Full wwPDB EM Validation Report ⓘ

May 11, 2026 – 06:05 PM EDT

PDB ID	:	9DP7 / pdb_00009dp7
EMDB ID	:	EMD-47098
Title	:	Hypopseudouridylated yeast 80S bound with Taura syndrome virus (TSV) internal ribosome entry site (IRES) and hygromycin B, Class II
Authors	:	Zhao, Y.; Li, H.
Deposited on	:	2024-09-20
Resolution	:	2.38 Å(reported)

This is a Full wwPDB EM 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/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

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

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

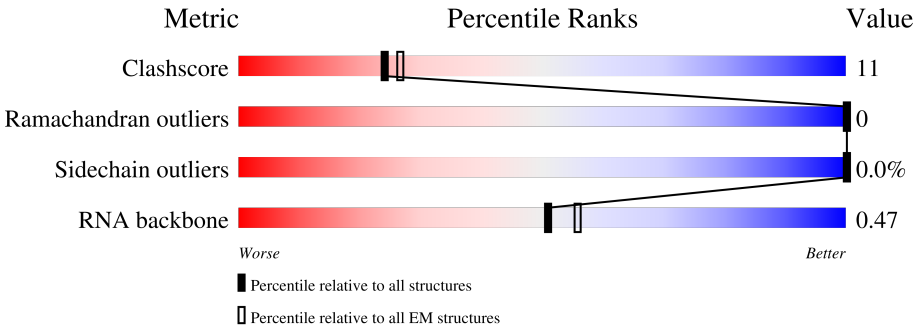
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

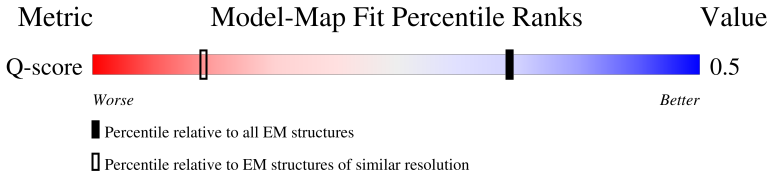
1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 2.38 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)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	4811 (1.88 - 2.88)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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 EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	BA	252	78% 52% 30% 18%
2	BB	255	82% 44% 39% 16%
3	BC	254	55% 63% 22% 15%

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Mol	Chain	Length	Quality of chain
4	BE	261	72% 63% 37%
5	BG	236	81% 59% 36%
6	BH	190	93% 62% 35%
7	BI	200	46% 60% 34% 6%
8	BJ	197	78% 62% 32% 6%
9	BL	156	38% 83% 16%
10	BN	151	68% 70% 29%
11	BO	137	87% 54% 39% 7%
12	BV	87	92% 69% 31%
13	BW	130	44% 73% 26%
14	BX	145	28% 82% 17%
15	BY	135	86% 62% 37%
16	Ba	119	59% 50% 31% 18%
17	Bb	82	96% 55% 44%
18	Be	63	87% 75% 21% 5%
19	BD	240	92% 60% 33% 7%
20	BF	225	92% 46% 45% 8%
21	BK	105	91% 38% 53% 9%
22	BP	142	87% 53% 35% 13%
23	BQ	143	99% 59% 40%
24	BR	136	88% 58% 31% 11%
25	BS	146	99% 54% 45%
26	BT	144	97% 56% 42%
27	BU	121	88% 59% 29% 12%
28	BZ	108	64% 31% 31% 36%

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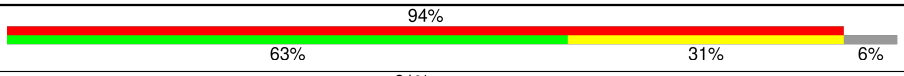
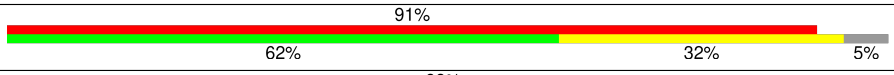
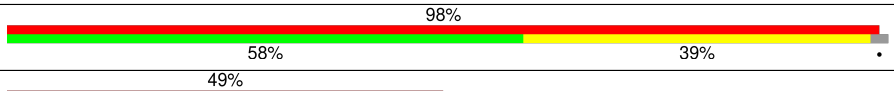
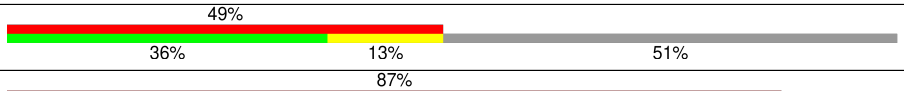
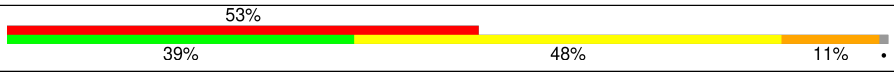
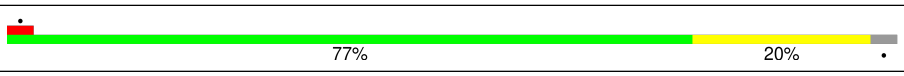
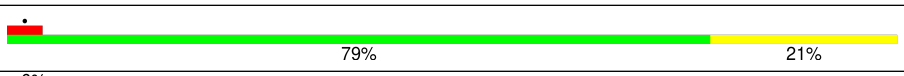
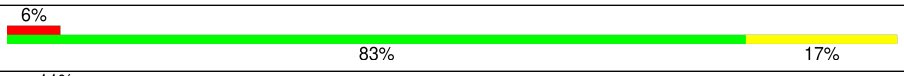
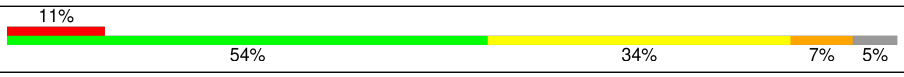
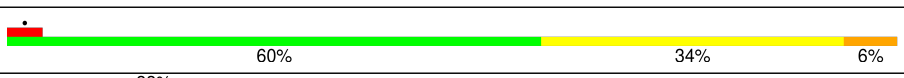
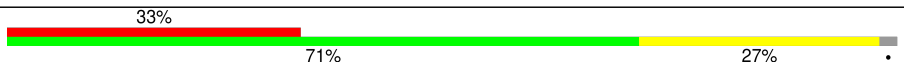
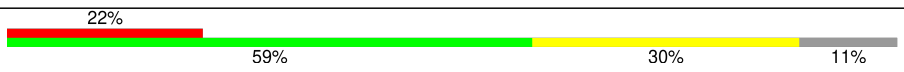
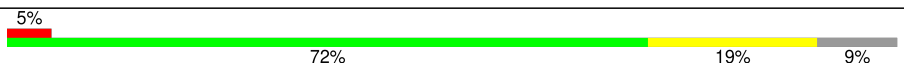
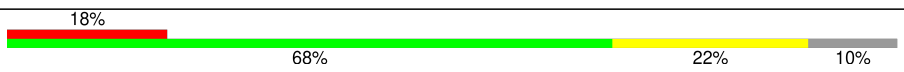
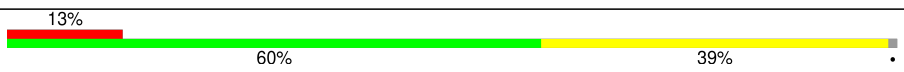
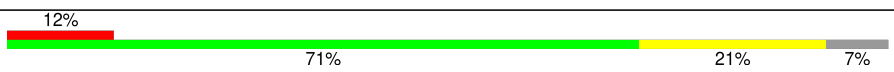
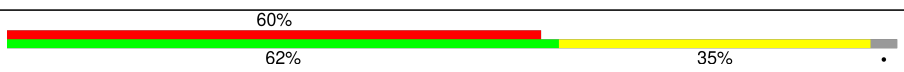
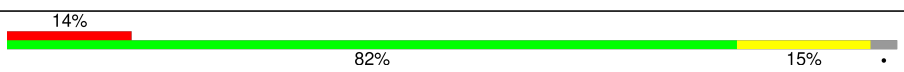
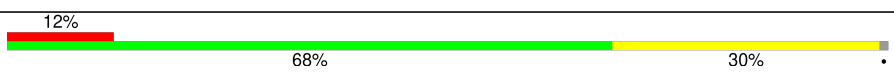
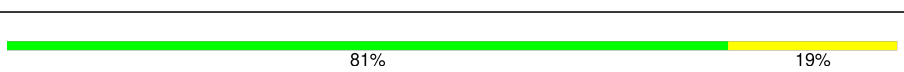
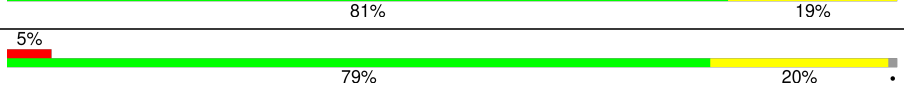
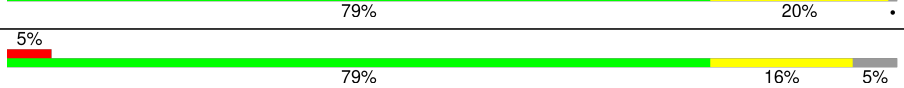
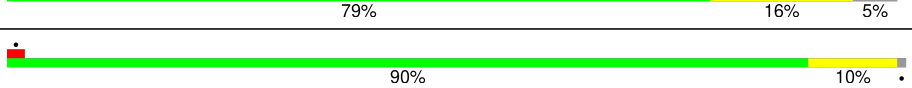
Mol	Chain	Length	Quality of chain
29	Bc	67	
30	Bd	56	
31	Bg	319	
32	Bf	152	
33	BM	143	
34	B5	1798	
35	AA	254	
36	AB	387	
37	AC	362	
38	A1	3360	
39	A3	121	
40	A4	158	
41	AD	297	
42	AE	176	
43	AF	244	
44	AG	256	
45	AH	191	
46	AI	221	
47	AJ	174	
48	AL	199	
49	AM	138	
50	AN	204	
51	AO	199	
52	AP	184	
53	AQ	186	

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Mol	Chain	Length	Quality of chain
54	AR	189	22% 81% 19%
55	AS	178	6% 64% 33%
56	AT	160	12% 72% 28%
57	AU	121	28% 74% 9% 17%
58	AV	137	6% 84% 15%
59	AW	155	35% 5% 59%
60	AX	142	6% 70% 15% 15%
61	AY	127	6% 81% 18%
62	AZ	136	24% 65% 35%
63	Aa	149	74% 25%
64	Ab	59	17% 88% 10%
65	Ac	105	17% 70% 22% 8%
66	Ad	113	14% 85% 12%
67	Ae	130	88% 10%
68	Af	107	82% 17%
69	Ag	121	8% 74% 18% 7%
70	Ah	120	5% 79% 20%
71	Ai	100	12% 77% 22%
72	Aj	88	5% 81% 18%
73	Ak	78	41% 85% 14%
74	Al	51	71% 27%
75	Am	128	9% 27% 13% 59%
76	An	25	16% 76% 24%
77	Ao	106	14% 76% 20%
78	Ap	92	11% 74% 25%

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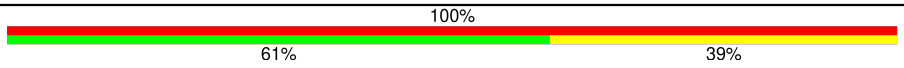
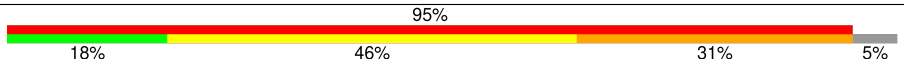
Mol	Chain	Length	Quality of chain
79	E	217	
80	EC	202	

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
34	G7M	B5	1575	X	-	-	-

2 Entry composition

There are 83 unique types of molecules in this entry. The entry contains 206091 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 protein called 40S ribosomal protein S0-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	BA	206	1612	1034	285	291	2	0	0

- Molecule 2 is a protein called Small ribosomal subunit protein eS1A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	BB	214	1709	1084	310	311	4	0	0

- Molecule 3 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	BC	217	1635	1047	289	297	2	0	0

- Molecule 4 is a protein called 40S ribosomal protein S4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	BE	260	2068	1316	389	360	3	0	0

- Molecule 5 is a protein called 40S ribosomal protein S6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	BG	226	1820	1142	350	325	3	0	0

- Molecule 6 is a protein called 40S ribosomal protein S7-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
6	BH	184	1481	951	265	265	0	0

- Molecule 7 is a protein called 40S ribosomal protein S8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	BI	188	Total	C	N	O	S	0	0
			1489	925	298	264	2		

- Molecule 8 is a protein called 40S ribosomal protein S9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	BJ	185	Total	C	N	O	S	0	0
			1494	943	289	261	1		

- Molecule 9 is a protein called 40S ribosomal protein S11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	BL	155	Total	C	N	O	S	0	0
			1244	798	235	208	3		

- Molecule 10 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	BN	150	Total	C	N	O	S	0	0
			1192	759	224	207	2		

- Molecule 11 is a protein called 40S ribosomal protein S14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	BO	127	Total	C	N	O	S	0	0
			941	578	186	174	3		

- Molecule 12 is a protein called 40S ribosomal protein S21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	BV	87	Total	C	N	O	S	0	0
			684	420	125	137	2		

- Molecule 13 is a protein called Small ribosomal subunit protein uS8A.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	BW	129	Total	C	N	O	S	0	0
			1021	650	188	180	3		

- Molecule 14 is a protein called 40S ribosomal protein S23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	BX	144	Total	C	N	O	S	0	0
			1121	708	220	191	2		

- Molecule 15 is a protein called 40S ribosomal protein S24-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
15	BY	134	Total	C	N	O	0	0
			1073	676	208	189		

- Molecule 16 is a protein called Small ribosomal subunit protein eS26B.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	Ba	97	Total	C	N	O	S	0	0
			769	475	160	129	5		

- Molecule 17 is a protein called 40S ribosomal protein S27-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Bb	81	Total	C	N	O	S	0	0
			610	382	110	113	5		

- Molecule 18 is a protein called 40S ribosomal protein S30-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	Be	60	Total	C	N	O	S	0	0
			475	299	98	77	1		

- Molecule 19 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	BD	223	Total	C	N	O	S	0	0
			1734	1101	313	314	6		

- Molecule 20 is a protein called Rps5p.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	BF	206	Total	C	N	O	S	0	0
			1609	1007	300	299	3		

- Molecule 21 is a protein called 40S ribosomal protein S10-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	BK	96	Total	C	N	O	S	0	0
			817	529	133	153	2		

- Molecule 22 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	BP	124	Total	C	N	O	S	0	0
			991	631	187	166	7		

- Molecule 23 is a protein called 40S ribosomal protein S16-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	BQ	141	Total	C	N	O	0	0
			1105	708	203	194		

- Molecule 24 is a protein called 40S ribosomal protein S17-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	BR	121	Total	C	N	O	S	0	0
			975	611	183	179	2		

- Molecule 25 is a protein called 40S ribosomal protein S18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	BS	145	Total	C	N	O	S	0	0
			1192	743	237	210	2		

- Molecule 26 is a protein called 40S ribosomal protein S19-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	BT	141	Total	C	N	O	S	0	0
			1095	685	206	202	2		

- Molecule 27 is a protein called Small ribosomal subunit protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	BU	107	Total	C	N	O	S	0	0
			855	539	156	159	1		

- Molecule 28 is a protein called Small ribosomal subunit protein eS25A.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	BZ	69	Total	C	N	O	0	0
			558	357	103	98		

- Molecule 29 is a protein called Small ribosomal subunit protein eS28A.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Bc	63	Total	C	N	O	S	0	0
			497	306	99	91	1		

- Molecule 30 is a protein called Small ribosomal subunit protein uS14A.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Bd	53	Total	C	N	O	S	0	0
			443	275	92	72	4		

- Molecule 31 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Bg	312	Total	C	N	O	S	0	0
			2401	1522	410	461	8		

- Molecule 32 is a protein called RPS31 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Bf	75	Total	C	N	O	S	0	0
			605	386	116	99	4		

- Molecule 33 is a protein called Small ribosomal subunit protein eS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	BM	124	Total	C	N	O	S	0	0
			935	587	165	181	2		

- Molecule 34 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	B5	1782	Total	C	N	O	P	1	0
			38004	17005	6718	12499	1782		

- Molecule 35 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	AA	247	Total	C	N	O	S	0	0
			1878	1170	381	326	1		

- Molecule 36 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	AB	386	Total	C	N	O	S	0	0
			3080	1955	584	533	8		

- Molecule 37 is a protein called Large ribosomal subunit protein uL4A.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	AC	361	Total	C	N	O	S	0	0
			2748	1729	522	494	3		

- Molecule 38 is a RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	A1	3198	Total	C	N	O	P	0	0
			68445	30596	12331	22320	3198		

- Molecule 39 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	A3	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 40 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	A4	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 41 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	AD	292	Total	C	N	O	S	0	0
			2341	1478	408	453	2		

- Molecule 42 is a protein called 60S ribosomal protein L6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	AE	156	Total	C	N	O	S	0	0
			1239	800	222	216	1		

- Molecule 43 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	AF	222	Total	C	N	O	S	0	0
			1784	1151	324	308	1		

- Molecule 44 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	AG	230	Total	C	N	O	S	0	0
			1798	1149	323	323	3		

- Molecule 45 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	AH	190	Total	C	N	O	S	0	0
			1510	957	273	276	4		

- Molecule 46 is a protein called Large ribosomal subunit protein uL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	AI	205	Total	C	N	O	S	0	0
			1672	1063	316	288	5		

- Molecule 47 is a protein called Large ribosomal subunit protein uL5A.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	AJ	169	Total	C	N	O	S	0	0
			1353	847	253	249	4		

- Molecule 48 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
48	AL	193	Total	C	N	O	0	0
			1543	962	315	266		

- Molecule 49 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	AM	136	Total	C	N	O	S	0	0
			1053	675	199	177	2		

- Molecule 50 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	AN	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 51 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	AO	197	Total	C	N	O	S	197	0
			1555	1003	289	262	1		

- Molecule 52 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
52	AP	175	Total	C	N	O	0	0
			1388	862	277	249		

- Molecule 53 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	AQ	185	Total	C	N	O	S	0	0
			1441	908	290	241	2		

- Molecule 54 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
54	AR	188	Total	C	N	O	0	0
			1521	935	326	260		

- Molecule 55 is a protein called 60S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	AS	172	Total	C	N	O	S	0	0
			1445	930	267	244	4		

- Molecule 56 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	AT	159	Total	C	N	O	S	0	0
			1276	805	246	221	4		

- Molecule 57 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
57	AU	100	Total	C	N	O	0	0
			796	516	131	149		

- Molecule 58 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	AV	136	Total	C	N	O	S	0	0
			1003	628	189	179	7		

- Molecule 59 is a protein called Large ribosomal subunit protein eL24A.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	AW	63	Total	C	N	O	S	0	0
			521	336	102	82	1		

- Molecule 60 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	AX	121	Total	C	N	O	S	0	0
			968	623	170	173	2		

- Molecule 61 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
61	AY	126	Total	C	N	O	0	0
			993	625	192	176		

- Molecule 62 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
62	AZ	135	Total	C	N	O	0	0
			1092	710	202	180		

- Molecule 63 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	Aa	148	Total	C	N	O	S	0	0
			1173	749	231	190	3		

- Molecule 64 is a protein called Large ribosomal subunit protein eL29.

Mol	Chain	Residues	Atoms				AltConf	Trace
64	Ab	58	Total	C	N	O	0	0
			462	289	100	73		

- Molecule 65 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	Ac	97	Total	C	N	O	S	0	0
			743	479	124	139	1		

- Molecule 66 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	Ad	109	Total	C	N	O	S	0	0
			890	565	168	156	1		

- Molecule 67 is a protein called Large ribosomal subunit protein eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	Ae	127	Total	C	N	O	S	0	0
			1020	647	205	167	1		

- Molecule 68 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	Af	106	Total	C	N	O	S	0	0
			850	540	165	144	1		

- Molecule 69 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	Ag	112	Total	C	N	O	S	0	0
			880	545	179	152	4		

- Molecule 70 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	Ah	119	Total	C	N	O	S	0	0
			969	615	186	167	1		

- Molecule 71 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	Ai	99	Total	C	N	O	S	0	0
			771	481	156	132	2		

- Molecule 72 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	Aj	87	Total	C	N	O	S	0	0
			681	414	148	114	5		

- Molecule 73 is a protein called Large ribosomal subunit protein eL38.

Mol	Chain	Residues	Atoms				AltConf	Trace
73	Ak	77	Total	C	N	O	0	0
			612	391	115	106		

- Molecule 74 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Al	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 75 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	Am	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 76 is a protein called 60S ribosomal protein L41-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	An	25	Total	C	N	O	S	0	0
			233	142	63	27	1		

- Molecule 77 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	Ao	102	Total 819	C 514	N 166	O 134	S 5	0	0

- Molecule 78 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Ap	91	Total 694	C 429	N 138	O 121	S 6	0	0

- Molecule 79 is a protein called Large ribosomal subunit protein uL1A.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	E	217	Total 1718	C 1097	N 299	O 312	S 10	0	0

- Molecule 80 is a RNA chain called TSV IRES RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	EC	192	Total 4090	C 1828	N 729	O 1341	P 192	0	0

- Molecule 81 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
81	BN	2	Total 2	Mg 2	0
81	B5	55	Total 55	Mg 55	0
81	AB	2	Total 2	Mg 2	0
81	AC	1	Total 1	Mg 1	0
81	A1	172	Total 172	Mg 172	0
81	A3	2	Total 2	Mg 2	0
81	A4	4	Total 4	Mg 4	0
81	AH	1	Total 1	Mg 1	0
81	AI	1	Total 1	Mg 1	0

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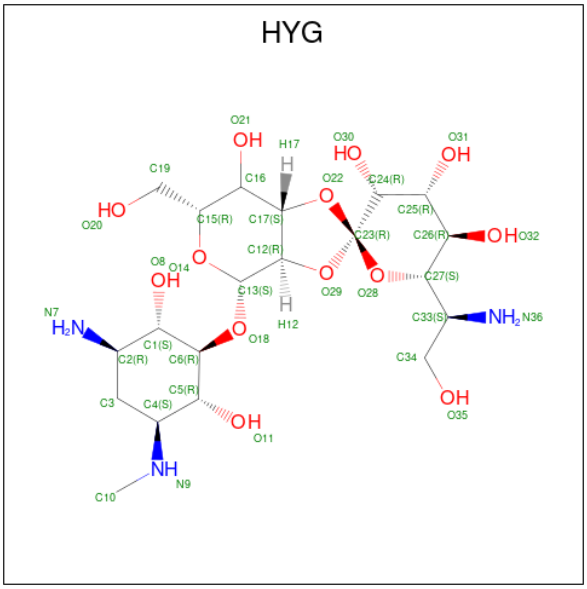
Mol	Chain	Residues	Atoms	AltConf
81	AN	1	Total Mg 1 1	0
81	AO	1	Total Mg 1 1	0
81	AP	1	Total Mg 1 1	0
81	Ae	2	Total Mg 2 2	0
81	Af	1	Total Mg 1 1	0
81	Aj	1	Total Mg 1 1	0

- Molecule 82 is HYGROMYCIN B (CCD ID: HYG) (formula: $C_{20}H_{37}N_3O_{13}$).



Mol	Chain	Residues	Atoms	AltConf
82	B5	1	Total C N O 36 20 3 13	0

- Molecule 83 is ZINC ION (CCD ID: ZN) (formula: Zn).

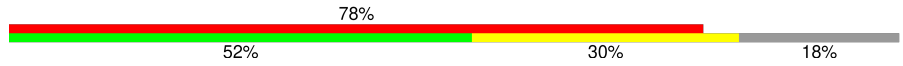
Mol	Chain	Residues	Atoms	AltConf
83	Ao	1	Total Zn 1 1	0

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 atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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.

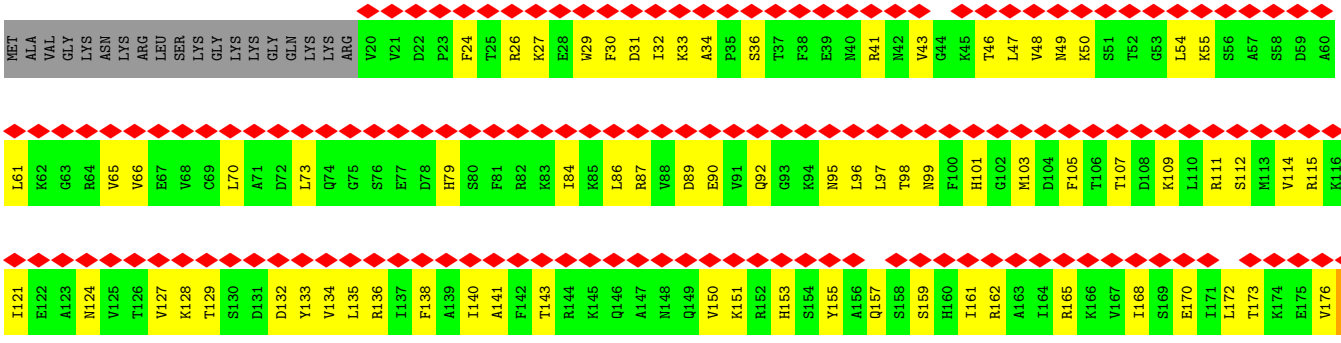
• Molecule 1: 40S ribosomal protein S0-A

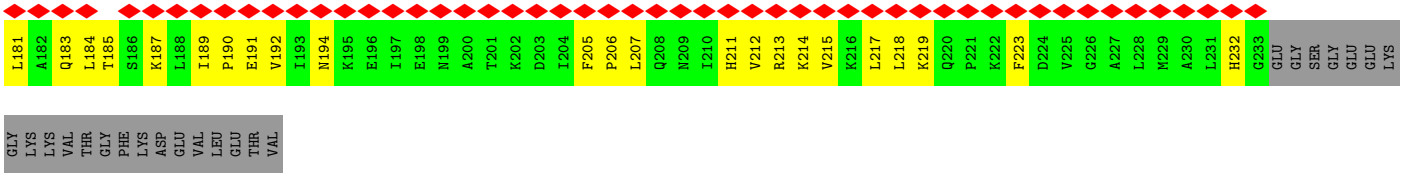
Chain BA:



• Molecule 2: Small ribosomal subunit protein eS1A

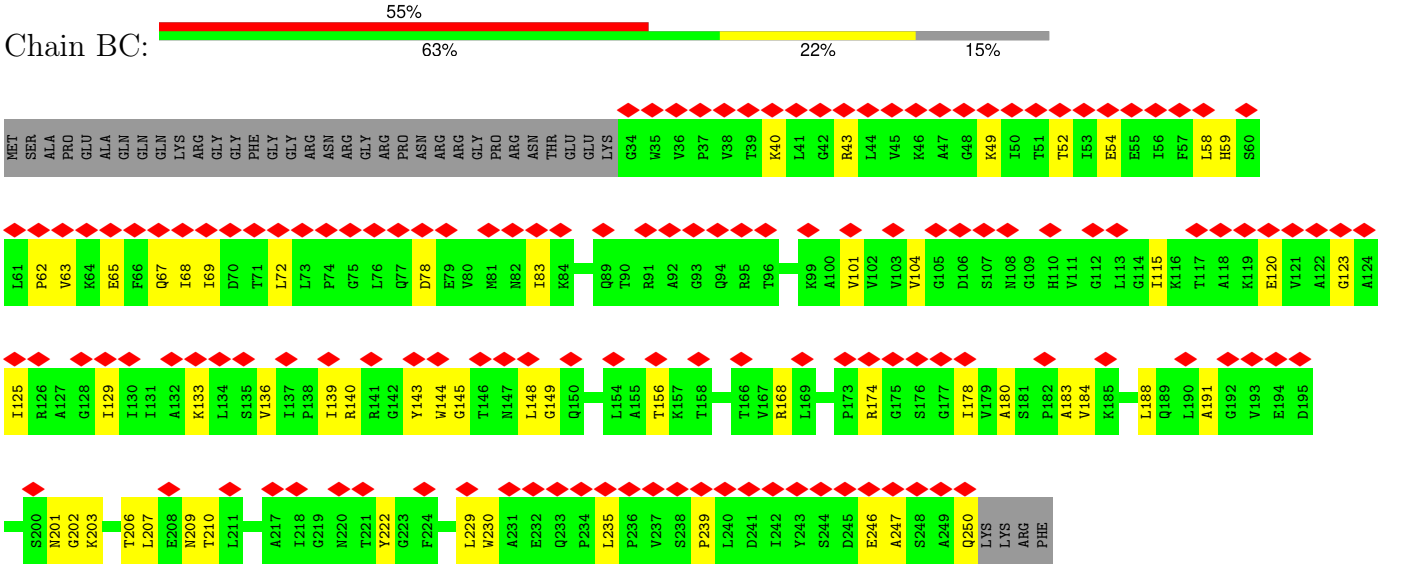
Chain BB:





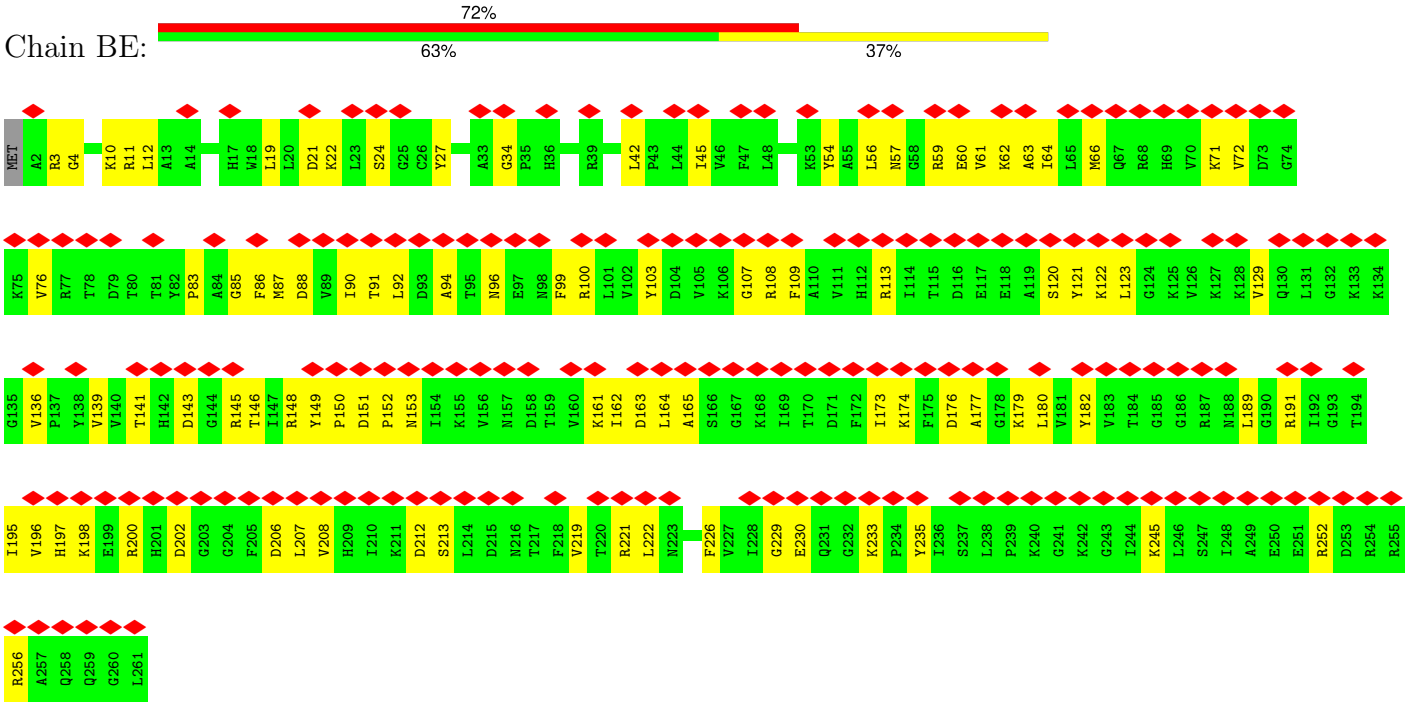
• Molecule 3: Small ribosomal subunit protein uS5

Chain BC:



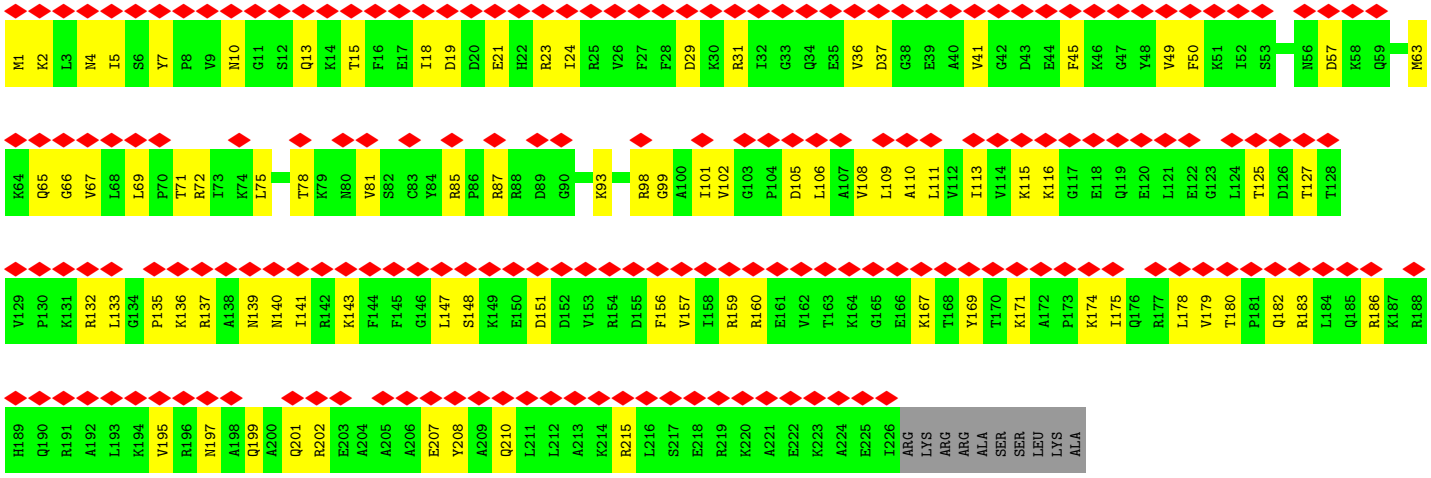
• Molecule 4: 40S ribosomal protein S4-A

Chain BE:



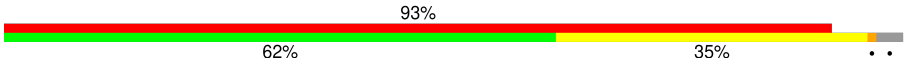
• Molecule 5: 40S ribosomal protein S6-A

Chain BG:



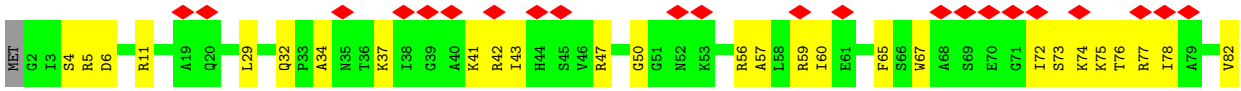
• Molecule 6: 40S ribosomal protein S7-A

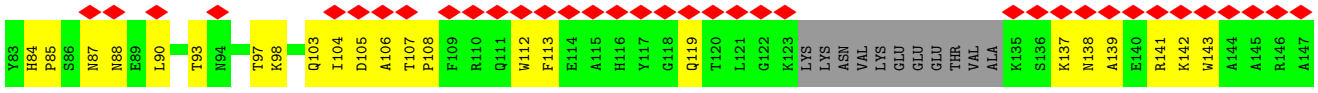
Chain BH:

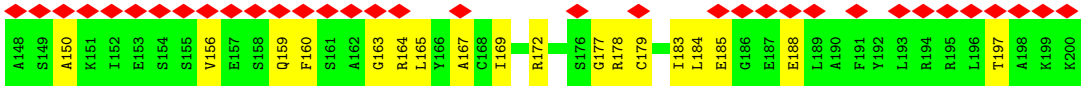


• Molecule 7: 40S ribosomal protein S8-A

Chain BI:

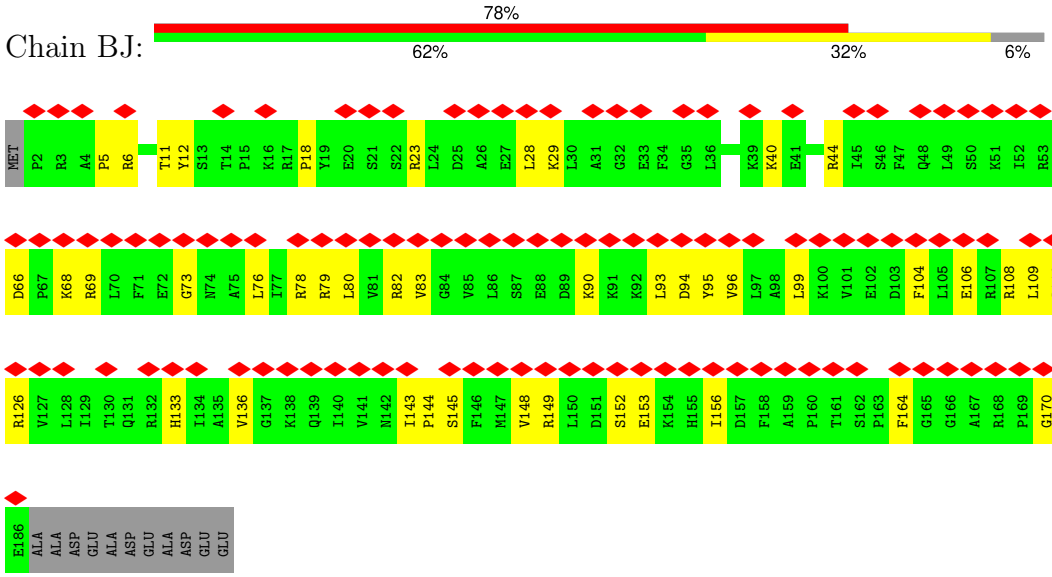






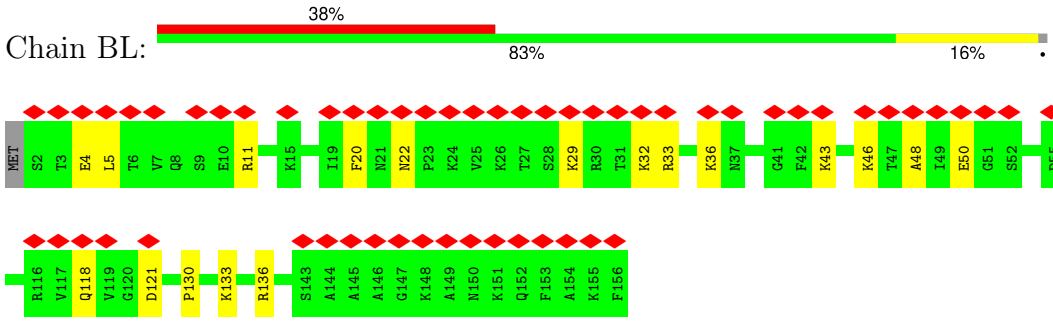
• Molecule 8: 40S ribosomal protein S9-A

Chain BJ:



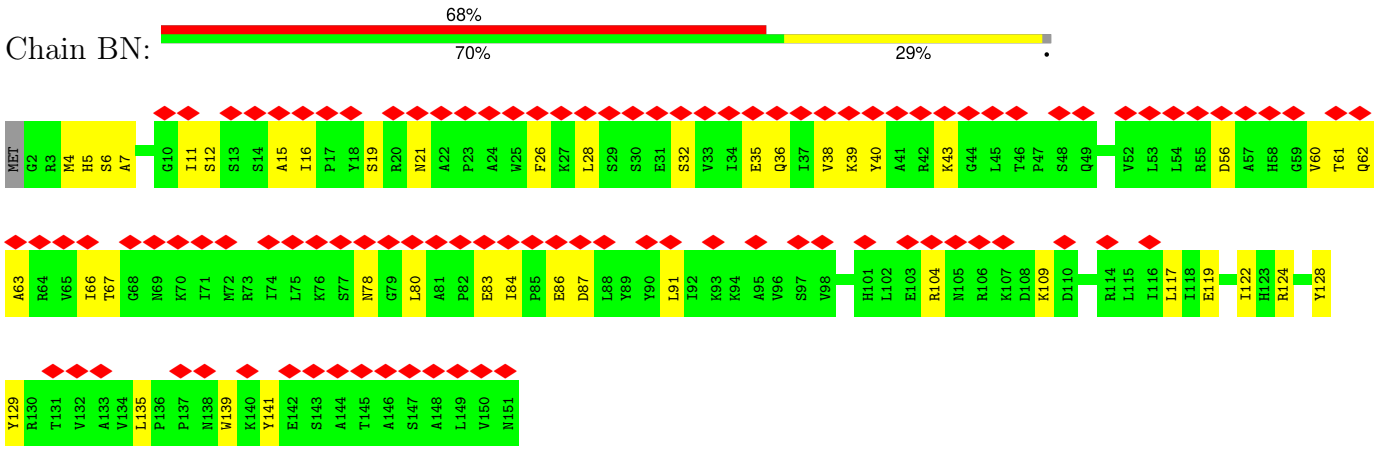
• Molecule 9: 40S ribosomal protein S11-A

Chain BL:



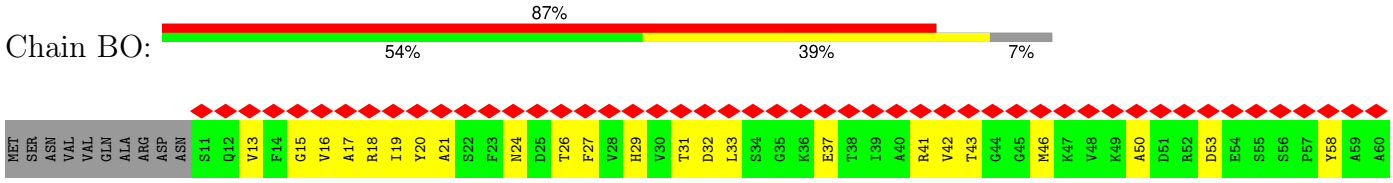
• Molecule 10: 40S ribosomal protein S13

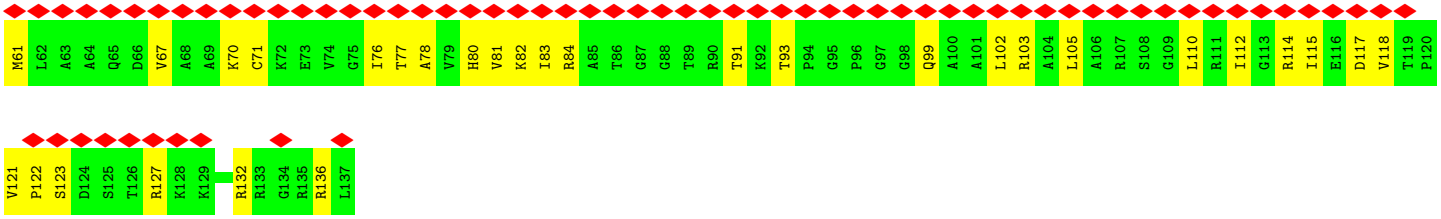
Chain BN:



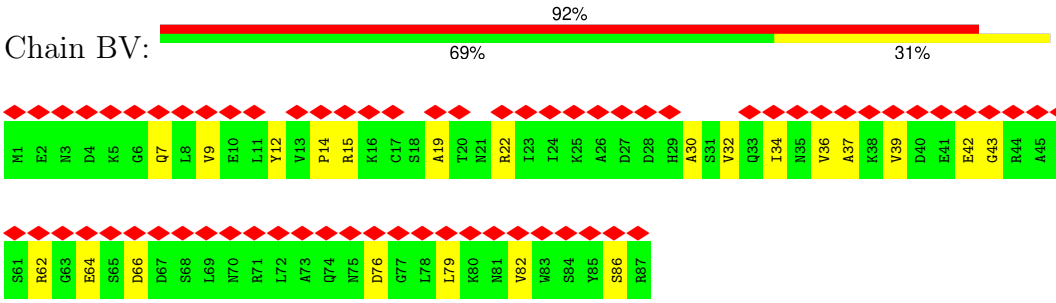
• Molecule 11: 40S ribosomal protein S14-A

Chain BO:

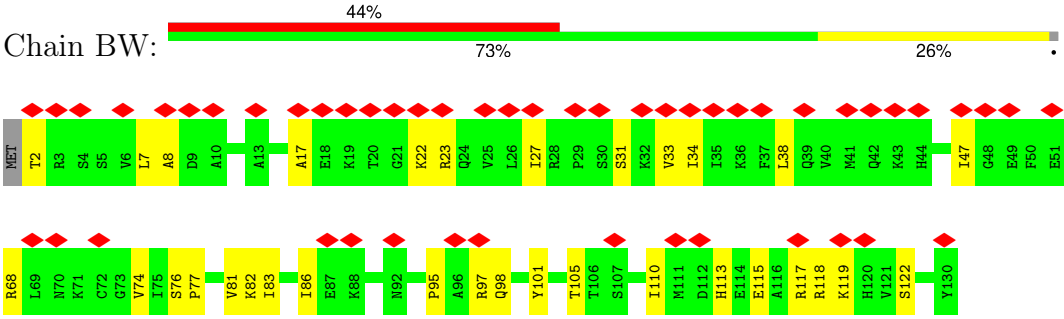




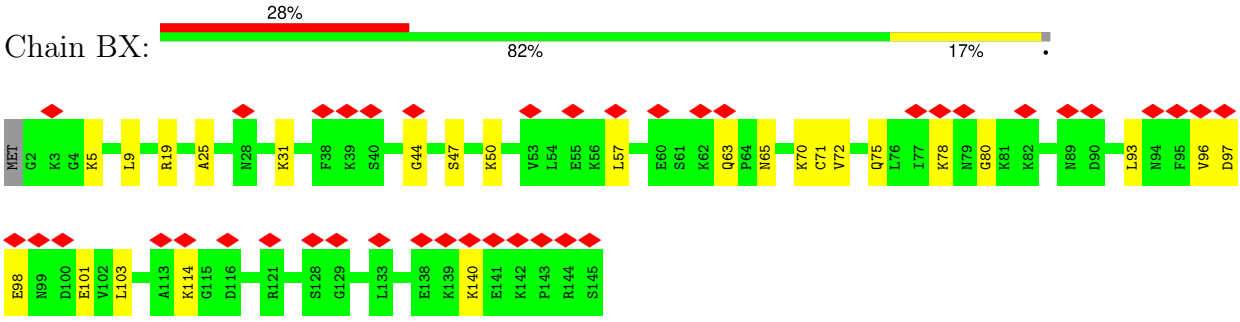
• Molecule 12: 40S ribosomal protein S21-A



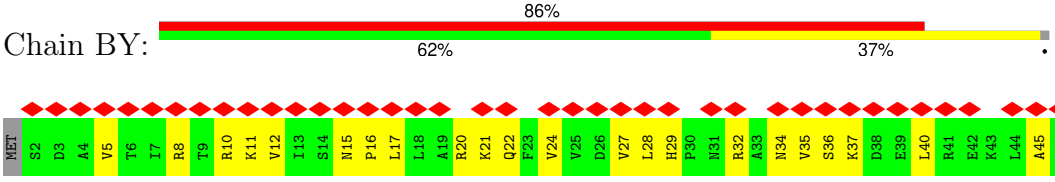
• Molecule 13: Small ribosomal subunit protein uS8A

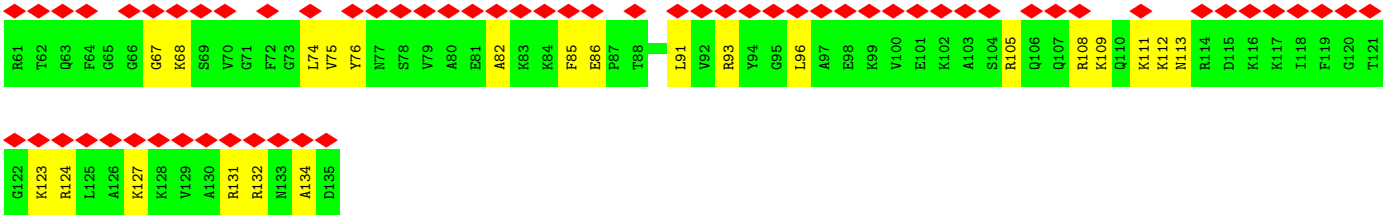


• Molecule 14: 40S ribosomal protein S23-A



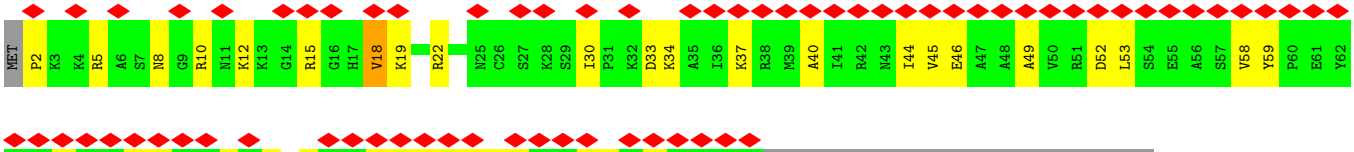
• Molecule 15: 40S ribosomal protein S24-A





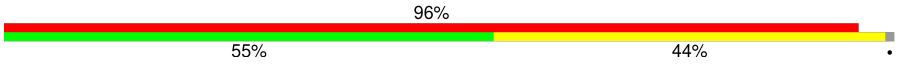
• Molecule 16: Small ribosomal subunit protein eS26B

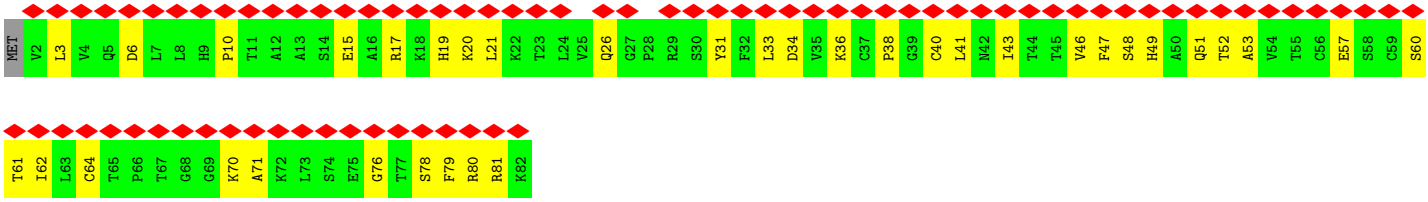
Chain Ba:



• Molecule 17: 40S ribosomal protein S27-A

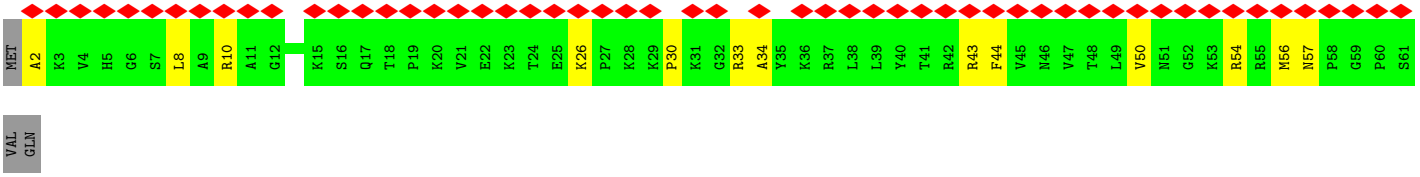
Chain Bb:





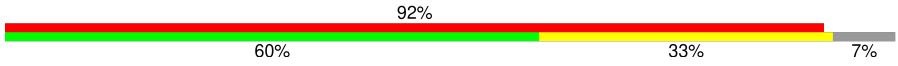
• Molecule 18: 40S ribosomal protein S30-A

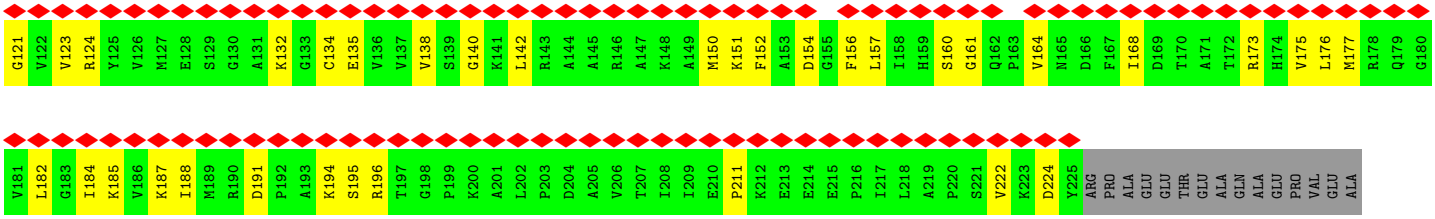
Chain Be:



• Molecule 19: Small ribosomal subunit protein uS3

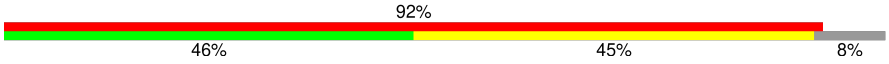
Chain BD:

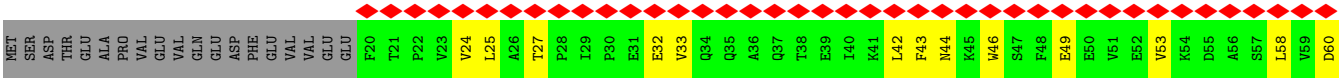


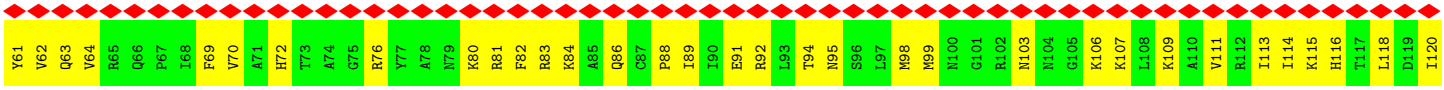


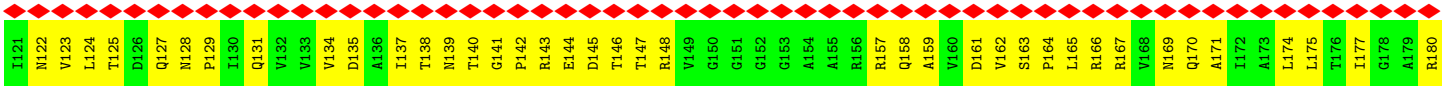
• Molecule 20: Rps5p

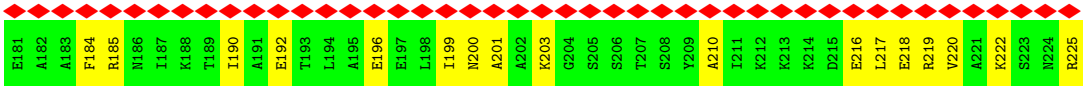
Chain BF:





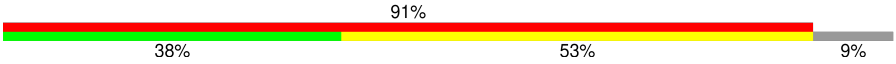


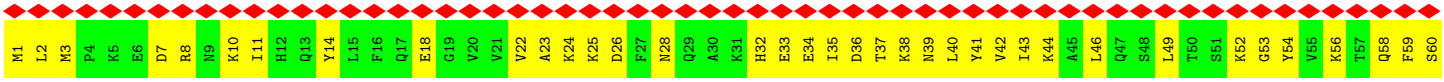




• Molecule 21: 40S ribosomal protein S10-A

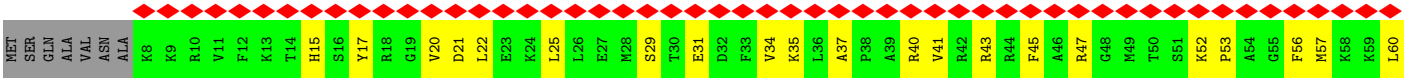
Chain BK:

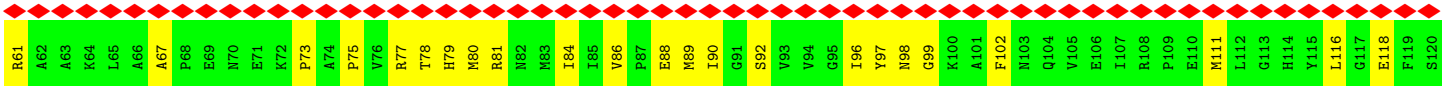


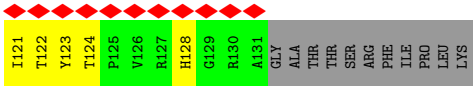


• Molecule 22: Small ribosomal subunit protein uS19

Chain BP:

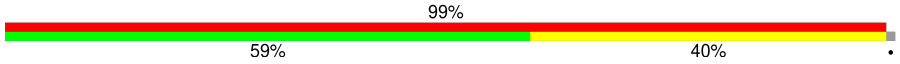


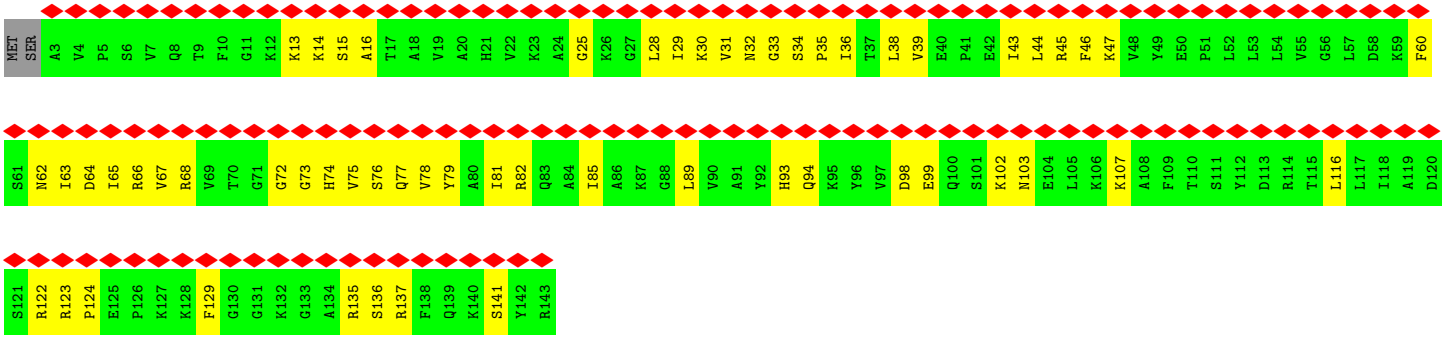




• Molecule 23: 40S ribosomal protein S16-A

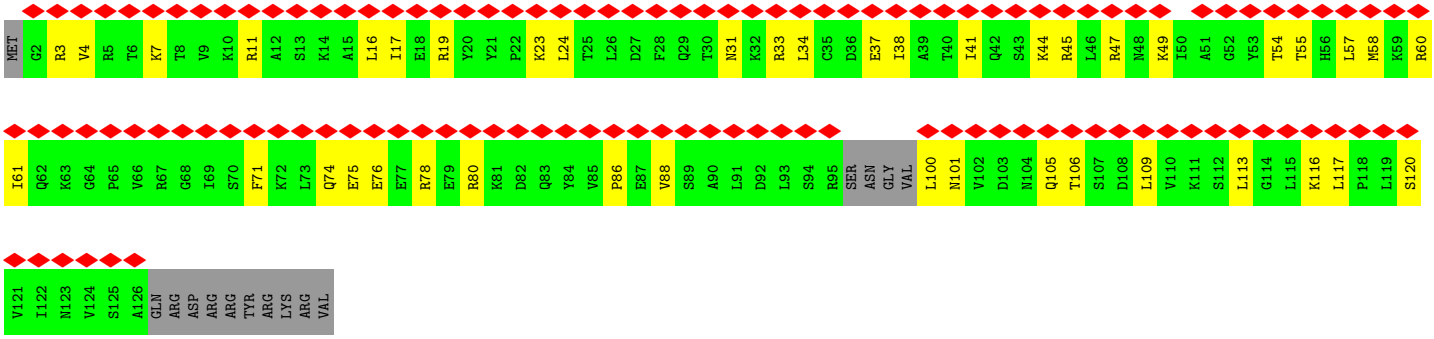
Chain BQ:





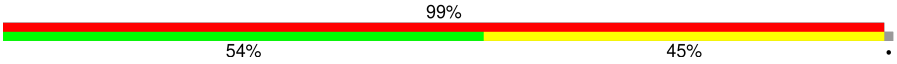
• Molecule 24: 40S ribosomal protein S17-A

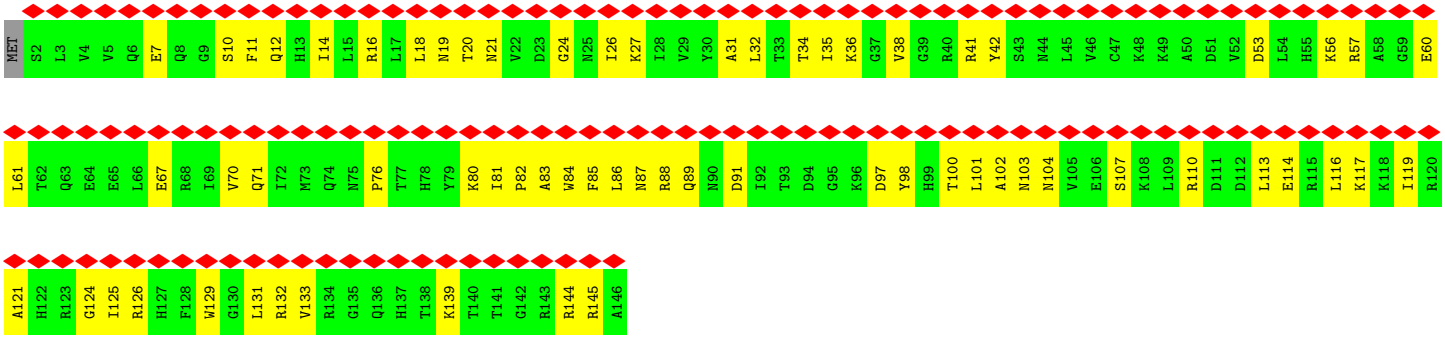
Chain BR:



• Molecule 25: 40S ribosomal protein S18-A

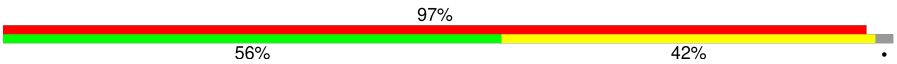
Chain BS:

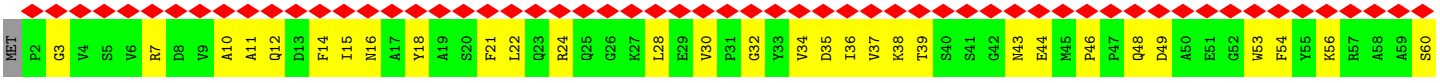


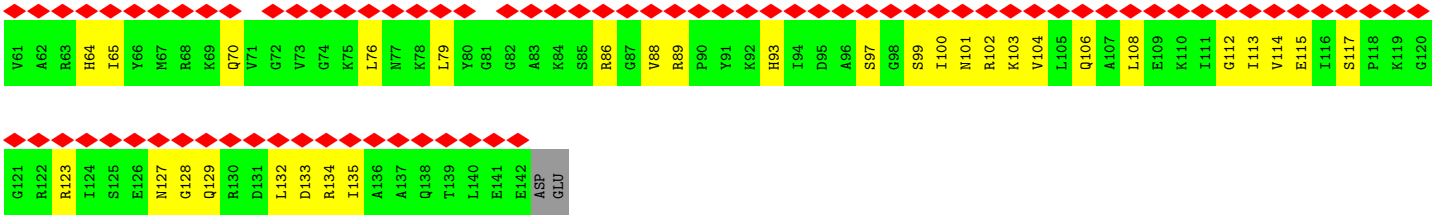


• Molecule 26: 40S ribosomal protein S19-A

Chain BT:

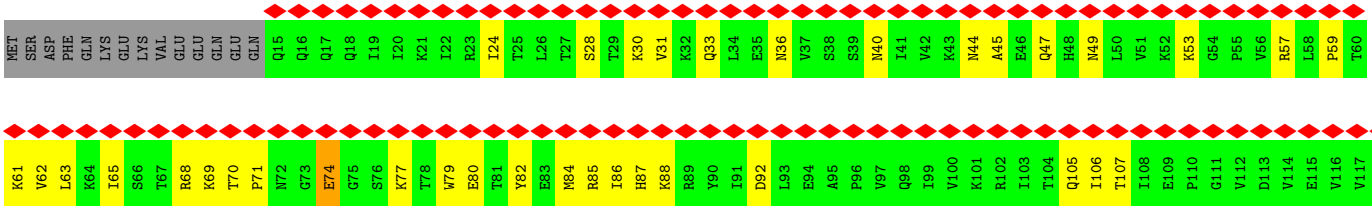






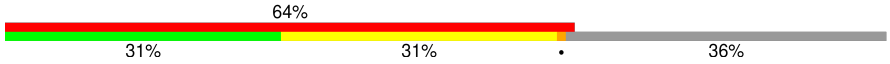
• Molecule 27: Small ribosomal subunit protein uS10

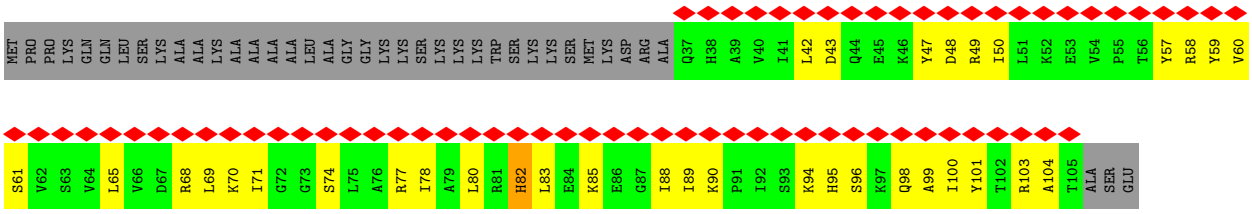
Chain BU:



• Molecule 28: Small ribosomal subunit protein eS25A

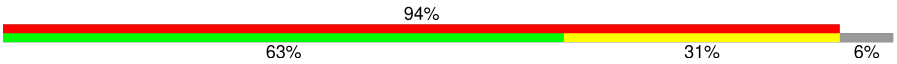
Chain BZ:

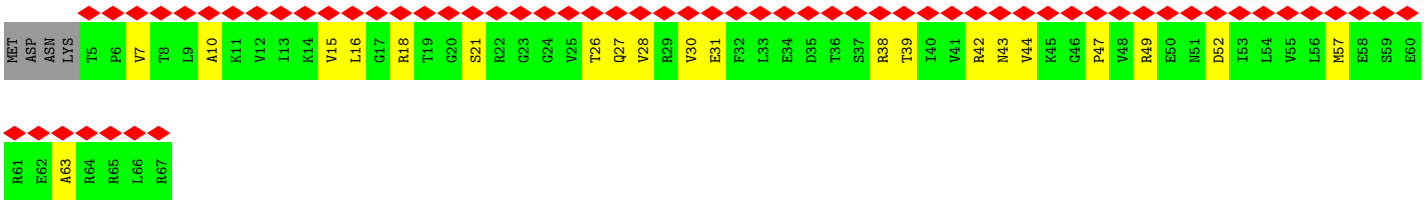




• Molecule 29: Small ribosomal subunit protein eS28A

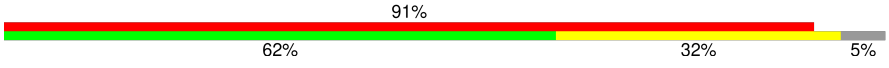
Chain Bc:

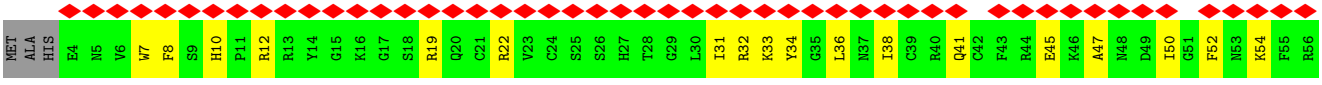




• Molecule 30: Small ribosomal subunit protein uS14A

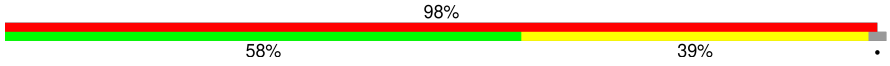
Chain Bd:

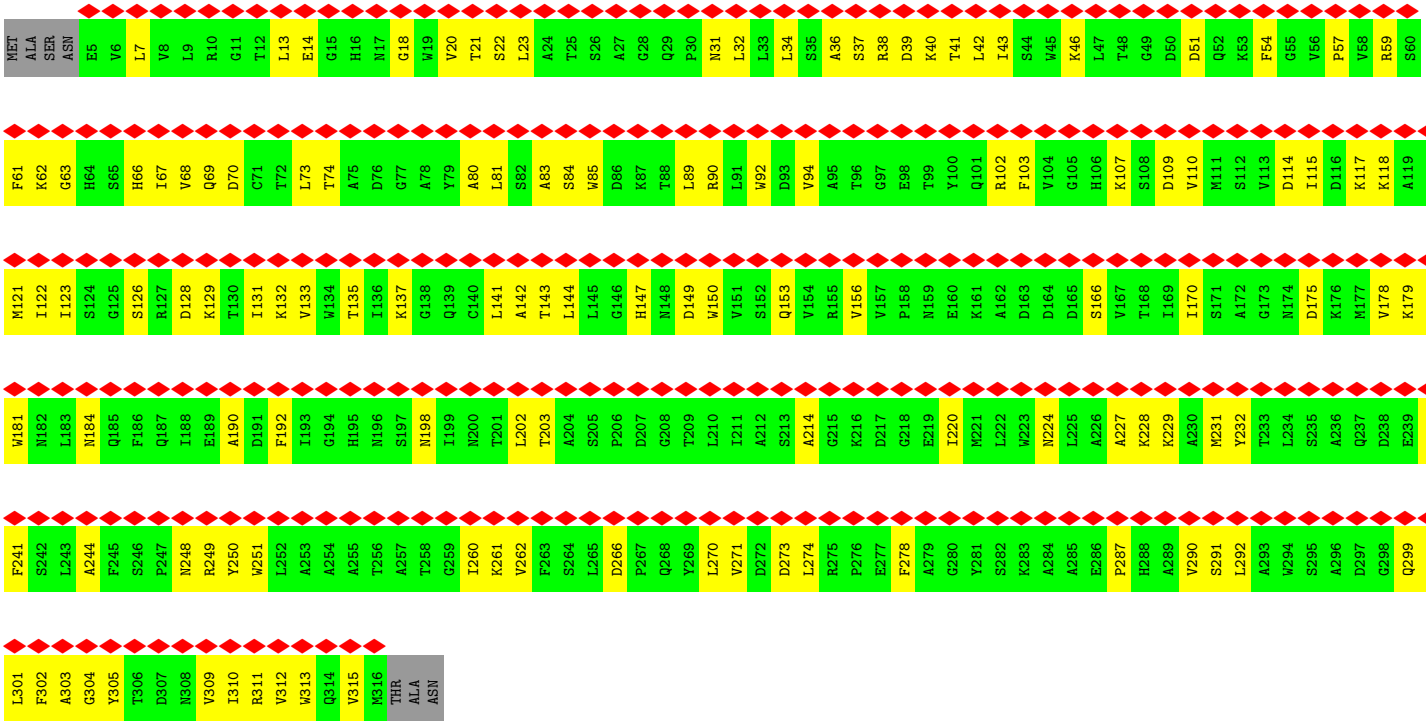




• Molecule 31: Guanine nucleotide-binding protein subunit beta-like protein

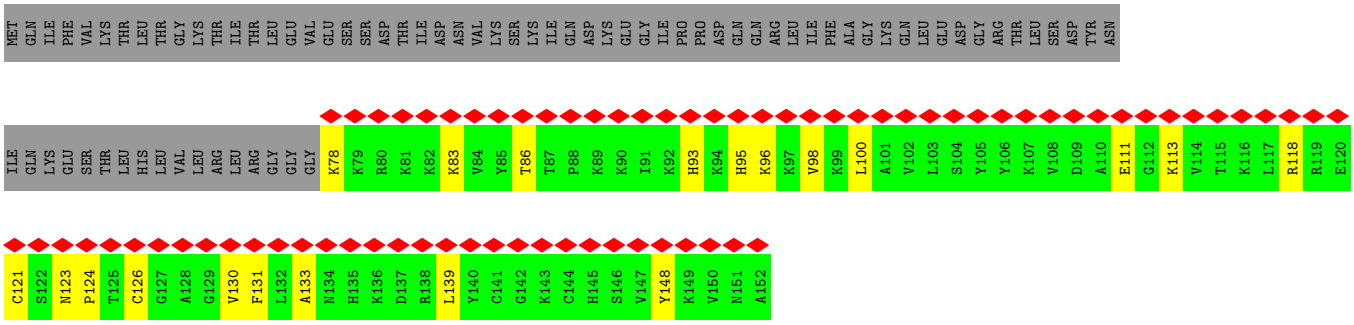
Chain Bg:





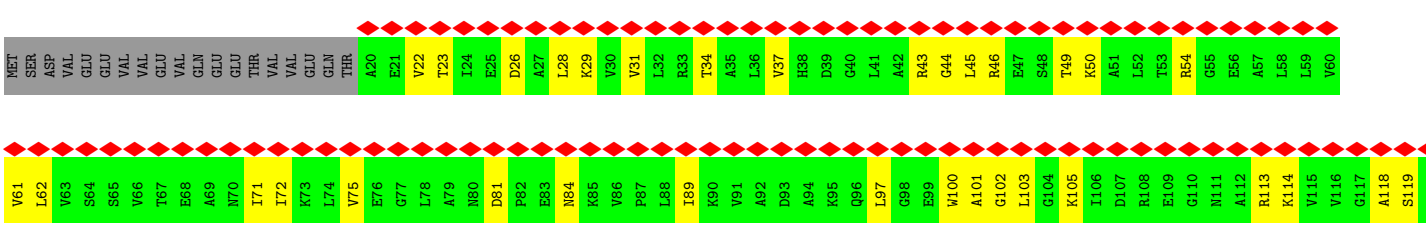
• Molecule 32: RPS31 isoform 1

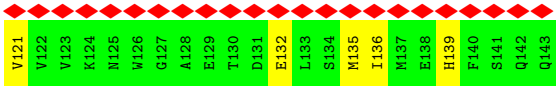
Chain Bf:



• Molecule 33: Small ribosomal subunit protein eS12

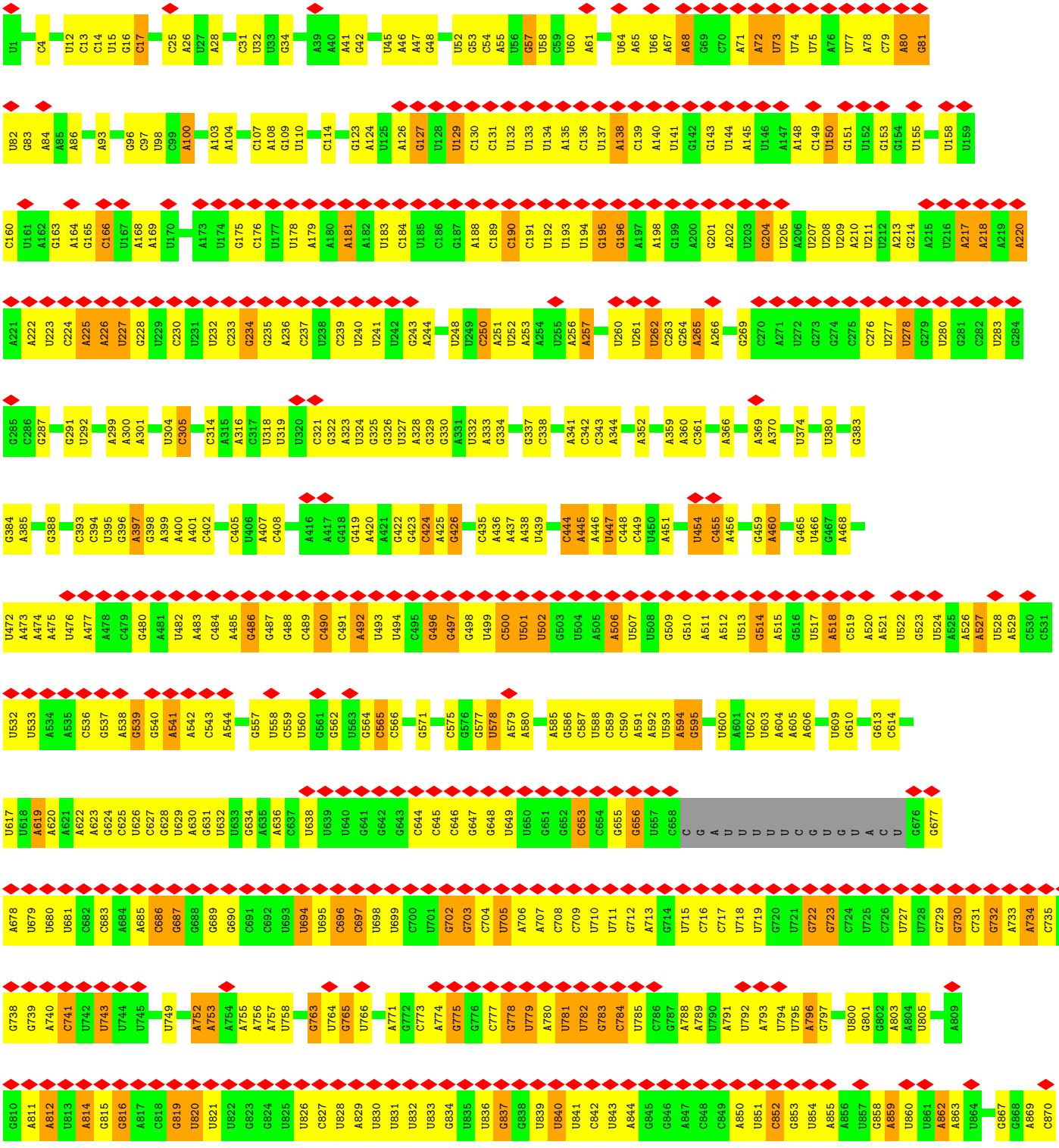
Chain BM:

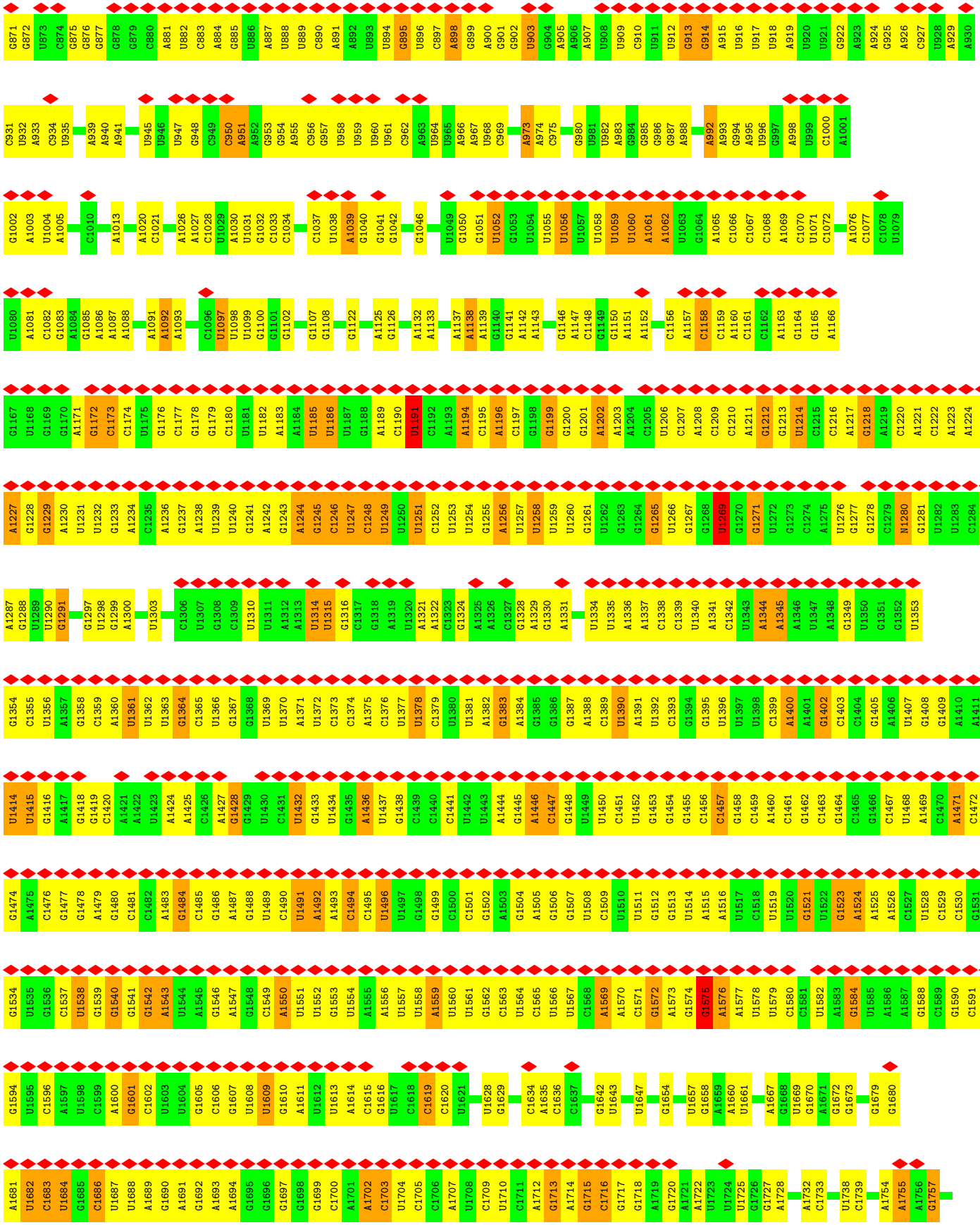




• Molecule 34: 18S rRNA

Chain B5:

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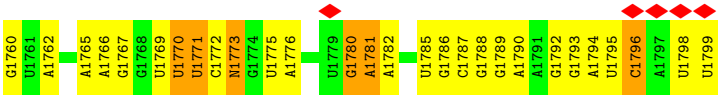
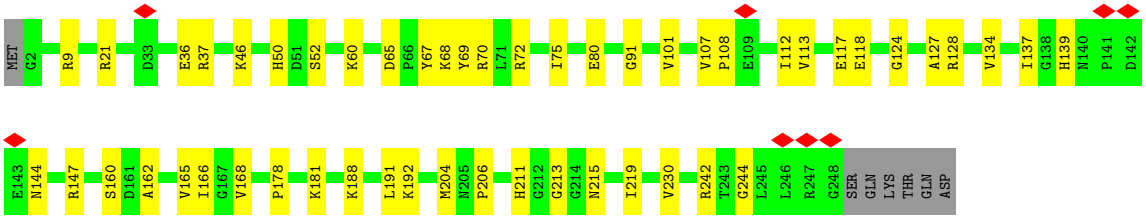
C931 U932 A933 C934 U935 A939 A940 A941 U945 U946 U947 G948 C949 C950 A951 A952 G953 G954 A955 C956 G957 U958 U959 U960 U961 C962 A963 U964 U965 A966 A967 U968 C969 A973 A974 C975 G980 U981 U982 A983 G984 G985 G986 G987 A988 A992 A993 G994 A995 U996 G997 A998 U999 C1000 A1001
G1002 A1003 U1004 A1005 C1010 A1013 A1020 C1021 A1026 A1027 C1028 U1029 A1030 U1031 G1032 C1033 C1034 C1037 U1038 A1039 G1040 G1041 G1042 G1046 U1049 G1050 G1051 U1052 G1053 U1054 U1055 U1056 U1057 U1058 U1059 U1060 A1061 A1062 U1063 G1064 A1065 C1066 C1067 C1068 A1069 C1070 U1071 C1072 A1076 C1077 C1078 U1079
U1080 A1081 C1082 G1083 A1084 G1085 A1086 A1087 A1088 A1091 A1092 A1093 C1096 U1097 U1098 U1099 G1100 G1101 G1102 G1107 G1108 G1122 A1125 G1126 A1132 A1133 A1137 A1138 A1139 G1140 G1141 A1142 A1143 G1146 A1147 C1148 G1149 G1150 A1151 A1152 C1156 A1157 C1158 C1159 A1160 C1161 C1162 A1163 G1164 G1165 A1166
G1167 U1168 G1169 C1170 A1171 G1172 C1173 C1174 U1175 G1176 C1177 G1178 G1179 C1180 U1181 U1182 A1183 A1184 U1185 U1186 U1187 G1188 A1189 C1190 U1191 C1192 A1193 A1194 C1195 A1196 C1197 G1198 G1199 G1200 G1201 A1202 A1203 A1204 C1205 U1206 C1207 A1208 C1209 C1210 A1211 G1212 G1213 U1214 C1215 C1216 A1217 G1218 A1219 C1220 A1221 C1222 A1223 A1224 U1225 A1226
A1227 G1228 G1229 A1230 U1231 U1232 G1233 A1234 C1235 A1236 G1237 A1238 U1239 U1240 G1241 A1242 G1243 A1244 G1245 C1246 U1247 C1248 U1249 U1250 U1251 C1252 U1253 U1254 G1255 A1256 U1257 U1258 U1259 U1260 G1261 U1262 G1263 G1264 G1265 U1266 G1267 G1268 U1269 G1270 G1271 U1272 G1273 C1274 A1275 U1276 G1277 G1278 C1279 N1280 G1281 U1282 U1283 C1284 U1285 U1286
A1287 G1288 U1289 U1290 G1291 G1297 U1298 G1299 A1300 U1303 C1306 U1307 G1308 C1309 U1310 U1311 A1312 A1313 U1314 U1315 G1316 C1317 G1318 A1319 U1320 A1321 A1322 C1323 G1324 A1325 A1326 C1327 G1328 A1329 G1330 A1331 U1334 U1335 A1336 A1337 C1338 C1339 U1340 A1341 C1342 U1343 A1344 A1345 A1346 U1347 A1348 G1349 U1350 G1351 G1352 U1353
G1354 C1355 U1356 A1357 G1358 C1359 A1360 U1361 U1362 U1363 G1364 C1365 U1366 G1367 G1368 U1369 U1370 A1371 U1372 C1373 C1374 A1375 C1376 U1377 U1378 C1379 U1380 U1381 A1382 G1383 A1384 G1385 G1386 G1387 A1388 C1389 U1390 A1391 U1392 C1393 G1394 G1395 U1396 U1397 U1398 C1399 A1400 A1401 G1402 C1403 C1404 G1405 A1406 U1407 G1408 G1409 A1410 A1411 G1412 U1413
U1414 U1415 G1416 A1417 G1418 G1419 C1420 A1421 A1422 U1423 A1424 A1425 C1426 A1427 G1428 G1429 U1430 C1431 U1432 G1433 U1434 G1435 A1436 U1437 G1438 C1439 C1440 C1441 U1442 U1443 A1444 G1445 A1446 C1447 G1448 U1449 U1450 C1451 U1452 G1453 G1454 G1455 C1456 C1457 G1458 C1459 A1460 C1461 G1462 C1463 G1464 C1465 G1466 C1467 U1468 A1469 C1470 A1471 C1472 U1473
G1474 A1475 C1476 G1477 G1478 A1479 G1480 C1481 C1482 A1483 G1484 C1485 G1486 A1487 G1488 U1489 C1490 U1491 A1492 A1493 C1494 C1495 U1496 U1497 G1498 G1499 C1500 C1501 G1502 A1503 G1504 A1505 G1506 G1507 U1508 C1509 U1510 U1511 G1512 G1513 U1514 A1515 A1516 U1517 C1518 U1519 U1520 G1521 U1522 G1523 A1524 A1525 A1526 C1527 U1528 C1529 C1530 G1531 U1532 C1533
G1534 U1535 G1536 C1537 U1538 G1539 G1540 G1541 G1542 A1543 U1544 A1545 G1546 A1547 G1548 C1549 A1550 U1551 U1552 G1553 U1554 A1555 A1556 U1557 U1558 A1559 U1560 U1561 G1562 C1563 U1564 C1565 U1566 U1567 C1568 A1569 A1570 C1571 G1572 A1573 G1574 G1575 A1576 A1577 U1578 U1579 C1580 C1581 U1582 A1583 G1584 U1585 A1586 A1587 G1588 C1589 G1590 C1591 A1592 A1593
G1594 U1595 C1596 A1597 U1598 C1599 A1600 G1601 C1602 U1603 U1604 G1605 C1606 G1607 U1608 U1609 G1610 A1611 U1612 U1613 A1614 C1615 G1616 U1617 C1618 C1619 C1620 U1621 U1628 G1629 C1634 A1635 C1636 C1637 G1642 U1643 U1647 G1654 U1657 G1658 A1659 A1660 U1661 A1667 G1668 U1669 G1670 A1671 G1672 G1673 G1679 G1680
A1681 U1682 C1683 U1684 G1685 C1686 U1687 U1688 A1689 G1690 A1691 G1692 A1693 A1694 G1695 G1696 G1697 G1698 G1699 C1700 A1701 A1702 C1703 U1704 C1705 C1706 A1707 U1708 C1709 U1710 C1711 A1712 G1713 A1714 G1715 C1716 G1717 G1718 A1719 G1720 A1721 A1722 U1723 U1724 U1725 G1726 G1727 A1728 A1732 C1733 U1738 C1739 A1754 A1755 A1756 G1757



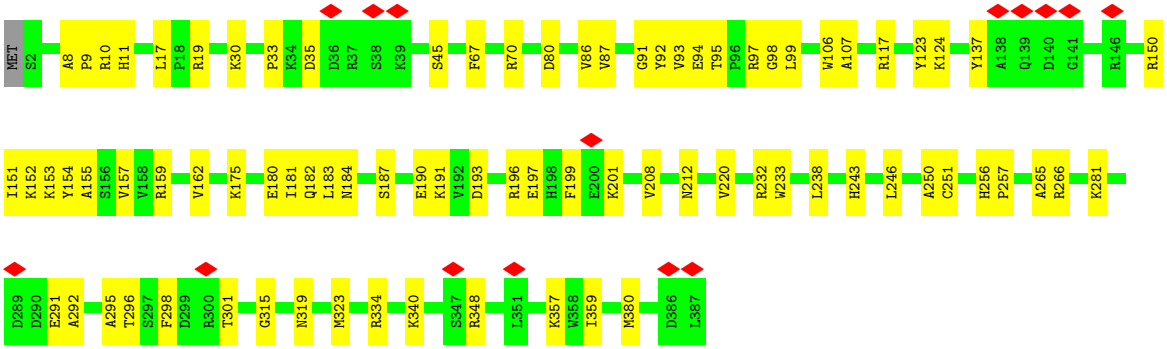
• Molecule 35: 60S ribosomal protein L2-A

Chain AA:



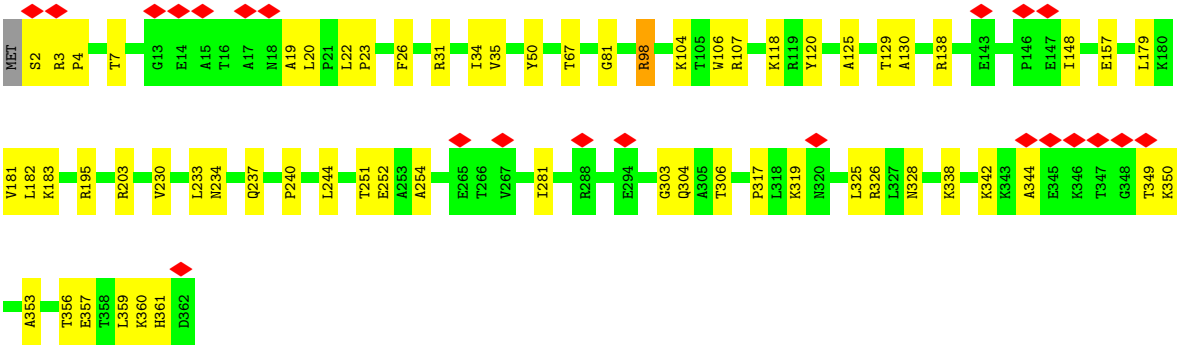
• Molecule 36: 60S ribosomal protein L3

Chain AB:



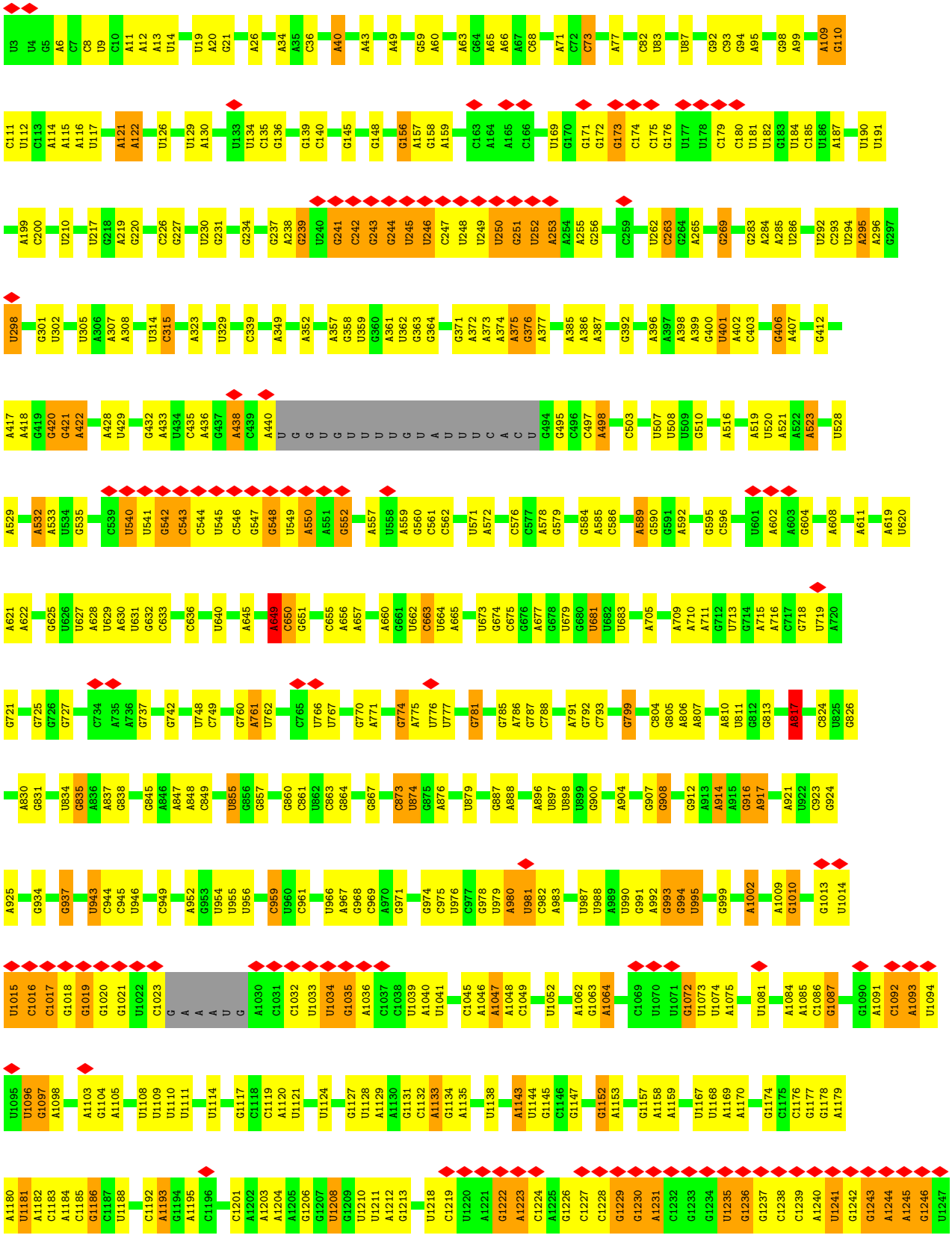
• Molecule 37: Large ribosomal subunit protein uL4A

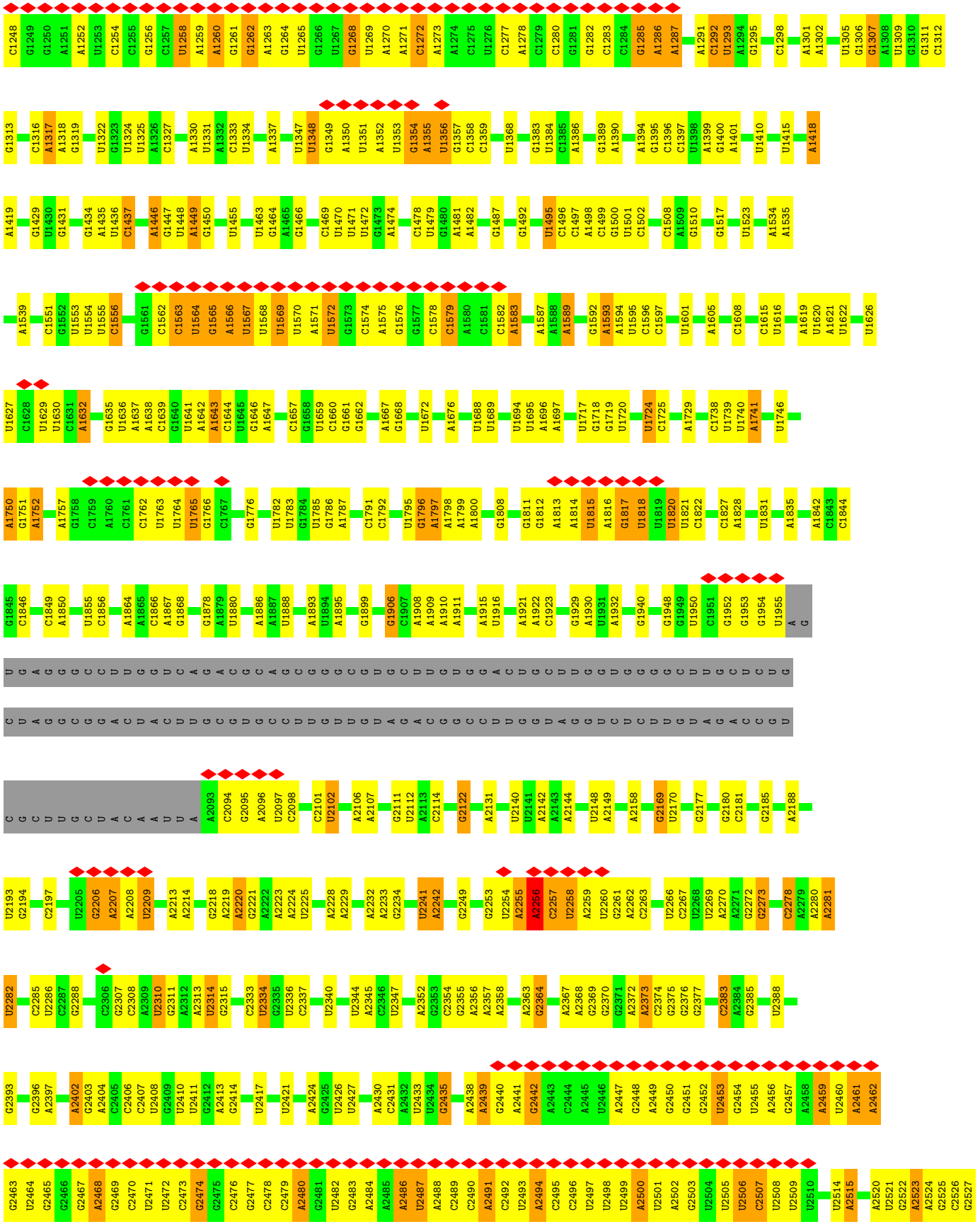
Chain AC:

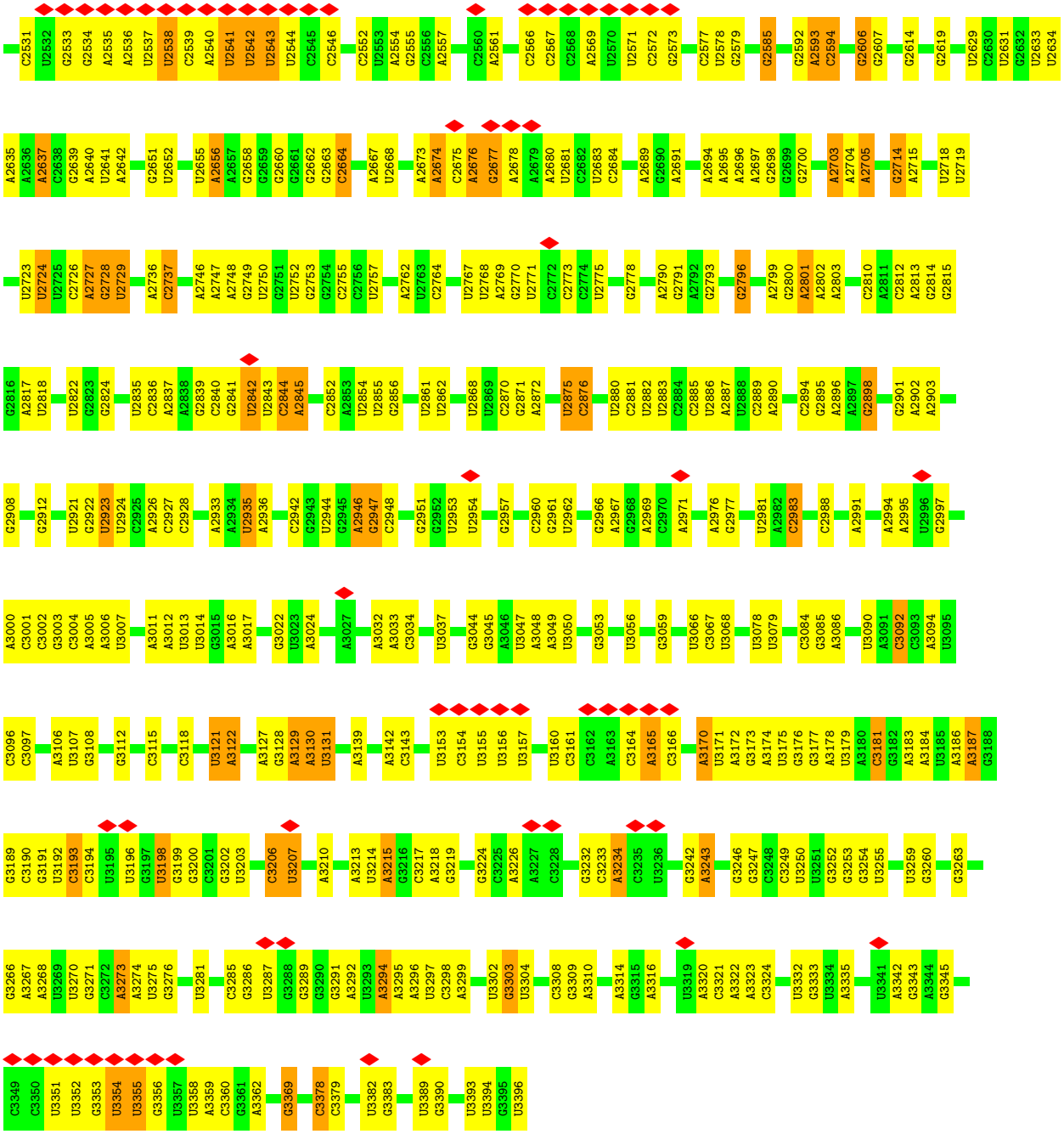


• Molecule 38: 25S rRNA

Chain A1:

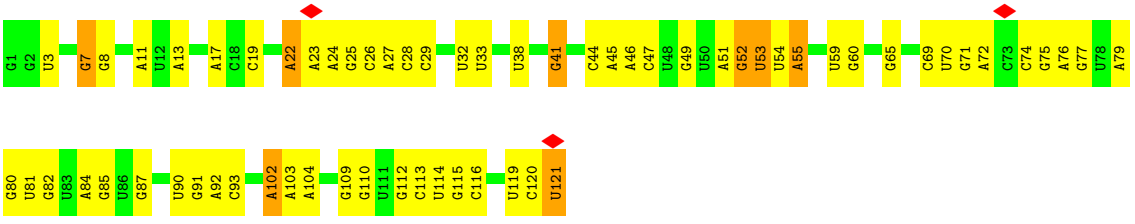






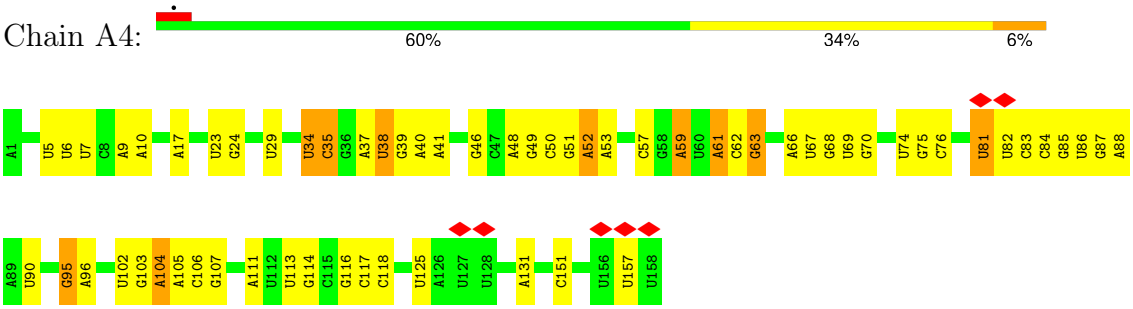
• Molecule 39: 5S rRNA

Chain A3:



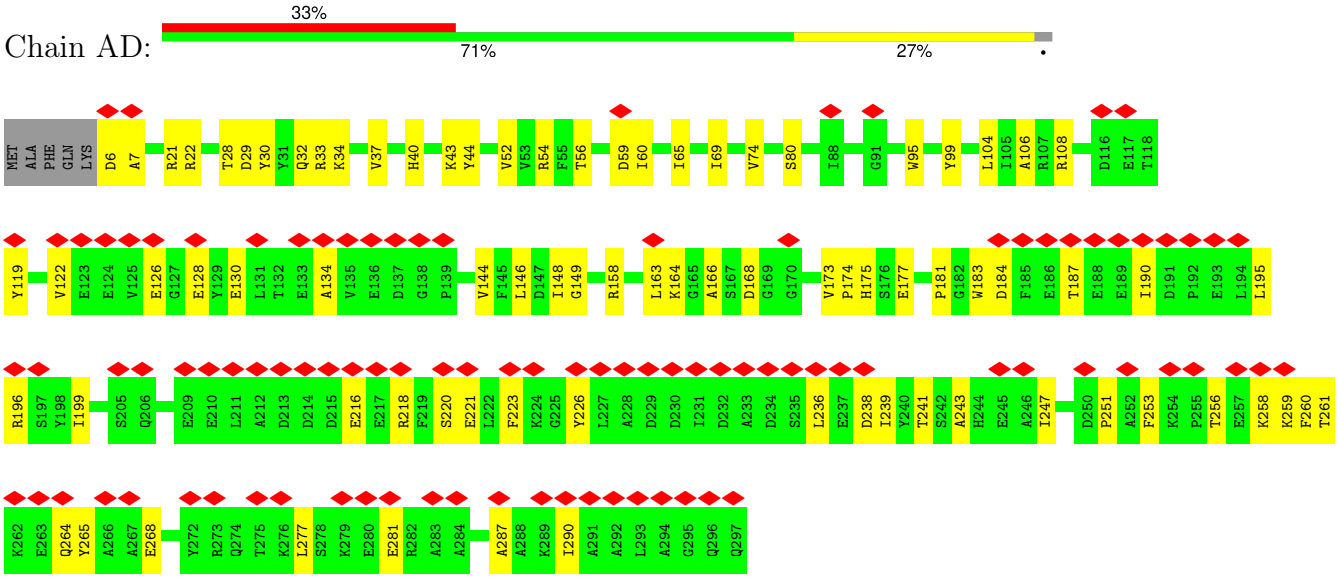
• Molecule 40: 5.8S rRNA

Chain A4:



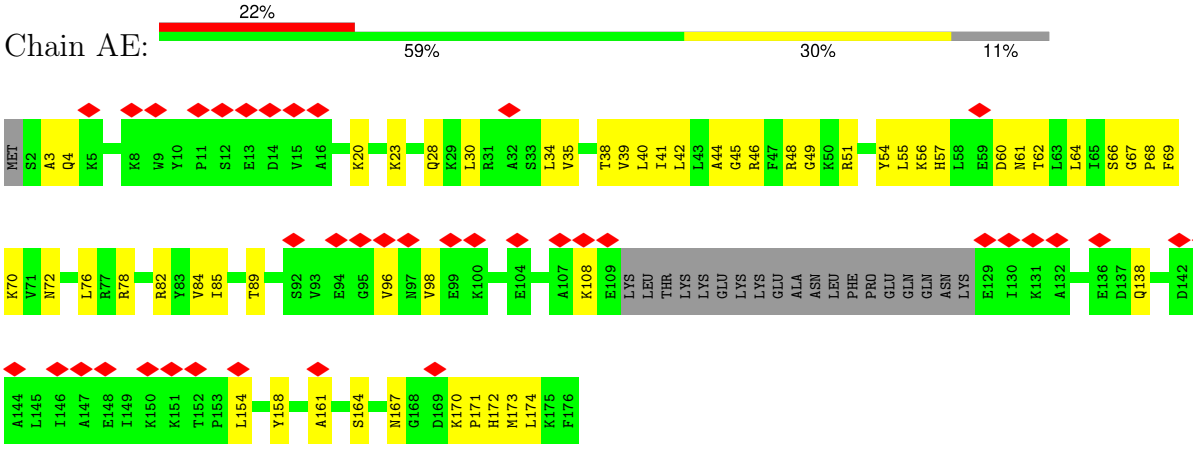
• Molecule 41: Large ribosomal subunit protein uL18

Chain AD:



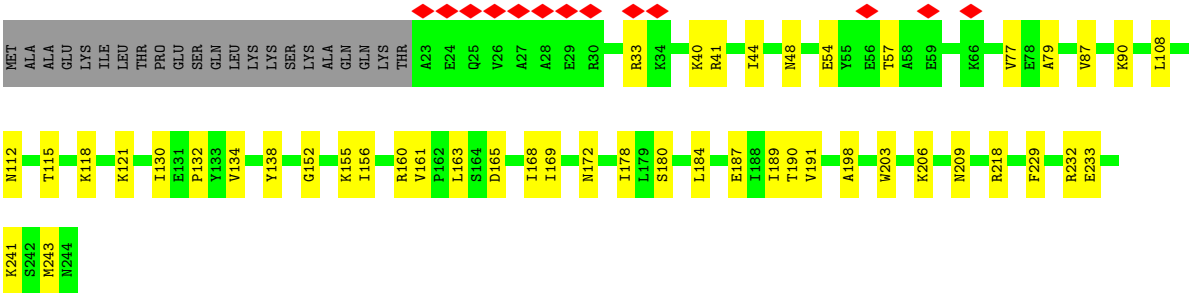
• Molecule 42: 60S ribosomal protein L6-A

Chain AE:

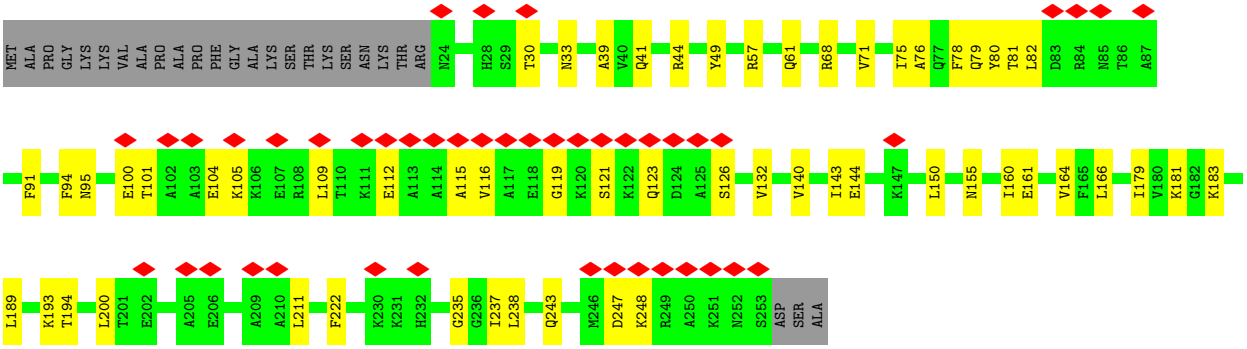


• Molecule 43: 60S ribosomal protein L7-A

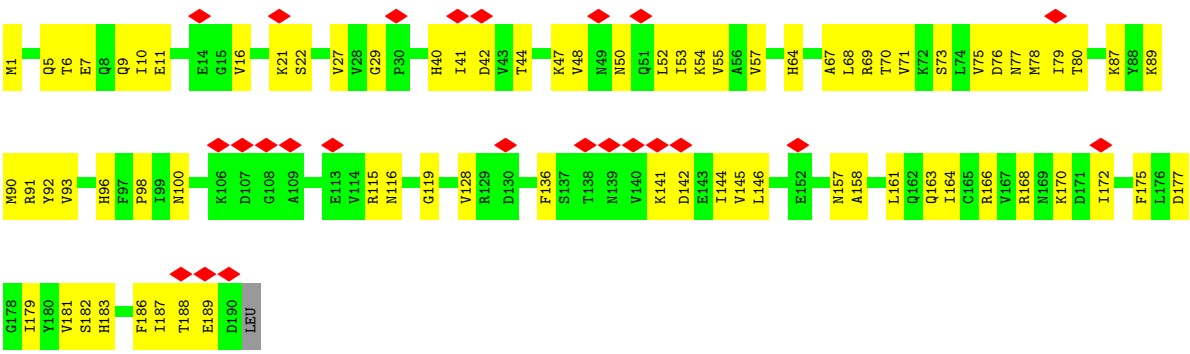
Chain AF:



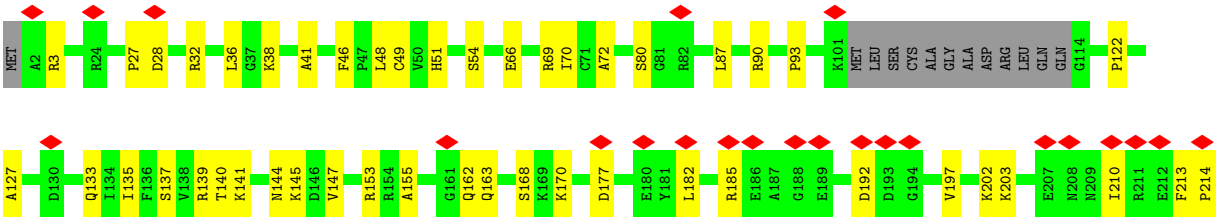
• Molecule 44: 60S ribosomal protein L8-A

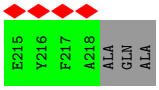


• Molecule 45: 60S ribosomal protein L9-A



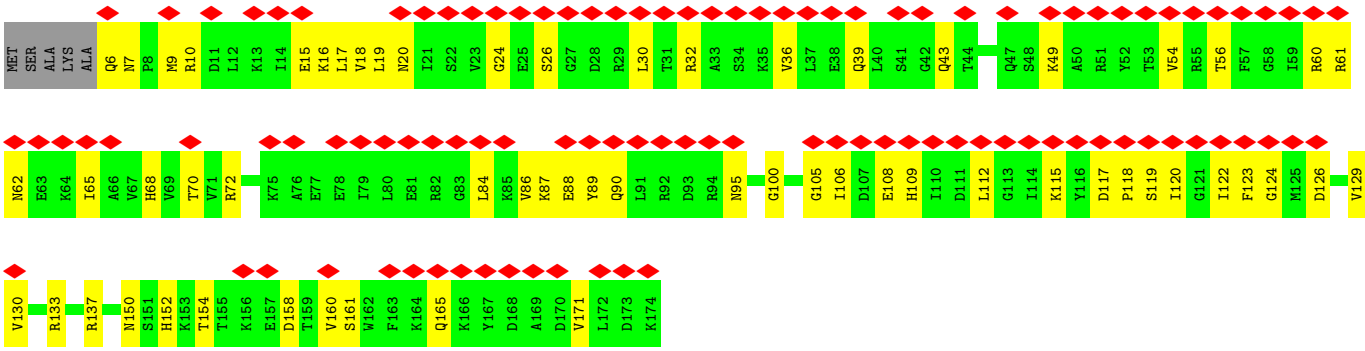
• Molecule 46: Large ribosomal subunit protein uL16





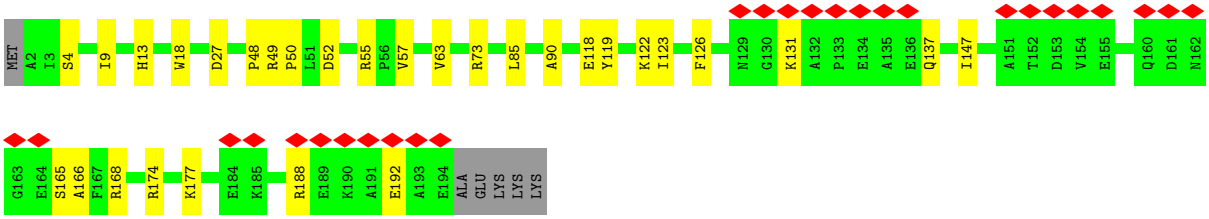
• Molecule 47: Large ribosomal subunit protein uL5A

Chain AJ:



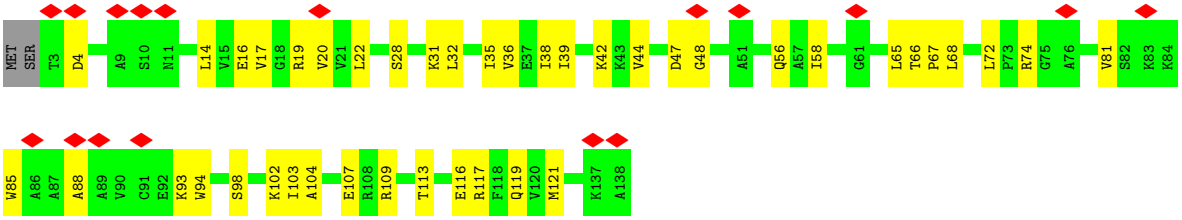
• Molecule 48: 60S ribosomal protein L13-A

Chain AL:



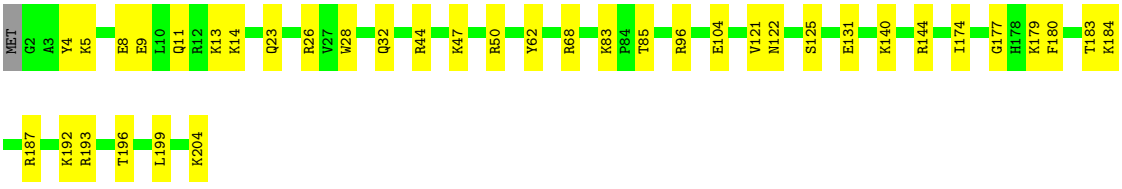
• Molecule 49: 60S ribosomal protein L14-A

Chain AM:



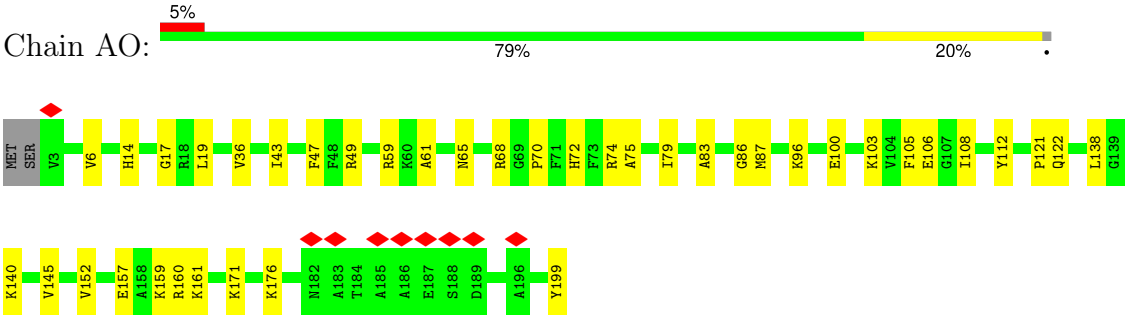
• Molecule 50: 60S ribosomal protein L15-A

Chain AN:



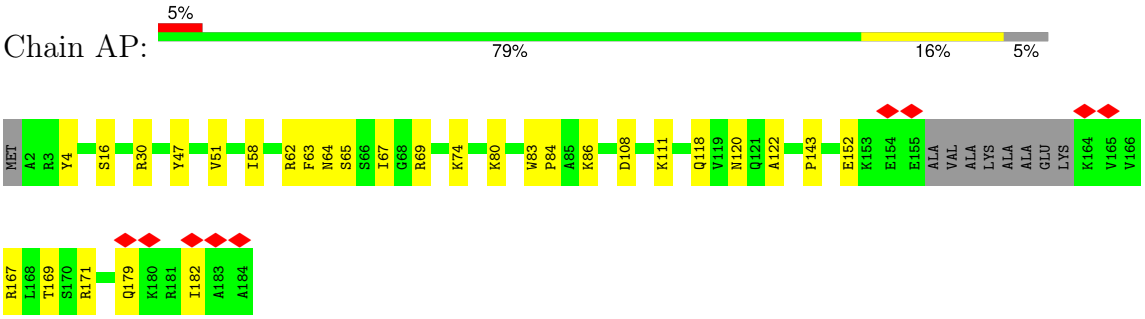
• Molecule 51: 60S ribosomal protein L16-A

Chain AO:



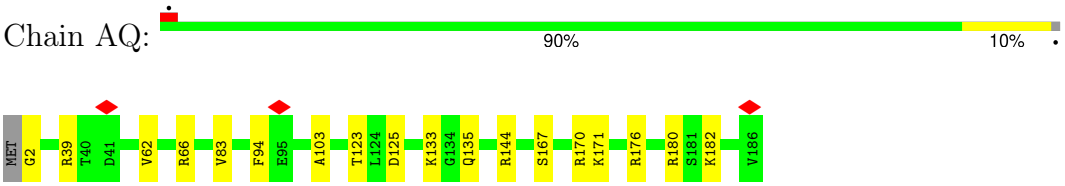
• Molecule 52: 60S ribosomal protein L17-A

Chain AP:



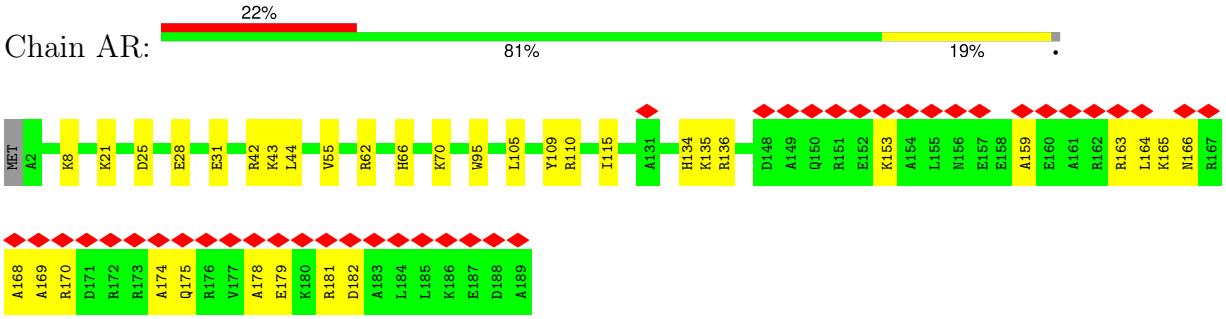
• Molecule 53: 60S ribosomal protein L18-A

Chain AQ:



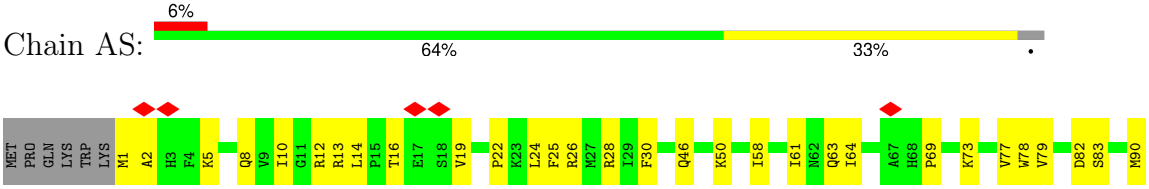
• Molecule 54: 60S ribosomal protein L19-A

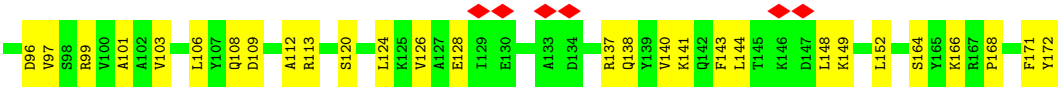
Chain AR:



• Molecule 55: 60S ribosomal protein L20

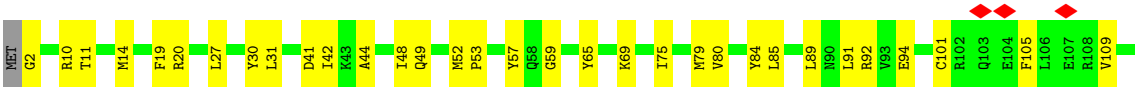
Chain AS:





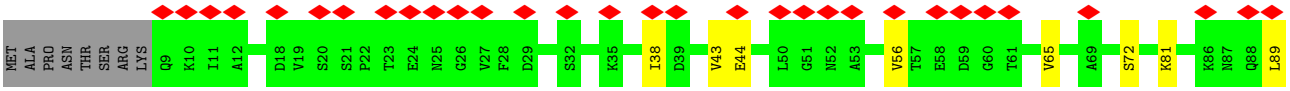
• Molecule 56: 60S ribosomal protein L21-A

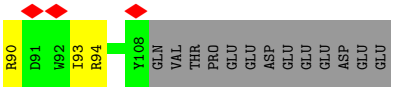
Chain AT:



• Molecule 57: 60S ribosomal protein L22-A

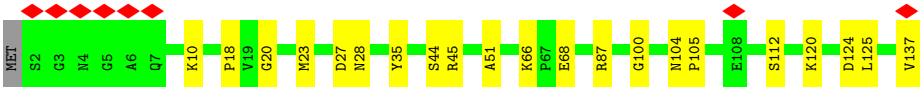
Chain AU:





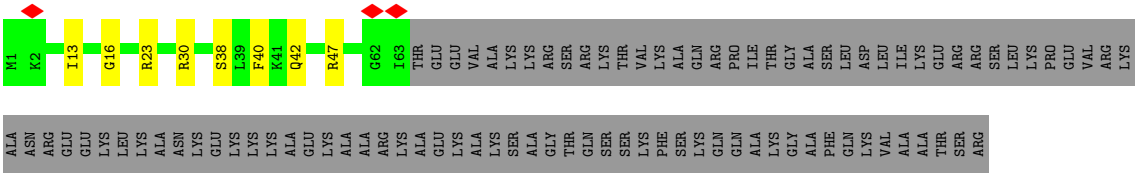
• Molecule 58: 60S ribosomal protein L23-A

Chain AV:



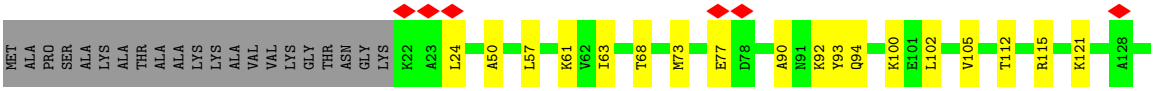
• Molecule 59: Large ribosomal subunit protein eL24A

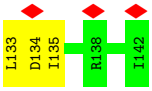
Chain AW:



• Molecule 60: 60S ribosomal protein L25

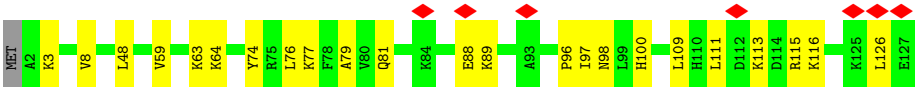
Chain AX:





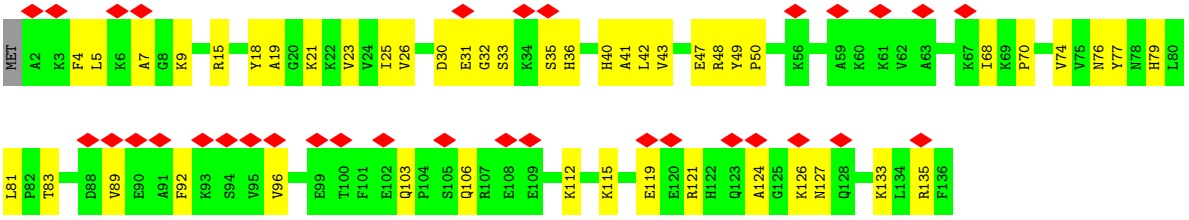
• Molecule 61: 60S ribosomal protein L26-A

Chain AY:



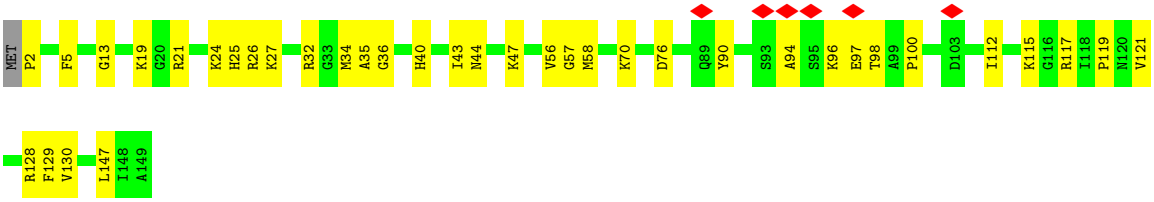
• Molecule 62: 60S ribosomal protein L27-A

Chain AZ:



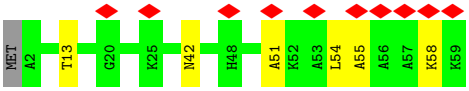
• Molecule 63: 60S ribosomal protein L28

Chain Aa:



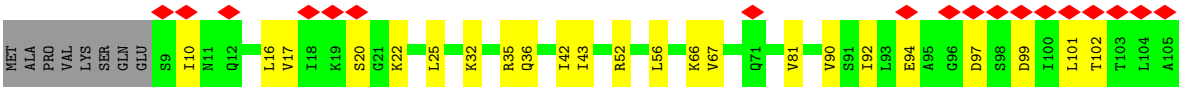
• Molecule 64: Large ribosomal subunit protein eL29

Chain Ab:



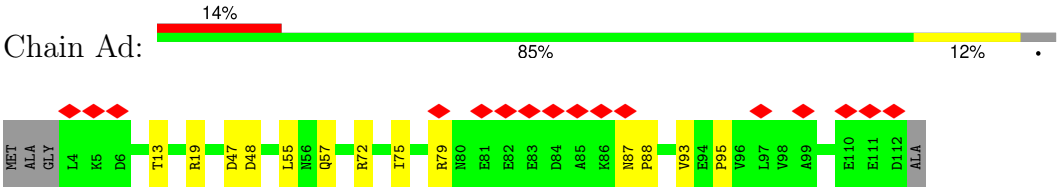
• Molecule 65: 60S ribosomal protein L30

Chain Ac:



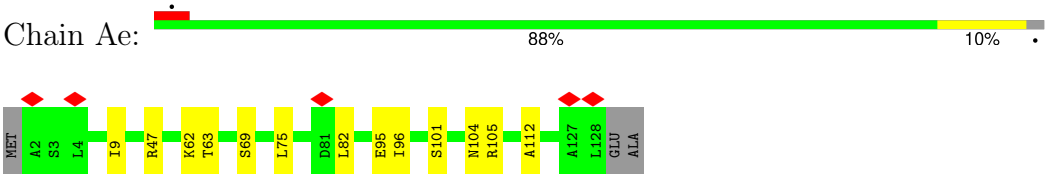
• Molecule 66: 60S ribosomal protein L31-A

Chain Ad:



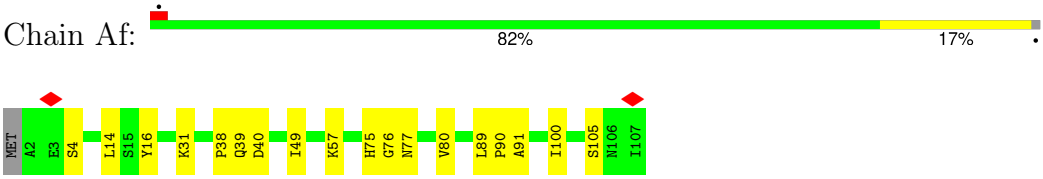
• Molecule 67: Large ribosomal subunit protein eL32

Chain Ae:



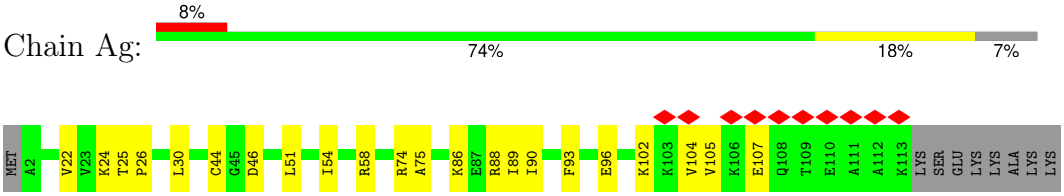
• Molecule 68: 60S ribosomal protein L33-A

Chain Af:



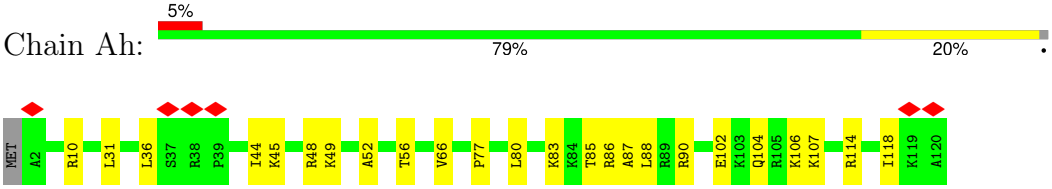
• Molecule 69: 60S ribosomal protein L34-A

Chain Ag:



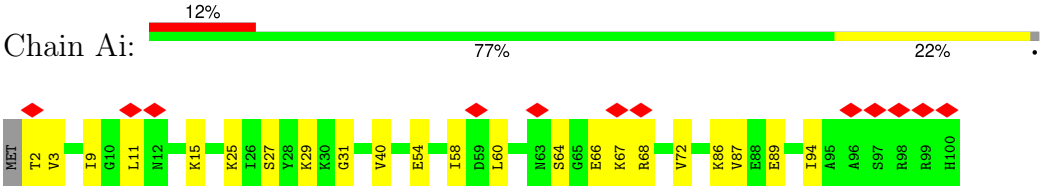
• Molecule 70: 60S ribosomal protein L35-A

Chain Ah:



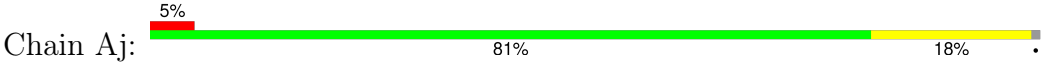
• Molecule 71: 60S ribosomal protein L36-A

Chain Ai:



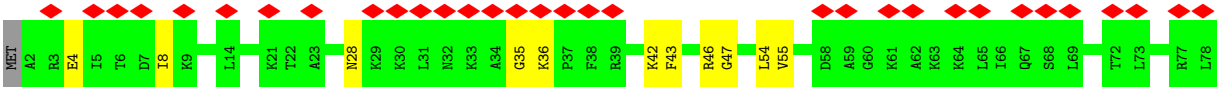
• Molecule 72: 60S ribosomal protein L37-A

Chain Aj:



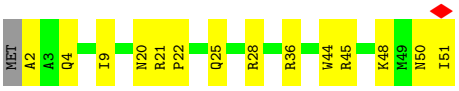
• Molecule 73: Large ribosomal subunit protein eL38

Chain Ak:



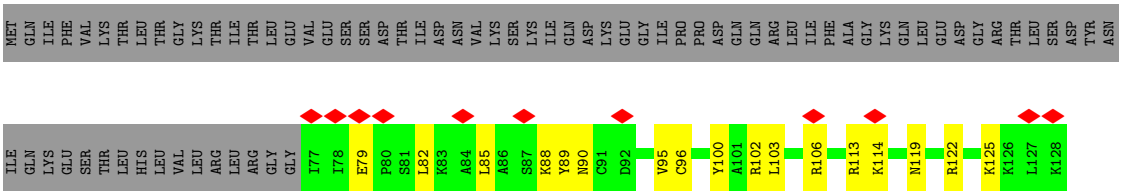
• Molecule 74: 60S ribosomal protein L39

Chain Al:



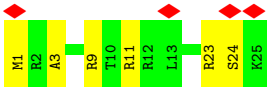
• Molecule 75: Ubiquitin-60S ribosomal protein L40

Chain Am:



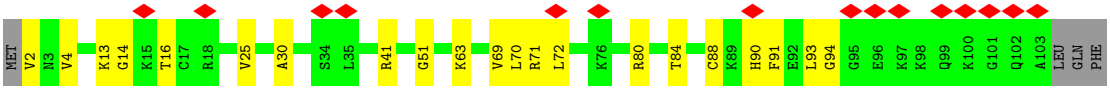
• Molecule 76: 60S ribosomal protein L41-A

Chain An:



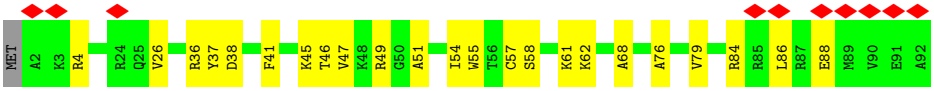
• Molecule 77: 60S ribosomal protein L42-A

Chain Ao:



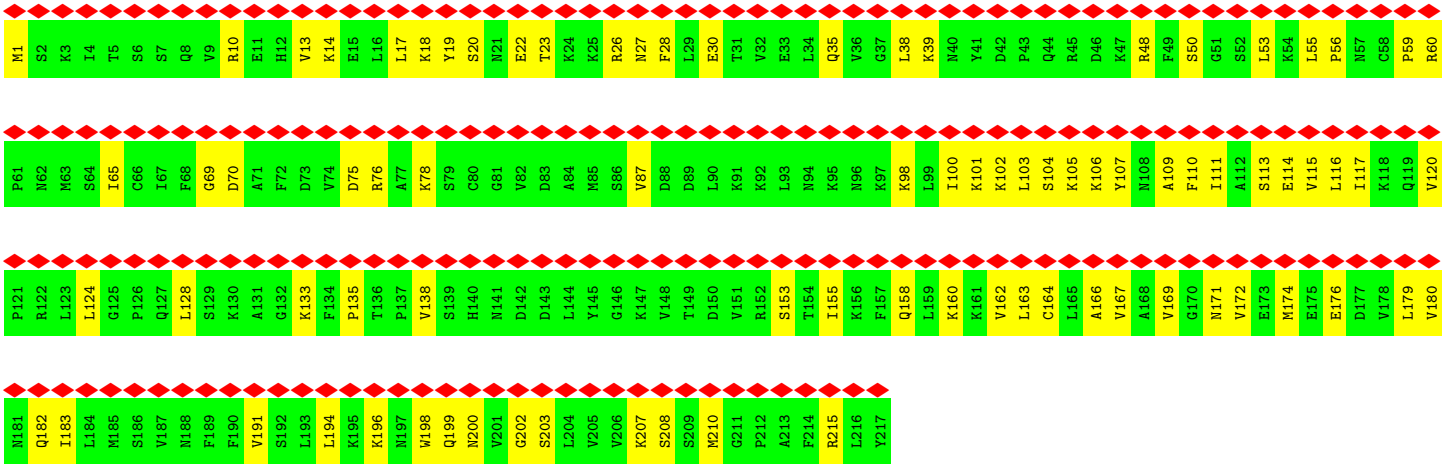
• Molecule 78: 60S ribosomal protein L43-A

Chain Ap:



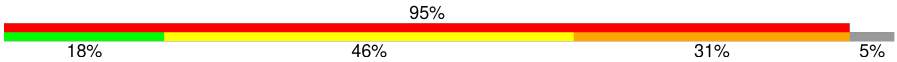
• Molecule 79: Large ribosomal subunit protein uL1A

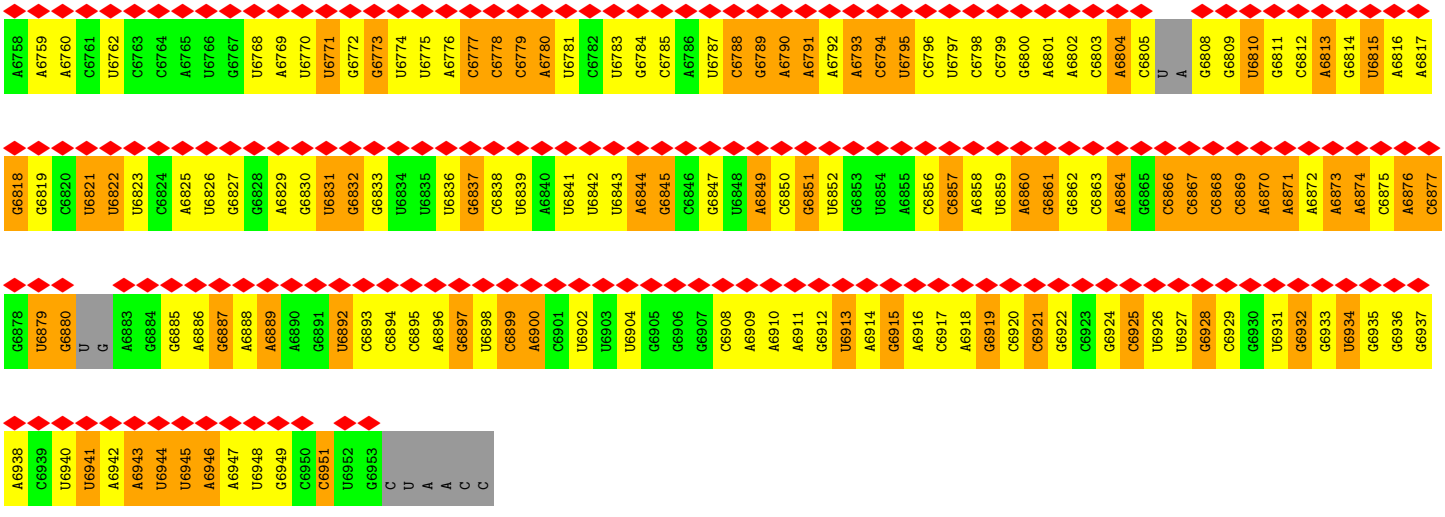
Chain E:



• Molecule 80: TSV IRES RNA

Chain EC:





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	112542	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	60	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	4.913	Depositor
Minimum map value	-2.586	Depositor
Average map value	0.010	Depositor
Map value standard deviation	0.163	Depositor
Recommended contour level	0.6	Depositor
Map size (Å)	423.19998, 423.19998, 423.19998	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.058, 1.058, 1.058	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: G7M, HIC, 5MC, OMC, ZN, OMU, MG, A2M, UR3, MA6, 1MA, XSX, OMG, 4AC, HYG

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	BA	0.17	0/1653	0.40	0/2261
2	BB	0.21	0/1735	0.50	0/2335
3	BC	0.18	0/1665	0.39	0/2263
4	BE	0.23	1/2109 (0.0%)	0.43	0/2839
5	BG	0.18	0/1844	0.40	0/2464
6	BH	0.17	0/1506	0.44	0/2028
7	BI	0.19	0/1514	0.42	0/2021
8	BJ	0.16	0/1519	0.41	0/2035
9	BL	0.20	0/1272	0.44	0/1712
10	BN	0.20	0/1215	0.45	0/1638
11	BO	0.18	0/952	0.47	0/1279
12	BV	0.16	0/693	0.37	0/935
13	BW	0.19	0/1038	0.42	0/1395
14	BX	0.22	0/1139	0.46	0/1518
15	BY	0.17	0/1087	0.39	0/1449
16	Ba	0.21	0/782	0.53	2/1047 (0.2%)
17	Bb	0.24	0/620	0.50	0/838
18	Be	0.23	0/483	0.39	0/643
19	BD	0.22	0/1759	0.45	0/2368
20	BF	0.17	0/1629	0.45	0/2202
21	BK	0.17	0/837	0.48	0/1131
22	BP	0.24	0/1012	0.50	2/1356 (0.1%)
23	BQ	0.18	0/1125	0.45	0/1510
24	BR	0.14	0/984	0.39	0/1318
25	BS	0.16	0/1211	0.40	0/1628
26	BT	0.17	0/1113	0.42	0/1494
27	BU	0.19	0/865	0.43	0/1169
28	BZ	0.19	0/566	0.50	0/761
29	Bc	0.19	0/499	0.47	0/670
30	Bd	0.18	0/453	0.47	0/602
31	Bg	0.18	0/2454	0.44	0/3340
32	Bf	0.17	0/616	0.42	0/817

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	BM	0.15	0/943	0.39	0/1274
34	B5	0.19	1/41880 (0.0%)	0.31	0/65248
35	AA	0.29	0/1912	0.43	0/2569
36	AB	0.27	0/3138	0.43	0/4217
37	AC	0.28	0/2800	0.44	0/3790
38	A1	0.32	1/75560 (0.0%)	0.36	1/117802 (0.0%)
39	A3	0.26	0/2883	0.33	0/4491
40	A4	0.31	0/3746	0.35	0/5832
41	AD	0.22	0/2390	0.41	0/3225
42	AE	0.22	0/1260	0.42	0/1694
43	AF	0.28	0/1821	0.45	0/2451
44	AG	0.23	0/1830	0.43	0/2469
45	AH	0.25	0/1531	0.48	0/2062
46	AI	0.25	0/1708	0.41	0/2290
47	AJ	0.20	0/1374	0.46	0/1842
48	AL	0.24	0/1568	0.40	0/2106
49	AM	0.24	0/1068	0.39	0/1438
50	AN	0.30	0/1757	0.41	0/2354
51	AO	0.29	0/1585	0.41	0/2128
52	AP	0.27	0/1410	0.37	0/1893
53	AQ	0.25	0/1465	0.39	0/1965
54	AR	0.25	0/1538	0.37	0/2050
55	AS	0.28	0/1481	0.45	0/1990
56	AT	0.27	0/1300	0.45	0/1743
57	AU	0.19	0/812	0.38	0/1099
58	AV	0.27	0/1018	0.47	0/1369
59	AW	0.27	0/533	0.39	0/707
60	AX	0.26	0/983	0.39	0/1325
61	AY	0.26	0/1004	0.42	0/1341
62	AZ	0.23	0/1118	0.49	0/1497
63	Aa	0.29	0/1204	0.45	0/1612
64	Ab	0.23	0/473	0.38	0/629
65	Ac	0.23	0/751	0.38	0/1008
66	Ad	0.26	0/904	0.33	0/1213
67	Ae	0.26	0/1041	0.39	0/1394
68	Af	0.29	0/868	0.41	0/1168
69	Ag	0.34	1/890 (0.1%)	0.57	2/1189 (0.2%)
70	Ah	0.24	0/978	0.40	0/1301
71	Ai	0.22	0/778	0.42	0/1034
72	Aj	0.32	0/696	0.44	0/923
73	Ak	0.21	0/618	0.45	0/826
74	Al	0.30	0/443	0.42	0/588
75	Am	0.21	0/423	0.42	0/562

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
76	An	0.23	0/234	0.44	0/300
77	Ao	0.23	0/831	0.43	0/1097
78	Ap	0.27	0/701	0.40	0/934
79	E	0.15	0/1745	0.40	0/2342
80	EC	0.14	0/4571	0.32	0/7114
All	All	0.26	4/219514 (0.0%)	0.38	7/322561 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	BB	0	1
6	BH	0	1
27	BU	0	1
34	B5	3	0
37	AC	0	1
41	AD	0	1
43	AF	0	1
44	AG	0	2
All	All	3	8

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	BE	233	LYS	C-O	-5.93	1.21	1.23
34	B5	1575	G7M	O3'-P	5.57	1.61	1.56
38	A1	2256	A2M	O3'-P	5.25	1.61	1.56
69	Ag	24	LYS	C-N	-5.10	1.19	1.33

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
22	BP	75	PRO	CA-N-CD	-8.22	100.49	112.00
22	BP	75	PRO	N-CD-CG	-7.68	91.69	103.20
69	Ag	24	LYS	CA-C-N	7.64	142.68	120.97
69	Ag	24	LYS	C-N-CA	7.64	142.68	120.97
38	A1	406	G	O4'-C1'-N9	5.18	115.98	108.20
16	Ba	18	VAL	CA-C-N	5.17	134.40	121.80
16	Ba	18	VAL	C-N-CA	5.17	134.40	121.80

All (3) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
34	B5	1575	G7M	C4',C2',C3'

All (8) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
37	AC	98	ARG	Sidechain
41	AD	43	LYS	Peptide
43	AF	232	ARG	Peptide
44	AG	121	SER	Peptide
44	AG	30	THR	Peptide
2	BB	177	GLN	Peptide
6	BH	64	VAL	Peptide
27	BU	74	GLU	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	BA	1612	0	1623	61	0
2	BB	1709	0	1784	92	0
3	BC	1635	0	1723	46	0
4	BE	2068	0	2154	81	0
5	BG	1820	0	1918	72	0
6	BH	1481	0	1572	54	0
7	BI	1489	0	1525	55	0
8	BJ	1494	0	1573	56	0
9	BL	1244	0	1314	21	0
10	BN	1192	0	1255	33	0
11	BO	941	0	979	47	0
12	BV	684	0	672	24	0
13	BW	1021	0	1060	32	0
14	BX	1121	0	1196	20	0
15	BY	1073	0	1132	46	0
16	Ba	769	0	818	38	0
17	Bb	610	0	633	30	0
18	Be	475	0	525	15	0
19	BD	1734	0	1817	67	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	BF	1609	0	1675	107	0
21	BK	817	0	804	53	0
22	BP	991	0	1035	38	0
23	BQ	1105	0	1166	54	0
24	BR	975	0	1039	37	0
25	BS	1192	0	1222	56	0
26	BT	1095	0	1114	58	0
27	BU	855	0	917	39	0
28	BZ	558	0	598	40	0
29	Bc	497	0	535	24	0
30	Bd	443	0	436	35	0
31	Bg	2401	0	2356	93	0
32	Bf	605	0	654	16	0
33	BM	935	0	975	39	0
34	B5	38004	0	19139	859	0
35	AA	1878	0	1946	40	0
36	AB	3080	0	3157	56	0
37	AC	2748	0	2859	51	0
38	A1	68445	0	34457	788	0
39	A3	2579	0	1304	58	0
40	A4	3353	0	1695	35	0
41	AD	2341	0	2290	61	0
42	AE	1239	0	1326	43	0
43	AF	1784	0	1862	34	0
44	AG	1798	0	1894	33	0
45	AH	1510	0	1575	58	0
46	AI	1672	0	1711	29	0
47	AJ	1353	0	1383	46	0
48	AL	1543	0	1608	23	0
49	AM	1053	0	1149	32	0
50	AN	1720	0	1779	31	0
51	AO	1555	0	1659	32	0
52	AP	1388	0	1423	22	0
53	AQ	1441	0	1543	15	0
54	AR	1521	0	1617	26	0
55	AS	1445	0	1487	44	0
56	AT	1276	0	1323	41	0
57	AU	796	0	812	7	0
58	AV	1003	0	1048	14	0
59	AW	521	0	551	5	0
60	AX	968	0	1036	17	0
61	AY	993	0	1081	18	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
62	AZ	1092	0	1155	35	0
63	Aa	1173	0	1215	28	0
64	Ab	462	0	491	4	0
65	Ac	743	0	797	17	0
66	Ad	890	0	938	11	0
67	Ae	1020	0	1090	11	0
68	Af	850	0	880	13	0
69	Ag	880	0	944	17	0
70	Ah	969	0	1078	20	0
71	Ai	771	0	849	18	0
72	Aj	681	0	687	17	0
73	Ak	612	0	682	8	0
74	Al	436	0	475	12	0
75	Am	417	0	459	15	0
76	An	233	0	284	5	0
77	Ao	819	0	886	15	0
78	Ap	694	0	738	19	0
79	E	1718	0	1811	71	0
80	EC	4090	0	2068	113	0
81	A1	172	0	0	0	0
81	A3	2	0	0	0	0
81	A4	4	0	0	0	0
81	AB	2	0	0	0	0
81	AC	1	0	0	0	0
81	AH	1	0	0	0	0
81	AI	1	0	0	0	0
81	AN	1	0	0	0	0
81	AO	1	0	0	0	0
81	AP	1	0	0	0	0
81	Ae	2	0	0	0	0
81	Af	1	0	0	0	0
81	Aj	1	0	0	0	0
81	B5	55	0	0	0	0
81	BN	2	0	0	0	0
82	B5	36	0	36	0	0
83	Ao	1	0	0	0	0
All	All	206091	0	152076	3799	0

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

All (3799) 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)
38:A1:1222:G:N2	38:A1:1286:A:H62	1.39	1.18
38:A1:1223:A:N6	38:A1:1285:G:H21	1.47	1.12
38:A1:1223:A:H62	38:A1:1285:G:N2	1.47	1.11
38:A1:1222:G:H21	38:A1:1286:A:N6	1.53	1.06
50:AN:23:GLN:NE2	50:AN:122:ASN:OD1	1.96	0.99
34:B5:1588:G:H1	34:B5:1608:U:H3	1.03	0.98
13:BW:2:THR:N	34:B5:1034:C:HO2'	1.63	0.97
34:B5:225:A:C2	34:B5:837:G:N1	2.34	0.96
38:A1:1324:U:H4'	55:AS:2:ALA:HB2	1.50	0.94
34:B5:1158:C:H42	34:B5:1163:A:H61	1.17	0.92
80:EC:6922:G:H1	80:EC:6931:U:H3	0.94	0.90
34:B5:1499:G:H1	34:B5:1508:U:H3	1.19	0.89
1:BA:183:ARG:HD3	1:BA:191:ARG:HG2	1.53	0.89
49:AM:14:LEU:HD23	55:AS:149:LYS:HB3	1.54	0.87
47:AJ:10:ARG:O	47:AJ:133:ARG:NH1	2.08	0.86
38:A1:1268:G:H21	38:A1:1273:A:H62	1.19	0.86
34:B5:1502:G:N2	34:B5:1505:A:OP2	2.10	0.85
38:A1:2465:G:O6	38:A1:2491:A:N6	2.08	0.85
10:BN:4:MET:HE3	34:B5:867:G:H5'	1.57	0.85
38:A1:2736:A:OP1	56:AT:92:ARG:NH2	2.09	0.84
11:BO:20:TYR:HB3	11:BO:27:PHE:HB2	1.59	0.84
2:BB:98:THR:H	2:BB:232:HIS:HE1	1.26	0.84
5:BG:13:GLN:NE2	34:B5:151:G:N3	2.26	0.84
38:A1:179:C:O2	38:A1:237:G:N2	2.11	0.83
34:B5:1225:U:O4	34:B5:1256:A:N7	2.12	0.83
19:BD:185:LYS:NZ	34:B5:1278:G:OP1	2.12	0.82
17:Bb:21:LEU:HD23	17:Bb:26:GLN:HE22	1.44	0.82
38:A1:845:G:H21	38:A1:848:A:H2	1.26	0.82
34:B5:225:A:N1	34:B5:837:G:C6	2.48	0.82
19:BD:106:LYS:HG3	19:BD:175:VAL:HG22	1.60	0.82
31:Bg:42:LEU:HB3	31:Bg:61:PHE:HB2	1.62	0.81
58:AV:23:MET:HE3	58:AV:100:GLY:HA3	1.63	0.81
79:E:38:LEU:H	79:E:163:LEU:HD13	1.44	0.81
34:B5:225:A:N1	34:B5:837:G:O6	2.14	0.80
44:AG:112:GLU:OE2	44:AG:123:GLN:NE2	2.14	0.80
22:BP:81:ARG:NH1	22:BP:97:TYR:O	2.14	0.80
27:BU:77:LYS:NZ	34:B5:1195:C:OP1	2.14	0.80
4:BE:107:GLY:HA2	4:BE:189:LEU:HD22	1.63	0.80
38:A1:1222:G:H21	38:A1:1286:A:H62	0.82	0.79
8:BJ:112:GLN:HA	8:BJ:115:LYS:HE3	1.64	0.79
41:AD:128:GLU:O	41:AD:164:LYS:NZ	2.16	0.79
11:BO:43:THR:H	11:BO:46:MET:HE3	1.48	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BU:106:ILE:HG22	27:BU:107:THR:H	1.47	0.79
34:B5:264:G:H5"	34:B5:265:A:H5'	1.63	0.79
28:BZ:77:ARG:NH2	34:B5:1533:C:OP2	2.15	0.79
38:A1:540:U:H1'	38:A1:552:G:H22	1.47	0.79
38:A1:2469:G:H5"	79:E:27:ASN:HB2	1.65	0.78
63:Aa:56:VAL:HG12	63:Aa:57:GLY:H	1.47	0.78
16:Ba:18:VAL:HG23	16:Ba:19:LYS:H	1.48	0.78
49:AM:66:THR:HG23	49:AM:68:LEU:H	1.48	0.78
34:B5:778:G:H2'	34:B5:779:U:H2'	1.66	0.78
38:A1:363:G:OP2	72:Aj:56:ARG:NH2	2.15	0.78
62:AZ:70:PRO:HG3	62:AZ:115:LYS:HB2	1.64	0.78
80:EC:6839:U:O4	80:EC:6844:A:N6	2.16	0.78
11:BO:41:ARG:NH1	34:B5:917:U:O2	2.16	0.78
25:BS:116:LEU:HD13	25:BS:119:ILE:HD11	1.65	0.77
2:BB:117:TRP:HE3	2:BB:153:HIS:HB3	1.47	0.77
28:BZ:90:LYS:NZ	28:BZ:103:ARG:O	2.17	0.77
80:EC:6849:A:N6	80:EC:6880:G:N3	2.31	0.77
4:BE:92:LEU:HD21	15:BY:17:LEU:HD21	1.63	0.77
28:BZ:68:ARG:NH2	80:EC:6867:C:N3	2.32	0.77
31:Bg:13:LEU:HB2	31:Bg:310:ILE:HB	1.66	0.77
38:A1:284:A:OP2	77:Ao:41:ARG:NH1	2.18	0.77
38:A1:1186:G:OP2	49:AM:42:LYS:NZ	2.15	0.77
34:B5:1591:C:H2'	34:B5:1592:A:H8	1.48	0.77
14:BX:65:ASN:OD1	34:B5:575:C:N4	2.17	0.77
34:B5:1504:G:N2	34:B5:1563:C:O2	2.17	0.77
38:A1:2356:A:H61	38:A1:2983:C:H5	1.30	0.77
34:B5:1185:U:H4'	34:B5:1186:U:H5"	1.66	0.77
39:A3:8:G:O6	41:AD:21:ARG:NH2	2.18	0.77
34:B5:250:C:H2'	34:B5:251:A:H8	1.50	0.76
38:A1:838:G:O6	78:Ap:4:ARG:NH2	2.18	0.76
5:BG:160:ARG:NH2	34:B5:68:A:OP1	2.17	0.76
19:BD:123:VAL:HG13	19:BD:134:CYS:HB3	1.68	0.76
34:B5:1584:G:N2	34:B5:1611:A:OP2	2.18	0.76
38:A1:1015:U:O2	38:A1:1017:C:N4	2.18	0.76
38:A1:3192:U:H3	38:A1:3200:G:H1	1.31	0.76
38:A1:967:A:OP1	63:Aa:47:LYS:NZ	2.20	0.75
38:A1:179:C:N3	38:A1:237:G:N1	2.31	0.75
2:BB:86:LEU:HD13	2:BB:98:THR:HB	1.67	0.75
34:B5:900:A:H3'	34:B5:901:G:H21	1.52	0.75
34:B5:1216:C:O2	34:B5:1446:A:N6	2.20	0.75
29:Bc:27:GLN:OE1	29:Bc:43:ASN:ND2	2.20	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:148:G:OP2	50:AN:4:TYR:OH	2.04	0.75
54:AR:21:LYS:HE3	54:AR:55:VAL:HA	1.68	0.75
34:B5:225:A:C2	34:B5:837:G:C6	2.75	0.75
40:A4:75:G:OP2	61:AY:74:TYR:OH	2.05	0.75
78:Ap:46:THR:OG1	78:Ap:57:CYS:SG	2.45	0.75
25:BS:41:ARG:HG2	34:B5:1565:C:H5"	1.69	0.74
34:B5:1158:C:H42	34:B5:1163:A:N6	1.85	0.74
46:AI:28:ASP:OD1	46:AI:32:ARG:NH2	2.18	0.74
34:B5:1697:G:H1	34:B5:1704:U:H3	1.35	0.74
38:A1:3268:A:OP1	42:AE:46:ARG:NH2	2.20	0.74
38:A1:2468:A:O2'	38:A1:2477:G:N2	2.21	0.74
38:A1:2854:U:OP2	46:AI:3:ARG:NH2	2.19	0.74
38:A1:3181:C:OP2	51:AO:171[A]:LYS:NZ	2.20	0.74
79:E:128:LEU:HB3	79:E:135:PRO:HG3	1.69	0.74
34:B5:1538:U:N3	34:B5:1540:G:N7	2.36	0.74
47:AJ:18:VAL:HG12	47:AJ:70:THR:HG22	1.69	0.74
34:B5:1456:C:H5"	34:B5:1457:C:H5"	1.68	0.74
38:A1:1571:A:H2'	38:A1:1572:U:H4'	1.70	0.74
80:EC:6889:A:N6	80:EC:6941:U:OP2	2.20	0.74
7:BI:84:HIS:O	9:BL:11:ARG:NH1	2.21	0.73
23:BQ:29:ILE:HD12	23:BQ:36:ILE:HG12	1.69	0.73
50:AN:183:THR:HG22	50:AN:187:ARG:HB3	1.70	0.73
31:Bg:34:LEU:HG	31:Bg:42:LEU:HD11	1.71	0.73
31:Bg:178:VAL:HB	31:Bg:192:PHE:HB2	1.71	0.73
38:A1:1831:U:O2'	40:A4:114:G:OP1	2.05	0.73
21:BK:26:ASP:O	21:BK:39:ASN:ND2	2.22	0.73
34:B5:1061:A:H3'	34:B5:1062:A:H5"	1.69	0.73
66:Ad:79:ARG:HH12	66:Ad:88:PRO:HB2	1.53	0.73
34:B5:65:A:H2	34:B5:84:A:H62	1.37	0.73
4:BE:63:ALA:HA	4:BE:66:MET:HE3	1.71	0.73
11:BO:18:ARG:HE	11:BO:82:LYS:HD2	1.52	0.73
60:AX:77:GLU:HG2	60:AX:133:LEU:HD13	1.70	0.73
11:BO:24:ASN:ND2	34:B5:902:G:N7	2.36	0.73
32:Bf:78:LYS:N	34:B5:1271:OMG:OP1	2.22	0.73
2:BB:183:GLN:O	2:BB:187:LYS:NZ	2.22	0.72
34:B5:1158:C:N4	34:B5:1163:A:H61	1.86	0.72
34:B5:871:G:H2'	34:B5:872:G:C8	2.25	0.72
36:AB:30:LYS:NZ	38:A1:3139:A:OP2	2.21	0.72
38:A1:126:U:OP1	50:AN:144:ARG:NH1	2.22	0.72
38:A1:2901:G:O2'	38:A1:3024:A:N1	2.23	0.72
23:BQ:39:VAL:O	23:BQ:45:ARG:NH1	2.21	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:BB:43:VAL:HG22	2:BB:73:LEU:HD21	1.72	0.72
34:B5:987:G:N2	34:B5:1013:A:OP1	2.22	0.72
29:Bc:18:ARG:NH1	34:B5:1616:G:O2'	2.22	0.72
34:B5:992:A:O2'	34:B5:1785:U:O2	2.06	0.72
46:AI:38:LYS:HG2	46:AI:41:ALA:HB2	1.70	0.72
31:Bg:135:THR:HG21	31:Bg:137:LYS:HZ3	1.53	0.72
72:Aj:48:ASN:OD1	72:Aj:54:LYS:NZ	2.22	0.72
17:Bb:21:LEU:HD23	17:Bb:26:GLN:NE2	2.05	0.72
39:A3:7:G:OP1	41:AD:33:ARG:NH1	2.23	0.72
29:Bc:18:ARG:HA	29:Bc:26:THR:HA	1.71	0.72
38:A1:541:U:H3	38:A1:550:A:H61	1.38	0.72
39:A3:22:A:H2'	39:A3:23:A:H8	1.53	0.72
43:AF:112:ASN:ND2	43:AF:209:ASN:OD1	2.20	0.72
1:BA:83:GLN:HG3	1:BA:99:ALA:HB1	1.72	0.71
21:BK:82:LEU:HD12	21:BK:83:PRO:HD2	1.72	0.71
22:BP:56:PHE:HE2	22:BP:89:MET:HE3	1.55	0.71
38:A1:978:G:N2	38:A1:979:U:O4	2.18	0.71
26:BT:22:LEU:HB3	26:BT:28:LEU:HD21	1.71	0.71
27:BU:61:LYS:HB3	27:BU:86:ILE:HB	1.71	0.71
46:AI:66:GLU:OE2	46:AI:69:ARG:NH2	2.23	0.71
25:BS:27:LYS:NZ	34:B5:1532:U:O3'	2.23	0.71
33:BM:45:LEU:HD13	33:BM:71:ILE:HD13	1.71	0.71
47:AJ:49:LYS:HB2	47:AJ:62:ASN:HA	1.70	0.71
47:AJ:108:GLU:HB3	47:AJ:122:ILE:HG23	1.70	0.71
8:BJ:79:ARG:NH1	34:B5:763:G:OP1	2.22	0.71
16:Ba:83:ILE:HG13	16:Ba:84:VAL:HG23	1.71	0.71
38:A1:1096:U:OP2	56:AT:116:ARG:NH2	2.23	0.71
38:A1:1223:A:H62	38:A1:1285:G:H21	0.76	0.71
34:B5:1280:4AC:H2'	34:B5:1281:G:H8	1.56	0.71
38:A1:2836:C:H5	38:A1:2852:C:H42	1.39	0.71
6:BH:69:GLY:HA2	6:BH:72:LYS:HE3	1.73	0.71
48:AL:126:PHE:O	70:Ah:114:ARG:NH2	2.23	0.71
38:A1:1635:G:N2	38:A1:1638:A:OP2	2.23	0.71
41:AD:277:LEU:HD22	41:AD:281:GLU:HG2	1.72	0.71
65:Ac:66:LYS:NZ	65:Ac:101:LEU:O	2.23	0.71
34:B5:1237:G:N1	34:B5:1249:U:O4	2.24	0.71
6:BH:72:LYS:HG3	6:BH:73:VAL:HG23	1.73	0.70
50:AN:8:GLU:OE1	50:AN:50:ARG:NH2	2.24	0.70
10:BN:109:LYS:HE3	34:B5:975:C:H5"	1.73	0.70
4:BE:151:ASP:OD1	5:BG:215:ARG:NH2	2.24	0.70
6:BH:56:LYS:HG3	6:BH:88:ARG:HG3	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:AT:65:TYR:HB3	56:AT:75:ILE:HD11	1.72	0.70
20:BF:116:HIS:ND1	28:BZ:98:GLN:OE1	2.18	0.70
31:Bg:248:ASN:OD1	31:Bg:249:ARG:N	2.24	0.70
38:A1:3310:A:OP1	52:AP:74:LYS:NZ	2.19	0.70
2:BB:176:VAL:O	2:BB:177:GLN:HG3	1.90	0.70
7:BI:137:LYS:NZ	34:B5:196:G:O6	2.24	0.70
1:BA:20:ALA:O	1:BA:169:SER:OG	2.09	0.70
20:BF:69:PHE:HE2	23:BQ:46:PHE:HB3	1.56	0.70
31:Bg:110:VAL:HA	31:Bg:126:SER:HA	1.73	0.70
5:BG:207:GLU:O	5:BG:210:GLN:NE2	2.23	0.70
15:BY:34:ASN:O	34:B5:521:A:O2'	2.10	0.70
38:A1:2790:A:OP1	53:AQ:180:ARG:NH1	2.25	0.70
38:A1:2213:A:H2'	38:A1:2214:A:C8	2.27	0.70
10:BN:35:GLU:HA	10:BN:38:VAL:HG22	1.74	0.70
11:BO:19:ILE:HD11	11:BO:83:ILE:HG13	1.71	0.70
20:BF:70:VAL:HG12	20:BF:72:HIS:H	1.55	0.70
34:B5:1484:G:N2	34:B5:1606:C:O2	2.24	0.70
40:A4:49:G:OP2	70:Ah:48:ARG:NH2	2.24	0.70
20:BF:80:LYS:HB2	20:BF:83:ARG:HD3	1.72	0.69
14:BX:72:VAL:HG11	14:BX:96:VAL:HG11	1.74	0.69
25:BS:132:ARG:NH1	34:B5:1173:C:OP1	2.25	0.69
62:AZ:25:ILE:HA	62:AZ:43:VAL:HG12	1.74	0.69
38:A1:1174:G:N2	51:AO:87[A]:MET:SD	2.65	0.69
11:BO:103:ARG:HH22	16:Ba:49:ALA:HA	1.57	0.69
19:BD:12:VAL:HG21	30:Bd:34:TYR:HB3	1.74	0.69
34:B5:1684:U:H3	34:B5:1717:G:H1	1.38	0.69
17:Bb:61:THR:HG22	17:Bb:62:ILE:HG23	1.75	0.69
5:BG:132:ARG:NH1	34:B5:149:C:O2'	2.26	0.69
15:BY:20:ARG:HD2	15:BY:74:LEU:HB3	1.75	0.69
27:BU:28:SER:HB3	27:BU:33:GLN:HE22	1.57	0.69
34:B5:1183:A:N3	34:B5:1210:C:O2'	2.25	0.69
49:AM:38:ILE:HD11	55:AS:148:LEU:HD13	1.74	0.69
9:BL:69:LYS:NZ	34:B5:304:U:O2	2.23	0.69
26:BT:3:GLY:HA2	34:B5:1360:A:H2'	1.74	0.69
34:B5:1365:C:H2'	34:B5:1366:U:C6	2.28	0.69
34:B5:1375:A:H2'	34:B5:1376:C:C6	2.28	0.69
5:BG:140:ASN:HA	5:BG:143:LYS:HB2	1.75	0.69
20:BF:32:GLU:OE1	20:BF:44:ASN:ND2	2.25	0.69
36:AB:95:THR:HG22	36:AB:97:ARG:H	1.58	0.69
38:A1:251:G:H1'	38:A1:253:A:C5	2.27	0.69
60:AX:68:THR:OG1	70:Ah:36:LEU:HD13	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:BH:8:ILE:HA	6:BH:42:GLN:HG3	1.75	0.68
34:B5:1291:G:H1	34:B5:1324:G:H22	1.39	0.68
38:A1:1064:A:H61	38:A1:1092:C:H2'	1.56	0.68
33:BM:105:LYS:HG3	33:BM:114:LYS:HB3	1.73	0.68
38:A1:250:U:O2'	38:A1:251:G:OP1	2.10	0.68
38:A1:1661:G:H2'	38:A1:1662:G:C8	2.29	0.68
38:A1:2448:G:H2'	38:A1:2449:A:H8	1.58	0.68
5:BG:171:LYS:NZ	34:B5:66:U:O3'	2.26	0.68
37:AC:107:ARG:NH2	38:A1:1429:G:OP2	2.26	0.68
43:AF:168:ILE:O	43:AF:172:ASN:ND2	2.26	0.68
53:AQ:170:ARG:NH1	63:Aa:57:GLY:O	2.27	0.68
30:Bd:31:ILE:HG22	34:B5:1199:G:H1	1.58	0.68
38:A1:68:C:OP2	38:A1:301:G:N2	2.26	0.68
38:A1:2278:5MC:OP1	76:An:23:ARG:NH2	2.26	0.68
45:AH:5:GLN:HE22	45:AH:7:GLU:HG2	1.59	0.68
80:EC:6812:C:N3	80:EC:6813:A:N6	2.41	0.68
38:A1:243:G:H2'	38:A1:244:G:C8	2.29	0.68
38:A1:2775:U:H1'	63:Aa:58:MET:HE1	1.76	0.68
68:Af:49:ILE:HD12	68:Af:100:ILE:HG12	1.76	0.68
79:E:135:PRO:HD2	80:EC:6773:G:H21	1.58	0.68
21:BK:49:LEU:O	21:BK:53:GLY:N	2.26	0.68
34:B5:58:U:OP1	34:B5:456:A:O2'	2.10	0.68
34:B5:1213:G:N2	34:B5:1450:U:O2	2.26	0.68
37:AC:98:ARG:NH2	38:A1:804:C:OP1	2.22	0.68
38:A1:3198:U:O4'	45:AH:21:LYS:HD3	1.92	0.68
19:BD:41:VAL:HA	19:BD:46:THR:HG22	1.76	0.68
33:BM:43:ARG:HD2	33:BM:102:GLY:HA3	1.76	0.68
33:BM:44:GLY:HA2	33:BM:119:SER:HB2	1.75	0.68
33:BM:113:ARG:NH1	34:B5:1223:A:OP2	2.26	0.68
47:AJ:117:ASP:OD1	47:AJ:119:SER:OG	2.11	0.68
26:BT:16:ASN:OD1	26:BT:56:LYS:NZ	2.27	0.68
21:BK:23:ALA:HB3	21:BK:43:ILE:HD11	1.75	0.68
25:BS:144:ARG:NH1	25:BS:144:ARG:O	2.27	0.68
34:B5:1409:G:N1	34:B5:1412:G:OP2	2.22	0.68
38:A1:1657:C:O2'	38:A1:1797:A:OP2	2.11	0.68
38:A1:2631:U:OP1	38:A1:2757:U:O2'	2.10	0.68
38:A1:2673:A:OP1	47:AJ:95:ASN:ND2	2.27	0.68
22:BP:61:ARG:NH1	22:BP:89:MET:SD	2.67	0.68
29:Bc:10:ALA:HB1	29:Bc:30:VAL:HG21	1.76	0.68
34:B5:1591:C:H2'	34:B5:1592:A:C8	2.29	0.68
38:A1:1019:G:N2	38:A1:1020:G:N7	2.42	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:3016:A:H2'	38:A1:3017:A:C8	2.29	0.68
79:E:1:MET:O	79:E:198:TRP:NE1	2.27	0.68
23:BQ:135:ARG:HH11	34:B5:1582:U:H5"	1.59	0.67
34:B5:1484:G:H21	34:B5:1606:C:H1'	1.59	0.67
35:AA:112:ILE:HD13	78:Ap:79:VAL:HG22	1.75	0.67
38:A1:3165:A:H61	38:A1:3285:C:H42	1.42	0.67
45:AH:11:GLU:N	45:AH:11:GLU:OE1	2.28	0.67
4:BE:200:ARG:NH2	34:B5:738:G:OP1	2.26	0.67
26:BT:38:LYS:NZ	34:B5:1564:U:OP1	2.27	0.67
34:B5:852:C:H2'	34:B5:853:G:C8	2.29	0.67
34:B5:1553:G:N1	34:B5:1556:A:OP2	2.26	0.67
37:AC:325:LEU:O	43:AF:41:ARG:NH2	2.26	0.67
20:BF:72:HIS:HE1	20:BF:107:LYS:HB3	1.60	0.67
20:BF:120:ILE:HG21	20:BF:192:GLU:HA	1.77	0.67
7:BI:5:ARG:NH1	7:BI:29:LEU:O	2.27	0.67
7:BI:88:ASN:OD1	9:BL:11:ARG:NH2	2.26	0.67
36:AB:91:GLY:HA3	36:AB:151:ILE:HD12	1.75	0.67
7:BI:138:ASN:ND2	34:B5:189:C:OP2	2.28	0.67
8:BJ:133:HIS:CE1	8:BJ:164:PHE:HB2	2.30	0.67
33:BM:101:ALA:HB1	33:BM:121:VAL:HG11	1.77	0.67
38:A1:1047:A:N3	38:A1:2633:U:O2'	2.27	0.67
38:A1:2462:A:H1'	38:A1:2494:A:H61	1.60	0.67
38:A1:2533:G:H2'	38:A1:2534:G:H8	1.60	0.67
6:BH:49:ILE:HD11	6:BH:172:VAL:HG12	1.77	0.67
14:BX:114:LYS:HE3	34:B5:571:G:H5"	1.76	0.67
38:A1:1016:C:H42	38:A1:1034:U:H1'	1.60	0.67
49:AM:88:ALA:O	49:AM:93:LYS:NZ	2.28	0.67
14:BX:63:GLN:NE2	34:B5:1754:A:OP1	2.28	0.67
50:AN:9:GLU:OE1	50:AN:13:LYS:NZ	2.27	0.67
68:Af:14:LEU:HD11	68:Af:31:LYS:HB2	1.75	0.67
20:BF:163:SER:OG	29:Bc:47:PRO:O	2.13	0.67
52:AP:4:TYR:HE2	52:AP:16:SER:HB2	1.60	0.67
80:EC:6866:C:H5"	80:EC:6867:C:H5	1.60	0.67
2:BB:155:TYR:OH	34:B5:932:U:OP2	2.10	0.66
26:BT:30:VAL:HG12	26:BT:32:GLY:H	1.59	0.66
31:Bg:89:LEU:HB2	31:Bg:103:PHE:HB2	1.78	0.66
61:AY:74:TYR:CE2	61:AY:77:LYS:HG3	2.30	0.66
34:B5:1266:U:H2'	34:B5:1267:G:H8	1.59	0.66
34:B5:1381:U:H2'	34:B5:1382:A:C8	2.30	0.66
80:EC:6936:G:H2'	80:EC:6937:G:C8	2.30	0.66
11:BO:103:ARG:NH1	16:Ba:52:ASP:HB3	2.09	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BT:76:LEU:HD22	26:BT:101:ASN:HB2	1.76	0.66
38:A1:2542:U:H4'	38:A1:2543:U:H5'	1.78	0.66
19:BD:102:ALA:O	19:BD:106:LYS:N	2.26	0.66
20:BF:185:ARG:NH2	34:B5:1471:A:OP1	2.26	0.66
30:Bd:7:TRP:NE1	34:B5:1451:C:O2'	2.29	0.66
38:A1:412:G:OP1	52:AP:62:ARG:NH1	2.27	0.66
38:A1:1348:U:OP1	53:AQ:39:ARG:NH1	2.28	0.66
4:BE:212:ASP:OD2	4:BE:213:SER:N	2.29	0.66
34:B5:732:G:O2'	34:B5:734:A:N6	2.26	0.66
34:B5:1672:G:H2'	34:B5:1673:G:C8	2.30	0.66
34:B5:1775:U:OP1	76:An:11:ARG:NH2	2.28	0.66
45:AH:21:LYS:HG3	45:AH:22:SER:H	1.60	0.66
9:BL:29:LYS:HD2	9:BL:32:LYS:HD2	1.76	0.66
9:BL:96:LYS:NZ	34:B5:374:U:OP1	2.24	0.66
14:BX:140:LYS:NZ	34:B5:31:C:OP1	2.28	0.66
38:A1:1132:C:H2'	38:A1:1133:A2M:H8	1.76	0.66
24:BR:7:LYS:HE3	34:B5:1316:G:H5'	1.77	0.66
34:B5:1483:A:H2'	34:B5:1484:G:C8	2.30	0.66
52:AP:122:ALA:HB3	52:AP:143:PRO:HB2	1.75	0.66
1:BA:30:GLN:HE22	1:BA:32:HIS:HB2	1.61	0.66
10:BN:129:TYR:HB3	10:BN:135:LEU:HD23	1.78	0.66
15:BY:21:LYS:NZ	34:B5:782:U:O2	2.28	0.66
26:BT:21:PHE:HD1	26:BT:24:ARG:HH21	1.43	0.66
30:Bd:34:TYR:OH	34:B5:1487:A:OP1	2.10	0.66
2:BB:98:THR:H	2:BB:232:HIS:CE1	2.12	0.66
34:B5:1687:U:N3	34:B5:1715:G:N1	2.37	0.66
53:AQ:123:THR:OG1	53:AQ:125:ASP:OD2	2.14	0.66
11:BO:13:VAL:H	11:BO:77:THR:HG1	1.43	0.66
38:A1:2197:OMC:N4	38:A1:2241:U:H2'	2.11	0.66
38:A1:2839:G:O6	38:A1:2845:A:O2'	2.13	0.66
44:AG:101:THR:OG1	44:AG:104:GLU:OE1	2.10	0.66
55:AS:22:PRO:O	56:AT:146:ASN:ND2	2.22	0.66
63:Aa:112:ILE:HB	63:Aa:130:VAL:HG23	1.76	0.66
11:BO:81:VAL:HB	11:BO:115:ILE:HG22	1.76	0.65
34:B5:1687:U:O2	34:B5:1715:G:N2	2.28	0.65
41:AD:32:GLN:NE2	41:AD:149:GLY:O	2.29	0.65
57:AU:56:VAL:HG22	57:AU:65:VAL:HG22	1.77	0.65
79:E:70:ASP:H	79:E:115:VAL:HG21	1.61	0.65
20:BF:169:ASN:OD1	20:BF:170:GLN:N	2.29	0.65
27:BU:36:ASN:O	27:BU:40:ASN:ND2	2.29	0.65
34:B5:956:C:OP1	34:B5:1072:C:O2'	2.14	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:AQ:62:VAL:HG13	53:AQ:66:ARG:HD2	1.78	0.65
28:BZ:69:LEU:HG	28:BZ:70:LYS:H	1.61	0.65
34:B5:1561:U:H2'	34:B5:1562:G:H8	1.61	0.65
38:A1:375:A:OP2	61:AY:89:LYS:NZ	2.29	0.65
56:AT:112:ASN:HB3	56:AT:128:LEU:HD23	1.77	0.65
79:E:48:ARG:NH1	80:EC:6817:A:OP1	2.30	0.65
8:BJ:65:LYS:H	8:BJ:69:ARG:HH21	1.44	0.65
34:B5:1229:G:N2	34:B5:1255:G:O2'	2.29	0.65
38:A1:122:A:OP1	44:AG:105:LYS:NZ	2.30	0.65
80:EC:6921:C:H2'	80:EC:6922:G:H8	1.61	0.65
3:BC:145:GLY:O	13:BW:98:GLN:NE2	2.30	0.65
16:Ba:87:ARG:NH1	16:Ba:91:ASP:O	2.30	0.65
34:B5:702:G:O6	34:B5:737:A:N6	2.29	0.65
38:A1:2261:G:O2'	38:A1:2263:C:N4	2.29	0.65
40:A4:29:U:H5"	48:AL:27:ASP:HB3	1.77	0.65
3:BC:144:TRP:O	13:BW:97:ARG:NH1	2.30	0.65
20:BF:43:PHE:HE2	20:BF:115:LYS:HB3	1.61	0.65
21:BK:91:TYR:O	21:BK:95:ARG:NH1	2.29	0.65
32:Bf:139:LEU:HB3	32:Bf:148:TYR:HB2	1.77	0.65
60:AX:68:THR:HA	60:AX:73:MET:HE2	1.78	0.65
4:BE:129:VAL:HG22	4:BE:139:VAL:HG12	1.79	0.65
34:B5:591:A:H2'	34:B5:592:A:C8	2.32	0.65
38:A1:1176:C:H2'	38:A1:1177:G:N2	2.11	0.65
38:A1:1786:G:H2'	38:A1:1787:A:C8	2.32	0.65
38:A1:3016:A:H2'	38:A1:3017:A:H8	1.61	0.65
3:BC:206:THR:HG23	3:BC:209:ASN:HB2	1.77	0.65
20:BF:123:VAL:HG11	28:BZ:59:TYR:HB2	1.79	0.65
31:Bg:299:GLN:NE2	31:Bg:300:THR:OG1	2.30	0.65
38:A1:1311:G:N2	51:AO:86[A]:GLY:O	2.21	0.65
41:AD:218:ARG:NH2	41:AD:221:GLU:OE1	2.30	0.65
2:BB:34:ALA:HB3	2:BB:41:ARG:HG3	1.79	0.65
19:BD:74:GLN:HB3	19:BD:84:ILE:HD11	1.77	0.65
26:BT:43:ASN:OD1	26:BT:44:GLU:N	2.29	0.65
26:BT:49:ASP:HB3	26:BT:53:TRP:HB3	1.78	0.65
38:A1:2219:A:H2'	38:A1:2220:A2M:H8	1.79	0.65
74:Al:25:GLN:OE1	74:Al:28:ARG:NH1	2.30	0.65
80:EC:6937:G:H2'	80:EC:6938:A:C8	2.32	0.65
4:BE:121:TYR:OH	4:BE:235:TYR:O	2.15	0.65
35:AA:21:ARG:HD3	38:A1:824:C:H5"	1.78	0.65
38:A1:3343:G:H21	38:A1:3362:A:H2	1.43	0.65
20:BF:120:ILE:HD13	28:BZ:100:ILE:HD13	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1477:G:H2'	34:B5:1478:G:H8	1.61	0.64
38:A1:2207:A:O2'	38:A1:2209:U:OP2	2.13	0.64
41:AD:104:LEU:HD23	41:AD:247:ILE:HG23	1.78	0.64
41:AD:122:VAL:HB	41:AD:168:ASP:HB2	1.79	0.64
54:AR:105:LEU:HD13	54:AR:135:LYS:HE3	1.79	0.64
78:Ap:58:SER:O	78:Ap:61:LYS:NZ	2.29	0.64
1:BA:98:ILE:HD11	1:BA:116:LYS:HD2	1.78	0.64
27:BU:57:ARG:HD2	34:B5:1382:A:H1'	1.80	0.64
34:B5:1230:A:H61	34:B5:1255:G:H1'	1.62	0.64
35:AA:37:ARG:NH2	38:A1:2526:C:OP1	2.31	0.64
38:A1:307:A:H2'	38:A1:308:A:C8	2.32	0.64
38:A1:3271:G:C4	42:AE:108:LYS:HE2	2.32	0.64
69:Ag:51:LEU:HD12	69:Ag:54:ILE:HD13	1.79	0.64
80:EC:6780:A:H2	80:EC:6817:A:H2'	1.61	0.64
12:BV:39:VAL:HB	12:BV:43:GLY:HA2	1.78	0.64
26:BT:70:GLN:OE1	26:BT:117:SER:OG	2.14	0.64
31:Bg:102:ARG:NH1	34:B5:1341:A:O3'	2.30	0.64
38:A1:1268:G:N2	38:A1:1273:A:H62	1.93	0.64
38:A1:1757:A:OP1	57:AU:94:ARG:NH2	2.30	0.64
54:AR:164:LEU:HA	54:AR:168:ALA:HB3	1.79	0.64
19:BD:76:ARG:HH11	21:BK:22:VAL:HG13	1.62	0.64
25:BS:87:ASN:OD1	34:B5:1546:G:N2	2.30	0.64
80:EC:6787:U:OP1	80:EC:6804:A:N6	2.29	0.64
7:BI:113:PHE:HE2	7:BI:119:GLN:HB2	1.63	0.64
20:BF:81:ARG:HD2	34:B5:1615:C:H5"	1.79	0.64
38:A1:543:C:O2'	38:A1:549:U:O4	2.15	0.64
38:A1:2697:A:H2'	38:A1:2698:G:C8	2.32	0.64
78:Ap:36:ARG:HE	78:Ap:46:THR:HA	1.63	0.64
21:BK:38:LYS:HE3	21:BK:40:LEU:HD13	1.79	0.64
26:BT:113:ILE:HG23	26:BT:128:GLY:HA2	1.78	0.64
54:AR:181:ARG:NH1	54:AR:182:ASP:OD1	2.30	0.64
7:BI:34:ALA:HB2	7:BI:56:ARG:HD2	1.78	0.64
7:BI:119:GLN:HG3	7:BI:150:ALA:HB1	1.80	0.64
8:BJ:80:LEU:HD21	8:BJ:99:LEU:HD11	1.80	0.64
11:BO:112:ILE:HD13	16:Ba:53:LEU:HD12	1.77	0.64
13:BW:27:ILE:HB	13:BW:61:ILE:HB	1.80	0.64
25:BS:126:ARG:HG3	25:BS:131:LEU:HB2	1.80	0.64
30:Bd:54:LYS:HD3	34:B5:1419:G:H4'	1.79	0.64
34:B5:1310:U:O2'	34:B5:1402:G:O2'	2.16	0.64
34:B5:1415:U:H2'	34:B5:1416:G:H8	1.62	0.64
12:BV:53:TYR:OH	12:BV:76:ASP:OD2	2.16	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:BF:148:ARG:HB2	20:BF:157:ARG:HH11	1.63	0.64
38:A1:1244:A:H4'	38:A1:1245:A:C8	2.31	0.64
38:A1:2206:G:O2'	38:A1:2207:A:H5"	1.97	0.64
1:BA:30:GLN:HE21	1:BA:33:GLN:HG2	1.63	0.64
10:BN:11:ILE:HG13	10:BN:12:SER:H	1.62	0.64
38:A1:1389:G:H5"	67:Ae:101:SER:HB3	1.78	0.64
46:AI:182:LEU:HD12	46:AI:185:ARG:HD3	1.80	0.64
1:BA:29:VAL:HG12	1:BA:149:LEU:HD13	1.79	0.64
38:A1:1940:G:H21	38:A1:3362:A:H8	1.45	0.64
19:BD:29:LEU:HD23	19:BD:34:TYR:HB2	1.80	0.63
22:BP:20:VAL:HG21	22:BP:25:LEU:HD13	1.80	0.63
22:BP:79:HIS:ND1	34:B5:1241:G:H1'	2.13	0.63
36:AB:250:ALA:HB3	38:A1:2880:U:H1'	1.80	0.63
38:A1:1208:U:O2'	38:A1:3115:C:N4	2.32	0.63
40:A4:85:G:OP2	61:AY:113:LYS:NZ	2.30	0.63
20:BF:144:GLU:HG3	29:Bc:57:MET:HE1	1.80	0.63
34:B5:139:C:N4	34:B5:175:G:O2'	2.32	0.63
34:B5:1376:C:H2'	34:B5:1377:U:C6	2.34	0.63
38:A1:3017:A:N1	38:A1:3037:U:H5	1.97	0.63
44:AG:57:ARG:O	44:AG:61:GLN:HG3	1.98	0.63
20:BF:144:GLU:N	20:BF:218:GLU:OE2	2.28	0.63
38:A1:2960:C:H2'	38:A1:2961:G:C8	2.34	0.63
45:AH:50:ASN:ND2	49:AM:4:ASP:OD1	2.30	0.63
19:BD:191:ASP:HB3	19:BD:194:LYS:HB2	1.81	0.63
34:B5:647:G:N2	34:B5:648:G:O6	2.31	0.63
34:B5:1288:G:N7	34:B5:1314:U:O2'	2.28	0.63
38:A1:3295:A:H2'	38:A1:3296:A:C8	2.33	0.63
4:BE:27:TYR:O	34:B5:447:U:O2'	2.17	0.63
4:BE:139:VAL:HG13	4:BE:150:PRO:HG2	1.81	0.63
5:BG:10:ASN:ND2	5:BG:127:THR:O	2.30	0.63
16:Ba:87:ARG:NH2	34:B5:1796:C:OP1	2.29	0.63
34:B5:1717:G:H2'	34:B5:1718:G:C8	2.34	0.63
45:AH:92:TYR:CD2	45:AH:142:ASP:HB2	2.34	0.63
15:BY:20:ARG:HH12	15:BY:22:GLN:NE2	1.97	0.63
26:BT:35:ASP:OD1	26:BT:53:TRP:NE1	2.29	0.63
28:BZ:83:LEU:HD13	28:BZ:88:ILE:HD11	1.80	0.63
34:B5:752:A:H2	34:B5:797:G:H1	1.47	0.63
38:A1:1092:C:O2'	38:A1:1093:A:OP1	2.17	0.63
44:AG:115:ALA:O	44:AG:119:GLY:N	2.32	0.63
2:BB:127:VAL:HG21	2:BB:173:THR:HG22	1.81	0.63
20:BF:63:GLN:NE2	20:BF:86:GLN:O	2.32	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:112:U:OP1	70:Ah:104:GLN:NE2	2.26	0.63
38:A1:1639:C:OP2	69:Ag:74:ARG:NH2	2.32	0.63
43:AF:108:LEU:HD21	43:AF:115:THR:HG22	1.81	0.63
80:EC:6788:C:N4	80:EC:6808:G:O4'	2.31	0.63
7:BI:42:ARG:NE	7:BI:59:ARG:HD3	2.14	0.62
2:BB:111:ARG:HA	2:BB:114:VAL:HG22	1.80	0.62
9:BL:133:LYS:O	9:BL:136:ARG:NH2	2.32	0.62
22:BP:78:THR:HG22	22:BP:80:MET:H	1.64	0.62
38:A1:1750:A:OP2	73:Ak:42:LYS:NZ	2.32	0.62
38:A1:2767:U:O2'	77:Ao:30:ALA:O	2.13	0.62
2:BB:36:SER:HA	2:BB:41:ARG:HH21	1.62	0.62
39:A3:84:A:H2'	39:A3:85:G:C8	2.34	0.62
48:AL:55:ARG:NH1	48:AL:73:ARG:O	2.29	0.62
4:BE:94:ALA:HB1	15:BY:16:PRO:HB2	1.80	0.62
5:BG:174:LYS:NZ	34:B5:79:C:O2	2.28	0.62
24:BR:23:LYS:HA	31:Bg:198:ASN:HD21	1.63	0.62
34:B5:1259:U:H2'	34:B5:1260:U:C6	2.34	0.62
34:B5:1358:G:H2'	34:B5:1359:C:C6	2.34	0.62
38:A1:845:G:O2'	38:A1:847:A:N1	2.27	0.62
38:A1:952:A:N3	38:A1:1114:U:O2'	2.32	0.62
38:A1:2629:U:O4	56:AT:2:GLY:N	2.33	0.62
66:Ad:47:ASP:OD1	66:Ad:87:ASN:ND2	2.30	0.62
1:BA:71:GLU:OE1	3:BC:250:GLN:NE2	2.32	0.62
5:BG:49:VAL:HG12	5:BG:115:LYS:HB3	1.82	0.62
7:BI:5:ARG:NH2	34:B5:334:G:O6	2.32	0.62
15:BY:123:LYS:HE2	34:B5:150:U:OP1	1.99	0.62
34:B5:653:C:OP1	34:B5:680:U:N3	2.33	0.62
34:B5:1360:A:N6	34:B5:1361:U:O2	2.32	0.62
38:A1:1621:A:H2'	38:A1:1622:U:C6	2.35	0.62
2:BB:33:LYS:HD2	2:BB:95:ASN:HD21	1.64	0.62
5:BG:7:TYR:HB2	5:BG:113:ILE:HD12	1.80	0.62
19:BD:135:GLU:HB3	19:BD:187:LYS:HB3	1.80	0.62
34:B5:158:U:O2'	34:B5:160:C:OP2	2.17	0.62
34:B5:366:A:OP1	34:B5:758:U:O2'	2.16	0.62
42:AE:40:LEU:HD13	42:AE:54:TYR:HB2	1.82	0.62
70:Ah:102:GLU:HG3	70:Ah:106:LYS:HE2	1.80	0.62
3:BC:140:ARG:HB2	3:BC:222:TYR:HD1	1.64	0.62
34:B5:1196:A:OP2	34:B5:1464:G:N2	2.26	0.62
34:B5:1558:U:H3'	34:B5:1559:A:H4'	1.80	0.62
38:A1:1696:A:H2'	38:A1:1697:A:C8	2.35	0.62
57:AU:43:VAL:HG12	57:AU:44:GLU:OE1	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:BY:124:ARG:HA	15:BY:127:LYS:HE3	1.81	0.62
16:Ba:30:ILE:HD11	16:Ba:74:CYS:HB3	1.81	0.62
34:B5:143:G:H2'	34:B5:144:U:C6	2.34	0.62
40:A4:66:A:OP1	70:Ah:10:ARG:NH2	2.32	0.62
45:AH:128:VAL:HA	45:AH:157:ASN:HD21	1.63	0.62
79:E:20:SER:HB3	79:E:172:VAL:HG11	1.82	0.62
27:BU:30:LYS:O	27:BU:33:GLN:NE2	2.33	0.62
34:B5:1291:G:H22	34:B5:1324:G:N2	1.97	0.62
34:B5:1477:G:H2'	34:B5:1478:G:C8	2.35	0.62
38:A1:239:G:N2	38:A1:241:G:O6	2.32	0.62
41:AD:60:ILE:N	41:AD:80:SER:OG	2.32	0.62
80:EC:6759:A:H2'	80:EC:6760:A:C8	2.34	0.62
6:BH:150:GLN:HB3	6:BH:181:ILE:HG22	1.82	0.62
11:BO:136:ARG:NH2	34:B5:1785:U:OP1	2.31	0.62
22:BP:77:ARG:HG3	22:BP:102:PHE:CD2	2.34	0.62
28:BZ:68:ARG:NH1	80:EC:6864:A:O4'	2.29	0.62
34:B5:1265:G:H2'	34:B5:1266:U:C6	2.35	0.62
38:A1:2464:U:H2'	38:A1:2465:G:C8	2.34	0.62
7:BI:4:SER:OG	7:BI:6:ASP:OD1	2.17	0.61
24:BR:45:ARG:NH2	34:B5:1415:U:OP1	2.33	0.61
34:B5:939:A:H2'	34:B5:940:A:C8	2.34	0.61
38:A1:171:G:H1	38:A1:246:U:H3	1.46	0.61
51:AO:72[A]:HIS:O	51:AO:74[A]:ARG:NH1	2.31	0.61
1:BA:56:LYS:NZ	12:BV:66:ASP:OD1	2.25	0.61
8:BJ:176:ASN:HD21	34:B5:511:A:P	2.23	0.61
11:BO:132:ARG:NH2	34:B5:1789:G:N7	2.48	0.61
36:AB:80:ASP:OD2	36:AB:319:ASN:ND2	2.29	0.61
36:AB:92:TYR:OH	38:A1:3003:G:O2'	2.08	0.61
38:A1:1203:A:H2'	38:A1:1204:A:C8	2.35	0.61
38:A1:2448:G:H1	38:A1:2498:U:H3	1.48	0.61
60:AX:50:ALA:HB1	70:Ah:66:VAL:HG11	1.82	0.61
19:BD:35:SER:OG	19:BD:51:ARG:O	2.18	0.61
33:BM:43:ARG:CZ	33:BM:103:LEU:H	2.14	0.61
47:AJ:16:LYS:HB3	47:AJ:130:VAL:HB	1.82	0.61
80:EC:6832:G:N2	80:EC:6857:C:O2	2.31	0.61
20:BF:83:ARG:HH22	34:B5:1405:G:H5"	1.64	0.61
23:BQ:77:GLN:O	23:BQ:81:ILE:N	2.33	0.61
28:BZ:96:SER:OG	34:B5:1530:C:OP2	2.13	0.61
38:A1:1597:C:H5"	69:Ag:25:THR:HG23	1.82	0.61
2:BB:111:ARG:O	2:BB:115:ARG:NH1	2.33	0.61
19:BD:76:ARG:HH21	21:BK:63:TYR:HD2	1.46	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:486:G:H22	34:B5:500:C:H4’	1.64	0.61
38:A1:1389:G:OP1	67:Ae:104:ASN:ND2	2.32	0.61
38:A1:2641:U:OP2	56:AT:10:ARG:NH2	2.30	0.61
80:EC:6867:C:H2’	80:EC:6868:C:H6	1.64	0.61
11:BO:17:ALA:N	11:BO:80:HIS:O	2.23	0.61
20:BF:62:VAL:HG23	20:BF:89:ILE:HD12	1.82	0.61
22:BP:86:VAL:HG12	22:BP:88:GLU:H	1.64	0.61
38:A1:1474:A:O2’	66:Ad:57:GLN:NE2	2.32	0.61
38:A1:2369:G:H2’	38:A1:2370:G:C8	2.36	0.61
80:EC:6860:A:N6	80:EC:6871:A:O5’	2.33	0.61
4:BE:173:ILE:HD13	4:BE:229:GLY:HA2	1.82	0.61
21:BK:52:LYS:HG3	34:B5:1220:C:H4’	1.82	0.61
34:B5:1339:C:O2’	34:B5:1341:A:N7	2.33	0.61
38:A1:3050:U:O2’	59:AW:16:GLY:O	2.18	0.61
39:A3:23:A:C5	39:A3:24:A:C5	2.89	0.61
62:AZ:33:SER:OG	62:AZ:35:SER:O	2.15	0.61
79:E:17:LEU:HD22	79:E:172:VAL:HG13	1.82	0.61
22:BP:47:ARG:NH1	34:B5:1553:G:OP2	2.33	0.61
22:BP:124:THR:HG21	34:B5:1182:U:H4’	1.83	0.61
31:Bg:13:LEU:N	31:Bg:310:ILE:O	2.30	0.61
11:BO:15:GLY:O	11:BO:80:HIS:N	2.31	0.61
13:BW:17:ALA:HB1	13:BW:22:LYS:HB2	1.83	0.61
30:Bd:54:LYS:NZ	34:B5:1420:C:OP1	2.33	0.61
35:AA:69:TYR:OH	38:A1:2557:A:OP1	2.17	0.61
19:BD:53:THR:HA	19:BD:91:VAL:HG22	1.81	0.61
24:BR:41:ILE:HG21	24:BR:47:ARG:HB2	1.81	0.61
34:B5:1241:G:H2’	34:B5:1242:A:C8	2.35	0.61
38:A1:2506:U:O2’	38:A1:2507:C:OP1	2.19	0.61
38:A1:2555:G:N1	69:Ag:96:GLU:OE2	2.28	0.61
66:Ad:55:LEU:HB2	66:Ad:95:PRO:HD3	1.83	0.61
24:BR:60:ARG:NH1	34:B5:1400:A:O3’	2.34	0.60
34:B5:752:A:H2’	34:B5:753:A:C8	2.36	0.60
38:A1:400:G:H4’	38:A1:401:U:H5”	1.82	0.60
38:A1:1495:U:H5	38:A1:1835:A:N1	1.99	0.60
3:BC:40:LYS:HG2	3:BC:247:ALA:HB1	1.83	0.60
4:BE:56:LEU:O	4:BE:57:ASN:ND2	2.34	0.60
4:BE:177:ALA:HA	4:BE:195:ILE:HB	1.82	0.60
31:Bg:34:LEU:HB3	31:Bg:73:LEU:HD11	1.83	0.60
34:B5:1315:U:OP1	34:B5:1328:G:N2	2.23	0.60
34:B5:1452:U:H2’	34:B5:1453:G:C8	2.37	0.60
75:Am:89:TYR:C	75:Am:90:ASN:HD22	2.09	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1041:G:H2'	34:B5:1042:G:C8	2.36	0.60
36:AB:94:GLU:HG3	51:AO:152[A]:VAL:HG21	1.83	0.60
38:A1:662:U:H2'	38:A1:663:OMC:C6	2.37	0.60
44:AG:78:PHE:O	44:AG:79:GLN:HG3	2.01	0.60
49:AM:28:SER:HB3	49:AM:31:LYS:HB2	1.82	0.60
20:BF:118:LEU:O	20:BF:122:ASN:ND2	2.34	0.60
23:BQ:33:GLY:HA2	23:BQ:66:ARG:HH12	1.66	0.60
23:BQ:94:GLN:HA	23:BQ:102:LYS:HD3	1.82	0.60
27:BU:85:ARG:NH1	34:B5:1335:U:OP1	2.34	0.60
36:AB:106:TRP:O	36:AB:137:TYR:OH	2.18	0.60
38:A1:590:G:OP1	67:Ae:62:LYS:NZ	2.29	0.60
38:A1:2533:G:H2'	38:A1:2534:G:C8	2.36	0.60
3:BC:120:GLU:OE1	3:BC:120:GLU:N	2.34	0.60
5:BG:75:LEU:HD11	34:B5:1722:A:H5"	1.83	0.60
7:BI:106:ALA:HA	7:BI:165:LEU:HD13	1.83	0.60
24:BR:45:ARG:HE	24:BR:49:LYS:HE2	1.66	0.60
26:BT:36:ILE:HG13	26:BT:37:VAL:HG13	1.83	0.60
34:B5:71:A:N6	34:B5:72:A:N3	2.49	0.60
34:B5:896:U:H2'	34:B5:897:C:C6	2.36	0.60
36:AB:117:ARG:HA	36:AB:175:LYS:HD2	1.84	0.60
43:AF:118:LYS:HD3	43:AF:191:VAL:HG11	1.83	0.60
56:AT:48:ILE:HG13	56:AT:94:GLU:HG2	1.83	0.60
61:AY:81:GLN:HG2	61:AY:96:PRO:HB2	1.83	0.60
63:Aa:70:LYS:HE3	63:Aa:129:PHE:CD1	2.36	0.60
3:BC:222:TYR:CE2	12:BV:14:PRO:HG3	2.37	0.60
34:B5:163:G:N2	34:B5:163:G:OP2	2.32	0.60
34:B5:1579:U:H2'	34:B5:1580:C:C6	2.36	0.60
35:AA:117:GLU:HB2	35:AA:162:ALA:HB1	1.83	0.60
38:A1:433:A:OP2	68:Af:57:LYS:NZ	2.35	0.60
38:A1:1556:C:O2'	38:A1:2169:G:N2	2.34	0.60
79:E:120:VAL:HG12	79:E:124:LEU:HD23	1.83	0.60
5:BG:2:LYS:HB2	5:BG:108:VAL:HG22	1.82	0.60
34:B5:1452:U:H2'	34:B5:1453:G:H8	1.67	0.60
34:B5:1594:G:OP2	34:B5:1596:C:N4	2.34	0.60
34:B5:1725:U:H5'	59:AW:47:ARG:HH12	1.66	0.60
38:A1:1694:U:H5	38:A1:1752:A:N1	2.00	0.60
47:AJ:32:ARG:NH2	47:AJ:118:PRO:O	2.33	0.60
11:BO:80:HIS:HD2	11:BO:114:ARG:HB2	1.66	0.60
20:BF:89:ILE:HD11	20:BF:137:ILE:HD13	1.84	0.60
20:BF:177:ILE:HD12	20:BF:180:ARG:HH11	1.67	0.60
35:AA:68:LYS:HD3	35:AA:70:ARG:HE	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:AC:328:ASN:OD1	43:AF:48:ASN:ND2	2.35	0.60
38:A1:1203:A:N3	38:A1:2855:U:O2'	2.31	0.60
38:A1:2471:U:O2	38:A1:2474:G:N2	2.34	0.60
61:AY:3:LYS:HD2	61:AY:8:VAL:HG13	1.82	0.60
8:BJ:176:ASN:ND2	34:B5:511:A:OP2	2.31	0.60
10:BN:104:ARG:NH2	34:B5:950:C:O2'	2.35	0.60
11:BO:123:SER:HA	34:B5:929:A:C8	2.37	0.60
22:BP:31:GLU:HA	22:BP:34:VAL:HG12	1.84	0.60
31:Bg:32:LEU:HD21	31:Bg:94:VAL:HG21	1.82	0.60
20:BF:109:LYS:NZ	34:B5:1474:G:OP1	2.35	0.60
28:BZ:49:ARG:HH21	28:BZ:69:LEU:HD11	1.66	0.60
34:B5:12:U:H2'	34:B5:13:C:C6	2.37	0.60
34:B5:1506:G:H2'	34:B5:1507:G:H8	1.67	0.60
37:AC:179:LEU:HD11	37:AC:183:LYS:HE2	1.83	0.60
38:A1:292:U:OP2	50:AN:68:ARG:NH2	2.31	0.60
38:A1:2221:G:N2	38:A1:2224:A:OP2	2.28	0.60
80:EC:6826:U:H2'	80:EC:6827:G:H8	1.67	0.60
22:BP:128:HIS:HB3	34:B5:1460:A:C8	2.37	0.59
26:BT:102:ARG:O	26:BT:106:GLN:N	2.34	0.59
27:BU:105:GLN:HG3	27:BU:106:ILE:HD12	1.83	0.59
28:BZ:65:LEU:HB3	28:BZ:71:ILE:HD11	1.83	0.59
30:Bd:31:ILE:HG12	30:Bd:38:ILE:O	2.01	0.59
34:B5:950:C:H2'	34:B5:951:A:C8	2.37	0.59
34:B5:954:G:H2'	34:B5:955:A:C8	2.37	0.59
34:B5:1683:C:O2'	34:B5:1684:U:O5'	2.15	0.59
52:AP:111:LYS:HG3	52:AP:152:GLU:HG2	1.83	0.59
80:EC:6831:U:H1'	80:EC:6832:G:C8	2.37	0.59
6:BH:64:VAL:HG23	6:BH:67:LEU:HB3	1.83	0.59
10:BN:78:ASN:HD21	10:BN:80:LEU:HD13	1.66	0.59
34:B5:1467:C:H2'	34:B5:1468:U:C6	2.37	0.59
38:A1:532:A:H2'	38:A1:533:A:C8	2.38	0.59
38:A1:631:U:H2'	38:A1:632:G:C8	2.37	0.59
38:A1:1596:C:H2'	38:A1:1597:C:C6	2.37	0.59
39:A3:71:G:H2'	39:A3:72:A:C8	2.38	0.59
65:Ac:17:VAL:HG11	65:Ac:92:ILE:HD12	1.85	0.59
5:BG:135:PRO:HB2	5:BG:141:ILE:HG12	1.84	0.59
38:A1:1108:U:H2'	38:A1:1109:U:C6	2.37	0.59
38:A1:1292:C:O2'	38:A1:1293:U:OP1	2.20	0.59
38:A1:3193:C:H2'	38:A1:3194:C:C6	2.38	0.59
15:BY:10:ARG:HB2	15:BY:24:VAL:HB	1.84	0.59
19:BD:23:GLU:OE1	21:BK:61:TRP:NE1	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Bg:180:ALA:HB3	31:Bg:190:ALA:HB3	1.85	0.59
34:B5:1087:A:H2'	34:B5:1088:A:C8	2.36	0.59
34:B5:1364:G:H2'	34:B5:1365:C:C6	2.37	0.59
34:B5:1489:U:H6	34:B5:1492:A:H2	1.49	0.59
47:AJ:100:GLY:HA3	47:AJ:154:THR:HG22	1.83	0.59
56:AT:65:TYR:HB3	56:AT:75:ILE:CD1	2.33	0.59
80:EC:6935:G:N2	80:EC:6935:G:OP2	2.35	0.59
14:BX:50:LYS:HD3	14:BX:101:GLU:OE2	2.03	0.59
30:Bd:41:GLN:NE2	34:B5:1433:G:N7	2.50	0.59
31:Bg:22:SER:OG	31:Bg:70:ASP:HA	2.03	0.59
31:Bg:41:THR:HG22	31:Bg:62:LYS:HG3	1.85	0.59
31:Bg:80:ALA:HB3	31:Bg:92:TRP:HB2	1.83	0.59
34:B5:16:G:H2'	34:B5:17:C:C6	2.38	0.59
34:B5:1504:G:H2'	34:B5:1505:A:C8	2.37	0.59
37:AC:359:LEU:HD21	38:A1:519:A:C4	2.38	0.59
38:A1:3308:C:O2'	52:AP:69:ARG:O	2.17	0.59
55:AS:25:PHE:HB3	56:AT:150:THR:HB	1.85	0.59
18:Be:43:ARG:HH11	18:Be:54:ARG:HE	1.51	0.59
34:B5:536:C:H3'	34:B5:537:G:H8	1.67	0.59
34:B5:1606:C:H2'	34:B5:1607:G:C8	2.37	0.59
49:AM:109:ARG:HG2	51:AO:199[A]:TYR:CE1	2.38	0.59
60:AX:63:ILE:HD12	60:AX:102:LEU:HD12	1.85	0.59
69:Ag:51:LEU:CD1	69:Ag:54:ILE:HD13	2.32	0.59
79:E:162:VAL:HG12	79:E:164:CYS:H	1.67	0.59
80:EC:6921:C:H2'	80:EC:6922:G:C8	2.37	0.59
26:BT:7:ARG:NH2	34:B5:1365:C:O2'	2.30	0.59
31:Bg:250:TYR:CE2	31:Bg:266:ASP:HB2	2.38	0.59
34:B5:514:G:N7	34:B5:537:G:N2	2.50	0.59
38:A1:991:G:N2	56:AT:59:GLY:O	2.33	0.59
38:A1:1236:G:O3'	38:A1:1245:A:O2'	2.20	0.59
38:A1:3191:G:H2'	38:A1:3192:U:H6	1.68	0.59
41:AD:236:LEU:HA	41:AD:239:ILE:HD13	1.83	0.59
33:BM:28:LEU:HD13	33:BM:136:ILE:HG21	1.85	0.59
34:B5:973:A:H4'	38:A1:848:A:C8	2.38	0.59
40:A4:103:G:OP2	40:A4:105:A:O2'	2.21	0.59
48:AL:4:SER:O	63:Aa:44:ASN:ND2	2.35	0.59
1:BA:15:GLN:O	1:BA:19:ALA:N	2.34	0.59
4:BE:3:ARG:HG2	34:B5:399:A:H4'	1.85	0.59
16:Ba:10:ARG:HH21	16:Ba:12:LYS:HD3	1.67	0.59
34:B5:1593:A:H2'	34:B5:1594:G:H8	1.67	0.59
36:AB:315:GLY:HA2	38:A1:3379:C:H4'	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:121:A:N6	44:AG:126:SER:OG	2.35	0.59
38:A1:1181:U:C6	51:AO:122[A]:GLN:NE2	2.70	0.59
49:AM:16:GLU:HB3	55:AS:149:LYS:HG2	1.84	0.59
2:BB:90:GLU:HB2	2:BB:97:LEU:HD13	1.85	0.59
5:BG:136:LYS:NZ	5:BG:174:LYS:O	2.34	0.59
10:BN:78:ASN:ND2	10:BN:80:LEU:HD13	2.18	0.59
15:BY:132:ARG:NH2	34:B5:155:U:O4	2.36	0.59
34:B5:388:G:OP2	34:B5:423:G:O2'	2.19	0.59
34:B5:590:C:H2'	34:B5:591:A:C8	2.38	0.59
34:B5:1462:G:H2'	34:B5:1463:C:C6	2.38	0.59
34:B5:1619:C:H2'	34:B5:1620:C:H6	1.68	0.59
34:B5:1628:U:H2'	34:B5:1629:G:C8	2.37	0.59
38:A1:2373:A:N3	38:A1:2824:G:O2'	2.27	0.59
38:A1:2895:G:O2'	75:Am:100:TYR:O	2.20	0.59
5:BG:197:ASN:ND2	34:B5:126:A:OP2	2.36	0.58
20:BF:131:GLN:O	20:BF:135:ASP:N	2.33	0.58
21:BK:14:TYR:CZ	21:BK:18:GLU:HG3	2.38	0.58
21:BK:38:LYS:HG3	21:BK:40:LEU:H	1.68	0.58
23:BQ:44:LEU:HD21	23:BQ:78:VAL:HB	1.85	0.58
26:BT:86:ARG:NH2	34:B5:1562:G:OP1	2.36	0.58
34:B5:79:C:H2'	34:B5:80:A:C4	2.38	0.58
38:A1:3068:U:OP2	54:AR:62:ARG:NH2	2.34	0.58
80:EC:6826:U:H2'	80:EC:6827:G:C8	2.37	0.58
2:BB:134:VAL:HB	2:BB:219:LYS:HB2	1.84	0.58
11:BO:21:ALA:HA	11:BO:26:THR:HG23	1.84	0.58
23:BQ:123:ARG:HD3	23:BQ:124:PRO:HD2	1.85	0.58
33:BM:46:ARG:NH2	34:B5:1229:G:O5'	2.37	0.58
34:B5:884:A:H2'	34:B5:885:G:C8	2.38	0.58
38:A1:374:A:H4'	38:A1:375:A:H5'	1.85	0.58
41:AD:95:TRP:HZ3	41:AD:199:ILE:HD13	1.67	0.58
47:AJ:32:ARG:HH12	47:AJ:118:PRO:HG2	1.68	0.58
31:Bg:14:GLU:HB3	31:Bg:309:VAL:HG23	1.85	0.58
34:B5:1146:G:H2'	34:B5:1147:A:C8	2.38	0.58
34:B5:1524:A:H2'	34:B5:1525:A:C8	2.38	0.58
6:BH:15:GLU:HA	6:BH:18:LEU:HG	1.86	0.58
11:BO:84:ARG:HH21	11:BO:118:VAL:HG13	1.67	0.58
27:BU:31:VAL:HB	27:BU:87:HIS:CE1	2.38	0.58
31:Bg:149:ASP:HB3	31:Bg:175:ASP:HB3	1.84	0.58
33:BM:50:LYS:HB3	33:BM:54:ARG:HH22	1.67	0.58
34:B5:1772:C:H2'	34:B5:1773:4AC:H6	1.85	0.58
43:AF:79:ALA:HB2	56:AT:138:SER:HB2	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:AI:72:ALA:HB2	46:AI:155:ALA:HB2	1.85	0.58
62:AZ:21:LYS:HD2	62:AZ:49:TYR:HE1	1.68	0.58
5:BG:140:ASN:ND2	34:B5:168:A:OP1	2.36	0.58
22:BP:98:ASN:HB2	22:BP:122:THR:HA	1.85	0.58
25:BS:14:ILE:HG22	25:BS:24:GLY:H	1.67	0.58
26:BT:11:ALA:HA	26:BT:14:PHE:HB3	1.84	0.58
34:B5:689:G:H2'	34:B5:690:G:C8	2.38	0.58
38:A1:2988:C:OP1	51:AO:65[A]:ASN:ND2	2.34	0.58
2:BB:79:HIS:NE2	2:BB:191:GLU:OE2	2.36	0.58
8:BJ:136:VAL:HA	8:BJ:156:ILE:HD12	1.85	0.58
20:BF:72:HIS:O	23:BQ:79:TYR:OH	2.20	0.58
34:B5:1560:U:H2'	34:B5:1561:U:O4'	2.03	0.58
42:AE:96:VAL:HG12	42:AE:98:VAL:HG13	1.85	0.58
42:AE:174:LEU:HD21	49:AM:117:ARG:NH2	2.18	0.58
80:EC:6771:U:O2'	80:EC:6777:C:N3	2.36	0.58
10:BN:60:VAL:HG13	10:BN:66:ILE:HD12	1.84	0.58
14:BX:19:ARG:NH1	34:B5:609:U:H1'	2.19	0.58
34:B5:1709:C:H2'	34:B5:1710:U:C6	2.38	0.58
36:AB:250:ALA:HB1	38:A1:2947:G:C2	2.39	0.58
38:A1:2219:A:OP2	71:Ai:68:ARG:NH2	2.37	0.58
42:AE:51:ARG:HH12	42:AE:161:ALA:HB3	1.68	0.58
44:AG:132:VAL:HG12	44:AG:200:LEU:HD21	1.85	0.58
61:AY:74:TYR:HE2	61:AY:77:LYS:HG3	1.67	0.58
2:BB:150:VAL:HG22	34:B5:1067:C:H5"	1.85	0.58
20:BF:177:ILE:HA	20:BF:180:ARG:HD3	1.86	0.58
21:BK:32:HIS:N	21:BK:37:THR:O	2.36	0.58
25:BS:145:ARG:HH21	34:B5:1172:G:H5"	1.68	0.58
31:Bg:241:PHE:HD2	31:Bg:290:VAL:HG23	1.68	0.58
34:B5:1267:G:O2'	34:B5:1448:G:O2'	2.22	0.58
38:A1:675:C:O2'	38:A1:679:U:OP1	2.17	0.58
38:A1:1236:G:O2'	38:A1:1237:G:H5"	2.04	0.58
38:A1:1246:G:H1'	38:A1:1264:G:H2'	1.84	0.58
38:A1:1259:A:N7	38:A1:1260:A:N6	2.52	0.58
63:Aa:24:LYS:O	63:Aa:26:ARG:HG2	2.03	0.58
80:EC:6899:C:H3'	80:EC:6900:A:H8	1.69	0.58
1:BA:90:ALA:HA	1:BA:95:ALA:HB3	1.86	0.58
4:BE:85:GLY:N	4:BE:88:ASP:OD2	2.33	0.58
20:BF:143:ARG:NH2	29:Bc:57:MET:SD	2.76	0.58
20:BF:196:GLU:OE2	20:BF:200:ASN:ND2	2.37	0.58
22:BP:43:ARG:HH21	22:BP:47:ARG:HH11	1.52	0.58
38:A1:987:U:H2'	38:A1:988:U:C6	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:A4:37:A:H5"	40:A4:39:G:O4'	2.04	0.58
41:AD:122:VAL:HG21	41:AD:130:GLU:OE2	2.04	0.58
66:Ad:79:ARG:NH1	66:Ad:88:PRO:HB2	2.19	0.58
2:BB:141:ALA:HB1	2:BB:207:LEU:HD23	1.86	0.58
4:BE:22:LYS:N	34:B5:773:C:OP1	2.37	0.58
12:BV:64:GLU:HG2	17:Bb:3:LEU:HD13	1.86	0.58
21:BK:25:LYS:HB3	21:BK:62:GLN:HB3	1.86	0.58
27:BU:71:PRO:HB3	30:Bd:41:GLN:NE2	2.19	0.58
34:B5:939:A:H2'	34:B5:940:A:H8	1.68	0.58
38:A1:2703:A:N6	41:AD:28:THR:O	2.36	0.58
38:A1:3192:U:H2'	38:A1:3193:C:C6	2.39	0.58
41:AD:130:GLU:OE1	41:AD:130:GLU:N	2.36	0.58
1:BA:74:VAL:HB	1:BA:118:PRO:HG3	1.86	0.57
7:BI:104:ILE:HG13	7:BI:105:ASP:H	1.69	0.57
24:BR:3:ARG:NH1	34:B5:1390:U:O4'	2.36	0.57
34:B5:1488:G:O2'	34:B5:1494:C:O2	2.21	0.57
34:B5:1785:U:H2'	34:B5:1786:G:H8	1.68	0.57
40:A4:67:U:H5"	72:Aj:85:LYS:O	2.04	0.57
45:AH:100:ASN:HB3	45:AH:115:ARG:HB2	1.85	0.57
51:AO:65[A]:ASN:HB3	51:AO:68[A]:ARG:HG2	1.84	0.57
63:Aa:36:GLY:HA3	63:Aa:40:HIS:CE1	2.39	0.57
12:BV:79:LEU:HD22	12:BV:82:VAL:HG21	1.84	0.57
34:B5:836:U:H2'	34:B5:837:G:C8	2.39	0.57
34:B5:934:C:N4	34:B5:1077:C:O3'	2.37	0.57
34:B5:1174:C:O2'	34:B5:1196:A:N6	2.37	0.57
38:A1:269:G:N2	38:A1:295:A:OP2	2.21	0.57
41:AD:261:THR:O	41:AD:264:GLN:N	2.35	0.57
42:AE:42:LEU:O	42:AE:49:GLY:N	2.29	0.57
45:AH:90:MET:HB2	45:AH:144:ILE:HG23	1.86	0.57
2:BB:103:MET:HE3	2:BB:215:VAL:HG23	1.86	0.57
3:BC:78:ASP:HB3	3:BC:104:VAL:HG12	1.86	0.57
13:BW:115:GLU:OE1	13:BW:118:ARG:NH2	2.37	0.57
34:B5:1606:C:H2'	34:B5:1607:G:H8	1.70	0.57
38:A1:3118:C:H1'	75:Am:106:ARG:NH1	2.19	0.57
75:Am:96:CYS:HB2	75:Am:103:LEU:HD11	1.86	0.57
3:BC:156:THR:HG23	13:BW:95:PRO:HB2	1.87	0.57
4:BE:99:PHE:HE1	4:BE:113:ARG:HG3	1.70	0.57
4:BE:191:ARG:HD2	4:BE:245:LYS:HD2	1.84	0.57
5:BG:57:ASP:HA	5:BG:106:LEU:HA	1.87	0.57
34:B5:851:U:H5"	54:AR:170:ARG:HE	1.70	0.57
37:AC:35:VAL:HG21	37:AC:244:LEU:HD21	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:2473:C:OP2	38:A1:2474:G:N2	2.35	0.57
46:AI:54:SER:HB3	46:AI:135:ILE:HD11	1.87	0.57
52:AP:118:GLN:NE2	52:AP:120:ASN:OD1	2.37	0.57
4:BE:198:LYS:HG3	4:BE:208:VAL:HG22	1.85	0.57
30:Bd:33:LYS:O	30:Bd:36:LEU:HD23	2.04	0.57
34:B5:564:G:N2	34:B5:577:G:OP1	2.32	0.57
37:AC:356:THR:HG22	37:AC:360:LYS:HE2	1.85	0.57
38:A1:1725:C:H5'	78:Ap:36:ARG:HH12	1.68	0.57
39:A3:22:A:H2'	39:A3:23:A:C8	2.38	0.57
79:E:26:ARG:HG2	79:E:28:PHE:H	1.69	0.57
80:EC:6821:U:H3'	80:EC:6822:U:H4'	1.86	0.57
18:Be:56:MET:HE1	34:B5:589:C:O3'	2.05	0.57
34:B5:1483:A:H2	34:B5:1607:G:H1'	1.69	0.57
34:B5:1715:G:C6	34:B5:1716:C:H1'	2.39	0.57
38:A1:625:G:N2	38:A1:1401:A:OP1	2.32	0.57
38:A1:2796:G:N7	77:Ao:63:LYS:NZ	2.51	0.57
52:AP:30:ARG:HD2	52:AP:63:PHE:HE2	1.68	0.57
79:E:194:LEU:HD13	79:E:200:ASN:HB2	1.87	0.57
80:EC:6833:G:O2'	80:EC:6872:A:N6	2.32	0.57
16:Ba:18:VAL:O	16:Ba:19:LYS:HG2	2.04	0.57
19:BD:176:LEU:HD13	34:B5:1437:U:H4'	1.85	0.57
38:A1:428:A:H2'	38:A1:429:U:C6	2.40	0.57
77:Ao:69:VAL:HG22	77:Ao:84:THR:HG22	1.86	0.57
6:BH:101:LYS:HE3	6:BH:112:ARG:HH22	1.69	0.57
11:BO:18:ARG:NH2	34:B5:919:A:OP1	2.37	0.57
30:Bd:45:GLU:OE1	34:B5:1433:G:N2	2.35	0.57
38:A1:1636:U:H5'	62:AZ:36:HIS:HE1	1.70	0.57
38:A1:1667:A:H2'	38:A1:1668:G:C8	2.40	0.57
38:A1:2566:C:H2'	38:A1:2567:C:H6	1.69	0.57
38:A1:2960:C:H2'	38:A1:2961:G:H8	1.68	0.57
80:EC:6947:A:H2'	80:EC:6948:U:O4'	2.05	0.57
12:BV:22:ARG:HH12	12:BV:58:TYR:HB3	1.68	0.57
29:Bc:31:GLU:OE2	29:Bc:39:THR:OG1	2.19	0.57
34:B5:209:U:H2'	34:B5:210:A:H8	1.70	0.57
34:B5:1488:G:H3'	34:B5:1515:A:H61	1.69	0.57
38:A1:1301:A:H4'	38:A1:1302:A:O5'	2.05	0.57
38:A1:1808:G:OP1	62:AZ:135:ARG:NH2	2.37	0.57
44:AG:81:THR:HG21	44:AG:181:LYS:HG3	1.87	0.57
79:E:191:VAL:HA	79:E:194:LEU:HD12	1.86	0.57
2:BB:168:ILE:HG23	2:BB:172:LEU:HD13	1.86	0.57
4:BE:179:LYS:HG3	4:BE:230:GLU:HA	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:BF:95:ASN:HA	20:BF:98:MET:HE1	1.86	0.57
25:BS:38:VAL:HG13	25:BS:42:TYR:HD2	1.70	0.57
34:B5:327:U:H2'	34:B5:328:A:C8	2.40	0.57
34:B5:1068:C:H2'	34:B5:1069:A:H8	1.69	0.57
34:B5:1208:A:H8	34:B5:1269:OMU:H6	1.69	0.57
36:AB:323:MET:HE1	36:AB:359:ILE:HD13	1.86	0.57
1:BA:146:LEU:HG	1:BA:173:ILE:HD13	1.86	0.56
2:BB:162:ARG:HA	2:BB:165:ARG:HG2	1.87	0.56
4:BE:136:VAL:HG11	4:BE:148:ARG:HE	1.68	0.56
6:BH:23:ALA:HA	6:BH:26:GLU:HB2	1.86	0.56
22:BP:34:VAL:HG21	22:BP:45:PHE:HB2	1.87	0.56
31:Bg:292:LEU:HD13	31:Bg:301:LEU:HD11	1.85	0.56
39:A3:29:C:O2'	39:A3:51:A:N1	2.31	0.56
49:AM:19:ARG:HB3	49:AM:35:ILE:HD12	1.87	0.56
80:EC:6920:C:H2'	80:EC:6921:C:C6	2.39	0.56
6:BH:58:LEU:N	6:BH:89:HIS:O	2.32	0.56
19:BD:211:PRO:HG3	24:BR:19:ARG:HD3	1.86	0.56
20:BF:69:PHE:CE2	23:BQ:46:PHE:HB3	2.38	0.56
23:BQ:16:ALA:HB2	23:BQ:72:GLY:HA3	1.87	0.56
34:B5:1218:G:O2'	34:B5:1265:G:N2	2.37	0.56
51:AO:43[A]:ILE:HD11	51:AO:138[A]:LEU:HD13	1.87	0.56
56:AT:79:MET:HB2	56:AT:84:TYR:CE2	2.40	0.56
78:Ap:51:ALA:HB3	78:Ap:54:ILE:HD12	1.86	0.56
80:EC:6817:A:H5"	80:EC:6818:G:H5'	1.87	0.56
80:EC:6892:U:H2'	80:EC:6893:C:C6	2.40	0.56
2:BB:24:PHE:HA	2:BB:27:LYS:HD3	1.87	0.56
7:BI:87:ASN:OD1	7:BI:90:LEU:HD23	2.05	0.56
9:BL:36:LYS:HD2	34:B5:248:U:H4'	1.87	0.56
19:BD:94:ARG:NH1	19:BD:101:GLN:OE1	2.39	0.56
20:BF:116:HIS:O	20:BF:120:ILE:HG12	2.06	0.56
21:BK:3:MET:HE1	21:BK:7:ASP:OD2	2.05	0.56
31:Bg:43:ILE:HD11	31:Bg:57:PRO:HB2	1.87	0.56
34:B5:705:U:H2'	34:B5:730:G:H1	1.70	0.56
34:B5:1067:C:H2'	34:B5:1068:C:H6	1.69	0.56
35:AA:65:ASP:OD2	35:AA:68:LYS:N	2.34	0.56
36:AB:93:VAL:HG12	36:AB:155:ALA:H	1.71	0.56
38:A1:244:G:OP1	48:AL:131:LYS:NZ	2.30	0.56
38:A1:959:C:O2'	38:A1:2410:U:N3	2.33	0.56
38:A1:1306:G:H4'	51:AO:59[A]:ARG:O	2.05	0.56
38:A1:1724:U:H1'	38:A1:1725:C:C6	2.41	0.56
38:A1:2406:C:H2'	38:A1:2407:C:C6	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:3213:A:H2'	38:A1:3214:U:O4'	2.04	0.56
3:BC:68:ILE:O	3:BC:72:LEU:HD23	2.05	0.56
7:BI:178:ARG:NH1	34:B5:207:U:O2	2.38	0.56
16:Ba:5:ARG:NH2	34:B5:1796:C:OP2	2.33	0.56
23:BQ:94:GLN:CA	23:BQ:102:LYS:HD3	2.35	0.56
31:Bg:305:TYR:CZ	31:Bg:311:ARG:HD3	2.41	0.56
38:A1:664:U:H2'	38:A1:665:A:C8	2.39	0.56
45:AH:42:ASP:OD1	45:AH:64:HIS:NE2	2.37	0.56
79:E:203:SER:OG	79:E:215:ARG:NH2	2.38	0.56
2:BB:105:PHE:CD1	2:BB:213:ARG:HA	2.41	0.56
3:BC:183:ALA:HB1	3:BC:207:LEU:HD11	1.87	0.56
22:BP:121:ILE:HD11	22:BP:123:TYR:CE1	2.40	0.56
26:BT:18:TYR:CZ	26:BT:135:ILE:HB	2.40	0.56
31:Bg:68:VAL:HA	31:Bg:84:SER:HA	1.88	0.56
47:AJ:86:VAL:HB	47:AJ:106:ILE:HD12	1.86	0.56
63:Aa:90:TYR:CG	63:Aa:100:PRO:HG3	2.40	0.56
80:EC:6860:A:H3'	80:EC:6861:G:C8	2.40	0.56
8:BJ:122:VAL:HG23	8:BJ:123:HIS:CD2	2.41	0.56
13:BW:83:ILE:HB	34:B5:749:U:H5"	1.86	0.56
16:Ba:44:ILE:HG23	16:Ba:45:VAL:HG23	1.87	0.56
20:BF:49:GLU:O	20:BF:128:ASN:ND2	2.39	0.56
22:BP:15:HIS:CE1	22:BP:22:LEU:HB2	2.40	0.56
25:BS:81:ILE:HG22	25:BS:83:ALA:H	1.71	0.56
27:BU:82:TYR:HB2	30:Bd:52:PHE:CZ	2.40	0.56
36:AB:9:PRO:HD2	58:AV:45:ARG:NH1	2.21	0.56
42:AE:39:VAL:HB	42:AE:89:THR:HG23	1.86	0.56
45:AH:146:LEU:HD22	45:AH:158:ALA:HB2	1.88	0.56
68:Af:16:TYR:OH	68:Af:89:LEU:O	2.21	0.56
34:B5:918:U:H2'	34:B5:919:A:C8	2.40	0.56
34:B5:1570:A:H2'	34:B5:1571:C:O4'	2.05	0.56
36:AB:35:ASP:OD2	36:AB:191:LYS:NZ	2.23	0.56
36:AB:220:VAL:O	36:AB:334:ARG:NH1	2.38	0.56
41:AD:146:LEU:HD22	41:AD:163:LEU:HD13	1.86	0.56
1:BA:50:VAL:HG12	24:BR:109:LEU:HD23	1.88	0.56
1:BA:107:PHE:HB2	1:BA:135:GLU:HG2	1.86	0.56
2:BB:129:THR:HA	2:BB:177:GLN:HA	1.86	0.56
6:BH:44:LYS:HE2	6:BH:95:GLU:HG2	1.88	0.56
34:B5:1349:G:N2	34:B5:1378:U:O4	2.38	0.56
38:A1:1046:A:H2'	38:A1:1049:C:C5	2.40	0.56
42:AE:60:ASP:OD2	42:AE:78:ARG:NH1	2.38	0.56
76:An:1:MET:HE1	76:An:9:ARG:CZ	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:E:26:ARG:HD3	79:E:28:PHE:CD2	2.41	0.56
28:BZ:48:ASP:OD1	28:BZ:49:ARG:N	2.39	0.56
33:BM:22:VAL:HG21	33:BM:132:GLU:HA	1.88	0.56
34:B5:490:C:N4	34:B5:492:A:O4'	2.38	0.56
37:AC:50:TYR:OH	37:AC:107:ARG:NH1	2.37	0.56
37:AC:349:THR:O	37:AC:350:LYS:HE2	2.06	0.56
38:A1:1410:U:O2'	67:Ae:95:GLU:OE2	2.22	0.56
45:AH:89:LYS:HD2	45:AH:183:HIS:HB3	1.88	0.56
50:AN:121:VAL:HG11	50:AN:131:GLU:HG3	1.88	0.56
8:BJ:176:ASN:HA	8:BJ:179:ARG:HG2	1.87	0.56
25:BS:31:ALA:O	25:BS:34:THR:OG1	2.23	0.56
34:B5:1091:A:H4'	34:B5:1092:A:O4'	2.06	0.56
41:AD:181:PRO:HD2	41:AD:195:LEU:HD13	1.88	0.56
44:AG:91:PHE:O	44:AG:95:ASN:ND2	2.38	0.56
52:AP:4:TYR:CE2	52:AP:16:SER:HB2	2.41	0.56
80:EC:6797:U:H2'	80:EC:6798:C:C6	2.41	0.56
10:BN:6:SER:OG	10:BN:7:ALA:N	2.39	0.55
17:Bb:31:TYR:OH	17:Bb:70:LYS:NZ	2.38	0.55
17:Bb:57:GLU:O	17:Bb:60:SER:OG	2.24	0.55
20:BF:81:ARG:NE	34:B5:1615:C:OP2	2.39	0.55
20:BF:139:ASN:ND2	20:BF:201:ALA:O	2.38	0.55
21:BK:59:PHE:CZ	21:BK:62:GLN:HG2	2.41	0.55
34:B5:327:U:H2'	34:B5:328:A:H8	1.69	0.55
35:AA:9:ARG:NH2	38:A1:912:G:OP2	2.38	0.55
38:A1:1124:U:O2'	38:A1:2635:A:OP1	2.24	0.55
38:A1:2966:G:H2'	38:A1:2967:A:C8	2.41	0.55
38:A1:3006:A:H2'	38:A1:3007:U:O4'	2.07	0.55
48:AL:49:ARG:O	48:AL:137:GLN:NE2	2.35	0.55
4:BE:136:VAL:HG21	4:BE:148:ARG:HH21	1.71	0.55
34:B5:1755:A:H1'	80:EC:6951:C:O2'	2.06	0.55
37:AC:361:HIS:O	55:AS:28:ARG:NH1	2.39	0.55
38:A1:1097:G:N7	56:AT:116:ARG:NH1	2.54	0.55
38:A1:2148:U:H2'	38:A1:2149:A:C8	2.41	0.55
38:A1:2193:U:H5"	38:A1:2194:G:H5'	1.88	0.55
38:A1:3129:A:H2'	38:A1:3130:A:H5"	1.88	0.55
79:E:50:SER:HB3	79:E:158:GLN:NE2	2.21	0.55
38:A1:3164:C:O2'	38:A1:3165:A:O5'	2.23	0.55
39:A3:120:C:H2'	41:AD:265:TYR:CE2	2.42	0.55
42:AE:4:GLN:HG3	67:Ae:75:LEU:HB3	1.88	0.55
80:EC:6919:G:H2'	80:EC:6920:C:O4'	2.06	0.55
3:BC:59:HIS:CE1	3:BC:239:PRO:HD3	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:BJ:90:LYS:HB2	8:BJ:95:TYR:CD1	2.41	0.55
19:BD:7:LYS:HE2	27:BU:88:LYS:HE3	1.88	0.55
19:BD:15:GLY:HA3	30:Bd:50:ILE:HG23	1.88	0.55
25:BS:139:LYS:O	34:B5:1461:C:N4	2.31	0.55
33:BM:62:LEU:HD21	33:BM:75:VAL:HG11	1.88	0.55
34:B5:894:U:H2'	34:B5:895:G:C8	2.41	0.55
38:A1:12:A:H2'	38:A1:13:A:C8	2.42	0.55
55:AS:73:LYS:NZ	55:AS:97:VAL:O	2.39	0.55
75:Am:79:GLU:HB3	75:Am:82:LEU:HB2	1.88	0.55
6:BH:41:LEU:HB3	6:BH:70:PHE:CE1	2.41	0.55
7:BI:43:ILE:HB	34:B5:260:U:H5	1.71	0.55
7:BI:67:TRP:NE1	7:BI:185:GLU:OE2	2.36	0.55
34:B5:473:A:H2'	34:B5:474:A:O4'	2.06	0.55
34:B5:509:G:H2'	34:B5:510:G:C8	2.42	0.55
34:B5:934:C:C4	34:B5:1077:C:H4'	2.42	0.55
37:AC:2:SER:OG	37:AC:3:ARG:N	2.35	0.55
38:A1:145:G:OP2	44:AG:193:LYS:NZ	2.31	0.55
38:A1:418:A:N1	40:A4:5:U:H5	2.05	0.55
38:A1:945:C:H2'	38:A1:946:U:C6	2.42	0.55
38:A1:1152:G:OP2	38:A1:1152:G:N2	2.38	0.55
38:A1:1492:G:O2'	74:Al:48:LYS:NZ	2.40	0.55
38:A1:2747:A:H2'	38:A1:2748:A:C8	2.40	0.55
40:A4:102:U:H2'	40:A4:103:G:C8	2.41	0.55
41:AD:65:ILE:HG12	41:AD:74:VAL:HG12	1.87	0.55
25:BS:41:ARG:HB3	34:B5:1566:U:P	2.47	0.55
27:BU:85:ARG:NH2	34:B5:1334:U:O2'	2.40	0.55
34:B5:1483:A:N3	34:B5:1607:G:O2'	2.32	0.55
38:A1:1222:G:N2	38:A1:1286:A:N6	2.23	0.55
38:A1:2482:U:H3	38:A1:2486:A:H62	1.54	0.55
38:A1:3266:G:OP2	42:AE:70:LYS:NZ	2.35	0.55
49:AM:17:VAL:HG11	49:AM:74:ARG:HA	1.88	0.55
29:Bc:15:VAL:HG23	29:Bc:28:VAL:HG12	1.89	0.55
31:Bg:203:THR:HG21	31:Bg:244:ALA:HA	1.87	0.55
39:A3:77:G:N2	39:A3:102:A:OP2	2.38	0.55
1:BA:139:VAL:HG13	1:BA:141:ILE:HG12	1.88	0.55
5:BG:71:THR:HG22	5:BG:72:ARG:H	1.69	0.55
19:BD:15:GLY:O	19:BD:19:ALA:N	2.36	0.55
28:BZ:43:ASP:O	28:BZ:47:TYR:N	2.37	0.55
38:A1:302:U:H5"	50:AN:179:LYS:HE3	1.89	0.55
38:A1:2486:A:N7	79:E:105:LYS:NZ	2.55	0.55
47:AJ:133:ARG:NH2	47:AJ:158:ASP:OD1	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:126:PRO:HG2	1:BA:151:SER:HB2	1.88	0.55
4:BE:99:PHE:CE1	4:BE:113:ARG:HG3	2.41	0.55
8:BJ:11:THR:HG23	34:B5:472:U:H5"	1.89	0.55
19:BD:98:ALA:HB2	19:BD:188:ILE:HG22	1.89	0.55
29:Bc:21:SER:OG	34:B5:1619:C:O4'	2.24	0.55
34:B5:138:A:N6	34:B5:266:A:H61	2.05	0.55
34:B5:590:C:H2'	34:B5:591:A:H8	1.72	0.55
34:B5:1770:U:H2'	34:B5:1771:U:C6	2.42	0.55
38:A1:1188:U:OP1	38:A1:1210:U:O2'	2.21	0.55
38:A1:1498:A:H2'	38:A1:1499:C:C6	2.42	0.55
38:A1:2728:G:C6	56:AT:80:VAL:HG11	2.42	0.55
38:A1:3286:G:H2'	38:A1:3287:U:H6	1.71	0.55
41:AD:104:LEU:O	41:AD:108:ARG:N	2.33	0.55
71:Ai:58:ILE:HG23	71:Ai:94:ILE:HD11	1.89	0.55
80:EC:6861:G:H2'	80:EC:6862:G:C8	2.42	0.55
4:BE:221:ARG:NH2	34:B5:752:A:O2'	2.39	0.55
8:BJ:109:LEU:HA	8:BJ:112:GLN:HB3	1.89	0.55
16:Ba:44:ILE:HG21	16:Ba:65:PRO:HD2	1.89	0.55
34:B5:841:U:H2'	34:B5:842:C:H6	1.72	0.55
38:A1:1213:G:H4'	55:AS:90:MET:SD	2.46	0.55
41:AD:108:ARG:NH1	41:AD:253:PHE:HB2	2.22	0.55
42:AE:172:HIS:ND1	42:AE:173:MET:HG2	2.22	0.55
55:AS:13:ARG:NH2	55:AS:50:LYS:O	2.35	0.55
3:BC:144:TRP:HZ3	8:BJ:60:LEU:HD22	1.71	0.54
5:BG:5:ILE:HG22	5:BG:111:LEU:HB2	1.88	0.54
6:BH:62:VAL:O	6:BH:95:GLU:N	2.29	0.54
6:BH:158:ASP:HB3	6:BH:161:GLN:HE22	1.71	0.54
31:Bg:121:MET:HE1	31:Bg:141:LEU:HD12	1.88	0.54
7:BI:84:HIS:NE2	7:BI:97:THR:OG1	2.31	0.54
15:BY:54:ALA:O	15:BY:76:TYR:N	2.40	0.54
34:B5:517:U:H2'	34:B5:518:A:O4'	2.07	0.54
34:B5:702:G:O2'	34:B5:703:G:N7	2.31	0.54
34:B5:752:A:H2'	34:B5:753:A:H8	1.71	0.54
34:B5:1353:U:HO2'	34:B5:1354:G:H8	1.55	0.54
38:A1:1717:U:H2'	38:A1:1718:G:C8	2.43	0.54
38:A1:1867:A:H2'	38:A1:1868:G:C8	2.42	0.54
38:A1:2451:G:H2'	38:A1:2452:G:C8	2.41	0.54
42:AE:66:SER:OG	42:AE:138:GLN:NE2	2.35	0.54
53:AQ:94:PHE:CE2	63:Aa:119:PRO:HD3	2.42	0.54
66:Ad:75:ILE:HD13	66:Ad:93:VAL:HG13	1.89	0.54
80:EC:6789:G:H4'	80:EC:6790:A:OP1	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:EC:6800:G:H2'	80:EC:6801:A:H8	1.72	0.54
1:BA:41:ARG:HG3	24:BR:105:GLN:HE22	1.72	0.54
4:BE:64:ILE:HG23	15:BY:17:LEU:HD12	1.89	0.54
20:BF:142:PRO:HB2	20:BF:162:VAL:HG11	1.89	0.54
20:BF:146:THR:HA	20:BF:159:ALA:HA	1.90	0.54
26:BT:15:ILE:HD12	26:BT:60:SER:HB2	1.90	0.54
34:B5:488:G:H5"	34:B5:492:A:H62	1.72	0.54
34:B5:1210:C:H2'	34:B5:1211:A:H8	1.72	0.54
52:AP:30:ARG:HD2	52:AP:63:PHE:CE2	2.43	0.54
53:AQ:176:ARG:HA	53:AQ:182:LYS:O	2.08	0.54
56:AT:27:LEU:HD13	56:AT:30:TYR:HD2	1.71	0.54
80:EC:6778:C:H5"	80:EC:6779:C:H5	1.72	0.54
18:Be:43:ARG:NH2	18:Be:56:MET:HE3	2.22	0.54
22:BP:60:LEU:HD23	22:BP:89:MET:HG2	1.90	0.54
36:AB:86:VAL:HG22	36:AB:162:VAL:HG12	1.89	0.54
38:A1:417:A:H2'	38:A1:418:A:C8	2.42	0.54
38:A1:994:G:N2	38:A1:995:U:O4	2.36	0.54
38:A1:1593:A:N3	38:A1:1615:C:O2'	2.37	0.54
66:Ad:48:ASP:HB2	66:Ad:87:ASN:HD21	1.72	0.54
3:BC:203:LYS:O	3:BC:206:THR:HG22	2.08	0.54
25:BS:41:ARG:NH1	26:BT:46:PRO:HD3	2.23	0.54
35:AA:178:PRO:HG2	78:Ap:26:VAL:HG23	1.90	0.54
38:A1:715:A:N1	38:A1:781:G:O2'	2.41	0.54
38:A1:1817:G:H2'	38:A1:1818:U:C6	2.43	0.54
38:A1:2898:G:O6	75:Am:125:LYS:NZ	2.40	0.54
3:BC:58:LEU:O	12:BV:15:ARG:NE	2.33	0.54
3:BC:83:ILE:HD11	3:BC:125:ILE:HD11	1.90	0.54
4:BE:252:ARG:O	4:BE:256:ARG:HG2	2.07	0.54
23:BQ:103:ASN:OD1	23:BQ:107:LYS:HE2	2.07	0.54
30:Bd:7:TRP:NE1	34:B5:1242:A:H2	2.05	0.54
31:Bg:13:LEU:O	31:Bg:310:ILE:N	2.29	0.54
32:Bf:121:CYS:HB2	32:Bf:130:VAL:HG11	1.88	0.54
34:B5:696:C:H1'	34:B5:697:C:H2'	1.88	0.54
34:B5:781:U:H4'	34:B5:782:U:C6	2.43	0.54
34:B5:1511:U:H2'	34:B5:1512:G:C8	2.43	0.54
34:B5:1590:G:H2'	34:B5:1591:C:C6	2.43	0.54
34:B5:1654:G:H4'	76:An:24:SER:HB3	1.90	0.54
38:A1:1272:C:H3'	38:A1:1273:A:H8	1.72	0.54
38:A1:2232:A:H2'	38:A1:2233:A:C8	2.42	0.54
44:AG:33:ASN:O	44:AG:39:ALA:HB3	2.08	0.54
45:AH:69:ARG:HH12	45:AH:73:SER:HB3	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:30:GLN:NE2	1:BA:33:GLN:HG2	2.22	0.54
4:BE:149:TYR:N	4:BE:150:PRO:HD3	2.23	0.54
8:BJ:18:PRO:O	8:BJ:23:ARG:NH2	2.41	0.54
10:BN:63:ALA:O	10:BN:67:THR:OG1	2.26	0.54
38:A1:1534:A:H2'	38:A1:1535:A:C8	2.43	0.54
38:A1:2185:G:O2'	38:A1:2314:U:OP2	2.24	0.54
39:A3:92:A:C5	39:A3:93:C:H1'	2.42	0.54
45:AH:166:ARG:HH21	45:AH:168:ARG:HH12	1.55	0.54
69:Ag:46:ASP:OD2	69:Ag:88:ARG:NH2	2.41	0.54
1:BA:180:GLU:HA	1:BA:183:ARG:HB2	1.88	0.54
7:BI:137:LYS:NZ	34:B5:190:C:OP2	2.40	0.54
7:BI:184:LEU:CD1	7:BI:188:GLU:HG2	2.38	0.54
8:BJ:106:GLU:O	8:BJ:115:LYS:NZ	2.40	0.54
22:BP:21:ASP:OD1	22:BP:22:LEU:N	2.40	0.54
34:B5:52:U:H2'	34:B5:53:G:C8	2.43	0.54
34:B5:343:C:H2'	34:B5:344:A:H8	1.72	0.54
34:B5:447:U:H2'	34:B5:448:C:O4'	2.08	0.54
34:B5:814:A:O2'	34:B5:816:G:OP2	2.25	0.54
34:B5:840:U:H2'	34:B5:841:U:C5	2.42	0.54
34:B5:883:C:H2'	34:B5:884:A:C8	2.43	0.54
34:B5:1494:C:H2'	34:B5:1495:C:C6	2.42	0.54
36:AB:250:ALA:HB1	38:A1:2947:G:N3	2.22	0.54
38:A1:8:C:H2'	38:A1:9:U:C6	2.42	0.54
38:A1:1138:U:OP1	64:Ab:13:THR:HG21	2.08	0.54
38:A1:2767:U:H2'	38:A1:2768:U:C6	2.43	0.54
38:A1:2768:U:H2'	38:A1:2769:A:H8	1.72	0.54
71:Ai:66:GLU:HG3	71:Ai:87:VAL:HG11	1.89	0.54
72:Aj:87:SER:OG	72:Aj:88:ALA:N	2.40	0.54
2:BB:32:ILE:HG23	2:BB:98:THR:HG21	1.90	0.54
2:BB:121:ILE:HG12	2:BB:161:ILE:HD12	1.90	0.54
16:Ba:87:ARG:NH1	16:Ba:94:ASN:OD1	2.40	0.54
19:BD:8:LYS:HG2	27:BU:61:LYS:HD3	1.89	0.54
19:BD:161:GLY:O	19:BD:164:VAL:HG22	2.08	0.54
20:BF:72:HIS:CE1	20:BF:107:LYS:HB3	2.41	0.54
24:BR:100:LEU:HD23	24:BR:101:ASN:N	2.22	0.54
34:B5:722:G:O2'	34:B5:723:G:OP1	2.24	0.54
43:AF:121:LYS:HB2	56:AT:133:ALA:HB3	1.88	0.54
48:AL:123:ILE:HG22	70:Ah:118:ILE:HD13	1.90	0.54
4:BE:57:ASN:N	4:BE:60:GLU:OE2	2.40	0.54
10:BN:40:TYR:HA	10:BN:43:LYS:HD3	1.89	0.54
10:BN:61:THR:HG22	10:BN:62:GLN:HG2	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:BY:127:LYS:NZ	34:B5:151:G:OP2	2.41	0.54
28:BZ:80:LEU:HA	28:BZ:83:LEU:HG	1.89	0.54
31:Bg:37:SER:OG	31:Bg:38:ARG:N	2.40	0.54
33:BM:46:ARG:HH22	34:B5:1229:G:H2'	1.72	0.54
34:B5:207:U:H2'	34:B5:208:U:C6	2.43	0.54
34:B5:1146:G:H2'	34:B5:1147:A:H8	1.72	0.54
34:B5:1202:A:H62	34:B5:1456:C:H3'	1.73	0.54
36:AB:212:ASN:O	36:AB:281:LYS:NZ	2.40	0.54
38:A1:2180:G:H2'	38:A1:2181:C:C6	2.43	0.54
38:A1:3066:U:H2'	38:A1:3067:C:C6	2.43	0.54
62:AZ:4:PHE:CZ	65:Ac:35:ARG:HA	2.43	0.54
62:AZ:115:LYS:O	62:AZ:119:GLU:HG3	2.08	0.54
71:Ai:67:LYS:HB2	79:E:199:GLN:HE22	1.73	0.54
79:E:180:VAL:HA	79:E:183:ILE:HG12	1.90	0.54
80:EC:6866:C:OP2	80:EC:6867:C:N4	2.32	0.54
2:BB:70:LEU:HD11	2:BB:189:ILE:HD12	1.90	0.53
2:BB:135:LEU:HB3	2:BB:217:LEU:HD23	1.90	0.53
11:BO:31:THR:OG1	11:BO:32:ASP:O	2.22	0.53
20:BF:58:LEU:HD21	20:BF:167:ARG:HD3	1.89	0.53
33:BM:45:LEU:N	34:B5:1228:G:OP2	2.41	0.53
33:BM:50:LYS:HB3	33:BM:54:ARG:HH12	1.73	0.53
33:BM:103:LEU:HD21	34:B5:1227:A:H2'	1.89	0.53
34:B5:1303:U:O2'	34:B5:1322:A:OP2	2.20	0.53
34:B5:1508:U:H2'	34:B5:1509:C:C6	2.44	0.53
34:B5:1552:U:H2'	34:B5:1553:G:C8	2.43	0.53
34:B5:1588:G:O6	34:B5:1608:U:O4	2.25	0.53
35:AA:36:GLU:HG3	35:AA:91:GLY:HA2	1.88	0.53
80:EC:6788:C:O2'	80:EC:6851:G:O3'	2.22	0.53
80:EC:6931:U:H2'	80:EC:6932:G:C8	2.43	0.53
1:BA:175:TYR:OH	1:BA:197:ILE:O	2.21	0.53
6:BH:117:THR:HG21	34:B5:638:U:H4'	1.90	0.53
10:BN:19:SER:OG	10:BN:21:ASN:O	2.26	0.53
20:BF:164:PRO:HG3	29:Bc:52:ASP:OD1	2.08	0.53
22:BP:22:LEU:HD11	22:BP:90:ILE:HD13	1.90	0.53
26:BT:18:TYR:OH	26:BT:132:LEU:O	2.27	0.53
34:B5:888:U:H2'	34:B5:889:U:C6	2.44	0.53
38:A1:968:G:H2'	38:A1:969:C:C6	2.43	0.53
38:A1:3092:C:O2'	38:A1:3094:A:OP2	2.19	0.53
51:AO:121[A]:PRO:HG3	55:AS:164:SER:HB2	1.89	0.53
63:Aa:19:LYS:HB3	63:Aa:25:HIS:HB2	1.90	0.53
4:BE:87:MET:SD	4:BE:100:ARG:NH1	2.81	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:BH:113:PRO:HG2	6:BH:116:ARG:HG3	1.90	0.53
15:BY:108:ARG:NH2	34:B5:444:C:OP2	2.24	0.53
26:BT:38:LYS:HB3	26:BT:43:ASN:HB3	1.90	0.53
31:Bg:90:ARG:HH12	31:Bg:102:ARG:HH11	1.55	0.53
33:BM:23:THR:HG21	33:BM:26:ASP:HB2	1.90	0.53
34:B5:1709:C:H2'	34:B5:1710:U:H6	1.74	0.53
38:A1:817:A2M:H62	72:Aj:25:ARG:NH2	2.07	0.53
38:A1:968:G:H2'	38:A1:969:C:H6	1.74	0.53
38:A1:2660:G:OP1	38:A1:2750:U:O2'	2.25	0.53
68:Af:75:HIS:N	68:Af:80:VAL:O	2.40	0.53
80:EC:6899:C:H3'	80:EC:6900:A:C8	2.43	0.53
1:BA:81:PHE:HB3	1:BA:170:ILE:HG21	1.89	0.53
8:BJ:66:ASP:OD2	8:BJ:69:ARG:N	2.39	0.53
10:BN:56:ASP:OD2	17:Bb:52:THR:OG1	2.20	0.53
16:Ba:8:ASN:ND2	34:B5:1030:A:OP2	2.39	0.53
17:Bb:51:GLN:OE1	34:B5:957:G:N2	2.39	0.53
22:BP:118:GLU:HG2	25:BS:121:ALA:HB1	1.89	0.53
38:A1:1322:U:O2	55:AS:108:GLN:NE2	2.37	0.53
38:A1:2261:G:HO2'	38:A1:2263:C:N4	2.06	0.53
38:A1:2674:A:H5"	47:AJ:105:GLY:HA3	1.89	0.53
38:A1:3096:C:H2'	38:A1:3097:C:C6	2.43	0.53
42:AE:41:ILE:HB	42:AE:85:ILE:HG22	1.89	0.53
42:AE:170:LYS:HB2	42:AE:172:HIS:NE2	2.24	0.53
46:AI:170:LYS:HA	46:AI:177:ASP:HA	1.89	0.53
15:BY:55:VAL:HG12	15:BY:75:VAL:HG13	1.89	0.53
17:Bb:10:PRO:HG2	17:Bb:15:GLU:OE2	2.09	0.53
18:Be:43:ARG:NH2	34:B5:590:C:H5"	2.23	0.53
31:Bg:131:ILE:HB	31:Bg:144:LEU:HB2	1.90	0.53
34:B5:209:U:H2'	34:B5:210:A:C8	2.43	0.53
34:B5:1679:G:H21	34:B5:1722:A:H62	1.56	0.53
35:AA:215:ASN:ND2	38:A1:2969:A:N7	2.56	0.53
46:AI:54:SER:HA	46:AI:163:GLN:HG3	1.91	0.53
47:AJ:43:GLN:NE2	47:AJ:70:THR:O	2.40	0.53
54:AR:164:LEU:O	54:AR:169:ALA:N	2.41	0.53
55:AS:82:ASP:HB2	55:AS:120:SER:HB2	1.90	0.53
62:AZ:121:ARG:NH2	62:AZ:127:ASN:OD1	2.38	0.53
79:E:128:LEU:O	79:E:133:LYS:HG3	2.08	0.53
8:BJ:99:LEU:HD13	8:BJ:104:PHE:HZ	1.74	0.53
10:BN:124:ARG:NH2	34:B5:967:A:OP2	2.34	0.53
15:BY:108:ARG:HA	15:BY:111:LYS:HE3	1.91	0.53
18:Be:50:VAL:HA	18:Be:54:ARG:HA	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Bg:74:THR:HG22	31:Bg:115:ILE:HG12	1.90	0.53
38:A1:2515:A:N1	38:A1:2594:C:N4	2.55	0.53
38:A1:3354:U:H5'	38:A1:3355:U:H5'	1.90	0.53
39:A3:121:U:C2	41:AD:268:GLU:HG3	2.44	0.53
24:BR:7:LYS:HG2	34:B5:1316:G:OP1	2.09	0.53
34:B5:994:G:H2'	34:B5:995:A:C8	2.43	0.53
34:B5:1085:G:N2	34:B5:1088:A:OP2	2.36	0.53
34:B5:1483:A:C2	34:B5:1607:G:H1'	2.43	0.53
34:B5:1760:G:H1'	34:B5:1781:MA6:H2	1.91	0.53
35:AA:113:VAL:HG12	35:AA:166:ILE:HD13	1.90	0.53
38:A1:589:A:H1'	38:A1:1337:A:H5"	1.89	0.53
38:A1:656:A:H2'	38:A1:657:A:C8	2.44	0.53
38:A1:760:G:H1'	38:A1:771:A:N6	2.23	0.53
38:A1:1045:C:OP1	46:AI:133:GLN:NE2	2.41	0.53
38:A1:2578:U:H2'	38:A1:2579:G:O4'	2.09	0.53
79:E:19:TYR:O	79:E:23:THR:OG1	2.21	0.53
5:BG:21:GLU:HA	5:BG:24:ILE:HG12	1.89	0.53
5:BG:50:PHE:HE1	5:BG:113:ILE:HG12	1.74	0.53
5:BG:148:SER:OG	5:BG:151:ASP:OD2	2.27	0.53
15:BY:35:VAL:HG13	15:BY:36:SER:H	1.74	0.53
34:B5:648:G:H2'	34:B5:649:U:C6	2.43	0.53
37:AC:23:PRO:HD2	37:AC:26:PHE:CD2	2.44	0.53
38:A1:1229:G:H2'	38:A1:1230:G:C8	2.44	0.53
38:A1:3286:G:H2'	38:A1:3287:U:C6	2.44	0.53
46:AI:140:THR:OG1	46:AI:144:ASN:ND2	2.35	0.53
49:AM:48:GLY:HA2	49:AM:85:TRP:HZ3	1.74	0.53
7:BI:138:ASN:HA	7:BI:141:ARG:HH21	1.74	0.53
23:BQ:32:ASN:HA	23:BQ:68:ARG:HH11	1.74	0.53
31:Bg:102:ARG:NH2	34:B5:1342:C:OP1	2.42	0.53
33:BM:31:VAL:O	33:BM:34:THR:HG22	2.07	0.53
34:B5:875:G:O2'	34:B5:877:G:OP2	2.23	0.53
34:B5:1336:A:H2'	34:B5:1337:A:C8	2.44	0.53
34:B5:1691:A:H2'	34:B5:1692:G:H8	1.74	0.53
35:AA:68:LYS:HD3	35:AA:70:ARG:NE	2.23	0.53
36:AB:150:ARG:NH1	38:A1:3242:G:O6	2.42	0.53
37:AC:317:PRO:C	37:AC:319:LYS:H	2.15	0.53
38:A1:63:A:H5"	50:AN:174:ILE:HG21	1.91	0.53
38:A1:760:G:O2'	38:A1:770:G:N2	2.35	0.53
38:A1:1244:A:H1'	38:A1:1271:A:H4'	1.91	0.53
38:A1:2357:A:H2'	38:A1:2358:A:C8	2.44	0.53
39:A3:32:U:O4	39:A3:41:G:O2'	2.26	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:AE:55:LEU:HD11	42:AE:96:VAL:HG11	1.90	0.53
3:BC:43:ARG:HD3	3:BC:247:ALA:HA	1.91	0.53
9:BL:118:GLN:N	9:BL:121:ASP:OD2	2.40	0.53
26:BT:34:VAL:HB	26:BT:53:TRP:CZ2	2.44	0.53
27:BU:70:THR:HG22	34:B5:1280:4AC:O2'	2.09	0.53
34:B5:183:U:H2'	34:B5:184:C:H6	1.74	0.53
34:B5:217:A:H3'	34:B5:218:A:H5"	1.90	0.53
34:B5:875:G:HO2'	34:B5:877:G:P	2.31	0.53
34:B5:1160:A:H2'	34:B5:1161:C:C6	2.43	0.53
34:B5:1190:C:O2'	34:B5:1191:XSX:OP2	2.19	0.53
34:B5:1732:A:H2'	34:B5:1733:C:C6	2.44	0.53
38:A1:831:G:O2'	38:A1:1864:A:N3	2.37	0.53
38:A1:1569:U:H5'	38:A1:1570:U:H5"	1.91	0.53
38:A1:3187:A:C2	55:AS:171:PHE:HB3	2.44	0.53
41:AD:6:ASP:CG	41:AD:7:ALA:H	2.17	0.53
49:AM:48:GLY:HA2	49:AM:85:TRP:CZ3	2.44	0.53
55:AS:77:VAL:HG21	55:AS:106:LEU:HD22	1.90	0.53
70:Ah:45:LYS:O	70:Ah:49:LYS:HG2	2.08	0.53
70:Ah:77:PRO:HD2	70:Ah:80:LEU:HD12	1.91	0.53
11:BO:103:ARG:NH2	16:Ba:49:ALA:HA	2.23	0.52
20:BF:42:LEU:HD22	20:BF:46:TRP:HB2	1.91	0.52
21:BK:1:MET:SD	34:B5:1216:C:H3'	2.49	0.52
33:BM:46:ARG:HG2	34:B5:1228:G:H5'	1.90	0.52
34:B5:1196:A:H4'	34:B5:1197:C:H5"	1.91	0.52
34:B5:1269:OMU:H5'	34:B5:1432:U:H5'	1.90	0.52
34:B5:1381:U:H2'	34:B5:1382:A:H8	1.70	0.52
34:B5:1391:A:H2'	34:B5:1392:U:C6	2.44	0.52
34:B5:1575:G7M:H4'	34:B5:1576:A:OP2	2.08	0.52
37:AC:326:ARG:HD3	43:AF:165:ASP:OD1	2.09	0.52
38:A1:2470:C:O2'	79:E:210:MET:HE1	2.09	0.52
38:A1:2700:G:O2'	38:A1:2705:A:N1	2.37	0.52
38:A1:3191:G:H2'	38:A1:3192:U:C6	2.44	0.52
43:AF:44:ILE:HD12	43:AF:180:SER:HB3	1.90	0.52
45:AH:55:VAL:HG22	45:AH:68:LEU:HD11	1.91	0.52
80:EC:6808:G:H2'	80:EC:6809:G:C8	2.44	0.52
2:BB:176:VAL:HG12	2:BB:184:LEU:HD12	1.90	0.52
23:BQ:73:GLY:H	23:BQ:76:SER:HG	1.52	0.52
34:B5:1000:C:N4	34:B5:1003:A:OP2	2.29	0.52
37:AC:34:ILE:HD12	37:AC:120:TYR:CE2	2.44	0.52
38:A1:2681:U:H5'	47:AJ:65:ILE:HD11	1.91	0.52
47:AJ:108:GLU:HB2	47:AJ:123:PHE:O	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:E:14:LYS:O	79:E:18:LYS:HG2	2.09	0.52
79:E:110:PHE:HB2	79:E:128:LEU:HD13	1.91	0.52
1:BA:84:ARG:NH2	1:BA:203:PHE:O	2.40	0.52
4:BE:27:TYR:OH	34:B5:460:A:O2'	2.24	0.52
5:BG:116:LYS:HZ3	5:BG:125:THR:HB	1.74	0.52
5:BG:195:VAL:HG22	5:BG:199:GLN:HE22	1.74	0.52
8:BJ:110:GLN:HB2	8:BJ:144:PRO:HB3	1.92	0.52
30:Bd:12:ARG:NH2	34:B5:1451:C:OP1	2.42	0.52
33:BM:62:LEU:HD13	33:BM:72:ILE:HD12	1.91	0.52
34:B5:655:G:H4'	34:B5:656:G:H5'	1.91	0.52
34:B5:1559:A:H5'	34:B5:1560:U:H5"	1.90	0.52
34:B5:1775:U:H2'	34:B5:1776:A:C8	2.45	0.52
35:AA:108:PRO:HB2	78:Ap:86:LEU:HD22	1.91	0.52
38:A1:2488:A:H61	79:E:28:PHE:HE2	1.56	0.52
43:AF:178:ILE:HD11	43:AF:187:GLU:HG3	1.92	0.52
2:BB:65:VAL:HG13	2:BB:86:LEU:O	2.09	0.52
6:BH:139:ARG:HB2	6:BH:151:LYS:HB3	1.91	0.52
20:BF:27:THR:HG21	23:BQ:35:PRO:HB3	1.91	0.52
20:BF:88:PRO:HG2	20:BF:91:GLU:HB3	1.91	0.52
23:BQ:82:ARG:CZ	23:BQ:116:LEU:HD21	2.40	0.52
34:B5:784:C:H2'	34:B5:785:U:O4'	2.10	0.52
38:A1:269:G:H5"	50:AN:14:LYS:HE2	1.90	0.52
39:A3:24:A:H2'	39:A3:25:G:H8	1.74	0.52
42:AE:51:ARG:O	42:AE:72:ASN:ND2	2.43	0.52
49:AM:104:ALA:HA	49:AM:107:GLU:HG2	1.91	0.52
55:AS:137:ARG:HB2	55:AS:140:VAL:HG12	1.90	0.52
3:BC:101:VAL:HG23	3:BC:115:ILE:HG13	1.92	0.52
4:BE:182:TYR:N	4:BE:226:PHE:O	2.42	0.52
15:BY:124:ARG:NH2	34:B5:151:G:N7	2.57	0.52
19:BD:222:VAL:HG12	31:Bg:192:PHE:HA	1.91	0.52
28:BZ:60:VAL:HG12	28:BZ:101:TYR:HB2	1.92	0.52
30:Bd:10:HIS:O	30:Bd:12:ARG:HG3	2.10	0.52
34:B5:840:U:N3	34:B5:841:U:O4	2.43	0.52
36:AB:187:SER:OG	36:AB:190:GLU:HG3	2.10	0.52
38:A1:2413:A:H2'	38:A1:2414:G:H8	1.74	0.52
44:AG:112:GLU:O	44:AG:116:VAL:HG23	2.10	0.52
47:AJ:17:LEU:HD13	47:AJ:129:VAL:HG12	1.92	0.52
56:AT:152:ALA:HB1	56:AT:153:PRO:HD2	1.92	0.52
80:EC:6897:G:H2'	80:EC:6898:U:C6	2.44	0.52
26:BT:97:SER:OG	34:B5:1504:G:OP1	2.21	0.52
27:BU:63:LEU:HB2	27:BU:84:MET:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:506:A:OP1	34:B5:507:U:N3	2.43	0.52
34:B5:982:U:H2'	34:B5:983:A:C8	2.45	0.52
34:B5:1287:A:N1	34:B5:1328:G:O2'	2.42	0.52
38:A1:358:G:N2	38:A1:361:A:OP2	2.35	0.52
38:A1:1016:C:H4'	38:A1:1017:C:H5'	1.92	0.52
38:A1:1084:A:H2'	38:A1:1085:A:C8	2.45	0.52
38:A1:1327:C:O2'	68:Af:76:GLY:HA2	2.10	0.52
80:EC:6844:A:H1'	80:EC:6845:G:C8	2.45	0.52
2:BB:157:GLN:NE2	34:B5:1046:G:OP1	2.42	0.52
19:BD:25:PHE:HA	19:BD:28:GLU:HG2	1.90	0.52
27:BU:30:LYS:HB2	27:BU:33:GLN:HE21	1.75	0.52
34:B5:800:U:H2'	34:B5:801:G:H8	1.73	0.52
54:AR:134:HIS:CE1	54:AR:136:ARG:HB3	2.43	0.52
55:AS:8:GLN:HB3	55:AS:64:ILE:HD11	1.92	0.52
2:BB:30:PHE:HB2	2:BB:46:THR:HB	1.91	0.52
3:BC:207:LEU:HA	3:BC:210:THR:HG22	1.91	0.52
4:BE:11:ARG:O	4:BE:12:LEU:HB2	2.09	0.52
5:BG:2:LYS:NZ	34:B5:153:G:O3'	2.41	0.52
20:BF:123:VAL:HG12	20:BF:124:LEU:HD12	1.91	0.52
28:BZ:74:SER:O	28:BZ:78:ILE:HG12	2.09	0.52
31:Bg:23:LEU:HD21	31:Bg:302:PHE:HB3	1.91	0.52
31:Bg:270:LEU:HD21	31:Bg:273:ASP:HB2	1.91	0.52
33:BM:81:ASP:HB3	33:BM:84:ASN:H	1.74	0.52
34:B5:78:A:H2'	34:B5:79:C:C6	2.45	0.52
34:B5:526:A:H2'	34:B5:527:A:O4'	2.10	0.52
34:B5:795:U:H2'	34:B5:796:A2M:H8	1.91	0.52
38:A1:182:U:H3	38:A1:234:G:H1	1.58	0.52
38:A1:716:A:C6	63:Aa:117:ARG:HG3	2.44	0.52
38:A1:1110:U:H2'	38:A1:1111:U:C6	2.45	0.52
38:A1:1719:G:OP1	54:AR:110:ARG:NH1	2.43	0.52
38:A1:2882:U:H2'	38:A1:2883:U:C6	2.44	0.52
38:A1:3343:G:O2'	38:A1:3362:A:N6	2.43	0.52
54:AR:25:ASP:HB3	54:AR:28:GLU:HB2	1.91	0.52
55:AS:79:VAL:HB	55:AS:90:MET:HB2	1.91	0.52
78:Ap:49:ARG:HB2	78:Ap:55:TRP:CZ3	2.45	0.52
79:E:39:LYS:HG3	79:E:202:GLY:HA3	1.92	0.52
80:EC:6927:U:H3'	80:EC:6928:G:C8	2.44	0.52
7:BI:56:ARG:HH22	34:B5:332:U:P	2.33	0.52
17:Bb:40:CYS:SG	17:Bb:41:LEU:N	2.83	0.52
23:BQ:141:SER:OG	34:B5:1195:C:N4	2.41	0.52
34:B5:41:A:O2'	34:B5:437:A:O2'	2.21	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:792:U:H2'	34:B5:793:A:O4'	2.09	0.52
34:B5:1687:U:O4	34:B5:1715:G:O6	2.28	0.52
38:A1:993:G:N3	38:A1:2637:A:H2'	2.25	0.52
38:A1:2697:A:H2'	38:A1:2698:G:H8	1.73	0.52
39:A3:22:A:C2	39:A3:23:A:C5	2.98	0.52
41:AD:126:GLU:HA	41:AD:196:ARG:HD2	1.90	0.52
15:BY:112:LYS:NZ	34:B5:55:A:OP1	2.37	0.52
23:BQ:78:VAL:HA	23:BQ:81:ILE:HB	1.91	0.52
38:A1:655:C:H2'	38:A1:656:A:H8	1.73	0.52
38:A1:2680:A:H2	47:AJ:24:GLY:HA2	1.75	0.52
38:A1:2843:U:H5"	38:A1:2844:C:H5	1.75	0.52
40:A4:34:U:O2'	40:A4:35:C:OP2	2.27	0.52
45:AH:186:PHE:HB2	45:AH:189:GLU:HB2	1.91	0.52
48:AL:9:ILE:HD12	63:Aa:34:MET:HE1	1.91	0.52
51:AO:74[A]:ARG:HG3	51:AO:145[A]:VAL:HG23	1.92	0.52
79:E:35:GLN:HG3	79:E:166:ALA:HB2	1.91	0.52
79:E:87:VAL:HG12	79:E:116:LEU:HD11	1.91	0.52
8:BJ:44:ARG:NH1	34:B5:473:A:OP1	2.43	0.51
10:BN:11:ILE:HD12	17:Bb:21:LEU:CD1	2.40	0.51
15:BY:8:ARG:HB3	34:B5:780:A:C8	2.46	0.51
19:BD:123:VAL:HG11	19:BD:154:ASP:HB3	1.92	0.51
25:BS:82:PRO:HB2	25:BS:84:TRP:CD1	2.44	0.51
34:B5:613:G:H5'	34:B5:1099:U:O2	2.10	0.51
34:B5:826:U:H2'	34:B5:827:C:H6	1.75	0.51
47:AJ:36:VAL:O	47:AJ:39:GLN:HG3	2.10	0.51
80:EC:6810:U:H2'	80:EC:6811:G:O4'	2.10	0.51
34:B5:256:A:H2'	34:B5:257:A:O4'	2.09	0.51
34:B5:1285:U:H4'	34:B5:1286:U:O5'	2.09	0.51
34:B5:1291:G:H22	34:B5:1324:G:H22	1.58	0.51
34:B5:1608:U:H2'	34:B5:1609:U:C6	2.45	0.51
34:B5:1642:G:H2'	34:B5:1643:U:C6	2.46	0.51
38:A1:129:U:H2'	38:A1:130:A:C8	2.45	0.51
38:A1:3320:A:H2'	38:A1:3321:C:C6	2.46	0.51
62:AZ:92:PHE:O	62:AZ:96:VAL:HG12	2.09	0.51
1:BA:31:VAL:HA	1:BA:34:GLU:HG3	1.92	0.51
2:BB:65:VAL:HG22	2:BB:87:ARG:HA	1.92	0.51
7:BI:139:ALA:HB1	7:BI:143:TRP:NE1	2.25	0.51
8:BJ:177:ALA:HA	8:BJ:180:LYS:HE3	1.93	0.51
9:BL:46:LYS:HG3	9:BL:50:GLU:HG2	1.92	0.51
21:BK:52:LYS:NZ	34:B5:1221:A:OP1	2.33	0.51
25:BS:104:ASN:O	25:BS:107:SER:OG	2.22	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Bg:54:PHE:CE2	31:Bg:312:VAL:HG11	2.45	0.51
34:B5:521:A:H2'	34:B5:522:U:C6	2.46	0.51
34:B5:1068:C:H2'	34:B5:1069:A:C8	2.46	0.51
34:B5:1290:U:H2'	34:B5:1291:G:C8	2.44	0.51
34:B5:1374:C:H2'	34:B5:1375:A:C8	2.46	0.51
34:B5:1395:G:H2'	34:B5:1396:U:C6	2.46	0.51
36:AB:99:LEU:O	38:A1:3004:C:O2'	2.18	0.51
38:A1:627:U:H2'	38:A1:628:A:C8	2.45	0.51
38:A1:1235:U:C1'	38:A1:1237:G:H5'	2.40	0.51
38:A1:2228:A:H2'	38:A1:2229:A:C8	2.45	0.51
38:A1:3296:A:H2'	38:A1:3297:U:H6	1.75	0.51
51:AO:96[A]:LYS:O	51:AO:100[A]:GLU:HG3	2.10	0.51
56:AT:11:THR:O	56:AT:11:THR:HG22	2.11	0.51
3:BC:222:TYR:OH	12:BV:12:TYR:O	2.24	0.51
4:BE:10:LYS:HE2	34:B5:96:G:OP1	2.11	0.51
4:BE:108:ARG:NH2	34:B5:788:A:OP2	2.27	0.51
5:BG:85:ARG:O	5:BG:87:ARG:NH1	2.41	0.51
7:BI:65:PHE:CZ	7:BI:78:ILE:HD11	2.45	0.51
13:BW:34:ILE:O	13:BW:38:LEU:HG	2.10	0.51
14:BX:5:LYS:NZ	34:B5:614:C:OP2	2.39	0.51
15:BY:124:ARG:HD3	34:B5:150:U:OP2	2.10	0.51
21:BK:81:ASN:HB3	33:BM:37:VAL:HG13	1.92	0.51
22:BP:67:ALA:HB2	22:BP:73:PRO:HA	1.92	0.51
25:BS:12:GLN:NE2	25:BS:61:LEU:O	2.43	0.51
27:BU:65:ILE:HB	30:Bd:52:PHE:HE1	1.75	0.51
33:BM:46:ARG:O	33:BM:49:THR:OG1	2.27	0.51
33:BM:62:LEU:N	33:BM:89:ILE:O	2.41	0.51
34:B5:645:C:H2'	34:B5:646:C:H6	1.74	0.51
34:B5:1246:C:H2'	34:B5:1247:U:C6	2.45	0.51
38:A1:2683:U:H2'	38:A1:2684:C:C6	2.46	0.51
44:AG:94:PHE:HB3	44:AG:189:LEU:HD21	1.92	0.51
45:AH:90:MET:HE3	45:AH:179:ILE:HG22	1.92	0.51
47:AJ:16:LYS:O	47:AJ:130:VAL:N	2.39	0.51
1:BA:63:ILE:HG22	1:BA:120:LEU:HD11	1.92	0.51
7:BI:41:LYS:HG3	7:BI:60:ILE:HG22	1.91	0.51
15:BY:112:LYS:NZ	34:B5:57:G:OP1	2.44	0.51
17:Bb:36:LYS:HB2	17:Bb:78:SER:HB3	1.93	0.51
20:BF:124:LEU:HG	28:BZ:58:ARG:HE	1.74	0.51
20:BF:165:LEU:HB3	29:Bc:47:PRO:HG2	1.91	0.51
23:BQ:30:LYS:HG2	23:BQ:35:PRO:HD3	1.93	0.51
34:B5:1392:U:H2'	34:B5:1393:C:C6	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1295:G:OP1	55:AS:83:SER:OG	2.27	0.51
39:A3:119:U:OP2	41:AD:258:LYS:NZ	2.29	0.51
73:Ak:28:ASN:OD1	73:Ak:42:LYS:NZ	2.32	0.51
6:BH:153:LEU:HD13	6:BH:184:GLU:HG3	1.93	0.51
14:BX:57:LEU:O	14:BX:71:CYS:N	2.43	0.51
15:BY:12:VAL:N	34:B5:783:G:N7	2.55	0.51
22:BP:52:LYS:HB3	22:BP:53:PRO:HD3	1.92	0.51
34:B5:1590:G:H2'	34:B5:1591:C:H6	1.75	0.51
38:A1:40:A:H5"	63:Aa:35:ALA:HB1	1.92	0.51
38:A1:774:G:O6	38:A1:775:A:N6	2.43	0.51
38:A1:952:A:H4'	38:A1:968:G:N2	2.25	0.51
39:A3:23:A:H2'	39:A3:24:A:O4'	2.10	0.51
48:AL:174:ARG:HB3	71:Ai:9:ILE:HD12	1.91	0.51
49:AM:20:VAL:O	49:AM:66:THR:HG22	2.11	0.51
66:Ad:13:THR:OG1	66:Ad:72:ARG:NH1	2.37	0.51
2:BB:61:LEU:HD21	2:BB:96:LEU:HD21	1.92	0.51
3:BC:180:ALA:HB1	3:BC:184:VAL:HG13	1.93	0.51
5:BG:139:ASN:O	5:BG:143:LYS:N	2.41	0.51
8:BJ:113:VAL:HG13	8:BJ:118:LEU:HD22	1.93	0.51
20:BF:81:ARG:NH2	34:B5:1615:C:OP1	2.43	0.51
23:BQ:13:LYS:HG3	23:BQ:14:LYS:H	1.76	0.51
28:BZ:59:TYR:HE1	28:BZ:100:ILE:HA	1.76	0.51
28:BZ:94:LYS:O	28:BZ:95:HIS:HD2	1.93	0.51
34:B5:1524:A:H2'	34:B5:1525:A:H8	1.76	0.51
34:B5:1757:G:HO2'	38:A1:2255:A:HO2'	1.42	0.51
35:AA:204:MET:HG2	38:A1:914:A:C2	2.46	0.51
38:A1:171:G:H22	38:A1:246:U:H3	1.57	0.51
38:A1:247:C:N4	38:A1:250:U:O4	2.44	0.51
38:A1:407:A:C2	40:A4:17:A:H1'	2.46	0.51
38:A1:1128:U:H2'	38:A1:1129:A:O4'	2.11	0.51
38:A1:1240:A:H2'	38:A1:1241:U:C6	2.45	0.51
38:A1:2223:A:H2'	38:A1:2224:A:C8	2.46	0.51
39:A3:47:C:OP2	41:AD:158:ARG:HD3	2.11	0.51
40:A4:38:U:O2'	70:Ah:83:LYS:NZ	2.35	0.51
45:AH:48:VAL:HG21	45:AH:54:LYS:HE3	1.93	0.51
80:EC:6814:G:O2'	80:EC:6815:U:OP1	2.27	0.51
7:BI:37:LYS:C	7:BI:59:ARG:HA	2.36	0.51
7:BI:75:LYS:C	7:BI:76:THR:HG1	2.19	0.51
21:BK:46:LEU:HD12	21:BK:49:LEU:HD12	1.93	0.51
23:BQ:136:SER:O	23:BQ:137:ARG:HD3	2.11	0.51
27:BU:85:ARG:NH2	34:B5:1334:U:O3'	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BZ:47:TYR:HA	28:BZ:50:ILE:HG22	1.91	0.51
28:BZ:68:ARG:HE	80:EC:6866:C:H42	1.59	0.51
34:B5:424:C:O2'	34:B5:426:G:OP1	2.21	0.51
34:B5:916:U:H2'	34:B5:917:U:O4'	2.10	0.51
34:B5:1455:G:H2'	34:B5:1456:C:C2	2.46	0.51
35:AA:181:LYS:HB2	38:A1:860:G:C5	2.46	0.51
36:AB:8:ALA:HB1	58:AV:45:ARG:HH12	1.75	0.51
38:A1:837:A:OP2	78:Ap:4:ARG:NH1	2.43	0.51
38:A1:2464:U:H3	38:A1:2491:A:H62	1.58	0.51
50:AN:11:GLN:HG2	50:AN:44:ARG:HH21	1.76	0.51
13:BW:101:TYR:HA	13:BW:113:HIS:CE1	2.46	0.51
19:BD:76:ARG:HD3	21:BK:22:VAL:HG21	1.91	0.51
25:BS:116:LEU:HB3	25:BS:124:GLY:HA2	1.92	0.51
26:BT:64:HIS:CE1	26:BT:79:LEU:HD22	2.45	0.51
31:Bg:123:ILE:HG23	31:Bg:133:VAL:HG12	1.92	0.51
34:B5:602:U:H2'	34:B5:603:U:C6	2.46	0.51
34:B5:1241:G:H21	34:B5:1241:G:P	2.32	0.51
34:B5:1504:G:H1	34:B5:1549:C:HO2'	1.56	0.51
36:AB:67:PHE:HA	36:AB:70:ARG:HD3	1.92	0.51
38:A1:979:U:H4'	38:A1:980:A:O4'	2.11	0.51
45:AH:116:ASN:OD1	45:AH:119:GLY:HA2	2.10	0.51
61:AY:48:LEU:HD13	61:AY:115:ARG:HH21	1.75	0.51
65:Ac:99:ASP:O	65:Ac:102:THR:OG1	2.24	0.51
2:BB:187:LYS:C	2:BB:190:PRO:HD2	2.36	0.51
6:BH:59:ALA:HB1	6:BH:93:LEU:HD22	1.92	0.51
20:BF:43:PHE:CE2	20:BF:115:LYS:HB3	2.44	0.51
20:BF:109:LYS:O	20:BF:113:ILE:HG12	2.11	0.51
21:BK:77:ARG:HD3	21:BK:85:HIS:H	1.76	0.51
31:Bg:22:SER:HB2	31:Bg:36:ALA:HB3	1.92	0.51
31:Bg:69:GLN:OE1	31:Bg:85:TRP:NE1	2.41	0.51
34:B5:953:G:H2'	34:B5:954:G:C8	2.45	0.51
34:B5:1441:C:O2'	34:B5:1447:C:N4	2.44	0.51
38:A1:596:C:OP1	43:AF:33:ARG:NE	2.44	0.51
38:A1:1746:U:O2'	73:Ak:4:GLU:OE1	2.24	0.51
38:A1:3160:U:H2'	38:A1:3161:C:C6	2.46	0.51
42:AE:84:VAL:O	68:Af:105:SER:OG	2.19	0.51
44:AG:140:VAL:O	44:AG:144:GLU:HG3	2.10	0.51
56:AT:49:GLN:HA	56:AT:52:MET:HE3	1.91	0.51
77:Ao:4:VAL:HG11	77:Ao:70:LEU:HD21	1.93	0.51
79:E:155:ILE:HG23	79:E:167:VAL:HG21	1.93	0.51
6:BH:71:HIS:HA	6:BH:74:GLN:HB2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Bb:19:HIS:HD2	17:Bb:21:LEU:H	1.57	0.50
31:Bg:250:TYR:O	31:Bg:251:TRP:HD1	1.94	0.50
34:B5:263:C:H2'	34:B5:264:G:O4'	2.11	0.50
34:B5:648:G:H2'	34:B5:649:U:H6	1.75	0.50
34:B5:1280:4AC:O5'	34:B5:1280:4AC:H6	2.12	0.50
34:B5:1579:U:H2'	34:B5:1580:C:H6	1.77	0.50
34:B5:1582:U:O2	34:B5:1614:A:N6	2.43	0.50
36:AB:19:ARG:NH2	38:A1:3045:G:OP1	2.44	0.50
37:AC:353:ALA:O	37:AC:357:GLU:HG3	2.11	0.50
38:A1:314:U:H2'	38:A1:315:C:C6	2.46	0.50
38:A1:596:C:N3	38:A1:608:A:O2'	2.43	0.50
38:A1:649:A2M:OP2	38:A1:2868:U:O2'	2.28	0.50
38:A1:1582:C:H5"	38:A1:1583:A:OP1	2.11	0.50
38:A1:1929:G:OP2	38:A1:1930:A:O2'	2.21	0.50
38:A1:3047:U:O2'	38:A1:3048:A:H5'	2.11	0.50
39:A3:24:A:C4	39:A3:25:G:C8	2.99	0.50
45:AH:90:MET:SD	45:AH:181:VAL:HG22	2.51	0.50
47:AJ:32:ARG:HG2	47:AJ:123:PHE:HE2	1.76	0.50
52:AP:169:THR:HG21	52:AP:171:ARG:CZ	2.41	0.50
56:AT:57:TYR:CG	56:AT:89:LEU:HD21	2.45	0.50
72:Aj:25:ARG:O	72:Aj:25:ARG:HG2	2.11	0.50
2:BB:176:VAL:C	2:BB:178:GLY:H	2.19	0.50
5:BG:182:GLN:HG3	5:BG:186:ARG:NH1	2.26	0.50
6:BH:104:ARG:HD2	34:B5:803:A:C4	2.46	0.50
12:BV:62:ARG:NH1	34:B5:1082:C:O2'	2.44	0.50
14:BX:70:LYS:HB3	14:BX:93:LEU:HD22	1.92	0.50
20:BF:32:GLU:HB2	20:BF:44:ASN:ND2	2.26	0.50
26:BT:49:ASP:OD1	26:BT:53:TRP:N	2.44	0.50
34:B5:213:A:H2'	34:B5:214:G:O4'	2.10	0.50
38:A1:226:C:H2'	38:A1:227:G:O4'	2.10	0.50
38:A1:2861:U:H2'	38:A1:2862:U:O4'	2.11	0.50
43:AF:54:GLU:HA	43:AF:57:THR:HG22	1.93	0.50
45:AH:57:VAL:HG23	45:AH:68:LEU:HD13	1.92	0.50
45:AH:92:TYR:HD2	45:AH:142:ASP:HB2	1.76	0.50
4:BE:200:ARG:NH2	4:BE:202:ASP:OD2	2.44	0.50
19:BD:150:MET:HG3	19:BD:152:PHE:CZ	2.46	0.50
25:BS:126:ARG:HD2	25:BS:133:VAL:HA	1.94	0.50
34:B5:46:A:H1'	34:B5:48:G:C8	2.47	0.50
34:B5:183:U:H2'	34:B5:184:C:C6	2.46	0.50
34:B5:1226:A:H1'	34:B5:1227:A:H5"	1.93	0.50
34:B5:1286:U:H2'	34:B5:1286:U:O2	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1480:G:H2'	34:B5:1481:C:O4'	2.12	0.50
38:A1:631:U:H2'	38:A1:632:G:H8	1.75	0.50
38:A1:1390:A:N6	38:A1:1418:A:O2'	2.44	0.50
38:A1:1448:U:H2'	38:A1:1449:A2M:H8	1.92	0.50
38:A1:2696:A:H2'	38:A1:2697:A:C8	2.47	0.50
38:A1:3273:A:H2'	38:A1:3274:A:C8	2.46	0.50
61:AY:74:TYR:CE2	61:AY:76:LEU:HB3	2.46	0.50
5:BG:180:THR:HG22	5:BG:182:GLN:H	1.77	0.50
8:BJ:149:ARG:HG2	34:B5:765:G:O6	2.12	0.50
9:BL:133:LYS:NZ	34:B5:324:U:OP1	2.38	0.50
11:BO:42:VAL:HB	11:BO:67:VAL:HG23	1.92	0.50
29:Bc:38:ARG:HA	29:Bc:38:ARG:NE	2.27	0.50
34:B5:97:C:H2'	34:B5:98:U:C6	2.46	0.50
34:B5:225:A:C6	34:B5:837:G:O6	2.64	0.50
34:B5:1067:C:H2'	34:B5:1068:C:C6	2.46	0.50
34:B5:1682:U:O2'	34:B5:1683:C:O5'	2.27	0.50
37:AC:118:LYS:HE2	38:A1:681:U:O4	2.12	0.50
37:AC:130:ALA:HA	37:AC:148:ILE:HG22	1.93	0.50
38:A1:422:A:C2	38:A1:2363:A:H4'	2.46	0.50
38:A1:713:U:OP1	48:AL:174:ARG:NH1	2.44	0.50
38:A1:760:G:HO2'	38:A1:770:G:H22	1.55	0.50
38:A1:1593:A:H2'	38:A1:1594:A:C8	2.46	0.50
38:A1:1812:G:O2'	38:A1:1817:G:N2	2.39	0.50
38:A1:2219:A:H2'	38:A1:2220:A2M:C8	2.41	0.50
38:A1:2484:A:OP2	79:E:98:LYS:NZ	2.44	0.50
38:A1:3233:C:H2'	38:A1:3234:A:C8	2.46	0.50
49:AM:22:LEU:HD22	49:AM:94:TRP:HH2	1.76	0.50
49:AM:39:ILE:HD11	55:AS:97:VAL:HG13	1.93	0.50
5:BG:98:ARG:NH2	5:BG:105:ASP:OD1	2.45	0.50
5:BG:132:ARG:O	34:B5:68:A:N6	2.44	0.50
14:BX:47:SER:HB3	34:B5:600:U:H1'	1.92	0.50
26:BT:12:GLN:NE2	34:B5:1529:C:O2	2.44	0.50
27:BU:24:ILE:HG13	27:BU:24:ILE:O	2.10	0.50
34:B5:1051:G:H3'	34:B5:1052:U:H4'	1.92	0.50
34:B5:1496:U:O2'	34:B5:1519:U:O2'	2.30	0.50
38:A1:585:A:H2'	38:A1:586:C:C6	2.46	0.50
40:A4:69:U:H2'	40:A4:70:G:O4'	2.11	0.50
45:AH:27:VAL:HG21	45:AH:78:MET:HG3	1.94	0.50
1:BA:53:THR:OG1	1:BA:161:PRO:HG2	2.12	0.50
2:BB:29:TRP:CG	2:BB:47:LEU:HD13	2.46	0.50
2:BB:48:VAL:HG13	2:BB:49:ASN:N	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:BI:47:ARG:HH22	34:B5:398:G:P	2.34	0.50
9:BL:20:PHE:CB	34:B5:211:U:H5"	2.41	0.50
9:BL:85:VAL:HA	9:BL:108:PRO:HA	1.92	0.50
15:BY:35:VAL:HG13	15:BY:36:SER:N	2.27	0.50
20:BF:143:ARG:HH21	29:Bc:7:VAL:HG23	1.76	0.50
20:BF:220:VAL:HG22	80:EC:6841:U:O4'	2.12	0.50
34:B5:250:C:H2'	34:B5:251:A:C8	2.39	0.50
34:B5:851:U:H5"	54:AR:170:ARG:NE	2.26	0.50
34:B5:1717:G:H2'	34:B5:1718:G:H8	1.75	0.50
36:AB:251:CYS:SG	38:A1:2944:U:H1'	2.52	0.50
38:A1:98:G:N7	48:AL:13:HIS:NE2	2.59	0.50
38:A1:655:C:H2'	38:A1:656:A:C8	2.46	0.50
38:A1:2520:A:H2'	38:A1:2521:U:C6	2.47	0.50
38:A1:3192:U:H2'	38:A1:3193:C:H6	1.77	0.50
48:AL:165:SER:O	48:AL:168:ARG:N	2.44	0.50
54:AR:109:TYR:HB3	54:AR:115:ILE:HG12	1.94	0.50
8:BJ:112:GLN:HG2	8:BJ:148:VAL:HG21	1.94	0.50
26:BT:88:VAL:HG21	34:B5:1172:G:H21	1.75	0.50
34:B5:629:U:H2'	34:B5:630:A:H8	1.76	0.50
34:B5:689:G:H2'	34:B5:690:G:H8	1.76	0.50
34:B5:819:G:H4'	34:B5:820:U:O5'	2.11	0.50
38:A1:1184:A:H2'	38:A1:1185:C:C6	2.46	0.50
38:A1:1765:U:H5	54:AR:43:LYS:HG3	1.77	0.50
38:A1:2947:G:OP2	38:A1:2947:G:H4'	2.12	0.50
38:A1:2953:U:H2'	38:A1:2954:U:H2'	1.93	0.50
42:AE:35:VAL:O	42:AE:38:THR:OG1	2.28	0.50
73:Ak:42:LYS:HG2	73:Ak:55:VAL:HG22	1.93	0.50
80:EC:6796:C:H2'	80:EC:6797:U:C6	2.46	0.50
80:EC:6920:C:H2'	80:EC:6921:C:H6	1.76	0.50
1:BA:9:LEU:HD23	24:BR:113:LEU:HD11	1.92	0.50
3:BC:120:GLU:HG2	3:BC:123:GLY:H	1.77	0.50
4:BE:149:TYR:CZ	5:BG:208:TYR:CE1	3.00	0.50
10:BN:119:GLU:HG3	10:BN:141:TYR:HE2	1.77	0.50
11:BO:21:ALA:N	11:BO:84:ARG:O	2.28	0.50
18:Be:2:ALA:N	34:B5:1647:U:O2	2.45	0.50
21:BK:63:TYR:HB2	21:BK:65:TYR:CE1	2.47	0.50
27:BU:106:ILE:HG22	27:BU:107:THR:N	2.22	0.50
28:BZ:58:ARG:HA	28:BZ:103:ARG:HD2	1.94	0.50
31:Bg:170:ILE:HD11	31:Bg:178:VAL:HG12	1.93	0.50
31:Bg:274:LEU:HD13	31:Bg:313:TRP:CZ2	2.47	0.50
38:A1:799:G:O2'	48:AL:18:TRP:NE1	2.35	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:AD:34:LYS:HA	56:AT:27:LEU:HD11	1.93	0.50
80:EC:6928:G:C2	80:EC:6929:C:H1'	2.47	0.50
7:BI:98:LYS:HD2	7:BI:172:ARG:HG2	1.93	0.50
20:BF:171:ALA:HA	20:BF:174:LEU:HB3	1.94	0.50
21:BK:56:LYS:NZ	21:BK:69:THR:HB	2.26	0.50
25:BS:36:LYS:NZ	34:B5:1567:U:O3'	2.45	0.50
27:BU:68:ARG:NE	27:BU:70:THR:OG1	2.44	0.50
31:Bg:117:LYS:O	31:Bg:118:LYS:HG2	2.12	0.50
34:B5:514:G:H1	34:B5:543:C:H5	1.60	0.50
34:B5:840:U:H2'	34:B5:841:U:H5	1.77	0.50
36:AB:159:ARG:HG2	36:AB:182:GLN:HA	1.94	0.50
38:A1:3294:A:H2'	38:A1:3295:A:O4'	2.11	0.50
50:AN:5:LYS:HG2	71:Ai:40:VAL:HG21	1.93	0.50
72:Aj:25:ARG:HH11	74:Al:50:ASN:HB3	1.77	0.50
78:Ap:36:ARG:HH21	78:Ap:46:THR:HG22	1.75	0.50
1:BA:107:PHE:HB3	1:BA:139:VAL:HG11	1.92	0.49
4:BE:174:LYS:HE3	4:BE:176:ASP:HB2	1.94	0.49
7:BI:74:LYS:HZ1	7:BI:112:TRP:CD1	2.29	0.49
23:BQ:75:VAL:HG22	34:B5:1609:U:H5"	1.93	0.49
31:Bg:144:LEU:HD13	31:Bg:181:TRP:CD2	2.47	0.49
34:B5:454:U:H5"	34:B5:455:C:H5	1.76	0.49
37:AC:181:VAL:O	37:AC:182:LEU:HG	2.12	0.49
37:AC:234:ASN:HB3	37:AC:237:GLN:HG3	1.94	0.49
38:A1:1637:A:O3'	62:AZ:15:ARG:HG2	2.12	0.49
69:Ag:104:VAL:HA	69:Ag:107:GLU:HG2	1.94	0.49
70:Ah:86:ARG:O	70:Ah:90:ARG:HG2	2.12	0.49
2:BB:27:LYS:HE3	2:BB:47:LEU:HG	1.94	0.49
2:BB:189:ILE:HB	2:BB:190:PRO:HD3	1.94	0.49
11:BO:99:GLN:NE2	16:Ba:45:VAL:O	2.45	0.49
20:BF:43:PHE:HE1	20:BF:70:VAL:HA	1.76	0.49
20:BF:219:ARG:HH22	80:EC:6844:A:H5'	1.77	0.49
22:BP:77:ARG:HG2	34:B5:1241:G:H5'	1.94	0.49
23:BQ:15:SER:HB3	23:BQ:72:GLY:HA2	1.93	0.49
34:B5:625:C:H2'	34:B5:626:U:C6	2.47	0.49
34:B5:645:C:H2'	34:B5:646:C:C6	2.47	0.49
34:B5:954:G:H2'	34:B5:955:A:H8	1.77	0.49
34:B5:980:G:H4'	34:B5:1776:A:H4'	1.95	0.49
34:B5:1407:U:H2'	34:B5:1408:G:H8	1.77	0.49
34:B5:1458:G:H2'	34:B5:1458:G:N3	2.27	0.49
34:B5:1487:A:H2'	34:B5:1488:G:C8	2.47	0.49
37:AC:157:GLU:OE2	37:AC:251:THR:HG21	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:873:C:H5”	38:A1:874:U:O5’	2.12	0.49
38:A1:2683:U:H2’	38:A1:2684:C:H6	1.77	0.49
38:A1:2927:C:H2’	38:A1:2928:C:C6	2.47	0.49
39:A3:121:U:N3	41:AD:268:GLU:HG3	2.27	0.49
47:AJ:15:GLU:OE1	47:AJ:72:ARG:NH1	2.45	0.49
61:AY:116:LYS:HG2	61:AY:126:LEU:HD11	1.94	0.49
1:BA:191:ARG:NH1	12:BV:42:GLU:O	2.28	0.49
8:BJ:83:VAL:HA	8:BJ:149:ARG:HA	1.95	0.49
20:BF:83:ARG:N	20:BF:83:ARG:HD2	2.27	0.49
27:BU:82:TYR:HB2	30:Bd:52:PHE:CE1	2.47	0.49
28:BZ:82:HIS:O	28:BZ:85:LYS:HG2	2.12	0.49
31:Bg:7:LEU:HD22	31:Bg:315:VAL:HG22	1.94	0.49
31:Bg:39:ASP:O	31:Bg:40:LYS:HG2	2.12	0.49
34:B5:1407:U:H2’	34:B5:1408:G:C8	2.46	0.49
36:AB:95:THR:HB	36:AB:98:GLY:O	2.13	0.49
36:AB:123:TYR:CE2	36:AB:124:LYS:HG3	2.47	0.49
38:A1:2344:U:H2’	38:A1:2345:A:C8	2.47	0.49
38:A1:2486:A:H1’	38:A1:2487:U:H5”	1.94	0.49
34:B5:234:G:N1	34:B5:235:G:N3	2.60	0.49
34:B5:300:A:H2’	34:B5:301:A:C8	2.48	0.49
34:B5:475:A:H2’	34:B5:476:U:O4’	2.12	0.49
34:B5:1230:A:N6	34:B5:1255:G:H1’	2.27	0.49
34:B5:1471:A:H2	34:B5:1474:G:N3	2.09	0.49
34:B5:1521:G:O2’	34:B5:1523:G:OP2	2.28	0.49
36:AB:123:TYR:CZ	36:AB:124:LYS:HG3	2.48	0.49
38:A1:19:U:H2’	38:A1:20:A:C8	2.47	0.49
38:A1:1782:U:H2’	38:A1:1783:U:O4’	2.13	0.49
38:A1:3186:A:N3	45:AH:44:THR:OG1	2.44	0.49
44:AG:78:PHE:C	44:AG:80:TYR:H	2.20	0.49
45:AH:5:GLN:HE22	45:AH:7:GLU:CG	2.24	0.49
45:AH:10:ILE:HB	45:AH:53:ILE:HB	1.94	0.49
56:AT:11:THR:HG23	56:AT:14:MET:HB3	1.94	0.49
79:E:53:LEU:O	79:E:155:ILE:N	2.27	0.49
11:BO:17:ALA:HB3	11:BO:81:VAL:HA	1.94	0.49
13:BW:77:PRO:HB2	14:BX:9:LEU:HG	1.95	0.49
34:B5:512:A:H2’	34:B5:513:U:C6	2.48	0.49
34:B5:850:A:H2’	34:B5:851:U:C6	2.47	0.49
34:B5:1600:A:O2’	34:B5:1602:C:N4	2.44	0.49
35:AA:127:ALA:HB2	35:AA:134:VAL:HG23	1.94	0.49
37:AC:342:LYS:HE2	37:AC:342:LYS:HA	1.94	0.49
38:A1:265:A:O3’	50:AN:5:LYS:NZ	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1911:A:H2	38:A1:2122:G:C8	2.30	0.49
38:A1:2592:G:H4'	38:A1:2594:C:C2	2.47	0.49
47:AJ:133:ARG:HD2	47:AJ:152:HIS:O	2.12	0.49
8:BJ:173:ALA:HB2	34:B5:511:A:H5'	1.94	0.49
34:B5:812:A:H62	34:B5:859:A:H5'	1.77	0.49
34:B5:1738:U:H2'	34:B5:1739:C:C6	2.48	0.49
37:AC:359:LEU:HD21	38:A1:519:A:N3	2.28	0.49
38:A1:307:A:H2'	38:A1:308:A:H8	1.76	0.49
42:AE:30:LEU:HD23	42:AE:34:LEU:HD13	1.94	0.49
45:AH:9:GLN:HB3	45:AH:52:LEU:HD11	1.94	0.49
67:Ae:9:ILE:HG23	67:Ae:63:THR:HB	1.94	0.49
1:BA:162:CYS:HB3	1:BA:173:ILE:HD12	1.93	0.49
1:BA:172:LEU:HG	1:BA:176:LEU:HD23	1.94	0.49
4:BE:148:ARG:NH1	5:BG:201:GLN:OE1	2.46	0.49
30:Bd:7:TRP:HZ3	34:B5:1214:U:H1'	1.77	0.49
30:Bd:47:ALA:HB1	30:Bd:52:PHE:HD2	1.78	0.49
32:Bf:86:THR:OG1	34:B5:1212:G:OP1	2.28	0.49
34:B5:248:U:C4	34:B5:250:C:H1'	2.48	0.49
34:B5:1529:C:H2'	34:B5:1530:C:C6	2.48	0.49
36:AB:232:ARG:NH1	36:AB:266:ARG:O	2.34	0.49
38:A1:528:U:H2'	38:A1:529:A:C8	2.47	0.49
38:A1:1157:G:H2'	38:A1:1158:A:O4'	2.12	0.49
38:A1:1193:A:P	51:AO:49[A]:ARG:HH12	2.36	0.49
38:A1:1286:A:N3	38:A1:1287:A:H1'	2.28	0.49
38:A1:2499:U:H3'	38:A1:2500:A:H5"	1.95	0.49
80:EC:6917:C:H2'	80:EC:6918:A:H4'	1.94	0.49
2:BB:103:MET:HE1	2:BB:212:VAL:HG23	1.95	0.49
10:BN:5:HIS:HB3	10:BN:117:LEU:HD22	1.95	0.49
10:BN:83:GLU:HG3	10:BN:84:ILE:HG23	1.94	0.49
31:Bg:14:GLU:OE1	31:Bg:14:GLU:N	2.46	0.49
31:Bg:69:GLN:N	31:Bg:83:ALA:O	2.46	0.49
34:B5:851:U:O2'	34:B5:852:C:O5'	2.29	0.49
34:B5:1365:C:H2'	34:B5:1366:U:H6	1.78	0.49
36:AB:87:VAL:O	36:AB:107:ALA:N	2.42	0.49
36:AB:208:VAL:O	36:AB:340:LYS:NZ	2.39	0.49
38:A1:1072:G:H2'	38:A1:1073:U:C6	2.48	0.49
38:A1:1659:U:H2'	38:A1:1660:C:C6	2.48	0.49
38:A1:2464:U:H2'	38:A1:2465:G:N7	2.26	0.49
40:A4:131:A:H5"	60:AX:93:TYR:CE2	2.48	0.49
45:AH:163:GLN:OE1	45:AH:166:ARG:NH1	2.46	0.49
60:AX:50:ALA:O	70:Ah:66:VAL:HG21	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:AZ:41:ALA:HB2	62:AZ:77:TYR:HE2	1.78	0.49
62:AZ:42:LEU:HD22	62:AZ:74:VAL:HG22	1.94	0.49
65:Ac:43:ILE:HB	65:Ac:90:VAL:HG12	1.95	0.49
4:BE:71:LYS:HB2	4:BE:91:THR:HB	1.95	0.49
38:A1:2585:G:H2'	38:A1:2585:G:N3	2.28	0.49
41:AD:256:THR:HG23	41:AD:258:LYS:HG3	1.94	0.49
45:AH:90:MET:HB2	45:AH:144:ILE:CG2	2.42	0.49
45:AH:91:ARG:NH2	45:AH:141:LYS:O	2.46	0.49
51:AO:61[A]:ALA:HA	51:AO:70[A]:PRO:HD2	1.94	0.49
55:AS:5:LYS:HD3	55:AS:63:GLN:HE22	1.77	0.49
73:Ak:35:GLY:C	73:Ak:36:LYS:HD3	2.37	0.49
80:EC:6829:A:H2'	80:EC:6830:G:C8	2.48	0.49
80:EC:6927:U:H3'	80:EC:6928:G:H8	1.77	0.49
4:BE:145:ARG:NH1	4:BE:162:ILE:HG21	2.28	0.49
8:BJ:12:TYR:CE1	8:BJ:40:LYS:HE2	2.48	0.49
15:BY:113:ASN:ND2	34:B5:54:C:OP1	2.42	0.49
20:BF:141:GLY:HA2	20:BF:171:ALA:HB2	1.95	0.49
25:BS:80:LYS:HD2	25:BS:80:LYS:O	2.11	0.49
28:BZ:69:LEU:HD23	28:BZ:71:ILE:HG12	1.95	0.49
30:Bd:47:ALA:HB1	30:Bd:52:PHE:CD2	2.48	0.49
34:B5:12:U:H2'	34:B5:13:C:H6	1.75	0.49
34:B5:108:A:H2'	34:B5:109:G:C8	2.48	0.49
34:B5:1714:A:H2'	34:B5:1715:G:H8	1.77	0.49
34:B5:1787:C:H2'	34:B5:1788:G:C8	2.48	0.49
38:A1:532:A:H2'	38:A1:533:A:H8	1.76	0.49
38:A1:727:G:OP2	38:A1:742:G:N2	2.41	0.49
38:A1:1074:U:O2'	64:Ab:42:ASN:OD1	2.26	0.49
38:A1:1597:C:H4'	69:Ag:26:PRO:HD2	1.95	0.49
38:A1:3291:G:H2'	38:A1:3292:A:C8	2.48	0.49
43:AF:40:LYS:O	43:AF:44:ILE:HG12	2.12	0.49
49:AM:38:ILE:HG22	49:AM:44:VAL:HG12	1.94	0.49
64:Ab:51:ALA:O	64:Ab:55:ALA:N	2.46	0.49
79:E:55:LEU:HB2	79:E:153:SER:HB3	1.95	0.49
2:BB:66:VAL:CG2	11:BO:33:LEU:HG	2.42	0.48
4:BE:206:ASP:O	4:BE:222:LEU:N	2.41	0.48
5:BG:178:LEU:HD21	34:B5:78:A:N6	2.27	0.48
6:BH:104:ARG:NH2	34:B5:805:U:O4	2.46	0.48
12:BV:19:ALA:O	13:BW:23:ARG:NH2	2.40	0.48
34:B5:204:G:H2'	34:B5:205:U:O4'	2.13	0.48
34:B5:924:A:H2'	34:B5:925:G:C8	2.48	0.48
34:B5:1297:G:N2	34:B5:1300:A:OP2	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1614:A:H2'	34:B5:1615:C:C6	2.48	0.48
38:A1:362:U:O4	72:Aj:24:ARG:NH2	2.46	0.48
38:A1:1231:A:O2'	38:A1:1261:G:O2'	2.30	0.48
38:A1:1729:A:O4'	65:Ac:52:ARG:NH1	2.46	0.48
40:A4:9:A:H2'	40:A4:10:A:C8	2.48	0.48
45:AH:87:LYS:HE2	45:AH:145:VAL:HG11	1.95	0.48
2:BB:134:VAL:HG11	2:BB:219:LYS:HD3	1.95	0.48
3:BC:201:ASN:OD1	3:BC:202:GLY:N	2.46	0.48
19:BD:103:GLU:HA	19:BD:106:LYS:HB3	1.95	0.48
30:Bd:47:ALA:HB1	30:Bd:52:PHE:HB3	1.95	0.48
34:B5:1642:G:H2'	34:B5:1643:U:H6	1.78	0.48
38:A1:172:G:H2'	38:A1:173:G:C8	2.49	0.48
38:A1:230:U:H2'	38:A1:231:G:O4'	2.12	0.48
38:A1:543:C:O2	38:A1:544:C:N4	2.47	0.48
38:A1:1195:A:H1'	38:A1:1319:G:H4'	1.93	0.48
39:A3:17:A:OP1	47:AJ:150:ASN:ND2	2.46	0.48
62:AZ:4:PHE:O	62:AZ:9:LYS:HG3	2.13	0.48
68:Af:75:HIS:HB3	68:Af:80:VAL:HG12	1.94	0.48
71:Ai:27:SER:C	71:Ai:29:LYS:H	2.21	0.48
79:E:113:SER:O	79:E:117:ILE:HG12	2.12	0.48
80:EC:6837:G:H2'	80:EC:6838:C:C6	2.48	0.48
1:BA:26:ALA:H	1:BA:149:LEU:HD12	1.78	0.48
3:BC:148:LEU:HD21	8:BJ:95:TYR:OH	2.13	0.48
9:BL:130:PRO:HA	9:BL:136:ARG:HD3	1.95	0.48
17:Bb:34:ASP:OD1	17:Bb:43:ILE:HG23	2.13	0.48
20:BF:63:GLN:HG2	20:BF:88:PRO:HA	1.95	0.48
21:BK:36:ASP:OD1	21:BK:36:ASP:N	2.46	0.48
29:Bc:18:ARG:NH1	34:B5:1616:G:HO2'	2.11	0.48
34:B5:1086:A:H2'	34:B5:1087:A:C8	2.48	0.48
37:AC:34:ILE:HG21	37:AC:120:TYR:CD2	2.48	0.48
38:A1:129:U:H2'	38:A1:130:A:H8	1.78	0.48
38:A1:1815:U:H4'	38:A1:1816:A:H4'	1.95	0.48
38:A1:2413:A:H2'	38:A1:2414:G:C8	2.48	0.48
38:A1:2747:A:H5'	41:AD:175:HIS:HA	1.95	0.48
38:A1:3302:U:O2'	38:A1:3303:G:H5'	2.12	0.48
46:AI:66:GLU:O	46:AI:70:ILE:HG12	2.13	0.48
1:BA:63:ILE:HD11	12:BV:36:VAL:HG12	1.94	0.48
2:BB:179:SER:OG	2:BB:187:LYS:NZ	2.23	0.48
4:BE:173:ILE:HD11	4:BE:235:TYR:CE2	2.49	0.48
5:BG:202:ARG:NH2	34:B5:127:G:N7	2.60	0.48
7:BI:167:ALA:HA	7:BI:183:ILE:HA	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:BQ:74:HIS:NE2	34:B5:1481:C:O2'	2.41	0.48
24:BR:75:GLU:OE1	24:BR:78:ARG:NH2	2.46	0.48
30:Bd:22:ARG:NH1	30:Bd:36:LEU:O	2.35	0.48
34:B5:777:C:H2'	34:B5:778:G:O4'	2.13	0.48
34:B5:1613:U:H2'	34:B5:1614:A:C8	2.49	0.48
38:A1:156:G:OP2	71:Ai:25:LYS:HB3	2.13	0.48
38:A1:158:G:H2'	38:A1:159:A:H8	1.78	0.48
38:A1:1120:A:H2'	38:A1:1121:U:C6	2.49	0.48
41:AD:238:ASP:HA	41:AD:241:THR:HB	1.96	0.48
59:AW:23:ARG:HH21	59:AW:40:PHE:HZ	1.61	0.48
60:AX:134:ASP:OD1	60:AX:135:ILE:N	2.47	0.48
74:Al:2:ALA:C	74:Al:4:GLN:H	2.21	0.48
79:E:171:ASN:H	79:E:174:MET:HE2	1.79	0.48
2:BB:187:LYS:HB3	2:BB:192:VAL:HG22	1.93	0.48
4:BE:87:MET:SD	4:BE:100:ARG:HD3	2.53	0.48
6:BH:96:ARG:HH21	6:BH:124:LYS:HG3	1.79	0.48
10:BN:26:PHE:CZ	10:BN:28:LEU:HB3	2.48	0.48
11:BO:18:ARG:HH12	34:B5:919:A:H5'	1.79	0.48
25:BS:114:GLU:HA	25:BS:117:LYS:HB2	1.94	0.48
30:Bd:19:ARG:NE	30:Bd:32:ARG:HD3	2.29	0.48
34:B5:17:C:O2'	34:B5:1137:A:N1	2.40	0.48
34:B5:926:A:H2'	34:B5:927:C:C6	2.48	0.48
34:B5:985:G:H2'	34:B5:986:G:O4'	2.14	0.48
34:B5:1171:A:H2'	34:B5:1172:G:C8	2.48	0.48
36:AB:295:ALA:HB2	36:AB:301:THR:O	2.14	0.48
38:A1:1307:G:OP1	51:AO:59[A]:ARG:NH1	2.45	0.48
38:A1:2461:A:H2'	38:A1:2484:A:H61	1.78	0.48
38:A1:2478:C:OP2	38:A1:2480:A:N6	2.46	0.48
40:A4:40:A:H2'	40:A4:41:A:C8	2.48	0.48
42:AE:56:LYS:HB3	42:AE:64:LEU:HD23	1.94	0.48
2:BB:133:TYR:CE2	2:BB:181:LEU:HD22	2.49	0.48
3:BC:229:LEU:HD21	12:BV:14:PRO:HG2	1.96	0.48
5:BG:65:GLN:HG3	34:B5:1681:A:H8	1.78	0.48
5:BG:67:VAL:HB	5:BG:99:GLY:HA2	1.94	0.48
5:BG:67:VAL:HG12	5:BG:69:LEU:HG	1.96	0.48
6:BH:63:PRO:C	6:BH:65:PRO:HD3	2.38	0.48
34:B5:319:U:H4'	34:B5:323:A:C8	2.49	0.48
38:A1:2566:C:H2'	38:A1:2567:C:C6	2.48	0.48
38:A1:3226:A:C6	38:A1:3260:G:C6	3.01	0.48
80:EC:6851:G:H22	80:EC:6879:U:H5'	1.78	0.48
1:BA:148:ASP:OD1	1:BA:149:LEU:N	2.38	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:BC:246:GLU:OE1	3:BC:246:GLU:N	2.45	0.48
5:BG:169:TYR:HB3	34:B5:72:A:N6	2.29	0.48
9:BL:4:GLU:OE1	9:BL:5:LEU:N	2.46	0.48
9:BL:43:LYS:HZ3	34:B5:739:G:H5'	1.77	0.48
10:BN:16:ILE:HD11	34:B5:862:A:H5"	1.94	0.48
19:BD:72:LEU:HD21	21:BK:65:TYR:CD2	2.48	0.48
20:BF:142:PRO:HD2	20:BF:167:ARG:HA	1.95	0.48
30:Bd:19:ARG:HD3	30:Bd:32:ARG:HD3	1.94	0.48
38:A1:1447:G:H3'	52:AP:67:ILE:HD11	1.96	0.48
38:A1:1694:U:O2'	38:A1:1695:U:H5'	2.14	0.48
38:A1:2935:U:O4	58:AV:44:SER:OG	2.30	0.48
42:AE:164:SER:OG	68:Af:4:SER:OG	2.23	0.48
43:AF:189:ILE:HG23	43:AF:190:THR:HG23	1.95	0.48
2:BB:151:LYS:HD3	2:BB:153:HIS:NE2	2.29	0.48
5:BG:169:TYR:HB2	34:B5:72:A:N7	2.29	0.48
7:BI:60:ILE:HD11	7:BI:179:CYS:HB2	1.96	0.48
19:BD:42:THR:OG1	19:BD:45:LYS:O	2.21	0.48
26:BT:12:GLN:NE2	34:B5:1529:C:H1'	2.29	0.48
26:BT:86:ARG:NH1	26:BT:89:ARG:HD2	2.29	0.48
27:BU:82:TYR:CE2	30:Bd:54:LYS:HB2	2.49	0.48
31:Bg:231:MET:HG2	31:Bg:232:TYR:CD2	2.49	0.48
32:Bf:96:LYS:NZ	34:B5:1251:U:O5'	2.46	0.48
34:B5:58:U:O2'	34:B5:451:A:N3	2.44	0.48
34:B5:164:A:H2'	34:B5:165:G:C8	2.48	0.48
34:B5:782:U:H4'	34:B5:783:G:H5"	1.95	0.48
34:B5:915:A:C5	34:B5:916:U:C4	3.02	0.48
35:AA:50:HIS:CD2	38:A1:1795:U:H2'	2.49	0.48
38:A1:2433:U:H1'	50:AN:125:SER:HB3	1.95	0.48
79:E:70:ASP:N	79:E:115:VAL:HG21	2.28	0.48
1:BA:49:ASN:HB3	1:BA:52:LYS:HD2	1.96	0.48
3:BC:65:GLU:HG3	3:BC:67:GLN:HG3	1.95	0.48
6:BH:104:ARG:NH1	34:B5:803:A:O2'	2.47	0.48
6:BH:108:GLN:N	34:B5:743:U:OP1	2.31	0.48
19:BD:67:ASN:HD22	21:BK:95:ARG:NE	2.12	0.48
24:BR:57:LEU:O	24:BR:61:ILE:HG13	2.13	0.48
31:Bg:61:PHE:HD1	31:Bg:92:TRP:CE3	2.32	0.48
34:B5:791:A:H2'	34:B5:792:U:C6	2.48	0.48
34:B5:1213:G:O2'	34:B5:1244:A:N7	2.46	0.48
34:B5:1453:G:H2'	34:B5:1454:G:H8	1.78	0.48
34:B5:1550:A:H2'	34:B5:1551:U:C6	2.48	0.48
37:AC:138:ARG:NH1	38:A1:1384:U:H5'	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:544:C:H5'	38:A1:549:U:H3	1.77	0.48
38:A1:1298:C:O3'	75:Am:113:ARG:NH2	2.47	0.48
38:A1:2522:G:H2'	38:A1:2522:G:N3	2.29	0.48
38:A1:2842:U:O2	38:A1:2842:U:H2'	2.12	0.48
45:AH:187:ILE:HG22	45:AH:188:THR:HG23	1.95	0.48
46:AI:192:ASP:HA	46:AI:197:VAL:HG12	1.95	0.48
53:AQ:170:ARG:O	53:AQ:171:LYS:HB2	2.14	0.48
63:Aa:56:VAL:HG12	63:Aa:57:GLY:N	2.24	0.48
2:BB:218:LEU:C	2:BB:219:LYS:HD2	2.39	0.48
4:BE:221:ARG:NH1	34:B5:753:A:OP1	2.30	0.48
5:BG:29:ASP:HA	5:BG:101:ILE:HG23	1.95	0.48
13:BW:7:LEU:HD13	13:BW:33:VAL:HG12	1.96	0.48
19:BD:109:LEU:O	19:BD:177:MET:HE1	2.13	0.48
19:BD:164:VAL:O	19:BD:168:ILE:HB	2.14	0.48
20:BF:216:GLU:HG2	20:BF:217:LEU:N	2.27	0.48
31:Bg:81:LEU:HD11	31:Bg:122:ILE:HG12	1.94	0.48
32:Bf:118:ARG:CZ	32:Bf:133:ALA:HA	2.44	0.48
34:B5:869:A:H61	34:B5:958:U:H3	1.61	0.48
38:A1:406:G:OP1	38:A1:1415:U:O2'	2.23	0.48
38:A1:1260:A:O2'	38:A1:1261:G:O4'	2.31	0.48
55:AS:152:LEU:HB2	55:AS:172:TYR:CE2	2.49	0.48
65:Ac:16:LEU:O	65:Ac:20:SER:OG	2.15	0.48
80:EC:6759:A:H2'	80:EC:6760:A:H8	1.79	0.48
4:BE:149:TYR:CE1	5:BG:208:TYR:CE1	3.02	0.47
8:BJ:65:LYS:N	8:BJ:69:ARG:HH21	2.10	0.47
20:BF:147:THR:N	20:BF:158:GLN:O	2.41	0.47
23:BQ:31:VAL:N	23:BQ:34:SER:O	2.26	0.47
34:B5:341:A:H2'	34:B5:342:C:C6	2.49	0.47
34:B5:448:C:H2'	34:B5:449:C:C6	2.48	0.47
34:B5:587:C:H2'	34:B5:588:U:C6	2.49	0.47
34:B5:644:C:H2'	34:B5:645:C:C6	2.49	0.47
34:B5:888:U:H2'	34:B5:889:U:H6	1.78	0.47
34:B5:1233:G:H8	34:B5:1233:G:O5'	1.96	0.47
34:B5:1550:A:N1	34:B5:1562:G:C5	2.82	0.47
37:AC:7:THR:HA	37:AC:19:ALA:HA	1.95	0.47
37:AC:138:ARG:HH21	37:AC:240:PRO:CG	2.27	0.47
38:A1:761:A:H2'	38:A1:762:U:C6	2.49	0.47
38:A1:2676:A:H5'	38:A1:2677:G:N7	2.29	0.47
38:A1:2854:U:P	46:AI:3:ARG:HH22	2.37	0.47
46:AI:46:PHE:HB2	46:AI:139:ARG:HH11	1.77	0.47
61:AY:59:VAL:O	61:AY:64:LYS:HE2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:EC:6791:A:C8	80:EC:6793:A:H1'	2.50	0.47
2:BB:70:LEU:HD12	2:BB:84:ILE:HD11	1.95	0.47
5:BG:50:PHE:CG	5:BG:111:LEU:HD23	2.49	0.47
7:BI:72:ILE:HD12	34:B5:256:A:O2'	2.14	0.47
8:BJ:133:HIS:HE1	8:BJ:164:PHE:HB2	1.79	0.47
33:BM:103:LEU:HD13	34:B5:1256:A:N1	2.29	0.47
34:B5:897:C:O2'	34:B5:914:G:N2	2.47	0.47
35:AA:206:PRO:HG3	35:AA:213:GLY:HA3	1.96	0.47
38:A1:887:G:H2'	38:A1:888:A:C8	2.49	0.47
38:A1:2266:U:H2'	38:A1:2267:C:C6	2.49	0.47
38:A1:2723:U:H2'	38:A1:2724:OMU:H6	1.97	0.47
42:AE:51:ARG:NH1	42:AE:158:TYR:O	2.46	0.47
51:AO:105[A]:PHE:HE2	51:AO:112[A]:TYR:CE2	2.31	0.47
55:AS:73:LYS:HD3	55:AS:128:GLU:OE1	2.13	0.47
62:AZ:5:LEU:HD11	65:Ac:35:ARG:HD2	1.95	0.47
80:EC:6799:C:H2'	80:EC:6800:G:C8	2.48	0.47
80:EC:6869:C:O2'	80:EC:6870:A:O5'	2.32	0.47
1:BA:30:GLN:NE2	1:BA:32:HIS:HB2	2.29	0.47
6:BH:98:ILE:HD11	6:BH:121:VAL:HG11	1.96	0.47
7:BI:156:VAL:O	7:BI:159:GLN:HG2	2.14	0.47
11:BO:16:VAL:HG12	11:BO:18:ARG:CG	2.45	0.47
19:BD:67:ASN:HB3	21:BK:91:TYR:CE1	2.49	0.47
20:BF:115:LYS:NZ	28:BZ:95:HIS:HE1	2.12	0.47
20:BF:116:HIS:O	20:BF:120:ILE:N	2.43	0.47
21:BK:11:ILE:HG12	21:BK:42:VAL:HG12	1.96	0.47
23:BQ:38:LEU:HD12	23:BQ:45:ARG:NH2	2.29	0.47
34:B5:1203:A:H61	34:B5:1553:G:H1'	1.79	0.47
38:A1:173:G:C6	38:A1:245:U:O2	2.67	0.47
38:A1:955:U:H2'	38:A1:956:U:C6	2.49	0.47
38:A1:1355:A:H4'	38:A1:1356:U:H5"	1.95	0.47
38:A1:2675:C:OP2	38:A1:2676:A:O2'	2.24	0.47
38:A1:3215:A:H5'	49:AM:121:MET:HE1	1.94	0.47
41:AD:29:ASP:HB3	41:AD:32:GLN:HG2	1.97	0.47
42:AE:62:THR:HG21	42:AE:78:ARG:HB3	1.95	0.47
60:AX:57:LEU:HD12	60:AX:61:LYS:HB3	1.96	0.47
72:Aj:85:LYS:HG3	72:Aj:86:ALA:H	1.79	0.47
6:BH:22:GLN:HG2	6:BH:26:GLU:HG2	1.97	0.47
7:BI:37:LYS:HE3	7:BI:93:THR:HG22	1.96	0.47
12:BV:34:ILE:HG12	12:BV:53:TYR:HB2	1.96	0.47
20:BF:140:THR:OG1	20:BF:210:ALA:O	2.32	0.47
23:BQ:79:TYR:HA	23:BQ:82:ARG:HG2	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:BR:37:GLU:HG2	31:Bg:150:TRP:CZ2	2.49	0.47
25:BS:18:LEU:HD13	25:BS:101:LEU:HD13	1.96	0.47
26:BT:108:LEU:HG	26:BT:113:ILE:HB	1.96	0.47
32:Bf:83:LYS:NZ	34:B5:1211:A:OP2	2.46	0.47
34:B5:617:U:H5'	34:B5:1031:U:O4'	2.14	0.47
34:B5:1163:A:H2'	34:B5:1164:G:O4'	2.14	0.47
38:A1:1134:G:O2'	38:A1:2642:A:N3	2.38	0.47
44:AG:140:VAL:HG12	44:AG:166:LEU:HD21	1.95	0.47
79:E:75:ASP:OD1	79:E:76:ARG:N	2.47	0.47
80:EC:6783:U:H2'	80:EC:6784:G:C8	2.50	0.47
2:BB:29:TRP:CD2	2:BB:47:LEU:HD13	2.49	0.47
4:BE:34:GLY:HA3	4:BE:83:PRO:HG2	1.96	0.47
25:BS:41:ARG:HH12	26:BT:38:LYS:HG3	1.78	0.47
33:BM:28:LEU:HA	33:BM:31:VAL:HG12	1.95	0.47
34:B5:1141:G:H2'	34:B5:1142:A:C8	2.49	0.47
38:A1:255:A:H2'	38:A1:256:G:C8	2.50	0.47
38:A1:364:G:O6	72:Aj:56:ARG:HD3	2.15	0.47
38:A1:1035:G:H2'	38:A1:1036:A:O4'	2.15	0.47
38:A1:1470:U:H2'	38:A1:1471:U:C6	2.49	0.47
38:A1:2961:G:H2'	38:A1:2962:U:C6	2.49	0.47
39:A3:11:A:O2'	39:A3:13:A:H2'	2.15	0.47
39:A3:26:C:H2'	39:A3:27:A:O4'	2.14	0.47
63:Aa:96:LYS:C	63:Aa:98:THR:H	2.22	0.47
66:Ad:47:ASP:OD1	66:Ad:47:ASP:N	2.44	0.47
2:BB:55:LYS:HG3	2:BB:55:LYS:O	2.14	0.47
2:BB:134:VAL:HG12	2:BB:218:LEU:HB2	1.97	0.47
4:BE:71:LYS:HG2	4:BE:76:VAL:HA	1.97	0.47
16:Ba:33:ASP:OD2	16:Ba:34:LYS:N	2.47	0.47
26:BT:54:PHE:CE1	26:BT:104:VAL:HG22	2.50	0.47
31:Bg:262:VAL:HG13	31:Bg:271:VAL:HB	1.97	0.47
34:B5:883:C:H2'	34:B5:884:A:H8	1.78	0.47
36:AB:233:TRP:CD1	36:AB:265:ALA:HB1	2.50	0.47
38:A1:709:A:H2'	38:A1:710:A:O4'	2.15	0.47
38:A1:999:G:N3	38:A1:1002:A:N6	2.63	0.47
38:A1:1563:C:H2'	38:A1:1564:U:C6	2.50	0.47
38:A1:1595:U:C2	38:A1:1596:C:C5	3.03	0.47
38:A1:1601:U:P	54:AR:42:ARG:HH22	2.38	0.47
38:A1:2890:A:O2'	38:A1:2933:A:N3	2.43	0.47
38:A1:3033:A:H2'	38:A1:3034:C:O2	2.15	0.47
38:A1:3177:G:N7	42:AE:167:ASN:ND2	2.57	0.47
43:AF:77:VAL:HG22	56:AT:139:ARG:HG2	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:AG:71:VAL:HG23	44:AG:235:GLY:HA3	1.96	0.47
48:AL:118:GLU:O	48:AL:122:LYS:HD3	2.14	0.47
54:AR:31:GLU:OE2	54:AR:44:LEU:HD21	2.14	0.47
55:AS:99:ARG:NH1	55:AS:126:VAL:O	2.48	0.47
58:AV:18:PRO:HA	58:AV:51:ALA:HA	1.96	0.47
2:BB:34:ALA:HB3	2:BB:41:ARG:HA	1.97	0.47
2:BB:86:LEU:HD13	2:BB:98:THR:CB	2.40	0.47
2:BB:140:ILE:HD13	2:BB:213:ARG:HD2	1.96	0.47
2:BB:157:GLN:C	2:BB:159:SER:H	2.23	0.47
4:BE:56:LEU:N	4:BE:60:GLU:OE2	2.47	0.47
5:BG:174:LYS:HG3	34:B5:78:A:H2	1.80	0.47
21:BK:58:GLN:HB3	21:BK:60:SER:OG	2.15	0.47
26:BT:39:THR:HG22	26:BT:100:ILE:HD13	1.95	0.47
30:Bd:41:GLN:NE2	34:B5:1433:G:C8	2.83	0.47
34:B5:168:A:H2'	34:B5:169:A:C8	2.49	0.47
34:B5:800:U:H2'	34:B5:801:G:C8	2.49	0.47
34:B5:854:U:O4	34:B5:855:A:N6	2.48	0.47
34:B5:1336:A:H2'	34:B5:1337:A:H8	1.79	0.47
34:B5:1691:A:H2'	34:B5:1692:G:C8	2.50	0.47
34:B5:1780:G:N3	38:A1:2262:A:O2'	2.36	0.47
37:AC:34:ILE:HG21	37:AC:120:TYR:HD2	1.79	0.47
38:A1:11:A:H2'	38:A1:12:A:C8	2.50	0.47
38:A1:36:C:OP2	50:AN:83:LYS:NZ	2.46	0.47
38:A1:916:G:H5'	38:A1:917:A:OP1	2.14	0.47
38:A1:1621:A:H2'	38:A1:1622:U:H6	1.79	0.47
38:A1:2508:U:H2'	38:A1:2509:U:C6	2.49	0.47
38:A1:2535:A:H2'	38:A1:2536:A:O4'	2.15	0.47
38:A1:3254:G:H2'	38:A1:3255:U:C6	2.49	0.47
38:A1:3291:G:H2'	38:A1:3292:A:H8	1.80	0.47
42:AE:76:LEU:N	42:AE:138:GLN:OE1	2.48	0.47
47:AJ:6:GLN:OE1	47:AJ:10:ARG:NH1	2.48	0.47
56:AT:57:TYR:CD1	56:AT:89:LEU:HD21	2.50	0.47
58:AV:120:LYS:NZ	58:AV:124:ASP:OD1	2.48	0.47
77:Ao:71:ARG:NH1	77:Ao:80:ARG:HE	2.13	0.47
78:Ap:38:ASP:HA	78:Ap:45:LYS:HA	1.96	0.47
79:E:69:GLY:HA2	79:E:116:LEU:HD23	1.96	0.47
80:EC:6869:C:O2'	80:EC:6870:A:O4'	2.32	0.47
80:EC:6876:A:H4'	80:EC:6877:C:OP2	2.13	0.47
3:BC:178:ILE:HG23	3:BC:188:LEU:HD23	1.97	0.47
6:BH:108:GLN:HB2	34:B5:743:U:H5"	1.95	0.47
6:BH:138:LYS:C	6:BH:139:ARG:HD2	2.40	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:BJ:80:LEU:HD23	8:BJ:99:LEU:HD21	1.96	0.47
11:BO:29:HIS:CE1	11:BO:31:THR:HG22	2.50	0.47
12:BV:36:VAL:O	12:BV:50:TYR:HB2	2.15	0.47
23:BQ:28:LEU:H	23:BQ:64:ASP:HB3	1.80	0.47
31:Bg:114:ASP:HB3	31:Bg:156:VAL:HG23	1.96	0.47
33:BM:136:ILE:O	33:BM:139:HIS:ND1	2.45	0.47
34:B5:220:A:H5"	34:B5:832:U:H1'	1.97	0.47
34:B5:579:A:O2'	34:B5:580:A:H5"	2.15	0.47
34:B5:1732:A:H2'	34:B5:1733:C:H6	1.79	0.47
38:A1:1127:G:N2	38:A1:1129:A:H3'	2.30	0.47
38:A1:1799:A:H2'	38:A1:1800:A:C8	2.49	0.47
38:A1:2736:A:H2'	38:A1:2737:C:O4'	2.14	0.47
40:A4:57:C:H4'	40:A4:63:G:N7	2.30	0.47
48:AL:177:LYS:HA	71:Ai:11:LEU:HD21	1.97	0.47
65:Ac:32:LYS:O	65:Ac:36:GLN:HG3	2.14	0.47
1:BA:175:TYR:HD2	1:BA:176:LEU:HD22	1.79	0.47
4:BE:180:LEU:HD23	4:BE:230:GLU:O	2.15	0.47
5:BG:93:LYS:NZ	34:B5:405:C:H5"	2.30	0.47
9:BL:33:ARG:NH1	9:BL:48:ALA:O	2.48	0.47
22:BP:29:SER:OG	22:BP:31:GLU:HG2	2.14	0.47
25:BS:53:ASP:O	25:BS:56:LYS:HG2	2.15	0.47
34:B5:54:C:O2'	34:B5:459:G:N7	2.38	0.47
34:B5:225:A:H62	34:B5:226:A:N6	2.13	0.47
34:B5:585:A:H2'	34:B5:586:G:H8	1.80	0.47
34:B5:870:C:H2'	34:B5:871:G:C8	2.50	0.47
38:A1:1193:A:OP1	51:AO:49[A]:ARG:NH2	2.34	0.47
52:AP:58:ILE:HG13	52:AP:84:PRO:HD2	1.96	0.47
72:Aj:47:TYR:O	72:Aj:54:LYS:HE3	2.14	0.47
79:E:59:PRO:O	79:E:171:ASN:ND2	2.48	0.47
80:EC:6789:G:H1'	80:EC:6790:A:H5"	1.97	0.47
80:EC:6924:G:H2'	80:EC:6925:C:H3'	1.97	0.47
1:BA:129:ASP:OD2	1:BA:132:ALA:HB3	2.15	0.47
2:BB:117:TRP:HA	2:BB:155:TYR:OH	2.15	0.47
5:BG:1:MET:HG2	5:BG:24:ILE:HD13	1.96	0.47
7:BI:73:SER:HB2	34:B5:257:A:H1'	1.97	0.47
8:BJ:99:LEU:HD13	8:BJ:104:PHE:CZ	2.50	0.47
11:BO:42:VAL:HG13	11:BO:46:MET:SD	2.55	0.47
12:BV:36:VAL:HG23	12:BV:51:VAL:HB	1.96	0.47
17:Bb:33:LEU:HD13	17:Bb:79:PHE:HB2	1.96	0.47
19:BD:132:LYS:HD2	19:BD:156:PHE:CD2	2.51	0.47
20:BF:111:VAL:HG13	23:BQ:43:ILE:HD13	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:BF:166:ARG:HB2	29:Bc:47:PRO:HD2	1.97	0.47
27:BU:44:ASN:OD1	27:BU:47:GLN:NE2	2.48	0.47
32:Bf:95:HIS:ND1	34:B5:1231:U:O4	2.44	0.47
34:B5:32:U:O2'	34:B5:594:A:N1	2.42	0.47
34:B5:1177:C:H2'	34:B5:1178:G:H8	1.79	0.47
34:B5:1713:G:H2'	34:B5:1714:A:H8	1.79	0.47
37:AC:195:ARG:HH12	38:A1:339:C:H3'	1.80	0.47
38:A1:2536:A:C2	38:A1:2538:U:H2'	2.49	0.47
43:AF:163:LEU:HD13	43:AF:169:ILE:HD11	1.96	0.47
52:AP:108:ASP:OD2	52:AP:111:LYS:NZ	2.35	0.47
58:AV:28:ASN:HD21	58:AV:112:SER:HB2	1.80	0.47
79:E:14:LYS:NZ	79:E:176:GLU:OE1	2.44	0.47
6:BH:63:PRO:HA	6:BH:95:GLU:HB3	1.97	0.46
11:BO:132:ARG:NH1	34:B5:1789:G:OP2	2.44	0.46
16:Ba:79:ILE:HD12	16:Ba:86:VAL:HG23	1.96	0.46
20:BF:145:ASP:CG	20:BF:162:VAL:HG22	2.40	0.46
20:BF:171:ALA:O	20:BF:175:LEU:N	2.32	0.46
23:BQ:62:ASN:OD1	23:BQ:63:ILE:HG12	2.15	0.46
26:BT:14:PHE:CZ	26:BT:18:TYR:HE2	2.33	0.46
28:BZ:89:ILE:HA	28:BZ:104:ALA:HB2	1.97	0.46
31:Bg:224:ASN:HD22	31:Bg:229:LYS:HE2	1.80	0.46
34:B5:1071:U:H2'	34:B5:1072:C:C6	2.49	0.46
36:AB:348:ARG:CZ	38:A1:3037:U:H5"	2.45	0.46
38:A1:1039:U:H2'	38:A1:1040:A:C8	2.50	0.46
38:A1:2946:A2M:H5"	38:A1:2947:G:H5'	1.96	0.46
38:A1:3295:A:H2'	38:A1:3296:A:H8	1.79	0.46
44:AG:155:ASN:HB3	44:AG:179:ILE:HG22	1.96	0.46
53:AQ:83:VAL:O	53:AQ:103:ALA:HA	2.14	0.46
65:Ac:10:ILE:H	65:Ac:10:ILE:HD12	1.81	0.46
72:Aj:14:LYS:NZ	74:Al:51:ILE:HD11	2.31	0.46
1:BA:127:ARG:NH2	1:BA:150:ASP:O	2.47	0.46
1:BA:147:THR:HG23	1:BA:151:SER:OG	2.15	0.46
2:BB:141:ALA:HB1	2:BB:207:LEU:CD2	2.45	0.46
3:BC:222:TYR:CZ	12:BV:14:PRO:HG3	2.50	0.46
19:BD:76:ARG:NH2	21:BK:24:LYS:HD3	2.31	0.46
26:BT:93:HIS:ND1	34:B5:1524:A:O3'	2.48	0.46
31:Bg:21:THR:H	31:Bg:37:SER:HA	1.80	0.46
34:B5:1213:G:H1	34:B5:1450:U:H3	1.64	0.46
34:B5:1467:C:H2'	34:B5:1468:U:H6	1.79	0.46
36:AB:291:GLU:OE1	36:AB:292:ALA:N	2.32	0.46
38:A1:3358:U:H2'	38:A1:3359:A:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:AG:82:LEU:HD13	44:AG:222:PHE:HE2	1.80	0.46
6:BH:155:ASP:OD1	6:BH:156:SER:N	2.48	0.46
7:BI:82:VAL:HG22	7:BI:197:THR:HG22	1.96	0.46
12:BV:37:ALA:HA	12:BV:50:TYR:HB2	1.98	0.46
15:BY:27:VAL:HG21	15:BY:40:LEU:HD11	1.96	0.46
15:BY:29:HIS:HB2	15:BY:32:ARG:HB3	1.97	0.46
20:BF:81:ARG:CD	34:B5:1615:C:H5"	2.46	0.46
21:BK:7:ASP:HA	21:BK:10:LYS:HG2	1.97	0.46
23:BQ:38:LEU:HD11	26:BT:10:ALA:HA	1.96	0.46
27:BU:59:PRO:HG3	34:B5:1381:U:H4'	1.98	0.46
27:BU:69:LYS:HE2	27:BU:80:GLU:HB2	1.97	0.46
27:BU:85:ARG:HH22	34:B5:1335:U:H5'	1.79	0.46
34:B5:1280:4AC:H2'	34:B5:1281:G:C8	2.44	0.46
38:A1:904:A:OP2	72:Aj:30:GLN:NE2	2.46	0.46
38:A1:1223:A:H2'	38:A1:1224:C:H6	1.81	0.46
38:A1:1844:C:O2	72:Aj:9:GLY:HA2	2.16	0.46
41:AD:177:GLU:HG3	41:AD:183:TRP:CZ3	2.50	0.46
54:AR:174:ALA:HA	54:AR:178:ALA:HB3	1.97	0.46
55:AS:16:THR:HG23	55:AS:19:VAL:H	1.80	0.46
55:AS:141:LYS:HA	55:AS:144:LEU:HD12	1.97	0.46
62:AZ:30:ASP:HA	62:AZ:77:TYR:HE1	1.79	0.46
77:Ao:71:ARG:HD2	77:Ao:80:ARG:HD3	1.97	0.46
79:E:158:GLN:HG2	79:E:160:LYS:HE2	1.97	0.46
80:EC:6937:G:H2'	80:EC:6938:A:H8	1.80	0.46
1:BA:41:ARG:HB3	1:BA:45:VAL:HB	1.98	0.46
25:BS:56:LYS:HE3	25:BS:60:GLU:HG3	1.97	0.46
25:BS:126:ARG:CG	25:BS:131:LEU:HB2	2.45	0.46
31:Bg:214:ALA:HB2	31:Bg:220:ILE:HG23	1.98	0.46
34:B5:100:A2M:H8	34:B5:100:A2M:O5'	2.16	0.46
34:B5:950:C:H2'	34:B5:951:A:H8	1.78	0.46
34:B5:1081:A:H2	34:B5:1082:C:H42	1.63	0.46
34:B5:1478:G:H2'	34:B5:1479:A:H8	1.79	0.46
34:B5:1702:A:H2'	34:B5:1703:C:H5'	1.96	0.46
38:A1:710:A:H2'	38:A1:711:A:C8	2.51	0.46
38:A1:748:U:H2'	38:A1:749:C:C6	2.51	0.46
38:A1:1120:A:H2'	38:A1:1121:U:H6	1.81	0.46
38:A1:1632:A:OP1	62:AZ:48:ARG:NH2	2.48	0.46
38:A1:2364:G:H22	38:A1:2396:G:H1'	1.80	0.46
38:A1:3191:G:H5"	51:AO:176[A]:LYS:HD3	1.97	0.46
41:AD:108:ARG:CZ	41:AD:253:PHE:HB2	2.46	0.46
41:AD:119:TYR:HE1	41:AD:134:ALA:HA	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:AH:1:MET:HE2	55:AS:138:GLN:OE1	2.16	0.46
62:AZ:133:LYS:HE3	62:AZ:135:ARG:NH1	2.30	0.46
7:BI:74:LYS:NZ	7:BI:112:TRP:HB2	2.30	0.46
15:BY:20:ARG:HD3	15:BY:76:TYR:CE1	2.50	0.46
15:BY:76:TYR:CE1	15:BY:86:GLU:HG2	2.51	0.46
17:Bb:17:ARG:O	34:B5:1071:U:H5'	2.15	0.46
23:BQ:76:SER:HB3	34:B5:1609:U:OP1	2.15	0.46
23:BQ:79:TYR:HD1	23:BQ:82:ARG:HH11	1.64	0.46
25:BS:89:GLN:HA	25:BS:97:ASP:OD1	2.15	0.46
28:BZ:69:LEU:HG	28:BZ:70:LYS:N	2.30	0.46
34:B5:465:G:C5	34:B5:466:U:C5	3.04	0.46
34:B5:913:G:N2	38:A1:2207:A:OP1	2.49	0.46
38:A1:2991:A:O2'	38:A1:3309:G:N7	2.48	0.46
39:A3:59:U:C2	39:A3:60:G:C8	3.03	0.46
39:A3:121:U:OP1	41:AD:259:LYS:NZ	2.48	0.46
52:AP:179:GLN:O	52:AP:182:ILE:HG22	2.16	0.46
56:AT:136:ARG:HB3	56:AT:139:ARG:NH2	2.30	0.46
59:AW:13:ILE:HD12	59:AW:30:ARG:HG3	1.97	0.46
2:BB:194:ASN:OD1	2:BB:211:HIS:HA	2.15	0.46
6:BH:80:GLU:OE1	6:BH:83:LYS:NZ	2.47	0.46
8:BJ:179:ARG:NH2	34:B5:510:G:OP1	2.49	0.46
9:BL:20:PHE:CE1	9:BL:22:ASN:HB3	2.51	0.46
10:BN:15:ALA:C	34:B5:959:U:H5'	2.41	0.46
20:BF:72:HIS:O	23:BQ:47:LYS:NZ	2.37	0.46
21:BK:92:ILE:HG23	21:BK:96:ASN:HA	1.98	0.46
25:BS:76:PRO:HG2	25:BS:86:LEU:HD21	1.97	0.46
28:BZ:77:ARG:NH2	34:B5:1532:U:O5'	2.48	0.46
32:Bf:111:GLU:OE2	32:Bf:113:LYS:HD2	2.15	0.46
34:B5:227:U:H2'	34:B5:228:G:C8	2.51	0.46
35:AA:244:GLY:HA3	38:A1:2242:A:H5"	1.98	0.46
36:AB:380:MET:O	38:A1:3369:G:N1	2.40	0.46
37:AC:181:VAL:C	37:AC:183:LYS:H	2.24	0.46
38:A1:1472:U:OP1	54:AR:8:LYS:HG3	2.16	0.46
38:A1:2220:A2M:N1	38:A1:2225:U:H5	2.13	0.46
38:A1:2261:G:H1'	38:A1:2262:A:H2	1.80	0.46
38:A1:2842:U:OP1	38:A1:2844:C:N4	2.48	0.46
41:AD:56:THR:HG23	41:AD:59:ASP:OD1	2.16	0.46
42:AE:28:GLN:HG2	42:AE:61:ASN:CG	2.40	0.46
45:AH:87:LYS:HA	45:AH:146:LEU:O	2.16	0.46
46:AI:36:LEU:HD21	46:AI:87:LEU:HD22	1.98	0.46
63:Aa:96:LYS:HG3	63:Aa:97:GLU:HG2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:E:191:VAL:HG21	79:E:198:TRP:CZ2	2.50	0.46
80:EC:6796:C:H2'	80:EC:6797:U:H6	1.81	0.46
3:BC:143:TYR:OH	3:BC:149:GLY:O	2.21	0.46
5:BG:37:ASP:OD2	5:BG:37:ASP:N	2.48	0.46
19:BD:53:THR:HG23	19:BD:54:ARG:HG3	1.98	0.46
21:BK:28:ASN:HB3	30:Bd:8:PHE:HE2	1.80	0.46
21:BK:38:LYS:HB3	21:BK:41:TYR:CD2	2.50	0.46
23:BQ:30:LYS:HA	23:BQ:35:PRO:HA	1.98	0.46
25:BS:67:GLU:O	25:BS:71:GLN:HG2	2.16	0.46
26:BT:129:GLN:HA	26:BT:132:LEU:HB2	1.97	0.46
28:BZ:77:ARG:HH22	34:B5:1532:U:H3'	1.81	0.46
31:Bg:63:GLY:O	31:Bg:90:ARG:NH2	2.48	0.46
34:B5:455:C:H3'	34:B5:456:A:H8	1.80	0.46
34:B5:496:G:H21	34:B5:497:G:H5'	1.80	0.46
34:B5:1107:G:O2'	34:B5:1108:G:H5'	2.15	0.46
34:B5:1239:U:H2'	34:B5:1240:U:O4'	2.16	0.46
34:B5:1682:U:O4	34:B5:1720:G:N2	2.48	0.46
35:AA:46:LYS:HD3	35:AA:46:LYS:HA	1.73	0.46
38:A1:1571:A:H2'	38:A1:1572:U:C4'	2.44	0.46
38:A1:1921:A:H2'	38:A1:1922:A:H8	1.81	0.46
38:A1:2376:G:H2'	38:A1:2377:G:C8	2.50	0.46
38:A1:2840:C:H2'	38:A1:2841:G:O4'	2.16	0.46
39:A3:52:G:O2'	39:A3:53:U:OP1	2.29	0.46
41:AD:196:ARG:HG2	41:AD:196:ARG:HH11	1.81	0.46
46:AI:48:LEU:HD21	46:AI:145:LYS:HG3	1.97	0.46
48:AL:63:VAL:HG22	63:Aa:128:ARG:NH1	2.31	0.46
80:EC:6946:A:H2'	80:EC:6947:A:O4'	2.14	0.46
4:BE:59:ARG:O	4:BE:62:LYS:HG2	2.15	0.46
10:BN:86:GLU:HG2	10:BN:87:ASP:N	2.31	0.46
12:BV:86:SER:HA	17:Bb:6:ASP:OD1	2.15	0.46
19:BD:105:MET:HE3	19:BD:109:LEU:HD11	1.98	0.46
22:BP:97:TYR:OH	34:B5:1211:A:N3	2.46	0.46
34:B5:538:A:N3	34:B5:538:A:H2'	2.31	0.46
34:B5:1222:C:N4	34:B5:1223:A:H62	2.14	0.46
34:B5:1569:A:H2'	34:B5:1570:A:C8	2.50	0.46
34:B5:1593:A:H2'	34:B5:1594:G:C8	2.49	0.46
37:AC:23:PRO:HD2	37:AC:26:PHE:HD2	1.80	0.46
37:AC:303:GLY:H	38:A1:1347:U:H5"	1.81	0.46
38:A1:576:C:OP1	43:AF:241:LYS:NZ	2.43	0.46
38:A1:1740:U:H1'	38:A1:1741:A:H2	1.79	0.46
38:A1:2273:G:O2'	38:A1:2311:G:O6	2.21	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:3198:U:C2	45:AH:21:LYS:HB2	2.51	0.46
38:A1:3267:A:H2'	42:AE:69:PHE:CZ	2.50	0.46
39:A3:27:A:OP1	41:AD:56:THR:OG1	2.26	0.46
43:AF:87:VAL:HG11	43:AF:243:MET:HE1	1.97	0.46
43:AF:163:LEU:O	43:AF:168:ILE:HD13	2.15	0.46
45:AH:6:THR:HG22	45:AH:68:LEU:HD23	1.98	0.46
50:AN:85:THR:HA	77:Ao:51:GLY:HA2	1.98	0.46
51:AO:47[A]:PHE:CE1	51:AO:140[A]:LYS:HG2	2.51	0.46
62:AZ:23:VAL:HG22	62:AZ:43:VAL:HB	1.97	0.46
69:Ag:86:LYS:O	69:Ag:90:ILE:HG12	2.16	0.46
79:E:179:LEU:O	79:E:183:ILE:HG23	2.15	0.46
2:BB:98:THR:O	2:BB:232:HIS:NE2	2.46	0.46
3:BC:54:GLU:O	3:BC:58:LEU:N	2.43	0.46
4:BE:121:TYR:CD2	4:BE:161:LYS:HE3	2.51	0.46
5:BG:13:GLN:HE22	34:B5:151:G:N2	2.12	0.46
7:BI:67:TRP:CD1	7:BI:183:ILE:HD11	2.50	0.46
8:BJ:153:GLU:O	8:BJ:156:ILE:HG22	2.16	0.46
22:BP:111:MET:HE1	25:BS:119:ILE:HG22	1.98	0.46
25:BS:113:LEU:O	25:BS:117:LYS:HG2	2.16	0.46
31:Bg:107:LYS:HB2	31:Bg:128:ASP:OD2	2.15	0.46
34:B5:1055:U:H2'	34:B5:1056:U:C6	2.50	0.46
34:B5:1525:A:H2'	34:B5:1526:A:H8	1.80	0.46
35:AA:181:LYS:HB2	38:A1:860:G:C6	2.51	0.46
38:A1:420:G:N2	38:A1:2385:G:OP2	2.45	0.46
38:A1:787:G:H2'	38:A1:788:C:C6	2.51	0.46
38:A1:1915:A:H2'	38:A1:1916:U:C6	2.51	0.46
38:A1:3127:A:H2'	38:A1:3128:G:O4'	2.16	0.46
48:AL:119:TYR:O	48:AL:123:ILE:HG23	2.16	0.46
61:AY:109:LEU:HD22	61:AY:115:ARG:NH2	2.31	0.46
79:E:13:VAL:O	79:E:17:LEU:HG	2.16	0.46
80:EC:6844:A:H1'	80:EC:6845:G:N7	2.31	0.46
1:BA:148:ASP:HB2	1:BA:164:ASN:ND2	2.31	0.46
2:BB:111:ARG:HB3	16:Ba:68:TYR:HD2	1.81	0.46
5:BG:18:ILE:HG23	5:BG:23:ARG:CZ	2.46	0.46
8:BJ:143:ILE:HG23	34:B5:474:A:H5'	1.97	0.46
13:BW:76:SER:OG	34:B5:1102:G:OP1	2.34	0.46
15:BY:60:PHE:O	34:B5:522:U:O2'	2.33	0.46
20:BF:82:PHE:HB2	29:Bc:49:ARG:NH2	2.31	0.46
20:BF:163:SER:O	20:BF:167:ARG:N	2.47	0.46
21:BK:1:MET:HB3	34:B5:1258:U:H5'	1.98	0.46
28:BZ:68:ARG:NH1	80:EC:6864:A:N3	2.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BM:62:LEU:HD21	33:BM:75:VAL:HG21	1.98	0.46
34:B5:889:U:H2'	34:B5:890:C:C6	2.51	0.46
34:B5:1210:C:H2'	34:B5:1211:A:C8	2.49	0.46
34:B5:1704:U:H2'	34:B5:1705:C:C6	2.51	0.46
38:A1:262:U:H2'	38:A1:263:C:O4'	2.16	0.46
38:A1:791:A:H2'	38:A1:792:G:H8	1.81	0.46
38:A1:1063:G:C6	56:AT:109:VAL:HG12	2.50	0.46
38:A1:1271:A:H2'	38:A1:1272:C:C6	2.51	0.46
38:A1:1566:A:H2'	38:A1:1567:U:C6	2.51	0.46
38:A1:1676:A:OP2	57:AU:72:SER:HB2	2.16	0.46
38:A1:3393:U:H2'	38:A1:3394:U:C6	2.51	0.46
45:AH:16:VAL:HB	45:AH:79:ILE:HD11	1.97	0.46
50:AN:28:TRP:O	50:AN:32:GLN:HG2	2.15	0.46
77:Ao:2:VAL:N	77:Ao:90:HIS:O	2.49	0.46
79:E:56:PRO:HD2	79:E:182:GLN:HG2	1.97	0.46
79:E:124:LEU:HG	79:E:128:LEU:HD23	1.98	0.46
8:BJ:6:ARG:HD2	8:BJ:6:ARG:HA	1.67	0.45
10:BN:28:LEU:HG	10:BN:32:SER:OG	2.17	0.45
23:BQ:123:ARG:CD	23:BQ:124:PRO:HD2	2.46	0.45
26:BT:37:VAL:HG21	26:BT:100:ILE:HD11	1.98	0.45
30:Bd:8:PHE:O	34:B5:1451:C:H5'	2.16	0.45
34:B5:393:C:H2'	34:B5:394:C:C6	2.50	0.45
34:B5:1605:G:H2'	34:B5:1606:C:H6	1.81	0.45
34:B5:1619:C:H2'	34:B5:1620:C:C6	2.51	0.45
36:AB:153:LYS:HD2	36:AB:154:TYR:CZ	2.51	0.45
38:A1:1277:C:H2'	38:A1:1278:A:H8	1.80	0.45
38:A1:3202:G:H2'	38:A1:3203:U:O4'	2.16	0.45
40:A4:81:U:H4'	40:A4:82:U:H2'	1.99	0.45
40:A4:104:A:C8	40:A4:105:A:C8	3.04	0.45
43:AF:132:PRO:HA	43:AF:229:PHE:CG	2.51	0.45
43:AF:165:ASP:HB2	43:AF:168:ILE:CD1	2.45	0.45
13:BW:86:ILE:HD11	13:BW:122:SER:OG	2.17	0.45
21:BK:89:GLY:HA2	21:BK:90:THR:OG1	2.16	0.45
24:BR:4:VAL:HG11	34:B5:1315:U:O2	2.16	0.45
24:BR:24:LEU:HD23	24:BR:34:LEU:HD23	1.98	0.45
34:B5:699:U:O2	34:B5:741:C:N4	2.48	0.45
34:B5:842:C:H2'	34:B5:843:U:O4'	2.16	0.45
34:B5:1027:A:OP1	34:B5:1789:G:O2'	2.29	0.45
34:B5:1068:C:C2	34:B5:1069:A:C8	3.04	0.45
34:B5:1176:G:H1'	34:B5:1195:C:O2'	2.16	0.45
38:A1:1820:U:H2'	38:A1:1822:C:H5	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:AF:160:ARG:NH2	43:AF:206:LYS:HD3	2.31	0.45
58:AV:66:LYS:HE2	58:AV:68:GLU:HB2	1.99	0.45
79:E:169:VAL:HG11	79:E:183:ILE:HG22	1.98	0.45
3:BC:139:ILE:HD13	3:BC:191:ALA:HB1	1.96	0.45
4:BE:198:LYS:HE2	4:BE:222:LEU:HD13	1.98	0.45
12:BV:79:LEU:HD13	12:BV:82:VAL:HB	1.99	0.45
14:BX:25:ALA:HB1	34:B5:1108:G:H2'	1.97	0.45
19:BD:103:GLU:OE1	19:BD:106:LYS:HD3	2.16	0.45
21:BK:32:HIS:HB3	21:BK:35:ILE:O	2.16	0.45
33:BM:50:LYS:HB3	33:BM:54:ARG:NH2	2.31	0.45
34:B5:107:C:H5"	34:B5:383:G:O2'	2.16	0.45
34:B5:218:A:C6	34:B5:844:A:H1'	2.52	0.45
39:A3:75:G:H1'	39:A3:104:A:N6	2.31	0.45
40:A4:117:C:H2'	40:A4:118:C:H6	1.81	0.45
44:AG:247:ASP:OD1	44:AG:248:LYS:N	2.50	0.45
55:AS:143:PHE:HA	55:AS:148:LEU:HD11	1.99	0.45
75:Am:88:LYS:HD3	75:Am:89:TYR:CE1	2.51	0.45
11:BO:18:ARG:HA	11:BO:82:LYS:HG3	1.99	0.45
15:BY:20:ARG:NH1	15:BY:74:LEU:HD22	2.32	0.45
31:Bg:14:GLU:HG2	31:Bg:14:GLU:O	2.15	0.45
33:BM:61:VAL:HG13	33:BM:89:ILE:HB	1.98	0.45
34:B5:252:U:H2'	34:B5:253:A:C8	2.52	0.45
34:B5:1172:G:H2'	34:B5:1173:C:C6	2.51	0.45
34:B5:1628:U:H2'	34:B5:1629:G:H8	1.80	0.45
38:A1:87:U:OP1	53:AQ:167:SER:OG	2.26	0.45
38:A1:241:G:O2'	38:A1:242:C:OP1	2.33	0.45
38:A1:432:G:H2'	38:A1:433:A:C8	2.51	0.45
38:A1:1223:A:P	38:A1:1223:A:H8	2.39	0.45
38:A1:1258:U:O2'	38:A1:1260:A:N7	2.38	0.45
38:A1:2801:A:O2'	38:A1:2802:A:H2'	2.16	0.45
38:A1:3296:A:H2'	38:A1:3297:U:C6	2.51	0.45
56:AT:89:LEU:HD23	56:AT:91:LEU:HD23	1.98	0.45
71:Ai:64:SER:HB3	71:Ai:68:ARG:HD2	1.99	0.45
79:E:65:ILE:HD11	79:E:111:ILE:HG23	1.99	0.45
80:EC:6809:G:H2'	80:EC:6810:U:C6	2.52	0.45
4:BE:136:VAL:HG22	4:BE:149:TYR:OH	2.17	0.45
8:BJ:68:LYS:HZ2	34:B5:791:A:H4'	1.80	0.45
11:BO:58:TYR:HA	11:BO:61:MET:HE3	1.99	0.45
18:Be:26:LYS:HE3	34:B5:588:U:OP2	2.17	0.45
21:BK:35:ILE:HG22	21:BK:37:THR:HG22	1.99	0.45
23:BQ:98:ASP:OD1	23:BQ:99:GLU:N	2.43	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Bd:19:ARG:CD	30:Bd:32:ARG:HD3	2.47	0.45
31:Bg:227:ALA:HB3	31:Bg:229:LYS:NZ	2.30	0.45
32:Bf:98:VAL:HB	32:Bf:100:LEU:HD23	1.99	0.45
34:B5:1433:G:H2'	34:B5:1434:U:O4'	2.16	0.45
34:B5:1476:C:H2'	34:B5:1477:G:C8	2.51	0.45
34:B5:1609:U:H2'	34:B5:1610:G:O4'	2.17	0.45
36:AB:92:TYR:HB2	36:AB:157:VAL:HB	1.97	0.45
38:A1:68:C:O3'	50:AN:177:GLY:HA2	2.16	0.45
38:A1:112:U:OP1	70:Ah:107:LYS:NZ	2.47	0.45
38:A1:1017:C:O2	38:A1:1017:C:H2'	2.15	0.45
38:A1:1553:U:H4'	38:A1:1554:U:H5'	1.98	0.45
39:A3:24:A:C6	39:A3:25:G:C5	3.04	0.45
44:AG:140:VAL:HA	44:AG:143:ILE:HD12	1.99	0.45
70:Ah:85:THR:HB	70:Ah:88:LEU:HB2	1.98	0.45
70:Ah:85:THR:HG22	70:Ah:87:ALA:H	1.81	0.45
77:Ao:4:VAL:O	77:Ao:94:GLY:N	2.49	0.45
80:EC:6837:G:H2'	80:EC:6838:C:H6	1.80	0.45
80:EC:6893:C:H2'	80:EC:6894:C:C6	2.52	0.45
10:BN:124:ARG:HD2	34:B5:628:G:OP1	2.16	0.45
20:BF:98:MET:HG2	20:BF:98:MET:O	2.15	0.45
22:BP:96:ILE:HG12	22:BP:116:LEU:HG	1.99	0.45
24:BR:33:ARG:HH22	31:Bg:66:HIS:CE1	2.35	0.45
25:BS:41:ARG:HH12	26:BT:38:LYS:CG	2.29	0.45
26:BT:115:GLU:OE2	26:BT:123:ARG:NE	2.49	0.45
31:Bg:166:SER:HB3	31:Bg:184:ASN:HD21	1.82	0.45
33:BM:97:LEU:HD23	33:BM:118:ALA:O	2.17	0.45
34:B5:329:G:H2'	34:B5:330:G:C8	2.52	0.45
34:B5:903:U:H2'	34:B5:905:A:OP2	2.17	0.45
34:B5:940:A:H2'	34:B5:941:A:H8	1.81	0.45
34:B5:1550:A:C2	34:B5:1562:G:C4	3.04	0.45
34:B5:1714:A:H2'	34:B5:1715:G:C8	2.51	0.45
38:A1:349:A:C4	40:A4:24:G:H1'	2.51	0.45
38:A1:1147:G:OP1	67:Ae:47:ARG:NH1	2.42	0.45
38:A1:1169:A:H2'	38:A1:1170:A:C8	2.52	0.45
38:A1:3189:G:H2'	38:A1:3190:C:C6	2.52	0.45
39:A3:24:A:H2'	39:A3:25:G:C8	2.52	0.45
39:A3:87:G:OP1	43:AF:218:ARG:NH1	2.50	0.45
46:AI:49:CYS:HB3	46:AI:168:SER:HB3	1.97	0.45
46:AI:93:PRO:HA	46:AI:127:ALA:HB2	1.98	0.45
52:AP:47:TYR:O	52:AP:51:VAL:HG23	2.16	0.45
62:AZ:50:PRO:HD3	62:AZ:68:ILE:HG22	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:Ao:14:GLY:C	77:Ao:16:THR:H	2.25	0.45
79:E:135:PRO:HD2	80:EC:6773:G:N2	2.29	0.45
80:EC:6910:A:H2'	80:EC:6911:A:C8	2.51	0.45
11:BO:102:LEU:HD23	16:Ba:45:VAL:HG13	1.99	0.45
15:BY:109:LYS:NZ	34:B5:459:G:OP1	2.50	0.45
16:Ba:45:VAL:O	16:Ba:46:GLU:HG2	2.16	0.45
16:Ba:79:ILE:HD13	16:Ba:84:VAL:HB	1.98	0.45
34:B5:968:U:OP1	34:B5:1033:C:O2'	2.34	0.45
34:B5:1067:C:C2	34:B5:1068:C:C5	3.04	0.45
34:B5:1727:G:H2'	34:B5:1728:A:C8	2.52	0.45
38:A1:1084:A:H4'	41:AD:44:TYR:CE1	2.52	0.45
38:A1:1447:G:N2	38:A1:1448:U:O4	2.27	0.45
38:A1:2656:A:C5	38:A1:2658:G:C8	3.04	0.45
39:A3:115:G:H2'	39:A3:116:C:H6	1.82	0.45
41:AD:223:PHE:HA	41:AD:226:TYR:HD2	1.82	0.45
62:AZ:103:GLN:HB2	62:AZ:106:GLN:OE1	2.16	0.45
62:AZ:121:ARG:HD2	62:AZ:126:LYS:HD2	1.98	0.45
78:Ap:84:ARG:O	78:Ap:88:GLU:HG2	2.17	0.45
1:BA:41:ARG:HG3	24:BR:105:GLN:NE2	2.31	0.45
3:BC:206:THR:HG23	3:BC:206:THR:O	2.17	0.45
14:BX:75:GLN:NE2	14:BX:80:GLY:O	2.49	0.45
16:Ba:82:ARG:HB3	16:Ba:85:ARG:HH21	1.82	0.45
20:BF:53:VAL:HG21	20:BF:62:VAL:HG11	1.99	0.45
20:BF:124:LEU:HG	28:BZ:58:ARG:NE	2.31	0.45
20:BF:180:ARG:O	20:BF:184:PHE:HB2	2.16	0.45
22:BP:17:TYR:OH	22:BP:25:LEU:HB2	2.17	0.45
27:BU:53:LYS:HE3	27:BU:92:ASP:H	1.82	0.45
33:BM:46:ARG:NH2	34:B5:1229:G:H2'	2.31	0.45
34:B5:448:C:H2'	34:B5:449:C:H6	1.82	0.45
34:B5:1039:A:O2'	34:B5:1040:G:H8	1.99	0.45
35:AA:80:GLU:HG3	78:Ap:76:ALA:HB2	1.99	0.45
36:AB:296:THR:HG21	36:AB:357:LYS:C	2.42	0.45
38:A1:1551:C:O2'	38:A1:2170:U:O2'	2.34	0.45
38:A1:1719:G:H2'	38:A1:1720:U:O4'	2.16	0.45
38:A1:1811:G:H2'	38:A1:1812:G:C8	2.52	0.45
38:A1:2482:U:H2'	38:A1:2483:G:C8	2.51	0.45
38:A1:2923:U:H2'	38:A1:2924:U:C6	2.52	0.45
43:AF:130:ILE:HD12	43:AF:134:VAL:HG11	1.99	0.45
46:AI:51:HIS:CD2	46:AI:168:SER:HB2	2.52	0.45
80:EC:6814:G:O2'	80:EC:6815:U:O4'	2.34	0.45
80:EC:6911:A:H8	80:EC:6911:A:O5'	2.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:BG:31:ARG:HG2	5:BG:101:ILE:HG13	1.99	0.45
5:BG:147:LEU:HD21	5:BG:156:PHE:CZ	2.52	0.45
25:BS:10:SER:C	25:BS:11:PHE:HD2	2.25	0.45
25:BS:19:ASN:ND2	25:BS:103:ASN:OD1	2.34	0.45
31:Bg:85:TRP:HA	31:Bg:109:ASP:OD1	2.17	0.45
34:B5:86:A:H4'	34:B5:148:A:H4'	1.99	0.45
38:A1:385:A:H2'	38:A1:386:A:C8	2.52	0.45
38:A1:1259:A:H2'	38:A1:1280:C:O2'	2.16	0.45
38:A1:1798:A:H2'	38:A1:1799:A:C8	2.51	0.45
45:AH:76:ASP:O	45:AH:80:THR:HG22	2.16	0.45
47:AJ:88:GLU:O	47:AJ:90:GLN:HG3	2.17	0.45
62:AZ:32:GLY:HA2	62:AZ:40:HIS:CE1	2.52	0.45
80:EC:6913:U:O4	80:EC:6915:G:N1	2.50	0.45
1:BA:88:LYS:HB3	1:BA:202:TYR:CE1	2.52	0.45
1:BA:142:PRO:HG3	12:BV:32:VAL:HG13	1.97	0.45
10:BN:91:LEU:HB3	10:BN:122:ILE:HG12	1.99	0.45
11:BO:15:GLY:N	11:BO:78:ALA:O	2.49	0.45
13:BW:22:LYS:HD3	17:Bb:3:LEU:HA	1.98	0.45
20:BF:62:VAL:HG13	20:BF:64:VAL:HG13	1.99	0.45
34:B5:705:U:O2	34:B5:730:G:N2	2.50	0.45
34:B5:763:G:H2'	34:B5:764:U:C6	2.52	0.45
34:B5:1178:G:C4	34:B5:1179:G:C8	3.04	0.45
34:B5:1228:G:N3	34:B5:1228:G:H2'	2.31	0.45
34:B5:1424:A:H2'	34:B5:1425:A:O4'	2.17	0.45
38:A1:1312:C:O2'	51:AO:83[A]:ALA:O	2.35	0.45
38:A1:1333:C:OP1	53:AQ:2:GLY:N	2.49	0.45
38:A1:3121:U:H1'	38:A1:3122:A:H5"	1.99	0.45
38:A1:3232:G:H2'	38:A1:3233:C:C6	2.52	0.45
45:AH:67:ALA:O	45:AH:70:THR:HG22	2.17	0.45
62:AZ:124:ALA:O	62:AZ:126:LYS:N	2.49	0.45
75:Am:95:VAL:HG11	75:Am:122:ARG:NH2	2.32	0.45
2:BB:26:ARG:C	2:BB:50:LYS:HG2	2.43	0.44
13:BW:101:TYR:HA	13:BW:113:HIS:HE1	1.81	0.44
19:BD:177:MET:HE3	19:BD:182:LEU:HD12	1.98	0.44
26:BT:38:LYS:HD2	26:BT:43:ASN:O	2.17	0.44
31:Bg:303:ALA:O	31:Bg:311:ARG:N	2.50	0.44
34:B5:1224:A:H2'	34:B5:1225:U:O4'	2.17	0.44
34:B5:1456:C:P	34:B5:1457:C:H2'	2.57	0.44
38:A1:158:G:H2'	38:A1:159:A:C8	2.52	0.44
38:A1:540:U:O4	38:A1:548:G:O2'	2.23	0.44
38:A1:1243:G:N3	38:A1:1270:A:O2'	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1354:G:O2'	38:A1:1355:A:OP1	2.29	0.44
38:A1:2261:G:H1'	38:A1:2262:A:C2	2.51	0.44
38:A1:2662:G:H2'	38:A1:2663:G:C8	2.52	0.44
38:A1:2727:A:C2	63:Aa:43:ILE:HG23	2.51	0.44
38:A1:3378:C:H2'	38:A1:3379:C:H6	1.82	0.44
39:A3:71:G:H2'	39:A3:72:A:H8	1.79	0.44
41:AD:99:TYR:OH	41:AD:168:ASP:OD2	2.26	0.44
63:Aa:2:PRO:HG2	63:Aa:5:PHE:CD2	2.52	0.44
6:BH:117:THR:HB	6:BH:120:ALA:HB3	1.99	0.44
10:BN:128:TYR:OH	34:B5:964:U:OP1	2.32	0.44
31:Bg:51:ASP:O	31:Bg:54:PHE:N	2.49	0.44
31:Bg:304:GLY:HA2	31:Bg:310:ILE:HA	1.98	0.44
32:Bf:123:ASN:OD1	32:Bf:124:PRO:HD2	2.16	0.44
34:B5:82:U:H2'	34:B5:83:G:O4'	2.17	0.44
34:B5:129:U:C2	34:B5:264:G:C6	3.06	0.44
34:B5:898:A:N3	34:B5:899:G:H1'	2.32	0.44
34:B5:913:G:H22	38:A1:2207:A:P	2.40	0.44
35:AA:70:ARG:NH2	35:AA:72:ARG:HH22	2.15	0.44
38:A1:283:G:OP2	38:A1:285:A:O2'	2.32	0.44
38:A1:792:G:H2'	38:A1:793:C:C6	2.53	0.44
38:A1:1619:A:H2'	38:A1:1620:U:O4'	2.17	0.44
38:A1:3252:G:H2'	38:A1:3253:G:C8	2.52	0.44
38:A1:3358:U:H2'	38:A1:3359:A:H8	1.82	0.44
43:AF:138:TYR:CE2	43:AF:233:GLU:HB3	2.51	0.44
55:AS:10:ILE:HG13	55:AS:26:ARG:HB2	1.99	0.44
2:BB:109:LYS:O	2:BB:112:SER:OG	2.32	0.44
2:BB:111:ARG:HH21	11:BO:121:VAL:HG21	1.82	0.44
3:BC:52:THR:OG1	3:BC:54:GLU:OE1	2.24	0.44
6:BH:51:VAL:HG12	6:BH:53:GLY:H	1.83	0.44
10:BN:56:ASP:O	17:Bb:46:VAL:HA	2.17	0.44
13:BW:115:GLU:OE2	13:BW:119:LYS:HE2	2.17	0.44
16:Ba:40:ALA:HB3	16:Ba:69:ASN:OD1	2.18	0.44
19:BD:224:ASP:OD1	31:Bg:228:LYS:HE3	2.18	0.44
21:BK:39:ASN:O	21:BK:43:ILE:HG12	2.18	0.44
22:BP:128:HIS:ND1	34:B5:1180:C:O2'	2.48	0.44
24:BR:17:ILE:HG12	24:BR:58:MET:HE2	2.00	0.44
25:BS:67:GLU:HA	25:BS:70:VAL:HG22	2.00	0.44
25:BS:84:TRP:HA	25:BS:89:GLN:HE21	1.82	0.44
33:BM:135:MET:O	33:BM:139:HIS:N	2.51	0.44
34:B5:325:G:H2'	34:B5:326:G:H8	1.82	0.44
34:B5:1202:A:N6	34:B5:1457:C:O5'	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1209:C:H2'	34:B5:1210:C:H6	1.82	0.44
34:B5:1247:U:H2'	34:B5:1248:C:C6	2.52	0.44
38:A1:184:U:H2'	38:A1:185:C:C6	2.52	0.44
38:A1:374:A:N3	38:A1:376:G:H5"	2.32	0.44
38:A1:1351:U:O2'	38:A1:1355:A:N6	2.34	0.44
38:A1:1899:G:O2'	38:A1:2334:U:O4	2.21	0.44
38:A1:2676:A:H5'	38:A1:2677:G:C8	2.51	0.44
38:A1:3198:U:O2	45:AH:21:LYS:N	2.51	0.44
39:A3:109:G:C6	39:A3:110:G:C5	3.05	0.44
46:AI:210:ILE:O	46:AI:214:PRO:HD3	2.17	0.44
55:AS:58:ILE:HG21	55:AS:61:ILE:HD11	1.98	0.44
60:AX:92:LYS:HE2	60:AX:112:THR:HG23	2.00	0.44
61:AY:63:LYS:HE3	61:AY:97:ILE:HD13	2.00	0.44
79:E:30:GLU:HG3	79:E:172:VAL:HB	1.98	0.44
80:EC:6944:U:H3'	80:EC:6945:U:H4'	1.98	0.44
4:BE:103:TYR:HB2	4:BE:182:TYR:OH	2.16	0.44
13:BW:83:ILE:HG13	13:BW:117:ARG:NH1	2.33	0.44
28:BZ:89:ILE:HG22	28:BZ:103:ARG:HA	1.98	0.44
34:B5:15:U:H2'	34:B5:16:G:O4'	2.17	0.44
34:B5:486:G:O2'	34:B5:487:G:H3'	2.18	0.44
34:B5:1704:U:H2'	34:B5:1705:C:H6	1.82	0.44
37:AC:81:GLY:HA3	38:A1:357:A:O4'	2.18	0.44
37:AC:233:LEU:HD23	37:AC:233:LEU:HA	1.70	0.44
38:A1:82:C:H4'	50:AN:204:LYS:HE3	2.00	0.44
38:A1:1062:A:H4'	56:AT:105:PHE:CE1	2.53	0.44
38:A1:1211:U:H2'	38:A1:1212:A:C8	2.52	0.44
38:A1:1672:U:H1'	38:A1:1776:G:N2	2.33	0.44
38:A1:2097:U:H2'	38:A1:2098:C:C6	2.52	0.44
39:A3:115:G:H2'	39:A3:116:C:C6	2.52	0.44
47:AJ:86:VAL:HG11	47:AJ:106:ILE:HG23	1.99	0.44
49:AM:32:LEU:HD11	49:AM:94:TRP:CD1	2.51	0.44
54:AR:165:LYS:HE3	54:AR:165:LYS:HB3	1.76	0.44
55:AS:26:ARG:O	56:AT:150:THR:HG22	2.17	0.44
56:AT:80:VAL:HG21	56:AT:85:LEU:HD12	1.99	0.44
62:AZ:112:LYS:HE2	62:AZ:112:LYS:HB3	1.88	0.44
65:Ac:43:ILE:HB	65:Ac:90:VAL:CG1	2.48	0.44
78:Ap:41:PHE:CD2	78:Ap:62:LYS:HG2	2.53	0.44
80:EC:6941:U:H1'	80:EC:6943:A:OP2	2.18	0.44
1:BA:139:VAL:HG23	3:BC:62:PRO:HG3	2.00	0.44
2:BB:54:LEU:O	2:BB:55:LYS:HG2	2.18	0.44
4:BE:12:LEU:O	34:B5:756:A:H1'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:BE:100:ARG:HH12	4:BE:122:LYS:HA	1.82	0.44
17:Bb:20:LYS:O	17:Bb:26:GLN:HG3	2.18	0.44
19:BD:94:ARG:O	19:BD:97:SER:OG	2.35	0.44
24:BR:31:ASN:HD22	24:BR:55:THR:HB	1.81	0.44
26:BT:48:GLN:HG3	34:B5:1477:G:H1'	1.99	0.44
34:B5:1002:G:O6	34:B5:1003:A:N6	2.50	0.44
34:B5:1194:A:H2'	34:B5:1195:C:O4'	2.18	0.44
34:B5:1236:A:N6	34:B5:1237:G:O6	2.51	0.44
34:B5:1600:A:H1'	34:B5:1601:G:H5"	1.99	0.44
36:AB:296:THR:HG23	36:AB:298:PHE:H	1.82	0.44
37:AC:281:ILE:HG13	53:AQ:125:ASP:CG	2.42	0.44
38:A1:421:G:O6	38:A1:2383:C:O2'	2.33	0.44
38:A1:855:U:H5"	54:AR:95:TRP:CD2	2.53	0.44
40:A4:48:A:O2'	40:A4:50:C:OP2	2.35	0.44
41:AD:108:ARG:NE	41:AD:251:PRO:O	2.50	0.44
44:AG:183:LYS:HB2	44:AG:194:THR:HG23	1.98	0.44
47:AJ:109:HIS:ND1	47:AJ:112:LEU:HB2	2.32	0.44
51:AO:79[A]:ILE:HG21	51:AO:138[A]:LEU:HD11	1.98	0.44
60:AX:68:THR:HA	60:AX:73:MET:CE	2.45	0.44
5:BG:41:VAL:HG13	5:BG:45:PHE:CD2	2.53	0.44
7:BI:160:PHE:CZ	7:BI:165:LEU:HD11	2.52	0.44
15:BY:82:ALA:O	15:BY:86:GLU:HB2	2.17	0.44
19:BD:211:PRO:HG3	24:BR:19:ARG:HB2	1.99	0.44
20:BF:84:LYS:NZ	20:BF:92:ARG:HG2	2.31	0.44
21:BK:33:GLU:C	21:BK:34:GLU:HG3	2.43	0.44
22:BP:40:ARG:NH2	34:B5:1553:G:O6	2.38	0.44
22:BP:41:VAL:HG13	22:BP:84:ILE:HD13	2.00	0.44
28:BZ:59:TYR:CZ	28:BZ:61:SER:HB3	2.53	0.44
34:B5:207:U:H2'	34:B5:208:U:H6	1.83	0.44
34:B5:828:U:H2'	34:B5:829:A:O4'	2.17	0.44
34:B5:1525:A:H2'	34:B5:1526:A:C8	2.52	0.44
34:B5:1605:G:H2'	34:B5:1606:C:C6	2.52	0.44
38:A1:834:U:H2'	38:A1:835:G:O4'	2.18	0.44
38:A1:1245:A:H5'	38:A1:1246:G:H5"	2.00	0.44
38:A1:1500:G:H2'	38:A1:1501:U:O4'	2.18	0.44
38:A1:1641:U:O2'	38:A1:1642:A:H3'	2.18	0.44
38:A1:3249:C:H2'	38:A1:3250:U:O4'	2.17	0.44
44:AG:160:ILE:O	44:AG:164:VAL:HG13	2.18	0.44
56:AT:44:ALA:HB2	56:AT:53:PRO:HG2	2.00	0.44
62:AZ:81:LEU:HD22	69:Ag:90:ILE:HD12	1.99	0.44
71:Ai:60:LEU:HD22	71:Ai:68:ARG:HG2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:69:ASN:HB3	1:BA:71:GLU:HG2	1.98	0.44
2:BB:29:TRP:CD1	2:BB:47:LEU:HD13	2.53	0.44
5:BG:1:MET:HE1	5:BG:109:LEU:HB2	2.00	0.44
13:BW:2:THR:N	34:B5:1034:C:O2'	2.38	0.44
31:Bg:20:VAL:O	31:Bg:291:SER:OG	2.30	0.44
34:B5:685:A:H2'	34:B5:686:C:O4'	2.18	0.44
34:B5:1453:G:H2'	34:B5:1454:G:C8	2.53	0.44
35:AA:144:ASN:HB2	35:AA:160:SER:HB2	1.98	0.44
36:AB:9:PRO:HD2	58:AV:45:ARG:HH11	1.81	0.44
38:A1:217:U:H4'	61:AY:100:HIS:CD2	2.53	0.44
38:A1:900:G:H1'	38:A1:1589:A:N6	2.33	0.44
38:A1:1950:U:H3	38:A1:2096:A:H62	1.65	0.44
39:A3:90:U:H2'	39:A3:91:G:O4'	2.18	0.44
41:AD:54:ARG:NH1	41:AD:148:ILE:O	2.50	0.44
42:AE:62:THR:CG2	42:AE:78:ARG:HB3	2.47	0.44
43:AF:155:LYS:HB3	43:AF:203:TRP:CE3	2.53	0.44
45:AH:166:ARG:NH2	45:AH:168:ARG:HH22	2.16	0.44
47:AJ:7:ASN:HB3	47:AJ:10:ARG:HG2	1.99	0.44
49:AM:36:VAL:HG22	49:AM:72:LEU:HD21	1.99	0.44
54:AR:166:ASN:O	54:AR:170:ARG:HB2	2.18	0.44
1:BA:74:VAL:HG12	1:BA:120:LEU:O	2.18	0.44
2:BB:89:ASP:HB3	2:BB:223:PHE:HZ	1.82	0.44
3:BC:235:LEU:HD12	3:BC:235:LEU:O	2.17	0.44
8:BJ:73:GLY:HA3	8:BJ:93:LEU:HD11	1.99	0.44
8:BJ:175:ARG:HH21	34:B5:537:G:P	2.41	0.44
21:BK:26:ASP:OD1	21:BK:26:ASP:N	2.48	0.44
25:BS:88:ARG:HG3	25:BS:100:THR:OG1	2.17	0.44
27:BU:63:LEU:HG	30:Bd:34:TYR:OH	2.18	0.44
34:B5:333:A:H2'	34:B5:334:G:C8	2.52	0.44
34:B5:830:U:H2'	34:B5:831:U:C6	2.52	0.44
34:B5:1344:A:H4'	34:B5:1345:A:OP1	2.18	0.44
35:AA:168:VAL:HG13	78:Ap:79:VAL:HG21	1.99	0.44
36:AB:256:HIS:HA	36:AB:257:PRO:C	2.43	0.44
38:A1:561:C:H2'	38:A1:562:C:H6	1.82	0.44
38:A1:619:A:OP1	52:AP:167:ARG:NH1	2.50	0.44
38:A1:1597:C:H5'	38:A1:1696:A:H1'	1.99	0.44
38:A1:1791:C:H2'	38:A1:1792:C:C6	2.52	0.44
38:A1:2441:A:H2'	38:A1:2442:G:H4'	1.98	0.44
38:A1:2908:G:H4'	75:Am:114:LYS:NZ	2.32	0.44
38:A1:2994:A:H2'	38:A1:2995:A:O4'	2.18	0.44
45:AH:41:ILE:HG21	45:AH:71:VAL:HG21	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:AH:136:PHE:CE2	45:AH:144:ILE:HD12	2.53	0.44
46:AI:90:ARG:HH11	46:AI:137:SER:HB2	1.83	0.44
47:AJ:16:LYS:HG2	47:AJ:18:VAL:HG13	2.00	0.44
51:AO:14[A]:HIS:CD2	51:AO:19[A]:LEU:HD13	2.53	0.44
64:Ab:54:LEU:HD22	64:Ab:58:LYS:HD2	2.00	0.44
73:Ak:43:PHE:HB2	73:Ak:54:LEU:HB3	1.99	0.44
80:EC:6808:G:O2'	80:EC:6809:G:O4'	2.32	0.44
80:EC:6860:A:N3	80:EC:6860:A:H2'	2.33	0.44
4:BE:86:PHE:CZ	4:BE:87:MET:HE2	2.53	0.44
13:BW:31:SER:HB3	34:B5:636:A:H5"	1.99	0.44
14:BX:93:LEU:HD21	18:Be:8:LEU:HD23	2.00	0.44
16:Ba:2:PRO:HB3	34:B5:1142:A:H5"	1.99	0.44
19:BD:140:GLY:HA3	19:BD:182:LEU:HD23	1.99	0.44
20:BF:137:ILE:HG13	20:BF:138:THR:N	2.33	0.44
34:B5:14:C:H2'	34:B5:15:U:C6	2.53	0.44
34:B5:71:A:C6	34:B5:72:A:H1'	2.53	0.44
34:B5:454:U:H2'	34:B5:455:C:C6	2.53	0.44
34:B5:626:U:H2'	34:B5:627:C:H6	1.83	0.44
34:B5:1065:A:H2'	34:B5:1066:C:H6	1.82	0.44
34:B5:1606:C:C2	34:B5:1607:G:C8	3.06	0.44
35:AA:60:LYS:NZ	35:AA:75:ILE:HG12	2.33	0.44
35:AA:128:ARG:NE	38:A1:2177:G:OP2	2.47	0.44
35:AA:188:LYS:HE3	35:AA:192:LYS:HE3	1.99	0.44
38:A1:1466:G:N2	38:A1:1510:G:H5"	2.33	0.44
38:A1:1785:U:H2'	38:A1:1786:G:C8	2.53	0.44
38:A1:2674:A:N6	47:AJ:124:GLY:O	2.51	0.44
38:A1:2718:U:OP1	77:Ao:13:LYS:NZ	2.50	0.44
38:A1:2946:A2M:H1'	38:A1:2981:U:C4	2.53	0.44
50:AN:11:GLN:HG2	50:AN:44:ARG:NH2	2.33	0.44
5:BG:63:MET:HE1	5:BG:102:VAL:HG22	2.00	0.43
5:BG:167:LYS:HB3	5:BG:167:LYS:HE3	1.77	0.43
7:BI:103:GLN:HB3	7:BI:164:ARG:HB3	1.98	0.43
8:BJ:78:ARG:NH1	8:BJ:82:ARG:HD2	2.33	0.43
16:Ba:82:ARG:HB3	16:Ba:85:ARG:NH2	2.33	0.43
18:Be:30:PRO:HB2	18:Be:34:ALA:HB3	1.99	0.43
20:BF:32:GLU:OE2	20:BF:33:VAL:HG13	2.18	0.43
25:BS:36:LYS:HB3	25:BS:102:ALA:HB1	2.00	0.43
34:B5:80:A:H5"	34:B5:81:G:C8	2.53	0.43
34:B5:164:A:H2'	34:B5:165:G:H8	1.82	0.43
34:B5:811:A:C4	34:B5:858:G:H1'	2.53	0.43
34:B5:819:G:C6	34:B5:853:G:C6	3.05	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1234:A:C8	34:B5:1245:G:C8	3.06	0.43
34:B5:1413:U:H4'	34:B5:1414:U:OP2	2.18	0.43
34:B5:1490:C:H4'	34:B5:1492:A:H5"	2.00	0.43
34:B5:1693:A:H2'	34:B5:1694:A:H8	1.83	0.43
34:B5:1712:A:H3'	34:B5:1713:G:H8	1.82	0.43
35:AA:52:SER:HB3	35:AA:191:LEU:HD12	2.00	0.43
38:A1:1158:A:OP2	43:AF:90:LYS:NZ	2.42	0.43
38:A1:1262:G:H3'	38:A1:1262:G:OP2	2.18	0.43
38:A1:1269:U:N3	38:A1:1272:C:OP2	2.39	0.43
38:A1:1895:A:O2'	38:A1:3053:G:H4'	2.17	0.43
38:A1:2667:A:H2'	38:A1:2668:U:O4'	2.18	0.43
40:A4:151:C:C5	60:AX:24:LEU:HD21	2.52	0.43
43:AF:168:ILE:HD12	43:AF:168:ILE:H	1.83	0.43
45:AH:69:ARG:NH1	45:AH:73:SER:HB3	2.33	0.43
46:AI:80:SER:HB2	46:AI:147:VAL:HG11	2.00	0.43
47:AJ:160:VAL:HG23	47:AJ:171:VAL:HG21	2.00	0.43
49:AM:56:GLN:OE1	49:AM:58:ILE:HD13	2.18	0.43
66:Ad:79:ARG:HD2	66:Ad:79:ARG:HA	1.83	0.43
80:EC:6799:C:H2'	80:EC:6800:G:H8	1.83	0.43
80:EC:6916:A:H2'	80:EC:6917:C:C6	2.52	0.43
2:BB:29:TRP:CZ2	2:BB:47:LEU:HD22	2.53	0.43
11:BO:122:PRO:HB3	34:B5:887:A:H1'	1.99	0.43
15:BY:91:LEU:HB3	15:BY:96:LEU:HB2	1.99	0.43
16:Ba:12:LYS:HB2	16:Ba:33:ASP:OD1	2.19	0.43
18:Be:10:ARG:O	18:Be:10:ARG:HG2	2.18	0.43
19:BD:20:GLU:HG2	19:BD:77:PHE:HZ	1.83	0.43
19:BD:138:VAL:HG13	19:BD:184:ILE:HG22	2.00	0.43
24:BR:58:MET:HA	24:BR:61:ILE:HD12	2.01	0.43
34:B5:613:G:OP2	34:B5:1099:U:O2'	2.33	0.43
34:B5:1132:A:H2'	34:B5:1133:A:C8	2.53	0.43
34:B5:1178:G:H2'	34:B5:1179:G:O4'	2.18	0.43
34:B5:1489:U:H6	34:B5:1492:A:C2	2.33	0.43
34:B5:1499:G:N2	34:B5:1508:U:O2	2.36	0.43
37:AC:106:TRP:HB2	50:AN:199:LEU:HD12	2.00	0.43
38:A1:179:C:H2'	38:A1:180:C:C6	2.53	0.43
38:A1:251:G:O2'	38:A1:252:U:H4'	2.18	0.43
39:A3:79:A:H2'	39:A3:80:G:O4'	2.18	0.43
41:AD:52:VAL:HG11	41:AD:65:ILE:HD12	2.00	0.43
41:AD:216:GLU:O	41:AD:220:SER:N	2.51	0.43
62:AZ:26:VAL:HG11	62:AZ:96:VAL:HG13	2.00	0.43
79:E:100:ILE:HG23	79:E:103:LEU:HD21	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:BY:11:LYS:NZ	34:B5:775:G:N7	2.44	0.43
17:Bb:70:LYS:HE3	34:B5:1050:G:OP1	2.18	0.43
20:BF:222:LYS:HA	20:BF:225:ARG:NE	2.33	0.43
21:BK:1:MET:HA	21:BK:44:LYS:HE2	2.00	0.43
23:BQ:34:SER:OG	26:BT:7:ARG:O	2.26	0.43
26:BT:38:LYS:NZ	34:B5:1564:U:H5"	2.33	0.43
26:BT:43:ASN:OD1	34:B5:1477:G:H5"	2.18	0.43
33:BM:29:LYS:HG3	33:BM:100:TRP:NE1	2.33	0.43
34:B5:1419:G:H2'	34:B5:1420:C:C6	2.53	0.43
34:B5:1476:C:H2'	34:B5:1477:G:H8	1.82	0.43
37:AC:360:LYS:HB2	37:AC:360:LYS:HE3	1.81	0.43
38:A1:173:G:O6	38:A1:245:U:O2	2.36	0.43
38:A1:298:U:O5'	38:A1:298:U:H6	2.01	0.43
38:A1:651:G:O2'	38:A1:1435:A:OP1	2.32	0.43
38:A1:2213:A:H2'	38:A1:2214:A:H8	1.78	0.43
38:A1:2902:A:H2'	38:A1:2903:A:O4'	2.17	0.43
39:A3:27:A:P	41:AD:56:THR:HG1	2.39	0.43
42:AE:154:LEU:HD12	49:AM:119:GLN:HG2	2.00	0.43
44:AG:100:GLU:OE2	44:AG:105:LYS:HG2	2.18	0.43
55:AS:78:TRP:HB3	55:AS:124:LEU:HB2	2.01	0.43
77:Ao:25:VAL:HG12	77:Ao:93:LEU:HD11	2.00	0.43
79:E:104:SER:HA	79:E:110:PHE:CZ	2.53	0.43
7:BI:57:ALA:HB2	7:BI:177:GLY:HA2	1.98	0.43
19:BD:67:ASN:OD1	19:BD:70:THR:HB	2.18	0.43
20:BF:114:ILE:HG13	20:BF:115:LYS:N	2.33	0.43
20:BF:169:ASN:HB2	34:B5:1613:U:OP1	2.18	0.43
23:BQ:25:GLY:HA3	23:BQ:64:ASP:CG	2.43	0.43
26:BT:15:ILE:HD12	34:B5:1479:A:H4'	2.01	0.43
31:Bg:132:LYS:HA	31:Bg:142:ALA:O	2.19	0.43
31:Bg:278:PHE:CZ	31:Bg:287:PRO:HG2	2.53	0.43
33:BM:61:VAL:HG22	33:BM:89:ILE:HB	2.00	0.43
34:B5:235:G:C5	34:B5:237:C:N4	2.86	0.43
34:B5:564:G:H1'	34:B5:577:G:H4'	1.99	0.43
34:B5:1142:A:H2'	34:B5:1143:A:O4'	2.17	0.43
34:B5:1330:G:H3'	34:B5:1331:A:H8	1.84	0.43
34:B5:1563:C:H2'	34:B5:1564:U:C6	2.53	0.43
37:AC:4:PRO:HD2	37:AC:22:LEU:HB2	2.00	0.43
38:A1:966:U:H2'	38:A1:967:A:C8	2.54	0.43
38:A1:1688:U:H2'	38:A1:1689:U:C6	2.53	0.43
38:A1:2106:A:H2'	38:A1:2107:A:C8	2.53	0.43
38:A1:2256:A2M:H4'	38:A1:2257:C:OP2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:A3:23:A:H2'	39:A3:24:A:C8	2.53	0.43
40:A4:84:C:N4	61:AY:111:LEU:O	2.52	0.43
48:AL:50:PRO:O	48:AL:52:ASP:N	2.51	0.43
56:AT:126:VAL:HB	56:AT:128:LEU:HD12	1.99	0.43
63:Aa:76:ASP:OD1	63:Aa:115:LYS:HB3	2.18	0.43
67:Ae:96:ILE:HG21	67:Ae:105:ARG:HG2	1.99	0.43
70:Ah:31:LEU:HB3	70:Ah:44:ILE:CD1	2.48	0.43
80:EC:6885:G:H2'	80:EC:6886:A:H8	1.83	0.43
80:EC:6922:G:O6	80:EC:6931:U:O4	2.35	0.43
4:BE:200:ARG:HD2	34:B5:737:A:P	2.59	0.43
5:BG:19:ASP:O	5:BG:23:ARG:HD3	2.19	0.43
5:BG:49:VAL:CG1	5:BG:115:LYS:HB3	2.48	0.43
15:BY:67:GLY:C	15:BY:68:LYS:HD3	2.44	0.43
16:Ba:37:LYS:HG2	16:Ba:72:HIS:ND1	2.33	0.43
17:Bb:6:ASP:OD1	17:Bb:6:ASP:N	2.50	0.43
18:Be:57:ASN:ND2	34:B5:588:U:O2	2.37	0.43
31:Bg:305:TYR:CD1	31:Bg:311:ARG:NH1	2.86	0.43
34:B5:41:A:H2'	34:B5:438:A:N7	2.33	0.43
34:B5:329:G:H2'	34:B5:330:G:H8	1.83	0.43
34:B5:384:G:H2'	34:B5:385:A:C8	2.53	0.43
34:B5:501:U:H4'	34:B5:502:U:O5'	2.16	0.43
34:B5:982:U:H2'	34:B5:983:A:H8	1.83	0.43
34:B5:1490:C:OP1	34:B5:1491:U:O2'	2.22	0.43
34:B5:1538:U:C4	34:B5:1540:G:N7	2.86	0.43
38:A1:293:C:H2'	38:A1:294:U:O4'	2.19	0.43
38:A1:497:C:H2'	38:A1:498:A:O4'	2.18	0.43
38:A1:1185:C:OP1	49:AM:42:LYS:HD3	2.19	0.43
38:A1:1358:C:H2'	38:A1:1359:C:O4'	2.18	0.43
38:A1:2461:A:C2'	38:A1:2484:A:H61	2.31	0.43
38:A1:3013:U:H2'	38:A1:3014:U:C6	2.53	0.43
41:AD:184:ASP:OD2	41:AD:187:THR:HG22	2.18	0.43
46:AI:140:THR:HG23	46:AI:141:LYS:O	2.19	0.43
48:AL:85:LEU:CD1	48:AL:90:ALA:HB2	2.48	0.43
50:AN:140:LYS:O	50:AN:144:ARG:HD3	2.18	0.43
62:AZ:83:THR:HG22	69:Ag:93:PHE:CZ	2.54	0.43
80:EC:6796:C:O5'	80:EC:6796:C:H6	2.02	0.43
2:BB:87:ARG:N	2:BB:99:ASN:O	2.33	0.43
3:BC:140:ARG:HB2	3:BC:222:TYR:CD1	2.51	0.43
5:BG:137:ARG:HB2	34:B5:168:A:H5'	1.99	0.43
14:BX:97:ASP:CG	14:BX:98:GLU:H	2.27	0.43
19:BD:109:LEU:HB3	19:BD:177:MET:CE	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:BF:190:ILE:HD13	34:B5:1473:U:H6	1.82	0.43
25:BS:32:LEU:HG	25:BS:38:VAL:HG11	2.00	0.43
34:B5:1566:U:H2'	34:B5:1567:U:H6	1.84	0.43
38:A1:438:A:OP1	67:Ae:69:SER:HB2	2.18	0.43
38:A1:791:A:H2'	38:A1:792:G:C8	2.53	0.43
38:A1:1827:C:H2'	38:A1:1828:A:C8	2.52	0.43
38:A1:2333:C:H2'	38:A1:2334:U:O4'	2.18	0.43
38:A1:2357:A:H2'	38:A1:2358:A:H8	1.81	0.43
38:A1:3170:A:H2'	38:A1:3171:U:C6	2.53	0.43
39:A3:23:A:C6	39:A3:24:A:C2	3.07	0.43
40:A4:48:A:H5"	70:Ah:48:ARG:HH12	1.83	0.43
47:AJ:20:ASN:HB3	47:AJ:68:HIS:HB3	2.00	0.43
48:AL:166:ALA:HB1	63:Aa:147:LEU:HG	2.00	0.43
49:AM:65:LEU:HD13	55:AS:172:TYR:OH	2.19	0.43
54:AR:159:ALA:O	54:AR:163:ARG:HG2	2.19	0.43
2:BB:103:MET:HB3	2:BB:215:VAL:HB	2.00	0.43
2:BB:133:TYR:CE2	2:BB:181:LEU:HD13	2.54	0.43
2:BB:180:THR:O	2:BB:183:GLN:N	2.52	0.43
4:BE:148:ARG:HD2	34:B5:124:A:O2'	2.19	0.43
4:BE:196:VAL:O	4:BE:197:HIS:ND1	2.52	0.43
25:BS:42:TYR:HA	25:BS:85:PHE:CE2	2.54	0.43
34:B5:704:C:H5	34:B5:732:G:C8	2.36	0.43
34:B5:1489:U:H1'	34:B5:1494:C:C4	2.54	0.43
37:AC:104:LYS:HD2	37:AC:106:TRP:CH2	2.54	0.43
38:A1:523:A:O2'	55:AS:69:PRO:HD2	2.19	0.43
38:A1:3165:A:H2'	38:A1:3166:C:C6	2.53	0.43
38:A1:3190:C:N3	38:A1:3191:G:N7	2.66	0.43
42:AE:172:HIS:ND1	68:Af:40:ASP:OD2	2.51	0.43
63:Aa:94:ALA:HB1	63:Aa:121:VAL:HA	2.01	0.43
65:Ac:22:LYS:HG2	65:Ac:94:GLU:HB3	1.99	0.43
2:BB:133:TYR:HE2	2:BB:181:LEU:HD22	1.84	0.43
2:BB:206:PRO:C	2:BB:207:LEU:HD12	2.44	0.43
4:BE:87:MET:HG2	4:BE:123:LEU:O	2.17	0.43
5:BG:133:LEU:HD12	34:B5:166:C:O2	2.19	0.43
6:BH:91:ILE:HG13	6:BH:93:LEU:HD13	2.00	0.43
8:BJ:170:GLY:HA3	34:B5:512:A:P	2.59	0.43
14:BX:31:LYS:HE2	34:B5:1133:A:OP1	2.19	0.43
20:BF:103:ASN:HA	20:BF:106:LYS:HD2	2.01	0.43
20:BF:159:ALA:HB3	20:BF:225:ARG:HA	2.00	0.43
25:BS:121:ALA:O	25:BS:125:ILE:HG12	2.18	0.43
26:BT:112:GLY:O	26:BT:127:ASN:HB3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Bg:305:TYR:CE2	31:Bg:311:ARG:HD3	2.53	0.43
32:Bf:123:ASN:HB3	32:Bf:126:CYS:SG	2.59	0.43
34:B5:110:U:OP1	34:B5:753:A:O2'	2.34	0.43
34:B5:1176:G:H2'	34:B5:1177:C:C6	2.54	0.43
34:B5:1683:C:HO2'	34:B5:1684:U:P	2.38	0.43
38:A1:863:C:H2'	38:A1:864:G:O4'	2.18	0.43
38:A1:1268:G:H21	38:A1:1273:A:N6	1.99	0.43
38:A1:2218:G:H2'	38:A1:2219:A:H8	1.84	0.43
38:A1:2407:C:H2'	38:A1:2408:U:C6	2.53	0.43
38:A1:2459:A:N6	38:A1:2461:A:N1	2.53	0.43
38:A1:2522:G:O2'	38:A1:2523:A:O5'	2.32	0.43
38:A1:2577:C:H2'	38:A1:2578:U:O4'	2.19	0.43
38:A1:3359:A:H2'	38:A1:3360:C:C6	2.54	0.43
49:AM:47:ASP:OD2	49:AM:81:VAL:HG11	2.19	0.43
50:AN:5:LYS:O	50:AN:8:GLU:HB3	2.19	0.43
57:AU:81:LYS:HG2	57:AU:90:ARG:NH1	2.33	0.43
80:EC:6809:G:H2'	80:EC:6810:U:H6	1.83	0.43
80:EC:6920:C:C2	80:EC:6921:C:C5	3.07	0.43
3:BC:174:ARG:HH11	8:BJ:94:ASP:HB2	1.83	0.43
4:BE:153:ASN:OD1	5:BG:215:ARG:NH1	2.52	0.43
5:BG:180:THR:HB	5:BG:183:ARG:HB2	2.00	0.43
6:BH:49:ILE:HB	6:BH:175:LYS:HG3	2.01	0.43
6:BH:101:LYS:HZ2	6:BH:112:ARG:HH12	1.67	0.43
8:BJ:136:VAL:HG22	8:BJ:152:SER:HB3	2.00	0.43
8:BJ:170:GLY:O	8:BJ:174:ARG:HG3	2.19	0.43
13:BW:57:ARG:HG2	34:B5:862:A:H4'	2.01	0.43
13:BW:83:ILE:HD12	13:BW:122:SER:OG	2.19	0.43
16:Ba:88:SER:O	16:Ba:92:ARG:HG2	2.19	0.43
19:BD:160:SER:OG	34:B5:1329:A:OP2	2.25	0.43
20:BF:137:ILE:HA	20:BF:175:LEU:HD21	2.00	0.43
22:BP:73:PRO:HD2	22:BP:92:SER:HA	2.01	0.43
25:BS:41:ARG:HG3	25:BS:85:PHE:CZ	2.54	0.43
30:Bd:7:TRP:CE2	34:B5:1242:A:H2	2.37	0.43
34:B5:520:A:H2'	34:B5:521:A:C8	2.53	0.43
34:B5:1037:C:H2'	34:B5:1038:U:H6	1.84	0.43
34:B5:1478:G:H2'	34:B5:1479:A:C8	2.53	0.43
34:B5:1669:U:H2'	34:B5:1670:G:O4'	2.19	0.43
38:A1:171:G:C2	38:A1:247:C:C2	3.07	0.43
38:A1:1013:G:C2	38:A1:1014:U:C4	3.07	0.43
38:A1:1313:G:O3'	51:AO:17[A]:GLY:HA3	2.18	0.43
38:A1:1324:U:OP1	55:AS:1:MET:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1636:U:H1'	62:AZ:76:ASN:HB2	2.00	0.43
38:A1:2407:C:H2'	38:A1:2408:U:H6	1.84	0.43
38:A1:2435:G:C6	38:A1:2593:A:C8	3.06	0.43
40:A4:52:A:H5'	74:Al:21:ARG:HD3	2.00	0.43
42:AE:44:ALA:HA	42:AE:48:ARG:HG2	2.01	0.43
46:AI:182:LEU:HA	46:AI:185:ARG:HG2	2.00	0.43
47:AJ:87:LYS:HE3	47:AJ:106:ILE:HD13	2.01	0.43
77:Ao:88:CYS:SG	77:Ao:91:PHE:HB2	2.59	0.43
79:E:107:TYR:HB2	79:E:110:PHE:CE1	2.54	0.43
79:E:113:SER:HA	79:E:138:VAL:H	1.83	0.43
80:EC:6832:G:C4	80:EC:6833:G:C8	3.06	0.43
1:BA:4:PRO:HD2	1:BA:7:PHE:CE2	2.54	0.43
4:BE:4:GLY:HA3	34:B5:93:A:O2'	2.19	0.43
4:BE:42:LEU:HB2	4:BE:109:PHE:CD2	2.53	0.43
4:BE:94:ALA:C	4:BE:96:ASN:H	2.27	0.43
11:BO:32:ASP:OD1	11:BO:37:GLU:N	2.48	0.43
16:Ba:5:ARG:HH22	34:B5:1795:U:P	2.41	0.43
22:BP:97:TYR:CZ	22:BP:99:GLY:HA2	2.54	0.43
23:BQ:129:PHE:HB3	27:BU:79:TRP:HB2	2.01	0.43
25:BS:19:ASN:HB2	25:BS:103:ASN:ND2	2.34	0.43
25:BS:88:ARG:HB3	25:BS:91:ASP:OD1	2.19	0.43
34:B5:841:U:H2'	34:B5:842:C:C6	2.53	0.43
34:B5:929:A:OP2	34:B5:931:C:N4	2.46	0.43
34:B5:961:U:H2'	34:B5:962:C:C6	2.54	0.43
34:B5:968:U:H2'	34:B5:969:C:O4'	2.17	0.43
34:B5:1237:G:H2'	34:B5:1238:A:H8	1.84	0.43
34:B5:1693:A:H2'	34:B5:1694:A:C8	2.54	0.43
35:AA:118:GLU:OE2	38:A1:2177:G:N2	2.52	0.43
37:AC:20:LEU:HD11	37:AC:252:GLU:HG3	2.00	0.43
37:AC:203:ARG:HD3	38:A1:1383:G:OP1	2.19	0.43
38:A1:172:G:H2'	38:A1:173:G:H8	1.83	0.43
38:A1:179:C:H2'	38:A1:180:C:H6	1.84	0.43
38:A1:418:A:C2	40:A4:5:U:H5	2.36	0.43
38:A1:503:C:O2	42:AE:23:LYS:NZ	2.47	0.43
38:A1:571:U:H2'	38:A1:572:A:H8	1.84	0.43
38:A1:981:U:C4	38:A1:982:C:H1'	2.54	0.43
38:A1:1478:C:H2'	38:A1:1479:U:C6	2.54	0.43
38:A1:1718:G:H2'	38:A1:1719:G:C8	2.53	0.43
38:A1:1909:A:H2'	38:A1:1910:A:C8	2.54	0.43
38:A1:1921:A:H2'	38:A1:1922:A:C8	2.54	0.43
38:A1:2430:A:H2'	38:A1:2431:C:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:2746:A:H2'	38:A1:2747:A:O4'	2.19	0.43
38:A1:3190:C:C2	38:A1:3191:G:C8	3.07	0.43
38:A1:3206:C:H5"	38:A1:3207:U:O5'	2.19	0.43
39:A3:23:A:N6	39:A3:24:A:N1	2.67	0.43
45:AH:40:HIS:CE1	45:AH:41:ILE:HD11	2.53	0.43
65:Ac:25:LEU:HD23	65:Ac:90:VAL:HG23	2.00	0.43
79:E:102:LYS:O	79:E:106:LYS:HG2	2.19	0.43
4:BE:19:LEU:HD13	34:B5:788:A:C4	2.54	0.42
8:BJ:28:LEU:HD23	18:Be:44:PHE:CE1	2.53	0.42
8:BJ:143:ILE:HG22	8:BJ:145:SER:H	1.84	0.42
15:BY:37:LYS:NZ	15:BY:93:ARG:HD3	2.34	0.42
25:BS:20:THR:HG23	25:BS:103:ASN:HD21	1.83	0.42
31:Bg:18:GLY:HA3	31:Bg:38:ARG:HB2	1.99	0.42
31:Bg:38:ARG:HA	31:Bg:67:ILE:HD12	2.01	0.42
34:B5:225:A:C2	34:B5:837:G:C2	3.07	0.42
34:B5:291:G:N2	34:B5:292:U:O4	2.52	0.42
34:B5:565:C:H5"	34:B5:566:C:C6	2.54	0.42
34:B5:895:G:H3'	34:B5:896:U:C5	2.53	0.42
34:B5:1209:C:C2	34:B5:1210:C:C5	3.07	0.42
34:B5:1277:G:H2'	34:B5:1278:G:C8	2.54	0.42
34:B5:1528:U:H2'	34:B5:1529:C:C6	2.53	0.42
34:B5:1577:A:H2'	34:B5:1578:U:O4'	2.20	0.42
36:AB:238:LEU:HB2	36:AB:246:LEU:HB2	2.00	0.42
38:A1:377:A:H1'	38:A1:392:G:N2	2.33	0.42
38:A1:943:U:H3'	63:Aa:13:GLY:HA2	2.00	0.42
38:A1:992:A:O2'	38:A1:993:G:H5'	2.19	0.42
38:A1:2456:A:H4'	38:A1:2483:G:H5'	2.00	0.42
38:A1:2523:A:H2'	44:AG:49:TYR:O	2.19	0.42
41:AD:243:ALA:O	41:AD:247:ILE:HD12	2.18	0.42
47:AJ:120:ILE:O	47:AJ:120:ILE:HG13	2.18	0.42
65:Ac:16:LEU:HD21	65:Ac:97:ASP:HB2	2.02	0.42
65:Ac:42:ILE:HD11	65:Ac:67:VAL:HG22	2.00	0.42
79:E:50:SER:HB3	79:E:158:GLN:HE22	1.84	0.42
79:E:107:TYR:HB2	79:E:110:PHE:CZ	2.54	0.42
4:BE:207:LEU:HD12	4:BE:219:VAL:HG11	2.01	0.42
5:BG:66:GLY:HA2	34:B5:1681:A:H1'	2.01	0.42
6:BH:76:LYS:O	6:BH:80:GLU:HG2	2.19	0.42
7:BI:139:ALA:HA	7:BI:142:LYS:HD2	2.01	0.42
10:BN:36:GLN:HG3	10:BN:39:LYS:NZ	2.33	0.42
25:BS:110:ARG:HA	25:BS:113:LEU:HB3	2.01	0.42
26:BT:133:ASP:OD1	26:BT:134:ARG:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Bd:31:ILE:O	30:Bd:31:ILE:HG13	2.19	0.42
34:B5:881:A:H2'	34:B5:882:U:H6	1.84	0.42
34:B5:1415:U:H2'	34:B5:1416:G:C8	2.50	0.42
35:AA:101:VAL:HG22	35:AA:165:VAL:HG22	2.00	0.42
36:AB:33:PRO:HB2	36:AB:184:ASN:ND2	2.34	0.42
36:AB:152:LYS:NZ	36:AB:196:ARG:HH22	2.16	0.42
37:AC:31:ARG:HG3	37:AC:120:TYR:OH	2.19	0.42
38:A1:371:G:O2'	38:A1:396:A:N6	2.45	0.42
38:A1:2896:A:P	75:Am:102:ARG:HH21	2.41	0.42
38:A1:3324:C:OP1	66:Ad:19:ARG:NH1	2.38	0.42
39:A3:75:G:H1'	39:A3:104:A:H61	1.84	0.42
41:AD:95:TRP:CZ3	41:AD:199:ILE:HD13	2.52	0.42
41:AD:177:GLU:O	41:AD:190:ILE:HD13	2.19	0.42
49:AM:113:THR:OG1	49:AM:116:GLU:HG3	2.18	0.42
54:AR:153:LYS:HE3	54:AR:153:LYS:HB3	1.85	0.42
77:Ao:25:VAL:HG22	77:Ao:72:LEU:HD13	2.01	0.42
79:E:78:LYS:HD2	79:E:78:LYS:HA	1.79	0.42
2:BB:48:VAL:HG13	2:BB:49:ASN:H	1.83	0.42
4:BE:221:ARG:HH22	34:B5:753:A:H5'	1.85	0.42
7:BI:159:GLN:CD	7:BI:165:LEU:HA	2.45	0.42
9:BL:20:PHE:HB2	34:B5:211:U:H5"	2.01	0.42
15:BY:29:HIS:O	15:BY:67:GLY:HA2	2.19	0.42
16:Ba:10:ARG:HH12	34:B5:1790:A:P	2.43	0.42
23:BQ:129:PHE:HB2	27:BU:79:TRP:HD1	1.83	0.42
23:BQ:141:SER:OG	34:B5:1464:G:H4'	2.20	0.42
25:BS:26:ILE:HA	25:BS:57:ARG:HH11	1.84	0.42
27:BU:45:ALA:O	27:BU:49:ASN:N	2.53	0.42
31:Bg:147:HIS:CE1	31:Bg:179:LYS:HD2	2.54	0.42
33:BM:45:LEU:HG	33:BM:119:SER:HB3	2.01	0.42
34:B5:1148:C:O2'	34:B5:1765:A:N1	2.45	0.42
34:B5:1697:G:O6	34:B5:1704:U:O4	2.38	0.42
35:AA:230:VAL:HG11	38:A1:2424:A:N1	2.35	0.42
36:AB:10:ARG:HG2	36:AB:11:HIS:N	2.34	0.42
37:AC:67:THR:HG21	38:A1:2402:A:H2'	2.00	0.42
37:AC:125:ALA:O	37:AC:129:THR:HG23	2.19	0.42
38:A1:949:C:O2'	38:A1:971:G:H5"	2.19	0.42
38:A1:1231:A:O2'	38:A1:1278:A:N6	2.52	0.42
38:A1:1312:C:H2'	38:A1:1313:G:O4'	2.19	0.42
38:A1:1820:U:H2'	38:A1:1822:C:C5	2.54	0.42
38:A1:2438:A:H2'	38:A1:2439:A:O4'	2.19	0.42
38:A1:3243:A:OP1	51:AO:159[A]:LYS:NZ	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:3322:A:H2'	38:A1:3323:A:C8	2.55	0.42
39:A3:45:A:H2'	39:A3:46:A:C8	2.54	0.42
40:A4:68:G:H2'	40:A4:69:U:C6	2.54	0.42
41:AD:33:ARG:O	41:AD:37:VAL:HG22	2.19	0.42
43:AF:184:LEU:HD12	43:AF:198:ALA:HB1	2.02	0.42
78:Ap:37:TYR:HB2	78:Ap:47:VAL:HB	2.00	0.42
79:E:10:ARG:HD3	79:E:180:VAL:HG21	2.01	0.42
79:E:98:LYS:HA	79:E:101:LYS:HG2	2.00	0.42
79:E:100:ILE:O	79:E:103:LEU:HG	2.18	0.42
3:BC:69:ILE:HG21	3:BC:136:VAL:HG21	2.02	0.42
5:BG:4:ASN:HB3	5:BG:15:THR:HG22	2.01	0.42
5:BG:157:VAL:O	5:BG:159:ARG:HG2	2.19	0.42
7:BI:32:GLN:OE1	34:B5:1727:G:N2	2.33	0.42
7:BI:169:ILE:HD12	7:BI:179:CYS:SG	2.59	0.42
13:BW:7:LEU:HD12	13:BW:34:ILE:HG13	2.02	0.42
14:BX:44:GLY:H	14:BX:78:LYS:NZ	2.17	0.42
17:Bb:38:PRO:HG3	17:Bb:76:GLY:O	2.20	0.42
19:BD:113:LEU:HD23	19:BD:114:ALA:O	2.19	0.42
19:BD:195:SER:O	19:BD:196:ARG:HG2	2.19	0.42
20:BF:53:VAL:HG22	20:BF:134:VAL:HG11	2.01	0.42
20:BF:81:ARG:HG2	34:B5:1615:C:C6	2.55	0.42
25:BS:16:ARG:HA	25:BS:21:ASN:HA	2.01	0.42
25:BS:132:ARG:HH12	34:B5:1173:C:P	2.42	0.42
32:Bf:96:LYS:HE3	34:B5:1251:U:C6	2.55	0.42
34:B5:395:U:H2'	34:B5:396:G:O4'	2.19	0.42
34:B5:532:U:H2'	34:B5:533:U:O4'	2.19	0.42
34:B5:752:A:O2'	34:B5:753:A:OP1	2.33	0.42
34:B5:1041:G:H2'	34:B5:1042:G:H8	1.83	0.42
34:B5:1660:A:H2'	34:B5:1661:U:C6	2.54	0.42
34:B5:1785:U:H2'	34:B5:1786:G:C8	2.53	0.42
36:AB:180:GLU:OE2	38:A1:3002:C:O2'	2.34	0.42
36:AB:193:ASP:O	36:AB:197:GLU:HG3	2.19	0.42
36:AB:199:PHE:O	36:AB:201:LYS:HG2	2.20	0.42
38:A1:1615:C:H2'	38:A1:1616:U:C6	2.54	0.42
38:A1:1646:G:O2'	38:A1:1647:A:OP2	2.35	0.42
38:A1:1922:A:H2'	38:A1:1923:C:O4'	2.19	0.42
38:A1:2476:C:N4	38:A1:2477:G:O6	2.52	0.42
38:A1:3106:A:H2'	38:A1:3107:U:O4'	2.19	0.42
39:A3:23:A:C6	39:A3:24:A:C4	3.07	0.42
39:A3:81:U:H2'	39:A3:82:G:C8	2.54	0.42
40:A4:59:A:H5"	40:A4:61:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:AE:170:LYS:HA	42:AE:171:PRO:HD3	1.90	0.42
43:AF:156:ILE:HD13	43:AF:161:VAL:HB	2.02	0.42
45:AH:91:ARG:HG2	45:AH:182:SER:HB3	2.01	0.42
45:AH:170:LYS:HB3	45:AH:175:PHE:CD1	2.54	0.42
46:AI:202:LYS:NZ	46:AI:203:LYS:HE2	2.35	0.42
53:AQ:133:LYS:HE2	53:AQ:135:GLN:HE21	1.84	0.42
55:AS:166:LYS:NZ	55:AS:168:PRO:HA	2.35	0.42
60:AX:68:THR:HG22	60:AX:68:THR:O	2.19	0.42
70:Ah:83:LYS:HG3	70:Ah:83:LYS:O	2.18	0.42
2:BB:128:LYS:HE2	2:BB:132:ASP:HA	2.01	0.42
3:BC:49:LYS:HE2	3:BC:49:LYS:HB2	1.85	0.42
4:BE:21:ASP:OD2	4:BE:24:SER:OG	2.35	0.42
4:BE:122:LYS:HB3	4:BE:164:LEU:HD11	2.01	0.42
4:BE:152:PRO:HG2	5:BG:215:ARG:NH1	2.34	0.42
15:BY:20:ARG:HD3	15:BY:76:TYR:CD1	2.54	0.42
19:BD:58:VAL:HG13	19:BD:59:LEU:HD12	2.01	0.42
19:BD:97:SER:O	19:BD:101:GLN:HG2	2.19	0.42
22:BP:57:MET:O	22:BP:61:ARG:HG2	2.18	0.42
23:BQ:136:SER:C	23:BQ:137:ARG:HD3	2.44	0.42
29:Bc:42:ARG:HA	29:Bc:63:ALA:HB2	2.01	0.42
34:B5:1209:C:N3	34:B5:1455:G:N2	2.67	0.42
34:B5:1218:G:C8	34:B5:1444:A:C6	3.08	0.42
35:AA:242:ARG:NH2	38:A1:2242:A:OP1	2.53	0.42
38:A1:94:G:H2'	38:A1:95:A:C8	2.55	0.42
38:A1:1203:A:H2'	38:A1:1204:A:H8	1.84	0.42
38:A1:1578:C:H2'	38:A1:1579:C:C6	2.54	0.42
38:A1:2257:C:C2	38:A1:2258:U:H1'	2.55	0.42
38:A1:2367:A:H2'	38:A1:2368:A:C8	2.55	0.42
38:A1:3332:U:H2'	38:A1:3333:G:O4'	2.19	0.42
41:AD:236:LEU:HA	41:AD:239:ILE:CD1	2.50	0.42
42:AE:20:LYS:HD3	42:AE:20:LYS:HA	1.87	0.42
50:AN:62:TYR:O	50:AN:131:GLU:HA	2.19	0.42
54:AR:170:ARG:HD3	54:AR:170:ARG:HA	1.76	0.42
55:AS:13:ARG:HG2	55:AS:14:LEU:N	2.35	0.42
58:AV:87:ARG:HH22	58:AV:137:VAL:HG22	1.84	0.42
63:Aa:27:LYS:HB3	63:Aa:27:LYS:HE2	1.83	0.42
80:EC:6791:A:N7	80:EC:6793:A:H1'	2.34	0.42
1:BA:63:ILE:HG22	1:BA:120:LEU:CD1	2.50	0.42
2:BB:107:THR:OG1	11:BO:117:ASP:O	2.23	0.42
2:BB:138:PHE:HB2	2:BB:214:LYS:HB3	2.01	0.42
4:BE:141:THR:OG1	4:BE:143:ASP:OD1	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:BE:163:ASP:OD2	4:BE:165:ALA:HB3	2.20	0.42
5:BG:78:THR:O	5:BG:81:VAL:HG22	2.20	0.42
7:BI:11:ARG:HD3	34:B5:318:U:H4'	2.02	0.42
7:BI:50:GLY:HA2	34:B5:397:A:H4'	2.02	0.42
9:BL:75:VAL:HG22	9:BL:84:ILE:HD12	2.01	0.42
20:BF:83:ARG:HD2	20:BF:83:ARG:H	1.82	0.42
20:BF:219:ARG:NH2	80:EC:6844:A:H5'	2.35	0.42
26:BT:34:VAL:HB	26:BT:53:TRP:HZ2	1.84	0.42
26:BT:102:ARG:NE	34:B5:1501:C:OP2	2.50	0.42
34:B5:830:U:H2'	34:B5:831:U:H6	1.83	0.42
34:B5:1392:U:H2'	34:B5:1393:C:H6	1.84	0.42
36:AB:17:LEU:HD21	36:AB:233:TRP:HH2	1.84	0.42
37:AC:304:GLN:C	37:AC:306:THR:H	2.28	0.42
38:A1:2677:G:N3	38:A1:2677:G:H2'	2.35	0.42
39:A3:27:A:H2'	39:A3:28:C:C6	2.55	0.42
45:AH:161:LEU:O	45:AH:164:ILE:HG22	2.18	0.42
45:AH:172:ILE:HG22	75:Am:90:ASN:HB3	2.01	0.42
47:AJ:54:VAL:HG23	47:AJ:56:THR:H	1.85	0.42
47:AJ:60:ARG:HD3	47:AJ:61:ARG:O	2.20	0.42
56:AT:41:ASP:OD1	56:AT:42:ILE:N	2.52	0.42
58:AV:27:ASP:OD2	58:AV:27:ASP:N	2.51	0.42
71:Ai:86:LYS:NZ	71:Ai:89:GLU:OE2	2.30	0.42
80:EC:6829:A:H2'	80:EC:6830:G:H8	1.85	0.42
6:BH:96:ARG:HH21	6:BH:124:LYS:CG	2.32	0.42
8:BJ:175:ARG:NH2	34:B5:537:G:H3'	2.35	0.42
15:BY:45:ALA:O	15:BY:49:LYS:N	2.52	0.42
20:BF:190:ILE:HD11	34:B5:1473:U:H5'	2.02	0.42
21:BK:54:TYR:CD1	21:BK:72:GLY:HA2	2.55	0.42
25:BS:125:ILE:HD12	25:BS:129:TRP:CH2	2.55	0.42
27:BU:70:THR:HG21	27:BU:74:GLU:O	2.20	0.42
31:Bg:38:ARG:HA	31:Bg:67:ILE:HG23	2.01	0.42
34:B5:217:A:N1	34:B5:844:A:O2'	2.42	0.42
34:B5:1151:A:H2'	34:B5:1152:A:H8	1.84	0.42
34:B5:1165:G:H2'	34:B5:1166:A:C8	2.55	0.42
34:B5:1209:C:C4	34:B5:1455:G:N2	2.88	0.42
34:B5:1434:U:H2'	34:B5:1436:A:H5'	2.02	0.42
34:B5:1542:G:H1'	34:B5:1543:A:N7	2.34	0.42
38:A1:974:G:H2'	38:A1:975:C:C6	2.55	0.42
38:A1:1396:C:H2'	38:A1:1397:C:C6	2.55	0.42
38:A1:3044:G:H2'	38:A1:3045:G:C8	2.54	0.42
40:A4:151:C:C5	60:AX:24:LEU:HD11	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:AD:22:ARG:HB2	41:AD:30:TYR:HE2	1.84	0.42
45:AH:181:VAL:O	75:Am:85:LEU:HD11	2.20	0.42
50:AN:180:PHE:O	50:AN:184:LYS:HG3	2.19	0.42
51:AO:75[A]:ALA:HB1	51:AO:106[A]:GLU:OE2	2.19	0.42
54:AR:66:HIS:O	54:AR:70:LYS:HG2	2.19	0.42
60:AX:90:ALA:HA	60:AX:94:GLN:OE1	2.20	0.42
71:Ai:2:THR:HG22	71:Ai:3:VAL:HG23	2.02	0.42
2:BB:31:ASP:O	2:BB:96:LEU:N	2.52	0.42
2:BB:170:GLU:HA	2:BB:173:THR:OG1	2.19	0.42
5:BG:36:VAL:HG13	5:BG:50:PHE:HB2	2.00	0.42
15:BY:131:ARG:HA	15:BY:134:ALA:HB3	2.02	0.42
16:Ba:15:ARG:HD2	16:Ba:18:VAL:HG12	2.01	0.42
20:BF:60:ASP:C	20:BF:61:TYR:HD1	2.28	0.42
23:BQ:99:GLU:HA	23:BQ:102:LYS:NZ	2.34	0.42
26:BT:134:ARG:HH21	34:B5:1360:A:H4'	1.85	0.42
30:Bd:33:LYS:HG3	30:Bd:34:TYR:CD2	2.55	0.42
31:Bg:153:GLN:HB2	31:Bg:202:LEU:CD2	2.49	0.42
34:B5:407:A:H2'	34:B5:408:C:C6	2.55	0.42
34:B5:522:U:H2'	34:B5:523:G:O4'	2.20	0.42
34:B5:1686:C:N4	34:B5:1716:C:O2	2.52	0.42
35:AA:107:VAL:O	35:AA:139:HIS:NE2	2.52	0.42
36:AB:92:TYR:O	36:AB:155:ALA:HA	2.19	0.42
38:A1:114:A:H2'	38:A1:115:A:O4'	2.19	0.42
38:A1:298:U:H5'	71:Ai:31:GLY:O	2.20	0.42
38:A1:1565:G:H1	38:A1:1574:C:H42	1.68	0.42
38:A1:2875:U:O2'	38:A1:2876:C:O5'	2.29	0.42
38:A1:3178:A:C4	51:AO:6[A]:VAL:HB	2.55	0.42
39:A3:121:U:H5	41:AD:260:PHE:CG	2.37	0.42
61:AY:88:GLU:HG2	61:AY:88:GLU:O	2.18	0.42
62:AZ:31:GLU:OE1	62:AZ:31:GLU:N	2.53	0.42
74:Al:28:ARG:NH2	74:Al:36:ARG:O	2.45	0.42
80:EC:6777:C:H2'	80:EC:6778:C:C5	2.55	0.42
7:BI:85:PRO:HA	9:BL:11:ARG:HG2	2.02	0.42
8:BJ:119:ALA:O	8:BJ:120:LYS:HG2	2.19	0.42
10:BN:135:LEU:HD12	10:BN:139:TRP:CG	2.55	0.42
15:BY:57:VAL:HB	15:BY:60:PHE:HE2	1.84	0.42
19:BD:121:GLY:HA2	19:BD:124:ARG:HB3	2.02	0.42
20:BF:24:VAL:O	20:BF:25:LEU:HD22	2.20	0.42
31:Bg:89:LEU:HD21	31:Bg:110:VAL:HG21	2.02	0.42
32:Bf:93:HIS:HB2	34:B5:1232:U:OP1	2.20	0.42
34:B5:528:U:C2	34:B5:529:A:C8	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1177:C:H2'	34:B5:1178:G:C8	2.55	0.42
34:B5:1694:A:H61	34:B5:1707:A:H62	1.67	0.42
37:AC:230:VAL:CG1	37:AC:254:ALA:HB1	2.49	0.42
38:A1:435:C:H2'	38:A1:436:A:C8	2.55	0.42
38:A1:1047:A:H2'	38:A1:1048:A:C8	2.54	0.42
38:A1:1073:U:H2'	38:A1:1074:U:C6	2.55	0.42
38:A1:1143:A:H5'	38:A1:1368:U:H1'	2.01	0.42
38:A1:1497:C:H2'	38:A1:1498:A:C8	2.55	0.42
38:A1:1517:G:OP1	74:Al:22:PRO:HG3	2.19	0.42
38:A1:1592:G:OP1	69:Ag:58:ARG:NH2	2.49	0.42
38:A1:1667:A:H2'	38:A1:1668:G:H8	1.83	0.42
38:A1:2726:C:O2'	38:A1:2727:A:H2'	2.20	0.42
38:A1:2768:U:H2'	38:A1:2769:A:C8	2.52	0.42
44:AG:150:LEU:HD22	44:AG:211:LEU:HD11	2.02	0.42
50:AN:96:ARG:NH1	50:AN:104:GLU:OE1	2.53	0.42
55:AS:12:ARG:HB3	55:AS:24:LEU:HA	2.01	0.42
71:Ai:68:ARG:O	71:Ai:72:VAL:HG23	2.19	0.42
75:Am:95:VAL:N	75:Am:122:ARG:O	2.38	0.42
80:EC:6785:C:H42	80:EC:6811:G:H1	1.67	0.42
80:EC:6815:U:H2'	80:EC:6816:A:C4	2.54	0.42
80:EC:6934:U:H4'	80:EC:6935:G:H5'	2.01	0.42
1:BA:200:ASP:HB3	24:BR:86:PRO:HG2	2.01	0.42
14:BX:50:LYS:HG3	14:BX:103:LEU:HD12	2.01	0.42
28:BZ:68:ARG:HH21	80:EC:6866:C:H42	1.68	0.42
34:B5:1177:C:H4'	34:B5:1189:A:H61	1.85	0.42
34:B5:1454:G:C6	34:B5:1455:G:C6	3.08	0.42
34:B5:1512:G:H2'	34:B5:1513:G:O4'	2.20	0.42
34:B5:1552:U:H2'	34:B5:1553:G:O4'	2.20	0.42
38:A1:73:C:C4	71:Ai:15:LYS:HD2	2.55	0.42
38:A1:174:C:H2'	38:A1:175:C:C6	2.55	0.42
38:A1:595:G:H2'	38:A1:596:C:C6	2.55	0.42
38:A1:976:U:OP1	53:AQ:144:ARG:NH2	2.52	0.42
38:A1:990:U:H1'	56:AT:101:CYS:HB3	2.01	0.42
38:A1:1237:G:C2	38:A1:1238:C:C5	3.08	0.42
38:A1:1643:A:H2'	38:A1:1644:C:C2	2.55	0.42
38:A1:2426:U:H2'	38:A1:2427:U:C6	2.55	0.42
49:AM:98:SER:O	49:AM:102:LYS:HG2	2.20	0.42
58:AV:20:GLY:HA2	58:AV:35:TYR:CE1	2.55	0.42
62:AZ:15:ARG:HD2	62:AZ:79:HIS:CD2	2.55	0.42
69:Ag:44:CYS:HA	69:Ag:51:LEU:HD23	2.01	0.42
19:BD:94:ARG:HH12	19:BD:101:GLN:N	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:890:C:H2'	34:B5:891:A:H8	1.85	0.41
34:B5:1122:G:N2	34:B5:1125:A:OP2	2.53	0.41
36:AB:183:LEU:O	36:AB:191:LYS:NZ	2.42	0.41
38:A1:1495:U:C5	38:A1:1835:A:N1	2.85	0.41
38:A1:1855:U:H2'	38:A1:1856:C:C6	2.55	0.41
38:A1:2282:U:O2	38:A1:2310:U:H4'	2.19	0.41
38:A1:2448:G:O6	38:A1:2498:U:O4	2.37	0.41
39:A3:77:G:H3'	55:AS:46:GLN:O	2.20	0.41
41:AD:144:VAL:O	41:AD:174:PRO:HD2	2.20	0.41
42:AE:67:GLY:O	42:AE:68:PRO:C	2.63	0.41
44:AG:238:LEU:HB2	44:AG:243:GLN:NE2	2.35	0.41
54:AR:175:GLN:HA	54:AR:179:GLU:HB2	2.02	0.41
57:AU:89:LEU:HD21	57:AU:93:ILE:HD12	2.02	0.41
79:E:114:GLU:HA	79:E:117:ILE:HG12	2.02	0.41
79:E:196:LYS:HB3	79:E:199:GLN:HB2	2.00	0.41
1:BA:96:THR:HG21	1:BA:116:LYS:HD3	2.02	0.41
5:BG:110:ALA:C	5:BG:111:LEU:HD12	2.45	0.41
6:BH:5:GLN:OE1	6:BH:25:VAL:HG21	2.20	0.41
7:BI:77:ARG:NH2	38:A1:3354:U:O2	2.53	0.41
11:BO:19:ILE:HG13	11:BO:83:ILE:HA	2.02	0.41
13:BW:22:LYS:HA	17:Bb:3:LEU:HG	2.02	0.41
14:BX:50:LYS:HE2	34:B5:435:C:H5"	2.01	0.41
15:BY:105:ARG:HD3	34:B5:444:C:OP2	2.20	0.41
21:BK:91:TYR:HD2	21:BK:92:ILE:HG13	1.85	0.41
24:BR:88:VAL:HG13	24:BR:88:VAL:O	2.20	0.41
26:BT:18:TYR:O	26:BT:22:LEU:N	2.31	0.41
29:Bc:15:VAL:HA	29:Bc:28:VAL:HA	2.02	0.41
31:Bg:59:ARG:HD3	31:Bg:59:ARG:HA	1.85	0.41
31:Bg:129:LYS:HG2	31:Bg:150:TRP:HD1	1.84	0.41
34:B5:539:G:H8	34:B5:539:G:OP2	2.03	0.41
34:B5:756:A:H2'	34:B5:757:A:O4'	2.20	0.41
34:B5:867:G:O6	34:B5:962:C:N4	2.53	0.41
34:B5:1037:C:H2'	34:B5:1038:U:C6	2.56	0.41
34:B5:1689:A:H2'	34:B5:1690:G:C8	2.55	0.41
35:AA:137:ILE:HG13	35:AA:147:ARG:HG3	2.02	0.41
38:A1:109:A:H4'	38:A1:110:G:OP1	2.19	0.41
38:A1:2101:C:HO2'	38:A1:2102:U:H6	1.64	0.41
39:A3:81:U:H2'	39:A3:82:G:H8	1.85	0.41
49:AM:103:ILE:H	49:AM:103:ILE:HD12	1.85	0.41
69:Ag:102:LYS:HA	69:Ag:105:VAL:HG22	2.01	0.41
79:E:18:LYS:O	79:E:22:GLU:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:101:ARG:HG2	1:BA:103:THR:H	1.85	0.41
2:BB:41:ARG:N	2:BB:41:ARG:HD2	2.35	0.41
8:BJ:80:LEU:HD22	8:BJ:96:VAL:HG12	2.02	0.41
13:BW:81:VAL:HG12	13:BW:82:LYS:O	2.20	0.41
21:BK:22:VAL:HG23	21:BK:65:TYR:HA	2.01	0.41
27:BU:62:VAL:HA	27:BU:84:MET:O	2.20	0.41
31:Bg:214:ALA:HB1	31:Bg:240:VAL:HG11	2.02	0.41
34:B5:190:C:O2	34:B5:195:G:H2'	2.20	0.41
34:B5:524:U:H1'	34:B5:527:A:N7	2.35	0.41
34:B5:1383:G:H2'	34:B5:1384:A:C8	2.55	0.41
37:AC:344:ALA:HB2	38:A1:516:A:H5"	2.01	0.41
38:A1:629:U:H2'	38:A1:630:A:C8	2.54	0.41
38:A1:650:OMC:H2'	38:A1:651:G:C8	2.55	0.41
38:A1:1355:A:H4'	38:A1:1356:U:C5'	2.50	0.41
38:A1:2352:A:H5"	52:AP:83:TRP:O	2.20	0.41
38:A1:2491:A:C2	79:E:207:LYS:HB3	2.55	0.41
38:A1:2526:C:H2'	38:A1:2527:G:C8	2.56	0.41
38:A1:3107:U:H2'	38:A1:3108:G:C8	2.55	0.41
38:A1:3298:C:C2	38:A1:3299:A:C8	3.08	0.41
39:A3:3:U:H4'	39:A3:25:G:N2	2.35	0.41
42:AE:45:GLY:O	42:AE:48:ARG:HG3	2.20	0.41
46:AI:27:PRO:HD3	46:AI:122:PRO:HB2	2.01	0.41
48:AL:188:ARG:O	48:AL:192:GLU:HG3	2.20	0.41
49:AM:66:THR:OG1	49:AM:67:PRO:HD2	2.21	0.41
51:AO:157[A]:GLU:HG3	51:AO:161[A]:LYS:HE3	2.02	0.41
72:Aj:14:LYS:HZ3	74:Al:51:ILE:HD11	1.84	0.41
74:Al:44:TRP:CE2	74:Al:45:ARG:HG3	2.55	0.41
1:BA:9:LEU:HB2	1:BA:54:TRP:CD1	2.55	0.41
2:BB:117:TRP:CE3	2:BB:153:HIS:HB3	2.39	0.41
2:BB:136:ARG:NH1	34:B5:884:A:H5"	2.35	0.41
2:BB:143:THR:HB	2:BB:205:PHE:HE2	1.86	0.41
3:BC:63:VAL:HG11	3:BC:69:ILE:HD11	2.02	0.41
5:BG:179:VAL:HG11	34:B5:140:A:C8	2.55	0.41
6:BH:62:VAL:HG12	6:BH:64:VAL:H	1.84	0.41
7:BI:50:GLY:HA2	34:B5:397:A:O3'	2.20	0.41
7:BI:163:GLY:O	7:BI:164:ARG:HD3	2.20	0.41
12:BV:7:GLN:O	12:BV:9:VAL:HG13	2.19	0.41
20:BF:76:ARG:HH21	23:BQ:122:ARG:HH11	1.67	0.41
21:BK:33:GLU:O	21:BK:34:GLU:HG3	2.21	0.41
22:BP:97:TYR:HD1	22:BP:102:PHE:CE1	2.38	0.41
23:BQ:30:LYS:HB3	23:BQ:66:ARG:NH1	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BT:99:SER:HA	26:BT:102:ARG:HH12	1.85	0.41
34:B5:445:A:C2	34:B5:446:A:C8	3.09	0.41
34:B5:1156:C:H2'	34:B5:1157:A:C8	2.55	0.41
34:B5:1202:A:N6	34:B5:1457:C:OP1	2.54	0.41
34:B5:1484:G:H2'	34:B5:1485:C:C6	2.54	0.41
34:B5:1547:A:N6	34:B5:1565:C:H42	2.17	0.41
34:B5:1572:OMG:OP1	34:B5:1573:A:H5'	2.20	0.41
34:B5:1770:U:H2'	34:B5:1771:U:H6	1.84	0.41
38:A1:810:A:H2'	38:A1:811:U:C6	2.55	0.41
38:A1:1086:C:H2'	38:A1:1087:G:O4'	2.21	0.41
38:A1:1446:A:H5"	52:AP:65:SER:CB	2.50	0.41
38:A1:2663:G:H2'	38:A1:2664:C:O4'	2.20	0.41
38:A1:2843:U:O2	38:A1:2843:U:H2'	2.20	0.41
55:AS:30:PHE:CZ	55:AS:103:VAL:HG21	2.55	0.41
69:Ag:74:ARG:HG2	69:Ag:75:ALA:H	1.86	0.41
70:Ah:52:ALA:O	70:Ah:56:THR:OG1	2.26	0.41
73:Ak:46:ARG:HD3	73:Ak:47:GLY:O	2.20	0.41
1:BA:54:TRP:O	1:BA:58:VAL:HG22	2.20	0.41
1:BA:79:ARG:NH1	1:BA:164:ASN:HB3	2.35	0.41
2:BB:124:ASN:OD1	2:BB:124:ASN:N	2.53	0.41
5:BG:175:ILE:HG23	5:BG:178:LEU:HD23	2.01	0.41
6:BH:46:ILE:HD11	6:BH:58:LEU:HD12	2.02	0.41
21:BK:73:VAL:HA	21:BK:76:LEU:HD12	2.02	0.41
23:BQ:30:LYS:HB3	23:BQ:66:ARG:HH11	1.85	0.41
29:Bc:16:LEU:N	29:Bc:27:GLN:O	2.53	0.41
33:BM:101:ALA:HB1	33:BM:121:VAL:HG21	2.02	0.41
34:B5:61:A:H8	34:B5:269:G:O2'	2.04	0.41
34:B5:181:A:H8	34:B5:181:A:OP2	2.03	0.41
34:B5:243:G:H2'	34:B5:244:A:H8	1.85	0.41
34:B5:343:C:H2'	34:B5:344:A:C8	2.54	0.41
34:B5:694:U:H3'	34:B5:695:U:C6	2.56	0.41
34:B5:1336:A:C6	34:B5:1416:G:C6	3.09	0.41
34:B5:1437:U:H2'	34:B5:1438:G:H8	1.86	0.41
34:B5:1773:4AC:OP1	76:An:3:ALA:HB3	2.20	0.41
38:A1:1394:A:H2'	38:A1:1395:G:O4'	2.21	0.41
38:A1:1906:G:H1'	38:A1:1908:A:N6	2.36	0.41
38:A1:2285:C:OP2	38:A1:2286:U:O2'	2.36	0.41
38:A1:2770:G:H2'	38:A1:2771:U:C6	2.55	0.41
38:A1:2894:C:H2'	38:A1:2895:G:C8	2.56	0.41
38:A1:3183:A:H2'	38:A1:3184:A:H8	1.86	0.41
39:A3:44:C:OP2	47:AJ:137:ARG:NH2	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:AG:105:LYS:O	44:AG:109:LEU:HG	2.20	0.41
44:AG:161:GLU:OE2	50:AN:26:ARG:NH1	2.28	0.41
49:AM:16:GLU:CB	55:AS:149:LYS:HG2	2.50	0.41
58:AV:104:ASN:HB2	58:AV:105:PRO:HD2	2.03	0.41
62:AZ:18:TYR:CE1	62:AZ:47:GLU:OE1	2.74	0.41
68:Af:39:GLN:H	68:Af:39:GLN:CD	2.28	0.41
72:Aj:66:TYR:OH	72:Aj:73:ARG:NH2	2.54	0.41
2:BB:128:LYS:NZ	2:BB:132:ASP:HA	2.36	0.41
6:BH:121:VAL:O	6:BH:125:ILE:N	2.46	0.41
8:BJ:5:PRO:HG3	34:B5:380:U:C6	2.56	0.41
8:BJ:108:ARG:HG3	8:BJ:144:PRO:O	2.20	0.41
11:BO:50:ALA:HB3	11:BO:53:ASP:OD1	2.20	0.41
11:BO:71:CYS:SG	11:BO:76:ILE:HB	2.61	0.41
15:BY:76:TYR:CE2	15:BY:85:PHE:HB2	2.56	0.41
17:Bb:20:LYS:NZ	34:B5:959:U:OP2	2.52	0.41
20:BF:146:THR:HG23	20:BF:157:ARG:NH2	2.35	0.41
21:BK:56:LYS:HZ2	21:BK:69:THR:HB	1.86	0.41
23:BQ:28:LEU:HB3	23:BQ:64:ASP:HB2	2.03	0.41
24:BR:44:LYS:NZ	34:B5:1387:G:N7	2.50	0.41
29:Bc:26:THR:OG1	29:Bc:44:VAL:HB	2.21	0.41
32:Bf:131:PHE:CE2	33:BM:50:LYS:HG2	2.55	0.41
34:B5:647:G:H21	34:B5:687:G:H1	1.68	0.41
34:B5:909:U:H2'	34:B5:910:C:C6	2.55	0.41
34:B5:947:U:H2'	34:B5:948:G:C8	2.55	0.41
34:B5:1353:U:O2'	34:B5:1354:G:H8	2.02	0.41
36:AB:45:SER:OG	36:AB:181:ILE:HD12	2.20	0.41
38:A1:255:A:H2'	38:A1:256:G:H8	1.85	0.41
38:A1:981:U:H3	38:A1:1105:A:H4'	1.84	0.41
38:A1:1009:A:H2'	38:A1:1010:G:O4'	2.20	0.41
38:A1:1091:A:H2'	38:A1:1092:C:C6	2.55	0.41
38:A1:1132:C:H2'	38:A1:1133:A2M:C8	2.47	0.41
38:A1:2541:U:H1'	38:A1:2543:U:C5	2.55	0.41
38:A1:2812:C:H2'	38:A1:2813:A:C8	2.55	0.41
38:A1:2912:G:H1'	38:A1:3131:U:OP1	2.20	0.41
38:A1:3189:G:H2'	38:A1:3190:C:H6	1.83	0.41
39:A3:69:C:H2'	39:A3:70:U:C6	2.55	0.41
39:A3:113:C:H2'	39:A3:114:U:O4'	2.20	0.41
42:AE:3:ALA:HB1	67:Ae:75:LEU:HD23	2.03	0.41
46:AI:153:ARG:O	46:AI:153:ARG:HD2	2.20	0.41
48:AL:48:PRO:HA	48:AL:137:GLN:HB2	2.03	0.41
48:AL:57:VAL:HB	48:AL:147:ILE:HD12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:Ap:49:ARG:NH1	78:Ap:68:ALA:O	2.44	0.41
79:E:120:VAL:O	79:E:124:LEU:N	2.48	0.41
1:BA:47:VAL:HG21	24:BR:106:THR:HG22	2.03	0.41
4:BE:120:SER:O	4:BE:164:LEU:HB2	2.20	0.41
8:BJ:126:ARG:HD3	18:Be:33:ARG:HD3	2.01	0.41
10:BN:36:GLN:HA	10:BN:39:LYS:NZ	2.34	0.41
10:BN:87:ASP:N	10:BN:87:ASP:OD1	2.53	0.41
11:BO:127:ARG:HH21	16:Ba:22:ARG:NH2	2.17	0.41
13:BW:8:ALA:HB2	13:BW:74:VAL:HG21	2.01	0.41
17:Bb:33:LEU:HD23	17:Bb:81:ARG:HA	2.03	0.41
19:BD:109:LEU:HD23	19:BD:182:LEU:HD13	2.03	0.41
20:BF:143:ARG:HH21	29:Bc:7:VAL:CG2	2.34	0.41
22:BP:31:GLU:O	22:BP:35:LYS:N	2.51	0.41
26:BT:54:PHE:HE1	26:BT:104:VAL:HG22	1.85	0.41
31:Bg:274:LEU:HD13	31:Bg:313:TRP:CE2	2.56	0.41
34:B5:631:G:H2'	34:B5:632:U:C6	2.55	0.41
36:AB:98:GLY:HA3	38:A1:3005:A:C5'	2.51	0.41
37:AC:3:ARG:HB3	37:AC:22:LEU:H	1.85	0.41
38:A1:507:U:H2'	38:A1:508:U:C6	2.56	0.41
38:A1:1626:U:H2'	38:A1:1627:U:O4'	2.20	0.41
42:AE:28:GLN:HE21	42:AE:57:HIS:CE1	2.39	0.41
44:AG:68:ARG:HD3	44:AG:237:ILE:O	2.21	0.41
44:AG:75:ILE:HG22	44:AG:76:ALA:N	2.36	0.41
45:AH:47:LYS:HE3	45:AH:50:ASN:HA	2.03	0.41
56:AT:31:LEU:HD23	56:AT:31:LEU:O	2.21	0.41
58:AV:10:LYS:HD3	58:AV:125:LEU:HD22	2.03	0.41
60:AX:115:ARG:HD3	60:AX:121:LYS:HD2	2.01	0.41
67:Ae:82:LEU:HD21	67:Ae:112:ALA:HB2	2.02	0.41
69:Ag:22:VAL:HG12	69:Ag:30:LEU:HD22	2.03	0.41
79:E:196:LYS:HB2	79:E:200:ASN:OD1	2.21	0.41
80:EC:6873:A:H2'	80:EC:6874:A:H2'	2.02	0.41
2:BB:86:LEU:O	2:BB:86:LEU:HD12	2.21	0.41
3:BC:230:TRP:CD1	13:BW:68:ARG:HD2	2.55	0.41
6:BH:58:LEU:HD23	6:BH:88:ARG:HB3	2.02	0.41
6:BH:73:VAL:HG12	6:BH:73:VAL:O	2.19	0.41
9:BL:76:VAL:HG12	9:BL:85:VAL:O	2.21	0.41
11:BO:91:THR:C	11:BO:93:THR:H	2.29	0.41
12:BV:30:ALA:O	12:BV:60:ARG:HD3	2.21	0.41
16:Ba:18:VAL:CG2	16:Ba:19:LYS:H	2.27	0.41
17:Bb:47:PHE:HE2	17:Bb:49:HIS:HB2	1.86	0.41
17:Bb:48:SER:O	17:Bb:71:ALA:N	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:BD:71:LEU:O	19:BD:75:LYS:HG2	2.19	0.41
19:BD:150:MET:SD	19:BD:151:LYS:N	2.91	0.41
23:BQ:60:PHE:HE1	23:BQ:65:ILE:HG12	1.86	0.41
24:BR:71:PHE:CZ	24:BR:74:GLN:HB2	2.56	0.41
26:BT:103:LYS:HA	26:BT:103:LYS:HD2	1.88	0.41
27:BU:68:ARG:NH1	34:B5:1197:C:O2'	2.51	0.41
34:B5:71:A:C2	34:B5:73:U:H5'	2.56	0.41
34:B5:80:A:H5"	34:B5:81:G:N7	2.36	0.41
34:B5:222:A:H2'	34:B5:223:U:N1	2.34	0.41
34:B5:262:U:H2'	34:B5:263:C:C6	2.56	0.41
34:B5:1059:U:O2'	34:B5:1060:U:O4'	2.39	0.41
34:B5:1147:A:O2'	34:B5:1636:C:OP2	2.29	0.41
34:B5:1256:A:H2'	34:B5:1256:A:N3	2.35	0.41
35:AA:67:TYR:OH	38:A1:2525:G:N7	2.47	0.41
38:A1:1291:A:H2'	38:A1:1292:C:O4'	2.20	0.41
39:A3:69:C:H2'	39:A3:70:U:H6	1.86	0.41
41:AD:106:ALA:HB2	41:AD:166:ALA:HA	2.02	0.41
47:AJ:161:SER:O	47:AJ:165:GLN:HG2	2.20	0.41
52:AP:67:ILE:HB	52:AP:80:LYS:HD2	2.02	0.41
55:AS:96:ASP:OD2	55:AS:101:ALA:HB3	2.21	0.41
62:AZ:23:VAL:CG2	62:AZ:43:VAL:HB	2.50	0.41
73:Ak:8:ILE:H	73:Ak:8:ILE:HD12	1.85	0.41
79:E:109:ALA:HA	79:E:133:LYS:HE2	2.02	0.41
3:BC:129:ILE:O	3:BC:133:LYS:HG2	2.20	0.41
4:BE:121:TYR:CE2	4:BE:161:LYS:HE3	2.56	0.41
7:BI:74:LYS:HZ1	7:BI:112:TRP:HB2	1.86	0.41
11:BO:70:LYS:HA	11:BO:70:LYS:HD3	1.85	0.41
16:Ba:10:ARG:HB3	16:Ba:34:LYS:HG3	2.03	0.41
18:Be:43:ARG:HH21	34:B5:590:C:H5"	1.85	0.41
21:BK:8:ARG:NH1	34:B5:1257:U:H4'	2.36	0.41
22:BP:37:ALA:HB1	22:BP:41:VAL:HB	2.01	0.41
24:BR:34:LEU:O	24:BR:38:ILE:HG12	2.21	0.41
24:BR:100:LEU:O	24:BR:120:SER:HB3	2.21	0.41
25:BS:32:LEU:O	25:BS:35:ILE:HG22	2.20	0.41
26:BT:99:SER:O	26:BT:103:LYS:HG2	2.21	0.41
29:Bc:10:ALA:HB1	29:Bc:30:VAL:CG2	2.46	0.41
33:BM:50:LYS:HB3	33:BM:54:ARG:NH1	2.36	0.41
34:B5:593:U:H4'	34:B5:595:G:H4'	2.03	0.41
34:B5:889:U:H2'	34:B5:890:C:H6	1.86	0.41
34:B5:1229:G:H1'	34:B5:1255:G:N2	2.36	0.41
34:B5:1230:A:N3	34:B5:1258:U:H1'	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1260:U:H2'	34:B5:1261:G:H8	1.86	0.41
34:B5:1266:U:H2'	34:B5:1267:G:C8	2.46	0.41
34:B5:1673:G:O6	34:B5:1728:A:N1	2.53	0.41
35:AA:117:GLU:HG2	35:AA:124:GLY:H	1.86	0.41
37:AC:67:THR:HG22	38:A1:1436:U:O4	2.21	0.41
38:A1:640:U:OP1	63:Aa:21:ARG:NH1	2.40	0.41
38:A1:673:U:H2'	38:A1:674:G:C8	2.56	0.41
38:A1:674:G:H2'	38:A1:675:C:O4'	2.21	0.41
38:A1:799:G:OP2	63:Aa:32:ARG:NH1	2.48	0.41
38:A1:1317:A:O2'	38:A1:1318:A:H3'	2.21	0.41
38:A1:1615:C:H2'	38:A1:1616:U:H6	1.86	0.41
38:A1:1817:G:H2'	38:A1:1818:U:H6	1.83	0.41
38:A1:2218:G:H2'	38:A1:2219:A:C8	2.55	0.41
38:A1:2655:U:H4'	38:A1:2656:A:O4'	2.21	0.41
38:A1:2676:A:H5'	38:A1:2677:G:C5	2.56	0.41
38:A1:2694:A:H2'	38:A1:2695:A:C8	2.56	0.41
38:A1:2790:A:H5"	53:AQ:180:ARG:HH12	1.86	0.41
38:A1:2881:C:H2'	38:A1:2882:U:C6	2.55	0.41
38:A1:2894:C:H2'	38:A1:2895:G:H8	1.86	0.41
38:A1:3112:G:OP1	45:AH:77:ASN:ND2	2.52	0.41
38:A1:3271:G:C5	42:AE:108:LYS:HE2	2.56	0.41
39:A3:29:C:OP2	47:AJ:137:ARG:HD2	2.20	0.41
40:A4:6:U:H2'	40:A4:7:U:C6	2.56	0.41
43:AF:77:VAL:CG2	56:AT:139:ARG:HG2	2.51	0.41
45:AH:96:HIS:O	45:AH:98:PRO:HD3	2.20	0.41
47:AJ:26:SER:HA	47:AJ:30:LEU:HB2	2.01	0.41
47:AJ:84:LEU:HB3	47:AJ:89:TYR:CD1	2.56	0.41
47:AJ:115:LYS:HA	47:AJ:115:LYS:HD2	1.78	0.41
50:AN:47:LYS:HD2	50:AN:50:ARG:HH11	1.85	0.41
50:AN:192:LYS:HE3	50:AN:192:LYS:HB2	1.74	0.41
50:AN:193:ARG:O	50:AN:196:THR:HG22	2.21	0.41
62:AZ:7:ALA:O	62:AZ:89:VAL:HG11	2.21	0.41
68:Af:38:PRO:HD3	68:Af:77:ASN:O	2.21	0.41
79:E:59:PRO:HB2	79:E:60:ARG:HD3	2.01	0.41
80:EC:6780:A:C2	80:EC:6817:A:H2'	2.49	0.41
2:BB:101:HIS:HA	2:BB:217:LEU:HD12	2.03	0.41
4:BE:72:VAL:HG22	4:BE:90:ILE:CD1	2.50	0.41
6:BH:101:LYS:HD2	6:BH:112:ARG:HH12	1.86	0.41
16:Ba:58:VAL:HG23	16:Ba:59:TYR:CD2	2.56	0.41
17:Bb:80:ARG:HD2	17:Bb:81:ARG:O	2.21	0.41
19:BD:76:ARG:NE	21:BK:63:TYR:HB3	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:BD:135:GLU:HB2	19:BD:157:LEU:HG	2.03	0.41
20:BF:99:MET:HB2	20:BF:180:ARG:NH2	2.36	0.41
20:BF:125:THR:C	20:BF:127:GLN:H	2.29	0.41
21:BK:2:LEU:HA	34:B5:1257:U:H2'	2.03	0.41
23:BQ:34:SER:OG	23:BQ:38:LEU:HD23	2.21	0.41
24:BR:37:GLU:OE2	24:BR:38:ILE:HG23	2.21	0.41
26:BT:65:ILE:HG21	26:BT:114:VAL:HG12	2.03	0.41
34:B5:201:G:H2'	34:B5:202:A:C8	2.55	0.41
34:B5:604:A:H2'	34:B5:605:A:O4'	2.20	0.41
34:B5:913:G:C2	38:A1:2206:G:H4'	2.56	0.41
34:B5:1378:U:H2'	34:B5:1379:C:C6	2.56	0.41
34:B5:1489:U:C6	34:B5:1492:A:H2	2.34	0.41
34:B5:1525:A:N1	34:B5:1608:U:H1'	2.36	0.41
38:A1:139:G:H2'	38:A1:140:C:C6	2.56	0.41
38:A1:251:G:H1'	38:A1:253:A:N7	2.35	0.41
38:A1:2354:C:OP1	52:AP:86:LYS:NZ	2.48	0.41
38:A1:2406:C:H2'	38:A1:2407:C:H6	1.83	0.41
38:A1:2453:U:H4'	38:A1:2461:A:H5"	2.03	0.41
38:A1:2836:C:H2'	38:A1:2837:A:O4'	2.21	0.41
43:AF:163:LEU:C	43:AF:165:ASP:H	2.29	0.41
80:EC:6862:G:C8	80:EC:6864:A:H8	2.39	0.41
1:BA:163:ASN:OD1	1:BA:164:ASN:N	2.54	0.40
3:BC:230:TRP:NE1	13:BW:68:ARG:HB3	2.36	0.40
6:BH:107:ARG:HH21	34:B5:743:U:P	2.44	0.40
7:BI:107:THR:HB	7:BI:108:PRO:HD3	2.03	0.40
8:BJ:119:ALA:C	8:BJ:121:SER:H	2.28	0.40
13:BW:105:THR:HA	13:BW:110:ILE:HA	2.03	0.40
24:BR:16:LEU:HD23	24:BR:54:THR:HG21	2.02	0.40
25:BS:86:LEU:HD23	25:BS:98:TYR:C	2.46	0.40
27:BU:65:ILE:HB	30:Bd:52:PHE:CE1	2.56	0.40
28:BZ:57:TYR:CE1	28:BZ:68:ARG:HG2	2.57	0.40
28:BZ:61:SER:HA	28:BZ:99:ALA:HB3	2.03	0.40
28:BZ:68:ARG:HH21	80:EC:6866:C:N4	2.18	0.40
31:Bg:260:ILE:C	31:Bg:261:LYS:HD2	2.46	0.40
34:B5:201:G:H2'	34:B5:202:A:H8	1.86	0.40
34:B5:276:C:O2'	34:B5:278:U:OP2	2.33	0.40
34:B5:304:U:H2'	34:B5:305:C:C6	2.56	0.40
34:B5:826:U:H2'	34:B5:827:C:C6	2.54	0.40
34:B5:1163:A:C2	34:B5:1613:U:H1'	2.56	0.40
34:B5:1538:U:O2'	34:B5:1539:G:H2'	2.21	0.40
38:A1:40:A:O2'	38:A1:937:G:O6	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:359:U:H4'	38:A1:817:A2M:N6	2.36	0.40
38:A1:371:G:N1	38:A1:374:A:OP2	2.49	0.40
38:A1:542:G:H5'	38:A1:543:C:C6	2.56	0.40
38:A1:1563:C:H4'	38:A1:1564:U:OP1	2.21	0.40
38:A1:2218:G:OP1	71:Ai:68:ARG:NH1	2.54	0.40
38:A1:2835:U:H2'	38:A1:2836:C:O2	2.21	0.40
38:A1:2957:G:O6	38:A1:2976:A:C6	2.74	0.40
40:A4:95:G:OP2	72:Aj:72:ARG:NE	2.50	0.40
46:AI:213:PHE:N	46:AI:214:PRO:HD2	2.37	0.40
47:AJ:19:LEU:HA	47:AJ:126:ASP:O	2.21	0.40
55:AS:109:ASP:O	55:AS:113:ARG:HG3	2.21	0.40
56:AT:53:PRO:HB3	56:AT:91:LEU:HD22	2.02	0.40
68:Af:90:PRO:O	68:Af:91:ALA:HB3	2.21	0.40
80:EC:6797:U:H2'	80:EC:6798:C:H6	1.84	0.40
80:EC:6900:A:C6	80:EC:6913:U:C4	3.09	0.40
1:BA:175:TYR:CD1	1:BA:199:PRO:HB3	2.56	0.40
2:BB:185:THR:O	2:BB:189:ILE:HG12	2.21	0.40
4:BE:19:LEU:HD23	4:BE:19:LEU:HA	1.78	0.40
4:BE:45:ILE:HD12	4:BE:61:VAL:HG21	2.03	0.40
4:BE:54:TYR:O	15:BY:15:ASN:ND2	2.54	0.40
6:BH:99:LEU:HD23	6:BH:99:LEU:HA	1.95	0.40
8:BJ:180:LYS:HG3	8:BJ:181:ALA:N	2.37	0.40
13:BW:47:ILE:HD12	13:BW:47:ILE:HA	1.91	0.40
19:BD:173:ARG:HD3	19:BD:173:ARG:HA	1.83	0.40
20:BF:98:MET:O	20:BF:99:MET:HE2	2.21	0.40
20:BF:115:LYS:HZ3	28:BZ:95:HIS:HE1	1.66	0.40
20:BF:159:ALA:HB3	20:BF:225:ARG:HD3	2.02	0.40
20:BF:196:GLU:HA	20:BF:199:ILE:HG12	2.03	0.40
20:BF:199:ILE:C	20:BF:203:LYS:HZ2	2.28	0.40
23:BQ:67:VAL:HG21	23:BQ:85:ILE:HD11	2.02	0.40
24:BR:76:GLU:O	24:BR:80:ARG:HG2	2.21	0.40
31:Bg:7:LEU:HD21	31:Bg:251:TRP:CH2	2.57	0.40
31:Bg:214:ALA:CB	31:Bg:240:VAL:HG11	2.51	0.40
34:B5:1298:U:H2'	34:B5:1299:G:O4'	2.21	0.40
34:B5:1600:A:C4	34:B5:1602:C:C4	3.09	0.40
35:AA:211:HIS:CD2	35:AA:219:ILE:HG23	2.56	0.40
38:A1:93:C:OP2	38:A1:2764:C:O2'	2.34	0.40
38:A1:954:U:C5	38:A1:967:A:N1	2.89	0.40
38:A1:1223:A:OP2	38:A1:1223:A:H3'	2.21	0.40
38:A1:2354:C:H2'	38:A1:2355:G:O4'	2.21	0.40
38:A1:2489:C:O2'	79:E:207:LYS:NZ	2.50	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:3084:C:H2'	38:A1:3085:G:O4'	2.20	0.40
39:A3:55:A:C2	47:AJ:9:MET:HE2	2.56	0.40
40:A4:74:U:C4	61:AY:74:TYR:CD1	3.08	0.40
45:AH:16:VAL:HG12	45:AH:29:GLY:HA3	2.04	0.40
45:AH:93:VAL:O	45:AH:177:ASP:HA	2.22	0.40
61:AY:79:ALA:HB1	61:AY:98:ASN:HB3	2.03	0.40
71:Ai:54:GLU:O	71:Ai:58:ILE:HG12	2.21	0.40
80:EC:6886:A:H2'	80:EC:6887:G:C8	2.56	0.40
1:BA:198:MET:HE2	1:BA:200:ASP:OD2	2.22	0.40
2:BB:33:LYS:HD3	2:BB:232:HIS:ND1	2.36	0.40
6:BH:33:GLU:O	6:BH:37:GLU:HB2	2.21	0.40
6:BH:56:LYS:HE3	6:BH:88:ARG:HD2	2.03	0.40
6:BH:64:VAL:HG21	6:BH:96:ARG:HH12	1.86	0.40
6:BH:113:PRO:HD3	34:B5:811:A:N6	2.36	0.40
15:BY:5:VAL:HA	15:BY:28:LEU:O	2.21	0.40
20:BF:122:ASN:HD21	20:BF:129:PRO:HG3	1.86	0.40
23:BQ:89:LEU:HB3	23:BQ:93:HIS:CE1	2.57	0.40
24:BR:7:LYS:O	24:BR:11:ARG:N	2.25	0.40
31:Bg:90:ARG:NH1	31:Bg:102:ARG:HD3	2.35	0.40
32:Bf:133:ALA:O	32:Bf:139:LEU:HD12	2.21	0.40
34:B5:71:A:H2'	34:B5:72:A:H4'	2.03	0.40
34:B5:1138:A:H2'	34:B5:1139:A:C8	2.56	0.40
34:B5:1213:G:N1	34:B5:1450:U:N3	2.66	0.40
34:B5:1446:A:H2'	34:B5:1446:A:OP1	2.21	0.40
34:B5:1607:G:H2'	34:B5:1608:U:C6	2.56	0.40
35:AA:144:ASN:OD1	35:AA:144:ASN:N	2.53	0.40
37:AC:338:LYS:O	37:AC:342:LYS:HE3	2.21	0.40
38:A1:584:G:OP1	42:AE:82:ARG:NH2	2.53	0.40
38:A1:1565:G:H2'	38:A1:1565:G:N3	2.36	0.40
38:A1:1795:U:H4'	38:A1:1796:G:C4	2.56	0.40
38:A1:2106:A:H2'	38:A1:2107:A:H8	1.86	0.40
38:A1:2606:G:N3	38:A1:2606:G:H2'	2.36	0.40
38:A1:3000:A:H2'	38:A1:3001:C:C6	2.56	0.40
41:AD:40:HIS:CE1	56:AT:69:LYS:HA	2.56	0.40
41:AD:144:VAL:CG2	41:AD:173:VAL:HG22	2.50	0.40
41:AD:287:ALA:O	41:AD:290:ILE:HG22	2.22	0.40
44:AG:41:GLN:HB3	44:AG:44:ARG:HH12	1.87	0.40
45:AH:21:LYS:O	45:AH:22:SER:C	2.64	0.40
51:AO:103[A]:LYS:HB3	51:AO:105[A]:PHE:CZ	2.57	0.40
57:AU:38:ILE:HD11	57:AU:56:VAL:HB	2.03	0.40
60:AX:100:LYS:HG2	60:AX:105:VAL:O	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:AZ:19:ALA:HB1	69:Ag:89:ILE:CD1	2.51	0.40
65:Ac:25:LEU:HD21	65:Ac:81:VAL:HG21	2.03	0.40
74:Al:20:ASN:OD1	74:Al:20:ASN:O	2.39	0.40
80:EC:6794:C:H3'	80:EC:6795:U:C5'	2.51	0.40
1:BA:19:ALA:HA	24:BR:100:LEU:HD11	2.03	0.40
2:BB:92:GLN:NE2	2:BB:97:LEU:HD21	2.36	0.40
5:BG:171:LYS:HZ2	34:B5:66:U:H1'	1.86	0.40
7:BI:98:LYS:NZ	34:B5:329:G:OP1	2.55	0.40
8:BJ:29:LYS:HD3	18:Be:44:PHE:HD2	1.86	0.40
11:BO:105:LEU:HD21	11:BO:110:LEU:HD23	2.03	0.40
17:Bb:53:ALA:HA	17:Bb:64:CYS:O	2.21	0.40
19:BD:64:ARG:C	19:BD:66:ILE:H	2.29	0.40
19:BD:66:ILE:O	19:BD:86:LEU:HD12	2.22	0.40
19:BD:67:ASN:HB3	21:BK:91:TYR:HE1	1.85	0.40
19:BD:142:LEU:HD23	19:BD:142:LEU:H	1.86	0.40
24:BR:116:LYS:O	24:BR:117:LEU:HD22	2.22	0.40
31:Bg:132:LYS:HG2	31:Bg:143:THR:HG23	2.02	0.40
31:Bg:141:LEU:HD23	31:Bg:141:LEU:HA	1.90	0.40
31:Bg:147:HIS:NE2	31:Bg:179:LYS:HD2	2.36	0.40
34:B5:64:U:H2'	34:B5:65:A:H5"	2.03	0.40
38:A1:432:G:H2'	38:A1:433:A:H8	1.86	0.40
38:A1:1167:U:H2'	38:A1:1168:U:O4'	2.21	0.40
38:A1:1186:G:N3	55:AS:112:ALA:HB1	2.37	0.40
38:A1:1564:U:C4	38:A1:1565:G:C8	3.10	0.40
38:A1:2233:A:H2'	38:A1:2234:G:O4'	2.21	0.40
38:A1:2885:C:O2'	38:A1:2886:U:H5'	2.21	0.40
39:A3:22:A:C4	39:A3:23:A:N7	2.90	0.40
39:A3:103:A:H2'	39:A3:104:A:O4'	2.21	0.40
41:AD:69:ILE:HD13	56:AT:31:LEU:HD22	2.02	0.40
43:AF:152:GLY:O	43:AF:163:LEU:HG	2.22	0.40
51:AO:36[A]:VAL:HB	51:AO:108[A]:ILE:HG12	2.03	0.40
51:AO:157[A]:GLU:CD	51:AO:160[A]:ARG:HE	2.30	0.40
52:AP:64:ASN:HB2	52:AP:80:LYS:HE2	2.04	0.40
65:Ac:56:LEU:HD23	65:Ac:56:LEU:HA	1.85	0.40
74:Al:9:ILE:HD12	74:Al:51:ILE:HG23	2.02	0.40
80:EC:6809:G:O2'	80:EC:6810:U:O4'	2.26	0.40
3:BC:168:ARG:HD2	34:B5:1097:U:H1'	2.03	0.40
4:BE:146:THR:HG21	34:B5:123:G:H21	1.86	0.40
8:BJ:76:LEU:O	8:BJ:79:ARG:HB2	2.22	0.40
13:BW:34:ILE:HD12	13:BW:34:ILE:H	1.87	0.40
16:Ba:5:ARG:NH2	34:B5:1795:U:H3'	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:BF:94:THR:HG22	20:BF:114:ILE:HG21	2.04	0.40
20:BF:161:ASP:OD1	29:Bc:44:VAL:HA	2.22	0.40
25:BS:7:GLU:HB2	28:BZ:42:LEU:HD21	2.04	0.40
27:BU:33:GLN:H	27:BU:33:GLN:HG3	1.70	0.40
31:Bg:31:ASN:O	31:Bg:46:LYS:HA	2.21	0.40
34:B5:995:A:H2'	34:B5:996:U:O4'	2.22	0.40
34:B5:1132:A:H2'	34:B5:1133:A:H8	1.86	0.40
34:B5:1389:C:O2	34:B5:1390:U:H4'	2.21	0.40
38:A1:632:G:H2'	38:A1:633:C:C6	2.55	0.40
38:A1:718:G:C2	38:A1:721:G:H1'	2.56	0.40
38:A1:959:C:HO2'	38:A1:2410:U:H3	1.59	0.40
38:A1:1119:C:H2'	38:A1:1120:A:H8	1.85	0.40
38:A1:1463:U:H2'	38:A1:1464:G:O4'	2.22	0.40
38:A1:1498:A:H2'	38:A1:1499:C:H6	1.83	0.40
38:A1:1950:U:H3	38:A1:2096:A:N6	2.19	0.40
38:A1:2714:G:H4'	38:A1:2715:A:H5"	2.03	0.40
38:A1:2898:G:N7	75:Am:125:LYS:NZ	2.53	0.40
38:A1:3273:A:H5"	42:AE:45:GLY:CA	2.52	0.40
42:AE:172:HIS:O	42:AE:173:MET:HE2	2.22	0.40
45:AH:5:GLN:NE2	45:AH:7:GLU:HG2	2.30	0.40
45:AH:75:VAL:O	45:AH:78:MET:HG2	2.21	0.40
47:AJ:32:ARG:HG2	47:AJ:123:PHE:CE2	2.54	0.40
54:AR:174:ALA:O	54:AR:179:GLU:N	2.40	0.40
56:AT:19:PHE:HE2	56:AT:20:ARG:HH21	1.69	0.40
59:AW:38:SER:O	59:AW:42:GLN:HG3	2.22	0.40
79:E:207:LYS:HG2	79:E:208:SER:O	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	
1	BA	204/252 (81%)	182 (89%)	22 (11%)	0	100	100
2	BB	212/255 (83%)	179 (84%)	33 (16%)	0	100	100
3	BC	215/254 (85%)	205 (95%)	10 (5%)	0	100	100
4	BE	258/261 (99%)	236 (92%)	22 (8%)	0	100	100
5	BG	224/236 (95%)	214 (96%)	10 (4%)	0	100	100
6	BH	182/190 (96%)	170 (93%)	12 (7%)	0	100	100
7	BI	184/200 (92%)	169 (92%)	15 (8%)	0	100	100
8	BJ	183/197 (93%)	167 (91%)	16 (9%)	0	100	100
9	BL	153/156 (98%)	139 (91%)	14 (9%)	0	100	100
10	BN	148/151 (98%)	139 (94%)	9 (6%)	0	100	100
11	BO	125/137 (91%)	107 (86%)	18 (14%)	0	100	100
12	BV	85/87 (98%)	74 (87%)	11 (13%)	0	100	100
13	BW	127/130 (98%)	119 (94%)	8 (6%)	0	100	100
14	BX	142/145 (98%)	128 (90%)	14 (10%)	0	100	100
15	BY	132/135 (98%)	122 (92%)	10 (8%)	0	100	100
16	Ba	95/119 (80%)	81 (85%)	14 (15%)	0	100	100
17	Bb	79/82 (96%)	66 (84%)	13 (16%)	0	100	100
18	Be	58/63 (92%)	54 (93%)	4 (7%)	0	100	100
19	BD	221/240 (92%)	207 (94%)	14 (6%)	0	100	100
20	BF	204/225 (91%)	185 (91%)	19 (9%)	0	100	100
21	BK	94/105 (90%)	84 (89%)	10 (11%)	0	100	100
22	BP	122/142 (86%)	113 (93%)	9 (7%)	0	100	100
23	BQ	139/143 (97%)	134 (96%)	5 (4%)	0	100	100
24	BR	117/136 (86%)	107 (92%)	10 (8%)	0	100	100
25	BS	143/146 (98%)	126 (88%)	17 (12%)	0	100	100
26	BT	139/144 (96%)	128 (92%)	11 (8%)	0	100	100
27	BU	105/121 (87%)	99 (94%)	6 (6%)	0	100	100
28	BZ	67/108 (62%)	62 (92%)	5 (8%)	0	100	100
29	Bc	61/67 (91%)	53 (87%)	8 (13%)	0	100	100
30	Bd	51/56 (91%)	45 (88%)	6 (12%)	0	100	100
31	Bg	310/319 (97%)	275 (89%)	35 (11%)	0	100	100
32	Bf	73/152 (48%)	63 (86%)	10 (14%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
33	BM	122/143 (85%)	113 (93%)	9 (7%)	0	100	100
35	AA	245/254 (96%)	232 (95%)	13 (5%)	0	100	100
36	AB	383/387 (99%)	366 (96%)	17 (4%)	0	100	100
37	AC	359/362 (99%)	339 (94%)	20 (6%)	0	100	100
41	AD	290/297 (98%)	266 (92%)	24 (8%)	0	100	100
42	AE	152/176 (86%)	139 (91%)	13 (9%)	0	100	100
43	AF	220/244 (90%)	210 (96%)	10 (4%)	0	100	100
44	AG	228/256 (89%)	210 (92%)	18 (8%)	0	100	100
45	AH	188/191 (98%)	173 (92%)	15 (8%)	0	100	100
46	AI	201/221 (91%)	194 (96%)	7 (4%)	0	100	100
47	AJ	167/174 (96%)	152 (91%)	15 (9%)	0	100	100
48	AL	191/199 (96%)	176 (92%)	15 (8%)	0	100	100
49	AM	134/138 (97%)	122 (91%)	12 (9%)	0	100	100
50	AN	201/204 (98%)	188 (94%)	13 (6%)	0	100	100
51	AO	195/199 (98%)	194 (100%)	1 (0%)	0	100	100
52	AP	171/184 (93%)	165 (96%)	6 (4%)	0	100	100
53	AQ	183/186 (98%)	175 (96%)	8 (4%)	0	100	100
54	AR	186/189 (98%)	177 (95%)	9 (5%)	0	100	100
55	AS	170/178 (96%)	159 (94%)	11 (6%)	0	100	100
56	AT	157/160 (98%)	148 (94%)	9 (6%)	0	100	100
57	AU	98/121 (81%)	92 (94%)	6 (6%)	0	100	100
58	AV	134/137 (98%)	130 (97%)	4 (3%)	0	100	100
59	AW	61/155 (39%)	59 (97%)	2 (3%)	0	100	100
60	AX	119/142 (84%)	116 (98%)	3 (2%)	0	100	100
61	AY	124/127 (98%)	123 (99%)	1 (1%)	0	100	100
62	AZ	133/136 (98%)	122 (92%)	11 (8%)	0	100	100
63	Aa	146/149 (98%)	130 (89%)	16 (11%)	0	100	100
64	Ab	56/59 (95%)	48 (86%)	8 (14%)	0	100	100
65	Ac	95/105 (90%)	92 (97%)	3 (3%)	0	100	100
66	Ad	107/113 (95%)	103 (96%)	4 (4%)	0	100	100
67	Ae	125/130 (96%)	120 (96%)	5 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
68	Af	104/107 (97%)	97 (93%)	7 (7%)	0	100	100
69	Ag	110/121 (91%)	108 (98%)	2 (2%)	0	100	100
70	Ah	117/120 (98%)	112 (96%)	5 (4%)	0	100	100
71	Ai	97/100 (97%)	92 (95%)	5 (5%)	0	100	100
72	Aj	85/88 (97%)	78 (92%)	7 (8%)	0	100	100
73	Ak	75/78 (96%)	71 (95%)	4 (5%)	0	100	100
74	Al	48/51 (94%)	46 (96%)	2 (4%)	0	100	100
75	Am	50/128 (39%)	48 (96%)	2 (4%)	0	100	100
76	An	23/25 (92%)	22 (96%)	1 (4%)	0	100	100
77	Ao	100/106 (94%)	90 (90%)	10 (10%)	0	100	100
78	Ap	89/92 (97%)	85 (96%)	4 (4%)	0	100	100
79	E	215/217 (99%)	203 (94%)	12 (6%)	0	100	100
All	All	11106/12103 (92%)	10317 (93%)	789 (7%)	0	100	100

There are no Ramachandran outliers to report.

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 PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	BA	173/210 (82%)	173 (100%)	0	100	100
2	BB	191/224 (85%)	191 (100%)	0	100	100
3	BC	176/205 (86%)	176 (100%)	0	100	100
4	BE	221/222 (100%)	221 (100%)	0	100	100
5	BG	193/201 (96%)	193 (100%)	0	100	100
6	BH	165/170 (97%)	165 (100%)	0	100	100
7	BI	150/161 (93%)	150 (100%)	0	100	100
8	BJ	158/166 (95%)	158 (100%)	0	100	100
9	BL	136/137 (99%)	136 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
10	BN	127/128 (99%)	127 (100%)	0	100	100
11	BO	96/105 (91%)	96 (100%)	0	100	100
12	BV	74/74 (100%)	74 (100%)	0	100	100
13	BW	110/111 (99%)	110 (100%)	0	100	100
14	BX	119/120 (99%)	119 (100%)	0	100	100
15	BY	112/113 (99%)	112 (100%)	0	100	100
16	Ba	83/100 (83%)	83 (100%)	0	100	100
17	Bb	70/71 (99%)	70 (100%)	0	100	100
18	Be	51/54 (94%)	51 (100%)	0	100	100
19	BD	182/195 (93%)	182 (100%)	0	100	100
20	BF	173/191 (91%)	173 (100%)	0	100	100
21	BK	89/98 (91%)	89 (100%)	0	100	100
22	BP	104/118 (88%)	104 (100%)	0	100	100
23	BQ	117/119 (98%)	117 (100%)	0	100	100
24	BR	110/124 (89%)	110 (100%)	0	100	100
25	BS	128/129 (99%)	128 (100%)	0	100	100
26	BT	113/116 (97%)	113 (100%)	0	100	100
27	BU	100/114 (88%)	100 (100%)	0	100	100
28	BZ	61/89 (68%)	60 (98%)	1 (2%)	55	74
29	Bc	56/60 (93%)	56 (100%)	0	100	100
30	Bd	47/49 (96%)	47 (100%)	0	100	100
31	Bg	256/262 (98%)	256 (100%)	0	100	100
32	Bf	66/135 (49%)	66 (100%)	0	100	100
33	BM	100/119 (84%)	100 (100%)	0	100	100
35	AA	189/196 (96%)	189 (100%)	0	100	100
36	AB	320/322 (99%)	320 (100%)	0	100	100
37	AC	288/289 (100%)	288 (100%)	0	100	100
41	AD	241/245 (98%)	241 (100%)	0	100	100
42	AE	134/153 (88%)	134 (100%)	0	100	100
43	AF	186/205 (91%)	186 (100%)	0	100	100
44	AG	189/208 (91%)	189 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
45	AH	170/171 (99%)	170 (100%)	0	100	100
46	AI	176/187 (94%)	175 (99%)	1 (1%)	78	88
47	AJ	147/150 (98%)	147 (100%)	0	100	100
48	AL	154/159 (97%)	154 (100%)	0	100	100
49	AM	107/109 (98%)	107 (100%)	0	100	100
50	AN	175/176 (99%)	175 (100%)	0	100	100
51	AO	160/162 (99%)	160 (100%)	0	100	100
52	AP	141/146 (97%)	141 (100%)	0	100	100
53	AQ	150/151 (99%)	150 (100%)	0	100	100
54	AR	153/154 (99%)	153 (100%)	0	100	100
55	AS	156/162 (96%)	156 (100%)	0	100	100
56	AT	136/137 (99%)	136 (100%)	0	100	100
57	AU	87/107 (81%)	87 (100%)	0	100	100
58	AV	104/105 (99%)	104 (100%)	0	100	100
59	AW	55/129 (43%)	55 (100%)	0	100	100
60	AX	105/118 (89%)	105 (100%)	0	100	100
61	AY	109/110 (99%)	109 (100%)	0	100	100
62	AZ	115/116 (99%)	115 (100%)	0	100	100
63	Aa	118/119 (99%)	118 (100%)	0	100	100
64	Ab	46/47 (98%)	46 (100%)	0	100	100
65	Ac	81/88 (92%)	81 (100%)	0	100	100
66	Ad	96/97 (99%)	96 (100%)	0	100	100
67	Ae	109/111 (98%)	109 (100%)	0	100	100
68	Af	90/91 (99%)	90 (100%)	0	100	100
69	Ag	95/103 (92%)	95 (100%)	0	100	100
70	Ah	104/105 (99%)	104 (100%)	0	100	100
71	Ai	81/82 (99%)	81 (100%)	0	100	100
72	Aj	70/71 (99%)	70 (100%)	0	100	100
73	Ak	68/69 (99%)	68 (100%)	0	100	100
74	Al	45/46 (98%)	45 (100%)	0	100	100
75	Am	47/116 (40%)	46 (98%)	1 (2%)	47	67

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
76	An	23/23 (100%)	23 (100%)	0	100	100
77	Ao	87/91 (96%)	87 (100%)	0	100	100
78	Ap	71/72 (99%)	71 (100%)	0	100	100
79	E	198/198 (100%)	198 (100%)	0	100	100
All	All	9483/10186 (93%)	9480 (100%)	3 (0%)	100	100

All (3) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
28	BZ	82	HIS
46	AI	162	GLN
75	Am	119	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (103) such sidechains are listed below:

Mol	Chain	Res	Type
1	BA	164	ASN
2	BB	74	GLN
2	BB	157	GLN
4	BE	57	ASN
4	BE	130	GLN
4	BE	259	GLN
5	BG	56	ASN
6	BH	150	GLN
7	BI	138	ASN
8	BJ	112	GLN
8	BJ	139	GLN
10	BN	58	HIS
10	BN	78	ASN
11	BO	80	HIS
14	BX	21	ASN
14	BX	27	ASN
14	BX	79	ASN
15	BY	22	GLN
16	Ba	43	ASN
17	Bb	26	GLN
19	BD	159	HIS
19	BD	162	GLN
19	BD	179	GLN
20	BF	44	ASN

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Mol	Chain	Res	Type
21	BK	9	ASN
21	BK	17	GLN
23	BQ	139	GLN
24	BR	74	GLN
24	BR	104	ASN
25	BS	44	ASN
25	BS	89	GLN
26	BT	12	GLN
26	BT	64	HIS
27	BU	33	GLN
27	BU	47	GLN
27	BU	87	HIS
29	Bc	27	GLN
29	Bc	43	ASN
30	Bd	20	GLN
30	Bd	41	GLN
31	Bg	17	ASN
31	Bg	139	GLN
31	Bg	198	ASN
31	Bg	224	ASN
31	Bg	299	GLN
32	Bf	134	ASN
33	BM	38	HIS
36	AB	121	ASN
36	AB	182	GLN
36	AB	184	ASN
36	AB	224	HIS
37	AC	5	GLN
37	AC	237	GLN
37	AC	291	ASN
37	AC	307	GLN
41	AD	111	GLN
41	AD	264	GLN
42	AE	28	GLN
43	AF	194	HIS
43	AF	199	ASN
44	AG	28	HIS
44	AG	221	ASN
45	AH	5	GLN
45	AH	149	ASN
45	AH	183	HIS
46	AI	51	HIS

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Mol	Chain	Res	Type
46	AI	59	GLN
46	AI	209	ASN
48	AL	114	GLN
49	AM	41	GLN
50	AN	23	GLN
50	AN	156	HIS
51	AO	26[A]	GLN
52	AP	50	GLN
53	AQ	136	ASN
54	AR	66	HIS
54	AR	121	HIS
55	AS	49	HIS
55	AS	63	GLN
55	AS	89	ASN
56	AT	103	GLN
57	AU	87	ASN
58	AV	24	ASN
60	AX	137	ASN
61	AY	4	GLN
63	Aa	25	HIS
64	Ab	48	HIS
65	Ac	75	ASN
66	Ad	21	HIS
67	Ae	21	HIS
67	Ae	49	ASN
68	Af	17	GLN
68	Af	26	ASN
68	Af	42	GLN
68	Af	106	ASN
70	Ah	20	GLN
70	Ah	76	GLN
72	Aj	76	ASN
73	Ak	10	GLN
73	Ak	40	GLN
74	Al	43	ASN
79	E	40	ASN
79	E	182	GLN

5.3.3 RNA

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
34	B5	1780/1798 (98%)	417 (23%)	13 (0%)
38	A1	3193/3360 (95%)	604 (18%)	19 (0%)
39	A3	120/121 (99%)	16 (13%)	1 (0%)
40	A4	157/158 (99%)	29 (18%)	0
80	EC	189/202 (93%)	102 (53%)	6 (3%)
All	All	5439/5639 (96%)	1168 (21%)	39 (0%)

All (1168) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
34	B5	4	C
34	B5	17	C
34	B5	25	C
34	B5	26	A
34	B5	34	G
34	B5	42	G
34	B5	45	U
34	B5	47	A
34	B5	57	G
34	B5	60	U
34	B5	67	A
34	B5	68	A
34	B5	72	A
34	B5	73	U
34	B5	74	U
34	B5	75	U
34	B5	77	U
34	B5	80	A
34	B5	81	G
34	B5	103	A
34	B5	104	A
34	B5	114	C
34	B5	127	G
34	B5	129	U
34	B5	130	C
34	B5	131	C
34	B5	132	U
34	B5	133	U
34	B5	134	U
34	B5	135	A
34	B5	136	C

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Mol	Chain	Res	Type
34	B5	137	U
34	B5	138	A
34	B5	141	U
34	B5	145	A
34	B5	150	U
34	B5	166	C
34	B5	176	C
34	B5	178	U
34	B5	179	A
34	B5	181	A
34	B5	188	A
34	B5	190	C
34	B5	191	C
34	B5	192	U
34	B5	193	U
34	B5	194	U
34	B5	195	G
34	B5	196	G
34	B5	198	A
34	B5	204	G
34	B5	217	A
34	B5	218	A
34	B5	220	A
34	B5	224	C
34	B5	225	A
34	B5	226	A
34	B5	227	U
34	B5	230	C
34	B5	232	U
34	B5	233	C
34	B5	234	G
34	B5	236	A
34	B5	239	C
34	B5	240	U
34	B5	241	U
34	B5	250	C
34	B5	257	A
34	B5	261	U
34	B5	262	U
34	B5	265	A
34	B5	277	U
34	B5	278	U

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Mol	Chain	Res	Type
34	B5	280	U
34	B5	283	U
34	B5	287	G
34	B5	299	A
34	B5	305	C
34	B5	314	C
34	B5	316	A
34	B5	321	C
34	B5	322	G
34	B5	337	G
34	B5	338	C
34	B5	352	A
34	B5	359	A
34	B5	360	A
34	B5	361	C
34	B5	370	A
34	B5	397	A
34	B5	400	A
34	B5	401	A
34	B5	402	C
34	B5	419	G
34	B5	422	G
34	B5	424	C
34	B5	425	A
34	B5	426	G
34	B5	439	U
34	B5	444	C
34	B5	445	A
34	B5	447	U
34	B5	454	U
34	B5	455	C
34	B5	460	A
34	B5	468	A
34	B5	477	A
34	B5	480	G
34	B5	482	U
34	B5	483	A
34	B5	484	C
34	B5	485	A
34	B5	486	G
34	B5	489	C
34	B5	490	C

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Mol	Chain	Res	Type
34	B5	491	C
34	B5	492	A
34	B5	493	U
34	B5	494	U
34	B5	496	G
34	B5	497	G
34	B5	498	G
34	B5	499	U
34	B5	500	C
34	B5	502	U
34	B5	506	A
34	B5	514	G
34	B5	515	A
34	B5	518	A
34	B5	519	C
34	B5	527	A
34	B5	539	G
34	B5	540	G
34	B5	541	A2M
34	B5	542	A
34	B5	544	A
34	B5	557	G
34	B5	558	U
34	B5	559	C
34	B5	560	U
34	B5	565	C
34	B5	578	OMU
34	B5	594	A
34	B5	595	G
34	B5	606	A
34	B5	610	G
34	B5	619	A2M
34	B5	620	A
34	B5	622	A
34	B5	623	A
34	B5	624	G
34	B5	634	G
34	B5	653	C
34	B5	656	G
34	B5	677	G
34	B5	678	A
34	B5	679	U

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Mol	Chain	Res	Type
34	B5	681	U
34	B5	683	C
34	B5	686	C
34	B5	687	G
34	B5	694	U
34	B5	696	C
34	B5	697	C
34	B5	698	U
34	B5	702	G
34	B5	703	G
34	B5	705	U
34	B5	706	A
34	B5	707	A
34	B5	708	C
34	B5	709	C
34	B5	710	U
34	B5	711	U
34	B5	712	G
34	B5	713	A
34	B5	715	U
34	B5	716	C
34	B5	717	C
34	B5	718	U
34	B5	719	U
34	B5	722	G
34	B5	723	G
34	B5	727	U
34	B5	729	G
34	B5	730	G
34	B5	731	C
34	B5	732	G
34	B5	733	A
34	B5	734	A
34	B5	735	C
34	B5	740	A
34	B5	741	C
34	B5	743	U
34	B5	753	A
34	B5	755	A
34	B5	763	G
34	B5	765	G
34	B5	766	U

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Mol	Chain	Res	Type
34	B5	771	A
34	B5	774	A
34	B5	775	G
34	B5	778	G
34	B5	779	U
34	B5	781	U
34	B5	782	U
34	B5	783	G
34	B5	784	C
34	B5	789	A
34	B5	794	U
34	B5	812	A
34	B5	814	A
34	B5	815	G
34	B5	816	G
34	B5	820	U
34	B5	821	U
34	B5	833	U
34	B5	834	G
34	B5	837	G
34	B5	839	U
34	B5	840	U
34	B5	852	C
34	B5	859	A
34	B5	860	U
34	B5	863	A
34	B5	876	G
34	B5	895	G
34	B5	898	A
34	B5	903	U
34	B5	907	A
34	B5	912	U
34	B5	913	G
34	B5	914	G
34	B5	922	G
34	B5	933	A
34	B5	935	U
34	B5	945	U
34	B5	951	A
34	B5	960	U
34	B5	966	A
34	B5	973	A

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Mol	Chain	Res	Type
34	B5	988	A
34	B5	992	A
34	B5	993	A
34	B5	998	A
34	B5	1004	U
34	B5	1005	A
34	B5	1020	A
34	B5	1021	C
34	B5	1026	A
34	B5	1028	C
34	B5	1032	G
34	B5	1039	A
34	B5	1052	U
34	B5	1056	U
34	B5	1058	U
34	B5	1059	U
34	B5	1060	U
34	B5	1061	A
34	B5	1062	A
34	B5	1070	C
34	B5	1076	A
34	B5	1083	G
34	B5	1092	A
34	B5	1093	A
34	B5	1097	U
34	B5	1098	U
34	B5	1100	G
34	B5	1138	A
34	B5	1150	G
34	B5	1158	C
34	B5	1159	C
34	B5	1172	G
34	B5	1173	C
34	B5	1185	U
34	B5	1186	U
34	B5	1191	XSX
34	B5	1194	A
34	B5	1196	A
34	B5	1199	G
34	B5	1200	G
34	B5	1201	G
34	B5	1202	A

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Mol	Chain	Res	Type
34	B5	1206	U
34	B5	1207	C
34	B5	1212	G
34	B5	1214	U
34	B5	1217	A
34	B5	1218	G
34	B5	1226	A
34	B5	1227	A
34	B5	1229	G
34	B5	1243	G
34	B5	1244	A
34	B5	1245	G
34	B5	1246	C
34	B5	1247	U
34	B5	1248	C
34	B5	1249	U
34	B5	1251	U
34	B5	1252	C
34	B5	1253	U
34	B5	1254	U
34	B5	1256	A
34	B5	1258	U
34	B5	1265	G
34	B5	1269	OMU
34	B5	1276	U
34	B5	1286	U
34	B5	1291	G
34	B5	1314	U
34	B5	1315	U
34	B5	1321	A
34	B5	1338	C
34	B5	1340	U
34	B5	1344	A
34	B5	1345	A
34	B5	1355	C
34	B5	1356	U
34	B5	1361	U
34	B5	1362	U
34	B5	1363	U
34	B5	1364	G
34	B5	1367	G
34	B5	1369	U

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Mol	Chain	Res	Type
34	B5	1370	U
34	B5	1371	A
34	B5	1372	U
34	B5	1373	C
34	B5	1378	U
34	B5	1383	G
34	B5	1388	A
34	B5	1390	U
34	B5	1399	C
34	B5	1400	A
34	B5	1402	G
34	B5	1403	C
34	B5	1413	U
34	B5	1414	U
34	B5	1415	U
34	B5	1418	G
34	B5	1427	A
34	B5	1428	OMG
34	B5	1432	U
34	B5	1436	A
34	B5	1445	G
34	B5	1446	A
34	B5	1447	C
34	B5	1457	C
34	B5	1459	C
34	B5	1469	A
34	B5	1471	A
34	B5	1472	C
34	B5	1484	G
34	B5	1486	G
34	B5	1491	U
34	B5	1492	A
34	B5	1493	A
34	B5	1494	C
34	B5	1496	U
34	B5	1514	U
34	B5	1516	A
34	B5	1521	G
34	B5	1523	G
34	B5	1524	A
34	B5	1534	G
34	B5	1537	C

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Mol	Chain	Res	Type
34	B5	1538	U
34	B5	1540	G
34	B5	1541	G
34	B5	1542	G
34	B5	1543	A
34	B5	1550	A
34	B5	1554	U
34	B5	1557	U
34	B5	1559	A
34	B5	1569	A
34	B5	1574	G
34	B5	1575	G7M
34	B5	1576	A
34	B5	1584	G
34	B5	1601	G
34	B5	1609	U
34	B5	1619	C
34	B5	1634	C
34	B5	1635	A
34	B5	1657	U
34	B5	1658	G
34	B5	1667	A
34	B5	1680	G
34	B5	1682	U
34	B5	1683	C
34	B5	1684	U
34	B5	1686	C
34	B5	1688	U
34	B5	1699	G
34	B5	1700	C
34	B5	1702	A
34	B5	1703	C
34	B5	1713	G
34	B5	1715	G
34	B5	1716	C
34	B5	1755	A
34	B5	1757	G
34	B5	1762	A
34	B5	1766	A
34	B5	1767	G
34	B5	1769	U
34	B5	1770	U

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Mol	Chain	Res	Type
34	B5	1771	U
34	B5	1780	G
34	B5	1792	G
34	B5	1793	G
34	B5	1794	A
34	B5	1796	C
34	B5	1798	U
34	B5	1799	U
38	A1	6	A
38	A1	14	U
38	A1	21	G
38	A1	26	A
38	A1	34	A
38	A1	40	A
38	A1	43	A
38	A1	49	A
38	A1	59	G
38	A1	60	A
38	A1	65	A
38	A1	66	A
38	A1	71	A
38	A1	73	C
38	A1	77	A
38	A1	83	U
38	A1	92	G
38	A1	99	A
38	A1	109	A
38	A1	110	G
38	A1	111	C
38	A1	116	A
38	A1	117	U
38	A1	121	A
38	A1	122	A
38	A1	134	U
38	A1	135	C
38	A1	136	G
38	A1	156	G
38	A1	157	A
38	A1	169	U
38	A1	173	G
38	A1	176	G
38	A1	181	U

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Mol	Chain	Res	Type
38	A1	187	A
38	A1	190	U
38	A1	191	U
38	A1	199	A
38	A1	200	C
38	A1	210	U
38	A1	219	A
38	A1	220	G
38	A1	238	A
38	A1	239	G
38	A1	241	G
38	A1	242	C
38	A1	243	G
38	A1	244	G
38	A1	245	U
38	A1	246	U
38	A1	248	U
38	A1	249	U
38	A1	250	U
38	A1	251	G
38	A1	252	U
38	A1	253	A
38	A1	263	C
38	A1	269	G
38	A1	286	U
38	A1	295	A
38	A1	296	A
38	A1	298	U
38	A1	305	U
38	A1	315	C
38	A1	323	A
38	A1	329	U
38	A1	352	A
38	A1	372	A
38	A1	373	A
38	A1	375	A
38	A1	376	G
38	A1	387	A
38	A1	398	A
38	A1	399	A
38	A1	401	U
38	A1	402	A

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Mol	Chain	Res	Type
38	A1	403	C
38	A1	420	G
38	A1	421	G
38	A1	422	A
38	A1	438	A
38	A1	440	A
38	A1	495	G
38	A1	498	A
38	A1	510	G
38	A1	520	U
38	A1	521	A
38	A1	523	A
38	A1	532	A
38	A1	535	G
38	A1	540	U
38	A1	542	G
38	A1	543	C
38	A1	545	U
38	A1	546	C
38	A1	547	G
38	A1	548	G
38	A1	550	A
38	A1	552	G
38	A1	557	A
38	A1	559	A
38	A1	560	G
38	A1	578	A
38	A1	579	G
38	A1	589	A
38	A1	592	A
38	A1	602	A
38	A1	604	G
38	A1	611	A
38	A1	620	U
38	A1	621	A
38	A1	622	A
38	A1	636	C
38	A1	649	A2M
38	A1	660	A
38	A1	677	A
38	A1	681	U
38	A1	683	U

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Mol	Chain	Res	Type
38	A1	705	A
38	A1	719	U
38	A1	725	G
38	A1	737	G
38	A1	761	A
38	A1	766	U
38	A1	767	U
38	A1	774	G
38	A1	776	U
38	A1	777	U
38	A1	781	G
38	A1	785	G
38	A1	786	A
38	A1	799	G
38	A1	806	A
38	A1	813	G
38	A1	817	A2M
38	A1	826	G
38	A1	830	A
38	A1	835	G
38	A1	849	C
38	A1	855	U
38	A1	857	G
38	A1	861	C
38	A1	874	U
38	A1	879	U
38	A1	896	A
38	A1	897	U
38	A1	907	G
38	A1	908	OMG
38	A1	914	A
38	A1	916	G
38	A1	917	A
38	A1	921	A
38	A1	923	C
38	A1	924	G
38	A1	925	A
38	A1	934	G
38	A1	937	G
38	A1	943	U
38	A1	944	C
38	A1	959	C

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Mol	Chain	Res	Type
38	A1	961	C
38	A1	980	A
38	A1	981	U
38	A1	983	A
38	A1	994	G
38	A1	995	U
38	A1	1002	A
38	A1	1010	G
38	A1	1016	C
38	A1	1017	C
38	A1	1018	G
38	A1	1019	G
38	A1	1021	G
38	A1	1023	C
38	A1	1032	C
38	A1	1033	U
38	A1	1034	U
38	A1	1035	G
38	A1	1041	U
38	A1	1047	A
38	A1	1052	U
38	A1	1064	A
38	A1	1072	G
38	A1	1075	A
38	A1	1081	U
38	A1	1087	G
38	A1	1093	A
38	A1	1094	U
38	A1	1096	U
38	A1	1097	G
38	A1	1098	A
38	A1	1103	A
38	A1	1104	G
38	A1	1117	G
38	A1	1131	G
38	A1	1135	A
38	A1	1143	A
38	A1	1144	U
38	A1	1145	G
38	A1	1152	G
38	A1	1153	A
38	A1	1159	A

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Mol	Chain	Res	Type
38	A1	1178	G
38	A1	1179	A
38	A1	1180	A
38	A1	1181	U
38	A1	1182	A
38	A1	1183	C
38	A1	1186	G
38	A1	1192	C
38	A1	1193	A
38	A1	1201	C
38	A1	1206	G
38	A1	1208	U
38	A1	1219	C
38	A1	1222	G
38	A1	1223	A
38	A1	1226	G
38	A1	1227	C
38	A1	1228	C
38	A1	1230	G
38	A1	1231	A
38	A1	1235	U
38	A1	1236	G
38	A1	1239	C
38	A1	1241	U
38	A1	1242	G
38	A1	1243	G
38	A1	1244	A
38	A1	1245	A
38	A1	1246	G
38	A1	1248	C
38	A1	1252	A
38	A1	1254	C
38	A1	1256	G
38	A1	1258	U
38	A1	1260	A
38	A1	1262	G
38	A1	1263	A
38	A1	1265	U
38	A1	1268	G
38	A1	1272	C
38	A1	1282	G
38	A1	1283	C

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Mol	Chain	Res	Type
38	A1	1285	G
38	A1	1286	A
38	A1	1287	A
38	A1	1292	C
38	A1	1293	U
38	A1	1305	U
38	A1	1307	G
38	A1	1309	U
38	A1	1316	C
38	A1	1317	A
38	A1	1325	U
38	A1	1330	A
38	A1	1331	U
38	A1	1334	U
38	A1	1348	U
38	A1	1349	G
38	A1	1350	A
38	A1	1352	A
38	A1	1353	U
38	A1	1355	A
38	A1	1356	U
38	A1	1357	G
38	A1	1386	A
38	A1	1399	A
38	A1	1400	G
38	A1	1418	A
38	A1	1419	A
38	A1	1431	G
38	A1	1434	G
38	A1	1437	OMC
38	A1	1446	A
38	A1	1455	U
38	A1	1469	C
38	A1	1481	A
38	A1	1482	A
38	A1	1487	G
38	A1	1495	U
38	A1	1496	C
38	A1	1502	C
38	A1	1508	C
38	A1	1523	U
38	A1	1539	A

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Mol	Chain	Res	Type
38	A1	1555	U
38	A1	1556	C
38	A1	1562	C
38	A1	1563	C
38	A1	1564	U
38	A1	1565	G
38	A1	1566	A
38	A1	1567	U
38	A1	1568	U
38	A1	1569	U
38	A1	1572	U
38	A1	1575	A
38	A1	1576	G
38	A1	1579	C
38	A1	1583	A
38	A1	1587	A
38	A1	1589	A
38	A1	1593	A
38	A1	1605	A
38	A1	1608	C
38	A1	1629	U
38	A1	1630	U
38	A1	1632	A
38	A1	1643	A
38	A1	1724	U
38	A1	1738	C
38	A1	1739	U
38	A1	1741	A
38	A1	1750	A
38	A1	1751	G
38	A1	1752	A
38	A1	1762	C
38	A1	1763	U
38	A1	1764	U
38	A1	1765	U
38	A1	1766	G
38	A1	1796	G
38	A1	1797	A
38	A1	1813	A
38	A1	1814	A
38	A1	1815	U
38	A1	1817	G

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Mol	Chain	Res	Type
38	A1	1818	U
38	A1	1820	U
38	A1	1821	U
38	A1	1842	A
38	A1	1846	C
38	A1	1849	C
38	A1	1850	A
38	A1	1866	C
38	A1	1878	G
38	A1	1880	U
38	A1	1886	A
38	A1	1893	A
38	A1	1906	G
38	A1	1932	A
38	A1	1948	G
38	A1	1952	G
38	A1	1953	G
38	A1	1954	G
38	A1	1955	U
38	A1	2094	C
38	A1	2095	G
38	A1	2102	U
38	A1	2111	G
38	A1	2112	U
38	A1	2114	C
38	A1	2122	G
38	A1	2131	A
38	A1	2140	U
38	A1	2144	A
38	A1	2158	A
38	A1	2169	G
38	A1	2188	A
38	A1	2206	G
38	A1	2207	A
38	A1	2208	A
38	A1	2209	U
38	A1	2242	A
38	A1	2249	G
38	A1	2253	G
38	A1	2254	U
38	A1	2255	A
38	A1	2256	A2M

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Mol	Chain	Res	Type
38	A1	2257	C
38	A1	2258	U
38	A1	2259	A
38	A1	2260	U
38	A1	2269	U
38	A1	2270	A
38	A1	2272	G
38	A1	2273	G
38	A1	2281	A2M
38	A1	2282	U
38	A1	2307	G
38	A1	2308	C
38	A1	2310	U
38	A1	2313	A
38	A1	2314	U
38	A1	2315	G
38	A1	2334	U
38	A1	2336	U
38	A1	2340	U
38	A1	2364	G
38	A1	2372	A
38	A1	2373	A
38	A1	2374	C
38	A1	2375	G
38	A1	2383	C
38	A1	2388	U
38	A1	2393	G
38	A1	2397	A
38	A1	2402	A
38	A1	2403	G
38	A1	2404	A
38	A1	2411	U
38	A1	2435	G
38	A1	2439	A
38	A1	2440	G
38	A1	2442	G
38	A1	2447	A
38	A1	2450	G
38	A1	2453	U
38	A1	2454	G
38	A1	2455	U
38	A1	2457	G

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Mol	Chain	Res	Type
38	A1	2459	A
38	A1	2460	U
38	A1	2461	A
38	A1	2462	A
38	A1	2463	G
38	A1	2467	G
38	A1	2468	A
38	A1	2472	U
38	A1	2474	G
38	A1	2479	C
38	A1	2480	A
38	A1	2486	A
38	A1	2487	U
38	A1	2490	C
38	A1	2491	A
38	A1	2492	C
38	A1	2493	U
38	A1	2494	A
38	A1	2495	C
38	A1	2496	C
38	A1	2497	U
38	A1	2500	A
38	A1	2501	U
38	A1	2502	A
38	A1	2503	G
38	A1	2505	U
38	A1	2506	U
38	A1	2507	C
38	A1	2514	U
38	A1	2515	A
38	A1	2523	A
38	A1	2524	A
38	A1	2531	C
38	A1	2537	U
38	A1	2538	U
38	A1	2539	C
38	A1	2540	A
38	A1	2541	U
38	A1	2542	U
38	A1	2543	U
38	A1	2544	U
38	A1	2546	C

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Mol	Chain	Res	Type
38	A1	2552	C
38	A1	2554	A
38	A1	2561	A
38	A1	2569	A
38	A1	2571	U
38	A1	2572	C
38	A1	2573	G
38	A1	2585	G
38	A1	2593	A
38	A1	2594	C
38	A1	2606	G
38	A1	2607	G
38	A1	2614	G
38	A1	2637	A
38	A1	2639	G
38	A1	2651	G
38	A1	2652	U
38	A1	2656	A
38	A1	2664	C
38	A1	2674	A
38	A1	2676	A
38	A1	2677	G
38	A1	2678	A
38	A1	2689	A
38	A1	2691	A
38	A1	2703	A
38	A1	2704	A
38	A1	2705	A
38	A1	2714	G
38	A1	2719	U
38	A1	2727	A
38	A1	2728	G
38	A1	2729	OMU
38	A1	2737	C
38	A1	2749	G
38	A1	2752	U
38	A1	2753	G
38	A1	2755	C
38	A1	2762	A
38	A1	2773	C
38	A1	2778	G
38	A1	2796	G

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Mol	Chain	Res	Type
38	A1	2799	A
38	A1	2800	G
38	A1	2801	A
38	A1	2803	A
38	A1	2810	C
38	A1	2814	G
38	A1	2817	A
38	A1	2818	U
38	A1	2822	U
38	A1	2842	U
38	A1	2844	C
38	A1	2845	A
38	A1	2856	G
38	A1	2871	G
38	A1	2872	A
38	A1	2875	U
38	A1	2876	C
38	A1	2887	A
38	A1	2889	C
38	A1	2898	G
38	A1	2923	U
38	A1	2926	A
38	A1	2935	U
38	A1	2936	A
38	A1	2942	C
38	A1	2947	G
38	A1	2951	G
38	A1	2971	A
38	A1	2977	G
38	A1	2983	C
38	A1	2997	G
38	A1	3011	A
38	A1	3012	A
38	A1	3022	G
38	A1	3032	A
38	A1	3049	A
38	A1	3059	G
38	A1	3078	U
38	A1	3079	U
38	A1	3086	A
38	A1	3090	U
38	A1	3092	C

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Mol	Chain	Res	Type
38	A1	3122	A
38	A1	3129	A
38	A1	3130	A
38	A1	3131	U
38	A1	3142	A
38	A1	3143	C
38	A1	3153	U
38	A1	3154	C
38	A1	3155	U
38	A1	3156	U
38	A1	3157	U
38	A1	3165	A
38	A1	3170	A
38	A1	3172	A
38	A1	3173	G
38	A1	3174	A
38	A1	3175	U
38	A1	3176	G
38	A1	3179	U
38	A1	3181	C
38	A1	3187	A
38	A1	3193	C
38	A1	3196	U
38	A1	3198	U
38	A1	3199	G
38	A1	3206	C
38	A1	3207	U
38	A1	3210	A
38	A1	3215	A
38	A1	3217	C
38	A1	3218	A
38	A1	3219	G
38	A1	3224	G
38	A1	3234	A
38	A1	3243	A
38	A1	3246	G
38	A1	3247	G
38	A1	3259	U
38	A1	3263	G
38	A1	3270	U
38	A1	3273	A
38	A1	3275	U

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Mol	Chain	Res	Type
38	A1	3276	G
38	A1	3281	U
38	A1	3289	G
38	A1	3294	A
38	A1	3303	G
38	A1	3304	U
38	A1	3314	A
38	A1	3316	A
38	A1	3335	A
38	A1	3342	A
38	A1	3345	G
38	A1	3351	U
38	A1	3352	U
38	A1	3353	G
38	A1	3354	U
38	A1	3355	U
38	A1	3356	G
38	A1	3369	G
38	A1	3378	C
38	A1	3382	U
38	A1	3383	G
38	A1	3389	U
38	A1	3390	G
38	A1	3396	U
39	A3	7	G
39	A3	19	C
39	A3	22	A
39	A3	33	U
39	A3	38	U
39	A3	41	G
39	A3	49	G
39	A3	53	U
39	A3	54	U
39	A3	55	A
39	A3	65	G
39	A3	74	C
39	A3	76	A
39	A3	102	A
39	A3	112	G
39	A3	121	U
40	A4	23	U
40	A4	34	U

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Mol	Chain	Res	Type
40	A4	35	C
40	A4	38	U
40	A4	46	G
40	A4	51	G
40	A4	52	A
40	A4	53	A
40	A4	59	A
40	A4	61	A
40	A4	62	C
40	A4	63	G
40	A4	76	C
40	A4	81	U
40	A4	83	C
40	A4	86	U
40	A4	87	G
40	A4	88	A
40	A4	90	U
40	A4	95	G
40	A4	96	A
40	A4	104	A
40	A4	106	C
40	A4	107	G
40	A4	111	A
40	A4	113	U
40	A4	116	G
40	A4	125	U
40	A4	157	U
80	EC	6762	U
80	EC	6768	U
80	EC	6769	A
80	EC	6770	U
80	EC	6771	U
80	EC	6772	G
80	EC	6773	G
80	EC	6774	U
80	EC	6775	U
80	EC	6776	A
80	EC	6777	C
80	EC	6778	C
80	EC	6779	C
80	EC	6780	A
80	EC	6781	U

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Mol	Chain	Res	Type
80	EC	6788	C
80	EC	6789	G
80	EC	6790	A
80	EC	6791	A
80	EC	6792	A
80	EC	6793	A
80	EC	6794	C
80	EC	6795	U
80	EC	6802	A
80	EC	6803	C
80	EC	6804	A
80	EC	6805	C
80	EC	6810	U
80	EC	6813	A
80	EC	6815	U
80	EC	6818	G
80	EC	6819	G
80	EC	6821	U
80	EC	6822	U
80	EC	6823	U
80	EC	6825	A
80	EC	6831	U
80	EC	6832	G
80	EC	6836	U
80	EC	6837	G
80	EC	6842	U
80	EC	6843	U
80	EC	6844	A
80	EC	6845	G
80	EC	6847	G
80	EC	6849	A
80	EC	6850	C
80	EC	6851	G
80	EC	6852	U
80	EC	6856	C
80	EC	6858	A
80	EC	6859	U
80	EC	6860	A
80	EC	6861	G
80	EC	6863	C
80	EC	6864	A
80	EC	6866	C

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Mol	Chain	Res	Type
80	EC	6867	C
80	EC	6868	C
80	EC	6869	C
80	EC	6870	A
80	EC	6871	A
80	EC	6873	A
80	EC	6874	A
80	EC	6875	C
80	EC	6877	C
80	EC	6879	U
80	EC	6880	G
80	EC	6887	G
80	EC	6888	A
80	EC	6889	A
80	EC	6892	U
80	EC	6895	C
80	EC	6896	A
80	EC	6897	G
80	EC	6899	C
80	EC	6900	A
80	EC	6902	U
80	EC	6904	U
80	EC	6908	C
80	EC	6909	A
80	EC	6912	G
80	EC	6913	U
80	EC	6914	A
80	EC	6915	G
80	EC	6919	G
80	EC	6921	C
80	EC	6925	C
80	EC	6926	U
80	EC	6928	G
80	EC	6932	G
80	EC	6933	G
80	EC	6934	U
80	EC	6940	U
80	EC	6941	U
80	EC	6942	A
80	EC	6943	A
80	EC	6944	U
80	EC	6945	U

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Mol	Chain	Res	Type
80	EC	6946	A
80	EC	6949	G
80	EC	6951	C

All (39) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
34	B5	369	A
34	B5	501	U
34	B5	559	C
34	B5	706	A
34	B5	722	G
34	B5	752	A
34	B5	819	G
34	B5	862	A
34	B5	950	C
34	B5	1226	A
34	B5	1253	U
34	B5	1285	U
34	B5	1344	A
38	A1	241	G
38	A1	873	C
38	A1	916	G
38	A1	959	C
38	A1	993	G
38	A1	1015	U
38	A1	1092	C
38	A1	1218	U
38	A1	1229	G
38	A1	1292	C
38	A1	1354	G
38	A1	1563	C
38	A1	2241	U
38	A1	2467	G
38	A1	2505	U
38	A1	2506	U
38	A1	2875	U
38	A1	3056	U
38	A1	3121	U
39	A3	52	G
80	EC	6789	G
80	EC	6831	U

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Mol	Chain	Res	Type
80	EC	6844	A
80	EC	6857	C
80	EC	6876	A
80	EC	6914	A

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

67 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	$\#\|Z\| > 2$
34	A2M	B5	100	81,34	22,25,26	1.47	3 (13%)	30,36,39	2.09	7 (23%)
34	A2M	B5	28	34	22,25,26	1.52	4 (18%)	30,36,39	2.07	9 (30%)
34	4AC	B5	1773	34	21,24,25	1.02	1 (4%)	28,34,37	1.96	5 (17%)
38	A2M	A1	807	38	22,25,26	1.48	5 (22%)	30,36,39	2.24	11 (36%)
38	A2M	A1	1133	38	22,25,26	1.47	4 (18%)	30,36,39	2.11	10 (33%)
38	A2M	A1	2220	38	22,25,26	1.52	5 (22%)	30,36,39	1.98	10 (33%)
34	OMC	B5	1007	34	19,22,23	0.79	0	25,31,34	0.83	0
34	OMG	B5	1271	34	23,26,27	1.17	3 (13%)	32,38,41	1.98	6 (18%)
34	OMU	B5	578	34	19,22,23	1.23	2 (10%)	25,31,34	1.86	5 (20%)
38	OMG	A1	2922	38	23,26,27	1.20	4 (17%)	32,38,41	1.99	5 (15%)
34	OMU	B5	1269	34	19,22,23	1.25	4 (21%)	25,31,34	1.91	5 (20%)
34	A2M	B5	420	34	22,25,26	1.48	4 (18%)	30,36,39	2.06	8 (26%)
38	A2M	A1	2280	38	22,25,26	1.45	4 (18%)	30,36,39	2.01	7 (23%)
38	A2M	A1	649	38	22,25,26	1.44	4 (18%)	30,36,39	2.00	8 (26%)
38	1MA	A1	645	38,81	21,25,26	1.35	3 (14%)	30,37,40	1.68	5 (16%)
38	OMC	A1	2197	38	19,22,23	0.81	0	25,31,34	1.00	0
38	5MC	A1	2278	38,81	19,22,23	1.51	3 (15%)	26,32,35	1.18	4 (15%)
38	OMU	A1	2347	38	19,22,23	1.35	4 (21%)	25,31,34	1.81	5 (20%)
34	XSX	B5	1191	34	24,28,29	1.03	0	30,40,43	2.68	4 (13%)
38	OMG	A1	2619	38	23,26,27	1.21	3 (13%)	32,38,41	2.04	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
34	A2M	B5	619	81,34	22,25,26	1.51	5 (22%)	30,36,39	1.97	10 (33%)
38	A2M	A1	817	38,81	22,25,26	1.52	5 (22%)	30,36,39	2.13	10 (33%)
34	MA6	B5	1781	34	23,26,27	1.49	5 (21%)	33,38,41	2.08	10 (30%)
38	A2M	A1	2256	38	22,25,26	1.51	4 (18%)	30,36,39	2.10	9 (30%)
38	OMC	A1	663	38	19,22,23	0.83	2 (10%)	25,31,34	0.92	1 (4%)
34	OMG	B5	1572	34	23,26,27	1.16	2 (8%)	32,38,41	1.96	6 (18%)
38	OMU	A1	2421	38	19,22,23	1.34	3 (15%)	25,31,34	1.95	5 (20%)
38	OMU	A1	898	38	19,22,23	1.32	3 (15%)	25,31,34	1.88	5 (20%)
38	OMC	A1	1437	38,81	19,22,23	0.84	1 (5%)	25,31,34	1.10	1 (4%)
38	OMC	A1	2948	38	19,22,23	0.81	0	25,31,34	0.94	1 (4%)
38	OMG	A1	2815	38	23,26,27	1.19	3 (13%)	32,38,41	2.02	7 (21%)
38	OMU	A1	2921	38	19,22,23	1.29	3 (15%)	25,31,34	1.89	5 (20%)
34	OMC	B5	1639	34	19,22,23	0.79	0	25,31,34	0.70	0
38	5MC	A1	2870	38	19,22,23	1.42	3 (15%)	26,32,35	1.30	4 (15%)
34	MA6	B5	1782	34	23,26,27	1.45	5 (21%)	33,38,41	2.16	10 (30%)
34	OMG	B5	562	34	23,26,27	1.21	3 (13%)	32,38,41	2.01	6 (18%)
38	A2M	A1	2946	38,81	22,25,26	1.46	4 (18%)	30,36,39	2.13	9 (30%)
34	4AC	B5	1280	34	21,24,25	1.09	1 (4%)	28,34,37	1.11	2 (7%)
38	OMU	A1	2729	38	19,22,23	1.30	3 (15%)	25,31,34	1.78	5 (20%)
38	OMC	A1	2959	38	19,22,23	0.81	0	25,31,34	0.71	0
34	OMG	B5	1428	81,34	23,26,27	1.16	3 (13%)	32,38,41	2.05	6 (18%)
34	A2M	B5	541	34	22,25,26	1.53	4 (18%)	30,36,39	2.16	7 (23%)
34	G7M	B5	1575	34	23,26,27	2.41	5 (21%)	34,39,42	3.08	10 (29%)
38	OMC	A1	650	38	19,22,23	0.82	1 (5%)	25,31,34	0.81	0
38	OMG	A1	805	38	23,26,27	1.20	4 (17%)	32,38,41	2.05	8 (25%)
38	OMU	A1	2724	38	19,22,23	1.30	3 (15%)	25,31,34	1.83	7 (28%)
34	A2M	B5	796	34	22,25,26	1.47	4 (18%)	30,36,39	2.23	10 (33%)
38	OMG	A1	908	38	23,26,27	1.25	3 (13%)	32,38,41	2.12	6 (18%)
38	OMG	A1	2791	38	23,26,27	1.22	4 (17%)	32,38,41	1.94	5 (15%)
38	OMG	A1	867	38,81	23,26,27	1.19	3 (13%)	32,38,41	2.05	6 (18%)
38	A2M	A1	876	38	22,25,26	1.47	4 (18%)	30,36,39	2.00	6 (20%)
38	A2M	A1	2281	38	22,25,26	1.42	4 (18%)	30,36,39	2.38	11 (36%)
38	OMU	A1	2417	38	19,22,23	1.22	3 (15%)	25,31,34	1.84	5 (20%)
38	A2M	A1	1449	38,81	22,25,26	1.47	5 (22%)	30,36,39	2.02	8 (26%)
38	OMG	A1	1450	38,81	23,26,27	1.24	3 (13%)	32,38,41	2.03	5 (15%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
34	OMC	B5	414	34	19,22,23	0.78	0	25,31,34	0.79	0
34	OMG	B5	1126	34	23,26,27	1.16	3 (13%)	32,38,41	2.03	7 (21%)
34	A2M	B5	436	34	22,25,26	1.50	4 (18%)	30,36,39	2.11	9 (30%)
38	UR3	A1	2634	38	19,22,23	0.90	0	26,32,35	1.75	2 (7%)
38	OMG	A1	2793	38	23,26,27	1.18	3 (13%)	32,38,41	2.02	6 (18%)
38	OMU	A1	1888	38	19,22,23	1.35	3 (15%)	25,31,34	1.96	4 (16%)
38	OMG	A1	2288	38	23,26,27	1.19	4 (17%)	32,38,41	1.92	6 (18%)
38	A2M	A1	2640	38	22,25,26	1.49	4 (18%)	30,36,39	2.12	8 (26%)
36	HIC	AB	243	36	10,11,12	1.41	1 (10%)	9,14,16	1.30	2 (22%)
34	A2M	B5	974	34	22,25,26	1.46	5 (22%)	30,36,39	2.10	11 (36%)
38	OMC	A1	2337	38	19,22,23	0.81	1 (5%)	25,31,34	0.78	0
38	1MA	A1	2142	38,81	21,25,26	1.31	4 (19%)	30,37,40	1.73	4 (13%)

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
34	A2M	B5	100	81,34	-	1/9/27/28	0/3/3/3
34	A2M	B5	28	34	-	1/9/27/28	0/3/3/3
34	4AC	B5	1773	34	-	4/11/29/30	0/2/2/2
38	A2M	A1	807	38	-	1/9/27/28	0/3/3/3
38	A2M	A1	1133	38	-	0/9/27/28	0/3/3/3
38	A2M	A1	2220	38	-	1/9/27/28	0/3/3/3
34	OMC	B5	1007	34	-	1/9/27/28	0/2/2/2
34	OMG	B5	1271	34	-	1/9/27/28	0/3/3/3
34	OMU	B5	578	34	-	0/9/27/28	0/2/2/2
38	OMG	A1	2922	38	-	0/9/27/28	0/3/3/3
34	OMU	B5	1269	34	-	5/9/27/28	0/2/2/2
34	A2M	B5	420	34	-	1/9/27/28	0/3/3/3
38	A2M	A1	2280	38	-	1/9/27/28	0/3/3/3
38	A2M	A1	649	38	-	0/9/27/28	0/3/3/3
38	1MA	A1	645	38,81	-	2/7/25/26	0/3/3/3
38	OMC	A1	2197	38	-	5/9/27/28	0/2/2/2
38	5MC	A1	2278	38,81	-	1/7/25/26	0/2/2/2
38	OMU	A1	2347	38	-	0/9/27/28	0/2/2/2
34	XSX	B5	1191	34	-	4/16/34/35	0/2/2/2
38	OMG	A1	2619	38	-	1/9/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
34	A2M	B5	619	81,34	-	4/9/27/28	0/3/3/3
38	A2M	A1	817	38,81	-	1/9/27/28	0/3/3/3
34	MA6	B5	1781	34	-	0/11/29/30	0/3/3/3
38	A2M	A1	2256	38	-	3/9/27/28	0/3/3/3
38	OMC	A1	663	38	-	0/9/27/28	0/2/2/2
34	OMG	B5	1572	34	-	2/9/27/28	0/3/3/3
38	OMU	A1	2421	38	-	1/9/27/28	0/2/2/2
38	OMU	A1	898	38	-	0/9/27/28	0/2/2/2
38	OMC	A1	1437	38,81	-	5/9/27/28	0/2/2/2
38	OMC	A1	2948	38	-	0/9/27/28	0/2/2/2
38	OMG	A1	2815	38	-	0/9/27/28	0/3/3/3
38	OMU	A1	2921	38	-	0/9/27/28	0/2/2/2
34	OMC	B5	1639	34	-	0/9/27/28	0/2/2/2
38	5MC	A1	2870	38	-	4/7/25/26	0/2/2/2
34	MA6	B5	1782	34	-	3/11/29/30	0/3/3/3
34	OMG	B5	562	34	-	1/9/27/28	0/3/3/3
38	A2M	A1	2946	38,81	-	1/9/27/28	0/3/3/3
34	4AC	B5	1280	34	-	4/11/29/30	0/2/2/2
38	OMU	A1	2729	38	-	3/9/27/28	0/2/2/2
38	OMC	A1	2959	38	-	0/9/27/28	0/2/2/2
34	OMG	B5	1428	81,34	-	1/9/27/28	0/3/3/3
34	A2M	B5	541	34	-	5/9/27/28	0/3/3/3
34	G7M	B5	1575	34	3/3/5/5	2/7/25/26	0/3/3/3
38	OMC	A1	650	38	-	0/9/27/28	0/2/2/2
38	OMG	A1	805	38	-	0/9/27/28	0/3/3/3
38	OMU	A1	2724	38	-	1/9/27/28	0/2/2/2
34	A2M	B5	796	34	-	0/9/27/28	0/3/3/3
38	OMG	A1	908	38	-	0/9/27/28	0/3/3/3
38	OMG	A1	2791	38	-	0/9/27/28	0/3/3/3
38	OMG	A1	867	38,81	-	2/9/27/28	0/3/3/3
38	A2M	A1	876	38	-	0/9/27/28	0/3/3/3
38	A2M	A1	2281	38	-	2/9/27/28	0/3/3/3
38	OMU	A1	2417	38	-	0/9/27/28	0/2/2/2
38	A2M	A1	1449	38,81	-	0/9/27/28	0/3/3/3
38	OMG	A1	1450	38,81	-	0/9/27/28	0/3/3/3
34	OMC	B5	414	34	-	1/9/27/28	0/2/2/2
34	OMG	B5	1126	34	-	0/9/27/28	0/3/3/3
34	A2M	B5	436	34	-	0/9/27/28	0/3/3/3
38	UR3	A1	2634	38	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
38	OMG	A1	2793	38	-	0/9/27/28	0/3/3/3
38	OMU	A1	1888	38	-	0/9/27/28	0/2/2/2
38	OMG	A1	2288	38	-	1/9/27/28	0/3/3/3
38	A2M	A1	2640	38	-	0/9/27/28	0/3/3/3
36	HIC	AB	243	36	-	2/5/6/8	0/1/1/1
34	A2M	B5	974	34	-	1/9/27/28	0/3/3/3
38	OMC	A1	2337	38	-	1/9/27/28	0/2/2/2
38	1MA	A1	2142	38,81	-	0/7/25/26	0/3/3/3

All (200) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	B5	1575	G7M	C8-N7	7.54	1.45	1.33
38	A1	2278	5MC	C5-C4	5.30	1.48	1.44
34	B5	1575	G7M	C5-N7	-5.19	1.33	1.39
34	B5	541	A2M	C5-C4	4.81	1.47	1.39
38	A1	2256	A2M	C5-C4	4.68	1.47	1.39
34	B5	436	A2M	C5-C4	4.62	1.47	1.39
34	B5	619	A2M	C5-C4	4.59	1.47	1.39
34	B5	420	A2M	C5-C4	4.50	1.47	1.39
34	B5	1781	MA6	C5-C4	4.49	1.47	1.39
34	B5	28	A2M	C5-C4	4.49	1.47	1.39
38	A1	2870	5MC	C5-C4	4.45	1.47	1.44
38	A1	2220	A2M	C5-C4	4.39	1.46	1.39
38	A1	1133	A2M	C5-C4	4.36	1.46	1.39
34	B5	974	A2M	C5-C4	4.36	1.46	1.39
34	B5	796	A2M	C5-C4	4.34	1.46	1.39
34	B5	100	A2M	C5-C4	4.32	1.46	1.39
38	A1	817	A2M	C5-C4	4.30	1.46	1.39
38	A1	2640	A2M	C5-C4	4.30	1.46	1.39
34	B5	1782	MA6	C5-C4	4.27	1.46	1.39
38	A1	807	A2M	C5-C4	4.24	1.46	1.39
38	A1	2280	A2M	C5-C4	4.24	1.46	1.39
38	A1	876	A2M	C5-C4	4.23	1.46	1.39
38	A1	2946	A2M	C5-C4	4.21	1.46	1.39
38	A1	649	A2M	C5-C4	4.20	1.46	1.39
38	A1	1449	A2M	C5-C4	4.19	1.46	1.39
34	B5	1575	G7M	C8-N9	4.17	1.46	1.35
38	A1	2281	A2M	C5-C4	3.94	1.46	1.39
34	B5	1575	G7M	C5-C4	3.84	1.47	1.38
38	A1	1888	OMU	C4-N3	-3.34	1.32	1.38
38	A1	2347	OMU	C4-N3	-3.28	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	B5	562	OMG	C5-C4	3.22	1.47	1.38
34	B5	1280	4AC	C4-N4	-3.22	1.35	1.39
38	A1	2421	OMU	C4-N3	-3.21	1.33	1.38
38	A1	645	1MA	C6-N6	3.15	1.35	1.28
38	A1	2724	OMU	C4-N3	-3.14	1.33	1.38
34	B5	1572	OMG	C5-C4	3.13	1.47	1.38
38	A1	898	OMU	C4-N3	-3.12	1.33	1.38
38	A1	908	OMG	C5-C4	3.07	1.47	1.38
38	A1	2921	OMU	C4-N3	-3.07	1.33	1.38
34	B5	1271	OMG	C5-C4	3.06	1.47	1.38
34	B5	1781	MA6	C5-C6	3.05	1.49	1.41
38	A1	2870	5MC	C6-C5	3.05	1.39	1.34
38	A1	1450	OMG	C6-N1	-3.05	1.33	1.38
34	B5	1782	MA6	C5-C6	3.04	1.49	1.41
38	A1	2729	OMU	C4-N3	-3.00	1.33	1.38
38	A1	2815	OMG	C6-N1	-3.00	1.33	1.38
38	A1	805	OMG	C6-N1	-2.99	1.33	1.38
38	A1	817	A2M	C5-N7	-2.95	1.33	1.39
38	A1	2791	OMG	C5-C4	2.92	1.46	1.38
38	A1	2142	1MA	C6-N6	2.91	1.35	1.28
34	B5	1428	OMG	C5-C4	2.90	1.46	1.38
38	A1	2793	OMG	C5-C4	2.89	1.46	1.38
38	A1	645	1MA	C5-C4	2.89	1.46	1.38
38	A1	2791	OMG	C6-N1	-2.89	1.33	1.38
38	A1	2417	OMU	C4-N3	-2.86	1.33	1.38
38	A1	2288	OMG	C5-C4	2.86	1.46	1.38
38	A1	876	A2M	C5-N7	-2.85	1.33	1.39
38	A1	898	OMU	C2-N3	-2.84	1.33	1.38
38	A1	2142	1MA	C5-C4	2.84	1.46	1.38
34	B5	541	A2M	C5-C6	2.82	1.48	1.41
38	A1	2922	OMG	C5-C4	2.81	1.46	1.38
34	B5	436	A2M	C5-C6	2.81	1.48	1.41
38	A1	2619	OMG	C5-C4	2.80	1.46	1.38
38	A1	867	OMG	C6-N1	-2.80	1.33	1.38
38	A1	2815	OMG	C5-C4	2.79	1.46	1.38
34	B5	578	OMU	C4-N3	-2.77	1.33	1.38
38	A1	908	OMG	C6-N1	-2.77	1.33	1.38
38	A1	2640	A2M	C5-N7	-2.76	1.34	1.39
38	A1	2619	OMG	C6-N1	-2.76	1.33	1.38
38	A1	1450	OMG	C5-C4	2.76	1.46	1.38
34	B5	28	A2M	C5-C6	2.75	1.48	1.41
38	A1	2946	A2M	C5-N7	-2.72	1.34	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	B5	1126	OMG	C5-C4	2.72	1.46	1.38
38	A1	2922	OMG	C6-N1	-2.72	1.33	1.38
34	B5	796	A2M	C5-C6	2.71	1.48	1.41
38	A1	2256	A2M	C5-C6	2.71	1.48	1.41
38	A1	2220	A2M	C5-N7	-2.71	1.34	1.39
38	A1	1888	OMU	C2-N3	-2.70	1.33	1.38
38	A1	867	OMG	C5-C4	2.69	1.46	1.38
38	A1	2280	A2M	C5-N7	-2.68	1.34	1.39
38	A1	1449	A2M	C5-N7	-2.68	1.34	1.39
38	A1	2421	OMU	C2-N3	-2.68	1.33	1.38
34	B5	974	A2M	C5-C6	2.67	1.48	1.41
38	A1	807	A2M	C5-C6	2.67	1.48	1.41
38	A1	2288	OMG	C6-N1	-2.67	1.33	1.38
38	A1	2921	OMU	C2-N3	-2.67	1.33	1.38
38	A1	805	OMG	C5-C4	2.66	1.46	1.38
38	A1	649	A2M	C5-N7	-2.65	1.34	1.39
34	B5	619	A2M	C5-C6	2.63	1.48	1.41
34	B5	1269	OMU	C4-N3	-2.63	1.34	1.38
36	AB	243	HIC	CD2-CG	2.60	1.40	1.36
38	A1	2729	OMU	C2-N3	-2.60	1.33	1.38
34	B5	1773	4AC	C4-N4	-2.59	1.36	1.39
38	A1	2793	OMG	C6-N1	-2.59	1.34	1.38
38	A1	2278	5MC	C6-N1	-2.58	1.33	1.38
38	A1	908	OMG	C5-N7	-2.57	1.33	1.39
38	A1	1133	A2M	C5-N7	-2.57	1.34	1.39
38	A1	1449	A2M	C5-C6	2.56	1.48	1.41
38	A1	2724	OMU	C2-N3	-2.56	1.33	1.38
34	B5	100	A2M	C5-N7	-2.56	1.34	1.39
38	A1	2281	A2M	C4-N9	-2.55	1.32	1.37
34	B5	562	OMG	C6-N1	-2.55	1.34	1.38
38	A1	2640	A2M	C5-C6	2.54	1.48	1.41
38	A1	2142	1MA	C5-N7	-2.53	1.34	1.39
38	A1	649	A2M	C5-C6	2.53	1.48	1.41
38	A1	2347	OMU	C5-C4	-2.53	1.38	1.43
38	A1	2619	OMG	C5-N7	-2.52	1.34	1.39
38	A1	2220	A2M	C5-C6	2.52	1.48	1.41
38	A1	807	A2M	C5-N7	-2.52	1.34	1.39
38	A1	2280	A2M	C5-C6	2.51	1.48	1.41
34	B5	420	A2M	C5-C6	2.51	1.48	1.41
34	B5	1126	OMG	C6-N1	-2.50	1.34	1.38
38	A1	867	OMG	C5-N7	-2.50	1.34	1.39
34	B5	420	A2M	C5-N7	-2.49	1.34	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	A1	2946	A2M	C5-C6	2.49	1.47	1.41
38	A1	2281	A2M	C5-N7	-2.49	1.34	1.39
38	A1	2347	OMU	C2-N3	-2.49	1.33	1.38
38	A1	1133	A2M	C5-C6	2.48	1.47	1.41
34	B5	100	A2M	C5-C6	2.48	1.47	1.41
38	A1	876	A2M	C5-C6	2.46	1.47	1.41
34	B5	1575	G7M	C6-N1	-2.46	1.34	1.38
34	B5	1271	OMG	C6-N1	-2.46	1.34	1.38
38	A1	2729	OMU	C5-C4	-2.45	1.38	1.43
38	A1	898	OMU	C5-C4	-2.44	1.38	1.43
38	A1	2281	A2M	C5-C6	2.43	1.47	1.41
38	A1	2421	OMU	C5-C4	-2.43	1.38	1.43
38	A1	2220	A2M	C4-N9	-2.43	1.32	1.37
34	B5	619	A2M	C5-N7	-2.41	1.34	1.39
34	B5	28	A2M	C5-N7	-2.41	1.34	1.39
38	A1	2417	OMU	C2-N3	-2.40	1.33	1.38
34	B5	578	OMU	C2-N3	-2.40	1.33	1.38
38	A1	817	A2M	C5-C6	2.39	1.47	1.41
38	A1	645	1MA	C5-N7	-2.38	1.34	1.39
34	B5	28	A2M	C8-N7	2.36	1.36	1.31
34	B5	541	A2M	C5-N7	-2.35	1.34	1.39
38	A1	2922	OMG	C5-N7	-2.35	1.34	1.39
34	B5	796	A2M	C8-N7	2.35	1.36	1.31
38	A1	2278	5MC	C6-C5	2.33	1.38	1.34
38	A1	2921	OMU	C5-C4	-2.33	1.38	1.43
38	A1	2724	OMU	C5-C4	-2.32	1.38	1.43
38	A1	2288	OMG	C5-N7	-2.32	1.34	1.39
38	A1	817	A2M	C4-N9	-2.32	1.32	1.37
38	A1	2870	5MC	C6-N1	-2.31	1.34	1.38
34	B5	1572	OMG	C6-N1	-2.30	1.34	1.38
34	B5	436	A2M	C5-N7	-2.29	1.34	1.39
38	A1	2256	A2M	C8-N7	2.29	1.36	1.31
38	A1	2256	A2M	C5-N7	-2.29	1.34	1.39
38	A1	2280	A2M	C4-N9	-2.28	1.32	1.37
38	A1	1450	OMG	C5-N7	-2.28	1.34	1.39
34	B5	619	A2M	C8-N7	2.27	1.36	1.31
34	B5	1269	OMU	C2-N3	-2.27	1.34	1.38
34	B5	1428	OMG	C6-N1	-2.26	1.34	1.38
34	B5	541	A2M	C8-N7	2.24	1.36	1.31
38	A1	1133	A2M	C4-N9	-2.23	1.33	1.37
34	B5	1126	OMG	C4-N9	-2.23	1.32	1.38
38	A1	2793	OMG	C5-N7	-2.22	1.34	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	A1	805	OMG	C4-N9	-2.22	1.32	1.38
34	B5	1782	MA6	C8-N7	2.21	1.35	1.31
34	B5	796	A2M	C5-N7	-2.20	1.35	1.39
34	B5	974	A2M	C8-N7	2.20	1.35	1.31
38	A1	1888	OMU	C5-C4	-2.19	1.39	1.43
34	B5	1781	MA6	C5-N7	-2.19	1.35	1.39
34	B5	1781	MA6	C4-N9	-2.18	1.33	1.37
38	A1	2815	OMG	C5-N7	-2.18	1.34	1.39
34	B5	974	A2M	C5-N7	-2.17	1.35	1.39
38	A1	2791	OMG	C5-N7	-2.17	1.34	1.39
34	B5	1269	OMU	C2-N1	2.16	1.41	1.38
34	B5	562	OMG	C5-N7	-2.16	1.34	1.39
38	A1	805	OMG	C5-N7	-2.16	1.34	1.39
34	B5	1782	MA6	C5-N7	-2.15	1.35	1.39
34	B5	619	A2M	C4-N9	-2.14	1.33	1.37
38	A1	2417	OMU	C5-C4	-2.14	1.39	1.43
34	B5	420	A2M	C8-N7	2.13	1.35	1.31
34	B5	436	A2M	C8-N7	2.13	1.35	1.31
38	A1	649	A2M	C4-N9	-2.13	1.33	1.37
38	A1	2220	A2M	C8-N7	2.12	1.35	1.31
38	A1	807	A2M	C4-N9	-2.10	1.33	1.37
34	B5	974	A2M	C4-N9	-2.10	1.33	1.37
34	B5	1781	MA6	C8-N7	2.10	1.35	1.31
38	A1	2922	OMG	C4-N9	-2.09	1.32	1.38
38	A1	663	OMC	C6-N1	-2.08	1.33	1.38
38	A1	2640	A2M	C8-N9	-2.08	1.34	1.37
38	A1	1437	OMC	C5-C4	-2.07	1.38	1.42
34	B5	1782	MA6	C4-N9	-2.06	1.33	1.37
38	A1	876	A2M	C4-N9	-2.06	1.33	1.37
38	A1	2337	OMC	C5-C4	-2.05	1.38	1.42
38	A1	2288	OMG	C4-N9	-2.05	1.32	1.38
34	B5	1269	OMU	C5-C4	-2.05	1.39	1.43
38	A1	1449	A2M	C8-N9	-2.05	1.34	1.37
38	A1	663	OMC	C5-C4	-2.03	1.38	1.42
34	B5	1428	OMG	C4-N9	-2.03	1.32	1.38
38	A1	2791	OMG	C4-N9	-2.02	1.32	1.38
38	A1	1449	A2M	C4-N9	-2.02	1.33	1.37
38	A1	807	A2M	C8-N7	2.02	1.35	1.31
38	A1	2347	OMU	C6-N1	-2.02	1.33	1.38
38	A1	2946	A2M	C4-N9	-2.02	1.33	1.37
38	A1	2142	1MA	C2-N3	2.01	1.34	1.30
38	A1	817	A2M	C8-N9	-2.01	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	B5	1271	OMG	C5-N7	-2.01	1.35	1.39
38	A1	650	OMC	C6-N1	-2.01	1.33	1.38

All (386) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	B5	1191	XSX	C3-C1-N3	12.78	134.50	112.16
34	B5	1575	G7M	CN7-N7-C8	-7.56	113.34	124.79
34	B5	1773	4AC	N4-C4-N3	7.11	125.41	113.87
38	A1	2634	UR3	C4-N3-C2	-7.02	118.93	124.58
34	B5	1575	G7M	N9-C4-N3	6.86	139.67	125.95
38	A1	908	OMG	C5-C4-N3	-6.85	117.49	128.39
34	B5	541	A2M	C5-C4-N3	-6.66	117.54	126.72
34	B5	1575	G7M	N9-C8-N7	-6.63	96.39	112.48
34	B5	562	OMG	C5-C4-N3	-6.52	118.01	128.39
34	B5	1575	G7M	C8-N7-C5	6.47	115.87	107.78
38	A1	2619	OMG	C5-C4-N3	-6.40	118.20	128.39
38	A1	1450	OMG	C5-C4-N3	-6.29	118.38	128.39
38	A1	867	OMG	C5-C4-N3	-6.21	118.50	128.39
38	A1	2815	OMG	C5-C4-N3	-6.20	118.52	128.39
38	A1	2640	A2M	C5-C4-N3	-6.16	118.24	126.72
38	A1	876	A2M	C5-C4-N3	-6.14	118.26	126.72
34	B5	1271	OMG	C5-C4-N3	-6.11	118.67	128.39
38	A1	2793	OMG	C5-C4-N3	-6.09	118.70	128.39
38	A1	2922	OMG	C5-C4-N3	-6.07	118.72	128.39
38	A1	2791	OMG	C5-C4-N3	-6.00	118.85	128.39
34	B5	100	A2M	C5-C4-N3	-5.98	118.49	126.72
34	B5	436	A2M	C5-C4-N3	-5.97	118.50	126.72
34	B5	1575	G7M	C5-C4-N3	-5.95	116.91	128.15
34	B5	420	A2M	C5-C4-N3	-5.94	118.54	126.72
34	B5	1572	OMG	C5-C4-N3	-5.93	118.96	128.39
34	B5	28	A2M	C5-C4-N3	-5.91	118.57	126.72
38	A1	2288	OMG	C5-C4-N3	-5.89	119.02	128.39
38	A1	649	A2M	C5-C4-N3	-5.88	118.62	126.72
34	B5	796	A2M	C5-C4-N3	-5.87	118.64	126.72
38	A1	2946	A2M	C5-C4-N3	-5.85	118.66	126.72
38	A1	807	A2M	C5-C4-N3	-5.85	118.66	126.72
38	A1	805	OMG	C5-C4-N3	-5.82	119.13	128.39
38	A1	817	A2M	C5-C4-N3	-5.81	118.71	126.72
38	A1	1449	A2M	C5-C4-N3	-5.78	118.77	126.72
38	A1	2256	A2M	C5-C4-N3	-5.73	118.82	126.72
34	B5	1428	OMG	C5-C4-N3	-5.73	119.28	128.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
38	A1	1133	A2M	C5-C4-N3	-5.64	118.95	126.72
38	A1	2280	A2M	C5-C4-N3	-5.64	118.95	126.72
34	B5	974	A2M	C5-C4-N3	-5.49	119.16	126.72
38	A1	2142	1MA	C5-C4-N3	-5.43	119.27	127.27
34	B5	1126	OMG	C5-C4-N3	-5.42	119.77	128.39
38	A1	908	OMG	N9-C4-N3	5.41	136.77	125.95
38	A1	2421	OMU	C4-N3-C2	-5.37	119.95	126.61
34	B5	1781	MA6	C5-C4-N3	-5.35	119.34	126.72
38	A1	2619	OMG	C2-N3-C4	5.30	121.43	112.30
38	A1	2220	A2M	C5-C4-N3	-5.30	119.42	126.72
34	B5	1782	MA6	C5-C4-N3	-5.29	119.43	126.72
38	A1	2815	OMG	C2-N3-C4	5.28	121.40	112.30
34	B5	619	A2M	C5-C4-N3	-5.28	119.44	126.72
38	A1	1888	OMU	C4-N3-C2	-5.26	120.08	126.61
38	A1	867	OMG	C2-N3-C4	5.25	121.35	112.30
38	A1	2281	A2M	C5-C4-N3	-5.24	119.50	126.72
38	A1	2793	OMG	C2-N3-C4	5.20	121.26	112.30
38	A1	645	1MA	C5-C4-N3	-5.18	119.65	127.27
38	A1	1450	OMG	C2-N3-C4	5.17	121.21	112.30
34	B5	1428	OMG	C2-N3-C4	5.17	121.21	112.30
34	B5	541	A2M	N3-C4-N9	5.17	135.96	127.17
38	A1	2921	OMU	C4-N3-C2	-5.16	120.20	126.61
34	B5	562	OMG	C2-N3-C4	5.15	121.17	112.30
38	A1	908	OMG	C2-N3-C4	5.13	121.13	112.30
38	A1	805	OMG	C2-N3-C4	5.13	121.13	112.30
38	A1	2922	OMG	C2-N3-C4	5.12	121.11	112.30
34	B5	1271	OMG	C2-N3-C4	5.11	121.11	112.30
38	A1	898	OMU	C4-N3-C2	-5.04	120.36	126.61
34	B5	578	OMU	C4-N3-C2	-4.98	120.43	126.61
34	B5	1126	OMG	C2-N3-C4	4.98	120.87	112.30
38	A1	2640	A2M	N3-C4-N9	4.94	135.56	127.17
38	A1	2281	A2M	O4'-C1'-N9	4.93	117.55	108.09
38	A1	2791	OMG	C2-N3-C4	4.92	120.78	112.30
38	A1	2288	OMG	C2-N3-C4	4.90	120.74	112.30
34	B5	1572	OMG	C2-N3-C4	4.87	120.69	112.30
38	A1	2619	OMG	N9-C4-N3	4.86	135.67	125.95
38	A1	2417	OMU	C4-N3-C2	-4.84	120.60	126.61
34	B5	100	A2M	N3-C4-N9	4.83	135.38	127.17
34	B5	562	OMG	N9-C4-N3	4.82	135.60	125.95
38	A1	876	A2M	N3-C4-N9	4.82	135.36	127.17
34	B5	1269	OMU	C4-N3-C2	-4.78	120.68	126.61
38	A1	2946	A2M	N3-C4-N9	4.74	135.23	127.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
38	A1	1888	OMU	N3-C2-N1	4.73	121.05	114.89
34	B5	420	A2M	N3-C4-N9	4.72	135.19	127.17
38	A1	2724	OMU	N3-C2-N1	4.70	121.02	114.89
38	A1	2256	A2M	N3-C4-N9	4.68	135.13	127.17
38	A1	2921	OMU	N3-C2-N1	4.66	120.96	114.89
38	A1	649	A2M	N3-C4-N9	4.64	135.06	127.17
38	A1	1450	OMG	N9-C4-N3	4.64	135.22	125.95
34	B5	1191	XSX	C4-N3-C2	-4.63	119.22	124.66
34	B5	1575	G7M	C2-N3-C4	4.61	120.24	112.30
38	A1	2421	OMU	N3-C2-N1	4.60	120.88	114.89
34	B5	436	A2M	N3-C4-N9	4.59	134.97	127.17
38	A1	817	A2M	N3-C4-N9	4.57	134.94	127.17
38	A1	2142	1MA	C2-N3-C4	4.56	121.47	112.53
38	A1	2729	OMU	C4-N3-C2	-4.55	120.96	126.61
38	A1	807	A2M	N3-C4-N9	4.55	134.90	127.17
38	A1	2288	OMG	N9-C4-N3	4.54	135.04	125.95
34	B5	1575	G7M	C1'-N9-C8	-4.54	111.42	126.74
38	A1	1449	A2M	N3-C4-N9	4.52	134.85	127.17
38	A1	2724	OMU	C4-N3-C2	-4.51	121.02	126.61
38	A1	867	OMG	N9-C4-N3	4.51	134.96	125.95
34	B5	796	A2M	N3-C4-N9	4.50	134.82	127.17
38	A1	645	1MA	C2-N3-C4	4.49	121.34	112.53
38	A1	2417	OMU	N3-C2-N1	4.49	120.74	114.89
38	A1	2280	A2M	N3-C4-N9	4.48	134.79	127.17
38	A1	2793	OMG	N9-C4-N3	4.48	134.90	125.95
38	A1	2791	OMG	N9-C4-N3	4.46	134.88	125.95
34	B5	28	A2M	N3-C4-N9	4.43	134.69	127.17
34	B5	1782	MA6	C2-N1-C6	4.42	122.62	111.83
34	B5	1271	OMG	N9-C4-N3	4.41	134.78	125.95
38	A1	2347	OMU	C4-N3-C2	-4.40	121.16	126.61
34	B5	1572	OMG	N9-C4-N3	4.39	134.72	125.95
38	A1	805	OMG	N9-C4-N3	4.35	134.64	125.95
34	B5	578	OMU	N3-C2-N1	4.32	120.52	114.89
34	B5	1781	MA6	C2-N1-C6	4.32	122.37	111.83
34	B5	796	A2M	C2'-C1'-N9	-4.28	106.70	113.75
38	A1	2922	OMG	N9-C4-N3	4.28	134.51	125.95
38	A1	898	OMU	C5-C4-N3	4.27	120.78	114.80
38	A1	1133	A2M	N3-C4-N9	4.26	134.41	127.17
34	B5	974	A2M	N3-C4-N9	4.26	134.40	127.17
38	A1	2281	A2M	C2'-C1'-N9	-4.25	106.76	113.75
34	B5	1781	MA6	C4-C5-N7	-4.24	105.73	110.58
34	B5	1773	4AC	C5-C4-N4	-4.24	115.80	122.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
38	A1	2815	OMG	N9-C4-N3	4.23	134.42	125.95
38	A1	2281	A2M	N3-C4-N9	4.23	134.35	127.17
38	A1	2421	OMU	C5-C4-N3	4.14	120.59	114.80
34	B5	1782	MA6	C4-C5-N7	-4.13	105.86	110.58
38	A1	1888	OMU	C5-C4-N3	4.10	120.54	114.80
38	A1	898	OMU	N3-C2-N1	4.09	120.22	114.89
34	B5	1575	G7M	C8-N9-C4	4.09	117.21	107.09
34	B5	1269	OMU	N3-C2-N1	4.05	120.17	114.89
38	A1	2729	OMU	N3-C2-N1	4.03	120.14	114.89
34	B5	619	A2M	N3-C4-N9	4.02	134.01	127.17
38	A1	2729	OMU	C5-C4-N3	4.01	120.42	114.80
34	B5	578	OMU	C5-C4-N3	3.99	120.39	114.80
38	A1	2220	A2M	N3-C4-N9	3.99	133.95	127.17
34	B5	1269	OMU	C5-C4-N3	3.98	120.37	114.80
34	B5	541	A2M	C2-N3-C4	3.97	121.54	111.83
34	B5	1126	OMG	N9-C4-N3	3.96	133.88	125.95
34	B5	1781	MA6	N3-C4-N9	3.95	133.88	127.17
38	A1	2921	OMU	C5-C4-N3	3.93	120.31	114.80
34	B5	1428	OMG	C6-C5-N7	3.92	137.43	130.29
38	A1	2347	OMU	N3-C2-N1	3.91	119.99	114.89
38	A1	2870	5MC	C5-C6-N1	-3.91	119.06	123.31
38	A1	2640	A2M	C2-N3-C4	3.91	121.38	111.83
34	B5	1782	MA6	C2-N3-C4	3.91	121.38	111.83
34	B5	1280	4AC	N4-C4-N3	3.89	120.19	113.87
38	A1	2946	A2M	C2-N3-C4	3.86	121.27	111.83
38	A1	649	A2M	C2-N3-C4	3.86	121.25	111.83
38	A1	2417	OMU	C5-C4-N3	3.85	120.19	114.80
34	B5	1782	MA6	N3-C4-N9	3.85	133.71	127.17
38	A1	807	A2M	C2-N3-C4	3.84	121.22	111.83
38	A1	2347	OMU	C5-C4-N3	3.84	120.18	114.80
34	B5	1428	OMG	N9-C4-N3	3.83	133.62	125.95
34	B5	28	A2M	C4-C5-N7	-3.82	106.22	110.58
34	B5	1782	MA6	N1-C2-N3	-3.82	122.80	128.58
34	B5	436	A2M	C2-N3-C4	3.80	121.11	111.83
34	B5	420	A2M	C2-N3-C4	3.79	121.08	111.83
34	B5	1126	OMG	C6-C5-N7	3.78	137.17	130.29
38	A1	2142	1MA	N9-C4-N3	3.77	135.49	126.90
38	A1	876	A2M	C2-N3-C4	3.76	121.00	111.83
34	B5	974	A2M	C2-N3-C4	3.75	120.99	111.83
34	B5	796	A2M	C2-N3-C4	3.75	120.98	111.83
38	A1	807	A2M	C4-C5-N7	-3.74	106.30	110.58
38	A1	817	A2M	C2-N3-C4	3.74	120.96	111.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	B5	28	A2M	C2-N3-C4	3.74	120.96	111.83
38	A1	1133	A2M	C2-N3-C4	3.70	120.86	111.83
34	B5	796	A2M	C4-C5-N7	-3.69	106.36	110.58
38	A1	1133	A2M	C2'-C1'-N9	-3.69	107.68	113.75
34	B5	619	A2M	C4-C5-N7	-3.68	106.38	110.58
38	A1	1449	A2M	C2-N3-C4	3.67	120.79	111.83
34	B5	974	A2M	C4-C5-N7	-3.65	106.41	110.58
34	B5	541	A2M	C4-C5-N7	-3.64	106.42	110.58
38	A1	2815	OMG	C6-C5-N7	3.64	136.91	130.29
38	A1	2256	A2M	C2-N3-C4	3.64	120.72	111.83
38	A1	805	OMG	C6-C5-N7	3.63	136.89	130.29
34	B5	100	A2M	C2-N3-C4	3.63	120.69	111.83
34	B5	1781	MA6	C2-N3-C4	3.61	120.66	111.83
38	A1	2281	A2M	C2-N3-C4	3.59	120.60	111.83
38	A1	2280	A2M	C2-N3-C4	3.59	120.59	111.83
38	A1	1449	A2M	C4-C5-N7	-3.58	106.48	110.58
34	B5	974	A2M	N3-C2-N1	-3.56	123.19	128.58
34	B5	436	A2M	C4-C5-N7	-3.56	106.51	110.58
38	A1	2640	A2M	C4-C5-N7	-3.53	106.55	110.58
38	A1	2220	A2M	N3-C2-N1	-3.50	123.28	128.58
38	A1	2220	A2M	C2-N3-C4	3.49	120.36	111.83
38	A1	2946	A2M	N3-C2-N1	-3.48	123.31	128.58
38	A1	2724	OMU	C5-C4-N3	3.48	119.67	114.80
38	A1	2922	OMG	C6-C5-N7	3.47	136.60	130.29
34	B5	619	A2M	C2-N3-C4	3.45	120.26	111.83
38	A1	2220	A2M	C4-C5-N7	-3.45	106.64	110.58
38	A1	1450	OMG	C6-C5-N7	3.42	136.51	130.29
34	B5	100	A2M	C4-C5-N7	-3.42	106.68	110.58
38	A1	2793	OMG	C6-C5-N7	3.39	136.47	130.29
38	A1	1133	A2M	C4-C5-N7	-3.39	106.70	110.58
38	A1	649	A2M	N3-C2-N1	-3.39	123.45	128.58
38	A1	807	A2M	N3-C2-N1	-3.39	123.46	128.58
38	A1	817	A2M	N3-C2-N1	-3.38	123.46	128.58
34	B5	420	A2M	N3-C2-N1	-3.38	123.47	128.58
38	A1	2347	OMU	C1'-N1-C2	3.37	123.64	117.59
38	A1	2256	A2M	C4-C5-N7	-3.37	106.73	110.58
34	B5	1271	OMG	C6-C5-N7	3.35	136.39	130.29
34	B5	420	A2M	C4-C5-N7	-3.35	106.76	110.58
38	A1	2281	A2M	C4-C5-N7	-3.34	106.77	110.58
38	A1	876	A2M	C4-C5-N7	-3.32	106.78	110.58
38	A1	2280	A2M	C4-C5-N7	-3.32	106.79	110.58
38	A1	1133	A2M	N3-C2-N1	-3.31	123.57	128.58

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
38	A1	2946	A2M	C4-C5-N7	-3.31	106.80	110.58
38	A1	817	A2M	C4-C5-N7	-3.30	106.81	110.58
38	A1	2791	OMG	C6-C5-N7	3.29	136.27	130.29
38	A1	2634	UR3	C5-C4-N3	3.28	119.36	115.04
38	A1	2640	A2M	N3-C2-N1	-3.28	123.62	128.58
38	A1	867	OMG	C6-C5-N7	3.27	136.25	130.29
38	A1	2281	A2M	N3-C2-N1	-3.27	123.63	128.58
34	B5	1781	MA6	N1-C2-N3	-3.27	123.63	128.58
38	A1	898	OMU	O4-C4-C5	-3.27	119.53	125.16
38	A1	645	1MA	N9-C4-N3	3.27	134.34	126.90
34	B5	436	A2M	N3-C2-N1	-3.23	123.69	128.58
38	A1	2280	A2M	N3-C2-N1	-3.23	123.70	128.58
38	A1	2281	A2M	C4-N9-C8	3.21	109.11	105.74
38	A1	2256	A2M	N3-C2-N1	-3.20	123.73	128.58
34	B5	1575	G7M	CN7-N7-C5	3.20	130.79	126.80
38	A1	1437	OMC	O2-C2-N3	-3.19	117.30	122.33
34	B5	1269	OMU	O4-C4-C5	-3.19	119.67	125.16
38	A1	2278	5MC	C5-C6-N1	-3.18	119.86	123.31
34	B5	1572	OMG	C6-C5-N7	3.18	136.08	130.29
34	B5	28	A2M	N3-C2-N1	-3.14	123.83	128.58
38	A1	649	A2M	C4-C5-N7	-3.13	107.00	110.58
34	B5	796	A2M	N3-C2-N1	-3.13	123.84	128.58
38	A1	2421	OMU	O4-C4-C5	-3.13	119.77	125.16
38	A1	2619	OMG	C6-C5-N7	3.13	135.98	130.29
38	A1	1449	A2M	N3-C2-N1	-3.12	123.86	128.58
34	B5	619	A2M	N3-C2-N1	-3.10	123.89	128.58
38	A1	876	A2M	N3-C2-N1	-3.09	123.91	128.58
34	B5	541	A2M	N3-C2-N1	-3.08	123.92	128.58
34	B5	578	OMU	O4-C4-C5	-3.08	119.85	125.16
38	A1	2417	OMU	O4-C4-C5	-3.07	119.87	125.16
38	A1	2288	OMG	C6-C5-N7	3.07	135.87	130.29
38	A1	2347	OMU	O4-C4-C5	-3.07	119.88	125.16
34	B5	100	A2M	N3-C2-N1	-3.04	123.98	128.58
38	A1	2946	A2M	C2'-C1'-N9	-3.04	108.75	113.75
34	B5	1773	4AC	CM7-C7-N4	3.00	120.11	115.27
38	A1	1888	OMU	O4-C4-C5	-2.99	120.00	125.16
34	B5	562	OMG	C6-C5-N7	2.99	135.73	130.29
38	A1	807	A2M	O4'-C1'-N9	2.97	113.79	108.09
38	A1	2724	OMU	O4-C4-C5	-2.96	120.06	125.16
38	A1	2729	OMU	O4-C4-C5	-2.95	120.08	125.16
34	B5	1773	4AC	C6-C5-C4	2.93	120.53	117.00
34	B5	1428	OMG	C4-C5-N7	-2.92	106.04	110.67

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	B5	1781	MA6	C5-N7-C8	2.92	108.05	103.45
34	B5	1782	MA6	C5-N7-C8	2.92	108.04	103.45
38	A1	807	A2M	C2'-C1'-N9	-2.91	108.96	113.75
38	A1	2256	A2M	C4-N9-C8	2.90	108.78	105.74
36	AB	243	HIC	NE2-CE1-ND1	-2.89	111.56	112.66
34	B5	974	A2M	C4-N9-C8	2.87	108.75	105.74
38	A1	2921	OMU	O4-C4-C5	-2.87	120.21	125.16
34	B5	974	A2M	C2'-C1'-N9	-2.86	109.05	113.75
34	B5	1781	MA6	C4-N9-C8	2.84	108.72	105.74
38	A1	1450	OMG	C4-C5-N7	-2.80	106.24	110.67
38	A1	2870	5MC	C5-C4-N3	-2.79	118.90	121.75
34	B5	1782	MA6	C6-C5-N7	2.78	137.88	133.43
34	B5	796	A2M	C4-N9-C8	2.77	108.65	105.74
34	B5	1782	MA6	C4-N9-C8	2.77	108.65	105.74
38	A1	807	A2M	C4-N9-C8	2.76	108.64	105.74
34	B5	1269	OMU	C1'-N1-C2	2.76	122.55	117.59
38	A1	2922	OMG	C4-C5-N7	-2.76	106.30	110.67
38	A1	2948	OMC	O2-C2-N3	-2.76	117.98	122.33
38	A1	807	A2M	C5-N7-C8	2.75	107.77	103.45
38	A1	2815	OMG	C4-C5-N7	-2.72	106.35	110.67
34	B5	28	A2M	C5-N7-C8	2.70	107.69	103.45
34	B5	796	A2M	C5-N7-C8	2.68	107.66	103.45
34	B5	1126	OMG	C4-C5-N7	-2.65	106.48	110.67
34	B5	100	A2M	C4-N9-C8	2.65	108.52	105.74
34	B5	1575	G7M	O6-C6-C5	-2.64	122.12	128.01
34	B5	541	A2M	C5-N7-C8	2.63	107.58	103.45
34	B5	619	A2M	C4-N9-C8	2.63	108.50	105.74
38	A1	2640	A2M	C5-N7-C8	2.62	107.57	103.45
34	B5	1271	OMG	C4-C5-N7	-2.61	106.54	110.67
38	A1	2946	A2M	C4-N9-C8	2.59	108.46	105.74
38	A1	817	A2M	C2'-C1'-N9	2.59	118.02	113.75
38	A1	2278	5MC	C5-C4-N3	-2.58	119.11	121.75
34	B5	619	A2M	C5-N7-C8	2.58	107.50	103.45
34	B5	974	A2M	C5-N7-C8	2.58	107.50	103.45
38	A1	1449	A2M	C5-N7-C8	2.57	107.49	103.45
34	B5	1781	MA6	C6-C5-N7	2.56	137.52	133.43
38	A1	867	OMG	C4-C5-N7	-2.55	106.62	110.67
38	A1	2417	OMU	O2-C2-N1	-2.55	119.47	122.80
38	A1	2278	5MC	O2-C2-N3	-2.53	118.34	122.33
34	B5	1191	XSX	C5-C4-N3	2.53	119.13	115.64
38	A1	2793	OMG	C4-C5-N7	-2.53	106.67	110.67
38	A1	2220	A2M	C2-N1-C6	2.53	122.88	118.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
38	A1	2256	A2M	C5-N7-C8	2.52	107.41	103.45
34	B5	1572	OMG	C4-C5-N7	-2.52	106.68	110.67
38	A1	2946	A2M	C5-N7-C8	2.52	107.40	103.45
34	B5	562	OMG	C4-C5-N7	-2.50	106.70	110.67
34	B5	100	A2M	C5-N7-C8	2.50	107.38	103.45
38	A1	908	OMG	C6-C5-N7	2.50	134.84	130.29
34	B5	28	A2M	C4-N9-C8	2.49	108.36	105.74
38	A1	2640	A2M	C4-N9-C8	2.48	108.34	105.74
34	B5	436	A2M	C5-N7-C8	2.48	107.35	103.45
34	B5	974	A2M	C6-C5-N7	2.47	136.86	132.09
38	A1	2281	A2M	C5-N7-C8	2.47	107.33	103.45
38	A1	2280	A2M	C4-N9-C8	2.46	108.32	105.74
34	B5	420	A2M	C5-N7-C8	2.46	107.31	103.45
38	A1	817	A2M	O3'-C3'-C4'	-2.45	104.04	111.08
34	B5	1773	4AC	C5-C4-N3	-2.44	118.78	122.60
38	A1	2619	OMG	C4-C5-N7	-2.44	106.80	110.67
38	A1	2791	OMG	C4-C5-N7	-2.43	106.82	110.67
38	A1	2280	A2M	C5-N7-C8	2.43	107.27	103.45
34	B5	420	A2M	C4-N9-C8	2.43	108.28	105.74
38	A1	2281	A2M	C6-C5-N7	2.42	136.76	132.09
38	A1	807	A2M	C6-C5-N7	2.41	136.73	132.09
38	A1	867	OMG	O6-C6-C5	-2.41	120.17	126.53
34	B5	619	A2M	C6-C5-N7	2.41	136.73	132.09
38	A1	805	OMG	C4-C5-N7	-2.40	106.86	110.67
38	A1	645	1MA	C4-C5-N7	-2.37	106.91	110.67
34	B5	1782	MA6	N9-C8-N7	-2.37	110.58	113.94
38	A1	805	OMG	O6-C6-C5	-2.35	120.33	126.53
34	B5	1126	OMG	O6-C6-C5	-2.34	120.36	126.53
38	A1	2220	A2M	C4-N9-C8	2.34	108.19	105.74
38	A1	2281	A2M	N9-C8-N7	-2.33	110.63	113.94
34	B5	436	A2M	C4-N9-C8	2.32	108.18	105.74
38	A1	2220	A2M	C5-N7-C8	2.32	107.09	103.45
38	A1	908	OMG	O6-C6-C5	-2.31	120.42	126.53
38	A1	1449	A2M	C4-N9-C8	2.30	108.16	105.74
38	A1	649	A2M	C5-N7-C8	2.29	107.05	103.45
38	A1	2288	OMG	O6-C6-C5	-2.29	120.48	126.53
38	A1	876	A2M	C5-N7-C8	2.29	107.05	103.45
34	B5	28	A2M	C6-C5-N7	2.29	136.50	132.09
34	B5	436	A2M	C2'-C1'-N9	-2.28	110.00	113.75
38	A1	817	A2M	C5-N7-C8	2.28	107.04	103.45
38	A1	2724	OMU	O2-C2-N1	-2.28	119.83	122.80
38	A1	2870	5MC	O2-C2-N3	-2.27	118.75	122.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
38	A1	2619	OMG	O6-C6-C5	-2.27	120.55	126.53
38	A1	663	OMC	O2-C2-N3	-2.26	118.77	122.33
34	B5	1781	MA6	N9-C8-N7	-2.26	110.73	113.94
38	A1	649	A2M	C4-N9-C8	2.26	108.11	105.74
34	B5	796	A2M	C6-C5-N7	2.26	136.44	132.09
38	A1	1133	A2M	C5-N7-C8	2.26	107.00	103.45
34	B5	578	OMU	O2-C2-N1	-2.23	119.89	122.80
38	A1	908	OMG	C4-C5-N7	-2.23	107.14	110.67
38	A1	2729	OMU	C1'-N1-C2	2.22	121.59	117.59
34	B5	796	A2M	N9-C8-N7	-2.22	110.79	113.94
34	B5	436	A2M	C6-C5-N7	2.21	136.34	132.09
34	B5	1572	OMG	O6-C6-C5	-2.21	120.71	126.53
38	A1	2793	OMG	O6-C6-C5	-2.20	120.72	126.53
38	A1	2220	A2M	C6-C5-N7	2.20	136.33	132.09
38	A1	2921	OMU	O2-C2-N1	-2.20	119.93	122.80
38	A1	805	OMG	C5-C6-N1	2.20	118.84	113.25
38	A1	898	OMU	O2-C2-N1	-2.19	119.94	122.80
38	A1	2815	OMG	O6-C6-C5	-2.19	120.75	126.53
38	A1	2288	OMG	C4-C5-N7	-2.19	107.20	110.67
38	A1	817	A2M	C4-N9-C8	2.19	108.03	105.74
38	A1	807	A2M	N9-C8-N7	-2.17	110.85	113.94
38	A1	1133	A2M	C6-C5-N7	2.17	136.27	132.09
38	A1	2724	OMU	C1'-N1-C2	2.17	121.48	117.59
38	A1	645	1MA	C6-C5-N7	2.16	135.97	132.16
38	A1	1449	A2M	C6-C5-N7	2.16	136.25	132.09
38	A1	817	A2M	O4'-C1'-N9	-2.15	103.95	108.09
38	A1	2946	A2M	C6-C5-N7	2.15	136.24	132.09
38	A1	2421	OMU	O2-C2-N1	-2.15	120.00	122.80
38	A1	2870	5MC	N1-C2-N3	2.15	122.53	118.80
34	B5	974	A2M	N9-C8-N7	-2.14	110.90	113.94
38	A1	805	OMG	C2'-C1'-N9	-2.13	110.19	114.24
34	B5	1191	XSX	C6-N1-C2	-2.13	120.06	121.80
34	B5	1271	OMG	O6-C6-C5	-2.13	120.91	126.53
34	B5	974	A2M	C2-N1-C6	2.13	122.23	118.73
36	AB	243	HIC	CB-CG-CD2	-2.13	124.83	129.96
34	B5	1428	OMG	O6-C6-C5	-2.11	120.95	126.53
34	B5	1126	OMG	C2'-C1'-N9	-2.11	110.24	114.24
38	A1	2220	A2M	C2'-C1'-N9	-2.10	110.29	113.75
34	B5	562	OMG	O6-C6-C5	-2.10	120.99	126.53
34	B5	619	A2M	C2-N1-C6	2.09	122.16	118.73
38	A1	2640	A2M	C6-C5-N7	2.09	136.11	132.09
38	A1	1133	A2M	C2-N1-C6	2.09	122.16	118.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
38	A1	2278	5MC	CM5-C5-C6	-2.08	120.03	122.85
34	B5	541	A2M	C4-N9-C8	2.08	107.93	105.74
38	A1	2815	OMG	C5-C6-N1	2.08	118.55	113.25
38	A1	1133	A2M	C4-N9-C8	2.07	107.91	105.74
34	B5	1280	4AC	C5-C4-N4	-2.06	119.46	122.94
38	A1	2619	OMG	C5-C6-N1	2.06	118.50	113.25
34	B5	28	A2M	N9-C8-N7	-2.06	111.01	113.94
38	A1	2256	A2M	N9-C8-N7	-2.05	111.03	113.94
38	A1	649	A2M	C6-C5-N7	2.05	136.03	132.09
38	A1	2142	1MA	C4-C5-N7	-2.04	107.43	110.67
34	B5	420	A2M	C6-C5-N7	2.03	136.01	132.09
34	B5	619	A2M	N9-C8-N7	-2.01	111.08	113.94
38	A1	2256	A2M	C6-C5-N7	2.01	135.97	132.09
38	A1	2724	OMU	C6-N1-C2	-2.01	118.55	121.00

All (3) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
34	B5	1575	G7M	C4'
34	B5	1575	G7M	C2'
34	B5	1575	G7M	C3'

All (81) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
34	B5	28	A2M	C1'-C2'-O2'-CM'
34	B5	414	OMC	C1'-C2'-O2'-CM2
34	B5	420	A2M	C1'-C2'-O2'-CM'
34	B5	562	OMG	C1'-C2'-O2'-CM2
34	B5	974	A2M	C1'-C2'-O2'-CM'
34	B5	1191	XSX	N4-C7-C9-O11
34	B5	1271	OMG	C1'-C2'-O2'-CM2
34	B5	1280	4AC	N3-C4-N4-C7
34	B5	1280	4AC	C5-C4-N4-C7
34	B5	1773	4AC	N3-C4-N4-C7
34	B5	1773	4AC	C5-C4-N4-C7
34	B5	1773	4AC	O7-C7-N4-C4
34	B5	1773	4AC	CM7-C7-N4-C4
38	A1	1437	OMC	C1'-C2'-O2'-CM2
38	A1	2197	OMC	C2'-C1'-N1-C2
38	A1	2197	OMC	C2'-C1'-N1-C6
38	A1	2220	A2M	C1'-C2'-O2'-CM'

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Mol	Chain	Res	Type	Atoms
38	A1	2256	A2M	C4'-C5'-O5'-P
38	A1	2337	OMC	C1'-C2'-O2'-CM2
38	A1	2421	OMU	C1'-C2'-O2'-CM2
38	A1	2619	OMG	C1'-C2'-O2'-CM2
38	A1	2724	OMU	C1'-C2'-O2'-CM2
38	A1	2729	OMU	O4'-C4'-C5'-O5'
38	A1	2256	A2M	C3'-C4'-C5'-O5'
38	A1	2729	OMU	C3'-C4'-C5'-O5'
34	B5	1269	OMU	O4'-C1'-N1-C2
34	B5	1575	G7M	C3'-C4'-C5'-O5'
38	A1	867	OMG	O4'-C4'-C5'-O5'
38	A1	2256	A2M	O4'-C4'-C5'-O5'
34	B5	1191	XSX	N4-C7-C9-O10
34	B5	541	A2M	C3'-C4'-C5'-O5'
34	B5	541	A2M	O4'-C4'-C5'-O5'
38	A1	1437	OMC	C3'-C4'-C5'-O5'
38	A1	1437	OMC	O4'-C4'-C5'-O5'
34	B5	1782	MA6	C5-C6-N6-C9
34	B5	1269	OMU	O4'-C1'-N1-C6
38	A1	2870	5MC	C2'-C1'-N1-C6
34	B5	619	A2M	O4'-C4'-C5'-O5'
34	B5	619	A2M	C3'-C4'-C5'-O5'
34	B5	1269	OMU	O4'-C4'-C5'-O5'
34	B5	1782	MA6	O4'-C4'-C5'-O5'
38	A1	867	OMG	C3'-C4'-C5'-O5'
34	B5	1007	OMC	C1'-C2'-O2'-CM2
38	A1	2280	A2M	C1'-C2'-O2'-CM'
38	A1	2288	OMG	C1'-C2'-O2'-CM2
38	A1	2946	A2M	C1'-C2'-O2'-CM'
34	B5	1269	OMU	C3'-C4'-C5'-O5'
38	A1	817	A2M	C4'-C5'-O5'-P
34	B5	619	A2M	C2'-C1'-N9-C8
38	A1	2870	5MC	O4'-C1'-N1-C6
34	B5	100	A2M	O4'-C4'-C5'-O5'
38	A1	2197	OMC	O4'-C4'-C5'-O5'
38	A1	2281	A2M	O4'-C4'-C5'-O5'
38	A1	645	1MA	C2'-C1'-N9-C8
34	B5	1191	XSX	C3-C7-C9-O11
34	B5	1572	OMG	C3'-C2'-O2'-CM2
38	A1	1437	OMC	C3'-C2'-O2'-CM2
34	B5	541	A2M	C2'-C1'-N9-C4
34	B5	541	A2M	C2'-C1'-N9-C8

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Mol	Chain	Res	Type	Atoms
38	A1	2870	5MC	O4'-C1'-N1-C2
34	B5	1428	OMG	C4'-C5'-O5'-P
38	A1	2197	OMC	O4'-C1'-N1-C6
36	AB	243	HIC	CA-CB-CG-ND1
34	B5	1191	XSX	C4'-C5'-O5'-P
34	B5	1269	OMU	C4'-C5'-O5'-P
34	B5	1572	OMG	C4'-C5'-O5'-P
38	A1	2278	5MC	O4'-C4'-C5'-O5'
34	B5	1280	4AC	O7-C7-N4-C4
34	B5	1280	4AC	CM7-C7-N4-C4
38	A1	2870	5MC	C2'-C1'-N1-C2
38	A1	645	1MA	C2'-C1'-N9-C4
34	B5	1575	G7M	O4'-C4'-C5'-O5'
34	B5	619	A2M	O4'-C1'-N9-C8
34	B5	541	A2M	O4'-C1'-N9-C8
36	AB	243	HIC	CA-CB-CG-CD2
38	A1	807	A2M	O4'-C1'-N9-C8
38	A1	2281	A2M	C3'-C4'-C5'-O5'
38	A1	2729	OMU	C4'-C5'-O5'-P
38	A1	1437	OMC	C2'-C1'-N1-C2
34	B5	1782	MA6	C4'-C5'-O5'-P
38	A1	2197	OMC	O4'-C1'-N1-C2

There are no ring outliers.

22 monomers are involved in 32 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
34	B5	100	A2M	1	0
34	B5	1773	4AC	2	0
38	A1	1133	A2M	2	0
38	A1	2220	A2M	3	0
34	B5	1271	OMG	1	0
34	B5	1269	OMU	2	0
38	A1	649	A2M	1	0
38	A1	2197	OMC	1	0
38	A1	2278	5MC	1	0
34	B5	1191	XSX	1	0
38	A1	817	A2M	2	0
34	B5	1781	MA6	1	0
38	A1	2256	A2M	1	0
38	A1	663	OMC	1	0
34	B5	1572	OMG	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
38	A1	2946	A2M	2	0
34	B5	1280	4AC	4	0
34	B5	1575	G7M	1	0
38	A1	650	OMC	1	0
38	A1	2724	OMU	1	0
34	B5	796	A2M	1	0
38	A1	1449	A2M	1	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 249 ligands modelled in this entry, 248 are monoatomic - leaving 1 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	$\#\|Z\| > 2$
82	HYG	B5	1801	-	36,39,39	4.28	16 (44%)	44,60,60	1.81	11 (25%)

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
82	HYG	B5	1801	-	-	9/12/87/87	0/4/4/4

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
82	B5	1801	HYG	O22-C17	-12.58	1.21	1.43
82	B5	1801	HYG	O29-C12	-12.45	1.22	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
82	B5	1801	HYG	O14-C15	7.71	1.63	1.44
82	B5	1801	HYG	O28-C23	7.53	1.49	1.40
82	B5	1801	HYG	C27-C33	-7.22	1.44	1.52
82	B5	1801	HYG	O28-C27	6.18	1.53	1.44
82	B5	1801	HYG	O35-C34	-5.55	1.19	1.42
82	B5	1801	HYG	C25-C24	-5.15	1.44	1.53
82	B5	1801	HYG	O14-C13	5.03	1.54	1.41
82	B5	1801	HYG	C17-C12	3.07	1.59	1.53
82	B5	1801	HYG	O30-C24	2.82	1.48	1.42
82	B5	1801	HYG	C34-C33	2.76	1.56	1.52
82	B5	1801	HYG	C16-C17	2.41	1.58	1.52
82	B5	1801	HYG	O31-C25	2.25	1.48	1.43
82	B5	1801	HYG	O18-C13	-2.12	1.35	1.41
82	B5	1801	HYG	C26-C27	2.06	1.57	1.52

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
82	B5	1801	HYG	C10-N9-C4	-4.42	109.11	114.39
82	B5	1801	HYG	O35-C34-C33	4.03	120.28	111.55
82	B5	1801	HYG	O14-C15-C16	3.49	115.99	109.70
82	B5	1801	HYG	C13-C12-C17	-3.45	101.14	111.41
82	B5	1801	HYG	C17-C16-C15	2.94	115.84	109.57
82	B5	1801	HYG	O22-C17-C16	2.89	118.11	111.22
82	B5	1801	HYG	C13-O18-C6	-2.80	111.35	117.98
82	B5	1801	HYG	C6-C5-C4	2.73	116.53	109.93
82	B5	1801	HYG	C5-C6-C1	2.60	114.47	110.86
82	B5	1801	HYG	O8-C1-C2	-2.53	105.16	109.90
82	B5	1801	HYG	O18-C13-C12	2.17	113.30	109.09

There are no chirality outliers.

All (9) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
82	B5	1801	HYG	C26-C27-C33-C34
82	B5	1801	HYG	O28-C27-C33-C34
82	B5	1801	HYG	C27-C33-C34-O35
82	B5	1801	HYG	N36-C33-C34-O35
82	B5	1801	HYG	O14-C13-O18-C6
82	B5	1801	HYG	O14-C15-C19-O20
82	B5	1801	HYG	C16-C15-C19-O20
82	B5	1801	HYG	C1-C6-O18-C13

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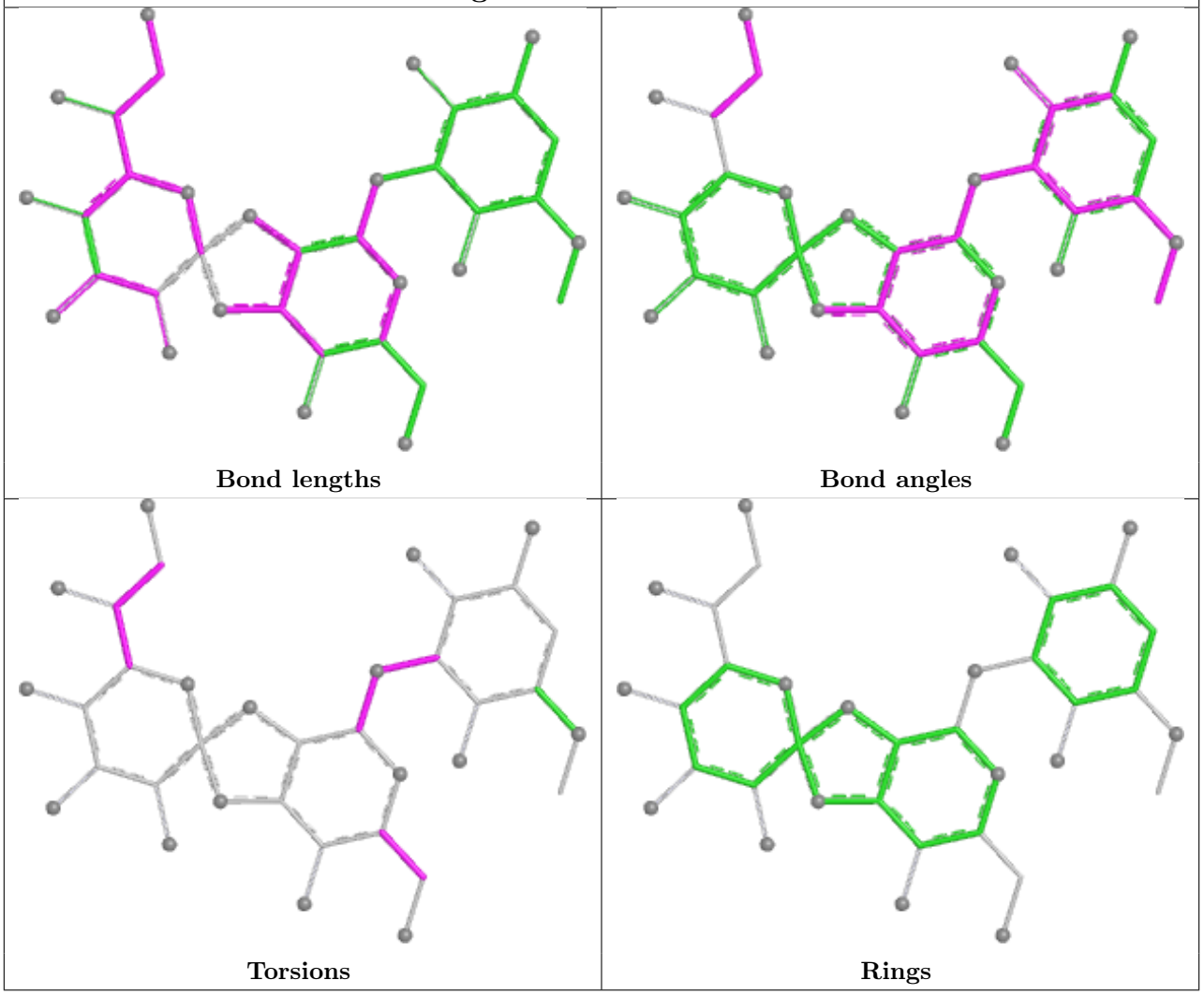
Mol	Chain	Res	Type	Atoms
82	B5	1801	HYG	C5-C6-O18-C13

There are no ring outliers.

No monomer is involved in short contacts.

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 HYG B5 1801



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
38	A1	1
69	Ag	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A1	2497:U	O3'	2498:U	P	4.49
1	Ag	24:LYS	C	25:THR	N	1.19

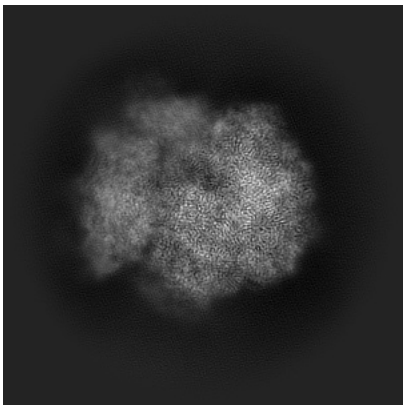
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-47098. These allow visual inspection of the internal detail of the map and identification of artifacts.

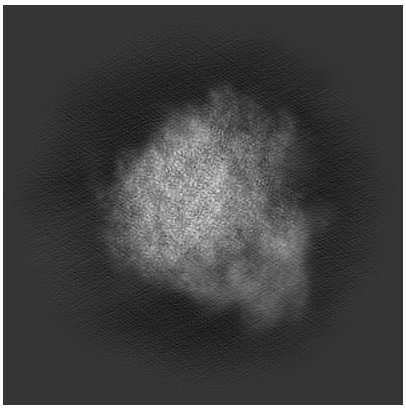
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

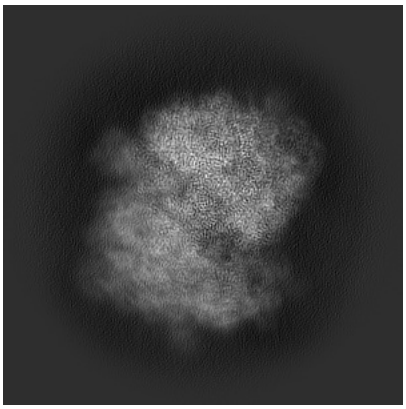
6.1.1 Primary map



X

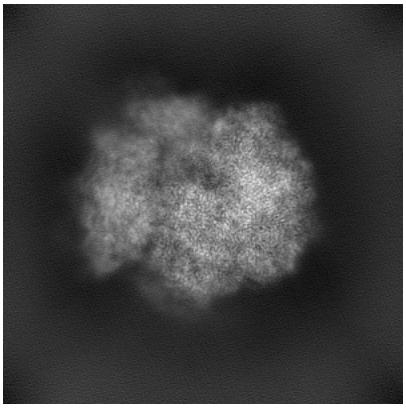


Y

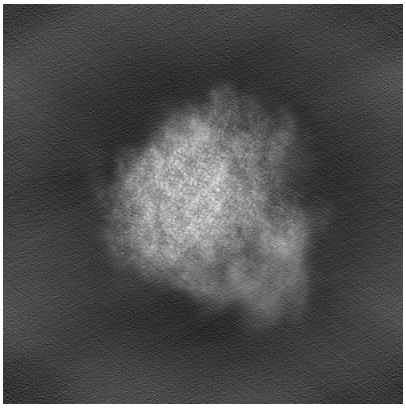


Z

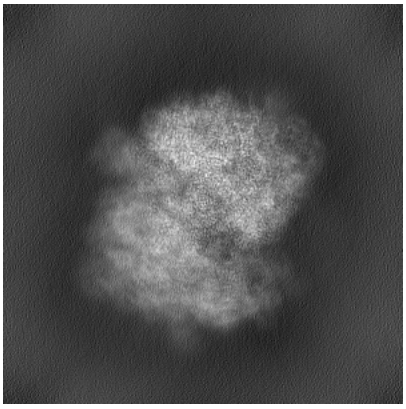
6.1.2 Raw map



X



Y

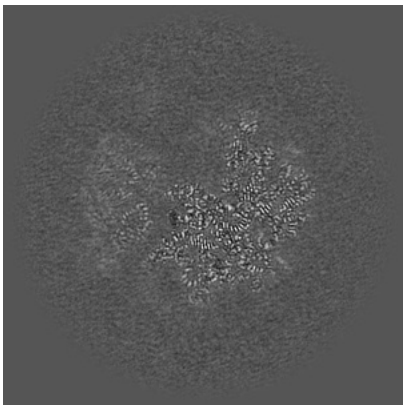


Z

The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

6.2.1 Primary map



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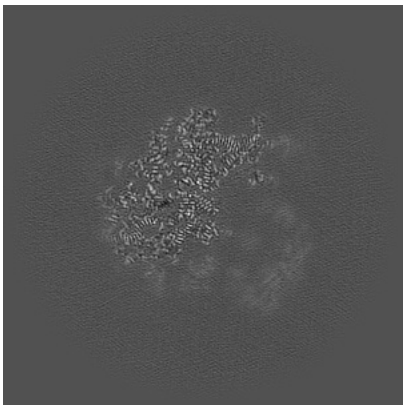
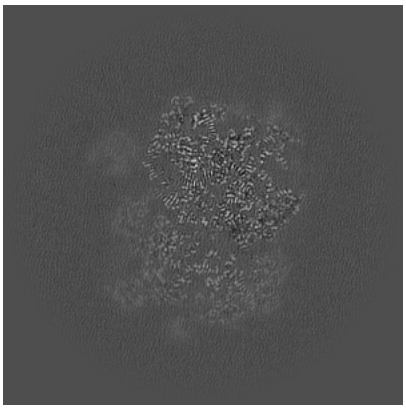
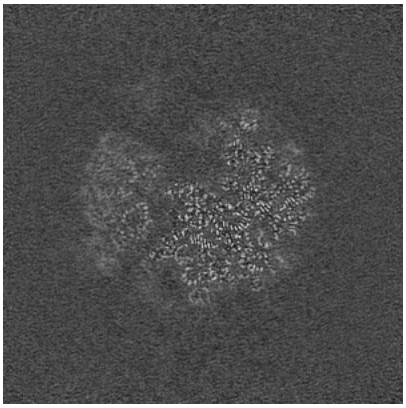


Y Index: 200



Z Index: 200

6.2.2 Raw map



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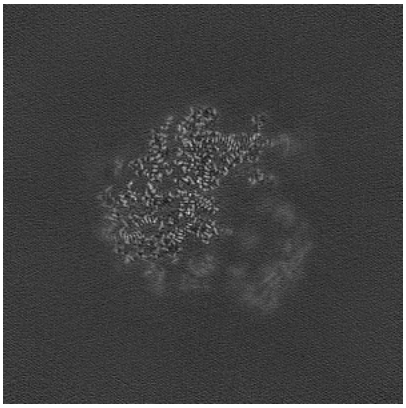

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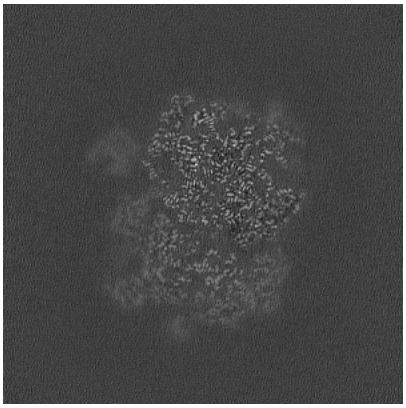
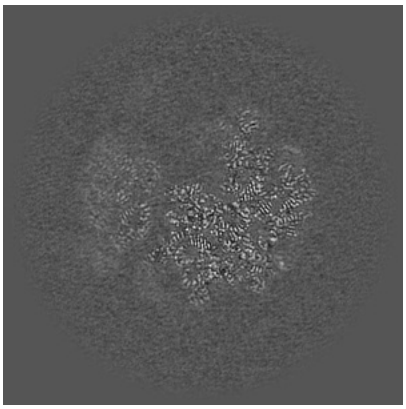


Z Index: 200

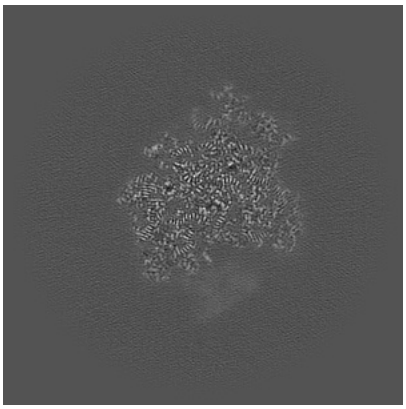
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

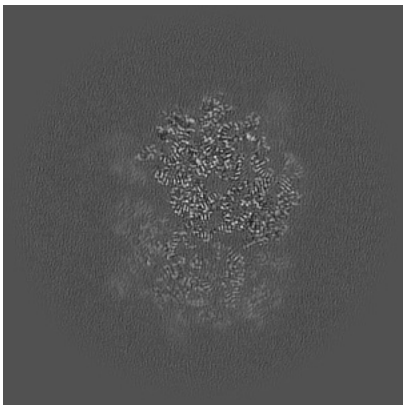
6.3.1 Primary map



X Index: 201

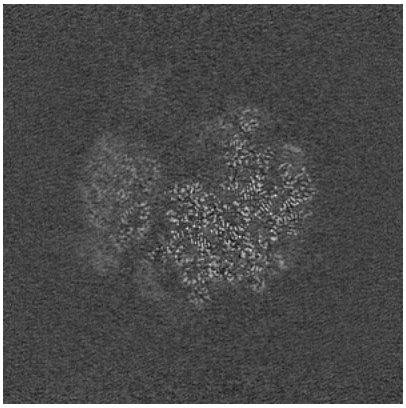


Y Index: 247

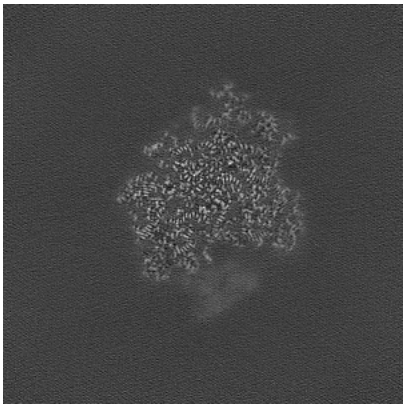


Z Index: 189

6.3.2 Raw map



X Index: 201



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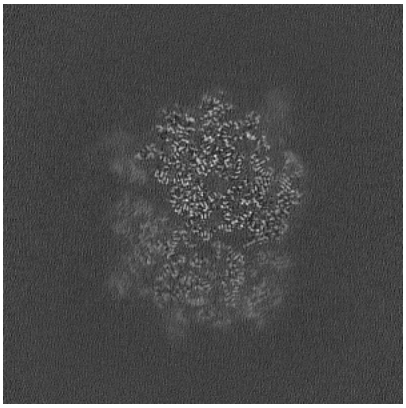
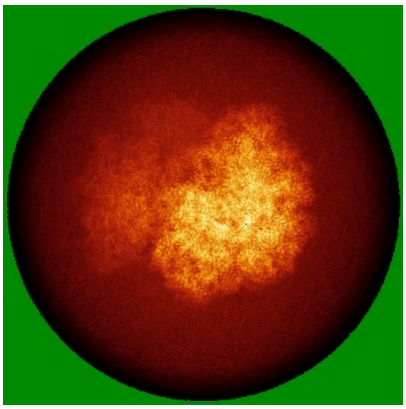


Z Index: 189

The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

6.4.1 Primary map



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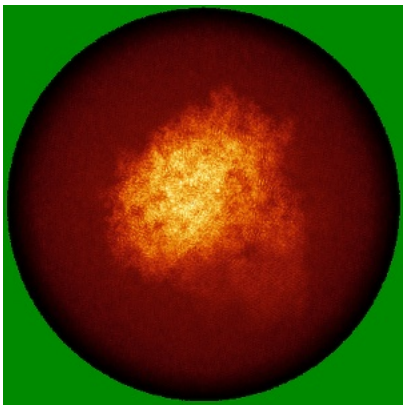
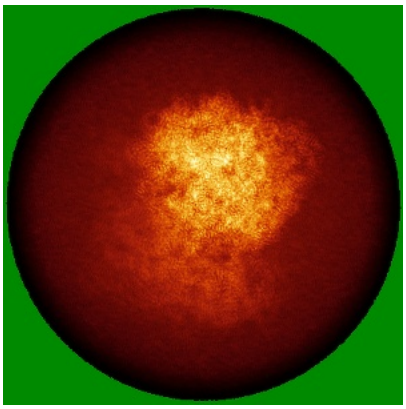
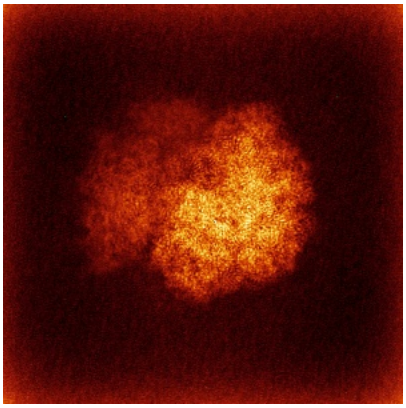


Y

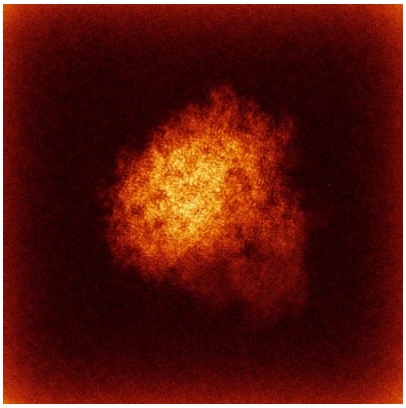


Z

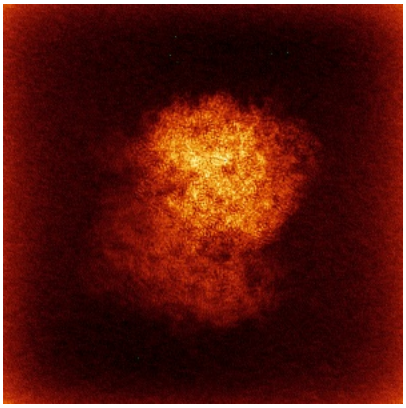
6.4.2 Raw map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X

Y

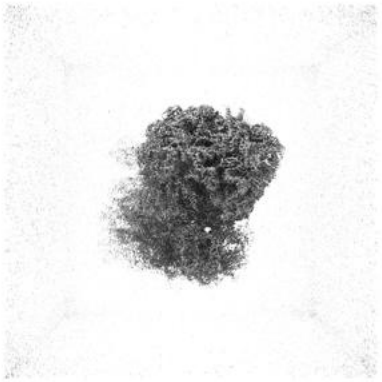
Z

The images above show the 3D surface view of the map at the recommended contour level 0.6. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

X

Y



Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

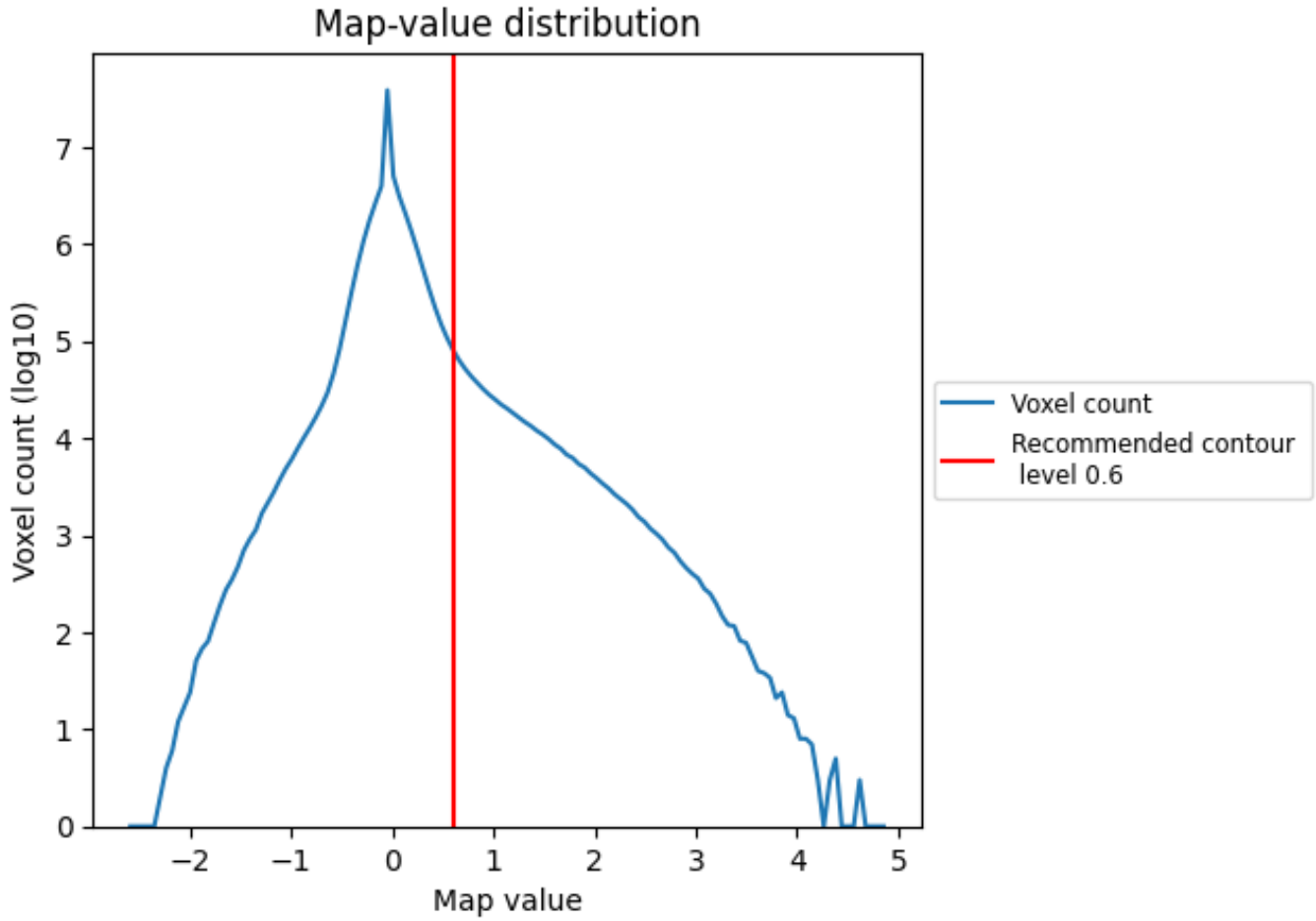
6.6 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

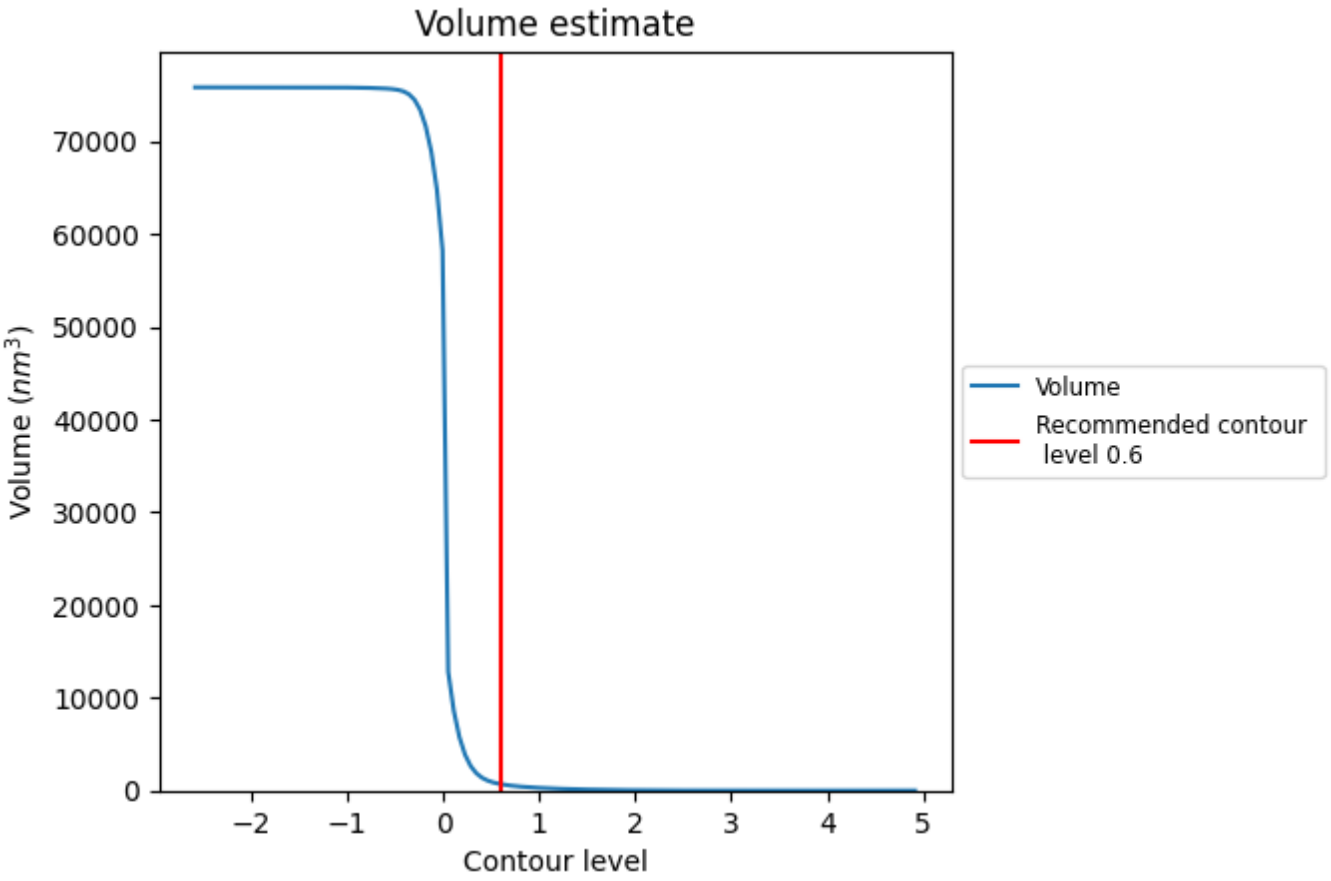
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

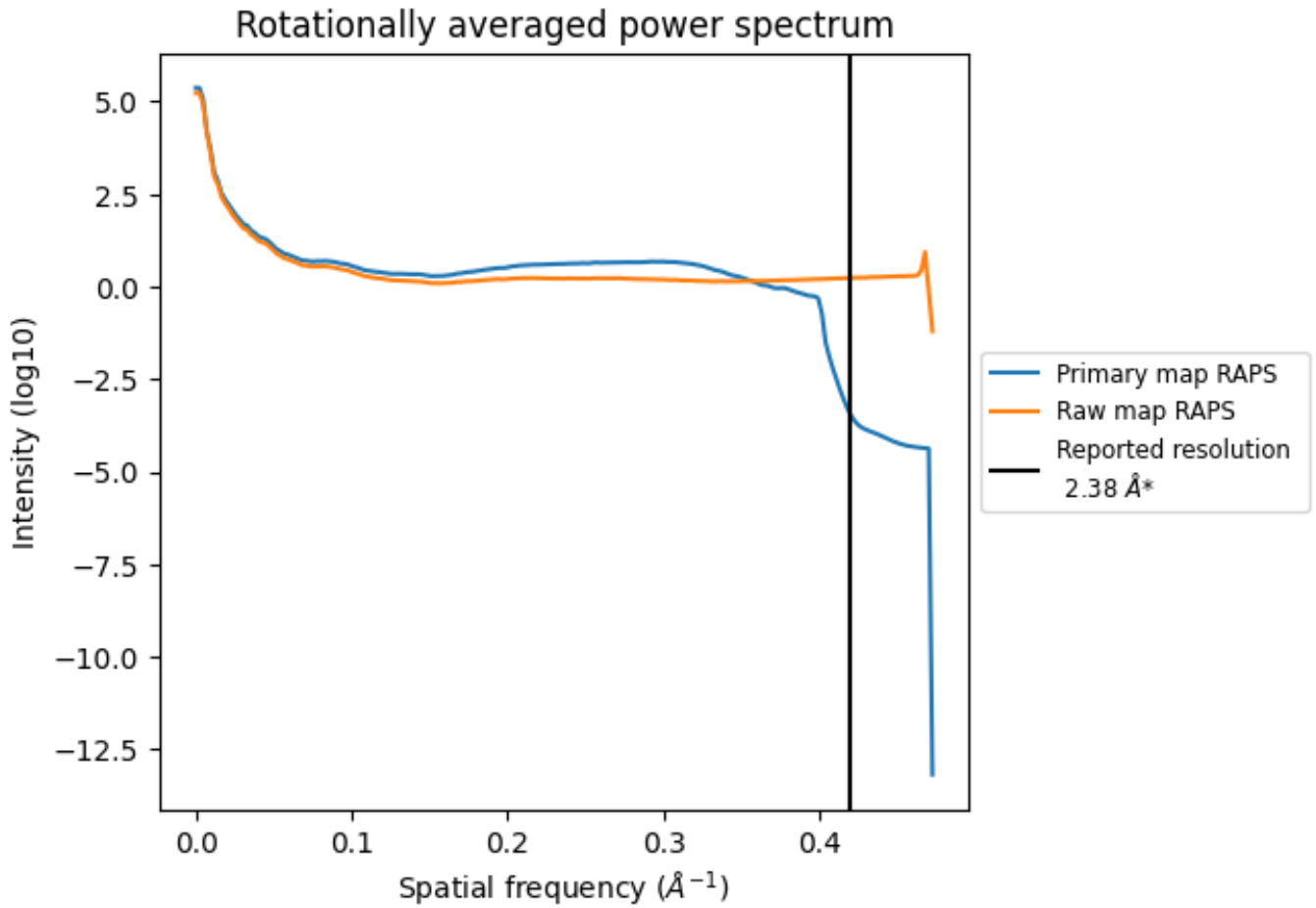
7.2 Volume estimate



The volume at the recommended contour level is 691 nm^3; this corresponds to an approximate mass of 624 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)

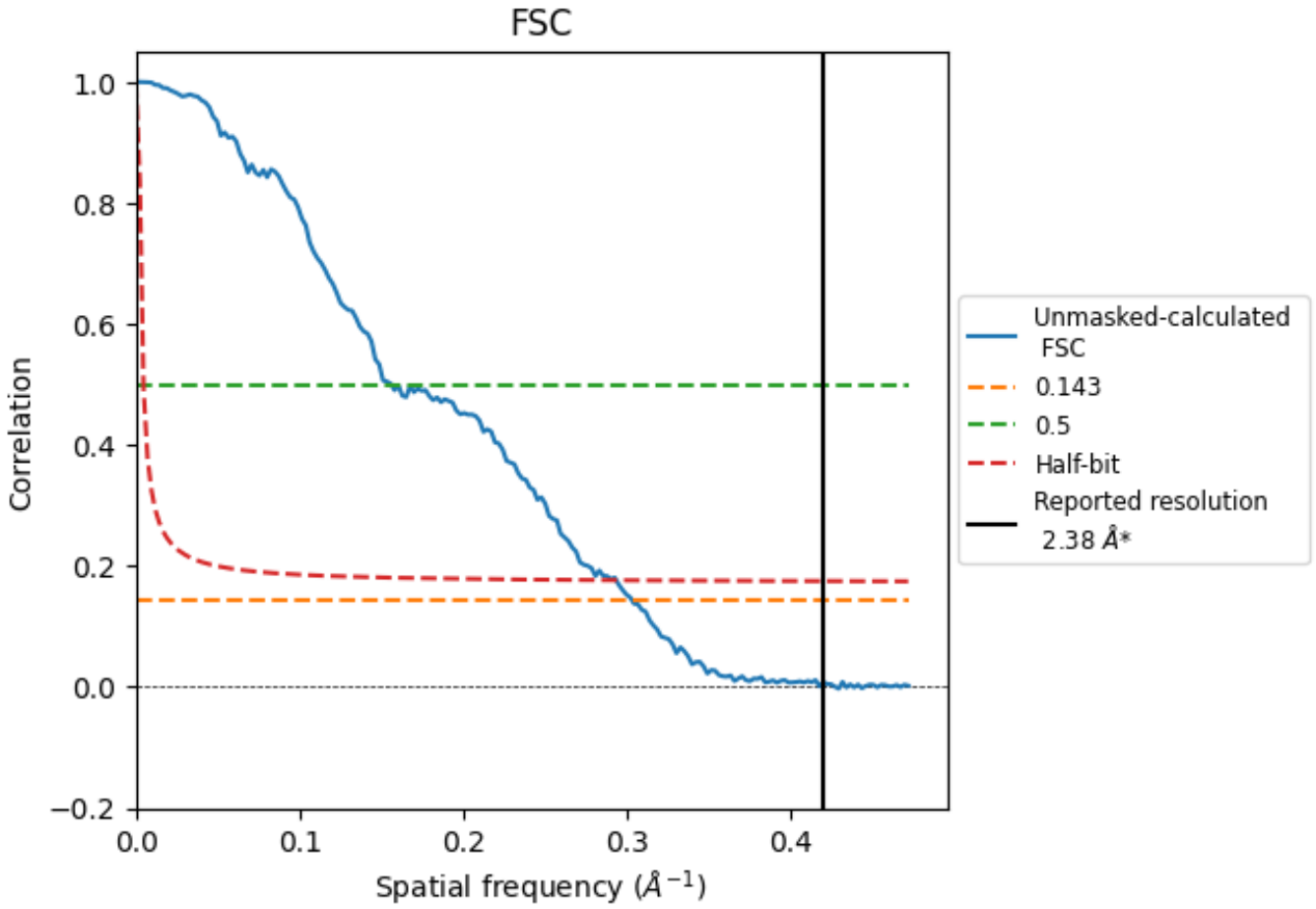


*Reported resolution corresponds to spatial frequency of 0.420 $Å^{-1}$

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.420 Å^{-1}

8.2 Resolution estimates (i)

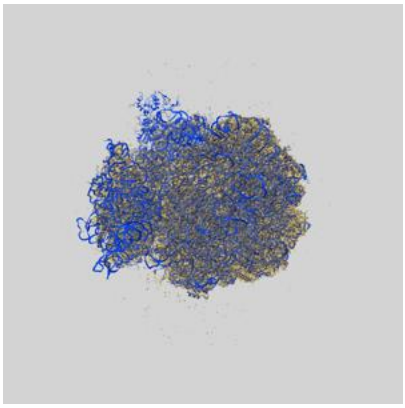
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.38	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.29	6.40	3.40

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.29 differs from the reported value 2.38 by more than 10 %

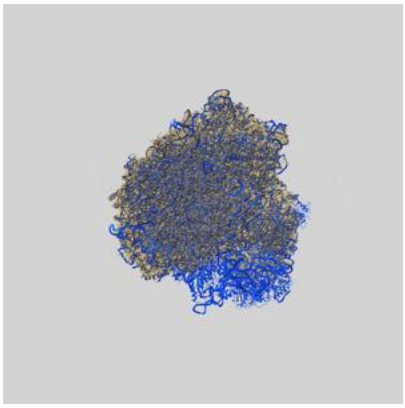
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-47098 and PDB model 9DP7. Per-residue inclusion information can be found in section 3 on page 20.

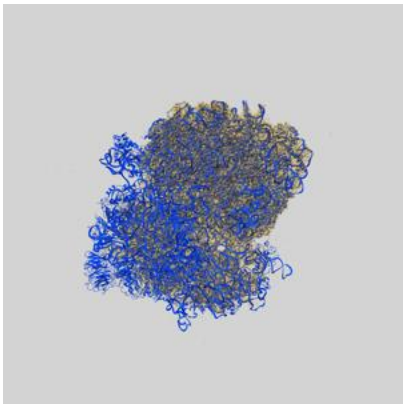
9.1 Map-model overlay



X



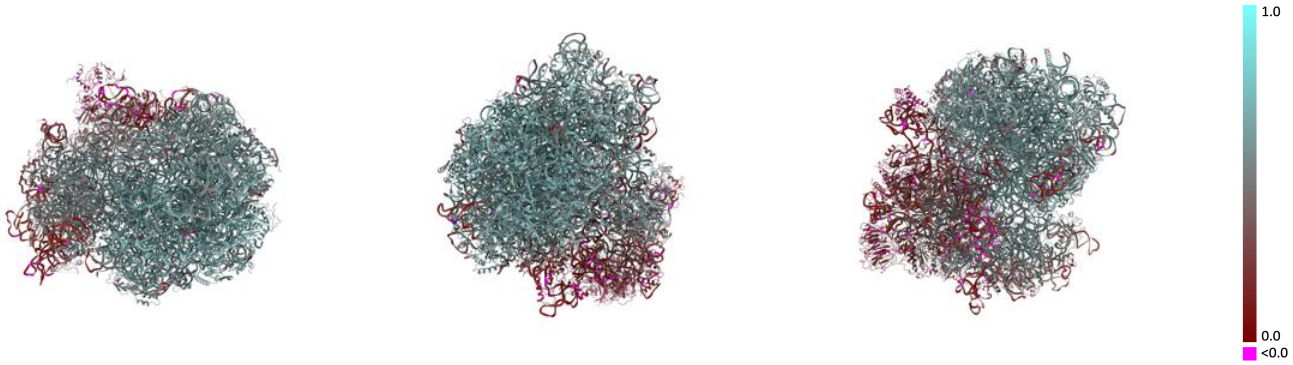
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.6 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

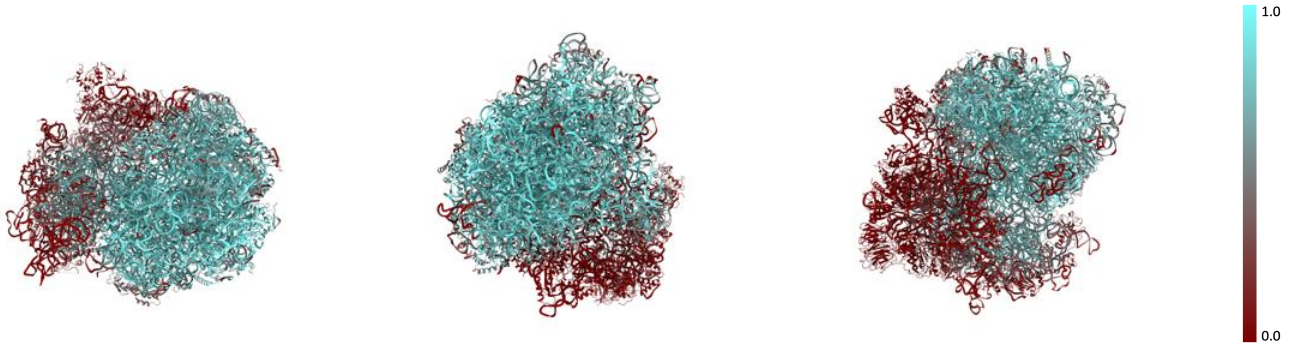
9.2 Q-score mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

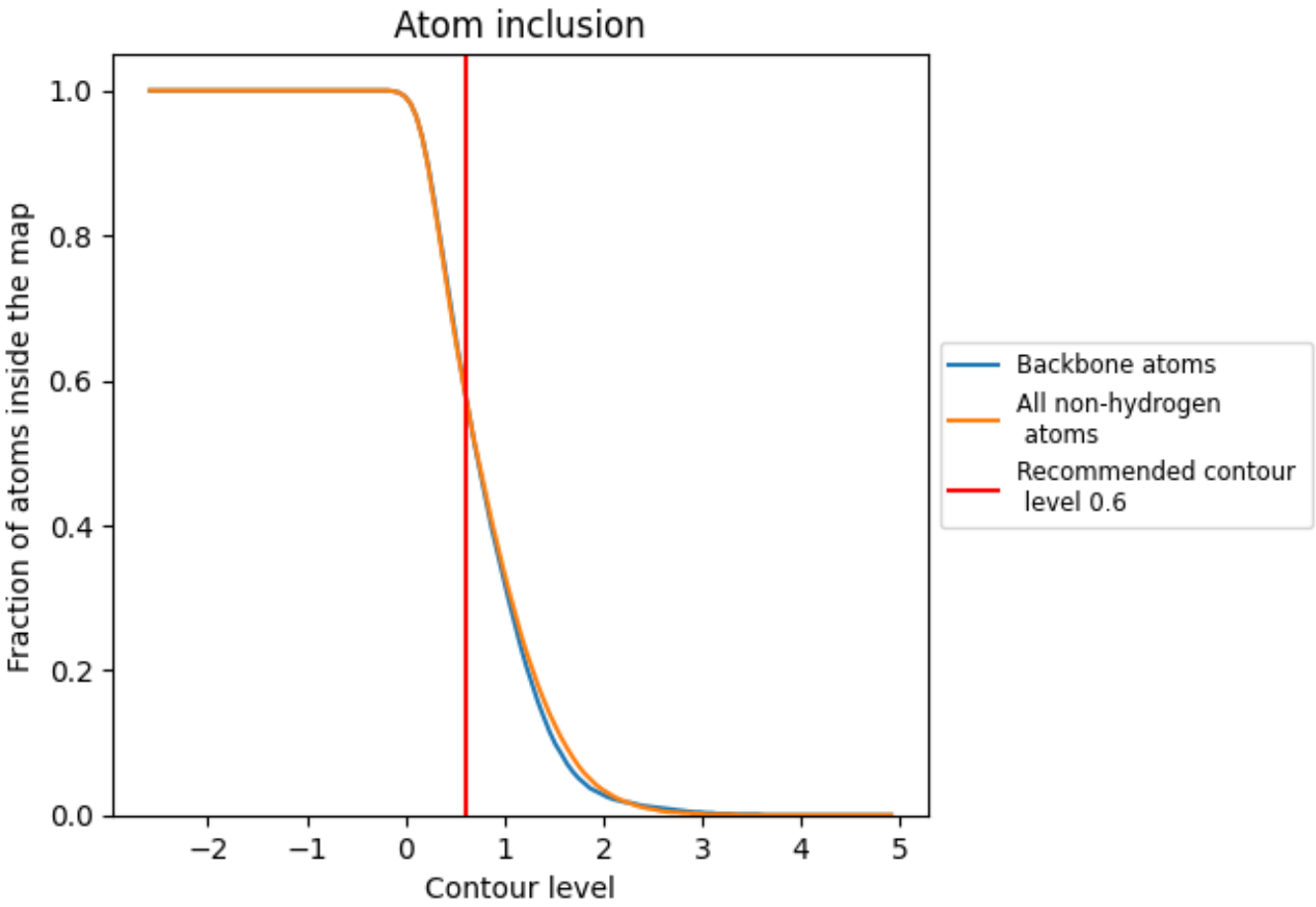
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.6).

9.4 Atom inclusion (i)



At the recommended contour level, 58% of all backbone atoms, 58% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.6) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5830	0.5000
A1	0.8250	0.5890
A3	0.8120	0.5700
A4	0.9000	0.6270
AA	0.8660	0.6350
AB	0.8390	0.6310
AC	0.8270	0.6210
AD	0.5340	0.5080
AE	0.5850	0.5510
AF	0.7960	0.5980
AG	0.6510	0.5580
AH	0.6410	0.5550
AI	0.7270	0.5770
AJ	0.3280	0.4620
AL	0.7810	0.6110
AM	0.6690	0.5510
AN	0.9180	0.6440
AO	0.8240	0.6140
AP	0.8450	0.6340
AQ	0.8730	0.6450
AR	0.6770	0.5530
AS	0.7530	0.5780
AT	0.7440	0.5760
AU	0.5310	0.5290
AV	0.8200	0.6340
AW	0.8360	0.6280
AX	0.7770	0.6050
AY	0.7840	0.6190
AZ	0.6210	0.5410
Aa	0.8540	0.6310
Ab	0.7060	0.5710
Ac	0.6250	0.5540
Ad	0.7580	0.5980
Ae	0.8610	0.6480
Af	0.8830	0.6300

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Chain	Atom inclusion	Q-score
Ag	0.7810	0.5870
Ah	0.7740	0.5970
Ai	0.6980	0.5670
Aj	0.9340	0.6510
Ak	0.4910	0.5190
Al	0.8840	0.6460
Am	0.6480	0.5740
An	0.6180	0.5940
Ao	0.7030	0.5990
Ap	0.7580	0.6150
B5	0.4080	0.4130
BA	0.0950	0.3600
BB	0.0740	0.3160
BC	0.3110	0.4880
BD	0.0650	0.2990
BE	0.3020	0.4710
BF	0.0210	0.2340
BG	0.1920	0.4120
BH	0.0770	0.3230
BI	0.4210	0.4950
BJ	0.2220	0.4400
BK	0.0180	0.1790
BL	0.4790	0.5000
BM	0.0010	0.1430
BN	0.3010	0.4590
BO	0.0830	0.3240
BP	0.0090	0.1980
BQ	0.0270	0.2660
BR	0.0340	0.3080
BS	0.0180	0.2310
BT	0.0240	0.2200
BU	0.0350	0.2420
BV	0.1480	0.3770
BW	0.4430	0.5230
BX	0.5240	0.5410
BY	0.1600	0.4260
BZ	0.0110	0.2050
Ba	0.2540	0.4170
Bb	0.1000	0.3530
Bc	0.0250	0.2860
Bd	0.0800	0.2930
Be	0.1760	0.4010

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Chain	Atom inclusion	Q-score
Bf	0.0000	0.1780
Bg	0.0030	0.1930
E	0.0040	0.1670
EC	0.0200	0.1690