1607	1/1	0.97	0.58	36,36,36,36	0
59	ZN	QD	301	1/1	0.97	0.29	74,74,74,74	0
59	ZN	XD	301	1/1	0.97	0.29	65,65,65,65	0
57	MG	YA	3234	1/1	0.98	0.46	39,39,39,39	0
57	MG	YA	3016	1/1	0.98	0.39	28,28,28,28	0
57	MG	YA	3087	1/1	0.98	0.41	24,24,24,24	0
57	MG	XA	1625	1/1	0.98	0.29	38,38,38,38	0
57	MG	RA	3027	1/1	0.98	0.27	26,26,26,26	0
57	MG	YA	3164	1/1	0.98	0.45	47,47,47,47	0
57	MG	RA	3005	1/1	0.98	0.33	20,20,20,20	0
57	MG	RA	3046	1/1	0.98	0.44	25,25,25,25	0
57	MG	RA	3066	1/1	0.98	0.40	29,29,29,29	0
57	MG	YA	3094	1/1	0.98	0.49	43,43,43,43	0
57	MG	YA	3245	1/1	0.98	0.31	26,26,26,26	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	YA	3024	1/1	0.98	0.42	31,31,31,31	0
57	MG	YA	3096	1/1	0.98	0.41	44,44,44,44	0
57	MG	YA	3248	1/1	0.98	0.14	31,31,31,31	0
57	MG	RA	3047	1/1	0.98	0.47	22,22,22,22	0
57	MG	YA	3026	1/1	0.98	0.34	17,17,17,17	0
57	MG	XA	1631	1/1	0.98	0.30	49,49,49,49	0
57	MG	YA	3101	1/1	0.98	0.13	55,55,55,55	0
57	MG	QA	1616	1/1	0.98	0.14	97,97,97,97	0
57	MG	YA	3030	1/1	0.98	0.31	21,21,21,21	0
57	MG	QA	1672	1/1	0.98	0.19	61,61,61,61	0
57	MG	YA	3032	1/1	0.98	0.50	11,11,11,11	0
57	MG	RB	201	1/1	0.98	0.12	71,71,71,71	0
57	MG	YA	3108	1/1	0.98	0.29	23,23,23,23	0
57	MG	YA	3034	1/1	0.98	0.49	20,20,20,20	0
57	MG	YA	3035	1/1	0.98	0.33	20,20,20,20	0
57	MG	QA	1617	1/1	0.98	0.31	39,39,39,39	0
57	MG	RA	3071	1/1	0.98	0.12	29,29,29,29	0
57	MG	QA	1614	1/1	0.98	0.29	43,43,43,43	0
57	MG	RA	3074	1/1	0.98	0.25	39,39,39,39	0
57	MG	RA	3140	1/1	0.98	0.37	32,32,32,32	0
57	MG	XA	1640	1/1	0.98	0.26	60,60,60,60	0
57	MG	RA	3141	1/1	0.98	0.42	44,44,44,44	0
57	MG	RA	3076	1/1	0.98	0.52	34,34,34,34	0
57	MG	RA	3210	1/1	0.98	0.33	12,12,12,12	0
57	MG	RA	3021	1/1	0.98	0.30	23,23,23,23	0
57	MG	RA	3053	1/1	0.98	0.32	17,17,17,17	0
57	MG	RA	3079	1/1	0.98	0.28	42,42,42,42	0
57	MG	RA	3081	1/1	0.98	0.36	44,44,44,44	0
57	MG	QA	1607	1/1	0.98	0.13	37,37,37,37	0
57	MG	YA	3051	1/1	0.98	0.52	24,24,24,24	0
57	MG	RA	3256	1/1	0.98	0.42	37,37,37,37	0
57	MG	RA	3036	1/1	0.98	0.47	32,32,32,32	0
57	MG	RA	3182	1/1	0.98	0.10	53,53,53,53	0
57	MG	RA	3218	1/1	0.98	0.48	32,32,32,32	0
57	MG	RA	3084	1/1	0.98	0.31	28,28,28,28	0
57	MG	RA	3085	1/1	0.98	0.30	53,53,53,53	0
57	MG	RA	3056	1/1	0.98	0.41	29,29,29,29	0
57	MG	XA	1608	1/1	0.98	0.22	23,23,23,23	0
57	MG	RA	3023	1/1	0.98	0.16	34,34,34,34	0
57	MG	YA	3207	1/1	0.98	0.41	16,16,16,16	0
57	MG	YA	3061	1/1	0.98	0.23	24,24,24,24	0
57	MG	RA	3024	1/1	0.98	0.27	27,27,27,27	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3011	1/1	0.98	0.29	22,22,22,22	0
57	MG	RA	3225	1/1	0.98	0.07	62,62,62,62	0
57	MG	RA	3090	1/1	0.98	0.23	33,33,33,33	0
57	MG	XA	1614	1/1	0.98	0.24	25,25,25,25	0
57	MG	YA	3068	1/1	0.98	0.18	46,46,46,46	0
57	MG	RA	3060	1/1	0.98	0.32	17,17,17,17	0
57	MG	YA	3003	1/1	0.98	0.42	26,26,26,26	0
57	MG	YA	3072	1/1	0.98	0.36	21,21,21,21	0
57	MG	YE	301	1/1	0.98	0.28	37,37,37,37	0
57	MG	RA	3125	1/1	0.98	0.24	51,51,51,51	0
57	MG	RA	3231	1/1	0.98	0.35	58,58,58,58	0
57	MG	RA	3041	1/1	0.98	0.38	40,40,40,40	0
57	MG	YA	3076	1/1	0.98	0.34	21,21,21,21	0
57	MG	RA	3095	1/1	0.98	0.26	31,31,31,31	0
57	MG	RA	3004	1/1	0.98	0.32	17,17,17,17	0
57	MG	YA	3079	1/1	0.98	0.37	21,21,21,21	0
57	MG	XA	1621	1/1	0.98	0.27	39,39,39,39	0
57	MG	YA	3011	1/1	0.98	0.26	21,21,21,21	0
57	MG	YA	3082	1/1	0.98	0.29	47,47,47,47	0
57	MG	Y5	101	1/1	0.98	0.19	28,28,28,28	0
57	MG	YA	3228	1/1	0.98	0.59	17,17,17,17	0
57	MG	YA	3229	1/1	0.98	0.20	26,26,26,26	0
57	MG	RA	3161	1/1	0.98	0.53	38,38,38,38	0
57	MG	XA	1623	1/1	0.98	0.29	54,54,54,54	0
59	ZN	QN	101	1/1	0.98	0.11	104,104,104,104	0
57	MG	XA	1624	1/1	0.98	0.09	45,45,45,45	0
59	ZN	XN	101	1/1	0.98	0.18	122,122,122,122	0
57	MG	YA	3243	1/1	0.99	0.33	47,47,47,47	0
57	MG	RA	3230	1/1	0.99	0.19	94,94,94,94	0
57	MG	RA	3072	1/1	0.99	0.30	26,26,26,26	0
57	MG	QA	1648	1/1	0.99	0.31	42,42,42,42	0
57	MG	YA	3018	1/1	0.99	0.41	42,42,42,42	0
57	MG	YA	3110	1/1	0.99	0.16	49,49,49,49	0
57	MG	RA	3105	1/1	0.99	0.06	24,24,24,24	0
57	MG	RA	3030	1/1	0.99	0.51	41,41,41,41	0
57	MG	YA	3113	1/1	0.99	0.43	35,35,35,35	0
57	MG	RA	3075	1/1	0.99	0.30	19,19,19,19	0
57	MG	YA	3022	1/1	0.99	0.41	15,15,15,15	0
57	MG	XA	1685	1/1	0.99	0.50	60,60,60,60	0
57	MG	QA	1671	1/1	0.99	0.32	48,48,48,48	0
57	MG	RA	3042	1/1	0.99	0.22	34,34,34,34	0
57	MG	RA	3092	1/1	0.99	0.21	27,27,27,27	0

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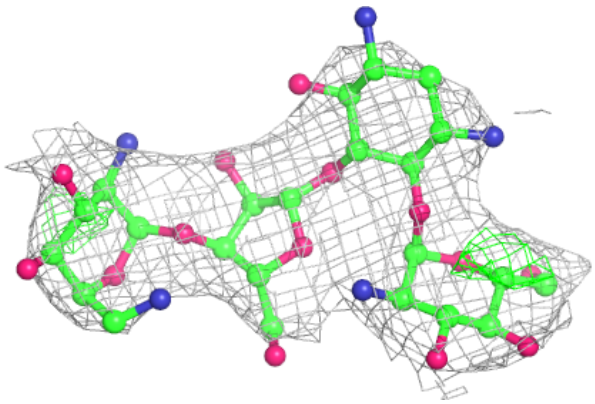
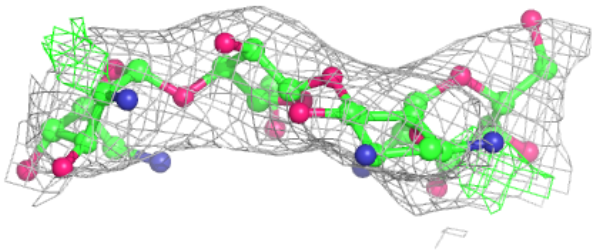
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	RA	3093	1/1	0.99	0.52	39,39,39,39	0
57	MG	QA	1610	1/1	0.99	0.16	31,31,31,31	0
57	MG	YA	3029	1/1	0.99	0.28	18,18,18,18	0
57	MG	RA	3016	1/1	0.99	0.31	30,30,30,30	0
57	MG	RA	3096	1/1	0.99	0.58	33,33,33,33	0
57	MG	RB	202	1/1	0.99	0.18	63,63,63,63	0
57	MG	YA	3091	1/1	0.99	0.51	33,33,33,33	0
57	MG	RA	3080	1/1	0.99	0.31	34,34,34,34	0
57	MG	RA	3017	1/1	0.99	0.24	27,27,27,27	0
57	MG	YA	3231	1/1	0.99	0.29	18,18,18,18	0
57	MG	YA	3063	1/1	0.99	0.26	16,16,16,16	0
57	MG	QA	1611	1/1	0.99	0.27	29,29,29,29	0
57	MG	YA	3009	1/1	0.99	0.26	21,21,21,21	0
57	MG	RA	3019	1/1	0.99	0.42	22,22,22,22	0
57	MG	RA	3037	1/1	0.99	0.27	18,18,18,18	0
57	MG	YA	3099	1/1	0.99	0.41	13,13,13,13	0
57	MG	QA	1669	1/1	0.99	0.28	41,41,41,41	0
57	MG	YA	3069	1/1	0.99	0.48	36,36,36,36	0
57	MG	RA	3229	1/1	0.99	0.30	38,38,38,38	0
57	MG	YA	3041	1/1	0.99	0.38	8,8,8,8	0
57	MG	YA	3014	1/1	0.99	0.54	18,18,18,18	0
57	MG	YA	3106	1/1	1.00	0.38	13,13,13,13	0

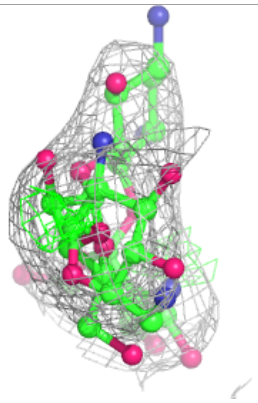
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around PAR QA 1691:

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

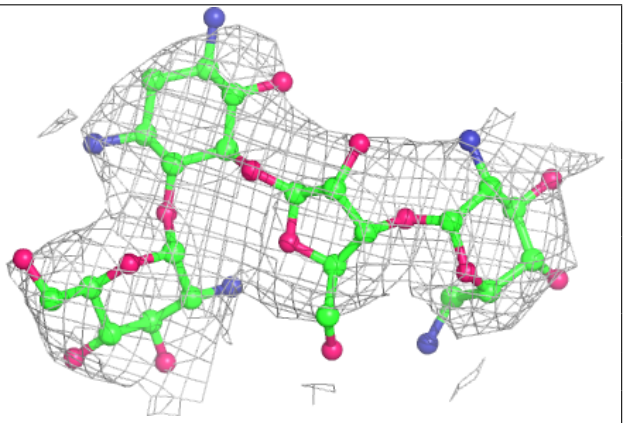


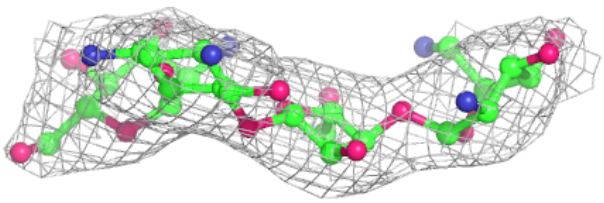


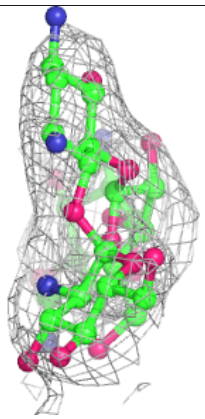


Electron density around PAR XA 1705:

$2mF_o$-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 (i)

There are no such residues in this entry.