



Full wwPDB EM Validation Report ⓘ

Mar 8, 2026 – 11:34 AM UTC

PDB ID : 8T3F / pdb_00008t3f
EMDB ID : EMD-41002
Title : Hypomethylated yeast 80S bound with Taura syndrome virus (TSV) internal ribosome entry site (IRES), eEF2, GDP, and sordarin, Structure V
Authors : Zhao, Y.; Li, H.
Deposited on : 2023-06-07
Resolution : 3.09 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:

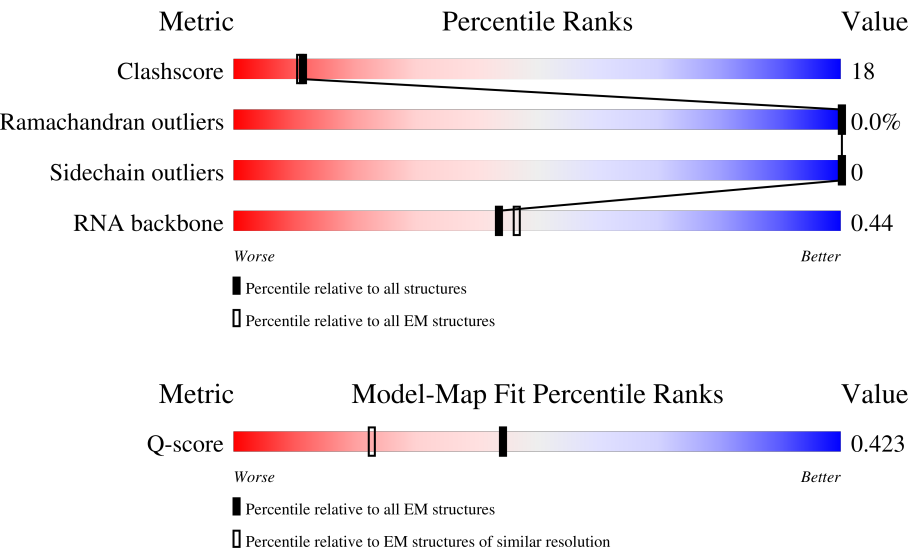
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data 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 3.09 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	14003 (2.59 - 3.59)

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 $\leq 5\%$. 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	13% 42% 39% 18%
2	BB	255	16% 37% 47% 16%
3	BC	254	5% 49% 36% 15%

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Mol	Chain	Length	Quality of chain
4	BE	261	
5	BG	236	
6	BH	190	
7	BI	200	
8	BJ	197	
9	BL	156	
10	BN	151	
11	BO	137	
12	BV	87	
13	BW	130	
14	BX	145	
15	BY	135	
16	Ba	119	
17	Bb	82	
18	Be	63	
19	BD	240	
20	BF	225	
21	BK	105	
22	BP	142	
23	BQ	143	
24	BR	136	
25	BS	146	
26	BT	144	
27	BU	121	
28	BZ	108	

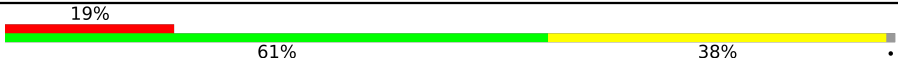
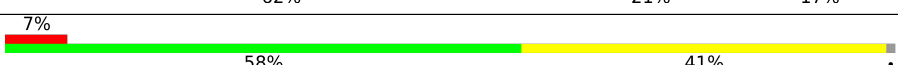
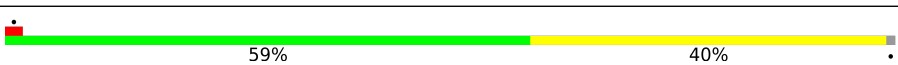
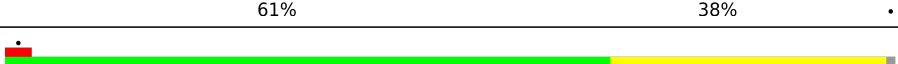
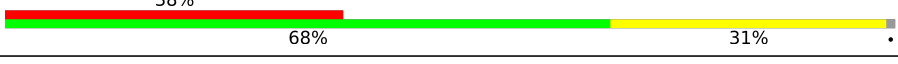
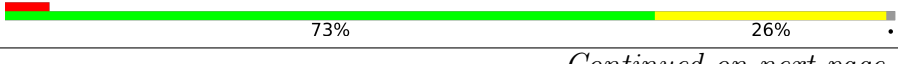
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Mol	Chain	Length	Quality of chain
29	Bc	67	
30	Bd	56	
31	Bg	319	
32	Bf	152	
33	BM	143	
34	B5	1798	
35	AA	254	
36	AB	387	
37	AC	362	
38	A1	3393	
39	A3	121	
40	A4	158	
41	AD	297	
42	AE	176	
43	AF	244	
44	AG	256	
45	AH	191	
46	AI	222	
47	AJ	174	
48	AL	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	
55	AS	178	
56	AT	160	
57	AU	121	
58	AV	137	
59	AW	155	
60	AX	142	
61	AY	127	
62	AZ	136	
63	Aa	149	
64	Ab	59	
65	Ac	105	
66	Ad	113	
67	Ae	130	
68	Af	107	
69	Ag	121	
70	Ah	120	
71	Ai	100	
72	Aj	88	
73	Ak	78	
74	Al	51	
75	Am	128	
76	An	25	
77	Ao	106	
78	Ap	92	

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Mol	Chain	Length	Quality of chain
79	E	217	
80	DC	842	
81	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	MA6	B5	1782	-	-	X	-
38	PSU	A1	2266	-	-	X	-
85	SO1	DC	903	X	-	-	-

2 Entry composition

There are 85 unique types of molecules in this entry. The entry contains 211022 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
1	BA	206	Total	C	N	O	S	0	0
			1612	1034	285	291	2		

- Molecule 2 is a protein called RPS1A isoform 1.

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

- Molecule 3 is a protein called RPS2 isoform 1.

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

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

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

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

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

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

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

- 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 RPS22A isoform 1.

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	S	0	0
			1073	676	208	189			

- Molecule 16 is a protein called RPS26B isoform 1.

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 RPS3 isoform 1.

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 RPS15 isoform 1.

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
			948	596	179	171	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 RPS20 isoform 1.

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 RPS25A isoform 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	BZ	71	Total	C	N	O	0	0
			574	366	108	100		

- Molecule 29 is a protein called RPS28A isoform 1.

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 RPS29A isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Bd	53	Total	C	N	O	S	0	0
			442	274	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 Ubiquitin-40S ribosomal protein S31.

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 40S ribosomal protein S12.

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	1757	Total	C	N	O	P	1	0
			37463	16754	6635	12317	1757		

- 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
			3081	1956	584	533	8		

- Molecule 37 is a protein called RPL4A isoform 1.

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	3216	Total	C	N	O	P	0	0
			68786	30729	12387	22454	3216		

- 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 5.8 S 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 RPL5 isoform 1.

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	167	Total	C	N	O	S	0	0
			1303	840	234	228	1		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AE	120	LYS	ASN	conflict	UNP Q02326

- 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 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	AI	222	Total	C	N	O	S	0	0
			1804	1147	339	310	8		

- Molecule 47 is a protein called RPL11A isoform 1.

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		
			1543	962	315	266	0	0

- 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		
			1053	675	199	177	2	0	0

- 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		
			1720	1077	361	281	1	0	0

- 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		
			1555	1003	289	262	1	197	0

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

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

- 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		
			1441	908	290	241	2	0	0

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

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

- 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	S	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 RPL24A isoform 1.

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	S	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 RPL29 isoform 1.

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 RPL32 isoform 1.

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 RPL38 isoform 1.

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	105	Total	C	N	O	S	0	0
			847	534	170	138	5		

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

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

- Molecule 79 is a protein called RPL1A isoform 1.

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

- Molecule 80 is a protein called Elongation factor 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	DC	824	Total	C	N	O	S	0	0
			6419	4085	1096	1208	30		

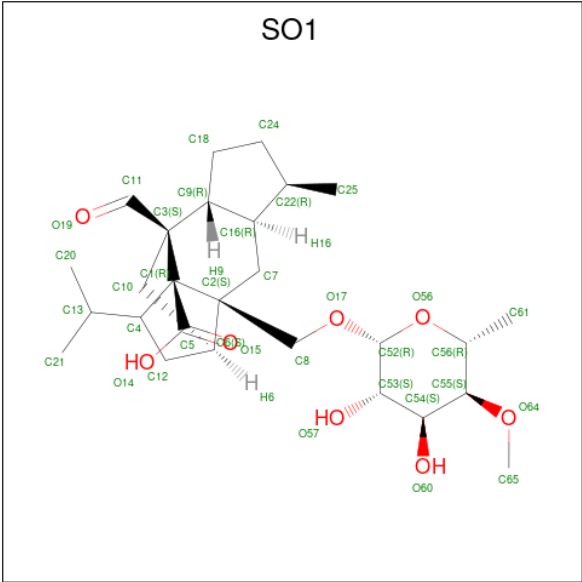
- Molecule 81 is a RNA chain called TSV IRES.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	EC	133	Total	C	N	O	P	0	0
			2808	1254	499	922	133		

- Molecule 82 is ZINC ION (CCD ID: ZN) (formula: Zn).

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

- Molecule 83 is GUANOSINE-5'-DIPHOSPHATE (CCD ID: GDP) (formula: C₁₀H₁₅N₅O₁₁P₂).

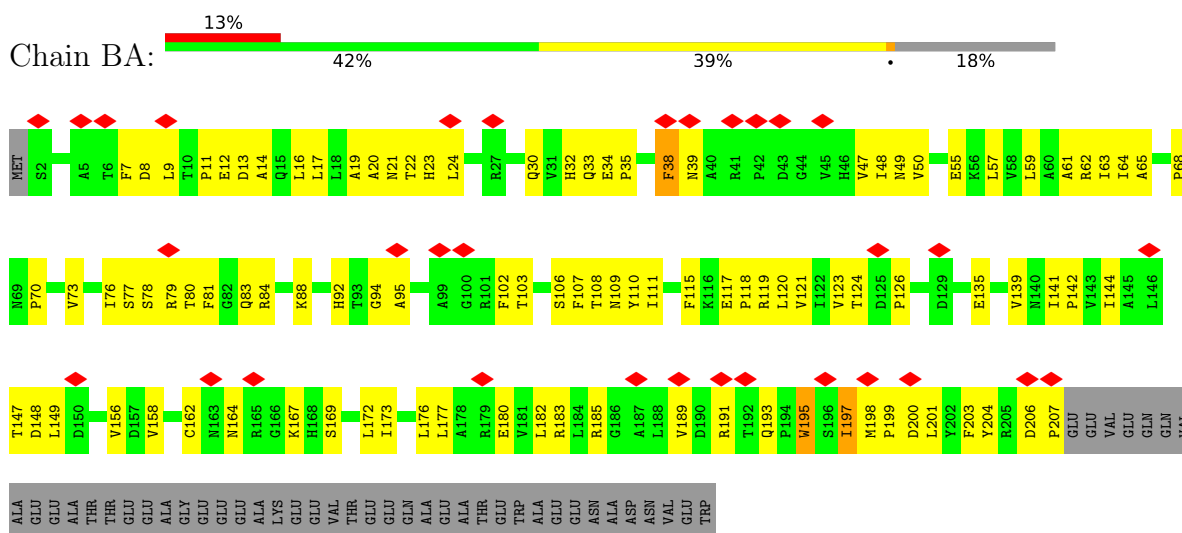


Mol	Chain	Residues	Atoms			AltConf
85	DC	1	Total	C	O	0
			35	27	8	

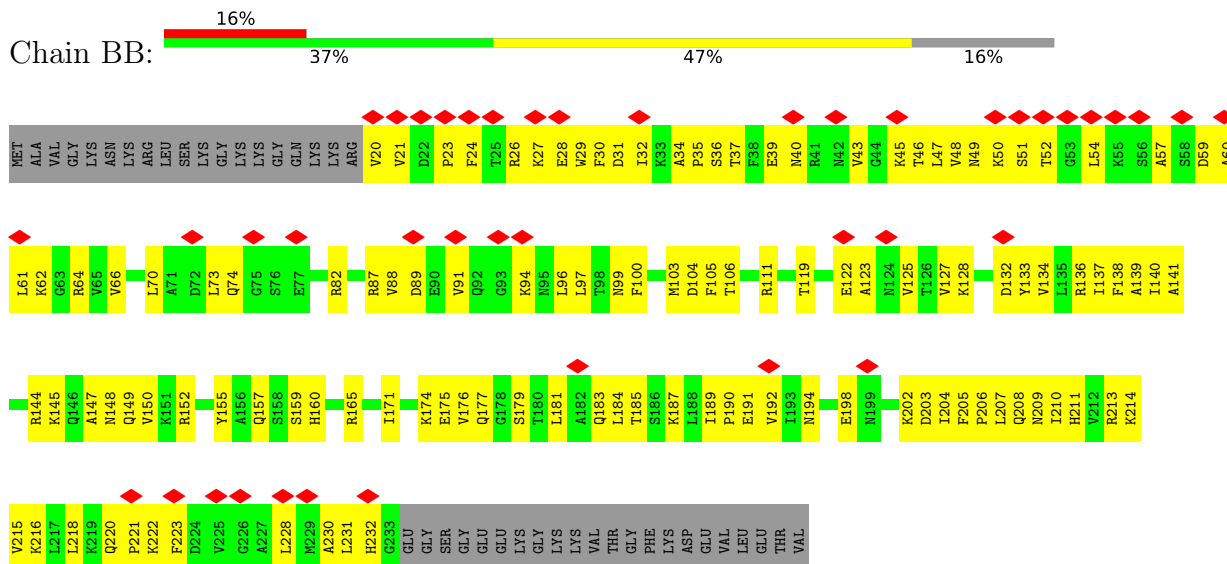
3 Residue-property plots

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.

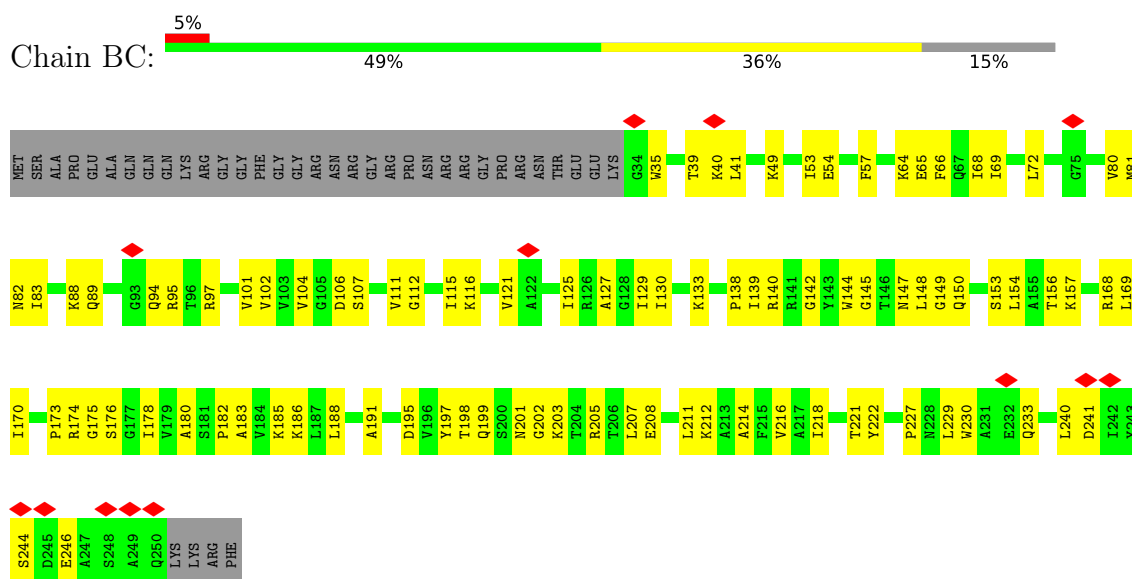
• Molecule 1: 40S ribosomal protein S0-A



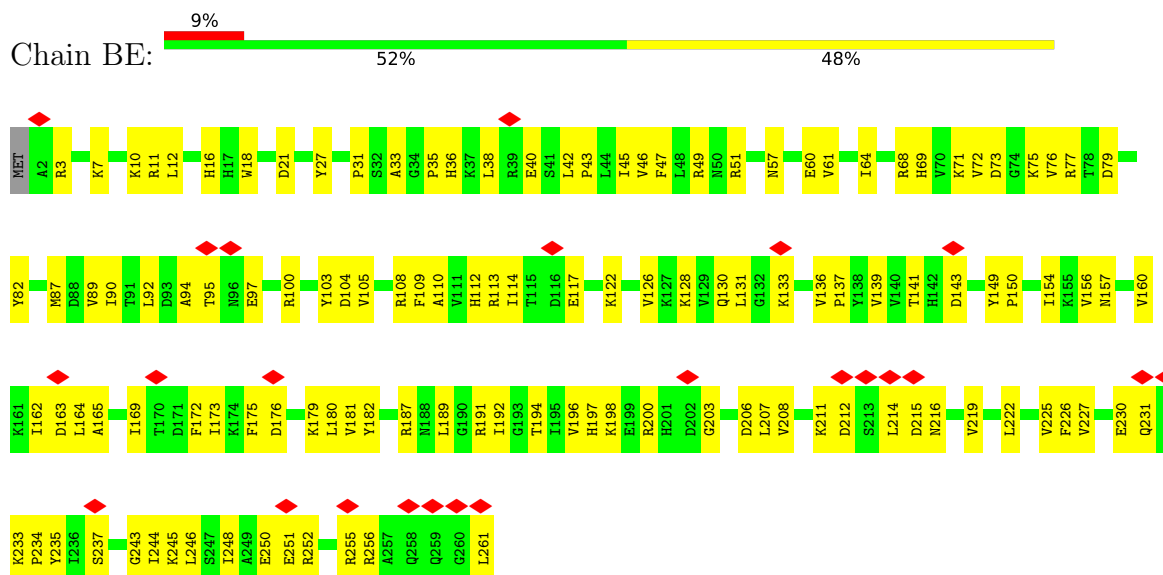
• Molecule 2: RPS1A isoform 1



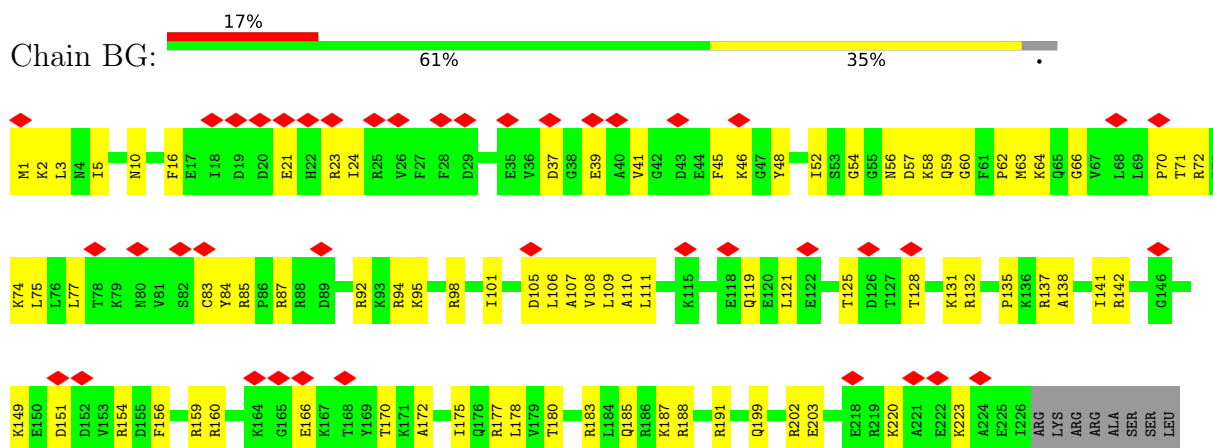
• Molecule 3: RPS2 isoform 1



• Molecule 4: 40S ribosomal protein S4-A

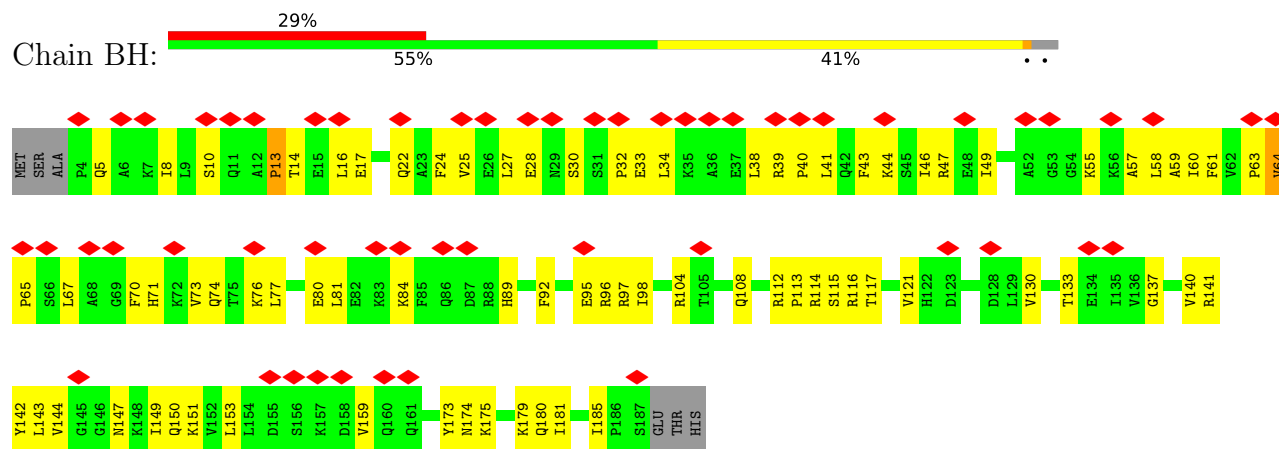


• Molecule 5: 40S ribosomal protein S6-A

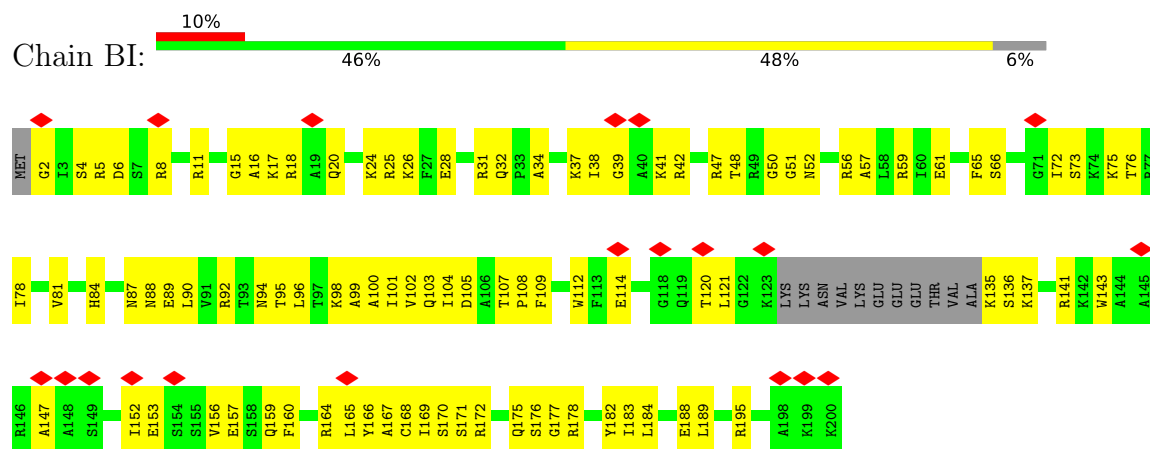


LYS
ALA

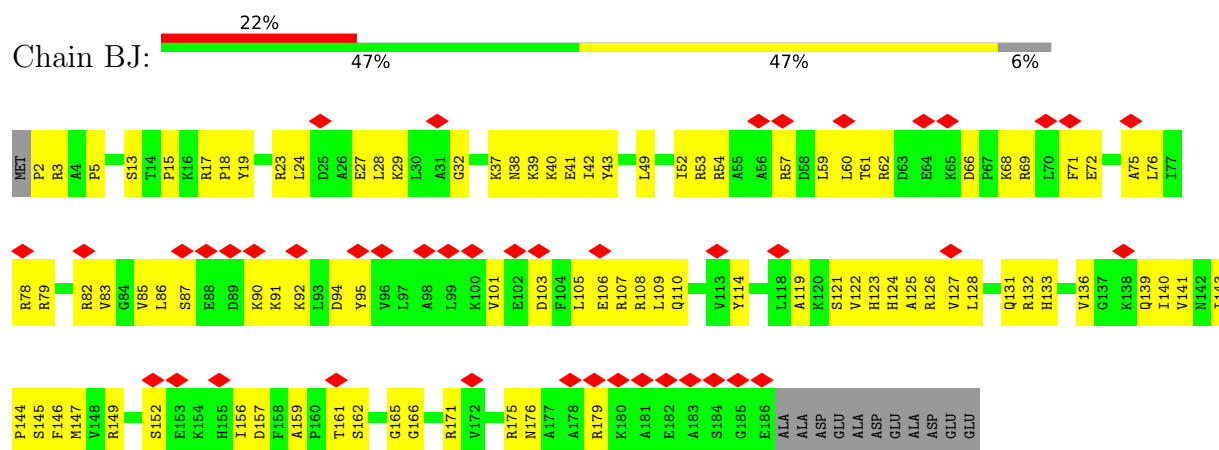
• Molecule 6: 40S ribosomal protein S7-A



• Molecule 7: 40S ribosomal protein S8-A

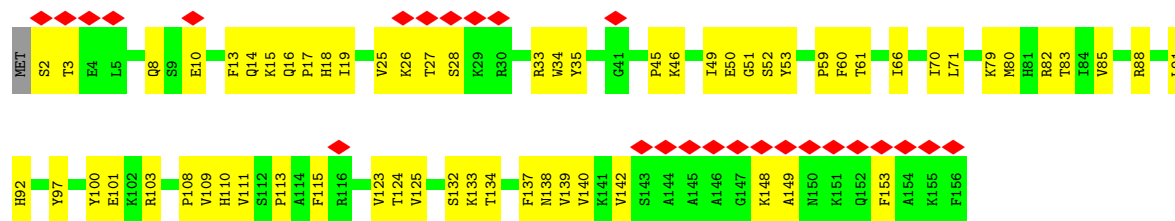


• Molecule 8: 40S ribosomal protein S9-A

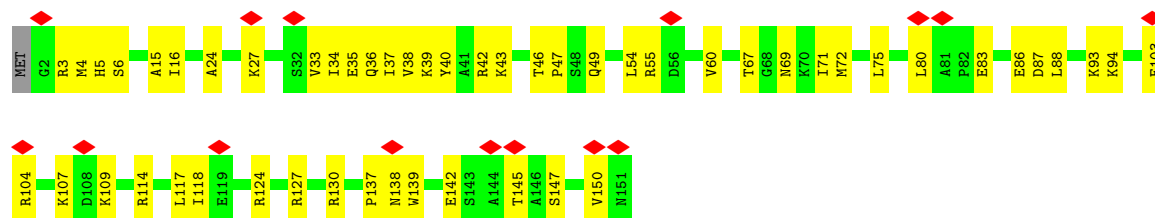


• Molecule 9: 40S ribosomal protein S11-A

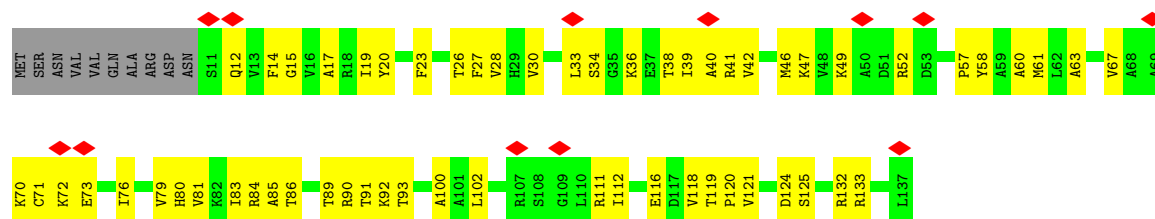




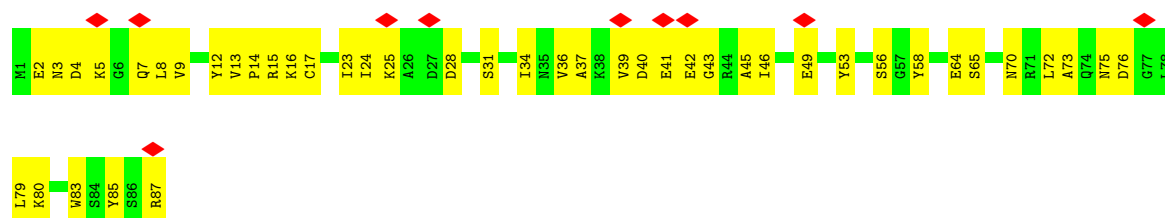
• Molecule 10: 40S ribosomal protein S13



• Molecule 11: 40S ribosomal protein S14-A

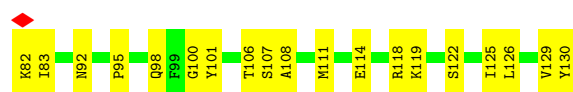


• Molecule 12: 40S ribosomal protein S21-A

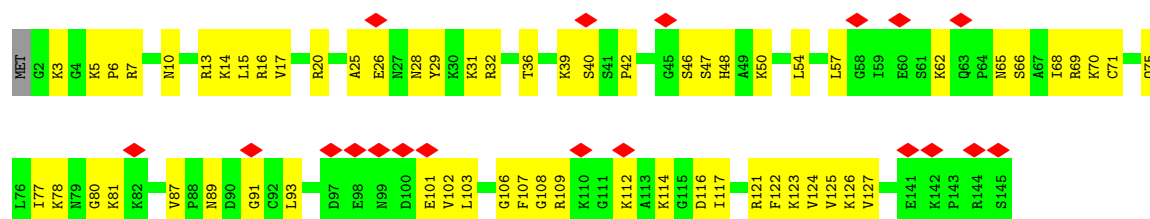


• Molecule 13: RPS22A isoform 1

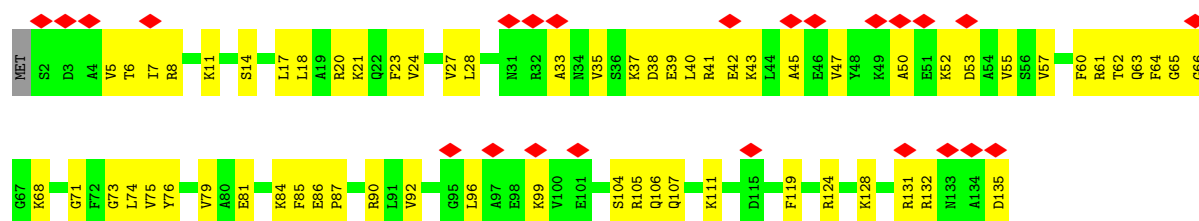




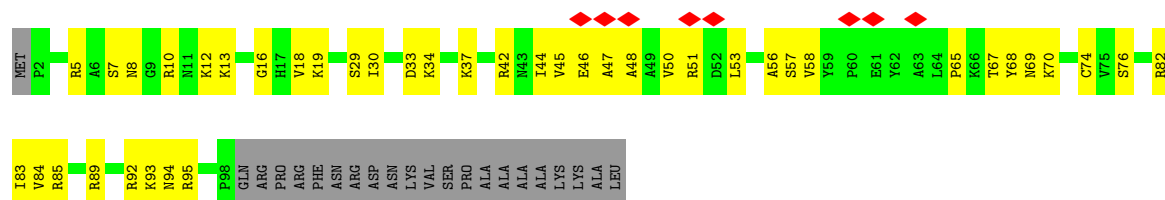
• Molecule 14: 40S ribosomal protein S23-A



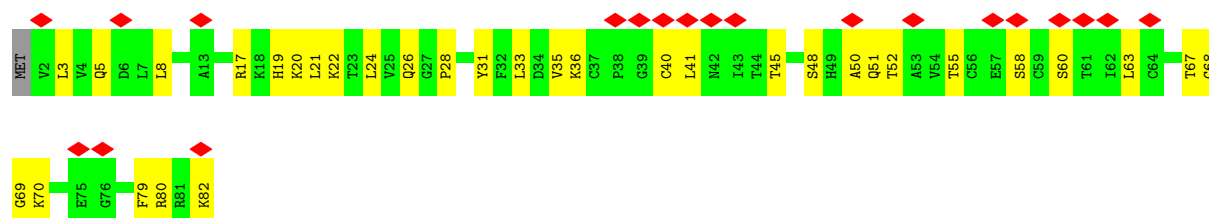
• Molecule 15: 40S ribosomal protein S24-A



• Molecule 16: RPS26B isoform 1



• Molecule 17: 40S ribosomal protein S27-A



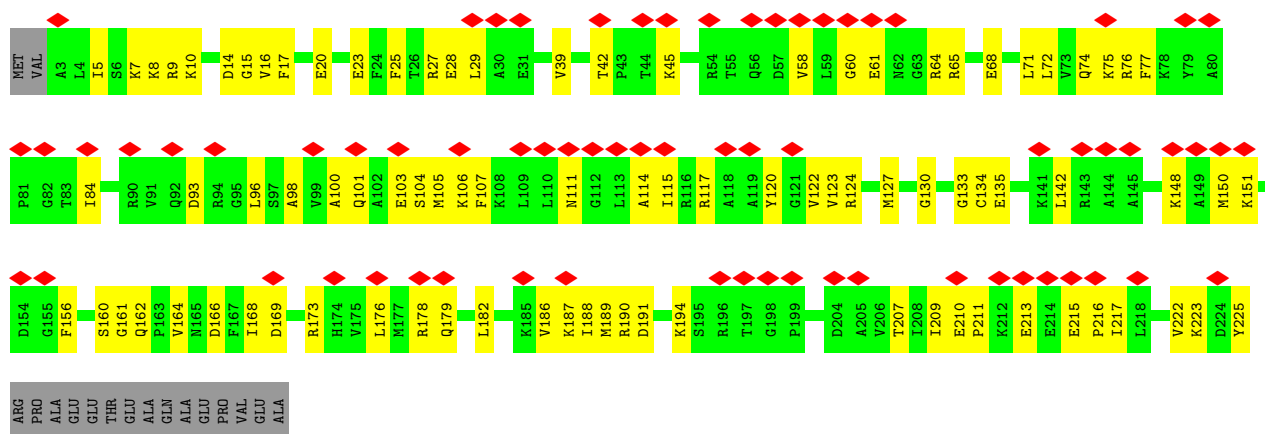
• Molecule 18: 40S ribosomal protein S30-A

Chain Be: 



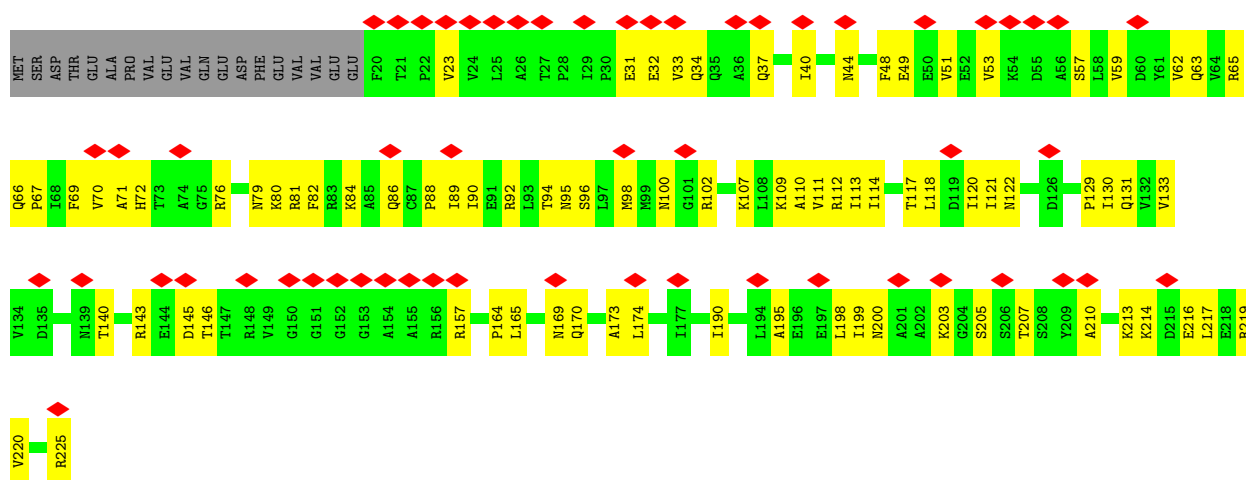
• Molecule 19: RPS3 isoform 1

Chain BD: 



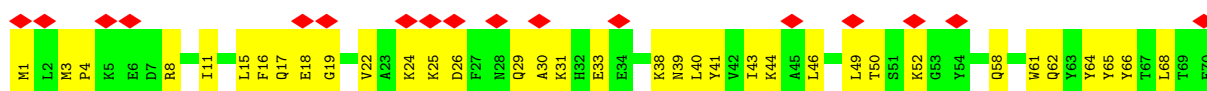
• Molecule 20: Rps5p

Chain BF: 



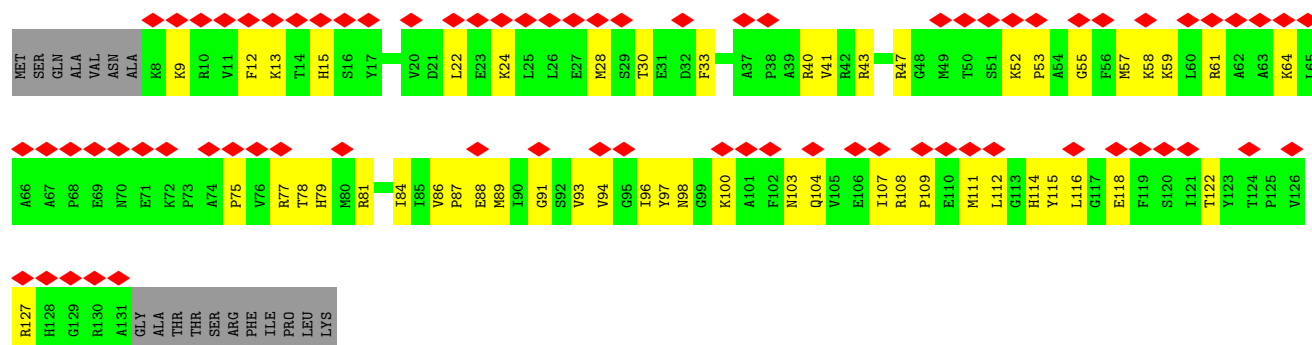
• Molecule 21: 40S ribosomal protein S10-A

Chain BK: 

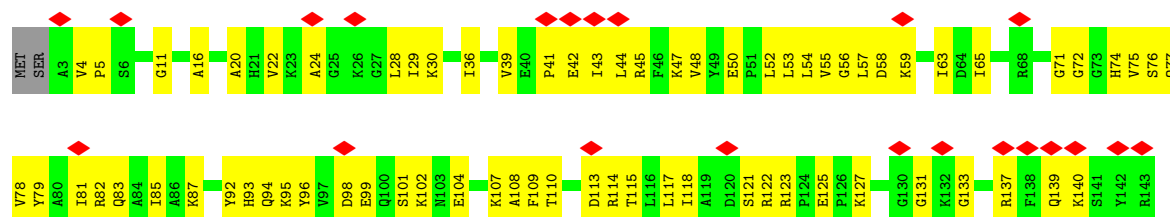




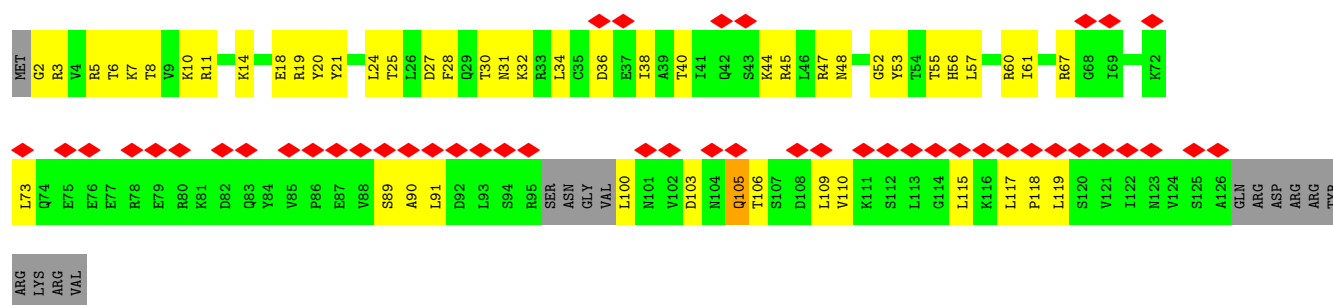
• Molecule 22: RPS15 isoform 1



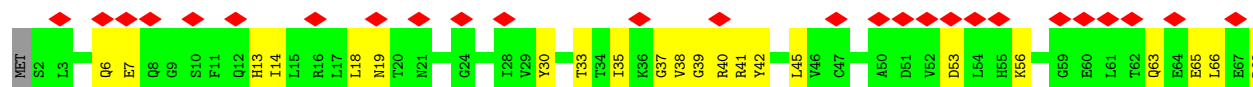
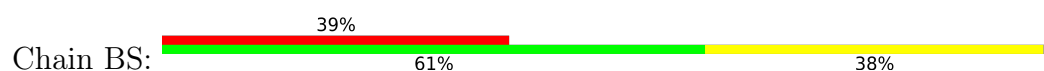
• Molecule 23: 40S ribosomal protein S16-A



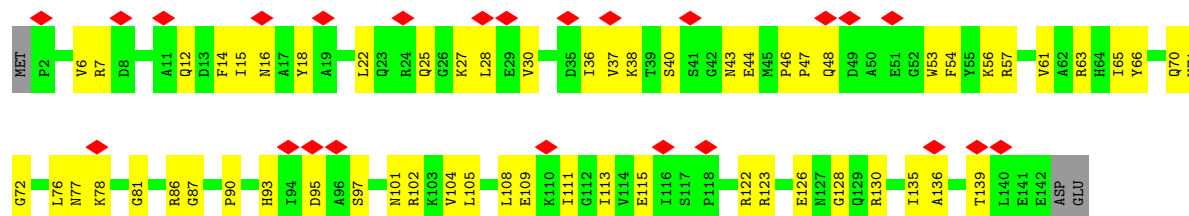
• Molecule 24: 40S ribosomal protein S17-A



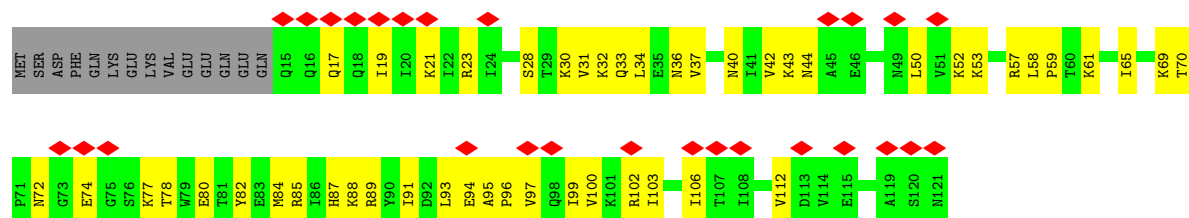
• Molecule 25: 40S ribosomal protein S18-A



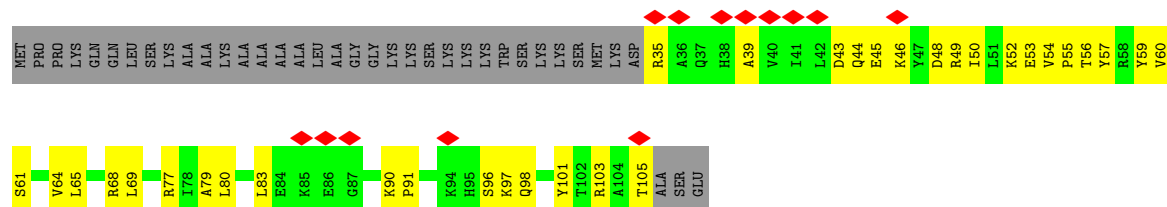
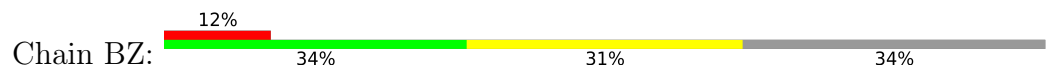
- Molecule 26: 40S ribosomal protein S19-A



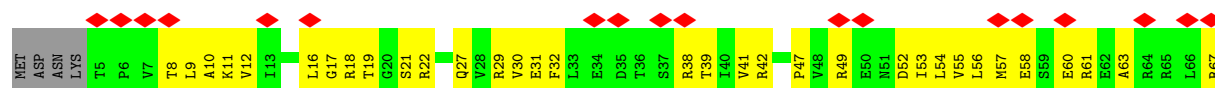
- Molecule 27: RPS20 isoform 1



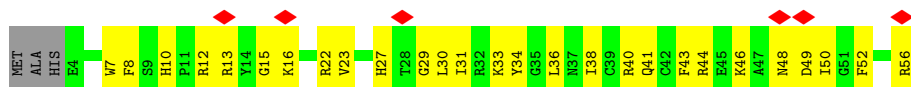
- Molecule 28: RPS25A isoform 1



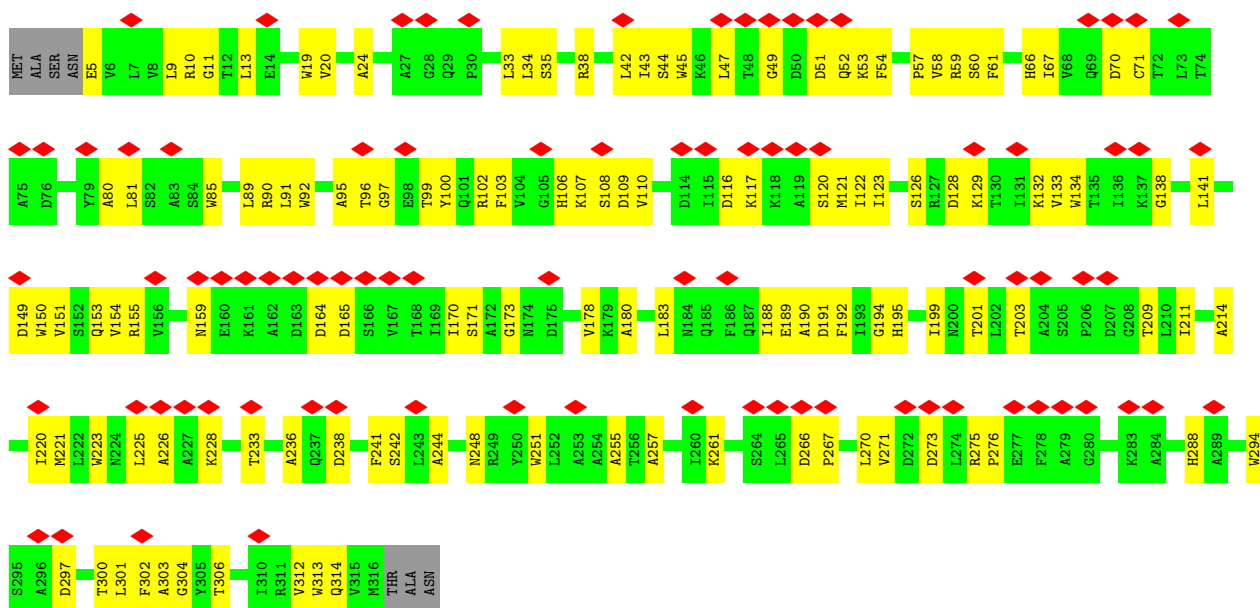
- Molecule 29: RPS28A isoform 1



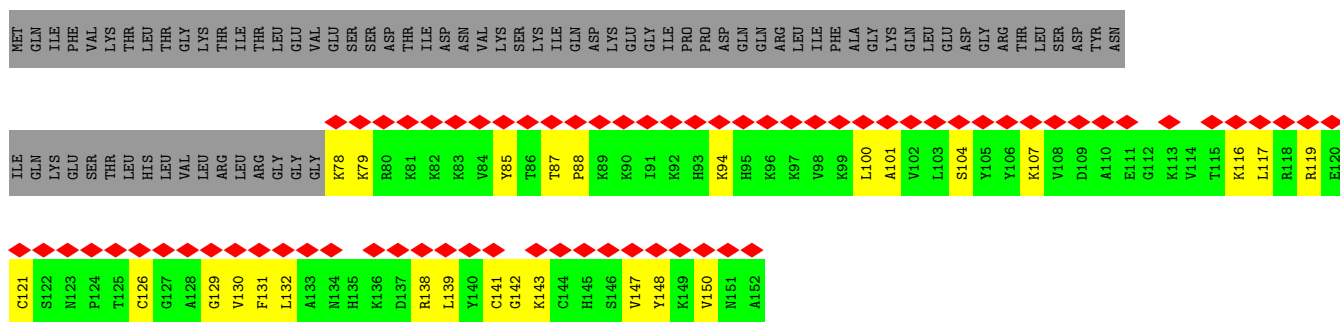
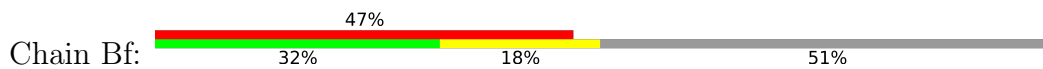
- Molecule 30: RPS29A isoform 1



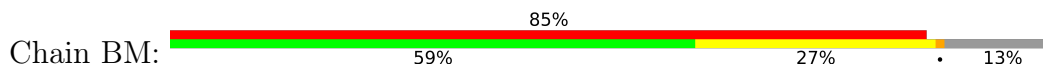
• Molecule 31: Guanine nucleotide-binding protein subunit beta-like protein

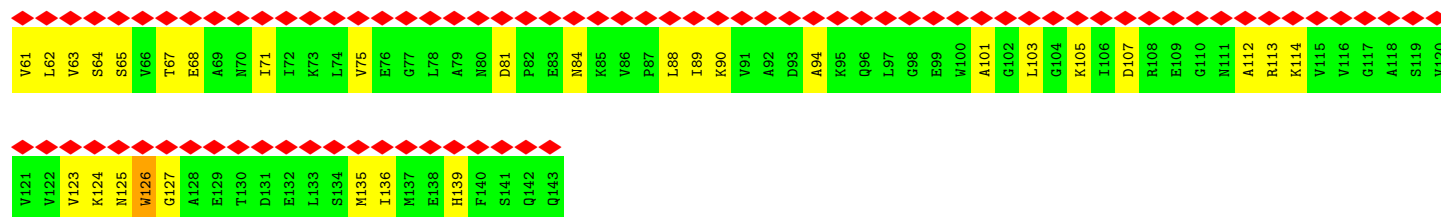


• Molecule 32: Ubiquitin-40S ribosomal protein S31

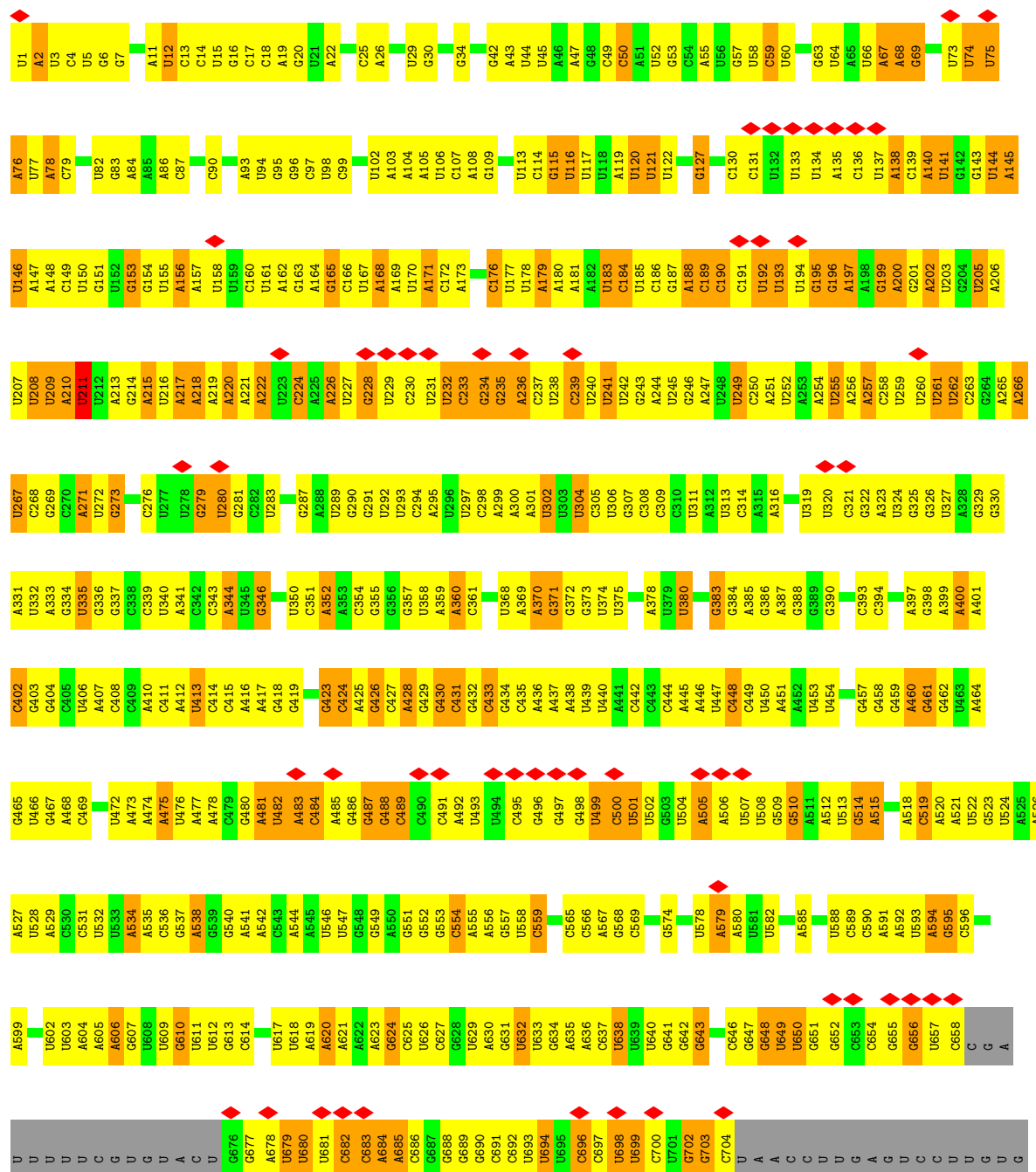


• Molecule 33: 40S ribosomal protein S12

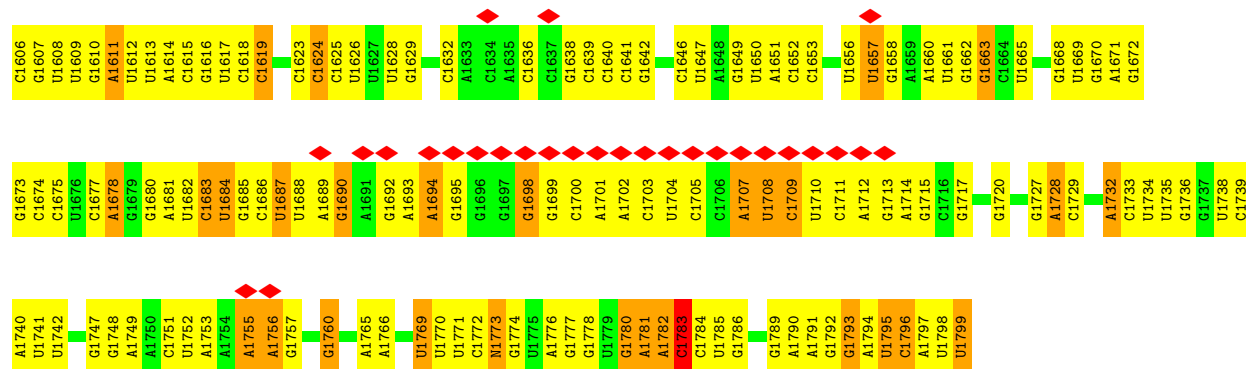




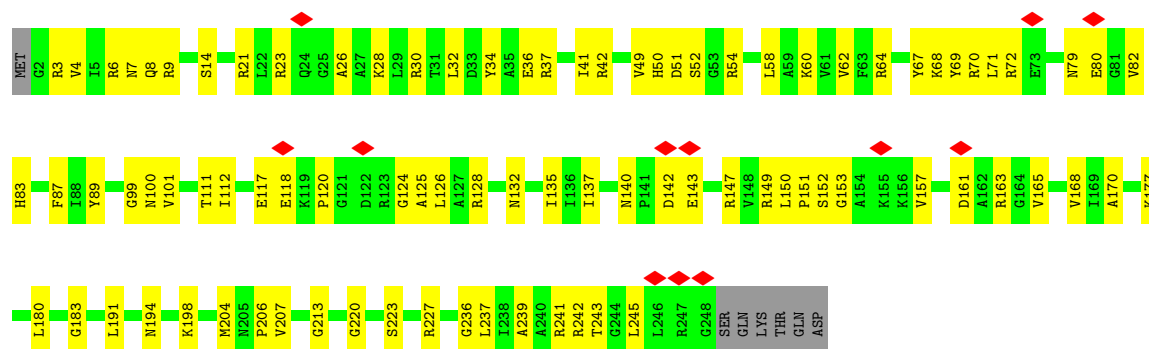
• Molecule 34: 18S rRNA



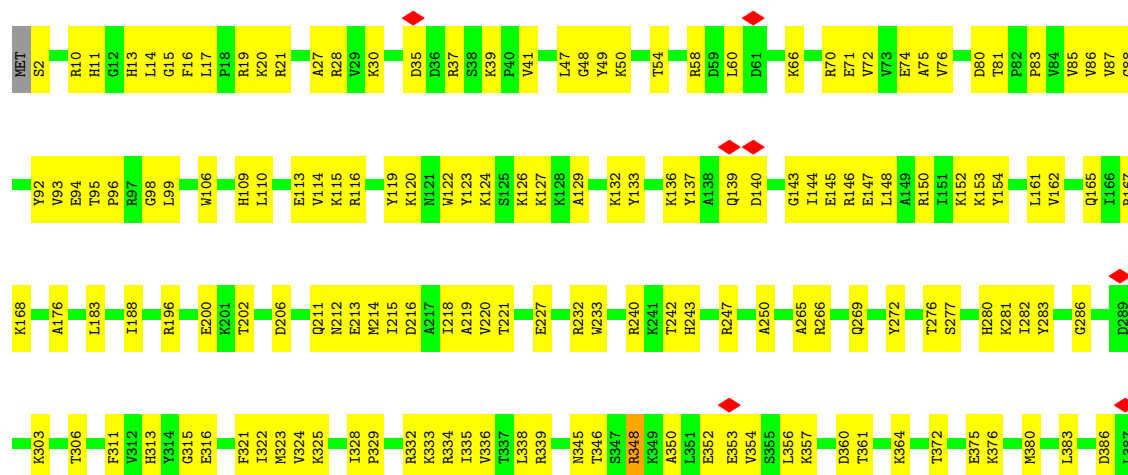
U1535	G1409	U1260	G1200	A1133	A1062	G991	A823	A855	G787	G
G1536	A1410	G1261	G1201	C1134	U1063	A992	A924	A856	A788	C
C1537	G1411	U1262	A1202	U1135	G1064	G993	G925	A857	A789	U
G1540	U1412	G1267	A1203	U1136	C1067	G994	A926	G958	U790	C
G1541	U1413	G1270	A1204	A1137	C1068	U995	C927	A859	A791	U
G1542	U1414	G1270	U1205	A1138	C1069	U996	U928	U860	U792	U
A1543	U1415	G1270	U1206	U1144	A1068	G997	A829	U861	A793	C
U1544	G1416	C1274	A1207	U1145	C1070	U998	A930	A862	U794	G
A1545	A1417	U1275	A1208	G1146	U1071	U999	C931	A863	G730	G
G1548	G1418	U1276	C1210	A1147	C1072	C1000	U932	U864	G731	G
C1549	U1424	U1280	A1211	C1148	C1075	G1002	C934	G867	A733	G
U1552	A1425	G1281	G1212	A1152	C1076	A1003	U935	G868	A734	G
G1553	C1426	U1280	G1213	G1153	C1077	U1004	G938	A801	A735	G
G1554	A1427	G1281	U1214	G1154	U1078	A1005	A939	A803	A736	G
U1555	G1428	U1290	A1215	U1155	U1079	C1010	A940	A804	U737	G
A1556	U1429	G1291	C1216	C1156	U1080	G1011	U872	A806	U738	G
U1557	U1430	G1292	A1217	A1157	A1081	U1012	A941	A809	G739	G
U1558	C1431	U1293	A1218	C1158	G1082	U1018	A944	G810	A740	G
G1559	U1432	G1294	A1219	C1159	G1083	C1019	U945	A811	U741	G
U1560	U1433	G1295	A1220	A1160	U1085	C1021	U946	A812	U742	G
U1561	U1434	G1296	A1221	C1161	A1086	C1022	U947	U813	U743	G
G1562	G1435	A1296	C1222	U1162	A1087	A1023	C949	A814	U744	G
C1563	U1436	G1297	A1224	A1163	A1088	U1024	C950	G815	U745	G
U1564	G1437	A1300	U1225	G1164	U1089	A1025	A951	G884	U749	G
U1565	U1438	U1301	A1226	A1165	C1090	A1026	A952	G885	U750	G
U1566	U1439	U1302	U1227	G1167	A1091	A1027	G953	A887	G751	G
U1567	C1440	U1303	A1227	G1170	A1092	C1028	U889	A888	A752	G
C1568	U1441	U1307	G1228	A1171	U1098	U1029	C956	U889	A753	G
A1569	U1442	G1308	G1229	A1172	U1099	A1030	C957	C890	A754	G
U1570	U1443	C1309	A1230	C1173	G1100	A1031	U958	A891	A755	G
G1572	G1445	U1314	U1231	U1174	U1099	G1032	U959	U892	U759	G
U1573	A1446	U1315	U1232	C1175	G1101	C1033	U960	U893	A760	G
U1574	C1447	G1316	G1233	U1176	G1102	C1034	U961	U894	G761	G
U1575	U1448	G1317	A1234	G1177	U1103	A1035	C962	U895	A762	G
U1576	U1449	G1318	C1235	C1178	U1104	C1036	A966	U896	G763	G
U1577	U1450	G1319	U1236	G1179	U1107	C1037	A967	C897	U764	G
C1578	C1451	A1320	G1237	U1180	G1108	U1038	A968	A898	G765	G
U1579	U1452	U1321	A1238	U1181	G1112	A1039	U968	U899	U766	G
U1580	G1453	A1322	U1239	U1182	A1113	G1041	C969	G902	U767	G
U1581	U1454	C1323	U1240	A1183	U1113	G1042	A970	U903	C768	G
U1582	G1455	G1324	G1241	U1184	A1114	A1043	A973	U904	A769	G
U1583	C1456	A1325	A1242	U1185	U1115	U1044	A974	A905	A770	G
U1584	U1457	A1326	A1243	U1186	U1116	C1045	A975	A906	A771	G
U1585	G1458	G1327	G1244	U1187	U1117	G1046	C976	A907	G772	G
U1586	U1459	G1328	A1245	G1188	U1118	G1047	A977	U912	C773	G
U1587	A1460	A1329	C1246	U1189	G1119	U1048	A978	U913	A774	G
U1588	C1461	G1330	U1247	C1190	U1120	U1052	A979	G913	G775	G
U1589	U1462	A1331	U1248	B011191	C1121	G1053	A980	G914	G776	G
U1590	G1463	C1332	C1248	C1192	G1122	U1056	A981	A915	G777	G
C1591	A1400	U1334	U1249	A1193	A1125	U1057	U982	U916	G778	G
U1592	G1401	U1335	U1250	C1195	G1126	U1058	A983	U917	U779	G
U1593	U1405	A1336	U1251	A1196	U1130	U1059	A984	U918	A780	G
U1594	A1406	C1337	C1252	C1197	G1131	U1060	G986	A919	U781	G
U1595	U1407	C1338	U1253	U1198	A1131	U1061	G987	A920	U782	G
U1596	G1408	U1340	U1254	G1199	A1132	U1062	G988	U921	G783	G
U1597			U1255					U922	C784	G
U1598			A1256					G922	U785	G
U1599			U1257					U922	C786	G
U1600			U1258					U922	U786	G
U1601			U1259					U922	U786	G
U1602								U922	U786	G



• Molecule 35: 60S ribosomal protein L2-A

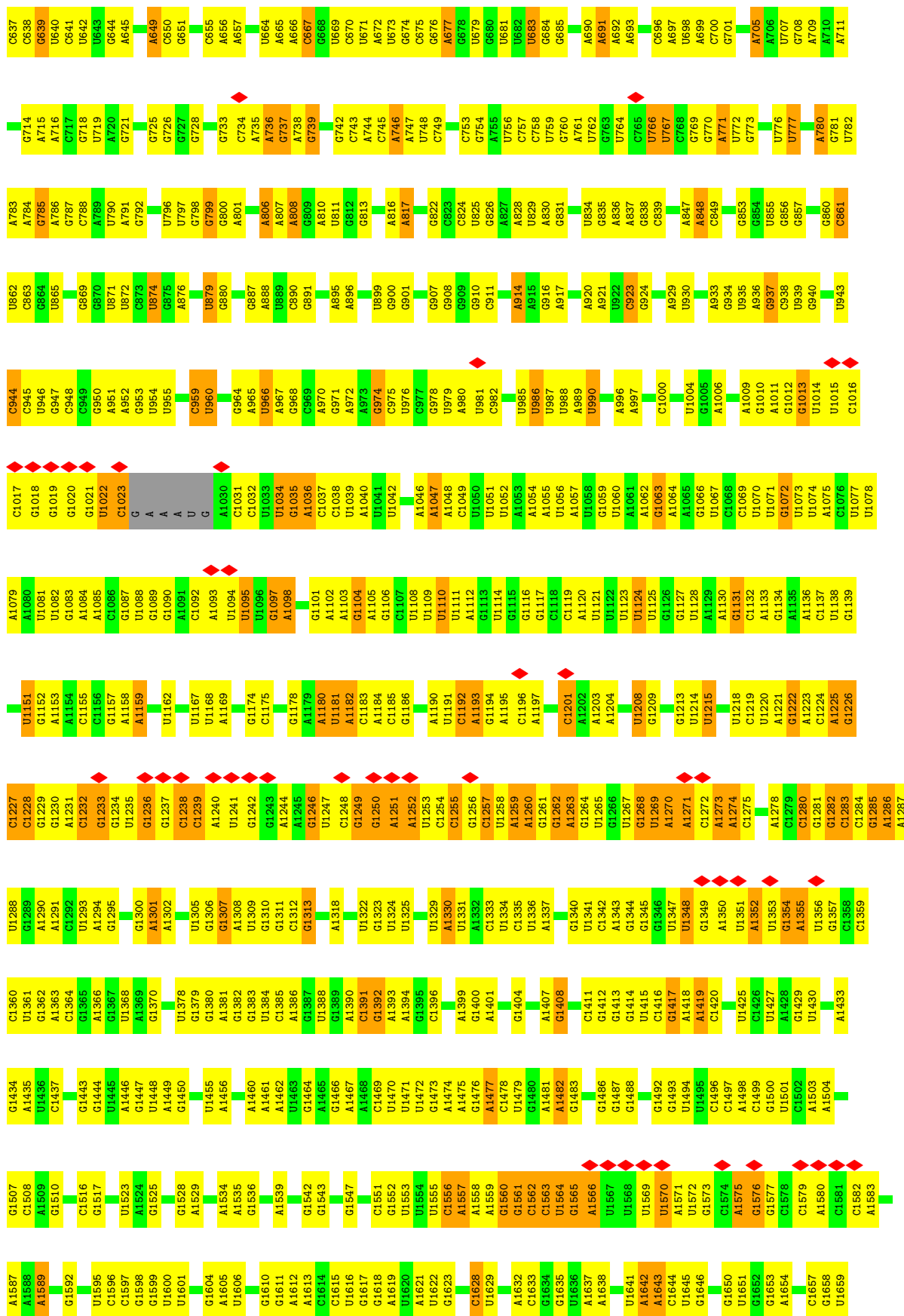


• Molecule 36: 60S ribosomal protein L3

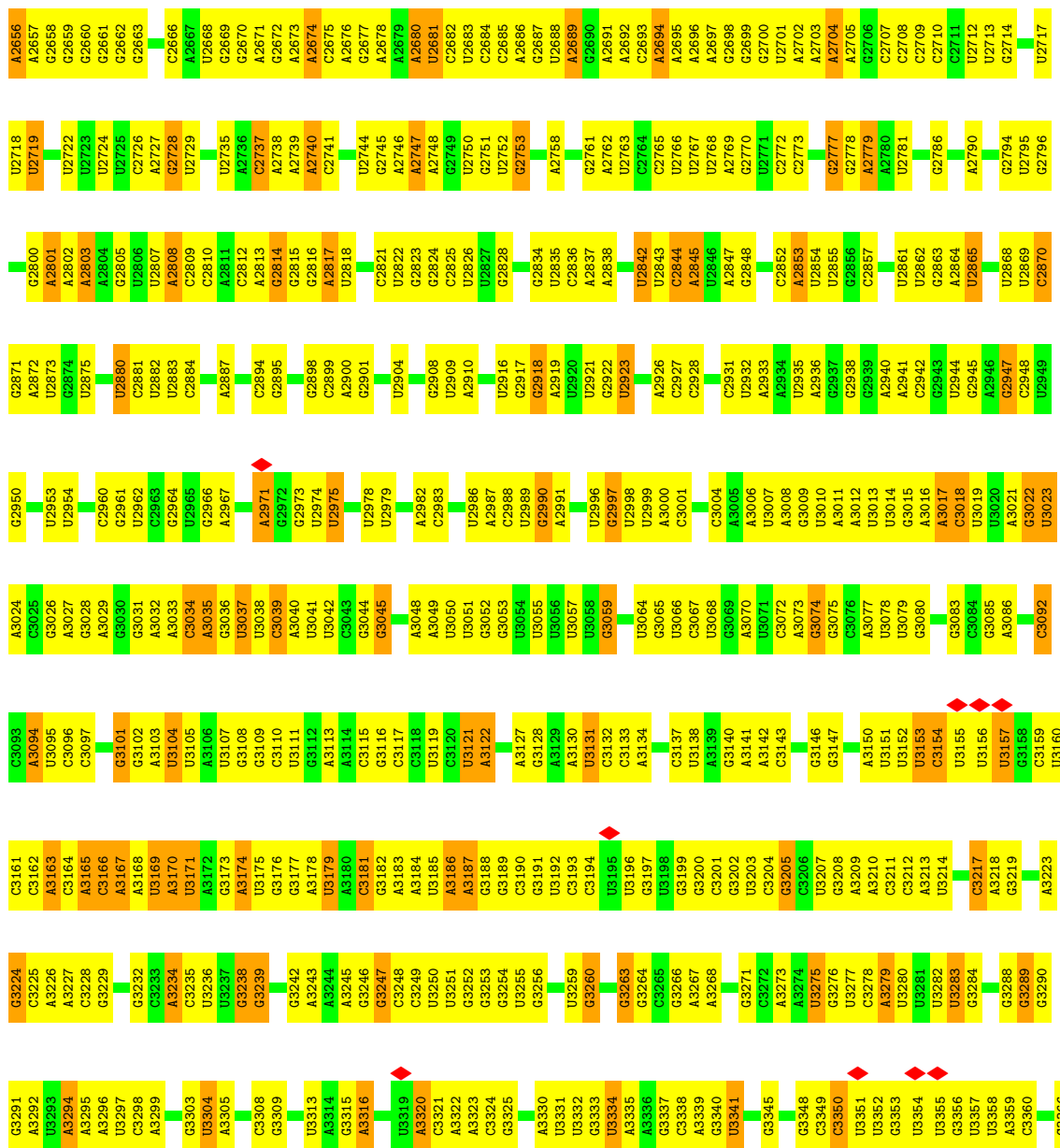


• Molecule 37: RPL4A isoform 1



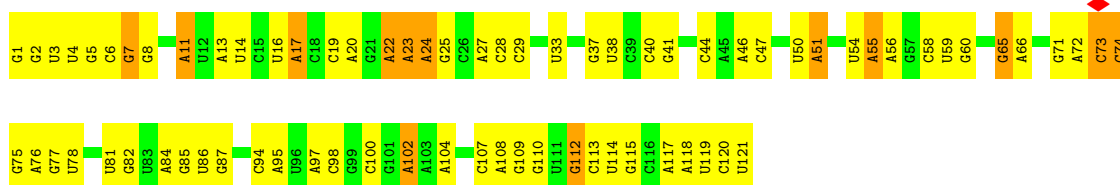


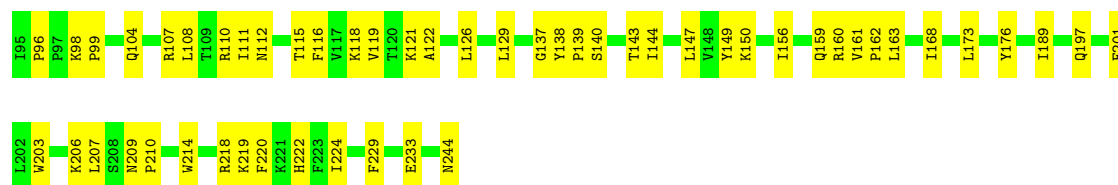
G2582	C2512	G2451	G2383	G2311	G2239	G2161	G2093	G1980	G1798	G1660
G2583	U2513	G2452	U2388	A2312	A2242	U2162	A2093	A1881	G1727	G1661
G2584	A2514	U2453	C2389	C2313	A2243	C2163	C2094	G1882	G1728	G1662
G2585	A2515	U2454	A2390	U2314	A2244	A2167	C2095	A1883	G1729	C1663
G2586	A2520	U2455	G2391	G2315	C2245	A2168	A2096	U1884	G1730	G1664
G2587	U2521	G2456	G2392	G2316	C2246	A2169	U2097	A1885	A1806	G1665
G2588	G2522	U2527	G2393	A2317	C2247	U2170	C2098	A1886	A1807	G1666
G2589	A2523	A2456	G2394	G2323	C2248	A2171	A2099	A1887	G1808	A1667
A2590	G2524	A2457	G2395	G2324	G2249	U2175	A2100	G1809	U1739	G1668
A2591	G2525	A2458	G2396	G2325	G2250	U2176	C2101	A1810	U1740	U1672
G2592	G2526	A2459	A2397	G2326	G2251	G2177	A2102	G1811	A1741	G1673
G2593	G2527	U2460	A2398	U2328	A2252	G2178	U2106	U1812	U1742	G1674
G2594	G2528	A2461	A2399	C2329	U2253	G2179	A2107	G1813	G1743	G1675
A2595	G2529	A2462	A2402	C2330	U2254	G2180	A2108	U1814	G1744	G1676
A2596	G2530	U2463	G2403	G2331	A2255	C2181	A2109	U1815	C1745	G1677
U2597	G2531	G2464	A2404	G2332	A2256	A2182	U2110	A1816	U1746	G1678
G2598	G2532	G2465	A2405	U2334	U2257	A2183	G2111	G1817	G1747	A1679
U2599	G2533	G2466	G2406	G2335	U2258	A2184	G2112	U1818	A1749	G1680
C2600	A2536	G2467	G2407	U2336	A2259	G2185	U2113	U1819	A1750	U1681
G2603	U2537	A2468	G2408	G2337	U2260	U2186	U2114	U1820	G1751	A1683
U2604	U2538	C2470	G2409	U2338	A2261	G2187	A2115	U1821	A1752	U1684
G2605	C2539	U2471	U2410	C2339	A2262	A2188	G2116	G1822	G1756	U1685
G2606	A2540	U2472	G2411	U2340	U2263	U2189	G2117	U1823	A1757	U1686
G2607	U2541	C2473	G2412	A2341	U2264	C2196	A2118	U1824	G1758	U1687
G2608	U2542	G2474	A2413	G2343	U2265	U2191	U2106	G1825	G1759	U1688
A2609	U2543	G2475	G2414	U2344	U2266	C2192	A2107	C1827	A1760	U1689
G2610	U2544	C2476	G2415	A2345	U2267	U2193	U2112	A1828	C1761	U1694
U2611	U2545	U2416	C2416	G2346	U2268	G2194	A2113	G1829	U1762	U1695
C2612	U2546	U2417	U2417	A2348	U2269	C2195	A2114	U1920	U1764	A1696
U2613	C2547	G2477	G2418	U2349	A2270	U2201	G2115	A1921	G1765	C1697
U2614	G2548	U2478	A2419	G2350	A2271	C2202	A2116	C1922	U1766	C1698
G2615	G2549	U2479	C2420	U2351	G2272	U2203	A2117	A1923	U1767	A1699
U2616	U2550	G2481	U2421	G2352	U2273	C2204	G2122	G1927	C1768	C1701
U2617	G2551	G2482	G2422	G2353	U2274	U2205	A2126	G1934	U1769	U1702
G2618	C2552	G2483	U2423	U2354	C2277	G2206	U2129	G1935	G1770	U1703
U2632	U2553	A2484	A2424	G2355	A2278	U2207	G2130	U1941	C1771	U1704
U2633	A2554	A2485	G2425	A2356	A2279	A2208	A2131	C1942	U1772	U1705
U2634	G2555	U2486	U2426	A2357	A2280	U2209	C2132	C1943	C1773	C1706
A2635	C2556	U2487	U2427	A2358	A2281	A2209	U2133	U1944	G1774	A1707
U2636	A2557	A2488	U2428	C2359	U2282	U2209	U2133	C1943	G1775	C1708
A2637	U2558	C2489	G2429	G2364	U2292	A2213	A2139	G1947	C1781	C1709
U2638	U2559	A2491	A2430	G2365	C2293	A2214	A2142	G1948	U1782	C1710
G2639	A2562	C2492	U2433	C2366	U2294	A2215	A2143	G1949	G1783	C1711
A2640	G2563	U2493	U2434	A2367	A2295	G2216	A2144	U1855	G1784	G1712
U2641	G2564	A2494	G2435	A2368	A2296	U2217	U2153	C1856	U1785	G1713
A2642	U2565	U2495	U2436	G2369	U2297	G2218	U2154	C1857	G1786	A1714
U2643	G2566	C2496	U2437	G2370	U2298	A2219	G2155	U1862	A1787	U1715
C2644	C2567	U2497	A2438	G2371	A2299	G2221	G2156	A1864	G1788	G1716
A2647	U2568	U2498	A2439	A2372	A2302	A2222	G2157	A1865	C1791	U1717
G2648	A2569	U2499	G2440	A2373	G2303	A2223	U2158	C1866	G1792	U1718
U2651	U2570	A2500	A2441	C2374	A2304	A2224	G2159	A1866	C1793	U1719
G2651	U2571	G2501	A2445	G2375	G2305	A2228	U2159	A1867	U1721	U1720
U2652	C2572	A2502	U2446	C2376	G2306	A2229	G2159	G1875	U1722	U1721
C2653	G2573	G2503	A2447	G2377	G2307	C2230	U2159	G1878	G1793	U1722
U2654	U2574	U2504	G2448	U2380	C2308	A2230	U2159	U1794	U1794	A1723
G2655	G2575	C2654	A2449	G2381	A2309	U2310	G2160	G1796	G1796	U1724
U2655	G2576	U2505	G2450	G2382	U2310	G2234	G2160	A1797	A1797	



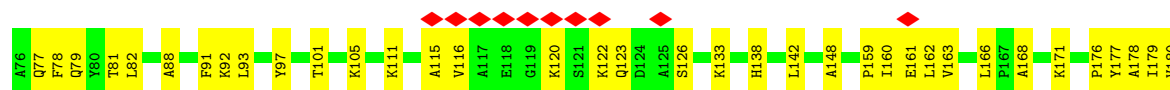
• Molecule 39: 5s rRNA

Chain A3: 39% 50% 11%

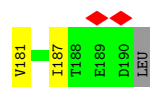
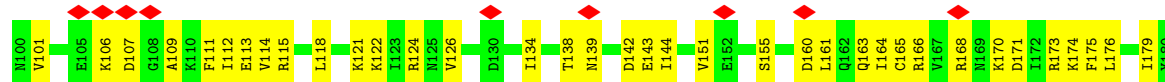




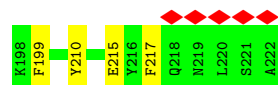
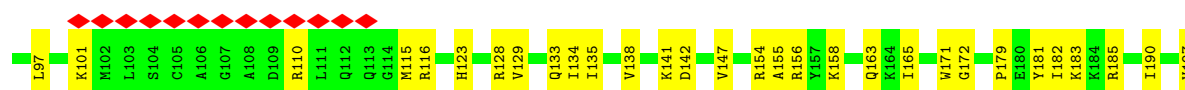
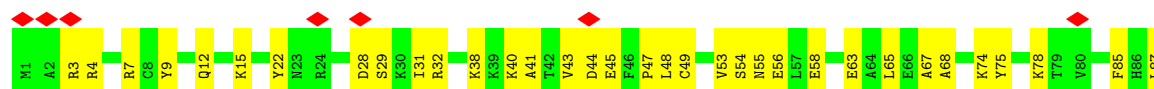
• Molecule 44: 60S ribosomal protein L8-A



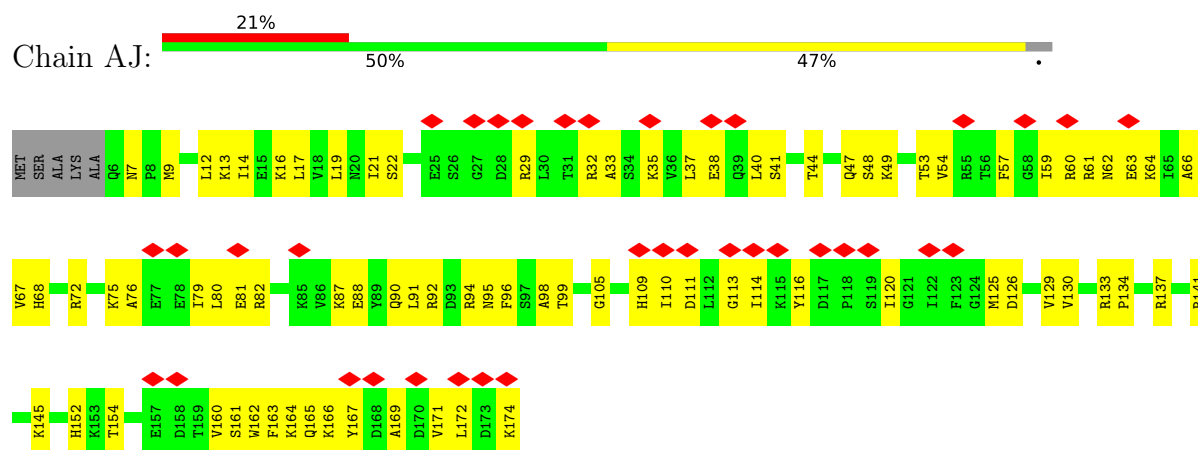
• Molecule 45: 60S ribosomal protein L9-A



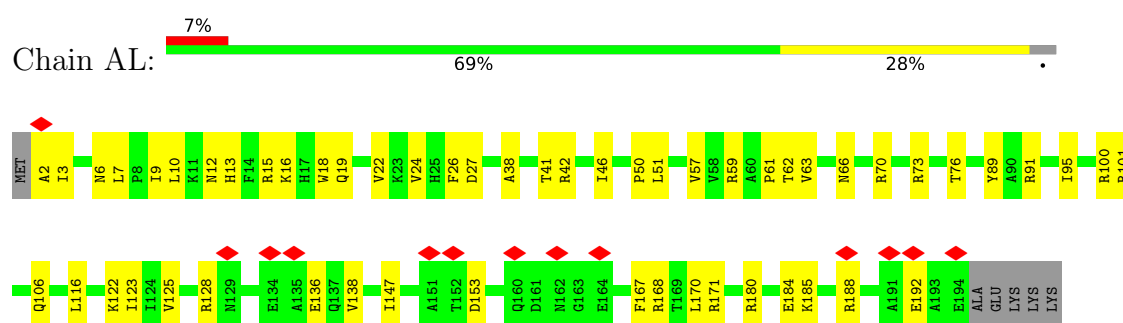
• Molecule 46: 60S ribosomal protein L10



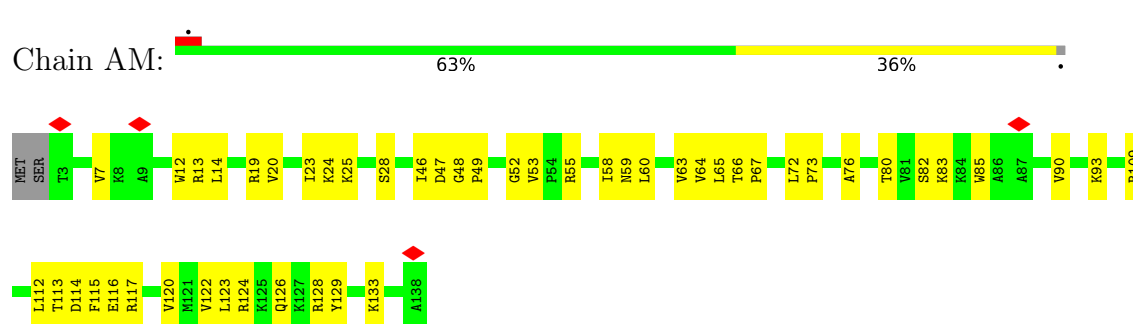
- Molecule 47: RPL11A isoform 1



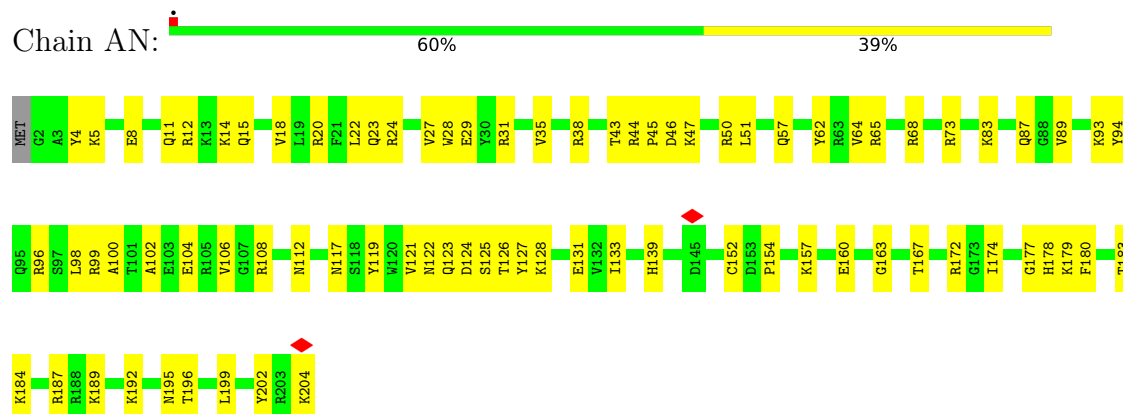
- Molecule 48: 60S ribosomal protein L13-A



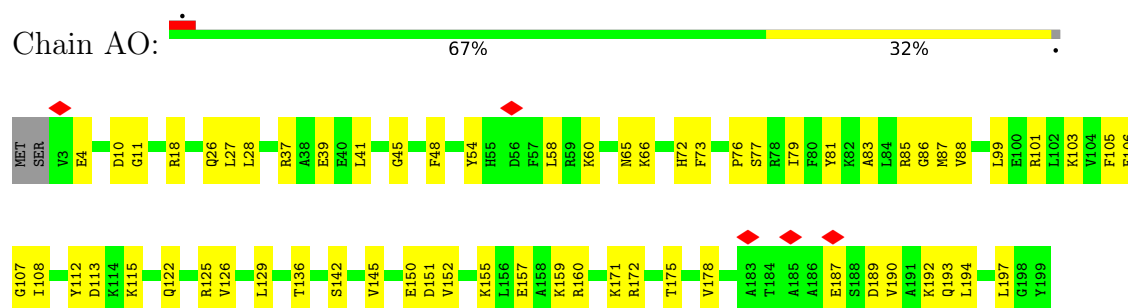
- Molecule 49: 60S ribosomal protein L14-A



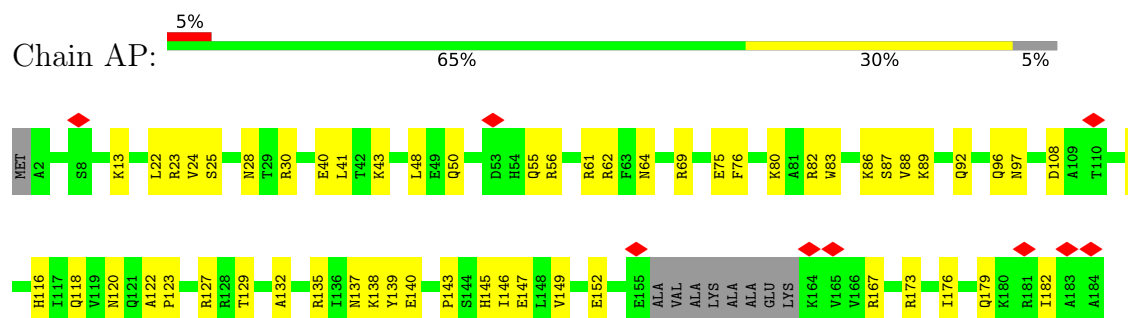
- Molecule 50: 60S ribosomal protein L15-A



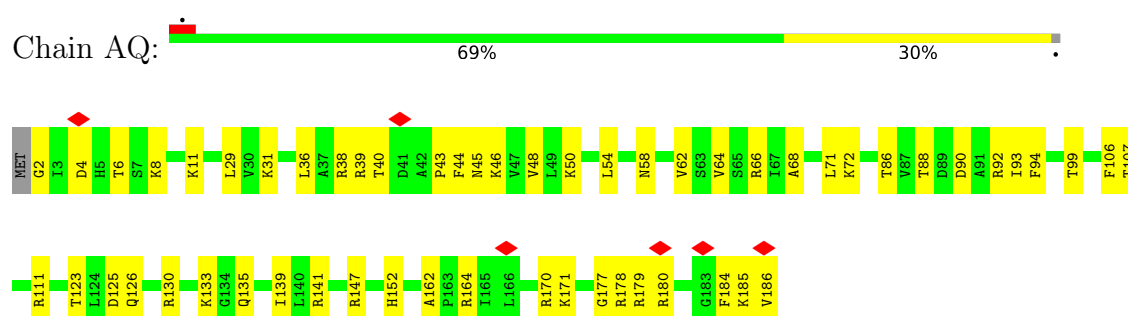
- Molecule 51: 60S ribosomal protein L16-A



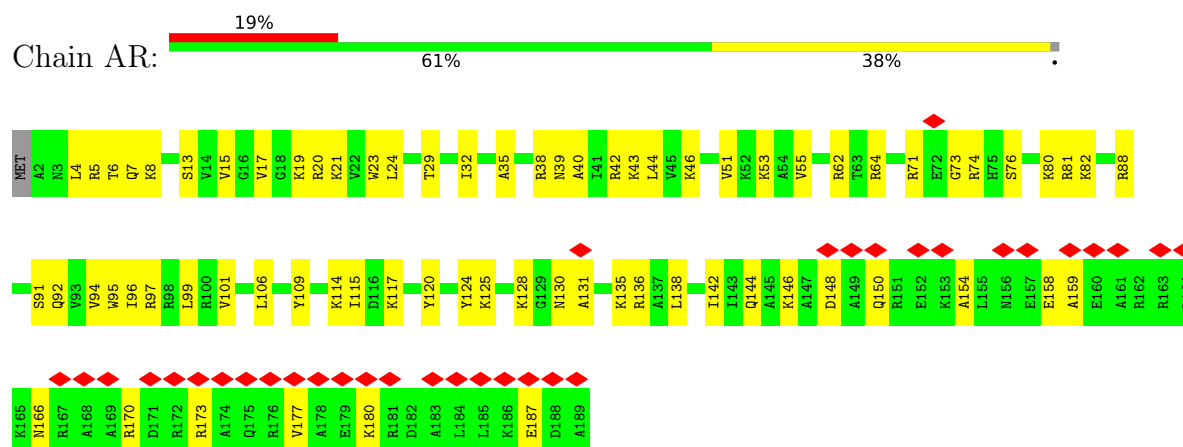
- Molecule 52: 60S ribosomal protein L17-A



- Molecule 53: 60S ribosomal protein L18-A

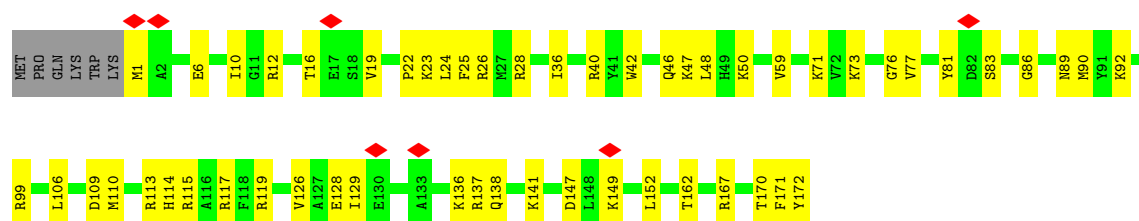


- Molecule 54: 60S ribosomal protein L19-A



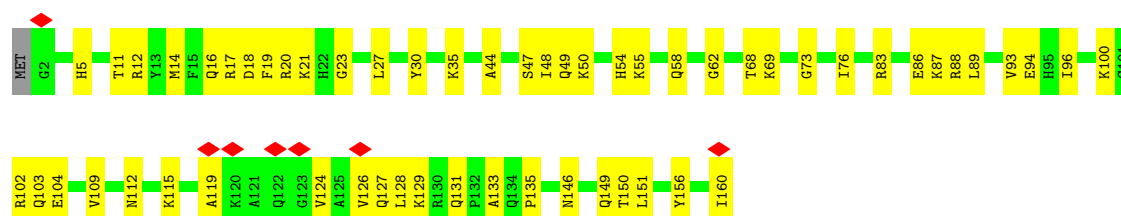
- Molecule 55: 60S ribosomal protein L20

Chain AS: 



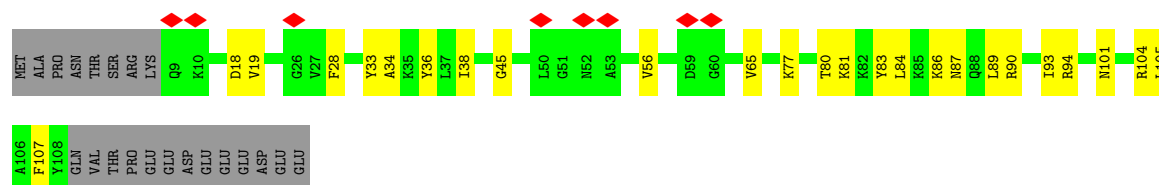
- Molecule 56: 60S ribosomal protein L21-A

Chain AT: 



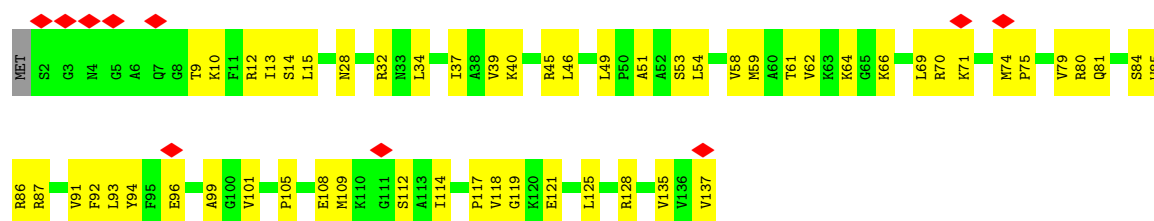
- Molecule 57: 60S ribosomal protein L22-A

Chain AU: 



- Molecule 58: 60S ribosomal protein L23-A

Chain AV: 

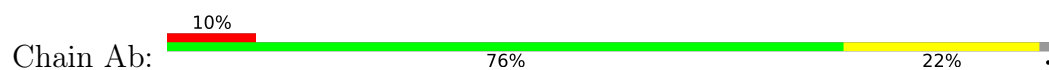


- Molecule 59: RPL24A isoform 1

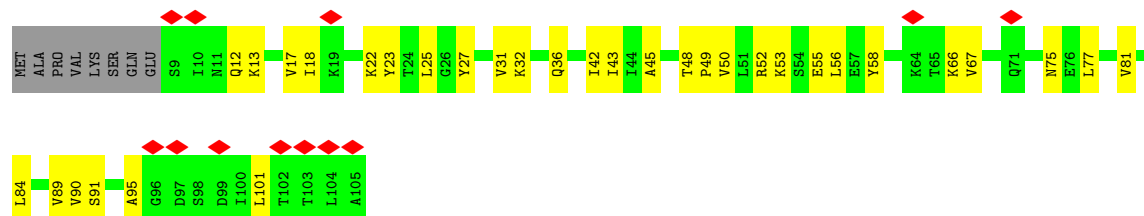
Chain AW: 



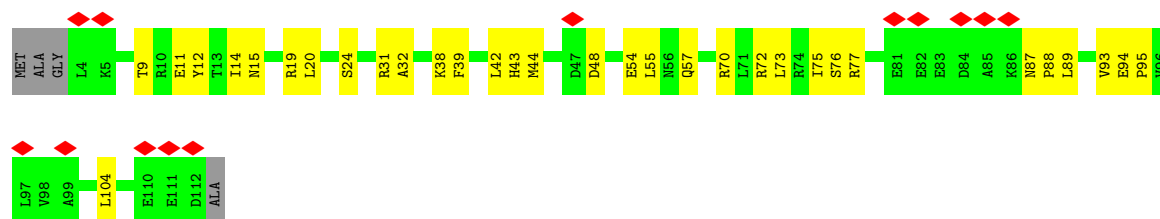
- Molecule 64: RPL29 isoform 1



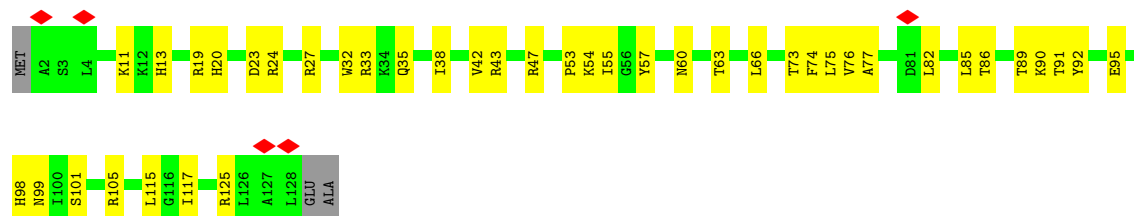
- Molecule 65: 60S ribosomal protein L30



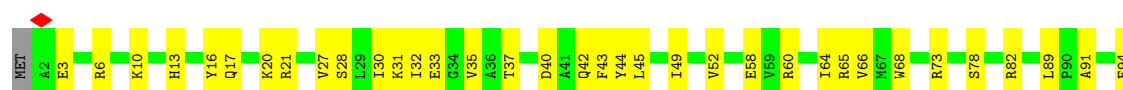
- Molecule 66: 60S ribosomal protein L31-A

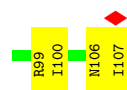


- Molecule 67: RPL32 isoform 1

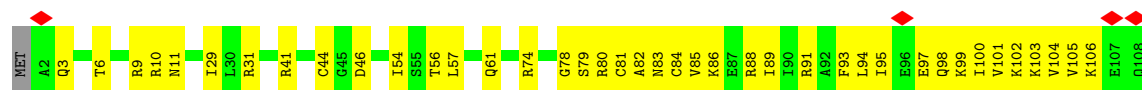


- Molecule 68: 60S ribosomal protein L33-A





- Molecule 69: 60S ribosomal protein L34-A



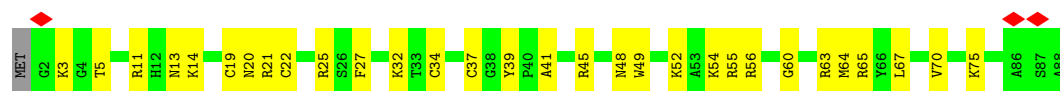
- Molecule 70: 60S ribosomal protein L35-A



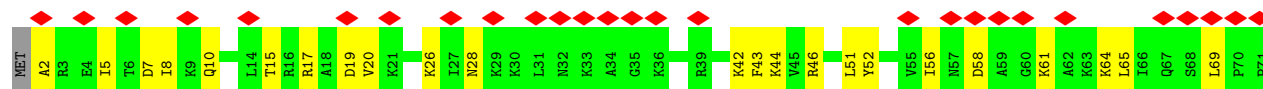
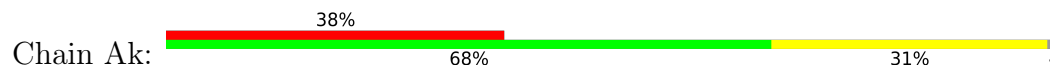
- Molecule 71: 60S ribosomal protein L36-A

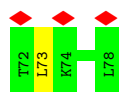


- Molecule 72: 60S ribosomal protein L37-A



- Molecule 73: RPL38 isoform 1

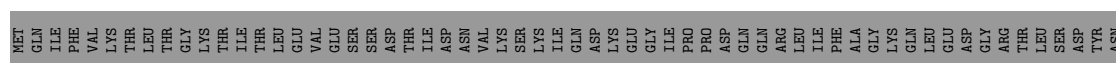
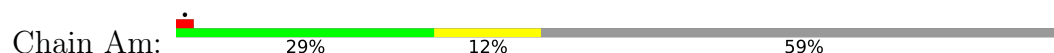




- Molecule 74: 60S ribosomal protein L39



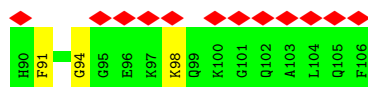
- Molecule 75: Ubiquitin-60S ribosomal protein L40



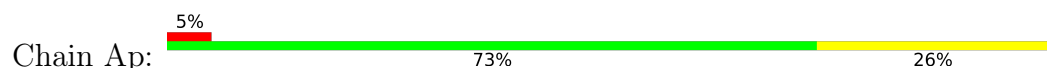
- Molecule 76: 60S ribosomal protein L41-A



- Molecule 77: 60S ribosomal protein L42-A



- Molecule 78: 60S ribosomal protein L43-A



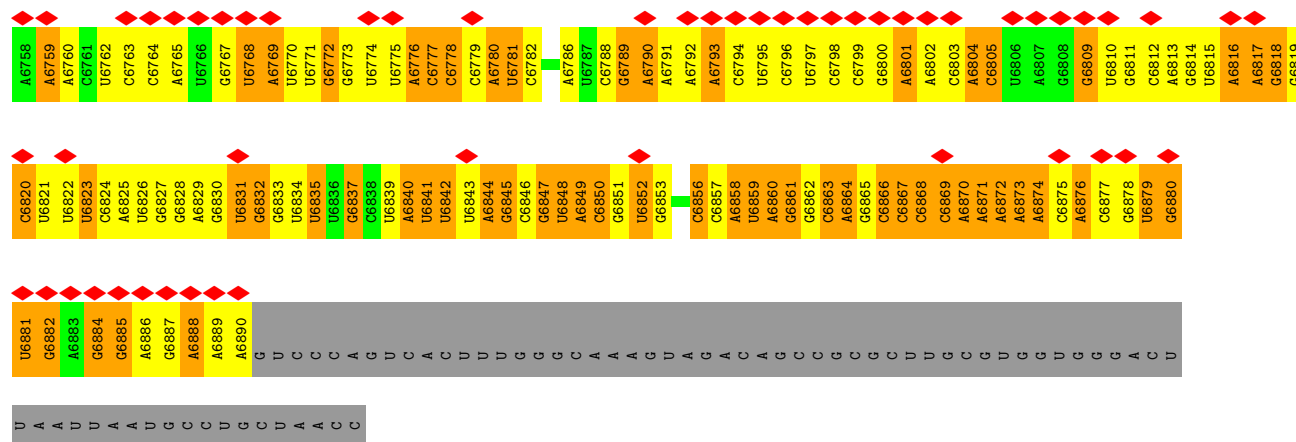
- Molecule 79: RPL1A isoform 1



• Molecule 80: Elongation factor 2



- Molecule 81: TSV IRES



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	49671	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 ($e^-/\text{\AA}^2$)	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	2.003	Depositor
Minimum map value	-0.878	Depositor
Average map value	0.006	Depositor
Map value standard deviation	0.101	Depositor
Recommended contour level	0.3	Depositor
Map size (Å)	423.99997, 423.99997, 423.99997	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: B8N, UR3, DDE, OMG, 5MC, PSU, ZN, HIC, G7M, GDP, OMU, MA6, SO1, MG, 4AC, 1MA

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	1.98	13/1653 (0.8%)	0.47	1/2261 (0.0%)
2	BB	0.20	0/1735	0.43	0/2335
3	BC	0.20	0/1665	0.36	0/2263
4	BE	0.18	0/2109	0.37	0/2839
5	BG	0.14	0/1844	0.31	0/2464
6	BH	0.40	2/1506 (0.1%)	0.79	6/2028 (0.3%)
7	BI	0.18	0/1514	0.41	0/2021
8	BJ	0.18	0/1519	0.37	0/2035
9	BL	0.21	0/1272	0.36	0/1712
10	BN	0.18	0/1215	0.39	0/1638
11	BO	0.22	0/952	0.44	0/1279
12	BV	0.19	0/693	0.36	0/935
13	BW	0.24	0/1038	0.44	0/1395
14	BX	0.21	0/1139	0.39	0/1518
15	BY	0.16	0/1087	0.36	0/1449
16	Ba	0.21	0/782	0.42	0/1047
17	Bb	0.15	0/620	0.38	0/838
18	Be	0.15	0/483	0.48	1/643 (0.2%)
19	BD	0.14	0/1759	0.36	0/2368
20	BF	0.17	0/1629	0.34	0/2202
21	BK	0.15	0/837	0.42	0/1131
22	BP	0.14	0/1012	0.43	0/1356
23	BQ	0.63	2/1125 (0.2%)	1.06	5/1510 (0.3%)
24	BR	1.79	1/957 (0.1%)	0.49	2/1283 (0.2%)
25	BS	0.15	0/1211	0.38	0/1628
26	BT	0.14	0/1113	0.32	0/1494
27	BU	0.14	0/865	0.34	0/1169
28	BZ	0.21	0/582	0.50	0/782
29	Bc	0.17	0/499	0.40	0/670
30	Bd	0.16	0/452	0.29	0/600
31	Bg	0.12	0/2454	0.32	0/3340
32	Bf	0.11	0/616	0.35	0/817

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	BM	0.12	0/943	0.41	2/1274 (0.2%)
34	B5	0.19	0/41450	0.29	1/64582 (0.0%)
35	AA	0.24	0/1912	0.32	0/2569
36	AB	0.24	0/3139	0.37	0/4219
37	AC	0.22	0/2800	0.33	0/3790
38	A1	0.24	0/76161	0.29	0/118749
39	A3	0.20	0/2861	0.26	0/4457
40	A4	0.24	0/3724	0.28	0/5798
41	AD	0.16	0/2390	0.31	0/3225
42	AE	0.18	0/1324	0.35	0/1782
43	AF	0.23	0/1821	0.33	0/2451
44	AG	0.18	0/1830	0.34	0/2469
45	AH	0.21	0/1531	0.34	0/2062
46	AI	0.25	0/1843	0.43	0/2471
47	AJ	0.18	0/1374	0.41	0/1842
48	AL	0.19	0/1568	0.31	0/2106
49	AM	0.20	0/1068	0.35	0/1438
50	AN	0.25	0/1757	0.34	0/2354
51	AO	0.22	0/1585	0.35	0/2128
52	AP	0.21	0/1410	0.32	0/1893
53	AQ	0.21	0/1465	0.32	0/1965
54	AR	0.18	0/1538	0.31	0/2050
55	AS	0.23	0/1481	0.39	0/1990
56	AT	0.20	0/1300	0.33	0/1743
57	AU	0.21	0/812	0.39	0/1099
58	AV	0.22	0/1018	0.37	0/1369
59	AW	0.22	0/533	0.32	0/707
60	AX	0.21	0/983	0.32	0/1325
61	AY	0.19	0/1004	0.30	0/1341
62	AZ	0.21	0/1118	0.35	0/1497
63	Aa	0.22	0/1204	0.36	0/1612
64	Ab	0.19	0/473	0.41	0/629
65	Ac	0.21	0/751	0.35	0/1008
66	Ad	0.20	0/904	0.31	0/1213
67	Ae	0.21	0/1041	0.31	0/1394
68	Af	0.28	0/868	0.38	0/1168
69	Ag	0.23	0/890	0.33	0/1189
70	Ah	0.17	0/978	0.30	0/1301
71	Ai	0.16	0/778	0.35	0/1034
72	Aj	0.25	0/696	0.36	0/923
73	Ak	0.15	0/618	0.34	0/826
74	Al	0.27	0/443	0.54	0/588
75	Am	0.23	0/423	0.47	0/562

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	An	0.41	0/234	1.16	3/300 (1.0%)
77	Ao	0.17	0/860	0.30	0/1136
78	Ap	0.22	0/701	0.37	0/934
79	E	0.12	0/1745	0.33	0/2342
80	DC	0.39	4/6521 (0.1%)	0.53	6/8830 (0.1%)
81	EC	0.13	0/3138	0.33	0/4883
All	All	0.30	22/224946 (0.0%)	0.34	27/329667 (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
6	BH	0	1
36	AB	0	1
64	Ab	0	1
All	All	0	3

All (22) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	BA	197	ILE	CG1-CD1	62.96	3.97	1.51
24	BR	105	GLN	CB-CG	54.89	3.17	1.52
1	BA	38	PHE	CE1-CZ	21.53	2.03	1.38
1	BA	38	PHE	CD1-CE1	20.82	2.01	1.38
80	DC	553	PRO	CG-CD	-20.41	0.81	1.50
1	BA	38	PHE	CE2-CZ	19.92	1.98	1.38
1	BA	38	PHE	CD2-CE2	18.68	1.94	1.38
80	DC	553	PRO	CB-CG	17.83	2.38	1.49
23	BQ	5	PRO	CB-CG	14.56	2.22	1.49
1	BA	38	PHE	CG-CD2	14.24	1.68	1.38
1	BA	38	PHE	CG-CD1	13.41	1.67	1.38
23	BQ	5	PRO	CG-CD	-11.98	1.10	1.50
6	BH	32	PRO	CG-CD	-11.13	1.12	1.50
1	BA	195	TRP	CE3-CZ3	10.87	1.71	1.38
1	BA	195	TRP	CE2-CZ2	9.88	1.60	1.39
1	BA	195	TRP	CZ3-CH2	7.91	1.60	1.40
80	DC	553	PRO	N-CD	7.80	1.58	1.47
1	BA	195	TRP	CD2-CE2	7.75	1.54	1.41
6	BH	32	PRO	CB-CG	-7.48	1.12	1.49
80	DC	553	PRO	CA-CB	-7.35	1.42	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	BA	195	TRP	CD2-CE3	7.12	1.51	1.40
1	BA	195	TRP	CZ2-CH2	6.69	1.50	1.37

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
23	BQ	5	PRO	CB-CG-CD	-24.74	26.95	106.10
80	DC	553	PRO	CB-CG-CD	-24.73	26.96	106.10
23	BQ	5	PRO	CA-N-CD	-22.99	79.81	112.00
6	BH	32	PRO	N-CD-CG	-18.12	76.02	103.20
6	BH	32	PRO	CA-CB-CG	-15.56	74.93	104.50
6	BH	32	PRO	CB-CG-CD	14.40	152.17	106.10
80	DC	553	PRO	N-CA-CB	-14.05	86.45	103.45
80	DC	553	PRO	N-CD-CG	-13.47	82.99	103.20
23	BQ	5	PRO	N-CD-CG	12.27	121.60	103.20
23	BQ	5	PRO	N-CA-CB	-10.18	92.56	103.25
24	BR	105	GLN	CB-CG-CD	10.02	129.64	112.60
76	An	4	LYS	CA-C-N	9.73	141.22	122.53
76	An	4	LYS	C-N-CA	9.73	141.22	122.53
24	BR	105	GLN	CA-CB-CG	9.51	133.12	114.10
1	BA	197	ILE	CB-CG1-CD1	9.03	132.77	113.80
80	DC	165	LEU	N-CA-C	-7.67	104.82	114.56
23	BQ	4	VAL	C-N-CD	7.62	156.23	125.00
80	DC	553	PRO	CA-CB-CG	-7.28	90.67	104.50
34	B5	1783	C	OP1-P-OP2	-6.97	98.68	119.60
76	An	5	TRP	N-CA-CB	-6.64	100.26	110.42
80	DC	553	PRO	CA-N-CD	-6.17	103.36	112.00
6	BH	32	PRO	CA-N-CD	-5.97	103.65	112.00
33	BM	126	TRP	CA-C-N	5.72	132.00	121.70
33	BM	126	TRP	C-N-CA	5.72	132.00	121.70
18	Be	50	VAL	N-CA-C	-5.66	105.88	111.88
6	BH	13	PRO	CA-C-N	5.40	131.42	121.70
6	BH	13	PRO	C-N-CA	5.40	131.42	121.70

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
36	AB	348	ARG	Peptide
64	Ab	41	ARG	Peptide
6	BH	64	VAL	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	BA	1612	0	1623	137	0
2	BB	1709	0	1784	99	0
3	BC	1635	0	1723	86	0
4	BE	2068	0	2154	107	0
5	BG	1820	0	1918	80	0
6	BH	1481	0	1572	78	0
7	BI	1489	0	1525	98	0
8	BJ	1494	0	1573	109	0
9	BL	1244	0	1314	62	0
10	BN	1192	0	1255	46	0
11	BO	941	0	979	61	0
12	BV	684	0	672	40	0
13	BW	1021	0	1060	68	0
14	BX	1121	0	1196	60	0
15	BY	1073	0	1132	60	0
16	Ba	769	0	818	40	0
17	Bb	610	0	633	31	0
18	Be	475	0	525	23	0
19	BD	1734	0	1817	87	0
20	BF	1609	0	1675	88	0
21	BK	817	0	804	46	0
22	BP	991	0	1035	44	0
23	BQ	1105	0	1166	73	0
24	BR	948	0	990	74	0
25	BS	1192	0	1222	53	0
26	BT	1095	0	1114	48	0
27	BU	855	0	917	45	0
28	BZ	574	0	616	37	0
29	Bc	497	0	535	42	0
30	Bd	442	0	432	34	0
31	Bg	2401	0	2356	104	0
32	Bf	605	0	654	26	0
33	BM	935	0	975	30	0
34	B5	37463	0	18841	1210	0
35	AA	1878	0	1946	83	0
36	AB	3081	0	3162	133	0
37	AC	2748	0	2859	104	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	A1	68786	0	34576	1837	0
39	A3	2579	0	1304	73	0
40	A4	3353	0	1695	93	0
41	AD	2341	0	2290	84	0
42	AE	1303	0	1376	47	0
43	AF	1784	0	1862	63	0
44	AG	1798	0	1894	73	0
45	AH	1510	0	1576	65	0
46	AI	1804	0	1856	66	0
47	AJ	1353	0	1383	66	0
48	AL	1543	0	1608	57	0
49	AM	1053	0	1149	42	0
50	AN	1720	0	1779	69	0
51	AO	1555	0	1659	50	0
52	AP	1388	0	1423	48	0
53	AQ	1441	0	1543	51	0
54	AR	1521	0	1617	58	0
55	AS	1445	0	1487	49	0
56	AT	1276	0	1323	55	0
57	AU	796	0	812	25	0
58	AV	1003	0	1047	45	0
59	AW	521	0	551	16	0
60	AX	968	0	1036	34	0
61	AY	993	0	1081	28	0
62	AZ	1092	0	1155	65	0
63	Aa	1173	0	1215	62	0
64	Ab	462	0	490	11	0
65	Ac	743	0	797	26	0
66	Ad	890	0	938	26	0
67	Ae	1020	0	1090	32	0
68	Af	850	0	880	35	0
69	Ag	880	0	945	39	0
70	Ah	969	0	1078	46	0
71	Ai	771	0	849	27	0
72	Aj	681	0	687	31	0
73	Ak	612	0	682	20	0
74	Al	436	0	475	30	0
75	Am	417	0	459	13	0
76	An	233	0	284	17	0
77	Ao	847	0	914	37	0
78	Ap	694	0	738	26	0
79	E	1718	0	1811	70	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
80	DC	6419	0	6491	361	0
81	EC	2808	0	1416	103	0
82	Ao	1	0	0	0	0
83	DC	28	0	12	3	0
84	DC	1	0	0	0	0
85	DC	35	0	40	1	0
All	All	211022	0	157945	6499	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 18.

All (6499) 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)
1:BA:38:PHE:CD2	1:BA:38:PHE:CE2	1.94	1.52
1:BA:38:PHE:CE2	1:BA:38:PHE:CZ	1.98	1.52
80:DC:553:PRO:CG	80:DC:553:PRO:N	1.69	1.51
1:BA:38:PHE:CD1	1:BA:38:PHE:CE1	2.01	1.47
1:BA:38:PHE:CZ	1:BA:38:PHE:CE1	2.03	1.46
80:DC:553:PRO:CD	80:DC:553:PRO:HG2	1.58	1.09
46:AI:129:VAL:HB	46:AI:133:GLN:HE22	1.14	1.07
80:DC:553:PRO:CD	80:DC:553:PRO:HG3	1.58	1.05
1:BA:38:PHE:CE1	24:BR:105:GLN:CG	2.39	1.05
1:BA:195:TRP:CD2	1:BA:197:ILE:CG1	2.41	1.03
1:BA:38:PHE:CZ	24:BR:105:GLN:CG	2.43	1.02
80:DC:553:PRO:CG	80:DC:553:PRO:HD3	1.51	1.02
1:BA:38:PHE:CD1	24:BR:105:GLN:CB	2.44	1.01
80:DC:553:PRO:CG	80:DC:553:PRO:CB	2.38	1.01
1:BA:38:PHE:CE1	24:BR:105:GLN:CB	2.44	1.01
1:BA:195:TRP:CE2	1:BA:197:ILE:CD1	2.44	1.01
1:BA:195:TRP:CE2	1:BA:197:ILE:CG1	2.45	1.00
80:DC:553:PRO:CG	80:DC:553:PRO:HD2	1.52	1.00
80:DC:552:VAL:HA	80:DC:553:PRO:HG3	1.44	1.00
1:BA:38:PHE:CE2	24:BR:105:GLN:CB	2.45	0.98
1:BA:38:PHE:CD1	24:BR:105:GLN:CG	2.47	0.98
1:BA:38:PHE:CZ	24:BR:105:GLN:CB	2.46	0.98
38:A1:512:U:H3	38:A1:579:G:H1	1.08	0.98
1:BA:195:TRP:CD2	1:BA:197:ILE:CD1	2.47	0.97
38:A1:838:G:H1	38:A1:855:U:H3	1.11	0.97
1:BA:38:PHE:CE2	24:BR:105:GLN:CG	2.48	0.97
34:B5:1355:C:H42	34:B5:1369:U:H3	1.06	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:38:PHE:CD2	24:BR:105:GLN:CG	2.49	0.96
34:B5:1355:C:N4	34:B5:1369:U:H3	1.63	0.96
1:BA:195:TRP:CE3	1:BA:197:ILE:CG1	2.47	0.96
1:BA:38:PHE:CD2	24:BR:105:GLN:CB	2.48	0.96
80:DC:553:PRO:N	80:DC:553:PRO:HG3	1.68	0.95
13:BW:2:THR:N	34:B5:1034:C:HO2'	1.65	0.94
38:A1:3189:G:H1	38:A1:3203:U:H3	1.06	0.93
1:BA:38:PHE:CG	24:BR:105:GLN:CG	2.50	0.93
34:B5:1588:G:H1	34:B5:1608:U:H3	0.96	0.93
1:BA:38:PHE:CD1	24:BR:105:GLN:HB3	2.03	0.92
80:DC:552:VAL:CA	80:DC:553:PRO:HG3	2.00	0.92
38:A1:538:G:H1	38:A1:553:U:H3	0.95	0.91
1:BA:195:TRP:CE3	1:BA:197:ILE:CD1	2.54	0.91
37:AC:234:ASN:ND2	37:AC:237:GLN:OE1	2.03	0.91
1:BA:38:PHE:CG	24:BR:105:GLN:CB	2.54	0.91
26:BT:78:LYS:HZ3	34:B5:1524:A:H5'	1.33	0.91
34:B5:976:G:H1	34:B5:1023:A:HO2'	1.13	0.90
46:AI:38:LYS:HG2	46:AI:41:ALA:HB2	1.53	0.90
81:EC:6853:G:N1	81:EC:6876:A:C2	2.38	0.90
1:BA:38:PHE:CE1	24:BR:105:GLN:HG3	2.06	0.90
1:BA:195:TRP:CZ2	1:BA:197:ILE:CD1	2.55	0.90
37:AC:234:ASN:HD21	37:AC:236:LEU:HB2	1.35	0.90
38:A1:2790:A:OP1	53:AQ:180:ARG:NH1	2.06	0.89
35:AA:21:ARG:HG3	38:A1:824:C:H5''	1.53	0.89
8:BJ:60:LEU:HA	8:BJ:69:ARG:HH21	1.36	0.89
4:BE:75:LYS:HB3	4:BE:77:ARG:HH11	1.38	0.88
38:A1:184:U:H3	38:A1:232:G:H1	1.14	0.88
34:B5:1114:G:OP2	76:An:6:ARG:NH2	2.05	0.88
12:BV:25:LYS:HB2	12:BV:28:ASP:HB2	1.55	0.87
1:BA:38:PHE:CD2	24:BR:105:GLN:HB2	2.10	0.87
6:BH:44:LYS:HG3	6:BH:63:PRO:HG3	1.55	0.87
34:B5:648:G:N1	34:B5:686:C:N3	2.21	0.87
7:BI:92:ARG:HH22	38:A1:2108:C:H5'	1.36	0.87
38:A1:2562:A:H4'	62:AZ:52:LYS:HZ1	1.37	0.87
38:A1:3348:G:H1	38:A1:3357:U:H3	1.20	0.87
80:DC:552:VAL:C	80:DC:553:PRO:HG3	2.00	0.86
34:B5:648:G:N2	34:B5:686:C:O2	2.07	0.86
1:BA:195:TRP:CZ3	1:BA:197:ILE:CD1	2.59	0.85
13:BW:24:GLN:HE22	17:Bb:5:GLN:H	1.25	0.85
79:E:101:LYS:HD3	79:E:130:LYS:HZ1	1.42	0.85
1:BA:195:TRP:CZ3	1:BA:197:ILE:CG1	2.59	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:38:PHE:CG	24:BR:105:GLN:HG2	2.11	0.84
31:Bg:89:LEU:HB2	31:Bg:103:PHE:HB2	1.57	0.84
48:AL:128:ARG:HH12	70:Ah:114:ARG:HH21	1.23	0.84
81:EC:6865:G:H5''	81:EC:6866:C:H5'	1.60	0.83
5:BG:177:ARG:NH1	34:B5:143:G:N7	2.26	0.83
1:BA:195:TRP:CH2	1:BA:197:ILE:CD1	2.62	0.83
38:A1:2433:U:H1'	50:AN:125:SER:HB3	1.61	0.83
38:A1:2854:U:OP2	46:AI:3:ARG:NH2	2.12	0.83
34:B5:740:A:H5'	34:B5:741:C:H2'	1.62	0.82
23:BQ:123:ARG:HE	34:B5:1337:A:H4'	1.42	0.82
13:BW:31:SER:HB3	34:B5:636:A:H5''	1.63	0.81
34:B5:431:C:O4'	80:DC:391:LYS:HG3	1.80	0.81
38:A1:3175:U:OP2	68:Af:10:LYS:NZ	2.12	0.81
80:DC:553:PRO:CG	80:DC:553:PRO:CD	0.81	0.81
29:Bc:22:ARG:NH2	34:B5:1161:C:O2	2.13	0.81
34:B5:273:G:H1	34:B5:283:U:H3	0.82	0.81
34:B5:430:G:C2	80:DC:391:LYS:HD3	2.16	0.81
34:B5:699:U:H3	34:B5:741:C:H41	1.29	0.81
34:B5:849:C:H5'	34:B5:850:A:H5'	1.61	0.81
38:A1:1222:G:H1	38:A1:1285:G:HO2'	1.27	0.81
58:AV:66:LYS:HB2	58:AV:69:LEU:HD23	1.63	0.81
18:Be:31:LYS:HA	18:Be:35:TYR:HB2	1.60	0.81
19:BD:120:TYR:HB3	19:BD:124:ARG:HH21	1.44	0.81
1:BA:195:TRP:CZ2	1:BA:197:ILE:CG1	2.64	0.81
6:BH:150:GLN:HB3	6:BH:181:ILE:HG22	1.63	0.81
80:DC:14:ASP:HA	80:DC:449:PRO:HG3	1.63	0.80
34:B5:1080:U:H3	34:B5:1091:A:H62	1.29	0.80
17:Bb:40:CYS:HG	17:Bb:58:SER:HG	1.24	0.80
25:BS:6:GLN:NE2	28:BZ:44:GLN:OE1	2.15	0.80
15:BY:104:SER:OG	15:BY:107:GLN:NE2	2.15	0.80
22:BP:98:ASN:ND2	22:BP:103:ASN:OD1	2.14	0.80
72:Aj:60:GLY:HA2	72:Aj:64:MET:HE2	1.62	0.80
38:A1:2971:A:H2'	46:AI:110:ARG:HH12	1.44	0.80
46:AI:129:VAL:HB	46:AI:133:GLN:NE2	1.95	0.80
38:A1:2853:A:H5'	46:AI:3:ARG:HH22	1.45	0.80
8:BJ:86:LEU:HA	8:BJ:90:LYS:HZ1	1.46	0.80
50:AN:68:ARG:NH1	50:AN:124:ASP:O	2.15	0.80
38:A1:1786:G:H2'	38:A1:1787:A:C8	2.17	0.79
38:A1:1251:A:H5''	38:A1:1252:A:H4'	1.62	0.79
80:DC:552:VAL:C	80:DC:553:PRO:CG	2.55	0.79
34:B5:1346:A:H61	34:B5:1369:U:H3'	1.47	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1684:U:H3	34:B5:1717:G:H1	1.30	0.79
46:AI:41:ALA:HB1	46:AI:45:GLU:OE2	1.83	0.79
80:DC:10:ARG:HA	80:DC:13:MET:HE2	1.65	0.79
29:Bc:22:ARG:NH1	29:Bc:22:ARG:HA	1.98	0.79
38:A1:1128:U:OP1	46:AI:4:ARG:NH1	2.15	0.79
75:Am:118:THR:HG22	75:Am:120:GLN:H	1.46	0.79
3:BC:182:PRO:HD3	8:BJ:17:ARG:HH12	1.46	0.79
8:BJ:108:ARG:NH2	8:BJ:110:GLN:OE1	2.15	0.79
34:B5:478:A:N6	34:B5:510:G:O6	2.16	0.79
19:BD:60:GLY:HA3	19:BD:64:ARG:HB2	1.65	0.79
34:B5:210:A:H62	34:B5:255:U:H3	1.28	0.79
38:A1:1408:G:OP1	67:Ae:33:ARG:NH2	2.16	0.79
80:DC:734:GLN:OE1	80:DC:760:ARG:NH2	2.14	0.79
38:A1:2269:U:C2	38:A1:2271:A:N7	2.51	0.78
5:BG:132:ARG:HH21	34:B5:150:U:H5'	1.48	0.78
38:A1:1390:A:N6	38:A1:1418:A:O2'	2.17	0.78
38:A1:2193:U:H5''	38:A1:2194:G:H5'	1.66	0.78
41:AD:34:LYS:HA	56:AT:27:LEU:HD11	1.66	0.78
12:BV:73:ALA:HB1	12:BV:79:LEU:HD23	1.65	0.78
34:B5:871:G:H2'	34:B5:872:G:C8	2.19	0.78
34:B5:895:G:H2'	34:B5:896:U:C6	2.19	0.78
38:A1:1227:C:N4	38:A1:1282:G:O6	2.17	0.78
80:DC:560:VAL:HG23	80:DC:825:ARG:HH21	1.48	0.78
7:BI:104:ILE:HG13	7:BI:105:ASP:H	1.48	0.78
14:BX:20:ARG:NH1	34:B5:311:U:OP2	2.15	0.78
38:A1:3160:U:H3	38:A1:3290:G:H1	0.81	0.78
75:Am:103:LEU:HD21	75:Am:110:CYS:HA	1.65	0.78
38:A1:1336:U:H2'	38:A1:1337:A:H8	1.46	0.77
17:Bb:19:HIS:HB3	17:Bb:22:LYS:HG2	1.66	0.77
20:BF:94:THR:HG22	20:BF:114:ILE:HG21	1.67	0.77
80:DC:399:ARG:HH21	80:DC:451:GLY:HA2	1.48	0.77
3:BC:95:ARG:HH12	3:BC:97:ARG:HH11	1.28	0.77
70:Ah:14:LYS:HE3	70:Ah:62:GLN:HE22	1.47	0.77
49:AM:48:GLY:HA3	49:AM:53:VAL:HB	1.65	0.77
11:BO:41:ARG:NH1	34:B5:896:U:O2	2.18	0.77
38:A1:532:A:H61	38:A1:560:G:H1	1.30	0.77
79:E:196:LYS:HB3	79:E:199:GLN:HB2	1.64	0.77
80:DC:817:GLU:HA	80:DC:820:LEU:HD13	1.65	0.77
9:BL:8:GLN:HE22	9:BL:14:GLN:H	1.31	0.77
40:A4:8:C:H2'	40:A4:9:A:H8	1.48	0.77
25:BS:143:ARG:NH2	34:B5:1462:G:N7	2.32	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:584:G:OP1	42:AE:82:ARG:NH2	2.16	0.77
50:AN:73:ARG:HB3	50:AN:89:VAL:HG23	1.65	0.77
56:AT:17:ARG:NH1	56:AT:47:SER:OG	2.17	0.77
24:BR:60:ARG:HH12	34:B5:1400:A:H5''	1.50	0.77
79:E:67:ILE:HG12	79:E:111:ILE:HD11	1.66	0.77
38:A1:2727:A:OP2	38:A1:2728:G:N2	2.18	0.76
38:A1:172:G:H21	38:A1:173:G:H1	1.33	0.76
38:A1:3214:U:OP2	49:AM:128:ARG:NH1	2.16	0.76
43:AF:91:GLY:HA2	43:AF:111:ILE:HD11	1.66	0.76
44:AG:162:LEU:HD21	50:AN:45:PRO:HG2	1.68	0.76
3:BC:101:VAL:HG12	3:BC:115:ILE:HG22	1.65	0.76
4:BE:38:LEU:HD22	34:B5:298:C:H5''	1.67	0.76
38:A1:2481:G:N7	38:A1:2486:A:N6	2.33	0.76
1:BA:195:TRP:CH2	1:BA:197:ILE:CG1	2.68	0.76
2:BB:23:PRO:O	2:BB:27:LYS:NZ	2.19	0.76
14:BX:107:PHE:CE2	14:BX:114:LYS:HB3	2.21	0.76
38:A1:1635:G:N2	38:A1:1638:A:OP2	2.12	0.76
62:AZ:51:LEU:HD23	62:AZ:65:ARG:HD2	1.65	0.76
36:AB:85:VAL:HG23	36:AB:165:GLN:HE21	1.51	0.76
61:AY:68:GLY:HA2	61:AY:84:LYS:HZ3	1.51	0.76
80:DC:404:THR:HG22	80:DC:449:PRO:HA	1.68	0.76
4:BE:182:TYR:HD1	4:BE:192:ILE:HG13	1.51	0.75
46:AI:141:LYS:HD2	46:AI:142:ASP:H	1.51	0.75
47:AJ:53:THR:HG23	47:AJ:61:ARG:HG3	1.67	0.75
73:AK:43:PHE:HE1	73:AK:65:LEU:HD22	1.51	0.75
61:AY:87:LYS:HB2	61:AY:97:ILE:HD11	1.67	0.75
38:A1:1114:U:OP1	63:Aa:23:GLY:N	2.18	0.75
38:A1:2828:G:OP1	46:AI:7:ARG:NH1	2.20	0.75
81:EC:6835:U:O2	81:EC:6874:A:N6	2.18	0.75
5:BG:23:ARG:NH1	5:BG:41:VAL:O	2.19	0.75
38:A1:2269:U:O2	38:A1:2271:A:N7	2.18	0.75
45:AH:34:LEU:HB3	45:AH:78:MET:HE2	1.68	0.75
13:BW:56:HIS:O	34:B5:861:U:O2'	2.04	0.75
4:BE:191:ARG:NH2	4:BE:216:ASN:OD1	2.19	0.75
80:DC:317:LYS:HA	80:DC:320:LEU:HD12	1.67	0.75
38:A1:439:C:N4	38:A1:619:A:N1	2.35	0.75
38:A1:1363:A:OP1	43:AF:160:ARG:NH1	2.20	0.75
34:B5:1356:U:O2	34:B5:1367:G:N2	2.18	0.75
38:A1:1057:A:OP1	43:AF:98:LYS:NZ	2.20	0.74
49:AM:20:VAL:HG21	49:AM:90:VAL:HG11	1.67	0.74
68:Af:42:GLN:HA	68:Af:45:LEU:HD23	1.67	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:BV:70:ASN:HB3	12:BV:83:TRP:HB2	1.67	0.74
35:AA:37:ARG:NH1	38:A1:2526:C:OP1	2.18	0.74
19:BD:68:GLU:HB3	21:BK:91:TYR:HE1	1.53	0.74
36:AB:219:ALA:HB2	36:AB:336:VAL:HG23	1.68	0.74
45:AH:57:VAL:HG23	45:AH:68:LEU:HD13	1.68	0.74
29:Bc:22:ARG:HA	29:Bc:22:ARG:HH11	1.53	0.74
38:A1:2185:G:O2'	38:A1:2314:PSU:OP2	2.04	0.74
34:B5:1690:G:N7	34:B5:1707:A:N6	2.36	0.74
36:AB:315:GLY:HA2	38:A1:3379:C:H4'	1.69	0.74
8:BJ:83:VAL:HA	8:BJ:149:ARG:HA	1.68	0.74
24:BR:100:LEU:N	24:BR:118:PRO:O	2.19	0.74
30:Bd:15:GLY:HA3	34:B5:1204:A:H61	1.52	0.74
38:A1:860:G:OP1	78:Ap:17:ARG:NH1	2.20	0.74
38:A1:1246:G:H5'	38:A1:1273:A:H61	1.53	0.74
52:AP:176:ILE:HD12	52:AP:179:GLN:HE21	1.53	0.74
38:A1:3226:A:C6	38:A1:3260:G:N1	2.56	0.74
6:BH:41:LEU:HB2	6:BH:70:PHE:HE1	1.50	0.74
7:BI:57:ALA:HB2	7:BI:177:GLY:HA2	1.69	0.74
28:BZ:90:LYS:HE2	28:BZ:105:THR:H	1.53	0.74
38:A1:68:C:N4	38:A1:314:U:O2'	2.20	0.74
1:BA:38:PHE:CD2	24:BR:105:GLN:HG2	2.22	0.73
5:BG:52:ILE:HG23	5:BG:109:LEU:HD21	1.69	0.73
11:BO:40:ALA:HB2	11:BO:70:LYS:HE3	1.69	0.73
20:BF:86:GLN:HE22	29:Bc:49:ARG:HH22	1.33	0.73
34:B5:1144:U:HO2'	34:B5:1301:U:HO2'	1.31	0.73
1:BA:55:GLU:HG3	12:BV:79:LEU:HD12	1.70	0.73
31:Bg:300:THR:HG22	31:Bg:314:GLN:HG2	1.71	0.73
34:B5:869:A:H61	34:B5:958:U:H3	1.36	0.73
34:B5:1171:A:H2'	34:B5:1172:G:C8	2.24	0.73
34:B5:1669:U:H3	34:B5:1732:A:H62	1.35	0.73
13:BW:78:ARG:NH2	34:B5:805:U:O2'	2.21	0.73
19:BD:65:ARG:NH1	19:BD:68:GLU:OE2	2.21	0.73
22:BP:81:ARG:NH1	22:BP:97:TYR:O	2.20	0.73
38:A1:269:G:H5''	50:AN:14:LYS:HE2	1.68	0.73
38:A1:297:G:OP2	38:A1:297:G:N2	2.20	0.73
38:A1:3019:U:O2	38:A1:3035:A:N6	2.16	0.73
20:BF:62:VAL:O	20:BF:65:ARG:NH2	2.22	0.73
30:Bd:22:ARG:O	30:Bd:22:ARG:NH1	2.21	0.73
34:B5:1356:U:H3	34:B5:1367:G:H1	1.36	0.73
38:A1:1805:C:H2'	38:A1:1806:A:H8	1.53	0.73
38:A1:2894:C:OP1	45:AH:168:ARG:NH2	2.21	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:AF:57:THR:O	43:AF:61:ASN:ND2	2.21	0.73
69:Ag:29:ILE:HD11	69:Ag:31:ARG:HH21	1.51	0.73
34:B5:239:C:N4	34:B5:242:U:OP2	2.21	0.73
35:AA:111:THR:HG22	78:Ap:86:LEU:HD13	1.68	0.73
38:A1:743:C:N3	53:AQ:141:ARG:NH2	2.36	0.73
45:AH:90:MET:HE2	45:AH:179:ILE:HG22	1.69	0.73
46:AI:44:ASP:OD1	46:AI:181:TYR:OH	2.07	0.73
34:B5:1339:C:O2'	34:B5:1341:A:N7	2.22	0.73
1:BA:195:TRP:CD2	1:BA:197:ILE:HG12	2.23	0.73
2:BB:222:LYS:NZ	38:A1:2546:C:O4'	2.21	0.73
16:Ba:18:VAL:HG23	16:Ba:19:LYS:H	1.53	0.73
7:BI:76:THR:HG21	7:BI:104:ILE:HD12	1.71	0.73
45:AH:7:GLU:HG3	45:AH:9:GLN:HE22	1.53	0.73
80:DC:785:ARG:HG2	80:DC:792:ALA:HB3	1.71	0.73
3:BC:199:GLN:NE2	34:B5:2:A:N3	2.37	0.72
4:BE:141:THR:OG1	4:BE:143:ASP:OD1	2.07	0.72
38:A1:1812:G:N7	62:AZ:64:LYS:NZ	2.31	0.72
80:DC:365:ASN:HD22	80:DC:379:MET:HE1	1.54	0.72
80:DC:564:ARG:HH12	80:DC:801:TRP:CD1	2.07	0.72
34:B5:890:C:H2'	34:B5:891:A:H8	1.51	0.72
38:A1:3041:U:OP1	58:AV:12:ARG:NH1	2.21	0.72
5:BG:151:ASP:HB3	5:BG:156:PHE:HE2	1.52	0.72
13:BW:118:ARG:NH1	34:B5:686:C:O2'	2.22	0.72
31:Bg:35:SER:OG	31:Bg:45:TRP:NE1	2.21	0.72
33:BM:68:GLU:HG2	33:BM:71:ILE:H	1.55	0.72
34:B5:1488:G:H3'	34:B5:1515:A:H61	1.52	0.72
38:A1:2111:G:O2'	59:AW:44:LYS:NZ	2.23	0.72
44:AG:41:GLN:OE1	44:AG:44:ARG:NH2	2.22	0.72
62:AZ:113:VAL:HA	62:AZ:116:LYS:HE3	1.71	0.72
3:BC:145:GLY:O	13:BW:98:GLN:NE2	2.21	0.72
5:BG:1:MET:HE2	5:BG:24:ILE:HD12	1.71	0.72
34:B5:774:A:N1	34:B5:786:C:N3	2.36	0.72
1:BA:38:PHE:CE2	24:BR:105:GLN:HB2	2.24	0.72
8:BJ:131:GLN:NE2	34:B5:512:A:N3	2.38	0.72
20:BF:89:ILE:HA	20:BF:92:ARG:HG3	1.71	0.72
38:A1:597:G:H2'	38:A1:598:A:H8	1.53	0.72
81:EC:6863:C:H2'	81:EC:6864:A:C4	2.25	0.72
3:BC:69:ILE:HG21	3:BC:133:LYS:HB3	1.70	0.72
6:BH:144:VAL:HA	13:BW:42:GLN:HE21	1.52	0.72
55:AS:92:LYS:NZ	55:AS:109:ASP:OD2	2.22	0.72
1:BA:23:HIS:O	1:BA:48:ILE:N	2.21	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:BJ:128:LEU:HA	8:BJ:131:GLN:HB2	1.71	0.72
22:BP:122:THR:HG1	34:B5:1558:U:H3	1.31	0.72
38:A1:649:A:OP2	38:A1:2868:U:O2'	2.07	0.72
79:E:100:ILE:HB	79:E:127:GLN:HG2	1.72	0.72
5:BG:188:ARG:NH2	34:B5:283:U:O5'	2.23	0.71
38:A1:1334:U:OP1	43:AF:206:LYS:NZ	2.22	0.71
7:BI:152:ILE:HG13	7:BI:153:GLU:H	1.54	0.71
25:BS:40:ARG:NH2	26:BT:44:GLU:O	2.22	0.71
29:Bc:9:LEU:HA	29:Bc:55:VAL:HA	1.72	0.71
38:A1:2562:A:H4'	62:AZ:52:LYS:NZ	2.04	0.71
55:AS:16:THR:HG23	55:AS:19:VAL:H	1.53	0.71
80:DC:27:HIS:HB3	80:DC:30:HIS:CD2	2.24	0.71
38:A1:3092:C:O2'	38:A1:3094:A:OP2	2.08	0.71
9:BL:80:MET:HE1	34:B5:346:G:H4'	1.72	0.71
37:AC:332:LYS:NZ	38:A1:599:C:OP1	2.23	0.71
38:A1:3185:U:HO2'	55:AS:170:THR:HG1	1.36	0.71
41:AD:254:LYS:HD2	41:AD:255:PRO:HD2	1.71	0.71
35:AA:30:ARG:O	35:AA:163:ARG:NH2	2.21	0.71
39:A3:86:U:O2'	43:AF:218:ARG:NH2	2.24	0.71
47:AJ:111:ASP:HB3	47:AJ:116:TYR:HB2	1.71	0.71
66:Ad:11:GLU:HG3	66:Ad:72:ARG:HH11	1.55	0.71
81:EC:6801:A:H62	81:EC:6882:G:H8	1.39	0.71
38:A1:1225:A:H3'	38:A1:1226:G:H8	1.55	0.71
38:A1:1323:G:O3'	55:AS:1:MET:N	2.24	0.71
38:A1:1863:G:N1	38:A1:1866:C:OP2	2.20	0.71
53:AQ:62:VAL:HG13	53:AQ:66:ARG:HD2	1.70	0.71
1:BA:118:PRO:HG2	1:BA:141:ILE:HG12	1.71	0.71
8:BJ:82:ARG:HG2	8:BJ:149:ARG:HB2	1.73	0.71
11:BO:47:LYS:HE2	11:BO:63:ALA:HA	1.72	0.71
34:B5:416:A:O2'	34:B5:418:G:N7	2.21	0.71
38:A1:2554:A:N7	78:Ap:62:LYS:NZ	2.39	0.71
38:A1:2898:G:OP2	45:AH:173:ARG:NH2	2.21	0.71
72:Aj:27:PHE:HA	72:Aj:34:CYS:HA	1.73	0.71
79:E:59:PRO:HA	79:E:174:MET:HE1	1.71	0.71
23:BQ:113:ASP:OD2	23:BQ:115:THR:OG1	2.08	0.71
34:B5:867:G:H1	34:B5:961:U:H3	1.36	0.71
36:AB:126:LYS:NZ	38:A1:3294:A:OP2	2.23	0.71
38:A1:2471:U:H3	38:A1:2474:G:H22	1.39	0.71
38:A1:2640:A:OP1	56:AT:55:LYS:NZ	2.22	0.71
63:Aa:114:GLY:O	63:Aa:137:LYS:NZ	2.24	0.71
27:BU:44:ASN:HD22	27:BU:103:ILE:HD13	1.55	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1747:G:H21	73:Ak:2:ALA:HB3	1.53	0.71
38:A1:3028:G:H5'	80:DC:28:VAL:HG21	1.73	0.71
58:AV:14:SER:O	58:AV:81:GLN:NE2	2.23	0.71
10:BN:55:ARG:NH1	34:B5:958:U:O2'	2.24	0.70
21:BK:61:TRP:HB3	30:Bd:22:ARG:HH12	1.55	0.70
22:BP:78:THR:HA	34:B5:1241:G:H4'	1.71	0.70
29:Bc:8:THR:O	29:Bc:56:LEU:N	2.24	0.70
38:A1:3225:C:N3	38:A1:3226:A:N6	2.39	0.70
79:E:117:ILE:HD13	79:E:137:PRO:HG3	1.71	0.70
6:BH:10:SER:OG	6:BH:43:PHE:O	2.08	0.70
14:BX:69:ARG:HG3	14:BX:117:ILE:HG12	1.73	0.70
23:BQ:95:LYS:NZ	31:Bg:96:THR:O	2.24	0.70
30:Bd:30:LEU:O	34:B5:1199:G:N2	2.25	0.70
38:A1:2705:A:N1	56:AT:49:GLN:NE2	2.38	0.70
38:A1:3115:C:OP1	45:AH:62:ARG:NH2	2.24	0.70
80:DC:388:THR:OG1	80:DC:393:ARG:O	2.09	0.70
26:BT:86:ARG:NH1	26:BT:90:PRO:O	2.24	0.70
28:BZ:49:ARG:HH21	28:BZ:68:ARG:HD3	1.56	0.70
34:B5:430:G:N3	80:DC:391:LYS:HD3	2.07	0.70
38:A1:797:U:O2	48:AL:12:ASN:ND2	2.25	0.70
4:BE:133:LYS:NZ	34:B5:252:U:OP1	2.24	0.70
11:BO:83:ILE:HD11	11:BO:102:LEU:HD21	1.73	0.70
39:A3:5:G:O2'	41:AD:63:GLN:NE2	2.25	0.70
20:BF:143:ARG:NH2	29:Bc:55:VAL:O	2.23	0.70
34:B5:647:G:N2	34:B5:648:G:O6	2.25	0.70
34:B5:1081:A:O2'	34:B5:1083:G:N7	2.22	0.70
38:A1:1676:A:OP1	57:AU:101:ASN:ND2	2.24	0.70
38:A1:3308:C:N3	52:AP:69:ARG:NH2	2.40	0.70
38:A1:619:A:OP1	52:AP:167:ARG:NH1	2.25	0.70
38:A1:655:C:H2'	38:A1:656:A:H8	1.57	0.70
38:A1:1361:U:O2	43:AF:159:GLN:NE2	2.25	0.70
80:DC:730:LEU:HG	80:DC:769:LYS:HG3	1.73	0.70
80:DC:745:SER:O	80:DC:749:LYS:NZ	2.24	0.70
4:BE:105:VAL:HG22	4:BE:243:GLY:HA2	1.73	0.70
10:BN:67:THR:HG23	10:BN:69:ASN:H	1.56	0.70
13:BW:69:LEU:HD21	13:BW:72:CYS:HB3	1.73	0.70
25:BS:39:GLY:H	34:B5:1566:U:H5''	1.57	0.70
34:B5:44:U:OP2	34:B5:437:A:N6	2.24	0.70
34:B5:163:G:OP2	34:B5:163:G:N2	2.21	0.70
34:B5:774:A:N6	34:B5:786:C:O2	2.25	0.70
38:A1:856:G:OP1	54:AR:92:GLN:NE2	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1814:A:H1'	38:A1:1817:G:H21	1.56	0.70
80:DC:738:GLN:HG2	80:DC:788:THR:HG22	1.73	0.70
34:B5:205:U:H2'	34:B5:206:A:H8	1.55	0.70
38:A1:600:G:N2	38:A1:603:A:OP2	2.21	0.70
49:AM:123:LEU:HB3	51:AO:194[A]:LEU:HD11	1.74	0.70
51:AO:10[A]:ASP:OD2	55:AS:167:ARG:NH2	2.24	0.70
53:AQ:94:PHE:HE2	63:Aa:119:PRO:HD3	1.55	0.70
7:BI:18:ARG:NH2	34:B5:105:A:O5'	2.25	0.69
27:BU:87:HIS:ND1	34:B5:1383:G:OP1	2.24	0.69
35:AA:180:LEU:HD22	78:Ap:26:VAL:HG21	1.74	0.69
47:AJ:49:LYS:HA	47:AJ:64:LYS:HA	1.74	0.69
11:BO:30:VAL:HG13	11:BO:39:ILE:HG13	1.74	0.69
23:BQ:77:GLN:HE22	34:B5:1482:C:H4'	1.56	0.69
34:B5:1641:C:H2'	34:B5:1642:G:C8	2.27	0.69
38:A1:158:G:H2'	38:A1:159:A:H8	1.57	0.69
38:A1:541:U:H2'	38:A1:542:G:H8	1.56	0.69
80:DC:520:THR:HG22	80:DC:530:VAL:HG12	1.74	0.69
1:BA:144:ILE:HG13	1:BA:158:VAL:HB	1.75	0.69
5:BG:66:GLY:HA2	34:B5:1681:A:H1'	1.74	0.69
7:BI:16:ALA:HB2	34:B5:354:C:H5''	1.75	0.69
34:B5:340:U:H2'	34:B5:341:A:H8	1.57	0.69
38:A1:2786:G:N2	63:Aa:58:MET:SD	2.65	0.69
47:AJ:82:ARG:HH21	47:AJ:113:GLY:HA3	1.57	0.69
80:DC:730:LEU:H	80:DC:799:ASP:HB2	1.55	0.69
33:BM:61:VAL:HG12	33:BM:89:ILE:HB	1.74	0.69
36:AB:372:THR:HG23	36:AB:375:GLU:H	1.57	0.69
37:AC:11:LEU:HD11	37:AC:156:LEU:HB2	1.73	0.69
37:AC:119:ARG:NH2	38:A1:696:C:OP2	2.26	0.69
38:A1:215:G:OP1	61:AY:12:ARG:NH1	2.24	0.69
80:DC:225:PHE:HA	80:DC:228:ARG:HE	1.56	0.69
28:BZ:49:ARG:NH2	81:EC:6866:C:OP2	2.26	0.69
80:DC:593:ILE:HD11	80:DC:685:ARG:HB2	1.75	0.69
7:BI:178:ARG:NH1	34:B5:207:U:O2	2.25	0.69
20:BF:143:ARG:HH22	29:Bc:54:LEU:HB3	1.57	0.69
38:A1:361:A:O3'	72:Aj:45:ARG:NH2	2.26	0.69
38:A1:708:G:N2	38:A1:711:A:OP2	2.26	0.69
38:A1:3226:A:N6	38:A1:3260:G:N1	2.40	0.69
38:A1:3248:C:H2'	38:A1:3249:C:H6	1.58	0.69
2:BB:32:ILE:HG23	2:BB:96:LEU:HD11	1.75	0.69
38:A1:2467:G:N2	38:A1:2488:A:N7	2.41	0.69
45:AH:87:LYS:HB2	45:AH:187:ILE:HD13	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:E:120:VAL:HG21	79:E:135:PRO:HB3	1.74	0.69
14:BX:121:ARG:NH2	34:B5:1135:U:OP2	2.26	0.69
34:B5:1584:G:N2	34:B5:1611:A:OP2	2.24	0.69
38:A1:2656:A:H4'	77:Ao:98:LYS:HD2	1.75	0.69
81:EC:6861:G:O6	81:EC:6868:C:N4	2.26	0.69
11:BO:15:GLY:H	11:BO:79:VAL:HA	1.58	0.68
24:BR:60:ARG:NH1	34:B5:1400:A:H5''	2.08	0.68
42:AE:75:PRO:HA	42:AE:138:GLN:HE22	1.58	0.68
62:AZ:31:GLU:OE2	62:AZ:31:GLU:N	2.24	0.68
19:BD:103:GLU:HA	19:BD:173:ARG:HH12	1.58	0.68
34:B5:775:G:O6	34:B5:785:U:O2	2.12	0.68
36:AB:83:PRO:O	36:AB:165:GLN:NE2	2.26	0.68
37:AC:35:VAL:HG21	37:AC:244:LEU:HD21	1.75	0.68
80:DC:412:ARG:HE	80:DC:426:LEU:HD21	1.57	0.68
80:DC:610:ASP:O	80:DC:615:ARG:NH2	2.26	0.68
11:BO:120:PRO:HB2	34:B5:887:A:H5''	1.75	0.68
18:Be:10:ARG:NH1	34:B5:566:C:O3'	2.25	0.68
35:AA:8:GLN:HA	38:A1:2163:C:H4'	1.75	0.68
34:B5:222:A:H62	34:B5:832:U:H5'	1.59	0.68
38:A1:567:G:H2'	38:A1:568:G:C8	2.29	0.68
38:A1:2445:A:O2'	71:Ai:98:ARG:NH2	2.26	0.68
80:DC:164:LEU:HD22	80:DC:169:VAL:HG12	1.76	0.68
3:BC:201:ASN:OD1	3:BC:202:GLY:N	2.25	0.68
20:BF:63:GLN:HB3	20:BF:88:PRO:HA	1.74	0.68
38:A1:1119:C:H2'	38:A1:1120:A:H8	1.58	0.68
38:A1:3034:C:H5	45:AH:121:LYS:HB2	1.59	0.68
40:A4:58:G:O6	72:Aj:63:ARG:NH2	2.18	0.68
43:AF:83:LEU:HD11	43:AF:116:PHE:HB3	1.75	0.68
80:DC:659:ILE:HD13	80:DC:693:LEU:HD21	1.75	0.68
4:BE:100:ARG:HB2	4:BE:114:ILE:HD13	1.75	0.68
5:BG:159:ARG:HH21	5:BG:170:THR:HG23	1.59	0.68
34:B5:16:G:H2'	34:B5:17:C:C6	2.29	0.68
38:A1:173:G:O6	38:A1:244:G:N2	2.25	0.68
40:A4:8:C:H2'	40:A4:9:A:C8	2.28	0.68
9:BL:92:HIS:HB3	9:BL:101:GLU:HB3	1.74	0.68
34:B5:351:C:H3'	34:B5:352:A:H5'	1.76	0.68
38:A1:3064:U:H2'	38:A1:3065:G:H8	1.59	0.68
80:DC:793:PHE:O	80:DC:795:GLN:NE2	2.25	0.68
81:EC:6858:A:O2'	81:EC:6859:U:O4	2.12	0.68
14:BX:66:SER:OG	34:B5:1755:A:N6	2.26	0.68
22:BP:43:ARG:NH1	34:B5:1553:G:O6	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Bg:102:ARG:NH2	34:B5:1341:A:O2'	2.26	0.68
38:A1:2697:A:H2'	38:A1:2698:G:H8	1.59	0.68
38:A1:2900:A:H4'	45:AH:174:LYS:HD3	1.76	0.68
38:A1:1010:G:O2'	46:AI:40:LYS:NZ	2.16	0.68
67:Ae:86:THR:HG22	67:Ae:115:LEU:HD13	1.76	0.68
80:DC:632:LYS:NZ	80:DC:649:GLN:OE1	2.26	0.68
11:BO:81:VAL:HG23	11:BO:112:ILE:HD11	1.75	0.68
15:BY:105:ARG:NH2	34:B5:459:G:OP2	2.26	0.68
20:BF:219:ARG:NH2	81:EC:6841:U:O2	2.27	0.68
26:BT:7:ARG:NH2	34:B5:1365:C:O2'	2.27	0.68
34:B5:226:A:H1'	34:B5:837:G:H1	1.59	0.68
34:B5:868:G:H1	34:B5:960:U:H3	1.41	0.68
38:A1:34:A:OP1	50:AN:73:ARG:NH1	2.26	0.68
38:A1:2305:G:OP2	38:A1:2305:G:N2	2.20	0.68
38:A1:3226:A:N6	38:A1:3260:G:C6	2.62	0.68
17:Bb:20:LYS:NZ	34:B5:959:U:OP2	2.27	0.67
34:B5:1035:G:H2'	34:B5:1036:A:H8	1.59	0.67
34:B5:1650:U:H2'	34:B5:1651:A:C8	2.29	0.67
38:A1:164:A:N6	38:A1:258:G:O6	2.27	0.67
39:A3:8:G:O6	41:AD:21:ARG:NH2	2.27	0.67
44:AG:227:ASP:HA	44:AG:230:LYS:HE2	1.76	0.67
20:BF:122:ASN:HD22	20:BF:129:PRO:HD3	1.59	0.67
22:BP:41:VAL:HG22	22:BP:84:ILE:HG12	1.76	0.67
34:B5:890:C:H2'	34:B5:891:A:C8	2.28	0.67
37:AC:58:HIS:CE1	37:AC:98:ARG:HE	2.13	0.67
71:AI:99:ARG:NH1	79:E:215:ARG:O	2.27	0.67
27:BU:58:LEU:HD12	34:B5:1516:A:H5'	1.77	0.67
38:A1:68:C:OP2	38:A1:301:G:N2	2.26	0.67
38:A1:1547:G:OP1	50:AN:108:ARG:NH2	2.28	0.67
38:A1:2107:A:H2'	38:A1:2108:C:H6	1.59	0.67
40:A4:75:G:OP2	61:AY:74:TYR:OH	2.12	0.67
60:AX:50:ALA:HB1	70:Ah:66:VAL:HG11	1.75	0.67
1:BA:20:ALA:O	1:BA:169:SER:OG	2.11	0.67
15:BY:41:ARG:NH2	15:BY:52:LYS:O	2.28	0.67
20:BF:95:ASN:HD21	34:B5:1611:A:H4'	1.58	0.67
38:A1:148:G:OP2	50:AN:4:TYR:OH	2.11	0.67
38:A1:512:U:O2	38:A1:579:G:N2	2.22	0.67
38:A1:1370:G:OP1	63:Aa:16:SER:OG	2.13	0.67
2:BB:134:VAL:HG13	2:BB:218:LEU:HB2	1.76	0.67
5:BG:137:ARG:NH2	34:B5:144:U:O4	2.24	0.67
10:BN:86:GLU:N	10:BN:86:GLU:OE2	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BP:97:TYR:OH	34:B5:1211:A:N3	2.25	0.67
34:B5:1196:A:N6	34:B5:1601:G:O2'	2.27	0.67
38:A1:597:G:H2'	38:A1:598:A:C8	2.29	0.67
38:A1:3225:C:C4	38:A1:3226:A:N6	2.62	0.67
2:BB:28:GLU:HB3	2:BB:94:LYS:HE3	1.76	0.67
27:BU:30:LYS:HA	27:BU:85:ARG:HH22	1.59	0.67
38:A1:155:G:N2	38:A1:265:A:OP2	2.25	0.67
38:A1:664:U:H2'	38:A1:665:A:C8	2.30	0.67
44:AG:163:VAL:HA	44:AG:166:LEU:HD23	1.77	0.67
47:AJ:161:SER:O	47:AJ:165:GLN:NE2	2.28	0.67
49:AM:60:LEU:HD13	55:AS:152:LEU:HD11	1.76	0.67
80:DC:260:LYS:NZ	80:DC:262:THR:OG1	2.26	0.67
4:BE:214:LEU:HD12	4:BE:244:ILE:HG21	1.76	0.67
36:AB:277:SER:OG	36:AB:280:HIS:NE2	2.27	0.67
38:A1:1181:U:H2'	51:AO:122[A]:GLN:HE21	1.60	0.67
48:AL:57:VAL:HG22	48:AL:147:ILE:HG22	1.77	0.67
70:Ah:55:LEU:HA	70:Ah:58:ILE:HD12	1.76	0.67
1:BA:38:PHE:CD1	24:BR:105:GLN:HG3	2.30	0.67
22:BP:47:ARG:NH2	34:B5:1554:U:OP2	2.28	0.67
38:A1:509:U:O2'	68:Af:42:GLN:NE2	2.28	0.67
38:A1:3321:C:H2'	38:A1:3322:A:H8	1.60	0.67
39:A3:28:C:OP1	47:AJ:137:ARG:NH1	2.23	0.67
80:DC:406:LYS:H	80:DC:409:GLN:HG2	1.60	0.67
6:BH:143:LEU:HB2	6:BH:147:ASN:HB2	1.76	0.67
7:BI:159:GLN:HB2	7:BI:165:LEU:HD13	1.77	0.67
16:Ba:13:LYS:O	34:B5:1075:C:O2'	2.12	0.67
34:B5:523:G:N1	34:B5:528:U:OP2	2.25	0.67
35:AA:30:ARG:HH21	35:AA:41:ILE:HG21	1.60	0.67
38:A1:270:U:H2'	38:A1:271:C:H6	1.59	0.67
5:BG:57:ASP:HB3	5:BG:98:ARG:HD2	1.78	0.67
33:BM:63:VAL:HG21	33:BM:94:ALA:HA	1.77	0.67
37:AC:73:ARG:NH1	38:A1:2814:G:OP1	2.26	0.67
38:A1:518:G:OP2	38:A1:518:G:N2	2.21	0.67
38:A1:1158:A:OP2	43:AF:90:LYS:NZ	2.24	0.67
38:A1:2697:A:H2'	38:A1:2698:G:C8	2.29	0.67
46:AI:129:VAL:CB	46:AI:133:GLN:HE22	2.01	0.67
55:AS:89:ASN:ND2	56:AT:156:TYR:O	2.25	0.67
56:AT:115:LYS:HB3	56:AT:126:VAL:HG11	1.77	0.67
80:DC:263:ASP:HB3	80:DC:269:LEU:HD21	1.74	0.67
5:BG:85:ARG:O	5:BG:87:ARG:NH1	2.27	0.66
38:A1:1746:U:H2'	38:A1:1747:G:H8	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:3016:A:H2'	38:A1:3017:A:H8	1.59	0.66
55:AS:12:ARG:HB3	55:AS:24:LEU:HD23	1.77	0.66
80:DC:734:GLN:HG3	80:DC:765:LEU:HD22	1.77	0.66
2:BB:66:VAL:HG12	11:BO:34:SER:HA	1.76	0.66
38:A1:986:PSU:O2'	43:AF:122:ALA:O	2.14	0.66
38:A1:3217:C:C2	52:AP:182:ILE:HD11	2.30	0.66
80:DC:675:PRO:O	80:DC:823:ARG:NH2	2.28	0.66
1:BA:119:ARG:HG3	3:BC:240:LEU:HD13	1.77	0.66
10:BN:24:ALA:O	10:BN:27:LYS:NZ	2.29	0.66
29:Bc:17:GLY:HA3	29:Bc:67:ARG:HH21	1.59	0.66
38:A1:184:U:O2	38:A1:232:G:N2	2.26	0.66
38:A1:3183:A:OP1	51:AO:37[A]:ARG:NH2	2.28	0.66
38:A1:3348:G:O6	38:A1:3357:U:O4	2.14	0.66
42:AE:60:ASP:OD2	42:AE:78:ARG:NH1	2.28	0.66
58:AV:40:LYS:HE2	58:AV:59:MET:HE3	1.77	0.66
71:Ai:50:LEU:O	71:Ai:55:ARG:NH1	2.29	0.66
80:DC:409:GLN:H	80:DC:431:ILE:HG22	1.59	0.66
7:BI:160:PHE:HD1	7:BI:165:LEU:HD21	1.58	0.66
9:BL:109:VAL:HG12	9:BL:137:PHE:HB2	1.78	0.66
21:BK:29:GLN:HG3	21:BK:31:LYS:H	1.61	0.66
38:A1:537:A:HO2'	38:A1:558:U:HO2'	1.43	0.66
38:A1:584:G:H2'	38:A1:585:A:H8	1.60	0.66
80:DC:338:ILE:HG23	80:DC:342:LEU:HD12	1.78	0.66
8:BJ:139:GLN:OE1	8:BJ:139:GLN:N	2.29	0.66
36:AB:124:LYS:NZ	38:A1:3297:U:O4	2.27	0.66
37:AC:34:ILE:HG21	37:AC:120:TYR:HD2	1.59	0.66
37:AC:300:ARG:NH2	53:AQ:38:ARG:O	2.29	0.66
12:BV:3:ASN:HD21	12:BV:7:GLN:HB2	1.60	0.66
13:BW:53:ILE:HD13	17:Bb:24:LEU:HD21	1.78	0.66
30:Bd:10:HIS:H	34:B5:1451:C:H5''	1.61	0.66
31:Bg:180:ALA:HB3	31:Bg:190:ALA:HB3	1.77	0.66
34:B5:406:U:H2'	34:B5:407:A:H8	1.60	0.66
34:B5:922:G:H2'	34:B5:923:A:H8	1.60	0.66
35:AA:135:ILE:HB	35:AA:149:ARG:HB3	1.78	0.66
38:A1:571:U:H2'	38:A1:572:A:H8	1.60	0.66
49:AM:114:ASP:OD1	49:AM:115:PHE:N	2.27	0.66
80:DC:564:ARG:HH12	80:DC:801:TRP:CG	2.12	0.66
25:BS:53:ASP:HB3	25:BS:56:LYS:HG3	1.77	0.66
35:AA:49:VAL:HG11	35:AA:60:LYS:HE3	1.76	0.66
38:A1:1460:A:H2'	38:A1:1461:A:H8	1.61	0.66
38:A1:2483:G:OP2	79:E:98:LYS:NZ	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:2964:G:N2	38:A1:2967:A:OP2	2.23	0.66
56:AT:94:GLU:N	56:AT:94:GLU:OE1	2.29	0.66
29:Bc:19:THR:OG1	29:Bc:27:GLN:OE1	2.10	0.66
36:AB:150:ARG:NH1	38:A1:3242:G:O6	2.29	0.66
36:AB:376:LYS:NZ	38:A1:3330:A:OP2	2.29	0.66
38:A1:438:A:H5'	38:A1:439:C:H3'	1.77	0.66
38:A1:1628:C:O4'	38:A1:1814:A:N6	2.29	0.66
44:AG:101:THR:HB	44:AG:191:ASN:HD22	1.60	0.66
2:BB:204:ILE:HG22	2:BB:205:PHE:HD1	1.59	0.66
18:Be:16:SER:O	80:DC:609:ARG:NH1	2.29	0.66
38:A1:1807:G:OP1	62:AZ:135:ARG:NH1	2.28	0.66
38:A1:1927:G:OP2	78:Ap:6:LYS:NZ	2.29	0.66
38:A1:2267:C:H2'	38:A1:2268:U:C6	2.30	0.66
39:A3:55:A:O4'	47:AJ:7:ASN:ND2	2.29	0.66
1:BA:16:LEU:O	1:BA:20:ALA:N	2.26	0.66
9:BL:16:GLN:HB2	9:BL:19:ILE:HD13	1.77	0.66
24:BR:31:ASN:HD22	24:BR:55:THR:HG22	1.61	0.66
37:AC:33:ASP:OD1	37:AC:34:ILE:N	2.29	0.66
38:A1:501:A:H2'	38:A1:502:U:C6	2.31	0.66
38:A1:874:U:N3	38:A1:2978:U:OP1	2.25	0.66
38:A1:2269:U:C2	38:A1:2272:G:C6	2.84	0.66
38:A1:2666:C:OP2	38:A1:2687:G:N1	2.21	0.66
39:A3:107:C:H2'	39:A3:108:A:H8	1.61	0.66
57:AU:84:LEU:HD22	57:AU:93:ILE:HD11	1.78	0.66
79:E:37:GLY:H	79:E:203:SER:HB3	1.60	0.66
4:BE:112:HIS:NE2	4:BE:237:SER:O	2.28	0.65
20:BF:72:HIS:HD1	20:BF:107:LYS:HD3	1.61	0.65
20:BF:72:HIS:CD2	23:BQ:79:TYR:HH	2.14	0.65
34:B5:1780:G:H2'	34:B5:1781:MA6:H8	1.79	0.65
35:AA:117:GLU:HG2	35:AA:124:GLY:H	1.61	0.65
47:AJ:87:LYS:O	47:AJ:90:GLN:NE2	2.29	0.65
51:AO:77[A]:SER:N	51:AO:106[A]:GLU:OE2	2.29	0.65
74:Al:10:LYS:HA	74:Al:13:MET:HG2	1.77	0.65
80:DC:30:HIS:O	80:DC:158:ASN:ND2	2.25	0.65
8:BJ:126:ARG:NH2	34:B5:475:A:OP2	2.28	0.65
19:BD:42:THR:OG1	19:BD:45:LYS:O	2.12	0.65
38:A1:2852:C:O2	46:Al:158:LYS:NZ	2.24	0.65
11:BO:14:PHE:HB2	11:BO:33:LEU:HD11	1.77	0.65
25:BS:143:ARG:HB3	25:BS:144:ARG:HH21	1.61	0.65
34:B5:214:G:H5''	34:B5:215:A:H4'	1.77	0.65
36:AB:70:ARG:HG2	36:AB:71:GLU:H	1.62	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1729:A:C6	65:Ac:49:PRO:HD3	2.30	0.65
38:A1:2144:A:H1'	38:A1:2281:A:H61	1.62	0.65
58:AV:54:LEU:HD21	58:AV:119:GLY:HA3	1.77	0.65
80:DC:349:GLN:HA	80:DC:352:ARG:HB3	1.78	0.65
8:BJ:133:HIS:NE2	34:B5:512:A:O2'	2.28	0.65
20:BF:112:ARG:NH2	23:BQ:42:GLU:OE2	2.28	0.65
33:BM:105:LYS:HG2	33:BM:112:ALA:HB2	1.77	0.65
34:B5:1537:C:OP2	34:B5:1572:G:N2	2.30	0.65
38:A1:2572:C:H1'	62:AZ:60:LYS:HE2	1.77	0.65
41:AD:122:VAL:O	41:AD:248:ARG:NH2	2.30	0.65
80:DC:229:TYR:CE2	80:DC:276:PHE:HB3	2.31	0.65
80:DC:509:LYS:H	80:DC:509:LYS:HD2	1.61	0.65
81:EC:6859:U:H4'	81:EC:6860:A:H5'	1.78	0.65
1:BA:79:ARG:NH1	1:BA:80:THR:OG1	2.30	0.65
4:BE:92:LEU:HD23	15:BY:17:LEU:HD21	1.77	0.65
11:BO:83:ILE:O	11:BO:118:VAL:N	2.29	0.65
39:A3:27:A:H2'	39:A3:28:C:C6	2.31	0.65
44:AG:93:LEU:HD21	44:AG:214:LEU:HD22	1.78	0.65
80:DC:707:PRO:O	80:DC:711:ARG:NE	2.24	0.65
22:BP:122:THR:O	34:B5:1183:A:N6	2.29	0.65
24:BR:45:ARG:NH1	34:B5:1331:A:OP1	2.20	0.65
38:A1:2533:G:H4'	69:Ag:113:LYS:HE3	1.79	0.65
38:A1:3042:U:OP2	38:A1:3092:C:N4	2.29	0.65
48:AL:123:ILE:HG22	70:Ah:118:ILE:HG13	1.78	0.65
79:E:68:PHE:HB2	79:E:112:ALA:HA	1.79	0.65
13:BW:41:MET:HE3	13:BW:46:TYR:HB2	1.79	0.65
23:BQ:55:VAL:O	23:BQ:59:LYS:NZ	2.28	0.65
37:AC:287:THR:O	37:AC:291:ASN:ND2	2.30	0.65
38:A1:121:A:O2'	44:AG:105:LYS:NZ	2.23	0.65
38:A1:831:G:O2'	38:A1:1864:A:N3	2.29	0.65
38:A1:901:G:OP1	72:Aj:13:ASN:ND2	2.28	0.65
38:A1:2115:G:O2'	54:AR:82:LYS:NZ	2.23	0.65
38:A1:3085:G:OP1	59:AW:34:SER:OG	2.13	0.65
6:BH:104:ARG:NH1	34:B5:745:U:O4	2.30	0.65
25:BS:88:ARG:HH11	25:BS:108:LYS:HZ1	1.43	0.65
34:B5:922:G:H2'	34:B5:923:A:C8	2.32	0.65
34:B5:1469:A:H2'	34:B5:1470:C:C6	2.32	0.65
34:B5:1585:U:H3	34:B5:1611:A:H2	1.45	0.65
38:A1:86:G:O2'	38:A1:98:G:O6	2.15	0.65
38:A1:269:G:N2	38:A1:295:A:OP2	2.26	0.65
38:A1:1362:G:H2'	38:A1:1363:A:C8	2.32	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1712:G:OP2	65:Ac:32:LYS:NZ	2.30	0.65
38:A1:2478:C:OP2	38:A1:2480:A:N6	2.29	0.65
41:AD:91:GLY:O	41:AD:94:ASN:ND2	2.29	0.65
44:AG:168:ALA:HB2	71:Ai:47:ILE:HD13	1.77	0.65
46:AI:54:SER:HB3	46:AI:135:ILE:HD11	1.79	0.65
3:BC:148:LEU:O	3:BC:174:ARG:NH1	2.29	0.65
31:Bg:178:VAL:HB	31:Bg:192:PHE:HB2	1.78	0.65
38:A1:2908:G:O2'	75:Am:114:LYS:NZ	2.28	0.65
54:AR:92:GLN:HE21	54:AR:96:ILE:HD11	1.61	0.65
62:AZ:10:VAL:HG22	62:AZ:24:VAL:HG12	1.79	0.65
68:Af:58:GLU:N	68:Af:58:GLU:OE2	2.28	0.65
36:AB:113:GLU:HG2	36:AB:176:ALA:HB2	1.78	0.65
38:A1:865:U:O2	38:A1:1482:A:N6	2.30	0.65
38:A1:1083:G:H2'	38:A1:1084:A:C8	2.32	0.65
47:AJ:92:ARG:HG2	47:AJ:94:ARG:H	1.60	0.65
77:Ao:15:LYS:HA	77:Ao:18:ARG:HE	1.62	0.65
80:DC:349:GLN:HE22	80:DC:399:ARG:HH22	1.45	0.65
80:DC:352:ARG:HG3	80:DC:356:LEU:HD23	1.79	0.65
8:BJ:176:ASN:HA	8:BJ:179:ARG:HE	1.62	0.64
28:BZ:64:VAL:HG13	81:EC:6864:A:H2	1.60	0.64
34:B5:514:G:HO2'	34:B5:515:A:H8	1.44	0.64
38:A1:2357:A:H2'	38:A1:2358:A:H8	1.62	0.64
38:A1:2438:A:H2'	38:A1:2439:A:C8	2.31	0.64
38:A1:2555:G:O6	69:Ag:99:LYS:NZ	2.19	0.64
80:DC:571:SER:HB3	80:DC:720:ALA:HB2	1.79	0.64
10:BN:39:LYS:HA	10:BN:42:ARG:HG2	1.78	0.64
10:BN:71:ILE:HD12	34:B5:961:U:H5''	1.78	0.64
36:AB:37:ARG:HH22	36:AB:188:ILE:HG13	1.62	0.64
38:A1:178:U:H2'	38:A1:179:C:C6	2.31	0.64
38:A1:443:G:N2	38:A1:492:C:O5'	2.26	0.64
38:A1:936:A:OP2	63:Aa:27:LYS:NZ	2.30	0.64
78:Ap:33:GLN:HG3	78:Ap:49:ARG:HD3	1.77	0.64
2:BB:87:ARG:NH1	2:BB:100:PHE:O	2.31	0.64
5:BG:121:LEU:N	5:BG:125:THR:OG1	2.31	0.64
6:BH:141:ARG:NH1	13:BW:51:GLU:OE2	2.29	0.64
23:BQ:99:GLU:HG3	31:Bg:57:PRO:HG2	1.79	0.64
32:Bf:141:CYS:O	34:B5:1252:C:O2'	2.14	0.64
34:B5:429:G:H2'	34:B5:430:G:C8	2.33	0.64
34:B5:754:A:H5'	34:B5:755:A:H5'	1.80	0.64
38:A1:1761:C:O2	54:AR:46:LYS:NZ	2.31	0.64
81:EC:6833:G:O2'	81:EC:6872:A:N6	2.21	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:BO:133:ARG:NH2	34:B5:1786:G:OP2	2.29	0.64
27:BU:30:LYS:HB3	27:BU:33:GLN:HE21	1.63	0.64
34:B5:430:G:H3'	80:DC:391:LYS:HE2	1.80	0.64
34:B5:1242:A:O2'	34:B5:1244:A:OP1	2.16	0.64
38:A1:1493:G:C8	74:A1:13:MET:HE1	2.33	0.64
38:A1:3016:A:H2'	38:A1:3017:A:C8	2.32	0.64
40:A4:154:C:H5''	44:AG:181:LYS:HG2	1.78	0.64
42:AE:140:VAL:HA	42:AE:143:LYS:HD2	1.79	0.64
51:AO:150[A]:GLU:OE2	51:AO:150[A]:GLU:N	2.27	0.64
13:BW:24:GLN:NE2	17:Bb:5:GLN:H	1.95	0.64
28:BZ:52:LYS:HB2	28:BZ:53:GLU:OE1	1.96	0.64
34:B5:819:G:O2'	34:B5:821:U:OP1	2.15	0.64
34:B5:1356:U:H2'	34:B5:1357:A:C8	2.31	0.64
38:A1:2737:C:O2'	64:Ab:36:ASP:OD1	2.15	0.64
1:BA:77:SER:OG	1:BA:124:THR:OG1	2.14	0.64
14:BX:107:PHE:HD1	14:BX:123:LYS:HB3	1.62	0.64
31:Bg:81:LEU:HD22	31:Bg:91:LEU:HG	1.79	0.64
35:AA:183:GLY:HA2	38:A1:896:A:H5''	1.79	0.64
38:A1:310:U:H3	38:A1:2779:A:H61	1.45	0.64
38:A1:655:C:H2'	38:A1:656:A:C8	2.32	0.64
38:A1:2413:A:H2'	38:A1:2414:G:H8	1.61	0.64
38:A1:2745:G:N2	38:A1:2748:A:OP2	2.23	0.64
38:A1:3247:G:H2'	38:A1:3248:C:H6	1.63	0.64
39:A3:74:C:H2'	39:A3:75:G:C8	2.32	0.64
79:E:87:VAL:HG11	79:E:116:LEU:HD11	1.78	0.64
81:EC:6852:U:H2'	81:EC:6853:G:C8	2.33	0.64
19:BD:5:ILE:O	19:BD:10:LYS:NZ	2.31	0.64
37:AC:74:ILE:HD12	37:AC:75:PRO:HD2	1.80	0.64
38:A1:1203:A:N3	38:A1:2855:U:O2'	2.29	0.64
38:A1:1529:A:OP2	38:A1:1592:G:N2	2.29	0.64
41:AD:95:TRP:HA	41:AD:158:ARG:HG2	1.80	0.64
46:AI:56:GLU:HG2	46:AI:58:GLU:OE1	1.98	0.64
56:AT:48:ILE:HG13	56:AT:94:GLU:HG2	1.78	0.64
79:E:40:ASN:OD1	79:E:200:ASN:ND2	2.31	0.64
15:BY:128:LYS:NZ	34:B5:154:G:O6	2.30	0.64
16:Ba:76:SER:OG	34:B5:1793:G:N2	2.28	0.64
26:BT:15:ILE:HG23	26:BT:56:LYS:HZ2	1.63	0.64
34:B5:438:A:H1'	34:B5:465:G:H22	1.63	0.64
38:A1:172:G:H22	38:A1:245:U:H5''	1.63	0.64
46:AI:182:ILE:HG23	46:AI:185:ARG:HH21	1.63	0.64
10:BN:124:ARG:NH2	34:B5:967:A:OP2	2.29	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:AL:170:LEU:HD21	63:Aa:147:LEU:HG	1.78	0.64
65:Ac:42:ILE:HG22	65:Ac:91:SER:HB2	1.79	0.64
1:BA:108:THR:HG22	1:BA:109:ASN:H	1.63	0.64
7:BI:42:ARG:HH22	34:B5:1677:C:H5''	1.62	0.64
7:BI:141:ARG:NH1	34:B5:195:G:N7	2.46	0.64
23:BQ:75:VAL:HG22	34:B5:1609:U:H5''	1.80	0.64
31:Bg:275:ARG:NH1	31:Bg:276:PRO:O	2.31	0.64
37:AC:237:GLN:HB2	37:AC:246:ARG:HH12	1.63	0.64
38:A1:3353:G:H1'	38:A1:3356:G:H5'	1.79	0.64
22:BP:94:VAL:HG21	22:BP:116:LEU:HD11	1.80	0.63
34:B5:1466:G:O2'	34:B5:1602:C:OP1	2.16	0.63
37:AC:315:LYS:NZ	38:A1:504:A:O2'	2.32	0.63
38:A1:371:G:N1	38:A1:374:A:OP2	2.22	0.63
38:A1:2267:C:H4'	38:A1:2267:C:OP1	1.98	0.63
38:A1:2563:G:OP2	62:AZ:56:LYS:NZ	2.31	0.63
38:A1:3288:G:O2'	38:A1:3289:G:O5'	2.14	0.63
80:DC:431:ILE:HD11	80:DC:456:LEU:HB2	1.79	0.63
5:BG:142:ARG:NH2	5:BG:149:LYS:O	2.32	0.63
11:BO:52:ARG:HH22	34:B5:903:U:H3	1.46	0.63
19:BD:166:ASP:O	19:BD:190:ARG:NH2	2.30	0.63
25:BS:7:GLU:OE1	25:BS:7:GLU:N	2.27	0.63
34:B5:388:G:OP2	34:B5:423:G:O2'	2.17	0.63
34:B5:1222:C:H2'	34:B5:1223:A:C8	2.34	0.63
35:AA:79:ASN:HD22	35:AA:99:GLY:HA2	1.62	0.63
36:AB:2:SER:N	38:A1:2940:A:OP2	2.31	0.63
38:A1:799:G:OP1	63:Aa:32:ARG:NH1	2.30	0.63
38:A1:2836:C:H5	38:A1:2852:C:H42	1.44	0.63
38:A1:2899:C:N3	45:AH:173:ARG:NH1	2.47	0.63
38:A1:3083:G:H4'	59:AW:42:GLN:HE22	1.63	0.63
38:A1:3226:A:N6	38:A1:3260:G:H1	1.96	0.63
61:AY:17:LYS:O	61:AY:21:THR:OG1	2.15	0.63
80:DC:616:ALA:HB3	80:DC:631:ARG:HH21	1.63	0.63
22:BP:100:LYS:NZ	34:B5:1183:A:O4'	2.26	0.63
37:AC:77:VAL:HG21	37:AC:84:ARG:HD2	1.80	0.63
37:AC:307:GLN:HE22	38:A1:1345:G:H21	1.45	0.63
38:A1:627:U:H2'	38:A1:628:A:C8	2.33	0.63
38:A1:2618:G:H5'	46:AI:116:ARG:HH21	1.63	0.63
39:A3:40:C:O2	47:AJ:72:ARG:NE	2.27	0.63
41:AD:55:PHE:HD1	41:AD:60:ILE:HD12	1.63	0.63
42:AE:150:LYS:HE2	42:AE:156:LYS:HD2	1.80	0.63
66:Ad:75:ILE:HG23	66:Ad:93:VAL:HG22	1.78	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Am:104:PRO:HG2	75:Am:107:ALA:HB2	1.79	0.63
79:E:67:ILE:HG21	79:E:144:LEU:HD21	1.80	0.63
4:BE:162:ILE:HG22	4:BE:164:LEU:H	1.63	0.63
5:BG:72:ARG:NH2	34:B5:418:G:O3'	2.31	0.63
6:BH:174:ASN:ND2	6:BH:180:GLN:OE1	2.30	0.63
20:BF:70:VAL:HG13	20:BF:72:HIS:H	1.63	0.63
25:BS:65:GLU:HG2	25:BS:68:ARG:HH22	1.64	0.63
38:A1:1348:U:OP1	53:AQ:39:ARG:NH1	2.32	0.63
58:AV:101:VAL:HG11	58:AV:114:ILE:HD12	1.81	0.63
1:BA:200:ASP:HA	1:BA:203:PHE:HD2	1.63	0.63
34:B5:12:U:H2'	34:B5:13:C:C6	2.34	0.63
34:B5:226:A:N6	34:B5:835:U:OP2	2.28	0.63
38:A1:291:C:H5''	50:AN:68:ARG:HH21	1.62	0.63
38:A1:1336:U:H2'	38:A1:1337:A:C8	2.32	0.63
43:AF:108:LEU:HD21	43:AF:115:THR:HG22	1.81	0.63
50:AN:183:THR:HG22	50:AN:187:ARG:HB3	1.80	0.63
52:AP:122:ALA:HB3	52:AP:143:PRO:HB2	1.80	0.63
79:E:39:LYS:NZ	79:E:198:TRP:O	2.30	0.63
80:DC:715:ALA:HB1	80:DC:839:TYR:HB2	1.81	0.63
5:BG:142:ARG:NH2	5:BG:151:ASP:O	2.32	0.63
34:B5:5:U:H2'	34:B5:6:G:H8	1.64	0.63
34:B5:1081:A:H2	34:B5:1082:C:H41	1.47	0.63
34:B5:1780:G:H2'	34:B5:1781:MA6:C8	2.29	0.63
38:A1:1785:U:H2'	38:A1:1786:G:C8	2.34	0.63
38:A1:3225:C:N4	38:A1:3226:A:N6	2.46	0.63
7:BI:103:GLN:HB3	7:BI:164:ARG:HB3	1.80	0.63
19:BD:176:LEU:HD13	34:B5:1437:U:H4'	1.80	0.63
34:B5:884:A:H2'	34:B5:885:G:C8	2.33	0.63
36:AB:85:VAL:HG22	36:AB:202:THR:HG22	1.81	0.63
38:A1:838:G:N7	78:Ap:4:ARG:NH2	2.47	0.63
50:AN:119:TYR:HE1	50:AN:133:ILE:HD11	1.62	0.63
66:Ad:94:GLU:N	66:Ad:94:GLU:OE2	2.32	0.63
81:EC:6815:U:H3'	81:EC:6816:A:H5''	1.80	0.63
6:BH:141:ARG:HD2	6:BH:149:ILE:HD11	1.81	0.63
13:BW:92:ASN:ND2	34:B5:612:U:O2'	2.30	0.63
32:Bf:143:LYS:NZ	34:B5:1254:U:OP1	2.29	0.63
38:A1:217:U:O2	61:AY:103:LYS:NZ	2.28	0.63
38:A1:951:A:OP1	64:Ab:18:ARG:NH1	2.32	0.63
38:A1:1364:C:OP1	43:AF:110:ARG:NH1	2.31	0.63
38:A1:3160:U:O2	38:A1:3290:G:N2	2.21	0.63
80:DC:150:ARG:HH22	80:DC:352:ARG:HA	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1782:MA6:O5'	34:B5:1783:C:H5	1.82	0.63
37:AC:141:ARG:NH1	38:A1:1385:C:OP1	2.31	0.63
38:A1:1246:G:OP2	38:A1:1268:G:N2	2.31	0.63
38:A1:2106:A:H2'	38:A1:2107:A:H8	1.62	0.63
38:A1:3225:C:N4	38:A1:3226:A:H62	1.96	0.63
40:A4:143:U:OP1	50:AN:38:ARG:NH2	2.32	0.63
44:AG:122:LYS:HD3	44:AG:123:GLN:H	1.63	0.63
60:AX:68:THR:HB	70:Ah:36:LEU:HD13	1.80	0.63
60:AX:115:ARG:HH21	60:AX:117:ASN:HD21	1.45	0.63
3:BC:64:LYS:HA	3:BC:64:LYS:HE3	1.80	0.62
12:BV:64:GLU:HG3	17:Bb:3:LEU:HD13	1.80	0.62
21:BK:1:MET:N	34:B5:1258:U:OP1	2.30	0.62
23:BQ:123:ARG:NE	34:B5:1337:A:H4'	2.14	0.62
29:Bc:10:ALA:N	29:Bc:54:LEU:O	2.27	0.62
31:Bg:45:TRP:HA	31:Bg:57:PRO:HA	1.80	0.62
34:B5:386:G:H2'	34:B5:387:A:C8	2.34	0.62
34:B5:553:G:H3'	34:B5:554:C:H2'	1.81	0.62
38:A1:591:G:O2'	42:AE:17:ALA:O	2.17	0.62
38:A1:594:U:P	38:A1:609:G:H1	2.23	0.62
38:A1:1280:C:H2'	38:A1:1281:G:C8	2.34	0.62
39:A3:23:A:H2'	39:A3:24:A:C8	2.34	0.62
71:Ai:90:MET:HE3	71:Ai:90:MET:HA	1.81	0.62
14:BX:89:ASN:N	34:B5:569:C:OP1	2.33	0.62
16:Ba:8:ASN:ND2	34:B5:1791:A:OP1	2.27	0.62
34:B5:1164:G:H2'	34:B5:1165:G:C8	2.34	0.62
36:AB:348:ARG:NH2	38:A1:3036:G:O2'	2.32	0.62
38:A1:1794:G:O2'	38:A1:1796:G:N2	2.31	0.62
38:A1:2368:A:H2'	38:A1:2369:G:C8	2.34	0.62
39:A3:84:A:H2'	39:A3:85:G:C8	2.34	0.62
41:AD:68:THR:OG1	41:AD:71:GLY:O	2.14	0.62
52:AP:50:GLN:HB3	52:AP:55:GLN:HB2	1.81	0.62
54:AR:32:ILE:HD13	54:AR:44:LEU:HD13	1.78	0.62
31:Bg:153:GLN:HG3	31:Bg:201:THR:HA	1.82	0.62
34:B5:219:A:OP2	34:B5:829:A:O2'	2.18	0.62
36:AB:95:THR:OG1	36:AB:98:GLY:O	2.16	0.62
38:A1:666:A:H2	48:AL:10:LEU:HD13	1.64	0.62
47:AJ:94:ARG:HG3	47:AJ:95:ASN:H	1.64	0.62
47:AJ:99:THR:O	47:AJ:154:THR:OG1	2.12	0.62
50:AN:160:GLU:OE1	50:AN:160:GLU:N	2.29	0.62
67:Ae:105:ARG:HE	67:Ae:125:ARG:HD2	1.64	0.62
80:DC:163:ALA:O	80:DC:167:LEU:N	2.24	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:DC:636:PHE:O	80:DC:642:GLY:N	2.32	0.62
1:BA:38:PHE:CZ	24:BR:105:GLN:CA	2.82	0.62
11:BO:49:LYS:HA	11:BO:49:LYS:HE3	1.81	0.62
19:BD:20:GLU:OE1	30:Bd:22:ARG:NH2	2.32	0.62
31:Bg:209:THR:HG23	31:Bg:226:ALA:H	1.63	0.62
36:AB:88:GLY:O	36:AB:161:LEU:N	2.24	0.62
37:AC:221:ASN:ND2	38:A1:209:A:N3	2.46	0.62
38:A1:595:G:O6	42:AE:22:ARG:NH2	2.25	0.62
38:A1:2753:G:N7	77:Ao:86:LYS:NZ	2.47	0.62
38:A1:2871:G:H5'	38:A1:2872:A:H5'	1.80	0.62
62:AZ:54:THR:OG1	62:AZ:57:HIS:NE2	2.28	0.62
70:Ah:31:LEU:HB3	70:Ah:44:ILE:HG22	1.82	0.62
13:BW:38:LEU:HA	13:BW:41:MET:HB3	1.82	0.62
14:BX:47:SER:OG	34:B5:599:A:N3	2.24	0.62
14:BX:125:VAL:HG12	14:BX:126:LYS:HG3	1.80	0.62
31:Bg:10:ARG:NH2	31:Bg:314:GLN:OE1	2.32	0.62
34:B5:1175:U:H2'	34:B5:1176:G:H8	1.64	0.62
38:A1:63:A:N3	38:A1:78:U:O2'	2.29	0.62
38:A1:438:A:H3'	38:A1:439:C:H2'	1.80	0.62
38:A1:2368:A:H2'	38:A1:2369:G:H8	1.64	0.62
39:A3:11:A:N6	41:AD:13:SER:O	2.30	0.62
75:Am:79:GLU:HG2	75:Am:82:LEU:HB2	1.81	0.62
9:BL:111:VAL:HG12	9:BL:139:VAL:HG21	1.81	0.62
11:BO:121:VAL:O	34:B5:886:U:O2'	2.17	0.62
19:BD:93:ASP:HB2	19:BD:96:LEU:HD23	1.82	0.62
20:BF:121:ILE:HG13	20:BF:198:LEU:HD23	1.80	0.62
23:BQ:94:GLN:HA	23:BQ:102:LYS:HD3	1.80	0.62
33:BM:81:ASP:HB3	33:BM:84:ASN:HB3	1.82	0.62
34:B5:1237:G:H2'	34:B5:1238:A:H8	1.64	0.62
38:A1:2205:U:H2'	38:A1:2206:G:O4'	1.99	0.62
47:AJ:88:GLU:HB3	47:AJ:90:GLN:HE21	1.63	0.62
10:BN:40:TYR:HA	10:BN:43:LYS:HD2	1.81	0.62
10:BN:142:GLU:OE2	10:BN:145:THR:OG1	2.16	0.62
28:BZ:57:TYR:OH	28:BZ:68:ARG:HG2	2.00	0.62
38:A1:764:U:O2'	38:A1:766:U:OP2	2.16	0.62
38:A1:1576:G:N2	38:A1:1810:A:OP1	2.17	0.62
38:A1:2366:C:H2'	38:A1:2367:A:H8	1.65	0.62
38:A1:3234:A:H2	38:A1:3253:G:H22	1.47	0.62
50:AN:51:LEU:HD23	50:AN:117:ASN:HB3	1.80	0.62
62:AZ:70:PRO:HG3	62:AZ:115:LYS:HB2	1.81	0.62
80:DC:414:GLN:NE2	80:DC:470:THR:OG1	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:BI:32:GLN:NE2	34:B5:1727:G:N3	2.44	0.62
19:BD:72:LEU:HD22	21:BK:65:TYR:HD1	1.65	0.62
19:BD:120:TYR:O	19:BD:124:ARG:NE	2.33	0.62
20:BF:174:LEU:HD21	20:BF:213:LYS:HB2	1.80	0.62
26:BT:72:GLY:HA3	34:B5:1498:G:H5''	1.82	0.62
38:A1:2100:A:OP2	54:AR:71:ARG:NH1	2.32	0.62
2:BB:144:ARG:NH1	2:BB:207:LEU:O	2.33	0.62
8:BJ:109:LEU:HB2	8:BJ:146:PHE:HB3	1.82	0.62
20:BF:165:LEU:HD23	29:Bc:47:PRO:HG2	1.81	0.62
25:BS:88:ARG:HG2	25:BS:91:ASP:HB3	1.81	0.62
34:B5:273:G:O6	34:B5:283:U:O4	2.17	0.62
34:B5:778:G:N2	34:B5:780:A:O5'	2.33	0.62
35:AA:147:ARG:HG2	35:AA:157:VAL:HG22	1.81	0.62
38:A1:1661:G:H2'	38:A1:1662:G:C8	2.34	0.62
77:Ao:7:THR:HB	77:Ao:22:GLN:HE21	1.63	0.62
8:BJ:175:ARG:NH1	34:B5:538:A:OP1	2.33	0.62
34:B5:1326:A:H2'	34:B5:1327:C:H6	1.64	0.62
38:A1:944:C:OP1	67:Ae:33:ARG:NH1	2.32	0.62
38:A1:1333:C:OP1	53:AQ:2:GLY:N	2.32	0.62
38:A1:1817:G:H8	38:A1:1818:U:H5	1.48	0.62
43:AF:104:GLN:HG2	53:AQ:6:THR:HG22	1.82	0.62
80:DC:107:GLY:HA3	80:DC:138:GLN:HE22	1.65	0.62
2:BB:150:VAL:HG12	34:B5:1067:C:H5''	1.81	0.61
10:BN:127:ARG:NH2	34:B5:629:U:OP1	2.33	0.61
34:B5:99:C:OP2	34:B5:378:A:O2'	2.17	0.61
34:B5:1452:U:H2'	34:B5:1453:G:C8	2.34	0.61
38:A1:110:G:OP2	48:AL:73:ARG:NH2	2.33	0.61
38:A1:1717:U:H2'	38:A1:1718:G:C8	2.34	0.61
38:A1:3187:A:H5'	45:AH:22:SER:HA	1.82	0.61
40:A4:88:A:O2'	40:A4:89:A:OP1	2.18	0.61
57:AU:33:TYR:OH	57:AU:80:THR:OG1	2.18	0.61
63:Aa:84:GLU:OE2	63:Aa:87:ARG:NH1	2.33	0.61
76:An:2:ARG:O	76:An:5:TRP:HB2	1.99	0.61
80:DC:163:ALA:HB3	80:DC:166:GLU:HB2	1.82	0.61
5:BG:180:THR:HG23	5:BG:183:ARG:H	1.65	0.61
9:BL:100:TYR:OH	13:BW:80:ASN:ND2	2.29	0.61
27:BU:69:LYS:O	30:Bd:44:ARG:NH1	2.33	0.61
38:A1:1477:A:OP1	38:A1:3075:G:O2'	2.19	0.61
38:A1:2203:U:H3	38:A1:2239:G:H1	1.48	0.61
38:A1:2213:A:H2'	38:A1:2214:A:H8	1.64	0.61
38:A1:2438:A:H2'	38:A1:2439:A:H8	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:3163:A:N6	38:A1:3288:G:O6	2.33	0.61
13:BW:28:ARG:HB3	13:BW:60:LYS:HG2	1.82	0.61
19:BD:161:GLY:HA3	34:B5:1331:A:H61	1.65	0.61
33:BM:135:MET:O	33:BM:139:HIS:ND1	2.34	0.61
34:B5:522:U:H2'	34:B5:523:G:C8	2.34	0.61
34:B5:1588:G:N2	34:B5:1608:U:O2	2.28	0.61
34:B5:1781:MA6:H2'	34:B5:1782:MA6:C8	2.29	0.61
36:AB:120:LYS:N	38:A1:3296:A:OP1	2.32	0.61
38:A1:288:C:H2'	38:A1:289:A:H8	1.65	0.61
40:A4:141:C:O2	50:AN:112:ASN:ND2	2.33	0.61
53:AQ:180:ARG:HB3	53:AQ:185:LYS:HB2	1.80	0.61
80:DC:429:LYS:HZ1	80:DC:459:ILE:HA	1.65	0.61
6:BH:80:GLU:O	6:BH:84:LYS:NZ	2.32	0.61
7:BI:5:ARG:NH1	34:B5:336:G:O6	2.33	0.61
7:BI:76:THR:OG1	7:BI:105:ASP:OD2	2.18	0.61
34:B5:923:A:H2'	34:B5:924:A:C8	2.35	0.61
35:AA:14:SER:OG	38:A1:911:C:OP1	2.14	0.61
38:A1:336:A:OP1	61:AY:10:SER:N	2.33	0.61
38:A1:2267:C:O2'	38:A1:2268:U:H5'	2.00	0.61
79:E:50:SER:HA	79:E:157:PHE:HB2	1.80	0.61
2:BB:105:PHE:CD1	2:BB:213:ARG:HA	2.35	0.61
5:BG:2:LYS:HB2	5:BG:108:VAL:HG22	1.82	0.61
15:BY:63:GLN:NE2	15:BY:64:PHE:H	1.98	0.61
21:BK:61:TRP:HZ2	30:Bd:46:LYS:HE2	1.65	0.61
23:BQ:87:LYS:NZ	23:BQ:117:LEU:O	2.31	0.61
27:BU:32:LYS:HE3	27:BU:36:ASN:HD21	1.66	0.61
28:BZ:55:PRO:O	28:BZ:103:ARG:HG2	2.01	0.61
31:Bg:42:LEU:HB2	31:Bg:61:PHE:HB2	1.83	0.61
34:B5:1414:U:O2'	34:B5:1416:G:OP2	2.17	0.61
34:B5:1672:G:H2'	34:B5:1673:G:C8	2.34	0.61
36:AB:95:THR:HG22	38:A1:3243:A:H4'	1.83	0.61
38:A1:196:G:N1	38:A1:199:A:OP2	2.31	0.61
38:A1:2474:G:N2	38:A1:2475:G:O6	2.34	0.61
38:A1:3068:U:OP2	54:AR:62:ARG:NH2	2.26	0.61
79:E:48:ARG:NH2	79:E:158:GLN:OE1	2.34	0.61
80:DC:620:ALA:HA	80:DC:625:TRP:HB2	1.82	0.61
2:BB:82:ARG:HA	2:BB:105:PHE:HA	1.82	0.61
5:BG:21:GLU:HA	5:BG:24:ILE:HG12	1.81	0.61
5:BG:132:ARG:O	34:B5:68:A:N6	2.29	0.61
20:BF:57:SER:HA	29:Bc:53:ILE:HG23	1.82	0.61
32:Bf:116:LYS:HD3	32:Bf:131:PHE:HE1	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1198:G:OP1	34:B5:1199:G:O2'	2.15	0.61
34:B5:1368:G:O2'	34:B5:1372:U:O4	2.19	0.61
38:A1:786:A:H4'	38:A1:787:G:H5'	1.81	0.61
38:A1:1127:G:N2	38:A1:1130:A:OP2	2.28	0.61
38:A1:1192:C:N4	38:A1:1301:A:O2'	2.33	0.61
38:A1:1258:U:O2'	38:A1:1260:A:OP2	2.15	0.61
80:DC:544:ASP:OD1	80:DC:545:LEU:N	2.33	0.61
4:BE:3:ARG:NH2	34:B5:402:C:OP1	2.33	0.61
23:BQ:125:GLU:N	23:BQ:125:GLU:OE1	2.32	0.61
24:BR:44:LYS:NZ	34:B5:1387:G:OP2	2.33	0.61
38:A1:728:G:H5''	53:AQ:43:PRO:HB2	1.82	0.61
38:A1:760:G:O2'	38:A1:770:G:N2	2.33	0.61
38:A1:2328:U:H2'	38:A1:2329:C:H6	1.65	0.61
38:A1:3119:U:H4'	75:Am:104:PRO:HG3	1.82	0.61
40:A4:5:U:OP2	52:AP:62:ARG:NH1	2.33	0.61
40:A4:81:U:H4'	40:A4:82:U:H5'	1.83	0.61
40:A4:154:C:H2'	40:A4:155:A:C8	2.35	0.61
41:AD:295:GLY:O	41:AD:297:GLN:NE2	2.34	0.61
49:AM:90:VAL:HA	49:AM:93:LYS:HE3	1.82	0.61
79:E:113:SER:HA	79:E:138:VAL:H	1.65	0.61
1:BA:195:TRP:CZ3	1:BA:197:ILE:HG13	2.36	0.61
8:BJ:19:TYR:HE1	34:B5:555:A:C6	2.18	0.61
19:BD:65:ARG:N	21:BK:91:TYR:OH	2.34	0.61
28:BZ:68:ARG:NH1	81:EC:6866:C:OP2	2.34	0.61
34:B5:199:G:H2'	34:B5:200:A:C8	2.36	0.61
37:AC:31:ARG:NH1	38:A1:674:G:OP1	2.34	0.61
38:A1:2613:U:O2'	38:A1:2805:G:OP2	2.13	0.61
39:A3:47:C:OP1	41:AD:95:TRP:N	2.33	0.61
61:AY:119:ILE:HG22	61:AY:124:GLY:HA3	1.82	0.61
81:EC:6864:A:O2'	81:EC:6865:G:N2	2.34	0.61
8:BJ:87:SER:H	8:BJ:90:LYS:HE3	1.66	0.61
12:BV:53:TYR:OH	12:BV:76:ASP:OD2	2.13	0.61
13:BW:50:PHE:HB2	13:BW:63:VAL:HA	1.82	0.61
14:BX:28:ASN:OD1	14:BX:29:TYR:N	2.33	0.61
15:BY:11:LYS:HB3	15:BY:24:VAL:HG12	1.81	0.61
34:B5:29:U:H2'	34:B5:30:G:H8	1.64	0.61
34:B5:1452:U:H2'	34:B5:1453:G:H8	1.66	0.61
35:AA:3:ARG:HG2	35:AA:207:VAL:HG22	1.83	0.61
38:A1:1551:C:O2'	38:A1:2170:U:O2'	2.19	0.61
38:A1:1555:U:H5	38:A1:1559:A:H61	1.48	0.61
46:AI:56:GLU:OE2	46:AI:163:GLN:NE2	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:DC:27:HIS:CD2	80:DC:138:GLN:HB3	2.36	0.61
25:BS:63:GLN:HA	25:BS:66:LEU:HD12	1.82	0.61
34:B5:906:A:H2'	34:B5:907:A:C8	2.36	0.61
34:B5:907:A:N3	34:B5:997:G:O2'	2.31	0.61
37:AC:193:LYS:NZ	40:A4:21:C:OP1	2.31	0.61
38:A1:2107:A:H2'	38:A1:2108:C:C6	2.36	0.61
3:BC:89:GLN:HE22	3:BC:94:GLN:HE21	1.47	0.60
4:BE:10:LYS:NZ	34:B5:96:G:OP1	2.25	0.60
8:BJ:76:LEU:HD23	8:BJ:79:ARG:HH12	1.66	0.60
34:B5:953:G:H2'	34:B5:954:G:C8	2.35	0.60
34:B5:1229:G:N2	34:B5:1255:G:O2'	2.33	0.60
38:A1:900:G:H1'	38:A1:1589:A:N6	2.15	0.60
38:A1:1497:C:H2'	38:A1:1498:A:H8	1.66	0.60
55:AS:48:LEU:HD12	56:AT:151:LEU:HD21	1.81	0.60
2:BB:222:LYS:NZ	38:A1:2545:C:O3'	2.21	0.60
14:BX:13:ARG:HG2	14:BX:13:ARG:HH11	1.66	0.60
36:AB:17:LEU:HD11	36:AB:233:TRP:HH2	1.66	0.60
38:A1:428:A:H2'	38:A1:429:U:C6	2.37	0.60
40:A4:103:G:OP2	40:A4:105:A:O2'	2.19	0.60
48:AL:125:VAL:HG11	70:Ah:114:ARG:HH11	1.66	0.60
52:AP:22:LEU:HD12	52:AP:146:ILE:HD12	1.82	0.60
9:BL:110:HIS:HB3	9:BL:138:ASN:HD22	1.66	0.60
16:Ba:7:SER:OG	16:Ba:10:ARG:O	2.20	0.60
28:BZ:50:ILE:HG12	28:BZ:69:LEU:HD13	1.82	0.60
34:B5:1146:G:H2'	34:B5:1147:A:C8	2.36	0.60
37:AC:31:ARG:HH22	38:A1:673:U:H5''	1.66	0.60
38:A1:1213:G:H4'	55:AS:90:MET:HB2	1.84	0.60
38:A1:1493:G:N9	74:Al:13:MET:HE1	2.15	0.60
38:A1:1497:C:H2'	38:A1:1498:A:C8	2.36	0.60
38:A1:1717:U:H3	38:A1:1727:G:H1	1.46	0.60
39:A3:73:C:H42	55:AS:19:VAL:HG11	1.66	0.60
63:Aa:19:LYS:HB3	63:Aa:25:HIS:HB2	1.83	0.60
68:Af:52:VAL:HG22	68:Af:66:VAL:HG12	1.84	0.60
7:BI:81:VAL:HG12	7:BI:94:ASN:HA	1.82	0.60
11:BO:133:ARG:HH22	34:B5:1785:U:P	2.24	0.60
16:Ba:89:ARG:HH22	34:B5:1089:U:P	2.24	0.60
35:AA:50:HIS:HD2	38:A1:1795:U:H2'	1.67	0.60
37:AC:107:ARG:NH2	38:A1:1429:G:OP2	2.34	0.60
38:A1:532:A:N6	38:A1:560:G:H1	2.00	0.60
38:A1:1460:A:H2'	38:A1:1461:A:C8	2.36	0.60
38:A1:2222:A:O2'	38:A1:2223:A:OP1	2.19	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:2618:G:O2'	38:A1:2865:PSU:OP1	2.19	0.60
38:A1:2988:C:OP1	51:AO:65[A]:ASN:ND2	2.33	0.60
58:AV:62:VAL:HG21	58:AV:69:LEU:HB3	1.84	0.60
73:Ak:43:PHE:CE1	73:Ak:65:LEU:HD22	2.33	0.60
1:BA:185:ARG:HH22	12:BV:45:ALA:HB3	1.66	0.60
31:Bg:151:VAL:HA	31:Bg:173:GLY:HA2	1.83	0.60
48:AL:6:ASN:HB3	53:AQ:164:ARG:NH1	2.17	0.60
63:Aa:36:GLY:HA3	63:Aa:40:HIS:CE1	2.37	0.60
72:Aj:22:CYS:HB3	72:Aj:37:CYS:HB3	1.82	0.60
80:DC:567:VAL:HG22	80:DC:684:VAL:HG22	1.84	0.60
1:BA:183:ARG:HD2	1:BA:191:ARG:HE	1.66	0.60
2:BB:176:VAL:O	2:BB:177:GLN:HG2	2.01	0.60
7:BI:152:ILE:HG13	7:BI:153:GLU:N	2.15	0.60
8:BJ:83:VAL:HG13	8:BJ:85:VAL:H	1.66	0.60
8:BJ:83:VAL:O	8:BJ:107:ARG:NH2	2.31	0.60
34:B5:292:U:H2'	34:B5:293:U:O2	2.01	0.60
34:B5:891:A:H2'	34:B5:892:A:C8	2.36	0.60
34:B5:1477:G:H2'	34:B5:1478:G:H8	1.65	0.60
35:AA:152:SER:OG	38:A1:2157:G:N7	2.29	0.60
36:AB:132:LYS:NZ	38:A1:3151:U:OP2	2.23	0.60
38:A1:1234:G:H4'	38:A1:1236:G:H22	1.65	0.60
38:A1:1352:A:H2	38:A1:1355:A:H62	1.50	0.60
38:A1:2406:C:H2'	38:A1:2407:C:H6	1.66	0.60
62:AZ:70:PRO:HG2	62:AZ:111:LYS:HB3	1.82	0.60
80:DC:740:VAL:HA	80:DC:743:ILE:HD12	1.84	0.60
7:BI:41:LYS:N	7:BI:61:GLU:OE2	2.34	0.60
8:BJ:18:PRO:O	8:BJ:23:ARG:NH2	2.34	0.60
8:BJ:66:ASP:HB3	8:BJ:69:ARG:HG3	1.84	0.60
9:BL:101:GLU:OE2	14:BX:13:ARG:NE	2.35	0.60
34:B5:413:U:H2'	34:B5:414:C:C6	2.36	0.60
37:AC:163:LYS:NZ	38:A1:208:C:OP2	2.35	0.60
38:A1:1718:G:H2'	38:A1:1719:G:H8	1.67	0.60
38:A1:2218:G:H2'	38:A1:2219:A:H8	1.66	0.60
38:A1:2675:C:H42	47:AJ:22:SER:HB2	1.66	0.60
38:A1:3325:G:OP1	66:Ad:70:ARG:NE	2.27	0.60
40:A4:26:U:H2'	40:A4:27:U:C6	2.36	0.60
79:E:107:TYR:HE2	79:E:110:PHE:HA	1.66	0.60
2:BB:88:VAL:HG13	2:BB:96:LEU:HD13	1.84	0.60
2:BB:175:GLU:O	2:BB:187:LYS:NZ	2.34	0.60
4:BE:182:TYR:CD1	4:BE:192:ILE:HG13	2.36	0.60
7:BI:98:LYS:HG3	34:B5:329:G:H5''	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:BQ:28:LEU:HD11	23:BQ:30:LYS:HE3	1.84	0.60
25:BS:71:GLN:HE21	25:BS:75:ASN:HD22	1.49	0.60
34:B5:918:U:H2'	34:B5:919:A:H8	1.67	0.60
34:B5:998:A:N6	34:B5:1004:U:OP2	2.35	0.60
34:B5:1114:G:O2'	34:B5:1130:G:O6	2.18	0.60
34:B5:1349:G:N2	34:B5:1378:U:O4	2.35	0.60
38:A1:411:U:H2'	38:A1:412:G:H8	1.65	0.60
38:A1:2457:G:N1	38:A1:2461:A:N7	2.49	0.60
51:AO:125[A]:ARG:HG2	51:AO:129[A]:LEU:HD12	1.84	0.60
76:An:4:LYS:HB3	76:An:5:TRP:CD1	2.36	0.60
80:DC:765:LEU:HG	80:DC:791:GLN:HE21	1.65	0.60
7:BI:87:ASN:HD21	7:BI:89:GLU:HB2	1.66	0.60
24:BR:28:PHE:HA	24:BR:55:THR:HG21	1.83	0.60
28:BZ:77:ARG:NH2	34:B5:1534:G:N7	2.44	0.60
34:B5:1785:U:H2'	34:B5:1786:G:H8	1.66	0.60
37:AC:67:THR:HG21	38:A1:2402:A:H2'	1.82	0.60
80:DC:488:VAL:HG11	80:DC:796:MET:HB2	1.84	0.60
2:BB:64:ARG:HH21	11:BO:36:LYS:HB3	1.66	0.60
4:BE:104:ASP:N	4:BE:108:ARG:O	2.24	0.60
5:BG:10:ASN:HB2	5:BG:128:THR:HA	1.84	0.60
6:BH:41:LEU:HB2	6:BH:70:PHE:CE1	2.35	0.60
7:BI:166:TYR:HB3	7:BI:184:LEU:HD12	1.84	0.60
22:BP:79:HIS:HD2	22:BP:97:TYR:CG	2.20	0.60
22:BP:115:TYR:N	22:BP:118:GLU:OE2	2.34	0.60
31:Bg:189:GLU:OE1	31:Bg:228:LYS:NZ	2.35	0.60
34:B5:1521:G:O2'	34:B5:1523:G:OP2	2.12	0.60
38:A1:2927:C:H2'	38:A1:2928:C:C6	2.36	0.60
38:A1:3122:A:N1	45:AH:70:THR:HG21	2.16	0.60
53:AQ:90:ASP:OD1	53:AQ:92:ARG:NE	2.25	0.60
53:AQ:94:PHE:CE2	63:Aa:119:PRO:HD3	2.36	0.60
53:AQ:125:ASP:OD1	53:AQ:126:GLN:N	2.34	0.60
79:E:56:PRO:HD2	79:E:182:GLN:HE21	1.66	0.60
80:DC:727:PRO:HA	80:DC:801:TRP:HA	1.84	0.60
13:BW:53:ILE:HD11	17:Bb:8:LEU:HD23	1.82	0.59
29:Bc:58:GLU:OE2	29:Bc:61:ARG:NH2	2.34	0.59
36:AB:212:ASN:O	36:AB:281:LYS:NZ	2.34	0.59
38:A1:2148:U:H2'	38:A1:2149:A:C8	2.37	0.59
40:A4:88:A:HO2'	40:A4:89:A:P	2.26	0.59
53:AQ:170:ARG:NH2	63:Aa:58:MET:O	2.35	0.59
18:Be:29:LYS:HZ1	18:Be:38:LEU:HD11	1.66	0.59
26:BT:12:GLN:O	26:BT:16:ASN:ND2	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Bd:43:PHE:HZ	30:Bd:52:PHE:HD1	1.50	0.59
34:B5:340:U:H2'	34:B5:341:A:C8	2.38	0.59
34:B5:1222:C:H2'	34:B5:1223:A:H8	1.65	0.59
34:B5:1591:C:H2'	34:B5:1592:A:H8	1.68	0.59
34:B5:1727:G:H2'	34:B5:1728:A:C8	2.35	0.59
41:AD:205:SER:HB2	41:AD:233:ALA:HB1	1.82	0.59
45:AH:22:SER:OG	45:AH:23:ARG:N	2.29	0.59
1:BA:35:PRO:HD3	12:BV:87:ARG:HH12	1.66	0.59
19:BD:142:LEU:HD13	19:BD:150:MET:HG3	1.83	0.59
31:Bg:19:TRP:CG	31:Bg:306:THR:HG1	2.20	0.59
37:AC:99:MET:SD	37:AC:102:PRO:HA	2.41	0.59
38:A1:3226:A:N1	38:A1:3260:G:N1	2.49	0.59
58:AV:69:LEU:HD13	58:AV:74:MET:HE1	1.84	0.59
61:AY:70:ILE:HD13	61:AY:82:VAL:HG12	1.83	0.59
74:Al:23:LEU:HD12	74:Al:24:PRO:HD2	1.84	0.59
81:EC:6853:G:C6	81:EC:6876:A:N1	2.71	0.59
8:BJ:83:VAL:HG21	8:BJ:147:MET:SD	2.41	0.59
10:BN:83:GLU:N	10:BN:83:GLU:OE1	2.33	0.59
20:BF:92:ARG:HH22	34:B5:1613:U:P	2.25	0.59
38:A1:551:A:O2'	38:A1:552:G:O5'	2.16	0.59
38:A1:876:A:H5''	38:A1:1890:U:H5''	1.85	0.59
38:A1:1088:U:C2	38:A1:1089:G:C8	2.91	0.59
38:A1:1104:G:H2'	38:A1:1105:A:H8	1.67	0.59
38:A1:1178:G:O6	68:Af:20:LYS:NZ	2.28	0.59
62:AZ:5:LEU:HD13	62:AZ:77:TYR:CE1	2.37	0.59
71:Ai:5:THR:HG23	71:Ai:12:ASN:HB2	1.85	0.59
6:BH:73:VAL:HG23	6:BH:77:LEU:HD23	1.84	0.59
27:BU:17:GLN:HG2	27:BU:96:PRO:HG3	1.84	0.59
34:B5:113:U:O2'	34:B5:115:G:O2'	2.15	0.59
34:B5:273:G:N2	34:B5:283:U:O2	2.24	0.59
36:AB:311:PHE:N	36:AB:315:GLY:O	2.32	0.59
38:A1:135:C:C2	70:Ah:94:LYS:HG2	2.38	0.59
38:A1:1214:U:OP2	55:AS:137:ARG:NH2	2.36	0.59
38:A1:1498:A:H2'	38:A1:1499:C:C6	2.38	0.59
38:A1:3101:G:H2'	38:A1:3102:G:H8	1.66	0.59
44:AG:82:LEU:HD21	44:AG:178:ALA:HB1	1.84	0.59
81:EC:6812:C:H2'	81:EC:6813:A:H8	1.65	0.59
1:BA:38:PHE:CZ	24:BR:105:GLN:CD	2.81	0.59
4:BE:103:TYR:HB2	4:BE:182:TYR:OH	2.03	0.59
23:BQ:125:GLU:CD	23:BQ:125:GLU:H	2.11	0.59
31:Bg:19:TRP:CD1	31:Bg:306:THR:HG1	2.20	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:AC:217:LYS:NZ	38:A1:210:U:O2	2.32	0.59
37:AC:299:ILE:HG23	53:AQ:39:ARG:HB3	1.83	0.59
38:A1:54:C:HO2'	38:A1:1547:G:HO2'	1.50	0.59
38:A1:1659:U:H2'	38:A1:1660:C:C6	2.38	0.59
38:A1:1799:A:H2'	38:A1:1800:A:H8	1.67	0.59
38:A1:2406:C:H2'	38:A1:2407:C:C6	2.37	0.59
38:A1:2450:G:H2'	38:A1:2451:G:C5	2.37	0.59
38:A1:3162:C:N4	38:A1:3163:A:H62	1.99	0.59
38:A1:3247:G:H2'	38:A1:3248:C:C6	2.37	0.59
62:AZ:24:VAL:HG11	62:AZ:87:LEU:HD12	1.84	0.59
70:Ah:92:LEU:HD22	70:Ah:96:GLU:HG3	1.85	0.59
4:BE:256:ARG:O	4:BE:261:LEU:N	2.36	0.59
11:BO:36:LYS:NZ	34:B5:895:G:O4'	2.36	0.59
33:BM:45:LEU:HD13	34:B5:1228:G:H5'	1.83	0.59
34:B5:1752:U:H2'	34:B5:1753:A:C8	2.37	0.59
36:AB:10:ARG:HH12	36:AB:14:LEU:HG	1.66	0.59
38:A1:1687:U:O4	57:AU:45:GLY:N	2.36	0.59
38:A1:1808:G:OP1	62:AZ:135:ARG:NH2	2.36	0.59
38:A1:2895:G:O2'	75:Am:100:TYR:O	2.19	0.59
38:A1:2931:C:OP1	58:AV:40:LYS:NZ	2.36	0.59
38:A1:2971:A:C2'	46:AI:110:ARG:HH12	2.15	0.59
50:AN:46:ASP:OD1	50:AN:47:LYS:N	2.35	0.59
80:DC:649:GLN:HB2	80:DC:689:LEU:HA	1.84	0.59
81:EC:6799:C:H2'	81:EC:6800:G:O4'	2.02	0.59
4:BE:3:ARG:HB3	34:B5:93:A:H1'	1.83	0.59
10:BN:109:LYS:NZ	34:B5:976:G:OP2	2.35	0.59
15:BY:124:ARG:NH2	34:B5:151:G:O6	2.36	0.59
19:BD:61:GLU:O	19:BD:64:ARG:NH1	2.35	0.59
25:BS:41:ARG:NE	34:B5:1565:C:OP1	2.26	0.59
34:B5:1218:G:H22	34:B5:1443:U:H2'	1.67	0.59
38:A1:353:G:O6	72:Aj:55:ARG:NH2	2.35	0.59
38:A1:358:G:N2	38:A1:361:A:OP2	2.30	0.59
38:A1:1290:A:H2'	38:A1:1291:A:C8	2.37	0.59
38:A1:2280:A:H61	38:A1:2310:U:H1'	1.68	0.59
38:A1:2526:C:H2'	38:A1:2527:G:C8	2.37	0.59
40:A4:154:C:H2'	40:A4:155:A:H8	1.68	0.59
44:AG:115:ALA:O	44:AG:120:LYS:N	2.36	0.59
45:AH:170:LYS:HB3	45:AH:175:PHE:HD1	1.66	0.59
80:DC:150:ARG:HG2	80:DC:197:LEU:HD11	1.85	0.59
4:BE:131:LEU:HD12	34:B5:251:A:H2	1.68	0.59
16:Ba:10:ARG:HH22	34:B5:1790:A:P	2.26	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:513:U:H2'	34:B5:514:G:C8	2.37	0.59
34:B5:939:A:H2'	34:B5:940:A:C8	2.38	0.59
35:AA:220:GLY:O	38:A1:2245:C:O2'	2.21	0.59
38:A1:2471:U:H3	38:A1:2474:G:N2	2.01	0.59
38:A1:3153:U:H4'	38:A1:3154:C:C2	2.38	0.59
45:AH:90:MET:HB2	45:AH:144:ILE:HG22	1.84	0.59
68:Af:45:LEU:HD11	68:Af:73:ARG:HA	1.85	0.59
80:DC:591:GLU:OE2	80:DC:685:ARG:NE	2.33	0.59
81:EC:6861:G:H2'	81:EC:6862:G:H5'	1.85	0.59
25:BS:39:GLY:N	34:B5:1566:U:H5''	2.18	0.59
28:BZ:53:GLU:HB2	28:BZ:56:THR:OG1	2.03	0.59
34:B5:184:C:H2'	34:B5:185:U:C6	2.38	0.59
34:B5:702:G:O2'	34:B5:703:G:O5'	2.21	0.59
38:A1:670:C:OP1	53:AQ:147:ARG:NH1	2.33	0.59
38:A1:769:G:O2'	48:AL:168:ARG:NH2	2.34	0.59
38:A1:813:G:O2'	72:Aj:45:ARG:NH1	2.35	0.59
38:A1:1203:A:H2'	38:A1:1204:A:C8	2.38	0.59
38:A1:1323:G:H5''	55:AS:1:MET:HE2	1.85	0.59
38:A1:3322:A:H2'	38:A1:3323:A:H8	1.68	0.59
51:AO:187[A]:GLU:HA	51:AO:192[A]:LYS:HE3	1.84	0.59
80:DC:156:VAL:HG23	80:DC:210:ALA:HB3	1.85	0.59
80:DC:289:MET:HA	80:DC:289:MET:HE3	1.84	0.59
1:BA:16:LEU:HA	1:BA:19:ALA:HB3	1.84	0.58
2:BB:104:ASP:OD1	2:BB:105:PHE:N	2.35	0.58
34:B5:304:U:H2'	34:B5:305:C:C6	2.38	0.58
34:B5:1393:C:H2'	34:B5:1394:G:H8	1.67	0.58
38:A1:2344:U:H2'	38:A1:2345:A:C8	2.38	0.58
39:A3:7:G:OP1	41:AD:33:ARG:NH1	2.36	0.58
40:A4:112:U:OP2	74:Al:8:ARG:NH2	2.34	0.58
43:AF:89:ILE:HD11	43:AF:229:PHE:HB3	1.85	0.58
46:AI:28:ASP:OD1	46:AI:29:SER:N	2.36	0.58
60:AX:67:ILE:HG22	60:AX:69:SER:H	1.68	0.58
61:AY:51:ARG:NH1	61:AY:112:ASP:OD2	2.33	0.58
71:AI:33:ALA:O	71:AI:38:LYS:NZ	2.36	0.58
80:DC:121:VAL:HG21	80:DC:397:PHE:HZ	1.68	0.58
81:EC:6793:A:N6	81:EC:6881:U:OP1	2.34	0.58
6:BH:115:SER:O	34:B5:856:A:N6	2.36	0.58
20:BF:51:VAL:HG11	20:BF:130:ILE:HG22	1.84	0.58
24:BR:32:LYS:NZ	34:B5:1388:A:OP2	2.36	0.58
28:BZ:49:ARG:HH22	81:EC:6866:C:P	2.26	0.58
34:B5:107:C:H2'	34:B5:108:A:H8	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:188:A:N6	34:B5:197:A:O2'	2.31	0.58
34:B5:1202:A:N6	34:B5:1457:C:OP1	2.35	0.58
38:A1:528:U:H2'	38:A1:529:A:C8	2.38	0.58
38:A1:1174:G:N2	51:AO:87[A]:MET:HE2	2.19	0.58
38:A1:2106:A:H2'	38:A1:2107:A:C8	2.38	0.58
38:A1:2224:A:OP1	71:Ai:74:LYS:NZ	2.33	0.58
38:A1:2453:U:H4'	38:A1:2461:A:H5''	1.84	0.58
49:AM:112:LEU:HB2	49:AM:116:GLU:HG3	1.85	0.58
66:Ad:44:MET:HB3	66:Ad:77:ARG:HD3	1.85	0.58
80:DC:404:THR:OG1	80:DC:406:LYS:NZ	2.30	0.58
6:BH:141:ARG:NH1	13:BW:49:GLU:OE1	2.31	0.58
10:BN:47:PRO:HD2	10:BN:86:GLU:HG2	1.85	0.58
15:BY:92:VAL:HG11	15:BY:99:LYS:HE2	1.85	0.58
24:BR:10:LYS:HD3	24:BR:53:TYR:CE2	2.38	0.58
24:BR:115:LEU:HD13	24:BR:117:LEU:HD11	1.85	0.58
31:Bg:20:VAL:HG11	31:Bg:304:GLY:HA3	1.86	0.58
31:Bg:44:SER:O	31:Bg:58:VAL:N	2.31	0.58
31:Bg:103:PHE:HE2	31:Bg:122:ILE:HG21	1.68	0.58
37:AC:115:HIS:N	38:A1:681:U:OP1	2.32	0.58
38:A1:271:C:O2	71:Ai:82:ARG:NH2	2.33	0.58
38:A1:2842:U:OP1	38:A1:2844:C:N4	2.27	0.58
77:Ao:71:ARG:HE	77:Ao:80:ARG:HH21	1.51	0.58
80:DC:159:LYS:HB3	80:DC:162:ARG:HB2	1.84	0.58
80:DC:432:GLN:HB3	80:DC:457:VAL:HG23	1.86	0.58
80:DC:607:ASN:O	80:DC:615:ARG:NE	2.31	0.58
81:EC:6809:G:O2'	81:EC:6810:U:O4'	2.18	0.58
9:BL:18:HIS:NE2	34:B5:210:A:OP2	2.35	0.58
17:Bb:35:VAL:HG11	17:Bb:63:LEU:HD11	1.85	0.58
34:B5:609:U:H4'	34:B5:610:G:H5'	1.84	0.58
34:B5:744:U:H2'	34:B5:745:U:O4'	2.03	0.58
34:B5:924:A:H2'	34:B5:925:G:C8	2.39	0.58
34:B5:1795:U:O2'	34:B5:1797:A:N7	2.32	0.58
36:AB:20:LYS:NZ	38:A1:2991:A:OP2	2.35	0.58
38:A1:138:U:H2'	38:A1:139:G:H8	1.68	0.58
38:A1:269:G:OP2	50:AN:44:ARG:NH2	2.36	0.58
38:A1:2815:G:N7	38:A1:2870:5MC:O2'	2.36	0.58
41:AD:41:LYS:HD2	56:AT:93:VAL:HG11	1.86	0.58
41:AD:218:ARG:NH1	41:AD:221:GLU:OE1	2.36	0.58
43:AF:112:ASN:ND2	43:AF:209:ASN:OD1	2.35	0.58
62:AZ:81:LEU:HD23	69:Ag:93:PHE:HD1	1.68	0.58
63:Aa:76:ASP:OD1	63:Aa:77:LYS:N	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:38:PHE:CE2	24:BR:105:GLN:CD	2.80	0.58
1:BA:73:VAL:HG12	1:BA:120:LEU:HB3	1.84	0.58
20:BF:98:MET:HE2	20:BF:107:LYS:HG3	1.85	0.58
27:BU:40:ASN:HA	27:BU:43:LYS:HG2	1.84	0.58
34:B5:233:C:O2'	34:B5:237:C:N4	2.35	0.58
34:B5:319:U:H4'	34:B5:323:A:C8	2.38	0.58
34:B5:1751:C:H2'	34:B5:1752:U:C6	2.39	0.58
37:AC:234:ASN:HB3	37:AC:237:GLN:HE22	1.69	0.58
38:A1:697:A:H2'	38:A1:698:U:C6	2.39	0.58
38:A1:1152:G:N2	38:A1:1152:G:OP2	2.33	0.58
38:A1:3164:C:H2'	38:A1:3165:A:C8	2.38	0.58
38:A1:3213:A:H62	49:AM:124:ARG:NH2	2.02	0.58
46:A1:156:ARG:HH21	46:A1:165:ILE:HD12	1.68	0.58
50:AN:8:GLU:OE1	50:AN:50:ARG:NH1	2.37	0.58
58:AV:39:VAL:HG12	58:AV:58:VAL:HG12	1.84	0.58
80:DC:20:ARG:N	80:DC:99:LEU:O	2.32	0.58
81:EC:6777:C:O2	81:EC:6818:G:N1	2.26	0.58
3:BC:175:GLY:N	3:BC:195:ASP:OD2	2.33	0.58
7:BI:34:ALA:HB2	7:BI:56:ARG:HD2	1.84	0.58
14:BX:7:ARG:NH2	34:B5:1100:G:O4'	2.37	0.58
19:BD:210:GLU:HA	24:BR:19:ARG:HH21	1.69	0.58
21:BK:58:GLN:HG2	21:BK:65:TYR:HB2	1.86	0.58
34:B5:15:U:H2'	34:B5:16:G:O4'	2.03	0.58
34:B5:237:C:C5	34:B5:834:G:H4'	2.38	0.58
34:B5:1405:G:H2'	34:B5:1406:A:H8	1.67	0.58
38:A1:235:A:H2'	38:A1:236:G:C8	2.39	0.58
38:A1:989:A:O2'	56:AT:104:GLU:OE1	2.08	0.58
38:A1:3092:C:H2'	58:AV:12:ARG:HH21	1.68	0.58
6:BH:80:GLU:HG2	6:BH:84:LYS:HZ3	1.68	0.58
10:BN:137:PRO:O	10:BN:138:ASN:ND2	2.36	0.58
12:BV:24:ILE:HD11	12:BV:31:SER:OG	2.04	0.58
20:BF:200:ASN:HA	20:BF:203:LYS:HE2	1.86	0.58
34:B5:1593:A:H2'	34:B5:1594:G:H8	1.69	0.58
38:A1:36:C:OP2	50:AN:83:LYS:NZ	2.35	0.58
47:AJ:21:ILE:HG13	47:AJ:125:MET:HB2	1.85	0.58
53:AQ:123:THR:OG1	53:AQ:125:ASP:OD1	2.18	0.58
63:Aa:128:ARG:NH1	63:Aa:149:ALA:O	2.37	0.58
68:Af:32:ILE:HG21	68:Af:44:TYR:CE2	2.38	0.58
69:Ag:79:SER:OG	69:Ag:80:ARG:NH1	2.37	0.58
70:Ah:101:THR:HG23	70:Ah:104:GLN:H	1.68	0.58
80:DC:29:ASP:O	80:DC:159:LYS:NZ	2.30	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:DC:353:ALA:HA	80:DC:356:LEU:HG	1.86	0.58
2:BB:99:ASN:OD1	2:BB:100:PHE:N	2.37	0.58
7:BI:2:GLY:N	34:B5:1729:C:HO2'	2.01	0.58
7:BI:160:PHE:CD1	7:BI:165:LEU:HD21	2.39	0.58
17:Bb:28:PRO:HB3	34:B5:959:U:H5'	1.86	0.58
20:BF:146:THR:HB	20:BF:157:ARG:HB3	1.85	0.58
23:BQ:125:GLU:OE2	34:B5:1585:U:H5''	2.04	0.58
25:BS:82:PRO:HG2	25:BS:84:TRP:CE2	2.39	0.58
34:B5:1216:C:O2'	34:B5:1444:A:N1	2.34	0.58
38:A1:84:U:O2'	38:A1:101:G:O6	2.15	0.58
38:A1:1084:A:H2'	38:A1:1085:A:C8	2.38	0.58
38:A1:1139:G:OP2	64:Ab:14:ARG:NH1	2.30	0.58
38:A1:1362:G:H2'	38:A1:1363:A:H8	1.67	0.58
38:A1:2154:U:H2'	38:A1:2155:G:H8	1.68	0.58
38:A1:2615:G:H2'	38:A1:2616:C:H6	1.69	0.58
38:A1:3334:U:H4'	38:A1:3335:A:H5'	1.86	0.58
39:A3:112:G:H2'	39:A3:113:C:C6	2.39	0.58
80:DC:647:ILE:HD12	80:DC:685:ARG:HH11	1.69	0.58
81:EC:6790:A:N6	81:EC:6798:C:OP2	2.33	0.58
27:BU:82:TYR:HB3	30:Bd:52:PHE:HB3	1.86	0.58
33:BM:114:LYS:NZ	34:B5:1224:A:OP1	2.35	0.58
36:AB:283:TYR:CD1	36:AB:354:VAL:HG11	2.39	0.58
38:A1:337:G:H1	40:A4:26:U:H3	1.50	0.58
38:A1:1232:C:H2'	38:A1:1233:G:H5''	1.85	0.58
38:A1:1254:C:C4	38:A1:1255:C:N4	2.71	0.58
38:A1:3006:A:H2'	38:A1:3007:U:O4'	2.03	0.58
38:A1:3070:A:OP1	54:AR:62:ARG:NH1	2.36	0.58
39:A3:71:G:H2'	39:A3:72:A:C8	2.38	0.58
39:A3:114:U:H2'	39:A3:115:G:H8	1.68	0.58
42:AE:66:SER:HB2	42:AE:76:LEU:HD13	1.85	0.58
43:AF:147:LEU:HD11	43:AF:207:LEU:HD21	1.86	0.58
60:AX:105:VAL:HG23	60:AX:130:TYR:HD2	1.69	0.58
62:AZ:15:ARG:HH21	69:Ag:86:LYS:HD3	1.68	0.58
81:EC:6767:G:H21	81:EC:6824:C:H5	1.51	0.58
81:EC:6789:G:N2	81:EC:6790:A:O2'	2.37	0.58
1:BA:126:PRO:HG3	1:BA:147:THR:HG22	1.86	0.58
2:BB:123:ALA:HB2	2:BB:165:ARG:HG3	1.86	0.58
5:BG:187:LYS:NZ	34:B5:139:C:O2'	2.33	0.58
11:BO:89:THR:HG22	11:BO:125:SER:HB2	1.84	0.58
11:BO:133:ARG:NH2	34:B5:1785:U:O5'	2.35	0.58
24:BR:5:ARG:NE	34:B5:1402:G:OP1	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BT:81:GLY:HA3	26:BT:95:ASP:HA	1.86	0.58
34:B5:551:G:H2'	34:B5:552:G:H8	1.68	0.58
36:AB:139:GLN:NE2	36:AB:140:ASP:OD1	2.37	0.58
38:A1:296:A:N3	38:A1:299:G:O2'	2.37	0.58
38:A1:780:A:N7	53:AQ:178:ARG:NH2	2.52	0.58
38:A1:1203:A:H2'	38:A1:1204:A:H8	1.68	0.58
38:A1:1824:U:O2'	73:Ak:17:ARG:NH1	2.36	0.58
38:A1:2641:U:OP1	56:AT:5:HIS:NE2	2.32	0.58
38:A1:3108:G:N3	45:AH:163:GLN:NE2	2.52	0.58
38:A1:3291:G:H2'	38:A1:3292:A:C8	2.39	0.58
40:A4:96:A:O2'	70:Ah:60:GLU:OE1	2.21	0.58
65:Ac:84:LEU:HD23	65:Ac:84:LEU:H	1.69	0.58
69:Ag:10:ARG:HD2	74:Al:4:GLN:HE21	1.67	0.58
4:BE:11:ARG:NH1	4:BE:21:ASP:O	2.30	0.57
34:B5:1183:A:H2'	34:B5:1184:A:C8	2.39	0.57
37:AC:58:HIS:HE1	37:AC:98:ARG:HH21	1.51	0.57
38:A1:429:U:H2'	38:A1:430:U:H6	1.68	0.57
38:A1:584:G:H2'	38:A1:585:A:C8	2.37	0.57
38:A1:627:U:H2'	38:A1:628:A:H8	1.69	0.57
38:A1:1256:G:H2'	38:A1:1257:C:O4'	2.04	0.57
38:A1:1750:A:OP2	73:Ak:42:LYS:NZ	2.26	0.57
38:A1:3017:A:H2'	38:A1:3018:C:H6	1.69	0.57
80:DC:463:LEU:O	80:DC:513:LYS:NZ	2.31	0.57
81:EC:6853:G:O6	81:EC:6876:A:N1	2.36	0.57
4:BE:117:GLU:OE1	4:BE:117:GLU:N	2.37	0.57
31:Bg:123:ILE:HG22	31:Bg:133:VAL:HG12	1.85	0.57
34:B5:1553:G:N1	34:B5:1556:A:OP2	2.37	0.57
34:B5:1735:U:OP1	58:AV:32:ARG:NH1	2.34	0.57
36:AB:212:ASN:HD21	36:AB:354:VAL:H	1.49	0.57
37:AC:156:LEU:HD12	37:AC:159:ILE:HD12	1.86	0.57
38:A1:153:U:H4'	38:A1:158:G:H4'	1.85	0.57
38:A1:293:C:O2'	71:Ai:76:ARG:O	2.22	0.57
38:A1:2160:G:H2'	38:A1:2161:G:H8	1.69	0.57
38:A1:2470:C:OP1	79:E:27:ASN:ND2	2.24	0.57
38:A1:2611:U:H2'	38:A1:2612:U:C6	2.39	0.57
38:A1:2834:G:H2'	38:A1:2835:U:C6	2.39	0.57
38:A1:3322:A:H2'	38:A1:3323:A:C8	2.39	0.57
39:A3:44:C:H4'	41:AD:152:ARG:HD3	1.86	0.57
42:AE:92:SER:OG	42:AE:94:GLU:OE2	2.11	0.57
46:AI:68:ALA:HB1	46:AI:155:ALA:HB1	1.86	0.57
47:AJ:17:LEU:HG	47:AJ:129:VAL:HG22	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:AV:96:GLU:OE2	59:AW:23:ARG:HA	2.04	0.57
80:DC:289:MET:SD	80:DC:320:LEU:HD11	2.44	0.57
80:DC:674:GLY:H	80:DC:678:GLY:HA2	1.69	0.57
81:EC:6804:A:H4'	81:EC:6805:C:OP1	2.03	0.57
3:BC:203:LYS:NZ	34:B5:16:G:O6	2.28	0.57
4:BE:208:VAL:HG21	4:BE:225:VAL:HG11	1.85	0.57
25:BS:144:ARG:NH2	34:B5:1461:C:OP1	2.37	0.57
34:B5:261:U:H4'	34:B5:262:U:H5'	1.86	0.57
34:B5:1477:G:H2'	34:B5:1478:G:C8	2.40	0.57
35:AA:150:LEU:O	35:AA:153:GLY:N	2.36	0.57
38:A1:293:C:O2'	71:AI:76:ARG:HD3	2.03	0.57
38:A1:835:G:O2'	38:A1:857:G:N2	2.34	0.57
38:A1:1781:C:H2'	38:A1:1782:U:C6	2.40	0.57
38:A1:2663:G:O3'	41:AD:152:ARG:NH2	2.37	0.57
38:A1:3064:U:H2'	38:A1:3065:G:C8	2.38	0.57
44:AG:41:GLN:HB3	44:AG:44:ARG:NH2	2.19	0.57
74:AI:27:ILE:HG22	74:AI:33:ASN:HD21	1.69	0.57
80:DC:150:ARG:NH2	80:DC:351:TYR:O	2.38	0.57
80:DC:186:ASN:OD1	80:DC:201:GLN:NE2	2.38	0.57
1:BA:195:TRP:CE2	1:BA:197:ILE:HD13	2.36	0.57
20:BF:174:LEU:HG	20:BF:210:ALA:HA	1.85	0.57
23:BQ:50:GLU:HG3	23:BQ:82:ARG:HH21	1.69	0.57
34:B5:1041:G:H2'	34:B5:1042:G:C8	2.39	0.57
37:AC:234:ASN:OD1	38:A1:693:A:H4'	2.03	0.57
37:AC:362:ASP:HB3	56:AT:150:THR:HG21	1.86	0.57
38:A1:1721:U:O2'	38:A1:1723:A:N7	2.30	0.57
38:A1:2250:G:H2'	38:A1:2251:G:H8	1.69	0.57
38:A1:2507:C:H2'	38:A1:2508:U:C6	2.40	0.57
38:A1:3015:G:H2'	38:A1:3016:A:H8	1.68	0.57
38:A1:3321:C:H2'	38:A1:3322:A:C8	2.39	0.57
42:AE:3:ALA:HB1	67:Ae:75:LEU:HD22	1.86	0.57
44:AG:88:ALA:O	44:AG:92:LYS:HG3	2.05	0.57
47:AJ:76:ALA:HA	47:AJ:79:ILE:HG22	1.86	0.57
57:AU:33:TYR:HH	57:AU:80:THR:HG1	1.43	0.57
68:Af:16:TYR:OH	68:Af:89:LEU:O	2.21	0.57
78:Ap:46:THR:OG1	78:Ap:57:CYS:SG	2.63	0.57
80:DC:43:ALA:HB3	80:DC:77:LEU:HD23	1.87	0.57
8:BJ:108:ARG:HG2	8:BJ:145:SER:HA	1.86	0.57
15:BY:33:ALA:O	34:B5:532:U:O2'	2.18	0.57
24:BR:110:VAL:HG11	24:BR:119:LEU:HD21	1.87	0.57
28:BZ:54:VAL:HG13	28:BZ:55:PRO:HD3	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Bf:119:ARG:HH12	32:Bf:150:VAL:HA	1.68	0.57
34:B5:199:G:H2'	34:B5:200:A:H8	1.69	0.57
34:B5:996:U:H2'	34:B5:997:G:C8	2.39	0.57
34:B5:1039:A:O2'	34:B5:1040:G:H5''	2.05	0.57
37:AC:187:LEU:HD23	38:A1:1419:A:C8	2.39	0.57
38:A1:1169:A:H4'	43:AF:219:LYS:HD3	1.86	0.57
38:A1:1597:C:H2'	38:A1:1598:G:C8	2.39	0.57
38:A1:2261:G:O2'	38:A1:2263:C:N4	2.38	0.57
38:A1:2722:U:O2'	56:AT:88:ARG:O	2.22	0.57
39:A3:71:G:H2'	39:A3:72:A:H8	1.70	0.57
47:AJ:13:LYS:HG2	47:AJ:134:PRO:HD3	1.85	0.57
53:AQ:54:LEU:HD13	53:AQ:58:ASN:HB3	1.85	0.57
79:E:174:MET:HG3	79:E:175:GLU:O	2.03	0.57
2:BB:141:ALA:HB1	2:BB:207:LEU:HD12	1.87	0.57
6:BH:142:TYR:HE2	13:BW:35:ILE:HG23	1.70	0.57
10:BN:107:LYS:NZ	34:B5:1018:U:OP1	2.36	0.57
15:BY:87:PRO:HD2	15:BY:90:ARG:HD2	1.85	0.57
17:Bb:26:GLN:OE1	17:Bb:26:GLN:N	2.32	0.57
17:Bb:45:THR:OG1	17:Bb:82:LYS:NZ	2.30	0.57
20:BF:63:GLN:H	20:BF:89:ILE:HG23	1.69	0.57
32:Bf:121:CYS:H	32:Bf:130:VAL:HG11	1.70	0.57
34:B5:1003:A:H1'	34:B5:1005:A:N7	2.19	0.57
34:B5:1579:U:H2'	34:B5:1580:C:C6	2.39	0.57
38:A1:153:U:OP2	70:Ah:103:LYS:NZ	2.35	0.57
38:A1:2213:A:H2'	38:A1:2214:A:C8	2.39	0.57
38:A1:2383:C:OP2	51:AO:85[A]:ARG:NH2	2.37	0.57
40:A4:141:C:O3'	50:AN:62:TYR:OH	2.22	0.57
65:Ac:56:LEU:HD21	65:Ac:89:VAL:HG21	1.87	0.57
72:Aj:21:ARG:HE	72:Aj:39:TYR:HD1	1.53	0.57
80:DC:646:VAL:HG22	80:DC:686:VAL:HB	1.86	0.57
1:BA:88:LYS:HE2	1:BA:201:LEU:HB2	1.87	0.57
4:BE:126:VAL:HA	4:BE:141:THR:HA	1.86	0.57
23:BQ:127:LYS:NZ	23:BQ:131:GLY:O	2.30	0.57
28:BZ:103:ARG:NH2	81:EC:6864:A:OP1	2.38	0.57
34:B5:55:A:H3'	34:B5:403:G:H22	1.70	0.57
34:B5:1650:U:H2'	34:B5:1651:A:H8	1.69	0.57
36:AB:48:GLY:HA3	36:AB:81:THR:HG22	1.85	0.57
38:A1:616:G:H2'	38:A1:617:G:C8	2.40	0.57
47:AJ:32:ARG:HA	47:AJ:35:LYS:HG2	1.86	0.57
67:Ae:76:VAL:HG11	67:Ae:82:LEU:HB2	1.85	0.57
1:BA:189:VAL:HG23	1:BA:193:GLN:HE22	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:BW:78:ARG:HD2	13:BW:126:LEU:HD23	1.87	0.57
20:BF:205:SER:HB2	20:BF:207:THR:HG22	1.86	0.57
24:BR:44:LYS:HE3	24:BR:48:ASN:HD21	1.69	0.57
31:Bg:303:ALA:HB3	31:Bg:313:TRP:HZ3	1.70	0.57
34:B5:976:G:N1	34:B5:1023:A:O2'	2.22	0.57
34:B5:1476:C:H2'	34:B5:1477:G:H8	1.69	0.57
38:A1:1203:A:OP2	38:A1:1301:A:N6	2.34	0.57
38:A1:1391:C:O2'	67:Ae:101:SER:OG	2.22	0.57
38:A1:1684:U:OP1	57:AU:86:LYS:NZ	2.29	0.57
38:A1:2266:PSU:H3'	38:A1:2267:C:O4'	2.05	0.57
38:A1:2492:C:H2'	38:A1:2493:U:H4'	1.87	0.57
80:DC:164:LEU:CD2	80:DC:169:VAL:HG12	2.35	0.57
80:DC:511:LEU:HD23	80:DC:545:LEU:HD21	1.87	0.57
3:BC:157:LYS:HG2	13:BW:95:PRO:HA	1.86	0.57
7:BI:171:SER:OG	7:BI:178:ARG:O	2.21	0.57
15:BY:60:PHE:H	15:BY:71:GLY:HA3	1.70	0.57
34:B5:1661:U:OP1	58:AV:66:LYS:NZ	2.35	0.57
35:AA:64:ARG:NH2	44:AG:37:GLY:O	2.35	0.57
36:AB:54:THR:OG1	36:AB:360:ASP:O	2.22	0.57
36:AB:58:ARG:NE	36:AB:74:GLU:OE2	2.38	0.57
38:A1:103:G:OP1	48:AL:70:ARG:NE	2.37	0.57
38:A1:966:PSU:H2'	38:A1:967:A:C8	2.40	0.57
38:A1:3044:G:H2'	38:A1:3045:G:C8	2.40	0.57
62:AZ:95:VAL:HG11	62:AZ:113:VAL:HG11	1.86	0.57
80:DC:71:LYS:HE3	80:DC:387:PRO:HD3	1.87	0.57
80:DC:435:VAL:HG21	80:DC:442:VAL:HB	1.85	0.57
3:BC:147:ASN:ND2	12:BV:2:GLU:O	2.23	0.57
7:BI:66:SER:H	7:BI:182:TYR:HA	1.69	0.57
7:BI:92:ARG:NH2	38:A1:2108:C:H5'	2.14	0.57
14:BX:62:LYS:HE2	14:BX:116:ASP:HA	1.86	0.57
20:BF:79:ASN:OD1	20:BF:80:LYS:N	2.38	0.57
38:A1:745:C:H2'	38:A1:746:A:C8	2.40	0.57
38:A1:1306:G:O6	38:A1:2366:C:O2'	2.18	0.57
38:A1:2249:G:H2'	38:A1:2250:G:H5''	1.87	0.57
40:A4:111:A:OP1	72:Aj:32:LYS:NZ	2.33	0.57
68:Af:10:LYS:HB2	68:Af:33:GLU:OE1	2.04	0.57
80:DC:406:LYS:HB2	80:DC:409:GLN:HB3	1.87	0.57
3:BC:229:LEU:HD22	12:BV:13:VAL:HG23	1.87	0.56
7:BI:8:ARG:NH2	7:BI:20:GLN:OE1	2.38	0.56
7:BI:39:GLY:O	7:BI:59:ARG:HB3	2.05	0.56
7:BI:136:SER:OG	34:B5:188:A:O5'	2.23	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:BO:124:ASP:HB2	34:B5:885:G:N2	2.20	0.56
15:BY:55:VAL:HG22	15:BY:75:VAL:HG12	1.87	0.56
21:BK:3:MET:HG2	21:BK:41:TYR:CD1	2.40	0.56
21:BK:16:PHE:HE1	21:BK:73:VAL:HG13	1.70	0.56
30:Bd:36:LEU:HB3	30:Bd:38:ILE:HG22	1.86	0.56
31:Bg:9:LEU:HA	31:Bg:313:TRP:HA	1.86	0.56
34:B5:1164:G:O2'	34:B5:1612:U:O2	2.19	0.56
38:A1:160:G:H1	38:A1:261:U:H3	1.53	0.56
38:A1:341:G:O2'	40:A4:22:U:O4	2.22	0.56
38:A1:656:A:H2'	38:A1:657:A:C8	2.40	0.56
38:A1:2221:G:N2	38:A1:2224:A:OP2	2.33	0.56
38:A1:2546:C:H2'	38:A1:2547:A:H8	1.69	0.56
51:AO:54[A]:TYR:OH	51:AO:73[A]:PHE:O	2.22	0.56
73:Ak:5:ILE:HG12	73:Ak:52:TYR:HB3	1.87	0.56
1:BA:38:PHE:CG	24:BR:105:GLN:HB3	2.32	0.56
2:BB:36:SER:N	2:BB:231:LEU:O	2.38	0.56
9:BL:15:LYS:NZ	9:BL:19:ILE:O	2.28	0.56
20:BF:92:ARG:NH2	34:B5:1613:U:OP2	2.37	0.56
31:Bg:11:GLY:HA2	31:Bg:52:GLN:HA	1.87	0.56
34:B5:1122:G:N2	34:B5:1125:A:OP2	2.36	0.56
34:B5:1458:G:O2'	34:B5:1459:C:O5'	2.23	0.56
37:AC:203:ARG:NH1	38:A1:1383:G:OP1	2.38	0.56
38:A1:500:C:H2'	38:A1:501:A:H8	1.70	0.56
38:A1:2505:U:OP1	71:AI:55:ARG:NE	2.29	0.56
38:A1:2696:A:N7	38:A1:2758:A:N6	2.53	0.56
38:A1:2853:A:H5'	46:AI:3:ARG:NH2	2.19	0.56
40:A4:67:U:H2'	40:A4:68:G:H8	1.70	0.56
43:AF:98:LYS:HG2	43:AF:129:LEU:HD21	1.86	0.56
55:AS:23:LYS:HA	56:AT:146:ASN:HD21	1.70	0.56
61:AY:67:GLU:OE1	61:AY:67:GLU:N	2.29	0.56
67:Ae:63:THR:HA	67:Ae:66:LEU:HD12	1.87	0.56
79:E:60:ARG:HG3	79:E:63:MET:SD	2.44	0.56
3:BC:54:GLU:OE2	12:BV:12:TYR:HB3	2.04	0.56
3:BC:80:VAL:HG22	3:BC:102:VAL:HG12	1.86	0.56
4:BE:122:LYS:NZ	4:BE:143:ASP:OD2	2.30	0.56
5:BG:132:ARG:NH1	34:B5:68:A:N7	2.52	0.56
7:BI:81:VAL:HA	7:BI:102:VAL:HG12	1.86	0.56
15:BY:8:ARG:HH21	15:BY:28:LEU:HD13	1.71	0.56
34:B5:1216:C:O2	34:B5:1446:A:N6	2.38	0.56
34:B5:1474:G:H2'	34:B5:1475:A:H8	1.71	0.56
35:AA:236:GLY:N	38:A1:2183:A:O2'	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:AB:66:LYS:NZ	58:AV:9:THR:O	2.29	0.56
38:A1:105:C:H2'	38:A1:106:A:H8	1.70	0.56
38:A1:348:A:N3	38:A1:352:A:O2'	2.37	0.56
38:A1:837:A:OP2	78:Ap:4:ARG:NE	2.29	0.56
38:A1:959:C:H41	38:A1:2801:A:H5''	1.70	0.56
38:A1:1699:A:H2'	38:A1:1700:G:H8	1.69	0.56
38:A1:2154:U:H2'	38:A1:2155:G:C8	2.40	0.56
38:A1:2496:C:O2'	38:A1:2497:U:OP1	2.23	0.56
38:A1:2883:U:H2'	38:A1:2884:C:C6	2.40	0.56
38:A1:3166:C:H2'	38:A1:3167:A:C8	2.41	0.56
49:AM:113:THR:O	49:AM:117:ARG:N	2.34	0.56
80:DC:495:VAL:HG23	80:DC:504:LEU:HD21	1.87	0.56
81:EC:6797:U:H2'	81:EC:6798:C:C6	2.40	0.56
14:BX:46:SER:OG	14:BX:48:HIS:O	2.21	0.56
24:BR:2:GLY:N	34:B5:1414:U:OP1	2.38	0.56
38:A1:160:G:H2'	38:A1:161:G:H8	1.71	0.56
38:A1:1280:C:H2'	38:A1:1281:G:H8	1.68	0.56
38:A1:2528:G:H5''	44:AG:248:LYS:HE3	1.87	0.56
76:An:3:ALA:C	76:An:5:TRP:H	2.11	0.56
81:EC:6849:A:H62	81:EC:6880:G:H21	1.52	0.56
34:B5:164:A:H2'	34:B5:165:G:H8	1.70	0.56
34:B5:1163:A:N3	34:B5:1613:U:O2'	2.33	0.56
38:A1:718:G:OP1	63:Aa:117:ARG:NH2	2.39	0.56
38:A1:1783:U:H2'	38:A1:1784:G:C8	2.41	0.56
38:A1:1799:A:H2'	38:A1:1800:A:C8	2.40	0.56
38:A1:3275:U:C4	68:Af:64:ILE:HG21	2.40	0.56
52:AP:118:GLN:NE2	52:AP:147:GLU:OE2	2.39	0.56
57:AU:28:PHE:HE2	57:AU:84:LEU:HD21	1.69	0.56
81:EC:6853:G:C6	81:EC:6876:A:C2	2.93	0.56
81:EC:6867:C:H2'	81:EC:6868:C:O2	2.05	0.56
3:BC:144:TRP:HH2	8:BJ:61:THR:HG22	1.71	0.56
20:BF:51:VAL:HG22	20:BF:131:GLN:HB2	1.87	0.56
30:Bd:41:GLN:HB3	34:B5:1433:G:C2	2.41	0.56
33:BM:63:VAL:HG12	33:BM:65:SER:H	1.70	0.56
34:B5:514:G:O2'	34:B5:515:A:H8	1.89	0.56
34:B5:1280:4AC:H2'	34:B5:1281:G:C8	2.40	0.56
35:AA:67:TYR:OH	38:A1:2525:G:N7	2.31	0.56
36:AB:94:GLU:OE2	36:AB:94:GLU:N	2.29	0.56
36:AB:218:ILE:HG13	36:AB:276:THR:HG23	1.88	0.56
38:A1:107:A:O2'	38:A1:324:A:N3	2.33	0.56
38:A1:175:C:N4	38:A1:176:G:O6	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:616:G:H2'	38:A1:617:G:H8	1.69	0.56
38:A1:759:U:H2'	38:A1:760:G:O4'	2.05	0.56
38:A1:879:U:O2'	52:AP:135:ARG:NH2	2.38	0.56
38:A1:1404:G:N2	38:A1:1407:A:OP2	2.28	0.56
38:A1:2095:G:H2'	38:A1:2096:A:H8	1.70	0.56
38:A1:2700:G:H5''	56:AT:17:ARG:HG2	1.87	0.56
38:A1:3392:U:OP1	52:AP:43:LYS:NZ	2.39	0.56
42:AE:154:LEU:HD11	49:AM:122:VAL:HG21	1.88	0.56
80:DC:544:ASP:O	80:DC:549:HIS:N	2.38	0.56
1:BA:70:PRO:HB2	1:BA:94:GLY:HA3	1.87	0.56
8:BJ:175:ARG:NE	34:B5:537:G:OP2	2.39	0.56
15:BY:53:ASP:HB2	15:BY:79:VAL:HG22	1.88	0.56
20:BF:32:GLU:O	20:BF:44:ASN:ND2	2.38	0.56
26:BT:78:LYS:NZ	34:B5:1524:A:H5'	2.16	0.56
34:B5:1471:A:H2	34:B5:1474:G:N3	2.04	0.56
34:B5:1632:C:HO2'	34:B5:1638:G:HO2'	1.48	0.56
35:AA:6:ARG:NH2	38:A1:2184:U:OP2	2.39	0.56
36:AB:92:TYR:HB3	36:AB:99:LEU:HD12	1.88	0.56
38:A1:1696:A:H2'	38:A1:1697:A:C8	2.40	0.56
38:A1:1718:G:H2'	38:A1:1719:G:C8	2.40	0.56
38:A1:1818:U:O2'	38:A1:1819:U:OP1	2.22	0.56
38:A1:2357:A:H2'	38:A1:2358:A:C8	2.41	0.56
52:AP:89:LYS:HA	52:AP:92:GLN:HE21	1.69	0.56
80:DC:567:VAL:HG12	80:DC:722:PRO:HA	1.88	0.56
81:EC:6764:C:H2'	81:EC:6765:A:C8	2.41	0.56
5:BG:185:GLN:OE1	34:B5:271:A:N6	2.39	0.56
6:BH:114:ARG:HD2	34:B5:860:U:H1'	1.87	0.56
34:B5:97:C:H1'	34:B5:426:G:H5'	1.86	0.56
34:B5:329:G:H2'	34:B5:330:G:H8	1.71	0.56
34:B5:1294:G:O2'	34:B5:1321:A:N1	2.36	0.56
34:B5:1351:G:H2'	34:B5:1352:G:H8	1.71	0.56
34:B5:1751:C:H2'	34:B5:1752:U:H6	1.69	0.56
35:AA:79:ASN:HD21	35:AA:165:VAL:HB	1.71	0.56
38:A1:270:U:H2'	38:A1:271:C:C6	2.41	0.56
38:A1:601:U:H3'	38:A1:602:A:H8	1.69	0.56
38:A1:1419:A:OP1	40:A4:20:U:O2'	2.23	0.56
38:A1:3113:A:OP1	45:AH:73:SER:OG	2.24	0.56
38:A1:3291:G:H2'	38:A1:3292:A:H8	1.70	0.56
43:AF:74:SER:OG	43:AF:75:TYR:N	2.38	0.56
44:AG:203:VAL:HG21	44:AG:211:LEU:HD13	1.88	0.56
50:AN:98:LEU:HD12	50:AN:128:LYS:HD2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:Al:28:ARG:NH1	74:Al:36:ARG:O	2.39	0.56
79:E:138:VAL:HG21	79:E:144:LEU:HD13	1.88	0.56
80:DC:588:LEU:HD11	80:DC:713:THR:HA	1.87	0.56
81:EC:6844:A:H1'	81:EC:6845:G:N7	2.21	0.56
5:BG:70:PRO:HA	5:BG:101:ILE:HB	1.86	0.56
6:BH:17:GLU:HG3	6:BH:46:ILE:HD12	1.87	0.56
7:BI:87:ASN:OD1	7:BI:89:GLU:N	2.32	0.56
12:BV:41:GLU:HG3	12:BV:42:GLU:HG3	1.88	0.56
21:BK:46:LEU:O	21:BK:50:THR:HG23	2.06	0.56
34:B5:923:A:H2'	34:B5:924:A:H8	1.71	0.56
35:AA:83:HIS:HB3	78:Ap:64:VAL:HG22	1.88	0.56
38:A1:1108:U:H2'	38:A1:1109:U:C6	2.40	0.56
38:A1:1385:C:O2	42:AE:2:SER:N	2.39	0.56
38:A1:2488:A:N3	38:A1:2488:A:H2'	2.21	0.56
62:AZ:4:PHE:CE1	62:AZ:82:PRO:HG3	2.41	0.56
80:DC:693:LEU:HD23	80:DC:700:ARG:HH11	1.71	0.56
80:DC:828:MET:SD	80:DC:828:MET:N	2.79	0.56
8:BJ:37:LYS:HZ1	8:BJ:126:ARG:HH21	1.52	0.56
12:BV:17:CYS:HB2	12:BV:56:SER:HB3	1.88	0.56
20:BF:62:VAL:HB	20:BF:89:ILE:HD13	1.87	0.56
21:BK:82:LEU:HD12	21:BK:83:PRO:HD2	1.88	0.56
34:B5:58:U:O2'	34:B5:451:A:N3	2.38	0.56
34:B5:1512:G:H2'	34:B5:1513:G:C8	2.41	0.56
34:B5:1585:U:OP2	34:B5:1610:G:N1	2.29	0.56
38:A1:561:C:H2'	38:A1:562:C:H6	1.70	0.56
38:A1:2094:C:H2'	38:A1:2095:G:H8	1.70	0.56
65:Ac:75:ASN:ND2	78:Ap:43:GLY:O	2.39	0.56
80:DC:147:LEU:HD21	80:DC:153:PRO:HG3	1.86	0.56
80:DC:415:GLY:O	80:DC:477:ASN:ND2	2.38	0.56
80:DC:432:GLN:HB2	80:DC:458:GLY:HA3	1.87	0.56
80:DC:565:GLU:HB2	80:DC:681:MET:HE1	1.87	0.56
1:BA:200:ASP:HA	1:BA:203:PHE:CD2	2.40	0.55
2:BB:105:PHE:HZ	2:BB:211:HIS:CD2	2.24	0.55
3:BC:53:ILE:HA	3:BC:72:LEU:HD13	1.88	0.55
3:BC:106:ASP:OD1	3:BC:107:SER:N	2.40	0.55
3:BC:230:TRP:CD2	13:BW:68:ARG:HD2	2.41	0.55
9:BL:45:PRO:HG3	9:BL:115:PHE:HE1	1.71	0.55
11:BO:92:LYS:NZ	11:BO:121:VAL:HG23	2.21	0.55
20:BF:40:ILE:HA	20:BF:69:PHE:CE1	2.41	0.55
30:Bd:13:ARG:NH2	34:B5:1554:U:OP1	2.39	0.55
34:B5:5:U:H2'	34:B5:6:G:C8	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:861:U:H3'	34:B5:862:A:C8	2.41	0.55
34:B5:921:U:H2'	34:B5:922:G:C8	2.41	0.55
34:B5:1661:U:H2'	34:B5:1662:G:C8	2.41	0.55
37:AC:311:HIS:NE2	43:AF:162:PRO:HG3	2.20	0.55
38:A1:16:A:H4'	60:AX:45:LYS:HE2	1.88	0.55
38:A1:1257:C:N4	38:A1:1262:G:OP2	2.35	0.55
41:AD:85:ARG:NH1	41:AD:86:TYR:OH	2.39	0.55
80:DC:220:PHE:HA	80:DC:333:ALA:HB1	1.88	0.55
3:BC:81:MET:HB2	3:BC:101:VAL:HG23	1.88	0.55
5:BG:52:ILE:HD12	5:BG:109:LEU:HD21	1.87	0.55
6:BH:64:VAL:HG23	6:BH:67:LEU:HD23	1.88	0.55
8:BJ:62:ARG:HB2	8:BJ:69:ARG:HD2	1.88	0.55
8:BJ:152:SER:O	8:BJ:156:ILE:HG13	2.05	0.55
13:BW:100:GLY:HA2	13:BW:130:TYR:HB3	1.86	0.55
19:BD:162:GLN:NE2	34:B5:1333:C:O2'	2.39	0.55
24:BR:52:GLY:HA3	34:B5:1389:C:O2'	2.06	0.55
25:BS:126:ARG:HB3	25:BS:133:VAL:HG12	1.88	0.55
34:B5:1382:A:HO2'	34:B5:1383:G:H5''	1.71	0.55
34:B5:1432:U:H4'	34:B5:1433:G:H5''	1.88	0.55
34:B5:1684:U:O2	34:B5:1717:G:N2	2.34	0.55
38:A1:307:A:H2'	38:A1:308:A:C8	2.41	0.55
38:A1:436:A:N1	38:A1:624:G:C2	2.74	0.55
38:A1:1312:C:O2'	51:AO:83[A]:ALA:O	2.23	0.55
38:A1:3232:G:O6	38:A1:3255:U:C2	2.59	0.55
45:AH:170:LYS:HB3	45:AH:175:PHE:CD1	2.41	0.55
56:AT:19:PHE:CE1	56:AT:20:ARG:HG3	2.41	0.55
80:DC:588:LEU:HA	80:DC:689:LEU:H	1.72	0.55
6:BH:22:GLN:HA	6:BH:25:VAL:HG22	1.87	0.55
13:BW:7:LEU:HA	13:BW:34:ILE:HD11	1.87	0.55
21:BK:17:GLN:NE2	21:BK:18:GLU:HG2	2.21	0.55
28:BZ:44:GLN:O	28:BZ:48:ASP:N	2.25	0.55
31:Bg:270:LEU:HD21	31:Bg:273:ASP:HB2	1.86	0.55
34:B5:431:C:H4'	80:DC:392:GLY:HA3	1.89	0.55
36:AB:106:TRP:HB2	36:AB:133:TYR:HE2	1.71	0.55
38:A1:286:U:O2'	50:AN:179:LYS:O	2.24	0.55
38:A1:801:A:H61	48:AL:19:GLN:HE22	1.54	0.55
38:A1:1595:U:O2'	38:A1:1606:U:O2	2.21	0.55
38:A1:2437:G:O2'	38:A1:2438:A:OP1	2.21	0.55
50:AN:65:ARG:HG2	50:AN:127:TYR:CD1	2.41	0.55
54:AR:40:ALA:HA	54:AR:43:LYS:HE3	1.86	0.55
73:Ak:8:ILE:HD11	73:Ak:61:LYS:HD3	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:BN:33:VAL:O	10:BN:37:ILE:HD12	2.06	0.55
19:BD:130:GLY:O	19:BD:194:LYS:NZ	2.37	0.55
34:B5:74:U:O2'	34:B5:76:A:OP2	2.15	0.55
35:AA:7:ASN:HB2	38:A1:2183:A:H5''	1.87	0.55
35:AA:206:PRO:HG3	35:AA:213:GLY:HA3	1.88	0.55
36:AB:47:LEU:HD22	36:AB:335:ILE:HD11	1.87	0.55
38:A1:289:A:H2'	38:A1:290:G:H8	1.70	0.55
38:A1:1493:G:C4	74:A1:13:MET:HE1	2.42	0.55
38:A1:2180:G:H2'	38:A1:2181:C:C6	2.40	0.55
38:A1:2345:A:H5''	66:Ad:24:SER:HB2	1.88	0.55
38:A1:3017:A:H2'	38:A1:3018:C:C6	2.41	0.55
41:AD:23:ARG:NH1	41:AD:23:ARG:O	2.40	0.55
41:AD:264:GLN:OE1	41:AD:264:GLN:N	2.37	0.55
47:AJ:92:ARG:HE	47:AJ:174:LYS:HD3	1.69	0.55
47:AJ:110:ILE:H	47:AJ:110:ILE:HD12	1.71	0.55
52:AP:24:VAL:HG21	52:AP:87:SER:HA	1.89	0.55
62:AZ:57:HIS:HB3	62:AZ:61:LYS:HB3	1.86	0.55
80:DC:130:ASP:OD1	80:DC:131:THR:N	2.39	0.55
80:DC:702:GLY:HA2	80:DC:705:ILE:HG22	1.89	0.55
2:BB:220:GLN:OE1	2:BB:220:GLN:N	2.39	0.55
20:BF:219:ARG:NH1	81:EC:6844:A:O4'	2.40	0.55
34:B5:829:A:H2'	34:B5:830:U:C6	2.42	0.55
34:B5:1172:G:H2'	34:B5:1173:C:C6	2.42	0.55
34:B5:1267:G:H1	34:B5:1442:U:H3	1.53	0.55
38:A1:207:U:H2'	38:A1:208:C:C6	2.41	0.55
38:A1:876:A:H4'	38:A1:1890:U:H4'	1.88	0.55
38:A1:1012:G:H2'	38:A1:1013:G:C8	2.41	0.55
38:A1:2282:U:OP1	38:A1:2973:G:O2'	2.24	0.55
38:A1:2328:U:H2'	38:A1:2329:C:C6	2.42	0.55
38:A1:3105:U:OP2	38:A1:3128:G:N1	2.29	0.55
38:A1:3204:C:H2'	38:A1:3205:G:C8	2.42	0.55
40:A4:40:A:OP2	40:A4:103:G:N1	2.39	0.55
52:AP:116:HIS:HB3	52:AP:149:VAL:HG22	1.89	0.55
54:AR:21:LYS:HE3	54:AR:55:VAL:HG12	1.89	0.55
79:E:68:PHE:HB3	79:E:116:LEU:HD22	1.88	0.55
80:DC:111:PHE:HZ	80:DC:540:ILE:HG21	1.71	0.55
2:BB:105:PHE:HD1	2:BB:213:ARG:HA	1.72	0.55
4:BE:139:VAL:HG13	4:BE:150:PRO:HG3	1.89	0.55
17:Bb:31:TYR:OH	17:Bb:70:LYS:NZ	2.28	0.55
27:BU:103:ILE:HA	27:BU:106:ILE:HG22	1.89	0.55
34:B5:1291:G:H1	34:B5:1324:G:H22	1.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:258:G:C2	38:A1:259:C:C2	2.95	0.55
38:A1:748:U:H5''	64:Ab:31:SER:HA	1.88	0.55
38:A1:1116:G:N2	38:A1:2817:A:O4'	2.40	0.55
38:A1:2366:C:H2'	38:A1:2367:A:C8	2.42	0.55
38:A1:2484:A:H2'	38:A1:2485:A:H8	1.71	0.55
45:AH:163:GLN:HB3	45:AH:166:ARG:HH21	1.72	0.55
57:AU:28:PHE:CE2	57:AU:84:LEU:HD21	2.41	0.55
60:AX:85:GLN:HE21	60:AX:119:THR:HB	1.72	0.55
70:Ah:118:ILE:HG22	70:Ah:120:ALA:H	1.72	0.55
80:DC:447:ASP:OD2	80:DC:448:CYS:N	2.40	0.55
2:BB:97:LEU:HD23	2:BB:232:HIS:CD2	2.42	0.55
3:BC:140:ARG:HB3	3:BC:221:THR:HB	1.88	0.55
8:BJ:132:ARG:HG2	8:BJ:140:ILE:HG21	1.88	0.55
15:BY:35:VAL:HG23	15:BY:40:LEU:HD11	1.88	0.55
15:BY:39:GLU:HA	15:BY:42:GLU:HG2	1.89	0.55
15:BY:62:THR:O	34:B5:531:C:O2'	2.22	0.55
18:Be:10:ARG:HH11	34:B5:567:A:H5'	1.72	0.55
18:Be:39:LEU:HG	18:Be:42:ARG:HH21	1.72	0.55
21:BK:25:LYS:HD3	21:BK:62:GLN:HB2	1.89	0.55
31:Bg:257:ALA:HA	31:Bg:288:HIS:HB2	1.87	0.55
34:B5:5:U:O2'	34:B5:553:G:H4'	2.06	0.55
34:B5:680:U:O2	34:B5:682:C:N4	2.38	0.55
37:AC:34:ILE:HG21	37:AC:120:TYR:CD2	2.40	0.55
38:A1:266:A:OP1	50:AN:5:LYS:NZ	2.40	0.55
38:A1:2894:C:H5'	45:AH:168:ARG:CZ	2.37	0.55
38:A1:3027:A:N6	80:DC:782:GLY:HA2	2.21	0.55
43:AF:156:ILE:HD13	43:AF:161:VAL:HB	1.88	0.55
47:AJ:17:LEU:HD21	47:AJ:80:LEU:HB3	1.88	0.55
54:AR:177:VAL:HA	54:AR:180:LYS:HB3	1.89	0.55
5:BG:154:ARG:NH2	34:B5:78:A:OP1	2.40	0.55
7:BI:31:ARG:NH1	34:B5:332:U:OP1	2.33	0.55
7:BI:137:LYS:O	34:B5:190:C:N4	2.39	0.55
33:BM:64:SER:HB3	33:BM:90:LYS:HB3	1.89	0.55
34:B5:145:A:O2'	34:B5:146:U:H5''	2.07	0.55
34:B5:446:A:N6	34:B5:461:G:H21	2.05	0.55
34:B5:1333:C:H2'	34:B5:1334:U:C6	2.41	0.55
34:B5:1733:C:H2'	34:B5:1734:U:H6	1.72	0.55
36:AB:211:GLN:NE2	36:AB:283:TYR:O	2.33	0.55
55:AS:90:MET:HE2	55:AS:92:LYS:HD2	1.89	0.55
58:AV:13:ILE:HD13	58:AV:54:LEU:HB3	1.88	0.55
80:DC:393:ARG:HA	80:DC:510:ARG:HH12	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:EC:6790:A:O2'	81:EC:6881:U:OP2	2.21	0.55
2:BB:34:ALA:HB2	2:BB:43:VAL:HG23	1.87	0.55
2:BB:82:ARG:NH2	2:BB:189:ILE:HA	2.21	0.55
2:BB:183:GLN:NE2	2:BB:187:LYS:HD3	2.22	0.55
4:BE:49:ARG:NH2	34:B5:448:C:OP1	2.21	0.55
6:BH:114:ARG:HD2	34:B5:860:U:C1'	2.37	0.55
8:BJ:82:ARG:NE	8:BJ:149:ARG:HD3	2.22	0.55
9:BL:148:LYS:NZ	34:B5:809:A:OP1	2.40	0.55
34:B5:172:C:H2'	34:B5:173:A:C8	2.42	0.55
38:A1:288:C:H2'	38:A1:289:A:C8	2.41	0.55
38:A1:1340:G:H2'	38:A1:1341:U:C6	2.42	0.55
38:A1:2180:G:H2'	38:A1:2181:C:H6	1.72	0.55
38:A1:2451:G:H2'	38:A1:2452:G:C8	2.41	0.55
38:A1:2565:U:H3	38:A1:2576:G:H1	1.54	0.55
45:AH:90:MET:HG2	45:AH:181:VAL:HA	1.89	0.55
47:AJ:21:ILE:HD13	47:AJ:67:VAL:HG23	1.88	0.55
56:AT:93:VAL:HA	56:AT:96:ILE:HG22	1.89	0.55
61:AY:118:LEU:HD12	61:AY:121:ARG:HD2	1.88	0.55
80:DC:586:ILE:HD11	80:DC:705:ILE:HD11	1.89	0.55
2:BB:155:TYR:OH	34:B5:932:U:OP2	2.20	0.55
6:BH:144:VAL:HA	13:BW:42:GLN:NE2	2.22	0.55
33:BM:88:LEU:HD21	33:BM:90:LYS:HE3	1.89	0.55
38:A1:515:C:H2'	38:A1:516:A:H8	1.72	0.55
38:A1:807:A:H61	38:A1:934:G:H22	1.54	0.55
38:A1:3110:C:H2'	38:A1:3111:U:C6	2.41	0.55
40:A4:42:G:O6	72:Aj:65:ARG:NH2	2.39	0.55
40:A4:80:A:O2'	40:A4:83:C:N4	2.37	0.55
55:AS:115:ARG:O	55:AS:117:ARG:NH1	2.40	0.55
57:AU:81:LYS:HE3	57:AU:90:ARG:HH12	1.72	0.55
80:DC:566:THR:OG1	80:DC:683:SER:OG	2.23	0.55
3:BC:144:TRP:CE2	3:BC:173:PRO:HG3	2.42	0.54
26:BT:14:PHE:HA	26:BT:139:THR:HG21	1.89	0.54
31:Bg:276:PRO:HG3	31:Bg:313:TRP:CZ2	2.42	0.54
34:B5:580:A:O2'	34:B5:582:U:OP2	2.21	0.54
34:B5:1773:4AC:OP1	76:An:3:ALA:HB3	2.07	0.54
36:AB:250:ALA:HB3	38:A1:2880:PSU:O4	2.07	0.54
37:AC:108:LYS:NZ	38:A1:665:A:OP2	2.40	0.54
38:A1:1411:C:H2'	38:A1:1412:G:H8	1.72	0.54
38:A1:2673:A:O2'	47:AJ:126:ASP:OD1	2.25	0.54
38:A1:3268:A:H5''	42:AE:46:ARG:HH12	1.72	0.54
47:AJ:16:LYS:HG2	47:AJ:130:VAL:HB	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:AL:24:VAL:HG22	50:AN:199:LEU:HB2	1.88	0.54
62:AZ:88:ASP:OD1	62:AZ:89:VAL:N	2.41	0.54
67:Ae:73:THR:HG23	67:Ae:95:GLU:CD	2.32	0.54
80:DC:174:LEU:O	80:DC:177:THR:OG1	2.22	0.54
2:BB:183:GLN:HE22	2:BB:187:LYS:HD3	1.71	0.54
8:BJ:61:THR:OG1	8:BJ:62:ARG:NH1	2.40	0.54
21:BK:16:PHE:CZ	21:BK:89:GLY:HA2	2.43	0.54
22:BP:107:ILE:HG23	22:BP:111:MET:HE2	1.88	0.54
23:BQ:99:GLU:HA	23:BQ:102:LYS:HB2	1.90	0.54
34:B5:144:U:H3	34:B5:171:A:H61	1.55	0.54
34:B5:1393:C:H2'	34:B5:1394:G:C8	2.42	0.54
38:A1:70:A:H2	38:A1:72:C:H42	1.55	0.54
38:A1:415:G:H2'	38:A1:416:A:H8	1.72	0.54
38:A1:1083:G:H2'	38:A1:1084:A:H8	1.72	0.54
38:A1:1084:A:H5''	56:AT:35:LYS:HE3	1.88	0.54
38:A1:1225:A:H3'	38:A1:1226:G:C8	2.41	0.54
38:A1:1464:G:N2	38:A1:1467:A:OP2	2.37	0.54
38:A1:2223:A:H2'	38:A1:2224:A:C8	2.42	0.54
44:AG:42:PRO:HD2	44:AG:44:ARG:NH2	2.22	0.54
46:AI:141:LYS:HD2	46:AI:142:ASP:N	2.20	0.54
52:AP:127:ARG:HB2	52:AP:139:TYR:O	2.07	0.54
67:Ae:74:PHE:HD2	67:Ae:85:LEU:HD11	1.71	0.54
80:DC:26:ALA:HB3	80:DC:32:LYS:HD3	1.89	0.54
80:DC:709:MET:HA	80:DC:712:ALA:HB3	1.89	0.54
8:BJ:149:ARG:HG2	34:B5:765:G:O6	2.07	0.54
9:BL:2:SER:HA	9:BL:53:TYR:HD1	1.72	0.54
14:BX:6:PRO:HG3	14:BX:14:LYS:HG3	1.89	0.54
20:BF:76:ARG:HH22	23:BQ:121:SER:H	1.52	0.54
34:B5:397:A:H2'	34:B5:398:G:O4'	2.06	0.54
34:B5:654:C:N4	34:B5:678:A:OP2	2.39	0.54
34:B5:1613:U:H2'	34:B5:1614:A:H8	1.73	0.54
36:AB:15:GLY:O	38:A1:3009:G:N2	2.35	0.54
38:A1:563:U:OP2	55:AS:71:LYS:NZ	2.40	0.54
38:A1:2465:G:H3'	38:A1:2466:G:H8	1.72	0.54
38:A1:3193:C:H2'	38:A1:3194:C:C6	2.42	0.54
41:AD:64:ILE:HD12	41:AD:144:VAL:HG21	1.88	0.54
44:AG:74:THR:HG23	71:AI:47:ILE:HD11	1.89	0.54
60:AX:106:ASP:H	60:AX:130:TYR:HE2	1.56	0.54
80:DC:280:PRO:HB2	80:DC:303:LEU:HD11	1.89	0.54
80:DC:377:ASP:OD1	80:DC:471:THR:OG1	2.24	0.54
4:BE:72:VAL:N	4:BE:75:LYS:O	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:BI:37:LYS:HB2	7:BI:59:ARG:HG2	1.90	0.54
7:BI:114:GLU:HG3	7:BI:120:THR:HA	1.89	0.54
7:BI:172:ARG:NH2	34:B5:331:A:N7	2.55	0.54
9:BL:16:GLN:NE2	9:BL:34:TRP:O	2.29	0.54
11:BO:46:MET:HG3	34:B5:899:G:H4'	1.87	0.54
34:B5:1220:C:H2'	34:B5:1221:A:H8	1.72	0.54
34:B5:1782:MA6:H4'	76:An:1:MET:HE1	1.89	0.54
38:A1:178:U:H2'	38:A1:179:C:H6	1.70	0.54
38:A1:1717:U:H2'	38:A1:1718:G:H8	1.73	0.54
38:A1:1798:A:H2'	38:A1:1799:A:C8	2.42	0.54
38:A1:2926:A:H2'	38:A1:2927:C:C6	2.43	0.54
38:A1:3169:U:O2'	38:A1:3170:A:H2'	2.07	0.54
44:AG:226:TYR:HA	44:AG:229:VAL:HG12	1.90	0.54
80:DC:694:HIS:NE2	80:DC:699:DDE:HD2	2.23	0.54
6:BH:5:GLN:HE22	6:BH:22:GLN:N	2.06	0.54
9:BL:79:LYS:HB2	9:BL:80:MET:HE2	1.90	0.54
17:Bb:51:GLN:NE2	34:B5:870:C:O2	2.41	0.54
23:BQ:140:LYS:NZ	34:B5:1159:C:O2	2.39	0.54
24:BR:34:LEU:O	24:BR:38:ILE:HG12	2.08	0.54
28:BZ:80:LEU:HD12	28:BZ:101:TYR:CD1	2.43	0.54
34:B5:105:A:N6	34:B5:308:C:O2	2.40	0.54
34:B5:1116:A:OP1	76:An:17:ARG:NH2	2.35	0.54
34:B5:1229:G:HO2'	34:B5:1255:G:H22	1.50	0.54
37:AC:234:ASN:HB2	38:A1:693:A:O2'	2.07	0.54
38:A1:20:A:H2'	38:A1:21:G:C8	2.43	0.54
38:A1:1294:A:O2'	38:A1:1295:G:H5''	2.08	0.54
38:A1:1311:G:N2	51:AO:86[A]:GLY:O	2.33	0.54
38:A1:1563:C:H4'	38:A1:1563:C:OP1	2.07	0.54
38:A1:2448:G:N1	38:A1:2499:U:C2	2.75	0.54
63:Aa:72:VAL:HG23	63:Aa:113:LEU:HD23	1.88	0.54
74:Al:27:ILE:O	74:Al:33:ASN:ND2	2.40	0.54
79:E:48:ARG:HG3	79:E:159:LEU:HB3	1.90	0.54
1:BA:111:ILE:HD11	34:B5:1292:G:H21	1.72	0.54
1:BA:195:TRP:CH2	1:BA:197:ILE:HD12	2.42	0.54
18:Be:60:PRO:HD2	34:B5:559:C:H4'	1.88	0.54
23:BQ:99:GLU:HA	23:BQ:102:LYS:HE3	1.90	0.54
24:BR:3:ARG:NE	34:B5:1414:U:OP2	2.38	0.54
31:Bg:221:MET:SD	31:Bg:233:THR:OG1	2.65	0.54
34:B5:158:U:O2'	34:B5:160:C:O5'	2.24	0.54
34:B5:1665:U:O2	34:B5:1736:G:N2	2.35	0.54
34:B5:1740:A:H2'	34:B5:1741:U:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1072:G:H2'	38:A1:1073:U:C6	2.43	0.54
38:A1:1213:G:P	55:AS:137:ARG:HE	2.31	0.54
38:A1:1234:G:N7	38:A1:1262:G:H5'	2.22	0.54
38:A1:1392:G:H1'	38:A1:1418:A:N6	2.23	0.54
38:A1:2538:U:O4	38:A1:2541:U:O2'	2.23	0.54
40:A4:9:A:H2'	40:A4:10:A:C8	2.43	0.54
41:AD:32:GLN:NE2	41:AD:147:ASP:OD1	2.39	0.54
41:AD:39:GLN:NE2	41:AD:46:THR:OG1	2.38	0.54
47:AJ:110:ILE:HG21	47:AJ:120:ILE:HG21	1.90	0.54
51:AO:189[A]:ASP:OD1	51:AO:190[A]:VAL:N	2.39	0.54
60:AX:131:ASP:OD1	60:AX:134:ASP:N	2.36	0.54
80:DC:483:PHE:C	80:DC:485:VAL:H	2.15	0.54
80:DC:663:VAL:HA	80:DC:709:MET:HE1	1.89	0.54
81:EC:6887:G:H2'	81:EC:6888:A:C4	2.43	0.54
3:BC:142:GLY:N	3:BC:153:SER:O	2.30	0.54
4:BE:207:LEU:HD12	4:BE:219:VAL:HG22	1.90	0.54
6:BH:40:PRO:HA	54:AR:187:GLU:CD	2.33	0.54
8:BJ:159:ALA:HB3	8:BJ:162:SER:HB3	1.88	0.54
19:BD:127:MET:N	19:BD:127:MET:SD	2.81	0.54
23:BQ:72:GLY:O	34:B5:1482:C:O2'	2.21	0.54
25:BS:30:TYR:O	25:BS:33:THR:OG1	2.24	0.54
34:B5:14:C:H2'	34:B5:15:U:C6	2.42	0.54
34:B5:1035:G:H2'	34:B5:1036:A:C8	2.42	0.54
34:B5:1441:C:H2'	34:B5:1442:U:C6	2.42	0.54
34:B5:1580:C:H2'	34:B5:1581:C:C6	2.43	0.54
36:AB:35:ASP:HB3	36:AB:37:ARG:HD3	1.88	0.54
38:A1:11:A:H2'	38:A1:12:A:C8	2.42	0.54
38:A1:1448:U:OP1	52:AP:82:ARG:NH2	2.40	0.54
38:A1:1739:U:O2	69:Ag:41:ARG:NH1	2.40	0.54
38:A1:2129:PSU:H2'	38:A1:2130:G:C8	2.42	0.54
38:A1:2218:G:H2'	38:A1:2219:A:C8	2.43	0.54
38:A1:2526:C:H2'	38:A1:2527:G:H8	1.72	0.54
47:AJ:141:ARG:O	47:AJ:145:LYS:NZ	2.40	0.54
63:Aa:104:THR:OG1	63:Aa:126:LYS:O	2.21	0.54
80:DC:758:GLU:HG2	80:DC:767:THR:HG23	1.90	0.54
81:EC:6831:U:H1'	81:EC:6832:G:C8	2.42	0.54
7:BI:141:ARG:NH1	34:B5:190:C:O2	2.41	0.54
8:BJ:23:ARG:NH1	8:BJ:43:TYR:OH	2.40	0.54
22:BP:40:ARG:NH1	34:B5:1553:G:O6	2.38	0.54
34:B5:1280:4AC:H2'	34:B5:1281:G:H8	1.73	0.54
38:A1:394:G:N1	38:A1:397:A:OP2	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:625:G:H2'	38:A1:626:U:H6	1.71	0.54
38:A1:799:G:O2'	48:AL:18:TRP:NE1	2.39	0.54
38:A1:2901:G:O2'	38:A1:3024:A:N1	2.38	0.54
38:A1:3165:A:H3'	38:A1:3166:C:H5''	1.90	0.54
40:A4:59:A:H5''	40:A4:61:A:C8	2.43	0.54
44:AG:67:ILE:HD12	44:AG:237:ILE:HD11	1.90	0.54
45:AH:106:LYS:HG3	45:AH:111:PHE:CD2	2.42	0.54
54:AR:15:VAL:HG23	54:AR:17:VAL:HG22	1.90	0.54
55:AS:152:LEU:HB2	55:AS:172:TYR:CE2	2.43	0.54
57:AU:36:TYR:CD2	57:AU:83:TYR:HD1	2.25	0.54
3:BC:81:MET:HA	3:BC:81:MET:HE3	1.90	0.54
4:BE:211:LYS:NZ	4:BE:212:ASP:O	2.38	0.54
6:BH:117:THR:OG1	34:B5:638:U:O3'	2.26	0.54
6:BH:137:GLY:HA3	6:BH:153:LEU:HD12	1.89	0.54
6:BH:173:TYR:CE1	6:BH:179:LYS:HB3	2.43	0.54
12:BV:75:ASN:OD1	12:BV:76:ASP:N	2.41	0.54
20:BF:133:VAL:HA	20:BF:198:LEU:HD11	1.90	0.54
28:BZ:48:ASP:O	28:BZ:52:LYS:HG2	2.07	0.54
33:BM:125:ASN:C	33:BM:127:GLY:HA2	2.33	0.54
34:B5:483:A:H5''	34:B5:485:A:H62	1.73	0.54
34:B5:1080:U:H3	34:B5:1091:A:N6	2.00	0.54
34:B5:1085:G:N2	34:B5:1088:A:OP2	2.28	0.54
34:B5:1112:G:OP1	76:An:6:ARG:NH1	2.41	0.54
34:B5:1508:U:H2'	34:B5:1509:C:C6	2.43	0.54
37:AC:203:ARG:HD2	38:A1:1383:G:H5''	1.88	0.54
38:A1:1699:A:H2'	38:A1:1700:G:C8	2.42	0.54
38:A1:1750:A:H1'	38:A1:1752:A:N7	2.23	0.54
38:A1:1947:G:OP1	54:AR:136:ARG:NH1	2.41	0.54
38:A1:2699:G:H5''	56:AT:16:GLN:OE1	2.08	0.54
41:AD:194:LEU:O	41:AD:197:SER:OG	2.21	0.54
79:E:9:VAL:HA	79:E:12:HIS:CE1	2.43	0.54
80:DC:27:HIS:HD2	80:DC:138:GLN:HB3	1.72	0.54
80:DC:522:MET:N	80:DC:522:MET:SD	2.81	0.54
4:BE:72:VAL:HG23	4:BE:90:ILE:HG13	1.89	0.54
4:BE:89:VAL:HG12	4:BE:100:ARG:HE	1.72	0.54
6:BH:63:PRO:C	6:BH:65:PRO:HD3	2.33	0.54
8:BJ:37:LYS:HG3	8:BJ:38:ASN:H	1.71	0.54
14:BX:20:ARG:HG2	14:BX:20:ARG:HH11	1.73	0.54
14:BX:107:PHE:CD1	14:BX:123:LYS:HB3	2.43	0.54
25:BS:114:GLU:HA	25:BS:117:LYS:NZ	2.23	0.54
29:Bc:31:GLU:OE1	29:Bc:39:THR:OG1	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:617:U:H2'	34:B5:618:U:C6	2.42	0.54
34:B5:1351:G:H2'	34:B5:1352:G:C8	2.43	0.54
34:B5:1625:C:H2'	34:B5:1626:U:C6	2.43	0.54
34:B5:1755:A:H4'	34:B5:1756[A]:A:OP1	2.08	0.54
36:AB:85:VAL:HG12	36:AB:87:VAL:HG13	1.90	0.54
37:AC:317:PRO:C	37:AC:319:LYS:H	2.15	0.54
38:A1:19:U:H2'	38:A1:20:A:C8	2.43	0.54
38:A1:1194:G:H2'	38:A1:1195:A:C8	2.43	0.54
38:A1:1829:G:OP1	60:AX:96:LYS:NZ	2.41	0.54
38:A1:2094:C:H2'	38:A1:2095:G:C8	2.43	0.54
38:A1:2538:U:C6	38:A1:2543:U:H2'	2.43	0.54
38:A1:2671:A:O2'	47:AJ:98:ALA:N	2.40	0.54
38:A1:2674:A:H2'	38:A1:2675:C:O4'	2.07	0.54
38:A1:3026:G:N2	38:A1:3029:A:OP2	2.40	0.54
3:BC:129:ILE:HG22	3:BC:133:LYS:HD2	1.90	0.53
14:BX:54:LEU:HD11	14:BX:75:GLN:HB2	1.90	0.53
19:BD:191:ASP:HB3	19:BD:194:LYS:HG3	1.89	0.53
24:BR:3:ARG:HH21	34:B5:1413:U:H5'	1.73	0.53
34:B5:200:A:H2'	34:B5:201:G:C8	2.43	0.53
34:B5:430:G:H2'	80:DC:391:LYS:HG2	1.90	0.53
34:B5:1474:G:H2'	34:B5:1475:A:C8	2.44	0.53
38:A1:1461:A:H2'	38:A1:1462:A:H8	1.73	0.53
38:A1:1619:A:H2	38:A1:1825:G:H22	1.56	0.53
38:A1:1884:A:OP1	66:Ad:31:ARG:NH1	2.41	0.53
38:A1:2991:A:O2'	38:A1:3309:G:N7	2.41	0.53
38:A1:3193:C:H2'	38:A1:3194:C:H6	1.73	0.53
39:A3:28:C:H2'	39:A3:29:C:O4'	2.08	0.53
47:AJ:53:THR:HG22	47:AJ:60:ARG:HA	1.90	0.53
54:AR:81:ARG:HG2	54:AR:88:ARG:NH1	2.23	0.53
80:DC:201:GLN:O	80:DC:206:ARG:NH2	2.40	0.53
80:DC:808:PRO:HA	80:DC:816:GLY:HA2	1.89	0.53
2:BB:138:PHE:CD1	2:BB:214:LYS:HB3	2.42	0.53
6:BH:173:TYR:HE1	6:BH:179:LYS:HB3	1.72	0.53
7:BI:26:LYS:NZ	34:B5:399:A:OP2	2.42	0.53
24:BR:10:LYS:NZ	34:B5:1316:G:O2'	2.41	0.53
25:BS:144:ARG:HH22	34:B5:1461:C:H5''	1.74	0.53
34:B5:17:C:O2'	34:B5:1137:A:N1	2.36	0.53
34:B5:147:A:H3'	34:B5:148:A:H8	1.73	0.53
34:B5:1333:C:H2'	34:B5:1334:U:H6	1.71	0.53
34:B5:1367:G:N1	34:B5:1368:G:O6	2.41	0.53
34:B5:1433:G:H2'	34:B5:1434:U:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:AC:358:THR:HA	37:AC:361:HIS:CD2	2.43	0.53
38:A1:444:U:P	38:A1:445:G:H21	2.32	0.53
38:A1:1036:A:H2'	38:A1:1037:C:C6	2.42	0.53
38:A1:1219:C:O2'	38:A1:1286:A:N1	2.39	0.53
38:A1:1226:G:O2'	38:A1:1227:C:OP1	2.24	0.53
38:A1:3101:G:H2'	38:A1:3102:G:C8	2.42	0.53
43:AF:214:TRP:CE2	43:AF:219:LYS:HD2	2.43	0.53
48:AL:63:VAL:O	63:Aa:128:ARG:NH2	2.41	0.53
50:AN:31:ARG:NH2	50:AN:124:ASP:OD2	2.41	0.53
80:DC:738:GLN:OE1	80:DC:738:GLN:N	2.38	0.53
11:BO:92:LYS:HZ1	11:BO:121:VAL:HG23	1.73	0.53
21:BK:26:ASP:HB3	21:BK:39:ASN:HD22	1.72	0.53
31:Bg:133:VAL:HG23	31:Bg:141:LEU:HB2	1.91	0.53
34:B5:78:A:H2'	34:B5:79:C:C6	2.43	0.53
34:B5:258:C:H2'	34:B5:259:U:C6	2.43	0.53
34:B5:593:U:H4'	34:B5:595:G:H4'	1.90	0.53
38:A1:1104:G:H2'	38:A1:1105:A:C8	2.43	0.53
38:A1:1786:G:H2'	38:A1:1787:A:H8	1.71	0.53
38:A1:2265:C:H2'	38:A1:2266:PSU:C6	2.44	0.53
44:AG:160:ILE:HG22	50:AN:22:LEU:HD11	1.89	0.53
45:AH:10:ILE:HD11	45:AH:72:LYS:HA	1.91	0.53
47:AJ:48:SER:OG	47:AJ:66:ALA:HB3	2.07	0.53
52:AP:40:GLU:HA	52:AP:113:TYR:HA	1.90	0.53
66:Ad:54:GLU:HA	66:Ad:57:GLN:HG3	1.90	0.53
1:BA:180:GLU:HA	1:BA:183:ARG:HB2	1.90	0.53
2:BB:152:ARG:NH2	34:B5:1799:U:O3'	2.41	0.53
5:BG:3:LEU:HB2	5:BG:16:PHE:HB2	1.91	0.53
20:BF:95:ASN:OD1	34:B5:1612:U:H5'	2.09	0.53
23:BQ:118:ILE:HD12	34:B5:1410:A:H5''	1.91	0.53
34:B5:185:U:H2'	34:B5:186:C:C6	2.44	0.53
34:B5:591:A:H2'	34:B5:592:A:C8	2.43	0.53
36:AB:143:GLY:HA2	36:AB:146:ARG:HD3	1.89	0.53
38:A1:307:A:H2'	38:A1:308:A:H8	1.73	0.53
38:A1:435:C:N3	38:A1:436:A:N6	2.57	0.53
38:A1:1119:C:H2'	38:A1:1120:A:C8	2.41	0.53
38:A1:2511:A:H2'	38:A1:2512:C:H6	1.74	0.53
40:A4:52:A:H5'	74:Al:21:ARG:HH11	1.73	0.53
40:A4:57:C:H4'	40:A4:63:G:N7	2.23	0.53
40:A4:69:U:H2'	40:A4:70:G:O4'	2.08	0.53
69:Ag:44:CYS:HB2	69:Ag:81:CYS:HB3	1.90	0.53
73:Ak:61:LYS:HA	73:Ak:64:LYS:HD3	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:BB:32:ILE:HD11	2:BB:46:THR:HB	1.90	0.53
8:BJ:39:LYS:HD2	34:B5:592:A:OP1	2.09	0.53
11:BO:20:TYR:HB3	11:BO:27:PHE:HB2	1.90	0.53
11:BO:132:ARG:HG3	16:Ba:29:SER:OG	2.08	0.53
15:BY:60:PHE:HD1	34:B5:523:G:H5'	1.73	0.53
21:BK:77:ARG:HH21	21:BK:84:GLU:HG2	1.74	0.53
26:BT:18:TYR:HD1	26:BT:135:ILE:HG13	1.73	0.53
34:B5:520:A:H2'	34:B5:521:A:C8	2.44	0.53
36:AB:348:ARG:CZ	38:A1:3037:U:H5'	2.38	0.53
37:AC:98:ARG:HG3	37:AC:99:MET:O	2.09	0.53
37:AC:307:GLN:NE2	38:A1:1345:G:H21	2.07	0.53
38:A1:1589:A:H4'	69:Ag:11:ASN:HD21	1.72	0.53
40:A4:67:U:H2'	40:A4:68:G:C8	2.44	0.53
45:AH:101:VAL:HG12	45:AH:114:VAL:HG22	1.90	0.53
70:Ah:15:GLU:OE1	70:Ah:15:GLU:N	2.41	0.53
80:DC:413:ILE:HD12	80:DC:429:LYS:HD3	1.91	0.53
80:DC:729:PHE:HB2	80:DC:772:LEU:HB2	1.89	0.53
1:BA:102:PHE:O	1:BA:103:THR:OG1	2.26	0.53
1:BA:108:THR:HG22	34:B5:1294:G:H4'	1.91	0.53
2:BB:91:VAL:HA	2:BB:96:LEU:HA	1.90	0.53
4:BE:11:ARG:O	4:BE:12:LEU:HB3	2.08	0.53
6:BH:39:ARG:HB2	6:BH:40:PRO:HD3	1.90	0.53
7:BI:4:SER:HB3	7:BI:24:LYS:HD3	1.90	0.53
11:BO:57:PRO:O	11:BO:61:MET:HG3	2.08	0.53
20:BF:81:ARG:NH2	34:B5:1615:C:OP1	2.41	0.53
21:BK:26:ASP:CG	21:BK:29:GLN:HB2	2.33	0.53
26:BT:122:ARG:NH1	34:B5:1499:G:OP1	2.39	0.53
27:BU:65:ILE:HD11	30:Bd:31:ILE:HG21	1.90	0.53
31:Bg:90:ARG:HG2	31:Bg:99:THR:HG21	1.91	0.53
34:B5:434:G:N2	34:B5:437:A:OP2	2.41	0.53
34:B5:1625:C:H2'	34:B5:1626:U:H6	1.73	0.53
38:A1:159:A:H2'	38:A1:160:G:H8	1.72	0.53
38:A1:388:G:H1'	52:AP:97:ASN:HD21	1.72	0.53
38:A1:1022:U:O2	38:A1:1031:C:H2'	2.08	0.53
38:A1:1643:A:H2'	38:A1:1644:C:C2	2.43	0.53
38:A1:2228:A:H2'	38:A1:2229:A:C8	2.44	0.53
38:A1:2660:G:OP1	38:A1:2750:U:O2'	2.26	0.53
38:A1:3023:U:OP2	38:A1:3031:G:N1	2.36	0.53
38:A1:3182:G:H2'	38:A1:3183:A:C8	2.43	0.53
41:AD:187:THR:HG23	41:AD:189:GLU:HG3	1.89	0.53
42:AE:166:LYS:O	68:Af:6:ARG:NH2	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:AN:152:CYS:SG	70:Ah:92:LEU:HD21	2.49	0.53
52:AP:61:ARG:NH2	52:AP:76:PHE:O	2.41	0.53
77:Ao:6:LYS:HG3	77:Ao:94:GLY:HA3	1.90	0.53
80:DC:189:VAL:O	80:DC:193:ALA:HB2	2.09	0.53
80:DC:747:LEU:O	80:DC:752:GLY:N	2.33	0.53
5:BG:159:ARG:HG2	5:BG:172:ALA:HB2	1.90	0.53
7:BI:87:ASN:OD1	7:BI:88:ASN:N	2.41	0.53
14:BX:109:ARG:O	14:BX:112:LYS:HB3	2.09	0.53
25:BS:134:ARG:HD2	34:B5:1545:A:OP2	2.09	0.53
28:BZ:65:LEU:HB3	28:BZ:69:LEU:HD12	1.90	0.53
31:Bg:122:ILE:HG23	31:Bg:134:TRP:HB2	1.91	0.53
31:Bg:201:THR:OG1	31:Bg:241:PHE:O	2.18	0.53
34:B5:29:U:H2'	34:B5:30:G:C8	2.43	0.53
34:B5:215:A:H1'	34:B5:242:U:C4	2.44	0.53
34:B5:1175:U:H2'	34:B5:1176:G:C8	2.43	0.53
34:B5:1290:PSU:H2'	34:B5:1291:G:C8	2.44	0.53
34:B5:1682:U:O4	34:B5:1720:G:N2	2.42	0.53
38:A1:671:U:H2'	38:A1:672:A:H8	1.73	0.53
38:A1:748:U:H2'	38:A1:749:C:C6	2.44	0.53
38:A1:978:G:H1'	38:A1:979:U:H5	1.74	0.53
38:A1:1658:G:O4'	38:A1:1796:G:H2'	2.08	0.53
38:A1:2546:C:H2'	38:A1:2547:A:C8	2.43	0.53
42:AE:3:ALA:HB2	67:Ae:77:ALA:HB2	1.90	0.53
45:AH:99:ILE:HG21	45:AH:179:ILE:HD11	1.91	0.53
70:Ah:13:SER:OG	70:Ah:15:GLU:OE1	2.26	0.53
80:DC:72:SER:HB2	80:DC:106:PRO:HD2	1.90	0.53
80:DC:765:LEU:HG	80:DC:791:GLN:NE2	2.24	0.53
2:BB:202:LYS:HZ2	34:B5:1056:U:H2'	1.74	0.53
2:BB:202:LYS:NZ	34:B5:1056:U:H2'	2.24	0.53
8:BJ:37:LYS:NZ	8:BJ:126:ARG:HH21	2.07	0.53
14:BX:6:PRO:HG2	14:BX:15:LEU:HG	1.90	0.53
34:B5:52:U:H2'	34:B5:53:G:C8	2.44	0.53
34:B5:184:C:H2'	34:B5:185:U:H6	1.73	0.53
34:B5:368:U:H2'	34:B5:369:A:O4'	2.08	0.53
34:B5:902:G:H2'	34:B5:903:U:C6	2.43	0.53
34:B5:1132:A:H2'	34:B5:1133:A:H8	1.74	0.53
34:B5:1158:C:N4	34:B5:1163:A:H61	2.05	0.53
34:B5:1772:C:P	76:An:2:ARG:HD2	2.49	0.53
36:AB:58:ARG:HA	36:AB:357:LYS:HG3	1.91	0.53
38:A1:2323:G:O2'	38:A1:2325:G:OP2	2.20	0.53
38:A1:3308:C:O2'	52:AP:69:ARG:O	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:A3:56:A:H4'	47:AJ:152:HIS:HB2	1.91	0.53
41:AD:182:GLY:HA3	41:AD:194:LEU:HD23	1.91	0.53
50:AN:11:GLN:HE22	50:AN:44:ARG:HG2	1.74	0.53
2:BB:20:VAL:HG13	2:BB:21:VAL:HG23	1.90	0.53
7:BI:104:ILE:HG13	7:BI:105:ASP:N	2.20	0.53
13:BW:44:HIS:CE1	13:BW:101:TYR:HE2	2.27	0.53
15:BY:61:ARG:NH2	34:B5:531:C:O2	2.42	0.53
19:BD:106:LYS:HE3	19:BD:173:ARG:HD2	1.91	0.53
20:BF:71:ALA:HB3	20:BF:111:VAL:HG13	1.90	0.53
23:BQ:16:ALA:HB2	23:BQ:72:GLY:HA3	1.90	0.53
32:Bf:119:ARG:HH21	32:Bf:139:LEU:HD22	1.72	0.53
34:B5:698:U:O2'	34:B5:699:U:O4'	2.27	0.53
34:B5:1609:U:H2'	34:B5:1610:G:O4'	2.09	0.53
34:B5:1656:U:O2'	38:A1:2292:U:O2'	2.16	0.53
37:AC:82:THR:OG1	37:AC:85:SER:N	2.41	0.53
38:A1:1063:G:O2'	38:A1:1097:G:N2	2.41	0.53
38:A1:1095:U:N3	56:AT:127:GLN:OE1	2.36	0.53
38:A1:1214:U:H2'	38:A1:1215:U:C6	2.43	0.53
38:A1:1564:U:H2'	38:A1:1565:G:C8	2.43	0.53
38:A1:3186:A:N6	45:AH:58:HIS:O	2.37	0.53
42:AE:104:GLU:OE2	42:AE:104:GLU:N	2.39	0.53
79:E:49:PHE:HD2	79:E:193:LEU:HD23	1.74	0.53
80:DC:27:HIS:O	80:DC:32:LYS:NZ	2.41	0.53
80:DC:746:VAL:HG21	80:DC:780:PHE:HD1	1.72	0.53
2:BB:140:ILE:HB	2:BB:213:ARG:HD3	1.91	0.53
4:BE:42:LEU:HD12	4:BE:43:PRO:HD2	1.90	0.53
8:BJ:53:ARG:O	8:BJ:57:ARG:N	2.41	0.53
18:Be:55:ARG:C	18:Be:56:MET:HE2	2.33	0.53
23:BQ:30:LYS:HZ3	34:B5:1365:C:H5'	1.74	0.53
31:Bg:276:PRO:HG3	31:Bg:313:TRP:HZ2	1.72	0.53
34:B5:886:U:C2	34:B5:887:A:C8	2.97	0.53
34:B5:889:U:H2'	34:B5:890:C:C6	2.44	0.53
34:B5:1027:A:OP1	34:B5:1789:G:O2'	2.21	0.53
34:B5:1213:G:H1	34:B5:1450:U:H5	1.57	0.53
34:B5:1512:G:H2'	34:B5:1513:G:H8	1.72	0.53
37:AC:101:ALA:HA	38:A1:800:G:H22	1.73	0.53
38:A1:1493:G:O6	74:Al:2:ALA:N	2.42	0.53
38:A1:2251:G:N1	38:A1:2266:PSU:O2	2.42	0.53
38:A1:2837:A:P	38:A1:2845:A:H61	2.32	0.53
49:AM:116:GLU:OE1	51:AO:197[A]:LEU:HG	2.09	0.53
53:AQ:44:PHE:CD1	53:AQ:139:ILE:HD11	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:AZ:83:THR:HA	65:Ac:58:TYR:OH	2.09	0.53
80:DC:666:ALA:O	80:DC:670:ALA:N	2.41	0.53
1:BA:183:ARG:HD2	1:BA:191:ARG:NE	2.23	0.52
1:BA:199:PRO:HD2	24:BR:90:ALA:H	1.73	0.52
4:BE:200:ARG:NH1	34:B5:737:A:OP2	2.42	0.52
11:BO:46:MET:HG2	34:B5:898:A:H4'	1.91	0.52
34:B5:648:G:O6	34:B5:686:C:N4	2.23	0.52
35:AA:125:ALA:HB1	38:A1:2177:G:C6	2.44	0.52
36:AB:215:ILE:HG23	36:AB:282:ILE:HD11	1.90	0.52
38:A1:981:U:C2	64:Ab:25:LYS:HE3	2.44	0.52
38:A1:1268:G:N3	38:A1:1273:A:N6	2.56	0.52
38:A1:3034:C:H41	45:AH:121:LYS:HG3	1.73	0.52
38:A1:3290:G:H2'	38:A1:3291:G:C8	2.44	0.52
43:AF:111:ILE:HD12	43:AF:111:ILE:H	1.75	0.52
45:AH:171:ASP:OD1	45:AH:173:ARG:HG2	2.09	0.52
48:AL:89:TYR:OH	70:Ah:114:ARG:NH1	2.40	0.52
48:AL:136:GLU:OE1	48:AL:136:GLU:N	2.39	0.52
58:AV:32:ARG:NH1	58:AV:64:LYS:HB3	2.24	0.52
80:DC:225:PHE:HB3	80:DC:228:ARG:HH21	1.75	0.52
3:BC:49:LYS:NZ	3:BC:246:GLU:HG2	2.23	0.52
4:BE:31:PRO:HG3	4:BE:43:PRO:HG3	1.91	0.52
5:BG:5:ILE:HG22	5:BG:111:LEU:HB2	1.89	0.52
10:BN:104:ARG:NH2	34:B5:950:C:O2'	2.42	0.52
13:BW:114:GLU:OE1	13:BW:114:GLU:N	2.39	0.52
20:BF:84:LYS:HD2	20:BF:92:ARG:HH21	1.73	0.52
20:BF:110:ALA:HA	20:BF:113:ILE:HD12	1.91	0.52
28:BZ:46:LYS:O	28:BZ:50:ILE:N	2.33	0.52
34:B5:370:A:H3'	34:B5:371:G:H8	1.74	0.52
38:A1:1078:U:P	41:AD:140:ARG:HH22	2.32	0.52
38:A1:1523:U:OP2	38:A1:1604:G:O2'	2.26	0.52
38:A1:1534:A:H2'	38:A1:1535:A:C8	2.43	0.52
38:A1:1708:C:H2'	38:A1:1709:C:H6	1.73	0.52
38:A1:1729:A:N6	78:Ap:41:PHE:O	2.39	0.52
38:A1:2208:A:H2'	38:A1:2209:U:C6	2.44	0.52
38:A1:2447:A:H2'	38:A1:2448:G:C8	2.44	0.52
38:A1:2828:G:N1	38:A1:2863:G:H1'	2.24	0.52
38:A1:3248:C:H2'	38:A1:3249:C:C6	2.43	0.52
38:A1:3275:U:H5'	68:Af:68:TRP:HZ2	1.73	0.52
40:A4:36:G:C5	70:Ah:86:ARG:HD3	2.43	0.52
54:AR:8:LYS:HG2	54:AR:19:LYS:HG3	1.90	0.52
60:AX:103:TYR:HB3	60:AX:135:ILE:HD11	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:Ac:77:LEU:O	65:Ac:81:VAL:HG23	2.09	0.52
79:E:4:ILE:HD12	79:E:204:LEU:HD22	1.90	0.52
80:DC:621:ASP:OD1	80:DC:622:ASP:N	2.39	0.52
81:EC:6828:G:H2'	81:EC:6829:A:C8	2.44	0.52
1:BA:195:TRP:CE3	1:BA:197:ILE:HD11	2.43	0.52
4:BE:104:ASP:HB2	4:BE:110:ALA:HB2	1.90	0.52
6:BH:49:ILE:HD12	6:BH:175:LYS:HG2	1.92	0.52
8:BJ:123:HIS:NE2	18:Be:37:ARG:HD3	2.24	0.52
8:BJ:149:ARG:HG2	34:B5:765:G:C6	2.44	0.52
16:Ba:34:LYS:NZ	34:B5:1791:A:N7	2.58	0.52
30:Bd:56:ARG:NH1	30:Bd:56:ARG:HA	2.23	0.52
31:Bg:81:LEU:HD13	31:Bg:122:ILE:HD12	1.91	0.52
34:B5:739:G:N2	34:B5:739:G:OP2	2.42	0.52
34:B5:1080:U:O4	34:B5:1091:A:N7	2.43	0.52
34:B5:1632:C:O2'	34:B5:1638:G:O2'	2.22	0.52
35:AA:128:ARG:HG3	38:A1:2177:G:H2'	1.91	0.52
37:AC:5:GLN:HB3	37:AC:19:ALA:HB1	1.89	0.52
38:A1:929:A:H2'	38:A1:930:U:C6	2.45	0.52
38:A1:1329:U:O2'	38:A1:1330:A:O5'	2.27	0.52
38:A1:1809:A:H2'	38:A1:1810:A:O4'	2.09	0.52
38:A1:2427:U:H2'	38:A1:2428:U:C6	2.45	0.52
38:A1:2950:G:OP2	38:A1:2950:G:N2	2.38	0.52
38:A1:3007:U:H2'	38:A1:3008:A:H8	1.73	0.52
38:A1:3211:C:P	49:AM:109:ARG:HH12	2.33	0.52
38:A1:3212:C:OP2	49:AM:124:ARG:NH1	2.35	0.52
44:AG:50:VAL:HG21	60:AX:27:ARG:HD2	1.90	0.52
60:AX:105:VAL:HG23	60:AX:130:TYR:CD2	2.44	0.52
3:BC:41:LEU:HD21	3:BC:68:ILE:HG21	1.92	0.52
26:BT:22:LEU:HD12	26:BT:28:LEU:HD21	1.90	0.52
27:BU:74:GLU:OE1	34:B5:1428:G:N2	2.31	0.52
34:B5:15:U:O2'	34:B5:620:A:N6	2.42	0.52
38:A1:761:A:H2'	38:A1:762:U:C6	2.43	0.52
38:A1:1562:C:H3'	38:A1:1563:C:H5''	1.92	0.52
38:A1:1662:G:H22	38:A1:1787:A:H2	1.56	0.52
38:A1:1823:A:H2'	38:A1:1824:U:O4'	2.09	0.52
38:A1:2095:G:H2'	38:A1:2096:A:C8	2.44	0.52
38:A1:2926:A:H2'	38:A1:2927:C:H6	1.74	0.52
38:A1:3214:U:H1'	42:AE:166:LYS:HZ1	1.74	0.52
40:A4:97:A:OP1	70:Ah:67:ARG:NH2	2.42	0.52
80:DC:564:ARG:HG3	80:DC:725:GLN:HB3	1.91	0.52
32:Bf:88:PRO:O	34:B5:1445:G:N2	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:107:C:H2'	34:B5:108:A:C8	2.45	0.52
34:B5:1297:G:N2	34:B5:1300:A:OP2	2.38	0.52
34:B5:1593:A:H2'	34:B5:1594:G:C8	2.43	0.52
35:AA:62:VAL:HG11	35:AA:71:LEU:HD23	1.89	0.52
36:AB:21:ARG:HE	36:AB:269:GLN:NE2	2.07	0.52
38:A1:950:G:N1	38:A1:1368:U:OP2	2.36	0.52
38:A1:1334:U:H2'	38:A1:1335:C:H6	1.73	0.52
38:A1:1604:G:H4'	38:A1:1835:A:H4'	1.90	0.52
38:A1:2767:U:H2'	38:A1:2768:U:C6	2.45	0.52
38:A1:3199:G:H2'	38:A1:3200:G:H8	1.75	0.52
39:A3:1:G:H2'	39:A3:2:G:H8	1.75	0.52
41:AD:41:LYS:NZ	56:AT:30:TYR:O	2.42	0.52
44:AG:142:LEU:HD13	44:AG:201:THR:HG21	1.92	0.52
66:Ad:55:LEU:HB2	66:Ad:95:PRO:HD3	1.90	0.52
80:DC:629:ASP:HB3	80:DC:647:ILE:HD13	1.92	0.52
81:EC:6759:A:H2'	81:EC:6760:A:H8	1.74	0.52
81:EC:6835:U:H3'	81:EC:6848:U:O2'	2.10	0.52
81:EC:6856:C:HO2'	81:EC:6872:A:HO2'	1.50	0.52
1:BA:8:ASP:OD1	1:BA:9:LEU:N	2.37	0.52
4:BE:7:LYS:HD2	34:B5:450:U:H5''	1.92	0.52
11:BO:72:LYS:O	11:BO:73:GLU:HG3	2.10	0.52
20:BF:81:ARG:NH2	29:Bc:18:ARG:HH22	2.08	0.52
34:B5:752:A:O2'	34:B5:753:A:OP1	2.24	0.52
38:A1:938:C:OP2	63:Aa:26:ARG:NH1	2.42	0.52
38:A1:970:A:H2'	38:A1:971:G:C8	2.44	0.52
38:A1:1268:G:P	38:A1:1274:A:H61	2.32	0.52
38:A1:1817:G:C8	38:A1:1818:U:H5	2.28	0.52
38:A1:1909:A:H2'	38:A1:1910:A:C8	2.45	0.52
38:A1:2524:A:C5	44:AG:46:LEU:HD11	2.44	0.52
38:A1:2585:G:H21	44:AG:60:ARG:HH12	1.58	0.52
38:A1:2882:U:H2'	38:A1:2883:U:C6	2.44	0.52
38:A1:3387:U:H2'	38:A1:3388:C:C6	2.45	0.52
66:Ad:48:ASP:H	66:Ad:87:ASN:ND2	2.08	0.52
2:BB:194:ASN:HB3	2:BB:210:ILE:HG23	1.91	0.52
3:BC:111:VAL:HG11	3:BC:218:ILE:HD12	1.91	0.52
4:BE:176:ASP:HB3	4:BE:179:LYS:HE2	1.91	0.52
6:BH:141:ARG:HH21	6:BH:151:LYS:NZ	2.07	0.52
7:BI:172:ARG:NH1	34:B5:332:U:O4	2.41	0.52
8:BJ:143:ILE:HD13	34:B5:768:C:H1'	1.91	0.52
13:BW:24:GLN:HE22	17:Bb:5:GLN:N	2.03	0.52
24:BR:8:THR:HG21	34:B5:1330:G:H21	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BZ:77:ARG:NH1	34:B5:1533:C:OP2	2.42	0.52
31:Bg:211:ILE:HG23	31:Bg:223:TRP:HB2	1.92	0.52
33:BM:43:ARG:HH21	33:BM:103:LEU:HD22	1.75	0.52
34:B5:172:C:H2'	34:B5:173:A:H8	1.75	0.52
34:B5:196:G:H3'	34:B5:197:A:C8	2.45	0.52
34:B5:555:A:H2'	34:B5:556:A:C8	2.44	0.52
34:B5:1237:G:H2'	34:B5:1238:A:C8	2.44	0.52
38:A1:656:A:H2'	38:A1:657:A:H8	1.73	0.52
38:A1:673:U:H2'	38:A1:674:G:C8	2.45	0.52
38:A1:2656:A:C5	38:A1:2658:G:C8	2.98	0.52
38:A1:3094:A:H2'	38:A1:3095:U:C6	2.44	0.52
38:A1:3183:A:H2'	38:A1:3184:A:C8	2.44	0.52
38:A1:3290:G:H2'	38:A1:3291:G:H8	1.74	0.52
42:AE:31:ARG:NH2	68:Af:107:ILE:O	2.35	0.52
48:AL:3:ILE:HG13	63:Aa:44:ASN:ND2	2.24	0.52
62:AZ:118:PHE:HD1	62:AZ:121:ARG:HD2	1.75	0.52
67:Ae:32:TRP:CZ2	67:Ae:53:PRO:HD2	2.44	0.52
69:Ag:74:ARG:NH2	69:Ag:82:ALA:HB2	2.24	0.52
69:Ag:99:LYS:O	69:Ag:103:LYS:HG2	2.09	0.52
4:BE:222:LEU:O	4:BE:225:VAL:HG22	2.08	0.52
8:BJ:18:PRO:C	8:BJ:19:TYR:HD2	2.17	0.52
9:BL:46:LYS:HA	9:BL:49:ILE:HD12	1.92	0.52
11:BO:38:THR:HG21	34:B5:895:G:H21	1.75	0.52
26:BT:18:TYR:HB2	26:BT:135:ILE:HG21	1.92	0.52
34:B5:17:C:H2'	34:B5:18:C:H6	1.74	0.52
34:B5:1497:U:C2	34:B5:1498:G:C8	2.97	0.52
34:B5:1561:U:H4'	34:B5:1599:C:H4'	1.91	0.52
34:B5:1649:G:H2'	34:B5:1650:U:C6	2.45	0.52
37:AC:48:GLN:NE2	38:A1:336:A:O2'	2.43	0.52
38:A1:638:C:N4	38:A1:639:G:O6	2.42	0.52
38:A1:770:G:OP1	48:AL:171:ARG:NH1	2.43	0.52
38:A1:952:A:H4'	38:A1:968:G:N2	2.25	0.52
38:A1:1394:A:OP1	67:Ae:98:HIS:NE2	2.40	0.52
38:A1:1650:G:H2'	38:A1:1651:U:C6	2.44	0.52
38:A1:1666:G:H2'	38:A1:1667:A:H8	1.74	0.52
38:A1:1689:U:OP1	54:AR:64:ARG:NH1	2.42	0.52
38:A1:1750:A:OP1	73:Ak:44:LYS:NZ	2.36	0.52
38:A1:2598:G:H2'	38:A1:2599:U:H6	1.75	0.52
38:A1:3007:U:H2'	38:A1:3008:A:C8	2.44	0.52
38:A1:3107:U:H2'	38:A1:3108:G:C8	2.45	0.52
38:A1:3116:G:OP1	38:A1:3116:G:N2	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:A3:16:U:H2'	39:A3:17:A:H8	1.74	0.52
42:AE:131:LYS:HB3	42:AE:133:GLU:HG2	1.91	0.52
58:AV:86:ARG:HD2	58:AV:92:PHE:CZ	2.44	0.52
68:Af:49:ILE:HG12	68:Af:100:ILE:HG12	1.91	0.52
80:DC:385:MET:HE1	80:DC:465:LYS:HA	1.92	0.52
81:EC:6809:G:H2'	81:EC:6810:U:C6	2.45	0.52
1:BA:139:VAL:HB	1:BA:141:ILE:HD11	1.90	0.52
4:BE:251:GLU:O	4:BE:255:ARG:HG3	2.10	0.52
5:BG:87:ARG:NH2	34:B5:160:C:H5''	2.25	0.52
6:BH:34:LEU:HA	6:BH:38:LEU:HD12	1.92	0.52
10:BN:3:ARG:NH1	34:B5:955:A:OP1	2.38	0.52
19:BD:76:ARG:HB2	21:BK:22:VAL:HG21	1.91	0.52
19:BD:209:ILE:O	24:BR:20:TYR:OH	2.13	0.52
31:Bg:103:PHE:CE1	31:Bg:138:GLY:HA2	2.44	0.52
31:Bg:149:ASP:CG	31:Bg:150:TRP:H	2.18	0.52
34:B5:1524:A:N3	34:B5:1590:G:O2'	2.38	0.52
34:B5:1628:U:H2'	34:B5:1629:G:C8	2.45	0.52
35:AA:242:ARG:NH2	35:AA:243:THR:O	2.43	0.52
37:AC:311:HIS:CG	37:AC:311:HIS:O	2.63	0.52
38:A1:745:C:H2'	38:A1:746:A:H8	1.74	0.52
38:A1:1106:G:OP1	64:Ab:22:LYS:NZ	2.32	0.52
38:A1:1750:A:H4'	38:A1:1751:G:H5'	1.91	0.52
38:A1:1831:U:O2'	40:A4:114:G:OP1	2.23	0.52
38:A1:2499:U:H2'	38:A1:2500:A:O4'	2.09	0.52
46:AI:58:GLU:O	46:AI:129:VAL:HG22	2.10	0.52
51:AO:113[A]:ASP:N	51:AO:113[A]:ASP:OD1	2.43	0.52
2:BB:157:GLN:O	2:BB:159:SER:N	2.42	0.52
13:BW:32:LYS:N	34:B5:637:C:OP1	2.31	0.52
13:BW:41:MET:SD	13:BW:129:VAL:HG11	2.50	0.52
31:Bg:242:SER:H	31:Bg:255:ALA:HB3	1.74	0.52
32:Bf:78:LYS:NZ	34:B5:1270:G:O2'	2.43	0.52
34:B5:431:C:C2	34:B5:432:G:C8	2.98	0.52
34:B5:472:U:O2'	34:B5:769:A:N3	2.39	0.52
34:B5:487:G:N2	34:B5:489:C:OP1	2.43	0.52
36:AB:215:ILE:HD12	36:AB:338:LEU:HD22	1.91	0.52
38:A1:560:G:H2'	38:A1:561:C:H6	1.75	0.52
38:A1:2684:C:H2'	38:A1:2685:C:C6	2.45	0.52
38:A1:2767:U:O2'	77:Ao:30:ALA:O	2.23	0.52
38:A1:2768:U:H2'	38:A1:2769:A:H8	1.75	0.52
39:A3:4:U:H2'	39:A3:5:G:C8	2.45	0.52
39:A3:14:U:H5	39:A3:66:A:N1	2.07	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:A4:2:A:C4	40:A4:3:A:C8	2.98	0.52
40:A4:78:G:H2'	40:A4:79:A:C8	2.44	0.52
43:AF:92:ILE:HB	53:AQ:4:ASP:OD1	2.10	0.52
45:AH:118:LEU:O	45:AH:118:LEU:HD23	2.10	0.52
51:AO:81[A]:TYR:CZ	51:AO:99[A]:LEU:HD12	2.45	0.52
54:AR:8:LYS:HE2	54:AR:24:LEU:HD12	1.91	0.52
58:AV:13:ILE:HB	58:AV:53:SER:HB3	1.91	0.52
58:AV:62:VAL:HG23	58:AV:70:ARG:HG2	1.92	0.52
68:Af:30:ILE:HG21	68:Af:100:ILE:HD11	1.92	0.52
80:DC:203:TYR:O	80:DC:208:THR:OG1	2.28	0.52
1:BA:121:VAL:HG23	1:BA:141:ILE:HG21	1.91	0.51
8:BJ:28:LEU:HD22	8:BJ:39:LYS:HZ1	1.75	0.51
27:BU:53:LYS:HE3	34:B5:1345:A:H4'	1.92	0.51
33:BM:62:LEU:HD22	33:BM:75:VAL:HG11	1.92	0.51
34:B5:393:C:H2'	34:B5:394:C:C6	2.45	0.51
35:AA:142:ASP:OD1	35:AA:142:ASP:N	2.43	0.51
35:AA:241:ARG:NH1	38:A1:2155:G:OP1	2.40	0.51
38:A1:632:G:H2'	38:A1:633:C:C6	2.45	0.51
38:A1:1104:G:OP1	53:AQ:11:LYS:NZ	2.39	0.51
38:A1:1134:G:O2'	38:A1:2642:A:N3	2.38	0.51
38:A1:1238:C:H4'	38:A1:1239:C:OP1	2.10	0.51
38:A1:1785:U:H2'	38:A1:1786:G:H8	1.73	0.51
38:A1:2457:G:H21	38:A1:2483:G:H1'	1.74	0.51
47:AJ:12:LEU:HD23	47:AJ:133:ARG:HB3	1.92	0.51
50:AN:126:THR:HG23	50:AN:127:TYR:CD2	2.46	0.51
54:AR:23:TRP:HB3	54:AR:51:VAL:HG22	1.91	0.51
59:AW:6:ASP:OD2	59:AW:32:GLN:N	2.40	0.51
7:BI:90:LEU:HD22	7:BI:95:THR:HG21	1.92	0.51
7:BI:141:ARG:NH2	34:B5:196:G:N7	2.58	0.51
8:BJ:29:LYS:HD2	18:Be:40:TYR:HE1	1.74	0.51
16:Ba:82:ARG:HG3	16:Ba:85:ARG:HH22	1.75	0.51
19:BD:179:GLN:OE1	19:BD:179:GLN:N	2.42	0.51
23:BQ:102:LYS:NZ	31:Bg:60:SER:OG	2.39	0.51
28:BZ:48:ASP:HB3	28:BZ:52:LYS:HE2	1.92	0.51
34:B5:305:C:H2'	34:B5:306:U:C6	2.45	0.51
34:B5:451:A:N6	34:B5:453:U:O2	2.43	0.51
38:A1:1174:G:H2'	38:A1:1175:C:C6	2.44	0.51
38:A1:1729:A:N6	78:Ap:42:CYS:HA	2.25	0.51
38:A1:1807:G:O2'	38:A1:2559:U:O4	2.25	0.51
38:A1:2413:A:H2'	38:A1:2414:G:C8	2.44	0.51
38:A1:2585:G:H21	44:AG:60:ARG:NH1	2.07	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:3226:A:N1	38:A1:3260:G:C6	2.78	0.51
40:A4:75:G:H2'	40:A4:76:C:C6	2.45	0.51
47:AJ:54:VAL:HG21	47:AJ:57:PHE:HB2	1.92	0.51
55:AS:115:ARG:HH11	55:AS:115:ARG:HG2	1.75	0.51
80:DC:71:LYS:HG2	80:DC:72:SER:H	1.74	0.51
80:DC:107:GLY:HA3	80:DC:138:GLN:NE2	2.25	0.51
80:DC:517:CYS:SG	80:DC:518:VAL:N	2.83	0.51
1:BA:13:ASP:OD1	1:BA:14:ALA:N	2.43	0.51
11:BO:83:ILE:N	11:BO:116:GLU:O	2.41	0.51
15:BY:131:ARG:CZ	34:B5:153:G:H5'	2.40	0.51
17:Bb:33:LEU:HD12	17:Bb:79:PHE:HB2	1.92	0.51
20:BF:143:ARG:NH2	29:Bc:54:LEU:HB3	2.25	0.51
25:BS:35:ILE:HG23	25:BS:102:ALA:HB2	1.92	0.51
34:B5:428:A:N3	34:B5:440:U:O2'	2.31	0.51
34:B5:449:C:H2'	34:B5:450:U:C6	2.45	0.51
34:B5:1317:C:H2'	34:B5:1318:G:O4'	2.10	0.51
38:A1:158:G:H2'	38:A1:159:A:C8	2.43	0.51
38:A1:598:A:H2'	38:A1:599:C:C6	2.45	0.51
38:A1:1942:U:H2'	38:A1:1943:C:O4'	2.10	0.51
38:A1:2341:A:H2'	38:A1:2342:U:C6	2.46	0.51
38:A1:2389:C:H2'	38:A1:2390:A:H8	1.75	0.51
44:AG:73:PRO:HD3	44:AG:233:TRP:CE2	2.45	0.51
47:AJ:81:GLU:HB2	47:AJ:167:TYR:OH	2.11	0.51
50:AN:119:TYR:OH	50:AN:131:GLU:OE1	2.18	0.51
63:Aa:74:ASN:HB3	63:Aa:115:LYS:HB2	1.93	0.51
66:Ad:48:ASP:H	66:Ad:87:ASN:HD21	1.58	0.51
81:EC:6812:C:H2'	81:EC:6813:A:C8	2.45	0.51
7:BI:28:GLU:OE1	7:BI:28:GLU:N	2.44	0.51
8:BJ:32:GLY:HA3	18:Be:40:TYR:CG	2.45	0.51
8:BJ:144:PRO:HD2	34:B5:474:A:H5''	1.91	0.51
19:BD:7:LYS:HA	19:BD:10:LYS:HG2	1.91	0.51
31:Bg:70:ASP:OD1	31:Bg:71:CYS:N	2.43	0.51
35:AA:194:ASN:HD22	38:A1:822:G:H4'	1.74	0.51
38:A1:853:G:O6	78:Ap:2:ALA:N	2.43	0.51
38:A1:1616:U:H2'	38:A1:1617:G:C8	2.46	0.51
38:A1:2680:A:C2	47:AJ:57:PHE:HB3	2.45	0.51
38:A1:2801:A:O2'	38:A1:2802:A:H2'	2.10	0.51
38:A1:2916:U:H2'	38:A1:2917:G:H8	1.75	0.51
38:A1:3009:G:H5''	51:AO:66[A]:LYS:HD2	1.92	0.51
38:A1:3163:A:N6	38:A1:3288:G:C6	2.79	0.51
44:AG:91:PHE:CE2	44:AG:185:ARG:HB3	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AJ:54:VAL:HG22	47:AJ:59:ILE:HB	1.92	0.51
52:AP:40:GLU:CD	52:AP:40:GLU:H	2.18	0.51
78:Ap:27:LYS:O	78:Ap:31:ILE:HG13	2.10	0.51
80:DC:205:ALA:HA	80:DC:222:ILE:HD11	1.93	0.51
3:BC:230:TRP:CE2	13:BW:68:ARG:HD2	2.45	0.51
34:B5:103:A:H4'	34:B5:105:A:C8	2.46	0.51
34:B5:183:U:H2'	34:B5:184:C:C6	2.46	0.51
34:B5:1531:G:H2'	34:B5:1532:U:C6	2.45	0.51
37:AC:193:LYS:NZ	38:A1:1420:C:OP2	2.39	0.51
38:A1:444:U:O4	38:A1:491:A:O2'	2.23	0.51
38:A1:1234:G:H5''	38:A1:1263:A:OP1	2.10	0.51
38:A1:1942:U:OP2	54:AR:74:ARG:NE	2.43	0.51
38:A1:3160:U:H2'	38:A1:3161:C:C6	2.45	0.51
40:A4:142:C:H2'	40:A4:143:U:C6	2.45	0.51
60:AX:47:ALA:HB3	60:AX:50:ALA:HA	1.91	0.51
79:E:115:VAL:HG13	79:E:116:LEU:HD12	1.91	0.51
80:DC:350:ALA:O	80:DC:370:LYS:NZ	2.43	0.51
81:EC:6847:G:H4'	81:EC:6848:U:OP1	2.10	0.51
81:EC:6863:C:H2'	81:EC:6864:A:C5	2.46	0.51
2:BB:59:ASP:HA	2:BB:62:LYS:HD3	1.93	0.51
2:BB:82:ARG:HH22	2:BB:189:ILE:HA	1.76	0.51
5:BG:135:PRO:HA	34:B5:167:U:H5''	1.91	0.51
8:BJ:136:VAL:HG21	8:BJ:141:VAL:HB	1.93	0.51
13:BW:111:MET:HE1	13:BW:119:LYS:HG3	1.93	0.51
34:B5:743:U:H2'	34:B5:744:U:C6	2.46	0.51
34:B5:1044:U:H2'	34:B5:1045:C:C6	2.45	0.51
34:B5:1170:G:C2	34:B5:1171:A:C8	2.99	0.51
38:A1:417:A:H2'	38:A1:418:A:C8	2.45	0.51
38:A1:426:G:H2'	38:A1:427:C:C6	2.45	0.51
38:A1:985:U:H2'	38:A1:986:PSU:H6	1.75	0.51
38:A1:1525:G:H5'	38:A1:1830:G:OP2	2.11	0.51
38:A1:1646:G:O2'	38:A1:1808:G:N2	2.41	0.51
38:A1:2455:U:N3	38:A1:2483:G:O2'	2.43	0.51
38:A1:3166:C:H2'	38:A1:3167:A:H8	1.76	0.51
42:AE:49:GLY:O	42:AE:163:PHE:N	2.40	0.51
45:AH:114:VAL:HG11	45:AH:165:CYS:SG	2.51	0.51
49:AM:76:ALA:HB1	49:AM:80:THR:OG1	2.11	0.51
50:AN:62:TYR:HD2	50:AN:106:VAL:HG13	1.76	0.51
79:E:48:ARG:HH12	79:E:50:SER:HB3	1.75	0.51
2:BB:39:GLU:HG3	2:BB:73:LEU:O	2.10	0.51
3:BC:121:VAL:O	3:BC:125:ILE:HG12	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:BE:47:PHE:HA	4:BE:51:ARG:HB2	1.93	0.51
5:BG:137:ARG:HD3	5:BG:177:ARG:HD2	1.93	0.51
8:BJ:171:ARG:HD2	34:B5:537:G:C6	2.45	0.51
10:BN:33:VAL:O	10:BN:36:GLN:HG2	2.11	0.51
16:Ba:89:ARG:NH2	34:B5:1089:U:OP1	2.41	0.51
19:BD:25:PHE:HB3	19:BD:29:LEU:HD12	1.92	0.51
19:BD:101:GLN:O	19:BD:104:SER:OG	2.25	0.51
20:BF:57:SER:O	20:BF:164:PRO:HB3	2.11	0.51
27:BU:57:ARG:HA	27:BU:89:ARG:HG3	1.92	0.51
34:B5:187:G:N2	34:B5:197:A:H2'	2.25	0.51
34:B5:1172:G:H2'	34:B5:1173:C:H6	1.73	0.51
34:B5:1251:U:HO2'	34:B5:1252:C:H6	1.58	0.51
34:B5:1665:U:H3	34:B5:1736:G:H1	1.58	0.51
35:AA:101:VAL:HG22	35:AA:165:VAL:HG12	1.93	0.51
35:AA:245:LEU:HD21	38:A1:2243:A:C8	2.46	0.51
38:A1:118:U:O2	38:A1:121:A:H5''	2.11	0.51
38:A1:2250:G:H2'	38:A1:2251:G:C8	2.45	0.51
41:AD:197:SER:HB2	41:AD:202:GLY:HA3	1.93	0.51
51:AO:151[A]:ASP:OD1	51:AO:152[A]:VAL:N	2.44	0.51
69:Ag:54:ILE:HD11	69:Ag:78:GLY:HA2	1.93	0.51
81:EC:6860:A:N6	81:EC:6870:A:O2'	2.43	0.51
2:BB:184:LEU:HA	2:BB:187:LYS:HE2	1.93	0.51
3:BC:205:ARG:NH2	34:B5:7:G:N7	2.58	0.51
4:BE:187:ARG:NH2	34:B5:752:A:H3'	2.26	0.51
8:BJ:126:ARG:HH22	34:B5:474:A:H3'	1.76	0.51
8:BJ:126:ARG:HH22	34:B5:475:A:P	2.34	0.51
8:BJ:171:ARG:HD2	34:B5:537:G:C5	2.45	0.51
11:BO:17:ALA:HA	11:BO:30:VAL:HG23	1.92	0.51
13:BW:74:VAL:O	34:B5:1100:G:O2'	2.20	0.51
15:BY:11:LYS:O	15:BY:23:PHE:HA	2.11	0.51
20:BF:207:THR:HG21	81:EC:6861:G:H1'	1.93	0.51
23:BQ:95:LYS:HG3	23:BQ:96:TYR:CE1	2.46	0.51
26:BT:102:ARG:NH2	34:B5:1502:G:N7	2.58	0.51
27:BU:31:VAL:HG23	27:BU:85:ARG:CZ	2.41	0.51
34:B5:809:A:H2'	34:B5:810:G:C8	2.46	0.51
34:B5:1089:U:O2'	34:B5:1093:A:N1	2.40	0.51
35:AA:89:TYR:HB2	35:AA:100:ASN:OD1	2.10	0.51
38:A1:115:A:H8	38:A1:266:A:H5'	1.75	0.51
38:A1:625:G:N2	38:A1:1401:A:OP1	2.41	0.51
38:A1:1203:A:H61	38:A1:1300:G:H2'	1.76	0.51
38:A1:2468:A:H2	38:A1:2488:A:C4	2.29	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:AD:55:PHE:CD1	41:AD:60:ILE:HD12	2.44	0.51
68:Af:31:LYS:NZ	68:Af:78:SER:O	2.39	0.51
79:E:10:ARG:O	79:E:14:LYS:HG2	2.11	0.51
79:E:160:LYS:HE2	79:E:162:VAL:HB	1.92	0.51
2:BB:190:PRO:HB2	2:BB:192:VAL:HG13	1.93	0.51
14:BX:5:LYS:NZ	34:B5:614:C:OP2	2.29	0.51
15:BY:131:ARG:HH22	34:B5:153:G:H3'	1.75	0.51
22:BP:115:TYR:HB2	22:BP:118:GLU:HG3	1.92	0.51
31:Bg:5:GLU:OE1	31:Bg:5:GLU:N	2.44	0.51
31:Bg:133:VAL:O	31:Bg:141:LEU:N	2.44	0.51
34:B5:176:C:H2'	34:B5:177:U:O4'	2.10	0.51
34:B5:1770:U:H2'	34:B5:1771:U:C6	2.46	0.51
37:AC:311:HIS:HE1	37:AC:314:LYS:HB2	1.76	0.51
38:A1:221:A:O2'	38:A1:223:U:OP2	2.27	0.51
38:A1:673:U:H2'	38:A1:674:G:H8	1.76	0.51
38:A1:777:U:O2'	38:A1:2719:U:O2'	2.29	0.51
38:A1:785:G:O6	63:Aa:77:LYS:NZ	2.39	0.51
38:A1:970:A:H2'	38:A1:971:G:H8	1.76	0.51
38:A1:1047:A:N3	38:A1:2633:U:O2'	2.44	0.51
38:A1:1341:U:H2'	38:A1:1342:C:C6	2.46	0.51
38:A1:1615:C:H2'	38:A1:1616:U:C6	2.46	0.51
39:A3:16:U:H2'	39:A3:17:A:C8	2.46	0.51
41:AD:160:PHE:HA	41:AD:163:LEU:HB3	1.92	0.51
50:AN:104:GLU:OE2	50:AN:108:ARG:NH1	2.44	0.51
62:AZ:25:ILE:HG23	62:AZ:41:ALA:HB1	1.93	0.51
81:EC:6780:A:H61	81:EC:6816:A:H1'	1.76	0.51
7:BI:99:ALA:N	7:BI:169:ILE:O	2.36	0.51
8:BJ:59:LEU:HD21	8:BJ:69:ARG:HA	1.92	0.51
11:BO:58:TYR:HA	11:BO:61:MET:HE3	1.92	0.51
20:BF:82:PHE:HB3	29:Bc:49:ARG:NH2	2.26	0.51
21:BK:30:ALA:HA	21:BK:38:LYS:HB2	1.93	0.51
25:BS:42:TYR:OH	25:BS:86:LEU:HA	2.11	0.51
26:BT:14:PHE:HE2	26:BT:63:ARG:HB2	1.76	0.51
26:BT:57:ARG:NE	34:B5:1479:A:OP1	2.29	0.51
34:B5:691:C:H2'	34:B5:692:C:C6	2.46	0.51
34:B5:702:G:N3	34:B5:703:G:H1'	2.26	0.51
34:B5:919:A:H2'	34:B5:920:U:H6	1.76	0.51
34:B5:1164:G:H2'	34:B5:1165:G:H8	1.74	0.51
34:B5:1738:U:H2'	34:B5:1739:C:C6	2.46	0.51
36:AB:133:TYR:CE1	36:AB:136:LYS:HD2	2.46	0.51
36:AB:227:GLU:HA	38:A1:1887:A:H4'	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:407:A:C2	40:A4:17:A:H1'	2.46	0.51
38:A1:810:A:H2'	38:A1:811:U:C6	2.46	0.51
38:A1:1110:PSU:H2'	38:A1:1111:U:C6	2.46	0.51
38:A1:1713:G:O2'	38:A1:1730:G:N2	2.42	0.51
39:A3:108:A:H2'	39:A3:109:G:H8	1.76	0.51
48:AL:19:GLN:O	48:AL:22:VAL:HG12	2.11	0.51
51:AO:45[A]:GLY:O	51:AO:136[A]:THR:OG1	2.24	0.51
65:Ac:18:ILE:HD11	65:Ac:81:VAL:HG13	1.92	0.51
79:E:87:VAL:HA	79:E:90:LEU:HG	1.92	0.51
79:E:104:SER:HA	79:E:110:PHE:CE1	2.46	0.51
81:EC:6851:G:C6	81:EC:6879:U:H1'	2.46	0.51
1:BA:162:CYS:SG	1:BA:164:ASN:ND2	2.84	0.50
2:BB:165:ARG:NH1	34:B5:947:U:OP1	2.43	0.50
9:BL:70:ILE:O	9:BL:71:LEU:HD23	2.11	0.50
13:BW:41:MET:HE1	13:BW:69:LEU:HD13	1.92	0.50
14:BX:25:ALA:HB1	34:B5:1108:G:H2'	1.94	0.50
22:BP:24:LYS:O	22:BP:28:MET:HG2	2.11	0.50
31:Bg:51:ASP:OD1	31:Bg:51:ASP:N	2.45	0.50
32:Bf:101:ALA:O	32:Bf:104:SER:OG	2.29	0.50
34:B5:267:U:H2'	34:B5:268:C:H6	1.76	0.50
34:B5:776:G:N2	34:B5:785:U:H1'	2.26	0.50
34:B5:875:G:O2'	34:B5:877:G:OP2	2.28	0.50
34:B5:1350:U:H2'	34:B5:1351:G:H8	1.75	0.50
34:B5:1382:A:O2'	34:B5:1383:G:H5''	2.11	0.50
35:AA:132:ASN:HD21	38:A1:2178:A:H3'	1.76	0.50
36:AB:113:GLU:OE1	36:AB:165:GLN:HA	2.11	0.50
38:A1:947:G:H5''	67:Ae:55:ILE:HB	1.93	0.50
38:A1:1037:C:H2'	38:A1:1038:C:C6	2.46	0.50
38:A1:1715:A:C5	65:Ac:84:LEU:HD21	2.46	0.50
38:A1:1914:G:O2'	54:AR:82:LYS:O	2.27	0.50
38:A1:2348:A:N7	38:A1:2349:PSU:N1	2.59	0.50
38:A1:2837:A:H5''	46:AI:154:ARG:HH11	1.76	0.50
38:A1:3015:G:H2'	38:A1:3016:A:C8	2.46	0.50
38:A1:3034:C:C5	45:AH:121:LYS:HB2	2.42	0.50
60:AX:100:LYS:HA	60:AX:105:VAL:O	2.11	0.50
62:AZ:49:TYR:CE2	62:AZ:133:LYS:HA	2.46	0.50
80:DC:434:VAL:O	80:DC:445:ILE:N	2.44	0.50
8:BJ:143:ILE:CD1	34:B5:768:C:H1'	2.41	0.50
19:BD:178:ARG:HG3	34:B5:579:A:H61	1.76	0.50
23:BQ:123:ARG:HH11	23:BQ:123:ARG:HG3	1.77	0.50
25:BS:132:ARG:HD3	25:BS:133:VAL:H	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1405:G:H2'	34:B5:1406:A:C8	2.45	0.50
34:B5:1556:A:H1'	34:B5:1560:U:OP2	2.12	0.50
34:B5:1591:C:H2'	34:B5:1592:A:C8	2.46	0.50
38:A1:195:U:H2'	38:A1:196:G:O4'	2.11	0.50
38:A1:251:G:H1'	38:A1:253:A:C8	2.46	0.50
38:A1:335:G:OP2	61:AY:14:LYS:HE2	2.12	0.50
38:A1:531:G:H2'	38:A1:532:A:C8	2.46	0.50
39:A3:107:C:H2'	39:A3:108:A:C8	2.46	0.50
44:AG:75:ILE:C	44:AG:77:GLN:H	2.18	0.50
51:AO:39[A]:GLU:N	51:AO:39[A]:GLU:OE2	2.41	0.50
51:AO:175[A]:THR:HA	51:AO:178[A]:VAL:HG12	1.93	0.50
53:AQ:68:ALA:O	53:AQ:72:LYS:HG2	2.11	0.50
62:AZ:42:LEU:HD13	62:AZ:74:VAL:HB	1.93	0.50
63:Aa:24:LYS:O	63:Aa:26:ARG:HG2	2.11	0.50
3:BC:49:LYS:HZ3	3:BC:246:GLU:HG2	1.76	0.50
15:BY:20:ARG:HD2	15:BY:74:LEU:HD12	1.93	0.50
15:BY:60:PHE:CE1	34:B5:522:U:H4'	2.46	0.50
16:Ba:53:LEU:O	16:Ba:57:SER:OG	2.26	0.50
25:BS:126:ARG:NH2	34:B5:1458:G:O3'	2.44	0.50
27:BU:21:LYS:HE2	27:BU:94:GLU:HB3	1.93	0.50
34:B5:655:G:H4'	34:B5:656:G:H5''	1.92	0.50
34:B5:1413:U:O2'	34:B5:1416:G:OP1	2.15	0.50
35:AA:21:ARG:NH1	38:A1:825:U:OP2	2.45	0.50
37:AC:195:ARG:NH1	38:A1:340:C:OP2	2.39	0.50
38:A1:91:G:OP2	38:A1:93:C:N4	2.45	0.50
38:A1:1131:G:N2	38:A1:2372:A:OP2	2.40	0.50
38:A1:1759:C:C2	38:A1:1760:A:H1'	2.46	0.50
38:A1:2477:G:H1'	38:A1:2488:A:H1'	1.93	0.50
38:A1:2812:C:H2'	38:A1:2813:A:H8	1.77	0.50
38:A1:3226:A:N1	38:A1:3260:G:C2	2.80	0.50
53:AQ:106:PHE:HB3	53:AQ:111:ARG:HG3	1.93	0.50
62:AZ:5:LEU:HD13	62:AZ:77:TYR:CD1	2.46	0.50
79:E:111:ILE:HG21	79:E:151:VAL:HG11	1.93	0.50
80:DC:31:GLY:HA2	80:DC:34:THR:HG22	1.92	0.50
80:DC:149:GLU:O	80:DC:355:GLN:NE2	2.44	0.50
80:DC:753:GLN:O	80:DC:771:TYR:N	2.28	0.50
3:BC:35:TRP:CZ2	3:BC:65:GLU:HG3	2.47	0.50
8:BJ:19:TYR:CE1	34:B5:555:A:C6	2.99	0.50
8:BJ:122:VAL:O	8:BJ:126:ARG:N	2.36	0.50
9:BL:110:HIS:O	9:BL:138:ASN:ND2	2.44	0.50
14:BX:32:ARG:NH2	34:B5:375:U:H5''	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:BY:135:ASP:OD1	15:BY:135:ASP:N	2.45	0.50
19:BD:223:LYS:HG2	19:BD:225:TYR:HE2	1.77	0.50
20:BF:143:ARG:HH21	29:Bc:55:VAL:H	1.59	0.50
34:B5:107:C:H5''	34:B5:383:G:O2'	2.10	0.50
34:B5:1087:A:H2'	34:B5:1088:A:C8	2.47	0.50
34:B5:1174:C:O2'	34:B5:1196:A:N6	2.43	0.50
36:AB:28:ARG:NH2	38:A1:3140:G:N7	2.53	0.50
38:A1:38:U:O2'	48:AL:15:ARG:NH2	2.44	0.50
38:A1:301:G:H1	38:A1:314:U:H3	1.60	0.50
38:A1:1721:U:OP2	54:AR:124:TYR:OH	2.24	0.50
38:A1:2883:U:H2'	38:A1:2884:C:H6	1.75	0.50
55:AS:25:PHE:HD1	56:AT:149:GLN:NE2	2.09	0.50
62:AZ:48:ARG:HE	62:AZ:69:LYS:HD2	1.76	0.50
2:BB:52:THR:HG22	2:BB:54:LEU:H	1.77	0.50
7:BI:72:ILE:HG21	7:BI:112:TRP:CE2	2.47	0.50
9:BL:134:THR:OG1	34:B5:325:G:OP1	2.25	0.50
13:BW:30:SER:HA	13:BW:34:ILE:HG13	1.93	0.50
15:BY:37:LYS:HA	15:BY:40:LEU:HD12	1.93	0.50
31:Bg:203:THR:HG21	31:Bg:244:ALA:HA	1.92	0.50
34:B5:649:U:H3	34:B5:684:A:H62	1.59	0.50
34:B5:1145:U:H2'	34:B5:1146:G:H8	1.77	0.50
37:AC:181:VAL:O	37:AC:182:LEU:HG	2.12	0.50
38:A1:655:C:OP1	67:Ae:27:ARG:N	2.38	0.50
38:A1:1705:U:O2	38:A1:1786:G:O2'	2.29	0.50
38:A1:1720:U:O4	54:AR:125:LYS:NZ	2.45	0.50
42:AE:75:PRO:HA	42:AE:138:GLN:NE2	2.25	0.50
50:AN:192:LYS:O	50:AN:196:THR:HG23	2.11	0.50
54:AR:4:LEU:HD11	54:AR:29:THR:HG23	1.94	0.50
54:AR:73:GLY:O	54:AR:76:SER:OG	2.28	0.50
81:EC:6776:A:N3	81:EC:6818:G:N2	2.57	0.50
4:BE:42:LEU:HD11	4:BE:46:VAL:HG11	1.92	0.50
8:BJ:132:ARG:NH2	8:BJ:161:THR:OG1	2.45	0.50
9:BL:33:ARG:NH2	9:BL:53:TYR:O	2.36	0.50
26:BT:113:ILE:HD12	26:BT:128:GLY:HA2	1.94	0.50
34:B5:629:U:OP2	34:B5:969:C:N4	2.31	0.50
34:B5:1201:G:N2	34:B5:1600:A:O5'	2.44	0.50
36:AB:148:LEU:O	36:AB:152:LYS:HG2	2.12	0.50
38:A1:595:G:OP1	43:AF:33:ARG:NH1	2.44	0.50
38:A1:1195:A:N1	38:A1:1313:G:O6	2.45	0.50
38:A1:1621:A:H2'	38:A1:1622:U:H6	1.76	0.50
38:A1:1814:A:N3	38:A1:1817:G:N2	2.60	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1825:G:H5''	73:Ak:19:ASP:OD2	2.12	0.50
38:A1:2681:U:H2'	38:A1:2682:C:H6	1.76	0.50
42:AE:87:THR:HG22	42:AE:176:PHE:HB3	1.92	0.50
45:AH:44:THR:HG21	49:AM:12:TRP:CH2	2.47	0.50
54:AR:154:ALA:O	54:AR:158:GLU:HG2	2.11	0.50
55:AS:136:LYS:NZ	55:AS:137:ARG:HH12	2.10	0.50
56:AT:83:ARG:HA	64:Ab:21:ILE:HG13	1.93	0.50
58:AV:10:LYS:HB3	58:AV:125:LEU:HD21	1.93	0.50
58:AV:109:MET:H	58:AV:128:ARG:HD2	1.77	0.50
66:Ad:54:GLU:OE2	66:Ad:54:GLU:N	2.39	0.50
76:An:4:LYS:HB3	76:An:5:TRP:HD1	1.77	0.50
77:Ao:71:ARG:NE	77:Ao:80:ARG:HH21	2.09	0.50
77:Ao:72:LEU:HG	77:Ao:83:LEU:HD22	1.93	0.50
80:DC:131:THR:HG21	80:DC:160:VAL:HA	1.92	0.50
80:DC:246:GLY:O	80:DC:271:ARG:NH1	2.45	0.50
80:DC:263:ASP:CG	80:DC:267:LYS:HG2	2.37	0.50
6:BH:140:VAL:CG1	13:BW:52:TYR:HB3	2.41	0.50
13:BW:57:ARG:NH2	17:Bb:26:GLN:HG2	2.26	0.50
15:BY:106:GLN:NE2	34:B5:442:C:OP1	2.45	0.50
16:Ba:30:ILE:HD13	16:Ba:74:CYS:HA	1.92	0.50
21:BK:40:LEU:HD12	21:BK:43:ILE:HD11	1.94	0.50
22:BP:9:LYS:HG3	22:BP:108:ARG:HH12	1.76	0.50
25:BS:114:GLU:HA	25:BS:117:LYS:HZ2	1.77	0.50
34:B5:183:U:H2'	34:B5:184:C:H6	1.77	0.50
34:B5:224:C:H1'	34:B5:839:U:O4	2.12	0.50
34:B5:956:C:OP1	34:B5:1072:C:O2'	2.30	0.50
34:B5:973:A:H2'	34:B5:974:A:H8	1.77	0.50
34:B5:1156:C:H2'	34:B5:1157:A:C8	2.47	0.50
38:A1:255:A:H2'	38:A1:256:G:H8	1.77	0.50
38:A1:313:A:H2'	38:A1:314:U:C6	2.47	0.50
38:A1:411:U:H2'	38:A1:412:G:C8	2.46	0.50
38:A1:641:C:OP1	63:Aa:21:ARG:HB3	2.11	0.50
38:A1:1223:A:OP2	38:A1:1285:G:N2	2.41	0.50
38:A1:2683:U:H2'	38:A1:2684:C:H6	1.76	0.50
38:A1:3121:U:H1'	38:A1:3122:A:H5''	1.93	0.50
38:A1:3242:G:OP1	51:AO:159[A]:LYS:NZ	2.36	0.50
38:A1:3282:U:H2'	38:A1:3283:U:O4'	2.12	0.50
38:A1:3295:A:H2'	38:A1:3296:A:C8	2.46	0.50
50:AN:50:ARG:HG3	50:AN:51:LEU:HD12	1.94	0.50
52:AP:179:GLN:HA	52:AP:182:ILE:HG22	1.93	0.50
61:AY:83:ASP:OD1	61:AY:84:LYS:NZ	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:DC:91:GLN:HE22	80:DC:344:SER:H	1.59	0.50
81:EC:6837:G:N2	81:EC:6847:G:H22	2.08	0.50
2:BB:89:ASP:HB3	2:BB:223:PHE:CZ	2.46	0.50
2:BB:208:GLN:HG3	2:BB:209:ASN:OD1	2.12	0.50
16:Ba:83:ILE:HG22	16:Ba:84:VAL:HG13	1.93	0.50
24:BR:25:THR:O	24:BR:31:ASN:ND2	2.43	0.50
27:BU:70:THR:HG23	27:BU:78:THR:HG22	1.94	0.50
33:BM:107:ASP:OD2	33:BM:113:ARG:NH1	2.45	0.50
34:B5:821:U:H2'	34:B5:822:U:C6	2.47	0.50
34:B5:898:A:N3	34:B5:899:G:H1'	2.27	0.50
34:B5:938:G:N2	34:B5:941:A:OP2	2.39	0.50
34:B5:1350:U:H2'	34:B5:1351:G:C8	2.47	0.50
38:A1:168:U:O3'	48:AL:128:ARG:NH2	2.45	0.50
38:A1:177:U:O2	38:A1:241:G:N2	2.44	0.50
38:A1:644:G:H1'	38:A1:1153:A:N6	2.27	0.50
38:A1:887:G:H2'	38:A1:888:A:C8	2.47	0.50
38:A1:1162:U:H4'	67:Ae:57:TYR:CE1	2.47	0.50
38:A1:1560:G:H4'	38:A1:1561:G:OP1	2.11	0.50
38:A1:1618:G:H2'	38:A1:1619:A:C8	2.46	0.50
38:A1:1659:U:H2'	38:A1:1660:C:H6	1.76	0.50
38:A1:2144:A:H1'	38:A1:2281:A:N6	2.27	0.50
38:A1:2455:U:O4	38:A1:2457:G:N2	2.38	0.50
38:A1:2553:U:C4	69:Ag:95:ILE:HG13	2.46	0.50
45:AH:9:GLN:HB3	45:AH:52:LEU:HD11	1.94	0.50
50:AN:154:PRO:O	50:AN:157:LYS:HG2	2.10	0.50
52:AP:88:VAL:O	52:AP:92:GLN:HG2	2.12	0.50
54:AR:7:GLN:NE2	54:AR:35:ALA:O	2.30	0.50
80:DC:39:LEU:HD11	80:DC:334:LEU:HD23	1.93	0.50
1:BA:49:ASN:HD21	24:BR:109:LEU:HD22	1.77	0.50
2:BB:39:GLU:OE1	2:BB:40:ASN:N	2.45	0.50
2:BB:157:GLN:C	2:BB:159:SER:H	2.19	0.50
7:BI:102:VAL:O	7:BI:167:ALA:N	2.45	0.50
12:BV:58:TYR:HE1	34:B5:1082:C:H1'	1.77	0.50
19:BD:123:VAL:HG13	19:BD:134:CYS:SG	2.52	0.50
19:BD:127:MET:HE1	19:BD:133:GLY:HA2	1.93	0.50
23:BQ:58:ASP:N	23:BQ:58:ASP:OD1	2.44	0.50
27:BU:85:ARG:HD2	27:BU:87:HIS:NE2	2.26	0.50
34:B5:329:G:H2'	34:B5:330:G:C8	2.47	0.50
34:B5:1494:C:H2'	34:B5:1495:C:C6	2.47	0.50
35:AA:118:GLU:HG3	35:AA:126:LEU:HD11	1.93	0.50
35:AA:140:ASN:ND2	35:AA:143:GLU:OE2	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:28:C:O2'	38:A1:61:A:N3	2.44	0.50
38:A1:537:A:O2'	38:A1:558:U:O2'	2.15	0.50
38:A1:568:G:H2'	38:A1:569:A:O4'	2.12	0.50
38:A1:2351:PSU:H2'	38:A1:2352:A:H8	1.76	0.50
38:A1:2471:U:N3	38:A1:2473:C:OP2	2.45	0.50
38:A1:2538:U:H2'	38:A1:2540:A:P	2.52	0.50
39:A3:24:A:H2'	39:A3:25:G:C8	2.47	0.50
39:A3:119:U:O4	41:AD:262:LYS:NZ	2.44	0.50
50:AN:64:VAL:HG11	50:AN:102:ALA:HB1	1.92	0.50
61:AY:22:ALA:HB1	61:AY:26:GLN:HB2	1.93	0.50
66:Ad:54:GLU:H	66:Ad:54:GLU:CD	2.20	0.50
75:Am:80:PRO:HA	75:Am:83:LYS:NZ	2.26	0.50
80:DC:23:SER:HB3	80:DC:122:THR:HG21	1.93	0.50
80:DC:380:LEU:HD21	80:DC:469:LEU:HD22	1.93	0.50
80:DC:676:ILE:O	80:DC:823:ARG:NE	2.39	0.50
80:DC:785:ARG:NH1	80:DC:792:ALA:O	2.42	0.50
81:EC:6827:G:H2'	81:EC:6828:G:C8	2.46	0.50
6:BH:70:PHE:O	6:BH:74:GLN:HB2	2.12	0.49
10:BN:47:PRO:HG3	10:BN:75:LEU:HD12	1.94	0.49
12:BV:16:LYS:HG2	12:BV:23:ILE:HD13	1.94	0.49
26:BT:30:VAL:HG12	26:BT:54:PHE:CD2	2.47	0.49
26:BT:40:SER:HB3	26:BT:43:ASN:HB2	1.94	0.49
28:BZ:59:TYR:CZ	28:BZ:61:SER:HB3	2.47	0.49
34:B5:692:C:OP1	34:B5:696:C:N4	2.44	0.49
36:AB:123:TYR:CZ	36:AB:124:LYS:HG3	2.46	0.49
38:A1:181:U:H5''	72:Aj:75:LYS:NZ	2.26	0.49
38:A1:641:C:H2'	38:A1:642:U:O4'	2.11	0.49
38:A1:1744:G:H2'	38:A1:1745:C:C6	2.47	0.49
38:A1:2618:G:OP1	38:A1:2644:C:O2'	2.27	0.49
38:A1:2978:U:O2'	38:A1:2979:U:H5'	2.11	0.49
38:A1:3052:G:H2'	38:A1:3053:G:H8	1.77	0.49
42:AE:76:LEU:HD23	42:AE:138:GLN:HG3	1.93	0.49
55:AS:6:GLU:OE2	55:AS:28:ARG:NE	2.39	0.49
63:Aa:105:LEU:HD13	63:Aa:128:ARG:HG3	1.93	0.49
80:DC:395:TYR:CE2	80:DC:442:VAL:HG11	2.46	0.49
80:DC:730:LEU:HB2	80:DC:799:ASP:OD2	2.12	0.49
1:BA:55:GLU:HG3	12:BV:79:LEU:CD1	2.42	0.49
2:BB:35:PRO:HB2	2:BB:37:THR:HG22	1.94	0.49
12:BV:4:ASP:OD1	12:BV:5:LYS:N	2.45	0.49
15:BY:27:VAL:O	15:BY:68:LYS:HA	2.12	0.49
23:BQ:22:VAL:HG22	23:BQ:65:ILE:HD12	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:BQ:30:LYS:NZ	34:B5:1364:G:O3'	2.45	0.49
36:AB:212:ASN:ND2	36:AB:354:VAL:H	2.10	0.49
36:AB:232:ARG:NH1	38:A1:2989:U:O2'	2.45	0.49
37:AC:143:GLU:OE1	37:AC:143:GLU:N	2.45	0.49
37:AC:240:PRO:HB2	38:A1:1383:G:H4'	1.95	0.49
38:A1:1017:C:N4	38:A1:2671:A:OP2	2.43	0.49
38:A1:1270:A:C8	38:A1:1273:A:H8	2.30	0.49
38:A1:2446:U:H3	38:A1:2500:A:N6	2.09	0.49
38:A1:2468:A:O2'	38:A1:2477:G:N2	2.45	0.49
38:A1:2724:U:OP2	38:A1:2726:C:N4	2.45	0.49
38:A1:3057:U:O2'	38:A1:3059:G:OP1	2.26	0.49
38:A1:3160:U:O4	38:A1:3290:G:O6	2.30	0.49
38:A1:3275:U:O2'	68:Af:99:ARG:NH1	2.45	0.49
39:A3:29:C:H2'	39:A3:51:A:H61	1.77	0.49
47:AJ:49:LYS:HD3	47:AJ:62:ASN:HD22	1.77	0.49
60:AX:117:ASN:HB3	74:Al:17:LYS:HZ1	1.76	0.49
1:BA:59:LEU:O	1:BA:63:ILE:HG13	2.13	0.49
10:BN:5:HIS:HB3	10:BN:117:LEU:HD12	1.93	0.49
19:BD:133:GLY:HA3	19:BD:156:PHE:O	2.12	0.49
19:BD:211:PRO:HG3	24:BR:20:TYR:CZ	2.46	0.49
27:BU:77:LYS:NZ	34:B5:1197:C:OP2	2.34	0.49
30:Bd:50:ILE:HG23	30:Bd:52:PHE:H	1.77	0.49
34:B5:631:G:H2'	34:B5:632:PSU:H6	1.77	0.49
34:B5:679:U:H2'	34:B5:680:U:H4'	1.93	0.49
34:B5:1058:U:O2	34:B5:1061:A:O2'	2.25	0.49
34:B5:1518:C:H2'	34:B5:1519:U:C6	2.47	0.49
36:AB:10:ARG:NH2	36:AB:11:HIS:O	2.39	0.49
36:AB:332:ARG:HH22	38:A1:3304:U:P	2.34	0.49
38:A1:12:A:H2'	38:A1:13:A:C8	2.47	0.49
38:A1:176:G:C6	38:A1:177:U:N3	2.80	0.49
38:A1:207:U:H2'	38:A1:208:C:H6	1.76	0.49
38:A1:293:C:H2'	38:A1:294:U:O4'	2.12	0.49
38:A1:594:U:H3'	38:A1:595:G:H8	1.78	0.49
38:A1:714:G:O2'	38:A1:753:C:O2'	2.21	0.49
38:A1:1257:C:H2'	38:A1:1261:G:N7	2.27	0.49
38:A1:1616:U:H2'	38:A1:1617:G:H8	1.76	0.49
38:A1:2152:A:H2'	38:A1:2153:U:H6	1.76	0.49
38:A1:2701:U:OP1	56:AT:23:GLY:N	2.37	0.49
38:A1:2945:G:O2'	38:A1:2948:C:OP2	2.20	0.49
42:AE:148:GLU:HA	42:AE:151:LYS:NZ	2.27	0.49
57:AU:56:VAL:HG22	57:AU:65:VAL:HG22	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:Ac:55:GLU:HB3	69:Ag:94:LEU:HD11	1.94	0.49
69:Ag:102:LYS:HA	69:Ag:105:VAL:HG12	1.93	0.49
76:An:4:LYS:O	76:An:7:LYS:HB3	2.12	0.49
77:Ao:73:GLU:HB2	77:Ao:80:ARG:HH12	1.76	0.49
81:EC:6871:A:O2'	81:EC:6872:A:O4'	2.29	0.49
5:BG:131:LYS:HZ1	34:B5:166:C:H4'	1.77	0.49
15:BY:61:ARG:NE	15:BY:61:ARG:HA	2.26	0.49
20:BF:48:PHE:CD1	20:BF:67:PRO:HB3	2.48	0.49
29:Bc:12:VAL:HA	29:Bc:30:VAL:HA	1.93	0.49
31:Bg:89:LEU:HD21	31:Bg:110:VAL:HG21	1.94	0.49
31:Bg:153:GLN:HE22	31:Bg:155:ARG:NH2	2.10	0.49
34:B5:164:A:H2'	34:B5:165:G:C8	2.48	0.49
34:B5:213:A:H3'	34:B5:214:G:H8	1.77	0.49
34:B5:233:C:OP1	34:B5:234:G:N1	2.44	0.49
34:B5:294:C:H2'	34:B5:295:A:C8	2.48	0.49
34:B5:1071:U:H2'	34:B5:1072:C:C6	2.47	0.49
34:B5:1592:A:H2'	34:B5:1593:A:H8	1.77	0.49
37:AC:39:PHE:HA	37:AC:42:VAL:HG12	1.95	0.49
38:A1:129:U:H2'	38:A1:130:A:C8	2.48	0.49
38:A1:1077:U:H2'	38:A1:1078:U:C6	2.46	0.49
38:A1:1136:A:O4'	38:A1:2636:A:N6	2.45	0.49
38:A1:1922:A:H2'	38:A1:1923:C:O4'	2.12	0.49
38:A1:2482:U:H2'	38:A1:2483:G:C8	2.47	0.49
38:A1:2582:C:H2'	38:A1:2583:C:C6	2.47	0.49
38:A1:3253:G:H2'	38:A1:3254:G:C8	2.48	0.49
38:A1:3332:U:H2'	38:A1:3333:G:O4'	2.12	0.49
44:AG:180:VAL:HG11	44:AG:186:LEU:HD21	1.94	0.49
45:AH:31:ARG:HB3	45:AH:82:VAL:O	2.12	0.49
57:AU:19:VAL:HG23	57:AU:105:LEU:HD12	1.95	0.49
58:AV:15:LEU:HD13	58:AV:51:ALA:HB3	1.93	0.49
78:Ap:59:CYS:C	78:Ap:61:LYS:H	2.20	0.49
6:BH:96:ARG:O	34:B5:694:U:N3	2.45	0.49
19:BD:225:TYR:HE1	31:Bg:188:ILE:HG23	1.76	0.49
22:BP:81:ARG:HG2	22:BP:96:ILE:HD11	1.95	0.49
31:Bg:128:ASP:O	31:Bg:129:LYS:HG2	2.13	0.49
34:B5:97:C:H2'	34:B5:98:U:C6	2.48	0.49
34:B5:280:U:O2'	34:B5:281:G:N7	2.43	0.49
34:B5:893:U:H2'	34:B5:894:U:C6	2.47	0.49
34:B5:1502:G:N2	34:B5:1505:A:OP2	2.41	0.49
34:B5:1662:G:H2'	34:B5:1663:G:O4'	2.12	0.49
38:A1:500:C:H2'	38:A1:501:A:C8	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:AD:116:ASP:OD1	41:AD:117:GLU:N	2.45	0.49
51:AO:28[A]:LEU:HD21	51:AO:88[A]:VAL:HG23	1.93	0.49
58:AV:34:LEU:HD23	58:AV:62:VAL:HG12	1.95	0.49
58:AV:80:ARG:HB2	58:AV:99:ALA:HB3	1.93	0.49
69:Ag:84:CYS:O	69:Ag:88:ARG:HG2	2.11	0.49
1:BA:84:ARG:NH1	1:BA:203:PHE:O	2.46	0.49
5:BG:63:MET:SD	5:BG:63:MET:N	2.76	0.49
7:BI:48:THR:OG1	7:BI:52:ASN:O	2.30	0.49
8:BJ:15:PRO:HG2	8:BJ:23:ARG:CZ	2.43	0.49
9:BL:80:MET:HB2	9:BL:83:THR:HG23	1.95	0.49
19:BD:178:ARG:O	34:B5:579:A:N6	2.45	0.49
20:BF:33:VAL:HG12	23:BQ:53:LEU:HD11	1.93	0.49
20:BF:71:ALA:HB1	20:BF:94:THR:HG21	1.95	0.49
27:BU:28:SER:OG	27:BU:34:LEU:HB2	2.12	0.49
27:BU:80:GLU:OE2	27:BU:82:TYR:OH	2.27	0.49
31:Bg:19:TRP:HB2	31:Bg:38:ARG:HG3	1.95	0.49
34:B5:431:C:OP1	80:DC:393:ARG:HD2	2.12	0.49
34:B5:896:U:H2'	34:B5:897:C:C2	2.48	0.49
34:B5:1525:A:H2'	34:B5:1526:A:C8	2.48	0.49
34:B5:1565:C:H2'	34:B5:1566:U:C6	2.47	0.49
34:B5:1685:G:H2'	34:B5:1686:C:C6	2.48	0.49
36:AB:206:ASP:OD1	36:AB:206:ASP:N	2.44	0.49
36:AB:283:TYR:OH	36:AB:325:LYS:HD2	2.12	0.49
38:A1:1268:G:N2	38:A1:1271:A:H5''	2.28	0.49
38:A1:1461:A:H2'	38:A1:1462:A:C8	2.48	0.49
38:A1:1504:A:OP1	52:AP:23:ARG:NH1	2.46	0.49
38:A1:2908:G:H2'	38:A1:2909:U:C6	2.47	0.49
39:A3:19:C:H2'	39:A3:20:A:C8	2.47	0.49
47:AJ:16:LYS:HE2	47:AJ:72:ARG:NH1	2.28	0.49
79:E:73:ASP:HA	79:E:76:ARG:HG2	1.94	0.49
80:DC:275:MET:HA	80:DC:279:ASP:OD2	2.12	0.49
5:BG:202:ARG:HD3	34:B5:179:A:N6	2.28	0.49
13:BW:16:ASN:ND2	34:B5:1037:C:O2	2.45	0.49
16:Ba:82:ARG:HD3	16:Ba:85:ARG:NH1	2.26	0.49
20:BF:62:VAL:HA	20:BF:89:ILE:HG21	1.94	0.49
28:BZ:54:VAL:CG1	28:BZ:55:PRO:HD3	2.42	0.49
34:B5:431:C:H2'	34:B5:432:G:O4'	2.12	0.49
34:B5:978:A:H2'	34:B5:979:A:O4'	2.12	0.49
38:A1:540:U:N3	38:A1:541:U:O4	2.45	0.49
38:A1:624:G:C2	38:A1:625:G:C8	3.01	0.49
38:A1:792:G:H4'	63:Aa:2:PRO:HD3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:3028:G:C5'	80:DC:28:VAL:HG21	2.41	0.49
39:A3:19:C:H2'	39:A3:20:A:H8	1.77	0.49
40:A4:38:U:O4	70:Ah:89:ARG:HD2	2.13	0.49
41:AD:59:ASP:OD1	41:AD:60:ILE:N	2.46	0.49
49:AM:72:LEU:HD12	49:AM:76:ALA:HB3	1.95	0.49
60:AX:67:ILE:HD11	60:AX:85:GLN:HB2	1.94	0.49
81:EC:6781:U:O4	81:EC:6815:U:N3	2.33	0.49
1:BA:183:ARG:HH12	1:BA:193:GLN:NE2	2.10	0.49
4:BE:40:GLU:OE1	4:BE:40:GLU:N	2.46	0.49
11:BO:124:ASP:OD2	34:B5:928:U:H1'	2.12	0.49
26:BT:105:LEU:O	26:BT:109:GLU:N	2.42	0.49
34:B5:86:A:H2'	34:B5:87:C:H6	1.78	0.49
34:B5:521:A:H2'	34:B5:522:U:O4'	2.12	0.49
34:B5:589:C:H2'	34:B5:590:C:H6	1.77	0.49
34:B5:991:G:N1	34:B5:1012:U:OP2	2.31	0.49
34:B5:1179:G:H2'	34:B5:1180:C:C6	2.47	0.49
34:B5:1639:C:H2'	34:B5:1640:C:O4'	2.13	0.49
38:A1:581:U:H2'	38:A1:582:G:H8	1.76	0.49
38:A1:2374:C:O2'	38:A1:2941:A:N6	2.46	0.49
38:A1:2739:A:H2'	38:A1:2740:A:O4'	2.12	0.49
44:AG:148:ALA:HA	44:AG:201:THR:HG22	1.94	0.49
50:AN:94:TYR:OH	50:AN:96:ARG:HD3	2.13	0.49
55:AS:147:ASP:HB3	55:AS:149:LYS:NZ	2.28	0.49
56:AT:131:GLN:OE1	56:AT:131:GLN:HA	2.12	0.49
60:AX:82:LEU:HD13	60:AX:126:LEU:HD13	1.94	0.49
66:Ad:73:LEU:HD23	66:Ad:75:ILE:HD11	1.94	0.49
79:E:194:LEU:HD21	79:E:200:ASN:HB2	1.94	0.49
80:DC:120:ARG:NH1	80:DC:481:MET:HB2	2.28	0.49
80:DC:144:ARG:HD2	80:DC:192:TYR:CD1	2.48	0.49
80:DC:772:LEU:C	80:DC:774:VAL:H	2.21	0.49
81:EC:6826:U:H2'	81:EC:6827:G:C8	2.48	0.49
1:BA:38:PHE:CZ	24:BR:105:GLN:HA	2.48	0.49
8:BJ:110:GLN:NE2	8:BJ:126:ARG:HB2	2.27	0.49
13:BW:31:SER:OG	13:BW:33:VAL:HG12	2.13	0.49
21:BK:11:ILE:O	21:BK:15:LEU:HG	2.12	0.49
21:BK:61:TRP:CZ3	30:Bd:23:VAL:HG22	2.48	0.49
26:BT:25:GLN:HB3	26:BT:27:LYS:HE3	1.95	0.49
29:Bc:22:ARG:NH1	34:B5:1619:C:C4	2.81	0.49
34:B5:692:C:H2'	34:B5:693:U:C6	2.48	0.49
34:B5:769:A:H2'	34:B5:770:A:C8	2.48	0.49
34:B5:774:A:C6	34:B5:775:G:H1'	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1156:C:H2'	34:B5:1157:A:H8	1.77	0.49
36:AB:110:LEU:O	36:AB:115:LYS:NZ	2.46	0.49
36:AB:303:LYS:HD2	36:AB:361:THR:HG21	1.95	0.49
38:A1:503:C:H2'	38:A1:504:A:H8	1.78	0.49
38:A1:640:U:H2'	38:A1:641:C:C6	2.47	0.49
38:A1:1055:A:H5''	39:A3:100:C:O2'	2.13	0.49
38:A1:1354:G:H5''	38:A1:1355:A:C8	2.48	0.49
38:A1:1665:C:H2'	38:A1:1666:G:H8	1.77	0.49
38:A1:1829:G:H5''	38:A1:1830:G:H5'	1.95	0.49
38:A1:1883:A:H2'	38:A1:1884:A:C8	2.47	0.49
38:A1:2654:C:OP2	77:Ao:2:VAL:N	2.45	0.49
43:AF:160:ARG:HD2	43:AF:203:TRP:CD1	2.48	0.49
45:AH:176:LEU:HD13	75:Am:86:ALA:HB3	1.95	0.49
48:AL:61:PRO:O	48:AL:62:THR:OG1	2.28	0.49
54:AR:109:TYR:CE1	54:AR:114:LYS:HD2	2.48	0.49
79:E:18:LYS:O	79:E:22:GLU:HG2	2.13	0.49
80:DC:30:HIS:C	80:DC:158:ASN:HD21	2.19	0.49
81:EC:6834:U:N3	81:EC:6856:C:O2	2.44	0.49
4:BE:76:VAL:HG13	4:BE:77:ARG:H	1.78	0.49
4:BE:94:ALA:O	4:BE:95:THR:OG1	2.23	0.49
7:BI:32:GLN:HE21	34:B5:1728:A:H1'	1.77	0.49
9:BL:2:SER:HA	9:BL:53:TYR:CD1	2.48	0.49
19:BD:215:GLU:OE2	19:BD:216:PRO:HD2	2.13	0.49
26:BT:47:PRO:HG2	26:BT:53:TRP:CE3	2.47	0.49
31:Bg:236:ALA:HB1	31:Bg:261:LYS:HD2	1.93	0.49
34:B5:215:A:H3'	34:B5:216:U:H6	1.76	0.49
34:B5:300:A:H2'	34:B5:301:A:C8	2.48	0.49
34:B5:1103:U:H2'	34:B5:1104:U:C6	2.48	0.49
34:B5:1326:A:H2'	34:B5:1327:C:C6	2.45	0.49
34:B5:1592:A:H2'	34:B5:1593:A:C8	2.48	0.49
34:B5:1782:MA6:H5'	76:An:9:ARG:HD2	1.95	0.49
38:A1:946:U:H2'	38:A1:947:G:H8	1.78	0.49
38:A1:1062:A:O2'	38:A1:1098:A:OP1	2.31	0.49
38:A1:1125:U:OP1	46:AI:15:LYS:HG3	2.13	0.49
38:A1:1899:G:O2'	38:A1:2334:U:O4	2.23	0.49
44:AG:91:PHE:CE1	44:AG:180:VAL:HG21	2.47	0.49
44:AG:91:PHE:HE2	44:AG:185:ARG:HB3	1.78	0.49
48:AL:50:PRO:HA	48:AL:138:VAL:O	2.13	0.49
79:E:48:ARG:NH1	79:E:50:SER:HB3	2.28	0.49
79:E:56:PRO:HD2	79:E:182:GLN:NE2	2.28	0.49
80:DC:324:MET:HG2	80:DC:324:MET:O	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:DC:576:LEU:HA	80:DC:586:ILE:O	2.12	0.49
1:BA:7:PHE:CE2	12:BV:43:GLY:HA2	2.48	0.48
13:BW:15:ASN:OD1	13:BW:71:LYS:HD2	2.13	0.48
15:BY:14:SER:HA	15:BY:21:LYS:HD2	1.95	0.48
21:BK:38:LYS:HG3	21:BK:41:TYR:H	1.77	0.48
22:BP:64:LYS:NZ	22:BP:91:GLY:O	2.40	0.48
27:BU:84:MET:HG3	30:Bd:52:PHE:CD2	2.47	0.48
34:B5:1091:A:H4'	34:B5:1092:A:O4'	2.13	0.48
36:AB:10:ARG:HD3	38:A1:2883:U:P	2.53	0.48
36:AB:213:GLU:O	36:AB:282:ILE:HD12	2.13	0.48
38:A1:585:A:H2'	38:A1:586:C:C6	2.48	0.48
38:A1:671:U:H2'	38:A1:672:A:C8	2.48	0.48
38:A1:847:A:H2'	38:A1:848:A:C8	2.48	0.48
38:A1:861:C:OP1	38:A1:2133:PSU:O2'	2.17	0.48
38:A1:966:PSU:H2'	38:A1:967:A:H8	1.77	0.48
38:A1:1101:G:H5''	43:AF:107:ARG:HD3	1.95	0.48
38:A1:1203:A:N6	38:A1:1300:G:H2'	2.28	0.48
38:A1:1302:A:N7	38:A1:2857:C:O2'	2.46	0.48
38:A1:1597:C:H2'	38:A1:1598:G:H8	1.77	0.48
38:A1:2584:G:H1'	44:AG:240:ASN:ND2	2.28	0.48
38:A1:2707:C:H2'	38:A1:2708:C:C6	2.47	0.48
38:A1:2738:A:H2'	38:A1:2739:A:H8	1.77	0.48
38:A1:2824:G:H2'	38:A1:2825:C:C6	2.48	0.48
41:AD:195:LEU:O	41:AD:199:ILE:HG12	2.13	0.48
42:AE:30:LEU:HD12	42:AE:34:LEU:HD22	1.93	0.48
48:AL:6:ASN:HB3	53:AQ:164:ARG:HH11	1.76	0.48
49:AM:19:ARG:HD2	49:AM:65:LEU:HD13	1.94	0.48
57:AU:93:ILE:HG22	57:AU:107:PHE:HA	1.94	0.48
61:AY:38:GLU:O	61:AY:42:GLN:NE2	2.46	0.48
66:Ad:14:ILE:HD12	66:Ad:39:PHE:CD1	2.48	0.48
68:Af:37:THR:OG1	68:Af:40:ASP:OD2	2.30	0.48
81:EC:6759:A:H2'	81:EC:6760:A:C8	2.47	0.48
6:BH:47:ARG:CZ	6:BH:49:ILE:HD11	2.44	0.48
6:BH:97:ARG:HB3	34:B5:856:A:N7	2.28	0.48
10:BN:36:GLN:HA	10:BN:39:LYS:HG2	1.94	0.48
15:BY:45:ALA:O	15:BY:50:ALA:N	2.46	0.48
34:B5:813:U:H3'	34:B5:814:A:H4'	1.95	0.48
34:B5:1146:G:H2'	34:B5:1147:A:H8	1.78	0.48
34:B5:1147:A:H2'	34:B5:1148:C:C6	2.47	0.48
34:B5:1448:G:H2'	34:B5:1449:U:C6	2.47	0.48
34:B5:1557:U:O2'	34:B5:1558:U:H2'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1560:U:H2'	34:B5:1561:U:O4'	2.12	0.48
34:B5:1781:MA6:H8	34:B5:1781:MA6:O5'	2.13	0.48
34:B5:1782:MA6:C8	34:B5:1783:C:C6	2.96	0.48
36:AB:313:HIS:O	36:AB:333:LYS:HE3	2.13	0.48
38:A1:91:G:N2	38:A1:95:A:OP2	2.45	0.48
38:A1:664:U:H2'	38:A1:665:A:H8	1.76	0.48
38:A1:1661:G:H2'	38:A1:1662:G:H8	1.75	0.48
38:A1:2359:C:H4'	38:A1:2399:A:H4'	1.95	0.48
38:A1:2494:A:H5'	38:A1:2495:C:H5''	1.95	0.48
40:A4:118:C:H2'	40:A4:119:C:H6	1.78	0.48
42:AE:39:VAL:O	42:AE:87:THR:OG1	2.25	0.48
42:AE:94:GLU:OE2	42:AE:94:GLU:N	2.43	0.48
50:AN:68:ARG:NH1	50:AN:123:GLN:HE21	2.10	0.48
63:Aa:130:VAL:HG11	63:Aa:145:VAL:HG21	1.95	0.48
68:Af:31:LYS:HD3	68:Af:32:ILE:N	2.28	0.48
70:Ah:105:ARG:O	70:Ah:109:ILE:HG12	2.13	0.48
3:BC:140:ARG:HB2	3:BC:222:TYR:CD1	2.49	0.48
3:BC:150:GLN:OE1	3:BC:150:GLN:N	2.40	0.48
4:BE:11:ARG:H	4:BE:27:TYR:HA	1.76	0.48
4:BE:27:TYR:O	34:B5:447:U:O2'	2.22	0.48
4:BE:136:VAL:HG23	4:BE:149:TYR:CE1	2.48	0.48
6:BH:141:ARG:HH21	6:BH:151:LYS:HZ2	1.61	0.48
7:BI:50:GLY:HA2	34:B5:397:A:H4'	1.95	0.48
14:BX:65:ASN:ND2	14:BX:116:ASP:OD2	2.46	0.48
34:B5:602:U:H2'	34:B5:603:U:C6	2.49	0.48
34:B5:683:C:O2'	34:B5:684:A:H5'	2.13	0.48
34:B5:1120:U:H2'	34:B5:1121:C:C6	2.49	0.48
34:B5:1383:G:H2'	34:B5:1384:A:C8	2.48	0.48
34:B5:1783:C:OP2	76:An:5:TRP:CE2	2.66	0.48
37:AC:170:LYS:HE2	37:AC:175:HIS:HA	1.94	0.48
37:AC:299:ILE:HD11	53:AQ:36:LEU:HD23	1.96	0.48
38:A1:579:G:H2'	38:A1:580:C:C6	2.49	0.48
38:A1:1334:U:H5''	43:AF:206:LYS:HB3	1.95	0.48
38:A1:1466:G:N2	38:A1:1510:G:H5''	2.27	0.48
38:A1:1498:A:OP1	54:AR:6:THR:HG22	2.12	0.48
38:A1:1618:G:O2'	40:A4:126:A:N1	2.46	0.48
38:A1:3358:U:H2'	38:A1:3359:A:H8	1.78	0.48
39:A3:120:C:H5	41:AD:258:LYS:HZ2	1.61	0.48
45:AH:113:GLU:OE2	45:AH:115:ARG:HG3	2.13	0.48
49:AM:24:LYS:HD3	49:AM:64:VAL:HG13	1.95	0.48
49:AM:47:ASP:HB3	49:AM:49:PRO:HD3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:Aj:19:CYS:HB2	72:Aj:27:PHE:HB2	1.95	0.48
81:EC:6763:C:H2'	81:EC:6764:C:C6	2.49	0.48
1:BA:63:ILE:HG12	12:BV:36:VAL:HG22	1.95	0.48
1:BA:189:VAL:HG23	1:BA:193:GLN:NE2	2.28	0.48
2:BB:136:ARG:HB3	2:BB:216:LYS:HG3	1.96	0.48
3:BC:148:LEU:HA	12:BV:4:ASP:HB3	1.95	0.48
7:BI:141:ARG:HD3	34:B5:190:C:N3	2.27	0.48
13:BW:8:ALA:HA	13:BW:74:VAL:HG11	1.95	0.48
16:Ba:44:ILE:HG12	16:Ba:65:PRO:O	2.13	0.48
19:BD:223:LYS:HB3	31:Bg:191:ASP:HB3	1.95	0.48
20:BF:31:GLU:HA	20:BF:34:GLN:HB2	1.96	0.48
21:BK:3:MET:HE1	21:BK:8:ARG:HB2	1.95	0.48
25:BS:65:GLU:HG2	25:BS:68:ARG:NH2	2.27	0.48
26:BT:111:ILE:HG23	26:BT:113:ILE:HG12	1.94	0.48
34:B5:17:C:H2'	34:B5:18:C:C6	2.49	0.48
34:B5:751:G:H2'	34:B5:752:A:C8	2.48	0.48
34:B5:1147:A:O2'	34:B5:1636:C:OP2	2.27	0.48
34:B5:1782:MA6:OP1	76:An:9:ARG:NH1	2.46	0.48
35:AA:42:ARG:HD3	35:AA:87:PHE:CD1	2.48	0.48
35:AA:51:ASP:OD2	35:AA:54:ARG:NE	2.30	0.48
37:AC:31:ARG:HH12	38:A1:674:G:P	2.36	0.48
38:A1:312:C:H2'	38:A1:313:A:H8	1.78	0.48
38:A1:1334:U:C2	38:A1:1335:C:C5	3.01	0.48
38:A1:1393:A:OP1	67:Ae:125:ARG:NH2	2.30	0.48
38:A1:1679:A:OP1	57:AU:94:ARG:HD2	2.14	0.48
38:A1:2222:A:H2'	38:A1:2223:A:C8	2.48	0.48
38:A1:2662:G:H2'	38:A1:2663:G:H8	1.78	0.48
38:A1:3201:C:H2'	38:A1:3202:G:C8	2.49	0.48
41:AD:41:LYS:HB2	56:AT:68:THR:O	2.14	0.48
43:AF:96:PRO:HB2	43:AF:99:PRO:HD2	1.95	0.48
48:AL:180:ARG:NH2	71:Ai:11:LEU:HG	2.28	0.48
56:AT:100:LYS:O	56:AT:103:GLN:NE2	2.47	0.48
66:Ad:11:GLU:HG3	66:Ad:72:ARG:NH1	2.27	0.48
79:E:11:GLU:OE1	79:E:11:GLU:N	2.46	0.48
1:BA:16:LEU:HB3	24:BR:91:LEU:HD12	1.95	0.48
2:BB:48:VAL:HG13	2:BB:49:ASN:H	1.78	0.48
3:BC:170:ILE:HB	3:BC:197:TYR:HB2	1.95	0.48
4:BE:42:LEU:HD23	4:BE:47:PHE:CZ	2.48	0.48
4:BE:69:HIS:ND1	15:BY:17:LEU:HD13	2.28	0.48
4:BE:73:ASP:HB3	4:BE:164:LEU:HD11	1.95	0.48
19:BD:75:LYS:HE3	21:BK:18:GLU:HB3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:BF:213:LYS:HA	20:BF:216:GLU:HB3	1.96	0.48
22:BP:15:HIS:HB3	22:BP:22:LEU:HD11	1.94	0.48
24:BR:25:THR:HG1	24:BR:30:THR:HG1	1.62	0.48
31:Bg:159:ASN:HD21	31:Bg:165:ASP:HB2	1.78	0.48
34:B5:467:G:O2'	34:B5:469:C:OP2	2.25	0.48
34:B5:547:U:O2'	34:B5:596:C:O2	2.32	0.48
34:B5:762:A:H2'	34:B5:763:G:C8	2.48	0.48
34:B5:925:G:H2'	34:B5:926:A:C8	2.47	0.48
34:B5:1207:C:H5'	34:B5:1208:A:C8	2.48	0.48
34:B5:1782:MA6:H3'	34:B5:1783:C:C6	2.47	0.48
38:A1:156:G:OP2	71:Ai:25:LYS:HB3	2.12	0.48
38:A1:1066:G:H2'	38:A1:1067:U:H6	1.78	0.48
38:A1:1486:G:H21	69:Ag:6:THR:HG22	1.78	0.48
38:A1:1680:G:H2'	38:A1:1681:U:C6	2.49	0.48
38:A1:2475:G:H2'	38:A1:2476:C:C6	2.49	0.48
38:A1:2853:A:H4'	46:AI:63:GLU:OE2	2.13	0.48
38:A1:3072:C:H2'	38:A1:3073:A:O4'	2.14	0.48
38:A1:3103:A:H2'	38:A1:3104:U:O4'	2.14	0.48
45:AH:88:TYR:HE2	45:AH:155:SER:HB3	1.78	0.48
55:AS:99:ARG:NH1	55:AS:126:VAL:O	2.47	0.48
57:AU:34:ALA:O	57:AU:38:ILE:HG12	2.13	0.48
71:Ai:42:SER:O	71:Ai:46:GLU:HG3	2.12	0.48
72:Aj:20:ASN:HD21	74:Al:8:ARG:CZ	2.26	0.48
2:BB:230:ALA:HB2	38:A1:2537:U:OP1	2.12	0.48
3:BC:233:GLN:NE2	12:BV:15:ARG:HA	2.29	0.48
7:BI:26:LYS:HD2	34:B5:400:A:C2	2.48	0.48
11:BO:17:ALA:N	11:BO:80:HIS:O	2.35	0.48
14:BX:68:ILE:HG22	14:BX:70:LYS:HD2	1.95	0.48
20:BF:76:ARG:NH2	23:BQ:121:SER:H	2.12	0.48
24:BR:18:GLU:HG3	24:BR:19:ARG:HG3	1.93	0.48
27:BU:102:ARG:HH12	27:BU:106:ILE:HB	1.78	0.48
34:B5:67:A:O2'	34:B5:69:G:OP1	2.31	0.48
34:B5:235:G:H2'	34:B5:236:A:C8	2.48	0.48
34:B5:1552:U:H2'	34:B5:1553:G:C8	2.48	0.48
34:B5:1684:U:H2'	34:B5:1685:G:C8	2.48	0.48
36:AB:216:ASP:HB2	36:AB:339:ARG:HG2	1.95	0.48
37:AC:38:VAL:HG22	37:AC:117:GLU:HG3	1.96	0.48
38:A1:838:G:O6	78:Ap:4:ARG:NH1	2.46	0.48
38:A1:1712:G:H2'	38:A1:1713:G:C8	2.49	0.48
38:A1:2353:G:H5''	52:AP:86:LYS:HB2	1.96	0.48
38:A1:2364:G:H22	38:A1:2396:G:H1'	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:2681:U:H2'	38:A1:2682:C:C6	2.48	0.48
38:A1:2875:U:OP2	38:A1:2945:G:N1	2.35	0.48
38:A1:3201:C:H2'	38:A1:3202:G:H8	1.79	0.48
51:AO:4[A]:GLU:OE2	51:AO:4[A]:GLU:N	2.37	0.48
66:Ad:12:TYR:CD1	66:Ad:75:ILE:HD12	2.48	0.48
68:Af:20:LYS:HG2	68:Af:21:ARG:HD3	1.96	0.48
80:DC:544:ASP:HB2	80:DC:549:HIS:ND1	2.28	0.48
81:EC:6850:C:O2'	81:EC:6851:G:H2'	2.14	0.48
4:BE:211:LYS:HE2	4:BE:215:ASP:HA	1.96	0.48
4:BE:252:ARG:NH1	8:BJ:71:PHE:HA	2.27	0.48
6:BH:116:ARG:NH1	34:B5:858:G:OP1	2.36	0.48
7:BI:141:ARG:HD2	34:B5:193:U:C2	2.49	0.48
8:BJ:121:SER:O	8:BJ:125:ALA:N	2.38	0.48
18:Be:57:ASN:ND2	34:B5:588:U:O2	2.39	0.48
20:BF:225:ARG:O	29:Bc:61:ARG:NH1	2.46	0.48
27:BU:72:ASN:ND2	34:B5:1429:G:N3	2.60	0.48
31:Bg:159:ASN:OD1	31:Bg:164:ASP:N	2.47	0.48
38:A1:1012:G:H2'	38:A1:1013:G:H8	1.79	0.48
38:A1:1622:U:H2'	38:A1:1623:G:C8	2.48	0.48
38:A1:1672:U:H2'	38:A1:1673:G:H8	1.77	0.48
38:A1:2588:U:OP1	44:AG:241:LYS:NZ	2.34	0.48
38:A1:2632:G:O6	38:A1:2647:A:N6	2.46	0.48
38:A1:3038:U:H2'	38:A1:3039:C:O4'	2.13	0.48
38:A1:3095:U:H2'	38:A1:3096:C:H6	1.79	0.48
44:AG:61:GLN:HA	44:AG:64:ILE:HG12	1.94	0.48
44:AG:220:ALA:O	44:AG:225:LYS:NZ	2.47	0.48
49:AM:19:ARG:NH1	49:AM:66:THR:O	2.43	0.48
51:AO:152[A]:VAL:HA	51:AO:155[A]:LYS:HG2	1.96	0.48
61:AY:74:TYR:HD2	61:AY:77:LYS:HB2	1.77	0.48
80:DC:418:TYR:HB3	80:DC:477:ASN:OD1	2.14	0.48
80:DC:734:GLN:HB3	80:DC:793:PHE:HD2	1.79	0.48
3:BC:82:ASN:OD1	3:BC:83:ILE:N	2.46	0.48
3:BC:227:PRO:HA	3:BC:230:TRP:CD2	2.48	0.48
6:BH:61:PHE:HB3	6:BH:95:GLU:HB2	1.96	0.48
10:BN:16:ILE:HG22	34:B5:959:U:H4'	1.95	0.48
21:BK:61:TRP:CE2	30:Bd:23:VAL:HG13	2.48	0.48
26:BT:6:VAL:HB	26:BT:136:ALA:HB2	1.95	0.48
36:AB:283:TYR:HB3	36:AB:356:LEU:HD11	1.96	0.48
37:AC:164:GLU:N	37:AC:164:GLU:OE1	2.47	0.48
38:A1:65:A:H1'	38:A1:77:A:H1'	1.95	0.48
38:A1:625:G:H2'	38:A1:626:U:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:758:C:H5''	77:Ao:18:ARG:HH22	1.78	0.48
38:A1:1310:G:O2'	38:A1:2380:U:O2'	2.24	0.48
38:A1:2812:C:H2'	38:A1:2813:A:C8	2.49	0.48
38:A1:3006:A:C2	38:A1:3141:A:C4	3.02	0.48
44:AG:133:LYS:HD2	44:AG:138:HIS:NE2	2.29	0.48
45:AH:124:ARG:HD3	45:AH:164:ILE:HG22	1.95	0.48
71:Ai:25:LYS:HD3	71:Ai:28:TYR:CE2	2.48	0.48
73:Ak:15:THR:HB	73:Ak:73:LEU:HD11	1.95	0.48
74:Al:10:LYS:O	74:Al:13:MET:HB2	2.14	0.48
80:DC:632:LYS:HD2	80:DC:648:ASP:OD1	2.13	0.48
1:BA:30:GLN:HE21	1:BA:33:GLN:HG2	1.78	0.48
1:BA:103:THR:O	1:BA:106:SER:OG	2.25	0.48
2:BB:119:THR:HG23	2:BB:155:TYR:HD1	1.78	0.48
5:BG:72:ARG:HA	5:BG:98:ARG:HA	1.95	0.48
9:BL:97:TYR:HE2	14:BX:16:ARG:HG3	1.78	0.48
10:BN:33:VAL:HA	10:BN:36:GLN:HG2	1.96	0.48
12:BV:14:PRO:HB2	12:BV:23:ILE:HG23	1.96	0.48
18:Be:56:MET:HG3	34:B5:556:A:H4'	1.95	0.48
19:BD:74:GLN:HG2	19:BD:84:ILE:HG21	1.96	0.48
19:BD:178:ARG:HG2	19:BD:179:GLN:OE1	2.13	0.48
20:BF:90:ILE:O	20:BF:94:THR:HG23	2.14	0.48
24:BR:67:ARG:HH22	34:B5:1319:A:P	2.36	0.48
29:Bc:42:ARG:HA	29:Bc:63:ALA:HB2	1.96	0.48
31:Bg:266:ASP:HB3	31:Bg:267:PRO:HD3	1.96	0.48
34:B5:103:A:O3'	34:B5:308:C:N4	2.45	0.48
34:B5:185:U:H2'	34:B5:186:C:H6	1.78	0.48
34:B5:1531:G:H2'	34:B5:1532:U:H6	1.78	0.48
34:B5:1695:G:H2'	34:B5:1695:G:N3	2.29	0.48
36:AB:167:ARG:NH1	36:AB:168:LYS:HG3	2.29	0.48
38:A1:68:C:O3'	50:AN:177:GLY:HA2	2.14	0.48
38:A1:407:A:H5''	38:A1:1396:C:O2'	2.14	0.48
38:A1:501:A:H2'	38:A1:502:U:H6	1.73	0.48
38:A1:539:C:H2'	38:A1:540:U:C6	2.49	0.48
38:A1:890:C:H2'	38:A1:891:G:H8	1.78	0.48
38:A1:1251:A:H3'	38:A1:1252:A:H5'	1.96	0.48
38:A1:1270:A:H8	38:A1:1273:A:C8	2.32	0.48
38:A1:1281:G:H2'	38:A1:1282:G:C8	2.48	0.48
38:A1:1503:A:H61	38:A1:1516:C:H1'	1.79	0.48
38:A1:2769:A:O2'	77:Ao:80:ARG:O	2.29	0.48
38:A1:3107:U:H2'	38:A1:3108:G:H8	1.79	0.48
38:A1:3190:C:OP1	51:AO:172[A]:ARG:NH1	2.32	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:3263:G:C4	38:A1:3264:G:C8	3.01	0.48
38:A1:3298:C:C2	38:A1:3299:A:C8	3.01	0.48
39:A3:4:U:H2'	39:A3:5:G:H8	1.78	0.48
39:A3:113:C:H2'	39:A3:114:U:O4'	2.13	0.48
41:AD:8:LYS:HD3	41:AD:8:LYS:HA	1.68	0.48
46:AI:40:LYS:HA	46:AI:40:LYS:CE	2.43	0.48
54:AR:13:SER:OG	54:AR:38:ARG:NH2	2.47	0.48
55:AS:77:VAL:HG12	55:AS:126:VAL:HG22	1.94	0.48
56:AT:14:MET:HG2	56:AT:58:GLN:HG2	1.96	0.48
62:AZ:53:VAL:HG22	62:AZ:65:ARG:HG2	1.95	0.48
71:AI:54:GLU:O	71:AI:58:ILE:HG12	2.13	0.48
79:E:14:LYS:HA	79:E:17:LEU:HG	1.96	0.48
79:E:69:GLY:HA2	79:E:116:LEU:HD13	1.96	0.48
80:DC:664:VAL:O	80:DC:668:GLN:HG2	2.13	0.48
81:EC:6764:C:H2'	81:EC:6765:A:H8	1.77	0.48
3:BC:139:ILE:HD13	3:BC:191:ALA:HB1	1.96	0.48
4:BE:57:ASN:N	4:BE:60:GLU:OE2	2.47	0.48
6:BH:67:LEU:O	6:BH:71:HIS:N	2.47	0.48
11:BO:52:ARG:HH12	34:B5:903:U:H3	1.60	0.48
19:BD:64:ARG:HE	21:BK:91:TYR:HE2	1.62	0.48
19:BD:106:LYS:HE3	19:BD:173:ARG:NH1	2.29	0.48
21:BK:49:LEU:HA	21:BK:52:LYS:HZ3	1.79	0.48
26:BT:61:VAL:O	26:BT:65:ILE:HG12	2.14	0.48
38:A1:127:G:H2'	38:A1:128:G:H8	1.79	0.48
38:A1:597:G:H5''	43:AF:41:ARG:HD2	1.95	0.48
38:A1:929:A:O2'	72:Aj:49:TRP:O	2.32	0.48
38:A1:1336:U:C2	38:A1:1337:A:C8	3.02	0.48
38:A1:1606:U:O4	69:Ag:9:ARG:NE	2.43	0.48
38:A1:1934:G:C6	38:A1:1935:G:N7	2.82	0.48
38:A1:2196:C:H2'	38:A1:2242:A:H61	1.79	0.48
38:A1:2662:G:H2'	38:A1:2663:G:C8	2.49	0.48
46:AI:40:LYS:HA	46:AI:40:LYS:HE3	1.95	0.48
51:AO:105[A]:PHE:HE2	51:AO:112[A]:TYR:CE1	2.32	0.48
65:Ac:13:LYS:O	65:Ac:17:VAL:HG23	2.14	0.48
80:DC:258:THR:HG22	80:DC:260:LYS:HG3	1.96	0.48
80:DC:488:VAL:O	80:DC:490:GLN:NE2	2.46	0.48
80:DC:628:THR:O	80:DC:632:LYS:HG3	2.14	0.48
3:BC:101:VAL:HG21	3:BC:207:LEU:HD22	1.95	0.47
4:BE:198:LYS:HG3	4:BE:208:VAL:HG12	1.95	0.47
9:BL:149:ALA:HB1	9:BL:153:PHE:CE2	2.49	0.47
19:BD:9:ARG:NH2	34:B5:1490:C:OP1	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:BF:109:LYS:NZ	34:B5:1473:U:H1'	2.29	0.47
24:BR:110:VAL:HG13	24:BR:115:LEU:HB2	1.96	0.47
25:BS:75:ASN:HB3	25:BS:78:HIS:ND1	2.29	0.47
27:BU:50:LEU:HD21	27:BU:95:ALA:HB2	1.95	0.47
34:B5:445:A:H2'	34:B5:446:A:H8	1.79	0.47
34:B5:845:G:H1'	34:B5:846:G:C5	2.49	0.47
37:AC:308:LYS:HZ2	37:AC:310:THR:HB	1.79	0.47
38:A1:1294:A:O2'	38:A1:1295:G:H8	1.97	0.47
38:A1:1622:U:H2'	38:A1:1623:G:H8	1.78	0.47
38:A1:2393:G:O2'	38:A1:2982:A:N6	2.43	0.47
38:A1:2450:G:H2'	38:A1:2451:G:C4	2.49	0.47
38:A1:2476:C:H2'	38:A1:2477:G:C8	2.49	0.47
38:A1:2615:G:H2'	38:A1:2616:C:C6	2.49	0.47
38:A1:2769:A:H2'	38:A1:2770:G:C8	2.49	0.47
45:AH:44:THR:HG21	49:AM:12:TRP:HH2	1.79	0.47
45:AH:53:ILE:HD11	49:AM:7:VAL:HG11	1.96	0.47
50:AN:15:GLN:HB3	71:AI:52:PRO:HD2	1.96	0.47
58:AV:45:ARG:HD2	58:AV:46:LEU:H	1.79	0.47
69:Ag:106:LYS:HA	69:Ag:109:THR:HG22	1.95	0.47
80:DC:143:LEU:HD22	80:DC:188:ILE:HD12	1.96	0.47
80:DC:655:TYR:HB2	80:DC:693:LEU:HD22	1.96	0.47
81:EC:6813:A:H2'	81:EC:6814:G:C8	2.48	0.47
1:BA:11:PRO:HG3	24:BR:117:LEU:HB3	1.96	0.47
5:BG:141:ILE:HD12	5:BG:175:ILE:HD12	1.96	0.47
6:BH:80:GLU:HG2	6:BH:84:LYS:NZ	2.28	0.47
20:BF:107:LYS:HB2	34:B5:1610:G:H5'	1.96	0.47
27:BU:42:VAL:HA	27:BU:52:LYS:NZ	2.28	0.47
34:B5:624:G:H2'	34:B5:625:C:C6	2.49	0.47
34:B5:986:G:H2'	34:B5:987:G:O4'	2.14	0.47
36:AB:20:LYS:HD3	36:AB:21:ARG:N	2.29	0.47
38:A1:744:A:H2'	38:A1:745:C:O4'	2.14	0.47
38:A1:1921:A:H2'	38:A1:1922:A:H8	1.79	0.47
38:A1:2426:U:H2'	38:A1:2427:U:C6	2.49	0.47
38:A1:2448:G:N1	38:A1:2499:U:N3	2.61	0.47
38:A1:2609:A:N3	50:AN:87:GLN:NE2	2.59	0.47
38:A1:3095:U:H2'	38:A1:3096:C:C6	2.49	0.47
44:AG:43:LYS:HE3	60:AX:28:THR:HG21	1.95	0.47
53:AQ:152:HIS:ND1	53:AQ:162:ALA:O	2.38	0.47
54:AR:21:LYS:O	54:AR:53:LYS:HB3	2.13	0.47
62:AZ:50:PRO:HD3	62:AZ:68:ILE:HG12	1.97	0.47
66:Ad:15:ASN:OD1	66:Ad:70:ARG:NH1	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:E:2:SER:HA	79:E:198:TRP:CZ2	2.49	0.47
80:DC:169:VAL:CG2	80:DC:173:ASP:HB3	2.43	0.47
80:DC:575:ALA:N	80:DC:588:LEU:O	2.46	0.47
2:BB:51:SER:HA	2:BB:57:ALA:H	1.79	0.47
3:BC:81:MET:HE1	3:BC:186:LYS:HE3	1.97	0.47
3:BC:230:TRP:CG	13:BW:68:ARG:HD2	2.50	0.47
4:BE:79:ASP:HB3	4:BE:82:TYR:HB2	1.96	0.47
8:BJ:119:ALA:HA	8:BJ:124:HIS:ND1	2.29	0.47
11:BO:85:ALA:H	11:BO:119:THR:HB	1.79	0.47
12:BV:39:VAL:HA	12:BV:45:ALA:HA	1.95	0.47
13:BW:11:LEU:HD12	13:BW:72:CYS:HB2	1.97	0.47
21:BK:19:GLY:HA2	21:BK:68:LEU:HD23	1.96	0.47
28:BZ:79:ALA:O	28:BZ:83:LEU:HG	2.14	0.47
29:Bc:12:VAL:HG12	29:Bc:52:ASP:O	2.14	0.47
30:Bd:40:ARG:HD2	34:B5:1199:G:C4	2.49	0.47
31:Bg:106:HIS:CE1	31:Bg:132:LYS:HB2	2.48	0.47
32:Bf:139:LEU:N	32:Bf:148:TYR:O	2.47	0.47
34:B5:207:U:H2'	34:B5:208:U:C6	2.50	0.47
34:B5:432:G:C2'	34:B5:433:C:H5'	2.44	0.47
34:B5:642:G:H2'	34:B5:643:G:O4'	2.15	0.47
34:B5:1173:C:H2'	34:B5:1174:C:C6	2.49	0.47
34:B5:1468:U:H2'	34:B5:1469:A:O4'	2.15	0.47
34:B5:1476:C:H2'	34:B5:1477:G:C8	2.48	0.47
35:AA:8:GLN:O	38:A1:2163:C:O2'	2.31	0.47
37:AC:142:VAL:HA	37:AC:145:ILE:HG12	1.96	0.47
37:AC:237:GLN:HB2	37:AC:246:ARG:NH1	2.29	0.47
38:A1:561:C:H2'	38:A1:562:C:C6	2.49	0.47
38:A1:1070:U:H2'	38:A1:1071:U:C6	2.49	0.47
38:A1:1449:A:H2'	38:A1:1450:G:O4'	2.14	0.47
38:A1:1706:C:H2'	38:A1:1707:A:O4'	2.14	0.47
38:A1:2109:U:O2'	38:A1:2110:G:H5'	2.14	0.47
38:A1:2429:G:H2'	38:A1:2430:A:H8	1.80	0.47
38:A1:3279:A:H2'	38:A1:3280:U:C6	2.49	0.47
38:A1:3296:A:H2'	38:A1:3297:U:H6	1.78	0.47
45:AH:92:TYR:HB2	45:AH:142:ASP:HB3	1.96	0.47
58:AV:37:ILE:HD11	58:AV:61:THR:HG23	1.96	0.47
69:Ag:81:CYS:C	69:Ag:83:ASN:H	2.22	0.47
70:Ah:60:GLU:O	70:Ah:64:GLU:HG3	2.14	0.47
1:BA:57:LEU:HD21	1:BA:177:LEU:HA	1.96	0.47
1:BA:120:LEU:HD11	1:BA:144:ILE:CD1	2.45	0.47
3:BC:40:LYS:NZ	3:BC:240:LEU:HB3	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:BI:37:LYS:C	7:BI:59:ARG:HA	2.38	0.47
14:BX:31:LYS:HD2	14:BX:36:THR:HG21	1.96	0.47
25:BS:127:HIS:CD2	25:BS:133:VAL:HG11	2.49	0.47
26:BT:115:GLU:N	26:BT:115:GLU:OE1	2.47	0.47
32:Bf:100:LEU:O	32:Bf:100:LEU:HD23	2.15	0.47
32:Bf:138:ARG:NH1	34:B5:1235:C:O2	2.48	0.47
34:B5:189:C:N4	34:B5:197:A:N3	2.59	0.47
34:B5:887:A:H2'	34:B5:888:U:C6	2.50	0.47
34:B5:1752:U:H2'	34:B5:1753:A:H8	1.80	0.47
37:AC:104:LYS:NZ	38:A1:800:G:O6	2.27	0.47
38:A1:163:C:H2'	38:A1:164:A:C8	2.49	0.47
38:A1:168:U:H2'	38:A1:169:U:C6	2.48	0.47
38:A1:1036:A:H2'	38:A1:1037:C:H6	1.80	0.47
38:A1:1805:C:H2'	38:A1:1806:A:C8	2.42	0.47
38:A1:1845:G:O2'	72:Aj:5:THR:HG22	2.14	0.47
38:A1:2407:C:H2'	38:A1:2408:U:H6	1.79	0.47
38:A1:3223:A:H2'	38:A1:3224:G:O4'	2.14	0.47
38:A1:3320:A:H2'	38:A1:3321:C:C6	2.49	0.47
40:A4:142:C:H2'	40:A4:143:U:H6	1.79	0.47
41:AD:117:GLU:N	41:AD:117:GLU:OE1	2.44	0.47
46:AI:179:PRO:O	46:AI:183:LYS:HG2	2.15	0.47
47:AJ:41:SER:O	47:AJ:75:LYS:NZ	2.34	0.47
50:AN:27:VAL:HB	50:AN:122:ASN:ND2	2.28	0.47
50:AN:43:THR:OG1	50:AN:131:GLU:OE2	2.24	0.47
55:AS:6:GLU:OE1	55:AS:99:ARG:HD2	2.14	0.47
62:AZ:104:PRO:HA	62:AZ:107:ARG:HG3	1.96	0.47
79:E:67:ILE:HD13	79:E:144:LEU:HD21	1.95	0.47
80:DC:358:GLU:HB3	80:DC:479:LYS:HD2	1.95	0.47
80:DC:465:LYS:HD2	80:DC:516:PRO:HA	1.97	0.47
80:DC:736:PRO:HD2	80:DC:792:ALA:HA	1.96	0.47
2:BB:111:ARG:NH2	34:B5:930:A:N3	2.62	0.47
5:BG:138:ALA:HA	5:BG:175:ILE:HD11	1.97	0.47
8:BJ:59:LEU:HG	8:BJ:69:ARG:HG2	1.95	0.47
9:BL:103:ARG:HH21	34:B5:307:G:H5''	1.79	0.47
9:BL:103:ARG:HG2	14:BX:13:ARG:HH22	1.80	0.47
20:BF:86:GLN:NE2	29:Bc:49:ARG:HH22	2.05	0.47
21:BK:49:LEU:HA	21:BK:52:LYS:NZ	2.29	0.47
27:BU:96:PRO:HD2	27:BU:99:ILE:HD11	1.96	0.47
31:Bg:80:ALA:HB3	31:Bg:92:TRP:HB2	1.94	0.47
32:Bf:107:LYS:HE2	32:Bf:117:LEU:HD11	1.97	0.47
36:AB:41:VAL:HG13	36:AB:183:LEU:HD12	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:139:G:H2'	38:A1:140:C:C6	2.49	0.47
38:A1:161:G:C5	38:A1:162:G:C2	3.02	0.47
38:A1:2203:U:H2'	38:A1:2204:C:C6	2.50	0.47
38:A1:2468:A:N3	38:A1:2477:G:N2	2.52	0.47
38:A1:2909:U:H2'	38:A1:2910:A:O4'	2.15	0.47
38:A1:3213:A:H2'	38:A1:3214:U:O4'	2.13	0.47
38:A1:3303:G:C6	38:A1:3305:A:C2	3.03	0.47
43:AF:98:LYS:HB2	43:AF:98:LYS:HE3	1.50	0.47
44:AG:91:PHE:HE1	44:AG:180:VAL:HG21	1.79	0.47
47:AJ:92:ARG:HD3	47:AJ:94:ARG:HB3	1.96	0.47
50:AN:11:GLN:OE1	50:AN:44:ARG:NH1	2.48	0.47
52:AP:129:THR:HG22	52:AP:137:ASN:O	2.14	0.47
55:AS:138:GLN:HA	55:AS:141:LYS:HB2	1.96	0.47
56:AT:86:GLU:OE1	64:Ab:24:PRO:HG2	2.14	0.47
57:AU:38:ILE:HD11	57:AU:56:VAL:HB	1.95	0.47
70:Ah:107:LYS:HE3	70:Ah:107:LYS:HB3	1.59	0.47
80:DC:150:ARG:O	80:DC:150:ARG:HD2	2.13	0.47
80:DC:162:ARG:CZ	80:DC:163:ALA:HB2	2.44	0.47
80:DC:413:ILE:HB	80:DC:427:PHE:HB2	1.97	0.47
80:DC:572:SER:OG	80:DC:573:GLN:N	2.47	0.47
80:DC:576:LEU:HD12	80:DC:840:ASP:HB3	1.96	0.47
80:DC:617:ARG:NH1	80:DC:617:ARG:HA	2.30	0.47
80:DC:826:HIS:HB3	80:DC:828:MET:HE1	1.97	0.47
3:BC:144:TRP:CZ2	3:BC:173:PRO:HG3	2.50	0.47
5:BG:37:ASP:HB2	5:BG:39:GLU:OE1	2.15	0.47
5:BG:74:LYS:HB2	5:BG:74:LYS:HE2	1.62	0.47
7:BI:78:ILE:HD11	7:BI:102:VAL:HG11	1.97	0.47
12:BV:46:ILE:HB	12:BV:49:GLU:HB2	1.96	0.47
20:BF:100:ASN:HB3	20:BF:102:ARG:HG2	1.96	0.47
21:BK:64:TYR:HB3	21:BK:66:TYR:CE1	2.50	0.47
26:BT:87:GLY:C	34:B5:1542:G:H5''	2.40	0.47
27:BU:34:LEU:HD21	27:BU:89:ARG:NE	2.28	0.47
31:Bg:59:ARG:NE	31:Bg:95:ALA:O	2.47	0.47
34:B5:95:G:HO2'	34:B5:460:A:HO2'	1.59	0.47
38:A1:538:G:O6	38:A1:553:U:O4	2.31	0.47
38:A1:651:G:O2'	38:A1:1435:A:OP1	2.33	0.47
38:A1:920:A:OP1	38:A1:923:C:N4	2.38	0.47
38:A1:1433:A:N7	67:Ae:19:ARG:NH2	2.63	0.47
38:A1:1653:G:H2'	38:A1:1654:A:C8	2.49	0.47
38:A1:3159:C:H2'	38:A1:3160:U:H6	1.80	0.47
40:A4:135:G:OP1	60:AX:49:LYS:NZ	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:AD:148:ILE:HB	41:AD:159:VAL:HG21	1.96	0.47
70:Ah:73:LYS:O	70:Ah:76:GLN:NE2	2.47	0.47
80:DC:173:ASP:O	80:DC:177:THR:HG23	2.14	0.47
1:BA:11:PRO:HD3	24:BR:117:LEU:HD22	1.96	0.47
3:BC:149:GLY:HA3	3:BC:174:ARG:HH22	1.79	0.47
4:BE:128:LYS:HD3	4:BE:130:GLN:NE2	2.29	0.47
4:BE:160:VAL:HG11	4:BE:169:ILE:HG12	1.97	0.47
4:BE:192:ILE:H	4:BE:192:ILE:HD12	1.79	0.47
4:BE:206:ASP:HB2	4:BE:222:LEU:HD13	1.97	0.47
5:BG:56:ASN:ND2	5:BG:60:GLY:O	2.46	0.47
5:BG:166:GLU:OE1	5:BG:166:GLU:N	2.47	0.47
6:BH:14:THR:HG22	6:BH:16:LEU:H	1.79	0.47
6:BH:104:ARG:NH2	34:B5:805:U:O4	2.48	0.47
7:BI:103:GLN:HA	7:BI:165:LEU:O	2.14	0.47
8:BJ:5:PRO:HB3	34:B5:380:U:C4	2.50	0.47
8:BJ:90:LYS:HD2	8:BJ:90:LYS:O	2.14	0.47
10:BN:42:ARG:NH1	10:BN:80:LEU:HD21	2.30	0.47
11:BO:132:ARG:NH1	34:B5:1789:G:OP2	2.48	0.47
12:BV:34:ILE:HB	12:BV:53:TYR:HB2	1.96	0.47
14:BX:3:LYS:HD2	14:BX:7:ARG:HH12	1.79	0.47
15:BY:60:PHE:CG	15:BY:60:PHE:O	2.67	0.47
15:BY:60:PHE:HE1	34:B5:522:U:O2'	1.98	0.47
19:BD:101:GLN:HB3	19:BD:122:VAL:HG21	1.97	0.47
20:BF:195:ALA:O	20:BF:199:ILE:HG12	2.14	0.47
21:BK:83:PRO:HB2	21:BK:86:ILE:HB	1.96	0.47
22:BP:12:PHE:HD2	22:BP:13:LYS:HG2	1.78	0.47
22:BP:15:HIS:O	22:BP:22:LEU:HG	2.15	0.47
23:BQ:39:VAL:N	23:BQ:45:ARG:HH21	2.12	0.47
23:BQ:95:LYS:C	31:Bg:59:ARG:HH12	2.22	0.47
23:BQ:98:ASP:O	23:BQ:101:SER:OG	2.27	0.47
23:BQ:122:ARG:O	23:BQ:123:ARG:HG3	2.14	0.47
28:BZ:97:LYS:HG3	28:BZ:97:LYS:O	2.15	0.47
32:Bf:121:CYS:HB2	32:Bf:132:LEU:HD21	1.97	0.47
34:B5:102:U:H3'	34:B5:360:A:H61	1.79	0.47
34:B5:407:A:H2'	34:B5:408:C:C6	2.50	0.47
34:B5:449:C:H2'	34:B5:450:U:H6	1.79	0.47
34:B5:606:A:H4'	34:B5:607:G:H3'	1.97	0.47
34:B5:751:G:H2'	34:B5:752:A:H8	1.80	0.47
34:B5:867:G:H2'	34:B5:868:G:H8	1.80	0.47
34:B5:906:A:H2	34:B5:998:A:H1'	1.80	0.47
34:B5:1348:A:H2'	34:B5:1349:G:O4'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1382:A:O2'	34:B5:1383:G:H8	1.97	0.47
34:B5:1426:C:O2'	34:B5:1428:G:OP2	2.18	0.47
34:B5:1682:U:O2'	34:B5:1683:C:O5'	2.33	0.47
35:AA:7:ASN:OD1	35:AA:8:GLN:N	2.48	0.47
35:AA:30:ARG:HG2	35:AA:30:ARG:HH11	1.80	0.47
36:AB:60:LEU:HG	36:AB:72:VAL:HG11	1.97	0.47
36:AB:116:ARG:HH22	38:A1:3315:G:P	2.38	0.47
38:A1:507:U:H2'	38:A1:508:U:C6	2.49	0.47
38:A1:582:G:H2'	38:A1:583:G:H8	1.78	0.47
38:A1:726:G:N1	38:A1:743:C:OP2	2.40	0.47
38:A1:796:U:H1'	48:AL:7:LEU:HD13	1.97	0.47
38:A1:839:C:N4	78:Ap:4:ARG:HH12	2.12	0.47
38:A1:1011:A:H2'	38:A1:1012:G:C8	2.50	0.47
38:A1:1123:U:H2'	38:A1:1124:PSU:O4'	2.14	0.47
38:A1:1132:C:H2'	38:A1:1133:A:H8	1.79	0.47
38:A1:1290:A:H2'	38:A1:1291:A:H8	1.78	0.47
38:A1:1307:G:H5'	51:AO:60[A]:LYS:HE3	1.97	0.47
38:A1:1875:G:N7	54:AR:20:ARG:NE	2.61	0.47
38:A1:2562:A:N6	38:A1:2579:G:O2'	2.43	0.47
38:A1:2573:G:OP1	62:AZ:58:GLY:N	2.48	0.47
38:A1:2585:G:H2'	38:A1:2585:G:N3	2.29	0.47
38:A1:2683:U:H2'	38:A1:2684:C:C6	2.50	0.47
38:A1:3010:U:O2'	38:A1:3011:A:H2'	2.13	0.47
38:A1:3022:G:H4'	38:A1:3023:U:O5'	2.13	0.47
38:A1:3190:C:H2'	38:A1:3191:G:H8	1.80	0.47
40:A4:39:G:OP1	70:Ah:83:LYS:NZ	2.29	0.47
40:A4:39:G:H1'	40:A4:104:A:N6	2.30	0.47
42:AE:172:HIS:CE1	68:Af:35:VAL:HG22	2.50	0.47
43:AF:90:LYS:HG3	43:AF:91:GLY:N	2.29	0.47
43:AF:176:TYR:CZ	43:AF:197:GLN:HG2	2.49	0.47
46:AI:53:VAL:HG13	46:AI:133:GLN:O	2.15	0.47
48:AL:106:GLN:HA	71:Ai:20:MET:HE2	1.96	0.47
52:AP:108:ASP:N	52:AP:152:GLU:OE2	2.36	0.47
58:AV:15:LEU:HD23	58:AV:53:SER:OG	2.15	0.47
62:AZ:97:SER:O	62:AZ:100:THR:HG22	2.15	0.47
76:An:5:TRP:O	76:An:9:ARG:HD3	2.15	0.47
79:E:57:ASN:OD1	79:E:182:GLN:NE2	2.44	0.47
80:DC:613:LYS:O	80:DC:617:ARG:HG2	2.15	0.47
85:DC:903:SO1:H102	85:DC:903:SO1:H16	1.64	0.47
81:EC:6873:A:H2'	81:EC:6874:A:H2'	1.96	0.47
2:BB:31:ASP:OD1	2:BB:32:ILE:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:BB:106:THR:HB	11:BO:116:GLU:OE2	2.15	0.47
2:BB:203:ASP:OD1	2:BB:203:ASP:N	2.48	0.47
3:BC:81:MET:HE2	3:BC:183:ALA:HA	1.95	0.47
4:BE:248:ILE:HD12	8:BJ:71:PHE:CD2	2.49	0.47
8:BJ:18:PRO:HD3	34:B5:22:A:H5'	1.96	0.47
8:BJ:171:ARG:O	8:BJ:175:ARG:HG3	2.15	0.47
9:BL:91:LEU:HD12	9:BL:100:TYR:HB3	1.97	0.47
11:BO:19:ILE:HD12	11:BO:28:VAL:HG22	1.97	0.47
11:BO:84:ARG:HG2	11:BO:85:ALA:O	2.14	0.47
14:BX:87:VAL:HA	14:BX:124:VAL:HG22	1.96	0.47
15:BY:23:PHE:CE1	15:BY:73:GLY:HA3	2.50	0.47
15:BY:57:VAL:HG12	15:BY:73:GLY:HA2	1.97	0.47
25:BS:37:GLY:H	34:B5:1567:U:H5''	1.80	0.47
27:BU:33:GLN:O	27:BU:37:VAL:HG22	2.15	0.47
28:BZ:60:VAL:HB	28:BZ:101:TYR:HB2	1.96	0.47
31:Bg:248:ASN:ND2	31:Bg:297:ASP:O	2.48	0.47
34:B5:205:U:H2'	34:B5:206:A:C8	2.43	0.47
34:B5:210:A:C6	34:B5:211:PSU:C2	3.03	0.47
34:B5:431:C:H2'	34:B5:432:G:H8	1.80	0.47
34:B5:885:G:H2'	34:B5:886:U:C6	2.50	0.47
34:B5:1330:G:H2'	34:B5:1331:A:O4'	2.15	0.47
34:B5:1338:C:H2'	34:B5:1339:C:C6	2.50	0.47
34:B5:1358:G:H2'	34:B5:1359:C:C6	2.50	0.47
34:B5:1378:U:H2'	34:B5:1379:C:C6	2.50	0.47
34:B5:1483:A:N3	34:B5:1607:G:O2'	2.39	0.47
34:B5:1669:U:H2'	34:B5:1670:G:O4'	2.14	0.47
38:A1:532:A:H2'	38:A1:533:A:C8	2.50	0.47
38:A1:838:G:O6	38:A1:855:U:O4	2.33	0.47
38:A1:1151:U:OP2	38:A1:1152:G:N2	2.45	0.47
38:A1:1334:U:H2'	38:A1:1335:C:C6	2.49	0.47
38:A1:1743:G:H2'	38:A1:1744:G:H8	1.80	0.47
38:A1:2129:PSU:H2'	38:A1:2130:G:H8	1.78	0.47
38:A1:2249:G:C6	38:A1:2250:G:N7	2.83	0.47
38:A1:2418:G:OP2	38:A1:2606:G:N2	2.44	0.47
38:A1:2747:A:H2'	38:A1:2748:A:C8	2.50	0.47
38:A1:3225:C:H42	38:A1:3226:A:N6	2.13	0.47
38:A1:3249:C:H2'	38:A1:3250:U:H6	1.79	0.47
42:AE:69:PHE:HB2	42:AE:138:GLN:HE21	1.79	0.47
43:AF:139:PRO:HB2	43:AF:144:ILE:HD11	1.96	0.47
44:AG:33:ASN:HB3	44:AG:38:GLN:HG2	1.97	0.47
45:AH:97:PHE:HE1	80:DC:166:GLU:HB3	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AJ:40:LEU:HD12	47:AJ:109:HIS:CD2	2.50	0.47
49:AM:13:ARG:HE	49:AM:67:PRO:HD3	1.80	0.47
49:AM:112:LEU:HB2	49:AM:116:GLU:CG	2.44	0.47
49:AM:117:ARG:O	49:AM:120:VAL:HB	2.14	0.47
62:AZ:15:ARG:NH2	69:Ag:86:LYS:HD3	2.30	0.47
65:Ac:95:ALA:HB2	65:Ac:101:LEU:HD23	1.96	0.47
67:Ae:91:THR:HG23	67:Ae:92:TYR:CD2	2.50	0.47
75:Am:115:CYS:O	75:Am:118:THR:OG1	2.31	0.47
80:DC:512:SER:HA	80:DC:518:VAL:HG13	1.97	0.47
1:BA:162:CYS:HB3	1:BA:173:ILE:HD13	1.96	0.47
3:BC:157:LYS:HD3	3:BC:168:ARG:NH2	2.30	0.47
5:BG:183:ARG:NH1	34:B5:141:U:O2'	2.47	0.47
8:BJ:3:ARG:NH2	34:B5:462:G:H5''	2.30	0.47
14:BX:106:GLY:O	34:B5:599:A:H4'	2.14	0.47
15:BY:5:VAL:HG12	15:BY:7:ILE:HG13	1.96	0.47
19:BD:7:LYS:HD3	27:BU:88:LYS:HE3	1.96	0.47
25:BS:139:LYS:HG3	34:B5:1459:C:N4	2.30	0.47
26:BT:15:ILE:HD13	34:B5:1479:A:H4'	1.97	0.47
34:B5:1179:G:H2'	34:B5:1180:C:H6	1.80	0.47
34:B5:1516:A:O2'	34:B5:1517:U:H5'	2.15	0.47
35:AA:126:LEU:HD23	35:AA:150:LEU:CD1	2.45	0.47
36:AB:85:VAL:CG2	36:AB:165:GLN:HE21	2.26	0.47
37:AC:328:ASN:ND2	43:AF:149:TYR:OH	2.43	0.47
38:A1:172:G:N2	38:A1:173:G:H1	2.09	0.47
38:A1:571:U:H2'	38:A1:572:A:C8	2.47	0.47
38:A1:677:A:N7	38:A1:785:G:O2'	2.44	0.47
38:A1:860:G:O2'	38:A1:895:A:H4'	2.15	0.47
38:A1:1471:U:H2'	38:A1:1472:U:C6	2.50	0.47
38:A1:1493:G:N2	38:A1:1493:G:OP2	2.48	0.47
38:A1:1641:U:O2'	38:A1:1642:A:H3'	2.15	0.47
38:A1:1941:C:H42	38:A1:2107:A:H61	1.63	0.47
38:A1:2251:G:C2	38:A1:2252:A:C8	3.03	0.47
38:A1:2762:A:H2'	38:A1:2763:U:H6	1.80	0.47
38:A1:3167:A:H2'	38:A1:3168:A:C8	2.49	0.47
39:A3:37:G:C2	39:A3:41:G:C2	3.03	0.47
39:A3:108:A:H2'	39:A3:109:G:C8	2.49	0.47
45:AH:86:TYR:CE2	45:AH:151:VAL:HB	2.49	0.47
47:AJ:48:SER:HB3	47:AJ:68:HIS:CE1	2.50	0.47
48:AL:188:ARG:O	48:AL:192:GLU:HG3	2.14	0.47
49:AM:82:SER:HA	49:AM:85:TRP:HD1	1.80	0.47
49:AM:123:LEU:HD12	51:AO:190[A]:VAL:HG23	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:AU:84:LEU:CD2	57:AU:93:ILE:HD11	2.42	0.47
58:AV:117:PRO:HA	58:AV:135:VAL:HG13	1.97	0.47
72:Aj:48:ASN:HD22	72:Aj:54:LYS:HE3	1.80	0.47
80:DC:107:GLY:O	80:DC:111:PHE:HB2	2.14	0.47
80:DC:378:LEU:HD11	80:DC:380:LEU:HD23	1.97	0.47
80:DC:496:LYS:HD2	80:DC:555:LYS:HE2	1.97	0.47
81:EC:6861:G:N1	81:EC:6869:C:N3	2.49	0.47
1:BA:73:VAL:HG23	1:BA:95:ALA:HA	1.96	0.47
3:BC:169:LEU:HD11	3:BC:188:LEU:HD11	1.97	0.47
5:BG:62:PRO:HG2	5:BG:83:CYS:SG	2.55	0.47
7:BI:38:ILE:HG13	7:BI:96:LEU:HD11	1.97	0.47
9:BL:35:TYR:CE1	9:BL:49:ILE:HG23	2.50	0.47
10:BN:114:ARG:NH2	34:B5:939:A:OP1	2.37	0.47
11:BO:71:CYS:HB3	11:BO:76:ILE:HB	1.97	0.47
25:BS:71:GLN:NE2	25:BS:75:ASN:HD22	2.13	0.47
34:B5:484:C:H1'	34:B5:485:A:H8	1.80	0.47
34:B5:1329:A:H2'	34:B5:1330:G:O4'	2.14	0.47
36:AB:30:LYS:HG3	38:A1:3138:U:OP2	2.15	0.47
36:AB:114:VAL:HA	36:AB:176:ALA:HB3	1.96	0.47
38:A1:69:C:OP1	50:AN:178:HIS:ND1	2.44	0.47
38:A1:98:G:N7	48:AL:13:HIS:NE2	2.63	0.47
38:A1:109:A:N1	38:A1:322:U:O2'	2.36	0.47
38:A1:987:U:H2'	38:A1:988:U:C6	2.50	0.47
38:A1:1323:G:H2'	38:A1:1324:U:C6	2.50	0.47
38:A1:1430:U:C4	63:Aa:9:ARG:HD2	2.50	0.47
38:A1:2253:G:H2'	38:A1:2254:U:O4'	2.15	0.47
38:A1:2586:G:O6	44:AG:242:ALA:N	2.42	0.47
38:A1:2696:A:H2'	38:A1:2697:A:C8	2.50	0.47
38:A1:2803:A:OP1	77:Ao:60:LYS:NZ	2.47	0.47
38:A1:2947:G:H2'	38:A1:2948:C:H6	1.80	0.47
38:A1:3359:A:H2'	38:A1:3360:C:C6	2.50	0.47
39:A3:23:A:H2'	39:A3:24:A:H8	1.79	0.47
39:A3:65:G:H2'	39:A3:66:A:C8	2.50	0.47
40:A4:57:C:H2'	40:A4:58:G:H8	1.80	0.47
45:AH:40:HIS:CE1	45:AH:41:ILE:HD11	2.49	0.47
47:AJ:111:ASP:HA	47:AJ:114:ILE:O	2.15	0.47
51:AO:27[A]:LEU:O	51:AO:101[A]:ARG:NH1	2.47	0.47
55:AS:81:TYR:HB3	55:AS:110:MET:HE1	1.97	0.47
58:AV:87:ARG:NH2	58:AV:91:VAL:HB	2.30	0.47
80:DC:283:ARG:HH12	80:DC:299:LEU:HD22	1.80	0.47
80:DC:656:LEU:HA	80:DC:659:ILE:HG12	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:BB:48:VAL:HG13	2:BB:49:ASN:N	2.30	0.46
3:BC:156:THR:OG1	13:BW:95:PRO:HB2	2.15	0.46
10:BN:54:LEU:HB3	10:BN:60:VAL:HB	1.96	0.46
24:BR:27:ASP:O	24:BR:31:ASN:ND2	2.48	0.46
27:BU:59:PRO:HG3	34:B5:1381:U:H4'	1.97	0.46
33:BM:28:LEU:HB2	33:BM:136:ILE:HG21	1.96	0.46
34:B5:684:A:C5	34:B5:685:A:H1'	2.49	0.46
34:B5:761:G:H2'	34:B5:762:A:H8	1.80	0.46
34:B5:1148:C:O2'	34:B5:1765:A:N1	2.45	0.46
34:B5:1291:G:H1	34:B5:1324:G:H1	1.61	0.46
34:B5:1548:G:H2'	34:B5:1549:C:C6	2.50	0.46
38:A1:63:A:H5''	50:AN:174:ILE:HG21	1.97	0.46
38:A1:551:A:O2'	38:A1:552:G:H8	1.98	0.46
38:A1:553:U:H2'	38:A1:554:A:O4'	2.15	0.46
38:A1:1224:C:N3	38:A1:1225:A:C8	2.83	0.46
38:A1:2598:G:H2'	38:A1:2599:U:C6	2.50	0.46
45:AH:92:TYR:OH	45:AH:101:VAL:HG21	2.15	0.46
46:AI:12:GLN:NE2	46:AI:129:VAL:O	2.49	0.46
62:AZ:55:LYS:HG3	62:AZ:56:LYS:HD3	1.97	0.46
63:Aa:59:ARG:HH21	63:Aa:61:PHE:HZ	1.62	0.46
79:E:38:LEU:HB3	79:E:41:TYR:HB3	1.97	0.46
80:DC:817:GLU:O	80:DC:820:LEU:HB2	2.15	0.46
81:EC:6800:G:OP2	81:EC:6800:G:N2	2.47	0.46
81:EC:6856:C:O2'	81:EC:6872:A:O2'	2.17	0.46
1:BA:65:ALA:HB1	1:BA:185:ARG:HH11	1.81	0.46
5:BG:199:GLN:HG3	5:BG:202:ARG:NH2	2.29	0.46
9:BL:124:THR:HG23	9:BL:140:VAL:HG23	1.96	0.46
12:BV:9:VAL:HG13	12:BV:9:VAL:O	2.15	0.46
17:Bb:51:GLN:HE22	34:B5:957:G:N2	2.12	0.46
19:BD:151:LYS:NZ	34:B5:1424:A:OP2	2.34	0.46
34:B5:406:U:H2'	34:B5:407:A:C8	2.46	0.46
34:B5:847:A:H2'	34:B5:848:C:C6	2.51	0.46
34:B5:872:G:H2'	34:B5:873:U:O4'	2.15	0.46
34:B5:1036:A:H2'	34:B5:1037:C:C6	2.49	0.46
36:AB:122:TRP:CE2	36:AB:127:LYS:HE3	2.50	0.46
38:A1:50:U:H2'	38:A1:51:A:H8	1.80	0.46
38:A1:761:A:H2'	38:A1:762:U:H6	1.80	0.46
38:A1:1564:U:O2	38:A1:1575:A:N6	2.48	0.46
38:A1:2396:G:OP1	38:A1:2397:A:O2'	2.25	0.46
38:A1:2655:U:H4'	38:A1:2656:A:O4'	2.15	0.46
38:A1:2728:G:N7	56:AT:87:LYS:NZ	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:3028:G:H4'	80:DC:28:VAL:HG11	1.97	0.46
39:A3:37:G:N2	39:A3:41:G:N3	2.63	0.46
40:A4:37:A:OP1	70:Ah:89:ARG:NH2	2.46	0.46
41:AD:108:ARG:O	41:AD:111:GLN:HG3	2.15	0.46
44:AG:72:PRO:HG3	50:AN:18:VAL:HA	1.96	0.46
45:AH:35:THR:C	45:AH:78:MET:HE1	2.40	0.46
59:AW:20:LEU:HD11	59:AW:28:ILE:HG22	1.98	0.46
71:Ai:27:SER:C	71:Ai:29:LYS:H	2.22	0.46
80:DC:464:LEU:HD23	80:DC:464:LEU:O	2.15	0.46
80:DC:593:ILE:HB	80:DC:683:SER:HA	1.97	0.46
80:DC:598:SER:HA	80:DC:601:ILE:HD12	1.97	0.46
2:BB:145:LYS:HG2	2:BB:149:GLN:HG2	1.98	0.46
4:BE:131:LEU:HD12	34:B5:251:A:C2	2.50	0.46
8:BJ:162:SER:O	8:BJ:166:GLY:N	2.25	0.46
9:BL:17:PRO:O	34:B5:249:U:N3	2.48	0.46
9:BL:80:MET:CE	34:B5:346:G:H4'	2.44	0.46
9:BL:80:MET:N	9:BL:80:MET:SD	2.86	0.46
13:BW:52:TYR:HA	13:BW:61:ILE:HG22	1.97	0.46
16:Ba:12:LYS:HB2	16:Ba:33:ASP:OD2	2.15	0.46
18:Be:49:LEU:HD12	18:Be:51:ASN:ND2	2.30	0.46
20:BF:92:ARG:O	20:BF:96:SER:OG	2.30	0.46
26:BT:77:ASN:ND2	26:BT:97:SER:O	2.49	0.46
31:Bg:42:LEU:O	31:Bg:61:PHE:N	2.46	0.46
34:B5:333:A:H2'	34:B5:334:G:C8	2.51	0.46
34:B5:1080:U:H2'	34:B5:1081:A:O4'	2.16	0.46
34:B5:1406:A:H2'	34:B5:1407:U:C6	2.51	0.46
34:B5:1739:C:H2'	34:B5:1740:A:C8	2.49	0.46
38:A1:1768:U:H2'	38:A1:1769:G:C8	2.50	0.46
38:A1:1855:U:H2'	38:A1:1856:C:C6	2.50	0.46
38:A1:2488:A:H5''	38:A1:2489:C:H5	1.80	0.46
38:A1:2961:G:H2'	38:A1:2962:U:C6	2.50	0.46
38:A1:3187:A:N1	55:AS:171:PHE:HB3	2.30	0.46
38:A1:3213:A:H8	38:A1:3213:A:O5'	1.99	0.46
38:A1:3289:G:H2'	38:A1:3290:G:H8	1.79	0.46
39:A3:94:C:H2'	39:A3:95:A:C8	2.50	0.46
40:A4:27:U:H2'	40:A4:28:C:C6	2.51	0.46
41:AD:277:LEU:HB3	41:AD:281:GLU:HB2	1.97	0.46
42:AE:69:PHE:HB2	42:AE:138:GLN:NE2	2.30	0.46
48:AL:3:ILE:HG13	63:Aa:44:ASN:HD21	1.80	0.46
53:AQ:177:GLY:O	53:AQ:186:VAL:N	2.48	0.46
62:AZ:97:SER:H	62:AZ:100:THR:HG22	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:Ad:42:LEU:HG	66:Ad:43:HIS:HD2	1.80	0.46
67:Ae:89:THR:HG22	67:Ae:117:ILE:HD13	1.97	0.46
80:DC:11:SER:O	80:DC:15:LYS:NZ	2.48	0.46
80:DC:144:ARG:CZ	80:DC:192:TYR:HB3	2.45	0.46
80:DC:250:PHE:HB2	80:DC:257:TRP:CE3	2.50	0.46
4:BE:182:TYR:N	4:BE:226:PHE:O	2.45	0.46
5:BG:48:TYR:OH	5:BG:119:GLN:O	2.32	0.46
5:BG:63:MET:HB3	5:BG:98:ARG:HG2	1.97	0.46
7:BI:48:THR:OG1	7:BI:51:GLY:O	2.28	0.46
7:BI:141:ARG:NH2	34:B5:196:G:O6	2.49	0.46
14:BX:42:PRO:HA	14:BX:81:LYS:HD2	1.98	0.46
14:BX:70:LYS:NZ	34:B5:567:A:OP1	2.49	0.46
16:Ba:10:ARG:HH12	34:B5:1790:A:P	2.37	0.46
16:Ba:51:ARG:NE	29:Bc:38:ARG:HH21	2.14	0.46
16:Ba:51:ARG:HH22	29:Bc:60:GLU:HG2	1.80	0.46
26:BT:7:ARG:NH1	34:B5:1365:C:O3'	2.49	0.46
26:BT:30:VAL:HG12	26:BT:54:PHE:HD2	1.80	0.46
30:Bd:44:ARG:HH22	34:B5:1280:4AC:H5'	1.79	0.46
34:B5:448:C:H2'	34:B5:449:C:C6	2.51	0.46
34:B5:1709:C:H4'	34:B5:1710:U:H5'	1.97	0.46
35:AA:32:LEU:HD13	35:AA:163:ARG:NE	2.30	0.46
35:AA:150:LEU:O	35:AA:152:SER:N	2.48	0.46
38:A1:265:A:H5'	71:Ai:34:SER:HB2	1.97	0.46
38:A1:529:A:H2'	38:A1:530:G:C8	2.50	0.46
38:A1:1184:A:H2'	38:A1:1185:C:C6	2.50	0.46
38:A1:1193:A:H3'	38:A1:1194:G:C8	2.50	0.46
38:A1:1281:G:H2'	38:A1:1282:G:H8	1.81	0.46
38:A1:1388:U:O2'	67:Ae:99:ASN:O	2.30	0.46
38:A1:1464:G:H22	38:A1:1467:A:P	2.38	0.46
38:A1:1517:G:H5''	74:Al:22:PRO:HG3	1.97	0.46
38:A1:1666:G:H2'	38:A1:1667:A:C8	2.49	0.46
39:A3:87:G:OP1	43:AF:218:ARG:NH1	2.49	0.46
40:A4:4:C:H2'	40:A4:5:U:C6	2.50	0.46
40:A4:152:G:H2'	40:A4:153:U:O4'	2.14	0.46
44:AG:138:HIS:NE2	44:AG:142:LEU:HD11	2.31	0.46
47:AJ:29:ARG:HA	47:AJ:32:ARG:HE	1.80	0.46
58:AV:79:VAL:HB	58:AV:118:VAL:HG13	1.98	0.46
62:AZ:117:ALA:O	62:AZ:121:ARG:NE	2.42	0.46
79:E:60:ARG:HH21	79:E:62:ASN:HD21	1.64	0.46
1:BA:139:VAL:HB	1:BA:141:ILE:CD1	2.46	0.46
2:BB:122:GLU:HA	2:BB:139:ALA:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:BH:97:ARG:HH21	34:B5:856:A:P	2.38	0.46
8:BJ:60:LEU:HD23	8:BJ:69:ARG:NH2	2.29	0.46
13:BW:7:LEU:CD2	13:BW:126:LEU:HD22	2.46	0.46
13:BW:57:ARG:HH22	17:Bb:26:GLN:HG2	1.81	0.46
14:BX:17:VAL:HG23	14:BX:20:ARG:NH2	2.30	0.46
15:BY:66:GLY:HA2	34:B5:532:U:H4'	1.97	0.46
19:BD:160:SER:OG	34:B5:1329:A:OP2	2.26	0.46
22:BP:127:ARG:NE	22:BP:127:ARG:HA	2.30	0.46
24:BR:11:ARG:HA	24:BR:14:LYS:HE2	1.97	0.46
26:BT:104:VAL:O	26:BT:108:LEU:N	2.41	0.46
34:B5:730:G:N2	34:B5:731:C:H5''	2.30	0.46
34:B5:947:U:H2'	34:B5:948:G:H8	1.80	0.46
34:B5:1157:A:O2'	34:B5:1159:C:OP1	2.23	0.46
34:B5:1292:G:H2'	34:B5:1293:U:C6	2.50	0.46
34:B5:1756[A]:A:H8	38:A1:2256:A:H61	1.63	0.46
36:AB:143:GLY:O	36:AB:147:GLU:HG2	2.15	0.46
38:A1:255:A:H2'	38:A1:256:G:C8	2.50	0.46
38:A1:261:U:H2'	38:A1:262:U:C6	2.50	0.46
38:A1:1340:G:H2'	38:A1:1341:U:H6	1.80	0.46
38:A1:1413:G:H2'	38:A1:1414:G:H8	1.80	0.46
38:A1:2269:U:C4	38:A1:2271:A:OP2	2.68	0.46
38:A1:2471:U:O2	38:A1:2475:G:O6	2.33	0.46
38:A1:3026:G:N2	38:A1:3028:G:H5''	2.30	0.46
38:A1:3248:C:C2	38:A1:3249:C:C5	3.04	0.46
51:AO:103[A]:LYS:HE3	51:AO:105[A]:PHE:HZ	1.79	0.46
80:DC:138:GLN:O	80:DC:142:VAL:HG22	2.16	0.46
80:DC:634:TRP:CD1	80:DC:660:LYS:HD2	2.50	0.46
81:EC:6831:U:H4'	81:EC:6832:G:OP1	2.14	0.46
1:BA:17:LEU:HD12	24:BR:91:LEU:HD11	1.98	0.46
1:BA:78:SER:O	1:BA:83:GLN:NE2	2.49	0.46
1:BA:189:VAL:O	1:BA:191:ARG:NH2	2.46	0.46
2:BB:28:GLU:OE2	2:BB:50:LYS:HA	2.16	0.46
2:BB:30:PHE:HD1	2:BB:47:LEU:HA	1.80	0.46
8:BJ:37:LYS:HZ1	8:BJ:126:ARG:NH2	2.14	0.46
10:BN:103:GLU:H	10:BN:103:GLU:CD	2.22	0.46
15:BY:7:ILE:HG23	15:BY:27:VAL:HG12	1.98	0.46
22:BP:75:PRO:HA	22:BP:93:VAL:O	2.15	0.46
23:BQ:63:ILE:HD11	23:BQ:92:TYR:CE1	2.51	0.46
23:BQ:77:GLN:O	23:BQ:81:ILE:HG12	2.15	0.46
27:BU:70:THR:HG22	34:B5:1280:4AC:O2'	2.14	0.46
32:Bf:129:GLY:O	33:BM:50:LYS:NZ	2.44	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BM:33:ARG:HH12	33:BM:36:LEU:HD13	1.81	0.46
34:B5:1132:A:H2'	34:B5:1133:A:C8	2.50	0.46
34:B5:1188:G:O2'	34:B5:1430:U:OP1	2.31	0.46
34:B5:1548:G:H2'	34:B5:1549:C:H6	1.81	0.46
38:A1:263:C:H2'	38:A1:264:G:O4'	2.16	0.46
38:A1:501:A:H4'	42:AE:28:GLN:HG3	1.97	0.46
38:A1:1130:A:H61	46:AI:115:MET:HE1	1.80	0.46
38:A1:1158:A:H2'	38:A1:1159:A:H4'	1.97	0.46
38:A1:1343:A:H2'	38:A1:1344:G:C8	2.51	0.46
38:A1:1675:G:H2'	38:A1:1676:A:H8	1.81	0.46
38:A1:1890:U:O4	38:A1:1891:A:N6	2.49	0.46
38:A1:2398:A:OP1	38:A1:2873:U:H4'	2.16	0.46
38:A1:2437:G:HO2'	38:A1:2438:A:P	2.39	0.46
43:AF:144:ILE:HD13	43:AF:189:ILE:HD13	1.97	0.46
44:AG:171:LYS:HG2	44:AG:226:TYR:CD2	2.50	0.46
49:AM:123:LEU:HA	49:AM:126:GLN:HG2	1.96	0.46
80:DC:325:ARG:HH12	80:DC:329:PRO:HB3	1.81	0.46
1:BA:148:ASP:OD1	1:BA:149:LEU:N	2.47	0.46
5:BG:132:ARG:HD2	34:B5:68:A:N6	2.30	0.46
13:BW:82:LYS:NZ	34:B5:749:U:OP2	2.27	0.46
14:BX:108:GLY:C	14:BX:109:ARG:HG3	2.40	0.46
20:BF:72:HIS:CE1	23:BQ:79:TYR:HH	2.23	0.46
31:Bg:294:TRP:CE2	31:Bg:301:LEU:HD13	2.51	0.46
34:B5:1039:A:O2'	34:B5:1040:G:H8	1.97	0.46
34:B5:1524:A:H2'	34:B5:1525:A:C8	2.50	0.46
34:B5:1656:U:H5''	34:B5:1657:U:H5''	1.98	0.46
35:AA:54:ARG:NH2	38:A1:2176:U:OP1	2.38	0.46
35:AA:83:HIS:CD2	78:Ap:41:PHE:HZ	2.34	0.46
38:A1:275:U:H2'	38:A1:276:U:C6	2.50	0.46
38:A1:533:A:O2'	38:A1:534:U:H3'	2.15	0.46
38:A1:945:C:H2'	38:A1:946:U:C6	2.50	0.46
38:A1:1293:U:O2'	38:A1:1294:A:H5'	2.16	0.46
38:A1:1517:G:P	74:Al:41:ARG:HH22	2.39	0.46
38:A1:1818:U:HO2'	38:A1:1819:U:P	2.38	0.46
38:A1:1921:A:H2'	38:A1:1922:A:C8	2.51	0.46
38:A1:2294:U:O2'	38:A1:2296:A:N7	2.39	0.46
38:A1:2298:U:O2'	38:A1:2299:A:H5'	2.16	0.46
38:A1:2352:A:H5''	52:AP:83:TRP:O	2.16	0.46
38:A1:2709:C:H2'	38:A1:2710:C:C6	2.51	0.46
38:A1:3177:G:O2'	38:A1:3179:U:OP1	2.23	0.46
40:A4:65:A:O3'	70:Ah:10:ARG:NH2	2.43	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:AD:60:ILE:H	41:AD:80:SER:HB2	1.81	0.46
43:AF:160:ARG:HD2	43:AF:203:TRP:CG	2.51	0.46
47:AJ:166:LYS:HE3	47:AJ:167:TYR:CE2	2.51	0.46
53:AQ:71:LEU:HD11	53:AQ:99:THR:HG21	1.98	0.46
56:AT:18:ASP:OD1	56:AT:21:LYS:HB2	2.16	0.46
66:Ad:9:THR:HG23	66:Ad:76:SER:HB3	1.97	0.46
70:Ah:13:SER:H	70:Ah:16:GLN:NE2	2.14	0.46
79:E:13:VAL:HG11	79:E:180:VAL:HG12	1.98	0.46
79:E:77:ALA:HB3	79:E:84:ALA:HB2	1.97	0.46
80:DC:137:VAL:HG22	80:DC:790:GLY:HA2	1.96	0.46
2:BB:198:GLU:O	2:BB:202:LYS:HB3	2.15	0.46
8:BJ:114:TYR:HD1	8:BJ:119:ALA:HB3	1.81	0.46
11:BO:17:ALA:HB3	11:BO:81:VAL:HA	1.98	0.46
11:BO:19:ILE:HB	11:BO:83:ILE:HD13	1.97	0.46
13:BW:100:GLY:C	13:BW:101:TYR:HD1	2.24	0.46
19:BD:169:ASP:OD1	19:BD:188:ILE:HB	2.16	0.46
22:BP:86:VAL:HG23	22:BP:88:GLU:HG2	1.98	0.46
28:BZ:39:ALA:HB3	28:BZ:46:LYS:HE2	1.97	0.46
30:Bd:33:LYS:O	30:Bd:36:LEU:HD23	2.15	0.46
34:B5:1416:G:H2'	34:B5:1417:A:C8	2.51	0.46
38:A1:177:U:C2	38:A1:241:G:N1	2.81	0.46
38:A1:268:A:O2'	50:AN:14:LYS:NZ	2.49	0.46
38:A1:412:G:H2'	38:A1:413:U:C6	2.51	0.46
38:A1:733:G:N2	38:A1:736:A:OP2	2.46	0.46
38:A1:899:U:H2'	38:A1:900:G:H8	1.81	0.46
38:A1:1503:A:H2'	38:A1:1504:A:H8	1.80	0.46
38:A1:2269:U:O2	38:A1:2271:A:C5	2.69	0.46
38:A1:2765:C:H2'	38:A1:2766:U:H6	1.81	0.46
38:A1:3164:C:H2'	38:A1:3165:A:H8	1.80	0.46
38:A1:3379:C:H2'	38:A1:3380:U:C6	2.51	0.46
39:A3:77:G:N2	39:A3:102:A:OP2	2.44	0.46
42:AE:30:LEU:HD21	42:AE:57:HIS:CD2	2.50	0.46
42:AE:43:LEU:HD11	42:AE:85:ILE:HG13	1.96	0.46
69:Ag:101:VAL:HA	69:Ag:104:VAL:HG22	1.97	0.46
74:Al:10:LYS:HA	74:Al:13:MET:CG	2.43	0.46
75:Am:80:PRO:HA	75:Am:83:LYS:HZ3	1.80	0.46
77:Ao:71:ARG:HH21	77:Ao:80:ARG:HE	1.64	0.46
80:DC:584:ASN:ND2	80:DC:693:LEU:HA	2.31	0.46
81:EC:6801:A:N6	81:EC:6882:G:H8	2.12	0.46
1:BA:21:ASN:HB3	1:BA:24:LEU:HD12	1.98	0.46
2:BB:157:GLN:HB2	2:BB:160:HIS:CE1	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:BE:175:PHE:HE2	4:BE:198:LYS:HD3	1.81	0.46
6:BH:8:ILE:HD13	6:BH:24:PHE:HB3	1.98	0.46
7:BI:18:ARG:NH1	34:B5:105:A:OP1	2.46	0.46
8:BJ:28:LEU:HD22	8:BJ:39:LYS:NZ	2.30	0.46
10:BN:46:THR:OG1	10:BN:49:GLN:OE1	2.24	0.46
23:BQ:11:GLY:HA2	23:BQ:83:GLN:OE1	2.15	0.46
24:BR:36:ASP:OD1	24:BR:47:ARG:NE	2.48	0.46
26:BT:76:LEU:HD22	26:BT:101:ASN:CG	2.39	0.46
31:Bg:67:ILE:HB	31:Bg:85:TRP:CD1	2.50	0.46
34:B5:239:C:H42	34:B5:242:U:H5	1.62	0.46
34:B5:947:U:H2'	34:B5:948:G:C8	2.51	0.46
34:B5:1291:G:H22	34:B5:1324:G:N2	2.14	0.46
34:B5:1441:C:H2'	34:B5:1442:U:H6	1.81	0.46
34:B5:1781:MA6:H2'	34:B5:1782:MA6:N7	2.31	0.46
34:B5:1782:MA6:C8	34:B5:1783:C:H6	2.29	0.46
36:AB:75:ALA:HB2	38:A1:3049:A:C2	2.51	0.46
37:AC:10:SER:OG	37:AC:13:GLY:O	2.21	0.46
37:AC:23:PRO:HG2	37:AC:25:VAL:HG12	1.98	0.46
38:A1:1675:G:N2	38:A1:1773:C:C4	2.83	0.46
38:A1:2574:G:H2'	38:A1:2575:G:H8	1.80	0.46
38:A1:2682:C:H2'	38:A1:2683:U:H6	1.80	0.46
38:A1:2918:G:H2'	38:A1:2919:A:H8	1.80	0.46
42:AE:171:PRO:HA	42:AE:174:LEU:HD12	1.97	0.46
48:AL:42:ARG:NH1	48:AL:51:LEU:O	2.49	0.46
49:AM:47:ASP:OD1	49:AM:55:ARG:HD3	2.16	0.46
50:AN:119:TYR:CE2	50:AN:121:VAL:HG12	2.51	0.46
59:AW:4:GLU:OE1	59:AW:30:ARG:NH2	2.49	0.46
62:AZ:4:PHE:O	62:AZ:9:LYS:HG3	2.16	0.46
67:Ae:54:LYS:H	67:Ae:57:TYR:HD2	1.63	0.46
80:DC:504:LEU:HD23	80:DC:504:LEU:H	1.80	0.46
80:DC:543:GLN:O	80:DC:547:HIS:N	2.41	0.46
1:BA:117:GLU:OE2	3:BC:39:THR:HA	2.16	0.46
1:BA:195:TRP:CE3	1:BA:197:ILE:HG13	2.46	0.46
4:BE:246:LEU:HB3	4:BE:250:GLU:HG3	1.98	0.46
7:BI:100:ALA:O	7:BI:168:CYS:HA	2.16	0.46
8:BJ:2:PRO:HD2	34:B5:380:U:H4'	1.98	0.46
10:BN:130:ARG:NH1	10:BN:139:TRP:O	2.49	0.46
20:BF:140:THR:HA	20:BF:214:LYS:HD2	1.98	0.46
22:BP:57:MET:O	22:BP:61:ARG:HG2	2.15	0.46
34:B5:120:PSU:HN3	34:B5:297:U:H5	1.62	0.46
37:AC:11:LEU:HD12	37:AC:168:ALA:HB1	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:836:A:P	78:Ap:4:ARG:HD2	2.56	0.46
38:A1:1443:G:H2'	38:A1:1444:G:C8	2.51	0.46
38:A1:1551:C:H2'	38:A1:1552:G:O4'	2.16	0.46
38:A1:1784:G:H2'	38:A1:1785:U:O4'	2.16	0.46
38:A1:2407:C:H2'	38:A1:2408:U:C6	2.51	0.46
38:A1:2421:U:O2'	77:Ao:52:GLY:HA3	2.16	0.46
38:A1:2997:G:H2'	38:A1:2998:U:C6	2.51	0.46
38:A1:3178:A:C2	51:AO:115[A]:LYS:HD3	2.51	0.46
41:AD:78:ALA:HB3	41:AD:105:ILE:HB	1.97	0.46
43:AF:137:GLY:HA2	43:AF:233:GLU:HA	1.98	0.46
59:AW:27:LYS:HG3	59:AW:29:PHE:CE1	2.51	0.46
60:AX:86:VAL:HG21	60:AX:95:ILE:HD11	1.98	0.46
62:AZ:72:ILE:HD11	62:AZ:114:VAL:HG11	1.98	0.46
62:AZ:101:PHE:HA	62:AZ:107:ARG:HE	1.81	0.46
67:Ae:11:LYS:C	67:Ae:13:HIS:H	2.23	0.46
78:Ap:49:ARG:HH21	78:Ap:52:ALA:HA	1.81	0.46
80:DC:494:GLU:HG2	80:DC:495:VAL:N	2.31	0.46
80:DC:634:TRP:CZ3	80:DC:663:VAL:HG11	2.51	0.46
2:BB:191:GLU:HG3	2:BB:194:ASN:HD22	1.81	0.45
5:BG:57:ASP:HA	5:BG:106:LEU:HD12	1.97	0.45
6:BH:58:LEU:N	6:BH:89:HIS:O	2.35	0.45
7:BI:73:SER:O	34:B5:257:A:O2'	2.33	0.45
15:BY:45:ALA:HA	15:BY:50:ALA:HB3	1.98	0.45
19:BD:156:PHE:HE1	34:B5:1326:A:O3'	1.98	0.45
22:BP:107:ILE:HG23	22:BP:111:MET:CE	2.44	0.45
29:Bc:10:ALA:HA	29:Bc:32:PHE:HA	1.97	0.45
30:Bd:16:LYS:HD2	30:Bd:16:LYS:C	2.41	0.45
34:B5:874:C:H2'	34:B5:875:G:C8	2.51	0.45
34:B5:1391:A:H2'	34:B5:1392:U:C6	2.52	0.45
35:AA:30:ARG:HH22	35:AA:36:GLU:HG3	1.82	0.45
38:A1:135:C:C4	70:Ah:94:LYS:HE3	2.51	0.45
38:A1:160:G:H2'	38:A1:161:G:C8	2.51	0.45
38:A1:382:U:O2'	52:AP:96:GLN:OE1	2.33	0.45
38:A1:790:U:H2'	38:A1:791:A:H8	1.81	0.45
38:A1:855:U:H4'	54:AR:95:TRP:CE2	2.52	0.45
38:A1:1174:G:H2'	38:A1:1175:C:H6	1.80	0.45
38:A1:1709:C:H2'	38:A1:1710:C:H6	1.81	0.45
38:A1:2777:G:C2	63:Aa:60:TYR:CE1	3.04	0.45
38:A1:3000:A:H2'	38:A1:3001:C:C6	2.51	0.45
38:A1:3185:U:C5	51:AO:126[A]:VAL:HG21	2.50	0.45
39:A3:6:C:O2'	41:AD:65:ILE:HD13	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:A4:103:G:N2	72:Aj:65:ARG:HH22	2.14	0.45
43:AF:82:LYS:NZ	56:AT:135:PRO:HG2	2.31	0.45
49:AM:48:GLY:O	49:AM:52:GLY:N	2.49	0.45
51:AO:108[A]:ILE:HD12	51:AO:160[A]:ARG:CZ	2.46	0.45
51:AO:142[A]:SER:HA	51:AO:145[A]:VAL:HG22	1.97	0.45
53:AQ:88:THR:HG22	53:AQ:107:THR:HG21	1.98	0.45
56:AT:62:GLY:HA3	56:AT:76:ILE:HD13	1.98	0.45
65:Ac:45:ALA:O	65:Ac:48:THR:HG22	2.16	0.45
74:Al:43:ASN:ND2	74:Al:45:ARG:HB2	2.30	0.45
79:E:143:ASP:O	79:E:147:LYS:HG2	2.16	0.45
80:DC:164:LEU:HD23	80:DC:164:LEU:HA	1.72	0.45
80:DC:488:VAL:CG1	80:DC:796:MET:HB2	2.46	0.45
81:EC:6817:A:H4'	81:EC:6818:G:H5'	1.98	0.45
81:EC:6845:G:H2'	81:EC:6846:C:C6	2.51	0.45
4:BE:16:HIS:HE1	34:B5:789:A:OP2	1.99	0.45
6:BH:49:ILE:O	6:BH:57:ALA:N	2.32	0.45
10:BN:47:PRO:HG2	10:BN:72:MET:HE2	1.99	0.45
14:BX:3:LYS:NZ	34:B5:614:C:OP1	2.31	0.45
17:Bb:17:ARG:O	34:B5:1070:C:O2'	2.31	0.45
25:BS:145:ARG:NH1	34:B5:1172:G:H5''	2.31	0.45
31:Bg:209:THR:HA	31:Bg:225:LEU:HB2	1.98	0.45
33:BM:113:ARG:NE	34:B5:1223:A:OP1	2.50	0.45
34:B5:290:G:H2'	34:B5:291:G:O4'	2.15	0.45
34:B5:607:G:H5'	34:B5:613:G:N2	2.31	0.45
34:B5:640:U:H2'	34:B5:641:G:O4'	2.16	0.45
34:B5:790:U:H2'	34:B5:791:A:O4'	2.16	0.45
34:B5:961:U:H2'	34:B5:962:C:C6	2.52	0.45
34:B5:968:U:H2'	34:B5:969:C:O4'	2.16	0.45
34:B5:1039:A:HO2'	34:B5:1040:G:H8	1.64	0.45
34:B5:1173:C:H2'	34:B5:1174:C:H6	1.80	0.45
34:B5:1439:C:H2'	34:B5:1440:C:C6	2.51	0.45
34:B5:1782:MA6:O2'	34:B5:1783:C:OP1	2.28	0.45
35:AA:26:ALA:HB1	35:AA:28:LYS:HE3	1.98	0.45
36:AB:106:TRP:HB2	36:AB:133:TYR:CE2	2.49	0.45
36:AB:116:ARG:NH2	38:A1:3315:G:OP1	2.47	0.45
36:AB:145:GLU:OE1	36:AB:196:ARG:NH2	2.46	0.45
36:AB:282:ILE:HG23	36:AB:322:ILE:HG23	1.97	0.45
38:A1:289:A:H2'	38:A1:290:G:C8	2.49	0.45
38:A1:655:C:OP2	67:Ae:27:ARG:HD3	2.16	0.45
38:A1:806:A:N3	38:A1:2812:C:O2'	2.45	0.45
38:A1:1247:U:H3	38:A1:1267:U:H5	1.63	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1282:G:C6	38:A1:1283:C:N3	2.84	0.45
38:A1:1456:A:N1	38:A1:1476:G:O2'	2.45	0.45
38:A1:1556:C:O2'	38:A1:2169:G:N2	2.50	0.45
38:A1:1838:G:H5''	38:A1:1839:A:O5'	2.17	0.45
38:A1:2459:A:H61	38:A1:2487:U:H1'	1.80	0.45
38:A1:2659:G:H2'	38:A1:2660:G:C8	2.51	0.45
38:A1:2953:U:H2'	38:A1:2954:U:H2'	1.97	0.45
38:A1:2997:G:H2'	38:A1:2998:U:H6	1.80	0.45
38:A1:3066:U:H2'	38:A1:3067:C:C6	2.52	0.45
38:A1:3131:U:H2'	38:A1:3132:C:C6	2.51	0.45
39:A3:2:G:H1	39:A3:119:U:H3	1.63	0.45
39:A3:119:U:H2'	39:A3:120:C:C6	2.50	0.45
44:AG:111:LYS:NZ	44:AG:126:SER:OG	2.44	0.45
54:AR:97:ARG:O	54:AR:101:VAL:HG23	2.16	0.45
57:AU:104:ARG:HG2	57:AU:105:LEU:N	2.31	0.45
60:AX:60:TYR:CE1	60:AX:102:LEU:HD11	2.51	0.45
61:AY:81:GLN:NE2	61:AY:96:PRO:HB2	2.30	0.45
79:E:120:VAL:HB	79:E:121:PRO:HD3	1.98	0.45
6:BH:64:VAL:HA	6:BH:67:LEU:HD23	1.99	0.45
6:BH:140:VAL:HA	6:BH:150:GLN:HA	1.98	0.45
7:BI:98:LYS:HG2	34:B5:330:G:P	2.56	0.45
8:BJ:123:HIS:CE1	18:Be:37:ARG:HB2	2.51	0.45
9:BL:25:VAL:O	9:BL:26:LYS:HE2	2.15	0.45
9:BL:71:LEU:HD13	9:BL:88:ARG:CZ	2.46	0.45
9:BL:85:VAL:HG22	9:BL:108:PRO:HB3	1.97	0.45
15:BY:132:ARG:NH1	34:B5:155:U:OP2	2.42	0.45
18:Be:43:ARG:HG3	18:Be:44:PHE:CD2	2.51	0.45
20:BF:82:PHE:CE2	29:Bc:49:ARG:HG2	2.52	0.45
23:BQ:133:GLY:O	23:BQ:137:ARG:NH2	2.49	0.45
30:Bd:48:ASN:OD1	30:Bd:49:ASP:N	2.49	0.45
31:Bg:61:PHE:CE2	31:Bg:97:GLY:HA2	2.51	0.45
31:Bg:170:ILE:HD12	31:Bg:211:ILE:HD12	1.97	0.45
32:Bf:138:ARG:HB2	32:Bf:147:VAL:HG13	1.99	0.45
33:BM:62:LEU:HB2	33:BM:90:LYS:NZ	2.31	0.45
34:B5:228:G:N1	34:B5:834:G:O2'	2.49	0.45
35:AA:149:ARG:HG3	35:AA:150:LEU:N	2.32	0.45
38:A1:80:G:H2'	38:A1:81:C:H6	1.80	0.45
38:A1:506:U:H2'	38:A1:507:U:O4'	2.16	0.45
38:A1:716:A:OP1	63:Aa:137:LYS:NZ	2.50	0.45
38:A1:871:U:H2'	38:A1:872:U:C6	2.51	0.45
38:A1:939:U:H2'	38:A1:940:G:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1416:C:H2'	38:A1:1417:G:C4	2.51	0.45
38:A1:2594:C:H2'	38:A1:2595:A:O4'	2.16	0.45
48:AL:42:ARG:O	48:AL:46:ILE:HG12	2.16	0.45
65:Ac:50:VAL:HA	65:Ac:53:LYS:HG2	1.99	0.45
68:Af:32:ILE:HG21	68:Af:44:TYR:HE2	1.82	0.45
68:Af:35:VAL:HG21	68:Af:44:TYR:HE2	1.81	0.45
77:Ao:12:CYS:HB2	77:Ao:23:HIS:HE2	1.82	0.45
77:Ao:80:ARG:HG2	77:Ao:80:ARG:HH11	1.80	0.45
80:DC:483:PHE:C	80:DC:485:VAL:N	2.75	0.45
80:DC:491:VAL:HG11	80:DC:556:ILE:HG23	1.97	0.45
81:EC:6885:G:H2'	81:EC:6886:A:C8	2.52	0.45
3:BC:182:PRO:HA	3:BC:185:LYS:HG2	1.98	0.45
4:BE:156:VAL:HG13	4:BE:157:ASN:ND2	2.31	0.45
5:BG:84:TYR:HD1	5:BG:95:LYS:HZ3	1.65	0.45
5:BG:154:ARG:NH2	34:B5:75:U:O4	2.49	0.45
6:BH:98:ILE:HD11	6:BH:121:VAL:HG21	1.98	0.45
7:BI:107:THR:HB	7:BI:108:PRO:HD3	1.98	0.45
16:Ba:45:VAL:HG21	16:Ba:53:LEU:HD13	1.99	0.45
17:Bb:22:LYS:HE3	17:Bb:22:LYS:HA	1.97	0.45
20:BF:37:GLN:NE2	23:BQ:56:GLY:HA2	2.32	0.45
23:BQ:43:ILE:HG22	23:BQ:44:LEU:HD12	1.98	0.45
34:B5:160:C:H2'	34:B5:161:U:O4'	2.15	0.45
34:B5:326:G:H2'	34:B5:327:U:C6	2.51	0.45
34:B5:415:C:O2'	34:B5:416:A:H8	2.00	0.45
34:B5:500:C:H5''	34:B5:501:U:H6	1.82	0.45
34:B5:855:A:C2	34:B5:857:U:H1'	2.51	0.45
34:B5:918:U:H2'	34:B5:919:A:C8	2.51	0.45
34:B5:1135:U:H2'	34:B5:1136:U:C6	2.52	0.45
34:B5:1158:C:H41	34:B5:1163:A:H61	1.64	0.45
34:B5:1176:G:C6	34:B5:1464:G:C6	3.05	0.45
34:B5:1588:G:O6	34:B5:1608:U:O4	2.35	0.45
36:AB:39:LYS:HB3	36:AB:39:LYS:HE3	1.71	0.45
36:AB:106:TRP:O	36:AB:137:TYR:OH	2.27	0.45
37:AC:188:ARG:NH1	38:A1:1382:G:OP2	2.49	0.45
38:A1:35:A:H2'	38:A1:36:C:H6	1.81	0.45
38:A1:297:G:O6	50:AN:12:ARG:NH1	2.31	0.45
38:A1:834:U:H2'	38:A1:835:G:O4'	2.16	0.45
38:A1:1023:C:H4'	38:A1:1031:C:H42	1.82	0.45
38:A1:1069:C:H2'	38:A1:1070:U:H6	1.82	0.45
38:A1:1191:U:C2	51:AO:48[A]:PHE:HE2	2.35	0.45
38:A1:1381:A:H2'	38:A1:1382:G:H8	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1447:G:O2'	38:A1:2355:G:O6	2.30	0.45
38:A1:1703:U:H1'	38:A1:1743:G:N2	2.31	0.45
38:A1:2388:U:O2'	52:AP:80:LYS:HE3	2.16	0.45
38:A1:2426:U:H2'	38:A1:2427:U:H6	1.82	0.45
38:A1:3096:C:H2'	38:A1:3097:C:C6	2.51	0.45
40:A4:134:G:OP1	60:AX:56:ARG:HD3	2.15	0.45
60:AX:89:LYS:HA	60:AX:89:LYS:HD2	1.83	0.45
80:DC:78:TYR:OH	80:DC:80:GLU:OE1	2.35	0.45
80:DC:380:LEU:HD22	80:DC:400:VAL:HG12	1.98	0.45
2:BB:48:VAL:HG13	2:BB:57:ALA:HB1	1.99	0.45
3:BC:208:GLU:OE2	3:BC:208:GLU:N	2.30	0.45
14:BX:77:ILE:HG22	80:DC:502:PRO:HB2	1.99	0.45
20:BF:157:ARG:HA	20:BF:157:ARG:HD2	1.81	0.45
23:BQ:36:ILE:HA	23:BQ:39:VAL:HG23	1.99	0.45
25:BS:13:HIS:CG	25:BS:14:ILE:H	2.35	0.45
25:BS:126:ARG:HG2	25:BS:131:LEU:HB2	1.97	0.45
28:BZ:48:ASP:O	28:BZ:52:LYS:N	2.46	0.45
31:Bg:116:ASP:OD2	31:Bg:120:SER:HB2	2.17	0.45
32:Bf:79:LYS:HE3	80:DC:654:GLN:HB2	1.98	0.45
34:B5:97:C:H2'	34:B5:98:U:H6	1.80	0.45
34:B5:215:A:H3'	34:B5:216:U:C6	2.51	0.45
34:B5:651:G:O2'	34:B5:652:G:H3'	2.17	0.45
34:B5:1346:A:N6	34:B5:1369:U:H3'	2.23	0.45
34:B5:1400:A:H2'	34:B5:1401:A:C8	2.51	0.45
34:B5:1586:A:H3'	34:B5:1587:A:H8	1.81	0.45
35:AA:118:GLU:HG3	35:AA:126:LEU:CD1	2.47	0.45
38:A1:184:U:H2'	38:A1:185:C:C6	2.52	0.45
38:A1:499:G:H2'	38:A1:500:C:C6	2.52	0.45
38:A1:1226:G:H5''	38:A1:3117:C:H1'	1.97	0.45
38:A1:1227:C:H42	38:A1:1283:C:H42	1.65	0.45
38:A1:1612:A:H5''	73:Ak:51:LEU:CD2	2.47	0.45
38:A1:1781:C:H2'	38:A1:1782:U:H6	1.79	0.45
38:A1:1856:C:C4	38:A1:1857:C:N4	2.85	0.45
38:A1:2100:A:H2'	38:A1:2101:C:C6	2.52	0.45
38:A1:2203:U:H2'	38:A1:2204:C:H6	1.81	0.45
38:A1:2234:G:O2'	38:A1:2603:G:O2'	2.32	0.45
38:A1:2484:A:H8	38:A1:2485:A:C8	2.34	0.45
38:A1:2848:G:OP1	75:Am:100:TYR:OH	2.26	0.45
38:A1:3296:A:H2'	38:A1:3297:U:C6	2.52	0.45
41:AD:40:HIS:CE1	56:AT:69:LYS:HA	2.51	0.45
49:AM:14:LEU:O	49:AM:19:ARG:NE	2.40	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:AN:99:ARG:HB3	50:AN:167:THR:HG21	1.99	0.45
62:AZ:81:LEU:HD23	69:Ag:93:PHE:CD1	2.51	0.45
69:Ag:85:VAL:O	69:Ag:89:ILE:HG12	2.16	0.45
73:Ak:28:ASN:HD21	73:Ak:42:LYS:HE3	1.80	0.45
80:DC:92:LYS:HD2	80:DC:92:LYS:O	2.17	0.45
3:BC:83:ILE:HD11	3:BC:125:ILE:HD11	1.99	0.45
3:BC:180:ALA:HB3	3:BC:185:LYS:HB3	1.97	0.45
9:BL:133:LYS:NZ	34:B5:324:U:OP1	2.36	0.45
11:BO:86:THR:HG23	11:BO:90:ARG:HB2	1.99	0.45
13:BW:106:THR:HG23	13:BW:108:ALA:H	1.81	0.45
19:BD:142:LEU:HD23	19:BD:182:LEU:HD22	1.99	0.45
23:BQ:48:VAL:HG13	23:BQ:78:VAL:HG13	1.98	0.45
33:BM:67:THR:HB	34:B5:1228:G:H1	1.81	0.45
34:B5:234:G:H2'	34:B5:234:G:N3	2.32	0.45
34:B5:250:C:H2'	34:B5:251:A:H8	1.81	0.45
34:B5:916:U:H2'	34:B5:917:U:O4'	2.17	0.45
34:B5:995:A:H2'	34:B5:996:U:O4'	2.16	0.45
34:B5:997:G:C4	34:B5:998:A:C8	3.05	0.45
34:B5:1116:A:P	76:An:17:ARG:HH22	2.38	0.45
34:B5:1235:C:C2	34:B5:1236:A:C8	3.05	0.45
34:B5:1383:G:H2'	34:B5:1384:A:H8	1.81	0.45
34:B5:1407:U:H2'	34:B5:1408:G:O4'	2.17	0.45
34:B5:1790:A:H2'	34:B5:1791:A:C8	2.52	0.45
35:AA:4:VAL:HG23	35:AA:8:GLN:NE2	2.32	0.45
35:AA:80:GLU:HG2	35:AA:170:ALA:HA	1.99	0.45
38:A1:26:A:H2'	38:A1:27:C:H6	1.81	0.45
38:A1:155:G:H5''	38:A1:156:G:C8	2.52	0.45
38:A1:340:C:H2'	38:A1:341:G:O4'	2.16	0.45
38:A1:415:G:H2'	38:A1:416:A:C8	2.50	0.45
38:A1:595:G:H2'	38:A1:596:C:C6	2.52	0.45
38:A1:756:U:H2'	38:A1:757:C:H6	1.80	0.45
38:A1:1039:U:H2'	38:A1:1040:A:C8	2.51	0.45
38:A1:1709:C:H2'	38:A1:1710:C:C6	2.51	0.45
38:A1:1847:A:O2'	38:A1:1848:G:H5''	2.16	0.45
38:A1:2366:C:C2	38:A1:2382:G:N2	2.84	0.45
38:A1:2419:A:H2'	38:A1:2420:C:C6	2.52	0.45
38:A1:2522:G:H2'	38:A1:2522:G:N3	2.32	0.45
38:A1:2986:U:H2'	38:A1:2987:A:H8	1.80	0.45
38:A1:3371:G:H2'	38:A1:3372:A:H8	1.81	0.45
39:A3:77:G:H1'	39:A3:78:U:H5	1.81	0.45
39:A3:118:A:H5''	41:AD:253:PHE:HZ	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:A4:115:C:H2'	40:A4:116:G:O4'	2.17	0.45
43:AF:138:TYR:N	43:AF:233:GLU:O	2.27	0.45
48:AL:76:THR:HG22	48:AL:101:ARG:HB3	1.98	0.45
51:AO:76[A]:PRO:HA	51:AO:79[A]:ILE:HG22	1.97	0.45
77:Ao:73:GLU:HB2	77:Ao:80:ARG:NH1	2.32	0.45
80:DC:162:ARG:HA	80:DC:163:ALA:HA	1.55	0.45
80:DC:249:PHE:CD2	80:DC:269:LEU:HB2	2.51	0.45
80:DC:615:ARG:HH11	80:DC:633:ILE:HG21	1.81	0.45
80:DC:632:LYS:HB2	80:DC:647:ILE:HG23	1.99	0.45
81:EC:6829:A:H2'	81:EC:6830:G:C8	2.51	0.45
81:EC:6873:A:O2'	81:EC:6874:A:H5'	2.17	0.45
2:BB:29:TRP:O	2:BB:45:LYS:HD2	2.16	0.45
3:BC:81:MET:HG3	3:BC:211:LEU:HD11	1.99	0.45
3:BC:205:ARG:NH1	34:B5:6:G:O6	2.50	0.45
4:BE:214:LEU:HD23	4:BE:214:LEU:HA	1.81	0.45
7:BI:153:GLU:HB3	7:BI:156:VAL:HG22	1.97	0.45
7:BI:170:SER:OG	34:B5:210:A:OP1	2.31	0.45
11:BO:52:ARG:NH2	34:B5:903:U:H3	2.13	0.45
21:BK:40:LEU:HA	21:BK:43:ILE:HG12	1.97	0.45
25:BS:63:GLN:O	25:BS:66:LEU:N	2.48	0.45
34:B5:689:G:H2'	34:B5:690:G:C8	2.52	0.45
34:B5:813:U:H3	54:AR:159:ALA:HB1	1.82	0.45
34:B5:867:G:N2	34:B5:961:U:O2	2.41	0.45
34:B5:895:G:O5'	34:B5:895:G:H8	2.00	0.45
34:B5:1209:C:C2	34:B5:1455:G:N2	2.85	0.45
37:AC:112:LYS:HG3	50:AN:202:TYR:HB3	1.99	0.45
38:A1:174:C:H5'	38:A1:175:C:OP2	2.17	0.45
38:A1:510:G:C6	38:A1:582:G:C6	3.05	0.45
38:A1:1757:A:H2'	38:A1:1758:G:C8	2.52	0.45
38:A1:2217:U:H2'	38:A1:2218:G:C8	2.52	0.45
38:A1:2389:C:H2'	38:A1:2390:A:C8	2.51	0.45
40:A4:149:A:H2'	40:A4:150:G:C8	2.52	0.45
49:AM:28:SER:OG	49:AM:53:VAL:HG22	2.17	0.45
60:AX:115:ARG:HD2	60:AX:121:LYS:HB2	1.98	0.45
62:AZ:63:ALA:O	62:AZ:67:LYS:HG3	2.15	0.45
73:Ak:65:LEU:O	73:Ak:69:LEU:N	2.50	0.45
80:DC:169:VAL:HG11	80:DC:174:LEU:HD13	1.98	0.45
80:DC:307:LEU:HD13	80:DC:312:LYS:HA	1.99	0.45
80:DC:726:GLU:N	80:DC:802:SER:O	2.41	0.45
81:EC:6859:U:H6	81:EC:6859:U:H2'	1.57	0.45
3:BC:240:LEU:HD12	3:BC:241:ASP:N	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:BE:45:ILE:HA	4:BE:61:VAL:HG11	1.99	0.45
6:BH:74:GLN:NE2	6:BH:92:PHE:HB2	2.31	0.45
8:BJ:75:ALA:HB1	34:B5:763:G:OP1	2.17	0.45
9:BL:8:GLN:HE22	9:BL:13:PHE:HA	1.82	0.45
10:BN:147:SER:HA	10:BN:150:VAL:HG22	1.98	0.45
20:BF:169:ASN:ND2	34:B5:1614:A:OP2	2.49	0.45
34:B5:49:C:H2'	34:B5:50:C:O4'	2.16	0.45
34:B5:94:U:H2'	34:B5:95:G:O4'	2.17	0.45
34:B5:752:A:H2'	34:B5:753:A:O4'	2.17	0.45
34:B5:920:U:H2'	34:B5:921:U:C6	2.52	0.45
34:B5:925:G:H2'	34:B5:926:A:H8	1.80	0.45
34:B5:1394:G:H2'	34:B5:1395:G:H8	1.82	0.45
36:AB:153:LYS:HD2	36:AB:154:TYR:CZ	2.52	0.45
37:AC:206:LEU:HB3	37:AC:248:VAL:HG22	1.99	0.45
38:A1:314:U:H2'	38:A1:315:C:C6	2.51	0.45
38:A1:679:U:O2'	38:A1:788:C:O2	2.34	0.45
38:A1:725:G:O6	38:A1:746:A:N6	2.50	0.45
38:A1:1132:C:H2'	38:A1:1133:A:C8	2.52	0.45
38:A1:1715:A:N7	65:Ac:84:LEU:HD21	2.32	0.45
38:A1:1848:G:OP2	74:Al:45:ARG:NH2	2.46	0.45
38:A1:3094:A:H2'	38:A1:3095:U:H6	1.82	0.45
38:A1:3337:G:H2'	38:A1:3338:C:C6	2.51	0.45
39:A3:58:C:H2'	39:A3:59:U:C6	2.51	0.45
40:A4:60:U:OP1	60:AX:54:TYR:OH	2.35	0.45
46:AI:87:LEU:HD13	46:AI:138:VAL:HG22	1.97	0.45
47:AJ:40:LEU:HD12	47:AJ:109:HIS:CG	2.51	0.45
47:AJ:60:ARG:O	47:AJ:63:GLU:HG2	2.16	0.45
56:AT:119:ALA:HB1	56:AT:124:VAL:HA	1.98	0.45
61:AY:58:VAL:HG11	61:AY:63:LYS:HB2	1.98	0.45
69:Ag:3:GLN:HE22	69:Ag:29:ILE:HB	1.82	0.45
69:Ag:57:LEU:HB3	69:Ag:61:GLN:HE21	1.82	0.45
70:Ah:44:ILE:O	70:Ah:48:ARG:HG3	2.16	0.45
79:E:73:ASP:OD2	79:E:113:SER:OG	2.27	0.45
80:DC:163:ALA:C	80:DC:165:LEU:H	2.23	0.45
80:DC:182:VAL:HA	80:DC:185:VAL:HG12	1.98	0.45
80:DC:601:ILE:HD13	80:DC:643:PRO:HA	1.98	0.45
80:DC:636:PHE:HB2	80:DC:640:GLY:O	2.17	0.45
2:BB:103:MET:HG3	2:BB:215:VAL:HB	1.97	0.45
4:BE:173:ILE:HG12	4:BE:235:TYR:HE2	1.82	0.45
9:BL:46:LYS:O	9:BL:50:GLU:HG3	2.17	0.45
9:BL:83:THR:HG21	34:B5:325:G:H4'	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:BO:57:PRO:HB3	11:BO:100:ALA:HB2	1.98	0.45
14:BX:80:GLY:HA3	80:DC:499:ASN:OD1	2.16	0.45
15:BY:7:ILE:C	15:BY:8:ARG:HD3	2.41	0.45
15:BY:53:ASP:HB3	15:BY:96:LEU:HD21	1.99	0.45
20:BF:82:PHE:HB3	29:Bc:49:ARG:CZ	2.47	0.45
21:BK:64:TYR:HB3	21:BK:66:TYR:HE1	1.82	0.45
22:BP:52:LYS:CG	22:BP:53:PRO:HD3	2.47	0.45
23:BQ:94:GLN:HA	23:BQ:102:LYS:CD	2.46	0.45
24:BR:56:HIS:C	24:BR:56:HIS:CD2	2.94	0.45
33:BM:135:MET:HB2	33:BM:139:HIS:CE1	2.52	0.45
34:B5:201:G:O2'	34:B5:202:A:H5'	2.16	0.45
34:B5:468:A:N1	34:B5:594:A:O2'	2.43	0.45
34:B5:487:G:H2'	34:B5:488:G:H4'	1.98	0.45
34:B5:730:G:H21	34:B5:731:C:H5''	1.82	0.45
34:B5:773:C:O2'	34:B5:787:G:N2	2.50	0.45
34:B5:887:A:H2'	34:B5:888:U:H6	1.80	0.45
34:B5:889:U:H2'	34:B5:890:C:H6	1.79	0.45
38:A1:171:G:O2'	38:A1:172:G:O5'	2.29	0.45
38:A1:284:A:OP2	77:Ao:41:ARG:NH1	2.50	0.45
38:A1:971:G:H2'	38:A1:972:A:C8	2.52	0.45
38:A1:1208:U:O2'	38:A1:3115:C:N4	2.50	0.45
38:A1:1900:A:H2	38:A1:1907:C:H41	1.64	0.45
38:A1:2482:U:C5	79:E:98:LYS:HE2	2.52	0.45
38:A1:2669:G:H2'	38:A1:2670:G:H8	1.82	0.45
38:A1:2931:C:H2'	38:A1:2932:U:O4'	2.17	0.45
38:A1:3154:C:O2'	38:A1:3157:U:O2	2.35	0.45
38:A1:3159:C:H2'	38:A1:3160:U:C6	2.52	0.45
40:A4:57:C:O2	40:A4:61:A:O2'	2.29	0.45
43:AF:121:LYS:HB2	56:AT:133:ALA:HB3	1.98	0.45
47:AJ:163:PHE:O	47:AJ:169:ALA:HB3	2.17	0.45
55:AS:42:TRP:O	55:AS:46:GLN:HG2	2.17	0.45
61:AY:83:ASP:O	61:AY:84:LYS:HG2	2.17	0.45
68:Af:60:ARG:HA	68:Af:60:ARG:HE	1.82	0.45
69:Ag:46:ASP:OD2	69:Ag:88:ARG:NH1	2.49	0.45
69:Ag:56:THR:O	69:Ag:57:LEU:HD23	2.17	0.45
70:Ah:33:VAL:O	70:Ah:36:LEU:HG	2.17	0.45
77:Ao:4:VAL:O	77:Ao:94:GLY:N	2.40	0.45
79:E:66:CYS:N	79:E:107:TYR:OH	2.30	0.45
80:DC:240:MET:HA	80:DC:244:LEU:HD23	1.98	0.45
80:DC:646:VAL:HA	80:DC:686:VAL:O	2.17	0.45
81:EC:6772:G:O6	81:EC:6820:C:H5''	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:13:ASP:HA	24:BR:91:LEU:HG	1.98	0.45
1:BA:107:PHE:CD2	1:BA:135:GLU:HG3	2.51	0.45
3:BC:65:GLU:OE2	3:BC:68:ILE:HD11	2.17	0.45
4:BE:18:TRP:CD1	4:BE:42:LEU:HD13	2.52	0.45
4:BE:196:VAL:HG12	4:BE:197:HIS:ND1	2.31	0.45
5:BG:56:ASN:HB3	5:BG:60:GLY:HA2	1.99	0.45
11:BO:93:THR:HG22	16:Ba:69:ASN:HD22	1.82	0.45
20:BF:117:THR:HA	20:BF:120:ILE:HD12	1.99	0.45
22:BP:47:ARG:HE	34:B5:1555:A:P	2.39	0.45
31:Bg:49:GLY:HA2	31:Bg:54:PHE:CE1	2.52	0.45
34:B5:95:G:O2'	34:B5:460:A:O2'	2.27	0.45
34:B5:518:A:H2'	34:B5:519:C:H5''	1.99	0.45
34:B5:762:A:H2'	34:B5:763:G:H8	1.82	0.45
34:B5:1069:A:H2'	34:B5:1070:C:O4'	2.17	0.45
34:B5:1173:C:C2	34:B5:1174:C:C5	3.05	0.45
34:B5:1646:C:H2'	34:B5:1647:U:C6	2.52	0.45
35:AA:177:LYS:NZ	78:Ap:33:GLN:HE22	2.15	0.45
37:AC:326:ARG:NH2	38:A1:608:A:O3'	2.50	0.45
38:A1:159:A:H2'	38:A1:160:G:C8	2.50	0.45
38:A1:431:U:OP1	68:Af:65:ARG:NH1	2.50	0.45
38:A1:1596:C:H2'	38:A1:1597:C:C6	2.51	0.45
38:A1:2503:G:O5'	44:AG:231:LYS:NZ	2.44	0.45
38:A1:2609:A:H1'	50:AN:87:GLN:HE21	1.81	0.45
38:A1:2712:U:H2'	38:A1:2713:U:C6	2.52	0.45
38:A1:2908:G:H2'	38:A1:2909:U:H6	1.81	0.45
38:A1:3183:A:H2'	38:A1:3184:A:H8	1.82	0.45
38:A1:3217:C:O2	52:AP:182:ILE:HD11	2.17	0.45
38:A1:3320:A:H2'	38:A1:3321:C:H6	1.82	0.45
40:A4:72:A:P	61:AY:52:ARG:HB2	2.57	0.45
40:A4:121:U:H2'	40:A4:122:U:C6	2.52	0.45
43:AF:140:SER:O	43:AF:143:THR:N	2.50	0.45
44:AG:97:TYR:OH	44:AG:204:ARG:N	2.39	0.45
54:AR:138:LEU:O	54:AR:142:ILE:HG22	2.17	0.45
54:AR:146:LYS:NZ	54:AR:150:GLN:OE1	2.44	0.45
54:AR:166:ASN:O	54:AR:170:ARG:HB2	2.17	0.45
62:AZ:51:LEU:HB3	62:AZ:65:ARG:HG3	1.98	0.45
80:DC:124:GLY:HA3	80:DC:342:LEU:HD13	1.99	0.45
80:DC:260:LYS:HD2	80:DC:262:THR:H	1.82	0.45
80:DC:397:PHE:HE1	80:DC:453:ILE:HG23	1.80	0.45
1:BA:22:THR:O	1:BA:48:ILE:HD12	2.17	0.44
2:BB:35:PRO:HB3	2:BB:231:LEU:HD22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:BB:185:THR:O	2:BB:189:ILE:HG12	2.16	0.44
7:BI:42:ARG:NH1	34:B5:1678:A:OP2	2.51	0.44
7:BI:175:GLN:NE2	34:B5:331:A:OP2	2.45	0.44
9:BL:3:THR:OG1	9:BL:51:GLY:HA2	2.17	0.44
9:BL:33:ARG:HH21	9:BL:61:THR:HG21	1.82	0.44
9:BL:100:TYR:HB2	14:BX:10:ASN:HB3	1.97	0.44
13:BW:24:GLN:N	13:BW:24:GLN:OE1	2.49	0.44
19:BD:61:GLU:O	19:BD:64:ARG:HG2	2.17	0.44
22:BP:84:ILE:HA	22:BP:114:HIS:O	2.17	0.44
23:BQ:20:ALA:HB1	23:BQ:65:ILE:HD11	1.98	0.44
31:Bg:91:LEU:O	31:Bg:100:TYR:N	2.37	0.44
34:B5:546:U:H2'	34:B5:547:U:C6	2.52	0.44
34:B5:1614:A:H2'	34:B5:1615:C:C6	2.51	0.44
36:AB:150:ARG:HG3	36:AB:154:TYR:HD2	1.82	0.44
36:AB:233:TRP:CD1	36:AB:265:ALA:HB1	2.52	0.44
38:A1:204:A:H2'	38:A1:205:C:C6	2.52	0.44
38:A1:380:U:H2'	38:A1:381:U:C6	2.52	0.44
38:A1:676:G:O6	53:AQ:86:THR:HG21	2.17	0.44
38:A1:746:A:H2'	38:A1:747:A:C8	2.52	0.44
38:A1:862:U:H2'	38:A1:863:C:H6	1.81	0.44
38:A1:1046:A:H2'	38:A1:1049:C:C5	2.51	0.44
38:A1:1168:U:H1'	43:AF:209:ASN:HD22	1.82	0.44
38:A1:1329:U:OP1	68:Af:17:GLN:NE2	2.23	0.44
38:A1:1470:U:H2'	38:A1:1471:U:C6	2.52	0.44
38:A1:1478:C:H2'	38:A1:1479:U:C6	2.52	0.44
38:A1:1746:U:H2'	38:A1:1747:G:C8	2.47	0.44
38:A1:2258:PSU:C4	38:A1:2259:A:C8	3.06	0.44
38:A1:3232:G:C6	38:A1:3256:G:C5	3.05	0.44
38:A1:3267:A:H2'	42:AE:69:PHE:CZ	2.51	0.44
38:A1:3371:G:H2'	38:A1:3372:A:C8	2.52	0.44
41:AD:22:ARG:NE	41:AD:28:THR:OG1	2.45	0.44
41:AD:106:ALA:O	41:AD:110:LEU:HD23	2.16	0.44
55:AS:12:ARG:HB2	55:AS:22:PRO:HG2	1.99	0.44
63:Aa:21:ARG:HH12	67:Ae:38:ILE:HG23	1.82	0.44
65:Ac:32:LYS:HG3	65:Ac:36:GLN:HE22	1.82	0.44
65:Ac:43:ILE:HB	65:Ac:90:VAL:HG12	1.99	0.44
70:Ah:9:LEU:HD21	70:Ah:20:GLN:HE22	1.82	0.44
74:Al:16:ALA:HB1	74:Al:49:MET:HE1	1.99	0.44
79:E:59:PRO:CB	79:E:170:GLY:HA2	2.47	0.44
80:DC:42:ARG:CZ	80:DC:331:ALA:H	2.30	0.44
1:BA:68:PRO:HB2	3:BC:244:SER:OG	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:BW:83:ILE:HD13	13:BW:122:SER:HB2	1.99	0.44
19:BD:20:GLU:HA	19:BD:23:GLU:OE2	2.18	0.44
19:BD:71:LEU:HA	19:BD:74:GLN:HB2	1.99	0.44
19:BD:114:ALA:HB3	19:BD:117:ARG:HB3	2.00	0.44
22:BP:64:LYS:HD2	22:BP:64:LYS:HA	1.79	0.44
30:Bd:29:GLY:HA2	34:B5:1199:G:H5''	2.00	0.44
31:Bg:106:HIS:CE1	31:Bg:132:LYS:HD2	2.53	0.44
34:B5:108:A:H2'	34:B5:109:G:C8	2.52	0.44
34:B5:243:G:H2'	34:B5:244:A:O4'	2.18	0.44
34:B5:473:A:H2'	34:B5:474:A:O4'	2.16	0.44
34:B5:1044:U:H2'	34:B5:1045:C:H6	1.81	0.44
34:B5:1208:A:O2'	34:B5:1270:G:OP2	2.19	0.44
34:B5:1218:G:N2	34:B5:1443:U:H2'	2.31	0.44
34:B5:1336:A:H2'	34:B5:1337:A:O4'	2.17	0.44
35:AA:79:ASN:O	35:AA:82:VAL:HG22	2.17	0.44
36:AB:219:ALA:HB3	36:AB:329:PRO:HG2	1.98	0.44
38:A1:363:G:OP2	72:Aj:56:ARG:NH1	2.37	0.44
38:A1:602:A:H2'	38:A1:603:A:C8	2.52	0.44
38:A1:760:G:H1'	38:A1:771:A:N6	2.32	0.44
38:A1:1523:U:O2'	60:AX:111:ASN:ND2	2.50	0.44
38:A1:1632:A:H2'	38:A1:1633:C:C6	2.53	0.44
38:A1:2881:C:H2'	38:A1:2882:U:C6	2.53	0.44
38:A1:2971:A:H2'	46:AI:110:ARG:NH1	2.21	0.44
38:A1:3033:A:H2'	38:A1:3034:C:O2	2.17	0.44
45:AH:126:VAL:HG21	45:AH:161:LEU:HD23	1.99	0.44
45:AH:168:ARG:O	45:AH:170:LYS:HG2	2.18	0.44
58:AV:70:ARG:HH12	58:AV:71:LYS:HE3	1.83	0.44
63:Aa:79:TRP:CZ3	63:Aa:82:ILE:HD12	2.51	0.44
69:Ag:79:SER:C	69:Ag:80:ARG:HD2	2.42	0.44
80:DC:587:TYR:HB2	80:DC:690:ASP:H	1.81	0.44
81:EC:6849:A:H62	81:EC:6880:G:N2	2.14	0.44
81:EC:6886:A:H2'	81:EC:6887:G:C4	2.52	0.44
12:BV:64:GLU:HA	12:BV:64:GLU:OE2	2.18	0.44
20:BF:217:LEU:O	20:BF:220:VAL:HG12	2.18	0.44
23:BQ:95:LYS:HG3	23:BQ:96:TYR:CD1	2.53	0.44
25:BS:126:ARG:CG	25:BS:131:LEU:HB2	2.48	0.44
35:AA:9:ARG:HD2	38:A1:911:C:OP2	2.17	0.44
36:AB:109:HIS:HB3	36:AB:200:GLU:OE2	2.17	0.44
36:AB:386:ASP:OD1	36:AB:386:ASP:N	2.49	0.44
37:AC:46:LYS:HE2	38:A1:692:A:O2'	2.17	0.44
38:A1:53:G:OP1	72:Aj:48:ASN:N	2.42	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:89:A:N7	53:AQ:171:LYS:NZ	2.65	0.44
38:A1:1063:G:C6	56:AT:109:VAL:HG22	2.52	0.44
38:A1:1184:A:H5''	49:AM:59:ASN:HD22	1.83	0.44
38:A1:1318:A:N7	51:AO:18[A]:ARG:NH1	2.65	0.44
38:A1:1472:U:H2'	38:A1:1473:G:H8	1.82	0.44
38:A1:1751:G:H5''	73:Ak:26:LYS:NZ	2.32	0.44
38:A1:1941:C:H2'	38:A1:1942:U:C6	2.53	0.44
44:AG:64:ILE:O	44:AG:68:ARG:HG2	2.17	0.44
44:AG:183:LYS:HE3	44:AG:194:THR:HG21	1.97	0.44
46:AI:67:ALA:HB1	46:AI:158:LYS:HE3	1.98	0.44
50:AN:28:TRP:CE3	50:AN:29:GLU:HB3	2.53	0.44
52:AP:25:SER:HB2	52:AP:28:ASN:HB2	1.98	0.44
71:Ai:61:ILE:HD12	71:Ai:87:VAL:HG13	1.99	0.44
79:E:45:ARG:NH2	81:EC:6815:U:O3'	2.51	0.44
79:E:104:SER:HA	79:E:110:PHE:HE1	1.82	0.44
79:E:175:GLU:OE1	79:E:177:ASP:N	2.50	0.44
80:DC:488:VAL:N	80:DC:532:GLY:O	2.49	0.44
8:BJ:86:LEU:HD21	8:BJ:91:LYS:HA	1.98	0.44
10:BN:109:LYS:HD2	34:B5:975:C:H5''	1.99	0.44
15:BY:76:TYR:OH	15:BY:86:GLU:OE2	2.18	0.44
19:BD:164:VAL:O	19:BD:168:ILE:HB	2.17	0.44
26:BT:38:LYS:HA	26:BT:46:PRO:HA	1.98	0.44
30:Bd:7:TRP:CZ3	34:B5:1215:C:H1'	2.53	0.44
31:Bg:117:LYS:HZ2	31:Bg:159:ASN:HB3	1.82	0.44
31:Bg:154:VAL:O	31:Bg:155:ARG:NH1	2.49	0.44
33:BM:59:LEU:HB2	33:BM:123:VAL:HG12	1.99	0.44
34:B5:410:A:H2'	34:B5:411:C:C6	2.53	0.44
34:B5:774:A:C5	34:B5:775:G:H1'	2.53	0.44
34:B5:903:U:O2'	34:B5:905:A:N7	2.45	0.44
34:B5:1782:MA6:H3'	34:B5:1783:C:H6	1.83	0.44
35:AA:150:LEU:HD12	35:AA:151:PRO:HD2	1.98	0.44
37:AC:360:LYS:NZ	38:A1:519:A:H62	2.15	0.44
38:A1:179:C:H2'	38:A1:180:C:H6	1.81	0.44
38:A1:235:A:H2'	38:A1:236:G:H8	1.82	0.44
38:A1:392:G:H2'	38:A1:393:U:C6	2.52	0.44
38:A1:528:U:H3	38:A1:564:G:H1	1.66	0.44
38:A1:603:A:H8	38:A1:603:A:O5'	2.01	0.44
38:A1:1111:U:H2'	38:A1:1112:A:H8	1.83	0.44
38:A1:1637:A:H1'	38:A1:1709:C:O2'	2.17	0.44
38:A1:2344:U:H2'	38:A1:2345:A:H8	1.82	0.44
38:A1:2568:C:O2'	38:A1:2569:A:O4'	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:2659:G:H2'	38:A1:2660:G:H8	1.81	0.44
38:A1:3041:U:C4	38:A1:3042:U:C4	3.05	0.44
43:AF:26:VAL:O	43:AF:30:ARG:HG2	2.18	0.44
56:AT:73:GLY:HA2	56:AT:89:LEU:O	2.18	0.44
57:AU:19:VAL:HG21	57:AU:28:PHE:CE1	2.52	0.44
80:DC:495:VAL:HG22	80:DC:497:ASN:H	1.83	0.44
81:EC:6777:C:H5'	81:EC:6778:C:H2'	1.99	0.44
1:BA:108:THR:HG22	1:BA:109:ASN:N	2.31	0.44
6:BH:34:LEU:O	6:BH:39:ARG:NH1	2.50	0.44
7:BI:109:PHE:CZ	7:BI:183:ILE:HD11	2.52	0.44
9:BL:59:PRO:HG2	9:BL:60:PHE:CE2	2.53	0.44
12:BV:2:GLU:OE2	12:BV:8:LEU:N	2.51	0.44
13:BW:52:TYR:CE2	13:BW:54:ASP:HB3	2.53	0.44
14:BX:103:LEU:N	14:BX:126:LYS:O	2.43	0.44
22:BP:33:PHE:CE1	22:BP:112:LEU:HD12	2.53	0.44
26:BT:71:VAL:O	26:BT:122:ARG:N	2.42	0.44
30:Bd:8:PHE:CE1	30:Bd:12:ARG:HD2	2.53	0.44
30:Bd:16:LYS:HZ3	30:Bd:27:HIS:CB	2.31	0.44
34:B5:1107:G:O2'	34:B5:1108:G:H5'	2.17	0.44
34:B5:1184:A:O2'	34:B5:1209:C:O2'	2.31	0.44
35:AA:223:SER:OG	35:AA:237:LEU:HD23	2.17	0.44
37:AC:105:THR:O	37:AC:109:TRP:NE1	2.40	0.44
38:A1:89:A:OP1	53:AQ:170:ARG:NH2	2.50	0.44
38:A1:513:G:H2'	38:A1:514:G:C8	2.52	0.44
38:A1:649:A:H4'	38:A1:2869:U:H4'	2.00	0.44
38:A1:1011:A:H2'	38:A1:1012:G:H8	1.82	0.44
38:A1:1082:U:H2'	38:A1:1083:G:C8	2.53	0.44
38:A1:1615:C:H2'	38:A1:1616:U:H6	1.82	0.44
38:A1:2219:A:H2'	38:A1:2220:A:H8	1.82	0.44
38:A1:2266:PSU:H3'	38:A1:2267:C:C4'	2.47	0.44
38:A1:2455:U:H3'	38:A1:2456:A:H8	1.83	0.44
38:A1:2590:A:H2'	38:A1:2591:A:C8	2.53	0.44
42:AE:152:THR:HG21	42:AE:155:LEU:HD13	1.99	0.44
43:AF:88:ARG:NH1	53:AQ:4:ASP:OD2	2.44	0.44
47:AJ:125:MET:SD	47:AJ:126:ASP:N	2.91	0.44
51:AO:193[A]:GLN:O	51:AO:197[A]:LEU:HB2	2.18	0.44
54:AR:44:LEU:HD23	54:AR:44:LEU:HA	1.80	0.44
54:AR:130:ASN:CG	54:AR:131:ALA:H	2.25	0.44
70:Ah:115:LYS:HE2	70:Ah:115:LYS:HB2	1.88	0.44
80:DC:494:GLU:OE2	80:DC:555:LYS:HD2	2.17	0.44
80:DC:724:ILE:HD13	80:DC:815:ALA:HB1	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:141:ILE:HG22	1:BA:142:PRO:O	2.18	0.44
1:BA:167:LYS:HD3	1:BA:204:TYR:HB3	1.98	0.44
2:BB:70:LEU:HA	2:BB:70:LEU:HD23	1.75	0.44
2:BB:181:LEU:O	2:BB:185:THR:HG23	2.18	0.44
3:BC:115:ILE:HG13	3:BC:115:ILE:O	2.17	0.44
3:BC:208:GLU:H	3:BC:208:GLU:CD	2.21	0.44
4:BE:33:ALA:O	34:B5:121:U:H1'	2.18	0.44
4:BE:252:ARG:HH12	8:BJ:71:PHE:HA	1.82	0.44
5:BG:160:ARG:HH12	34:B5:68:A:H5'	1.82	0.44
7:BI:92:ARG:NH2	38:A1:2107:A:O3'	2.51	0.44
14:BX:39:LYS:HE2	34:B5:1742:U:OP1	2.18	0.44
16:Ba:46:GLU:CD	16:Ba:48:ALA:H	2.25	0.44
17:Bb:41:LEU:HD23	17:Bb:41:LEU:H	1.82	0.44
20:BF:213:LYS:HA	20:BF:213:LYS:HD3	1.82	0.44
29:Bc:8:THR:OG1	29:Bc:56:LEU:HB2	2.18	0.44
33:BM:30:VAL:HA	33:BM:33:ARG:HG2	1.99	0.44
34:B5:19:A:H2'	34:B5:20:G:O4'	2.17	0.44
34:B5:1553:G:N2	34:B5:1555:A:H3'	2.32	0.44
34:B5:1756[A]:A:H8	38:A1:2256:A:N1	2.15	0.44
37:AC:34:ILE:HD11	38:A1:673:U:H4'	1.99	0.44
38:A1:67:A:N6	38:A1:271:C:O2'	2.49	0.44
38:A1:255:A:H5'	70:Ah:106:LYS:HE2	2.00	0.44
38:A1:310:U:H3	38:A1:2779:A:N6	2.11	0.44
38:A1:705:A:N7	63:Aa:74:ASN:ND2	2.46	0.44
38:A1:1079:A:H4'	41:AD:140:ARG:O	2.17	0.44
38:A1:1222:G:N1	38:A1:1285:G:O2'	2.39	0.44
38:A1:1268:G:H22	38:A1:1271:A:H5''	1.82	0.44
38:A1:1498:A:H2'	38:A1:1499:C:H6	1.80	0.44
38:A1:2099:A:H2'	38:A1:2100:A:C8	2.52	0.44
38:A1:2109:U:H2'	38:A1:2110:G:C8	2.51	0.44
38:A1:2423:U:H2'	38:A1:2424:A:C8	2.52	0.44
38:A1:3050:U:O2'	59:AW:16:GLY:O	2.35	0.44
38:A1:3189:G:O6	38:A1:3203:U:O4	2.35	0.44
38:A1:3202:G:H2'	38:A1:3203:U:C6	2.52	0.44
38:A1:3366:G:OP1	59:AW:61:LYS:NZ	2.46	0.44
44:AG:176:PRO:HG3	44:AG:215:VAL:HG23	2.00	0.44
44:AG:225:LYS:HE3	44:AG:225:LYS:HB3	1.83	0.44
46:AI:7:ARG:H	46:AI:7:ARG:HG3	1.66	0.44
46:AI:215:GLU:OE1	46:AI:215:GLU:N	2.31	0.44
47:AJ:14:ILE:HD11	47:AJ:162:TRP:CH2	2.53	0.44
53:AQ:31:LYS:HE3	53:AQ:31:LYS:HB2	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:AZ:14:VAL:HG12	69:Ag:89:ILE:HG21	2.00	0.44
79:E:36:VAL:HG21	79:E:190:PHE:CE2	2.53	0.44
80:DC:586:ILE:HG21	80:DC:709:MET:HG2	1.99	0.44
81:EC:6797:U:O2	81:EC:6887:G:N2	2.49	0.44
1:BA:61:ALA:HA	1:BA:64:ILE:HG12	1.98	0.44
1:BA:84:ARG:NH2	1:BA:201:LEU:HA	2.33	0.44
2:BB:128:LYS:HA	2:BB:134:VAL:HA	2.00	0.44
5:BG:160:ARG:NH2	34:B5:66:U:O2	2.50	0.44
9:BL:82:ARG:HG2	9:BL:113:PRO:HD3	2.00	0.44
11:BO:61:MET:HG3	11:BO:100:ALA:HB1	1.99	0.44
15:BY:21:LYS:HB2	15:BY:75:VAL:CG2	2.48	0.44
16:Ba:8:ASN:HB3	34:B5:1791:A:H3'	1.99	0.44
19:BD:17:PHE:CE2	19:BD:39:VAL:HG11	2.53	0.44
19:BD:58:VAL:O	19:BD:65:ARG:HB3	2.18	0.44
19:BD:76:ARG:HD3	19:BD:77:PHE:CD1	2.52	0.44
19:BD:222:VAL:HG21	31:Bg:228:LYS:O	2.17	0.44
23:BQ:24:ALA:HA	23:BQ:63:ILE:HD13	1.99	0.44
24:BR:7:LYS:HB3	34:B5:1316:G:H5'	1.99	0.44
29:Bc:57:MET:HE2	29:Bc:57:MET:HB3	1.80	0.44
31:Bg:214:ALA:HB2	31:Bg:220:ILE:HG13	1.98	0.44
34:B5:821:U:O2	34:B5:852:C:C2	2.71	0.44
34:B5:1086:A:H2'	34:B5:1087:A:C8	2.53	0.44
34:B5:1739:C:H2'	34:B5:1740:A:H8	1.83	0.44
34:B5:1776:A:H2'	34:B5:1777:G:C8	2.52	0.44
35:AA:68:LYS:NZ	38:A1:1579:C:H4'	2.33	0.44
37:AC:20:LEU:HD21	37:AC:252:GLU:HG2	2.00	0.44
38:A1:87:U:H2'	38:A1:88:A:H8	1.80	0.44
38:A1:153:U:O2'	38:A1:154:U:H5'	2.18	0.44
38:A1:169:U:P	48:AL:128:ARG:HH21	2.40	0.44
38:A1:181:U:H2'	38:A1:182:U:O4'	2.18	0.44
38:A1:515:C:H2'	38:A1:516:A:C8	2.53	0.44
38:A1:783:A:H5''	38:A1:784:A:H5''	2.00	0.44
38:A1:808:A:HO2'	38:A1:2412:G:HO2'	1.50	0.44
38:A1:964:G:H2'	38:A1:965:A:H8	1.83	0.44
38:A1:1427:U:OP2	63:Aa:4:ARG:NH2	2.38	0.44
38:A1:1766:G:H2'	38:A1:1767:C:C6	2.52	0.44
38:A1:2266:PSU:H3'	38:A1:2267:C:C5'	2.48	0.44
38:A1:2266:PSU:C2	38:A1:2267:C:C2	3.06	0.44
38:A1:2310:U:H2'	38:A1:2311:G:C8	2.52	0.44
38:A1:2568:C:O2'	38:A1:2569:A:O5'	2.36	0.44
38:A1:3013:U:H2'	38:A1:3014:U:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:A3:75:G:H1'	39:A3:104:A:H61	1.83	0.44
40:A4:57:C:H2'	40:A4:58:G:C8	2.53	0.44
41:AD:151:GLN:OE1	41:AD:151:GLN:N	2.30	0.44
43:AF:150:LYS:HD3	43:AF:244:ASN:ND2	2.33	0.44
52:AP:13:LYS:HE2	52:AP:13:LYS:HB2	1.83	0.44
52:AP:173:ARG:HA	52:AP:176:ILE:HG22	1.99	0.44
53:AQ:46:LYS:O	53:AQ:50:LYS:HG2	2.18	0.44
55:AS:109:ASP:OD1	55:AS:113:ARG:NH1	2.47	0.44
60:AX:134:ASP:OD2	60:AX:138:ARG:NH2	2.51	0.44
75:Am:112:LYS:HD3	75:Am:112:LYS:HA	1.75	0.44
80:DC:25:ILE:O	80:DC:127:VAL:HA	2.18	0.44
80:DC:295:GLU:OE1	80:DC:295:GLU:N	2.42	0.44
81:EC:6795:U:H2'	81:EC:6796:C:H6	1.82	0.44
5:BG:92:ARG:NH1	34:B5:1674:C:OP1	2.44	0.44
9:BL:2:SER:C	9:BL:52:SER:H	2.26	0.44
13:BW:50:PHE:HB2	13:BW:63:VAL:HG12	1.99	0.44
19:BD:16:VAL:O	19:BD:20:GLU:HG2	2.18	0.44
31:Bg:238:ASP:OD2	31:Bg:257:ALA:N	2.48	0.44
31:Bg:294:TRP:CZ3	31:Bg:301:LEU:HB2	2.52	0.44
34:B5:889:U:O2'	34:B5:890:C:OP1	2.32	0.44
34:B5:940:A:H2'	34:B5:941:A:C8	2.53	0.44
34:B5:968:U:O2'	34:B5:1103:U:O2'	2.32	0.44
34:B5:1039:A:HO2'	34:B5:1040:G:H5''	1.80	0.44
34:B5:1145:U:H2'	34:B5:1146:G:C8	2.52	0.44
34:B5:1507:G:H2'	34:B5:1508:U:C6	2.52	0.44
34:B5:1563:C:H2'	34:B5:1564:U:C6	2.53	0.44
34:B5:1613:U:H2'	34:B5:1614:A:C8	2.52	0.44
35:AA:30:ARG:NH2	35:AA:41:ILE:HG21	2.31	0.44
37:AC:107:ARG:HA	38:A1:664:U:H5'	1.99	0.44
37:AC:350:LYS:HD2	37:AC:351:PRO:HD2	1.99	0.44
38:A1:101:G:H2'	38:A1:102:C:O4'	2.18	0.44
38:A1:599:C:H2'	38:A1:600:G:O4'	2.17	0.44
38:A1:937:G:C6	38:A1:2410:U:H5''	2.53	0.44
38:A1:1503:A:N3	38:A1:1504:A:C8	2.86	0.44
38:A1:1710:C:C2	38:A1:1711:C:C5	3.06	0.44
38:A1:1862:U:H2'	38:A1:1863:G:O4'	2.18	0.44
38:A1:2751:G:OP1	56:AT:50:LYS:HE2	2.17	0.44
38:A1:2765:C:H2'	38:A1:2766:U:C6	2.53	0.44
38:A1:3127:A:H2'	38:A1:3128:G:O4'	2.17	0.44
39:A3:95:A:N3	55:AS:119:ARG:HD2	2.33	0.44
40:A4:43:A:H2'	40:A4:44:A:H8	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:AG:214:LEU:O	44:AG:218:ILE:HG12	2.18	0.44
50:AN:119:TYR:CE1	50:AN:133:ILE:HD11	2.48	0.44
55:AS:76:GLY:HA3	55:AS:129:ILE:HD11	2.00	0.44
55:AS:77:VAL:HG21	55:AS:106:LEU:HD12	1.98	0.44
59:AW:4:GLU:HB2	59:AW:13:ILE:HB	1.99	0.44
61:AY:125:LYS:HG3	61:AY:127:GLU:HG3	1.99	0.44
62:AZ:4:PHE:HE1	62:AZ:82:PRO:HG3	1.83	0.44
63:Aa:126:LYS:HG2	63:Aa:146:GLU:OE1	2.18	0.44
80:DC:382:VAL:HG21	80:DC:463:LEU:HD21	2.00	0.44
80:DC:564:ARG:HH11	80:DC:725:GLN:HG3	1.83	0.44
1:BA:12:GLU:HG2	1:BA:13:ASP:N	2.33	0.44
1:BA:39:ASN:O	1:BA:47:VAL:HG12	2.17	0.44
2:BB:70:LEU:O	2:BB:74:GLN:N	2.51	0.44
4:BE:45:ILE:HG13	4:BE:61:VAL:HG21	2.00	0.44
7:BI:6:ASP:N	7:BI:6:ASP:OD1	2.50	0.44
7:BI:65:PHE:HZ	7:BI:78:ILE:HD12	1.83	0.44
8:BJ:124:HIS:HA	8:BJ:127:VAL:HG12	2.00	0.44
10:BN:3:ARG:HB3	10:BN:6:SER:HB3	2.00	0.44
10:BN:114:ARG:O	10:BN:118:ILE:HD12	2.18	0.44
11:BO:112:ILE:HG22	16:Ba:56:ALA:O	2.18	0.44
16:Ba:5:ARG:HB2	16:Ba:8:ASN:O	2.18	0.44
18:Be:54:ARG:HE	18:Be:56:MET:HE1	1.82	0.44
19:BD:8:LYS:NZ	34:B5:1487:A:OP2	2.34	0.44
19:BD:14:ASP:O	19:BD:17:PHE:HB3	2.18	0.44
20:BF:48:PHE:CD2	20:BF:130:ILE:HD13	2.53	0.44
22:BP:33:PHE:CD2	22:BP:87:PRO:HD3	2.53	0.44
34:B5:190:C:O2'	34:B5:192:U:OP1	2.30	0.44
34:B5:371:G:N2	34:B5:612:U:O2	2.50	0.44
34:B5:489:C:N4	34:B5:499:U:O4'	2.44	0.44
34:B5:886:U:H2'	34:B5:887:A:H8	1.82	0.44
34:B5:1308:G:H2'	34:B5:1309:C:C6	2.52	0.44
34:B5:1439:C:H2'	34:B5:1440:C:H6	1.83	0.44
34:B5:1446:A:O2'	34:B5:1448:G:N7	2.47	0.44
38:A1:214:G:O6	38:A1:227:G:N2	2.51	0.44
38:A1:665:A:H2	48:AL:12:ASN:ND2	2.16	0.44
38:A1:764:U:H3	38:A1:767:U:H3	1.65	0.44
38:A1:2152:A:H2'	38:A1:2153:U:C6	2.52	0.44
38:A1:2273:G:O2'	38:A1:2311:G:O6	2.27	0.44
38:A1:2536:A:H61	38:A1:2540:A:P	2.41	0.44
38:A1:3163:A:H2'	38:A1:3164:C:C6	2.53	0.44
38:A1:3374:U:P	66:Ad:70:ARG:HH12	2.40	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:A4:29:U:H5''	48:AL:27:ASP:HB3	2.00	0.44
41:AD:49:TYR:CE1	41:AD:75:LEU:HD11	2.53	0.44
43:AF:98:LYS:HB3	43:AF:99:PRO:HD3	2.00	0.44
46:AI:74:LYS:O	46:AI:78:LYS:HG3	2.18	0.44
51:AO:58[A]:LEU:HA	51:AO:72[A]:HIS:CD2	2.52	0.44
55:AS:147:ASP:O	55:AS:149:LYS:HG2	2.18	0.44
71:AI:58:ILE:HD11	71:AI:90:MET:HE2	2.00	0.44
80:DC:564:ARG:NE	80:DC:680:GLU:OE2	2.48	0.44
80:DC:588:LEU:HD21	80:DC:712:ALA:HB1	2.00	0.44
80:DC:633:ILE:HD13	80:DC:645:LEU:HD11	2.00	0.44
80:DC:725:GLN:NE2	80:DC:803:THR:HB	2.33	0.44
3:BC:214:ALA:O	3:BC:218:ILE:HG12	2.18	0.43
5:BG:175:ILE:HG23	5:BG:178:LEU:HD23	2.00	0.43
7:BI:184:LEU:HB3	7:BI:189:LEU:HB3	2.00	0.43
8:BJ:149:ARG:CZ	34:B5:765:G:C4	3.01	0.43
14:BX:109:ARG:CZ	14:BX:112:LYS:HG3	2.48	0.43
18:Be:8:LEU:HD23	18:Be:8:LEU:H	1.83	0.43
23:BQ:74:HIS:CE1	34:B5:1526:A:H61	2.36	0.43
25:BS:127:HIS:NE2	25:BS:133:VAL:HG21	2.32	0.43
31:Bg:24:ALA:HB2	31:Bg:71:CYS:O	2.18	0.43
31:Bg:192:PHE:HB3	31:Bg:223:TRP:CE2	2.53	0.43
34:B5:232:U:H5	34:B5:235:G:H21	1.65	0.43
34:B5:237:C:O2'	34:B5:835:U:OP1	2.36	0.43
34:B5:256:A:H2'	34:B5:257:A:C8	2.53	0.43
34:B5:867:G:H2'	34:B5:868:G:C8	2.53	0.43
34:B5:878:G:H2'	34:B5:879:G:C8	2.53	0.43
36:AB:113:GLU:OE2	36:AB:167:ARG:N	2.51	0.43
37:AC:27:SER:O	37:AC:279:HIS:NE2	2.47	0.43
37:AC:233:LEU:HA	37:AC:233:LEU:HD23	1.77	0.43
38:A1:209:A:H4'	38:A1:211:A:N7	2.33	0.43
38:A1:684:G:H2'	38:A1:685:G:H8	1.83	0.43
38:A1:1079:A:N1	41:AD:113:LEU:HD22	2.32	0.43
38:A1:1499:C:H2'	38:A1:1500:G:H8	1.82	0.43
38:A1:2191:PSU:HN3	38:A1:2316:G:H1	1.66	0.43
38:A1:2639:G:OP1	56:AT:14:MET:HE1	2.17	0.43
38:A1:2747:A:H8	38:A1:2747:A:OP2	2.01	0.43
38:A1:3022:G:H1'	38:A1:3031:G:O6	2.18	0.43
39:A3:38:U:N3	39:A3:41:G:OP2	2.36	0.43
39:A3:81:U:H2'	39:A3:82:G:H8	1.82	0.43
40:A4:17:A:H2'	40:A4:18:U:H6	1.83	0.43
40:A4:53:A:C4	40:A4:54:A:C8	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:AH:6:THR:HG21	45:AH:65:VAL:HB	1.99	0.43
46:AI:190:ILE:HG12	46:AI:199:PHE:CD1	2.53	0.43
47:AJ:33:ALA:O	47:AJ:37:LEU:HD23	2.18	0.43
52:AP:30:ARG:HH21	52:AP:62:ARG:HH21	1.65	0.43
57:AU:87:ASN:O	57:AU:89:LEU:N	2.50	0.43
58:AV:121:GLU:OE2	58:AV:121:GLU:N	2.31	0.43
60:AX:88:MET:HA	60:AX:120:LYS:HE3	2.00	0.43
63:Aa:16:SER:HB3	63:Aa:21:ARG:HD3	1.99	0.43
69:Ag:98:GLN:OE1	69:Ag:98:GLN:HA	2.18	0.43
79:E:12:HIS:CD2	79:E:216:LEU:HD21	2.53	0.43
80:DC:560:VAL:HG23	80:DC:825:ARG:NH2	2.27	0.43
4:BE:231:GLN:C	4:BE:233:LYS:H	2.25	0.43
5:BG:188:ARG:NH2	34:B5:283:U:C6	2.86	0.43
8:BJ:78:ARG:HH12	8:BJ:82:ARG:NH1	2.16	0.43
8:BJ:92:LYS:HB2	8:BJ:95:TYR:HD2	1.83	0.43
8:BJ:171:ARG:NH2	34:B5:538:A:OP2	2.51	0.43
15:BY:8:ARG:HB3	34:B5:780:A:N3	2.33	0.43
19:BD:9:ARG:NH1	34:B5:1514:U:O2	2.51	0.43
31:Bg:108:SER:OG	31:Bg:109:ASP:N	2.51	0.43
31:Bg:121:MET:HE3	31:Bg:183:LEU:HD11	2.00	0.43
34:B5:200:A:H2'	34:B5:201:G:H8	1.82	0.43
34:B5:239:C:H41	34:B5:241:U:H3'	1.82	0.43
34:B5:800:U:H2'	34:B5:801:G:C8	2.53	0.43
34:B5:1392:U:H2'	34:B5:1393:C:C6	2.53	0.43
34:B5:1606:C:H2'	34:B5:1607:G:C8	2.54	0.43
34:B5:1733:C:H2'	34:B5:1734:U:C6	2.52	0.43
36:AB:306:THR:HG21	36:AB:316:GLU:HA	2.00	0.43
38:A1:273:A:H2'	38:A1:274:G:H8	1.83	0.43
38:A1:1167:U:O2'	43:AF:210:PRO:O	2.35	0.43
38:A1:1213:G:H2'	38:A1:1214:U:H6	1.83	0.43
38:A1:1342:C:H2'	38:A1:1343:A:H8	1.83	0.43
38:A1:2612:U:H2'	38:A1:2613:U:O4'	2.18	0.43
38:A1:2669:G:H2'	38:A1:2670:G:C8	2.53	0.43
38:A1:3131:U:H2'	38:A1:3132:C:H6	1.83	0.43
41:AD:95:TRP:HZ3	41:AD:199:ILE:HD13	1.83	0.43
42:AE:66:SER:OG	42:AE:76:LEU:HD22	2.17	0.43
61:AY:40:ARG:HD2	61:AY:46:LYS:HD2	2.00	0.43
80:DC:4:PHE:H	80:DC:8:GLN:NE2	2.16	0.43
80:DC:211:PHE:HB2	80:DC:220:PHE:CE1	2.53	0.43
80:DC:811:PRO:HB3	80:DC:820:LEU:HD11	1.99	0.43
81:EC:6801:A:N3	81:EC:6884:G:H1'	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:30:GLN:HE22	1:BA:32:HIS:HB2	1.83	0.43
6:BH:13:PRO:HB2	6:BH:14:THR:OG1	2.19	0.43
7:BI:195:ARG:NH1	9:BL:10:GLU:O	2.47	0.43
13:BW:38:LEU:HA	13:BW:41:MET:CB	2.47	0.43
20:BF:72:HIS:ND1	20:BF:107:LYS:HD3	2.31	0.43
22:BP:59:LYS:NZ	34:B5:1242:A:OP1	2.31	0.43
23:BQ:107:LYS:HA	23:BQ:110:THR:HG22	2.01	0.43
25:BS:19:ASN:ND2	25:BS:103:ASN:OD1	2.51	0.43
31:Bg:66:HIS:CD2	34:B5:1387:G:H5'	2.53	0.43
34:B5:202:A:H2'	34:B5:203:U:C6	2.54	0.43
34:B5:625:C:H2'	34:B5:626:U:C6	2.53	0.43
34:B5:948:G:H2'	34:B5:949:C:H6	1.83	0.43
34:B5:1563:C:H2'	34:B5:1564:U:H6	1.82	0.43
35:AA:227:ARG:HB2	35:AA:239:ALA:HB2	2.00	0.43
38:A1:530:G:H2'	38:A1:531:G:C8	2.52	0.43
38:A1:631:U:H2'	38:A1:632:G:H8	1.83	0.43
38:A1:666:A:H2'	38:A1:667:C:O4'	2.17	0.43
38:A1:1180:A:C4	38:A1:1182:A:C8	3.06	0.43
38:A1:2217:U:H2'	38:A1:2218:G:H8	1.83	0.43
38:A1:2478:C:P	38:A1:2480:A:H62	2.37	0.43
38:A1:2506:U:O2'	38:A1:2507:C:OP1	2.35	0.43
38:A1:2511:A:H2'	38:A1:2512:C:C6	2.54	0.43
38:A1:2652:U:OP1	77:Ao:65:THR:OG1	2.28	0.43
38:A1:2861:U:H2'	38:A1:2862:U:O4'	2.18	0.43
38:A1:2966:G:H2'	38:A1:2967:A:C8	2.53	0.43
38:A1:3021:A:N1	38:A1:3032:A:H5''	2.33	0.43
38:A1:3170:A:O2'	38:A1:3171:U:OP2	2.29	0.43
39:A3:23:A:O2'	39:A3:24:A:OP1	2.31	0.43
44:AG:25:PRO:HB2	62:AZ:125:GLY:H	1.83	0.43
48:AL:153:ASP:OD2	63:Aa:126:LYS:HE3	2.18	0.43
52:AP:48:LEU:HD22	52:AP:88:VAL:HG13	1.99	0.43
61:AY:51:ARG:HB3	61:AY:54:ASP:OD2	2.18	0.43
61:AY:88:GLU:HG2	61:AY:88:GLU:O	2.18	0.43
62:AZ:133:LYS:HD3	62:AZ:135:ARG:NH1	2.33	0.43
65:Ac:22:LYS:HD3	65:Ac:22:LYS:HA	1.64	0.43
79:E:24:LYS:HA	79:E:24:LYS:HD2	1.82	0.43
80:DC:10:ARG:NH1	80:DC:10:ARG:O	2.51	0.43
80:DC:331:ALA:O	80:DC:335:LEU:HG	2.17	0.43
80:DC:380:LEU:HG	80:DC:469:LEU:HB3	2.00	0.43
80:DC:565:GLU:CD	80:DC:676:ILE:HB	2.43	0.43
80:DC:728:VAL:HB	80:DC:771:TYR:HA	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:DC:775:ASN:HA	80:DC:778:PHE:CE2	2.53	0.43
2:BB:179:SER:HB3	2:BB:183:GLN:OE1	2.19	0.43
4:BE:68:ARG:NH1	4:BE:76:VAL:HG11	2.33	0.43
5:BG:45:PHE:HB3	5:BG:48:TYR:HB2	2.00	0.43
8:BJ:37:LYS:HG3	8:BJ:38:ASN:N	2.32	0.43
8:BJ:41:GLU:OE2	8:BJ:108:ARG:NH1	2.49	0.43
20:BF:190:ILE:HG21	34:B5:1473:U:C5	2.53	0.43
26:BT:56:LYS:HE2	26:BT:56:LYS:HB2	1.81	0.43
34:B5:82:U:H2'	34:B5:83:G:O4'	2.18	0.43
34:B5:138:A:N6	34:B5:266:A:H61	2.15	0.43
34:B5:301:A:H2'	34:B5:302:PSU:O4'	2.18	0.43
34:B5:304:U:H2'	34:B5:305:C:H6	1.83	0.43
34:B5:343:C:H2'	34:B5:344:A:C8	2.53	0.43
34:B5:752:A:HO2'	34:B5:753:A:P	2.40	0.43
34:B5:1036:A:H2'	34:B5:1037:C:H6	1.83	0.43
34:B5:1241:G:H2'	34:B5:1242:A:C8	2.54	0.43
36:AB:49:TYR:O	36:AB:80:ASP:N	2.52	0.43
36:AB:86:VAL:HG22	36:AB:162:VAL:HG12	2.01	0.43
36:AB:220:VAL:O	36:AB:334:ARG:NH1	2.51	0.43
38:A1:87:U:H2'	38:A1:88:A:C8	2.53	0.43
38:A1:129:U:H2'	38:A1:130:A:H8	1.83	0.43
38:A1:560:G:OP2	49:AM:83:LYS:NZ	2.36	0.43
38:A1:650:C:H2'	38:A1:651:G:C8	2.53	0.43
38:A1:1069:C:H2'	38:A1:1070:U:C6	2.52	0.43
38:A1:1228:C:C2	38:A1:1282:G:C2	3.06	0.43
38:A1:1274:A:H2'	38:A1:1274:A:OP2	2.18	0.43
38:A1:1667:A:H2'	38:A1:1668:G:C8	2.54	0.43
38:A1:2185:G:H2'	38:A1:2186:U:C6	2.53	0.43
38:A1:2374:C:OP1	38:A1:2823:G:O2'	2.21	0.43
38:A1:2686:A:H2'	38:A1:2687:G:O4'	2.18	0.43
38:A1:3146:G:H2'	38:A1:3147:G:C8	2.54	0.43
38:A1:3165:A:H2'	38:A1:3165:A:N3	2.34	0.43
38:A1:3255:U:H2'	38:A1:3256:G:C8	2.53	0.43
38:A1:3366:G:H2'	38:A1:3367:C:C6	2.53	0.43
39:A3:94:C:H2'	39:A3:95:A:H8	1.83	0.43
40:A4:9:A:H2'	40:A4:10:A:H8	1.83	0.43
40:A4:130:C:H2'	40:A4:131:A:O4'	2.19	0.43
48:AL:167:PHE:CE2	63:Aa:132:LYS:HE3	2.53	0.43
50:AN:96:ARG:NH2	50:AN:100:ALA:HB1	2.34	0.43
54:AR:173:ARG:HE	54:AR:177:VAL:HG21	1.83	0.43
58:AV:118:VAL:O	58:AV:137:VAL:N	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:AZ:76:ASN:OD1	62:AZ:77:TYR:N	2.51	0.43
80:DC:772:LEU:HD23	80:DC:776:GLU:HB2	1.99	0.43
81:EC:6827:G:H2'	81:EC:6828:G:H8	1.84	0.43
81:EC:6828:G:H2'	81:EC:6829:A:H8	1.83	0.43
81:EC:6876:A:H2'	81:EC:6878:G:H1'	1.99	0.43
1:BA:34:GLU:N	1:BA:35:PRO:HD2	2.33	0.43
4:BE:18:TRP:C	4:BE:51:ARG:HH22	2.26	0.43
4:BE:95:THR:O	4:BE:97:GLU:HG2	2.18	0.43
6:BH:96:ARG:HG3	34:B5:856:A:C6	2.54	0.43
19:BD:123:VAL:O	19:BD:127:MET:HG2	2.19	0.43
31:Bg:34:LEU:HD12	31:Bg:43:ILE:O	2.18	0.43
31:Bg:107:LYS:HD3	31:Bg:107:LYS:HA	1.76	0.43
34:B5:384:G:H2'	34:B5:385:A:C8	2.53	0.43
34:B5:480:G:O6	34:B5:481:A:N6	2.52	0.43
34:B5:646:C:H2'	34:B5:647:G:O4'	2.18	0.43
34:B5:689:G:H2'	34:B5:690:G:H8	1.83	0.43
34:B5:1061:A:N3	34:B5:1061:A:H2'	2.33	0.43
35:AA:198:LYS:NZ	38:A1:2184:U:OP2	2.44	0.43
38:A1:157:A:H2'	38:A1:158:G:O4'	2.19	0.43
38:A1:518:G:P	43:AF:67:ARG:HH21	2.41	0.43
38:A1:583:G:C2	38:A1:584:G:C8	3.07	0.43
38:A1:604:G:H2'	38:A1:605:U:C6	2.53	0.43
38:A1:828:A:H2'	38:A1:829:U:C6	2.53	0.43
38:A1:1097:G:H4'	56:AT:129:LYS:HG2	2.00	0.43
38:A1:1268:G:H2'	38:A1:1270:A:OP1	2.19	0.43
38:A1:1529:A:P	38:A1:1592:G:H22	2.42	0.43
38:A1:1915:A:H2'	38:A1:1916:U:C6	2.54	0.43
38:A1:2257:C:H3'	38:A1:2258:PSU:H6	1.84	0.43
38:A1:2468:A:N6	38:A1:2477:G:O2'	2.52	0.43
38:A1:2661:G:H2'	38:A1:2662:G:H8	1.83	0.43
38:A1:3182:G:H2'	38:A1:3183:A:H8	1.81	0.43
38:A1:3251:U:H2'	38:A1:3252:G:C8	2.53	0.43
38:A1:3338:C:H2'	38:A1:3339:A:C8	2.54	0.43
48:AL:128:ARG:NH1	70:Ah:114:ARG:HH21	2.03	0.43
60:AX:67:ILE:HD13	60:AX:83:VAL:HG12	2.01	0.43
71:Ai:56:ARG:HH22	71:Ai:76:ARG:HH12	1.66	0.43
80:DC:237:LYS:HA	80:DC:240:MET:CE	2.48	0.43
80:DC:292:LYS:HA	80:DC:292:LYS:HD3	1.77	0.43
80:DC:564:ARG:HB2	80:DC:680:GLU:O	2.18	0.43
2:BB:23:PRO:HG2	2:BB:24:PHE:CD2	2.54	0.43
2:BB:125:VAL:HG12	2:BB:127:VAL:HG13	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:BE:212:ASP:HB3	4:BE:216:ASN:HD21	1.84	0.43
4:BE:246:LEU:HB3	4:BE:250:GLU:CG	2.49	0.43
7:BI:184:LEU:HD22	7:BI:188:GLU:HG3	2.01	0.43
8:BJ:92:LYS:HB2	8:BJ:95:TYR:CD2	2.54	0.43
9:BL:123:VAL:HG12	9:BL:142:VAL:HG13	2.00	0.43
9:BL:132:SER:OG	9:BL:133:LYS:N	2.50	0.43
16:Ba:18:VAL:HG23	16:Ba:19:LYS:N	2.29	0.43
19:BD:217:ILE:HD11	31:Bg:194:GLY:HA2	2.00	0.43
20:BF:49:GLU:OE1	20:BF:49:GLU:N	2.51	0.43
20:BF:70:VAL:HG11	23:BQ:47:LYS:HG2	2.01	0.43
23:BQ:76:SER:HA	23:BQ:79:TYR:HD2	1.84	0.43
23:BQ:83:GLN:NE2	23:BQ:87:LYS:HD2	2.34	0.43
30:Bd:43:PHE:HZ	30:Bd:52:PHE:CD1	2.35	0.43
32:Bf:132:LEU:HB3	32:Bf:139:LEU:HG	1.99	0.43
34:B5:187:G:H22	34:B5:197:A:H2'	1.82	0.43
34:B5:219:A:O2'	34:B5:220:A:O5'	2.36	0.43
34:B5:429:G:H2'	34:B5:430:G:H8	1.81	0.43
34:B5:649:U:O4	34:B5:684:A:N7	2.51	0.43
34:B5:948:G:H2'	34:B5:949:C:C6	2.54	0.43
34:B5:1161:C:O2'	34:B5:1162:C:H5'	2.19	0.43
34:B5:1330:G:C2	34:B5:1331:A:H1'	2.53	0.43
34:B5:1698:G:N3	34:B5:1698:G:H2'	2.34	0.43
35:AA:64:ARG:HE	35:AA:64:ARG:HB3	1.63	0.43
35:AA:69:TYR:OH	38:A1:2557:A:OP1	2.13	0.43
35:AA:70:ARG:NE	35:AA:72:ARG:HH12	2.17	0.43
38:A1:80:G:H2'	38:A1:81:C:C6	2.53	0.43
38:A1:88:A:H4'	63:Aa:63:LYS:HD3	2.00	0.43
38:A1:359:U:H4'	38:A1:817:A:H62	1.84	0.43
38:A1:360:G:P	72:Aj:25:ARG:HH21	2.40	0.43
38:A1:770:G:H5'	48:AL:168:ARG:HH12	1.83	0.43
38:A1:1601:U:P	54:AR:42:ARG:HH22	2.42	0.43
38:A1:1621:A:H2'	38:A1:1622:U:C6	2.53	0.43
38:A1:2724:U:H4'	56:AT:54:HIS:CE1	2.54	0.43
38:A1:2834:G:H2'	38:A1:2835:U:H6	1.82	0.43
38:A1:3174:A:C5	38:A1:3279:A:H1'	2.53	0.43
38:A1:3291:G:C2	38:A1:3292:A:C5	3.06	0.43
41:AD:65:ILE:HG23	41:AD:72:ASP:HB3	2.00	0.43
46:AI:58:GLU:OE1	46:AI:58:GLU:N	2.51	0.43
55:AS:89:ASN:OD1	56:AT:156:TYR:N	2.51	0.43
56:AT:100:LYS:HB3	56:AT:103:GLN:HE21	1.84	0.43
57:AU:36:TYR:HD2	57:AU:83:TYR:CD1	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:DC:10:ARG:NH2	80:DC:449:PRO:HD3	2.33	0.43
80:DC:89:ILE:O	80:DC:91:GLN:N	2.51	0.43
80:DC:728:VAL:HA	80:DC:772:LEU:O	2.18	0.43
3:BC:57:PHE:CE1	3:BC:138:PRO:HD3	2.53	0.43
14:BX:26:GLU:HB2	14:BX:29:TYR:HB3	1.99	0.43
15:BY:131:ARG:NH2	34:B5:153:G:H3'	2.33	0.43
19:BD:115:ILE:H	19:BD:115:ILE:HD12	1.83	0.43
24:BR:21:TYR:HE2	24:BR:73:LEU:HD12	1.83	0.43
34:B5:59:C:H1'	34:B5:60:U:C5	2.53	0.43
34:B5:499:U:O2'	34:B5:501:U:O4	2.30	0.43
34:B5:1060:U:H5'	34:B5:1061:A:H5'	2.00	0.43
34:B5:1488:G:O2'	34:B5:1494:C:O2	2.28	0.43
34:B5:1623:C:H2'	34:B5:1624:C:O4'	2.18	0.43
36:AB:214:MET:HE2	36:AB:214:MET:HB2	1.75	0.43
38:A1:436:A:C5	38:A1:437:G:C6	3.07	0.43
38:A1:675:C:O2'	38:A1:679:U:OP1	2.29	0.43
38:A1:709:A:OP2	53:AQ:179:ARG:NH2	2.51	0.43
38:A1:737:G:H2'	38:A1:738:A:H8	1.83	0.43
38:A1:756:U:H2'	38:A1:757:C:C6	2.54	0.43
38:A1:1610:G:H2'	38:A1:1611:G:C8	2.53	0.43
38:A1:1827:C:H2'	38:A1:1828:A:C8	2.54	0.43
38:A1:1926:C:OP1	78:Ap:23:ARG:NH1	2.46	0.43
38:A1:2095:G:C2	38:A1:2096:A:C5	3.07	0.43
38:A1:2457:G:N2	38:A1:2483:G:O2'	2.51	0.43
38:A1:2478:C:H5''	38:A1:2479:C:OP1	2.19	0.43
38:A1:2674:A:O4'	47:AJ:105:GLY:HA3	2.19	0.43
38:A1:2837:A:H2'	38:A1:2845:A:C6	2.54	0.43
38:A1:2916:U:H2'	38:A1:2917:G:C8	2.52	0.43
38:A1:3192:U:H2'	38:A1:3193:C:C6	2.53	0.43
39:A3:46:A:H2'	39:A3:47:C:C6	2.53	0.43
40:A4:25:G:N7	61:AY:13:ARG:NH1	2.66	0.43
48:AL:122:LYS:HG3	70:Ah:118:ILE:HG23	2.01	0.43
49:AM:24:LYS:HE2	49:AM:25:LYS:HE3	1.99	0.43
54:AR:39:ASN:O	54:AR:43:LYS:HG3	2.18	0.43
60:AX:64:GLU:OE2	70:Ah:32:LYS:NZ	2.47	0.43
72:Aj:3:LYS:HB3	72:Aj:3:LYS:HE2	1.79	0.43
72:Aj:14:LYS:HE2	74:Al:51:ILE:HD11	2.01	0.43
79:E:209:SER:C	79:E:210:MET:HE2	2.44	0.43
80:DC:577:SER:O	80:DC:708:THR:OG1	2.36	0.43
80:DC:737:GLU:H	80:DC:737:GLU:CD	2.26	0.43
81:EC:6769:A:N6	81:EC:6823:U:OP1	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:BB:133:TYR:CE1	2:BB:221:PRO:HD2	2.53	0.43
5:BG:188:ARG:HH21	34:B5:283:U:H3'	1.81	0.43
8:BJ:157:ASP:N	8:BJ:157:ASP:OD1	2.52	0.43
20:BF:170:GLN:HA	20:BF:173:ALA:HB3	2.00	0.43
28:BZ:35:ARG:CZ	34:B5:1536:G:H4'	2.49	0.43
34:B5:331:A:H2'	34:B5:332:U:C6	2.54	0.43
34:B5:876:G:H1'	34:B5:944:A:O4'	2.19	0.43
34:B5:1081:A:N7	34:B5:1090:C:N4	2.67	0.43
34:B5:1585:U:N3	34:B5:1611:A:H2	2.15	0.43
34:B5:1694:A:H3'	34:B5:1694:A:N3	2.33	0.43
36:AB:247:ARG:NH1	38:A1:2341:A:OP2	2.48	0.43
38:A1:736:A:H5''	38:A1:737:G:C8	2.54	0.43
38:A1:939:U:OP2	63:Aa:26:ARG:NH2	2.37	0.43
38:A1:974:G:H2'	38:A1:975:C:C6	2.54	0.43
38:A1:1662:G:H2'	38:A1:1663:C:H6	1.84	0.43
38:A1:2277:C:H5'	38:A1:2317:A:H4'	2.01	0.43
38:A1:3150:A:H2'	38:A1:3151:U:O4'	2.18	0.43
38:A1:3266:G:OP2	42:AE:70:LYS:NZ	2.44	0.43
44:AG:177:TYR:CE2	44:AG:222:PHE:HB3	2.54	0.43
45:AH:89:LYS:HB3	45:AH:143:GLU:OE1	2.19	0.43
45:AH:168:ARG:HD3	45:AH:168:ARG:HA	1.86	0.43
46:AI:3:ARG:HG3	46:AI:123:HIS:HE1	1.84	0.43
46:AI:47:PRO:HB3	46:AI:171:TRP:CH2	2.53	0.43
46:AI:75:TYR:HE2	46:AI:147:VAL:O	2.01	0.43
50:AN:38:ARG:HD2	50:AN:62:TYR:HE1	1.84	0.43
55:AS:90:MET:HE1	55:AS:114:HIS:NE2	2.34	0.43
56:AT:19:PHE:CD1	56:AT:20:ARG:HG3	2.54	0.43
80:DC:76:SER:C	80:DC:77:LEU:HD12	2.43	0.43
80:DC:408:GLY:HA2	80:DC:431:ILE:O	2.19	0.43
81:EC:6815:U:H3'	81:EC:6816:A:C5'	2.49	0.43
81:EC:6816:A:H4'	81:EC:6816:A:OP1	2.19	0.43
1:BA:197:ILE:HG13	1:BA:197:ILE:O	2.18	0.43
2:BB:133:TYR:HE2	2:BB:181:LEU:HD22	1.82	0.43
9:BL:109:VAL:HG11	9:BL:125:VAL:HG11	2.01	0.43
11:BO:26:THR:HG21	11:BO:60:ALA:HB2	2.01	0.43
14:BX:70:LYS:HE2	18:Be:11:ALA:HB2	2.01	0.43
15:BY:7:ILE:HD13	15:BY:40:LEU:HD23	2.01	0.43
19:BD:8:LYS:HE3	27:BU:61:LYS:NZ	2.34	0.43
20:BF:117:THR:O	20:BF:121:ILE:HG12	2.19	0.43
21:BK:4:PRO:HD2	21:BK:41:TYR:CE1	2.54	0.43
23:BQ:57:LEU:H	23:BQ:57:LEU:HD23	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BT:61:VAL:HG12	26:BT:76:LEU:HD11	2.00	0.43
30:Bd:7:TRP:HZ3	34:B5:1215:C:H1'	1.83	0.43
31:Bg:90:ARG:HH21	31:Bg:102:ARG:HE	1.66	0.43
32:Bf:121:CYS:HB3	32:Bf:126:CYS:HB3	1.59	0.43
32:Bf:142:GLY:O	34:B5:1233:G:N2	2.51	0.43
34:B5:218:A:N6	34:B5:842:C:H42	2.17	0.43
34:B5:626:U:H2'	34:B5:627:C:H6	1.84	0.43
34:B5:980:G:H4'	34:B5:1776:A:H4'	2.00	0.43
34:B5:1082:C:H2'	34:B5:1083:G:H5'	2.00	0.43
34:B5:1457:C:O2'	34:B5:1458:G:H5'	2.19	0.43
34:B5:1671:A:H3'	34:B5:1672:G:H8	1.83	0.43
35:AA:137:ILE:HD11	35:AA:147:ARG:HB3	2.01	0.43
36:AB:339:ARG:NH1	38:A1:3137:C:OP1	2.49	0.43
37:AC:109:TRP:CD1	48:AL:26:PHE:HE1	2.36	0.43
38:A1:34:A:H2'	38:A1:35:A:O4'	2.19	0.43
38:A1:63:A:H2'	38:A1:64:G:O4'	2.19	0.43
38:A1:137:G:H2'	38:A1:138:U:C6	2.54	0.43
38:A1:385:A:H2'	38:A1:386:A:C8	2.54	0.43
38:A1:769:G:HO2'	48:AL:168:ARG:NH2	2.16	0.43
38:A1:967:A:OP1	63:Aa:48:TYR:OH	2.37	0.43
38:A1:1059:G:H2'	38:A1:1060:U:H6	1.83	0.43
38:A1:1612:A:OP1	73:Ak:46:ARG:HD3	2.19	0.43
38:A1:2265:C:C2	38:A1:2266:PSU:N1	2.86	0.43
38:A1:2547:A:H2'	38:A1:2548:C:O4'	2.19	0.43
38:A1:2606:G:N3	38:A1:2606:G:H2'	2.33	0.43
38:A1:3027:A:O2'	80:DC:27:HIS:NE2	2.51	0.43
38:A1:3183:A:H2	38:A1:3188:G:H4'	1.82	0.43
38:A1:3290:G:C4	38:A1:3291:G:C8	3.07	0.43
45:AH:23:ARG:HB2	45:AH:39:LYS:HD2	2.00	0.43
51:AO:26[A]:GLN:HE21	55:AS:162:THR:HG21	1.84	0.43
53:AQ:64:VAL:HG23	53:AQ:93:ILE:HD11	2.01	0.43
62:AZ:57:HIS:CE1	62:AZ:65:ARG:HH22	2.35	0.43
62:AZ:116:LYS:O	62:AZ:120:GLU:HG2	2.18	0.43
65:Ac:18:ILE:HD13	65:Ac:23:TYR:CD2	2.54	0.43
73:Ak:7:ASP:HB3	73:Ak:10:GLN:HB3	2.01	0.43
80:DC:19:VAL:HG12	80:DC:99:LEU:HB3	2.01	0.43
1:BA:76:ILE:HB	1:BA:123:VAL:HG22	2.01	0.43
3:BC:169:LEU:HD13	3:BC:198:THR:HG22	2.00	0.43
5:BG:52:ILE:HD12	5:BG:109:LEU:CD2	2.49	0.43
7:BI:66:SER:HA	7:BI:73:SER:HA	2.00	0.43
14:BX:78:LYS:HB3	34:B5:434:G:H5''	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:BX:107:PHE:HB2	14:BX:122:PHE:HA	2.00	0.43
14:BX:109:ARG:NH2	14:BX:112:LYS:HD2	2.34	0.43
16:Ba:18:VAL:O	16:Ba:19:LYS:HG2	2.18	0.43
19:BD:23:GLU:O	19:BD:27:ARG:HG3	2.19	0.43
29:Bc:21:SER:OG	34:B5:1619:C:O4'	2.37	0.43
34:B5:1157:A:H2'	34:B5:1160:A:N7	2.34	0.43
34:B5:1778:G:N2	34:B5:1784:C:O2	2.51	0.43
35:AA:23:ARG:HD2	38:A1:2175:U:O2'	2.19	0.43
36:AB:58:ARG:HD2	36:AB:354:VAL:HG13	2.01	0.43
36:AB:122:TRP:NE1	36:AB:127:LYS:HE3	2.34	0.43
36:AB:221:THR:O	36:AB:272:TYR:HA	2.18	0.43
38:A1:413:U:H2'	38:A1:414:U:C6	2.54	0.43
38:A1:625:G:C4	38:A1:626:U:C5	3.07	0.43
38:A1:967:A:C4	38:A1:968:G:C8	3.06	0.43
38:A1:989:A:H2'	38:A1:990:PSU:C6	2.53	0.43
38:A1:1294:A:HO2'	38:A1:1295:G:H5''	1.84	0.43
38:A1:2493:U:H2'	38:A1:2494:A:H5''	2.01	0.43
38:A1:2512:C:H2'	38:A1:2513:U:C6	2.54	0.43
38:A1:2960:C:H2'	38:A1:2961:G:C8	2.54	0.43
38:A1:3051:U:C2	38:A1:3052:G:C8	3.07	0.43
38:A1:3073:A:H2'	38:A1:3074:G:O4'	2.19	0.43
38:A1:3289:G:C4	38:A1:3290:G:C8	3.07	0.43
38:A1:3338:C:H2'	38:A1:3339:A:H8	1.84	0.43
41:AD:154:THR:H	41:AD:160:PHE:HE2	1.65	0.43
44:AG:244:ALA:O	44:AG:248:LYS:HG2	2.18	0.43
49:AM:23:ILE:HA	49:AM:63:VAL:HG12	2.01	0.43
56:AT:102:ARG:HD2	56:AT:102:ARG:HA	1.82	0.43
58:AV:93:LEU:HA	59:AW:20:LEU:O	2.18	0.43
59:AW:22:VAL:HG12	59:AW:28:ILE:HG23	1.99	0.43
63:Aa:146:GLU:OE2	63:Aa:146:GLU:N	2.52	0.43
70:Ah:58:ILE:O	70:Ah:62:GLN:HG2	2.19	0.43
72:Aj:67:LEU:O	72:Aj:70:VAL:HG12	2.18	0.43
80:DC:18:ASN:ND2	80:DC:95:GLY:O	2.52	0.43
80:DC:160:VAL:HG22	80:DC:212:GLY:O	2.18	0.43
80:DC:591:GLU:N	80:DC:591:GLU:OE1	2.51	0.43
80:DC:680:GLU:O	80:DC:681:MET:HE2	2.19	0.43
1:BA:30:GLN:NE2	1:BA:32:HIS:HB2	2.34	0.42
2:BB:228:LEU:O	2:BB:232:HIS:HD2	2.01	0.42
3:BC:140:ARG:HB2	3:BC:222:TYR:CE1	2.54	0.42
3:BC:178:ILE:HD11	3:BC:188:LEU:HB2	2.00	0.42
4:BE:68:ARG:O	4:BE:71:LYS:NZ	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:BE:154:ILE:HG12	4:BE:172:PHE:CD2	2.54	0.42
4:BE:180:LEU:HD22	4:BE:234:PRO:HB3	2.00	0.42
5:BG:71:THR:HA	5:BG:98:ARG:HH22	1.84	0.42
5:BG:132:ARG:NH2	34:B5:149:C:O2'	2.52	0.42
7:BI:56:ARG:HD3	7:BI:56:ARG:HA	1.74	0.42
7:BI:176:SER:HB2	34:B5:208:U:H4'	2.01	0.42
9:BL:85:VAL:HA	9:BL:108:PRO:HA	2.00	0.42
12:BV:40:ASP:CG	12:BV:46:ILE:HD11	2.44	0.42
14:BX:39:LYS:NZ	34:B5:1742:U:H5'	2.34	0.42
14:BX:69:ARG:CG	14:BX:117:ILE:HG12	2.46	0.42
17:Bb:50:ALA:O	17:Bb:52:THR:N	2.51	0.42
18:Be:10:ARG:HH12	34:B5:567:A:P	2.41	0.42
19:BD:28:GLU:OE2	21:BK:58:GLN:HG3	2.19	0.42
19:BD:100:ALA:HA	19:BD:103:GLU:OE2	2.18	0.42
20:BF:81:ARG:HA	34:B5:1615:C:C5	2.54	0.42
21:BK:4:PRO:HD2	21:BK:41:TYR:HE1	1.83	0.42
22:BP:109:PRO:O	22:BP:112:LEU:HD23	2.19	0.42
23:BQ:29:ILE:HD13	23:BQ:52:LEU:HD11	2.01	0.42
23:BQ:54:LEU:HD22	23:BQ:109:PHE:CD1	2.54	0.42
24:BR:103:ASP:O	24:BR:106:THR:HG22	2.19	0.42
25:BS:139:LYS:HA	34:B5:1459:C:C5	2.54	0.42
26:BT:6:VAL:HG13	26:BT:66:TYR:CE2	2.54	0.42
27:BU:53:LYS:O	27:BU:91:ILE:HG23	2.19	0.42
28:BZ:61:SER:OG	28:BZ:64:VAL:HG23	2.18	0.42
32:Bf:119:ARG:HE	32:Bf:139:LEU:HD22	1.84	0.42
34:B5:210:A:H3'	34:B5:211:PSU:H6	1.84	0.42
34:B5:346:G:H2'	34:B5:346:G:N3	2.34	0.42
34:B5:647:G:H1'	34:B5:688:G:N2	2.34	0.42
34:B5:878:G:H2'	34:B5:879:G:H8	1.84	0.42
34:B5:1773:4AC:O5'	34:B5:1773:4AC:H6	2.19	0.42
36:AB:96:PRO:HG3	38:A1:3243:A:N3	2.34	0.42
38:A1:29:C:H4'	38:A1:62:A:H4'	2.00	0.42
38:A1:53:G:P	72:Aj:48:ASN:HB2	2.59	0.42
38:A1:172:G:O2'	38:A1:244:G:O6	2.22	0.42
38:A1:862:U:H2'	38:A1:863:C:C6	2.54	0.42
38:A1:954:U:OP2	64:Ab:5:LYS:HD2	2.19	0.42
38:A1:1137:C:H2'	38:A1:1138:U:C6	2.53	0.42
38:A1:1543:G:OP1	50:AN:35:VAL:HG23	2.19	0.42
38:A1:2167:A:H2'	38:A1:2168:A:C8	2.54	0.42
38:A1:2468:A:N6	38:A1:2477:G:HO2'	2.17	0.42
38:A1:2566:C:H2'	38:A1:2567:C:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:2843:U:OP2	38:A1:2844:C:N4	2.25	0.42
38:A1:2989:U:H2'	38:A1:2990:G:O4'	2.18	0.42
38:A1:3190:C:H2'	38:A1:3191:G:C8	2.53	0.42
38:A1:3226:A:C6	38:A1:3260:G:C6	3.06	0.42
38:A1:3330:A:H2'	38:A1:3331:U:C6	2.54	0.42
40:A4:71:A:H4'	40:A4:72:A:O5'	2.19	0.42
41:AD:85:ARG:NH2	41:AD:250:ASP:OD2	2.52	0.42
47:AJ:19:LEU:O	47:AJ:68:HIS:HA	2.19	0.42
47:AJ:171:VAL:HG22	47:AJ:172:LEU:H	1.84	0.42
48:AL:16:LYS:NZ	50:AN:195:ASN:HD21	2.17	0.42
51:AO:10[A]:ASP:OD1	51:AO:37[A]:ARG:HD3	2.20	0.42
52:AP:56:ARG:NH2	52:AP:75:GLU:OE2	2.52	0.42
55:AS:50:LYS:HE3	55:AS:50:LYS:HB2	1.88	0.42
55:AS:83:SER:N	55:AS:86:GLY:O	2.52	0.42
69:Ag:94:LEU:O	69:Ag:97:GLU:HG3	2.19	0.42
77:Ao:21:THR:OG1	77:Ao:74:CYS:SG	2.66	0.42
5:BG:202:ARG:NH1	34:B5:127:G:N7	2.64	0.42
6:BH:28:GLU:O	6:BH:34:LEU:HD22	2.19	0.42
9:BL:45:PRO:HG3	9:BL:115:PHE:CE1	2.53	0.42
9:BL:133:LYS:HG2	9:BL:134:THR:HG23	2.00	0.42
16:Ba:92:ARG:HG3	34:B5:1796:C:P	2.59	0.42
18:Be:45:VAL:HG12	18:Be:46:ASN:OD1	2.18	0.42
21:BK:16:PHE:CE1	21:BK:89:GLY:HA2	2.54	0.42
27:BU:23:ARG:HH22	34:B5:1347:U:P	2.42	0.42
28:BZ:43:ASP:OD2	28:BZ:46:LYS:HG2	2.20	0.42
34:B5:140:A:H61	34:B5:281:G:P	2.42	0.42
34:B5:219:A:O2'	34:B5:220:A:O4'	2.37	0.42
34:B5:222:A:N7	34:B5:832:U:H3'	2.34	0.42
34:B5:350:U:O2'	34:B5:970:A:N1	2.48	0.42
34:B5:961:U:H2'	34:B5:962:C:H6	1.84	0.42
34:B5:973:A:H2'	34:B5:974:A:C8	2.53	0.42
34:B5:1291:G:H1	34:B5:1324:G:N2	2.18	0.42
34:B5:1429:G:H2'	34:B5:1430:U:C6	2.54	0.42
34:B5:1552:U:H2'	34:B5:1553:G:O4'	2.19	0.42
34:B5:1611:A:H2'	34:B5:1612:U:O4'	2.19	0.42
36:AB:242:THR:HA	38:A1:2948:C:O2'	2.19	0.42
38:A1:737:G:H2'	38:A1:738:A:C8	2.54	0.42
38:A1:796:U:H2'	38:A1:797:U:C6	2.54	0.42
38:A1:947:G:H2'	38:A1:948:C:C6	2.53	0.42
38:A1:1157:G:H5''	43:AF:220:PHE:CE2	2.54	0.42
38:A1:1259:A:H8	38:A1:1260:A:C8	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1307:G:H1'	38:A1:1308:A:C8	2.54	0.42
38:A1:1392:G:OP1	67:Ae:101:SER:OG	2.35	0.42
38:A1:2229:A:H2'	38:A1:2230:C:O4'	2.19	0.42
38:A1:2281:A:O2'	38:A1:2282:U:H5'	2.18	0.42
38:A1:2335:G:N2	38:A1:2339:C:O2'	2.52	0.42
38:A1:2374:C:N4	38:A1:2941:A:O4'	2.52	0.42
38:A1:2429:G:H2'	38:A1:2430:A:C8	2.54	0.42
38:A1:2440:G:O6	38:A1:2441:A:N6	2.52	0.42
38:A1:2476:C:O2'	38:A1:2488:A:H4'	2.19	0.42
38:A1:2544:U:H3'	38:A1:2545:C:C6	2.53	0.42
38:A1:2617:U:O3'	46:AI:116:ARG:NH2	2.53	0.42
38:A1:3271:G:C8	42:AE:108:LYS:HD2	2.54	0.42
38:A1:3340:G:H5''	38:A1:3341:U:OP1	2.20	0.42
38:A1:3359:A:H2'	38:A1:3360:C:H6	1.84	0.42
41:AD:226:TYR:HD1	41:AD:231:ILE:HD11	1.84	0.42
43:AF:76:TYR:CE2	43:AF:78:GLU:HA	2.54	0.42
44:AG:78:PHE:O	44:AG:79:GLN:HG3	2.19	0.42
55:AS:10:ILE:HG12	55:AS:26:ARG:HG3	2.01	0.42
55:AS:73:LYS:HD3	55:AS:128:GLU:OE2	2.19	0.42
58:AV:75:PRO:HG2	58:AV:105:PRO:HD3	2.00	0.42
61:AY:64:LYS:HB2	61:AY:64:LYS:HE2	1.81	0.42
62:AZ:117:ALA:C	62:AZ:121:ARG:HE	2.26	0.42
63:Aa:111:LYS:HG3	63:Aa:129:PHE:HB2	2.00	0.42
67:Ae:60:ASN:HB3	67:Ae:63:THR:OG1	2.19	0.42
68:Af:91:ALA:HA	68:Af:94:PHE:HE1	1.84	0.42
71:Ai:71:LYS:HD2	71:Ai:72:VAL:N	2.34	0.42
73:Ak:56:ILE:HG22	73:Ak:58:ASP:H	1.83	0.42
77:Ao:47:GLN:NE2	77:Ao:53:GLN:HA	2.35	0.42
80:DC:321:LYS:O	80:DC:325:ARG:HB2	2.19	0.42
80:DC:363:ASP:HB3	80:DC:365:ASN:OD1	2.19	0.42
80:DC:379:MET:HA	80:DC:470:THR:HG22	2.01	0.42
80:DC:385:MET:HG3	80:DC:396:ALA:HA	2.02	0.42
80:DC:588:LEU:CD2	80:DC:712:ALA:HB1	2.49	0.42
80:DC:730:LEU:H	80:DC:799:ASP:CB	2.28	0.42
3:BC:212:LYS:O	3:BC:216:VAL:HG23	2.20	0.42
4:BE:133:LYS:HD3	4:BE:133:LYS:HA	1.82	0.42
4:BE:203:GLY:HA2	34:B5:246:G:C8	2.54	0.42
6:BH:137:GLY:O	6:BH:153:LEU:N	2.52	0.42
7:BI:2:GLY:N	34:B5:1729:C:O2'	2.52	0.42
7:BI:26:LYS:HD2	34:B5:400:A:N3	2.34	0.42
7:BI:84:HIS:HB3	7:BI:87:ASN:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:BJ:13:SER:OG	34:B5:1:U:O4	2.25	0.42
13:BW:81:VAL:O	13:BW:122:SER:OG	2.34	0.42
15:BY:61:ARG:HA	15:BY:61:ARG:HE	1.84	0.42
15:BY:81:GLU:HA	15:BY:84:LYS:NZ	2.33	0.42
21:BK:44:LYS:HE3	34:B5:1217:A:O4'	2.20	0.42
32:Bf:131:PHE:HB2	34:B5:1253:U:OP1	2.19	0.42
34:B5:64:U:O2'	34:B5:168:A:N3	2.48	0.42
34:B5:566:C:H2'	34:B5:567:A:O4'	2.19	0.42
34:B5:845:G:H4'	34:B5:846:G:H5'	1.99	0.42
34:B5:1221:A:H2'	34:B5:1222:C:C6	2.55	0.42
34:B5:1384:A:H2'	34:B5:1385:G:O4'	2.19	0.42
34:B5:1530:C:H2'	34:B5:1531:G:H8	1.84	0.42
35:AA:180:LEU:HD12	35:AA:180:LEU:HA	1.84	0.42
38:A1:124:U:H2'	38:A1:125:C:C6	2.54	0.42
38:A1:368:G:O2'	38:A1:369:A:H5'	2.18	0.42
38:A1:542:G:H1	38:A1:548:G:N2	2.17	0.42
38:A1:644:G:H2'	38:A1:2372:A:N7	2.34	0.42
38:A1:939:U:H2'	38:A1:940:G:C8	2.54	0.42
38:A1:1034:U:H4'	38:A1:1035:G:C8	2.55	0.42
38:A1:1598:G:H2'	38:A1:1599:G:C8	2.54	0.42
38:A1:1718:G:H4'	54:AR:117:LYS:HD2	2.00	0.42
38:A1:1848:G:H5'	74:Al:45:ARG:HH22	1.84	0.42
38:A1:2453:U:H3'	38:A1:2462:A:OP1	2.18	0.42
38:A1:2466:G:N2	38:A1:2488:A:N6	2.68	0.42
38:A1:2632:G:C6	38:A1:2647:A:C6	3.07	0.42
38:A1:2632:G:H5''	56:AT:12:ARG:HB2	2.02	0.42
38:A1:2837:A:H2'	38:A1:2845:A:N1	2.34	0.42
38:A1:2881:C:H2'	38:A1:2882:U:H6	1.84	0.42
38:A1:2960:C:H2'	38:A1:2961:G:H8	1.84	0.42
38:A1:3324:C:OP1	66:Ad:19:ARG:NH1	2.47	0.42
38:A1:3358:U:H2'	38:A1:3359:A:C8	2.54	0.42
44:AG:52:TRP:HB2	44:AG:57:ARG:HG2	2.00	0.42
44:AG:213:LYS:O	44:AG:216:SER:OG	2.34	0.42
47:AJ:160:VAL:O	47:AJ:164:LYS:HG2	2.18	0.42
62:AZ:88:ASP:OD1	62:AZ:90:GLU:N	2.47	0.42
63:Aa:2:PRO:HD2	63:Aa:5:PHE:HD2	1.84	0.42
65:Ac:25:LEU:HD11	65:Ac:81:VAL:HG11	2.00	0.42
66:Ad:88:PRO:HG2	66:Ad:89:LEU:HD12	2.01	0.42
77:Ao:29:LYS:HD2	77:Ao:30:ALA:H	1.84	0.42
77:Ao:68:VAL:HG21	77:Ao:91:PHE:CE1	2.54	0.42
80:DC:464:LEU:O	80:DC:465:LYS:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:EC:6839:U:H5''	81:EC:6840:A:OP1	2.19	0.42
1:BA:17:LEU:HG	1:BA:172:LEU:HD21	2.00	0.42
1:BA:108:THR:N	1:BA:135:GLU:OE1	2.52	0.42
2:BB:35:PRO:HB3	2:BB:231:LEU:HB3	2.01	0.42
4:BE:103:TYR:CE2	4:BE:189:LEU:HD11	2.55	0.42
6:BH:112:ARG:HH21	6:BH:117:THR:HA	1.83	0.42
7:BI:143:TRP:O	7:BI:147:ALA:N	2.52	0.42
10:BN:15:ALA:HB3	17:Bb:20:LYS:HD2	2.02	0.42
12:BV:53:TYR:CZ	12:BV:72:LEU:HB3	2.55	0.42
16:Ba:94:ASN:OD1	16:Ba:95:ARG:N	2.52	0.42
23:BQ:127:LYS:N	34:B5:1606:C:OP2	2.46	0.42
25:BS:7:GLU:H	25:BS:7:GLU:CD	2.23	0.42
26:BT:115:GLU:O	26:BT:122:ARG:HG3	2.19	0.42
31:Bg:47:LEU:HD12	31:Bg:54:PHE:CD2	2.54	0.42
34:B5:237:C:C4	34:B5:834:G:H4'	2.54	0.42
34:B5:476:U:H5''	34:B5:477:A:O4'	2.19	0.42
34:B5:982:U:H2'	34:B5:983:A:C8	2.55	0.42
34:B5:1254:U:H2'	34:B5:1255:G:C8	2.55	0.42
34:B5:1471:A:N7	34:B5:1540:G:H1'	2.35	0.42
34:B5:1545:A:N1	34:B5:1567:U:C4	2.88	0.42
34:B5:1662:G:C2	34:B5:1663:G:C8	3.08	0.42
34:B5:1755:A:O2'	34:B5:1756[A]:A:O5'	2.33	0.42
36:AB:250:ALA:HB1	38:A1:2947:G:N3	2.35	0.42
37:AC:92:ASN:HA	37:AC:98:ARG:O	2.19	0.42
38:A1:253:A:H2'	38:A1:254:A:C8	2.55	0.42
38:A1:294:U:H5''	71:Ai:53:TYR:CE1	2.54	0.42
38:A1:1048:A:H2'	46:AI:22:TYR:CE2	2.55	0.42
38:A1:1254:C:N4	38:A1:1255:C:H42	2.17	0.42
38:A1:1257:C:H5'	38:A1:1258:U:OP2	2.18	0.42
38:A1:1915:A:H2'	38:A1:1916:U:H6	1.85	0.42
38:A1:2097:U:H2'	38:A1:2098:C:C6	2.55	0.42
38:A1:2249:G:N1	38:A1:2250:G:N7	2.67	0.42
39:A3:22:A:H2'	39:A3:22:A:N3	2.34	0.42
39:A3:27:A:O3'	47:AJ:141:ARG:NH1	2.53	0.42
40:A4:91:C:H2'	40:A4:92:A:C8	2.55	0.42
52:AP:129:THR:HB	52:AP:139:TYR:CD1	2.54	0.42
55:AS:10:ILE:HG23	55:AS:26:ARG:HB2	2.02	0.42
63:Aa:24:LYS:O	63:Aa:25:HIS:C	2.62	0.42
80:DC:31:GLY:O	80:DC:35:LEU:N	2.35	0.42
80:DC:42:ARG:NH2	80:DC:331:ALA:H	2.18	0.42
80:DC:112:SER:HB3	80:DC:485:VAL:HG21	1.99	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:DC:255:LYS:HG3	80:DC:255:LYS:O	2.20	0.42
81:EC:6786:A:H61	81:EC:6810:U:H3	1.67	0.42
1:BA:30:GLN:NE2	1:BA:33:GLN:HG2	2.34	0.42
3:BC:88:LYS:HE3	3:BC:95:ARG:HE	1.84	0.42
4:BE:230:GLU:HG3	4:BE:231:GLN:H	1.84	0.42
8:BJ:94:ASP:OD1	8:BJ:95:TYR:N	2.52	0.42
10:BN:4:MET:HE3	10:BN:124:ARG:CZ	2.49	0.42
11:BO:42:VAL:HB	11:BO:47:LYS:NZ	2.34	0.42
12:BV:25:LYS:HA	12:BV:25:LYS:HE3	2.00	0.42
13:BW:27:ILE:HB	13:BW:61:ILE:CG1	2.49	0.42
16:Ba:42:ARG:O	16:Ba:67:THR:HG22	2.19	0.42
19:BD:15:GLY:C	30:Bd:50:ILE:HD12	2.45	0.42
22:BP:55:GLY:O	22:BP:58:LYS:HG3	2.19	0.42
30:Bd:10:HIS:CE1	34:B5:1204:A:HO2'	2.36	0.42
31:Bg:195:HIS:CG	31:Bg:199:ILE:HG12	2.54	0.42
34:B5:50:C:C2	34:B5:430:G:N1	2.87	0.42
34:B5:98:U:H2'	34:B5:99:C:C6	2.55	0.42
34:B5:480:G:C6	34:B5:509:G:C6	3.07	0.42
34:B5:1022:C:O2'	34:B5:1125:A:N1	2.46	0.42
34:B5:1773:4AC:H2'	34:B5:1774:G:C8	2.55	0.42
35:AA:52:SER:HB3	35:AA:191:LEU:HD12	2.01	0.42
36:AB:119:TYR:OH	36:AB:129:ALA:N	2.53	0.42
36:AB:286:GLY:HA3	36:AB:321:PHE:CZ	2.55	0.42
38:A1:127:G:H2'	38:A1:128:G:C8	2.55	0.42
38:A1:798:G:H2'	38:A1:799:G:O4'	2.19	0.42
38:A1:943:U:OP1	63:Aa:15:VAL:HA	2.20	0.42
38:A1:1073:U:H2'	38:A1:1074:U:C6	2.54	0.42
38:A1:1270:A:C8	38:A1:1273:A:C8	3.07	0.42
38:A1:2472:U:H2'	38:A1:2473:C:O4'	2.19	0.42
38:A1:2685:C:H2'	38:A1:2686:A:C8	2.54	0.42
38:A1:2768:U:H2'	38:A1:2769:A:C8	2.53	0.42
39:A3:13:A:N3	41:AD:24:ARG:NH2	2.68	0.42
39:A3:117:A:H2'	39:A3:118:A:C8	2.54	0.42
40:A4:62:C:H4'	40:A4:63:G:O5'	2.19	0.42
41:AD:273:ARG:HD2	41:AD:273:ARG:HA	1.84	0.42
43:AF:222:HIS:CE1	43:AF:224:ILE:HG12	2.54	0.42
46:AI:31:ILE:HD12	46:AI:65:LEU:HB3	2.02	0.42
47:AJ:16:LYS:HE2	47:AJ:72:ARG:HH12	1.84	0.42
48:AL:59:ARG:HD2	48:AL:66:ASN:O	2.20	0.42
54:AR:144:GLN:NE2	54:AR:148:ASP:OD2	2.53	0.42
57:AU:36:TYR:CD2	57:AU:83:TYR:HB2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:AV:108:GLU:HG3	58:AV:128:ARG:NE	2.33	0.42
62:AZ:33:SER:OG	62:AZ:35:SER:O	2.29	0.42
62:AZ:107:ARG:O	62:AZ:111:LYS:HG3	2.19	0.42
62:AZ:129:TRP:HZ2	69:Ag:93:PHE:CE2	2.38	0.42
66:Ad:20:LEU:HD11	66:Ad:32:ALA:HB2	2.00	0.42
70:Ah:71:LYS:HD3	70:Ah:71:LYS:HA	1.78	0.42
72:Aj:52:LYS:HG2	72:Aj:55:ARG:NH2	2.34	0.42
72:Aj:63:ARG:HD2	72:Aj:65:ARG:HG2	2.01	0.42
77:Ao:15:LYS:HE3	77:Ao:15:LYS:HB3	1.92	0.42
80:DC:33:SER:H	83:DC:901:GDP:PB	2.42	0.42
80:DC:746:VAL:HG21	80:DC:780:PHE:CD1	2.52	0.42
80:DC:829:LYS:HD2	80:DC:829:LYS:HA	1.84	0.42
1:BA:23:HIS:HB3	1:BA:50:VAL:HG13	2.01	0.42
1:BA:65:ALA:HB1	1:BA:185:ARG:HD2	2.01	0.42
1:BA:79:ARG:HG3	1:BA:81:PHE:H	1.85	0.42
2:BB:147:ALA:O	2:BB:148:ASN:OD1	2.38	0.42
3:BC:176:SER:HA	8:BJ:53:ARG:NH1	2.34	0.42
5:BG:59:GLN:NE2	34:B5:418:G:C8	2.87	0.42
5:BG:77:LEU:CD2	5:BG:84:TYR:HB2	2.50	0.42
6:BH:159:VAL:HG21	6:BH:185:ILE:HG12	2.01	0.42
8:BJ:54:ARG:C	8:BJ:54:ARG:HD2	2.44	0.42
8:BJ:78:ARG:NH1	8:BJ:82:ARG:HD2	2.35	0.42
11:BO:23:PHE:HE2	11:BO:91:THR:HG21	1.85	0.42
13:BW:107:SER:HA	34:B5:804:A:C8	2.55	0.42
15:BY:119:PHE:CE1	34:B5:86:A:H5''	2.55	0.42
17:Bb:36:LYS:HB2	17:Bb:80:ARG:HH22	1.84	0.42
22:BP:111:MET:HB3	25:BS:119:ILE:HD13	2.01	0.42
25:BS:18:LEU:HD21	25:BS:70:VAL:HG13	2.01	0.42
27:BU:28:SER:HB3	27:BU:112:VAL:HG22	2.01	0.42
29:Bc:16:LEU:HB3	29:Bc:27:GLN:CB	2.49	0.42
34:B5:179:A:H3'	34:B5:180:A:H8	1.84	0.42
34:B5:429:G:C2	34:B5:430:G:C5	3.07	0.42
34:B5:430:G:H2'	80:DC:391:LYS:CG	2.49	0.42
34:B5:464:A:C2	34:B5:465:G:C8	3.07	0.42
34:B5:1452:U:C2	34:B5:1453:G:C8	3.07	0.42
36:AB:27:ALA:HB2	36:AB:220:VAL:HG23	2.01	0.42
38:A1:85:A:H61	38:A1:99:A:H3'	1.84	0.42
38:A1:230:U:H2'	38:A1:231:G:O4'	2.20	0.42
38:A1:1494:U:H5	74:Al:13:MET:HE3	1.85	0.42
38:A1:1566:A:C8	38:A1:1570:U:H1'	2.55	0.42
38:A1:1881:A:H2'	38:A1:1882:G:H8	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:2112:U:O2'	59:AW:43:ARG:NH1	2.52	0.42
38:A1:2196:C:O2'	38:A1:2270:A:N3	2.47	0.42
38:A1:3213:A:OP1	49:AM:128:ARG:NE	2.52	0.42
39:A3:60:G:H1'	41:AD:273:ARG:HH12	1.84	0.42
39:A3:109:G:H2'	39:A3:110:G:H8	1.83	0.42
40:A4:12:A:C6	40:A4:13:A:N7	2.87	0.42
40:A4:14:C:H5''	52:AP:123:PRO:HD3	2.01	0.42
41:AD:269:SER:O	41:AD:273:ARG:HB2	2.20	0.42
56:AT:44:ALA:CB	56:AT:58:GLN:HE22	2.32	0.42
62:AZ:26:VAL:HG12	62:AZ:27:LYS:HG2	2.02	0.42
63:Aa:60:TYR:CD2	63:Aa:63:LYS:HB2	2.54	0.42
68:Af:13:HIS:CD2	68:Af:28:SER:HB3	2.55	0.42
68:Af:43:PHE:HD2	68:Af:44:TYR:CE1	2.37	0.42
70:Ah:57:VAL:O	70:Ah:61:GLN:HG2	2.19	0.42
79:E:54:LYS:HD3	79:E:154:THR:HB	2.02	0.42
80:DC:150:ARG:NH2	80:DC:355:GLN:HG2	2.34	0.42
1:BA:64:ILE:HG22	1:BA:120:LEU:HD23	2.02	0.42
3:BC:157:LYS:HA	3:BC:169:LEU:O	2.20	0.42
4:BE:87:MET:HE3	4:BE:122:LYS:HA	2.02	0.42
4:BE:104:ASP:OD1	4:BE:105:VAL:N	2.53	0.42
6:BH:58:LEU:HG	6:BH:60:ILE:HD11	2.02	0.42
6:BH:81:LEU:HD23	6:BH:81:LEU:HA	1.93	0.42
9:BL:97:TYR:CE2	14:BX:16:ARG:HG3	2.53	0.42
10:BN:114:ARG:HA	10:BN:114:ARG:HD3	1.85	0.42
11:BO:28:VAL:HG12	11:BO:67:VAL:HG21	2.02	0.42
14:BX:36:THR:OG1	14:BX:40:SER:OG	2.35	0.42
14:BX:91:GLY:C	14:BX:93:LEU:H	2.28	0.42
20:BF:220:VAL:HG23	81:EC:6841:U:H5'	2.01	0.42
21:BK:62:GLN:NE2	30:Bd:22:ARG:O	2.33	0.42
23:BQ:41:PRO:HB2	23:BQ:43:ILE:HD12	2.02	0.42
25:BS:143:ARG:HB3	25:BS:144:ARG:NH2	2.30	0.42
29:Bc:47:PRO:HB3	34:B5:1615:C:OP1	2.20	0.42
34:B5:432:G:C5	34:B5:433:C:C4	3.07	0.42
34:B5:551:G:H2'	34:B5:552:G:C8	2.53	0.42
34:B5:1233:G:N2	34:B5:1253:U:H1'	2.35	0.42
35:AA:120:PRO:HB3	35:AA:161:ASP:HB3	2.02	0.42
38:A1:347:G:N2	38:A1:352:A:H1'	2.35	0.42
38:A1:434:U:H2'	38:A1:435:C:C6	2.54	0.42
38:A1:560:G:H2'	38:A1:561:C:C6	2.53	0.42
38:A1:601:U:H3'	38:A1:602:A:C8	2.53	0.42
38:A1:1201:C:N4	38:A1:2857:C:H5''	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1322:U:H2'	38:A1:1323:G:C8	2.55	0.42
38:A1:2117:A:C8	38:A1:3064:U:H1'	2.54	0.42
38:A1:2330:C:H2'	38:A1:2331:C:H6	1.84	0.42
38:A1:2376:G:H2'	38:A1:2377:G:C8	2.55	0.42
38:A1:2634:UR3:H6	38:A1:2634:UR3:O5'	2.20	0.42
38:A1:2709:C:H2'	38:A1:2710:C:H6	1.85	0.42
38:A1:3113:A:H1'	45:AH:70:THR:HG22	2.02	0.42
38:A1:3249:C:C2	38:A1:3250:U:C6	3.08	0.42
39:A3:3:U:H2'	39:A3:4:U:C6	2.55	0.42
39:A3:81:U:H2'	39:A3:82:G:C8	2.55	0.42
40:A4:65:A:C4	40:A4:66:A:C8	3.08	0.42
40:A4:104:A:C8	40:A4:105:A:C8	3.08	0.42
41:AD:64:ILE:HG12	41:AD:105:ILE:HD11	2.01	0.42
46:AI:9:TYR:CD1	46:AI:97:LEU:HD12	2.54	0.42
47:AJ:91:LEU:HD22	47:AJ:96:PHE:HE1	1.85	0.42
61:AY:114:ASP:OD1	61:AY:115:ARG:N	2.52	0.42
79:E:117:ILE:HG23	79:E:118:LYS:HG2	2.02	0.42
80:DC:257:TRP:HH2	80:DC:276:PHE:CE2	2.38	0.42
80:DC:412:ARG:HB3	80:DC:426:LEU:HD11	2.01	0.42
80:DC:482:LYS:C	80:DC:484:SER:H	2.27	0.42
2:BB:23:PRO:HA	2:BB:26:ARG:NH1	2.35	0.42
2:BB:144:ARG:HB3	2:BB:206:PRO:HB2	2.01	0.42
3:BC:150:GLN:OE1	3:BC:174:ARG:NH2	2.53	0.42
4:BE:61:VAL:O	4:BE:64:ILE:HG22	2.19	0.42
8:BJ:159:ALA:O	8:BJ:165:GLY:HA3	2.20	0.42
9:BL:27:THR:OG1	9:BL:28:SER:N	2.49	0.42
10:BN:94:LYS:HZ1	34:B5:953:G:P	2.43	0.42
13:BW:41:MET:HE3	13:BW:46:TYR:CB	2.46	0.42
14:BX:109:ARG:HD3	14:BX:114:LYS:HB2	2.01	0.42
22:BP:89:MET:O	22:BP:107:ILE:HG21	2.20	0.42
29:Bc:16:LEU:HB3	29:Bc:27:GLN:HB2	2.01	0.42
30:Bd:34:TYR:OH	34:B5:1487:A:OP1	2.36	0.42
31:Bg:24:ALA:O	31:Bg:33:LEU:HD12	2.19	0.42
31:Bg:90:ARG:HH22	34:B5:1341:A:H4'	1.85	0.42
32:Bf:121:CYS:H	32:Bf:130:VAL:CG1	2.31	0.42
34:B5:472:U:C2	34:B5:473:A:C8	3.08	0.42
34:B5:604:A:H2'	34:B5:605:A:O4'	2.20	0.42
34:B5:781:U:O2'	34:B5:782:U:H5''	2.20	0.42
34:B5:973:A:H5'	38:A1:848:A:H2	1.85	0.42
34:B5:1321:A:H4'	34:B5:1322:A:O5'	2.20	0.42
34:B5:1327:C:C2	34:B5:1328:G:C8	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1484:G:H2'	34:B5:1485:C:C6	2.55	0.42
37:AC:320:ASN:O	37:AC:323:VAL:N	2.53	0.42
38:A1:669:U:O2'	38:A1:1109:U:O2'	2.33	0.42
38:A1:797:U:H5''	48:AL:2:ALA:O	2.19	0.42
38:A1:1120:A:H2'	38:A1:1121:U:C6	2.54	0.42
38:A1:1341:U:H2'	38:A1:1342:C:H6	1.85	0.42
38:A1:1700:G:H2'	38:A1:1701:C:C6	2.54	0.42
38:A1:1948:G:H2'	38:A1:1949:G:H8	1.85	0.42
38:A1:2574:G:H2'	38:A1:2575:G:C8	2.55	0.42
38:A1:2761:G:O2'	38:A1:2795:U:O4	2.26	0.42
38:A1:2852:C:C2	46:AI:158:LYS:NZ	2.88	0.42
41:AD:8:LYS:HD2	41:AD:12:TYR:CD2	2.54	0.42
41:AD:95:TRP:CZ3	41:AD:199:ILE:HD13	2.55	0.42
51:AO:171[A]:LYS:O	51:AO:175[A]:THR:HG23	2.20	0.42
53:AQ:126:GLN:O	53:AQ:130:ARG:HG2	2.20	0.42
58:AV:109:MET:HE3	58:AV:109:MET:HB3	1.89	0.42
65:Ac:12:GLN:OE1	65:Ac:12:GLN:N	2.36	0.42
68:Af:27:VAL:HG11	68:Af:82:ARG:HD3	2.01	0.42
80:DC:237:LYS:HA	80:DC:240:MET:HE1	2.02	0.42
80:DC:345:PRO:HA	80:DC:348:ALA:HB3	2.01	0.42
80:DC:373:ASP:OD1	80:DC:373:ASP:N	2.52	0.42
81:EC:6798:C:H42	81:EC:6886:A:H61	1.67	0.42
2:BB:94:LYS:HD3	2:BB:94:LYS:HA	1.76	0.42
3:BC:227:PRO:HA	3:BC:230:TRP:CE2	2.54	0.42
6:BH:63:PRO:O	6:BH:64:VAL:HG12	2.19	0.42
7:BI:153:GLU:OE1	7:BI:156:VAL:N	2.45	0.42
8:BJ:72:GLU:O	8:BJ:76:LEU:HG	2.20	0.42
12:BV:17:CYS:SG	12:BV:56:SER:N	2.89	0.42
14:BX:69:ARG:HD3	14:BX:69:ARG:HA	1.89	0.42
15:BY:107:GLN:O	15:BY:111:LYS:HE3	2.19	0.42
17:Bb:21:LEU:O	34:B5:864:U:N3	2.52	0.42
19:BD:107:PHE:O	19:BD:111:ASN:ND2	2.53	0.42
23:BQ:139:GLN:HG2	34:B5:1466:G:P	2.60	0.42
26:BT:70:GLN:HG3	26:BT:123:ARG:HB3	2.01	0.42
26:BT:126:GLU:O	26:BT:130:ARG:HG3	2.19	0.42
27:BU:34:LEU:HD21	27:BU:89:ARG:HE	1.84	0.42
31:Bg:67:ILE:HB	31:Bg:85:TRP:CG	2.55	0.42
34:B5:241:U:H2'	34:B5:242:U:C6	2.55	0.42
34:B5:447:U:H2'	34:B5:448:C:O4'	2.20	0.42
34:B5:555:A:N3	34:B5:590:C:O2'	2.43	0.42
34:B5:629:U:H2'	34:B5:630:A:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:898:A:N6	34:B5:912:U:O4'	2.53	0.42
34:B5:1166:A:H2'	34:B5:1167:G:O4'	2.20	0.42
34:B5:1183:A:O2'	34:B5:1184:A:O4'	2.29	0.42
34:B5:1203:A:C2	34:B5:1556:A:C4	3.08	0.42
34:B5:1674:C:H2'	34:B5:1675:C:H6	1.85	0.42
36:AB:76:VAL:HG21	36:AB:323:MET:HE3	2.02	0.42
37:AC:237:GLN:O	37:AC:246:ARG:NH1	2.51	0.42
38:A1:174:C:O2	38:A1:244:G:N1	2.53	0.42
38:A1:179:C:H2'	38:A1:180:C:C6	2.55	0.42
38:A1:253:A:H2'	38:A1:254:A:H8	1.84	0.42
38:A1:503:C:H2'	38:A1:504:A:C8	2.55	0.42
38:A1:503:C:O2	42:AE:23:LYS:NZ	2.44	0.42
38:A1:1471:U:H5''	54:AR:5:ARG:HG3	2.02	0.42
38:A1:2101:C:O2'	38:A1:2102:U:H5''	2.19	0.42
38:A1:2249:G:N1	38:A1:2250:G:C8	2.88	0.42
38:A1:3034:C:O3'	45:AH:122:LYS:NZ	2.52	0.42
38:A1:3108:G:H21	45:AH:163:GLN:HE22	1.68	0.42
38:A1:3238:G:H5'	38:A1:3239:G:OP2	2.19	0.42
38:A1:3252:G:H2'	38:A1:3253:G:C8	2.55	0.42
40:A4:145:U:H2'	40:A4:146:U:C6	2.55	0.42
52:AP:138:LYS:HD3	52:AP:140:GLU:CD	2.45	0.42
54:AR:106:LEU:HB3	54:AR:120:TYR:CE1	2.54	0.42
69:Ag:94:LEU:HA	69:Ag:97:GLU:HG3	2.02	0.42
70:Ah:94:LYS:HG3	70:Ah:95:PHE:N	2.35	0.42
74:Al:12:LYS:HG3	74:Al:51:ILE:HG22	2.01	0.42
80:DC:164:LEU:C	80:DC:165:LEU:HD12	2.44	0.42
80:DC:677:PHE:HE1	80:DC:679:GLU:HB2	1.85	0.42
80:DC:732:GLU:HA	80:DC:767:THR:OG1	2.20	0.42
3:BC:205:ARG:NH1	34:B5:6:G:C6	2.88	0.42
5:BG:75:LEU:O	5:BG:94:ARG:HA	2.20	0.42
6:BH:27:LEU:HD13	6:BH:38:LEU:HD13	2.02	0.42
6:BH:141:ARG:HD3	13:BW:49:GLU:OE1	2.20	0.42
7:BI:75:LYS:NZ	34:B5:259:U:OP1	2.52	0.42
8:BJ:17:ARG:NH2	34:B5:3:U:O2	2.53	0.42
8:BJ:42:ILE:HD13	8:BJ:105:LEU:HD11	2.01	0.42
9:BL:34:TRP:CE3	34:B5:249:U:H5	2.37	0.42
10:BN:87:ASP:OD1	10:BN:88:LEU:N	2.53	0.42
16:Ba:37:LYS:HB2	16:Ba:37:LYS:HE3	1.74	0.42
17:Bb:48:SER:HB2	17:Bb:70:LYS:HE3	2.01	0.42
23:BQ:107:LYS:HD2	23:BQ:108:ALA:N	2.35	0.42
26:BT:7:ARG:HH12	34:B5:1366:U:P	2.43	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BU:31:VAL:H	27:BU:85:ARG:HH22	1.66	0.42
34:B5:156:A:H2'	34:B5:157:A:O4'	2.20	0.42
34:B5:170:U:OP1	34:B5:267:U:O2'	2.38	0.42
34:B5:431:C:C4	34:B5:432:G:C5	3.07	0.42
34:B5:431:C:C4	34:B5:432:G:N7	2.88	0.42
34:B5:633:U:H2'	34:B5:634:G:O4'	2.20	0.42
34:B5:1523:G:H21	34:B5:1523:G:P	2.43	0.42
34:B5:1760:G:H21	34:B5:1782:MA6:H2	1.84	0.42
36:AB:345:ASN:OD1	36:AB:346:THR:N	2.53	0.42
36:AB:350:ALA:O	36:AB:352:GLU:HG3	2.19	0.42
37:AC:311:HIS:H	38:A1:609:G:H1'	1.85	0.42
38:A1:15:C:H2'	38:A1:16:A:C8	2.55	0.42
38:A1:226:C:H2'	38:A1:227:G:O4'	2.20	0.42
38:A1:522:A:C2	38:A1:523:A:H1'	2.55	0.42
38:A1:954:U:H2'	38:A1:955:U:H6	1.85	0.42
38:A1:1036:A:OP2	38:A1:1036:A:H8	2.03	0.42
38:A1:1168:U:H1'	43:AF:209:ASN:ND2	2.34	0.42
38:A1:1307:G:H4'	38:A1:1308:A:H5'	2.02	0.42
38:A1:1443:G:C2	38:A1:1444:G:C5	3.08	0.42
38:A1:1598:G:H2'	38:A1:1599:G:H8	1.85	0.42
38:A1:1770:G:H2'	38:A1:1771:C:C6	2.55	0.42
38:A1:2192:C:O2'	38:A1:2312:A:N1	2.47	0.42
38:A1:2251:G:C2'	38:A1:2252:A:H5'	2.50	0.42
38:A1:2999:U:H2'	38:A1:3000:A:H8	1.85	0.42
40:A4:15:G:O2'	40:A4:16:G:O4'	2.37	0.42
40:A4:47:C:H1'	40:A4:61:A:H2'	2.01	0.42
42:AE:136:GLU:HA	42:AE:139:LYS:HE2	2.01	0.42
46:AI:48:LEU:HB2	46:AI:142:ASP:OD1	2.20	0.42
46:AI:134:ILE:HD11	56:AT:160:ILE:HG21	2.02	0.42
46:AI:210:TYR:HA	46:AI:217:PHE:CE2	2.54	0.42
48:AL:27:ASP:OD1	48:AL:27:ASP:N	2.49	0.42
49:AM:129:TYR:O	49:AM:133:LYS:HG2	2.20	0.42
55:AS:12:ARG:HD2	55:AS:22:PRO:HG2	2.02	0.42
60:AX:104:GLU:N	60:AX:104:GLU:OE1	2.53	0.42
62:AZ:24:VAL:HG22	62:AZ:44:ALA:O	2.20	0.42
77:Ao:24:LYS:HD2	77:Ao:24:LYS:HA	1.87	0.42
79:E:5:THR:CG2	79:E:8:GLN:HB2	2.50	0.42
79:E:9:VAL:HA	79:E:12:HIS:ND1	2.35	0.42
79:E:130:LYS:HB2	79:E:130:LYS:HE3	1.81	0.42
80:DC:380:LEU:HB3	80:DC:400:VAL:HA	2.02	0.42
80:DC:384:LYS:HG2	80:DC:397:PHE:CD2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:111:ILE:HD11	34:B5:1292:G:N2	2.34	0.41
1:BA:156:VAL:O	12:BV:65:SER:OG	2.37	0.41
2:BB:111:ARG:HB3	16:Ba:68:TYR:HB2	2.01	0.41
2:BB:176:VAL:HG12	2:BB:177:GLN:N	2.35	0.41
4:BE:163:ASP:C	4:BE:165:ALA:H	2.28	0.41
7:BI:168:CYS:HB2	7:BI:184:LEU:HD21	2.02	0.41
11:BO:40:ALA:HB1	11:BO:67:VAL:HA	2.02	0.41
11:BO:81:VAL:CG2	11:BO:112:ILE:HD11	2.45	0.41
16:Ba:47:ALA:O	16:Ba:50:VAL:HG22	2.20	0.41
17:Bb:69:GLY:HA3	34:B5:1048:G:O3'	2.20	0.41
19:BD:135:GLU:HB3	19:BD:187:LYS:HB2	2.01	0.41
19:BD:223:LYS:HG2	19:BD:225:TYR:CE2	2.54	0.41
20:BF:121:ILE:HD11	20:BF:195:ALA:HA	2.01	0.41
28:BZ:53:GLU:HB2	81:EC:6865:G:N2	2.35	0.41
31:Bg:116:ASP:OD2	31:Bg:121:MET:HG3	2.19	0.41
32:Bf:85:TYR:HE2	34:B5:1445:G:H1'	1.85	0.41
33:BM:126:TRP:N	33:BM:127:GLY:HA2	2.34	0.41
34:B5:119:A:H1'	34:B5:397:A:C5	2.55	0.41
34:B5:186:C:C2	34:B5:187:G:C8	3.07	0.41
34:B5:357:G:H2'	34:B5:358:U:O4'	2.20	0.41
34:B5:431:C:H2'	34:B5:432:G:C8	2.55	0.41
34:B5:872:G:N2	34:B5:1047:G:H4'	2.35	0.41
34:B5:1426:C:O2'	34:B5:1428:G:H5'	2.19	0.41
34:B5:1487:A:H2'	34:B5:1488:G:C8	2.55	0.41
34:B5:1542:G:N2	34:B5:1568:C:H1'	2.35	0.41
36:AB:13:HIS:HB3	36:AB:16:PHE:HD2	1.85	0.41
37:AC:281:ILE:HD12	53:AQ:29:LEU:HG	2.02	0.41
38:A1:37:U:O3'	38:A1:935:U:H4'	2.19	0.41
38:A1:666:A:C2	48:AL:10:LEU:HD13	2.49	0.41
38:A1:1333:C:C2	38:A1:1334:U:C5	3.08	0.41
38:A1:1473:G:H2'	38:A1:1474:A:H8	1.85	0.41
38:A1:1500:G:H2'	38:A1:1501:U:C6	2.55	0.41
38:A1:1525:G:H2'	38:A1:1525:G:N3	2.35	0.41
38:A1:1612:A:H5''	73:Ak:51:LEU:HD23	2.01	0.41
38:A1:1699:A:C6	38:A1:1747:G:C6	3.08	0.41
38:A1:1810:A:H2'	38:A1:1811:G:C8	2.55	0.41
38:A1:2101:C:OP2	54:AR:71:ARG:HD2	2.19	0.41
38:A1:2161:G:H2'	38:A1:2162:U:C6	2.55	0.41
38:A1:2781:U:H4'	48:AL:185:LYS:HD3	2.02	0.41
38:A1:2947:G:OP2	38:A1:2947:G:H4'	2.20	0.41
38:A1:3337:G:H2'	38:A1:3338:C:H6	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:A3:27:A:H2'	39:A3:28:C:H6	1.82	0.41
53:AQ:94:PHE:CD2	63:Aa:119:PRO:HG3	2.55	0.41
54:AR:115:ILE:HG21	54:AR:142:ILE:HD11	2.01	0.41
62:AZ:135:ARG:HA	62:AZ:135:ARG:HD3	1.83	0.41
65:Ac:27:TYR:CD1	65:Ac:52:ARG:HD2	2.55	0.41
77:Ao:43:TYR:HE1	77:Ao:55:LYS:HB2	1.84	0.41
80:DC:184:SER:O	80:DC:188:ILE:HG12	2.20	0.41
80:DC:251:ASN:OD1	80:DC:253:LYS:HB3	2.20	0.41
80:DC:829:LYS:HG3	80:DC:831:GLU:HG3	2.02	0.41
1:BA:199:PRO:HD2	24:BR:90:ALA:HB3	2.01	0.41
4:BE:77:ARG:H	4:BE:77:ARG:CZ	2.32	0.41
4:BE:97:GLU:OE1	4:BE:113:ARG:HG2	2.20	0.41
5:BG:87:ARG:HH21	34:B5:160:C:H5'	1.82	0.41
5:BG:151:ASP:HB3	5:BG:156:PHE:CE2	2.42	0.41
6:BH:141:ARG:HG2	6:BH:143:LEU:HD22	2.02	0.41
10:BN:93:LYS:HG2	10:BN:150:VAL:HB	2.02	0.41
11:BO:112:ILE:O	16:Ba:58:VAL:HG13	2.20	0.41
15:BY:38:ASP:O	15:BY:52:LYS:HE2	2.19	0.41
18:Be:14:VAL:HG12	34:B5:567:A:O2'	2.20	0.41
23:BQ:71:GLY:HA2	34:B5:1483:A:H4'	2.01	0.41
28:BZ:91:PRO:HB3	28:BZ:101:TYR:CE2	2.55	0.41
31:Bg:53:LYS:HD2	31:Bg:53:LYS:HA	1.85	0.41
31:Bg:297:ASP:N	31:Bg:297:ASP:OD1	2.47	0.41
34:B5:217:A:N1	34:B5:843:U:C4	2.88	0.41
34:B5:434:G:N2	34:B5:436:A:H3'	2.35	0.41
34:B5:977:A:H62	34:B5:1024:U:H3	1.68	0.41
34:B5:1117:U:H2'	34:B5:1118:G:H8	1.84	0.41
34:B5:1144:U:H2'	34:B5:1145:U:C6	2.55	0.41
34:B5:1530:C:H2'	34:B5:1531:G:C8	2.55	0.41
34:B5:1579:U:H2'	34:B5:1580:C:H6	1.82	0.41
34:B5:1660:A:H2'	34:B5:1661:U:C6	2.55	0.41
37:AC:226:GLU:HG2	37:AC:246:ARG:HH22	1.85	0.41
38:A1:208:C:H2'	38:A1:209:A:O4'	2.20	0.41
38:A1:592:A:H5'	42:AE:17:ALA:O	2.20	0.41
38:A1:715:A:OP1	63:Aa:133:LEU:HD13	2.19	0.41
38:A1:1259:A:C8	38:A1:1260:A:C8	3.08	0.41
38:A1:1589:A:H4'	69:Ag:11:ASN:ND2	2.36	0.41
38:A1:1599:G:H2'	38:A1:1600:U:H6	1.84	0.41
38:A1:1797:A:H2'	38:A1:1798:A:C8	2.56	0.41
38:A1:2139:A:C5	72:Aj:3:LYS:HG2	2.55	0.41
38:A1:2565:U:H2'	38:A1:2566:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:2605:G:H5''	38:A1:2606:G:OP1	2.21	0.41
38:A1:2689:A:N3	38:A1:2689:A:H2'	2.35	0.41
38:A1:2741:C:O2	77:Ao:20:HIS:HE1	2.02	0.41
38:A1:3152:U:OP2	38:A1:3395:G:N1	2.46	0.41
38:A1:3186:A:N3	45:AH:44:THR:HG23	2.35	0.41
40:A4:119:C:H2'	40:A4:120:C:C6	2.55	0.41
43:AF:84:VAL:HG13	43:AF:119:VAL:HB	2.02	0.41
45:AH:160:ASP:O	45:AH:164:ILE:HG12	2.20	0.41
52:AP:64:ASN:HD22	52:AP:80:LYS:HD2	1.84	0.41
54:AR:173:ARG:O	54:AR:177:VAL:HG22	2.20	0.41
58:AV:13:ILE:HG23	58:AV:85:TRP:CG	2.54	0.41
58:AV:70:ARG:HB3	58:AV:70:ARG:NH1	2.35	0.41
58:AV:71:LYS:HA	58:AV:71:LYS:HE2	2.02	0.41
62:AZ:31:GLU:H	62:AZ:31:GLU:CD	2.22	0.41
72:Aj:11:ARG:NH1	72:Aj:11:ARG:HB3	2.35	0.41
72:Aj:21:ARG:NH2	72:Aj:41:ALA:O	2.27	0.41
77:Ao:72:LEU:O	77:Ao:80:ARG:HA	2.20	0.41
80:DC:303:LEU:C	80:DC:304:GLU:HG3	2.45	0.41
80:DC:814:LYS:O	80:DC:817:GLU:HG3	2.20	0.41
81:EC:6845:G:H2'	81:EC:6846:C:H6	1.84	0.41
3:BC:116:LYS:HG2	3:BC:127:ALA:HB3	2.02	0.41
5:BG:191:ARG:NH1	34:B5:177:U:H2'	2.35	0.41
7:BI:25:ARG:HA	34:B5:400:A:H5''	2.02	0.41
8:BJ:122:VAL:HG23	8:BJ:123:HIS:CD2	2.55	0.41
9:BL:8:GLN:NE2	9:BL:13:PHE:HA	2.35	0.41
9:BL:80:MET:HE3	34:B5:346:G:O3'	2.19	0.41
21:BK:46:LEU:O	21:BK:50:THR:N	2.52	0.41
23:BQ:114:ARG:NH1	34:B5:1411:A:OP1	2.40	0.41
26:BT:93:HIS:ND1	34:B5:1524:A:O3'	2.54	0.41
27:BU:52:LYS:HB2	27:BU:93:LEU:HD23	2.02	0.41
29:Bc:12:VAL:HA	29:Bc:30:VAL:HG12	2.02	0.41
34:B5:229:U:O4	34:B5:233:C:H1'	2.20	0.41
34:B5:334:G:H2'	34:B5:335:U:H6	1.86	0.41
34:B5:692:C:P	34:B5:696:C:H42	2.42	0.41
34:B5:1103:U:H2'	34:B5:1104:U:H6	1.85	0.41
34:B5:1668:G:H2'	34:B5:1669:U:C6	2.56	0.41
38:A1:116:A:H5''	38:A1:265:A:H2	1.85	0.41
38:A1:634:C:O3'	67:Ae:47:ARG:NH2	2.33	0.41
38:A1:700:C:H2'	38:A1:701:G:H8	1.85	0.41
38:A1:782:U:H2'	38:A1:783:A:O4'	2.21	0.41
38:A1:1378:U:H2'	38:A1:1379:G:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1919:G:N2	38:A1:1934:G:C6	2.87	0.41
38:A1:2595:A:C5	38:A1:2596:U:C5	3.09	0.41
38:A1:2702:A:N3	38:A1:2704:A:N6	2.69	0.41
38:A1:3187:A:OP1	45:AH:23:ARG:NE	2.48	0.41
38:A1:3332:U:OP1	59:AW:35:LYS:HD2	2.20	0.41
42:AE:52:VAL:HG11	42:AE:65:ILE:HD12	2.03	0.41
62:AZ:41:ALA:O	62:AZ:43:VAL:HG13	2.20	0.41
63:Aa:75:LEU:HD23	63:Aa:75:LEU:HA	1.86	0.41
64:Ab:32:LEU:HD21	64:Ab:40:ARG:HG3	2.02	0.41
66:Ad:38:LYS:HE2	66:Ad:38:LYS:HB3	1.82	0.41
77:Ao:7:THR:HB	77:Ao:22:GLN:NE2	2.32	0.41
79:E:5:THR:HG23	79:E:8:GLN:HB2	2.01	0.41
80:DC:552:VAL:HG12	80:DC:553:PRO:O	2.20	0.41
1:BA:38:PHE:CE1	24:BR:105:GLN:CA	3.03	0.41
3:BC:230:TRP:CD1	13:BW:68:ARG:HD2	2.55	0.41
5:BG:94:ARG:HD3	34:B5:406:U:O3'	2.20	0.41
6:BH:55:LYS:HE2	6:BH:89:HIS:CE1	2.56	0.41
7:BI:101:ILE:HD12	7:BI:184:LEU:HD11	2.03	0.41
8:BJ:23:ARG:O	8:BJ:27:GLU:HG2	2.20	0.41
9:BL:15:LYS:HB2	9:BL:15:LYS:HE2	1.82	0.41
10:BN:72:MET:HE2	10:BN:72:MET:HB3	1.85	0.41
15:BY:27:VAL:C	15:BY:28:LEU:HD12	2.45	0.41
16:Ba:12:LYS:HZ3	16:Ba:16:GLY:HA2	1.86	0.41
19:BD:98:ALA:HB1	19:BD:186:VAL:HG13	2.03	0.41
19:BD:120:TYR:HB3	19:BD:124:ARG:NH2	2.24	0.41
20:BF:23:VAL:HB	23:BQ:57:LEU:HD21	2.02	0.41
20:BF:65:ARG:HG3	20:BF:66:GLN:CD	2.46	0.41
20:BF:114:ILE:O	20:BF:118:LEU:HG	2.20	0.41
25:BS:35:ILE:H	25:BS:35:ILE:HD12	1.85	0.41
29:Bc:11:LYS:HG3	29:Bc:52:ASP:O	2.21	0.41
33:BM:41:LEU:HD21	33:BM:101:ALA:HB1	2.02	0.41
33:BM:123:VAL:HG22	33:BM:124:LYS:O	2.20	0.41
34:B5:179:A:H3'	34:B5:180:A:C8	2.56	0.41
34:B5:209:U:N3	34:B5:210:A:C2	2.88	0.41
34:B5:888:U:H2'	34:B5:889:U:C6	2.55	0.41
34:B5:1100:G:H4'	34:B5:1101:G:OP1	2.21	0.41
34:B5:1394:G:H2'	34:B5:1395:G:C8	2.56	0.41
35:AA:80:GLU:HG3	35:AA:168:VAL:HG13	2.02	0.41
36:AB:50:LYS:HG3	36:AB:328:ILE:HD11	2.03	0.41
36:AB:99:LEU:O	38:A1:3004:C:O2'	2.29	0.41
36:AB:110:LEU:HD22	36:AB:114:VAL:HG11	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:AB:124:LYS:HG2	38:A1:3316:A:N1	2.34	0.41
36:AB:250:ALA:HB1	38:A1:2947:G:C2	2.55	0.41
36:AB:283:TYR:HD1	36:AB:354:VAL:HG11	1.85	0.41
38:A1:537:A:H3'	38:A1:538:G:H8	1.85	0.41
38:A1:772:U:H2'	38:A1:773:G:O4'	2.20	0.41
38:A1:1182:A:H2'	38:A1:1183:C:C6	2.56	0.41
38:A1:1182:A:H2'	38:A1:1183:C:H6	1.84	0.41
38:A1:2216:G:H22	38:A1:2229:A:H2	1.66	0.41
38:A1:2682:C:C2	38:A1:2683:U:C5	3.08	0.41
38:A1:3039:C:C2	38:A1:3040:A:C8	3.08	0.41
38:A1:3235:C:H2'	38:A1:3236:U:O4'	2.21	0.41
40:A4:49:G:H5'	70:Ah:44:ILE:HD11	2.02	0.41
41:AD:260:PHE:CE1	41:AD:264:GLN:HB3	2.55	0.41
44:AG:43:LYS:HE3	60:AX:28:THR:CG2	2.50	0.41
45:AH:7:GLU:HG3	45:AH:9:GLN:NE2	2.27	0.41
47:AJ:162:TRP:CZ2	47:AJ:166:LYS:HD3	2.55	0.41
48:AL:50:PRO:O	48:AL:51:LEU:HB3	2.20	0.41
56:AT:21:LYS:HB3	56:AT:21:LYS:HE2	1.87	0.41
58:AV:13:ILE:HG23	58:AV:85:TRP:CD1	2.56	0.41
69:Ag:97:GLU:HA	69:Ag:100:ILE:HG12	2.02	0.41
70:Ah:34:GLN:HG3	70:Ah:38:ARG:HD3	2.02	0.41
77:Ao:80:ARG:HG2	77:Ao:80:ARG:NH1	2.36	0.41
80:DC:32:LYS:NZ	83:DC:901:GDP:O3B	2.48	0.41
80:DC:495:VAL:HG21	80:DC:500:ASP:C	2.45	0.41
1:BA:62:ARG:NE	12:BV:37:ALA:O	2.38	0.41
5:BG:39:GLU:HG3	5:BG:46:LYS:HA	2.03	0.41
12:BV:80:LYS:HD2	12:BV:80:LYS:HA	1.85	0.41
13:BW:79:PHE:O	13:BW:125:ILE:HG22	2.20	0.41
15:BY:18:LEU:HD12	15:BY:85:PHE:HB3	2.03	0.41
15:BY:65:GLY:N	34:B5:532:U:OP1	2.42	0.41
22:BP:77:ARG:HG2	34:B5:1241:G:H5'	2.02	0.41
22:BP:79:HIS:CE1	34:B5:1241:G:C8	3.09	0.41
23:BQ:123:ARG:HG3	23:BQ:123:ARG:NH1	2.35	0.41
25:BS:38:VAL:HG21	25:BS:73:MET:HE1	2.02	0.41
27:BU:19:ILE:HD11	27:BU:94:GLU:HB2	2.02	0.41
27:BU:102:ARG:NH1	27:BU:106:ILE:HB	2.35	0.41
31:Bg:90:ARG:NH2	34:B5:1341:A:H4'	2.35	0.41
34:B5:279:G:H2'	34:B5:280:U:H4'	2.01	0.41
34:B5:528:U:C2	34:B5:529:A:C8	3.08	0.41
34:B5:1483:A:C2	34:B5:1607:G:H1'	2.56	0.41
34:B5:1511:U:H2'	34:B5:1512:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1543:A:H1'	34:B5:1569:A:C2	2.56	0.41
34:B5:1770:U:H2'	34:B5:1771:U:H6	1.82	0.41
36:AB:19:ARG:HB2	36:AB:232:ARG:NH2	2.36	0.41
36:AB:240:ARG:NH1	38:A1:1907:C:O2	2.50	0.41
38:A1:44:U:O2'	77:Ao:46:LYS:NZ	2.41	0.41
38:A1:120:G:N2	44:AG:126:SER:O	2.37	0.41
38:A1:201:A:H2'	38:A1:202:G:H8	1.86	0.41
38:A1:517:G:H5''	43:AF:63:ILE:HG21	2.02	0.41
38:A1:900:G:H2'	38:A1:901:G:C8	2.55	0.41
38:A1:945:C:H2'	38:A1:946:U:H6	1.86	0.41
38:A1:1623:G:C6	38:A1:1823:A:N1	2.89	0.41
38:A1:2367:A:H2'	38:A1:2368:A:C8	2.54	0.41
38:A1:2635:A:OP2	46:AI:15:LYS:NZ	2.33	0.41
38:A1:2821:C:H2'	38:A1:2822:U:O4'	2.21	0.41
38:A1:3267:A:H3'	38:A1:3268:A:C8	2.55	0.41
38:A1:3288:G:C2	38:A1:3289:G:C4	3.08	0.41
39:A3:47:C:OP2	41:AD:158:ARG:HD3	2.20	0.41
41:AD:65:ILE:HG12	41:AD:74:VAL:HG22	2.01	0.41
41:AD:229:ASP:HB3	41:AD:231:ILE:HG12	2.01	0.41
41:AD:260:PHE:CZ	41:AD:264:GLN:HB3	2.55	0.41
47:AJ:166:LYS:HG2	47:AJ:167:TYR:CD2	2.55	0.41
50:AN:57:GLN:HG3	50:AN:139:HIS:HE1	1.85	0.41
53:AQ:177:GLY:HA2	53:AQ:184:PHE:CE1	2.56	0.41
57:AU:18:ASP:HB3	57:AU:104:ARG:HA	2.02	0.41
62:AZ:46:ILE:HB	62:AZ:49:TYR:CE1	2.55	0.41
63:Aa:88:ASP:OD2	63:Aa:89:GLN:N	2.54	0.41
66:Ad:72:ARG:NH2	66:Ad:104:LEU:HB2	2.35	0.41
69:Ag:91:ARG:HG3	69:Ag:95:ILE:HD13	2.01	0.41
77:Ao:38:GLN:HA	77:Ao:41:ARG:HH21	1.85	0.41
80:DC:137:VAL:HG22	80:DC:790:GLY:CA	2.50	0.41
80:DC:225:PHE:CE1	80:DC:277:ILE:HG12	2.55	0.41
80:DC:357:TYR:CE1	80:DC:476:HIS:HB2	2.56	0.41
80:DC:411:VAL:HG21	80:DC:469:LEU:HD21	2.03	0.41
80:DC:564:ARG:HE	80:DC:680:GLU:CD	2.29	0.41
80:DC:569:SER:OG	80:DC:721:ASP:HB3	2.20	0.41
1:BA:92:HIS:HB3	1:BA:182:LEU:HD11	2.02	0.41
2:BB:48:VAL:HG12	2:BB:61:LEU:HD13	2.03	0.41
4:BE:182:TYR:HB3	4:BE:226:PHE:HB3	2.02	0.41
5:BG:199:GLN:O	5:BG:203:GLU:HG2	2.19	0.41
6:BH:108:GLN:HG2	34:B5:743:U:OP1	2.21	0.41
10:BN:107:LYS:O	10:BN:109:LYS:N	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:BF:145:ASP:CB	20:BF:217:LEU:HD11	2.51	0.41
23:BQ:95:LYS:O	31:Bg:59:ARG:NH1	2.52	0.41
23:BQ:139:GLN:HE21	34:B5:1465:C:H3'	1.86	0.41
26:BT:36:ILE:HG13	26:BT:37:VAL:HG13	2.02	0.41
29:Bc:29:ARG:HD2	29:Bc:39:THR:HG22	2.03	0.41
34:B5:631:G:H2'	34:B5:632:PSU:C6	2.54	0.41
34:B5:1209:C:N3	34:B5:1455:G:N2	2.69	0.41
34:B5:1323:C:H2'	34:B5:1324:G:C8	2.56	0.41
34:B5:1489:U:O2'	34:B5:1492:A:N3	2.48	0.41
34:B5:1564:U:H2'	34:B5:1565:C:C6	2.56	0.41
34:B5:1748:G:H2'	34:B5:1749:A:C8	2.55	0.41
36:AB:380:MET:O	38:A1:3369:G:N1	2.54	0.41
37:AC:272:VAL:HG12	38:A1:696:C:OP1	2.21	0.41
38:A1:110:G:H5'	48:AL:91:ARG:NH1	2.35	0.41
38:A1:115:A:H2'	38:A1:265:A:H2'	2.02	0.41
38:A1:138:U:H2'	38:A1:139:G:C8	2.52	0.41
38:A1:291:C:H2'	38:A1:292:U:C6	2.56	0.41
38:A1:1066:G:H2'	38:A1:1067:U:C6	2.55	0.41
38:A1:1190:A:H2'	38:A1:1190:A:N3	2.36	0.41
38:A1:1234:G:H4'	38:A1:1236:G:N2	2.34	0.41
38:A1:1597:C:H5'	38:A1:1696:A:H1'	2.01	0.41
38:A1:2269:U:N3	38:A1:2271:A:C8	2.89	0.41
38:A1:2986:U:H2'	38:A1:2987:A:C8	2.55	0.41
38:A1:3163:A:H2'	38:A1:3164:C:H6	1.85	0.41
41:AD:258:LYS:HA	41:AD:258:LYS:HD3	1.78	0.41
41:AD:287:ALA:HA	41:AD:290:ILE:HG22	2.03	0.41
43:AF:118:LYS:HB3	43:AF:118:LYS:HE3	1.92	0.41
44:AG:159:PRO:HB2	44:AG:161:GLU:OE1	2.19	0.41
48:AL:95:ILE:HD13	48:AL:116:LEU:HD22	2.00	0.41
50:AN:180:PHE:O	50:AN:184:LYS:HG3	2.20	0.41
52:AP:116:HIS:CE1	52:AP:118:GLN:HE21	2.39	0.41
53:AQ:36:LEU:O	53:AQ:40:THR:OG1	2.39	0.41
54:AR:80:LYS:HA	54:AR:80:LYS:HD2	1.81	0.41
58:AV:84:SER:HA	58:AV:94:TYR:HB3	2.01	0.41
60:AX:77:GLU:OE1	60:AX:77:GLU:N	2.53	0.41
62:AZ:75:VAL:CG2	62:AZ:80:LEU:HD11	2.51	0.41
63:Aa:119:PRO:O	63:Aa:121:VAL:N	2.50	0.41
80:DC:226:ALA:HB1	80:DC:240:MET:HE3	2.03	0.41
1:BA:110:TYR:HA	1:BA:115:PHE:CG	2.55	0.41
2:BB:171:ILE:HA	2:BB:174:LYS:HE2	2.03	0.41
4:BE:194:THR:HG22	4:BE:211:LYS:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:BG:54:GLY:O	5:BG:110:ALA:N	2.34	0.41
7:BI:31:ARG:O	34:B5:331:A:H4'	2.21	0.41
8:BJ:110:GLN:HE21	8:BJ:126:ARG:HB2	1.84	0.41
11:BO:52:ARG:NE	11:BO:52:ARG:HA	2.36	0.41
14:BX:39:LYS:HZ3	34:B5:1742:U:H5'	1.86	0.41
19:BD:5:ILE:HG13	19:BD:9:ARG:NH1	2.35	0.41
19:BD:101:GLN:O	19:BD:105:MET:HG2	2.20	0.41
24:BR:24:LEU:HD23	24:BR:25:THR:O	2.21	0.41
27:BU:58:LEU:HG	27:BU:88:LYS:HD2	2.02	0.41
31:Bg:52:GLN:NE2	31:Bg:53:LYS:HG2	2.36	0.41
31:Bg:110:VAL:HA	31:Bg:126:SER:HA	2.03	0.41
31:Bg:154:VAL:HG12	31:Bg:171:SER:HB2	2.03	0.41
34:B5:44:U:H2'	34:B5:45:U:H5	1.85	0.41
34:B5:116:U:H2'	34:B5:117:U:C6	2.56	0.41
34:B5:224:C:C2	34:B5:837:G:H2'	2.55	0.41
34:B5:424:C:O2	34:B5:427:C:N4	2.52	0.41
34:B5:921:U:H2'	34:B5:922:G:H8	1.85	0.41
36:AB:144:ILE:HG13	36:AB:145:GLU:N	2.36	0.41
36:AB:167:ARG:HH11	36:AB:168:LYS:HG3	1.85	0.41
36:AB:212:ASN:ND2	36:AB:353:GLU:HA	2.34	0.41
36:AB:266:ARG:NH2	38:A1:2392:C:H1'	2.35	0.41
36:AB:364:LYS:HD3	38:A1:3049:A:H4'	2.02	0.41
37:AC:138:ARG:HE	37:AC:140:HIS:CD2	2.38	0.41
37:AC:202:ARG:NE	38:A1:1384:U:OP2	2.44	0.41
38:A1:676:G:C6	53:AQ:86:THR:HG21	2.56	0.41
38:A1:691:A:N1	40:A4:28:C:O2'	2.44	0.41
38:A1:835:G:O2'	38:A1:836:A:OP2	2.35	0.41
38:A1:1492:G:O2'	74:A1:48:LYS:NZ	2.49	0.41
38:A1:1557:A:H4'	44:AG:54:GLU:OE2	2.20	0.41
38:A1:1696:A:H2'	38:A1:1697:A:H8	1.82	0.41
38:A1:1948:G:OP1	54:AR:135:LYS:HB2	2.20	0.41
38:A1:2454:G:OP2	38:A1:2484:A:N6	2.53	0.41
38:A1:2467:G:H1'	38:A1:2468:A:C8	2.56	0.41
38:A1:2482:U:C2	38:A1:2486:A:N6	2.89	0.41
40:A4:43:A:H2'	40:A4:44:A:C8	2.56	0.41
40:A4:147:U:H2'	40:A4:148:G:O4'	2.21	0.41
41:AD:53:VAL:CG2	41:AD:159:VAL:HG23	2.51	0.41
43:AF:121:LYS:O	43:AF:121:LYS:HD3	2.21	0.41
43:AF:173:LEU:HD11	43:AF:201:PHE:CD2	2.56	0.41
44:AG:123:GLN:O	44:AG:123:GLN:HG3	2.21	0.41
45:AH:46:THR:OG1	45:AH:54:LYS:HB2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:AI:190:ILE:HG23	46:AI:197:VAL:HB	2.03	0.41
50:AN:163:GLY:O	50:AN:172:ARG:NH1	2.51	0.41
51:AO:88[A]:VAL:HG11	51:AO:99[A]:LEU:HD21	2.03	0.41
53:AQ:133:LYS:HB2	53:AQ:135:GLN:OE1	2.21	0.41
54:AR:91:SER:HA	54:AR:94:VAL:HG12	2.03	0.41
80:DC:9:MET:HE1	80:DC:99:LEU:HD11	2.03	0.41
80:DC:270:GLU:OE1	80:DC:275:MET:HB2	2.20	0.41
2:BB:132:ASP:O	2:BB:221:PRO:HD3	2.20	0.41
3:BC:104:VAL:O	3:BC:112:GLY:N	2.53	0.41
6:BH:104:ARG:NE	34:B5:803:A:O2'	2.42	0.41
7:BI:11:ARG:NH1	7:BI:15:GLY:O	2.52	0.41
8:BJ:49:LEU:HA	8:BJ:52:ILE:HG22	2.01	0.41
8:BJ:53:ARG:O	8:BJ:57:ARG:HB2	2.20	0.41
8:BJ:101:VAL:O	8:BJ:105:LEU:HG	2.20	0.41
8:BJ:103:ASP:O	8:BJ:106:GLU:HG2	2.21	0.41
13:BW:71:LYS:HB3	13:BW:130:TYR:CE1	2.56	0.41
13:BW:75:ILE:HA	34:B5:1100:G:O2'	2.20	0.41
15:BY:6:THR:HG23	15:BY:28:LEU:HB2	2.02	0.41
19:BD:148:LYS:NZ	19:BD:150:MET:HE3	2.36	0.41
19:BD:211:PRO:HB2	19:BD:213:GLU:CD	2.45	0.41
20:BF:53:VAL:HB	20:BF:59:VAL:HG12	2.02	0.41
23:BQ:30:LYS:NZ	34:B5:1365:C:H5'	2.35	0.41
23:BQ:81:ILE:O	23:BQ:85:ILE:HG12	2.21	0.41
24:BR:6:THR:O	24:BR:10:LYS:HG2	2.20	0.41
34:B5:78:A:H2'	34:B5:79:C:H6	1.85	0.41
34:B5:153:G:H2'	34:B5:154:G:H8	1.85	0.41
34:B5:650:U:O4	34:B5:651:G:N1	2.54	0.41
34:B5:1160:A:H2'	34:B5:1161:C:O4'	2.21	0.41
34:B5:1259:U:H2'	34:B5:1260:U:C6	2.55	0.41
34:B5:1303:U:O2'	34:B5:1322:A:OP2	2.30	0.41
34:B5:1617:U:H2'	34:B5:1618:C:C6	2.55	0.41
36:AB:93:VAL:HG23	36:AB:95:THR:HG23	2.03	0.41
36:AB:215:ILE:CG2	36:AB:282:ILE:HD11	2.51	0.41
38:A1:205:C:H2'	38:A1:206:G:O4'	2.21	0.41
38:A1:219:A:HO2'	38:A1:220:G:H21	1.61	0.41
38:A1:508:U:H2'	38:A1:509:U:C6	2.56	0.41
38:A1:675:C:H2'	38:A1:676:G:O4'	2.21	0.41
38:A1:760:G:N2	38:A1:770:G:C4	2.89	0.41
38:A1:848:A:H8	38:A1:848:A:OP2	2.03	0.41
38:A1:1155:C:O2'	38:A1:1197:A:N1	2.40	0.41
38:A1:1359:C:H2'	38:A1:1360:C:H6	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:1901:A:O2'	58:AV:49:LEU:HD21	2.20	0.41
38:A1:2271:A:OP2	38:A1:2271:A:H8	2.04	0.41
38:A1:2302:G:C6	38:A1:2303:A:N7	2.89	0.41
38:A1:2448:G:C2	38:A1:2499:U:C2	3.08	0.41
38:A1:2794:G:O2'	38:A1:2795:U:OP2	2.31	0.41
38:A1:2974:U:H2'	38:A1:2975:PSU:H6	1.86	0.41
38:A1:3146:G:H2'	38:A1:3147:G:H8	1.85	0.41
41:AD:47:PRO:HB3	41:AD:66:SER:HB2	2.02	0.41
41:AD:181:PRO:HG2	41:AD:195:LEU:HD13	2.02	0.41
41:AD:261:THR:OG1	41:AD:262:LYS:N	2.53	0.41
42:AE:7:PRO:HG2	42:AE:10:TYR:CZ	2.56	0.41
46:AI:43:VAL:HG21	46:AI:197:VAL:HG13	2.03	0.41
50:AN:23:GLN:O	50:AN:27:VAL:HG12	2.20	0.41
54:AR:109:TYR:HD1	54:AR:114:LYS:HB2	1.86	0.41
65:Ac:48:THR:OG1	65:Ac:49:PRO:HD2	2.21	0.41
80:DC:694:HIS:HE2	80:DC:699:DDE:HD2	1.86	0.41
80:DC:809:LEU:HD13	80:DC:832:VAL:HG12	2.03	0.41
1:BA:176:LEU:O	1:BA:180:GLU:HG2	2.21	0.41
1:BA:206:ASP:HA	1:BA:207:PRO:HA	1.82	0.41
2:BB:125:VAL:HB	2:BB:137:ILE:CG2	2.51	0.41
3:BC:40:LYS:HE3	3:BC:40:LYS:HB3	1.94	0.41
4:BE:76:VAL:HG13	4:BE:77:ARG:N	2.34	0.41
4:BE:181:VAL:HG12	4:BE:227:VAL:HA	2.02	0.41
4:BE:245:LYS:O	4:BE:245:LYS:HG2	2.20	0.41
5:BG:98:ARG:NH2	5:BG:105:ASP:OD2	2.54	0.41
5:BG:220:LYS:HG3	5:BG:223:LYS:HE3	2.03	0.41
7:BI:135:LYS:N	7:BI:143:TRP:HZ3	2.19	0.41
8:BJ:76:LEU:HD23	8:BJ:79:ARG:NH1	2.32	0.41
9:BL:66:ILE:HD13	9:BL:66:ILE:HA	1.91	0.41
10:BN:71:ILE:HD12	34:B5:961:U:C5'	2.49	0.41
12:BV:24:ILE:HD12	12:BV:24:ILE:HA	1.90	0.41
14:BX:50:LYS:HB3	14:BX:101:GLU:OE2	2.21	0.41
15:BY:60:PHE:H	15:BY:71:GLY:CA	2.32	0.41
16:Ba:85:ARG:H	34:B5:1797:A:H61	1.69	0.41
18:Be:53:LYS:HD2	18:Be:53:LYS:HA	1.95	0.41
25:BS:66:LEU:O	25:BS:70:VAL:HG23	2.21	0.41
26:BT:48:GLN:HE22	34:B5:1532:U:H1'	1.86	0.41
28:BZ:45:GLU:H	28:BZ:45:GLU:CD	2.26	0.41
29:Bc:10:ALA:O	29:Bc:54:LEU:N	2.47	0.41
31:Bg:13:LEU:HD13	31:Bg:45:TRP:CE3	2.55	0.41
31:Bg:38:ARG:HG2	31:Bg:67:ILE:HG23	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Bg:251:TRP:CH2	31:Bg:271:VAL:HG11	2.55	0.41
33:BM:59:LEU:HD23	33:BM:59:LEU:HA	1.92	0.41
34:B5:90:C:O2'	34:B5:451:A:H5''	2.20	0.41
34:B5:262:U:H2'	34:B5:263:C:C6	2.56	0.41
34:B5:482:U:H2'	34:B5:504:U:O2	2.21	0.41
34:B5:524:U:O2'	34:B5:526:A:N7	2.49	0.41
34:B5:950:C:H2'	34:B5:951:A:O4'	2.20	0.41
34:B5:993:A:H62	34:B5:1011:G:H21	1.69	0.41
34:B5:1291:G:N2	34:B5:1324:G:H22	2.18	0.41
34:B5:1438:G:H2'	34:B5:1439:C:H6	1.86	0.41
34:B5:1471:A:C8	34:B5:1540:G:H1'	2.56	0.41
34:B5:1687:U:H1'	34:B5:1715:G:C6	2.55	0.41
34:B5:1708:U:OP2	34:B5:1709:C:H2'	2.21	0.41
35:AA:68:LYS:NZ	38:A1:1579:C:OP1	2.29	0.41
37:AC:120:TYR:HE1	37:AC:277:PRO:HB3	1.84	0.41
37:AC:181:VAL:HG12	37:AC:182:LEU:N	2.35	0.41
37:AC:181:VAL:C	37:AC:183:LYS:H	2.29	0.41
38:A1:413:U:OP1	52:AP:30:ARG:NH2	2.50	0.41
38:A1:432:G:H2'	38:A1:433:A:C8	2.56	0.41
38:A1:583:G:H4'	68:Af:106:ASN:HD21	1.85	0.41
38:A1:591:G:N2	38:A1:612:U:OP1	2.30	0.41
38:A1:698:U:H2'	38:A1:699:A:O4'	2.20	0.41
38:A1:743:C:O2	53:AQ:141:ARG:NE	2.54	0.41
38:A1:1009:A:H2'	38:A1:1010:G:O4'	2.21	0.41
38:A1:1010:G:H22	38:A1:1040:A:H2	1.69	0.41
38:A1:1054:A:H5''	38:A1:2637:A:H61	1.86	0.41
38:A1:1139:G:O2'	43:AF:94:LYS:HG2	2.21	0.41
38:A1:1254:C:N4	38:A1:1255:C:N4	2.69	0.41
38:A1:1269:U:C5	80:DC:740:VAL:HG11	2.55	0.41
38:A1:1503:A:C2	38:A1:1504:A:C8	3.09	0.41
38:A1:1542:G:H2'	38:A1:1543:G:C8	2.55	0.41
38:A1:1637:A:O3'	62:AZ:15:ARG:HG2	2.20	0.41
38:A1:1646:G:H1'	38:A1:1809:A:N6	2.35	0.41
38:A1:1695:U:O2'	38:A1:1749:A:N6	2.50	0.41
38:A1:1724:U:P	54:AR:128:LYS:HZ1	2.42	0.41
38:A1:1948:G:H5'	54:AR:101:VAL:HG11	2.03	0.41
38:A1:2160:G:H2'	38:A1:2161:G:C8	2.52	0.41
38:A1:2248:C:O2'	38:A1:2272:G:H1'	2.21	0.41
38:A1:2355:G:H4'	52:AP:139:TYR:CE2	2.56	0.41
38:A1:2483:G:N1	38:A1:2486:A:O4'	2.40	0.41
38:A1:2497:U:O2'	38:A1:2498:U:H6	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:2520:A:H2'	38:A1:2521:U:C6	2.56	0.41
38:A1:2600:C:OP1	50:AN:93:LYS:NZ	2.50	0.41
38:A1:2692:A:H2'	38:A1:2693:C:O4'	2.21	0.41
38:A1:2807:U:O3'	38:A1:2808:A:H3'	2.20	0.41
38:A1:3132:C:H2'	38:A1:3133:C:C6	2.55	0.41
38:A1:3245:A:N7	38:A1:3246:G:N1	2.68	0.41
38:A1:3308:C:H2'	38:A1:3309:G:O4'	2.21	0.41
39:A3:13:A:H3'	39:A3:14:U:O2	2.21	0.41
39:A3:55:A:C2	47:AJ:9:MET:HE1	2.55	0.41
40:A4:58:G:H5''	40:A4:98:U:O2	2.21	0.41
40:A4:66:A:H5'	70:Ah:10:ARG:NH2	2.36	0.41
42:AE:68:PRO:HB2	42:AE:71:VAL:HG23	2.02	0.41
43:AF:163:LEU:HA	43:AF:168:ILE:HD11	2.03	0.41
44:AG:34:PHE:CD1	44:AG:42:PRO:HD3	2.56	0.41
44:AG:81:THR:HA	44:AG:179:ILE:O	2.20	0.41
45:AH:112:ILE:HD11	45:AH:134:ILE:HG12	2.02	0.41
46:AI:55:ASN:OD1	46:AI:55:ASN:O	2.38	0.41
47:AJ:38:GLU:HG2	47:AJ:44:THR:HA	2.02	0.41
48:AL:9:ILE:HG13	63:Aa:52:TYR:CE2	2.56	0.41
50:AN:20:ARG:O	50:AN:24:ARG:HG2	2.21	0.41
51:AO:152[A]:VAL:O	51:AO:155[A]:LYS:HG2	2.21	0.41
52:AP:120:ASN:HB2	52:AP:145:HIS:HB2	2.03	0.41
53:AQ:8:LYS:HE2	53:AQ:8:LYS:HB2	1.91	0.41
53:AQ:170:ARG:HD3	63:Aa:56:VAL:O	2.20	0.41
54:AR:92:GLN:O	54:AR:96:ILE:HG13	2.21	0.41
54:AR:99:LEU:HD12	54:AR:99:LEU:HA	1.86	0.41
58:AV:28:ASN:ND2	58:AV:112:SER:OG	2.47	0.41
63:Aa:97:GLU:OE1	63:Aa:97:GLU:N	2.53	0.41
63:Aa:98:THR:HG23	63:Aa:98:THR:O	2.21	0.41
65:Ac:66:LYS:HD2	65:Ac:67:VAL:H	1.85	0.41
68:Af:60:ARG:HA	68:Af:60:ARG:NE	2.36	0.41
76:An:16:LYS:HB3	76:An:16:LYS:HE3	1.81	0.41
80:DC:33:SER:N	83:DC:901:GDP:O2B	2.54	0.41
80:DC:174:LEU:HB3	80:DC:278:LEU:HD21	2.03	0.41
80:DC:229:TYR:HE2	80:DC:276:PHE:HB3	1.79	0.41
80:DC:351:TYR:O	80:DC:354:GLU:HG2	2.21	0.41
80:DC:524:GLU:OE1	80:DC:524:GLU:N	2.54	0.41
81:EC:6882:G:H3'	81:EC:6884:G:OP2	2.21	0.41
2:BB:133:TYR:CE2	2:BB:181:LEU:HD13	2.56	0.41
3:BC:80:VAL:HG21	3:BC:125:ILE:HD12	2.03	0.41
6:BH:47:ARG:HB3	6:BH:59:ALA:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:BH:114:ARG:O	6:BH:117:THR:HG22	2.20	0.41
6:BH:130:VAL:HG23	6:BH:130:VAL:O	2.21	0.41
7:BI:47:ARG:HH22	34:B5:397:A:H5'	1.84	0.41
7:BI:78:ILE:HG13	7:BI:104:ILE:HG22	2.04	0.41
7:BI:121:LEU:HD11	7:BI:157:GLU:HG3	2.02	0.41
14:BX:50:LYS:HE2	14:BX:103:LEU:HD13	2.03	0.41
16:Ba:70:LYS:NZ	34:B5:931:C:OP2	2.48	0.41
16:Ba:93:LYS:HB3	16:Ba:93:LYS:HE3	1.78	0.41
17:Bb:55:THR:HG21	17:Bb:60:SER:HA	2.02	0.41
20:BF:82:PHE:CE1	29:Bc:47:PRO:HB2	2.56	0.41
26:BT:97:SER:HB2	34:B5:1504:G:OP1	2.20	0.41
34:B5:121:U:H2'	34:B5:122:U:C6	2.56	0.41
34:B5:431:C:C5	80:DC:391:LYS:NZ	2.87	0.41
34:B5:1302:U:H2'	34:B5:1303:U:H6	1.86	0.41
34:B5:1458:G:H2'	34:B5:1459:C:C5	2.55	0.41
34:B5:1528:U:H2'	34:B5:1529:C:C6	2.56	0.41
34:B5:1652:C:H2'	34:B5:1653:C:H6	1.86	0.41
35:AA:34:TYR:HD2	38:A1:2525:G:C6	2.39	0.41
36:AB:137:TYR:CE1	36:AB:144:ILE:HG21	2.56	0.41
37:AC:36:HIS:HA	37:AC:242:ALA:HB1	2.02	0.41
37:AC:102:PRO:CD	38:A1:933:A:H61	2.34	0.41
37:AC:195:ARG:NH1	38:A1:339:C:OP1	2.54	0.41
38:A1:353:G:O6	72:Aj:52:LYS:HD3	2.21	0.41
38:A1:1108:U:H2'	38:A1:1109:U:H6	1.84	0.41
38:A1:1249:G:C2'	38:A1:1250:G:H4'	2.51	0.41
38:A1:1682:U:H1'	38:A1:1685:C:H41	1.86	0.41
38:A1:1817:G:H8	38:A1:1818:U:C5	2.33	0.41
38:A1:2279:A:H2	38:A1:2305:G:C8	2.39	0.41
38:A1:2292:U:H2'	38:A1:2293:C:C6	2.56	0.41
38:A1:2463:G:C6	38:A1:2494:A:C8	3.09	0.41
38:A1:2700:G:H2'	38:A1:2701:U:C6	2.56	0.41
38:A1:2746:A:H5'	41:AD:179:ARG:HG2	2.02	0.41
38:A1:2769:A:H4'	77:Ao:80:ARG:HB2	2.04	0.41
38:A1:3077:A:N6	38:A1:3080:G:C5	2.89	0.41
39:A3:97:A:H2'	39:A3:98:C:C6	2.56	0.41
41:AD:184:ASP:OD1	41:AD:185:PHE:N	2.54	0.41
44:AG:56:VAL:HG13	44:AG:60:ARG:HH21	1.86	0.41
44:AG:195:SER:C	44:AG:197:VAL:H	2.29	0.41
48:AL:184:GLU:O	48:AL:188:ARG:HG3	2.20	0.41
51:AO:11[A]:GLY:O	51:AO:41[A]:LEU:HD23	2.20	0.41
51:AO:107[A]:GLY:HA2	51:AO:157[A]:GLU:OE2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:AS:36:ILE:O	55:AS:40:ARG:HG2	2.21	0.41
62:AZ:92:PHE:O	62:AZ:95:VAL:HG12	2.21	0.41
67:Ae:20:HIS:CG	67:Ae:42:VAL:HG21	2.55	0.41
73:Ak:20:VAL:HG13	73:Ak:46:ARG:O	2.21	0.41
74:Al:2:ALA:C	74:Al:4:GLN:H	2.29	0.41
78:Ap:11:THR:HG21	78:Ap:23:ARG:O	2.20	0.41
80:DC:150:ARG:NH2	80:DC:352:ARG:HA	2.33	0.41
2:BB:60:ALA:O	2:BB:64:ARG:NH1	2.54	0.40
3:BC:154:LEU:CD1	3:BC:169:LEU:HB3	2.52	0.40
4:BE:137:PRO:HB2	4:BE:150:PRO:HD2	2.02	0.40
5:BG:58:LYS:HD2	5:BG:107:ALA:HB2	2.02	0.40
5:BG:175:ILE:HG23	5:BG:178:LEU:CD2	2.51	0.40
7:BI:17:LYS:O	7:BI:17:LYS:HG3	2.21	0.40
10:BN:34:ILE:HD13	10:BN:34:ILE:HA	1.94	0.40
13:BW:7:LEU:HD23	13:BW:126:LEU:HD22	2.03	0.40
19:BD:207:THR:OG1	24:BR:40:THR:OG1	2.32	0.40
27:BU:97:VAL:HA	27:BU:100:VAL:HG22	2.02	0.40
34:B5:119:A:H1'	34:B5:397:A:C8	2.56	0.40
34:B5:147:A:C4	34:B5:148:A:C8	3.10	0.40
34:B5:374:U:H2'	34:B5:375:U:C6	2.56	0.40
34:B5:430:G:C5	80:DC:391:LYS:NZ	2.79	0.40
34:B5:481:A:C5	34:B5:482:U:H5	2.39	0.40
34:B5:1131:A:H2'	34:B5:1132:A:O4'	2.21	0.40
34:B5:1215:C:H2'	34:B5:1216:C:C6	2.57	0.40
34:B5:1241:G:H2'	34:B5:1242:A:O4'	2.21	0.40
34:B5:1529:C:H2'	34:B5:1530:C:C6	2.56	0.40
35:AA:204:MET:HE2	38:A1:914:A:C6	2.56	0.40
36:AB:334:ARG:NH2	38:A1:3304:U:O3'	2.54	0.40
37:AC:3:ARG:NH1	37:AC:3:ARG:HA	2.35	0.40
38:A1:116:A:N3	38:A1:116:A:H2'	2.35	0.40
38:A1:164:A:N6	38:A1:258:G:C6	2.89	0.40
38:A1:183:G:H2'	38:A1:184:U:H6	1.86	0.40
38:A1:189:G:C6	38:A1:206:G:C6	3.10	0.40
38:A1:529:A:H2'	38:A1:530:G:H8	1.85	0.40
38:A1:600:G:H5'	38:A1:601:U:OP2	2.21	0.40
38:A1:738:A:H2'	38:A1:739:G:C8	2.56	0.40
38:A1:975:C:H2'	38:A1:976:U:C6	2.56	0.40
38:A1:996:A:H2'	38:A1:997:A:O4'	2.21	0.40
38:A1:1051:U:H4'	56:AT:19:PHE:CD2	2.56	0.40
38:A1:1138:U:H2'	38:A1:1139:G:C8	2.56	0.40
38:A1:1322:U:H2'	38:A1:1323:G:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:2270:A:H2'	38:A1:2271:A:C8	2.56	0.40
38:A1:2542:U:H4'	38:A1:2544:U:OP1	2.21	0.40
38:A1:2639:G:H2'	38:A1:2640:A:H8	1.86	0.40
38:A1:2668:U:H2'	38:A1:2669:G:H8	1.86	0.40
38:A1:2717:U:H2'	38:A1:2718:U:C6	2.56	0.40
38:A1:2726:C:O2'	38:A1:2727:A:H2'	2.20	0.40
38:A1:3052:G:H2'	38:A1:3053:G:C8	2.55	0.40
38:A1:3181:C:H2'	38:A1:3182:G:C8	2.57	0.40
38:A1:3243:A:H62	51:AO:160[A]:ARG:HD3	1.86	0.40
38:A1:3333:G:N2	38:A1:3369:G:O2'	2.52	0.40
40:A4:14:C:H5''	52:AP:123:PRO:CD	2.51	0.40
40:A4:45:C:OP1	74:Al:12:LYS:NZ	2.53	0.40
41:AD:234:ASP:OD1	41:AD:235:SER:N	2.54	0.40
46:AI:101:LYS:O	46:AI:101:LYS:HG3	2.21	0.40
47:AJ:29:ARG:HG3	47:AJ:32:ARG:HH21	1.86	0.40
47:AJ:29:ARG:HG3	47:AJ:32:ARG:HE	1.86	0.40
56:AT:11:THR:O	56:AT:11:THR:HG22	2.21	0.40
56:AT:112:ASN:OD1	56:AT:128:LEU:HD12	2.20	0.40
63:Aa:42:ARG:HG3	63:Aa:46:ASP:OD2	2.22	0.40
67:Ae:35:GLN:O	67:Ae:43:ARG:HB2	2.21	0.40
2:BB:204:ILE:HG22	2:BB:205:PHE:CD1	2.48	0.40
4:BE:35:PRO:HG2	4:BE:36:HIS:CD2	2.56	0.40
4:BE:192:ILE:CD1	4:BE:243:GLY:HA3	2.51	0.40
5:BG:220:LYS:HE2	5:BG:220:LYS:HB2	1.95	0.40
8:BJ:24:LEU:HD23	8:BJ:24:LEU:HA	1.88	0.40
8:BJ:54:ARG:HB2	8:BJ:57:ARG:NH2	2.36	0.40
8:BJ:66:ASP:OD1	8:BJ:68:LYS:HE2	2.21	0.40
8:BJ:133:HIS:NE2	34:B5:513:U:H5'	2.35	0.40
19:BD:25:PHE:O	19:BD:29:LEU:HB2	2.21	0.40
21:BK:33:GLU:N	21:BK:33:GLU:OE1	2.54	0.40
24:BR:28:PHE:CZ	34:B5:1389:C:H6	2.39	0.40
25:BS:72:ILE:HG12	25:BS:79:TYR:CD2	2.56	0.40
25:BS:108:LYS:HG3	25:BS:109:LEU:N	2.37	0.40
31:Bg:19:TRP:CG	31:Bg:38:ARG:HD2	2.56	0.40
31:Bg:302:PHE:HD1	31:Bg:312:VAL:HG22	1.86	0.40
34:B5:279:G:H2'	34:B5:281:G:C8	2.56	0.40
34:B5:535:A:H2'	34:B5:536:C:O4'	2.21	0.40
34:B5:1068:C:H2'	34:B5:1069:A:H8	1.86	0.40
34:B5:1078:C:H2'	34:B5:1079:U:C6	2.56	0.40
35:AA:34:TYR:CD2	38:A1:2525:G:C6	3.10	0.40
35:AA:51:ASP:HB2	35:AA:58:LEU:HG	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:AA:112:ILE:HG13	78:Ap:79:VAL:HG13	2.02	0.40
37:AC:187:LEU:HD23	38:A1:1419:A:H8	1.85	0.40
38:A1:160:G:N2	38:A1:261:U:O2	2.47	0.40
38:A1:279:U:H2'	38:A1:280:U:C6	2.56	0.40
38:A1:952:A:OP1	64:Ab:11:ASN:ND2	2.45	0.40
38:A1:978:G:N2	38:A1:979:U:O4	2.41	0.40
38:A1:1257:C:C4	38:A1:1261:G:H2'	2.56	0.40
38:A1:1856:C:H2'	38:A1:1857:C:C6	2.56	0.40
38:A1:2149:A:N6	38:A1:2187:G:O2'	2.45	0.40
38:A1:2308:C:OP1	38:A1:2309:A:O2'	2.38	0.40
38:A1:2828:G:OP2	46:AI:7:ARG:NH2	2.55	0.40
38:A1:3133:C:C2	38:A1:3134:A:C8	3.08	0.40
39:A3:44:C:OP1	47:AJ:137:ARG:NH2	2.54	0.40
41:AD:83:LEU:HD23	41:AD:83:LEU:HA	1.90	0.40
43:AF:126:LEU:HD23	43:AF:126:LEU:HA	1.76	0.40
45:AH:10:ILE:O	45:AH:52:LEU:HD12	2.22	0.40
46:AI:49:CYS:HB2	46:AI:172:GLY:HA2	2.03	0.40
49:AM:46:ILE:HD13	49:AM:58:ILE:HG21	2.03	0.40
59:AW:51:TRP:CD1	59:AW:51:TRP:H	2.39	0.40
65:Ac:27:TYR:CE1	65:Ac:31:VAL:HG21	2.56	0.40
80:DC:481:MET:HE3	80:DC:483:PHE:HD1	1.87	0.40
81:EC:6810:U:C4	81:EC:6811:G:N7	2.89	0.40
81:EC:6869:C:O2'	81:EC:6870:A:O4'	2.38	0.40
4:BE:103:TYR:HE1	4:BE:109:PHE:CZ	2.38	0.40
6:BH:33:GLU:OE1	6:BH:76:LYS:NZ	2.46	0.40
7:BI:47:ARG:HH12	34:B5:398:G:P	2.45	0.40
8:BJ:40:LYS:HB2	8:BJ:40:LYS:HE3	1.83	0.40
9:BL:8:GLN:HE22	9:BL:14:GLN:N	2.08	0.40
11:BO:28:VAL:CG1	11:BO:67:VAL:HG21	2.51	0.40
11:BO:112:ILE:HG21	16:Ba:53:LEU:HG	2.03	0.40
15:BY:43:LYS:O	15:BY:47:VAL:HG23	2.22	0.40
19:BD:7:LYS:NZ	27:BU:88:LYS:HE3	2.36	0.40
19:BD:72:LEU:HD22	21:BK:65:TYR:CD1	2.52	0.40
21:BK:24:LYS:HD3	21:BK:24:LYS:HA	1.81	0.40
21:BK:88:PRO:C	21:BK:90:THR:H	2.30	0.40
22:BP:30:THR:HG23	22:BP:86:VAL:HG11	2.04	0.40
23:BQ:93:HIS:ND1	23:BQ:101:SER:HB2	2.35	0.40
25:BS:45:LEU:HD11	26:BT:36:ILE:HG22	2.03	0.40
29:Bc:29:ARG:HD3	29:Bc:41:VAL:HG22	2.03	0.40
33:BM:135:MET:HB2	33:BM:139:HIS:HE1	1.87	0.40
34:B5:431:C:C6	80:DC:391:LYS:HD2	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:457:G:H2'	34:B5:458:G:C8	2.57	0.40
34:B5:505:A:H8	34:B5:507:U:C4	2.39	0.40
34:B5:752:A:O2'	34:B5:753:A:P	2.78	0.40
34:B5:754:A:C2	34:B5:793:A:H2'	2.56	0.40
34:B5:956:C:H2'	34:B5:957:G:H8	1.86	0.40
34:B5:1206:U:H2'	34:B5:1207:C:C5	2.56	0.40
34:B5:1407:U:C2	34:B5:1408:G:C8	3.09	0.40
36:AB:383:LEU:HB3	38:A1:3370:A:OP2	2.22	0.40
37:AC:166:VAL:O	37:AC:170:LYS:HG2	2.22	0.40
38:A1:29:C:OP1	50:AN:189:LYS:HB2	2.21	0.40
38:A1:187:A:H2'	38:A1:188:U:C6	2.56	0.40
38:A1:252:U:C5	44:AG:116:VAL:HG11	2.56	0.40
38:A1:495:G:H2'	38:A1:496:C:C6	2.56	0.40
38:A1:964:G:C4	38:A1:965:A:C8	3.10	0.40
38:A1:1037:C:H2'	38:A1:1038:C:H6	1.86	0.40
38:A1:1048:A:H2'	46:AI:22:TYR:CZ	2.56	0.40
38:A1:1097:G:H8	56:AT:112:ASN:ND2	2.18	0.40
38:A1:1101:G:H2'	38:A1:1102:A:C8	2.56	0.40
38:A1:1267:U:H2'	38:A1:1274:A:N1	2.36	0.40
38:A1:1347:U:OP2	53:AQ:38:ARG:NH1	2.39	0.40
38:A1:1354:G:H5''	38:A1:1355:A:H8	1.85	0.40
38:A1:1657:C:O2'	38:A1:1797:A:OP2	2.29	0.40
38:A1:2549:G:OP1	38:A1:2549:G:N2	2.54	0.40
38:A1:2694:A:H2'	38:A1:2695:A:C8	2.56	0.40
38:A1:3044:G:H2'	38:A1:3045:G:H8	1.84	0.40
38:A1:3263:G:C6	38:A1:3264:G:C5	3.09	0.40
40:A4:97:A:O5'	70:Ah:63:ARG:NE	2.54	0.40
43:AF:82:LYS:O	43:AF:119:VAL:HG12	2.21	0.40
44:AG:53:PRO:O	44:AG:57:ARG:HG3	2.21	0.40
44:AG:122:LYS:CD	44:AG:123:GLN:H	2.33	0.40
46:AI:32:ARG:HA	46:AI:32:ARG:NE	2.37	0.40
47:AJ:47:GLN:HB2	47:AJ:64:LYS:HE2	2.03	0.40
55:AS:24:LEU:HD22	55:AS:59:VAL:HG11	2.04	0.40
57:AU:36:TYR:HD2	57:AU:83:TYR:HB2	1.87	0.40
63:Aa:60:TYR:CE2	63:Aa:63:LYS:HA	2.57	0.40
67:Ae:23:ASP:OD1	67:Ae:24:ARG:N	2.54	0.40
77:Ao:17:CYS:SG	77:Ao:21:THR:HG21	2.61	0.40
80:DC:155:VAL:O	80:DC:209:VAL:HA	2.22	0.40
81:EC:6798:C:N3	81:EC:6886:A:N1	2.68	0.40
81:EC:6842:U:H1'	81:EC:6844:A:N6	2.36	0.40
6:BH:104:ARG:HD2	34:B5:803:A:C4	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:BH:113:PRO:HD3	34:B5:811:A:H62	1.87	0.40
11:BO:12:GLN:HE22	11:BO:111:ARG:HD2	1.86	0.40
14:BX:102:VAL:HA	14:BX:127:VAL:HA	2.04	0.40
17:Bb:21:LEU:HD23	17:Bb:21:LEU:HA	1.93	0.40
17:Bb:67:THR:HG22	17:Bb:68:GLY:N	2.36	0.40
22:BP:75:PRO:HB3	22:BP:93:VAL:HG12	2.04	0.40
22:BP:94:VAL:O	22:BP:104:GLN:HA	2.21	0.40
25:BS:86:LEU:HD12	25:BS:97:ASP:OD2	2.22	0.40
28:BZ:80:LEU:HD12	28:BZ:101:TYR:CE1	2.56	0.40
33:BM:33:ARG:NH1	33:BM:101:ALA:HA	2.37	0.40
34:B5:354:C:H2'	34:B5:355:G:H8	1.86	0.40
34:B5:534:A:N3	34:B5:534:A:H2'	2.36	0.40
34:B5:1296:A:N1	34:B5:1301:U:H5	2.19	0.40
34:B5:1406:A:H2'	34:B5:1407:U:H6	1.83	0.40
34:B5:1407:U:H2'	34:B5:1408:G:C8	2.56	0.40
34:B5:1578:U:H2'	34:B5:1579:U:C6	2.57	0.40
34:B5:1646:C:H2'	34:B5:1647:U:H6	1.86	0.40
34:B5:1769:U:O2'	34:B5:1770:U:H5'	2.21	0.40
36:AB:322:ILE:HG22	36:AB:324:VAL:HG13	2.04	0.40
37:AC:181:VAL:HG11	37:AC:224:GLY:CA	2.51	0.40
38:A1:77:A:H5'	48:AL:100:ARG:NH1	2.36	0.40
38:A1:89:A:H5'	63:Aa:60:TYR:O	2.21	0.40
38:A1:116:A:N1	38:A1:265:A:N6	2.70	0.40
38:A1:406:G:OP1	38:A1:1415:U:O2'	2.33	0.40
38:A1:513:G:H2'	38:A1:514:G:H8	1.85	0.40
38:A1:837:A:H61	38:A1:856:G:H1'	1.87	0.40
38:A1:1089:G:C2	38:A1:1090:G:C8	3.09	0.40
38:A1:1360:C:H2'	38:A1:1361:U:C6	2.56	0.40
38:A1:1745:C:H2'	38:A1:1746:U:C6	2.56	0.40
38:A1:1791:C:H2'	38:A1:1792:C:C6	2.57	0.40
38:A1:3214:U:H4'	68:Af:3:GLU:OE1	2.22	0.40
38:A1:3349:C:H2'	38:A1:3350:C:O4'	2.22	0.40
40:A4:52:A:H5'	74:Al:21:ARG:HD3	2.04	0.40
41:AD:90:HIS:HB2	41:AD:226:TYR:CZ	2.56	0.40
42:AE:13:GLU:OE1	67:Ae:90:LYS:HB2	2.21	0.40
46:AI:12:GLN:HB3	46:AI:128:ARG:HH22	1.87	0.40
48:AL:38:ALA:HA	48:AL:41:THR:HG22	2.03	0.40
49:AM:19:ARG:HD3	49:AM:65:LEU:HB3	2.03	0.40
52:AP:41:LEU:HD12	52:AP:41:LEU:HA	1.91	0.40
53:AQ:45:ASN:HA	53:AQ:48:VAL:HG12	2.02	0.40
68:Af:73:ARG:HH11	68:Af:82:ARG:CZ	2.35	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:Al:25:GLN:OE1	74:Al:25:GLN:HA	2.20	0.40
80:DC:317:LYS:HG3	80:DC:321:LYS:HE2	2.03	0.40
80:DC:575:ALA:O	80:DC:588:LEU:HD23	2.21	0.40
81:EC:6768:U:H3'	81:EC:6769:A:H5''	2.03	0.40
1:BA:195:TRP:CZ2	1:BA:197:ILE:HG21	2.56	0.40
1:BA:198:MET:HA	24:BR:89:SER:HA	2.04	0.40
3:BC:66:PHE:CD2	3:BC:130:ILE:HD12	2.57	0.40
3:BC:95:ARG:NH1	3:BC:97:ARG:HD2	2.37	0.40
4:BE:75:LYS:HB3	4:BE:77:ARG:NH1	2.20	0.40
4:BE:206:ASP:N	4:BE:222:LEU:HD22	2.37	0.40
5:BG:64:LYS:HE2	5:BG:64:LYS:HB2	1.96	0.40
6:BH:30:SER:O	6:BH:34:LEU:N	2.53	0.40
6:BH:130:VAL:HB	6:BH:133:THR:OG1	2.22	0.40
9:BL:92:HIS:O	9:BL:101:GLU:N	2.55	0.40
10:BN:35:GLU:HA	10:BN:38:VAL:HG22	2.04	0.40
12:BV:83:TRP:CH2	12:BV:85:TYR:HD2	2.39	0.40
13:BW:78:ARG:NH2	34:B5:806:A:H5'	2.36	0.40
14:BX:57:LEU:N	14:BX:71:CYS:O	2.49	0.40
19:BD:168:ILE:HD13	19:BD:189:MET:HB2	2.03	0.40
20:BF:219:ARG:CZ	81:EC:6841:U:H1'	2.51	0.40
23:BQ:104:GLU:OE1	23:BQ:104:GLU:N	2.45	0.40
24:BR:57:LEU:O	24:BR:61:ILE:HG12	2.22	0.40
25:BS:96:LYS:HE3	25:BS:98:TYR:HB2	2.04	0.40
25:BS:106:GLU:O	25:BS:110:ARG:HG3	2.21	0.40
28:BZ:96:SER:C	28:BZ:98:GLN:H	2.30	0.40
32:Bf:87:THR:HG21	34:B5:1213:G:OP1	2.22	0.40
32:Bf:94:LYS:HD2	32:Bf:94:LYS:HA	1.84	0.40
34:B5:325:G:C6	34:B5:344:A:C6	3.10	0.40
34:B5:393:C:H2'	34:B5:394:C:H6	1.85	0.40
34:B5:435:C:H2'	34:B5:436:A:C8	2.56	0.40
34:B5:641:G:H2'	34:B5:642:G:O4'	2.21	0.40
34:B5:790:U:C2	34:B5:791:A:C8	3.08	0.40
34:B5:829:A:H2'	34:B5:830:U:C5	2.56	0.40
34:B5:889:U:HO2'	34:B5:890:C:P	2.45	0.40
34:B5:1001:A:H2'	34:B5:1002:G:C8	2.56	0.40
34:B5:1071:U:H2'	34:B5:1072:C:H6	1.86	0.40
34:B5:1176:G:H2'	34:B5:1177:C:H6	1.87	0.40
34:B5:1223:A:H2'	34:B5:1224:A:H8	1.86	0.40
34:B5:1366:U:H2'	34:B5:1367:G:C8	2.57	0.40
34:B5:1388:A:H4'	34:B5:1389:C:O4'	2.22	0.40
34:B5:1534:G:H8	34:B5:1534:G:OP2	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B5:1540:G:C5	34:B5:1541:G:C5	3.10	0.40
34:B5:1608:U:H2'	34:B5:1609:U:C6	2.56	0.40
35:AA:126:LEU:HD23	35:AA:150:LEU:HD11	2.04	0.40
35:AA:183:GLY:CA	38:A1:896:A:H5''	2.48	0.40
36:AB:132:LYS:HB2	38:A1:3150:A:OP1	2.21	0.40
37:AC:51:ALA:O	40:A4:26:U:O2'	2.39	0.40
38:A1:219:A:O2'	38:A1:220:G:N2	2.33	0.40
38:A1:380:U:H2'	38:A1:381:U:H6	1.87	0.40
38:A1:530:G:H2'	38:A1:531:G:H8	1.87	0.40
38:A1:560:G:H4'	49:AM:73:PRO:HG3	2.03	0.40
38:A1:582:G:OP1	42:AE:29:LYS:HE3	2.22	0.40
38:A1:683:U:OP1	50:AN:204:LYS:NZ	2.46	0.40
38:A1:707:U:H1'	38:A1:754:G:O2'	2.22	0.40
38:A1:879:U:H4'	52:AP:132:ALA:HB3	2.03	0.40
38:A1:1088:U:C4	38:A1:1089:G:N7	2.90	0.40
38:A1:1599:G:H2'	38:A1:1600:U:C6	2.56	0.40
38:A1:1678:G:OP2	57:AU:77:LYS:NZ	2.33	0.40
38:A1:1680:G:H2'	38:A1:1681:U:H6	1.86	0.40
38:A1:1688:U:H2'	38:A1:1689:U:C6	2.57	0.40
38:A1:2369:G:H2'	38:A1:2370:G:C8	2.57	0.40
38:A1:2555:G:H4'	69:Ag:88:ARG:HD2	2.04	0.40
38:A1:2703:A:H61	41:AD:26:GLY:C	2.30	0.40
38:A1:2738:A:H2'	38:A1:2739:A:C8	2.56	0.40
38:A1:2852:C:O2'	46:AI:63:GLU:OE1	2.30	0.40
38:A1:3208:G:O4'	38:A1:3210:A:C8	2.75	0.40
40:A4:106:C:H4'	40:A4:107:G:H5''	2.04	0.40
41:AD:190:ILE:O	41:AD:192:PRO:HD3	2.21	0.40
44:AG:68:ARG:HD3	44:AG:68:ARG:HA	1.76	0.40
45:AH:107:ASP:C	45:AH:109:ALA:H	2.29	0.40
45:AH:138:THR:HG22	45:AH:139:ASN:N	2.36	0.40
46:AI:85:PHE:CD2	46:AI:85:PHE:C	2.98	0.40
50:AN:64:VAL:CG1	50:AN:102:ALA:HB1	2.51	0.40
55:AS:47:LYS:HD3	55:AS:47:LYS:HA	1.82	0.40
78:Ap:44:LYS:HD2	78:Ap:59:CYS:SG	2.61	0.40
80:DC:197:LEU:HD12	80:DC:197:LEU:H	1.86	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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%)	191 (94%)	13 (6%)	0	100	100
2	BB	212/255 (83%)	189 (89%)	23 (11%)	0	100	100
3	BC	215/254 (85%)	206 (96%)	9 (4%)	0	100	100
4	BE	258/261 (99%)	233 (90%)	25 (10%)	0	100	100
5	BG	224/236 (95%)	211 (94%)	13 (6%)	0	100	100
6	BH	182/190 (96%)	166 (91%)	16 (9%)	0	100	100
7	BI	184/200 (92%)	167 (91%)	17 (9%)	0	100	100
8	BJ	183/197 (93%)	165 (90%)	18 (10%)	0	100	100
9	BL	153/156 (98%)	140 (92%)	13 (8%)	0	100	100
10	BN	148/151 (98%)	136 (92%)	12 (8%)	0	100	100
11	BO	125/137 (91%)	114 (91%)	11 (9%)	0	100	100
12	BV	85/87 (98%)	75 (88%)	10 (12%)	0	100	100
13	BW	127/130 (98%)	116 (91%)	11 (9%)	0	100	100
14	BX	142/145 (98%)	132 (93%)	10 (7%)	0	100	100
15	BY	132/135 (98%)	123 (93%)	9 (7%)	0	100	100
16	Ba	95/119 (80%)	87 (92%)	8 (8%)	0	100	100
17	Bb	79/82 (96%)	74 (94%)	5 (6%)	0	100	100
18	Be	58/63 (92%)	51 (88%)	7 (12%)	0	100	100
19	BD	221/240 (92%)	210 (95%)	11 (5%)	0	100	100
20	BF	204/225 (91%)	187 (92%)	17 (8%)	0	100	100
21	BK	94/105 (90%)	81 (86%)	13 (14%)	0	100	100
22	BP	122/142 (86%)	112 (92%)	10 (8%)	0	100	100
23	BQ	139/143 (97%)	133 (96%)	6 (4%)	0	100	100
24	BR	117/136 (86%)	112 (96%)	5 (4%)	0	100	100
25	BS	143/146 (98%)	129 (90%)	14 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
26	BT	139/144 (96%)	126 (91%)	13 (9%)	0	100	100
27	BU	105/121 (87%)	97 (92%)	8 (8%)	0	100	100
28	BZ	69/108 (64%)	61 (88%)	8 (12%)	0	100	100
29	Bc	61/67 (91%)	56 (92%)	5 (8%)	0	100	100
30	Bd	51/56 (91%)	50 (98%)	1 (2%)	0	100	100
31	Bg	310/319 (97%)	288 (93%)	22 (7%)	0	100	100
32	Bf	73/152 (48%)	69 (94%)	4 (6%)	0	100	100
33	BM	122/143 (85%)	113 (93%)	9 (7%)	0	100	100
35	AA	245/254 (96%)	226 (92%)	19 (8%)	0	100	100
36	AB	383/387 (99%)	360 (94%)	23 (6%)	0	100	100
37	AC	359/362 (99%)	328 (91%)	31 (9%)	0	100	100
41	AD	290/297 (98%)	268 (92%)	22 (8%)	0	100	100
42	AE	163/176 (93%)	145 (89%)	18 (11%)	0	100	100
43	AF	220/244 (90%)	209 (95%)	11 (5%)	0	100	100
44	AG	228/256 (89%)	213 (93%)	15 (7%)	0	100	100
45	AH	188/191 (98%)	173 (92%)	15 (8%)	0	100	100
46	AI	220/222 (99%)	207 (94%)	13 (6%)	0	100	100
47	AJ	167/174 (96%)	155 (93%)	12 (7%)	0	100	100
48	AL	191/199 (96%)	179 (94%)	12 (6%)	0	100	100
49	AM	134/138 (97%)	126 (94%)	8 (6%)	0	100	100
50	AN	201/204 (98%)	193 (96%)	8 (4%)	0	100	100
51	AO	195/199 (98%)	192 (98%)	3 (2%)	0	100	100
52	AP	171/184 (93%)	164 (96%)	7 (4%)	0	100	100
53	AQ	183/186 (98%)	176 (96%)	7 (4%)	0	100	100
54	AR	186/189 (98%)	178 (96%)	8 (4%)	0	100	100
55	AS	170/178 (96%)	160 (94%)	10 (6%)	0	100	100
56	AT	157/160 (98%)	145 (92%)	12 (8%)	0	100	100
57	AU	98/121 (81%)	91 (93%)	7 (7%)	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%)	111 (93%)	8 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
61	AY	124/127 (98%)	120 (97%)	4 (3%)	0	100	100
62	AZ	133/136 (98%)	122 (92%)	11 (8%)	0	100	100
63	Aa	146/149 (98%)	135 (92%)	11 (8%)	0	100	100
64	Ab	56/59 (95%)	47 (84%)	9 (16%)	0	100	100
65	Ac	95/105 (90%)	92 (97%)	3 (3%)	0	100	100
66	Ad	107/113 (95%)	102 (95%)	5 (5%)	0	100	100
67	Ae	125/130 (96%)	123 (98%)	2 (2%)	0	100	100
68	Af	104/107 (97%)	99 (95%)	5 (5%)	0	100	100
69	Ag	110/121 (91%)	102 (93%)	8 (7%)	0	100	100
70	Ah	117/120 (98%)	111 (95%)	6 (5%)	0	100	100
71	Ai	97/100 (97%)	91 (94%)	6 (6%)	0	100	100
72	Aj	85/88 (97%)	81 (95%)	4 (5%)	0	100	100
73	Ak	75/78 (96%)	70 (93%)	5 (7%)	0	100	100
74	Al	48/51 (94%)	44 (92%)	4 (8%)	0	100	100
75	Am	50/128 (39%)	46 (92%)	4 (8%)	0	100	100
76	An	23/25 (92%)	23 (100%)	0	0	100	100
77	Ao	103/106 (97%)	95 (92%)	8 (8%)	0	100	100
78	Ap	89/92 (97%)	84 (94%)	5 (6%)	0	100	100
79	E	215/217 (99%)	203 (94%)	12 (6%)	0	100	100
80	DC	819/842 (97%)	741 (90%)	76 (9%)	2 (0%)	43	73
All	All	11960/12946 (92%)	11119 (93%)	839 (7%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
80	DC	700	ARG
80	DC	774	VAL

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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
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	101/124 (82%)	101 (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	62/89 (70%)	62 (100%)	0	100	100
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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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	321/322 (100%)	321 (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	137/153 (90%)	137 (100%)	0	100	100
43	AF	186/205 (91%)	186 (100%)	0	100	100
44	AG	189/208 (91%)	189 (100%)	0	100	100
45	AH	170/171 (99%)	170 (100%)	0	100	100
46	AI	190/190 (100%)	190 (100%)	0	100	100
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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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%)	47 (100%)	0	100	100
76	An	23/23 (100%)	23 (100%)	0	100	100
77	Ao	90/91 (99%)	90 (100%)	0	100	100
78	Ap	71/72 (99%)	71 (100%)	0	100	100
79	E	198/198 (100%)	198 (100%)	0	100	100
80	DC	699/714 (98%)	699 (100%)	0	100	100
All	All	10195/10903 (94%)	10195 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (183) such sidechains are listed below:

Mol	Chain	Res	Type
1	BA	164	ASN
2	BB	40	ASN
2	BB	92	GLN
2	BB	160	HIS
2	BB	177	GLN
2	BB	211	HIS
2	BB	232	HIS
3	BC	77	GLN
3	BC	89	GLN
3	BC	233	GLN
4	BE	16	HIS
4	BE	36	HIS
4	BE	130	GLN
4	BE	142	HIS
4	BE	157	ASN
4	BE	209	HIS

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Mol	Chain	Res	Type
6	BH	5	GLN
6	BH	160	GLN
7	BI	84	HIS
7	BI	94	ASN
8	BJ	123	HIS
9	BL	8	GLN
10	BN	78	ASN
12	BV	21	ASN
13	BW	42	GLN
13	BW	56	HIS
13	BW	80	ASN
14	BX	65	ASN
15	BY	63	GLN
15	BY	107	GLN
19	BD	74	GLN
19	BD	111	ASN
19	BD	162	GLN
20	BF	35	GLN
20	BF	37	GLN
20	BF	86	GLN
20	BF	95	ASN
20	BF	103	ASN
20	BF	122	ASN
20	BF	131	GLN
20	BF	169	ASN
21	BK	17	GLN
21	BK	28	ASN
21	BK	32	HIS
21	BK	39	ASN
21	BK	93	GLN
22	BP	79	HIS
22	BP	98	ASN
23	BQ	21	HIS
23	BQ	32	ASN
23	BQ	77	GLN
23	BQ	139	GLN
25	BS	6	GLN
25	BS	55	HIS
25	BS	75	ASN
25	BS	137	HIS
26	BT	77	ASN
26	BT	101	ASN

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Mol	Chain	Res	Type
27	BU	33	GLN
27	BU	36	ASN
27	BU	44	ASN
28	BZ	44	GLN
31	Bg	153	GLN
32	Bf	95	HIS
35	AA	50	HIS
35	AA	79	ASN
35	AA	132	ASN
35	AA	194	ASN
35	AA	205	ASN
35	AA	215	ASN
36	AB	165	GLN
36	AB	177	HIS
36	AB	198	HIS
36	AB	212	ASN
36	AB	269	GLN
37	AC	48	GLN
37	AC	58	HIS
37	AC	234	ASN
37	AC	311	HIS
37	AC	316	ASN
37	AC	328	ASN
37	AC	361	HIS
41	AD	45	ASN
41	AD	63	GLN
42	AE	57	HIS
42	AE	138	GLN
43	AF	48	ASN
43	AF	104	GLN
43	AF	225	GLN
44	AG	59	GLN
44	AG	95	ASN
45	AH	9	GLN
45	AH	183	HIS
46	AI	51	HIS
46	AI	55	ASN
46	AI	92	HIS
46	AI	123	HIS
46	AI	133	GLN
46	AI	162	GLN
47	AJ	62	ASN

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Mol	Chain	Res	Type
47	AJ	90	GLN
47	AJ	101	ASN
48	AL	12	ASN
48	AL	17	HIS
48	AL	19	GLN
48	AL	129	ASN
48	AL	137	GLN
48	AL	160	GLN
49	AM	41	GLN
50	AN	15	GLN
50	AN	70	ASN
50	AN	90	ASN
50	AN	95	GLN
50	AN	195	ASN
51	AO	29[A]	ASN
51	AO	72[A]	HIS
51	AO	122[A]	GLN
51	AO	182[A]	ASN
52	AP	45	GLN
52	AP	64	ASN
52	AP	92	GLN
52	AP	116	HIS
52	AP	118	GLN
52	AP	121	GLN
52	AP	179	GLN
53	AQ	58	ASN
54	AR	39	ASN
54	AR	92	GLN
55	AS	88	HIS
56	AT	16	GLN
56	AT	26	HIS
56	AT	54	HIS
56	AT	103	GLN
56	AT	146	ASN
56	AT	149	GLN
57	AU	40	HIS
57	AU	87	ASN
58	AV	98	ASN
59	AW	42	GLN
60	AX	85	GLN
60	AX	111	ASN
61	AY	42	GLN

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Mol	Chain	Res	Type
62	AZ	40	HIS
62	AZ	78	ASN
62	AZ	103	GLN
62	AZ	123	GLN
62	AZ	128	GLN
63	Aa	64	GLN
63	Aa	89	GLN
64	Ab	6	ASN
64	Ab	17	HIS
67	Ae	49	ASN
68	Af	26	ASN
68	Af	42	GLN
69	Ag	61	GLN
70	Ah	20	GLN
70	Ah	59	ASN
70	Ah	62	GLN
70	Ah	104	GLN
72	Aj	20	ASN
72	Aj	48	ASN
72	Aj	79	GLN
73	Ak	28	ASN
73	Ak	40	GLN
73	Ak	57	ASN
74	Al	4	GLN
74	Al	19	GLN
77	Ao	3	ASN
77	Ao	47	GLN
77	Ao	102	GLN
77	Ao	105	GLN
78	Ap	25	GLN
78	Ap	33	GLN
78	Ap	34	HIS
79	E	119	GLN
79	E	182	GLN
79	E	188	ASN
80	DC	8	GLN
80	DC	216	HIS
80	DC	349	GLN
80	DC	414	GLN
80	DC	547	HIS
80	DC	603	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
34	B5	1754/1798 (97%)	502 (28%)	6 (0%)
38	A1	3212/3393 (94%)	708 (22%)	21 (0%)
39	A3	120/121 (99%)	17 (14%)	1 (0%)
40	A4	157/158 (99%)	30 (19%)	1 (0%)
81	EC	129/202 (63%)	82 (63%)	7 (5%)
All	All	5372/5672 (94%)	1339 (24%)	36 (0%)

All (1339) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
34	B5	2	A
34	B5	4	C
34	B5	11	A
34	B5	12	U
34	B5	25	C
34	B5	26	A
34	B5	34	G
34	B5	42	G
34	B5	43	A
34	B5	47	A
34	B5	50	C
34	B5	57	G
34	B5	59	C
34	B5	63	G
34	B5	67	A
34	B5	68	A
34	B5	69	G
34	B5	73	U
34	B5	74	U
34	B5	75	U
34	B5	76	A
34	B5	77	U
34	B5	78	A
34	B5	84	A
34	B5	104	A
34	B5	114	C
34	B5	115	G
34	B5	116	U
34	B5	121	U
34	B5	127	G
34	B5	130	C

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Mol	Chain	Res	Type
34	B5	131	C
34	B5	133	U
34	B5	134	U
34	B5	135	A
34	B5	136	C
34	B5	137	U
34	B5	138	A
34	B5	140	A
34	B5	141	U
34	B5	144	U
34	B5	145	A
34	B5	146	U
34	B5	153	G
34	B5	156	A
34	B5	162	A
34	B5	165	G
34	B5	168	A
34	B5	169	A
34	B5	171	A
34	B5	176	C
34	B5	178	U
34	B5	179	A
34	B5	181	A
34	B5	183	U
34	B5	184	C
34	B5	188	A
34	B5	189	C
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	197	A
34	B5	199	G
34	B5	200	A
34	B5	202	A
34	B5	205	U
34	B5	208	U
34	B5	209	U
34	B5	210	A

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Mol	Chain	Res	Type
34	B5	211	PSU
34	B5	215	A
34	B5	217	A
34	B5	218	A
34	B5	220	A
34	B5	221	A
34	B5	222	A
34	B5	224	C
34	B5	226	A
34	B5	227	U
34	B5	228	G
34	B5	230	C
34	B5	231	U
34	B5	232	U
34	B5	233	C
34	B5	234	G
34	B5	235	G
34	B5	236	A
34	B5	238	U
34	B5	239	C
34	B5	240	U
34	B5	241	U
34	B5	245	U
34	B5	247	A
34	B5	249	U
34	B5	254	A
34	B5	255	U
34	B5	257	A
34	B5	260	U
34	B5	261	U
34	B5	262	U
34	B5	265	A
34	B5	266	A
34	B5	267	U
34	B5	269	G
34	B5	271	A
34	B5	272	U
34	B5	273	G
34	B5	276	C
34	B5	279	G
34	B5	280	U
34	B5	287	G

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Mol	Chain	Res	Type
34	B5	289	U
34	B5	299	A
34	B5	304	U
34	B5	309	C
34	B5	313	U
34	B5	314	C
34	B5	316	A
34	B5	320	U
34	B5	321	C
34	B5	322	G
34	B5	335	U
34	B5	337	G
34	B5	339	C
34	B5	344	A
34	B5	346	G
34	B5	352	A
34	B5	359	A
34	B5	360	A
34	B5	361	C
34	B5	370	A
34	B5	371	G
34	B5	372	G
34	B5	373	G
34	B5	380	U
34	B5	383	G
34	B5	390	G
34	B5	400	A
34	B5	401	A
34	B5	402	C
34	B5	404	G
34	B5	412	A
34	B5	413	U
34	B5	417	A
34	B5	419	G
34	B5	423	G
34	B5	424	C
34	B5	425	A
34	B5	426	G
34	B5	428	A
34	B5	430	G
34	B5	431	C
34	B5	433	C

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Mol	Chain	Res	Type
34	B5	439	U
34	B5	444	C
34	B5	448	C
34	B5	454	U
34	B5	460	A
34	B5	461	G
34	B5	475	A
34	B5	481	A
34	B5	482	U
34	B5	483	A
34	B5	484	C
34	B5	486	G
34	B5	487	G
34	B5	488	G
34	B5	489	C
34	B5	491	C
34	B5	492	A
34	B5	493	U
34	B5	495	C
34	B5	496	G
34	B5	497	G
34	B5	498	G
34	B5	499	U
34	B5	500	C
34	B5	501	U
34	B5	502	U
34	B5	505	A
34	B5	506	A
34	B5	508	U
34	B5	510	G
34	B5	514	G
34	B5	515	A
34	B5	519	C
34	B5	527	A
34	B5	534	A
34	B5	538	A
34	B5	540	G
34	B5	541	A
34	B5	542	A
34	B5	544	A
34	B5	549	G
34	B5	554	C

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Mol	Chain	Res	Type
34	B5	557	G
34	B5	558	U
34	B5	559	C
34	B5	565	C
34	B5	568	G
34	B5	574	G
34	B5	578	U
34	B5	579	A
34	B5	585	A
34	B5	594	A
34	B5	595	G
34	B5	606	A
34	B5	610	G
34	B5	611	U
34	B5	619	A
34	B5	620	A
34	B5	621	A
34	B5	623	A
34	B5	624	G
34	B5	635	A
34	B5	638	U
34	B5	643	G
34	B5	648	G
34	B5	649	U
34	B5	650	U
34	B5	656	G
34	B5	657	U
34	B5	658	C
34	B5	677	G
34	B5	679	U
34	B5	680	U
34	B5	681	U
34	B5	682	C
34	B5	683	C
34	B5	684	A
34	B5	685	A
34	B5	694	U
34	B5	696	C
34	B5	697	C
34	B5	698	U
34	B5	699	U
34	B5	700	C

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Mol	Chain	Res	Type
34	B5	702	G
34	B5	703	G
34	B5	704	C
34	B5	731	C
34	B5	732	G
34	B5	733	A
34	B5	734	A
34	B5	735	C
34	B5	736	C
34	B5	738	G
34	B5	739	G
34	B5	740	A
34	B5	741	C
34	B5	742	U
34	B5	745	U
34	B5	753	A
34	B5	754	A
34	B5	765	G
34	B5	766	PSU
34	B5	768	C
34	B5	771	A
34	B5	774	A
34	B5	778	G
34	B5	779	U
34	B5	780	A
34	B5	782	U
34	B5	783	G
34	B5	784	C
34	B5	789	A
34	B5	812	A
34	B5	814	A
34	B5	815	G
34	B5	819	G
34	B5	825	U
34	B5	826	U
34	B5	827	C
34	B5	828	U
34	B5	829	A
34	B5	830	U
34	B5	831	U
34	B5	832	U
34	B5	834	G

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Mol	Chain	Res	Type
34	B5	835	U
34	B5	836	U
34	B5	838	G
34	B5	839	U
34	B5	842	C
34	B5	843	U
34	B5	845	G
34	B5	846	G
34	B5	847	A
34	B5	849	C
34	B5	851	U
34	B5	852	C
34	B5	853	G
34	B5	856	A
34	B5	857	U
34	B5	860	U
34	B5	863	A
34	B5	873	U
34	B5	876	G
34	B5	885	G
34	B5	890	C
34	B5	893	U
34	B5	895	G
34	B5	897	C
34	B5	898	A
34	B5	899	G
34	B5	906	A
34	B5	913	G
34	B5	914	G
34	B5	918	U
34	B5	933	A
34	B5	935	U
34	B5	945	U
34	B5	959	U
34	B5	960	U
34	B5	966	A
34	B5	969	C
34	B5	992	A
34	B5	998	A
34	B5	999	PSU
34	B5	1004	U
34	B5	1010	C

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Mol	Chain	Res	Type
34	B5	1021	C
34	B5	1023	A
34	B5	1024	U
34	B5	1026	A
34	B5	1028	C
34	B5	1030	A
34	B5	1031	U
34	B5	1032	G
34	B5	1039	A
34	B5	1043	A
34	B5	1052	U
34	B5	1053	G
34	B5	1056	U
34	B5	1057	U
34	B5	1059	U
34	B5	1060	U
34	B5	1061	A
34	B5	1062	A
34	B5	1063	U
34	B5	1064	G
34	B5	1070	C
34	B5	1076	A
34	B5	1081	A
34	B5	1082	C
34	B5	1083	G
34	B5	1092	A
34	B5	1093	A
34	B5	1098	U
34	B5	1100	G
34	B5	1126	G
34	B5	1138	A
34	B5	1152	A
34	B5	1153	G
34	B5	1154	G
34	B5	1155	G
34	B5	1158	C
34	B5	1165	G
34	B5	1183	A
34	B5	1185	U
34	B5	1186	U
34	B5	1194	A
34	B5	1196	A

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Mol	Chain	Res	Type
34	B5	1199	G
34	B5	1200	G
34	B5	1201	G
34	B5	1207	C
34	B5	1212	G
34	B5	1217	A
34	B5	1218	G
34	B5	1227	A
34	B5	1228	G
34	B5	1229	G
34	B5	1230	A
34	B5	1244	A
34	B5	1245	G
34	B5	1246	C
34	B5	1248	C
34	B5	1250	U
34	B5	1251	U
34	B5	1252	C
34	B5	1256	A
34	B5	1258	U
34	B5	1276	U
34	B5	1307	U
34	B5	1314	U
34	B5	1315	U
34	B5	1321	A
34	B5	1325	A
34	B5	1338	C
34	B5	1340	U
34	B5	1344	A
34	B5	1345	A
34	B5	1348	A
34	B5	1353	U
34	B5	1354	G
34	B5	1362	U
34	B5	1363	U
34	B5	1364	G
34	B5	1366	U
34	B5	1369	U
34	B5	1370	U
34	B5	1371	A
34	B5	1378	U
34	B5	1385	G

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Mol	Chain	Res	Type
34	B5	1390	U
34	B5	1398	U
34	B5	1399	C
34	B5	1400	A
34	B5	1402	G
34	B5	1410	A
34	B5	1413	U
34	B5	1415	PSU
34	B5	1418	G
34	B5	1426	C
34	B5	1427	A
34	B5	1428	G
34	B5	1432	U
34	B5	1435	G
34	B5	1436	A
34	B5	1445	G
34	B5	1458	G
34	B5	1459	C
34	B5	1460	A
34	B5	1471	A
34	B5	1486	G
34	B5	1491	U
34	B5	1492	A
34	B5	1493	A
34	B5	1496	U
34	B5	1515	A
34	B5	1516	A
34	B5	1521	G
34	B5	1523	G
34	B5	1524	A
34	B5	1525	A
34	B5	1534	G
34	B5	1537	C
34	B5	1540	G
34	B5	1542	G
34	B5	1557	U
34	B5	1559	A
34	B5	1575	G7M
34	B5	1583	A
34	B5	1584	G
34	B5	1590	G
34	B5	1601	G

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Mol	Chain	Res	Type
34	B5	1611	A
34	B5	1616	G
34	B5	1619	C
34	B5	1624	C
34	B5	1657	U
34	B5	1658	G
34	B5	1663	G
34	B5	1678	A
34	B5	1680	G
34	B5	1683	C
34	B5	1684	U
34	B5	1687	U
34	B5	1688	U
34	B5	1689	A
34	B5	1690	G
34	B5	1692	G
34	B5	1693	A
34	B5	1694	A
34	B5	1698	G
34	B5	1699	G
34	B5	1700	C
34	B5	1701	A
34	B5	1702	A
34	B5	1703	C
34	B5	1704	U
34	B5	1705	C
34	B5	1707	A
34	B5	1708	U
34	B5	1709	C
34	B5	1711	C
34	B5	1712	A
34	B5	1713	G
34	B5	1714	A
34	B5	1728	A
34	B5	1732	A
34	B5	1747	G
34	B5	1755	A
34	B5	1756[A]	A
34	B5	1757	G
34	B5	1760	G
34	B5	1766	A
34	B5	1769	U

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Mol	Chain	Res	Type
34	B5	1780	G
34	B5	1783	C
34	B5	1792	G
34	B5	1793	G
34	B5	1794	A
34	B5	1795	U
34	B5	1796	C
34	B5	1798	U
34	B5	1799	U
38	A1	6	A
38	A1	14	U
38	A1	26	A
38	A1	30	G
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	67	A
38	A1	85	A
38	A1	92	G
38	A1	96	G
38	A1	109	A
38	A1	110	G
38	A1	111	C
38	A1	116	A
38	A1	117	U
38	A1	118	U
38	A1	122	A
38	A1	135	C
38	A1	136	G
38	A1	147	U
38	A1	148	G
38	A1	154	U
38	A1	156	G
38	A1	157	A
38	A1	164	A
38	A1	166	C
38	A1	170	G

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Mol	Chain	Res	Type
38	A1	172	G
38	A1	173	G
38	A1	174	C
38	A1	175	C
38	A1	187	A
38	A1	190	U
38	A1	191	U
38	A1	200	C
38	A1	206	G
38	A1	210	U
38	A1	219	A
38	A1	231	G
38	A1	238	A
38	A1	239	G
38	A1	240	U
38	A1	241	G
38	A1	242	C
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	260	C
38	A1	269	G
38	A1	270	U
38	A1	284	A
38	A1	286	U
38	A1	295	A
38	A1	305	U
38	A1	329	U
38	A1	346	C
38	A1	376	G
38	A1	390	G
38	A1	398	A
38	A1	399	A
38	A1	403	C
38	A1	404	G
38	A1	407	A
38	A1	421	G

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Mol	Chain	Res	Type
38	A1	422	A
38	A1	436	A
38	A1	438	A
38	A1	439	C
38	A1	440	A
38	A1	441	U
38	A1	443	G
38	A1	444	U
38	A1	445	G
38	A1	447	U
38	A1	448	U
38	A1	449	U
38	A1	451	U
38	A1	487	U
38	A1	488	U
38	A1	489	U
38	A1	490	C
38	A1	491	A
38	A1	492	C
38	A1	493	U
38	A1	494	G
38	A1	495	G
38	A1	503	C
38	A1	521	A
38	A1	523	A
38	A1	533	A
38	A1	536	U
38	A1	540	U
38	A1	543	C
38	A1	544	C
38	A1	545	U
38	A1	546	C
38	A1	547	G
38	A1	548	G
38	A1	549	U
38	A1	550	A
38	A1	552	G
38	A1	555	U
38	A1	557	A
38	A1	558	U
38	A1	559	A
38	A1	560	G

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Mol	Chain	Res	Type
38	A1	567	G
38	A1	569	A
38	A1	578	A
38	A1	579	G
38	A1	589	A
38	A1	592	A
38	A1	594	U
38	A1	600	G
38	A1	603	A
38	A1	607	A
38	A1	611	A
38	A1	620	U
38	A1	621	A
38	A1	622	A
38	A1	637	C
38	A1	639	G
38	A1	649	A
38	A1	667	C
38	A1	677	A
38	A1	683	U
38	A1	690	A
38	A1	691	A
38	A1	705	A
38	A1	719	U
38	A1	721	G
38	A1	734	C
38	A1	735	A
38	A1	736	A
38	A1	737	G
38	A1	739	G
38	A1	742	G
38	A1	746	A
38	A1	766	U
38	A1	767	U
38	A1	771	A
38	A1	777	U
38	A1	780	A
38	A1	781	G
38	A1	785	G
38	A1	799	G
38	A1	806	A
38	A1	808	A

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Mol	Chain	Res	Type
38	A1	816	A
38	A1	817	A
38	A1	826	G
38	A1	830	A
38	A1	848	A
38	A1	849	C
38	A1	861	C
38	A1	869	G
38	A1	874	U
38	A1	879	U
38	A1	880	G
38	A1	907	G
38	A1	908	G
38	A1	910	G
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	937	G
38	A1	944	C
38	A1	953	G
38	A1	959	C
38	A1	960	PSU
38	A1	974	G
38	A1	980	A
38	A1	982	C
38	A1	1000	C
38	A1	1006	A
38	A1	1013	G
38	A1	1014	U
38	A1	1015	U
38	A1	1016	C
38	A1	1018	G
38	A1	1019	G
38	A1	1020	G
38	A1	1021	G
38	A1	1022	U
38	A1	1023	C
38	A1	1032	C
38	A1	1034	U

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Mol	Chain	Res	Type
38	A1	1035	G
38	A1	1036	A
38	A1	1047	A
38	A1	1063	G
38	A1	1064	A
38	A1	1072	G
38	A1	1075	A
38	A1	1081	U
38	A1	1087	G
38	A1	1092	C
38	A1	1093	A
38	A1	1094	U
38	A1	1095	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	1151	U
38	A1	1159	A
38	A1	1180	A
38	A1	1181	U
38	A1	1182	A
38	A1	1186	G
38	A1	1192	C
38	A1	1193	A
38	A1	1196	C
38	A1	1201	C
38	A1	1208	U
38	A1	1209	G
38	A1	1215	U
38	A1	1218	U
38	A1	1220	U
38	A1	1221	A
38	A1	1222	G
38	A1	1225	A
38	A1	1226	G
38	A1	1227	C
38	A1	1228	C
38	A1	1229	G
38	A1	1230	G

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Mol	Chain	Res	Type
38	A1	1231	A
38	A1	1232	C
38	A1	1233	G
38	A1	1235	U
38	A1	1236	G
38	A1	1237	G
38	A1	1238	C
38	A1	1239	C
38	A1	1240	A
38	A1	1241	U
38	A1	1242	G
38	A1	1244	A
38	A1	1246	G
38	A1	1248	C
38	A1	1249	G
38	A1	1250	G
38	A1	1251	A
38	A1	1252	A
38	A1	1253	U
38	A1	1255	C
38	A1	1257	C
38	A1	1259	A
38	A1	1260	A
38	A1	1262	G
38	A1	1263	A
38	A1	1264	G
38	A1	1265	U
38	A1	1268	G
38	A1	1269	U
38	A1	1270	A
38	A1	1271	A
38	A1	1272	C
38	A1	1273	A
38	A1	1274	A
38	A1	1275	C
38	A1	1278	A
38	A1	1280	C
38	A1	1282	G
38	A1	1283	C
38	A1	1284	C
38	A1	1285	G
38	A1	1286	A

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Mol	Chain	Res	Type
38	A1	1287	A
38	A1	1288	U
38	A1	1301	A
38	A1	1305	U
38	A1	1307	G
38	A1	1309	U
38	A1	1313	G
38	A1	1325	U
38	A1	1330	A
38	A1	1331	U
38	A1	1348	U
38	A1	1349	G
38	A1	1350	A
38	A1	1351	U
38	A1	1352	A
38	A1	1353	U
38	A1	1354	G
38	A1	1355	A
38	A1	1356	U
38	A1	1357	G
38	A1	1366	A
38	A1	1380	G
38	A1	1386	A
38	A1	1391	C
38	A1	1392	G
38	A1	1399	A
38	A1	1400	G
38	A1	1408	G
38	A1	1417	G
38	A1	1419	A
38	A1	1425	U
38	A1	1434	G
38	A1	1437	C
38	A1	1446	A
38	A1	1455	U
38	A1	1469	C
38	A1	1475	A
38	A1	1477	A
38	A1	1481	A
38	A1	1482	A
38	A1	1483	G
38	A1	1487	G

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Mol	Chain	Res	Type
38	A1	1488	G
38	A1	1496	C
38	A1	1507	G
38	A1	1508	C
38	A1	1528	G
38	A1	1536	G
38	A1	1539	A
38	A1	1553	U
38	A1	1556	C
38	A1	1557	A
38	A1	1558	A
38	A1	1561	G
38	A1	1562	C
38	A1	1563	C
38	A1	1564	U
38	A1	1565	G
38	A1	1566	A
38	A1	1569	U
38	A1	1570	U
38	A1	1571	A
38	A1	1572	U
38	A1	1573	G
38	A1	1575	A
38	A1	1576	G
38	A1	1577	G
38	A1	1580	A
38	A1	1582	C
38	A1	1583	A
38	A1	1587	A
38	A1	1589	A
38	A1	1605	A
38	A1	1613	A
38	A1	1628	C
38	A1	1629	U
38	A1	1642	A
38	A1	1643	A
38	A1	1645	U
38	A1	1683	A
38	A1	1688	U
38	A1	1694	U
38	A1	1696	A
38	A1	1704	A

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Mol	Chain	Res	Type
38	A1	1705	U
38	A1	1712	G
38	A1	1724	U
38	A1	1736	G
38	A1	1741	A
38	A1	1750	A
38	A1	1751	G
38	A1	1752	A
38	A1	1756	C
38	A1	1760	A
38	A1	1762	C
38	A1	1763	U
38	A1	1764	U
38	A1	1765	U
38	A1	1766	G
38	A1	1775	G
38	A1	1788	C
38	A1	1797	A
38	A1	1808	G
38	A1	1813	A
38	A1	1816	A
38	A1	1817	G
38	A1	1818	U
38	A1	1819	U
38	A1	1821	U
38	A1	1825	G
38	A1	1842	A
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	1901	A
38	A1	1906	G
38	A1	1921	A
38	A1	1935	G
38	A1	1943	C
38	A1	1953	G
38	A1	1954	G
38	A1	2094	C

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Mol	Chain	Res	Type
38	A1	2095	G
38	A1	2099	A
38	A1	2101	C
38	A1	2102	U
38	A1	2110	G
38	A1	2111	G
38	A1	2113	A
38	A1	2114	C
38	A1	2122	G
38	A1	2126	A
38	A1	2131	A
38	A1	2142	1MA
38	A1	2144	A
38	A1	2158	A
38	A1	2169	G
38	A1	2170	U
38	A1	2188	A
38	A1	2201	G
38	A1	2205	U
38	A1	2206	G
38	A1	2209	U
38	A1	2222	A
38	A1	2223	A
38	A1	2249	G
38	A1	2250	G
38	A1	2252	A
38	A1	2254	U
38	A1	2256	A
38	A1	2257	C
38	A1	2258	PSU
38	A1	2265	C
38	A1	2266	PSU
38	A1	2267	C
38	A1	2268	U
38	A1	2269	U
38	A1	2271	A
38	A1	2272	G
38	A1	2273	G
38	A1	2274	U
38	A1	2279	A
38	A1	2280	A
38	A1	2282	U

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Mol	Chain	Res	Type
38	A1	2307	G
38	A1	2310	U
38	A1	2313	A
38	A1	2314	PSU
38	A1	2315	G
38	A1	2334	U
38	A1	2336	U
38	A1	2348	A
38	A1	2356	A
38	A1	2372	A
38	A1	2373	A
38	A1	2374	C
38	A1	2375	G
38	A1	2383	C
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	2434	U
38	A1	2435	G
38	A1	2437	G
38	A1	2438	A
38	A1	2445	A
38	A1	2446	U
38	A1	2447	A
38	A1	2448	G
38	A1	2449	A
38	A1	2450	G
38	A1	2454	G
38	A1	2455	U
38	A1	2458	A
38	A1	2459	A
38	A1	2460	U
38	A1	2461	A
38	A1	2462	A
38	A1	2463	G
38	A1	2464	U
38	A1	2467	G
38	A1	2468	A
38	A1	2469	G

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Mol	Chain	Res	Type
38	A1	2471	U
38	A1	2474	G
38	A1	2475	G
38	A1	2479	C
38	A1	2480	A
38	A1	2484	A
38	A1	2485	A
38	A1	2486	A
38	A1	2487	U
38	A1	2488	A
38	A1	2489	C
38	A1	2490	C
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	2498	U
38	A1	2502	A
38	A1	2503	G
38	A1	2505	U
38	A1	2507	C
38	A1	2508	U
38	A1	2514	U
38	A1	2515	A
38	A1	2522	G
38	A1	2526	C
38	A1	2530	G
38	A1	2536	A
38	A1	2537	U
38	A1	2538	U
38	A1	2539	C
38	A1	2540	A
38	A1	2542	U
38	A1	2543	U
38	A1	2544	U
38	A1	2545	C
38	A1	2546	C
38	A1	2549	G
38	A1	2552	C
38	A1	2554	A

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Mol	Chain	Res	Type
38	A1	2569	A
38	A1	2570	U
38	A1	2571	U
38	A1	2572	C
38	A1	2573	G
38	A1	2585	G
38	A1	2593	A
38	A1	2606	G
38	A1	2607	G
38	A1	2614	G
38	A1	2635	A
38	A1	2637	A
38	A1	2648	G
38	A1	2651	G
38	A1	2652	U
38	A1	2656	A
38	A1	2657	A
38	A1	2672	G
38	A1	2674	A
38	A1	2676	A
38	A1	2677	G
38	A1	2678	A
38	A1	2680	A
38	A1	2681	U
38	A1	2688	U
38	A1	2689	A
38	A1	2691	A
38	A1	2694	A
38	A1	2704	A
38	A1	2714	G
38	A1	2719	U
38	A1	2728	G
38	A1	2729	U
38	A1	2737	C
38	A1	2740	A
38	A1	2744	U
38	A1	2747	A
38	A1	2752	U
38	A1	2753	G
38	A1	2772	C
38	A1	2773	C
38	A1	2777	G

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Mol	Chain	Res	Type
38	A1	2778	G
38	A1	2779	A
38	A1	2796	G
38	A1	2800	G
38	A1	2801	A
38	A1	2803	A
38	A1	2808	A
38	A1	2809	C
38	A1	2810	C
38	A1	2814	G
38	A1	2816	G
38	A1	2817	A
38	A1	2818	U
38	A1	2838	A
38	A1	2842	U
38	A1	2844	C
38	A1	2845	A
38	A1	2847	A
38	A1	2853	A
38	A1	2864	A
38	A1	2887	A
38	A1	2904	U
38	A1	2918	G
38	A1	2923	PSU
38	A1	2933	A
38	A1	2935	U
38	A1	2936	A
38	A1	2938	G
38	A1	2942	C
38	A1	2947	G
38	A1	2971	A
38	A1	2983	C
38	A1	2990	G
38	A1	2996	U
38	A1	2997	G
38	A1	3012	A
38	A1	3017	A
38	A1	3018	C
38	A1	3022	G
38	A1	3023	U
38	A1	3034	C
38	A1	3035	A

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Mol	Chain	Res	Type
38	A1	3037	U
38	A1	3039	C
38	A1	3045	G
38	A1	3048	A
38	A1	3055	U
38	A1	3059	G
38	A1	3074	G
38	A1	3078	U
38	A1	3079	U
38	A1	3086	A
38	A1	3092	C
38	A1	3094	A
38	A1	3101	G
38	A1	3104	U
38	A1	3109	G
38	A1	3122	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	3163	A
38	A1	3165	A
38	A1	3166	C
38	A1	3167	A
38	A1	3169	U
38	A1	3170	A
38	A1	3171	U
38	A1	3173	G
38	A1	3174	A
38	A1	3176	G
38	A1	3179	U
38	A1	3181	C
38	A1	3186	A
38	A1	3187	A
38	A1	3196	U
38	A1	3197	G
38	A1	3205	G

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Mol	Chain	Res	Type
38	A1	3207	U
38	A1	3209	A
38	A1	3217	C
38	A1	3218	A
38	A1	3219	G
38	A1	3224	G
38	A1	3227	A
38	A1	3228	C
38	A1	3229	G
38	A1	3234	A
38	A1	3238	G
38	A1	3239	G
38	A1	3247	G
38	A1	3259	U
38	A1	3260	G
38	A1	3263	G
38	A1	3273	A
38	A1	3275	U
38	A1	3276	G
38	A1	3277	U
38	A1	3278	C
38	A1	3279	A
38	A1	3283	U
38	A1	3284	G
38	A1	3289	G
38	A1	3294	A
38	A1	3304	U
38	A1	3313	U
38	A1	3316	A
38	A1	3320	A
38	A1	3334	U
38	A1	3341	U
38	A1	3345	G
38	A1	3350	C
38	A1	3351	U
38	A1	3352	U
38	A1	3354	U
38	A1	3355	U
38	A1	3368	U
38	A1	3369	G
38	A1	3375	A
38	A1	3378	C

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Mol	Chain	Res	Type
38	A1	3382	U
38	A1	3383	G
38	A1	3390	G
39	A3	7	G
39	A3	11	A
39	A3	17	A
39	A3	22	A
39	A3	23	A
39	A3	24	A
39	A3	33	U
39	A3	51	A
39	A3	54	U
39	A3	55	A
39	A3	65	G
39	A3	73	C
39	A3	74	C
39	A3	76	A
39	A3	102	A
39	A3	112	G
39	A3	121	U
40	A4	34	U
40	A4	35	C
40	A4	39	G
40	A4	49	G
40	A4	51	G
40	A4	52	A
40	A4	59	A
40	A4	62	C
40	A4	63	G
40	A4	71	A
40	A4	80	A
40	A4	81	U
40	A4	82	U
40	A4	86	U
40	A4	87	G
40	A4	89	A
40	A4	90	U
40	A4	95	G
40	A4	97	A
40	A4	104	A
40	A4	106	C
40	A4	111	A

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Mol	Chain	Res	Type
40	A4	113	U
40	A4	116	G
40	A4	125	U
40	A4	129	C
40	A4	131	A
40	A4	148	G
40	A4	152	G
40	A4	158	U
81	EC	6759	A
81	EC	6762	U
81	EC	6768	U
81	EC	6769	A
81	EC	6770	U
81	EC	6771	U
81	EC	6772	G
81	EC	6773	G
81	EC	6774	U
81	EC	6775	U
81	EC	6776	A
81	EC	6777	C
81	EC	6778	C
81	EC	6779	C
81	EC	6780	A
81	EC	6781	U
81	EC	6782	C
81	EC	6788	C
81	EC	6789	G
81	EC	6790	A
81	EC	6791	A
81	EC	6792	A
81	EC	6793	A
81	EC	6794	C
81	EC	6801	A
81	EC	6802	A
81	EC	6803	C
81	EC	6804	A
81	EC	6805	C
81	EC	6809	G
81	EC	6816	A
81	EC	6817	A
81	EC	6818	G
81	EC	6819	G

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Mol	Chain	Res	Type
81	EC	6820	C
81	EC	6821	U
81	EC	6822	U
81	EC	6823	U
81	EC	6825	A
81	EC	6831	U
81	EC	6832	G
81	EC	6835	U
81	EC	6837	G
81	EC	6840	A
81	EC	6841	U
81	EC	6842	U
81	EC	6843	U
81	EC	6844	A
81	EC	6845	G
81	EC	6848	U
81	EC	6849	A
81	EC	6850	C
81	EC	6852	U
81	EC	6856	C
81	EC	6857	C
81	EC	6858	A
81	EC	6859	U
81	EC	6860	A
81	EC	6861	G
81	EC	6863	C
81	EC	6864	A
81	EC	6866	C
81	EC	6867	C
81	EC	6868	C
81	EC	6869	C
81	EC	6870	A
81	EC	6871	A
81	EC	6872	A
81	EC	6873	A
81	EC	6874	A
81	EC	6875	C
81	EC	6876	A
81	EC	6877	C
81	EC	6879	U
81	EC	6880	G
81	EC	6881	U

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Mol	Chain	Res	Type
81	EC	6882	G
81	EC	6884	G
81	EC	6885	G
81	EC	6888	A
81	EC	6889	A
81	EC	6890	A

All (36) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
34	B5	752	A
34	B5	889	U
34	B5	1344	A
34	B5	1458	G
34	B5	1683	C
34	B5	1755	A
38	A1	13	A
38	A1	116	A
38	A1	734	C
38	A1	916	G
38	A1	1226	G
38	A1	1285	G
38	A1	1287	A
38	A1	1557	A
38	A1	1560	G
38	A1	1818	U
38	A1	2094	C
38	A1	2222	A
38	A1	2437	G
38	A1	2497	U
38	A1	2506	U
38	A1	2772	C
38	A1	3022	G
38	A1	3121	U
38	A1	3154	C
38	A1	3169	U
38	A1	3227	A
39	A3	23	A
40	A4	88	A
81	EC	6771	U
81	EC	6789	G
81	EC	6802	A

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Mol	Chain	Res	Type
81	EC	6804	A
81	EC	6831	U
81	EC	6847	G
81	EC	6889	A

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

60 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$
38	OMG	A1	2922	38	23,26,27	1.20	3 (13%)	32,38,41	1.96	6 (18%)
34	PSU	B5	1181	34	18,21,22	1.36	2 (11%)	21,30,33	2.05	4 (19%)
38	1MA	A1	645	38	21,25,26	1.36	4 (19%)	30,37,40	1.76	6 (20%)
34	PSU	B5	211	34	18,21,22	1.42	3 (16%)	21,30,33	2.04	3 (14%)
38	PSU	A1	986	38	18,21,22	1.39	4 (22%)	21,30,33	2.01	3 (14%)
38	PSU	A1	2735	38	18,21,22	1.41	3 (16%)	21,30,33	2.16	4 (19%)
38	PSU	A1	2314	38	18,21,22	1.39	3 (16%)	21,30,33	2.05	5 (23%)
34	PSU	B5	1415	34	18,21,22	1.41	3 (16%)	21,30,33	2.05	4 (19%)
38	PSU	A1	2865	38	18,21,22	1.48	4 (22%)	21,30,33	2.14	4 (19%)
38	PSU	A1	1004	38	18,21,22	1.36	2 (11%)	21,30,33	2.03	3 (14%)
38	PSU	A1	960	38	18,21,22	1.40	3 (16%)	21,30,33	2.11	4 (19%)
38	PSU	A1	2944	38	18,21,22	1.42	3 (16%)	21,30,33	2.07	4 (19%)
34	PSU	B5	1290	34	18,21,22	1.36	3 (16%)	21,30,33	2.10	4 (19%)
34	MA6	B5	1782	34	23,26,27	1.71	3 (13%)	33,38,41	2.24	11 (33%)
34	4AC	B5	1280	34	21,24,25	1.09	1 (4%)	28,34,37	1.08	2 (7%)
38	PSU	A1	2923	38	18,21,22	1.39	2 (11%)	21,30,33	2.14	4 (19%)
38	PSU	A1	2880	38	18,21,22	1.38	3 (16%)	21,30,33	2.11	4 (19%)
38	5MC	A1	2278	38	19,22,23	1.49	3 (15%)	26,32,35	1.15	3 (11%)
34	PSU	B5	999	34	18,21,22	1.40	3 (16%)	21,30,33	2.13	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
38	UR3	A1	2634	38	19,22,23	0.92	1 (5%)	26,32,35	1.75	4 (15%)
38	PSU	A1	2133	38	18,21,22	1.46	3 (16%)	21,30,33	2.18	5 (23%)
34	PSU	B5	120	34	18,21,22	1.37	2 (11%)	21,30,33	2.02	3 (14%)
80	DDE	DC	699	-	18,20,21	1.04	1 (5%)	17,28,30	0.83	0
39	PSU	A3	50	39	18,21,22	1.36	2 (11%)	21,30,33	2.12	4 (19%)
34	MA6	B5	1781	34	23,26,27	1.53	5 (21%)	33,38,41	2.03	10 (30%)
38	PSU	A1	1042	38	18,21,22	1.39	3 (16%)	21,30,33	2.02	3 (14%)
38	PSU	A1	2258	38	18,21,22	1.38	2 (11%)	21,30,33	2.07	3 (14%)
38	PSU	A1	2416	38	18,21,22	1.41	4 (22%)	21,30,33	2.11	3 (14%)
34	PSU	B5	302	34	18,21,22	1.40	3 (16%)	21,30,33	2.10	4 (19%)
38	PSU	A1	2129	38	18,21,22	1.40	3 (16%)	21,30,33	2.12	4 (19%)
40	PSU	A4	73	40	18,21,22	1.39	2 (11%)	21,30,33	2.07	3 (14%)
38	PSU	A1	2260	38	18,21,22	1.41	3 (16%)	21,30,33	2.02	4 (19%)
38	PSU	A1	966	38	18,21,22	1.38	4 (22%)	21,30,33	2.05	3 (14%)
38	PSU	A1	2826	38	18,21,22	1.41	4 (22%)	21,30,33	2.12	5 (23%)
38	PSU	A1	2340	38	18,21,22	1.44	4 (22%)	21,30,33	2.03	3 (14%)
38	PSU	A1	776	38	18,21,22	1.42	4 (22%)	21,30,33	1.87	5 (23%)
38	PSU	A1	1110	38	18,21,22	1.41	3 (16%)	21,30,33	2.06	3 (14%)
38	5MC	A1	2870	38	19,22,23	1.37	3 (15%)	26,32,35	1.14	3 (11%)
38	PSU	A1	2349	38	18,21,22	1.38	4 (22%)	21,30,33	1.96	4 (19%)
38	PSU	A1	2351	38	18,21,22	1.42	4 (22%)	21,30,33	2.14	4 (19%)
38	PSU	A1	2266	38	18,21,22	1.45	4 (22%)	21,30,33	2.10	5 (23%)
34	G7M	B5	1575	34	23,26,27	2.54	7 (30%)	34,39,42	1.70	7 (20%)
38	PSU	A1	2975	38	18,21,22	1.40	4 (22%)	21,30,33	2.11	4 (19%)
34	PSU	B5	766	34	18,21,22	1.39	2 (11%)	21,30,33	2.09	4 (19%)
38	PSU	A1	2264	38	18,21,22	1.39	2 (11%)	21,30,33	2.04	3 (14%)
34	PSU	B5	759	34	18,21,22	1.36	2 (11%)	21,30,33	2.07	4 (19%)
38	PSU	A1	1056	38	18,21,22	1.37	3 (16%)	21,30,33	2.05	4 (19%)
34	PSU	B5	106	34	18,21,22	1.38	3 (16%)	21,30,33	2.00	3 (14%)
34	PSU	B5	632	34	18,21,22	1.38	3 (16%)	21,30,33	2.09	3 (14%)
38	PSU	A1	990	38	18,21,22	1.42	3 (16%)	21,30,33	2.10	4 (19%)
36	HIC	AB	243	36	10,11,12	1.43	1 (10%)	9,14,16	1.25	1 (11%)
38	PSU	A1	1124	38	18,21,22	1.35	3 (16%)	21,30,33	2.07	4 (19%)
38	PSU	A1	1052	38	18,21,22	1.40	3 (16%)	21,30,33	2.10	4 (19%)
34	PSU	B5	466	34	18,21,22	1.35	3 (16%)	21,30,33	2.06	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
38	1MA	A1	2142	38	21,25,26	1.33	4 (19%)	30,37,40	1.70	5 (16%)
38	OMU	A1	2921	38	19,22,23	1.26	3 (15%)	25,31,34	1.84	5 (20%)
38	PSU	A1	2191	38	18,21,22	1.39	5 (27%)	21,30,33	2.08	4 (19%)
34	PSU	B5	1187	34	18,21,22	1.35	2 (11%)	21,30,33	2.02	4 (19%)
34	4AC	B5	1773	34	21,24,25	1.03	2 (9%)	28,34,37	1.71	4 (14%)
34	B8N	B5	1191	34	25,29,30	1.37	3 (12%)	28,42,45	1.86	5 (17%)

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
38	OMG	A1	2922	38	-	0/9/27/28	0/3/3/3
34	PSU	B5	1181	34	-	0/7/25/26	0/2/2/2
38	1MA	A1	645	38	-	0/7/25/26	0/3/3/3
34	PSU	B5	211	34	-	3/7/25/26	0/2/2/2
38	PSU	A1	986	38	-	0/7/25/26	0/2/2/2
38	PSU	A1	2735	38	-	0/7/25/26	0/2/2/2
38	PSU	A1	2314	38	-	2/7/25/26	0/2/2/2
34	PSU	B5	1415	34	-	0/7/25/26	0/2/2/2
38	PSU	A1	2865	38	-	0/7/25/26	0/2/2/2
38	PSU	A1	1004	38	-	0/7/25/26	0/2/2/2
38	PSU	A1	960	38	-	4/7/25/26	0/2/2/2
38	PSU	A1	2944	38	-	0/7/25/26	0/2/2/2
34	PSU	B5	1290	34	-	0/7/25/26	0/2/2/2
34	MA6	B5	1782	34	-	1/11/29/30	0/3/3/3
34	4AC	B5	1280	34	-	2/11/29/30	0/2/2/2
38	PSU	A1	2923	38	-	3/7/25/26	0/2/2/2
38	PSU	A1	2880	38	-	0/7/25/26	0/2/2/2
38	5MC	A1	2278	38	-	0/7/25/26	0/2/2/2
34	PSU	B5	999	34	-	0/7/25/26	0/2/2/2
38	UR3	A1	2634	38	-	0/7/25/26	0/2/2/2
38	PSU	A1	2133	38	-	0/7/25/26	0/2/2/2
34	PSU	B5	120	34	-	0/7/25/26	0/2/2/2
80	DDE	DC	699	-	-	1/20/21/23	0/1/1/1
39	PSU	A3	50	39	-	3/7/25/26	0/2/2/2
34	MA6	B5	1781	34	-	0/11/29/30	0/3/3/3
38	PSU	A1	1042	38	-	2/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
38	PSU	A1	2258	38	-	2/7/25/26	0/2/2/2
38	PSU	A1	2416	38	-	0/7/25/26	0/2/2/2
34	PSU	B5	302	34	-	0/7/25/26	0/2/2/2
38	PSU	A1	2129	38	-	0/7/25/26	0/2/2/2
40	PSU	A4	73	40	-	0/7/25/26	0/2/2/2
38	PSU	A1	2260	38	-	3/7/25/26	0/2/2/2
38	PSU	A1	966	38	-	0/7/25/26	0/2/2/2
38	PSU	A1	2826	38	-	0/7/25/26	0/2/2/2
38	PSU	A1	2340	38	-	3/7/25/26	0/2/2/2
38	PSU	A1	776	38	-	0/7/25/26	0/2/2/2
38	PSU	A1	1110	38	-	2/7/25/26	0/2/2/2
38	5MC	A1	2870	38	-	4/7/25/26	0/2/2/2
38	PSU	A1	2349	38	-	0/7/25/26	0/2/2/2
38	PSU	A1	2351	38	-	0/7/25/26	0/2/2/2
38	PSU	A1	2266	38	-	3/7/25/26	0/2/2/2
34	G7M	B5	1575	34	-	0/7/25/26	0/3/3/3
38	PSU	A1	2975	38	-	0/7/25/26	0/2/2/2
34	PSU	B5	766	34	-	0/7/25/26	0/2/2/2
38	PSU	A1	2264	38	-	3/7/25/26	0/2/2/2
34	PSU	B5	759	34	-	0/7/25/26	0/2/2/2
38	PSU	A1	1056	38	-	0/7/25/26	0/2/2/2
34	PSU	B5	106	34	-	0/7/25/26	0/2/2/2
34	PSU	B5	632	34	-	0/7/25/26	0/2/2/2
38	PSU	A1	990	38	-	0/7/25/26	0/2/2/2
36	HIC	AB	243	36	-	0/5/6/8	0/1/1/1
38	PSU	A1	1124	38	-	0/7/25/26	0/2/2/2
38	PSU	A1	1052	38	-	1/7/25/26	0/2/2/2
34	PSU	B5	466	34	-	0/7/25/26	0/2/2/2
38	1MA	A1	2142	38	-	0/7/25/26	0/3/3/3
38	OMU	A1	2921	38	-	0/9/27/28	0/2/2/2
38	PSU	A1	2191	38	-	0/7/25/26	0/2/2/2
34	PSU	B5	1187	34	-	1/7/25/26	0/2/2/2
34	4AC	B5	1773	34	-	4/11/29/30	0/2/2/2
34	B8N	B5	1191	34	-	2/16/34/35	0/2/2/2

All (181) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	B5	1575	G7M	O6-C6	7.58	1.37	1.23
34	B5	1782	MA6	C5-C4	5.70	1.49	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	B5	1575	G7M	C2-N2	5.60	1.47	1.34
38	A1	2278	5MC	C5-C4	5.18	1.48	1.44
34	B5	1575	G7M	C5-N7	-5.07	1.33	1.39
34	B5	1781	MA6	C5-C4	4.66	1.47	1.39
38	A1	2870	5MC	C5-C4	4.54	1.47	1.44
34	B5	1191	B8N	C4-C5	-3.74	1.39	1.47
34	B5	1575	G7M	CN7-N7	3.43	1.52	1.46
34	B5	1782	MA6	C5-C6	3.42	1.50	1.41
38	A1	990	PSU	C6-C5	3.29	1.38	1.35
38	A1	2133	PSU	C4-N3	-3.27	1.32	1.38
34	B5	120	PSU	C6-C5	3.26	1.38	1.35
34	B5	1181	PSU	C6-C5	3.26	1.38	1.35
34	B5	1187	PSU	C6-C5	3.22	1.38	1.35
34	B5	1280	4AC	C4-N4	-3.21	1.35	1.39
34	B5	1415	PSU	C6-C5	3.17	1.38	1.35
38	A1	2340	PSU	C6-C5	3.15	1.38	1.35
39	A3	50	PSU	C6-C5	3.15	1.38	1.35
38	A1	2258	PSU	C6-C5	3.14	1.38	1.35
34	B5	1290	PSU	C6-C5	3.12	1.38	1.35
38	A1	2264	PSU	C6-C5	3.12	1.38	1.35
38	A1	1004	PSU	C6-C5	3.12	1.38	1.35
34	B5	766	PSU	C6-C5	3.11	1.38	1.35
34	B5	1191	B8N	C6-C5	3.10	1.39	1.35
38	A1	2260	PSU	C6-C5	3.10	1.38	1.35
40	A4	73	PSU	C6-C5	3.10	1.38	1.35
38	A1	2266	PSU	C6-C5	3.08	1.38	1.35
34	B5	759	PSU	C6-C5	3.07	1.38	1.35
38	A1	960	PSU	C6-C5	3.06	1.38	1.35
38	A1	2314	PSU	C6-C5	3.04	1.38	1.35
38	A1	645	1MA	C6-N6	3.04	1.35	1.28
34	B5	211	PSU	C6-C5	3.02	1.38	1.35
38	A1	1110	PSU	C6-C5	3.01	1.38	1.35
38	A1	2351	PSU	C4-N3	-3.01	1.33	1.38
34	B5	1781	MA6	C5-C6	2.99	1.49	1.41
38	A1	2944	PSU	C6-C5	2.99	1.38	1.35
34	B5	106	PSU	C6-C5	2.99	1.38	1.35
38	A1	1052	PSU	C6-C5	2.98	1.38	1.35
38	A1	2129	PSU	C6-C5	2.97	1.38	1.35
38	A1	2975	PSU	C4-N3	-2.97	1.33	1.38
38	A1	2944	PSU	C4-N3	-2.97	1.33	1.38
38	A1	2880	PSU	C4-N3	-2.96	1.33	1.38
34	B5	1575	G7M	C6-N1	-2.95	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	A1	1042	PSU	C4-N3	-2.95	1.33	1.38
34	B5	302	PSU	C6-C5	2.95	1.38	1.35
38	A1	1052	PSU	C4-N3	-2.94	1.33	1.38
38	A1	2735	PSU	C4-N3	-2.94	1.33	1.38
38	A1	2923	PSU	C6-C5	2.94	1.38	1.35
38	A1	2922	OMG	C5-C4	2.94	1.46	1.38
38	A1	2735	PSU	C6-C5	2.93	1.38	1.35
34	B5	466	PSU	C6-C5	2.93	1.38	1.35
38	A1	2416	PSU	C4-N3	-2.93	1.33	1.38
38	A1	2865	PSU	C6-C5	2.93	1.38	1.35
38	A1	1056	PSU	C4-N3	-2.91	1.33	1.38
38	A1	2142	1MA	C6-N6	2.91	1.35	1.28
38	A1	966	PSU	C4-N3	-2.91	1.33	1.38
38	A1	2351	PSU	C6-C5	2.90	1.38	1.35
38	A1	1042	PSU	C6-C5	2.90	1.38	1.35
38	A1	2142	1MA	C5-C4	2.89	1.46	1.38
38	A1	2921	OMU	C4-N3	-2.89	1.33	1.38
34	B5	1415	PSU	C4-N3	-2.89	1.33	1.38
38	A1	2191	PSU	C6-C5	2.89	1.38	1.35
38	A1	1124	PSU	C4-N3	-2.87	1.33	1.38
34	B5	999	PSU	C6-C5	2.87	1.38	1.35
38	A1	990	PSU	C4-N3	-2.87	1.33	1.38
38	A1	1110	PSU	C4-N3	-2.87	1.33	1.38
38	A1	960	PSU	C4-N3	-2.87	1.33	1.38
38	A1	2129	PSU	C4-N3	-2.86	1.33	1.38
38	A1	645	1MA	C5-C4	2.85	1.46	1.38
34	B5	302	PSU	C4-N3	-2.85	1.33	1.38
38	A1	2826	PSU	C6-C5	2.85	1.38	1.35
38	A1	1124	PSU	C6-C5	2.85	1.38	1.35
38	A1	2826	PSU	C4-N3	-2.85	1.33	1.38
38	A1	986	PSU	C6-C5	2.84	1.38	1.35
38	A1	2133	PSU	C6-C5	2.84	1.38	1.35
34	B5	632	PSU	C6-C5	2.83	1.38	1.35
38	A1	2865	PSU	C4-N3	-2.82	1.33	1.38
38	A1	1056	PSU	C6-C5	2.81	1.38	1.35
34	B5	466	PSU	C4-N3	-2.81	1.33	1.38
38	A1	1004	PSU	C4-N3	-2.81	1.33	1.38
34	B5	1290	PSU	C4-N3	-2.81	1.33	1.38
38	A1	2314	PSU	C4-N3	-2.80	1.33	1.38
34	B5	632	PSU	C4-N3	-2.80	1.33	1.38
38	A1	2880	PSU	C6-C5	2.80	1.38	1.35
38	A1	2264	PSU	C4-N3	-2.80	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	A1	2865	PSU	O4'-C1'	-2.80	1.40	1.43
38	A1	986	PSU	C4-N3	-2.79	1.33	1.38
38	A1	2923	PSU	C4-N3	-2.79	1.33	1.38
38	A1	776	PSU	C4-N3	-2.78	1.33	1.38
39	A3	50	PSU	C4-N3	-2.78	1.33	1.38
38	A1	2349	PSU	C4-N3	-2.78	1.33	1.38
38	A1	2975	PSU	C6-C5	2.75	1.38	1.35
34	B5	106	PSU	C4-N3	-2.75	1.33	1.38
38	A1	2260	PSU	C4-N3	-2.74	1.33	1.38
38	A1	2340	PSU	C4-N3	-2.74	1.33	1.38
34	B5	759	PSU	C4-N3	-2.74	1.33	1.38
40	A4	73	PSU	C4-N3	-2.71	1.33	1.38
34	B5	999	PSU	C4-N3	-2.70	1.33	1.38
34	B5	1181	PSU	C4-N3	-2.69	1.33	1.38
38	A1	2416	PSU	C6-C5	2.68	1.38	1.35
34	B5	766	PSU	C4-N3	-2.67	1.33	1.38
38	A1	2266	PSU	C4-N3	-2.66	1.33	1.38
34	B5	1773	4AC	C4-N4	-2.66	1.35	1.39
38	A1	2258	PSU	C4-N3	-2.66	1.33	1.38
34	B5	1187	PSU	C4-N3	-2.65	1.33	1.38
36	AB	243	HIC	CD2-CG	2.64	1.40	1.36
34	B5	120	PSU	C4-N3	-2.63	1.33	1.38
34	B5	211	PSU	C4-N3	-2.63	1.33	1.38
38	A1	2191	PSU	C4-N3	-2.63	1.33	1.38
38	A1	2349	PSU	C6-C5	2.62	1.38	1.35
80	DC	699	DDE	CD2-CG	2.60	1.41	1.36
38	A1	776	PSU	C6-C5	2.60	1.38	1.35
38	A1	2922	OMG	C6-N1	-2.59	1.34	1.38
38	A1	2870	5MC	C6-C5	2.51	1.38	1.34
38	A1	2921	OMU	C2-N3	-2.51	1.33	1.38
38	A1	2278	5MC	C6-N1	-2.51	1.33	1.38
38	A1	966	PSU	C6-C5	2.51	1.38	1.35
38	A1	2133	PSU	C2-N3	-2.48	1.33	1.37
38	A1	2870	5MC	C6-N1	-2.45	1.33	1.38
38	A1	2278	5MC	C6-C5	2.42	1.38	1.34
38	A1	2266	PSU	C2-N1	-2.40	1.33	1.36
38	A1	776	PSU	O4'-C1'	-2.38	1.40	1.43
34	B5	999	PSU	O4'-C1'	-2.36	1.40	1.43
38	A1	645	1MA	C5-N7	-2.36	1.34	1.39
34	B5	1781	MA6	C5-N7	-2.34	1.34	1.39
38	A1	2142	1MA	C5-N7	-2.33	1.34	1.39
38	A1	2922	OMG	C5-N7	-2.27	1.34	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	A1	1110	PSU	C2-N3	-2.26	1.33	1.37
34	B5	1575	G7M	C2-N1	-2.25	1.32	1.37
38	A1	966	PSU	C2-N3	-2.25	1.33	1.37
38	A1	2880	PSU	C2-N3	-2.25	1.33	1.37
38	A1	2129	PSU	C2-N3	-2.21	1.33	1.37
38	A1	2735	PSU	C2-N3	-2.18	1.33	1.37
38	A1	2349	PSU	C2-N3	-2.18	1.33	1.37
38	A1	2351	PSU	C2-N3	-2.18	1.33	1.37
38	A1	2142	1MA	C2-N3	2.18	1.34	1.30
34	B5	1782	MA6	C5-N7	-2.18	1.35	1.39
38	A1	2944	PSU	C2-N3	-2.17	1.33	1.37
38	A1	2416	PSU	C2-N1	-2.17	1.33	1.36
38	A1	2416	PSU	C2-N3	-2.16	1.33	1.37
38	A1	1052	PSU	C2-N3	-2.15	1.33	1.37
38	A1	990	PSU	C2-N3	-2.15	1.33	1.37
38	A1	2975	PSU	C2-N1	-2.15	1.33	1.36
34	B5	1781	MA6	C4-N9	-2.13	1.33	1.37
38	A1	2191	PSU	O4'-C1'	-2.13	1.40	1.43
38	A1	2349	PSU	C2-N1	-2.13	1.33	1.36
34	B5	1191	B8N	CN1-N1	2.12	1.50	1.46
34	B5	632	PSU	C2-N3	-2.12	1.34	1.37
38	A1	2260	PSU	C2-N3	-2.11	1.34	1.37
34	B5	302	PSU	C2-N3	-2.11	1.34	1.37
38	A1	2826	PSU	O4'-C1'	-2.10	1.40	1.43
38	A1	1056	PSU	C2-N3	-2.09	1.34	1.37
38	A1	1042	PSU	C2-N3	-2.09	1.34	1.37
38	A1	2921	OMU	C5-C4	-2.08	1.39	1.43
38	A1	2826	PSU	C2-N3	-2.08	1.34	1.37
38	A1	2975	PSU	C2-N3	-2.08	1.34	1.37
38	A1	2634	UR3	C5-C4	-2.08	1.38	1.43
38	A1	2266	PSU	C2-N3	-2.07	1.34	1.37
38	A1	960	PSU	O4'-C1'	-2.06	1.41	1.43
38	A1	2340	PSU	C2-N3	-2.06	1.34	1.37
34	B5	1415	PSU	C2-N3	-2.05	1.34	1.37
38	A1	966	PSU	C2-N1	-2.05	1.34	1.36
34	B5	106	PSU	C2-N3	-2.04	1.34	1.37
38	A1	2340	PSU	C2-N1	-2.04	1.34	1.36
38	A1	1124	PSU	C2-N3	-2.04	1.34	1.37
34	B5	1575	G7M	C4-N9	-2.03	1.32	1.38
38	A1	2191	PSU	C2-N3	-2.03	1.34	1.37
34	B5	466	PSU	C2-N3	-2.03	1.34	1.37
38	A1	986	PSU	C2-N3	-2.03	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	B5	211	PSU	C2-N1	-2.02	1.34	1.36
38	A1	2191	PSU	C2-N1	-2.02	1.34	1.36
34	B5	1290	PSU	C2-N3	-2.02	1.34	1.37
38	A1	2351	PSU	C2-N1	-2.02	1.34	1.36
34	B5	1773	4AC	C6-N1	-2.01	1.33	1.38
38	A1	2865	PSU	C2-N3	-2.01	1.34	1.37
38	A1	986	PSU	C2-N1	-2.01	1.34	1.36
38	A1	645	1MA	C2-N3	2.01	1.34	1.30
34	B5	1781	MA6	C8-N7	2.00	1.35	1.31
38	A1	2314	PSU	C2-N3	-2.00	1.34	1.37
38	A1	776	PSU	C2-N3	-2.00	1.34	1.37

All (243) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	A1	2133	PSU	N1-C2-N3	6.98	122.53	115.17
38	A1	2634	UR3	C4-N3-C2	-6.91	119.02	124.58
38	A1	2735	PSU	N1-C2-N3	6.75	122.29	115.17
38	A1	2923	PSU	N1-C2-N3	6.73	122.27	115.17
38	A1	2351	PSU	N1-C2-N3	6.69	122.22	115.17
38	A1	2865	PSU	N1-C2-N3	6.66	122.20	115.17
38	A1	1052	PSU	N1-C2-N3	6.62	122.15	115.17
38	A1	2416	PSU	N1-C2-N3	6.58	122.11	115.17
38	A1	2129	PSU	N1-C2-N3	6.57	122.10	115.17
34	B5	211	PSU	N1-C2-N3	6.56	122.09	115.17
34	B5	999	PSU	N1-C2-N3	6.56	122.09	115.17
38	A1	2258	PSU	N1-C2-N3	6.55	122.08	115.17
34	B5	766	PSU	N1-C2-N3	6.54	122.07	115.17
38	A1	2826	PSU	N1-C2-N3	6.52	122.05	115.17
38	A1	2975	PSU	N1-C2-N3	6.51	122.04	115.17
38	A1	2944	PSU	N1-C2-N3	6.51	122.04	115.17
39	A3	50	PSU	N1-C2-N3	6.51	122.03	115.17
34	B5	1415	PSU	N1-C2-N3	6.51	122.03	115.17
38	A1	960	PSU	N1-C2-N3	6.50	122.03	115.17
34	B5	632	PSU	N1-C2-N3	6.49	122.01	115.17
40	A4	73	PSU	N1-C2-N3	6.48	122.00	115.17
38	A1	990	PSU	N1-C2-N3	6.48	122.00	115.17
38	A1	2880	PSU	N1-C2-N3	6.47	122.00	115.17
34	B5	1290	PSU	N1-C2-N3	6.47	122.00	115.17
34	B5	302	PSU	N1-C2-N3	6.45	121.98	115.17
38	A1	2314	PSU	N1-C2-N3	6.43	121.95	115.17
38	A1	2340	PSU	N1-C2-N3	6.39	121.91	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	B5	1181	PSU	N1-C2-N3	6.38	121.90	115.17
34	B5	466	PSU	N1-C2-N3	6.37	121.89	115.17
38	A1	2266	PSU	N1-C2-N3	6.37	121.89	115.17
38	A1	2264	PSU	N1-C2-N3	6.36	121.88	115.17
38	A1	1124	PSU	N1-C2-N3	6.36	121.88	115.17
34	B5	106	PSU	N1-C2-N3	6.36	121.88	115.17
34	B5	759	PSU	N1-C2-N3	6.35	121.87	115.17
38	A1	986	PSU	N1-C2-N3	6.35	121.87	115.17
38	A1	1042	PSU	N1-C2-N3	6.35	121.87	115.17
34	B5	1773	4AC	N4-C4-N3	6.35	124.18	113.87
38	A1	1056	PSU	N1-C2-N3	6.34	121.86	115.17
38	A1	1110	PSU	N1-C2-N3	6.30	121.81	115.17
38	A1	1004	PSU	N1-C2-N3	6.28	121.80	115.17
38	A1	2191	PSU	N1-C2-N3	6.28	121.80	115.17
34	B5	1187	PSU	N1-C2-N3	6.27	121.78	115.17
38	A1	2260	PSU	N1-C2-N3	6.27	121.78	115.17
34	B5	120	PSU	N1-C2-N3	6.25	121.76	115.17
38	A1	966	PSU	N1-C2-N3	6.21	121.72	115.17
38	A1	2922	OMG	C5-C4-N3	-6.07	118.73	128.39
38	A1	2349	PSU	N1-C2-N3	5.98	121.47	115.17
38	A1	776	PSU	N1-C2-N3	5.85	121.34	115.17
38	A1	645	1MA	C5-C4-N3	-5.61	119.01	127.27
34	B5	1191	B8N	C32-C31-N3	5.52	121.81	112.16
38	A1	2142	1MA	C5-C4-N3	-5.42	119.29	127.27
34	B5	1191	B8N	C4-N3-C2	-5.41	118.96	125.62
34	B5	1781	MA6	C5-C4-N3	-5.16	119.61	126.72
34	B5	1782	MA6	C5-C4-N3	-5.03	119.79	126.72
38	A1	2922	OMG	C2-N3-C4	4.96	120.85	112.30
38	A1	2921	OMU	C4-N3-C2	-4.95	120.46	126.61
34	B5	1782	MA6	C4-C5-N7	-4.81	105.08	110.58
34	B5	1782	MA6	C2-N1-C6	4.76	123.45	111.83
38	A1	645	1MA	C2-N3-C4	4.75	121.84	112.53
34	B5	1575	G7M	C2-N3-C4	4.71	120.41	112.30
38	A1	2142	1MA	C2-N3-C4	4.61	121.57	112.53
34	B5	1781	MA6	C2-N1-C6	4.51	122.86	111.83
38	A1	2921	OMU	N3-C2-N1	4.51	120.76	114.89
38	A1	2133	PSU	C4-N3-C2	-4.50	120.17	126.37
38	A1	2922	OMG	N9-C4-N3	4.46	134.87	125.95
39	A3	50	PSU	C4-N3-C2	-4.45	120.24	126.37
38	A1	2735	PSU	C4-N3-C2	-4.39	120.33	126.37
38	A1	2129	PSU	C4-N3-C2	-4.38	120.34	126.37
34	B5	302	PSU	C4-N3-C2	-4.37	120.36	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	A1	2351	PSU	C4-N3-C2	-4.36	120.36	126.37
34	B5	1290	PSU	C4-N3-C2	-4.36	120.36	126.37
38	A1	990	PSU	C4-N3-C2	-4.35	120.38	126.37
38	A1	2880	PSU	C4-N3-C2	-4.32	120.42	126.37
38	A1	960	PSU	C4-N3-C2	-4.31	120.44	126.37
38	A1	2975	PSU	C4-N3-C2	-4.30	120.44	126.37
34	B5	632	PSU	C4-N3-C2	-4.28	120.47	126.37
38	A1	1110	PSU	C4-N3-C2	-4.28	120.47	126.37
38	A1	966	PSU	C4-N3-C2	-4.27	120.48	126.37
34	B5	999	PSU	C4-N3-C2	-4.27	120.49	126.37
38	A1	1124	PSU	C4-N3-C2	-4.27	120.49	126.37
34	B5	1575	G7M	C5-C4-N3	-4.26	120.10	128.15
38	A1	2826	PSU	C4-N3-C2	-4.25	120.51	126.37
38	A1	2944	PSU	C4-N3-C2	-4.23	120.54	126.37
38	A1	2923	PSU	C4-N3-C2	-4.23	120.55	126.37
38	A1	2865	PSU	C4-N3-C2	-4.22	120.56	126.37
38	A1	1052	PSU	C4-N3-C2	-4.22	120.56	126.37
38	A1	2416	PSU	C4-N3-C2	-4.22	120.56	126.37
34	B5	759	PSU	C4-N3-C2	-4.22	120.56	126.37
38	A1	1056	PSU	C4-N3-C2	-4.22	120.56	126.37
34	B5	1781	MA6	N3-C4-N9	4.20	134.32	127.17
34	B5	466	PSU	C4-N3-C2	-4.19	120.60	126.37
38	A1	2191	PSU	C4-N3-C2	-4.18	120.62	126.37
34	B5	1181	PSU	C4-N3-C2	-4.16	120.64	126.37
34	B5	766	PSU	C4-N3-C2	-4.14	120.67	126.37
34	B5	1415	PSU	C4-N3-C2	-4.14	120.67	126.37
38	A1	2258	PSU	O2-C2-N1	-4.12	118.54	122.79
38	A1	2314	PSU	C4-N3-C2	-4.11	120.70	126.37
38	A1	1004	PSU	C4-N3-C2	-4.10	120.72	126.37
40	A4	73	PSU	C4-N3-C2	-4.10	120.73	126.37
34	B5	1187	PSU	C4-N3-C2	-4.06	120.77	126.37
34	B5	120	PSU	O2-C2-N1	-4.04	118.62	122.79
38	A1	1042	PSU	C4-N3-C2	-4.04	120.81	126.37
38	A1	2266	PSU	O2-C2-N1	-4.01	118.65	122.79
34	B5	211	PSU	O2-C2-N1	-4.01	118.66	122.79
34	B5	106	PSU	C4-N3-C2	-3.99	120.87	126.37
38	A1	2191	PSU	O2-C2-N1	-3.99	118.67	122.79
38	A1	2340	PSU	C4-N3-C2	-3.99	120.88	126.37
38	A1	2258	PSU	C4-N3-C2	-3.99	120.88	126.37
38	A1	2923	PSU	O2-C2-N1	-3.97	118.70	122.79
38	A1	2264	PSU	C4-N3-C2	-3.96	120.92	126.37
38	A1	2735	PSU	O2-C2-N1	-3.93	118.73	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	A1	2260	PSU	C4-N3-C2	-3.92	120.97	126.37
38	A1	2975	PSU	O2-C2-N1	-3.91	118.75	122.79
38	A1	2416	PSU	O2-C2-N1	-3.89	118.77	122.79
38	A1	986	PSU	C4-N3-C2	-3.89	121.01	126.37
34	B5	999	PSU	O2-C2-N1	-3.89	118.78	122.79
38	A1	2349	PSU	C4-N3-C2	-3.86	121.06	126.37
34	B5	766	PSU	O2-C2-N1	-3.83	118.84	122.79
38	A1	2865	PSU	O2-C2-N1	-3.82	118.85	122.79
34	B5	120	PSU	C4-N3-C2	-3.80	121.13	126.37
38	A1	2921	OMU	C5-C4-N3	3.80	120.12	114.80
38	A1	960	PSU	O2-C2-N1	-3.80	118.87	122.79
38	A1	986	PSU	O2-C2-N1	-3.77	118.90	122.79
34	B5	1280	4AC	N4-C4-N3	3.76	119.97	113.87
34	B5	759	PSU	O2-C2-N1	-3.75	118.92	122.79
38	A1	2340	PSU	O2-C2-N1	-3.75	118.92	122.79
38	A1	2826	PSU	O2-C2-N1	-3.74	118.93	122.79
34	B5	1782	MA6	N3-C4-N9	3.73	133.52	127.17
34	B5	1773	4AC	C5-C4-N4	-3.73	116.65	122.94
38	A1	2264	PSU	O2-C2-N1	-3.73	118.94	122.79
34	B5	211	PSU	C4-N3-C2	-3.72	121.24	126.37
40	A4	73	PSU	O2-C2-N1	-3.72	118.95	122.79
34	B5	466	PSU	O2-C2-N1	-3.71	118.97	122.79
38	A1	2260	PSU	O2-C2-N1	-3.70	118.98	122.79
38	A1	966	PSU	O2-C2-N1	-3.69	118.98	122.79
34	B5	1575	G7M	C5-C6-N1	3.69	119.46	111.84
34	B5	632	PSU	O2-C2-N1	-3.69	118.99	122.79
38	A1	776	PSU	C4-N3-C2	-3.68	121.31	126.37
34	B5	1781	MA6	C4-C5-N7	-3.67	106.38	110.58
38	A1	2129	PSU	O2-C2-N1	-3.67	119.00	122.79
38	A1	2351	PSU	O2-C2-N1	-3.66	119.02	122.79
38	A1	2266	PSU	C4-N3-C2	-3.65	121.34	126.37
38	A1	2880	PSU	O2-C2-N1	-3.65	119.02	122.79
34	B5	1575	G7M	N9-C4-N3	3.65	133.24	125.95
38	A1	2142	1MA	N9-C4-N3	3.62	135.15	126.90
34	B5	302	PSU	O2-C2-N1	-3.61	119.07	122.79
34	B5	1187	PSU	O2-C2-N1	-3.61	119.07	122.79
34	B5	1181	PSU	O2-C2-N1	-3.59	119.09	122.79
38	A1	1004	PSU	O2-C2-N1	-3.57	119.11	122.79
34	B5	1290	PSU	O2-C2-N1	-3.56	119.12	122.79
34	B5	1782	MA6	C5-N7-C8	3.55	109.03	103.45
38	A1	2870	5MC	C5-C6-N1	-3.54	119.47	123.31
38	A1	2314	PSU	O2-C2-N1	-3.53	119.14	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	A1	990	PSU	O2-C2-N1	-3.52	119.16	122.79
34	B5	1781	MA6	C2-N3-C4	3.51	120.42	111.83
34	B5	106	PSU	O2-C2-N1	-3.49	119.19	122.79
38	A1	2349	PSU	O2-C2-N1	-3.47	119.21	122.79
38	A1	1052	PSU	O2-C2-N1	-3.47	119.21	122.79
39	A3	50	PSU	O2-C2-N1	-3.47	119.21	122.79
38	A1	1056	PSU	O2-C2-N1	-3.47	119.21	122.79
34	B5	1415	PSU	O2-C2-N1	-3.44	119.24	122.79
34	B5	1781	MA6	N1-C2-N3	-3.44	123.37	128.58
38	A1	645	1MA	N9-C4-N3	3.44	134.75	126.90
38	A1	1124	PSU	O2-C2-N1	-3.42	119.26	122.79
38	A1	2278	5MC	C5-C6-N1	-3.37	119.66	123.31
38	A1	1110	PSU	O2-C2-N1	-3.35	119.34	122.79
38	A1	2944	PSU	O2-C2-N1	-3.35	119.34	122.79
38	A1	1042	PSU	O2-C2-N1	-3.32	119.36	122.79
34	B5	1575	G7M	O6-C6-C5	-3.30	120.64	128.01
34	B5	1782	MA6	O3'-C3'-C4'	3.30	120.56	111.08
38	A1	2634	UR3	C5-C4-N3	3.29	119.38	115.04
38	A1	2922	OMG	C6-C5-N7	3.22	136.15	130.29
38	A1	776	PSU	O2-C2-N1	-3.18	119.51	122.79
34	B5	1782	MA6	C6-C5-N7	3.10	138.38	133.43
34	B5	1781	MA6	C4-N9-C8	3.03	108.92	105.74
38	A1	2133	PSU	O2-C2-N1	-3.03	119.67	122.79
36	AB	243	HIC	NE2-CE1-ND1	-3.02	111.51	112.66
34	B5	1782	MA6	C2'-C1'-N9	-2.96	105.94	113.30
38	A1	2921	OMU	O4-C4-C5	-2.90	120.17	125.16
34	B5	1191	B8N	N3-C2-N1	2.90	120.26	116.72
34	B5	1782	MA6	C2-N3-C4	2.77	118.59	111.83
34	B5	1773	4AC	C6-C5-C4	2.77	120.33	117.00
34	B5	1575	G7M	C6-C5-N7	2.68	135.53	132.17
34	B5	1781	MA6	C5-N7-C8	2.62	107.56	103.45
38	A1	2278	5MC	C5-C4-N3	-2.61	119.08	121.75
38	A1	2922	OMG	C4-C5-N7	-2.58	106.58	110.67
38	A1	2870	5MC	C5-C4-N3	-2.57	119.12	121.75
38	A1	2266	PSU	C6-C5-C4	-2.56	116.44	118.17
38	A1	645	1MA	C4-C5-N7	-2.56	106.62	110.67
34	B5	1782	MA6	N1-C2-N3	-2.51	124.78	128.58
38	A1	2133	PSU	C5-C6-N1	-2.50	118.67	122.14
39	A3	50	PSU	C5-C6-N1	-2.41	118.79	122.14
34	B5	1191	B8N	C31-N3-C2	2.40	121.19	117.64
34	B5	1782	MA6	C1'-N9-C8	-2.40	121.76	127.09
34	B5	1290	PSU	C5-C6-N1	-2.39	118.83	122.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	B5	1575	G7M	C2-N1-C6	-2.35	120.85	125.11
38	A1	2826	PSU	C5-C6-N1	-2.29	118.96	122.14
38	A1	2133	PSU	O2-C2-N3	-2.28	117.81	121.86
38	A1	2735	PSU	C5-C6-N1	-2.27	118.99	122.14
38	A1	2351	PSU	C5-C6-N1	-2.27	118.99	122.14
38	A1	960	PSU	C5-C6-N1	-2.26	119.00	122.14
38	A1	2826	PSU	O4'-C1'-C2'	2.25	108.26	105.15
34	B5	759	PSU	C5-C6-N1	-2.25	119.02	122.14
38	A1	1124	PSU	C5-C6-N1	-2.23	119.05	122.14
34	B5	1191	B8N	O4'-C1'-C2'	2.22	108.22	105.15
34	B5	302	PSU	C5-C6-N1	-2.21	119.07	122.14
38	A1	2921	OMU	O2-C2-N1	-2.21	119.92	122.80
38	A1	1052	PSU	C5-C6-N1	-2.19	119.10	122.14
34	B5	1773	4AC	C5-C4-N3	-2.19	119.17	122.60
38	A1	1056	PSU	C5-C6-N1	-2.19	119.10	122.14
34	B5	466	PSU	C5-C6-N1	-2.19	119.10	122.14
38	A1	645	1MA	C6-C5-N7	2.18	136.02	132.16
38	A1	2865	PSU	C5-C6-N1	-2.16	119.14	122.14
38	A1	2142	1MA	N1-C2-N3	-2.14	123.45	126.00
38	A1	645	1MA	N1-C2-N3	-2.13	123.46	126.00
38	A1	2634	UR3	C6-N1-C2	-2.13	120.06	121.80
38	A1	2634	UR3	C3U-N3-C2	2.13	121.04	117.33
34	B5	1280	4AC	C6-C5-C4	2.12	119.56	117.00
38	A1	2922	OMG	O6-C6-C5	-2.12	120.94	126.53
38	A1	2191	PSU	O4'-C1'-C2'	2.11	108.07	105.15
38	A1	2314	PSU	C5-C6-N1	-2.10	119.22	122.14
38	A1	2278	5MC	O2-C2-N3	-2.10	119.03	122.33
38	A1	2923	PSU	C5-C6-N1	-2.09	119.25	122.14
34	B5	1187	PSU	C5-C6-N1	-2.08	119.25	122.14
38	A1	776	PSU	O4'-C1'-C2'	2.08	108.03	105.15
38	A1	2880	PSU	C5-C6-N1	-2.08	119.25	122.14
38	A1	776	PSU	C5-C6-N1	-2.08	119.25	122.14
34	B5	1415	PSU	C5-C6-N1	-2.08	119.26	122.14
34	B5	766	PSU	O4'-C1'-C2'	2.07	108.02	105.15
38	A1	990	PSU	C5-C6-N1	-2.07	119.27	122.14
38	A1	2870	5MC	O2-C2-N3	-2.07	119.07	122.33
38	A1	2944	PSU	C5-C6-N1	-2.07	119.27	122.14
38	A1	2129	PSU	C5-C6-N1	-2.06	119.28	122.14
38	A1	2349	PSU	C6-C5-C4	-2.06	116.78	118.17
34	B5	1781	MA6	C6-C5-N7	2.06	136.72	133.43
34	B5	999	PSU	C5-C6-N1	-2.04	119.30	122.14
38	A1	2314	PSU	O4'-C1'-C2'	2.04	107.97	105.15

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	A1	2142	1MA	C4-C5-N7	-2.04	107.44	110.67
34	B5	1781	MA6	N9-C8-N7	-2.03	111.06	113.94
34	B5	1181	PSU	C5-C6-N1	-2.02	119.34	122.14
38	A1	2260	PSU	O4'-C1'-C2'	2.02	107.94	105.15
38	A1	2266	PSU	O4'-C1'-C2'	2.02	107.94	105.15
38	A1	2975	PSU	C5-C6-N1	-2.01	119.36	122.14

There are no chirality outliers.

All (49) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
34	B5	211	PSU	C2'-C1'-C5-C4
34	B5	211	PSU	C2'-C1'-C5-C6
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	960	PSU	C2'-C1'-C5-C4
38	A1	960	PSU	O4'-C1'-C5-C4
38	A1	960	PSU	C2'-C1'-C5-C6
38	A1	960	PSU	O4'-C1'-C5-C6
38	A1	1042	PSU	O4'-C1'-C5-C4
38	A1	1042	PSU	O4'-C1'-C5-C6
38	A1	2258	PSU	O4'-C4'-C5'-O5'
38	A1	2260	PSU	C2'-C1'-C5-C4
38	A1	2266	PSU	C2'-C1'-C5-C4
38	A1	2266	PSU	C2'-C1'-C5-C6
38	A1	2870	5MC	C2'-C1'-N1-C2
38	A1	2870	5MC	C2'-C1'-N1-C6
38	A1	2923	PSU	C3'-C4'-C5'-O5'
38	A1	2923	PSU	O4'-C4'-C5'-O5'
38	A1	2314	PSU	C3'-C4'-C5'-O5'
38	A1	2314	PSU	O4'-C4'-C5'-O5'
38	A1	2258	PSU	C3'-C4'-C5'-O5'
39	A3	50	PSU	C3'-C4'-C5'-O5'
38	A1	2266	PSU	C4'-C5'-O5'-P
38	A1	2264	PSU	C3'-C4'-C5'-O5'
38	A1	2340	PSU	C3'-C4'-C5'-O5'
39	A3	50	PSU	O4'-C4'-C5'-O5'
38	A1	1052	PSU	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
38	A1	2870	5MC	O4'-C1'-N1-C6
38	A1	2340	PSU	C4'-C5'-O5'-P
38	A1	2264	PSU	O4'-C4'-C5'-O5'
34	B5	211	PSU	C4'-C5'-O5'-P
34	B5	1782	MA6	C4'-C5'-O5'-P
38	A1	2923	PSU	C4'-C5'-O5'-P
39	A3	50	PSU	O4'-C1'-C5-C4
34	B5	1191	B8N	O4'-C1'-C5-C4
38	A1	1110	PSU	O4'-C1'-C5-C4
38	A1	2260	PSU	C4'-C5'-O5'-P
38	A1	2870	5MC	O4'-C1'-N1-C2
34	B5	1187	PSU	O4'-C4'-C5'-O5'
34	B5	1191	B8N	O4'-C1'-C5-C6
38	A1	1110	PSU	O4'-C1'-C5-C6
80	DC	699	DDE	CAT-CAU-CBW-CBI
38	A1	2260	PSU	C2'-C1'-C5-C6
38	A1	2264	PSU	C4'-C5'-O5'-P
38	A1	2340	PSU	O4'-C4'-C5'-O5'

There are no ring outliers.

28 monomers are involved in 59 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
34	B5	211	PSU	2	0
38	A1	986	PSU	2	0
38	A1	2314	PSU	1	0
38	A1	2865	PSU	1	0
34	B5	1290	PSU	1	0
34	B5	1782	MA6	12	0
34	B5	1280	4AC	4	0
38	A1	2880	PSU	1	0
38	A1	2634	UR3	1	0
38	A1	2133	PSU	1	0
34	B5	120	PSU	1	0
80	DC	699	DDE	2	0
34	B5	1781	MA6	5	0
38	A1	2258	PSU	2	0
34	B5	302	PSU	1	0
38	A1	2129	PSU	2	0
38	A1	966	PSU	2	0
38	A1	1110	PSU	1	0
38	A1	2870	5MC	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
38	A1	2349	PSU	1	0
38	A1	2351	PSU	1	0
38	A1	2266	PSU	7	0
38	A1	2975	PSU	1	0
34	B5	632	PSU	2	0
38	A1	990	PSU	1	0
38	A1	1124	PSU	1	0
38	A1	2191	PSU	1	0
34	B5	1773	4AC	3	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 4 ligands modelled in this entry, 2 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
83	GDP	DC	901	84	29,30,30	1.19	3 (10%)	45,47,47	1.75	6 (13%)
85	SO1	DC	903	-	34,39,39	0.67	1 (2%)	38,64,64	1.08	3 (7%)

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
83	GDP	DC	901	84	-	5/16/32/32	0/3/3/3
85	SO1	DC	903	-	1/1/15/16	3/21/104/104	0/7/5/5

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
83	DC	901	GDP	C5-C4	3.11	1.47	1.38
85	DC	903	SO1	O14-C5	-2.95	1.19	1.30
83	DC	901	GDP	C6-N1	-2.54	1.34	1.38
83	DC	901	GDP	C5-N7	-2.26	1.34	1.39

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
83	DC	901	GDP	C5-C4-N3	-6.27	118.40	128.39
83	DC	901	GDP	N9-C4-N3	4.89	135.72	125.95
83	DC	901	GDP	C2-N3-C4	4.71	120.41	112.30
85	DC	903	SO1	C12-C6-C2	-3.96	98.96	105.09
85	DC	903	SO1	C21-C13-C4	2.67	119.53	112.41
83	DC	901	GDP	C6-C5-N7	2.54	134.92	130.29
83	DC	901	GDP	C4-C5-N7	-2.48	106.73	110.67
83	DC	901	GDP	C3'-C2'-C1'	2.36	105.92	101.46
85	DC	903	SO1	C24-C18-C9	-2.19	100.86	105.14

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
85	DC	903	SO1	C4

All (8) torsion outliers are listed below:

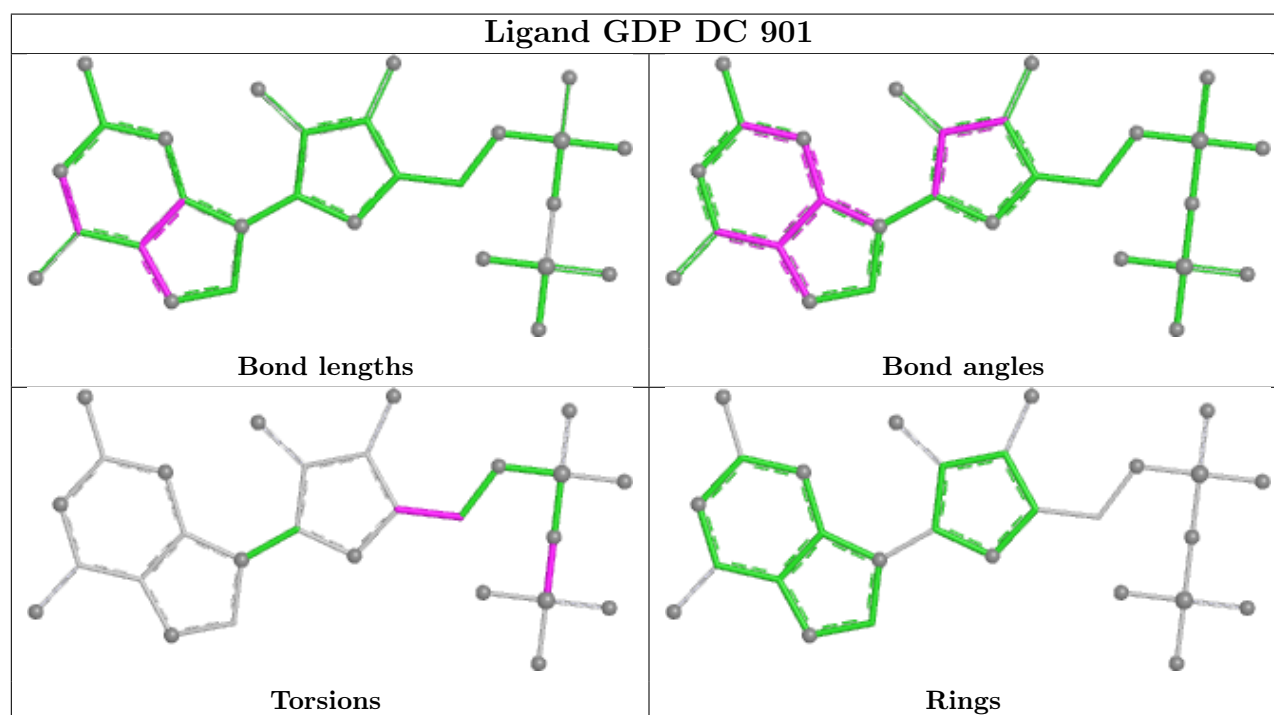
Mol	Chain	Res	Type	Atoms
83	DC	901	GDP	O4'-C4'-C5'-O5'
85	DC	903	SO1	C2-C1-C5-O14
85	DC	903	SO1	C2-C1-C5-O15
83	DC	901	GDP	C3'-C4'-C5'-O5'
85	DC	903	SO1	C54-C55-O64-C65
83	DC	901	GDP	PA-O3A-PB-O1B
83	DC	901	GDP	PA-O3A-PB-O2B
83	DC	901	GDP	PA-O3A-PB-O3B

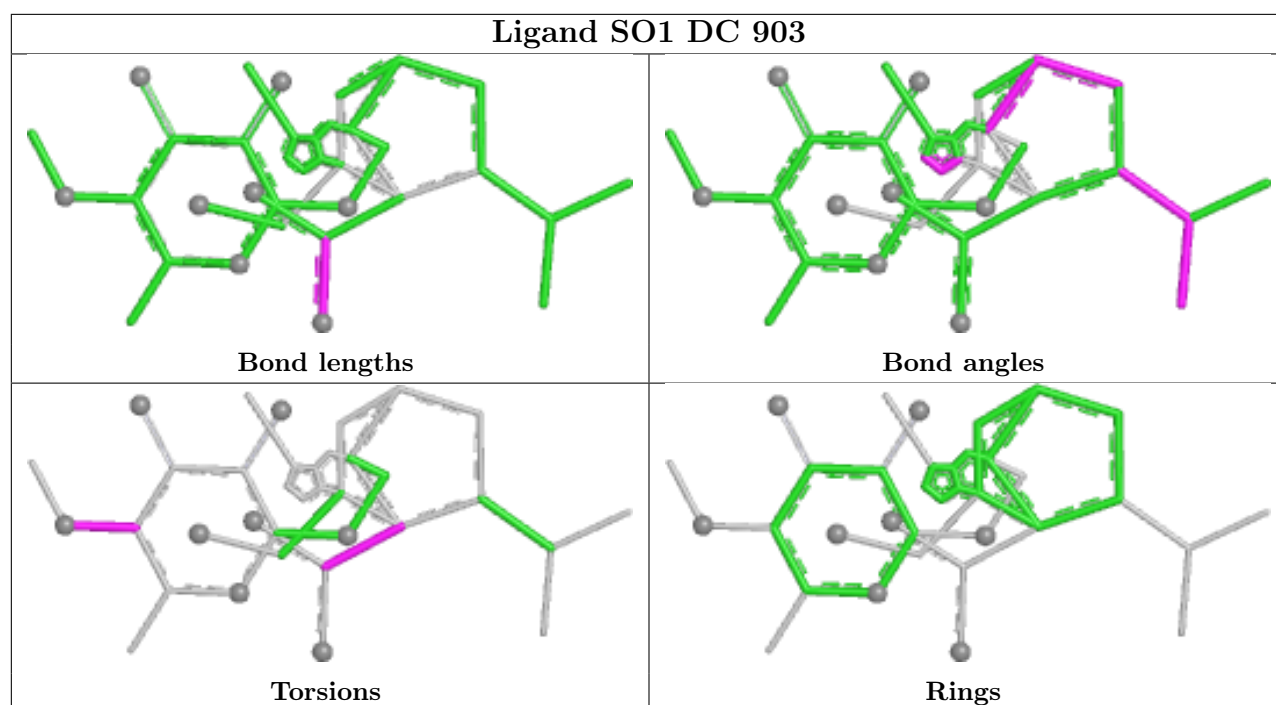
There are no ring outliers.

2 monomers are involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
83	DC	901	GDP	3	0
85	DC	903	SO1	1	0

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





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

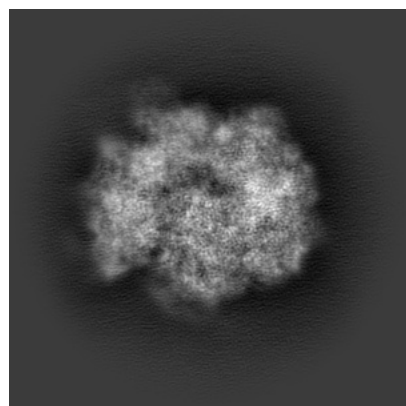
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-41002. These allow visual inspection of the internal detail of the map and identification of artifacts.

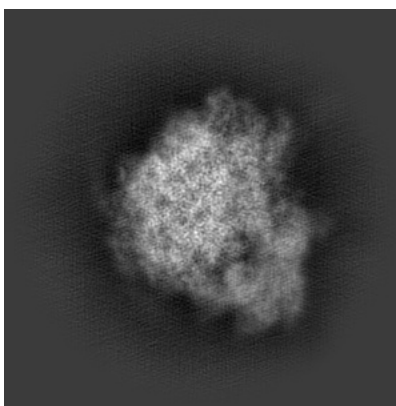
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

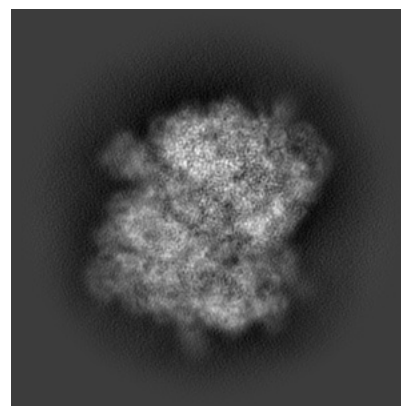
6.1.1 Primary map



X

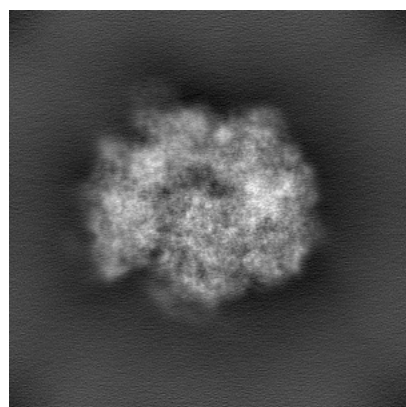


Y

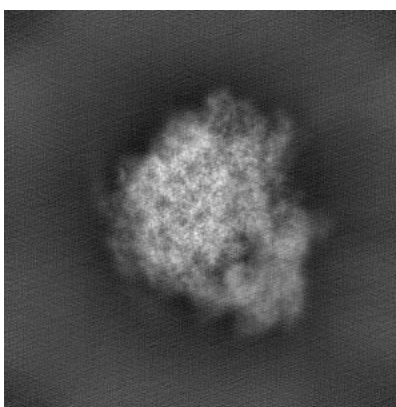


Z

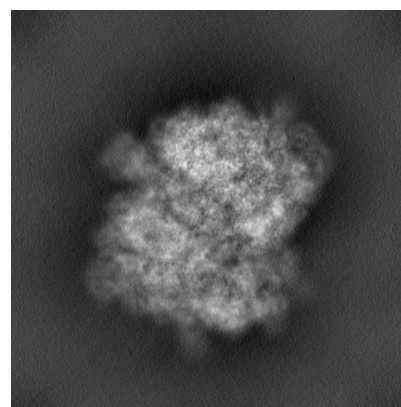
6.1.2 Raw map



X



Y

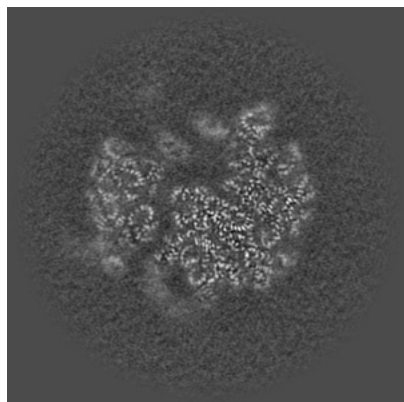


Z

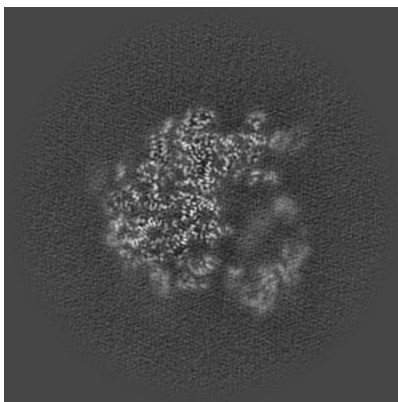
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

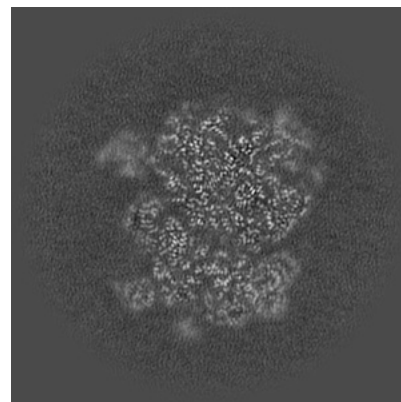
6.2.1 Primary map



X Index: 200

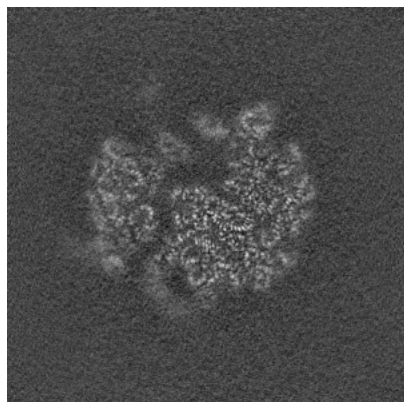


Y Index: 200

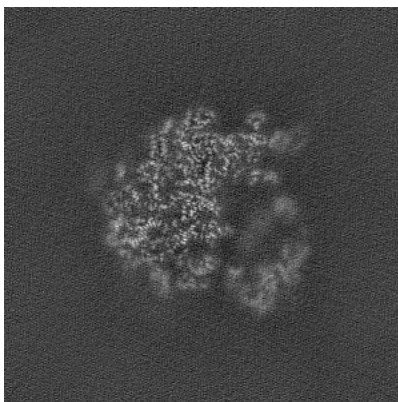


Z Index: 200

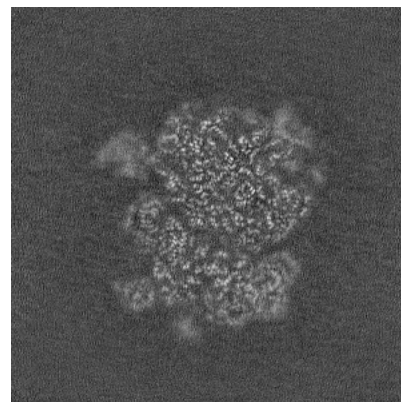
6.2.2 Raw map



X Index: 200



Y Index: 200

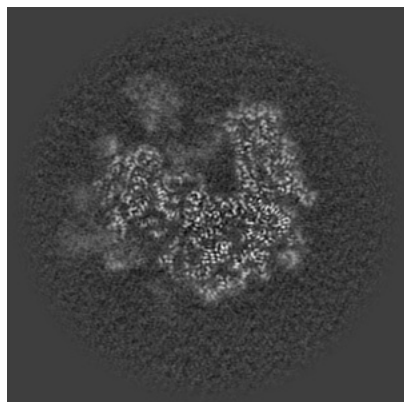


Z Index: 200

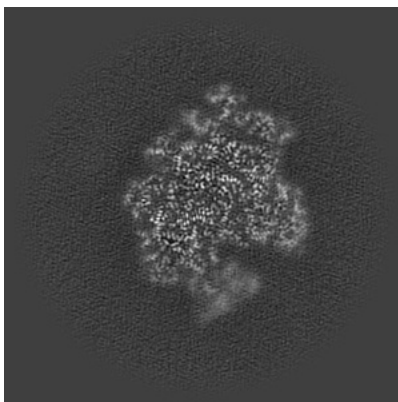
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

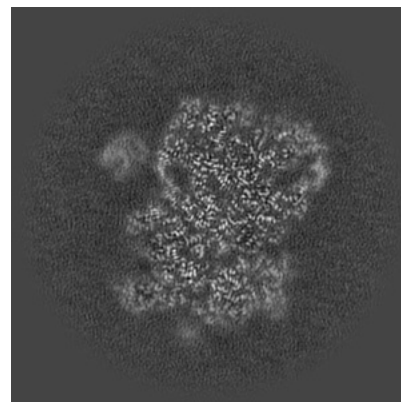
6.3.1 Primary map



X Index: 185

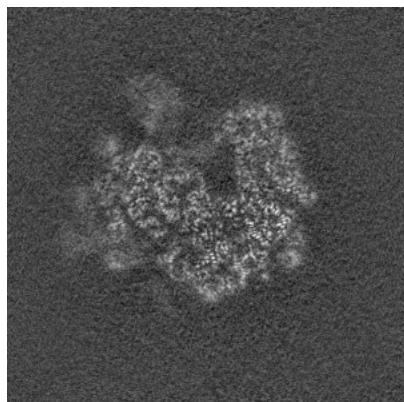


Y Index: 244

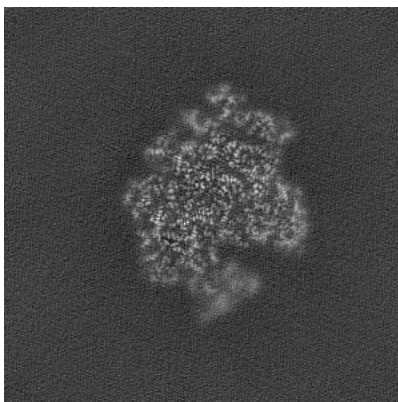


Z Index: 207

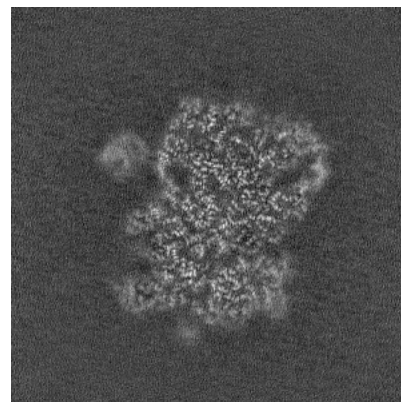
6.3.2 Raw map



X Index: 184



Y Index: 244

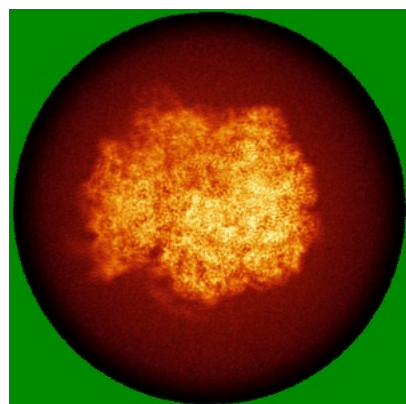


Z Index: 207

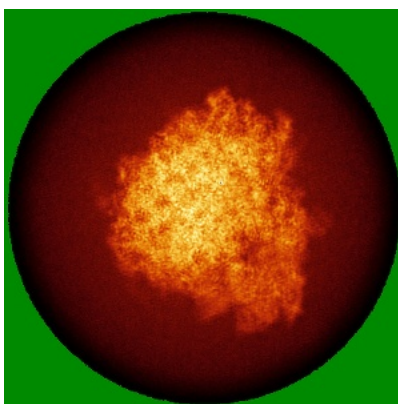
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

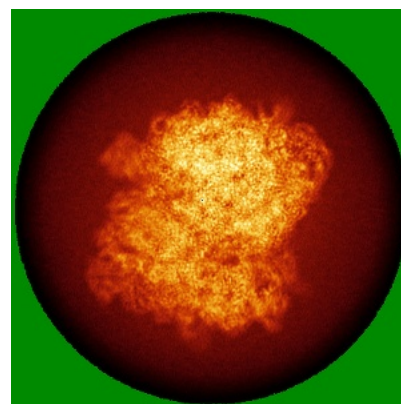
6.4.1 Primary map



X

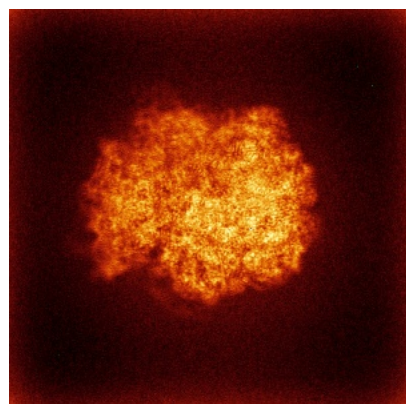


Y

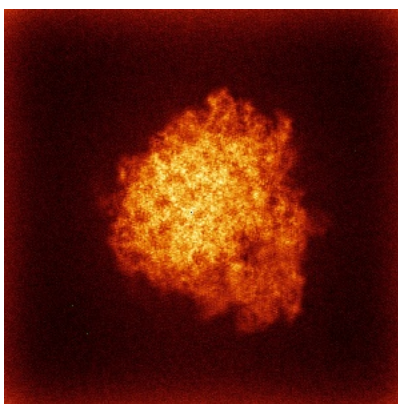


Z

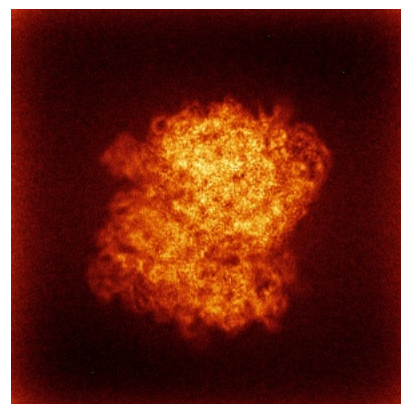
6.4.2 Raw map



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 0.3. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

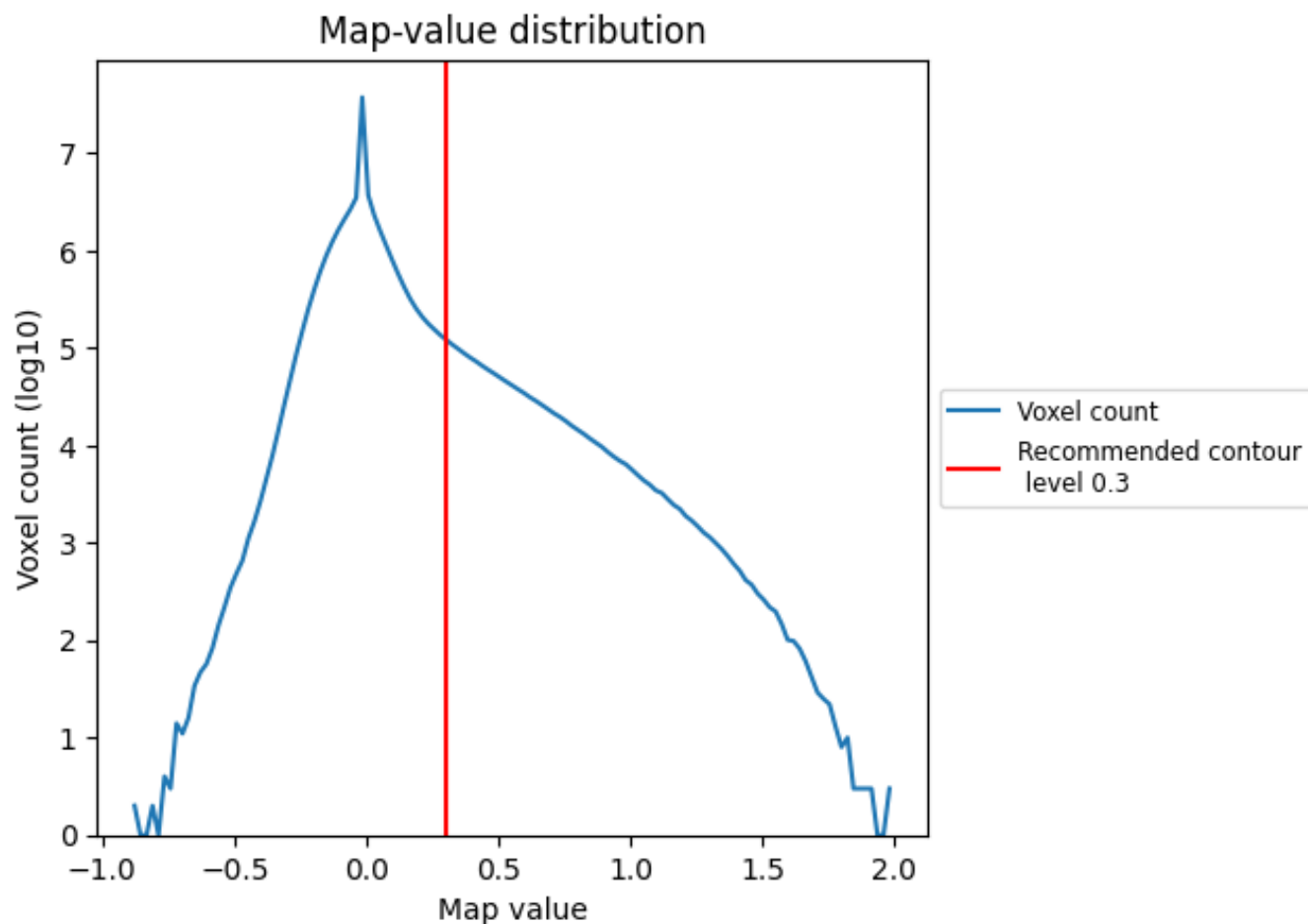
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

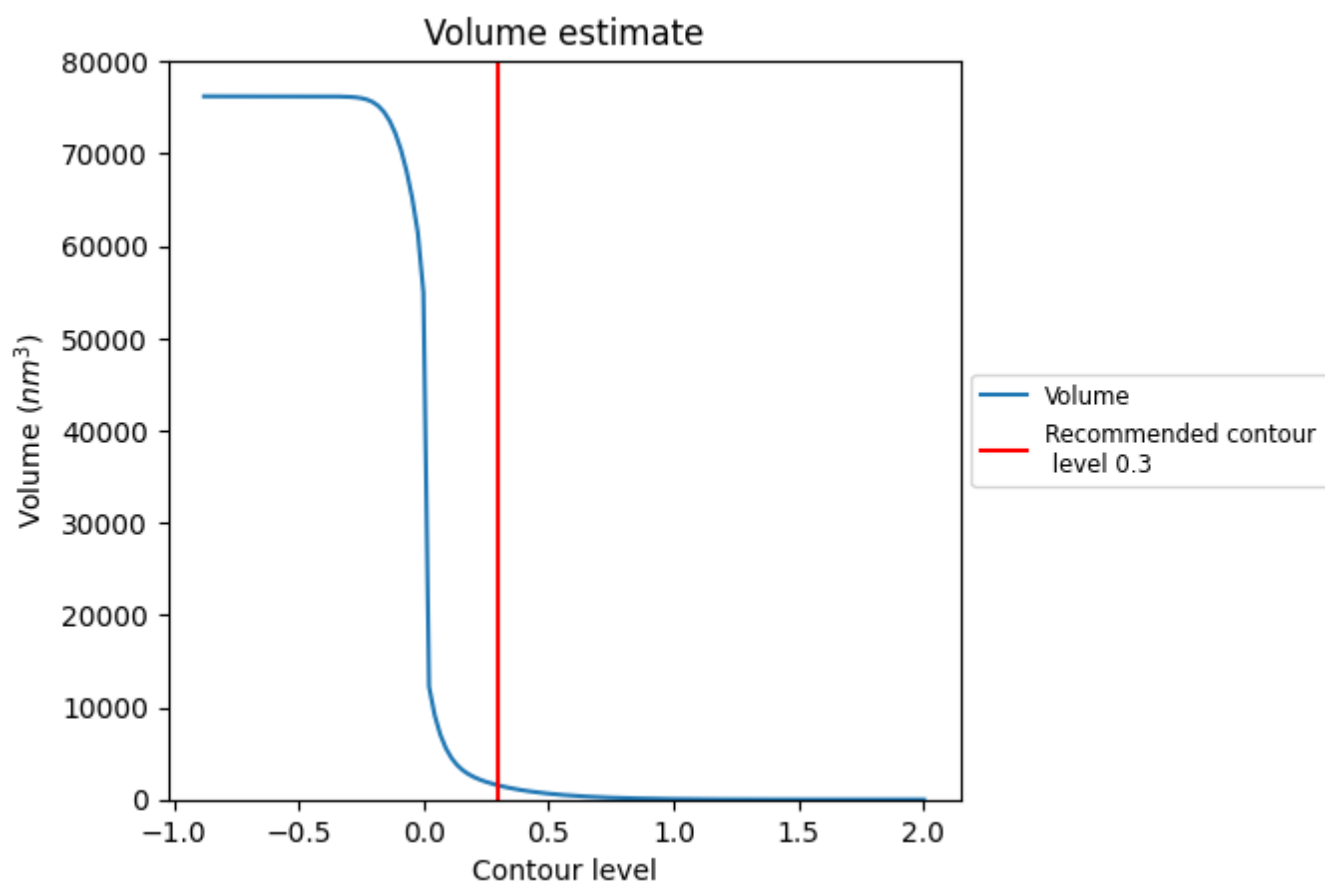
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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.

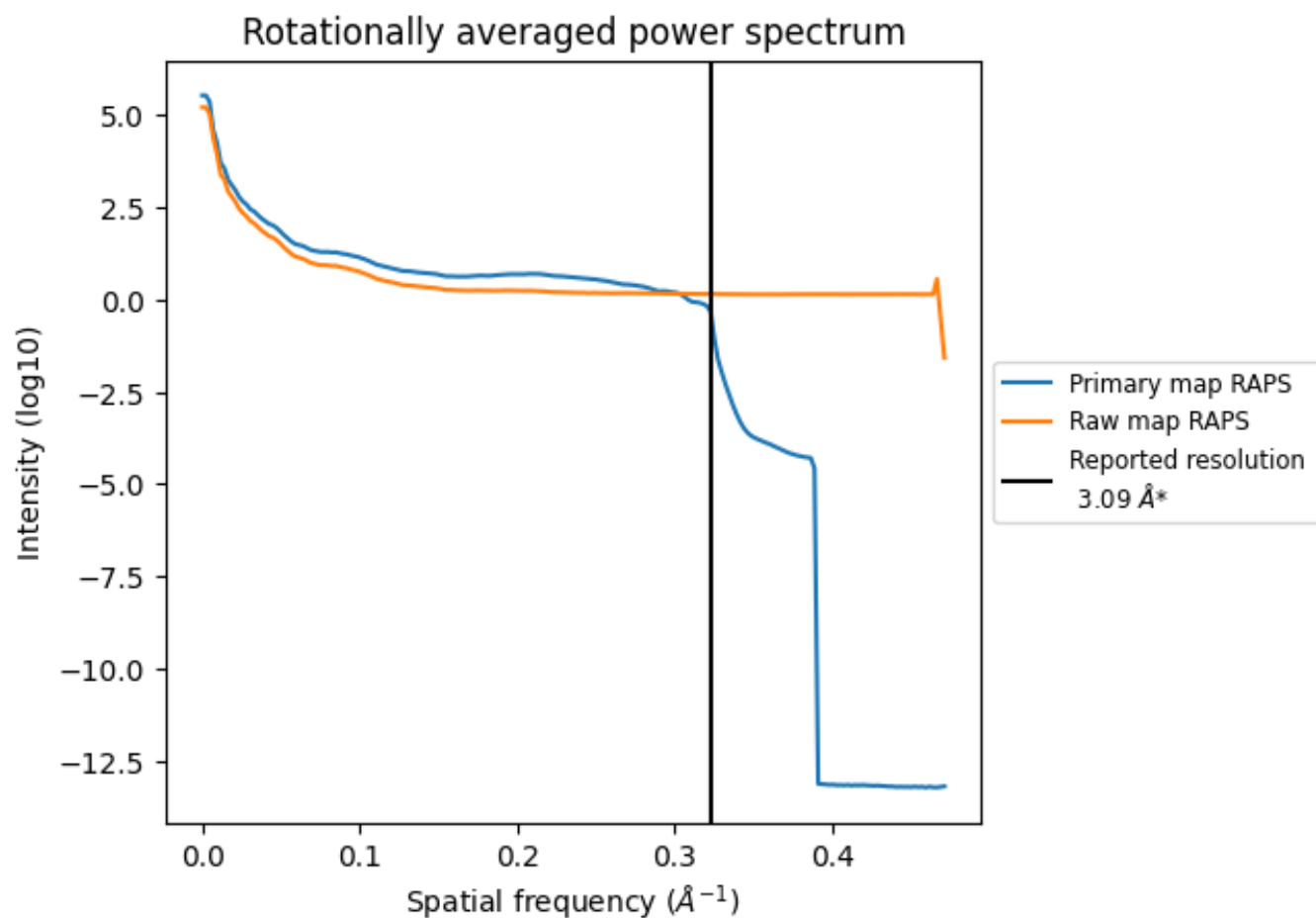
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1532 nm³; this corresponds to an approximate mass of 1384 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 ⓘ

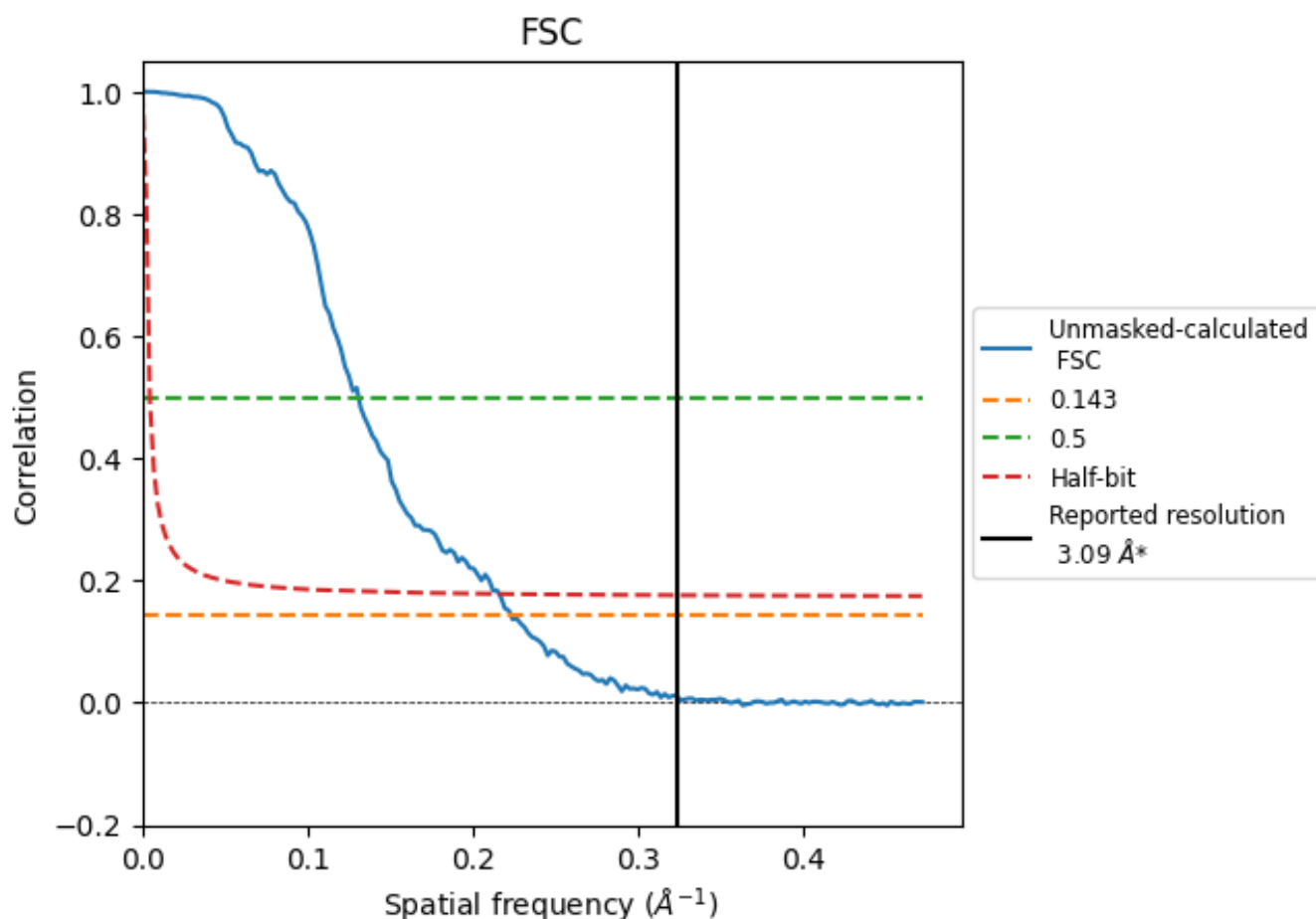


*Reported resolution corresponds to spatial frequency of 0.324 Å⁻¹

8 Fourier-Shell correlation [i](#)

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 [i](#)



*Reported resolution corresponds to spatial frequency of 0.324 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

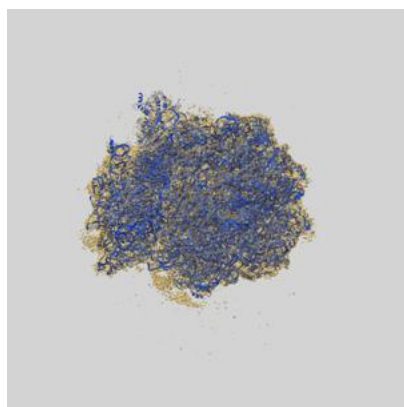
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.09	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.48	7.65	4.63

*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 4.48 differs from the reported value 3.09 by more than 10 %

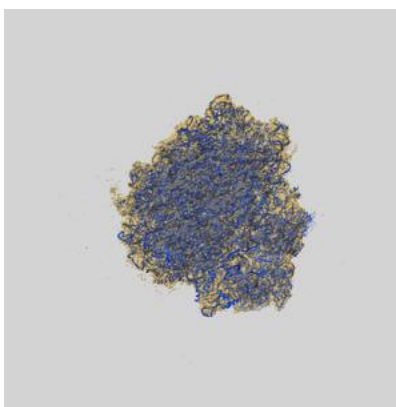
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-41002 and PDB model 8T3F. Per-residue inclusion information can be found in section [3](#) on page [21](#).

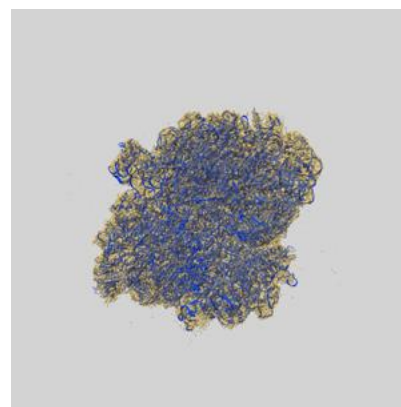
9.1 Map-model overlay [i](#)



X



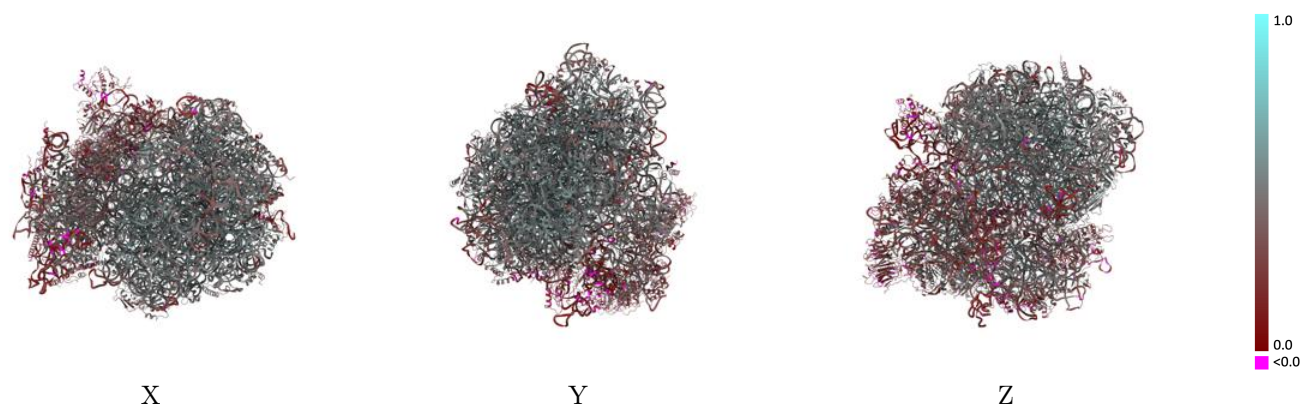
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.3 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 [i](#)

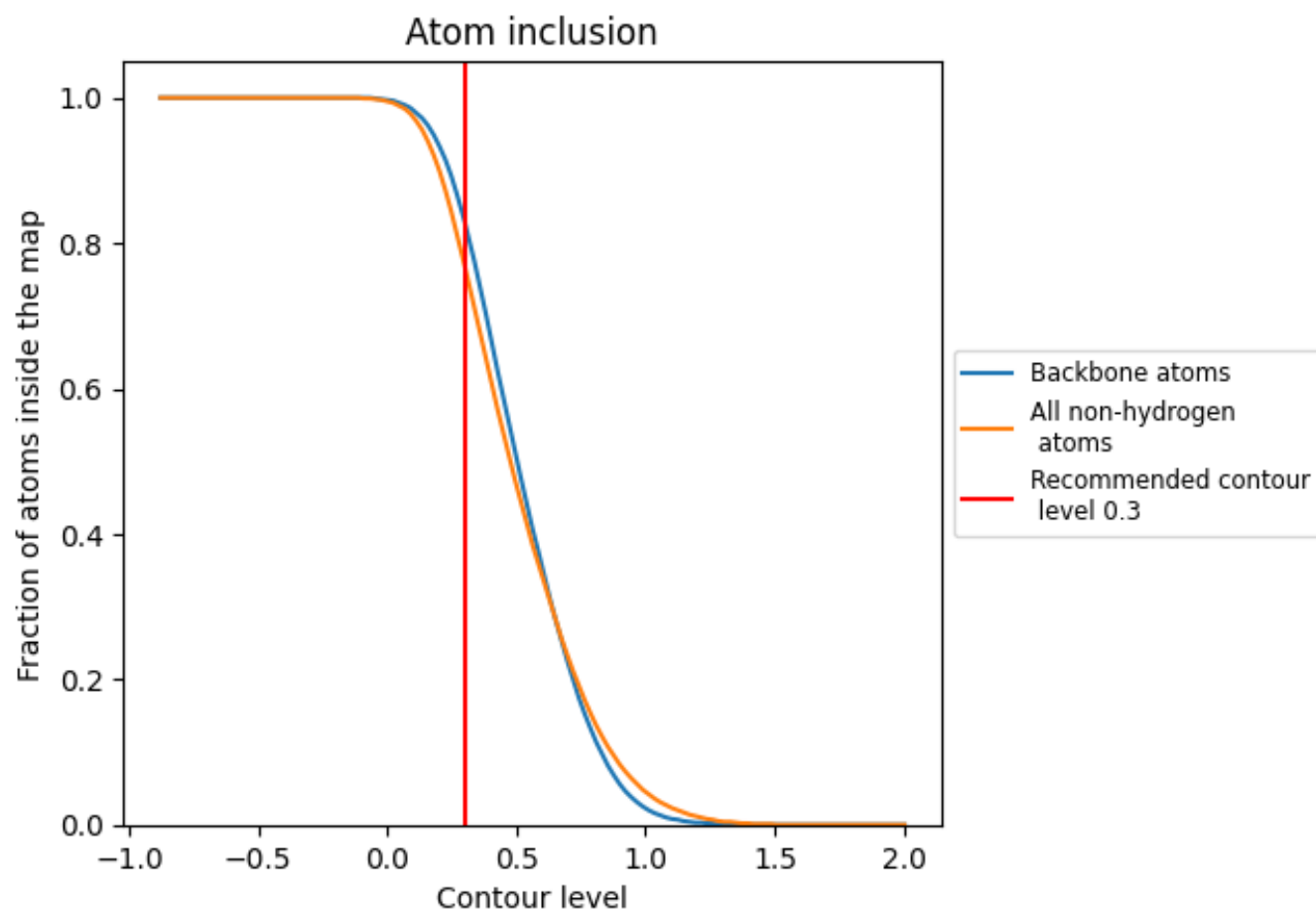


The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 [i](#)

This section was not generated.

9.4 Atom inclusion [i](#)



At the recommended contour level, 83% of all backbone atoms, 77% 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 (0.3) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7680	 0.4230
A1	 0.8870	 0.4700
A3	 0.9500	 0.4680
A4	 0.9280	 0.4940
AA	 0.7220	 0.5200
AB	 0.8030	 0.4980
AC	 0.8030	 0.4910
AD	 0.7870	 0.4190
AE	 0.7720	 0.4410
AF	 0.8350	 0.4970
AG	 0.7350	 0.4490
AH	 0.7290	 0.4740
AI	 0.6750	 0.4290
AJ	 0.6330	 0.3700
AL	 0.7980	 0.4950
AM	 0.8070	 0.4660
AN	 0.8090	 0.5280
AO	 0.7780	 0.4950
AP	 0.7700	 0.4960
AQ	 0.7930	 0.5060
AR	 0.6420	 0.4290
AS	 0.7910	 0.4920
AT	 0.7850	 0.4800
AU	 0.7740	 0.4140
AV	 0.6580	 0.4880
AW	 0.7720	 0.4980
AX	 0.7240	 0.4720
AY	 0.8000	 0.4860
AZ	 0.7770	 0.4580
Aa	 0.7970	 0.5050
Ab	 0.7210	 0.4690
Ac	 0.6880	 0.4570
Ad	 0.7730	 0.4790
Ae	 0.7760	 0.5120
Af	 0.8280	 0.5160



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Chain	Atom inclusion	Q-score
Ag	 0.7340	 0.4860
Ah	 0.8030	 0.4630
Ai	 0.7570	 0.4540
Aj	 0.8350	 0.5260
Ak	 0.4910	 0.3980
Al	 0.7730	 0.5150
Am	 0.7250	 0.4820
An	 0.6600	 0.4580
Ao	 0.6320	 0.4820
Ap	 0.7030	 0.5000
B5	 0.8180	 0.3860
BA	 0.6440	 0.3770
BB	 0.6110	 0.3750
BC	 0.7030	 0.4380
BD	 0.5360	 0.3220
BE	 0.7070	 0.4030
BF	 0.5680	 0.3480
BG	 0.6420	 0.3380
BH	 0.5540	 0.3370
BI	 0.6870	 0.3930
BJ	 0.6320	 0.2680
BK	 0.4960	 0.2650
BL	 0.6580	 0.4360
BM	 0.0650	 0.1910
BN	 0.6860	 0.4430
BO	 0.6550	 0.4250
BP	 0.3340	 0.2700
BQ	 0.6190	 0.3410
BR	 0.5010	 0.3020
BS	 0.5070	 0.2820
BT	 0.6670	 0.3070
BU	 0.5490	 0.3090
BV	 0.7000	 0.4070
BW	 0.7370	 0.4740
BX	 0.6840	 0.4680
BY	 0.6490	 0.3190
BZ	 0.6290	 0.2910
Ba	 0.7000	 0.4760
Bb	 0.6010	 0.3770
Bc	 0.5090	 0.3270
Bd	 0.6760	 0.3660
Be	 0.5580	 0.3660

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Chain	Atom inclusion	Q-score
Bf	 0.1030	 0.2130
Bg	 0.5570	 0.2540
DC	 0.3890	 0.2750
E	 0.3320	 0.1870
EC	 0.4670	 0.1530