Full wwPDB EM Validation Report ⓘ

Dec 17, 2022 – 10:45 am GMT

PDB ID	:	7AM2
EMDB ID	:	EMD-11821
Title	:	Intermediate assembly of the Large subunit from Leishmania major mitochondrial ribosome
Authors	:	Soufari, H.; Waltz, F.; Parrot, C.; Bochler, A.; Hashem, Y.
Deposited on	:	2020-10-07
Resolution	:	3.40 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:

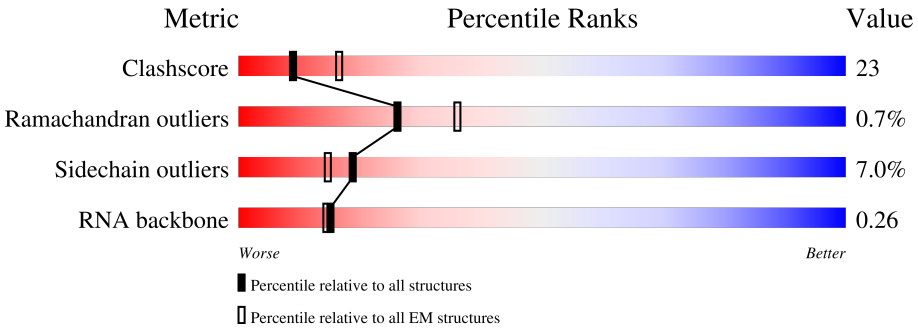
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	FAILED
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

1 Overall quality at a glance

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

The reported resolution of this entry is 3.40 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)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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

Mol	Chain	Length	Quality of chain
1	A	467	49% 25% · 24%
2	B	436	70% 28% ·
3	C	262	48% 30% · 19%
4	E	346	30% 33% · 35%
5	F	171	53% 32% · 14%
6	G	374	53% 31% 5% · 11%
7	I	305	49% 33% · 16%

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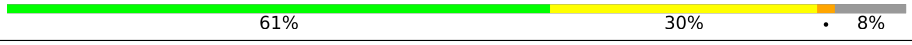
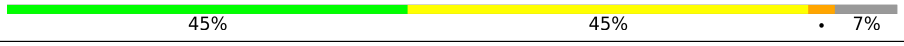
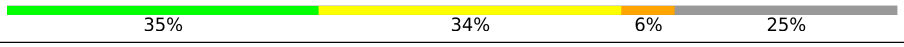
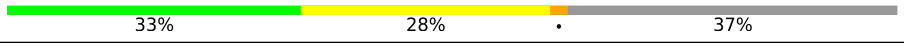
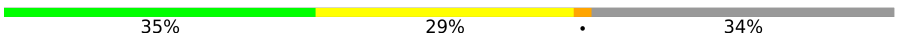
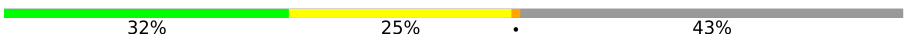
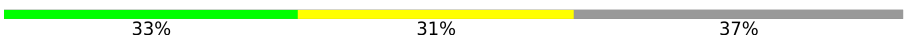
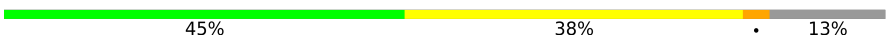
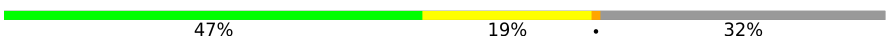
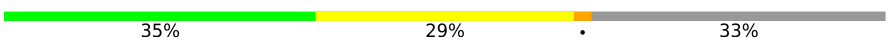
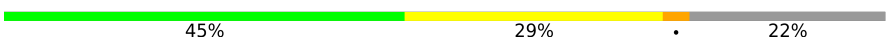
Mol	Chain	Length	Quality of chain
8	J	144	
9	K	194	
10	L	186	
11	M	279	
12	N	252	
13	O	476	
14	Q	234	
15	R	480	
16	S	409	
17	T	83	
18	V	151	
19	Z	197	
20	BA	167	
21	CA	618	
22	UA	203	
23	BB	156	
24	CB	202	
25	BK	893	
26	BQ	445	
27	BN	344	
28	BE	118	
29	BO	190	
30	At	183	
31	Au	186	
32	Ae	311	

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Mol	Chain	Length	Quality of chain
33	Af	155	88% 5% 6%
34	Ah	570	66% 30%
35	Ap	240	82% 7% 11%
36	Al	346	61% 5% 34%
37	Ab	262	61% 36%
38	Aa	195	63% 7% 31%
39	BP	254	33% 16% 48%
40	Az	152	81% 5% 14%
41	Am	340	83% 13%
42	As	249	55% 42%
43	BG	1347	94%
44	Ad	237	76% 20%
45	Aw	187	97%
46	BH	229	47% 31% 21%
47	Aj	503	65% 32%
48	Ar	205	90% 5% 5%
49	An	331	68% 28%
50	BF	109	42% 28% 28%
51	Av	192	48% 48%
52	BM	457	40% 40% 5% 15%
53	Ag	244	48% 49%
54	Bl	266	67% 30%
55	Ax	216	71% 6% 23%
56	BS	416	18% 12% 70%
57	BX	569	21% 23% 52%

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Mol	Chain	Length	Quality of chain
57	BY	569	20% 26% 52%
58	BZ	413	38% 39% 7% 15%
59	CC	150	29% 25% 44%
60	CD	126	29% 40% 29%
61	BT	464	38% 24% 35%
62	BU	497	45% 43% 5% 7%
63	BW	776	30% 24% 42%
64	BV	787	14% 11% 75%
65	U7	40	85% 15%
66	U6	187	84% 14%
67	U1	46	76% 20%
68	U3	75	69% 31%
69	U4	136	88% 12%
70	U5	94	74% 23%
71	BR	301	38% 33% 29%
72	U2	37	76% 24%
73	1	19000	96%
74	R1	3	33% 67%
75	R2	35	14% 20% 60%
76	R5	5	40% 60%
77	U8	59	49% 29% 22%

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
78	GTP	BU	501	-	-	X	-

2 Entry composition

There are 79 unique types of molecules in this entry. The entry contains 139535 atoms, of which 12 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 Ribosomal protein L3-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	356	2909	1877	482	535	15	0	0

- Molecule 2 is a protein called uL4m.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	435	3513	2237	615	642	19	0	0

- Molecule 3 is a protein called RIBOSOMAL_L9 domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	212	1772	1144	303	321	4	0	0

- Molecule 4 is a protein called Putative ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	E	225	1818	1176	319	314	9	0	0

- Molecule 5 is a protein called 50S ribosomal protein L13-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	F	147	1231	788	223	210	10	0	0

- Molecule 6 is a protein called Ribosomal_L18e/L15P domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	G	334	2767	1765	505	489	8	0	0

- Molecule 7 is a protein called Putative 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	I	257	Total	C	N	O	S	0	0
			2153	1362	406	372	13		

- Molecule 8 is a protein called bL19m.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	J	141	Total	C	N	O	S	0	0
			1146	727	211	202	6		

- Molecule 9 is a protein called bL20m.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	K	179	Total	C	N	O	S	0	0
			1467	910	289	258	10		

- Molecule 10 is a protein called bL21m.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	L	178	Total	C	N	O	S	0	0
			1419	907	257	250	5		

- Molecule 11 is a protein called uL22m.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	M	259	Total	C	N	O	S	0	0
			2116	1345	385	371	15		

- Molecule 12 is a protein called uL23m.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	N	189	Total	C	N	O	S	0	0
			1599	1031	296	269	3		

- Molecule 13 is a protein called uL24m.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	O	300	Total	C	N	O	S	0	0
			2477	1561	446	463	7		

- Molecule 14 is a protein called bL28m.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	Q	217	Total	C	N	O	S	0	0
			1785	1127	331	316	11		

- Molecule 15 is a protein called uL29m.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	R	472	Total	C	N	O	S	0	0
			3755	2377	662	704	12		

- Molecule 16 is a protein called uL30m.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	S	150	Total	C	N	O	S	0	0
			1244	782	247	207	8		

- Molecule 17 is a protein called bL32m.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	T	55	Total	C	N	O	S	0	0
			487	311	93	78	5		

- Molecule 18 is a protein called bL35m.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	V	141	Total	C	N	O	S	0	0
			1202	755	242	197	8		

- Molecule 19 is a protein called mL41.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Z	113	Total	C	N	O	S	0	0
			907	582	167	154	4		

- Molecule 20 is a protein called mL94.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	BA	106	Total	C	N	O	S	0	0
			786	489	144	149	4		

- Molecule 21 is a protein called TRUD domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	CA	537	Total	C	N	O	S	0	0
			4230	2664	783	765	18		

- Molecule 22 is a protein called UA.

Mol	Chain	Residues	Atoms				AltConf	Trace
22	UA	203	Total	C	N	O	0	0
			1015	609	203	203		

- Molecule 23 is a protein called mL95.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	BB	106	Total	C	N	O	0	0
			894	574	168	152		

- Molecule 24 is a protein called RNA uridylyltransferase.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	CB	135	Total	C	N	O	S	0	0
			1074	673	192	201	8		

- Molecule 25 is a protein called mL67.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	BK	694	Total	C	N	O	S	0	0
			5419	3421	975	1002	21		

- Molecule 26 is a protein called mL71.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	BQ	413	Total	C	N	O	S	0	0
			3230	2031	571	615	13		

- Molecule 27 is a protein called mL81.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	BN	196	Total	C	N	O	S	0	0
			1507	939	275	286	7		

- Molecule 28 is a protein called mL98.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	BE	37	Total	C	N	O	0	0
			325	210	55	60		

- Molecule 29 is a protein called Putative ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	BO	158	Total	C	N	O	S	0	0
			1281	805	258	209	9		

- Molecule 30 is a protein called mL86.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	At	165	Total	C	N	O	S	0	0
			1346	824	260	254	8		

- Molecule 31 is a protein called mL87.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Au	80	Total	C	N	O	S	0	0
			681	432	135	109	5		

- Molecule 32 is a protein called mL53.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Ae	290	Total	C	N	O	S	0	0
			2354	1523	417	403	11		

- Molecule 33 is a protein called mL63.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Af	145	Total	C	N	O	S	0	0
			1192	748	228	215	1		

- Molecule 34 is a protein called mL68.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Ah	399	Total	C	N	O	S	0	0
			3242	2062	567	596	17		

- Molecule 35 is a protein called mL80.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Ap	214	Total	C	N	O	S	0	0
			1775	1111	327	328	9		

- Molecule 36 is a protein called mL74.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Al	228	Total	C	N	O	S	0	0
			1857	1188	321	342	6		

- Molecule 37 is a protein called L51_S25_CI-B8 domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Ab	168	Total	C	N	O	S	0	0
			1413	886	268	254	5		

- Molecule 38 is a protein called mL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Aa	135	Total	C	N	O	S	0	0
			1076	670	202	199	5		

- Molecule 39 is a protein called mL52,mL52.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	BP	131	Total	C	N	O	S	0	0
			1070	682	194	193	1		

- Molecule 40 is a protein called mL93.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	Az	130	Total	C	N	O	S	0	0
			1150	739	205	201	5		

- Molecule 41 is a protein called mL75.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Am	296	Total	C	N	O	S	0	0
			2435	1553	435	431	16		

- Molecule 42 is a protein called mL85.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	As	144	Total	C	N	O	S	0	0
			1187	734	225	223	5		

- Molecule 43 is a protein called mL100.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	BG	85	Total	C	N	O	S	0	0
			675	423	126	119	7		

- Molecule 44 is a protein called mL49.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Ad	189	Total	C	N	O	S	0	0
			1502	969	264	262	7		

- Molecule 45 is a protein called mL89.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Aw	185	Total	C	N	O	S	0	0
			1509	949	289	268	3		

- Molecule 46 is a protein called Peptidyl-prolyl cis-trans isomerase.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	BH	181	Total	C	N	O	S	0	0
			1394	885	244	257	8		

- Molecule 47 is a protein called mL72.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Aj	342	Total	C	N	O	S	0	0
			2777	1762	512	492	11		

- Molecule 48 is a protein called mL84.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	Ar	195	Total	C	N	O	S	0	0
			1644	1054	295	288	7		

- Molecule 49 is a protein called mL76.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	An	238	Total	C	N	O	S	0	0
			1946	1222	357	363	4		

- Molecule 50 is a protein called mL99.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	BF	79	Total	C	N	O	S	0	0
			661	413	128	118	2		

- Molecule 51 is a protein called mL88.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	Av	100	Total	C	N	O	S	0	0
			828	530	142	151	5		

- Molecule 52 is a protein called mL70.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	BM	389	Total	C	N	O	S	0	0
			3069	1954	548	551	16		

- Molecule 53 is a protein called mL59/64.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	Ag	124	Total	C	N	O	S	0	0
			1031	656	189	181	5		

- Molecule 54 is a protein called Peptidyl-prolyl cis-trans isomerase.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	Bl	186	Total	C	N	O	S	0	0
			1409	895	242	264	8		

- Molecule 55 is a protein called LIM zinc-binding domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	Ax	167	Total	C	N	O	S	0	0
			1388	876	268	233	11		

- Molecule 56 is a protein called DNAj-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	BS	125	Total	C	N	O	S	0	0
			978	624	177	173	4		

- Molecule 57 is a protein called SpoU_methylase domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	BY	275	Total	C	N	O	S	0	0
			2111	1317	384	401	9		
57	BX	272	Total	C	N	O	S	0	0
			2086	1301	381	396	8		

- Molecule 58 is a protein called Pseudouridylate synthase-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	BZ	351	Total	C	N	O	S	0	0
			2829	1810	514	493	12		

- Molecule 59 is a protein called Acyl carrier protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	CC	84	Total	C	N	O	S	0	0
			668	429	104	134	1		

- Molecule 60 is a protein called L0R8F8.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	CD	90	Total	C	N	O	S	0	0
			761	475	146	136	4		

- Molecule 61 is a protein called G domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	BT	300	Total	C	N	O	S	0	0
			2346	1487	419	425	15		

- Molecule 62 is a protein called GTPase Der.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	BU	463	Total	C	N	O	S	0	0
			3680	2315	654	691	20		

- Molecule 63 is a protein called DEAD/DEAH box helicase-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	BW	447	Total	C	N	O	S	0	0
			3589	2282	661	622	24		

- Molecule 64 is a protein called G domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	BV	199	Total	C	N	O	S	0	0
			1596	1016	292	282	6		

- Molecule 65 is a protein called mL78.

Mol	Chain	Residues	Atoms				AltConf	Trace
65	U7	40	Total	C	N	O	0	0
			200	120	40	40		

- Molecule 66 is a protein called U6.

Mol	Chain	Residues	Atoms				AltConf	Trace
66	U6	187	Total	C	N	O	0	0
			935	561	187	187		

- Molecule 67 is a protein called U1.

Mol	Chain	Residues	Atoms				AltConf	Trace
67	U1	46	Total	C	N	O	0	0
			230	138	46	46		

- Molecule 68 is a protein called U3.

Mol	Chain	Residues	Atoms				AltConf	Trace
68	U3	75	Total	C	N	O	0	0
			375	225	75	75		

- Molecule 69 is a protein called U4.

Mol	Chain	Residues	Atoms				AltConf	Trace
69	U4	136	Total	C	N	O	0	0
			680	408	136	136		

- Molecule 70 is a protein called U5.

Mol	Chain	Residues	Atoms				AltConf	Trace
70	U5	94	Total	C	N	O	0	0
			470	282	94	94		

- Molecule 71 is a protein called mL78.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	BR	214	Total	C	N	O	S	0	0
			1703	1071	329	300	3		

- Molecule 72 is a protein called U2.

Mol	Chain	Residues	Atoms				AltConf	Trace
72	U2	37	Total	C	N	O	0	0
			185	111	37	37		

- Molecule 73 is a RNA chain called Ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	1	797	Total	C	N	O	P	0	0
			16777	7564	2796	5622	795		

- Molecule 74 is a RNA chain called R1.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	R1	3	Total	C	N	O	P	0	0
			62	28	9	22	3		

- Molecule 75 is a RNA chain called R2.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	R2	34	Total	C	N	O	P	0	0
			665	306	68	258	33		

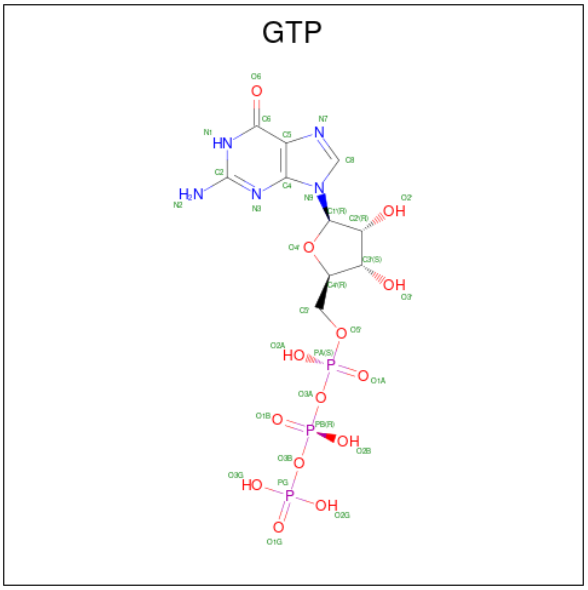
- Molecule 76 is a RNA chain called R5.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	R5	5	Total	C	N	O	P	0	0
			100	45	10	40	5		

- Molecule 77 is a protein called U8.

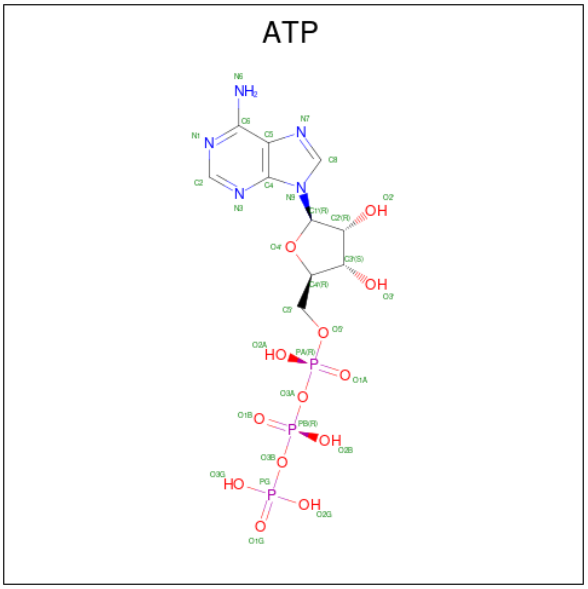
Mol	Chain	Residues	Atoms				AltConf	Trace
77	U8	59	Total	C	N	O	0	0
			295	177	59	59		

- Molecule 78 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
78	BU	1	Total	C	N	O	P	0
			32	10	5	14	3	

- Molecule 79 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).



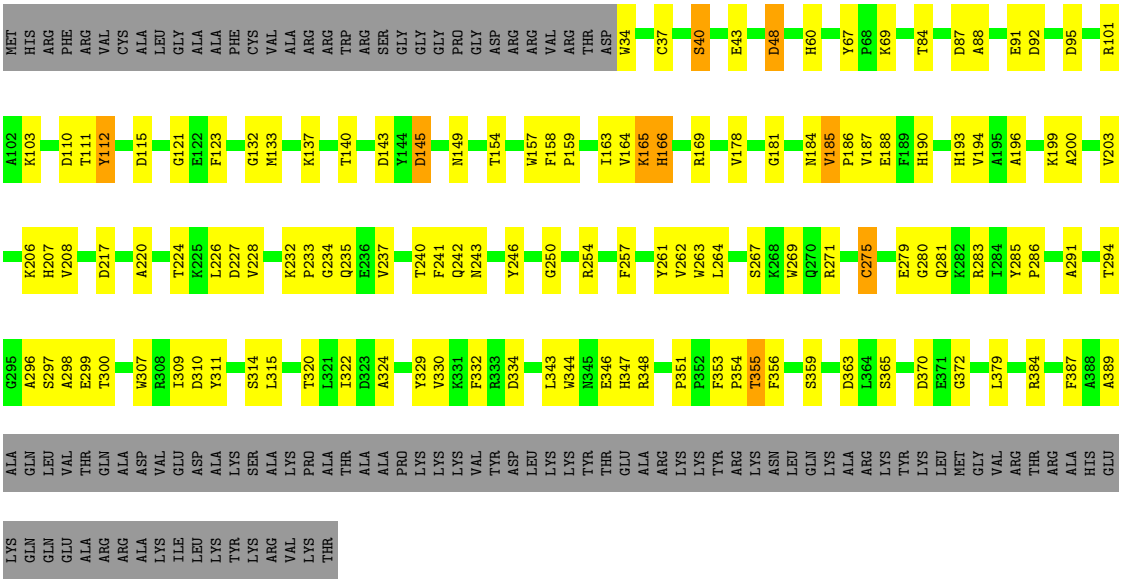
Mol	Chain	Residues	Atoms						AltConf
79	BW	1	Total	C	H	N	O	P	0
			43	10	12	5	13	3	

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. 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. 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.

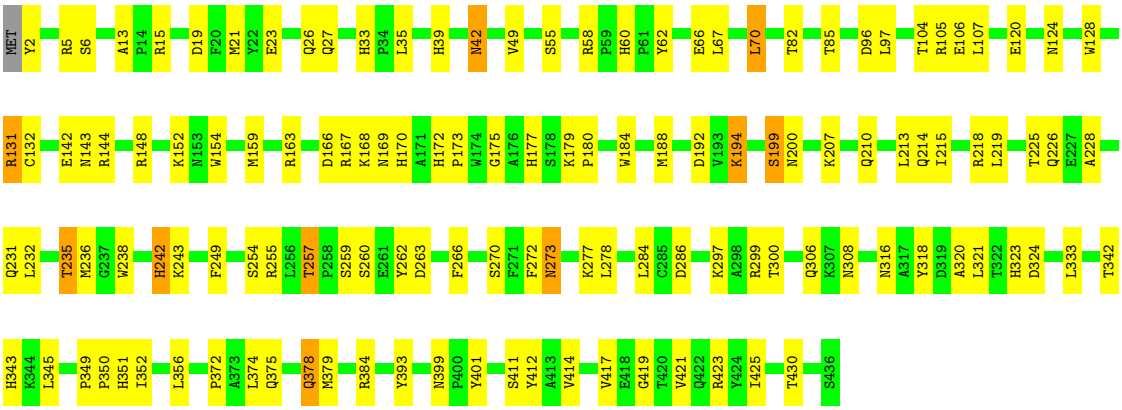
• Molecule 1: Ribosomal protein L3-like protein

Chain A:



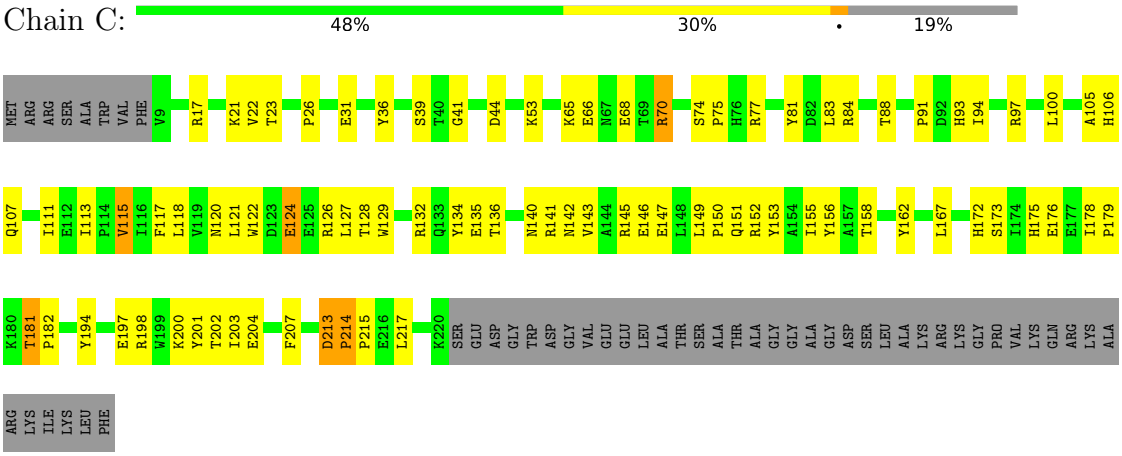
• Molecule 2: uL4m

Chain B:



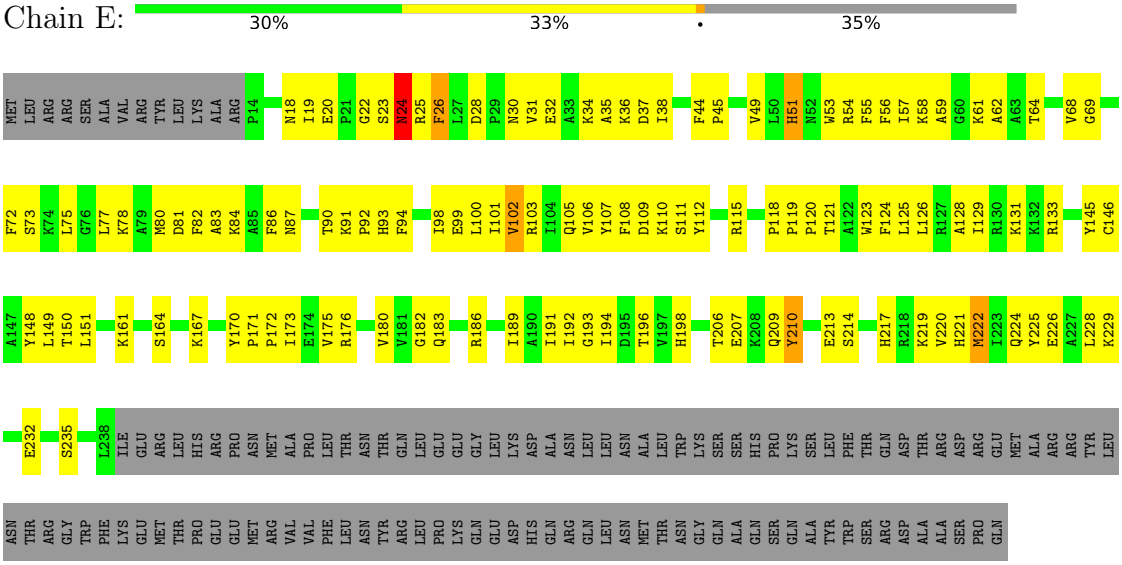
• Molecule 3: RIBOSOMAL_L9 domain-containing protein

Chain C:



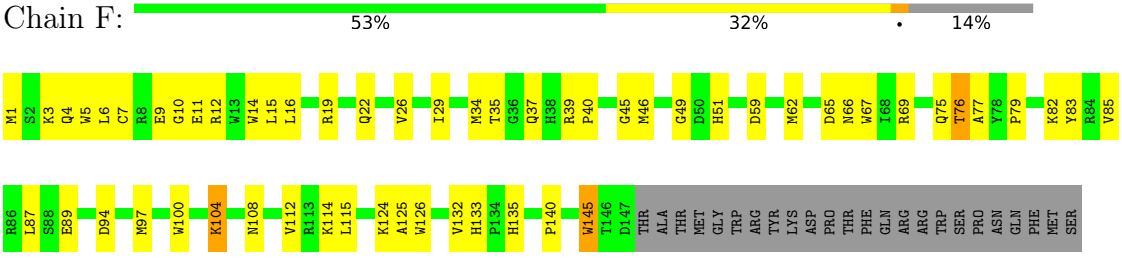
• Molecule 4: Putative ribosomal protein L11

Chain E:



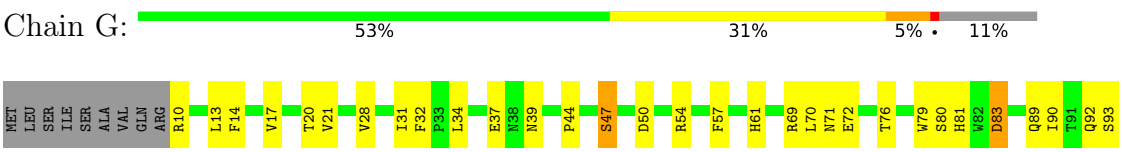
• Molecule 5: 50S ribosomal protein L13-like protein

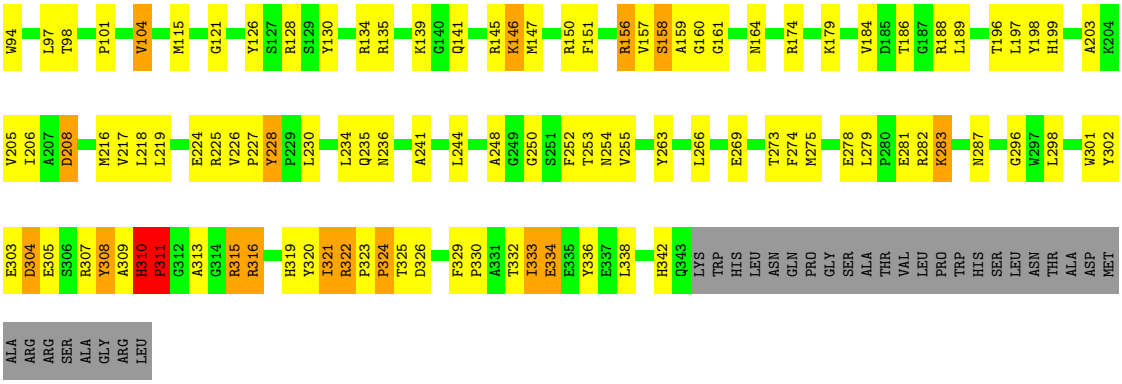
Chain F:



• Molecule 6: Ribosomal_L18e/L15P domain-containing protein

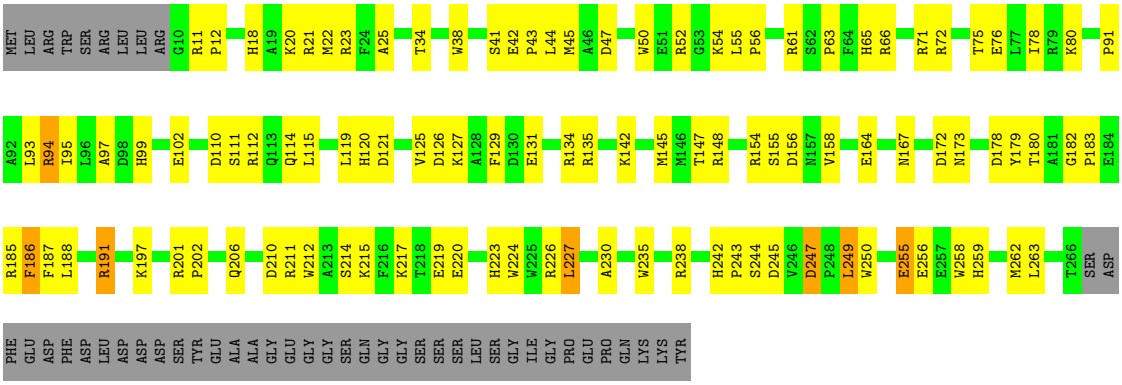
Chain G:





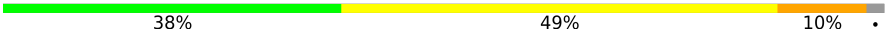
• Molecule 7: Putative 50S ribosomal protein L17

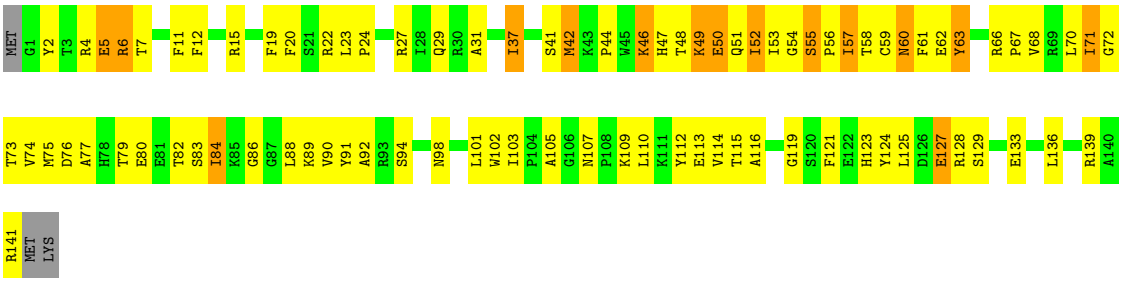
Chain I:



• Molecule 8: bL19m

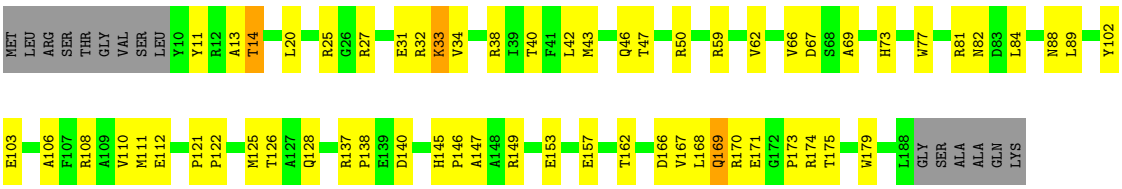
Chain J:





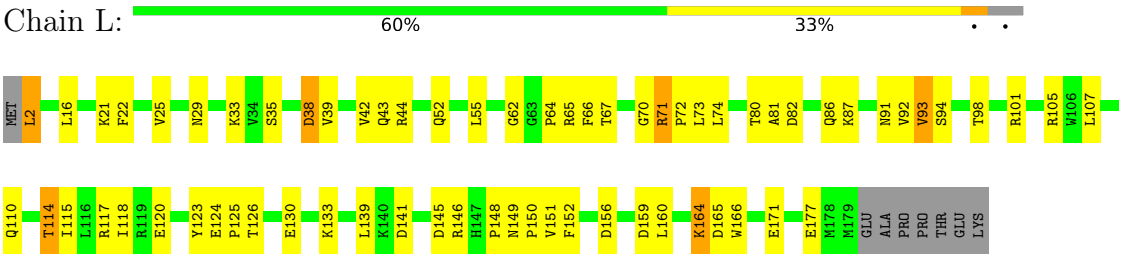
• Molecule 9: bL20m

Chain K:



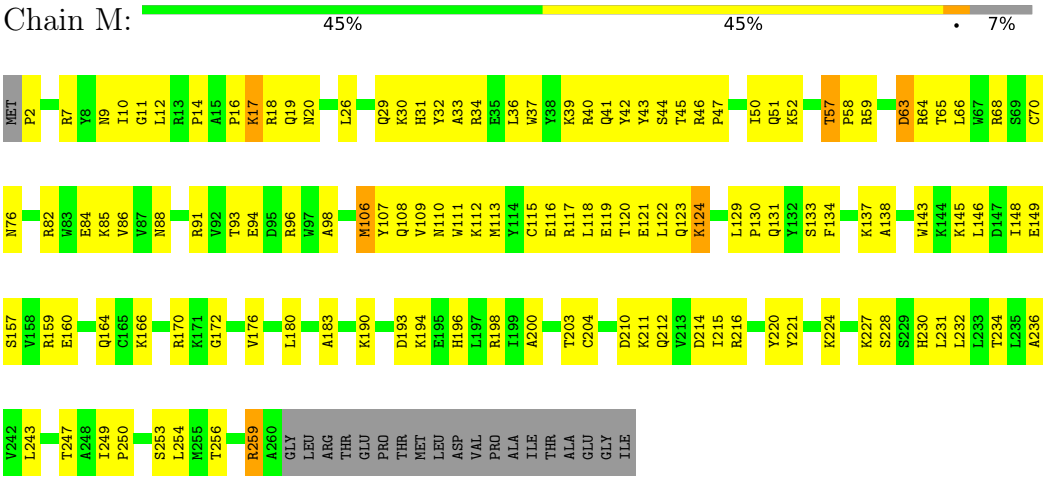
• Molecule 10: bL21m

Chain L:



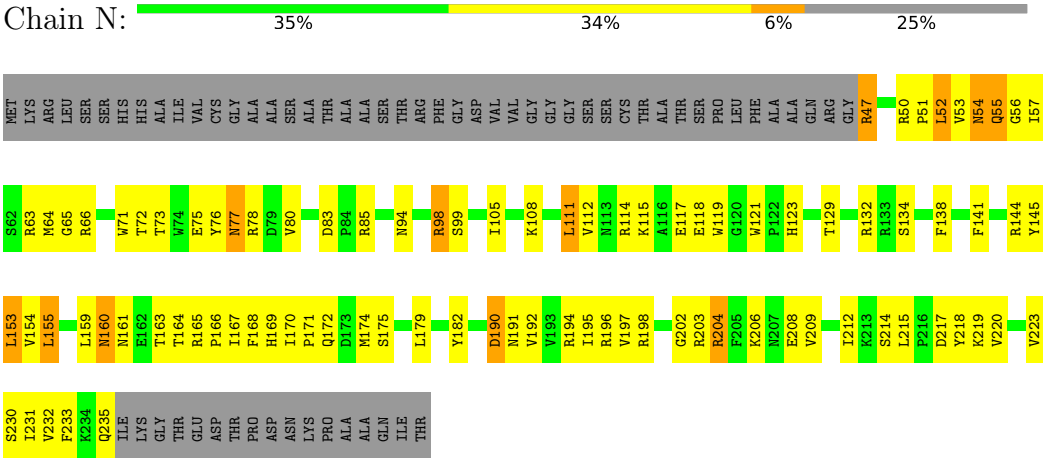
• Molecule 11: uL22m

Chain M:



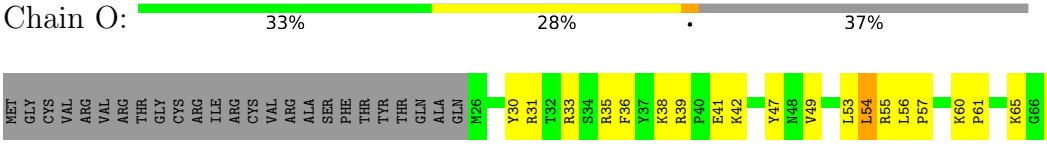
• Molecule 12: uL23m

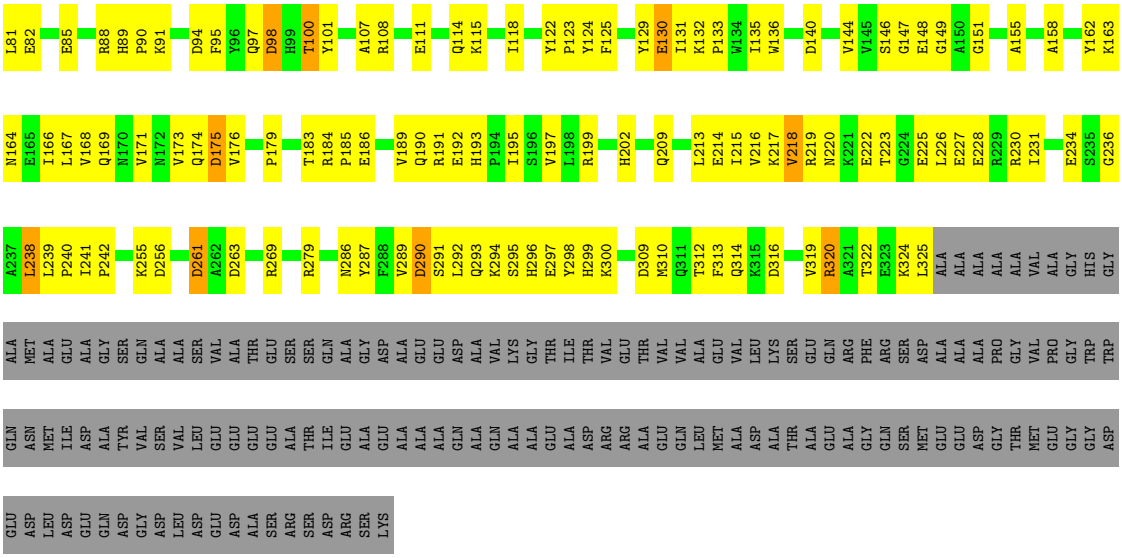
Chain N:



• Molecule 13: uL24m

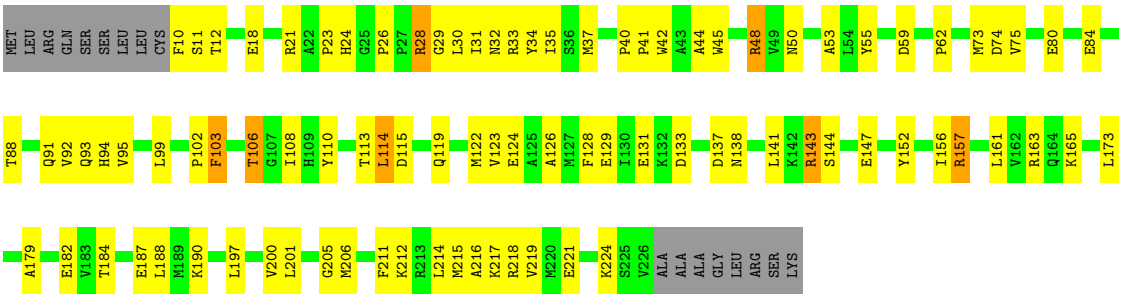
Chain O:





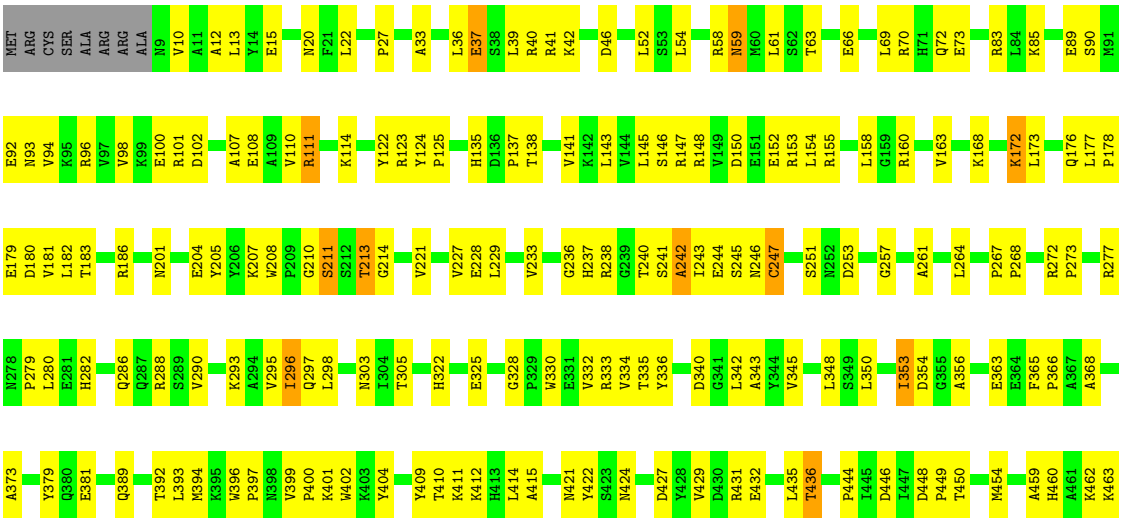
• Molecule 14: bL28m

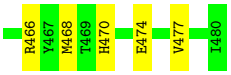
Chain Q:



• Molecule 15: uL29m

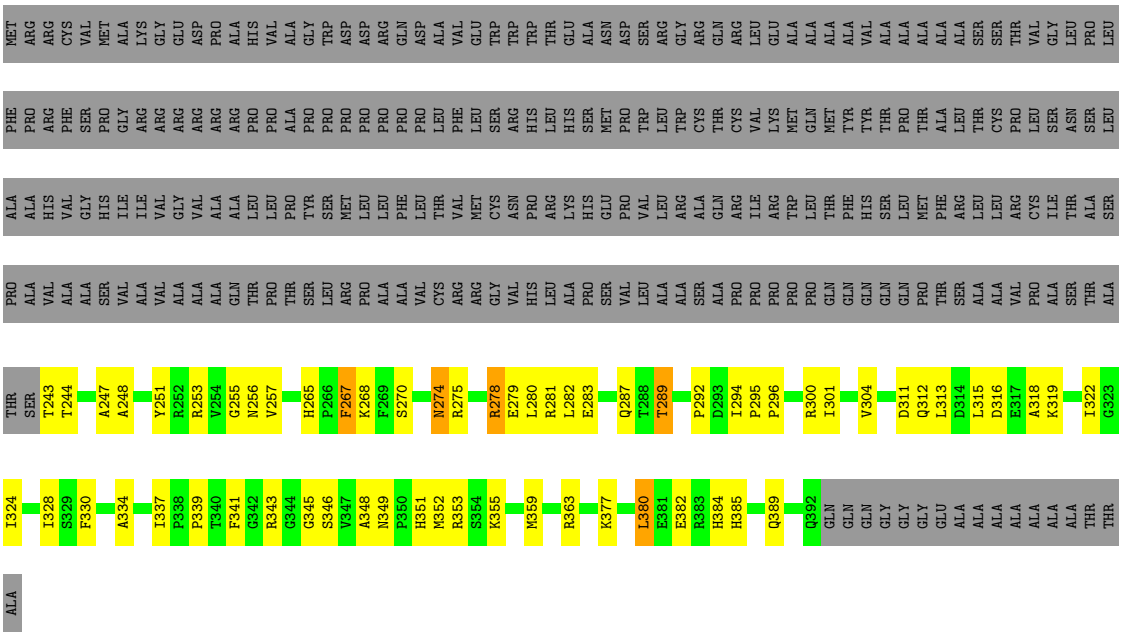
Chain R:





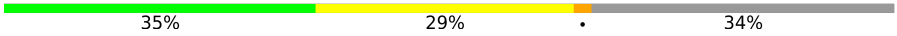
• Molecule 16: uL30m

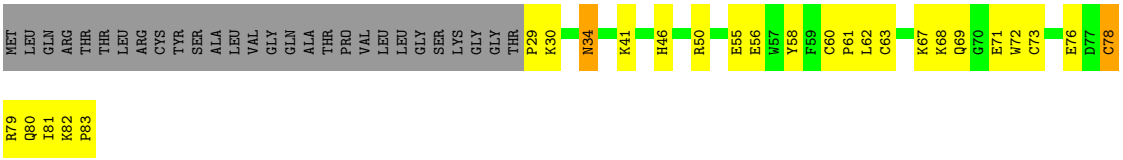
Chain S:



• Molecule 17: bL32m

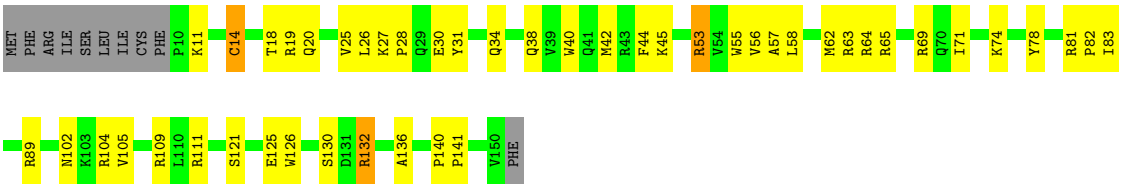
Chain T:





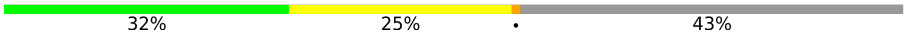
• Molecule 18: bL35m

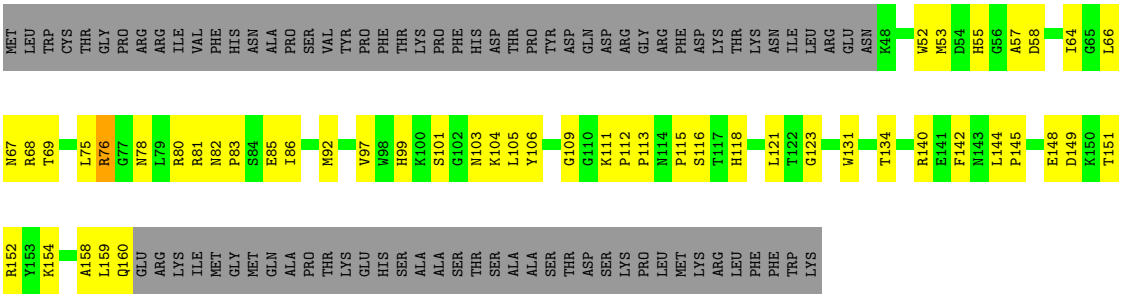
Chain V:



• Molecule 19: mL41

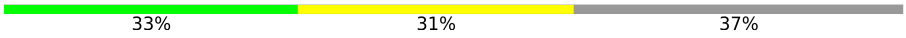
Chain Z:

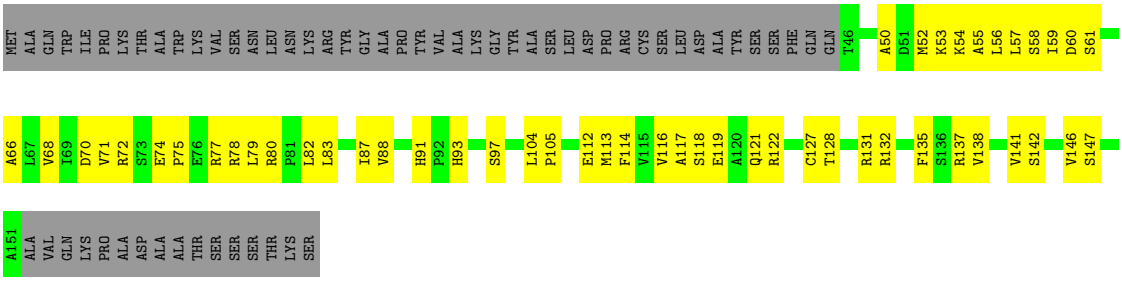




• Molecule 20: mL94

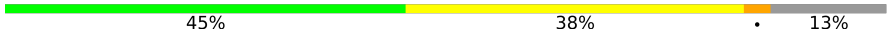
Chain BA:

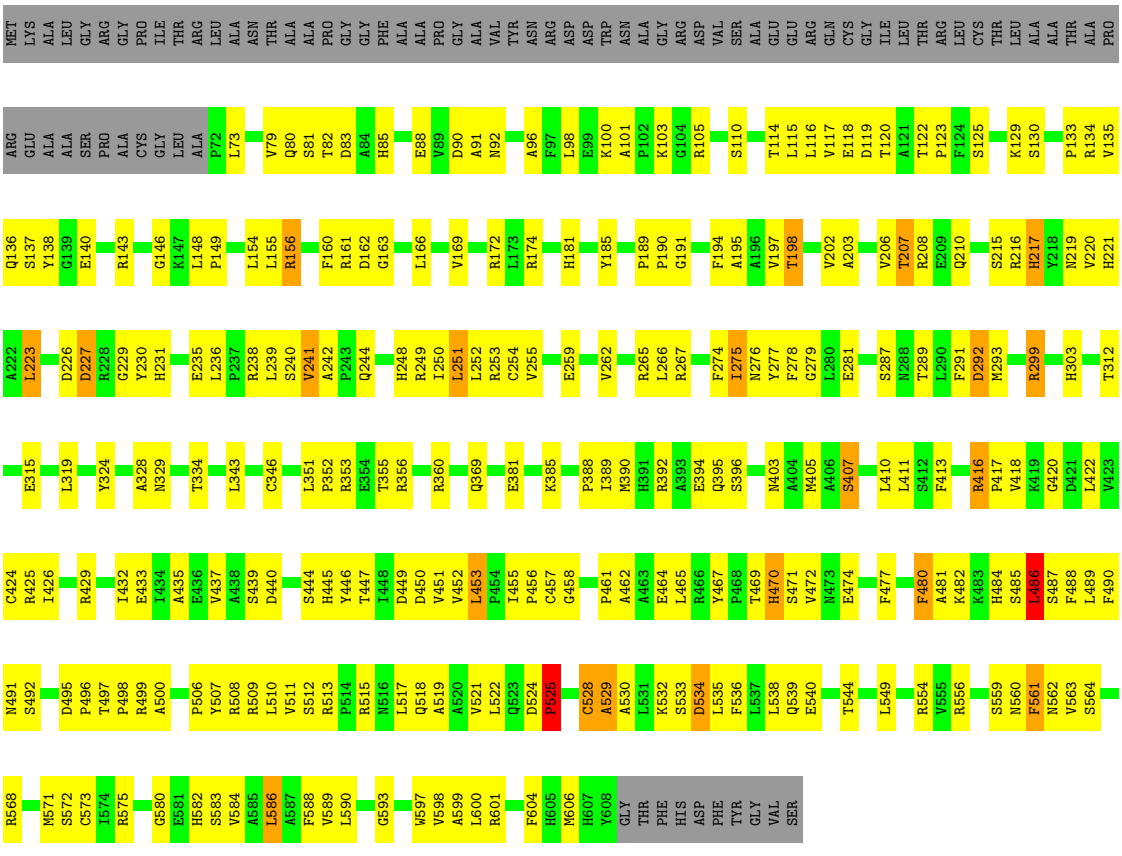




• Molecule 21: TRUD domain-containing protein

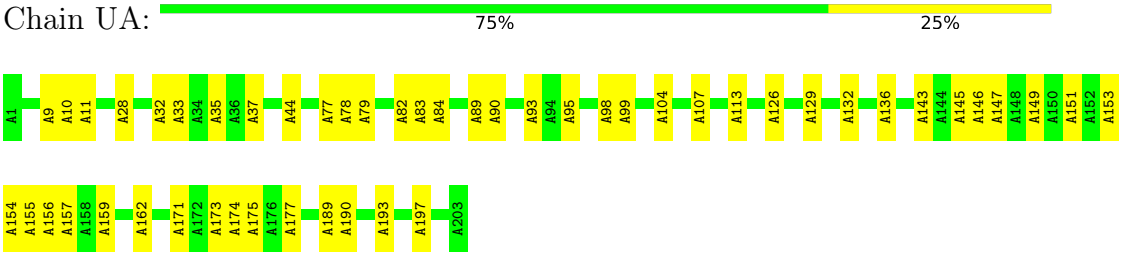
Chain CA:





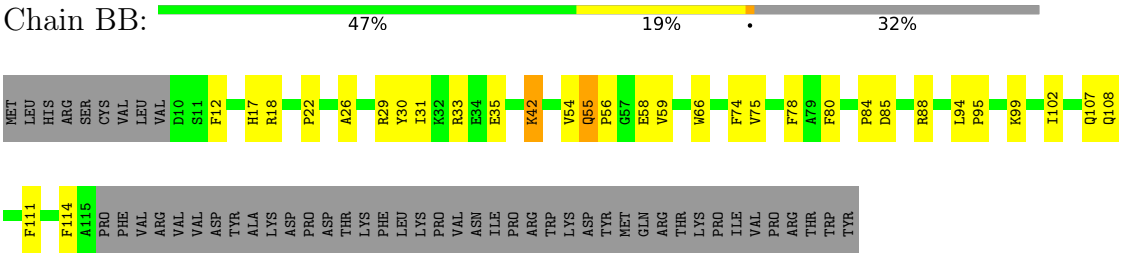
• Molecule 22: UA

Chain UA:



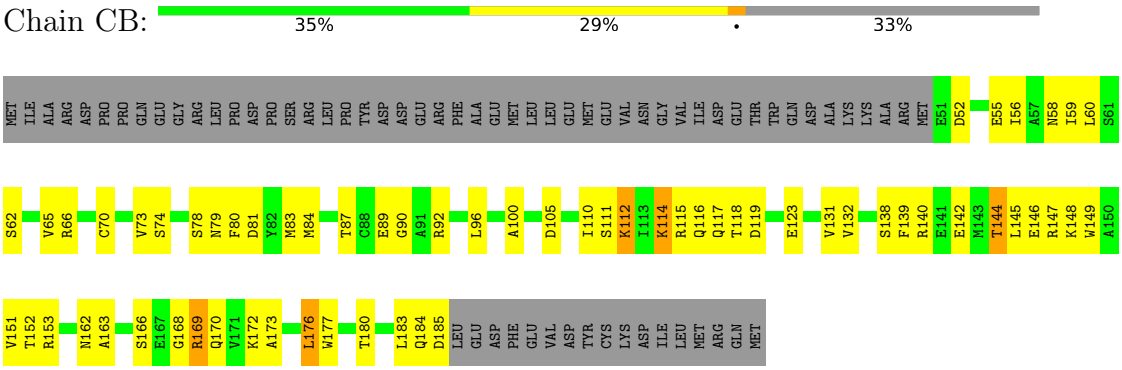
• Molecule 23: mL95

Chain BB:



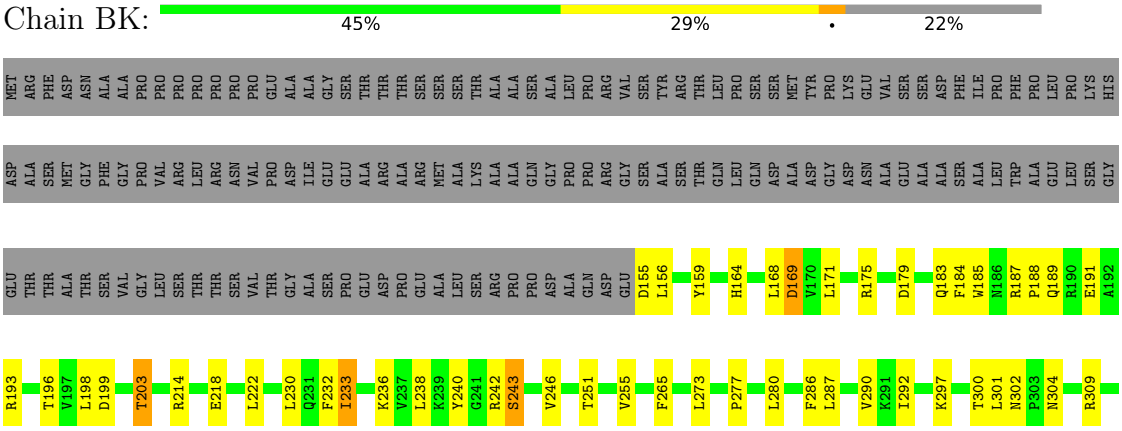
• Molecule 24: RNA uridylyltransferase

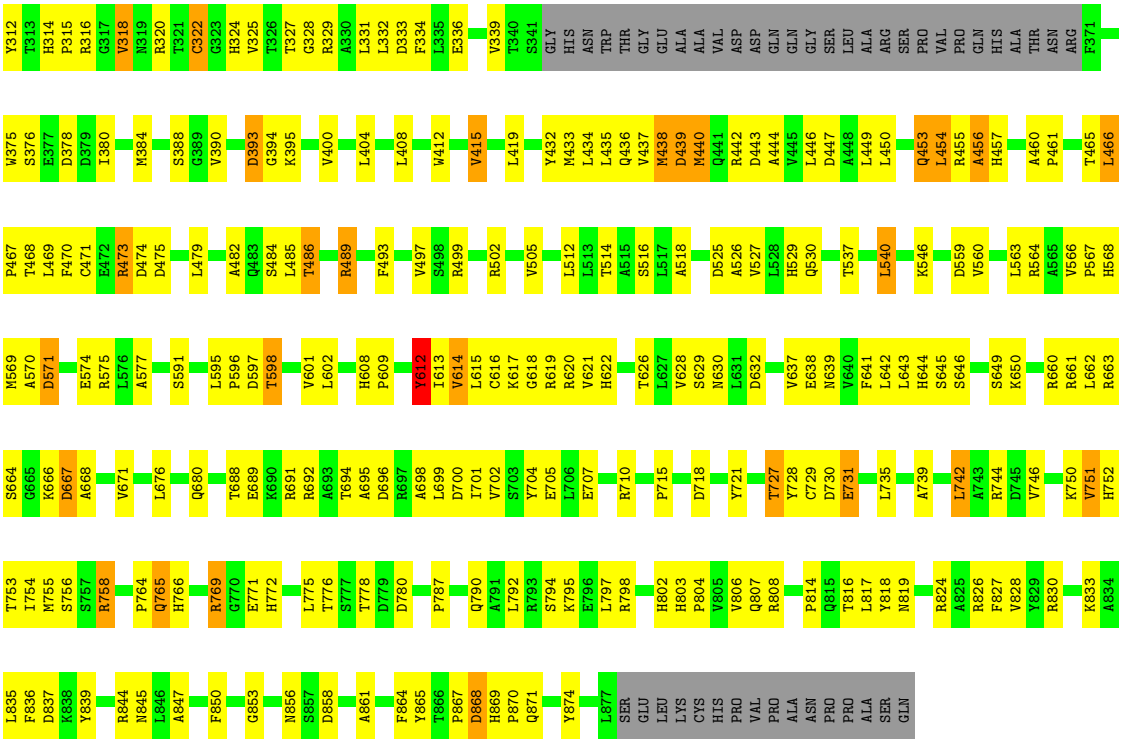
Chain CB:



• Molecule 25: mL67

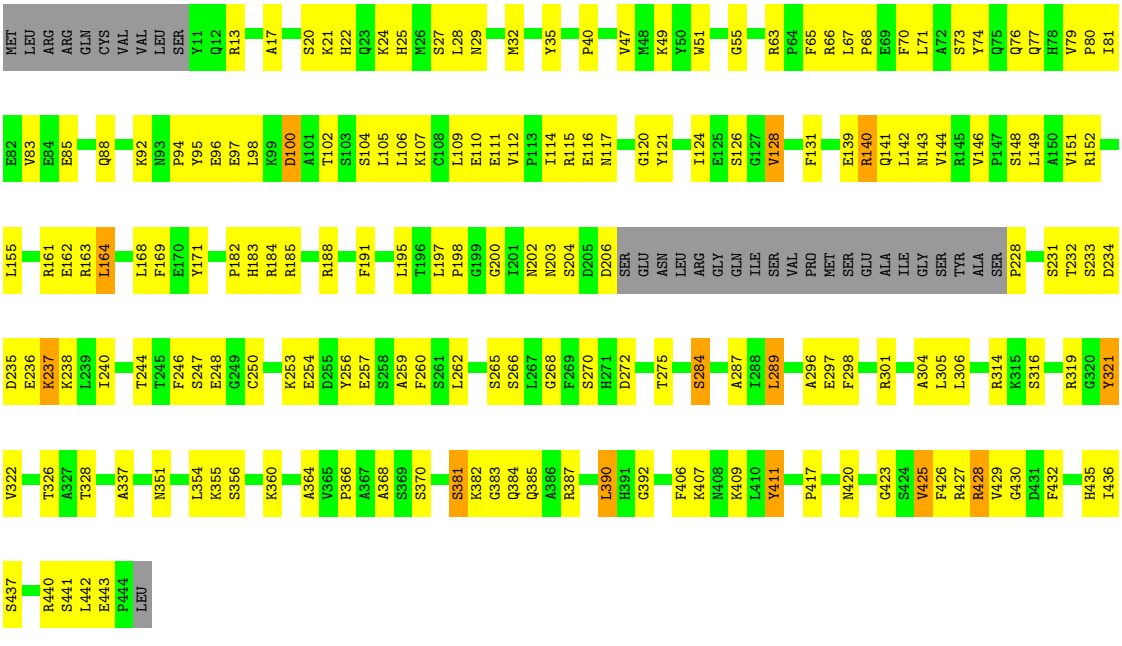
Chain BK:





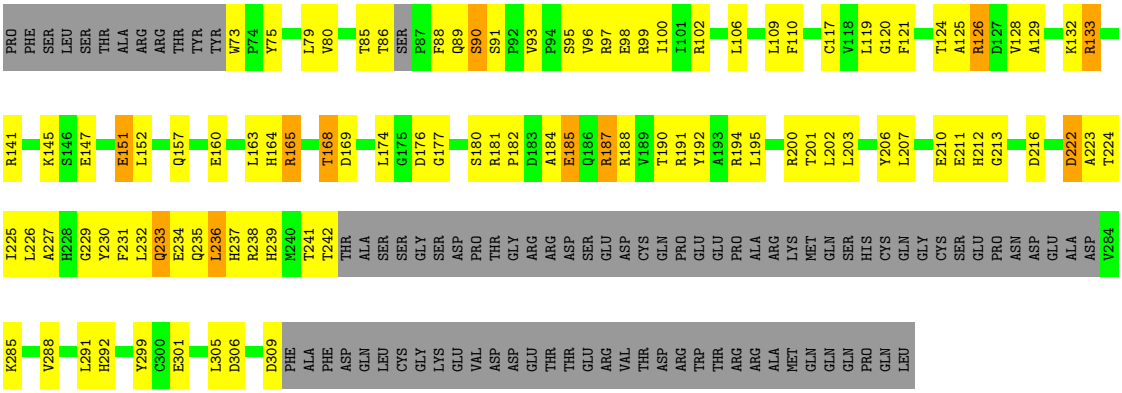
• Molecule 26: mL71

Chain BQ:



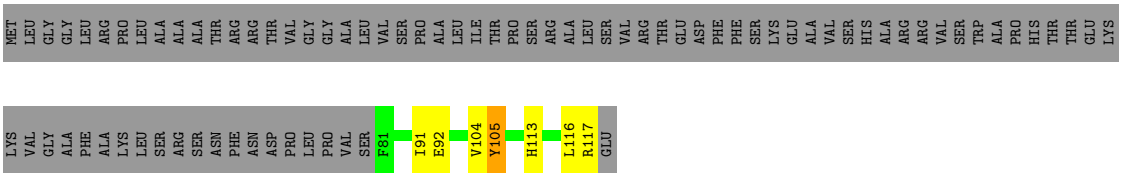
• Molecule 27: mL81

Chain BN:



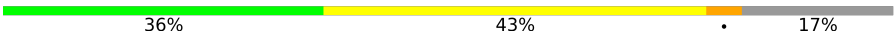
• Molecule 28: mL98

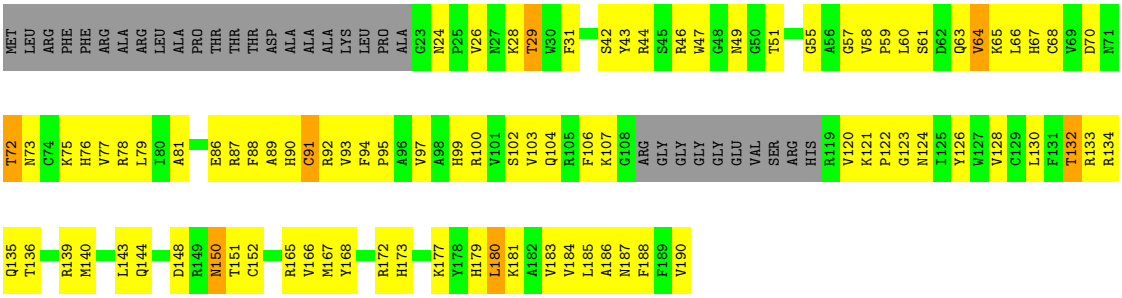
Chain BE:



• Molecule 29: Putative ribosomal protein L14

Chain BO:



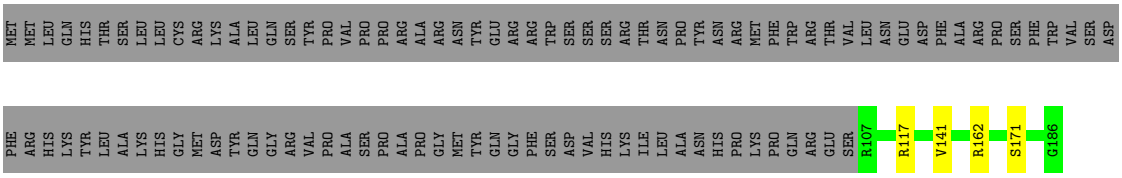


• Molecule 30: mL86

Chain At:

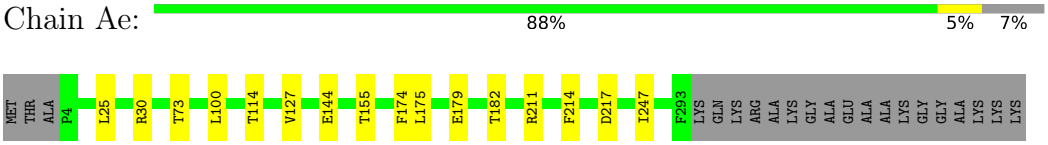
• Molecule 31: mL87

Chain Au:



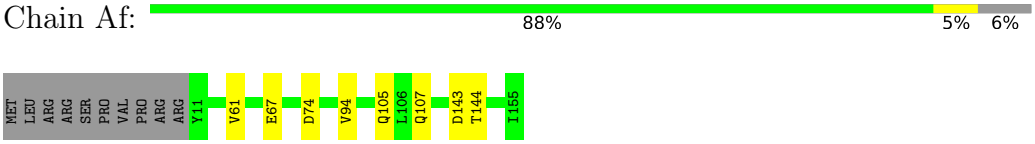
• Molecule 32: mL53

Chain Ae:



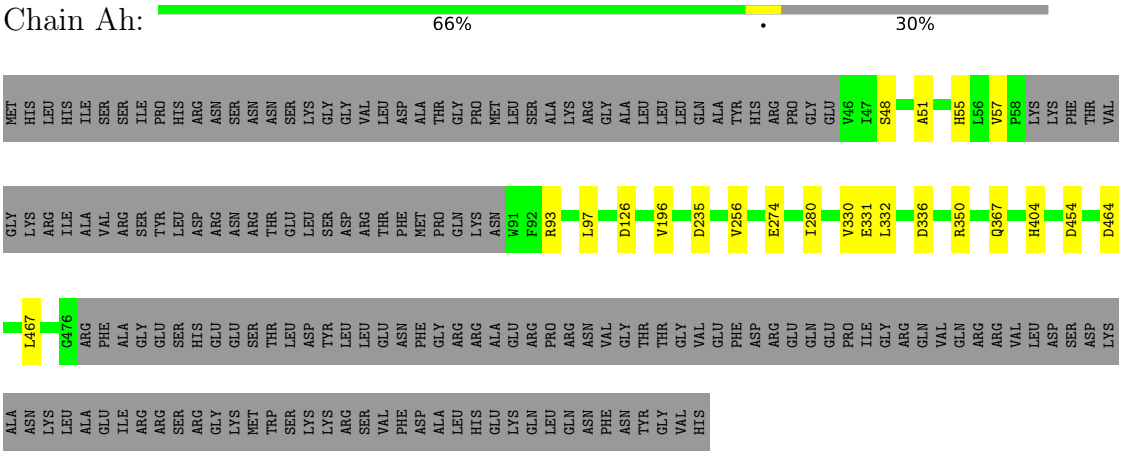
• Molecule 33: mL63

Chain Af:



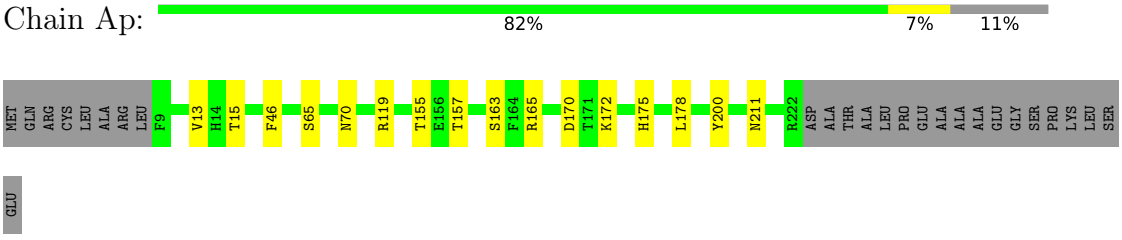
• Molecule 34: mL68

Chain Ah:



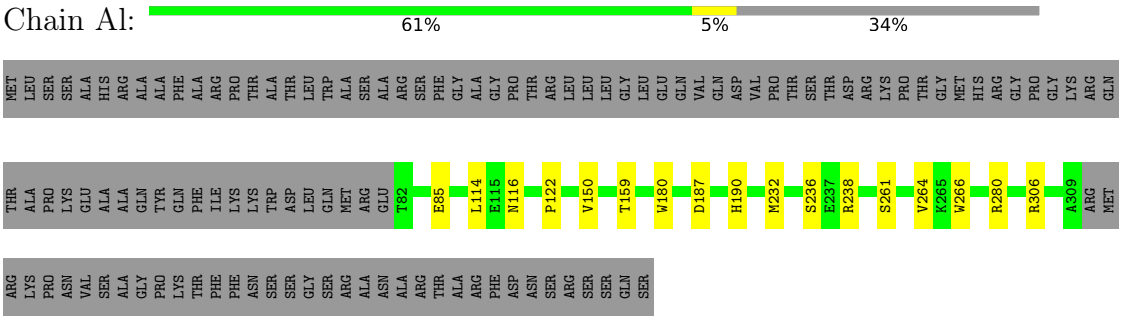
• Molecule 35: mL80

Chain Ap:



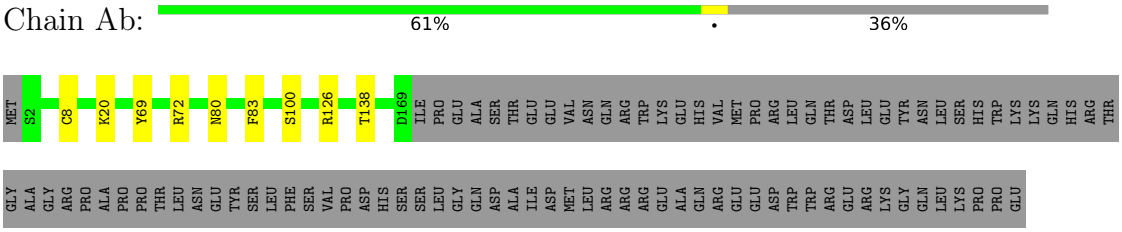
• Molecule 36: mL74

Chain Al:



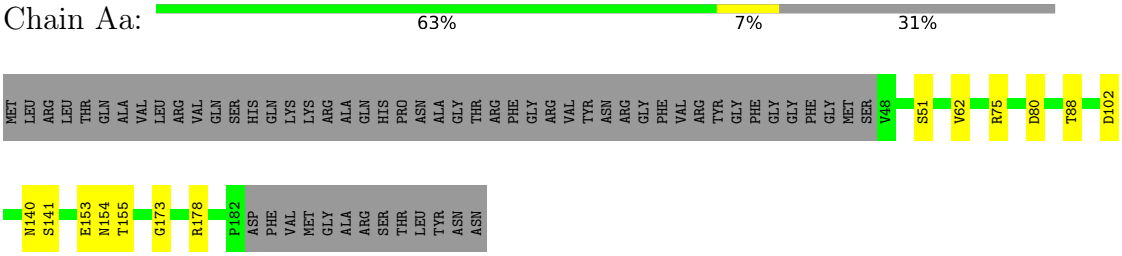
• Molecule 37: L51_S25_CI-B8 domain-containing protein

Chain Ab:



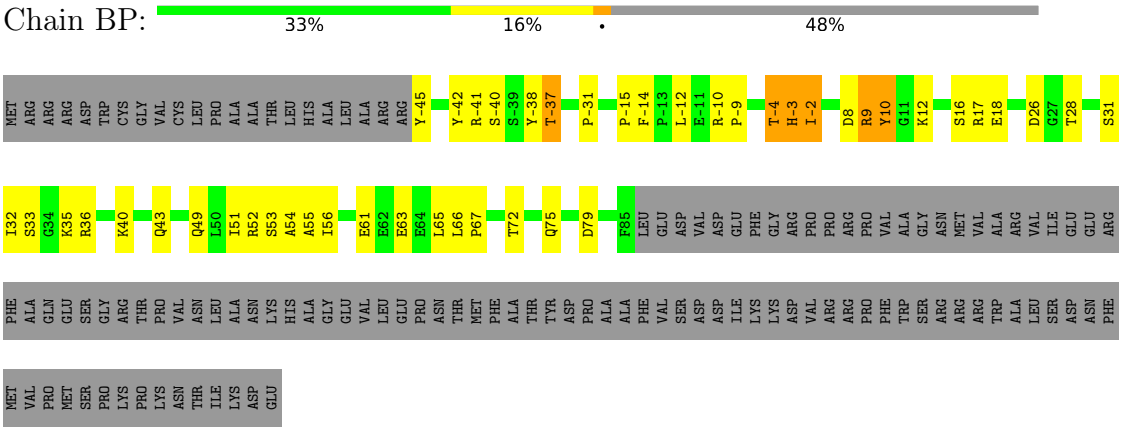
• Molecule 38: mL42

Chain Aa:



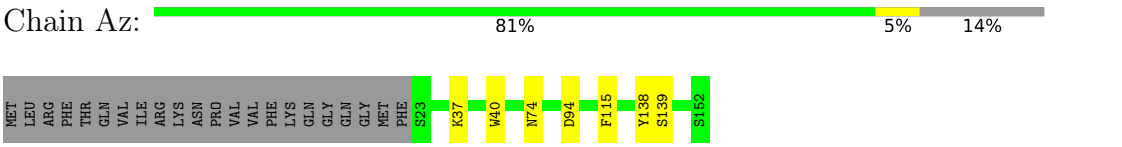
• Molecule 39: mL52,mL52

Chain BP:



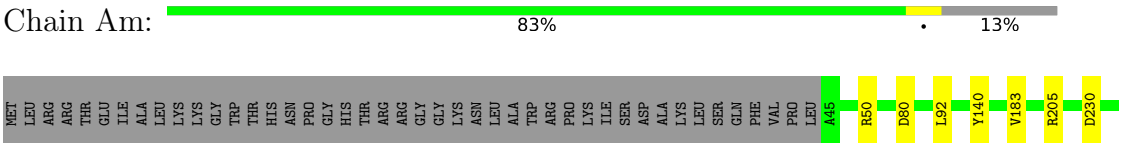
• Molecule 40: mL93

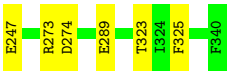
Chain Az:



• Molecule 41: mL75

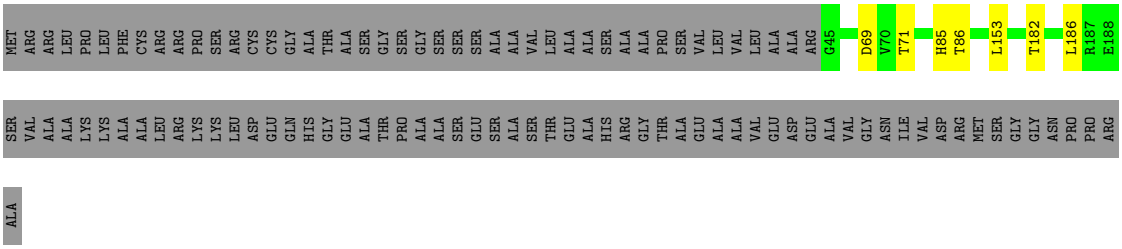
Chain Am:





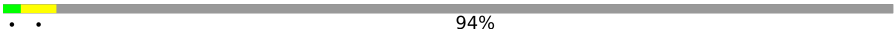
• Molecule 42: mL85

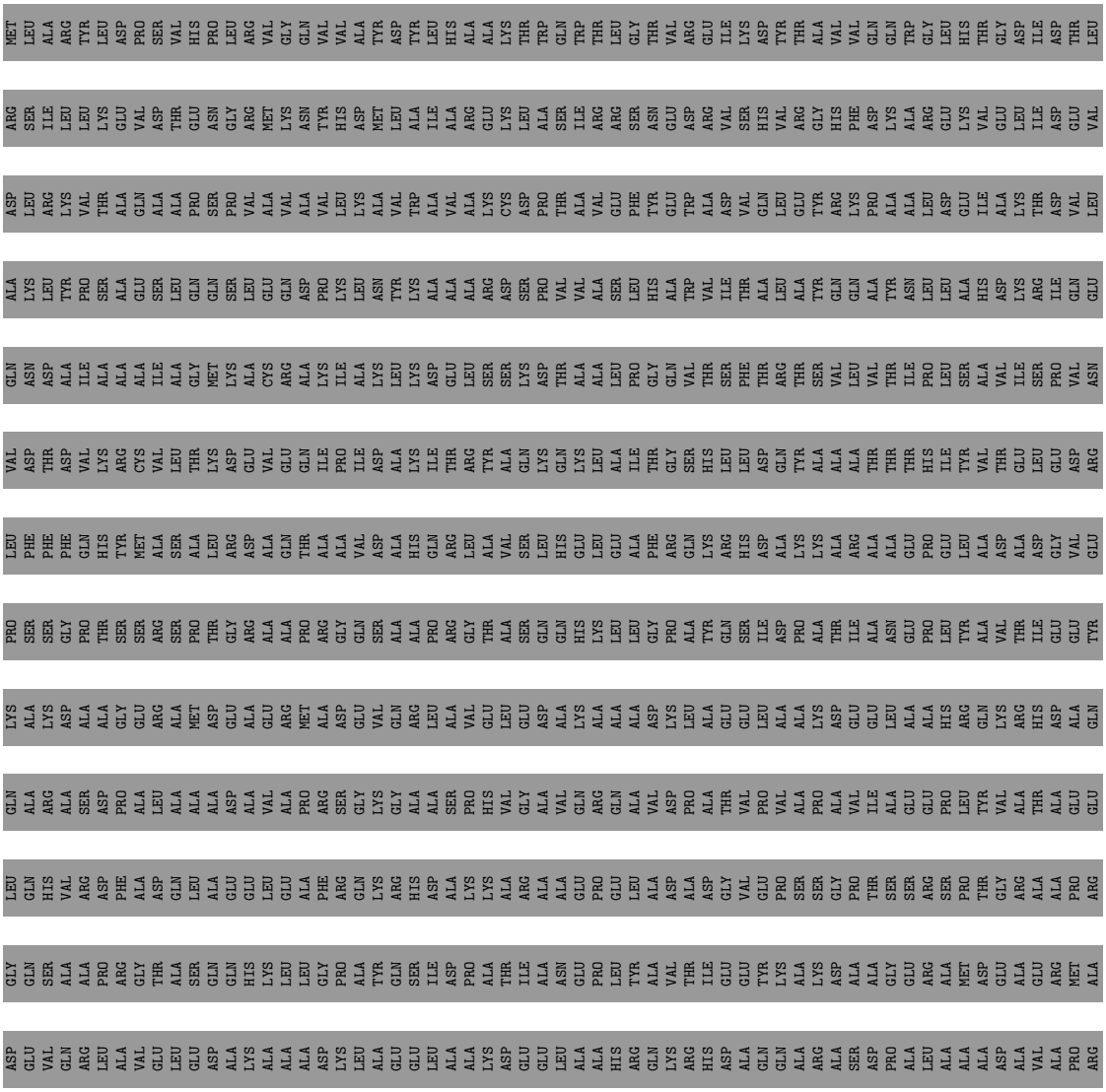
Chain As:

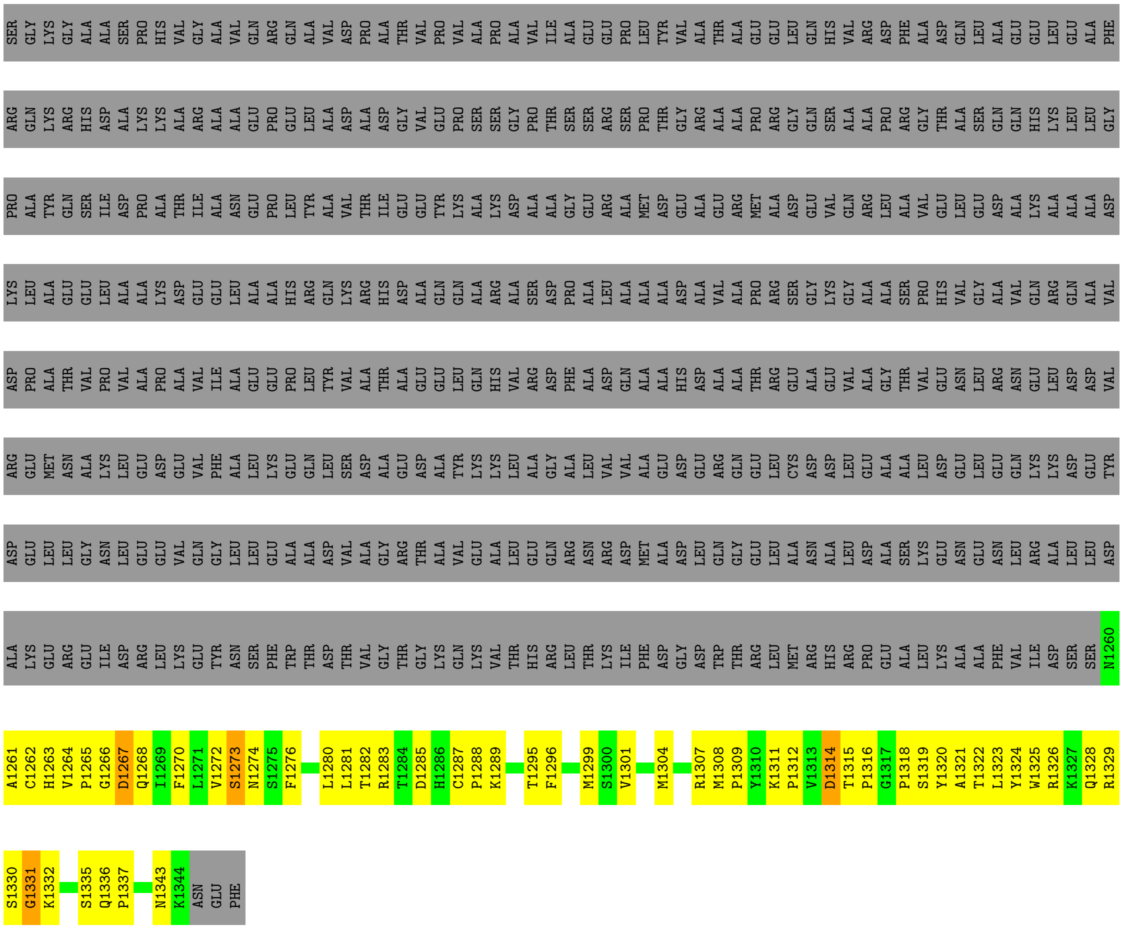


• Molecule 43: mL100

Chain BG:

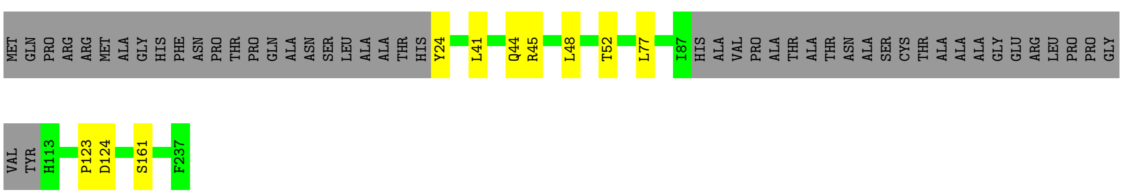






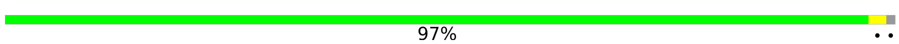
- Molecule 44: mL49

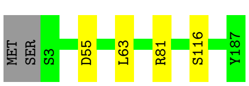
Chain Ad:



- Molecule 45: mL89

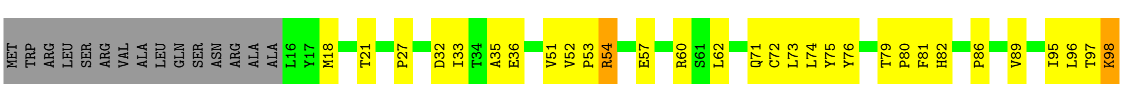
Chain Aw:

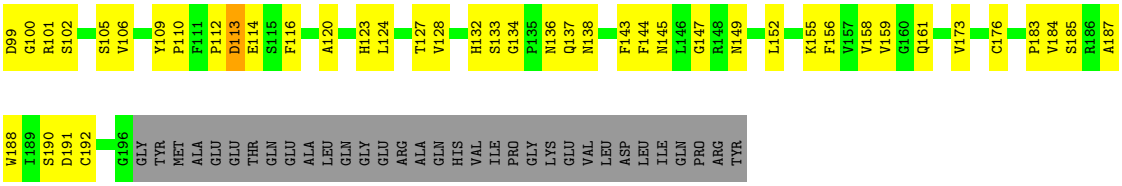




- Molecule 46: Peptidyl-prolyl cis-trans isomerase

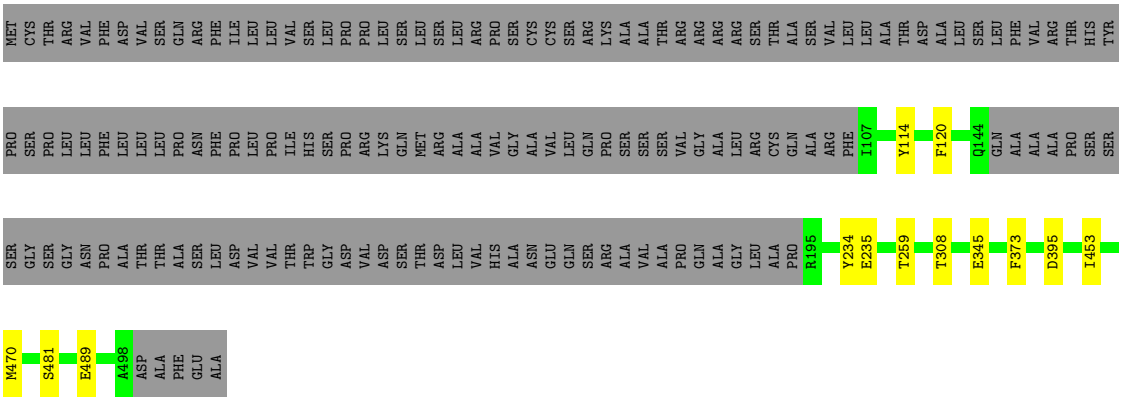
Chain BH:





• Molecule 47: mL72

Chain Aj:

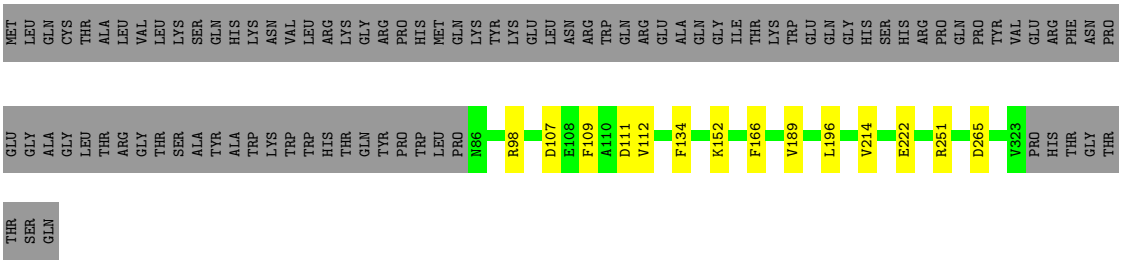


• Molecule 48: mL84

Chain Ar:

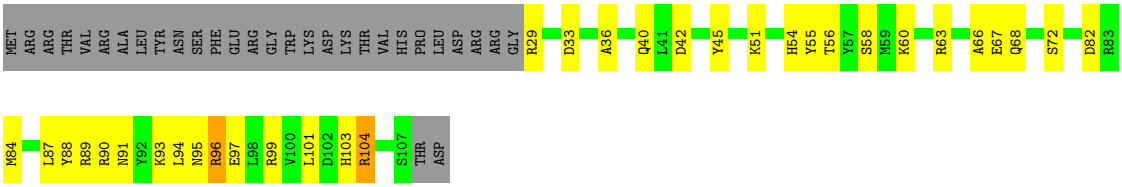
• Molecule 49: mL76

Chain An:



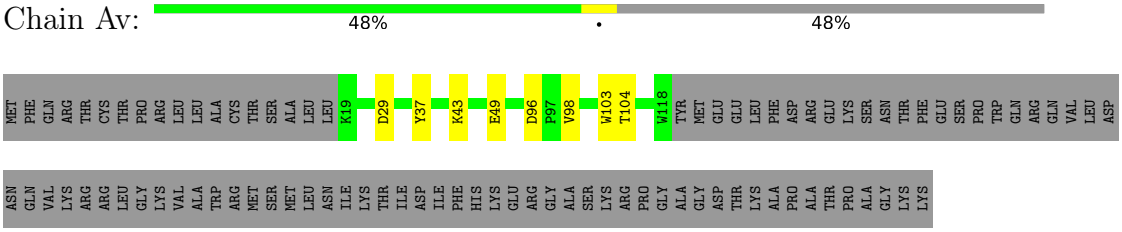
• Molecule 50: mL99

Chain BF:



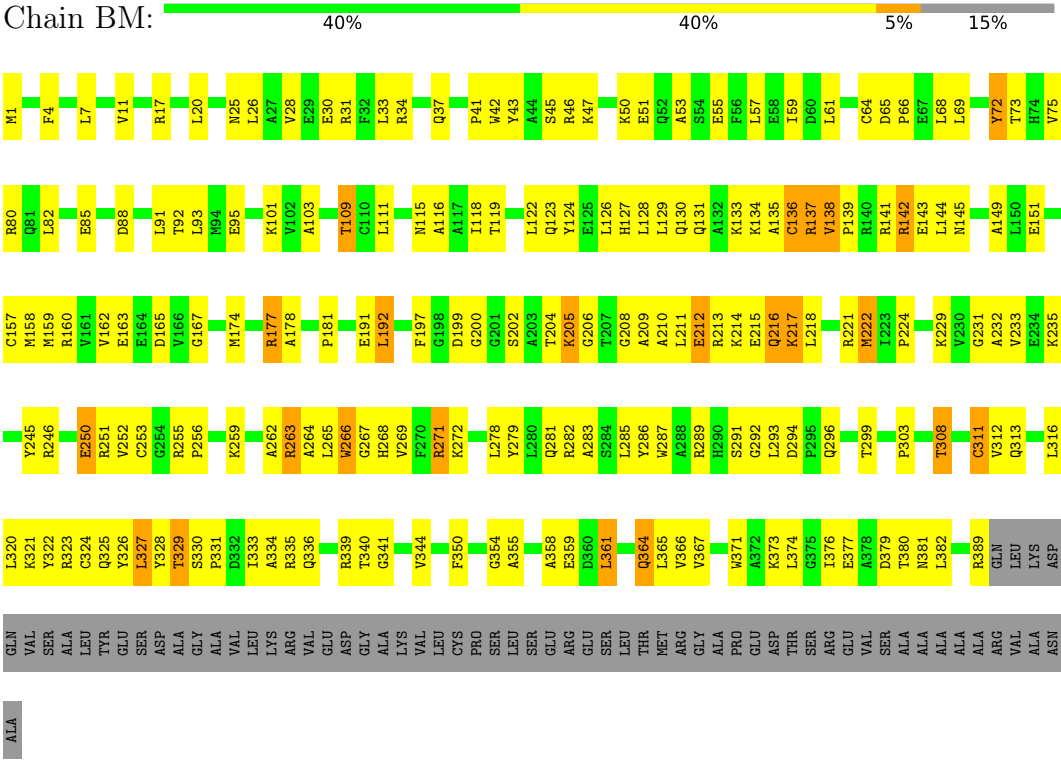
• Molecule 51: mL88

Chain Av:



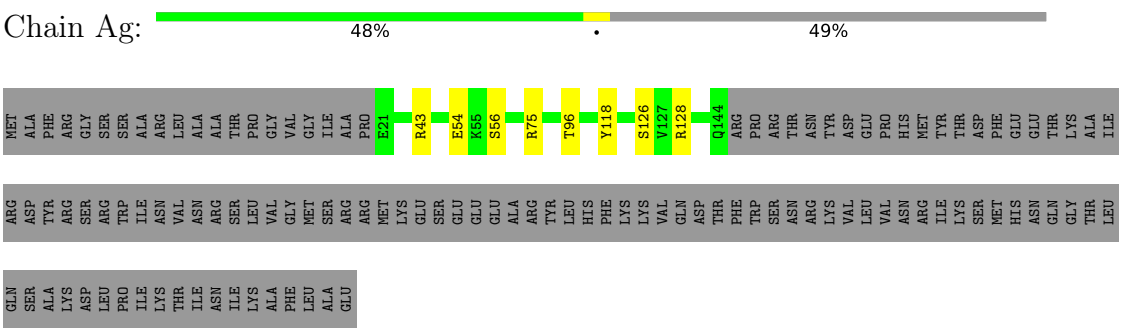
• Molecule 52: mL70

Chain BM:



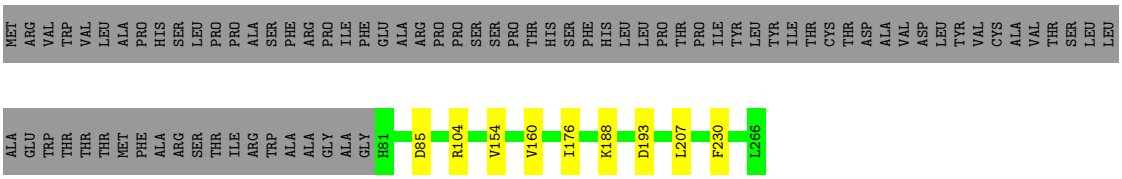
• Molecule 53: mL59/64

Chain Ag:



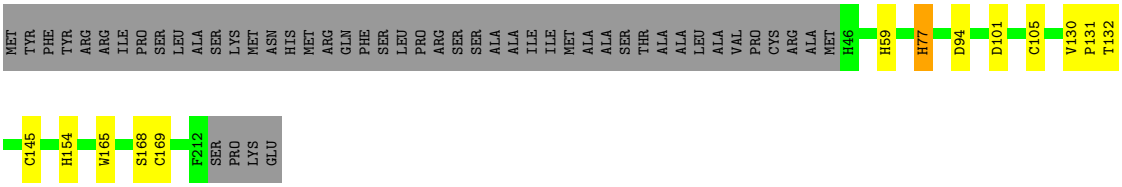
• Molecule 54: Peptidyl-prolyl cis-trans isomerase

Chain Bl:



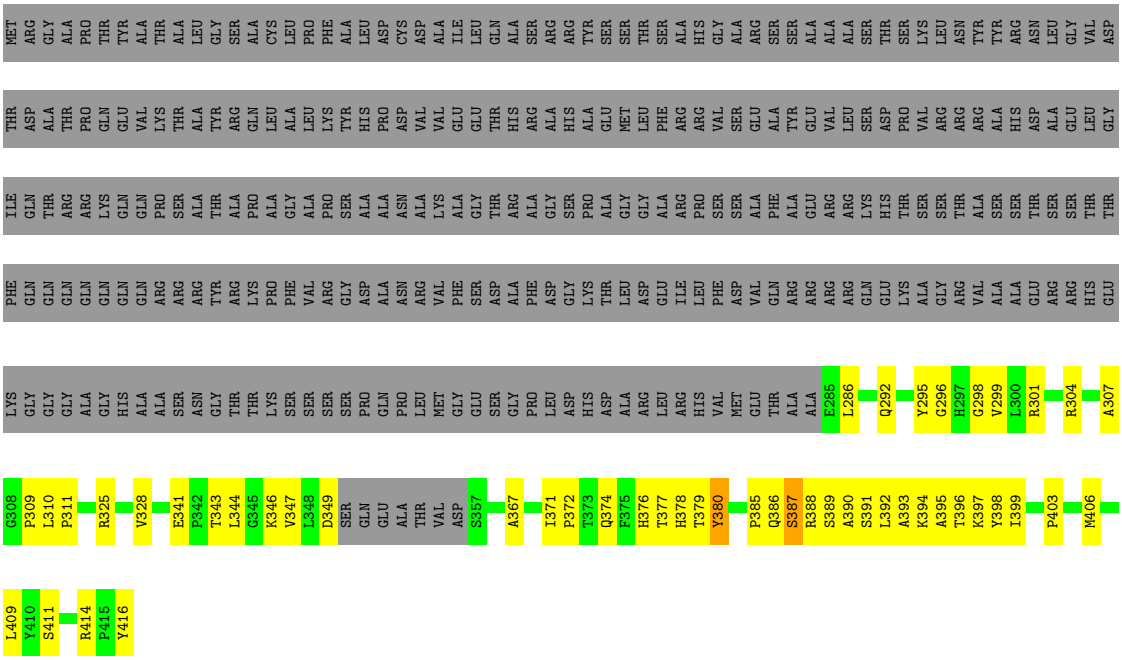
• Molecule 55: LIM zinc-binding domain-containing protein

Chain Ax:



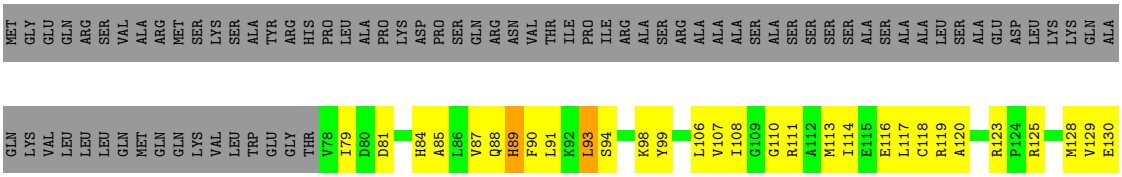
• Molecule 56: DNAj-like protein

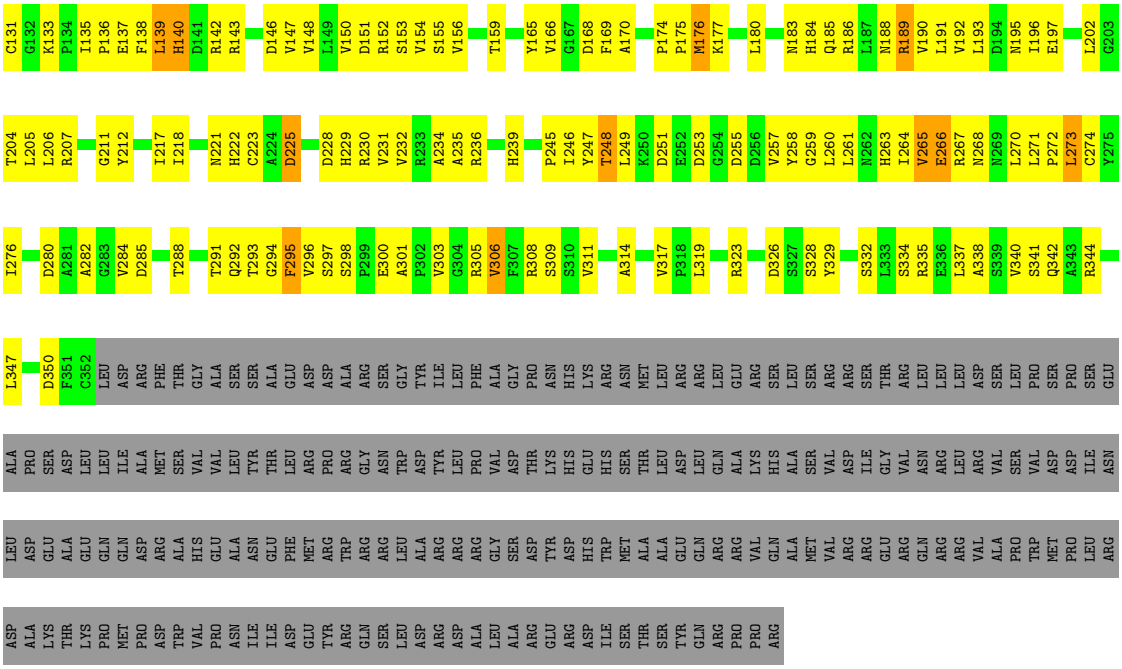
Chain BS:



• Molecule 57: SpoU_methylase domain-containing protein

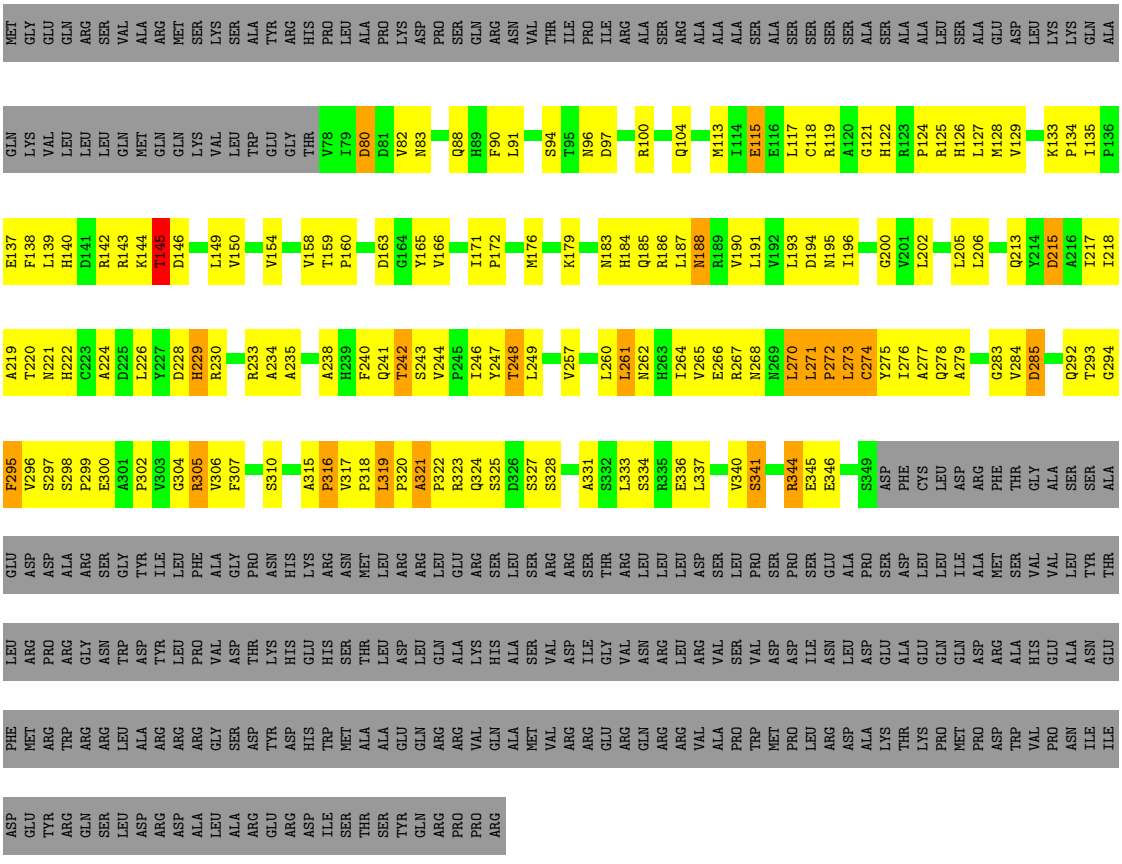
Chain BY:





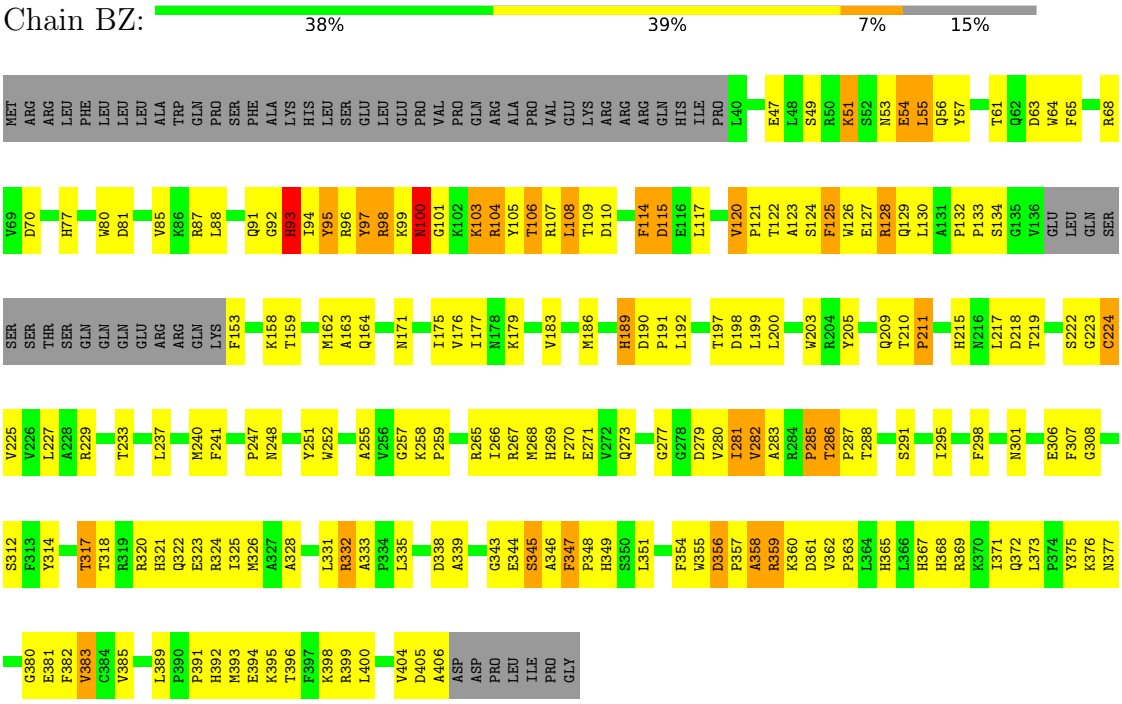
• Molecule 57: SpoU_methylase domain-containing protein

Chain BX:



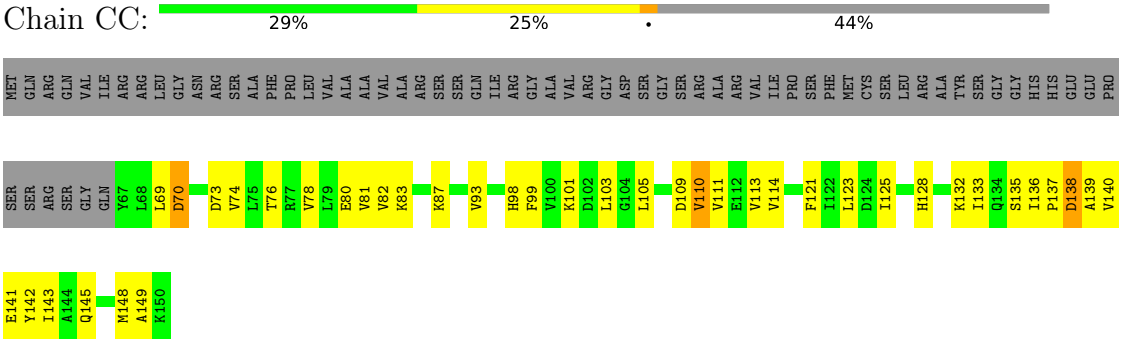
• Molecule 58: Pseudouridylate synthase-like protein

Chain BZ:



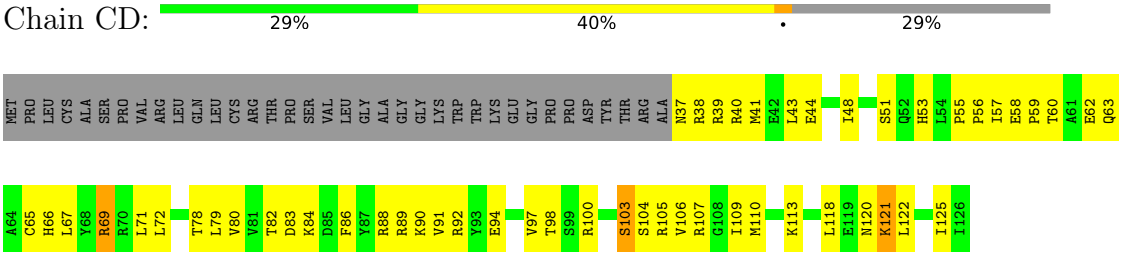
• Molecule 59: Acyl carrier protein

Chain CC:



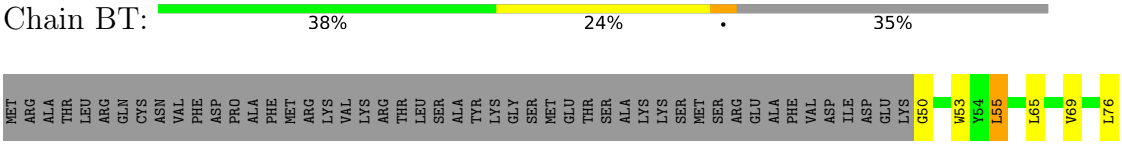
• Molecule 60: L0R8F8

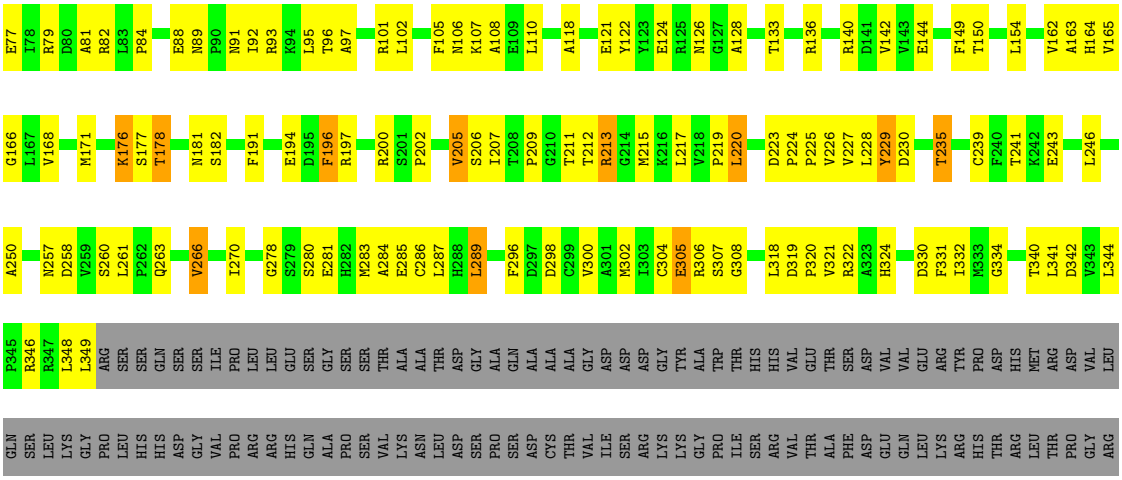
Chain CD:



• Molecule 61: G domain-containing protein

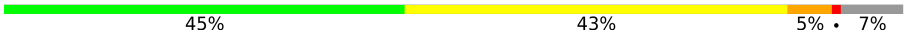
Chain BT:

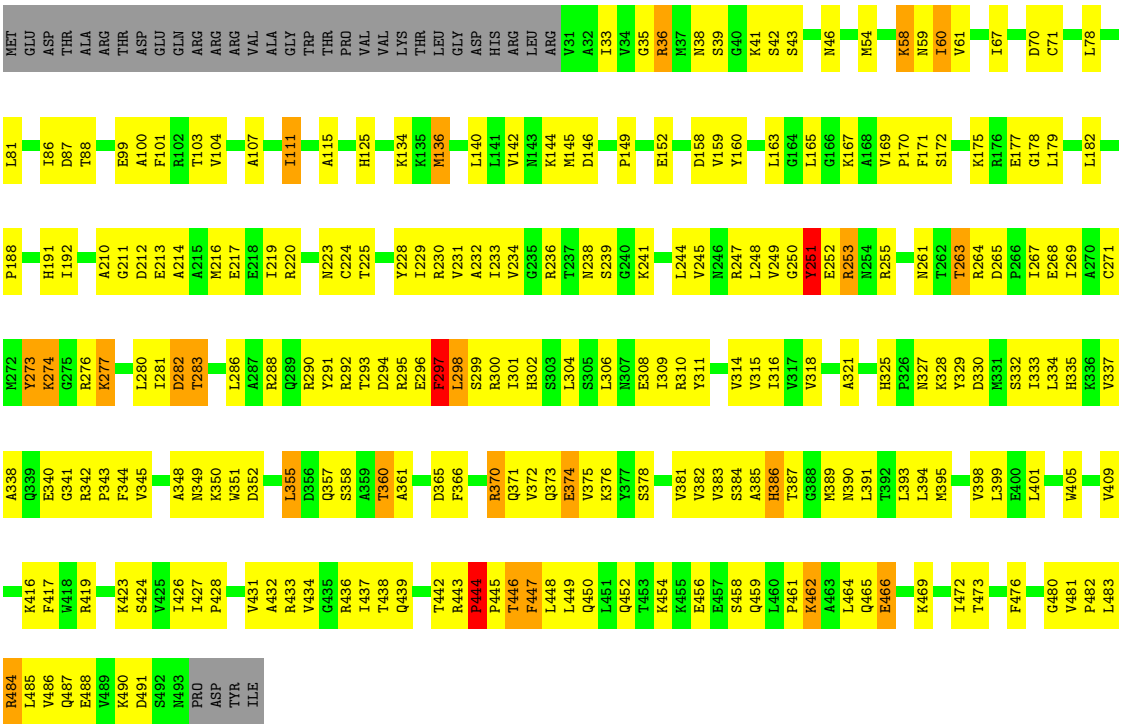




• Molecule 62: GTPase Der

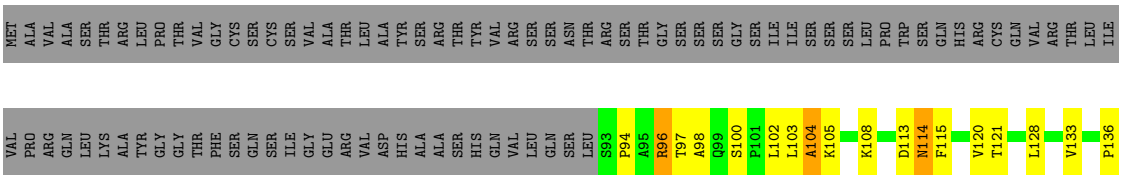
Chain BU:

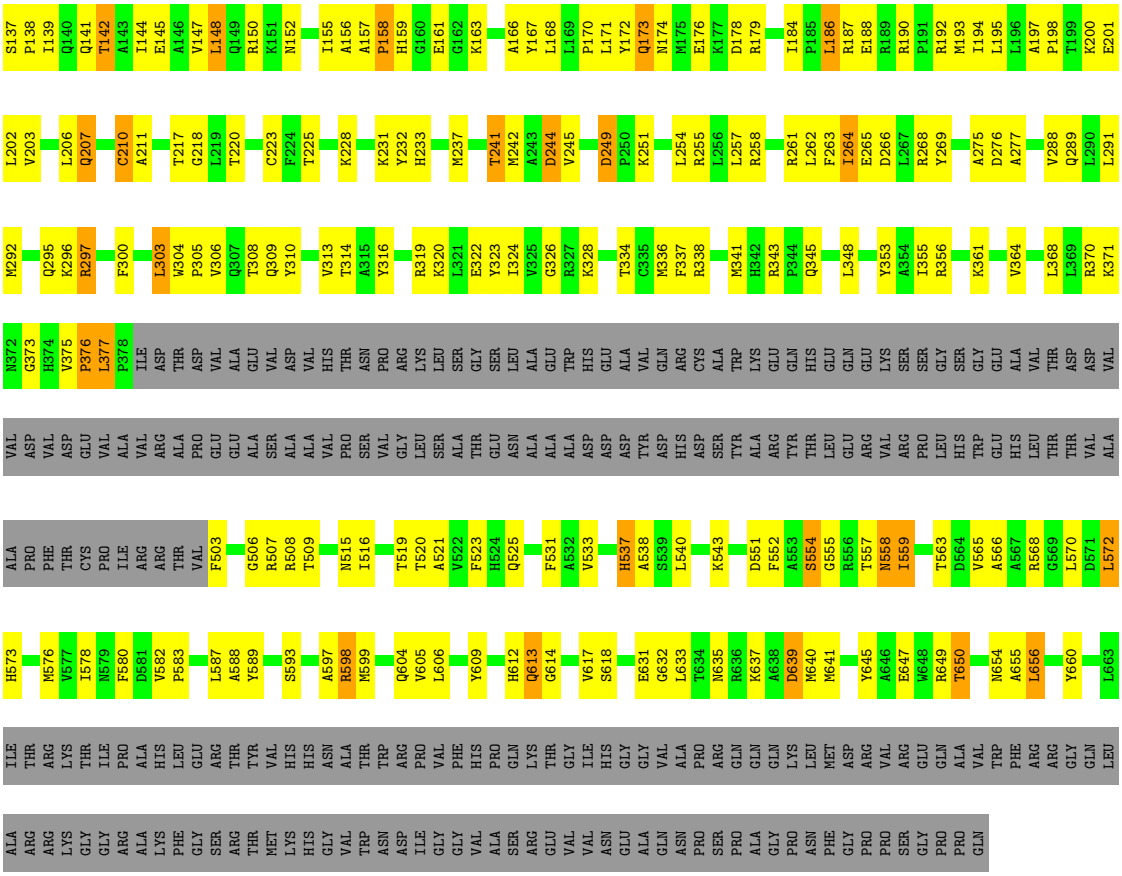




• Molecule 63: DEAD/DEAH box helicase-like protein

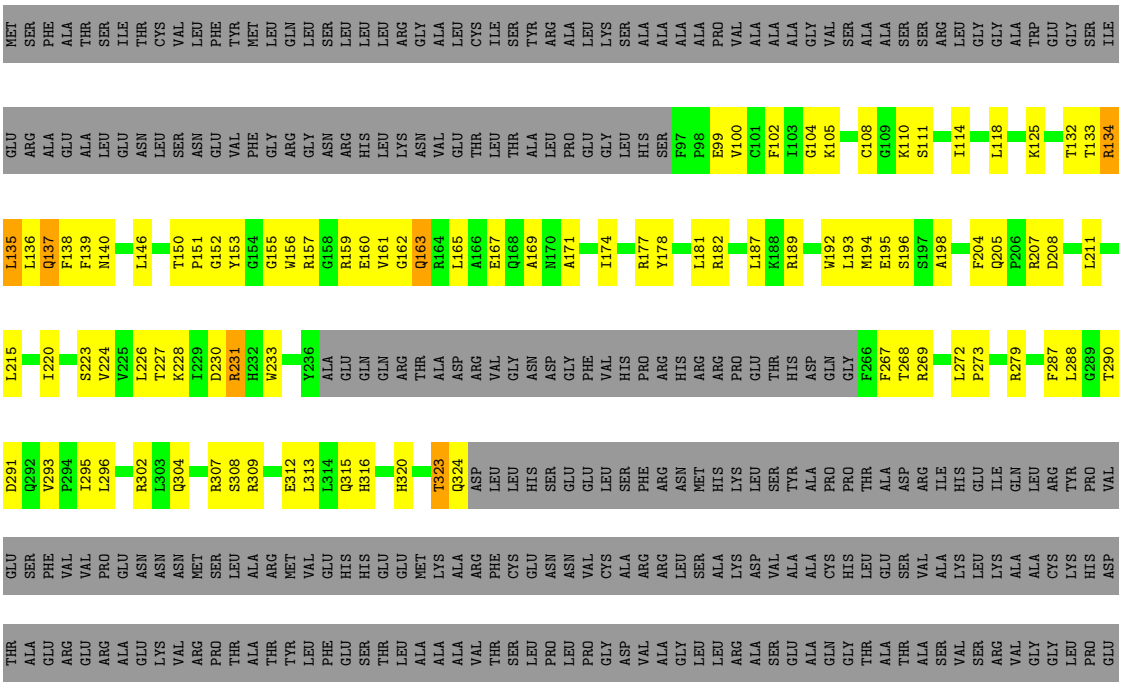
Chain BW:

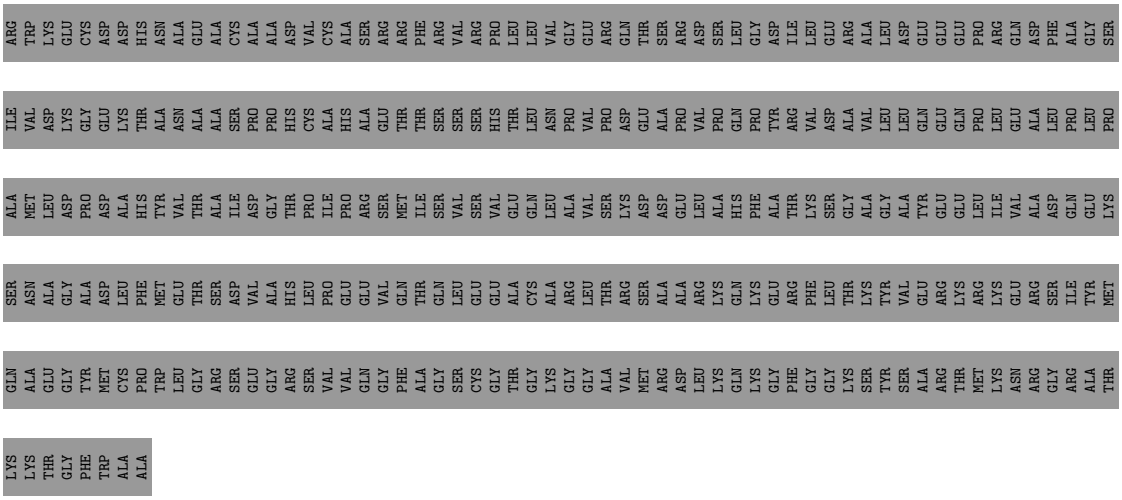




• Molecule 64: G domain-containing protein

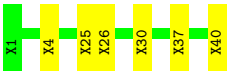
Chain BV: 14% 11% 75%





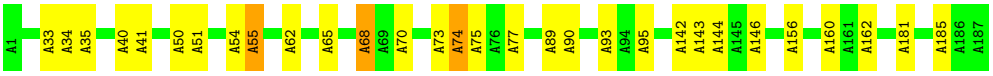
• Molecule 65: mL78

Chain U7:



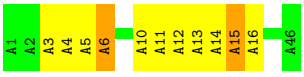
• Molecule 66: U6

Chain U6:



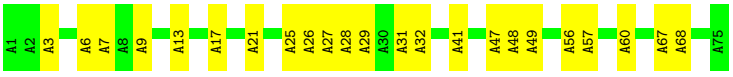
• Molecule 67: U1

Chain U1:



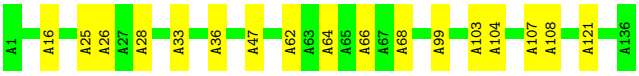
• Molecule 68: U3

Chain U3:



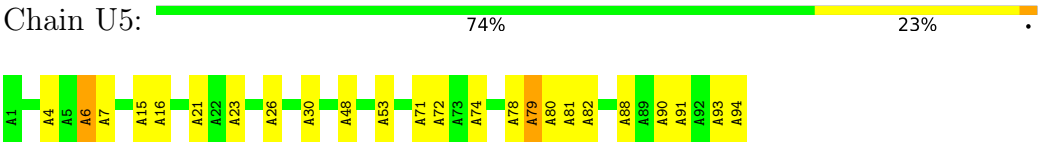
• Molecule 69: U4

Chain U4:



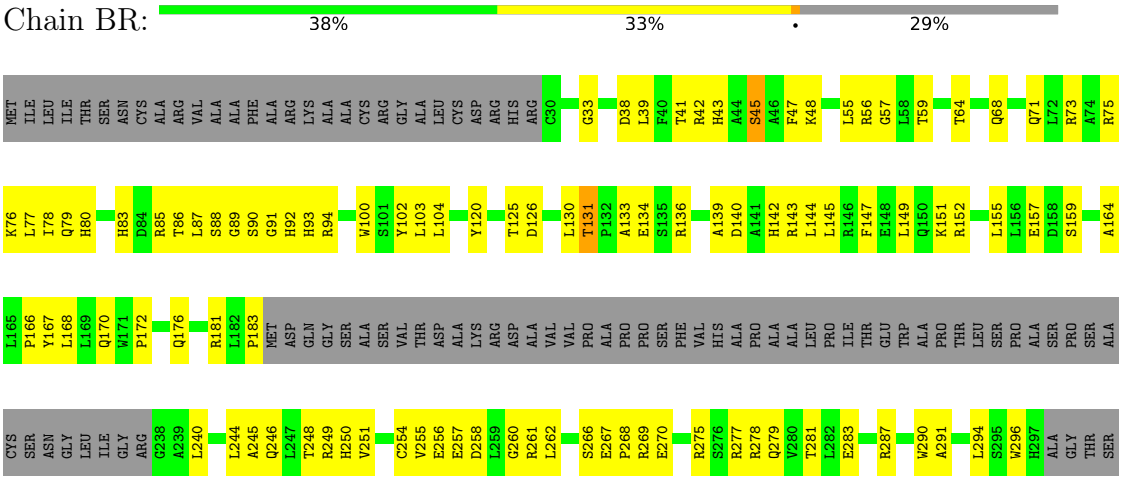
• Molecule 70: U5

Chain U5:



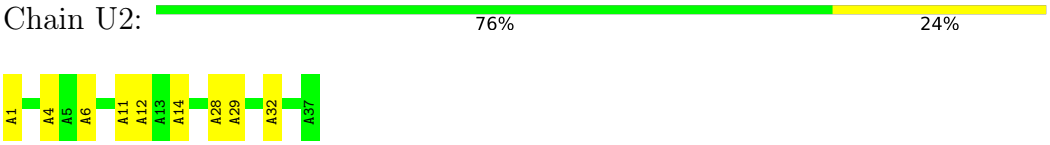
• Molecule 71: mL78

Chain BR:



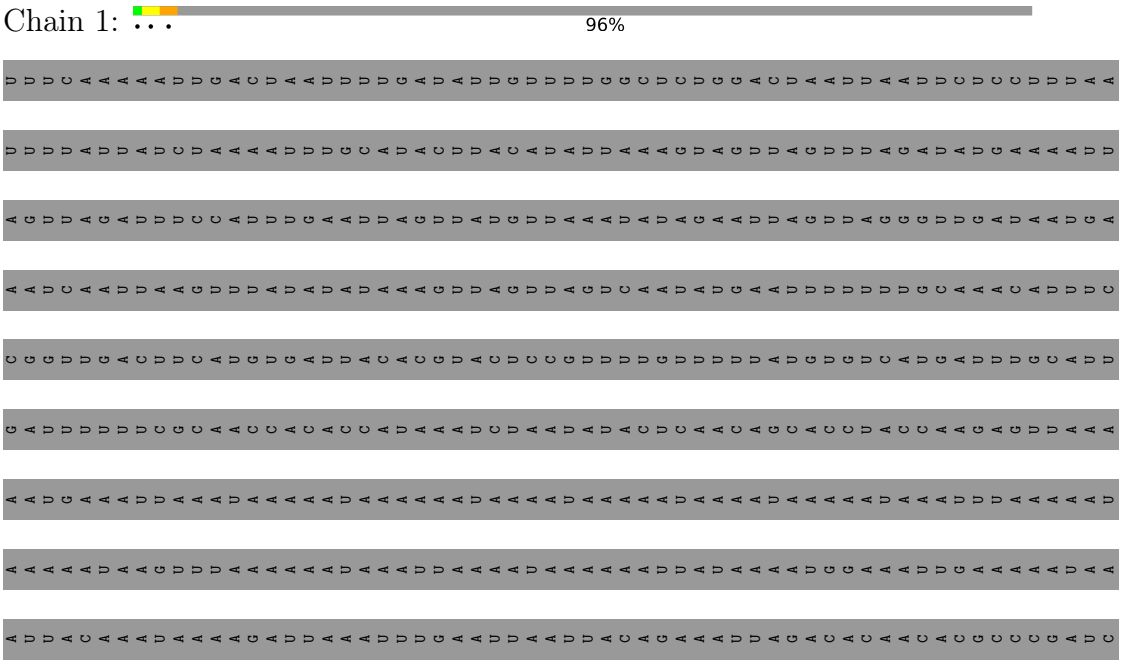
• Molecule 72: U2

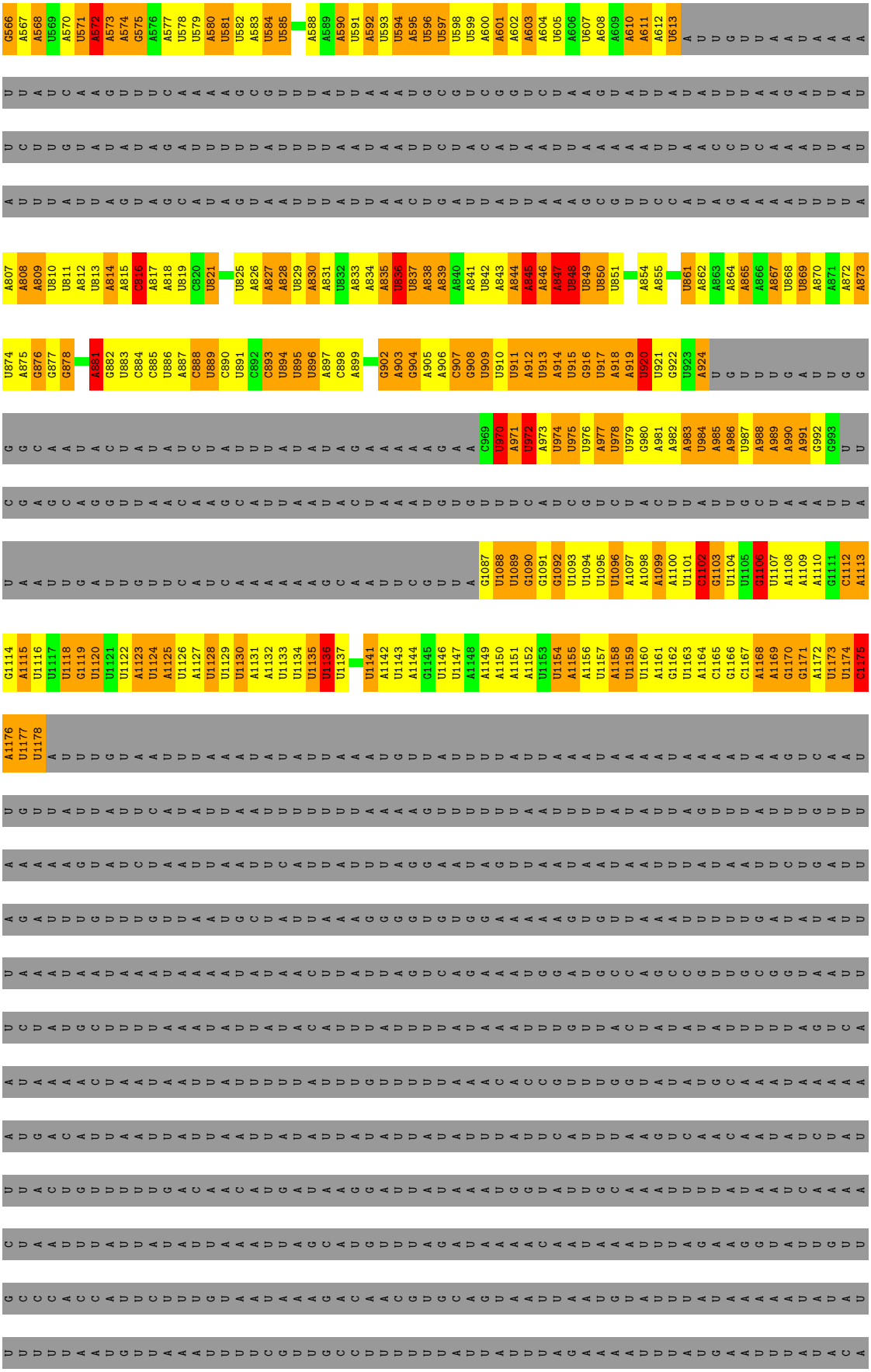
Chain U2:

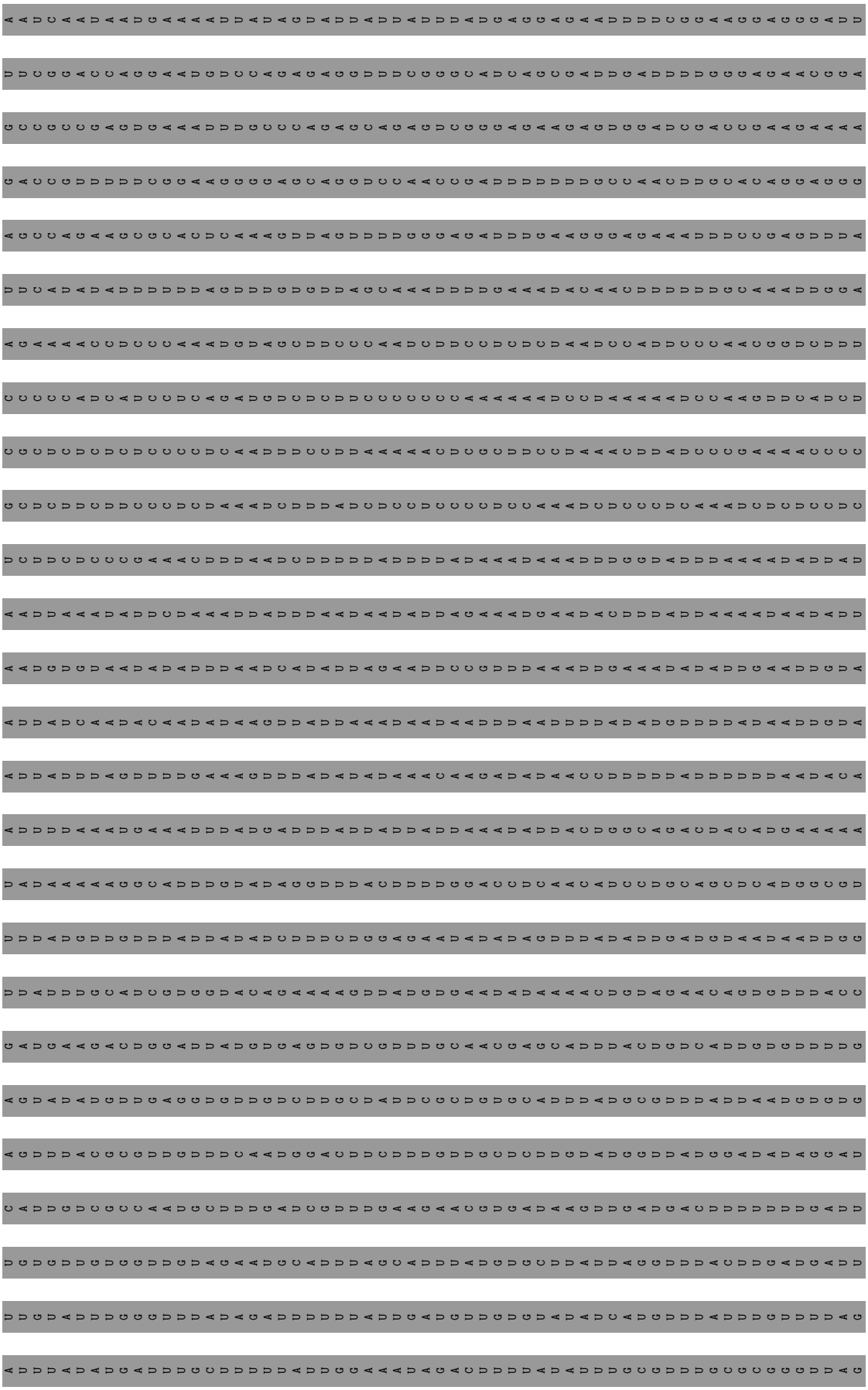


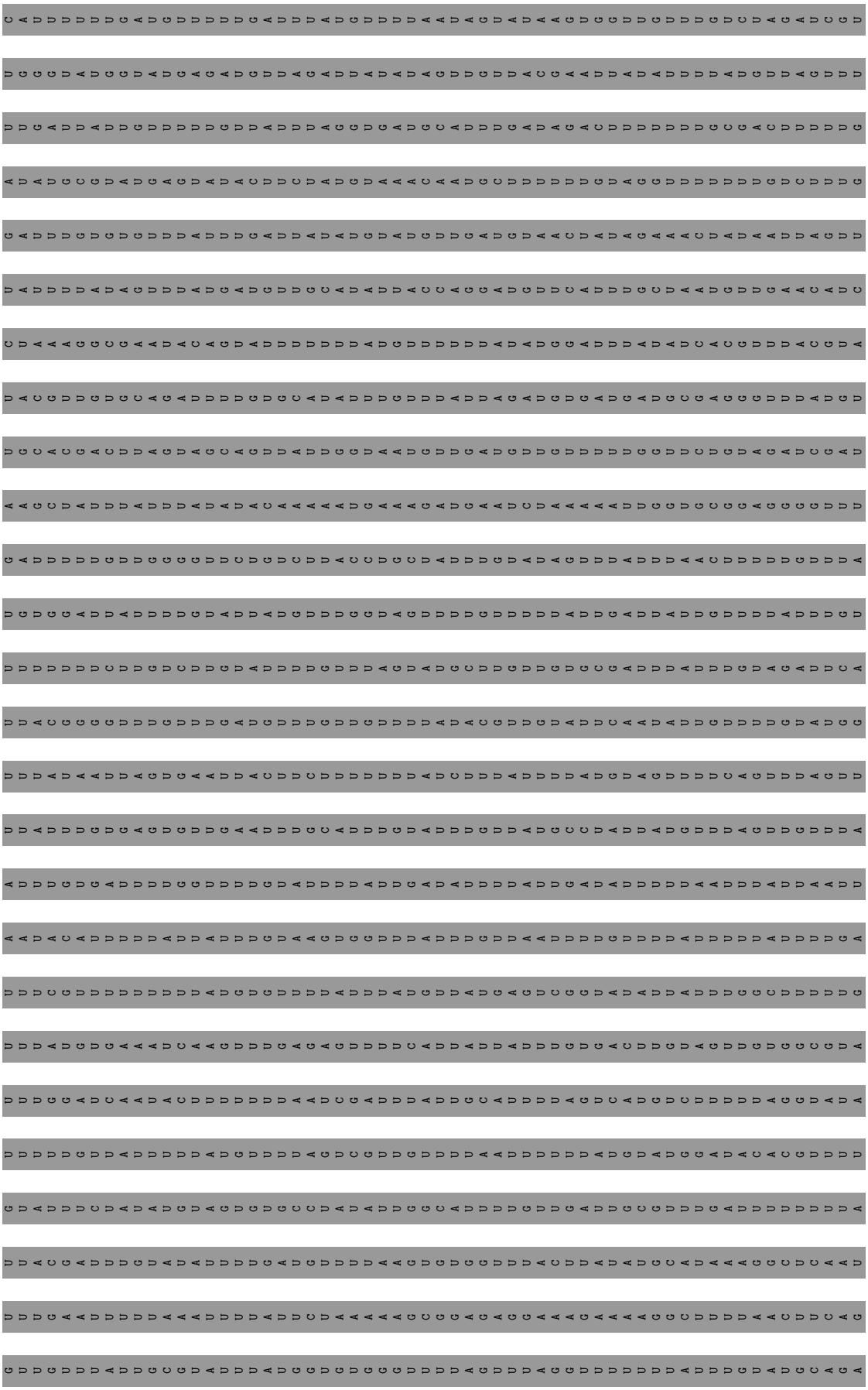
• Molecule 73: Ribosomal RNA

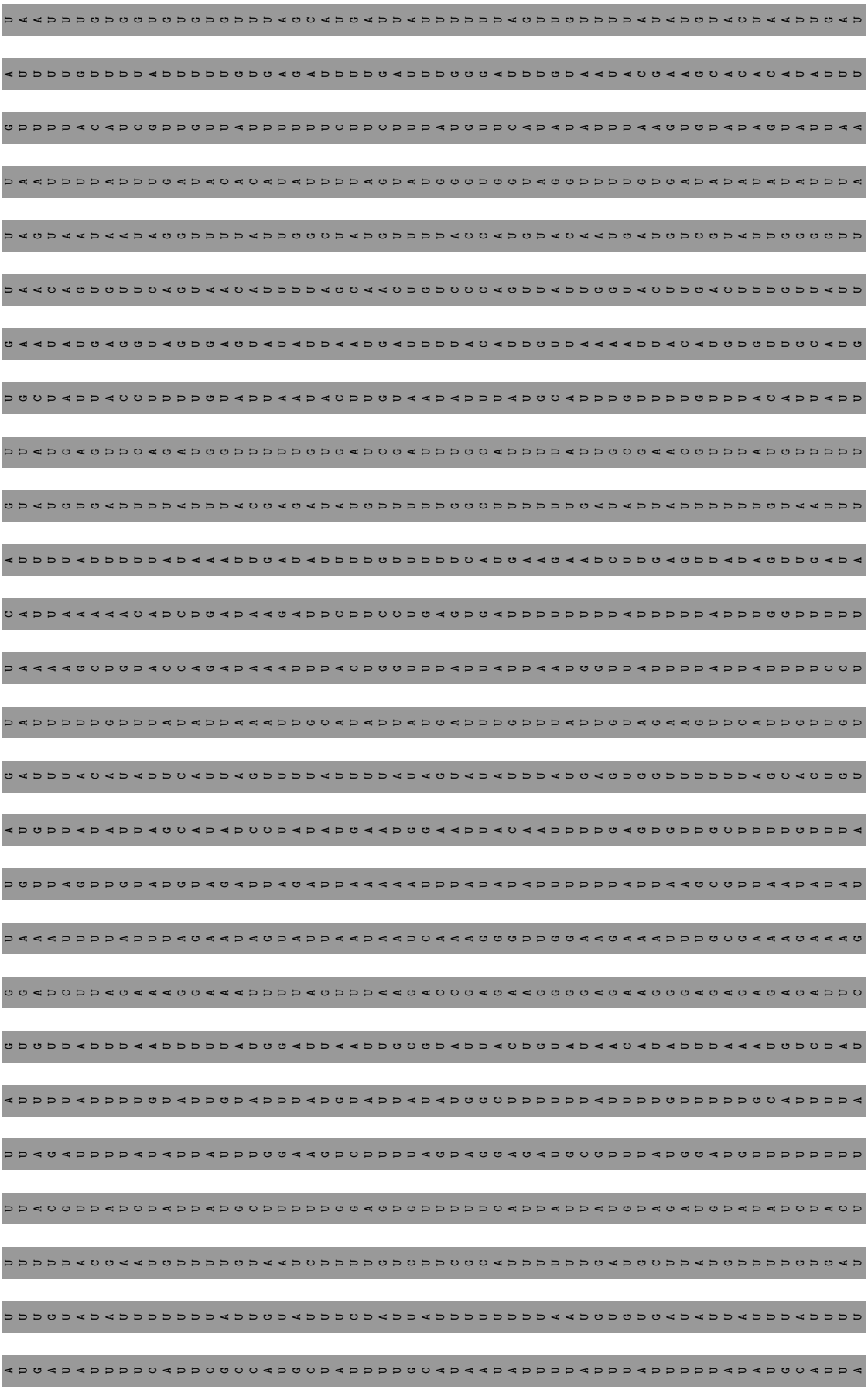
Chain 1:

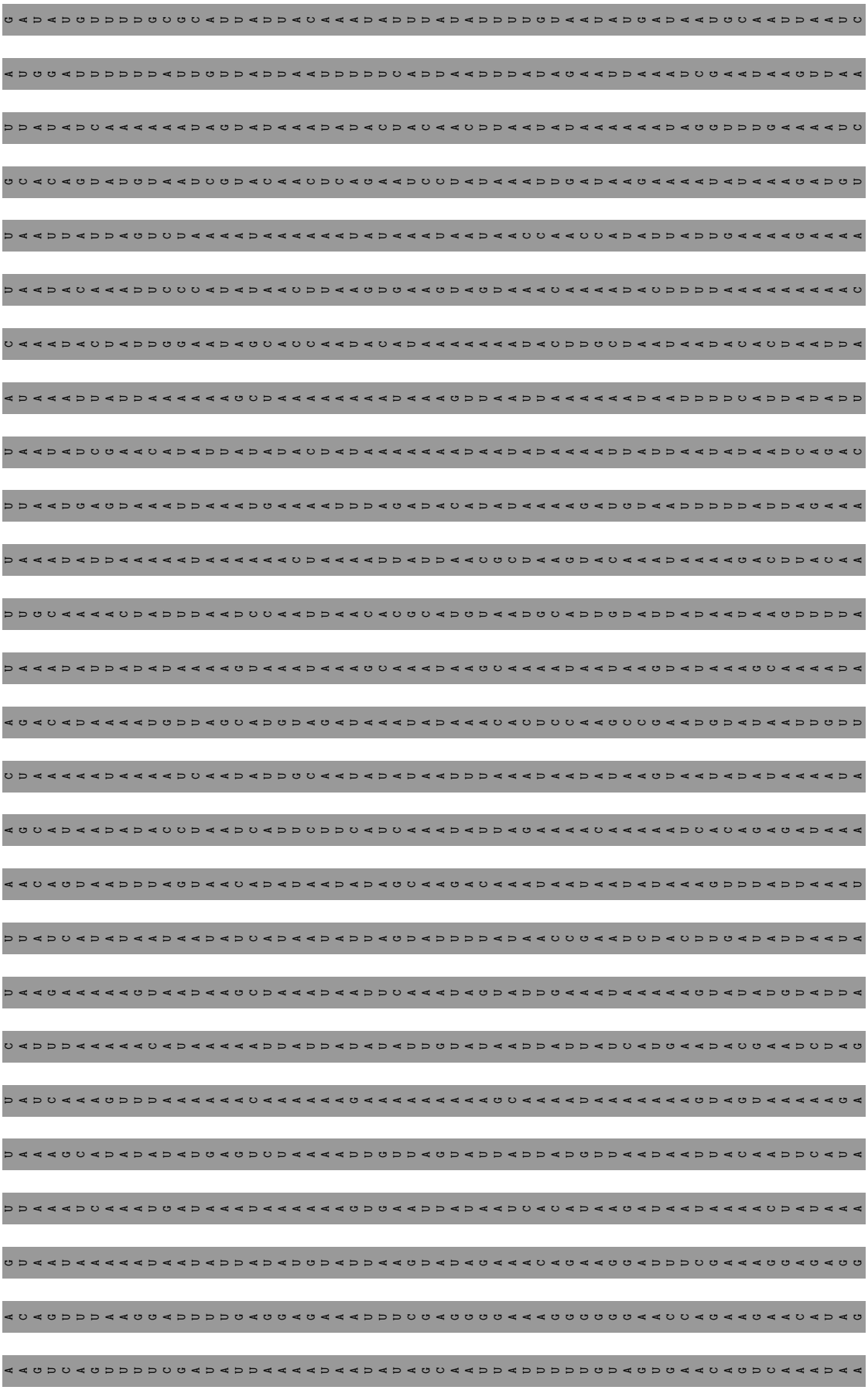


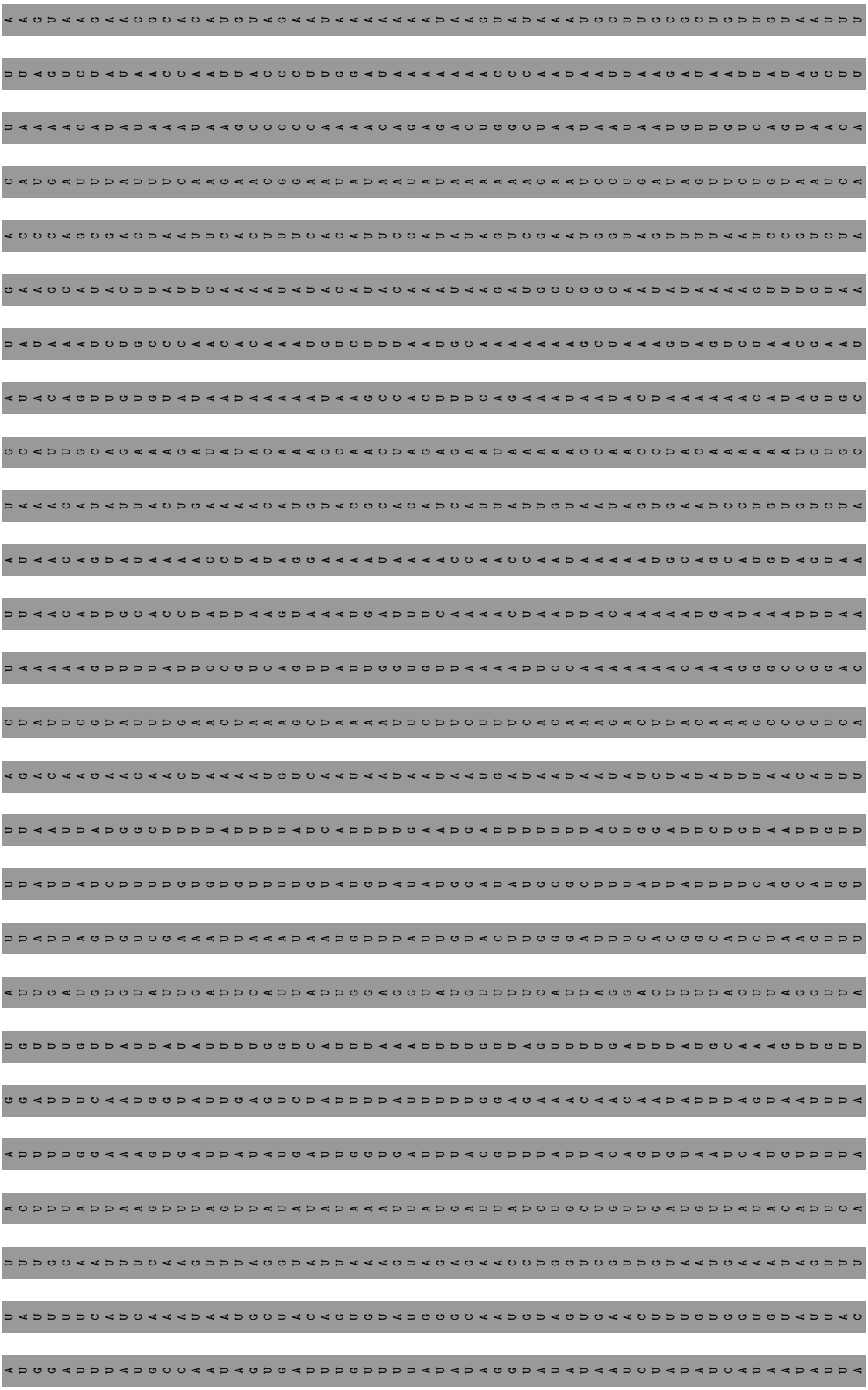


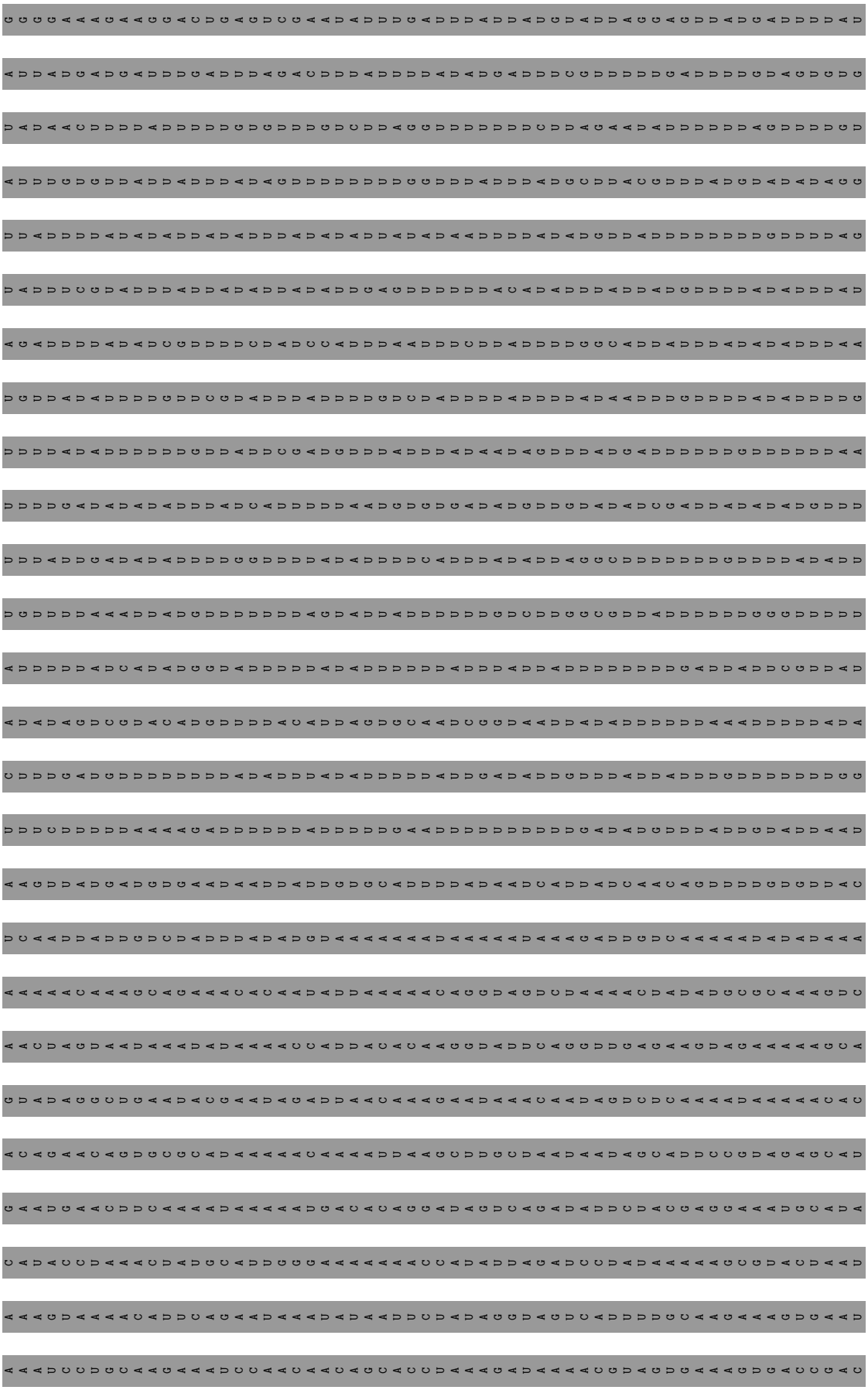


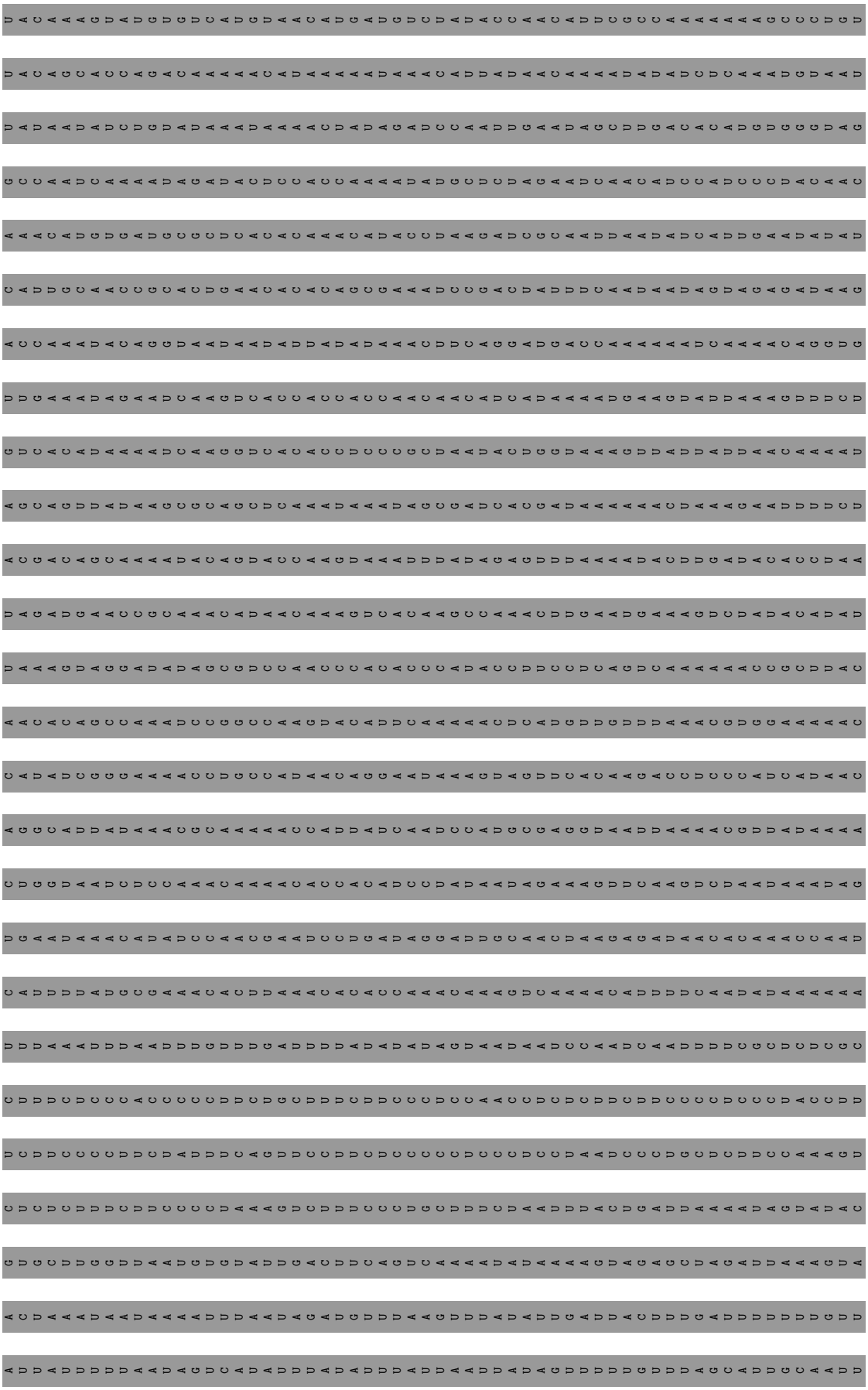


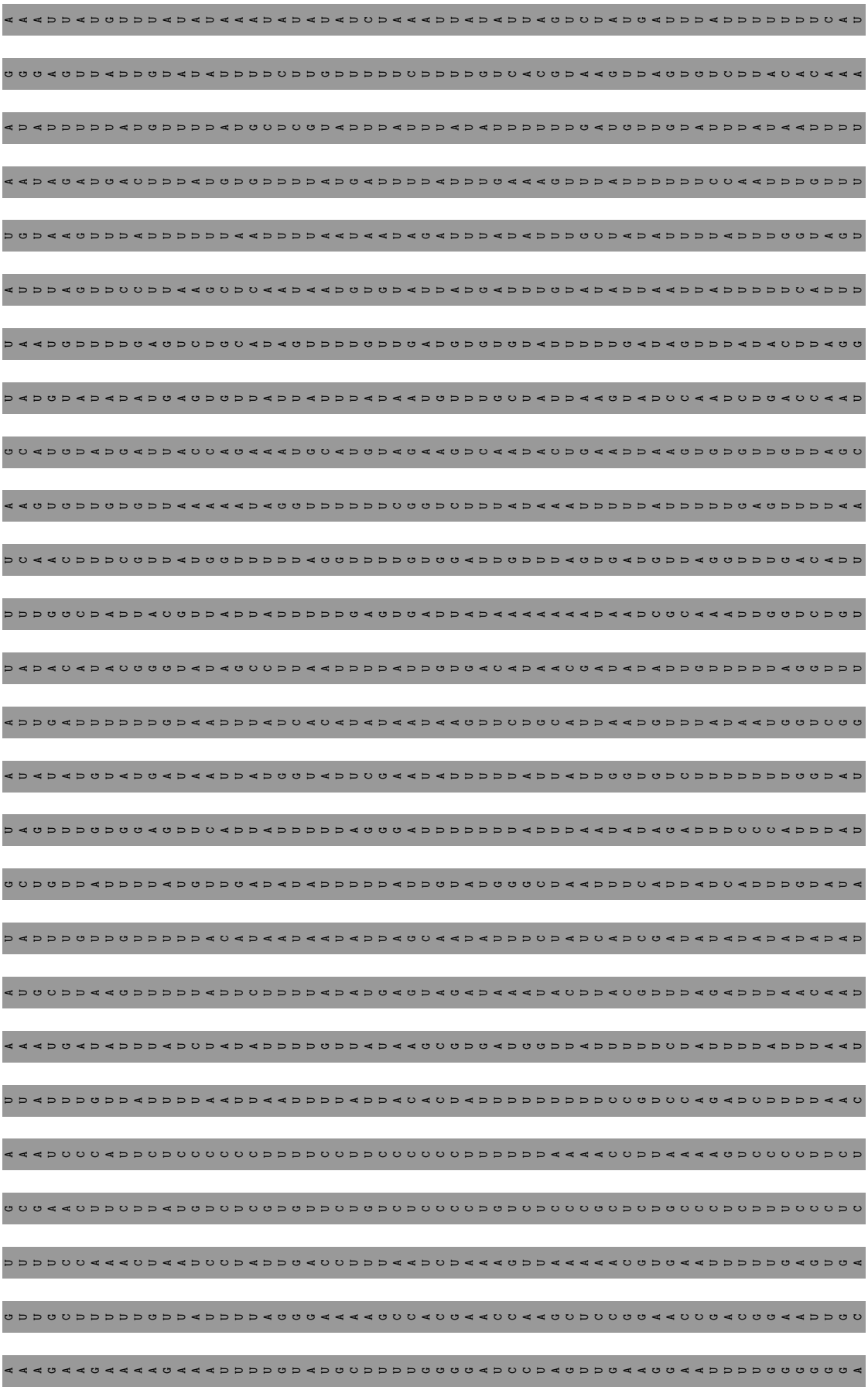


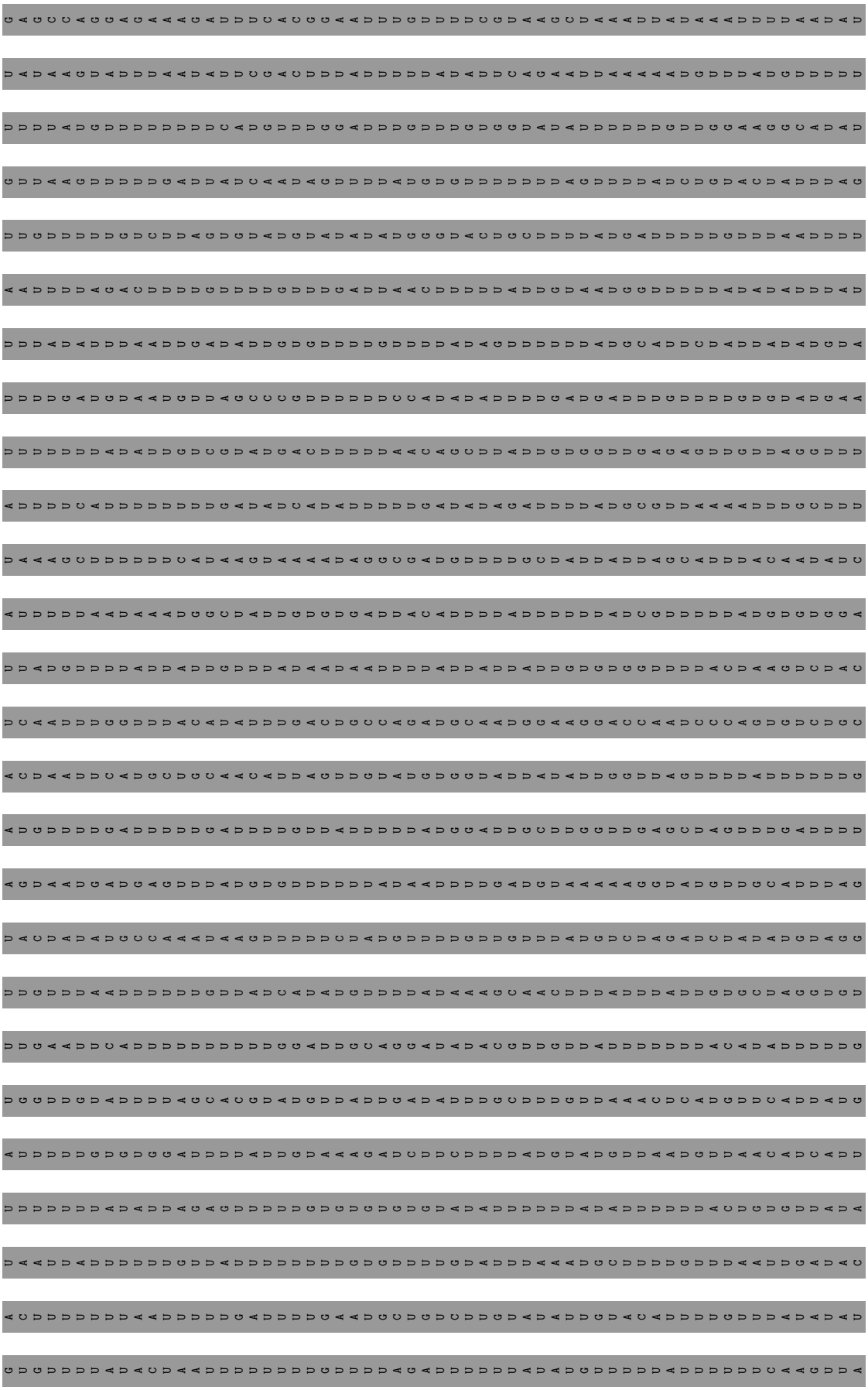


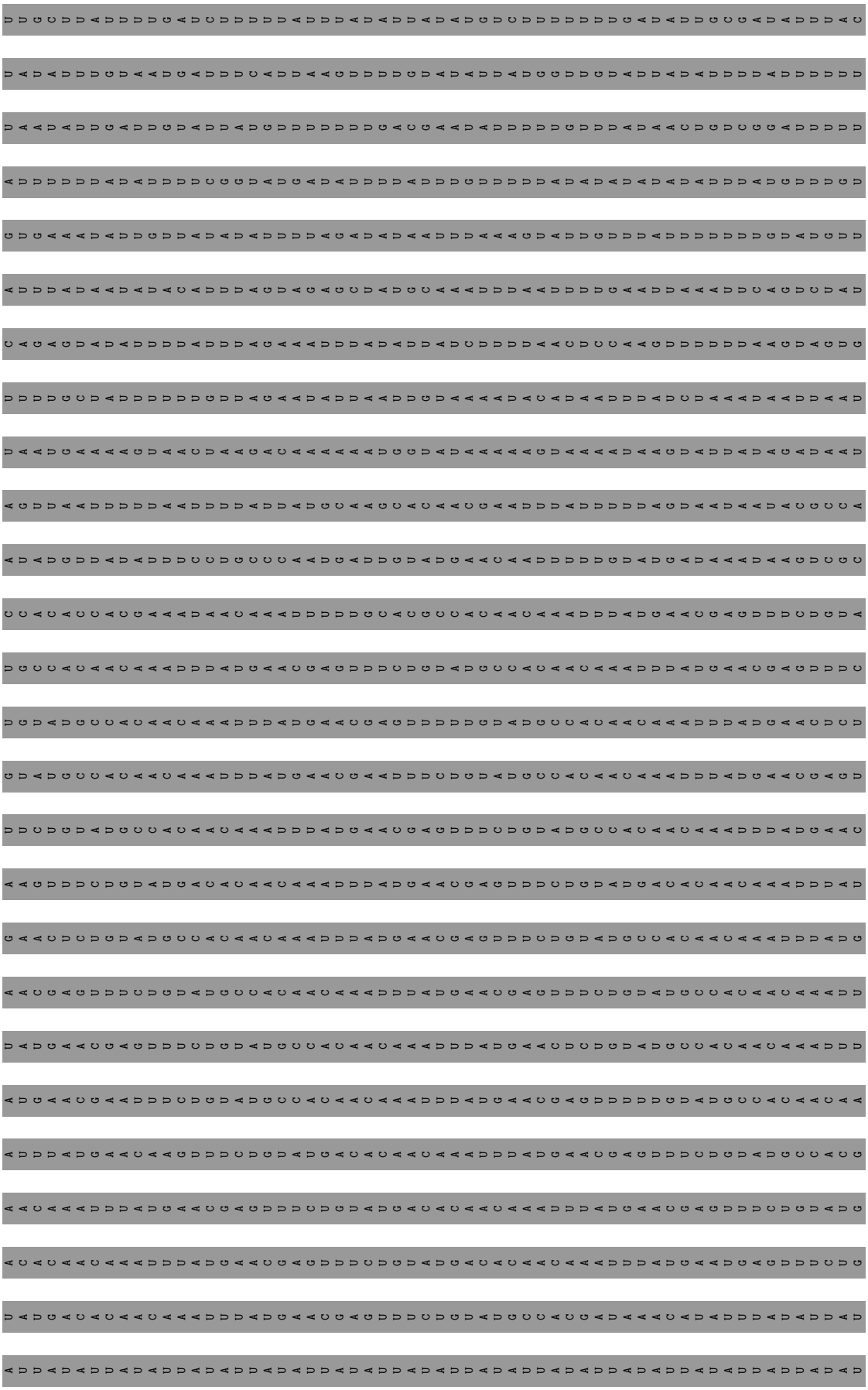


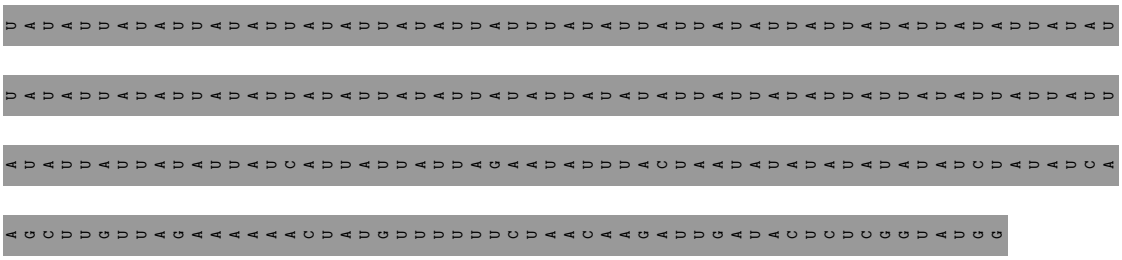












- Molecule 74: R1

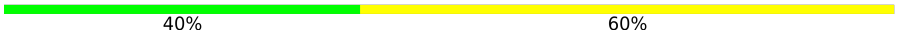
Chain R1:

- Molecule 75: R2

Chain R2:

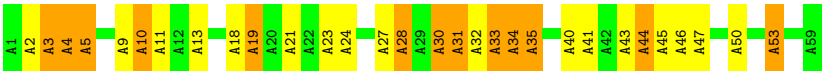
- Molecule 76: R5

Chain R5:



- Molecule 77: U8

Chain U8:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	59200	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/Å^2$)	60	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ATP, GTP

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	A	0.48	0/3011	0.49	0/4097
2	B	1.07	1/3623 (0.0%)	0.49	1/4931 (0.0%)
3	C	0.41	0/1831	0.48	0/2498
4	E	0.32	0/1864	0.46	0/2512
5	F	0.47	0/1272	0.51	0/1730
6	G	0.48	0/2857	0.64	5/3879 (0.1%)
7	I	0.41	0/2220	0.46	0/2998
8	J	0.47	0/1175	0.70	0/1582
9	K	0.40	0/1499	0.47	0/2026
10	L	0.42	0/1452	0.52	0/1970
11	M	0.44	0/2168	0.51	0/2928
12	N	0.43	0/1650	0.55	0/2242
13	O	0.39	0/2529	0.48	0/3422
14	Q	0.41	0/1827	0.51	0/2463
15	R	0.37	0/3852	0.46	0/5243
16	S	0.41	0/1271	0.48	0/1712
17	T	0.46	0/501	0.47	0/665
18	V	0.48	0/1231	0.47	0/1645
19	Z	0.39	0/940	0.49	0/1279
20	BA	0.29	0/797	0.50	0/1084
21	CA	0.38	0/4341	0.56	2/5889 (0.0%)
22	UA	0.23	0/1014	0.56	0/1418
23	BB	0.49	0/922	0.53	0/1248
24	CB	0.31	0/1092	0.52	0/1477
25	BK	0.38	0/5536	0.52	2/7536 (0.0%)
26	BQ	0.36	0/3310	0.47	0/4478
27	BN	0.39	0/1539	0.58	0/2093
28	BE	0.44	0/337	0.53	0/458
29	BO	0.38	0/1311	0.54	0/1766
30	At	0.40	0/1373	0.47	0/1848
31	Au	0.34	0/702	0.41	0/943
32	Ae	0.39	0/2436	0.47	0/3316

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	Af	0.43	0/1228	0.52	0/1671
34	Ah	0.30	0/3327	0.44	0/4518
35	Ap	0.32	0/1819	0.43	0/2458
36	Al	0.39	0/1909	0.49	0/2606
37	Ab	0.46	0/1454	0.46	0/1966
38	Aa	0.37	0/1103	0.49	0/1498
39	BP	0.41	0/1109	0.48	0/1507
40	Az	0.47	0/1192	0.43	0/1613
41	Am	0.41	0/2508	0.48	0/3392
42	As	0.34	0/1204	0.49	0/1622
43	BG	0.31	0/692	0.51	0/935
44	Ad	0.49	0/1547	0.63	2/2097 (0.1%)
45	Aw	0.89	2/1552 (0.1%)	0.73	3/2107 (0.1%)
46	BH	0.39	0/1430	0.47	0/1937
47	Aj	0.41	0/2837	0.46	0/3821
48	Ar	0.38	0/1689	0.54	1/2280 (0.0%)
49	An	0.32	0/1990	0.49	0/2701
50	BF	0.35	0/675	0.50	0/907
51	Av	0.31	0/853	0.51	0/1152
52	BM	0.27	0/3136	0.46	0/4259
53	Ag	0.44	0/1063	0.46	0/1442
54	Bl	0.31	0/1440	0.46	0/1953
55	Ax	0.31	0/1439	0.54	0/1952
56	BS	0.37	0/1016	0.49	0/1388
57	BX	0.34	0/2126	0.59	1/2892 (0.0%)
57	BY	0.29	0/2152	0.51	0/2927
58	BZ	0.44	0/2911	0.67	2/3954 (0.1%)
59	CC	0.28	0/679	0.43	0/921
60	CD	0.31	0/774	0.49	0/1034
61	BT	0.30	0/2399	0.51	0/3255
62	BU	0.37	0/3739	0.56	1/5052 (0.0%)
63	BW	0.43	0/3658	0.57	1/4940 (0.0%)
64	BV	0.31	0/1634	0.56	0/2212
66	U6	0.40	0/934	0.69	0/1306
67	U1	0.42	0/229	0.65	0/319
68	U3	0.31	0/374	0.61	0/522
69	U4	0.25	0/679	0.36	0/949
70	U5	0.27	0/469	0.60	0/655
71	BR	0.32	0/1745	0.49	0/2370
72	U2	0.23	0/184	0.58	0/256
73	1	1.25	16/18754 (0.1%)	1.12	83/29135 (0.3%)
74	R1	0.65	0/68	1.38	0/103
75	R2	0.42	0/729	1.21	1/1111 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
76	R5	0.28	0/109	0.71	0/166
77	U8	0.74	0/294	1.19	0/410
All	All	0.60	19/144335 (0.0%)	0.65	105/199647 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
6	G	1	0
14	Q	0	1
57	BX	0	1
66	U6	0	2
70	U5	0	3
All	All	1	7

All (19) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
73	1	106	A	N3-C4	70.07	1.76	1.34
73	1	106	A	C6-N1	62.10	1.79	1.35
2	B	194	LYS	CE-NZ	58.85	2.96	1.49
73	1	106	A	N1-C2	47.98	1.77	1.34
73	1	106	A	C2-N3	45.12	1.74	1.33
73	1	106	A	C5-C4	39.28	1.66	1.38
73	1	208	U	C2-N3	38.87	1.65	1.37
73	1	106	A	C5-C6	34.50	1.72	1.41
73	1	208	U	N3-C4	29.74	1.65	1.38
73	1	208	U	N1-C2	27.87	1.63	1.38
73	1	208	U	N1-C6	25.21	1.60	1.38
45	Aw	81	ARG	CD-NE	24.81	1.88	1.46
73	1	208	U	C4-C5	23.84	1.65	1.43
73	1	208	U	C5-C6	21.24	1.53	1.34
45	Aw	81	ARG	NE-CZ	18.54	1.57	1.33
73	1	411	A	C1'-N9	-5.86	1.38	1.46
73	1	572	A	N9-C4	-5.09	1.34	1.37
73	1	415	U	C1'-N1	5.08	1.56	1.48
73	1	451	A	O3'-P	5.07	1.67	1.61

All (105) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
73	1	106	A	N1-C2-N3	-50.07	104.26	129.30
73	1	106	A	C2-N3-C4	36.61	128.91	110.60
45	Aw	81	ARG	CD-NE-CZ	21.68	153.95	123.60
73	1	106	A	C6-N1-C2	21.24	131.34	118.60
45	Aw	81	ARG	NE-CZ-NH1	12.11	126.35	120.30
57	BX	272	PRO	N-CA-C	12.08	143.51	112.10
73	1	106	A	C4-C5-N7	-11.90	104.75	110.70
73	1	106	A	N3-C4-N9	10.78	136.02	127.40
73	1	106	A	N7-C8-N9	10.38	118.99	113.80
6	G	311	PRO	N-CA-C	9.09	135.74	112.10
73	1	115	U	C2-N1-C1'	8.91	128.39	117.70
73	1	106	A	N3-C4-C5	-8.70	120.71	126.80
73	1	893	C	N1-C2-O2	8.57	124.04	118.90
2	B	194	LYS	CD-CE-NZ	8.08	130.28	111.70
73	1	526	U	C2-N1-C1'	7.93	127.22	117.70
73	1	115	U	C6-N1-C1'	-7.53	110.66	121.20
73	1	836	U	N3-C2-O2	-7.51	116.95	122.20
73	1	847	A	C8-N9-C4	-7.46	102.81	105.80
6	G	308	TYR	CA-CB-CG	-7.41	99.33	113.40
73	1	836	U	N1-C2-O2	7.36	127.95	122.80
73	1	893	C	C2-N1-C1'	7.26	126.79	118.80
48	Ar	70	TYR	C-N-CA	-7.22	103.64	121.70
73	1	258	U	C2-N1-C1'	7.16	126.29	117.70
73	1	526	U	N1-C2-O2	7.15	127.80	122.80
58	BZ	106	THR	CB-CA-C	-6.91	92.94	111.60
45	Aw	81	ARG	NE-CZ-NH2	-6.89	116.85	120.30
73	1	893	C	N3-C2-O2	-6.80	117.14	121.90
6	G	308	TYR	N-CA-CB	6.79	122.81	110.60
73	1	258	U	N1-C2-O2	6.78	127.55	122.80
73	1	836	U	C2-N1-C1'	6.76	125.82	117.70
73	1	209	U	C2-N1-C1'	6.73	125.78	117.70
25	BK	474	ASP	CB-CA-C	6.61	123.62	110.40
73	1	208	U	C6-N1-C2	6.58	124.94	121.00
73	1	154	U	N1-C2-O2	6.46	127.33	122.80
44	Ad	124	ASP	CB-CA-C	6.41	123.22	110.40
73	1	106	A	N9-C4-C5	-6.40	103.24	105.80
73	1	179	U	N1-C2-O2	6.35	127.25	122.80
44	Ad	123	PRO	N-CA-C	-6.32	95.66	112.10
73	1	154	U	C2-N1-C1'	6.28	125.24	117.70
73	1	128	U	P-O3'-C3'	6.18	127.12	119.70
73	1	471	A	C4'-C3'-O3'	6.14	125.28	113.00
73	1	179	U	C2-N1-C1'	6.11	125.03	117.70
73	1	816	C	N1-C2-O2	6.09	122.55	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
73	1	1128	U	C2-N1-C1'	6.06	124.97	117.70
73	1	50	A	OP1-P-O3'	6.03	118.46	105.20
73	1	99	A	P-O3'-C3'	6.00	126.89	119.70
73	1	167	U	C2-N1-C1'	5.99	124.89	117.70
73	1	66	U	C2-N1-C1'	5.99	124.89	117.70
63	BW	104	ALA	C-N-CA	5.96	136.59	121.70
73	1	848	U	C2-N1-C1'	5.95	124.83	117.70
73	1	154	U	N3-C2-O2	-5.89	118.07	122.20
73	1	526	U	C6-N1-C1'	-5.83	113.03	121.20
73	1	474	U	C4'-C3'-O3'	5.80	124.59	113.00
73	1	259	U	N3-C2-O2	-5.78	118.16	122.20
21	CA	525	PRO	N-CA-C	-5.72	97.22	112.10
73	1	258	U	N3-C2-O2	-5.71	118.20	122.20
73	1	1159	U	N1-C2-O2	5.67	126.77	122.80
73	1	259	U	N1-C2-O2	5.67	126.77	122.80
73	1	471	A	C1'-C2'-O2'	-5.66	93.62	110.60
6	G	310	HIS	CB-CA-C	5.66	121.71	110.40
73	1	1159	U	C2-N1-C1'	5.66	124.49	117.70
73	1	847	A	N7-C8-N9	5.65	116.63	113.80
73	1	970	U	P-O3'-C3'	5.61	126.44	119.70
25	BK	456	ALA	N-CA-C	-5.59	95.89	111.00
73	1	76	U	C2-N1-C1'	5.57	124.39	117.70
73	1	847	A	C4-C5-C6	5.57	119.78	117.00
73	1	539	U	C5-C4-O4	-5.56	122.56	125.90
73	1	47	A	P-O3'-C3'	5.56	126.37	119.70
73	1	1128	U	N1-C2-O2	5.55	126.69	122.80
73	1	298	C	C2-N1-C1'	5.55	124.91	118.80
6	G	311	PRO	N-CA-CB	-5.54	96.50	102.60
73	1	44	G	C4-N9-C1'	5.48	133.62	126.50
75	R2	14	U	N1-C2-O2	5.46	126.62	122.80
73	1	115	U	N1-C2-O2	5.44	126.61	122.80
73	1	106	A	C6-C5-N7	5.39	136.07	132.30
73	1	1102	C	C6-N1-C2	-5.36	118.16	120.30
73	1	209	U	N1-C2-O2	5.30	126.51	122.80
58	BZ	93	HIS	N-CA-C	-5.28	96.76	111.00
73	1	428	U	C2-N1-C1'	5.26	124.02	117.70
73	1	66	U	N1-C2-O2	5.23	126.46	122.80
73	1	1159	U	N3-C2-O2	-5.21	118.55	122.20
73	1	848	U	C5-C6-N1	5.21	125.30	122.70
73	1	920	U	O4'-C1'-N1	5.20	112.36	108.20
73	1	893	C	C6-N1-C1'	-5.20	114.56	120.80
73	1	816	C	N3-C2-O2	-5.20	118.26	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
73	1	540	U	C2-N1-C1'	5.18	123.91	117.70
73	1	1106	G	C2-N3-C4	-5.16	109.32	111.90
73	1	1175	C	N1-C2-O2	5.16	121.99	118.90
73	1	1128	U	N3-C2-O2	-5.14	118.60	122.20
73	1	115	U	C5-C6-N1	5.14	125.27	122.70
73	1	526	U	C5-C6-N1	5.13	125.27	122.70
62	BU	444	PRO	N-CA-CB	-5.12	96.97	102.60
73	1	972	U	N1-C2-O2	5.11	126.38	122.80
73	1	208	U	N3-C4-C5	5.11	117.67	114.60
21	CA	528	CYS	CB-CA-C	-5.08	100.23	110.40
73	1	1136	U	O4'-C1'-N1	5.06	112.25	108.20
73	1	179	U	N3-C2-O2	-5.04	118.67	122.20
73	1	130	U	N1-C2-O2	5.04	126.33	122.80
73	1	881	A	C2-N3-C4	-5.04	108.08	110.60
73	1	321	U	N3-C2-O2	-5.02	118.69	122.20
73	1	76	U	N1-C2-O2	5.02	126.31	122.80
73	1	572	A	C8-N9-C4	5.01	107.81	105.80
73	1	45	U	P-O3'-C3'	5.01	125.71	119.70
73	1	401	U	O4'-C1'-N1	5.00	112.20	108.20
73	1	845	A	P-O3'-C3'	5.00	125.71	119.70

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
6	G	310	HIS	CA

All (7) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
57	BX	295	PHE	Peptide
14	Q	23	PRO	Mainchain
70	U5	6	ALA	Peptide
70	U5	71	ALA	Peptide
70	U5	74	ALA	Peptide
66	U6	34	ALA	Peptide
66	U6	68	ALA	Peptide

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen

atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2909	0	2723	99	0
2	B	3513	0	3413	122	0
3	C	1772	0	1734	68	0
4	E	1818	0	1867	112	0
5	F	1231	0	1205	60	0
6	G	2767	0	2676	144	0
7	I	2153	0	2089	101	0
8	J	1146	0	1148	104	0
9	K	1467	0	1469	50	0
10	L	1419	0	1443	41	0
11	M	2116	0	2150	116	0
12	N	1599	0	1591	124	0
13	O	2477	0	2477	135	0
14	Q	1785	0	1784	90	0
15	R	3755	0	3722	152	0
16	S	1244	0	1272	51	0
17	T	487	0	495	32	0
18	V	1202	0	1224	65	0
19	Z	907	0	896	40	0
20	BA	786	0	812	45	0
21	CA	4230	0	4140	235	0
22	UA	1015	0	1017	32	0
23	BB	894	0	872	47	0
24	CB	1074	0	1076	67	0
25	BK	5419	0	5423	253	0
26	BQ	3230	0	3136	162	0
27	BN	1507	0	1479	106	0
28	BE	325	0	296	3	0
29	BO	1281	0	1287	92	0
30	At	1346	0	1299	0	0
31	Au	681	0	673	0	0
32	Ae	2354	0	2324	0	0
33	Af	1192	0	1165	0	0
34	Ah	3242	0	3132	0	0
35	Ap	1775	0	1699	0	0
36	Al	1857	0	1823	0	0
37	Ab	1413	0	1353	0	0
38	Aa	1076	0	1058	0	0
39	BP	1070	0	1019	46	0
40	Az	1150	0	1082	0	0
41	Am	2435	0	2356	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
42	As	1187	0	1203	0	0
43	BG	675	0	675	37	0
44	Ad	1502	0	1488	0	0
45	Aw	1509	0	1470	0	0
46	BH	1394	0	1350	49	0
47	Aj	2777	0	2778	0	0
48	Ar	1644	0	1608	0	0
49	An	1946	0	1905	0	0
50	BF	661	0	655	25	0
51	Av	828	0	811	0	0
52	BM	3069	0	3105	173	0
53	Ag	1031	0	999	0	0
54	Bl	1409	0	1400	0	0
55	Ax	1388	0	1305	0	0
56	BS	978	0	941	67	0
57	BX	2086	0	2075	151	0
57	BY	2111	0	2093	143	0
58	BZ	2829	0	2808	224	0
59	CC	668	0	668	31	0
60	CD	761	0	775	44	0
61	BT	2346	0	2366	99	0
62	BU	3680	0	3731	233	0
63	BW	3589	0	3714	184	0
64	BV	1596	0	1586	81	0
65	U7	200	0	48	5	0
66	U6	935	0	937	25	0
67	U1	230	0	232	14	0
68	U3	375	0	377	16	0
69	U4	680	0	682	11	0
70	U5	470	0	472	24	0
71	BR	1703	0	1703	90	0
72	U2	185	0	187	16	0
73	1	16777	0	8400	700	0
74	R1	62	0	32	10	0
75	R2	665	0	344	43	0
76	R5	100	0	51	5	0
77	U8	295	0	297	50	0
78	BU	32	0	12	9	0
79	BW	31	12	12	2	0
All	All	139523	12	129194	4568	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 23.

All (4568) 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)
73:1:106:A:N3	73:1:106:A:C2	1.74	1.55
73:1:106:A:C6	73:1:106:A:N1	1.79	1.49
73:1:106:A:N3	73:1:106:A:C4	1.76	1.49
73:1:106:A:C2	73:1:106:A:N1	1.77	1.49
2:B:194:LYS:NZ	73:1:208:U:C2	1.88	1.42
62:BU:444:PRO:HB2	62:BU:445:PRO:CD	1.60	1.31
62:BU:250:GLY:HA2	78:BU:501:GTP:C4'	1.60	1.30
2:B:194:LYS:NZ	73:1:208:U:C4	2.00	1.30
2:B:194:LYS:NZ	73:1:208:U:N3	1.79	1.29
25:BK:867:PRO:HB3	27:BN:188:ARG:NH1	1.42	1.29
39:BP:9:ARG:NH1	73:1:411:A:C2	2.01	1.29
25:BK:865:TYR:OH	27:BN:188:ARG:NH1	1.67	1.26
21:CA:525:PRO:HG2	21:CA:582:HIS:O	1.28	1.26
21:CA:525:PRO:CG	21:CA:582:HIS:O	1.83	1.24
62:BU:444:PRO:CB	62:BU:445:PRO:HD2	1.73	1.19
21:CA:525:PRO:HG2	21:CA:582:HIS:C	1.66	1.16
73:1:202:A:H4'	73:1:203:A:H5'	1.28	1.16
2:B:194:LYS:NZ	73:1:208:U:C6	2.15	1.15
2:B:194:LYS:NZ	73:1:208:U:N1	1.96	1.13
2:B:194:LYS:CE	73:1:208:U:C2	2.33	1.12
64:BV:137:GLN:HB3	64:BV:139:PHE:CZ	1.85	1.12
2:B:194:LYS:NZ	73:1:208:U:C5	2.18	1.11
62:BU:250:GLY:CA	78:BU:501:GTP:H4'	1.81	1.10
58:BZ:97:TYR:HE1	58:BZ:106:THR:HB	1.05	1.10
58:BZ:104:ARG:HH11	58:BZ:104:ARG:HG3	1.07	1.10
58:BZ:97:TYR:CE1	58:BZ:106:THR:HB	1.86	1.09
6:G:305:GLU:H	6:G:309:ALA:HB3	1.14	1.08
23:BB:55:GLN:HA	23:BB:55:GLN:HE21	1.14	1.06
58:BZ:98:ARG:HB3	58:BZ:98:ARG:HH21	1.13	1.06
12:N:61:ARG:HD3	12:N:61:ARG:H	1.17	1.06
62:BU:274:LYS:O	62:BU:274:LYS:HD3	1.56	1.05
39:BP:9:ARG:NH1	73:1:411:A:H2	1.43	1.04
6:G:315:ARG:HB3	6:G:323:PRO:HG3	1.36	1.03
21:CA:485:SER:HB2	21:CA:491:ASN:HB2	1.39	1.02
5:F:83:TYR:CD1	77:U8:3:ALA:HB1	1.93	1.02
25:BK:867:PRO:CB	27:BN:188:ARG:NH1	2.20	1.02
57:BX:321:ALA:N	57:BX:322:PRO:HD3	1.75	1.02
73:1:878:G:N2	73:1:991:A:N1	2.09	1.00
62:BU:293:THR:O	62:BU:297:PHE:HE1	1.45	0.99
62:BU:293:THR:O	62:BU:297:PHE:CE1	2.15	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:194:LYS:CE	73:1:208:U:N3	2.26	0.98
14:Q:28:ARG:HB3	18:V:141:PRO:HG2	1.46	0.98
73:1:470:U:H2'	73:1:471:A:C8	1.99	0.98
21:CA:484:HIS:HD1	21:CA:489:LEU:HA	1.24	0.98
58:BZ:219:THR:OG1	75:R2:134:U:OP1	1.80	0.97
72:U2:1:ALA:CB	77:U8:41:ALA:O	2.10	0.97
2:B:194:LYS:CE	73:1:208:U:C4	2.47	0.97
62:BU:250:GLY:HA2	78:BU:501:GTP:H4'	0.97	0.97
57:BX:319:LEU:N	57:BX:320:PRO:HD2	1.81	0.96
25:BK:466:LEU:HD23	25:BK:466:LEU:H	1.25	0.96
12:N:55:GLN:HB2	12:N:59:LEU:HD12	1.47	0.96
21:CA:447:THR:HA	21:CA:450:ASP:HB3	1.46	0.96
5:F:83:TYR:CD1	77:U8:3:ALA:CB	2.48	0.95
14:Q:21:ARG:NH2	73:1:196:A:O4'	1.99	0.95
27:BN:181:ARG:CZ	27:BN:185:GLU:HB3	1.97	0.94
74:R1:7:A:OP2	75:R2:242:U:H5'	1.68	0.94
1:A:207:HIS:HD1	1:A:329:TYR:HH	1.10	0.94
6:G:333:ILE:HG23	6:G:334:GLU:H	1.32	0.93
58:BZ:108:LEU:H	58:BZ:108:LEU:HD12	1.32	0.93
73:1:319:A:H1'	73:1:321:U:H2'	1.48	0.93
14:Q:28:ARG:HB3	18:V:141:PRO:CG	1.97	0.93
6:G:330:PRO:HA	6:G:333:ILE:HG22	1.47	0.93
29:BO:95:PRO:HB2	29:BO:97:VAL:HG13	1.50	0.92
62:BU:60:ILE:HA	62:BU:300:ARG:HH22	1.34	0.92
66:U6:40:ALA:HB2	66:U6:65:ALA:HB3	1.52	0.92
71:BR:57:GLY:HA3	71:BR:78:ILE:HG12	1.52	0.92
58:BZ:54:GLU:HA	58:BZ:54:GLU:OE1	1.70	0.91
12:N:55:GLN:O	12:N:55:GLN:NE2	2.02	0.91
12:N:61:ARG:H	12:N:61:ARG:CD	1.79	0.91
6:G:305:GLU:N	6:G:309:ALA:HB3	1.84	0.91
7:I:23:ARG:HH21	73:1:1167:C:H41	1.16	0.91
27:BN:181:ARG:HB2	27:BN:184:ALA:H	1.34	0.91
57:BX:319:LEU:HD12	57:BX:319:LEU:O	1.69	0.90
58:BZ:92:GLY:CA	58:BZ:94:ILE:HG23	2.01	0.90
72:U2:1:ALA:HB3	77:U8:41:ALA:O	1.71	0.90
57:BY:221:ASN:HA	57:BY:223:CYS:H	1.34	0.90
21:CA:525:PRO:HG3	21:CA:582:HIS:O	1.72	0.89
23:BB:55:GLN:HA	23:BB:55:GLN:NE2	1.86	0.89
12:N:54:ASN:O	12:N:54:ASN:ND2	2.07	0.88
58:BZ:104:ARG:HG3	58:BZ:104:ARG:NH1	1.88	0.88
25:BK:867:PRO:HB3	27:BN:188:ARG:HH12	1.31	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BK:473:ARG:HD3	25:BK:473:ARG:C	1.93	0.87
58:BZ:356:ASP:HB2	58:BZ:357:PRO:CD	2.04	0.87
63:BW:158:PRO:HD2	63:BW:161:GLU:HB2	1.57	0.87
56:BS:387:SER:HB3	56:BS:391:SER:HB3	1.53	0.87
58:BZ:104:ARG:HH11	58:BZ:104:ARG:CG	1.88	0.87
5:F:83:TYR:CE1	77:U8:3:ALA:HB3	2.10	0.87
58:BZ:369:ARG:NH2	58:BZ:405:ASP:O	2.07	0.87
18:V:89:ARG:NH1	73:1:375:A:OP2	2.08	0.86
73:1:883:U:O4	73:1:986:A:N6	2.09	0.86
14:Q:28:ARG:CB	18:V:141:PRO:HG2	2.04	0.86
57:BX:91:LEU:HG	57:BX:158:VAL:HG23	1.58	0.86
62:BU:446:THR:HB	62:BU:485:LEU:H	1.39	0.86
2:B:194:LYS:CE	73:1:208:U:C6	2.58	0.86
3:C:126:ARG:HB2	3:C:128:THR:HG22	1.54	0.86
6:G:322:ARG:N	6:G:323:PRO:HD2	1.91	0.85
2:B:194:LYS:HE2	73:1:208:U:C2	2.11	0.85
73:1:838:A:H2'	73:1:839:A:H5"	1.59	0.85
52:BM:66:PRO:HB3	52:BM:296:GLN:HB3	1.59	0.85
12:N:59:LEU:HD23	12:N:59:LEU:O	1.77	0.85
2:B:417:VAL:HA	6:G:321:ILE:HG21	1.56	0.85
6:G:323:PRO:HG2	6:G:324:PRO:HD3	1.58	0.84
25:BK:454:LEU:HB3	25:BK:468:THR:HB	1.57	0.84
57:BX:276:ILE:HG23	57:BX:323:ARG:HG2	1.57	0.84
2:B:194:LYS:CE	73:1:208:U:N1	2.39	0.84
14:Q:187:GLU:HG3	14:Q:200:VAL:HG13	1.60	0.84
18:V:38:GLN:NE2	73:1:97:U:O2'	2.10	0.84
50:BF:68:GLN:NE2	73:1:573:A:N1	2.25	0.84
12:N:98:ARG:HH12	73:1:555:U:H1'	1.43	0.84
57:BY:272:PRO:HG3	57:BY:314:ALA:H	1.41	0.84
58:BZ:88:LEU:HB2	58:BZ:95:TYR:HE1	1.42	0.84
77:U8:4:ALA:O	77:U8:5:ALA:CB	2.26	0.84
14:Q:18:GLU:HG2	73:1:195:G:H22	1.42	0.83
57:BX:321:ALA:H	57:BX:322:PRO:HD3	1.42	0.83
39:BP:8:ASP:CG	73:1:411:A:H61	1.80	0.83
39:BP:9:ARG:NH2	73:1:411:A:N1	2.26	0.83
66:U6:41:ALA:HA	66:U6:62:ALA:CB	2.08	0.83
63:BW:121:THR:H	63:BW:173:GLN:HE22	1.24	0.83
73:1:342:A:H2'	73:1:343:A:H8	1.44	0.83
72:U2:1:ALA:HB1	77:U8:41:ALA:O	1.77	0.83
21:CA:125:SER:HB3	73:1:96:U:H5'	1.61	0.83
8:J:46:LYS:NZ	8:J:46:LYS:HB3	1.93	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:484:HIS:ND1	21:CA:489:LEU:HA	1.94	0.83
62:BU:444:PRO:HB2	62:BU:445:PRO:HD2	0.85	0.83
73:1:37:A:H62	73:1:140:U:H3	1.26	0.82
57:BX:185:GLN:HA	57:BX:271:LEU:CD1	2.09	0.82
64:BV:105:LYS:NZ	64:BV:108:CYS:SG	2.52	0.82
8:J:72:GLY:HA3	8:J:92:ALA:HA	1.59	0.82
57:BY:79:ILE:HG22	57:BY:81:ASP:HB2	1.61	0.82
58:BZ:356:ASP:HB2	58:BZ:357:PRO:HD2	1.61	0.82
26:BQ:51:TRP:O	26:BQ:66:ARG:NH2	2.12	0.82
62:BU:38:ASN:O	62:BU:41:LYS:NZ	2.12	0.82
68:U3:32:ALA:C	68:U3:56:ALA:HB3	1.99	0.82
2:B:384:ARG:NH1	15:R:210:GLY:O	2.13	0.82
21:CA:489:LEU:O	21:CA:489:LEU:HD23	1.79	0.82
73:1:166:U:N3	73:1:848:U:O4	2.12	0.82
26:BQ:257:GLU:OE2	26:BQ:387:ARG:NH1	2.13	0.81
2:B:194:LYS:CE	73:1:208:U:C5	2.62	0.81
73:1:165:G:H4'	73:1:166:U:H5'	1.62	0.81
62:BU:264:ARG:HD2	62:BU:301:ILE:HD11	1.60	0.81
58:BZ:98:ARG:HH21	58:BZ:98:ARG:CB	1.92	0.81
25:BK:466:LEU:HD23	25:BK:466:LEU:N	1.95	0.81
71:BR:33:GLY:HA3	71:BR:41:THR:HA	1.63	0.81
6:G:128:ARG:NH2	73:1:159:U:OP1	2.14	0.80
23:BB:42:LYS:HD2	23:BB:42:LYS:O	1.81	0.80
64:BV:137:GLN:HE21	64:BV:139:PHE:HZ	1.26	0.80
73:1:464:A:H2'	73:1:465:A:C8	2.16	0.80
12:N:160:ASN:HD21	12:N:235:GLN:HE22	1.27	0.80
58:BZ:357:PRO:HG2	58:BZ:361:ASP:HB2	1.61	0.80
8:J:59:CYS:SG	8:J:70:LEU:O	2.39	0.80
15:R:236:GLY:HA3	15:R:242:ALA:H	1.47	0.80
21:CA:417:PRO:HG2	21:CA:447:THR:O	1.81	0.80
57:BY:308:ARG:HE	57:BY:311:VAL:HG21	1.47	0.80
29:BO:73:ASN:HB2	29:BO:106:PHE:HB2	1.62	0.80
11:M:166:LYS:NZ	26:BQ:392:GLY:O	2.15	0.80
21:CA:477:PHE:O	21:CA:481:ALA:N	2.15	0.80
43:BG:1332:LYS:HB3	43:BG:1335:SER:HB3	1.64	0.80
21:CA:485:SER:CB	21:CA:491:ASN:HB2	2.11	0.80
52:BM:366:VAL:HG13	52:BM:373:LYS:HE3	1.63	0.80
8:J:55:SER:HA	8:J:119:GLY:HA3	1.63	0.80
73:1:419:A:N3	73:1:419:A:H2'	1.97	0.80
57:BX:292:GLN:HG3	57:BX:294:GLY:H	1.47	0.79
73:1:977:A:H5'	73:1:978:U:H2'	1.63	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:241:PHE:HB3	1:A:330:VAL:HG12	1.63	0.79
58:BZ:219:THR:OG1	75:R2:134:U:H5"	1.82	0.79
13:O:215:ILE:HD12	13:O:241:ILE:HD11	1.65	0.79
4:E:167:LYS:HB2	4:E:170:TYR:HB2	1.65	0.79
13:O:220:ASN:HB3	15:R:279:PRO:HD3	1.64	0.79
52:BM:229:LYS:HB3	52:BM:328:TYR:HB3	1.63	0.79
62:BU:386:HIS:H	62:BU:386:HIS:CD2	1.97	0.79
46:BH:21:THR:O	46:BH:161:GLN:NE2	2.15	0.79
64:BV:105:LYS:HZ1	64:BV:195:GLU:HG2	1.46	0.79
1:A:232:LYS:H	1:A:235:GLN:HE21	1.31	0.79
4:E:58:LYS:HA	4:E:99:GLU:HA	1.63	0.79
12:N:64:MET:HE1	73:1:96:U:H3	1.47	0.79
52:BM:313:GLN:HA	52:BM:316:LEU:HD13	1.62	0.78
4:E:75:LEU:HB3	4:E:110:LYS:HE3	1.64	0.78
6:G:302:TYR:HD1	6:G:308:TYR:HE2	1.30	0.78
57:BX:283:GLY:H	57:BX:323:ARG:HB2	1.49	0.78
5:F:15:LEU:HB2	5:F:140:PRO:HB2	1.65	0.78
25:BK:454:LEU:H	25:BK:454:LEU:HD12	1.47	0.78
27:BN:181:ARG:O	27:BN:233:GLN:NE2	2.16	0.78
50:BF:60:LYS:NZ	73:1:551:A:N7	2.31	0.78
10:L:71:ARG:HB2	10:L:72:PRO:HD3	1.65	0.78
4:E:164:SER:HB3	4:E:167:LYS:HG3	1.65	0.78
8:J:71:ILE:HD12	8:J:71:ILE:N	1.98	0.78
13:O:256:ASP:HB3	19:Z:158:ALA:HB2	1.64	0.78
20:BA:91:HIS:HD2	20:BA:93:HIS:H	1.32	0.78
27:BN:126:ARG:NH2	73:1:1178:U:OP1	2.17	0.78
27:BN:88:PHE:CD1	27:BN:88:PHE:O	2.37	0.77
73:1:472:A:P	73:1:472:A:O4'	2.42	0.77
8:J:59:CYS:SG	8:J:70:LEU:N	2.58	0.77
21:CA:329:ASN:HD21	46:BH:27:PRO:HG3	1.47	0.77
21:CA:388:PRO:O	21:CA:392:ARG:NH1	2.15	0.77
66:U6:70:ALA:HB1	66:U6:73:ALA:HB3	1.64	0.77
15:R:463:LYS:HD2	56:BS:372:PRO:HG3	1.66	0.77
19:Z:76:ARG:HG3	73:1:71:A:H5"	1.66	0.77
25:BK:629:SER:OG	25:BK:630:ASN:ND2	2.17	0.77
77:U8:3:ALA:O	77:U8:4:ALA:HB3	1.83	0.77
77:U8:31:ALA:HB2	77:U8:45:ALA:HB2	1.66	0.77
7:I:38:TRP:HD1	43:BG:1307:ARG:HB2	1.49	0.77
73:1:542:G:N2	73:1:596:U:O2'	2.18	0.77
12:N:163:THR:HG22	12:N:165:ARG:H	1.48	0.77
73:1:537:U:OP2	73:1:827:A:N6	2.18	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:O:173:VAL:HA	13:O:192:GLU:HA	1.65	0.77
29:BO:75:LYS:HD2	29:BO:104:GLN:H	1.49	0.77
52:BM:66:PRO:HA	52:BM:319:ALA:HB3	1.67	0.77
52:BM:141:ARG:HH11	52:BM:144:LEU:HD13	1.50	0.77
21:CA:115:LEU:HB2	21:CA:136:GLN:HE21	1.48	0.77
73:1:296:U:H3	73:1:302:A:H61	1.31	0.77
5:F:83:TYR:HD1	77:U8:3:ALA:HB1	1.45	0.76
5:F:94:ASP:HB3	5:F:97:MET:HG3	1.66	0.76
4:E:171:PRO:O	4:E:176:ARG:NH1	2.18	0.76
7:I:66:ARG:NH2	73:1:819:U:OP1	2.16	0.76
8:J:68:VAL:HG13	29:BO:188:PHE:HE1	1.50	0.76
11:M:249:ILE:HD12	17:T:61:PRO:HG3	1.66	0.76
73:1:572:A:H3'	73:1:573:A:C8	2.19	0.76
73:1:472:A:OP1	73:1:472:A:C8	2.39	0.76
1:A:298:ALA:O	73:1:1155:A:O2'	2.02	0.76
11:M:94:GLU:OE1	73:1:515:A:N6	2.18	0.76
17:T:55:GLU:HB3	73:1:1163:U:H5	1.50	0.76
23:BB:35:GLU:HA	23:BB:35:GLU:OE1	1.86	0.76
52:BM:294:ASP:HB3	52:BM:323:ARG:HD3	1.67	0.76
3:C:162:TYR:OH	3:C:172:HIS:NE2	2.17	0.76
57:BX:186:ARG:NH2	57:BX:298:SER:O	2.19	0.76
2:B:124:ASN:ND2	2:B:199:SER:OG	2.19	0.76
6:G:281:GLU:HG2	18:V:140:PRO:HG2	1.68	0.76
9:K:167:VAL:HG23	9:K:170:ARG:HA	1.67	0.76
64:BV:135:LEU:HD13	64:BV:171:ALA:HB2	1.67	0.76
27:BN:187:ARG:HD3	27:BN:191:ARG:CG	2.16	0.76
46:BH:51:VAL:HG23	46:BH:52:VAL:HG13	1.68	0.76
1:A:193:HIS:NE2	73:1:1114:G:OP2	2.14	0.75
18:V:53:ARG:HH12	18:V:109:ARG:HH22	1.34	0.75
57:BY:114:ILE:HG23	57:BY:118:CYS:HB3	1.67	0.75
73:1:895:U:O2'	73:1:896:U:O2	2.03	0.75
58:BZ:92:GLY:HA2	58:BZ:94:ILE:HG23	1.67	0.75
63:BW:599:MET:O	63:BW:599:MET:HG3	1.85	0.75
73:1:509:U:O2'	73:1:513:U:O2	2.05	0.75
15:R:160:ARG:HH22	15:R:340:ASP:HB3	1.52	0.75
18:V:42:MET:HB2	73:1:97:U:H3	1.52	0.75
19:Z:81:ARG:NH1	73:1:68:U:OP1	2.19	0.75
57:BX:96:ASN:O	57:BX:100:ARG:NE	2.20	0.75
58:BZ:108:LEU:HD12	58:BZ:108:LEU:N	2.00	0.75
8:J:76:ASP:HB2	8:J:89:LYS:HB3	1.68	0.74
59:CC:99:PHE:HB2	59:CC:135:SER:HA	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:BT:79:ARG:NH2	61:BT:84:PRO:O	2.20	0.74
66:U6:41:ALA:HA	66:U6:62:ALA:HB1	1.67	0.74
66:U6:143:ALA:HB1	66:U6:146:ALA:HB3	1.68	0.74
73:1:845:A:O2'	73:1:846:A:OP1	2.04	0.74
10:L:29:ASN:ND2	73:1:493:U:O2	2.20	0.74
73:1:473:U:HO2'	73:1:474:U:H6	1.33	0.74
77:U8:31:ALA:HB2	77:U8:45:ALA:CB	2.17	0.74
10:L:2:LEU:N	10:L:124:GLU:OE1	2.21	0.74
52:BM:157:CYS:SG	52:BM:235:LYS:NZ	2.60	0.74
73:1:236:A:O2'	73:1:287:G:N7	2.17	0.74
25:BK:339:VAL:HG21	25:BK:400:VAL:HG13	1.70	0.74
25:BK:638:GLU:N	25:BK:666:LYS:O	2.17	0.74
18:V:56:VAL:HA	18:V:82:PRO:HA	1.68	0.74
4:E:131:LYS:HG3	4:E:146:CYS:HB3	1.70	0.74
26:BQ:188:ARG:HA	26:BQ:191:PHE:HB3	1.70	0.74
57:BX:321:ALA:N	57:BX:322:PRO:CD	2.51	0.74
58:BZ:219:THR:HG1	75:R2:134:U:P	2.11	0.74
62:BU:447:PHE:CZ	62:BU:472:ILE:HG21	2.23	0.74
63:BW:355:ILE:HG21	63:BW:361:LYS:HG2	1.70	0.74
73:1:37:A:N6	73:1:140:U:H3	1.85	0.74
13:O:320:ARG:HH12	13:O:324:LYS:HD3	1.53	0.74
62:BU:251:TYR:O	62:BU:253:ARG:HD3	1.87	0.74
25:BK:567:PRO:HD3	25:BK:680:GLN:HG3	1.70	0.73
26:BQ:94:PRO:HB2	56:BS:310:LEU:HG	1.70	0.73
58:BZ:99:LYS:HG3	58:BZ:99:LYS:O	1.88	0.73
73:1:71:A:H2'	73:1:72:U:H4'	1.70	0.73
29:BO:183:VAL:HG12	29:BO:185:LEU:H	1.51	0.73
61:BT:91:ASN:O	61:BT:95:LEU:N	2.21	0.73
62:BU:290:ARG:NH2	73:1:913:U:H5"	2.03	0.73
6:G:303:GLU:OE2	6:G:303:GLU:HA	1.87	0.73
7:I:131:GLU:OE1	7:I:135:ARG:NH1	2.21	0.73
8:J:62:GLU:HA	8:J:62:GLU:OE2	1.88	0.73
29:BO:103:VAL:HG22	29:BO:122:PRO:HB3	1.69	0.73
63:BW:98:ALA:HA	63:BW:104:ALA:HB2	1.69	0.73
2:B:169:ASN:HD22	73:1:217:A:H5"	1.53	0.73
57:BX:319:LEU:N	57:BX:320:PRO:CD	2.49	0.73
62:BU:446:THR:CB	62:BU:485:LEU:H	2.01	0.73
20:BA:72:ARG:O	20:BA:77:ARG:NH1	2.21	0.73
58:BZ:98:ARG:HB3	58:BZ:98:ARG:NH2	1.98	0.73
63:BW:157:ALA:HB1	63:BW:158:PRO:CD	2.19	0.73
4:E:111:SER:HA	67:U1:3:ALA:CB	2.19	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:M:137:LYS:NZ	73:1:132:U:OP2	2.21	0.73
39:BP:8:ASP:CG	73:1:411:A:N6	2.42	0.73
3:C:70:ARG:HD3	3:C:75:PRO:HB3	1.71	0.73
39:BP:9:ARG:CZ	73:1:411:A:C2	2.71	0.73
68:U3:32:ALA:O	68:U3:56:ALA:HB3	1.88	0.73
73:1:292:G:OP1	73:1:294:U:O2'	2.07	0.73
22:UA:37:ALA:O	73:1:590:A:N6	2.20	0.73
21:CA:100:LYS:NZ	21:CA:227:ASP:O	2.22	0.72
77:U8:31:ALA:CB	77:U8:45:ALA:HB2	2.19	0.72
8:J:46:LYS:HB3	8:J:46:LYS:HZ2	1.53	0.72
15:R:73:GLU:OE2	56:BS:414:ARG:NH1	2.18	0.72
6:G:315:ARG:HB3	6:G:323:PRO:CG	2.17	0.72
21:CA:525:PRO:HD2	21:CA:582:HIS:H	1.53	0.72
52:BM:214:LYS:HE3	52:BM:218:LEU:HD13	1.71	0.72
62:BU:67:ILE:O	62:BU:264:ARG:NH2	2.21	0.72
77:U8:9:ALA:O	77:U8:10:ALA:HB2	1.89	0.72
23:BB:54:VAL:CG1	23:BB:58:GLU:HB2	2.20	0.72
16:S:294:ILE:HG13	16:S:296:PRO:HD2	1.71	0.72
62:BU:60:ILE:HA	62:BU:300:ARG:NH2	2.05	0.72
11:M:204:CYS:O	13:O:33:ARG:NH2	2.23	0.72
12:N:76:TYR:O	12:N:78:ARG:N	2.23	0.72
57:BY:81:ASP:HB3	57:BY:84:HIS:HB2	1.72	0.72
62:BU:310:ARG:O	62:BU:342:ARG:NH2	2.23	0.72
2:B:350:PRO:HB3	6:G:186:THR:HG23	1.71	0.72
6:G:156:ARG:NH1	21:CA:118:GLU:OE2	2.22	0.72
73:1:99:A:O2'	73:1:100:A:O5'	2.08	0.72
73:1:884:C:N3	73:1:984:U:O2'	2.23	0.72
25:BK:598:THR:O	25:BK:602:LEU:N	2.19	0.72
29:BO:87:ARG:HG2	29:BO:90:HIS:HB3	1.71	0.72
6:G:330:PRO:HA	6:G:333:ILE:CG2	2.18	0.72
21:CA:519:ALA:HB1	21:CA:549:LEU:HD13	1.71	0.72
57:BY:221:ASN:HA	57:BY:223:CYS:N	2.04	0.72
62:BU:386:HIS:CD2	62:BU:386:HIS:N	2.56	0.72
73:1:1174:U:O2'	73:1:1176:A:OP1	2.08	0.72
58:BZ:123:ALA:HB3	58:BZ:126:TRP:CZ2	2.24	0.72
58:BZ:219:THR:OG1	75:R2:134:U:C5'	2.37	0.72
8:J:121:PHE:CD2	27:BN:80:VAL:HB	2.25	0.71
9:K:14:THR:OG1	9:K:32:ARG:NH2	2.22	0.71
52:BM:64:CYS:HB3	52:BM:318:PRO:HG2	1.72	0.71
52:BM:364:GLN:HA	52:BM:367:VAL:HG12	1.72	0.71
58:BZ:301:ASN:ND2	58:BZ:312:SER:OG	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:339:ALA:HA	58:BZ:343:GLY:HA3	1.73	0.71
58:BZ:219:THR:N	75:R2:134:U:OP1	2.23	0.71
64:BV:133:THR:O	64:BV:135:LEU:N	2.24	0.71
4:E:78:LYS:NZ	57:BX:213:GLN:O	2.23	0.71
5:F:83:TYR:CE1	77:U8:3:ALA:CB	2.71	0.71
56:BS:387:SER:CB	56:BS:391:SER:HB3	2.20	0.71
57:BY:197:GLU:HG3	57:BY:300:GLU:HB2	1.72	0.71
58:BZ:217:LEU:HD12	58:BZ:225:VAL:HG22	1.73	0.71
58:BZ:240:MET:SD	58:BZ:248:ASN:ND2	2.62	0.71
59:CC:133:ILE:HB	59:CC:139:ALA:HB1	1.73	0.71
62:BU:381:VAL:HG11	62:BU:394:LEU:HD13	1.72	0.71
11:M:153:LEU:HA	11:M:156:LEU:HD12	1.71	0.71
73:1:847:A:H4'	73:1:848:U:H2'	1.71	0.71
7:I:20:LYS:NZ	73:1:603:A:OP1	2.23	0.71
58:BZ:376:LYS:HA	58:BZ:382:PHE:HA	1.73	0.71
62:BU:355:LEU:O	62:BU:357:GLN:NE2	2.24	0.71
6:G:323:PRO:CG	6:G:324:PRO:HD3	2.21	0.71
27:BN:181:ARG:NH2	27:BN:185:GLU:HB3	2.04	0.71
57:BX:317:VAL:N	57:BX:318:PRO:HD2	2.05	0.71
70:U5:53:ALA:O	73:1:347:A:N6	2.23	0.71
21:CA:484:HIS:ND1	21:CA:484:HIS:O	2.22	0.71
71:BR:100:TRP:HE1	71:BR:104:LEU:HD13	1.54	0.71
13:O:97:GLN:OE1	26:BQ:49:LYS:NZ	2.23	0.71
21:CA:255:VAL:HG12	21:CA:582:HIS:HA	1.73	0.71
57:BX:318:PRO:C	57:BX:320:PRO:HD2	2.11	0.71
73:1:870:A:N6	73:1:1099:A:N1	2.38	0.71
74:R1:8:U:O2'	75:R2:242:U:H5"	1.91	0.71
2:B:194:LYS:HE3	73:1:208:U:C6	2.26	0.71
29:BO:177:LYS:HB2	73:1:1132:A:H4'	1.73	0.71
57:BX:140:HIS:HA	57:BX:143:ARG:HE	1.55	0.71
62:BU:255:ARG:NH1	62:BU:282:ASP:OD2	2.24	0.71
73:1:420:U:O2	73:1:420:U:H2'	1.89	0.71
12:N:50:ARG:HD3	18:V:30:GLU:CD	2.11	0.71
25:BK:316:ARG:HE	73:1:1158:A:H61	1.38	0.71
57:BX:267:ARG:O	57:BX:270:LEU:HB3	1.91	0.71
3:C:203:ILE:HG13	3:C:204:GLU:HG3	1.73	0.70
62:BU:338:ALA:HB1	62:BU:483:LEU:HG	1.72	0.70
7:I:147:THR:OG1	17:T:82:LYS:NZ	2.24	0.70
9:K:137:ARG:NH2	9:K:140:ASP:O	2.24	0.70
57:BX:277:ALA:O	57:BX:305:ARG:HB3	1.90	0.70
19:Z:99:HIS:HD2	19:Z:101:SER:H	1.38	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:172:ARG:NH1	21:CA:215:SER:O	2.23	0.70
20:BA:127:CYS:SG	20:BA:131:ARG:NH2	2.63	0.70
61:BT:200:ARG:HH11	73:1:983:A:H5'	1.55	0.70
3:C:68:GLU:HG3	3:C:70:ARG:HE	1.56	0.70
5:F:114:LYS:NZ	73:1:151:G:OP2	2.24	0.70
25:BK:808:ARG:NH2	73:1:35:U:O4	2.23	0.70
57:BY:271:LEU:H	57:BY:294:GLY:HA2	1.56	0.70
57:BY:335:ARG:HG2	57:BX:337:LEU:HB3	1.72	0.70
57:BY:344:ARG:HD3	57:BY:347:LEU:HD23	1.72	0.70
57:BX:277:ALA:HB3	57:BX:305:ARG:HG2	1.71	0.70
58:BZ:357:PRO:O	58:BZ:359:ARG:N	2.25	0.70
76:R5:2:U:H2'	76:R5:3:U:C6	2.26	0.70
52:BM:141:ARG:O	52:BM:145:ASN:ND2	2.24	0.70
58:BZ:93:HIS:HB3	58:BZ:126:TRP:HZ3	1.55	0.70
8:J:53:ILE:HD12	8:J:75:MET:HA	1.73	0.70
8:J:91:TYR:OH	8:J:98:ASN:ND2	2.25	0.70
25:BK:865:TYR:OH	27:BN:188:ARG:CZ	2.40	0.70
52:BM:143:GLU:OE2	52:BM:251:ARG:NH1	2.21	0.70
57:BX:278:GLN:HB3	57:BX:336:GLU:HG2	1.74	0.70
14:Q:31:ILE:HG23	14:Q:41:PRO:HB3	1.72	0.70
29:BO:49:ASN:ND2	29:BO:51:THR:OG1	2.24	0.70
62:BU:255:ARG:HH22	62:BU:265:ASP:HB3	1.56	0.70
6:G:325:THR:O	6:G:325:THR:HG22	1.91	0.70
21:CA:425:ARG:HD3	21:CA:435:ALA:HB2	1.74	0.70
27:BN:224:THR:H	27:BN:227:ALA:HB3	1.55	0.70
52:BM:199:ASP:O	52:BM:209:ALA:N	2.24	0.70
58:BZ:88:LEU:O	58:BZ:94:ILE:HG22	1.92	0.70
61:BT:207:ILE:HG22	61:BT:209:PRO:HD3	1.73	0.70
1:A:88:ALA:O	1:A:92:ASP:N	2.25	0.69
2:B:423:ARG:HH11	2:B:425:ILE:HD11	1.57	0.69
13:O:217:LYS:HA	13:O:227:GLU:HG3	1.74	0.69
26:BQ:183:HIS:HB2	56:BS:310:LEU:HD13	1.74	0.69
39:BP:10:TYR:O	39:BP:16:SER:OG	2.09	0.69
57:BX:185:GLN:HA	57:BX:271:LEU:HD12	1.72	0.69
58:BZ:88:LEU:HD13	58:BZ:126:TRP:CH2	2.27	0.69
62:BU:291:TYR:O	62:BU:291:TYR:CG	2.45	0.69
63:BW:145:GLU:HA	63:BW:148:LEU:HB2	1.74	0.69
73:1:202:A:C4'	73:1:203:A:H5'	2.17	0.69
73:1:307:C:O2'	73:1:309:U:O4	2.09	0.69
76:R5:2:U:H2'	76:R5:3:U:C5	2.27	0.69
7:I:210:ASP:O	7:I:214:SER:OG	2.10	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:N:56:GLY:N	12:N:59:LEU:HB2	2.07	0.69
58:BZ:97:TYR:HE1	58:BZ:106:THR:CB	1.95	0.69
62:BU:446:THR:HB	62:BU:485:LEU:N	2.05	0.69
14:Q:31:ILE:CG2	14:Q:41:PRO:HB3	2.23	0.69
57:BX:115:GLU:HA	57:BX:118:CYS:HB3	1.73	0.69
58:BZ:126:TRP:HB3	58:BZ:132:PRO:HB3	1.74	0.69
1:A:101:ARG:NH2	1:A:111:THR:O	2.25	0.69
23:BB:54:VAL:HG13	23:BB:58:GLU:HB2	1.74	0.69
27:BN:187:ARG:HD3	27:BN:191:ARG:HG3	1.74	0.69
39:BP:-4:THR:O	39:BP:-2:ILE:N	2.24	0.69
62:BU:386:HIS:H	62:BU:386:HIS:HD2	1.39	0.69
22:UA:151:ALA:HA	22:UA:154:ALA:HB3	1.74	0.69
57:BY:258:TYR:HA	57:BY:261:LEU:HB2	1.73	0.69
58:BZ:123:ALA:HB3	58:BZ:126:TRP:CE2	2.27	0.69
73:1:846:A:H5'	73:1:847:A:H2'	1.73	0.69
12:N:64:MET:CE	73:1:96:U:H3	2.04	0.69
12:N:208:GLU:OE1	15:R:424:ASN:ND2	2.25	0.69
12:N:212:ILE:HD13	13:O:107:ALA:HA	1.74	0.69
21:CA:289:THR:OG1	21:CA:292:ASP:OD1	2.10	0.69
58:BZ:219:THR:CB	75:R2:134:U:OP1	2.41	0.69
61:BT:200:ARG:NH1	73:1:984:U:O2	2.25	0.69
6:G:283:LYS:O	6:G:287:ASN:ND2	2.24	0.69
9:K:25:ARG:NH2	73:1:836:U:OP2	2.25	0.69
58:BZ:355:TRP:HD1	58:BZ:358:ALA:HB2	1.57	0.69
2:B:225:THR:HG23	2:B:228:ALA:H	1.57	0.69
13:O:98:ASP:OD1	13:O:98:ASP:N	2.21	0.69
15:R:241:SER:O	15:R:244:GLU:N	2.21	0.69
17:T:82:LYS:O	25:BK:844:ARG:NH2	2.25	0.69
23:BB:94:LEU:HD13	23:BB:95:PRO:HD2	1.73	0.69
56:BS:380:TYR:CG	56:BS:386:GLN:HB2	2.27	0.69
58:BZ:356:ASP:CB	58:BZ:357:PRO:CD	2.71	0.69
62:BU:276:ARG:HD2	62:BU:399:LEU:HD11	1.74	0.69
73:1:1141:U:O2'	73:1:1142:A:O4'	2.11	0.69
8:J:66:ARG:HG2	8:J:67:PRO:CD	2.23	0.69
10:L:35:SER:N	10:L:38:ASP:OD2	2.24	0.69
14:Q:28:ARG:HB3	18:V:141:PRO:HG3	1.75	0.69
12:N:54:ASN:HD22	12:N:54:ASN:C	1.96	0.69
73:1:472:A:OP1	73:1:472:A:H8	1.75	0.69
14:Q:123:VAL:HG23	14:Q:126:ALA:H	1.57	0.68
18:V:65:ARG:NH1	73:1:970:U:O4	2.26	0.68
25:BK:867:PRO:HB3	27:BN:188:ARG:HH11	1.54	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BU:373:GLN:O	62:BU:376:LYS:NZ	2.26	0.68
63:BW:507:ARG:NH1	63:BW:576:MET:SD	2.66	0.68
6:G:196:THR:H	6:G:199:HIS:HD2	1.40	0.68
11:M:12:LEU:HB3	73:1:511:A:C5	2.29	0.68
21:CA:425:ARG:NH2	21:CA:433:GLU:O	2.26	0.68
25:BK:185:TRP:NE1	25:BK:218:GLU:OE2	2.26	0.68
61:BT:118:ALA:HB3	61:BT:344:LEU:HD21	1.75	0.68
63:BW:157:ALA:HB1	63:BW:158:PRO:HD3	1.75	0.68
73:1:406:U:O2'	73:1:407:U:O5'	2.06	0.68
6:G:302:TYR:CD1	6:G:308:TYR:HE2	2.09	0.68
7:I:23:ARG:HG3	7:I:50:TRP:HB3	1.74	0.68
26:BQ:140:ARG:O	26:BQ:140:ARG:NH2	2.26	0.68
62:BU:233:ILE:HD13	62:BU:245:VAL:HG22	1.73	0.68
68:U3:47:ALA:HB2	68:U3:68:ALA:HB3	1.75	0.68
3:C:134:TYR:HB3	3:C:167:LEU:HD21	1.75	0.68
4:E:111:SER:HA	67:U1:3:ALA:HB1	1.75	0.68
21:CA:452:VAL:HB	21:CA:509:ARG:HD2	1.76	0.68
2:B:15:ARG:NH2	73:1:516:A:OP2	2.26	0.68
11:M:216:ARG:NH1	73:1:266:U:O2	2.26	0.68
52:BM:72:TYR:O	52:BM:76:TYR:N	2.24	0.68
58:BZ:108:LEU:H	58:BZ:108:LEU:CD1	2.03	0.68
15:R:446:ASP:HB3	56:BS:399:ILE:HD11	1.75	0.68
25:BK:744:ARG:O	71:BR:73:ARG:NH1	2.27	0.68
73:1:290:C:O2'	73:1:295:G:O2'	2.10	0.68
57:BY:189:ARG:NH2	57:BY:341:SER:O	2.26	0.68
7:I:185:ARG:NH1	7:I:249:LEU:O	2.27	0.68
14:Q:28:ARG:O	14:Q:28:ARG:HD3	1.94	0.68
39:BP:8:ASP:OD1	73:1:411:A:N6	2.26	0.68
58:BZ:347:PHE:HB2	58:BZ:348:PRO:HD3	1.76	0.68
73:1:70:G:OP1	73:1:75:A:N6	2.27	0.68
13:O:155:ALA:H	13:O:169:GLN:HE21	1.40	0.68
14:Q:12:THR:HG23	21:CA:133:PRO:HD3	1.75	0.68
52:BM:149:ALA:HA	52:BM:255:ARG:HH21	1.59	0.68
57:BX:194:ASP:HA	57:BX:220:THR:HB	1.76	0.68
62:BU:343:PRO:HB3	62:BU:481:VAL:HB	1.75	0.68
62:BU:446:THR:HG21	62:BU:485:LEU:HG	1.76	0.68
7:I:71:ARG:HD3	7:I:120:HIS:HE1	1.57	0.68
23:BB:54:VAL:HG22	23:BB:56:PRO:HD2	1.76	0.68
24:CB:144:THR:HB	24:CB:148:LYS:HG3	1.75	0.68
43:BG:1308:MET:HB3	43:BG:1311:LYS:HB2	1.76	0.68
64:BV:140:ASN:HB3	64:BV:146:LEU:HA	1.74	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:BR:83:HIS:NE2	73:1:45:U:OP1	2.26	0.68
74:R1:7:A:P	75:R2:242:U:H5'	2.33	0.68
1:A:137:LYS:HD2	1:A:322:ILE:HD11	1.76	0.67
2:B:163:ARG:NH2	73:1:218:A:O3'	2.27	0.67
2:B:260:SER:H	2:B:378:GLN:HE22	1.40	0.67
4:E:83:ALA:O	4:E:87:ASN:N	2.23	0.67
63:BW:102:LEU:HD23	63:BW:103:LEU:HG	1.75	0.67
64:BV:205:GLN:HG3	64:BV:207:ARG:H	1.57	0.67
71:BR:149:LEU:HB3	71:BR:240:LEU:HD21	1.76	0.67
2:B:39:HIS:O	6:G:92:GLN:NE2	2.27	0.67
16:S:281:ARG:NH2	16:S:289:THR:OG1	2.27	0.67
21:CA:405:MET:HG3	21:CA:456:PRO:HG3	1.76	0.67
26:BQ:184:ARG:HH21	26:BQ:188:ARG:HH22	1.41	0.67
58:BZ:365:HIS:HD2	58:BZ:393:MET:HG2	1.58	0.67
63:BW:508:ARG:HH11	63:BW:573:HIS:HB3	1.60	0.67
4:E:28:ASP:OD2	4:E:30:ASN:ND2	2.24	0.67
6:G:322:ARG:N	6:G:323:PRO:CD	2.57	0.67
7:I:78:ILE:HD12	7:I:119:LEU:HD11	1.75	0.67
8:J:22:ARG:HD3	27:BN:165:ARG:HB2	1.75	0.67
12:N:229:VAL:HG21	15:R:13:LEU:HD13	1.76	0.67
22:UA:174:ALA:HA	22:UA:177:ALA:HB3	1.76	0.67
73:1:420:U:O2	73:1:420:U:C2'	2.42	0.67
73:1:845:A:N6	73:1:851:U:H3	1.92	0.67
73:1:868:U:H3	73:1:1103:G:H1	1.41	0.67
26:BQ:428:ARG:NH1	73:1:544:U:O2	2.28	0.67
46:BH:95:ILE:O	46:BH:98:LYS:NZ	2.27	0.67
73:1:1131:A:H61	73:1:1149:A:H62	1.41	0.67
8:J:68:VAL:HG13	29:BO:188:PHE:CE1	2.28	0.67
8:J:71:ILE:HD12	8:J:71:ILE:H	1.59	0.67
24:CB:59:ILE:O	24:CB:62:SER:OG	2.11	0.67
25:BK:575:ARG:NH1	25:BK:707:GLU:O	2.27	0.67
56:BS:393:ALA:HB1	73:1:66:U:H5	1.60	0.67
57:BY:225:ASP:OD1	57:BY:225:ASP:N	2.27	0.67
57:BX:220:THR:OG1	57:BX:221:ASN:N	2.27	0.67
73:1:807:A:O2'	73:1:808:A:OP2	2.10	0.67
4:E:105:GLN:OE1	4:E:115:ARG:NH2	2.27	0.67
7:I:61:ARG:NH2	73:1:544:U:OP1	2.27	0.67
19:Z:80:ARG:NH2	73:1:71:A:OP1	2.28	0.67
25:BK:236:LYS:NZ	73:1:38:A:OP1	2.26	0.67
63:BW:656:LEU:HD12	73:1:873:A:H2'	1.75	0.67
70:U5:88:ALA:HA	73:1:501:G:H8	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:1:475:A:H2'	73:1:476:A:C8	2.29	0.67
6:G:188:ARG:NH2	73:1:188:A:OP2	2.27	0.67
6:G:313:ALA:HB1	6:G:316:ARG:NH2	2.10	0.67
11:M:34:ARG:NH2	73:1:127:A:OP1	2.19	0.67
16:S:319:LYS:NZ	16:S:328:ILE:O	2.21	0.67
25:BK:563:LEU:HB3	25:BK:569:MET:HG2	1.76	0.67
58:BZ:191:PRO:HG2	58:BZ:192:LEU:HG	1.76	0.67
58:BZ:348:PRO:HB3	58:BZ:362:VAL:HG21	1.76	0.67
16:S:343:ARG:NH2	73:1:368:U:OP2	2.26	0.67
25:BK:169:ASP:OD2	27:BN:188:ARG:NH2	2.27	0.67
56:BS:378:HIS:HB2	56:BS:386:GLN:H	1.57	0.67
13:O:55:ARG:NH1	73:1:518:U:O2	2.27	0.67
57:BY:329:TYR:HB2	57:BY:332:SER:HB3	1.76	0.67
63:BW:557:THR:O	63:BW:559:ILE:N	2.28	0.67
9:K:166:ASP:HB2	9:K:169:GLN:HA	1.77	0.67
15:R:466:ARG:HG2	73:1:59:U:H2'	1.77	0.67
59:CC:123:LEU:HD21	59:CC:148:MET:HB3	1.75	0.67
62:BU:370:ARG:HG3	62:BU:371:GLN:H	1.60	0.67
73:1:128:U:O2'	73:1:129:U:O5'	2.12	0.67
12:N:72:THR:O	12:N:72:THR:OG1	2.12	0.66
7:I:11:ARG:NH1	29:BO:140:MET:SD	2.68	0.66
25:BK:868:ASP:OD1	25:BK:868:ASP:N	2.26	0.66
62:BU:219:ILE:HG23	62:BU:223:ASN:HB3	1.76	0.66
64:BV:178:TYR:HE1	64:BV:182:ARG:HD2	1.60	0.66
11:M:71:TRP:HB2	13:O:49:VAL:HG22	1.77	0.66
19:Z:101:SER:OG	19:Z:103:ASN:OD1	2.13	0.66
20:BA:68:VAL:HG13	20:BA:87:ILE:HB	1.75	0.66
61:BT:110:LEU:HD22	61:BT:334:GLY:HA3	1.77	0.66
73:1:45:U:OP1	73:1:134:A:N6	2.28	0.66
11:M:159:ARG:NH2	11:M:160:GLU:OE1	2.28	0.66
12:N:77:ASN:HB3	73:1:87:A:C2	2.30	0.66
14:Q:62:PRO:O	73:1:81:U:O2'	2.14	0.66
25:BK:830:ARG:NH1	73:1:1168:A:O4'	2.28	0.66
57:BX:83:ASN:HA	57:BX:88:GLN:HE21	1.60	0.66
12:N:108:LYS:HE2	15:R:399:VAL:HG12	1.76	0.66
22:UA:171:ALA:O	22:UA:175:ALA:N	2.24	0.66
57:BY:255:ASP:HB2	57:BY:308:ARG:HB3	1.78	0.66
57:BX:228:ASP:OD2	57:BX:230:ARG:NH1	2.29	0.66
58:BZ:54:GLU:O	58:BZ:56:GLN:N	2.28	0.66
73:1:53:A:H61	73:1:124:A:H62	1.41	0.66
4:E:18:ASN:ND2	4:E:20:GLU:O	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:R:70:ARG:HH11	56:BS:416:TYR:HE2	1.42	0.66
58:BZ:88:LEU:HD13	58:BZ:126:TRP:CZ2	2.31	0.66
72:U2:1:ALA:CB	77:U8:41:ALA:HB3	2.25	0.66
72:U2:4:ALA:O	77:U8:44:ALA:CB	2.43	0.66
73:1:163:U:O2'	73:1:165:G:O3'	2.12	0.66
2:B:144:ARG:HH22	12:N:75:GLU:HG2	1.61	0.66
3:C:128:THR:O	3:C:128:THR:HG23	1.94	0.66
1:A:184:ASN:OD1	1:A:206:LYS:NZ	2.22	0.66
13:O:293:GLN:O	13:O:297:GLU:N	2.26	0.66
24:CB:87:THR:OG1	24:CB:140:ARG:NH1	2.28	0.66
73:1:913:U:O2	73:1:914:A:N6	2.29	0.66
11:M:52:LYS:HG3	11:M:66:LEU:HB2	1.77	0.66
12:N:117:GLU:OE1	56:BS:390:ALA:HB1	1.96	0.66
64:BV:135:LEU:O	64:BV:135:LEU:HD23	1.96	0.66
8:J:66:ARG:HG2	8:J:67:PRO:HD2	1.78	0.66
11:M:107:TYR:HE2	71:BR:143:ARG:HB2	1.61	0.66
20:BA:53:LYS:HA	20:BA:56:LEU:HG	1.77	0.66
21:CA:560:ASN:OD1	21:CA:568:ARG:NH1	2.29	0.66
27:BN:80:VAL:O	27:BN:80:VAL:HG12	1.96	0.66
39:BP:9:ARG:CZ	73:1:411:A:H2	2.09	0.66
52:BM:31:ARG:NH2	52:BM:47:LYS:O	2.29	0.66
60:CD:38:ARG:O	60:CD:40:ARG:N	2.29	0.66
61:BT:307:SER:OG	61:BT:319:ASP:O	2.12	0.66
73:1:1177:U:O2'	73:1:1178:U:O2	2.14	0.66
8:J:72:GLY:CA	8:J:92:ALA:HA	2.26	0.65
11:M:40:ARG:NH1	73:1:128:U:OP1	2.29	0.65
12:N:47:ARG:HA	73:1:88:U:O2'	1.96	0.65
16:S:341:PHE:HB2	39:BP:52:ARG:HH22	1.61	0.65
27:BN:129:ALA:HA	27:BN:132:LYS:HD3	1.78	0.65
46:BH:96:LEU:HG	46:BH:97:THR:HG23	1.76	0.65
52:BM:263:ARG:NH2	52:BM:264:ALA:O	2.29	0.65
63:BW:551:ASP:OD1	63:BW:552:PHE:N	2.29	0.65
3:C:151:GLN:O	3:C:153:TYR:N	2.28	0.65
6:G:196:THR:H	6:G:199:HIS:CD2	2.14	0.65
26:BQ:128:VAL:HG21	26:BQ:148:SER:HB3	1.77	0.65
29:BO:133:ARG:HA	29:BO:150:ASN:HB3	1.78	0.65
52:BM:292:GLY:HA3	52:BM:308:THR:HG21	1.78	0.65
57:BX:270:LEU:HG	57:BX:271:LEU:CD2	2.26	0.65
71:BR:87:LEU:HD21	73:1:135:A:H2	1.60	0.65
13:O:295:SER:OG	15:R:381:GLU:OE1	2.13	0.65
39:BP:12:LYS:HA	39:BP:17:ARG:HD2	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BH:147:GLY:O	46:BH:149:ASN:ND2	2.29	0.65
57:BY:189:ARG:NH1	57:BY:342:GLN:O	2.21	0.65
57:BX:160:PRO:O	57:BX:233:ARG:NH2	2.28	0.65
58:BZ:100:ASN:ND2	58:BZ:101:GLY:H	1.94	0.65
2:B:215:ILE:HD12	2:B:333:LEU:HD11	1.77	0.65
26:BQ:382:LYS:HA	26:BQ:385:GLN:HB2	1.79	0.65
77:U8:3:ALA:O	77:U8:4:ALA:CB	2.45	0.65
8:J:49:LYS:HA	8:J:52:ILE:HD11	1.78	0.65
13:O:174:GLN:HB2	13:O:193:HIS:CD2	2.31	0.65
15:R:148:ARG:HB2	15:R:330:TRP:CE2	2.32	0.65
15:R:288:ARG:O	15:R:293:LYS:NZ	2.30	0.65
21:CA:219:ASN:OD1	21:CA:220:VAL:N	2.30	0.65
25:BK:764:PRO:HB2	25:BK:792:LEU:HD22	1.78	0.65
63:BW:136:PRO:HB2	63:BW:141:GLN:HG3	1.77	0.65
5:F:83:TYR:HD1	77:U8:3:ALA:CB	2.04	0.65
6:G:184:VAL:HG12	6:G:189:LEU:HB2	1.78	0.65
21:CA:80:GLN:N	21:CA:83:ASP:OD2	2.20	0.65
62:BU:327:ASN:HD22	73:1:915:U:H4'	1.62	0.65
11:M:41:GLN:O	11:M:44:SER:N	2.28	0.65
12:N:51:PRO:O	12:N:52:LEU:HB3	1.96	0.65
27:BN:239:HIS:ND1	27:BN:288:VAL:O	2.30	0.65
57:BX:137:GLU:HA	57:BX:143:ARG:HH12	1.62	0.65
63:BW:249:ASP:OD1	63:BW:249:ASP:N	2.29	0.65
63:BW:515:ASN:OD1	63:BW:516:ILE:N	2.29	0.65
63:BW:537:HIS:CE1	63:BW:540:LEU:HG	2.32	0.65
73:1:474:U:H2'	73:1:475:A:C8	2.32	0.65
5:F:100:TRP:HD1	23:BB:12:PHE:HE1	1.44	0.65
24:CB:169:ARG:HH22	24:CB:173:ALA:HB2	1.62	0.65
25:BK:691:ARG:O	25:BK:694:THR:OG1	2.13	0.65
43:BG:1330:SER:O	43:BG:1332:LYS:N	2.29	0.65
57:BY:228:ASP:HB3	57:BY:231:VAL:HG23	1.78	0.65
57:BY:267:ARG:HG3	57:BY:268:ASN:H	1.61	0.65
4:E:191:ILE:HG22	4:E:193:GLY:H	1.61	0.65
12:N:190:ASP:OD1	12:N:190:ASP:N	2.28	0.65
15:R:268:PRO:O	15:R:297:GLN:NE2	2.30	0.65
22:UA:193:ALA:O	22:UA:197:ALA:N	2.29	0.65
43:BG:1325:TRP:O	43:BG:1329:ARG:N	2.18	0.65
13:O:47:TYR:OH	73:1:126:U:OP2	2.14	0.65
22:UA:10:ALA:HA	43:BG:1304:MET:HG3	1.77	0.65
23:BB:99:LYS:HB2	23:BB:102:ILE:HG13	1.78	0.65
26:BQ:383:GLY:O	26:BQ:387:ARG:NH1	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BX:215:ASP:N	57:BX:215:ASP:OD1	2.30	0.65
63:BW:275:ALA:HB3	63:BW:314:THR:HG22	1.78	0.65
66:U6:41:ALA:CA	66:U6:62:ALA:HB1	2.27	0.65
21:CA:392:ARG:HA	21:CA:396:SER:HB3	1.78	0.64
21:CA:440:ASP:O	21:CA:444:SER:OG	2.15	0.64
22:UA:9:ALA:O	43:BG:1274:ASN:ND2	2.30	0.64
61:BT:88:GLU:HB2	61:BT:92:ILE:HG13	1.78	0.64
71:BR:257:GLU:O	71:BR:261:ARG:N	2.30	0.64
4:E:210:TYR:HA	4:E:213:GLU:HB3	1.79	0.64
7:I:211:ARG:NH2	26:BQ:436:ILE:O	2.31	0.64
21:CA:100:LYS:HE3	21:CA:226:ASP:HB2	1.80	0.64
29:BO:67:HIS:HB2	29:BO:151:THR:HG22	1.79	0.64
52:BM:116:ALA:O	52:BM:119:THR:OG1	2.14	0.64
57:BX:261:LEU:O	57:BX:265:VAL:N	2.27	0.64
63:BW:319:ARG:NH1	63:BW:641:MET:SD	2.66	0.64
4:E:54:ARG:NH2	73:1:463:U:H4'	2.12	0.64
57:BX:184:HIS:O	57:BX:188:ASN:ND2	2.31	0.64
62:BU:446:THR:CG2	62:BU:485:LEU:H	2.10	0.64
63:BW:598:ARG:HB3	63:BW:598:ARG:CZ	2.26	0.64
2:B:23:GLU:OE2	2:B:27:GLN:NE2	2.30	0.64
25:BK:865:TYR:CZ	27:BN:188:ARG:NH1	2.62	0.64
62:BU:443:ARG:HB2	62:BU:444:PRO:HD3	1.78	0.64
63:BW:150:ARG:HH11	63:BW:309:GLN:HB2	1.63	0.64
64:BV:230:ASP:OD1	64:BV:231:ARG:NH2	2.30	0.64
64:BV:302:ARG:HD3	64:BV:307:ARG:HG2	1.78	0.64
73:1:843:A:H2'	73:1:844:A:H8	1.63	0.64
4:E:112:TYR:H	67:U1:3:ALA:HB2	1.61	0.64
25:BK:240:TYR:HH	73:1:1158:A:H8	1.43	0.64
73:1:333:A:O2'	73:1:369:A:N6	2.31	0.64
2:B:66:GLU:OE1	2:B:66:GLU:N	2.31	0.64
4:E:192:ILE:O	4:E:196:THR:OG1	2.13	0.64
11:M:237:GLU:O	71:BR:93:HIS:NE2	2.30	0.64
12:N:59:LEU:O	12:N:59:LEU:CD2	2.45	0.64
27:BN:120:GLY:HA3	27:BN:299:TYR:HB3	1.79	0.64
58:BZ:259:PRO:HA	58:BZ:331:LEU:HD22	1.79	0.64
59:CC:73:ASP:O	59:CC:76:THR:OG1	2.15	0.64
62:BU:447:PHE:CE2	62:BU:472:ILE:HG21	2.32	0.64
70:U5:88:ALA:HA	73:1:501:G:C8	2.33	0.64
5:F:12:ARG:HH21	5:F:14:TRP:HZ2	1.43	0.64
11:M:138:ALA:H	11:M:230:HIS:HD2	1.44	0.64
18:V:44:PHE:HD1	18:V:57:ALA:HB2	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BY:342:GLN:NE2	57:BX:328:SER:OG	2.30	0.64
63:BW:156:ALA:HB1	63:BW:341:MET:HE3	1.79	0.64
64:BV:304:GLN:O	64:BV:308:SER:OG	2.12	0.64
4:E:182:GLY:O	4:E:186:ARG:N	2.28	0.64
11:M:63:ASP:OD2	11:M:91:ARG:NH2	2.30	0.64
25:BK:689:GLU:OE1	25:BK:692:ARG:NH2	2.31	0.64
57:BY:185:GLN:NE2	57:BY:265:VAL:O	2.29	0.64
1:A:67:TYR:OH	1:A:91:GLU:OE1	2.10	0.64
4:E:123:TRP:HZ2	4:E:133:ARG:HH11	1.44	0.64
20:BA:71:VAL:O	20:BA:122:ARG:NH1	2.30	0.64
52:BM:285:LEU:HG	52:BM:289:ARG:HE	1.63	0.64
63:BW:566:ALA:HA	63:BW:570:LEU:HD12	1.78	0.64
7:I:211:ARG:O	50:BF:29:ARG:NH2	2.27	0.64
10:L:52:GLN:NE2	10:L:82:ASP:OD2	2.31	0.64
25:BK:314:HIS:HB3	25:BK:318:VAL:HG13	1.79	0.64
57:BY:128:MET:HE1	57:BY:168:ASP:HB2	1.80	0.64
57:BX:262:ASN:HA	57:BX:266:GLU:HG2	1.79	0.64
58:BZ:164:GLN:HG2	58:BZ:205:TYR:CE1	2.33	0.64
61:BT:165:VAL:HG21	62:BU:423:LYS:HB3	1.80	0.64
62:BU:282:ASP:OD1	62:BU:282:ASP:N	2.29	0.64
62:BU:328:LYS:HE2	73:1:917:U:H3	1.62	0.64
7:I:226:ARG:NH1	50:BF:84:MET:O	2.30	0.63
9:K:31:GLU:HG2	13:O:38:LYS:HD3	1.80	0.63
21:CA:418:VAL:O	21:CA:418:VAL:HG22	1.98	0.63
58:BZ:95:TYR:N	58:BZ:95:TYR:CD1	2.64	0.63
61:BT:196:PHE:CE1	61:BT:200:ARG:HG2	2.34	0.63
69:U4:25:ALA:HB3	69:U4:28:ALA:HB3	1.79	0.63
74:R1:7:A:OP2	75:R2:242:U:C5'	2.45	0.63
8:J:62:GLU:O	8:J:63:TYR:HB2	1.98	0.63
21:CA:425:ARG:HD2	21:CA:453:LEU:HB3	1.80	0.63
25:BK:447:ASP:HA	25:BK:454:LEU:HD13	1.79	0.63
25:BK:641:PHE:HZ	25:BK:661:ARG:HH21	1.44	0.63
57:BX:235:ALA:HB1	57:BX:238:ALA:HB3	1.78	0.63
63:BW:373:GLY:HA3	63:BW:507:ARG:HA	1.79	0.63
4:E:58:LYS:HD3	4:E:61:LYS:H	1.63	0.63
6:G:320:TYR:O	6:G:321:ILE:HG13	1.98	0.63
12:N:153:LEU:O	15:R:63:THR:OG1	2.13	0.63
24:CB:117:GLN:HA	73:1:1136:U:O4	1.98	0.63
62:BU:241:LYS:NZ	62:BU:283:THR:O	2.31	0.63
73:1:559:U:H3'	73:1:560:U:H5"	1.79	0.63
12:N:203:ARG:NE	73:1:559:U:OP1	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:CB:162:ASN:OD1	24:CB:163:ALA:N	2.31	0.63
57:BX:270:LEU:HG	57:BX:271:LEU:HD23	1.81	0.63
62:BU:355:LEU:HG	62:BU:357:GLN:HG2	1.80	0.63
4:E:150:THR:HG22	4:E:151:LEU:H	1.63	0.63
13:O:240:PRO:HD2	56:BS:344:LEU:HD21	1.81	0.63
60:CD:79:LEU:HD13	60:CD:84:LYS:HA	1.80	0.63
61:BT:298:ASP:O	61:BT:302:MET:N	2.29	0.63
1:A:281:GLN:NE2	1:A:283:ARG:O	2.31	0.63
11:M:12:LEU:HD13	73:1:511:A:H3'	1.81	0.63
11:M:170:ARG:NH2	17:T:50:ARG:O	2.32	0.63
12:N:57:ILE:HG13	18:V:40:TRP:HZ2	1.64	0.63
13:O:293:GLN:HG3	13:O:294:LYS:H	1.63	0.63
14:Q:143:ARG:O	14:Q:157:ARG:NH2	2.30	0.63
19:Z:106:TYR:OH	19:Z:118:HIS:NE2	2.31	0.63
52:BM:246:ARG:HB3	52:BM:272:LYS:HG3	1.80	0.63
58:BZ:125:PHE:HZ	58:BZ:128:ARG:HH11	1.45	0.63
64:BV:137:GLN:CB	64:BV:139:PHE:CZ	2.73	0.63
73:1:469:G:H2'	73:1:470:U:C6	2.34	0.63
73:1:865:A:N1	73:1:1106:G:N2	2.47	0.63
77:U8:31:ALA:HB2	77:U8:45:ALA:H	1.64	0.63
1:A:110:ASP:N	1:A:110:ASP:OD1	2.30	0.63
15:R:288:ARG:HH11	15:R:293:LYS:HG2	1.64	0.63
25:BK:184:PHE:HB2	25:BK:196:THR:HG21	1.81	0.63
25:BK:443:ASP:O	25:BK:447:ASP:N	2.30	0.63
63:BW:303:LEU:HD11	70:U5:4:ALA:HA	1.80	0.63
71:BR:55:LEU:HG	71:BR:56:ARG:HG2	1.80	0.63
1:A:363:ASP:OD1	1:A:365:SER:OG	2.17	0.63
4:E:59:ALA:HB3	4:E:98:ILE:HG23	1.81	0.63
9:K:108:ARG:NE	9:K:112:GLU:OE2	2.26	0.63
11:M:71:TRP:HE1	11:M:73:THR:HG23	1.64	0.63
17:T:58:TYR:OH	17:T:83:PRO:OXT	2.17	0.63
20:BA:70:ASP:O	20:BA:77:ARG:NH2	2.32	0.63
56:BS:387:SER:HB3	56:BS:391:SER:CB	2.28	0.63
63:BW:275:ALA:HB3	63:BW:314:THR:CG2	2.28	0.63
73:1:468:U:H2'	73:1:469:G:C8	2.34	0.63
11:M:41:GLN:NE2	73:1:174:U:O2'	2.30	0.63
15:R:431:ARG:NH2	26:BQ:76:GLN:O	2.32	0.63
24:CB:168:GLY:O	24:CB:172:LYS:N	2.27	0.63
25:BK:602:LEU:HD11	25:BK:628:VAL:HG13	1.81	0.63
52:BM:92:THR:HA	52:BM:95:GLU:HB2	1.80	0.63
57:BX:176:MET:HG3	57:BX:179:LYS:HZ1	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:BT:257:ASN:ND2	61:BT:263:GLN:OE1	2.32	0.63
77:U8:4:ALA:O	77:U8:5:ALA:HB3	1.97	0.63
1:A:101:ARG:NH2	1:A:115:ASP:OD1	2.31	0.62
1:A:235:GLN:HB2	1:A:343:LEU:HD21	1.81	0.62
19:Z:115:PRO:HA	19:Z:118:HIS:CD2	2.33	0.62
57:BY:273:LEU:HD22	57:BY:297:SER:HB2	1.81	0.62
59:CC:136:ILE:HG13	59:CC:137:PRO:HD3	1.80	0.62
73:1:902:G:H1	73:1:909:U:H3	1.46	0.62
3:C:44:ASP:N	3:C:44:ASP:OD1	2.30	0.62
8:J:55:SER:O	8:J:74:VAL:HG12	1.98	0.62
52:BM:262:ALA:HB3	52:BM:265:LEU:HG	1.81	0.62
58:BZ:271:GLU:HB3	58:BZ:279:ASP:HB2	1.82	0.62
63:BW:373:GLY:O	63:BW:558:ASN:ND2	2.32	0.62
68:U3:6:ALA:HA	68:U3:9:ALA:HB3	1.79	0.62
73:1:255:U:O4	73:1:280:A:N6	2.32	0.62
1:A:228:VAL:HG11	1:A:314:SER:HA	1.81	0.62
27:BN:226:LEU:O	27:BN:230:TYR:N	2.22	0.62
58:BZ:210:THR:O	58:BZ:210:THR:HG23	1.99	0.62
61:BT:191:PHE:CZ	61:BT:194:GLU:HG2	2.33	0.62
73:1:594:U:H4'	73:1:595:A:O5'	1.97	0.62
12:N:64:MET:HE3	14:Q:48:ARG:NE	2.13	0.62
12:N:172:GLN:NE2	12:N:218:TYR:O	2.32	0.62
13:O:217:LYS:O	13:O:218:VAL:HB	1.97	0.62
21:CA:521:VAL:HG22	21:CA:584:VAL:HG13	1.80	0.62
25:BK:187:ARG:NH2	25:BK:858:ASP:OD2	2.32	0.62
52:BM:25:ASN:N	52:BM:30:GLU:OE1	2.29	0.62
56:BS:378:HIS:O	56:BS:386:GLN:HB3	1.99	0.62
63:BW:348:LEU:HD11	63:BW:605:VAL:HG12	1.82	0.62
5:F:40:PRO:HB3	9:K:69:ALA:HB2	1.81	0.62
12:N:144:ARG:NH2	12:N:145:TYR:OH	2.32	0.62
15:R:402:TRP:O	73:1:60:A:O2'	2.16	0.62
29:BO:55:GLY:HA2	29:BO:87:ARG:HH11	1.63	0.62
52:BM:7:LEU:HD22	52:BM:33:LEU:HD23	1.80	0.62
71:BR:104:LEU:HD21	71:BR:170:GLN:HB2	1.81	0.62
77:U8:31:ALA:HB2	77:U8:45:ALA:N	2.14	0.62
3:C:126:ARG:HB2	3:C:128:THR:CG2	2.29	0.62
13:O:146:SER:O	13:O:199:ARG:NH2	2.32	0.62
15:R:138:THR:OG1	15:R:336:TYR:O	2.13	0.62
15:R:246:ASN:HB3	15:R:251:SER:HB3	1.81	0.62
15:R:421:ASN:ND2	15:R:448:ASP:O	2.33	0.62
61:BT:164:HIS:HB2	61:BT:226:VAL:HA	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:BW:319:ARG:N	63:BW:639:ASP:OD2	2.24	0.62
73:1:559:U:O2'	73:1:560:U:OP1	2.17	0.62
73:1:1136:U:H4'	73:1:1137:U:C2	2.34	0.62
6:G:302:TYR:HD1	6:G:308:TYR:CE2	2.14	0.62
25:BK:816:THR:HG23	25:BK:819:ASN:HD22	1.64	0.62
52:BM:75:VAL:O	52:BM:79:ARG:NH2	2.33	0.62
62:BU:321:ALA:HB2	62:BU:348:ALA:HB1	1.82	0.62
64:BV:163:GLN:N	73:1:279:U:O2'	2.32	0.62
7:I:134:ARG:NH1	7:I:172:ASP:OD2	2.33	0.62
9:K:38:ARG:NH1	73:1:836:U:OP1	2.33	0.62
13:O:89:HIS:HD2	13:O:91:LYS:H	1.47	0.62
25:BK:694:THR:O	25:BK:698:ALA:N	2.27	0.62
26:BQ:184:ARG:HG2	26:BQ:202:ASN:HD21	1.65	0.62
58:BZ:391:PRO:O	58:BZ:395:LYS:N	2.31	0.62
63:BW:328:LYS:HE3	73:1:346:A:C2	2.34	0.62
4:E:107:TYR:HD2	4:E:111:SER:HB3	1.63	0.62
5:F:85:VAL:HG13	5:F:89:GLU:HB3	1.79	0.62
6:G:313:ALA:HB3	6:G:316:ARG:HB2	1.82	0.62
21:CA:530:ALA:O	21:CA:556:ARG:HB2	2.00	0.62
57:BY:106:LEU:N	57:BY:168:ASP:OD1	2.32	0.62
8:J:68:VAL:O	8:J:68:VAL:HG12	1.99	0.62
13:O:176:VAL:N	13:O:189:VAL:O	2.33	0.62
21:CA:319:LEU:HD23	21:CA:319:LEU:O	2.00	0.62
26:BQ:55:GLY:HA2	26:BQ:66:ARG:HH22	1.64	0.62
52:BM:28:VAL:HG22	52:BM:30:GLU:H	1.63	0.62
62:BU:70:ASP:OD2	62:BU:255:ARG:NH2	2.23	0.62
62:BU:291:TYR:O	62:BU:291:TYR:CD1	2.53	0.62
5:F:51:HIS:HD2	5:F:126:TRP:HE1	1.46	0.61
11:M:96:ARG:NH2	13:O:54:LEU:O	2.31	0.61
15:R:267:PRO:HG2	15:R:305:THR:HG21	1.81	0.61
21:CA:455:ILE:HG23	21:CA:510:LEU:HB2	1.82	0.61
21:CA:485:SER:OG	21:CA:485:SER:O	2.16	0.61
57:BX:310:SER:O	57:BX:323:ARG:NH2	2.25	0.61
63:BW:176:GLU:OE2	63:BW:179:ARG:NH2	2.33	0.61
71:BR:183:PRO:HB3	71:BR:249:ARG:HH22	1.65	0.61
73:1:306:A:N6	73:1:577:A:OP2	2.19	0.61
8:J:57:ILE:HD12	8:J:90:VAL:HG11	1.82	0.61
11:M:12:LEU:HD12	73:1:511:A:H5"	1.80	0.61
14:Q:106:THR:OG1	14:Q:119:GLN:NE2	2.30	0.61
21:CA:416:ARG:HE	21:CA:416:ARG:CA	2.13	0.61
57:BX:284:VAL:HB	57:BX:322:PRO:HA	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:176:VAL:HG11	58:BZ:385:VAL:HG11	1.82	0.61
59:CC:83:LYS:HD2	59:CC:93:VAL:HB	1.82	0.61
62:BU:290:ARG:HD3	73:1:914:A:H5"	1.81	0.61
13:O:191:ARG:NH2	15:R:436:THR:O	2.33	0.61
19:Z:104:LYS:NZ	73:1:551:A:O3'	2.33	0.61
25:BK:320:ARG:NH1	73:1:1119:G:O6	2.33	0.61
43:BG:1266:GLY:H	43:BG:1289:LYS:HE3	1.63	0.61
58:BZ:95:TYR:HD1	58:BZ:95:TYR:H	1.47	0.61
1:A:188:GLU:OE2	1:A:188:GLU:N	2.32	0.61
57:BX:278:GLN:HA	57:BX:278:GLN:OE1	2.01	0.61
73:1:890:C:N4	73:1:980:G:H1'	2.15	0.61
74:R1:7:A:P	75:R2:242:U:O4'	2.59	0.61
3:C:21:LYS:HD3	3:C:66:GLU:HB2	1.81	0.61
6:G:333:ILE:HG23	6:G:334:GLU:N	2.10	0.61
58:BZ:373:LEU:HB2	58:BZ:383:VAL:HG23	1.83	0.61
62:BU:238:ASN:OD1	62:BU:239:SER:N	2.33	0.61
62:BU:432:ALA:HB1	62:BU:434:VAL:HG22	1.82	0.61
63:BW:150:ARG:HH22	63:BW:268:ARG:HH21	1.48	0.61
64:BV:100:VAL:HG12	64:BV:189:ARG:HB2	1.81	0.61
71:BR:57:GLY:HA2	71:BR:77:LEU:HB3	1.81	0.61
6:G:196:THR:HG23	6:G:198:TYR:H	1.66	0.61
15:R:353:ILE:HG12	15:R:356:ALA:HB2	1.82	0.61
18:V:64:ARG:HB3	18:V:64:ARG:HH11	1.66	0.61
24:CB:144:THR:O	24:CB:145:LEU:HG	2.00	0.61
52:BM:68:LEU:HD12	52:BM:320:LEU:HB2	1.81	0.61
62:BU:172:SER:OG	62:BU:175:LYS:O	2.18	0.61
63:BW:291:LEU:O	63:BW:295:GLN:N	2.31	0.61
73:1:509:U:H4'	73:1:510:U:OP2	1.99	0.61
12:N:83:ASP:OD2	18:V:20:GLN:N	2.34	0.61
21:CA:123:PRO:HB3	73:1:96:U:O3'	2.00	0.61
52:BM:101:LYS:HB3	52:BM:111:LEU:HD11	1.82	0.61
73:1:919:A:O2'	73:1:920:U:OP2	2.18	0.61
6:G:61:HIS:NE2	39:BP:26:ASP:OD2	2.26	0.61
9:K:137:ARG:HH11	9:K:138:PRO:HD2	1.65	0.61
10:L:80:THR:OG1	10:L:120:GLU:OE2	2.19	0.61
16:S:343:ARG:NH1	73:1:367:A:OP1	2.33	0.61
20:BA:72:ARG:H	20:BA:77:ARG:HH22	1.48	0.61
52:BM:212:GLU:O	52:BM:216:GLN:NE2	2.27	0.61
60:CD:106:VAL:HA	60:CD:109:ILE:HB	1.82	0.61
73:1:53:A:N6	73:1:124:A:H62	1.98	0.61
3:C:31:GLU:HB2	3:C:83:LEU:HD21	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:T:30:LYS:NZ	73:1:1102:C:O2'	2.26	0.61
29:BO:81:ALA:HA	29:BO:99:HIS:ND1	2.16	0.61
52:BM:358:ALA:HA	52:BM:361:LEU:HB2	1.83	0.61
63:BW:157:ALA:HB3	63:BW:163:LYS:HZ2	1.65	0.61
63:BW:341:MET:H	63:BW:343:ARG:HH11	1.48	0.61
71:BR:38:ASP:OD1	71:BR:39:LEU:N	2.34	0.61
8:J:70:LEU:HD13	8:J:94:SER:HB2	1.82	0.61
14:Q:212:LYS:O	14:Q:216:ALA:N	2.33	0.61
22:UA:159:ALA:HA	22:UA:162:ALA:HB3	1.83	0.61
29:BO:86:GLU:OE1	29:BO:97:VAL:HG11	2.01	0.61
63:BW:563:THR:HG23	63:BW:565:VAL:HG23	1.83	0.61
73:1:47:A:O2'	73:1:48:U:O5'	2.19	0.61
1:A:163:ILE:HD13	1:A:224:THR:HB	1.83	0.60
6:G:336:TYR:HB3	6:G:338:LEU:HD22	1.83	0.60
12:N:114:ARG:NH2	12:N:118:GLU:OE2	2.33	0.60
14:Q:103:PHE:N	14:Q:124:GLU:OE1	2.25	0.60
14:Q:221:GLU:O	14:Q:224:LYS:NZ	2.31	0.60
21:CA:356:ARG:NH2	21:CA:356:ARG:O	2.34	0.60
27:BN:89:GLN:O	27:BN:90:SER:HB3	2.00	0.60
29:BO:88:PHE:C	29:BO:91:CYS:H	2.05	0.60
73:1:838:A:C2'	73:1:839:A:H5"	2.30	0.60
73:1:911:U:O2'	73:1:912:A:OP1	2.19	0.60
4:E:18:ASN:HD21	4:E:20:GLU:HB3	1.65	0.60
12:N:115:LYS:NZ	15:R:396:TRP:O	2.23	0.60
15:R:66:GLU:O	15:R:70:ARG:N	2.34	0.60
15:R:201:ASN:O	15:R:205:TYR:N	2.23	0.60
20:BA:52:MET:HE1	20:BA:146:VAL:HA	1.83	0.60
24:CB:169:ARG:NH2	24:CB:169:ARG:O	2.29	0.60
58:BZ:68:ARG:NH2	58:BZ:70:ASP:OD2	2.27	0.60
61:BT:84:PRO:HD2	61:BT:342:ASP:HB2	1.83	0.60
62:BU:140:LEU:HB2	62:BU:165:LEU:HD13	1.82	0.60
64:BV:136:LEU:HD23	64:BV:138:PHE:HE1	1.66	0.60
64:BV:269:ARG:HD2	64:BV:272:LEU:HD13	1.83	0.60
73:1:463:U:H3'	73:1:464:A:H5"	1.83	0.60
2:B:318:TYR:OH	73:1:512:A:OP2	2.19	0.60
14:Q:103:PHE:HB3	14:Q:124:GLU:HB3	1.83	0.60
24:CB:145:LEU:HD11	60:CD:90:LYS:HE2	1.84	0.60
29:BO:87:ARG:HA	29:BO:92:ARG:HE	1.66	0.60
57:BY:155:SER:O	57:BY:159:THR:OG1	2.20	0.60
58:BZ:257:GLY:H	58:BZ:308:GLY:HA2	1.67	0.60
58:BZ:355:TRP:CD1	58:BZ:358:ALA:HB2	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:BV:111:SER:HA	64:BV:114:ILE:HG22	1.83	0.60
73:1:202:A:H4'	73:1:203:A:C5'	2.20	0.60
2:B:425:ILE:HD12	2:B:430:THR:HG21	1.84	0.60
4:E:219:LYS:HA	4:E:222:MET:HG3	1.84	0.60
7:I:55:LEU:HD11	7:I:95:ILE:HG21	1.83	0.60
26:BQ:364:ALA:O	26:BQ:368:ALA:N	2.31	0.60
58:BZ:273:GLN:O	58:BZ:277:GLY:N	2.29	0.60
58:BZ:283:ALA:HB2	61:BT:211:THR:OG1	2.00	0.60
68:U3:26:ALA:C	68:U3:28:ALA:H	2.04	0.60
2:B:163:ARG:NH2	73:1:219:A:O4'	2.35	0.60
11:M:259:ARG:HG3	25:BK:839:TYR:CZ	2.36	0.60
13:O:108:ARG:O	26:BQ:63:ARG:NH2	2.34	0.60
13:O:144:VAL:HG23	13:O:151:GLY:H	1.67	0.60
23:BB:42:LYS:HD2	23:BB:42:LYS:C	2.22	0.60
25:BK:644:HIS:HB2	25:BK:735:LEU:HD22	1.84	0.60
27:BN:102:ARG:O	27:BN:106:LEU:N	2.32	0.60
62:BU:456:GLU:H	62:BU:490:LYS:HZ1	1.49	0.60
66:U6:41:ALA:H	66:U6:62:ALA:HB1	1.66	0.60
3:C:140:ASN:HB3	3:C:143:VAL:HG23	1.84	0.60
8:J:55:SER:HA	8:J:119:GLY:CA	2.30	0.60
9:K:145:HIS:HD2	9:K:147:ALA:H	1.49	0.60
11:M:220:TYR:O	73:1:577:A:N6	2.34	0.60
11:M:250:PRO:HG3	25:BK:817:LEU:HD11	1.82	0.60
21:CA:471:SER:HB3	21:CA:474:GLU:HB3	1.83	0.60
27:BN:231:PHE:O	27:BN:235:GLN:NE2	2.34	0.60
63:BW:297:ARG:O	63:BW:297:ARG:NH2	2.31	0.60
73:1:885:C:H42	73:1:982:A:H61	1.49	0.60
7:I:63:PRO:HG3	73:1:818:A:H4'	1.83	0.60
14:Q:28:ARG:HB2	14:Q:32:ASN:HB2	1.84	0.60
24:CB:183:LEU:HD21	60:CD:41:MET:HB3	1.84	0.60
25:BK:466:LEU:N	25:BK:466:LEU:CD2	2.63	0.60
25:BK:661:ARG:HH12	71:BR:87:LEU:HB2	1.65	0.60
26:BQ:265:SER:HB2	56:BS:304:ARG:HD3	1.84	0.60
58:BZ:128:ARG:HG2	58:BZ:129:GLN:H	1.66	0.60
61:BT:200:ARG:HE	73:1:983:A:H5'	1.67	0.60
62:BU:295:ARG:O	62:BU:295:ARG:HG2	2.01	0.60
73:1:243:G:N1	73:1:254:U:O2'	2.34	0.60
13:O:168:VAL:HG13	13:O:171:VAL:HB	1.84	0.60
19:Z:68:ARG:NH2	19:Z:118:HIS:O	2.30	0.60
57:BX:272:PRO:HG2	57:BX:300:GLU:HG2	1.84	0.60
62:BU:224:CYS:SG	62:BU:277:LYS:NZ	2.74	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2:TYR:HB2	73:1:520:A:H61	1.66	0.60
4:E:77:LEU:HD13	4:E:110:LYS:HE2	1.82	0.60
7:I:93:LEU:O	7:I:97:ALA:N	2.34	0.60
7:I:202:PRO:O	7:I:206:GLN:NE2	2.35	0.60
12:N:114:ARG:NE	73:1:67:U:O2'	2.18	0.60
15:R:158:LEU:HD11	15:R:334:VAL:HG21	1.84	0.60
15:R:295:VAL:O	15:R:303:ASN:ND2	2.35	0.60
16:S:380:LEU:O	16:S:384:HIS:N	2.33	0.60
21:CA:259:GLU:HA	21:CA:521:VAL:HG11	1.83	0.60
25:BK:328:GLY:O	25:BK:332:LEU:N	2.30	0.60
29:BO:70:ASP:OD1	29:BO:70:ASP:N	2.29	0.60
57:BY:129:VAL:HG23	57:BY:148:VAL:H	1.66	0.60
57:BX:113:MET:N	57:BX:113:MET:SD	2.75	0.60
58:BZ:127:GLU:O	58:BZ:128:ARG:HB2	2.01	0.60
73:1:472:A:O4'	73:1:472:A:OP2	2.19	0.60
73:1:612:A:H2	73:1:613:U:H3	1.50	0.60
4:E:107:TYR:N	4:E:111:SER:O	2.34	0.60
11:M:121:GLU:HA	11:M:124:LYS:HG2	1.84	0.60
11:M:148:ILE:HG12	13:O:30:TYR:CZ	2.37	0.60
26:BQ:195:LEU:HG	26:BQ:197:LEU:H	1.66	0.60
27:BN:190:THR:O	27:BN:191:ARG:HD3	2.02	0.60
59:CC:83:LYS:HA	59:CC:93:VAL:HG21	1.84	0.60
62:BU:250:GLY:C	62:BU:252:GLU:N	2.52	0.60
73:1:553:A:C2	73:1:574:A:H5'	2.37	0.60
2:B:42:ASN:OD1	2:B:42:ASN:N	2.35	0.59
2:B:260:SER:OG	2:B:378:GLN:NE2	2.35	0.59
3:C:194:TYR:HD1	3:C:201:TYR:HD2	1.49	0.59
5:F:4:GLN:H	25:BK:766:HIS:HA	1.67	0.59
14:Q:21:ARG:NH2	73:1:195:G:H2'	2.16	0.59
21:CA:588:PHE:CD1	21:CA:590:LEU:HG	2.37	0.59
58:BZ:252:TRP:HE3	58:BZ:389:LEU:HD21	1.66	0.59
58:BZ:320:ARG:HA	75:R2:132:U:O2'	2.01	0.59
12:N:64:MET:HG3	73:1:99:A:N7	2.16	0.59
14:Q:26:PRO:HD2	14:Q:30:LEU:HD23	1.84	0.59
27:BN:124:THR:HG22	27:BN:125:ALA:H	1.67	0.59
46:BH:176:CYS:HA	46:BH:184:VAL:HG22	1.83	0.59
50:BF:96:ARG:HH12	73:1:563:U:H1'	1.66	0.59
52:BM:246:ARG:HH21	52:BM:266:TRP:HE1	1.49	0.59
57:BY:271:LEU:HG	57:BY:272:PRO:HD2	1.83	0.59
57:BX:100:ARG:NH2	57:BX:228:ASP:OD1	2.35	0.59
1:A:154:THR:OG1	1:A:320:THR:O	2.19	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:CB:183:LEU:HB3	24:CB:185:ASP:H	1.66	0.59
57:BY:235:ALA:HB3	57:BY:239:HIS:HB2	1.84	0.59
62:BU:248:LEU:O	78:BU:501:GTP:O2G	2.19	0.59
77:U8:4:ALA:O	77:U8:5:ALA:HB2	2.02	0.59
5:F:76:THR:OG1	5:F:77:ALA:N	2.34	0.59
22:UA:11:ALA:HA	43:BG:1272:VAL:HG11	1.83	0.59
25:BK:671:VAL:HG11	25:BK:702:VAL:HG11	1.84	0.59
57:BY:193:LEU:HD22	57:BY:202:LEU:HG	1.85	0.59
62:BU:220:ARG:HA	62:BU:224:CYS:HB2	1.83	0.59
73:1:79:A:HO2'	73:1:80:A:H8	1.50	0.59
6:G:31:ILE:HG23	6:G:32:PHE:HD1	1.66	0.59
8:J:48:THR:O	8:J:50:GLU:N	2.34	0.59
9:K:121:PRO:HD3	10:L:71:ARG:HD2	1.84	0.59
13:O:184:ARG:HH11	13:O:185:PRO:HD2	1.67	0.59
25:BK:795:LYS:HD2	73:1:138:A:O2'	2.02	0.59
71:BR:87:LEU:HA	71:BR:94:ARG:NE	2.18	0.59
25:BK:546:LYS:NZ	25:BK:721:TYR:O	2.31	0.59
62:BU:274:LYS:HD3	62:BU:274:LYS:C	2.23	0.59
62:BU:370:ARG:HG3	62:BU:371:GLN:N	2.16	0.59
63:BW:328:LYS:HE3	73:1:346:A:H2	1.66	0.59
5:F:83:TYR:OH	73:1:1122:U:OP2	2.19	0.59
12:N:60:TRP:N	73:1:99:A:OP2	2.36	0.59
13:O:236:GLY:HA3	15:R:280:LEU:HD22	1.85	0.59
16:S:316:ASP:OD1	16:S:316:ASP:N	2.30	0.59
22:UA:153:ALA:O	22:UA:157:ALA:N	2.36	0.59
25:BK:701:ILE:O	25:BK:705:GLU:N	2.36	0.59
27:BN:187:ARG:HB2	27:BN:187:ARG:NH2	2.17	0.59
29:BO:51:THR:HA	29:BO:144:GLN:HE21	1.67	0.59
29:BO:60:LEU:HD21	29:BO:64:VAL:HG11	1.85	0.59
52:BM:293:LEU:HD22	52:BM:299:THR:HA	1.84	0.59
56:BS:380:TYR:HB2	56:BS:386:GLN:HB2	1.85	0.59
57:BY:246:ILE:HG22	57:BY:248:THR:HG23	1.85	0.59
61:BT:162:VAL:HG23	61:BT:163:ALA:H	1.68	0.59
73:1:519:U:O2'	73:1:520:A:H5'	2.03	0.59
1:A:199:LYS:NZ	25:BK:864:PHE:HB3	2.18	0.59
2:B:97:LEU:HD22	2:B:232:LEU:HD11	1.85	0.59
6:G:315:ARG:HE	6:G:323:PRO:HB3	1.68	0.59
19:Z:109:GLY:N	73:1:570:A:O2'	2.32	0.59
71:BR:80:HIS:O	73:1:135:A:N6	2.36	0.59
73:1:227:U:H3	73:1:310:A:H61	1.47	0.59
11:M:9:ASN:ND2	11:M:14:PRO:O	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:N:59:LEU:O	12:N:59:LEU:CG	2.51	0.59
21:CA:103:LYS:HA	21:CA:217:HIS:CD2	2.37	0.59
21:CA:497:THR:HG23	21:CA:499:ARG:H	1.66	0.59
25:BK:865:TYR:HH	27:BN:188:ARG:NH1	1.97	0.59
39:BP:9:ARG:NH2	73:1:411:A:C2	2.71	0.59
63:BW:152:ASN:OD1	63:BW:310:TYR:N	2.35	0.59
1:A:48:ASP:OD1	1:A:48:ASP:N	2.33	0.59
18:V:78:TYR:OH	73:1:195:G:OP1	2.09	0.59
20:BA:54:LYS:HD2	20:BA:57:LEU:HD11	1.85	0.59
26:BQ:314:ARG:HG2	26:BQ:316:SER:H	1.67	0.59
52:BM:73:THR:HA	52:BM:76:TYR:HB2	1.84	0.59
57:BY:180:LEU:HD22	57:BY:263:HIS:O	2.03	0.59
57:BX:186:ARG:HD3	57:BX:299:PRO:HA	1.84	0.59
58:BZ:91:GLN:OE1	58:BZ:91:GLN:HA	2.02	0.59
62:BU:158:ASP:OD1	62:BU:159:VAL:N	2.36	0.59
9:K:25:ARG:HH22	73:1:835:A:H5'	1.68	0.58
14:Q:201:LEU:HB3	14:Q:206:MET:HB2	1.83	0.58
25:BK:230:LEU:HG	25:BK:290:VAL:HG23	1.85	0.58
29:BO:57:GLY:O	29:BO:135:GLN:NE2	2.36	0.58
50:BF:36:ALA:O	50:BF:40:GLN:N	2.33	0.58
52:BM:53:ALA:O	52:BM:57:LEU:N	2.35	0.58
57:BX:139:LEU:O	57:BX:143:ARG:HB3	2.02	0.58
57:BX:276:ILE:CG2	57:BX:323:ARG:HG2	2.30	0.58
58:BZ:98:ARG:NH2	58:BZ:98:ARG:O	2.36	0.58
73:1:608:A:N6	73:1:814:A:OP2	2.35	0.58
77:U8:2:ALA:O	77:U8:4:ALA:N	2.36	0.58
2:B:60:HIS:HD2	2:B:62:TYR:HB2	1.67	0.58
11:M:110:ASN:ND2	71:BR:140:ASP:OD2	2.36	0.58
21:CA:96:ALA:HB2	21:CA:156:ARG:HH12	1.68	0.58
21:CA:389:ILE:HG22	21:CA:390:MET:H	1.68	0.58
56:BS:377:THR:HG23	56:BS:379:THR:H	1.68	0.58
63:BW:257:LEU:HD23	63:BW:262:LEU:HB3	1.86	0.58
64:BV:279:ARG:O	64:BV:279:ARG:NH2	2.32	0.58
8:J:59:CYS:SG	8:J:60:ASN:N	2.76	0.58
9:K:106:ALA:HA	10:L:67:THR:HG21	1.84	0.58
10:L:16:LEU:HD22	10:L:65:ARG:HG3	1.84	0.58
14:Q:33:ARG:O	14:Q:37:MET:HG2	2.03	0.58
22:UA:11:ALA:HB2	43:BG:1272:VAL:HG21	1.85	0.58
62:BU:424:SER:O	62:BU:424:SER:OG	2.22	0.58
6:G:164:ASN:HA	18:V:111:ARG:HH22	1.69	0.58
7:I:259:HIS:HA	7:I:262:MET:HG3	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:J:41:SER:O	8:J:42:MET:HB2	2.02	0.58
13:O:65:LYS:NZ	73:1:46:U:OP1	2.36	0.58
21:CA:480:PHE:CD2	21:CA:486:LEU:HD13	2.38	0.58
63:BW:241:THR:HG23	63:BW:242:MET:H	1.68	0.58
64:BV:196:SER:HB3	64:BV:226:LEU:HG	1.85	0.58
10:L:81:ALA:HB2	10:L:118:ILE:HG13	1.84	0.58
14:Q:133:ASP:O	14:Q:138:ASN:ND2	2.35	0.58
21:CA:351:LEU:HD22	21:CA:352:PRO:HD2	1.85	0.58
21:CA:519:ALA:HB3	21:CA:586:LEU:HA	1.86	0.58
24:CB:148:LYS:O	24:CB:152:THR:OG1	2.21	0.58
25:BK:156:LEU:O	27:BN:191:ARG:HD2	2.03	0.58
25:BK:512:LEU:O	25:BK:516:SER:OG	2.11	0.58
26:BQ:268:GLY:HA3	56:BS:304:ARG:HH11	1.66	0.58
61:BT:154:LEU:HD22	61:BT:164:HIS:CE1	2.38	0.58
62:BU:61:VAL:H	62:BU:300:ARG:HH12	1.50	0.58
73:1:419:A:H1'	73:1:420:U:H5	1.68	0.58
2:B:417:VAL:HG21	6:G:315:ARG:HB2	1.85	0.58
57:BY:195:ASN:HD21	57:BY:303:VAL:H	1.50	0.58
73:1:75:A:O2'	73:1:76:U:H5'	2.03	0.58
73:1:890:C:H41	73:1:980:G:H1'	1.69	0.58
4:E:171:PRO:HB2	4:E:175:VAL:HG11	1.86	0.58
8:J:48:THR:HG22	8:J:51:GLN:CD	2.24	0.58
12:N:61:ARG:CD	12:N:61:ARG:N	2.57	0.58
14:Q:34:TYR:CE2	14:Q:44:ALA:HA	2.38	0.58
20:BA:50:ALA:HA	20:BA:53:LYS:HG2	1.84	0.58
29:BO:102:SER:O	29:BO:102:SER:OG	2.19	0.58
57:BY:119:ARG:HG2	57:BY:143:ARG:HG3	1.85	0.58
57:BY:273:LEU:HD23	57:BY:295:PHE:CD2	2.38	0.58
58:BZ:49:SER:O	58:BZ:49:SER:OG	2.17	0.58
62:BU:434:VAL:HA	62:BU:454:LYS:HD2	1.86	0.58
64:BV:139:PHE:HE2	64:BV:150:THR:HB	1.68	0.58
73:1:196:A:H2'	73:1:197:U:C6	2.39	0.58
15:R:342:LEU:HB2	15:R:363:GLU:HB3	1.84	0.58
26:BQ:97:GLU:OE1	26:BQ:141:GLN:NE2	2.34	0.58
27:BN:182:PRO:HB3	27:BN:237:HIS:CG	2.38	0.58
57:BY:129:VAL:HG12	57:BY:135:ILE:HG13	1.86	0.58
71:BR:275:ARG:HD3	71:BR:277:ARG:HB2	1.84	0.58
73:1:322:A:H3'	73:1:323:A:H5"	1.84	0.58
12:N:153:LEU:HB2	12:N:168:PHE:CE1	2.39	0.58
16:S:334:ALA:HB2	39:BP:51:ILE:HG22	1.85	0.58
25:BK:314:HIS:ND1	25:BK:315:PRO:HD2	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BQ:272:ASP:OD1	26:BQ:272:ASP:N	2.37	0.58
52:BM:214:LYS:HD2	52:BM:218:LEU:HD22	1.86	0.58
57:BY:225:ASP:HB2	57:BY:228:ASP:HB2	1.85	0.58
59:CC:128:HIS:O	59:CC:132:LYS:N	2.32	0.58
63:BW:137:SER:HB2	63:BW:138:PRO:CD	2.33	0.58
73:1:542:G:N2	73:1:596:U:HO2'	2.02	0.58
2:B:316:ASN:N	2:B:316:ASN:OD1	2.35	0.58
5:F:34:MET:SD	5:F:125:ALA:HB2	2.44	0.58
7:I:52:ARG:HH21	73:1:1169:A:H4'	1.69	0.58
8:J:4:ARG:HG3	8:J:4:ARG:O	2.04	0.58
43:BG:1308:MET:HG3	43:BG:1309:PRO:HD2	1.85	0.58
58:BZ:396:THR:HG22	58:BZ:399:ARG:HH11	1.69	0.58
59:CC:78:VAL:HG11	59:CC:140:VAL:HG21	1.86	0.58
6:G:329:PHE:HB3	6:G:332:THR:CG2	2.34	0.57
13:O:82:GLU:N	13:O:82:GLU:OE2	2.37	0.57
14:Q:28:ARG:O	14:Q:28:ARG:CG	2.51	0.57
21:CA:469:THR:C	21:CA:471:SER:H	2.08	0.57
58:BZ:126:TRP:HB2	58:BZ:132:PRO:HG3	1.85	0.57
1:A:384:ARG:NH1	73:1:1150:A:OP1	2.37	0.57
4:E:84:LYS:HA	4:E:87:ASN:HB3	1.87	0.57
4:E:125:LEU:HB3	4:E:129:ILE:HG12	1.85	0.57
4:E:131:LYS:NZ	4:E:146:CYS:SG	2.68	0.57
6:G:150:ARG:HD3	18:V:81:ARG:HH22	1.69	0.57
8:J:73:THR:CG2	8:J:123:HIS:HE1	2.18	0.57
13:O:65:LYS:HZ3	73:1:46:U:H4'	1.70	0.57
13:O:215:ILE:HD13	13:O:215:ILE:N	2.18	0.57
13:O:216:VAL:CG1	13:O:228:GLU:HB2	2.34	0.57
15:R:290:VAL:HA	15:R:293:LYS:HB2	1.87	0.57
22:UA:145:ALA:O	22:UA:149:ALA:N	2.36	0.57
25:BK:316:ARG:NE	73:1:1158:A:H61	2.02	0.57
25:BK:380:ILE:HG21	25:BK:408:LEU:HD13	1.85	0.57
25:BK:440:MET:HE2	25:BK:442:ARG:HD3	1.85	0.57
39:BP:40:LYS:NZ	39:BP:43:GLN:OE1	2.33	0.57
62:BU:386:HIS:N	62:BU:386:HIS:HD2	1.99	0.57
73:1:843:A:H2'	73:1:844:A:C8	2.37	0.57
1:A:84:THR:HG23	28:BE:113:HIS:CE1	2.39	0.57
7:I:110:ASP:O	7:I:114:GLN:N	2.38	0.57
8:J:57:ILE:HG13	8:J:114:VAL:HG12	1.86	0.57
29:BO:60:LEU:HB2	29:BO:133:ARG:NH1	2.19	0.57
43:BG:1261:ALA:HB2	43:BG:1283:ARG:NH1	2.20	0.57
52:BM:47:LYS:HD2	52:BM:50:LYS:HG3	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BY:205:LEU:HD11	57:BY:334:SER:HB3	1.85	0.57
58:BZ:92:GLY:H	58:BZ:94:ILE:CG2	2.18	0.57
62:BU:298:LEU:HD23	62:BU:299:SER:H	1.69	0.57
62:BU:431:VAL:HG22	62:BU:461:PRO:HG2	1.86	0.57
62:BU:473:THR:HB	62:BU:484:ARG:HH22	1.69	0.57
5:F:10:GLY:O	5:F:39:ARG:NH2	2.36	0.57
6:G:208:ASP:OD1	6:G:208:ASP:N	2.26	0.57
7:I:242:HIS:HD2	7:I:244:SER:H	1.53	0.57
12:N:138:PHE:HA	12:N:141:PHE:HB3	1.84	0.57
14:Q:217:LYS:O	14:Q:221:GLU:N	2.29	0.57
21:CA:105:ARG:HD2	75:R2:8:U:H5"	1.86	0.57
29:BO:87:ARG:NE	29:BO:89:ALA:HB3	2.19	0.57
7:I:94:ARG:NH2	73:1:1169:A:OP2	2.37	0.57
25:BK:637:VAL:HG21	25:BK:668:ALA:HB2	1.87	0.57
25:BK:650:LYS:NZ	73:1:34:U:O2'	2.33	0.57
26:BQ:235:ASP:OD1	26:BQ:236:GLU:N	2.37	0.57
58:BZ:347:PHE:HB3	58:BZ:359:ARG:HA	1.86	0.57
15:R:163:VAL:O	15:R:168:LYS:NZ	2.36	0.57
25:BK:419:LEU:HD23	25:BK:419:LEU:H	1.70	0.57
64:BV:99:GLU:N	64:BV:99:GLU:OE2	2.37	0.57
64:BV:159:ARG:NH1	64:BV:162:GLY:O	2.34	0.57
64:BV:267:PHE:CD1	64:BV:268:THR:HG23	2.40	0.57
73:1:877:G:H1'	73:1:1092:G:H1'	1.85	0.57
6:G:135:ARG:NH2	73:1:320:G:OP2	2.38	0.57
6:G:338:LEU:HD23	6:G:338:LEU:O	2.05	0.57
24:CB:169:ARG:HD2	60:CD:113:LYS:HG2	1.86	0.57
26:BQ:297:GLU:O	26:BQ:301:ARG:N	2.32	0.57
57:BY:274:CYS:O	57:BY:317:VAL:N	2.38	0.57
60:CD:105:ARG:O	60:CD:109:ILE:N	2.38	0.57
62:BU:291:TYR:CD1	62:BU:291:TYR:C	2.77	0.57
63:BW:228:LYS:HB3	75:R2:16:U:H2'	1.86	0.57
64:BV:135:LEU:HD13	64:BV:171:ALA:CB	2.34	0.57
73:1:260:U:H1'	73:1:276:A:H1'	1.87	0.57
74:R1:7:A:P	75:R2:242:U:C4'	2.93	0.57
1:A:296:ALA:CB	8:J:6:ARG:HD2	2.35	0.57
9:K:50:ARG:HH22	10:L:94:SER:HB3	1.70	0.57
20:BA:75:PRO:HA	20:BA:78:ARG:HB2	1.87	0.57
21:CA:432:ILE:HG13	21:CA:433:GLU:H	1.69	0.57
29:BO:90:HIS:CG	29:BO:90:HIS:O	2.58	0.57
52:BM:333:ILE:HB	52:BM:381:ASN:HB3	1.87	0.57
63:BW:573:HIS:ND1	63:BW:573:HIS:O	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:BV:136:LEU:O	64:BV:138:PHE:N	2.38	0.57
71:BR:55:LEU:HD22	73:1:43:A:C8	2.40	0.57
73:1:599:U:N3	73:1:821:U:OP1	2.30	0.57
1:A:163:ILE:HG23	1:A:178:VAL:HG13	1.87	0.57
2:B:159:MET:SD	73:1:307:C:N4	2.78	0.57
5:F:83:TYR:CD1	77:U8:3:ALA:HB3	2.25	0.57
15:R:181:VAL:HG11	15:R:328:GLY:HA3	1.87	0.57
15:R:322:HIS:N	15:R:325:GLU:OE1	2.36	0.57
23:BB:42:LYS:HG3	23:BB:55:GLN:HB2	1.86	0.57
25:BK:302:ASN:OD1	25:BK:758:ARG:HA	2.05	0.57
25:BK:457:HIS:CG	25:BK:457:HIS:O	2.58	0.57
25:BK:646:SER:HG	25:BK:756:SER:H	1.53	0.57
39:BP:8:ASP:HB3	39:BP:9:ARG:NH2	2.19	0.57
52:BM:115:ASN:HA	52:BM:119:THR:HG21	1.87	0.57
57:BY:337:LEU:HA	57:BY:340:VAL:HG12	1.86	0.57
58:BZ:96:ARG:CG	58:BZ:121:PRO:HD2	2.35	0.57
58:BZ:106:THR:OG1	58:BZ:110:ASP:HB2	2.05	0.57
63:BW:155:ILE:HB	63:BW:313:VAL:HG12	1.87	0.57
64:BV:111:SER:OG	64:BV:151:PRO:HD2	2.05	0.57
71:BR:86:THR:O	71:BR:94:ARG:NH2	2.37	0.57
2:B:184:TRP:CD1	18:V:26:LEU:HD13	2.40	0.57
8:J:73:THR:HG21	8:J:123:HIS:CE1	2.40	0.57
12:N:170:ILE:HD11	12:N:219:LYS:HD2	1.87	0.57
23:BB:42:LYS:HG3	23:BB:55:GLN:CB	2.35	0.57
62:BU:349:ASN:OD1	62:BU:350:LYS:N	2.35	0.57
73:1:328:A:O2'	73:1:329:U:OP2	2.20	0.57
1:A:145:ASP:OD1	1:A:145:ASP:N	2.32	0.56
1:A:347:HIS:HD2	23:BB:111:PHE:CE1	2.23	0.56
7:I:71:ARG:HD3	7:I:120:HIS:CE1	2.39	0.56
11:M:203:THR:HG22	11:M:232:LEU:HB3	1.86	0.56
14:Q:184:THR:O	14:Q:188:LEU:N	2.36	0.56
21:CA:469:THR:HB	21:CA:472:VAL:HG22	1.86	0.56
25:BK:695:ALA:HA	25:BK:698:ALA:HB3	1.87	0.56
52:BM:91:LEU:O	52:BM:95:GLU:N	2.37	0.56
57:BX:295:PHE:O	57:BX:297:SER:N	2.38	0.56
63:BW:148:LEU:HD22	63:BW:170:PRO:HB3	1.87	0.56
73:1:475:A:H2'	73:1:476:A:H8	1.68	0.56
5:F:83:TYR:HE1	77:U8:3:ALA:HB3	1.64	0.56
15:R:429:VAL:HG21	15:R:444:PRO:HG3	1.87	0.56
21:CA:103:LYS:NZ	75:R2:8:U:OP2	2.38	0.56
22:UA:151:ALA:O	22:UA:155:ALA:N	2.31	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BK:735:LEU:HD11	25:BK:753:THR:HG22	1.87	0.56
26:BQ:420:ASN:O	26:BQ:427:ARG:NH2	2.37	0.56
58:BZ:96:ARG:HG2	58:BZ:121:PRO:HD2	1.87	0.56
73:1:425:A:H3'	73:1:426:A:H8	1.69	0.56
2:B:184:TRP:HD1	18:V:26:LEU:HD13	1.70	0.56
4:E:62:ALA:HB3	4:E:87:ASN:HB2	1.86	0.56
6:G:146:LYS:HB2	6:G:147:MET:HE2	1.87	0.56
6:G:278:GLU:OE1	6:G:278:GLU:N	2.39	0.56
11:M:64:ARG:NH2	73:1:514:U:O2	2.38	0.56
11:M:107:TYR:CE2	71:BR:143:ARG:HB2	2.39	0.56
12:N:55:GLN:HB2	12:N:59:LEU:CD1	2.30	0.56
12:N:60:TRP:HE3	73:1:98:G:H4'	1.69	0.56
16:S:345:GLY:O	16:S:353:ARG:NH2	2.35	0.56
18:V:105:VAL:HG12	73:1:210:U:C4	2.40	0.56
20:BA:72:ARG:HA	20:BA:122:ARG:HH12	1.70	0.56
21:CA:81:SER:OG	21:CA:162:ASP:OD1	2.23	0.56
24:CB:118:THR:HG22	24:CB:119:ASP:H	1.69	0.56
26:BQ:182:PRO:HB2	56:BS:309:PRO:HD3	1.88	0.56
27:BN:187:ARG:HB2	27:BN:187:ARG:HH21	1.69	0.56
39:BP:9:ARG:NH1	73:1:411:A:N1	2.51	0.56
46:BH:191:ASP:OD1	46:BH:192:CYS:N	2.37	0.56
52:BM:141:ARG:HH12	52:BM:267:GLY:HA2	1.69	0.56
57:BX:194:ASP:HB3	57:BX:306:VAL:HG23	1.87	0.56
58:BZ:247:PRO:HB3	58:BZ:314:TYR:HB3	1.87	0.56
58:BZ:389:LEU:HD12	58:BZ:404:VAL:HG23	1.87	0.56
62:BU:350:LYS:HE2	62:BU:386:HIS:NE2	2.20	0.56
62:BU:458:SER:HA	62:BU:490:LYS:HD3	1.87	0.56
66:U6:41:ALA:N	66:U6:62:ALA:HB1	2.19	0.56
71:BR:87:LEU:HD21	73:1:135:A:C2	2.39	0.56
72:U2:4:ALA:O	77:U8:44:ALA:HB1	2.03	0.56
73:1:342:A:H2'	73:1:343:A:C8	2.33	0.56
73:1:471:A:H2'	73:1:472:A:C8	2.40	0.56
73:1:1124:U:O2'	73:1:1125:A:O4'	2.23	0.56
3:C:147:GLU:O	3:C:151:GLN:NE2	2.39	0.56
4:E:111:SER:OG	67:U1:3:ALA:HB3	2.05	0.56
6:G:230:LEU:H	6:G:250:GLY:HA3	1.69	0.56
8:J:110:LEU:HD21	29:BO:143:LEU:HB2	1.87	0.56
14:Q:28:ARG:CB	14:Q:32:ASN:HB2	2.36	0.56
15:R:422:TYR:OH	15:R:427:ASP:OD2	2.15	0.56
16:S:382:GLU:OE1	16:S:382:GLU:N	2.37	0.56
26:BQ:21:LYS:NZ	73:1:533:U:O4	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BN:216:ASP:OD1	27:BN:223:ALA:N	2.34	0.56
52:BM:218:LEU:HD21	52:BM:221:ARG:HB3	1.87	0.56
58:BZ:233:THR:HG22	58:BZ:237:LEU:HD13	1.86	0.56
58:BZ:367:HIS:CD2	58:BZ:389:LEU:HD23	2.40	0.56
63:BW:639:ASP:HA	73:1:342:A:OP1	2.06	0.56
73:1:161:U:H2'	73:1:379:U:O2'	2.05	0.56
73:1:592:A:O2'	73:1:594:U:OP2	2.23	0.56
73:1:841:A:H2'	73:1:842:U:O4'	2.06	0.56
75:R2:18:U:H2'	75:R2:19:U:O4'	2.06	0.56
1:A:132:GLY:HA3	1:A:332:PHE:O	2.05	0.56
4:E:25:ARG:NH1	4:E:25:ARG:O	2.39	0.56
6:G:31:ILE:HG23	6:G:32:PHE:CD1	2.40	0.56
10:L:86:GLN:HE21	10:L:114:THR:HB	1.71	0.56
13:O:42:LYS:HD2	73:1:131:U:H3	1.70	0.56
24:CB:114:LYS:HD2	29:BO:177:LYS:HZ2	1.69	0.56
57:BY:274:CYS:HA	57:BY:305:ARG:HH21	1.71	0.56
57:BX:306:VAL:HG22	57:BX:307:PHE:H	1.69	0.56
61:BT:171:MET:HG2	61:BT:235:THR:HB	1.87	0.56
62:BU:352:ASP:OD2	62:BU:387:THR:OG1	2.16	0.56
64:BV:133:THR:HG22	64:BV:134:ARG:H	1.71	0.56
71:BR:88:SER:O	71:BR:92:HIS:ND1	2.39	0.56
74:R1:7:A:P	75:R2:242:U:C5'	2.94	0.56
1:A:208:VAL:HG21	8:J:11:PHE:HA	1.88	0.56
11:M:129:LEU:HD12	11:M:130:PRO:HD2	1.87	0.56
13:O:292:LEU:HA	13:O:295:SER:HB2	1.88	0.56
27:BN:160:GLU:OE1	27:BN:200:ARG:NH2	2.38	0.56
50:BF:55:TYR:HA	50:BF:63:ARG:HH11	1.70	0.56
57:BY:221:ASN:ND2	57:BY:248:THR:HB	2.20	0.56
61:BT:93:ARG:NH1	61:BT:122:TYR:OH	2.39	0.56
62:BU:81:LEU:HD23	62:BU:81:LEU:H	1.70	0.56
62:BU:261:ASN:O	62:BU:263:THR:OG1	2.21	0.56
64:BV:192:TRP:HZ2	64:BV:208:ASP:HB3	1.70	0.56
73:1:165:G:C4'	73:1:166:U:H5'	2.33	0.56
3:C:77:ARG:HH21	3:C:83:LEU:HD22	1.71	0.56
4:E:92:PRO:HG2	4:E:93:HIS:CE1	2.39	0.56
15:R:345:VAL:HA	15:R:348:LEU:HD12	1.88	0.56
17:T:72:TRP:CE2	17:T:82:LYS:HB3	2.41	0.56
19:Z:67:ASN:HB3	19:Z:121:LEU:HD22	1.88	0.56
20:BA:112:GLU:HA	20:BA:137:ARG:HB2	1.88	0.56
52:BM:293:LEU:HD13	52:BM:299:THR:HG23	1.87	0.56
57:BX:344:ARG:HG3	57:BX:346:GLU:HG2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:BW:158:PRO:HD2	63:BW:161:GLU:CB	2.32	0.56
73:1:268:A:N3	73:1:581:U:H1'	2.21	0.56
73:1:423:U:H2'	73:1:424:G:C8	2.40	0.56
73:1:462:U:O2'	73:1:463:U:H5"	2.04	0.56
77:U8:9:ALA:O	77:U8:10:ALA:CB	2.53	0.56
15:R:33:ALA:HB1	15:R:90:SER:HB3	1.88	0.56
21:CA:202:VAL:HG12	21:CA:203:ALA:H	1.71	0.56
21:CA:457:CYS:CB	21:CA:461:PRO:HB2	2.35	0.56
25:BK:803:HIS:ND1	25:BK:803:HIS:O	2.39	0.56
26:BQ:65:PHE:CE2	26:BQ:68:PRO:HD3	2.41	0.56
26:BQ:149:LEU:HD11	26:BQ:253:LYS:HG2	1.86	0.56
27:BN:181:ARG:NH1	27:BN:185:GLU:H	2.04	0.56
46:BH:105:SER:OG	46:BH:109:TYR:O	2.22	0.56
52:BM:211:LEU:HB2	52:BM:236:LEU:HD13	1.87	0.56
52:BM:296:GLN:HE21	52:BM:318:PRO:HB3	1.71	0.56
57:BY:195:ASN:OD1	57:BY:196:ILE:N	2.35	0.56
13:O:230:ARG:O	13:O:239:LEU:N	2.39	0.56
25:BK:378:ASP:OD1	25:BK:378:ASP:N	2.39	0.56
25:BK:662:LEU:HD13	25:BK:710:ARG:HB3	1.88	0.56
25:BK:798:ARG:HH22	25:BK:803:HIS:HB3	1.69	0.56
26:BQ:328:THR:HB	26:BQ:337:ALA:HB2	1.87	0.56
27:BN:309:ASP:N	27:BN:309:ASP:OD1	2.38	0.56
58:BZ:92:GLY:C	58:BZ:94:ILE:N	2.59	0.56
58:BZ:93:HIS:HD2	58:BZ:133:PRO:HD3	1.70	0.56
2:B:374:LEU:HD13	15:R:227:VAL:HG22	1.87	0.56
4:E:32:GLU:O	4:E:36:LYS:HG2	2.06	0.56
14:Q:30:LEU:HD12	14:Q:34:TYR:CE2	2.41	0.56
16:S:363:ARG:NH1	46:BH:71:GLN:OE1	2.39	0.56
21:CA:525:PRO:CD	21:CA:582:HIS:H	2.19	0.56
24:CB:144:THR:C	24:CB:146:GLU:H	2.09	0.56
25:BK:667:ASP:OD1	25:BK:667:ASP:N	2.39	0.56
27:BN:185:GLU:O	27:BN:185:GLU:HG3	2.06	0.56
27:BN:213:GLY:HA2	27:BN:224:THR:HG21	1.88	0.56
28:BE:104:VAL:HG12	28:BE:105:TYR:H	1.71	0.56
57:BY:85:ALA:O	57:BY:89:HIS:N	2.35	0.56
57:BY:90:PHE:HD1	57:BY:93:LEU:HD22	1.71	0.56
62:BU:383:VAL:HG13	62:BU:391:LEU:HD11	1.87	0.56
64:BV:99:GLU:OE1	64:BV:178:TYR:OH	2.20	0.56
1:A:271:ARG:HG2	58:BZ:372:GLN:HE22	1.70	0.55
2:B:152:LYS:NZ	73:1:219:A:OP1	2.30	0.55
8:J:121:PHE:CZ	8:J:125:LEU:HD21	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:K:50:ARG:NH2	73:1:406:U:OP1	2.24	0.55
14:Q:74:ASP:HB2	14:Q:152:TYR:CZ	2.41	0.55
15:R:178:PRO:HB2	15:R:180:ASP:OD1	2.06	0.55
17:T:46:HIS:ND1	73:1:861:U:O2'	2.23	0.55
52:BM:159:MET:SD	52:BM:160:ARG:NH2	2.72	0.55
57:BY:175:PRO:HG2	57:BY:245:PRO:HB2	1.88	0.55
57:BX:244:VAL:HB	57:BX:246:ILE:HG23	1.88	0.55
58:BZ:92:GLY:N	58:BZ:94:ILE:HG23	2.21	0.55
72:U2:4:ALA:O	77:U8:44:ALA:HB2	2.06	0.55
7:I:135:ARG:O	7:I:167:ASN:ND2	2.33	0.55
7:I:259:HIS:ND1	7:I:259:HIS:O	2.38	0.55
8:J:107:ASN:HB3	8:J:110:LEU:HB2	1.87	0.55
21:CA:79:VAL:N	21:CA:83:ASP:OD2	2.39	0.55
21:CA:293:MET:HB2	21:CA:392:ARG:HD3	1.88	0.55
25:BK:443:ASP:OD2	25:BK:470:PHE:HB2	2.06	0.55
26:BQ:112:VAL:HG11	26:BQ:155:LEU:HD13	1.87	0.55
57:BY:153:SER:HA	57:BY:156:VAL:HB	1.88	0.55
57:BX:196:ILE:HG13	57:BX:222:HIS:HB2	1.87	0.55
58:BZ:126:TRP:CB	58:BZ:132:PRO:HB3	2.37	0.55
58:BZ:219:THR:OG1	75:R2:134:U:P	2.61	0.55
58:BZ:376:LYS:HD3	58:BZ:380:GLY:O	2.06	0.55
60:CD:91:VAL:HA	60:CD:94:GLU:HG2	1.87	0.55
73:1:448:U:H2'	73:1:449:U:C6	2.41	0.55
73:1:471:A:H2'	73:1:472:A:H8	1.70	0.55
9:K:27:ARG:NE	9:K:31:GLU:OE1	2.32	0.55
9:K:77:TRP:CZ2	9:K:81:ARG:HD3	2.42	0.55
12:N:78:ARG:HB2	18:V:25:VAL:HG13	1.89	0.55
14:Q:28:ARG:O	14:Q:28:ARG:CD	2.53	0.55
21:CA:105:ARG:NH1	75:R2:9:U:H3'	2.22	0.55
21:CA:156:ARG:N	21:CA:229:GLY:HA2	2.21	0.55
21:CA:287:SER:OG	21:CA:315:GLU:OE2	2.20	0.55
21:CA:474:GLU:HA	21:CA:477:PHE:CZ	2.42	0.55
23:BB:54:VAL:CG2	23:BB:56:PRO:HD2	2.35	0.55
25:BK:297:LYS:HA	25:BK:300:THR:HB	1.88	0.55
25:BK:619:ARG:NH1	71:BR:254:CYS:SG	2.78	0.55
57:BY:192:VAL:HG22	57:BY:218:ILE:HB	1.88	0.55
63:BW:128:LEU:HG	63:BW:133:VAL:HB	1.89	0.55
64:BV:133:THR:HG22	64:BV:134:ARG:N	2.21	0.55
73:1:847:A:H8	73:1:849:U:H3	1.54	0.55
2:B:128:TRP:NE1	2:B:132:CYS:SG	2.76	0.55
2:B:192:ASP:OD1	2:B:192:ASP:N	2.35	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:118:LEU:HD11	3:C:155:ILE:HG23	1.88	0.55
16:S:248:ALA:HB2	20:BA:66:ALA:H	1.71	0.55
20:BA:80:ARG:HB3	20:BA:82:LEU:HG	1.89	0.55
23:BB:26:ALA:HA	23:BB:29:ARG:HG2	1.89	0.55
24:CB:80:PHE:HZ	29:BO:185:LEU:HD12	1.71	0.55
29:BO:88:PHE:O	29:BO:91:CYS:N	2.34	0.55
52:BM:159:MET:HG2	52:BM:163:GLU:HB2	1.89	0.55
58:BZ:95:TYR:HD2	58:BZ:122:THR:HG22	1.70	0.55
60:CD:58:GLU:OE2	60:CD:107:ARG:NH1	2.39	0.55
60:CD:62:GLU:OE1	60:CD:66:HIS:NE2	2.40	0.55
62:BU:149:PRO:HG2	62:BU:152:GLU:HB2	1.88	0.55
63:BW:197:ALA:HB3	63:BW:203:VAL:HG22	1.88	0.55
73:1:319:A:N3	73:1:321:U:O2'	2.29	0.55
73:1:322:A:H3'	73:1:323:A:C5'	2.36	0.55
73:1:825:U:H2'	73:1:826:A:C8	2.41	0.55
73:1:836:U:O2'	73:1:837:U:OP1	2.21	0.55
73:1:1131:A:H61	73:1:1149:A:N6	2.05	0.55
1:A:291:ALA:O	73:1:1107:U:O2'	2.22	0.55
7:I:127:LYS:NZ	7:I:173:ASN:OD1	2.37	0.55
13:O:242:PRO:HD3	56:BS:344:LEU:HD13	1.87	0.55
13:O:289:VAL:HG12	15:R:122:TYR:HB3	1.88	0.55
21:CA:417:PRO:HG3	21:CA:451:VAL:HA	1.88	0.55
26:BQ:284:SER:OG	26:BQ:296:ALA:O	2.25	0.55
46:BH:86:PRO:HA	46:BH:173:VAL:HG22	1.87	0.55
63:BW:334:THR:HG22	63:BW:336:MET:H	1.71	0.55
63:BW:345:GLN:NE2	63:BW:597:ALA:O	2.40	0.55
66:U6:40:ALA:HB2	66:U6:65:ALA:CB	2.33	0.55
66:U6:50:ALA:O	66:U6:51:ALA:HB3	2.06	0.55
66:U6:142:ALA:HA	66:U6:143:ALA:HB3	1.88	0.55
68:U3:28:ALA:O	68:U3:29:ALA:HB3	2.06	0.55
73:1:98:G:P	73:1:98:G:H8	2.30	0.55
77:U8:34:ALA:O	77:U8:35:ALA:HB2	2.06	0.55
6:G:315:ARG:HA	6:G:323:PRO:HD3	1.87	0.55
24:CB:138:SER:OG	24:CB:139:PHE:N	2.39	0.55
43:BG:1266:GLY:HA3	43:BG:1288:PRO:HG2	1.89	0.55
57:BY:131:CYS:N	57:BY:150:VAL:O	2.39	0.55
57:BY:334:SER:O	57:BY:338:ALA:N	2.24	0.55
58:BZ:95:TYR:HA	58:BZ:121:PRO:O	2.07	0.55
62:BU:192:ILE:HD13	69:U4:16:ALA:HB2	1.89	0.55
73:1:171:U:H5'	73:1:833:A:H5"	1.88	0.55
11:M:50:ILE:HD11	13:O:54:LEU:HD22	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BQ:240:ILE:HG12	26:BQ:266:SER:HB2	1.88	0.55
26:BQ:406:PHE:O	26:BQ:409:LYS:NZ	2.40	0.55
52:BM:325:GLN:NE2	52:BM:328:TYR:OH	2.40	0.55
57:BX:272:PRO:CG	57:BX:300:GLU:HG2	2.37	0.55
58:BZ:189:HIS:HB2	58:BZ:192:LEU:HB2	1.89	0.55
58:BZ:391:PRO:HA	58:BZ:394:GLU:HB2	1.88	0.55
68:U3:31:ALA:HA	68:U3:57:ALA:HA	1.88	0.55
73:1:539:U:O5'	73:1:539:U:H6	1.89	0.55
73:1:977:A:H3'	73:1:978:U:C6	2.41	0.55
11:M:214:ASP:HB2	11:M:224:LYS:HG3	1.89	0.55
15:R:353:ILE:H	15:R:356:ALA:HB3	1.71	0.55
57:BY:230:ARG:O	57:BY:234:ALA:N	2.34	0.55
57:BX:221:ASN:HD22	57:BX:257:VAL:HG22	1.70	0.55
58:BZ:215:HIS:ND1	58:BZ:215:HIS:O	2.39	0.55
63:BW:207:GLN:O	63:BW:211:ALA:N	2.35	0.55
63:BW:647:GLU:O	63:BW:649:ARG:N	2.39	0.55
7:I:22:MET:HB3	7:I:25:ALA:HB2	1.89	0.55
7:I:156:ASP:O	7:I:158:VAL:N	2.40	0.55
10:L:171:GLU:O	10:L:171:GLU:HG2	2.06	0.55
15:R:450:THR:HG21	15:R:454:MET:HG3	1.89	0.55
22:UA:95:ALA:O	22:UA:99:ALA:N	2.26	0.55
26:BQ:106:LEU:HD21	26:BQ:168:LEU:HB3	1.89	0.55
27:BN:210:GLU:HG3	27:BN:211:GLU:H	1.72	0.55
56:BS:403:PRO:HG2	56:BS:406:MET:HB2	1.89	0.55
3:C:143:VAL:HG22	73:1:904:G:C6	2.42	0.55
6:G:121:GLY:HA2	73:1:327:U:H5"	1.89	0.55
7:I:147:THR:HG21	17:T:79:ARG:HG3	1.89	0.55
9:K:168:LEU:HB3	9:K:171:GLU:HB3	1.89	0.55
12:N:58:ASN:OD1	73:1:98:G:H5"	2.07	0.55
20:BA:75:PRO:O	20:BA:79:LEU:N	2.39	0.55
21:CA:556:ARG:HB3	21:CA:561:PHE:CE1	2.42	0.55
25:BK:243:SER:HB3	73:1:37:A:O2'	2.07	0.55
52:BM:138:VAL:HG23	52:BM:139:PRO:HD3	1.88	0.55
57:BX:190:VAL:O	57:BX:304:GLY:N	2.39	0.55
57:BX:241:GLN:HA	57:BX:244:VAL:HG22	1.88	0.55
61:BT:191:PHE:HZ	61:BT:194:GLU:HG2	1.72	0.55
61:BT:278:GLY:C	61:BT:280:SER:H	2.09	0.55
64:BV:323:THR:O	64:BV:324:GLN:NE2	2.40	0.55
73:1:523:A:O2'	73:1:524:U:OP1	2.25	0.55
1:A:143:ASP:OD2	1:A:307:TRP:NE1	2.39	0.54
2:B:254:SER:OG	2:B:255:ARG:N	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:46:MET:HG2	73:1:149:U:O4	2.08	0.54
10:L:25:VAL:HG21	10:L:55:LEU:HD22	1.90	0.54
19:Z:109:GLY:HA3	73:1:571:U:H4'	1.89	0.54
21:CA:568:ARG:NH2	63:BW:305:PRO:HG3	2.22	0.54
22:UA:146:ALA:HA	22:UA:149:ALA:HB3	1.90	0.54
57:BX:194:ASP:HA	57:BX:220:THR:CB	2.37	0.54
61:BT:224:PRO:O	61:BT:226:VAL:N	2.41	0.54
73:1:902:G:H22	73:1:909:U:H3	1.55	0.54
73:1:1112:C:H3'	73:1:1112:C:P	2.47	0.54
3:C:132:ARG:N	3:C:135:GLU:OE1	2.25	0.54
6:G:254:ASN:HB3	6:G:296:GLY:HA2	1.88	0.54
16:S:384:HIS:ND1	16:S:384:HIS:O	2.40	0.54
25:BK:861:ALA:HB3	25:BK:874:TYR:HB2	1.87	0.54
62:BU:446:THR:O	62:BU:446:THR:OG1	2.25	0.54
69:U4:99:ALA:O	69:U4:103:ALA:N	2.34	0.54
71:BR:251:VAL:O	71:BR:255:VAL:HG23	2.06	0.54
1:A:286:PRO:HD2	5:F:79:PRO:HD3	1.88	0.54
2:B:194:LYS:CD	73:1:208:U:C4	2.90	0.54
7:I:247:ASP:OD1	7:I:247:ASP:N	2.37	0.54
7:I:250:TRP:HE1	7:I:255:GLU:HG3	1.72	0.54
16:S:247:ALA:O	16:S:251:TYR:OH	2.19	0.54
21:CA:420:GLY:HA3	21:CA:470:HIS:NE2	2.22	0.54
24:CB:166:SER:O	24:CB:166:SER:OG	2.22	0.54
52:BM:222:MET:SD	52:BM:222:MET:N	2.80	0.54
73:1:473:U:O2'	73:1:474:U:H5'	2.06	0.54
62:BU:247:ARG:HA	62:BU:251:TYR:HA	1.90	0.54
62:BU:292:ARG:HB2	62:BU:296:GLU:OE1	2.08	0.54
63:BW:168:LEU:HD11	63:BW:210:CYS:HB2	1.88	0.54
73:1:463:U:H3'	73:1:464:A:C5'	2.38	0.54
73:1:849:U:H1'	73:1:850:U:C5	2.42	0.54
2:B:170:HIS:O	11:M:31:HIS:HE1	1.90	0.54
4:E:57:ILE:HD11	4:E:68:VAL:HG21	1.90	0.54
12:N:191:ASN:OD1	12:N:191:ASN:N	2.39	0.54
21:CA:488:PHE:O	21:CA:488:PHE:CD1	2.61	0.54
62:BU:33:ILE:HD13	62:BU:111:ILE:HG13	1.90	0.54
62:BU:274:LYS:HB2	62:BU:395:MET:HE2	1.89	0.54
63:BW:254:LEU:HD13	63:BW:258:ARG:HH12	1.72	0.54
2:B:417:VAL:HG23	6:G:316:ARG:HH11	1.71	0.54
4:E:120:PRO:O	4:E:124:PHE:HB2	2.07	0.54
12:N:55:GLN:HG2	12:N:61:ARG:HH21	1.72	0.54
12:N:64:MET:HE1	73:1:96:U:N3	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:S:339:PRO:HG3	46:BH:97:THR:HG21	1.89	0.54
21:CA:533:SER:O	21:CA:535:LEU:N	2.40	0.54
25:BK:453:GLN:O	25:BK:456:ALA:HB3	2.07	0.54
25:BK:638:GLU:HB2	25:BK:666:LYS:HB3	1.90	0.54
57:BY:113:MET:N	57:BY:113:MET:SD	2.80	0.54
57:BX:217:ILE:O	57:BX:247:TYR:N	2.39	0.54
58:BZ:281:ILE:HB	61:BT:50:GLY:O	2.08	0.54
64:BV:163:GLN:HA	73:1:279:U:H4'	1.90	0.54
68:U3:21:ALA:O	68:U3:25:ALA:N	2.39	0.54
71:BR:79:GLN:HB3	71:BR:85:ARG:HH22	1.71	0.54
73:1:99:A:O2'	73:1:100:A:O4'	2.25	0.54
73:1:305:U:OP1	73:1:308:C:N4	2.39	0.54
6:G:330:PRO:CA	6:G:333:ILE:HG22	2.30	0.54
13:O:115:LYS:HB3	15:R:415:ALA:HB1	1.89	0.54
13:O:287:TYR:O	13:O:291:SER:N	2.40	0.54
15:R:410:THR:HG23	15:R:450:THR:HG22	1.90	0.54
17:T:60:CYS:HB2	17:T:67:LYS:HE3	1.89	0.54
58:BZ:176:VAL:HG11	58:BZ:385:VAL:HG21	1.90	0.54
62:BU:315:VAL:HG21	62:BU:337:VAL:HG21	1.89	0.54
62:BU:437:ILE:HG21	62:BU:449:LEU:HG	1.89	0.54
71:BR:246:GLN:O	71:BR:250:HIS:ND1	2.41	0.54
73:1:559:U:O2'	73:1:560:U:H3'	2.08	0.54
4:E:54:ARG:HH22	73:1:463:U:H4'	1.71	0.54
6:G:17:VAL:HG12	16:S:311:ASP:HB2	1.88	0.54
11:M:110:ASN:HB3	11:M:113:MET:HB2	1.90	0.54
20:BA:113:MET:HB2	20:BA:138:VAL:HB	1.90	0.54
25:BK:454:LEU:C	25:BK:456:ALA:H	2.11	0.54
25:BK:641:PHE:HD2	25:BK:754:ILE:HD11	1.72	0.54
39:BP:18:GLU:OE1	39:BP:18:GLU:N	2.41	0.54
52:BM:336:GLN:HA	52:BM:341:GLY:H	1.72	0.54
58:BZ:88:LEU:HB2	58:BZ:95:TYR:CE1	2.34	0.54
58:BZ:92:GLY:C	58:BZ:94:ILE:H	2.11	0.54
62:BU:449:LEU:HD13	62:BU:486:VAL:HG13	1.90	0.54
63:BW:506:GLY:O	63:BW:558:ASN:ND2	2.41	0.54
1:A:310:ASP:HB3	1:A:315:LEU:HB2	1.90	0.54
6:G:205:VAL:HG12	6:G:206:ILE:HG23	1.89	0.54
6:G:216:MET:HB2	6:G:234:LEU:HD22	1.90	0.54
12:N:64:MET:HB2	73:1:99:A:C8	2.43	0.54
13:O:89:HIS:CD2	13:O:91:LYS:H	2.24	0.54
21:CA:381:GLU:HG3	21:CA:385:LYS:HE3	1.89	0.54
23:BB:42:LYS:HG3	23:BB:55:GLN:HG3	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BQ:110:GLU:HG3	26:BQ:111:GLU:HG2	1.89	0.54
27:BN:151:GLU:HB2	27:BN:206:TYR:HB2	1.90	0.54
52:BM:79:ARG:NH2	52:BM:379:ASP:OD1	2.40	0.54
56:BS:378:HIS:CD2	56:BS:380:TYR:H	2.25	0.54
57:BX:159:THR:HG21	57:BX:166:VAL:HG21	1.90	0.54
58:BZ:331:LEU:HD23	58:BZ:333:ALA:HB2	1.90	0.54
62:BU:382:VAL:O	62:BU:390:ASN:ND2	2.41	0.54
73:1:331:U:O2'	73:1:501:G:O2'	2.20	0.54
2:B:273:ASN:OD1	2:B:273:ASN:N	2.35	0.54
18:V:53:ARG:CZ	18:V:109:ARG:HH12	2.20	0.54
22:UA:143:ALA:HA	22:UA:146:ALA:HB3	1.89	0.54
25:BK:238:LEU:HD23	25:BK:243:SER:HB2	1.90	0.54
26:BQ:105:LEU:HD22	26:BQ:168:LEU:HD21	1.89	0.54
29:BO:130:LEU:HD21	29:BO:133:ARG:HD3	1.89	0.54
52:BM:206:GLY:HA2	52:BM:211:LEU:HD21	1.90	0.54
58:BZ:96:ARG:HD3	58:BZ:103:LYS:HB2	1.90	0.54
62:BU:290:ARG:HH22	73:1:913:U:H5"	1.73	0.54
68:U3:57:ALA:H	68:U3:60:ALA:HB2	1.72	0.54
73:1:321:U:O2'	73:1:322:A:OP1	2.24	0.54
73:1:429:A:H2'	73:1:430:A:H8	1.73	0.54
14:Q:28:ARG:CG	14:Q:32:ASN:HB2	2.37	0.53
15:R:40:ARG:NH1	15:R:100:GLU:OE1	2.40	0.53
20:BA:58:SER:O	20:BA:61:SER:OG	2.25	0.53
21:CA:122:THR:O	21:CA:129:LYS:NZ	2.37	0.53
21:CA:235:GLU:OE2	21:CA:238:ARG:NE	2.36	0.53
25:BK:465:THR:OG1	25:BK:467:PRO:HD3	2.06	0.53
25:BK:701:ILE:HG12	26:BQ:120:GLY:HA3	1.91	0.53
58:BZ:125:PHE:CG	58:BZ:125:PHE:O	2.60	0.53
73:1:974:U:H4'	73:1:975:U:OP1	2.06	0.53
76:R5:3:U:H2'	76:R5:4:U:H6	1.74	0.53
2:B:142:GLU:HG3	2:B:180:PRO:HD3	1.90	0.53
4:E:25:ARG:HH22	4:E:173:ILE:HG12	1.74	0.53
6:G:301:TRP:CZ2	6:G:308:TYR:CG	2.96	0.53
9:K:73:HIS:HB2	9:K:111:MET:HE2	1.90	0.53
11:M:16:PRO:HG2	11:M:26:LEU:HD11	1.90	0.53
11:M:211:LYS:HZ2	26:BQ:40:PRO:HD3	1.72	0.53
13:O:95:PHE:HB3	73:1:579:U:C4	2.43	0.53
20:BA:93:HIS:O	20:BA:97:SER:OG	2.18	0.53
24:CB:78:SER:OG	24:CB:79:ASN:N	2.41	0.53
25:BK:591:SER:OG	25:BK:597:ASP:OD2	2.25	0.53
29:BO:24:ASN:O	29:BO:26:VAL:N	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BM:11:VAL:HG21	52:BM:34:ARG:HH12	1.74	0.53
52:BM:214:LYS:HB2	52:BM:235:LYS:HG3	1.89	0.53
58:BZ:186:MET:HB2	75:R2:133:U:H1'	1.90	0.53
60:CD:56:PRO:HB2	60:CD:105:ARG:HA	1.90	0.53
62:BU:100:ALA:O	62:BU:104:VAL:HG13	2.07	0.53
62:BU:340:GLU:O	62:BU:342:ARG:NH1	2.40	0.53
63:BW:533:VAL:HA	63:BW:559:ILE:HG13	1.90	0.53
73:1:243:G:O6	73:1:254:U:H1'	2.09	0.53
73:1:471:A:HO2'	73:1:472:A:P	2.30	0.53
73:1:533:U:H3	73:1:831:A:H61	1.54	0.53
12:N:194:ARG:HB2	12:N:196:ARG:NH1	2.24	0.53
13:O:292:LEU:HB2	15:R:124:TYR:HB2	1.90	0.53
15:R:155:ARG:HH22	15:R:172:LYS:HA	1.73	0.53
21:CA:227:ASP:N	21:CA:227:ASP:OD1	2.41	0.53
21:CA:303:HIS:CD2	21:CA:303:HIS:H	2.26	0.53
43:BG:1261:ALA:HB3	43:BG:1270:PHE:CE1	2.42	0.53
58:BZ:281:ILE:O	58:BZ:283:ALA:N	2.42	0.53
63:BW:187:ARG:HH11	63:BW:190:ARG:HE	1.57	0.53
64:BV:137:GLN:HB3	64:BV:139:PHE:HZ	1.64	0.53
64:BV:178:TYR:CE1	64:BV:182:ARG:HD2	2.42	0.53
64:BV:189:ARG:HH11	64:BV:223:SER:HB2	1.74	0.53
64:BV:309:ARG:HB2	64:BV:312:GLU:HB2	1.89	0.53
73:1:184:G:N2	73:1:207:G:O4'	2.41	0.53
73:1:869:U:O4	73:1:870:A:N6	2.41	0.53
1:A:163:ILE:H	1:A:163:ILE:HD12	1.73	0.53
1:A:242:GLN:HB2	8:J:12:PHE:HB3	1.90	0.53
3:C:106:HIS:ND1	3:C:106:HIS:O	2.41	0.53
5:F:3:LYS:HB3	5:F:6:LEU:HD12	1.89	0.53
7:I:145:MET:N	7:I:164:GLU:O	2.40	0.53
19:Z:148:GLU:O	19:Z:152:ARG:NH1	2.37	0.53
25:BK:419:LEU:HD21	25:BK:479:LEU:HD21	1.90	0.53
57:BY:300:GLU:HG3	57:BY:301:ALA:H	1.73	0.53
57:BY:335:ARG:NH2	57:BX:333:LEU:O	2.41	0.53
57:BX:276:ILE:O	57:BX:276:ILE:HG12	2.08	0.53
60:CD:40:ARG:HA	60:CD:43:LEU:HD12	1.90	0.53
64:BV:155:GLY:O	64:BV:156:TRP:HD1	1.90	0.53
73:1:260:U:H3	73:1:275:U:H3	1.57	0.53
73:1:895:U:O2'	73:1:896:U:O5'	2.26	0.53
1:A:181:GLY:HA3	1:A:206:LYS:HG3	1.91	0.53
5:F:133:HIS:HD2	5:F:135:HIS:HB2	1.74	0.53
6:G:235:GLN:OE1	6:G:235:GLN:N	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:L:72:PRO:HG2	39:BP:-42:TYR:OH	2.08	0.53
11:M:12:LEU:CD1	73:1:511:A:H3'	2.38	0.53
15:R:404:TYR:CZ	73:1:115:U:H5'	2.43	0.53
16:S:280:LEU:O	16:S:289:THR:HG21	2.09	0.53
21:CA:457:CYS:SG	21:CA:465:LEU:HG	2.49	0.53
25:BK:661:ARG:CZ	71:BR:94:ARG:HH11	2.22	0.53
26:BQ:13:ARG:HG2	73:1:830:A:H5'	1.90	0.53
43:BG:1304:MET:HB2	43:BG:1316:PRO:HB3	1.91	0.53
52:BM:311:CYS:SG	52:BM:312:VAL:N	2.81	0.53
57:BX:275:TYR:HD2	57:BX:302:PRO:HB3	1.73	0.53
58:BZ:322:GLN:O	58:BZ:326:MET:HB2	2.09	0.53
58:BZ:324:ARG:NH2	58:BZ:338:ASP:OD1	2.33	0.53
62:BU:175:LYS:O	62:BU:177:GLU:N	2.36	0.53
63:BW:157:ALA:HB3	63:BW:163:LYS:NZ	2.23	0.53
63:BW:268:ARG:HD3	63:BW:306:VAL:HG23	1.91	0.53
3:C:198:ARG:O	3:C:202:THR:HG23	2.08	0.53
6:G:10:ARG:NH1	6:G:13:LEU:HA	2.22	0.53
7:I:179:TYR:N	17:T:76:GLU:OE2	2.35	0.53
10:L:2:LEU:HA	10:L:124:GLU:HG3	1.90	0.53
19:Z:123:GLY:HA2	19:Z:134:THR:OG1	2.09	0.53
52:BM:143:GLU:O	52:BM:252:VAL:HG23	2.08	0.53
52:BM:335:ARG:NH1	52:BM:336:GLN:HG2	2.24	0.53
58:BZ:97:TYR:N	58:BZ:97:TYR:CD1	2.76	0.53
58:BZ:190:ASP:OD1	75:R2:237:U:C5'	2.57	0.53
58:BZ:265:ARG:NH2	73:1:1093:U:OP1	2.40	0.53
61:BT:121:GLU:HA	61:BT:124:GLU:HB2	1.91	0.53
63:BW:232:TYR:O	63:BW:233:HIS:ND1	2.42	0.53
63:BW:582:VAL:HG21	63:BW:617:VAL:HG21	1.89	0.53
71:BR:131:THR:HG22	71:BR:134:GLU:H	1.72	0.53
73:1:99:A:H2'	73:1:99:A:N3	2.23	0.53
2:B:393:TYR:O	2:B:399:ASN:ND2	2.32	0.53
4:E:108:PHE:HZ	67:U1:11:ALA:CA	2.22	0.53
9:K:166:ASP:OD1	9:K:166:ASP:N	2.35	0.53
15:R:261:ALA:HA	15:R:264:LEU:HG	1.89	0.53
21:CA:231:HIS:CD2	21:CA:239:LEU:HD11	2.43	0.53
22:UA:35:ALA:N	73:1:256:A:N1	2.55	0.53
25:BK:473:ARG:C	25:BK:473:ARG:CD	2.74	0.53
25:BK:798:ARG:HH12	25:BK:803:HIS:HB2	1.73	0.53
26:BQ:88:GLN:OE1	26:BQ:88:GLN:N	2.32	0.53
52:BM:282:ARG:HB3	52:BM:285:LEU:HB3	1.91	0.53
57:BY:113:MET:HB3	57:BY:117:LEU:HD13	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:104:ARG:NH1	58:BZ:104:ARG:CG	2.53	0.53
62:BU:274:LYS:HG3	62:BU:395:MET:CE	2.38	0.53
64:BV:226:LEU:N	64:BV:296:LEU:O	2.35	0.53
73:1:509:U:N3	73:1:517:U:O4'	2.41	0.53
73:1:836:U:HO2'	73:1:837:U:P	2.32	0.53
10:L:44:ARG:NH1	73:1:496:U:OP1	2.41	0.53
17:T:55:GLU:HB3	73:1:1163:U:C5	2.39	0.53
21:CA:351:LEU:O	21:CA:353:ARG:N	2.40	0.53
25:BK:255:VAL:HG13	25:BK:327:THR:HG22	1.91	0.53
26:BQ:185:ARG:NH2	26:BQ:231:SER:O	2.41	0.53
50:BF:63:ARG:CZ	73:1:572:A:N1	2.71	0.53
52:BM:124:TYR:CE2	52:BM:128:LEU:HD11	2.44	0.53
57:BY:276:ILE:HD11	57:BY:280:ASP:HB2	1.91	0.53
71:BR:258:ASP:HA	71:BR:261:ARG:HH11	1.73	0.53
72:U2:1:ALA:HB2	77:U8:41:ALA:HB3	1.90	0.53
73:1:115:U:H4'	73:1:116:U:OP1	2.07	0.53
73:1:364:U:H5'	73:1:365:U:O5'	2.09	0.53
73:1:508:G:C2	73:1:519:U:H1'	2.44	0.53
73:1:567:A:HO2'	73:1:568:A:H8	1.53	0.53
2:B:5:ARG:HD2	71:BR:48:LYS:HB3	1.91	0.53
3:C:120:ASN:HB3	3:C:129:TRP:CZ3	2.44	0.53
4:E:18:ASN:ND2	4:E:20:GLU:HB3	2.23	0.53
5:F:35:THR:OG1	5:F:37:GLN:NE2	2.31	0.53
7:I:135:ARG:NE	7:I:167:ASN:O	2.42	0.53
15:R:233:VAL:HA	15:R:240:THR:HG23	1.91	0.53
25:BK:776:THR:OG1	25:BK:790:GLN:NE2	2.42	0.53
52:BM:214:LYS:HB3	52:BM:232:ALA:HA	1.90	0.53
56:BS:386:GLN:O	56:BS:391:SER:OG	2.22	0.53
56:BS:389:SER:O	56:BS:391:SER:N	2.42	0.53
58:BZ:222:SER:HG	58:BZ:367:HIS:HD1	1.52	0.53
61:BT:164:HIS:HB2	61:BT:226:VAL:HG12	1.91	0.53
1:A:187:VAL:HG21	25:BK:871:GLN:HE22	1.74	0.53
1:A:384:ARG:NH2	73:1:1150:A:H5"	2.24	0.53
2:B:82:THR:O	2:B:85:THR:OG1	2.26	0.53
7:I:182:GLY:O	7:I:191:ARG:NH2	2.42	0.53
8:J:29:GLN:HB3	8:J:84:ILE:HD11	1.91	0.53
8:J:62:GLU:HB2	8:J:109:LYS:HB3	1.91	0.53
12:N:148:ASP:OD1	15:R:58:ARG:NH2	2.40	0.53
27:BN:164:HIS:ND1	27:BN:164:HIS:O	2.42	0.53
57:BY:297:SER:OG	57:BY:305:ARG:NH1	2.42	0.53
57:BX:125:ARG:HG2	57:BX:126:HIS:CD2	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BX:274:CYS:SG	57:BX:275:TYR:N	2.82	0.53
59:CC:69:LEU:H	59:CC:149:ALA:HB3	1.74	0.53
62:BU:245:VAL:O	62:BU:249:VAL:HG23	2.09	0.53
62:BU:374:GLU:HB2	62:BU:483:LEU:HD11	1.91	0.53
62:BU:444:PRO:HD2	62:BU:446:THR:O	2.08	0.53
63:BW:649:ARG:NE	73:1:381:A:OP1	2.21	0.53
66:U6:33:ALA:O	66:U6:35:ALA:N	2.42	0.53
73:1:429:A:H2'	73:1:430:A:C8	2.44	0.53
73:1:1088:U:H3'	73:1:1089:U:O4'	2.09	0.53
1:A:234:GLY:HA3	23:BB:107:GLN:O	2.10	0.52
4:E:49:VAL:HA	4:E:107:TYR:HA	1.90	0.52
12:N:77:ASN:HB3	73:1:87:A:N3	2.23	0.52
21:CA:346:CYS:HB2	21:CA:351:LEU:HD12	1.92	0.52
21:CA:525:PRO:CB	21:CA:583:SER:OG	2.57	0.52
25:BK:242:ARG:NH1	73:1:140:U:O2'	2.42	0.52
26:BQ:244:THR:O	26:BQ:248:GLU:N	2.41	0.52
29:BO:58:VAL:HB	29:BO:135:GLN:HE22	1.74	0.52
62:BU:297:PHE:CG	62:BU:298:LEU:N	2.76	0.52
63:BW:507:ARG:HG2	63:BW:508:ARG:H	1.73	0.52
71:BR:120:TYR:OH	71:BR:176:GLN:OE1	2.27	0.52
73:1:428:U:H5	73:1:429:A:C5	2.27	0.52
2:B:226:GLN:HE21	2:B:272:PHE:HB2	1.74	0.52
6:G:81:HIS:CE1	6:G:101:PRO:HD3	2.45	0.52
11:M:193:ASP:OD1	11:M:194:LYS:N	2.42	0.52
15:R:152:GLU:N	15:R:152:GLU:OE1	2.43	0.52
21:CA:163:GLY:HA2	21:CA:195:ALA:HA	1.92	0.52
21:CA:485:SER:OG	21:CA:490:PHE:N	2.42	0.52
26:BQ:289:LEU:H	26:BQ:289:LEU:HD12	1.73	0.52
27:BN:168:THR:OG1	27:BN:169:ASP:N	2.42	0.52
61:BT:176:LYS:NZ	61:BT:230:ASP:O	2.42	0.52
73:1:545:U:O2'	73:1:546:A:O5'	2.21	0.52
1:A:190:HIS:HB3	1:A:194:VAL:HG13	1.90	0.52
2:B:207:LYS:HE2	2:B:320:ALA:O	2.08	0.52
6:G:47:SER:N	6:G:50:ASP:OD2	2.41	0.52
10:L:110:GLN:OE1	10:L:110:GLN:N	2.40	0.52
13:O:65:LYS:NZ	73:1:46:U:H4'	2.24	0.52
15:R:208:TRP:HB3	15:R:211:SER:HB2	1.92	0.52
26:BQ:440:ARG:HD3	26:BQ:443:GLU:O	2.09	0.52
57:BY:129:VAL:HA	57:BY:165:TYR:HB2	1.91	0.52
57:BX:187:LEU:HD22	57:BX:345:GLU:HG2	1.91	0.52
59:CC:99:PHE:CZ	59:CC:110:VAL:HA	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:BW:96:ARG:C	63:BW:98:ALA:H	2.13	0.52
2:B:169:ASN:ND2	73:1:217:A:H5"	2.24	0.52
6:G:174:ARG:HA	6:G:217:VAL:HG13	1.92	0.52
14:Q:35:ILE:HD11	14:Q:41:PRO:HG3	1.91	0.52
15:R:363:GLU:N	15:R:363:GLU:OE1	2.42	0.52
16:S:256:ASN:HB3	16:S:312:GLN:HG3	1.90	0.52
21:CA:457:CYS:HA	21:CA:506:PRO:HB2	1.91	0.52
26:BQ:188:ARG:HE	26:BQ:228:PRO:HB3	1.74	0.52
27:BN:236:LEU:HG	27:BN:239:HIS:CE1	2.44	0.52
52:BM:158:MET:HG2	52:BM:217:LYS:HG2	1.92	0.52
57:BX:121:GLY:O	57:BX:122:HIS:ND1	2.42	0.52
57:BX:142:ARG:HA	57:BX:145:THR:HG23	1.91	0.52
57:BX:221:ASN:HA	57:BX:257:VAL:HG11	1.91	0.52
58:BZ:54:GLU:O	58:BZ:55:LEU:C	2.45	0.52
62:BU:188:PRO:HG3	69:U4:33:ALA:HB2	1.92	0.52
62:BU:274:LYS:HG3	62:BU:395:MET:HB3	1.92	0.52
1:A:347:HIS:HE2	23:BB:114:PHE:HE1	1.57	0.52
4:E:126:LEU:H	4:E:126:LEU:HD12	1.74	0.52
13:O:209:GLN:HE21	13:O:234:GLU:HG2	1.74	0.52
19:Z:81:ARG:NH2	73:1:67:U:OP1	2.43	0.52
26:BQ:96:GLU:O	26:BQ:100:ASP:N	2.42	0.52
52:BM:72:TYR:OH	52:BM:371:TRP:O	2.14	0.52
57:BY:87:VAL:O	57:BY:91:LEU:HB2	2.09	0.52
57:BY:94:SER:HB2	57:BY:229:HIS:CD2	2.45	0.52
58:BZ:171:ASN:O	58:BZ:229:ARG:NH2	2.43	0.52
64:BV:162:GLY:HA3	64:BV:167:GLU:HG3	1.92	0.52
73:1:316:A:O2'	73:1:317:A:H5'	2.09	0.52
1:A:264:LEU:HD23	1:A:267:SER:HB2	1.92	0.52
4:E:103:ARG:O	4:E:105:GLN:NE2	2.43	0.52
5:F:4:GLN:O	5:F:5:TRP:CG	2.63	0.52
9:K:42:LEU:O	9:K:46:GLN:HG2	2.09	0.52
24:CB:177:TRP:CE2	29:BO:167:MET:HG3	2.44	0.52
52:BM:237:ARG:NH2	52:BM:279:TYR:OH	2.43	0.52
52:BM:287:TRP:CZ2	52:BM:329:THR:HB	2.43	0.52
56:BS:389:SER:O	56:BS:392:LEU:HG	2.09	0.52
57:BX:137:GLU:HA	57:BX:143:ARG:NH1	2.25	0.52
58:BZ:223:GLY:HA2	58:BZ:367:HIS:CE1	2.45	0.52
63:BW:244:ASP:N	63:BW:244:ASP:OD1	2.42	0.52
63:BW:264:ILE:HG12	70:U5:6:ALA:HB2	1.91	0.52
63:BW:654:ASN:HD21	73:1:990:A:H4'	1.75	0.52
73:1:454:A:H3'	73:1:455:U:H6	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:1:1142:A:H2'	73:1:1143:U:O4'	2.10	0.52
1:A:279:GLU:OE1	1:A:280:GLY:N	2.34	0.52
2:B:231:GLN:O	2:B:235:THR:HG22	2.09	0.52
2:B:412:TYR:CD2	2:B:423:ARG:HB3	2.44	0.52
6:G:126:TYR:CD2	70:U5:93:ALA:HB2	2.45	0.52
7:I:154:ARG:HG2	13:O:90:PRO:HD2	1.90	0.52
8:J:73:THR:OG1	8:J:127:GLU:HG2	2.09	0.52
11:M:7:ARG:CG	11:M:10:ILE:HA	2.39	0.52
11:M:172:GLY:O	11:M:176:VAL:HG23	2.09	0.52
15:R:459:ALA:O	56:BS:388:ARG:HG2	2.10	0.52
21:CA:299:ARG:HG2	21:CA:490:PHE:CE2	2.45	0.52
25:BK:661:ARG:NH2	71:BR:94:ARG:HH11	2.07	0.52
57:BX:271:LEU:CD2	57:BX:271:LEU:N	2.72	0.52
58:BZ:377:ASN:HD21	58:BZ:381:GLU:HB2	1.74	0.52
63:BW:353:TYR:HE1	63:BW:606:LEU:HD23	1.74	0.52
63:BW:368:LEU:HD23	63:BW:578:ILE:HD12	1.91	0.52
63:BW:554:SER:O	63:BW:554:SER:OG	2.24	0.52
69:U4:104:ALA:O	69:U4:108:ALA:N	2.40	0.52
71:BR:83:HIS:HE2	73:1:45:U:P	2.32	0.52
6:G:305:GLU:CA	6:G:309:ALA:HB3	2.40	0.52
13:O:191:ARG:HA	56:BS:328:VAL:HG23	1.92	0.52
18:V:53:ARG:NH1	18:V:109:ARG:HH22	2.07	0.52
21:CA:115:LEU:HD13	73:1:195:G:C2	2.45	0.52
25:BK:454:LEU:CB	25:BK:468:THR:HB	2.35	0.52
25:BK:571:ASP:N	25:BK:571:ASP:OD1	2.42	0.52
52:BM:37:GLN:OE1	52:BM:37:GLN:N	2.42	0.52
52:BM:197:PHE:O	52:BM:200:GLY:N	2.43	0.52
59:CC:93:VAL:HG13	59:CC:103:LEU:HD21	1.91	0.52
62:BU:250:GLY:O	62:BU:252:GLU:N	2.43	0.52
73:1:825:U:H2'	73:1:826:A:H8	1.75	0.52
2:B:142:GLU:HG2	2:B:143:ASN:H	1.74	0.52
7:I:247:ASP:OD2	26:BQ:407:LYS:HG3	2.08	0.52
11:M:42:TYR:HB3	73:1:175:U:OP1	2.09	0.52
15:R:183:THR:HG23	15:R:186:ARG:NH1	2.25	0.52
19:Z:144:LEU:HD12	19:Z:145:PRO:HD2	1.92	0.52
20:BA:112:GLU:OE1	20:BA:112:GLU:N	2.42	0.52
25:BK:595:LEU:HD11	25:BK:787:PRO:HA	1.91	0.52
29:BO:87:ARG:H	29:BO:90:HIS:HD2	1.57	0.52
52:BM:118:ILE:HG13	52:BM:119:THR:N	2.24	0.52
56:BS:367:ALA:HB1	73:1:117:U:H5	1.74	0.52
57:BY:332:SER:HB2	57:BX:337:LEU:HD11	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BX:219:ALA:HB3	57:BX:249:LEU:H	1.74	0.52
58:BZ:163:ALA:HB2	58:BZ:199:LEU:HD22	1.91	0.52
59:CC:111:VAL:HG21	60:CD:69:ARG:HA	1.92	0.52
62:BU:286:LEU:HD13	62:BU:290:ARG:HG2	1.92	0.52
62:BU:304:LEU:HD12	62:BU:304:LEU:O	2.09	0.52
64:BV:135:LEU:O	64:BV:135:LEU:CD2	2.58	0.52
1:A:246:TYR:HA	7:I:21:ARG:O	2.10	0.52
8:J:62:GLU:O	8:J:67:PRO:HA	2.10	0.52
11:M:12:LEU:HD22	73:1:511:A:N7	2.25	0.52
13:O:91:LYS:NZ	73:1:541:U:O2	2.37	0.52
14:Q:218:ARG:HA	14:Q:221:GLU:HG2	1.91	0.52
21:CA:240:SER:O	21:CA:240:SER:OG	2.23	0.52
26:BQ:142:LEU:HB3	26:BQ:144:VAL:HG12	1.91	0.52
26:BQ:423:GLY:N	73:1:543:U:O2	2.39	0.52
29:BO:172:ARG:NH1	29:BO:190:VAL:O	2.43	0.52
39:BP:-4:THR:C	39:BP:-2:ILE:H	2.13	0.52
58:BZ:164:GLN:HG2	58:BZ:205:TYR:HE1	1.74	0.52
58:BZ:175:ILE:HG13	58:BZ:229:ARG:HD2	1.92	0.52
58:BZ:317:THR:HG22	58:BZ:318:THR:H	1.74	0.52
61:BT:150:THR:HG21	61:BT:226:VAL:HG11	1.92	0.52
63:BW:640:MET:HG3	73:1:342:A:N7	2.25	0.52
73:1:95:U:H4'	73:1:96:U:OP2	2.09	0.52
73:1:250:A:C6	73:1:251:U:H1'	2.45	0.52
6:G:28:VAL:HG11	16:S:324:ILE:HD11	1.91	0.51
6:G:333:ILE:CG2	6:G:334:GLU:H	2.15	0.51
9:K:43:MET:HE1	10:L:93:VAL:HG13	1.92	0.51
10:L:70:GLY:HA3	10:L:74:LEU:HG	1.92	0.51
18:V:65:ARG:H	18:V:69:ARG:HH12	1.58	0.51
20:BA:72:ARG:HH22	20:BA:83:LEU:HB2	1.74	0.51
21:CA:522:LEU:HB2	21:CA:583:SER:HB2	1.92	0.51
22:UA:190:ALA:HA	22:UA:193:ALA:HB3	1.92	0.51
23:BB:94:LEU:HD21	25:BK:168:LEU:HG	1.92	0.51
52:BM:79:ARG:HA	52:BM:82:LEU:HG	1.92	0.51
59:CC:99:PHE:H	59:CC:135:SER:HB2	1.75	0.51
72:U2:1:ALA:HB1	77:U8:41:ALA:HB3	1.92	0.51
1:A:355:THR:OG1	1:A:356:PHE:N	2.43	0.51
6:G:305:GLU:HA	6:G:309:ALA:O	2.09	0.51
8:J:24:PRO:HB2	8:J:27:ARG:HB3	1.93	0.51
9:K:173:PRO:HG2	9:K:179:TRP:HA	1.92	0.51
12:N:179:LEU:HD23	12:N:195:ILE:HD13	1.92	0.51
14:Q:88:THR:HG22	14:Q:95:VAL:HG12	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:R:409:TYR:O	15:R:412:LYS:NZ	2.43	0.51
21:CA:251:LEU:HD21	21:CA:253:ARG:CZ	2.40	0.51
21:CA:277:TYR:HB2	21:CA:598:VAL:HG11	1.93	0.51
23:BB:55:GLN:N	23:BB:56:PRO:CD	2.74	0.51
25:BK:837:ASP:OD1	73:1:1178:U:O2'	2.26	0.51
27:BN:117:CYS:SG	27:BN:229:GLY:HA2	2.51	0.51
50:BF:56:THR:HG23	50:BF:91:ASN:HB3	1.92	0.51
52:BM:331:PRO:HA	52:BM:334:ALA:HB3	1.91	0.51
73:1:128:U:O2'	73:1:129:U:O2	2.13	0.51
3:C:152:ARG:NH2	14:Q:115:ASP:OD1	2.40	0.51
10:L:156:ASP:OD1	10:L:156:ASP:N	2.31	0.51
11:M:115:CYS:SG	13:O:57:PRO:HB3	2.51	0.51
12:N:152:ARG:HG3	12:N:169:HIS:HB2	1.92	0.51
21:CA:166:LEU:HA	21:CA:169:VAL:HG12	1.92	0.51
56:BS:380:TYR:CB	56:BS:386:GLN:HB2	2.41	0.51
56:BS:389:SER:O	56:BS:390:ALA:C	2.47	0.51
57:BX:242:THR:HG23	57:BX:243:SER:H	1.74	0.51
58:BZ:115:ASP:OD1	58:BZ:115:ASP:N	2.43	0.51
58:BZ:375:TYR:CD2	77:U8:53:ALA:HB3	2.45	0.51
61:BT:215:MET:HG3	61:BT:215:MET:O	2.10	0.51
62:BU:436:ARG:O	62:BU:452:GLN:HB2	2.10	0.51
63:BW:361:LYS:NZ	63:BW:580:PHE:O	2.32	0.51
64:BV:118:LEU:HD12	64:BV:125:LYS:HB3	1.93	0.51
64:BV:228:LYS:HB3	64:BV:231:ARG:HD3	1.92	0.51
66:U6:181:ALA:O	66:U6:185:ALA:N	2.44	0.51
4:E:34:LYS:HA	4:E:37:ASP:HB3	1.93	0.51
5:F:65:ASP:OD2	5:F:69:ARG:HD3	2.09	0.51
11:M:82:ARG:NH2	11:M:93:THR:O	2.33	0.51
14:Q:21:ARG:NH1	73:1:195:G:C2	2.79	0.51
14:Q:122:MET:HB3	14:Q:126:ALA:HB3	1.92	0.51
15:R:208:TRP:CG	15:R:211:SER:HB2	2.46	0.51
25:BK:867:PRO:CB	27:BN:188:ARG:HH12	2.06	0.51
27:BN:117:CYS:SG	27:BN:232:LEU:HD23	2.50	0.51
56:BS:299:VAL:HG12	56:BS:301:ARG:HG3	1.93	0.51
73:1:419:A:N3	73:1:419:A:C2'	2.70	0.51
3:C:122:TRP:CZ2	3:C:127:LEU:HB3	2.45	0.51
6:G:126:TYR:HD2	70:U5:93:ALA:HB2	1.75	0.51
8:J:86:GLY:HA3	8:J:105:ALA:HB3	1.93	0.51
12:N:75:GLU:HA	12:N:75:GLU:OE2	2.11	0.51
14:Q:18:GLU:OE2	73:1:195:G:N1	2.44	0.51
16:S:253:ARG:NH2	39:BP:61:GLU:O	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BK:309:ARG:NH2	25:BK:322:CYS:SG	2.76	0.51
26:BQ:80:PRO:HG2	26:BQ:83:VAL:HG23	1.93	0.51
27:BN:145:LYS:HZ3	27:BN:207:LEU:HD13	1.76	0.51
57:BX:270:LEU:O	57:BX:270:LEU:HD12	2.10	0.51
58:BZ:356:ASP:HB2	58:BZ:357:PRO:HD3	1.88	0.51
59:CC:74:VAL:O	59:CC:78:VAL:HG12	2.10	0.51
63:BW:300:PHE:HE1	70:U5:48:ALA:H	1.58	0.51
71:BR:291:ALA:HA	71:BR:294:LEU:HG	1.91	0.51
73:1:57:A:H61	73:1:120:A:H62	1.58	0.51
73:1:422:U:H2'	73:1:423:U:C6	2.45	0.51
75:R2:10:U:O2'	75:R2:11:U:OP2	2.24	0.51
12:N:161:ASN:ND2	12:N:163:THR:OG1	2.44	0.51
13:O:230:ARG:HB3	13:O:239:LEU:HB2	1.92	0.51
16:S:274:ASN:N	16:S:274:ASN:OD1	2.43	0.51
18:V:42:MET:SD	73:1:97:U:N3	2.83	0.51
23:BB:84:PRO:O	23:BB:88:ARG:NH2	2.44	0.51
24:CB:114:LYS:HE3	29:BO:177:LYS:HE3	1.93	0.51
27:BN:97:ARG:O	27:BN:98:GLU:HB3	2.10	0.51
27:BN:185:GLU:O	27:BN:185:GLU:CG	2.58	0.51
46:BH:32:ASP:O	46:BH:190:SER:OG	2.24	0.51
58:BZ:377:ASN:ND2	58:BZ:381:GLU:HB2	2.26	0.51
60:CD:44:GLU:O	60:CD:48:ILE:HG12	2.09	0.51
61:BT:241:THR:HG22	61:BT:243:GLU:H	1.75	0.51
1:A:165:LYS:HE2	73:1:1114:G:H22	1.76	0.51
4:E:26:PHE:HB2	4:E:32:GLU:OE2	2.11	0.51
6:G:93:SER:OG	6:G:94:TRP:N	2.42	0.51
7:I:112:ARG:HH22	7:I:126:ASP:HA	1.74	0.51
14:Q:28:ARG:O	14:Q:28:ARG:HG2	2.11	0.51
20:BA:70:ASP:HB2	20:BA:72:ARG:HD3	1.93	0.51
21:CA:220:VAL:HG13	21:CA:221:HIS:CD2	2.45	0.51
21:CA:319:LEU:HD23	21:CA:319:LEU:C	2.31	0.51
21:CA:517:LEU:HG	21:CA:518:GLN:H	1.74	0.51
27:BN:181:ARG:HB2	27:BN:184:ALA:N	2.15	0.51
43:BG:1263:HIS:CG	43:BG:1264:VAL:H	2.28	0.51
52:BM:367:VAL:HB	52:BM:374:LEU:HD22	1.91	0.51
57:BY:129:VAL:HG21	57:BY:147:VAL:HA	1.92	0.51
58:BZ:96:ARG:HH21	58:BZ:121:PRO:HG2	1.76	0.51
60:CD:104:SER:OG	60:CD:105:ARG:N	2.44	0.51
64:BV:165:LEU:HD12	64:BV:169:ALA:HB3	1.92	0.51
66:U6:40:ALA:O	66:U6:41:ALA:HB3	2.11	0.51
1:A:343:LEU:O	23:BB:107:GLN:NE2	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:173:SER:HA	3:C:176:GLU:HG2	1.93	0.51
4:E:31:VAL:O	4:E:35:ALA:N	2.39	0.51
7:I:230:ALA:HA	50:BF:66:ALA:HB3	1.93	0.51
8:J:6:ARG:HG3	8:J:7:THR:N	2.24	0.51
8:J:70:LEU:CD1	8:J:94:SER:HB2	2.40	0.51
14:Q:28:ARG:CB	18:V:141:PRO:CG	2.72	0.51
17:T:60:CYS:SG	17:T:63:CYS:HB2	2.50	0.51
25:BK:203:THR:O	25:BK:203:THR:OG1	2.29	0.51
25:BK:638:GLU:OE1	71:BR:85:ARG:NE	2.43	0.51
2:B:399:ASN:OD1	2:B:401:TYR:N	2.43	0.51
4:E:224:GLN:HG2	4:E:228:LEU:HD13	1.92	0.51
6:G:281:GLU:OE1	6:G:283:LYS:N	2.43	0.51
6:G:313:ALA:CB	6:G:316:ARG:NH2	2.73	0.51
7:I:226:ARG:HG3	7:I:243:PRO:HB3	1.93	0.51
8:J:73:THR:HG21	8:J:123:HIS:HE1	1.76	0.51
9:K:106:ALA:O	9:K:110:VAL:HG23	2.10	0.51
11:M:133:SER:HA	11:M:234:THR:HG22	1.92	0.51
11:M:253:SER:O	11:M:256:THR:OG1	2.29	0.51
21:CA:156:ARG:HA	21:CA:202:VAL:O	2.11	0.51
22:UA:9:ALA:N	43:BG:1274:ASN:OD1	2.44	0.51
25:BK:612:TYR:CD2	71:BR:157:GLU:HB3	2.46	0.51
29:BO:128:VAL:HG13	29:BO:152:CYS:HB2	1.93	0.51
52:BM:30:GLU:O	52:BM:34:ARG:N	2.40	0.51
52:BM:251:ARG:HD3	52:BM:262:ALA:HB1	1.93	0.51
56:BS:392:LEU:O	56:BS:396:THR:N	2.44	0.51
57:BX:278:GLN:CD	57:BX:278:GLN:N	2.64	0.51
58:BZ:54:GLU:O	58:BZ:56:GLN:HG2	2.10	0.51
60:CD:82:THR:HG21	60:CD:125:ILE:HG22	1.93	0.51
73:1:146:U:H4'	73:1:147:U:O2	2.11	0.51
73:1:251:U:H2'	73:1:252:U:C2	2.46	0.51
1:A:344:TRP:HB3	1:A:351:PRO:HD3	1.91	0.51
7:I:217:LYS:HD3	7:I:250:TRP:CE2	2.46	0.51
7:I:238:ARG:NH1	13:O:85:GLU:O	2.27	0.51
7:I:256:GLU:HA	7:I:259:HIS:HB3	1.93	0.51
15:R:110:VAL:O	15:R:114:LYS:HG2	2.11	0.51
20:BA:118:SER:H	20:BA:122:ARG:NH2	2.09	0.51
24:CB:144:THR:HG23	24:CB:145:LEU:H	1.76	0.51
29:BO:70:ASP:HB3	29:BO:166:VAL:HG22	1.92	0.51
43:BG:1267:ASP:H	43:BG:1288:PRO:HG2	1.76	0.51
52:BM:222:MET:HG2	52:BM:224:PRO:HD2	1.92	0.51
58:BZ:88:LEU:HD22	58:BZ:126:TRP:CH2	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:R2:133:U:O4	75:R2:236:U:N3	2.44	0.51
3:C:213:ASP:HB2	3:C:214:PRO:HD3	1.93	0.50
15:R:42:LYS:O	15:R:101:ARG:NH2	2.42	0.50
15:R:241:SER:O	15:R:243:ILE:N	2.44	0.50
16:S:268:LYS:HA	73:1:400:U:H5"	1.94	0.50
18:V:71:ILE:HD12	63:BW:255:ARG:HH12	1.76	0.50
21:CA:429:ARG:HB2	21:CA:433:GLU:HB2	1.92	0.50
21:CA:572:SER:OG	21:CA:573:CYS:N	2.45	0.50
25:BK:867:PRO:CB	27:BN:188:ARG:CZ	2.89	0.50
46:BH:54:ARG:N	46:BH:114:GLU:OE2	2.44	0.50
58:BZ:283:ALA:HB3	58:BZ:287:PRO:HD3	1.93	0.50
62:BU:86:ILE:HD12	62:BU:107:ALA:HB2	1.93	0.50
63:BW:198:PRO:HG2	63:BW:202:LEU:HD13	1.92	0.50
63:BW:364:VAL:O	63:BW:368:LEU:HD13	2.11	0.50
63:BW:509:THR:HB	63:BW:559:ILE:HG22	1.93	0.50
73:1:1122:U:O2'	73:1:1124:U:N3	2.44	0.50
5:F:11:GLU:OE1	5:F:51:HIS:ND1	2.44	0.50
8:J:62:GLU:HB3	8:J:109:LYS:HE2	1.93	0.50
13:O:133:PRO:HG2	13:O:135:ILE:HD11	1.92	0.50
15:R:143:LEU:HB3	15:R:332:VAL:HG22	1.92	0.50
16:S:348:ALA:O	73:1:369:A:H5'	2.09	0.50
21:CA:161:ARG:HG3	21:CA:198:THR:OG1	2.11	0.50
21:CA:279:GLY:HA2	21:CA:598:VAL:HG21	1.92	0.50
21:CA:486:LEU:C	21:CA:486:LEU:HD12	2.31	0.50
21:CA:536:PHE:O	21:CA:539:GLN:N	2.44	0.50
22:UA:173:ALA:O	22:UA:177:ALA:N	2.44	0.50
25:BK:435:LEU:H	25:BK:438:MET:HE1	1.76	0.50
26:BQ:67:LEU:O	26:BQ:70:PHE:N	2.44	0.50
52:BM:124:TYR:CZ	52:BM:128:LEU:HD21	2.46	0.50
56:BS:391:SER:HA	56:BS:394:LYS:HG3	1.92	0.50
57:BY:202:LEU:O	57:BY:206:LEU:N	2.41	0.50
58:BZ:324:ARG:HB3	58:BZ:338:ASP:OD2	2.12	0.50
62:BU:39:SER:O	62:BU:43:SER:OG	2.15	0.50
62:BU:236:ARG:NH1	62:BU:330:ASP:OD1	2.40	0.50
63:BW:231:LYS:HE3	63:BW:261:ARG:HH22	1.76	0.50
7:I:238:ARG:HG2	13:O:94:ASP:OD1	2.12	0.50
8:J:57:ILE:N	8:J:72:GLY:O	2.42	0.50
11:M:134:PHE:CD1	11:M:183:ALA:HB2	2.47	0.50
14:Q:129:GLU:OE2	14:Q:143:ARG:NH2	2.44	0.50
15:R:176:GLN:HE22	15:R:333:ARG:HE	1.59	0.50
18:V:121:SER:HB3	73:1:90:A:C2	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BM:137:ARG:NH1	52:BM:271:ARG:O	2.35	0.50
58:BZ:176:VAL:HG21	58:BZ:385:VAL:HG21	1.93	0.50
61:BT:296:PHE:CE2	61:BT:300:VAL:HG21	2.46	0.50
63:BW:114:ASN:HD22	63:BW:114:ASN:N	2.08	0.50
66:U6:41:ALA:CA	66:U6:62:ALA:CB	2.82	0.50
4:E:24:ASN:N	4:E:24:ASN:OD1	2.45	0.50
5:F:19:ARG:HA	5:F:59:ASP:HB2	1.93	0.50
21:CA:146:GLY:H	21:CA:210:GLN:NE2	2.09	0.50
24:CB:60:LEU:HB3	24:CB:65:VAL:HG11	1.94	0.50
27:BN:242:THR:O	27:BN:242:THR:OG1	2.30	0.50
28:BE:91:ILE:HG22	28:BE:92:GLU:H	1.75	0.50
57:BY:151:ASP:HB3	57:BY:154:VAL:HG23	1.94	0.50
58:BZ:51:LYS:O	58:BZ:54:GLU:HB2	2.10	0.50
58:BZ:343:GLY:HA2	58:BZ:349:HIS:HE1	1.77	0.50
62:BU:250:GLY:HA2	78:BU:501:GTP:O4'	2.07	0.50
73:1:559:U:C3'	73:1:560:U:H5"	2.41	0.50
5:F:5:TRP:O	5:F:5:TRP:HE3	1.95	0.50
6:G:179:LYS:HZ3	6:G:206:ILE:HG22	1.75	0.50
7:I:76:GLU:OE1	26:BQ:427:ARG:NH2	2.44	0.50
15:R:435:LEU:HD23	26:BQ:80:PRO:HD2	1.93	0.50
23:BB:42:LYS:HG3	23:BB:55:GLN:CG	2.42	0.50
26:BQ:164:LEU:HD11	26:BQ:246:PHE:HD1	1.76	0.50
29:BO:103:VAL:HG21	29:BO:106:PHE:HB3	1.93	0.50
57:BX:278:GLN:HG3	57:BX:336:GLU:HG2	1.92	0.50
58:BZ:56:GLN:N	65:U7:37:UNK:O	2.44	0.50
58:BZ:186:MET:SD	58:BZ:186:MET:N	2.84	0.50
61:BT:281:GLU:O	61:BT:285:GLU:N	2.28	0.50
64:BV:267:PHE:HD1	64:BV:268:THR:HG23	1.76	0.50
66:U6:93:ALA:C	66:U6:95:ALA:H	2.13	0.50
68:U3:3:ALA:O	68:U3:7:ALA:N	2.45	0.50
71:BR:68:GLN:OE1	71:BR:71:GLN:NE2	2.45	0.50
71:BR:87:LEU:O	71:BR:88:SER:OG	2.27	0.50
71:BR:245:ALA:O	71:BR:249:ARG:HG2	2.12	0.50
73:1:459:A:H2'	73:1:460:A:C8	2.46	0.50
73:1:885:C:H42	73:1:982:A:N6	2.08	0.50
1:A:275:CYS:HA	77:U8:33:ALA:HA	1.93	0.50
6:G:226:VAL:HG13	6:G:248:ALA:HB2	1.91	0.50
9:K:20:LEU:HD13	71:BR:64:THR:HB	1.93	0.50
21:CA:85:HIS:HB3	21:CA:249:ARG:HB3	1.93	0.50
27:BN:222:ASP:OD1	27:BN:222:ASP:N	2.45	0.50
52:BM:137:ARG:HB2	52:BM:271:ARG:HD2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:218:ASP:OD1	75:R2:132:U:H2'	2.12	0.50
62:BU:276:ARG:CD	62:BU:399:LEU:HD11	2.40	0.50
62:BU:337:VAL:HG13	62:BU:342:ARG:HB2	1.94	0.50
63:BW:144:ILE:HG23	63:BW:170:PRO:HG3	1.93	0.50
63:BW:520:THR:HA	63:BW:523:PHE:HB3	1.93	0.50
73:1:47:A:HO2'	73:1:48:U:P	2.35	0.50
73:1:235:G:N2	73:1:235:G:OP2	2.43	0.50
73:1:847:A:H8	73:1:849:U:N3	2.10	0.50
4:E:57:ILE:O	4:E:100:LEU:N	2.39	0.50
13:O:130:GLU:HA	13:O:164:ASN:HD21	1.76	0.50
13:O:175:ASP:HA	13:O:190:GLN:HA	1.94	0.50
21:CA:248:HIS:CD2	21:CA:590:LEU:HB2	2.47	0.50
24:CB:169:ARG:NH2	24:CB:173:ALA:HB2	2.25	0.50
25:BK:183:GLN:NE2	25:BK:196:THR:OG1	2.36	0.50
25:BK:473:ARG:HD3	25:BK:473:ARG:O	2.10	0.50
25:BK:814:PRO:HG3	73:1:34:U:OP1	2.11	0.50
26:BQ:128:VAL:HB	26:BQ:152:ARG:HD2	1.93	0.50
29:BO:44:ARG:HD2	73:1:1154:U:OP2	2.11	0.50
58:BZ:103:LYS:HG3	58:BZ:105:TYR:CE1	2.47	0.50
58:BZ:371:ILE:HG23	58:BZ:371:ILE:O	2.12	0.50
62:BU:351:TRP:N	62:BU:384:SER:OG	2.45	0.50
63:BW:320:LYS:HD3	73:1:341:U:H1'	1.94	0.50
70:U5:21:ALA:HB3	70:U5:23:ALA:HB2	1.94	0.50
3:C:94:ILE:HG23	3:C:97:ARG:HH21	1.76	0.50
4:E:131:LYS:HG3	4:E:146:CYS:CB	2.40	0.50
9:K:31:GLU:HB2	9:K:34:VAL:HG22	1.94	0.50
10:L:72:PRO:O	10:L:73:LEU:HG	2.11	0.50
12:N:192:VAL:HG13	12:N:223:VAL:HG23	1.93	0.50
16:S:279:GLU:HB2	16:S:300:ARG:HD3	1.92	0.50
17:T:55:GLU:HB2	17:T:68:LYS:NZ	2.26	0.50
20:BA:118:SER:OG	20:BA:122:ARG:NH2	2.41	0.50
21:CA:480:PHE:HE1	21:CA:484:HIS:CE1	2.30	0.50
25:BK:537:THR:HA	25:BK:540:LEU:HD12	1.92	0.50
25:BK:645:SER:OG	25:BK:731:GLU:OE2	2.28	0.50
39:BP:63:GLU:HB3	39:BP:65:LEU:HD23	1.94	0.50
60:CD:38:ARG:C	60:CD:40:ARG:H	2.16	0.50
60:CD:83:ASP:HB2	60:CD:86:PHE:HB3	1.94	0.50
62:BU:178:GLY:HA2	62:BU:182:LEU:HD13	1.94	0.50
63:BW:103:LEU:C	63:BW:105:LYS:H	2.14	0.50
63:BW:376:PRO:O	63:BW:377:LEU:HD12	2.12	0.50
73:1:893:C:O2'	73:1:894:U:H4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:179:LYS:NZ	73:1:179:U:OP1	2.45	0.50
11:M:214:ASP:OD2	73:1:828:A:O2'	2.30	0.50
13:O:131:ILE:HG12	13:O:164:ASN:ND2	2.27	0.50
14:Q:28:ARG:HA	14:Q:32:ASN:H	1.76	0.50
15:R:279:PRO:HA	15:R:282:HIS:HB3	1.93	0.50
20:BA:119:GLU:HB2	20:BA:122:ARG:HB3	1.93	0.50
21:CA:91:ALA:HA	21:CA:244:GLN:HB2	1.92	0.50
21:CA:324:TYR:O	21:CA:328:ALA:N	2.31	0.50
27:BN:188:ARG:O	27:BN:188:ARG:HD2	2.12	0.50
46:BH:57:GLU:OE2	46:BH:60:ARG:NH2	2.42	0.50
46:BH:97:THR:O	46:BH:99:ASP:N	2.45	0.50
50:BF:90:ARG:HD2	73:1:572:A:C6	2.47	0.50
62:BU:328:LYS:HE2	73:1:917:U:N3	2.26	0.50
63:BW:322:GLU:O	63:BW:326:GLY:N	2.25	0.50
64:BV:211:LEU:O	64:BV:215:LEU:HG	2.11	0.50
73:1:567:A:O2'	73:1:568:A:H8	1.95	0.50
2:B:144:ARG:HD2	12:N:76:TYR:OH	2.12	0.49
4:E:32:GLU:HA	4:E:35:ALA:HB3	1.94	0.49
8:J:89:LYS:HA	8:J:101:LEU:O	2.12	0.49
8:J:128:ARG:HG3	27:BN:73:TRP:CD2	2.47	0.49
11:M:215:ILE:HG21	73:1:578:U:C5	2.47	0.49
13:O:325:LEU:HD13	14:Q:188:LEU:HD11	1.94	0.49
15:R:124:TYR:HB3	15:R:125:PRO:HD3	1.92	0.49
18:V:44:PHE:CD1	18:V:57:ALA:HB2	2.46	0.49
18:V:132:ARG:NH2	73:1:103:U:H2'	2.27	0.49
21:CA:525:PRO:HG2	21:CA:582:HIS:CA	2.41	0.49
21:CA:532:LYS:HB3	21:CA:554:ARG:HA	1.94	0.49
26:BQ:428:ARG:NH1	73:1:544:U:H1'	2.27	0.49
29:BO:134:ARG:NH1	29:BO:148:ASP:O	2.45	0.49
52:BM:177:ARG:NE	52:BM:177:ARG:O	2.43	0.49
52:BM:215:GLU:HG3	52:BM:216:GLN:NE2	2.27	0.49
52:BM:350:PHE:O	52:BM:354:GLY:N	2.39	0.49
57:BY:260:LEU:O	57:BY:264:ILE:N	2.45	0.49
57:BY:298:SER:OG	57:BY:334:SER:HB2	2.12	0.49
61:BT:209:PRO:O	61:BT:213:ARG:NH1	2.44	0.49
62:BU:444:PRO:HG2	62:BU:446:THR:H	1.77	0.49
63:BW:136:PRO:HB2	63:BW:141:GLN:CG	2.42	0.49
73:1:916:G:H1'	73:1:917:U:OP1	2.11	0.49
2:B:351:HIS:CD2	2:B:352:ILE:HG12	2.46	0.49
5:F:4:GLN:O	5:F:5:TRP:CD1	2.65	0.49
12:N:85:ARG:NH1	12:N:85:ARG:O	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:N:98:ARG:HB3	12:N:98:ARG:CZ	2.42	0.49
12:N:114:ARG:HA	12:N:117:GLU:HG2	1.93	0.49
12:N:166:PRO:HG2	12:N:223:VAL:HG13	1.94	0.49
13:O:67:ILE:HG21	73:1:133:A:O5'	2.12	0.49
16:S:346:SER:HA	16:S:353:ARG:NH2	2.27	0.49
19:Z:103:ASN:OD1	19:Z:103:ASN:N	2.43	0.49
21:CA:418:VAL:HG13	21:CA:469:THR:HG22	1.94	0.49
25:BK:314:HIS:CD2	25:BK:316:ARG:HB2	2.47	0.49
27:BN:187:ARG:HE	27:BN:195:LEU:HD23	1.76	0.49
46:BH:113:ASP:HB3	46:BH:138:ASN:HD21	1.77	0.49
61:BT:217:LEU:HD11	62:BU:424:SER:HA	1.94	0.49
64:BV:182:ARG:O	64:BV:187:LEU:HB3	2.11	0.49
66:U6:74:ALA:O	66:U6:75:ALA:HB3	2.11	0.49
1:A:123:PHE:HB2	1:A:353:PHE:CG	2.47	0.49
2:B:345:LEU:HG	2:B:356:LEU:HD13	1.94	0.49
6:G:37:GLU:O	6:G:39:ASN:N	2.46	0.49
8:J:49:LYS:CA	8:J:52:ILE:HD11	2.42	0.49
25:BK:482:ALA:HB3	25:BK:484:SER:OG	2.12	0.49
46:BH:82:HIS:CD2	46:BH:100:GLY:HA3	2.47	0.49
52:BM:208:GLY:H	52:BM:211:LEU:HD23	1.77	0.49
56:BS:378:HIS:CB	56:BS:385:PRO:HA	2.43	0.49
58:BZ:125:PHE:O	58:BZ:125:PHE:CD1	2.65	0.49
58:BZ:273:GLN:HB2	58:BZ:277:GLY:HA3	1.93	0.49
61:BT:150:THR:O	61:BT:154:LEU:N	2.41	0.49
61:BT:321:VAL:HA	61:BT:324:HIS:HB2	1.93	0.49
62:BU:442:THR:HG23	62:BU:447:PHE:HD1	1.78	0.49
63:BW:257:LEU:HD21	63:BW:264:ILE:HG23	1.94	0.49
70:U5:79:ALA:CB	73:1:401:U:H1'	2.42	0.49
73:1:419:A:H1'	73:1:420:U:C5	2.46	0.49
1:A:34:TRP:O	1:A:37:CYS:HB2	2.12	0.49
4:E:129:ILE:HD12	4:E:146:CYS:HB2	1.95	0.49
4:E:191:ILE:HG22	4:E:193:GLY:N	2.27	0.49
4:E:191:ILE:HB	4:E:194:ILE:HG12	1.94	0.49
6:G:20:THR:HG23	6:G:21:VAL:HG13	1.93	0.49
11:M:259:ARG:HG3	25:BK:839:TYR:CE2	2.47	0.49
13:O:230:ARG:HD3	13:O:241:ILE:HG12	1.93	0.49
15:R:59:ASN:OD1	15:R:59:ASN:N	2.45	0.49
15:R:297:GLN:HB3	15:R:303:ASN:O	2.12	0.49
27:BN:177:GLY:N	27:BN:180:SER:OG	2.45	0.49
52:BM:101:LYS:HZ3	52:BM:103:ALA:HB3	1.77	0.49
58:BZ:92:GLY:C	58:BZ:94:ILE:HG23	2.32	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BU:341:GLY:O	62:BU:405:TRP:NE1	2.26	0.49
62:BU:444:PRO:CG	62:BU:445:PRO:HD2	2.40	0.49
63:BW:187:ARG:NH1	63:BW:190:ARG:HE	2.09	0.49
63:BW:583:PRO:HG3	63:BW:588:ALA:O	2.13	0.49
73:1:315:A:H2'	73:1:316:A:C8	2.47	0.49
73:1:513:U:O2'	73:1:514:U:OP1	2.30	0.49
73:1:878:G:H1	73:1:991:A:H61	1.59	0.49
6:G:80:SER:OG	6:G:83:ASP:OD1	2.29	0.49
11:M:210:ASP:OD2	26:BQ:47:VAL:HG13	2.13	0.49
13:O:215:ILE:HD12	13:O:241:ILE:CD1	2.40	0.49
13:O:219:ARG:H	15:R:277:ARG:HH11	1.60	0.49
21:CA:528:CYS:SG	21:CA:529:ALA:N	2.84	0.49
23:BB:66:TRP:HD1	23:BB:74:PHE:HZ	1.59	0.49
26:BQ:146:VAL:HG12	26:BQ:262:LEU:HD11	1.93	0.49
52:BM:202:SER:HG	52:BM:204:THR:HG1	1.58	0.49
58:BZ:125:PHE:CE1	58:BZ:128:ARG:HD2	2.48	0.49
70:U5:94:ALA:HB1	73:1:337:A:N1	2.27	0.49
71:BR:139:ALA:HA	71:BR:142:HIS:HB2	1.93	0.49
72:U2:11:ALA:HA	73:1:854:A:O2'	2.12	0.49
6:G:179:LYS:NZ	73:1:189:U:O2'	2.23	0.49
7:I:220:GLU:OE2	26:BQ:432:PHE:HB3	2.13	0.49
8:J:53:ILE:HG21	8:J:121:PHE:HD1	1.77	0.49
14:Q:40:PRO:HG2	14:Q:42:TRP:CZ2	2.48	0.49
24:CB:89:GLU:HG3	24:CB:90:GLY:H	1.76	0.49
57:BY:191:LEU:O	57:BY:218:ILE:N	2.42	0.49
58:BZ:87:ARG:O	58:BZ:91:GLN:HG2	2.12	0.49
58:BZ:179:LYS:NZ	58:BZ:183:VAL:O	2.38	0.49
61:BT:246:LEU:HD23	61:BT:261:LEU:HD11	1.95	0.49
73:1:888:C:O2	73:1:980:G:N2	2.46	0.49
73:1:898:C:H42	73:1:914:A:H61	1.60	0.49
3:C:83:LEU:HD23	3:C:83:LEU:H	1.78	0.49
5:F:9:GLU:HG3	25:BK:771:GLU:HG3	1.95	0.49
6:G:141:GLN:HG3	73:1:377:U:O2	2.13	0.49
6:G:302:TYR:O	6:G:309:ALA:HB2	2.12	0.49
7:I:156:ASP:OD1	7:I:156:ASP:N	2.46	0.49
7:I:164:GLU:OE1	17:T:79:ARG:NH2	2.37	0.49
10:L:105:ARG:NH1	10:L:107:LEU:HD12	2.28	0.49
13:O:219:ARG:O	15:R:277:ARG:HB3	2.13	0.49
15:R:242:ALA:HA	15:R:245:SER:OG	2.13	0.49
20:BA:127:CYS:SG	20:BA:128:THR:N	2.86	0.49
24:CB:114:LYS:HA	73:1:1134:U:OP1	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BX:317:VAL:N	57:BX:318:PRO:CD	2.76	0.49
57:BX:331:ALA:O	57:BX:334:SER:OG	2.25	0.49
62:BU:335:HIS:CE1	62:BU:372:VAL:HG13	2.46	0.49
62:BU:480:GLY:O	62:BU:482:PRO:HD3	2.13	0.49
63:BW:121:THR:HG22	63:BW:173:GLN:HE22	1.77	0.49
71:BR:131:THR:HG23	71:BR:133:ALA:H	1.78	0.49
73:1:580:A:HO2'	73:1:581:U:P	2.35	0.49
1:A:84:THR:HG21	1:A:87:ASP:HB2	1.94	0.49
2:B:15:ARG:N	2:B:19:ASP:OD2	2.36	0.49
8:J:84:ILE:H	8:J:84:ILE:HD12	1.77	0.49
9:K:125:MET:HG2	9:K:128:GLN:HE21	1.78	0.49
13:O:122:TYR:HB3	13:O:125:PHE:CE1	2.47	0.49
13:O:158:ALA:HB3	13:O:167:LEU:HD13	1.94	0.49
14:Q:201:LEU:O	14:Q:205:GLY:N	2.46	0.49
15:R:213:THR:OG1	15:R:214:GLY:N	2.45	0.49
16:S:355:LYS:NZ	73:1:359:C:OP2	2.33	0.49
26:BQ:188:ARG:HD2	26:BQ:228:PRO:HA	1.95	0.49
39:BP:33:SER:H	39:BP:36:ARG:HB3	1.77	0.49
52:BM:139:PRO:HA	52:BM:142:ARG:HB3	1.93	0.49
52:BM:141:ARG:NH2	52:BM:272:LYS:HE2	2.28	0.49
52:BM:251:ARG:HG3	52:BM:265:LEU:HA	1.94	0.49
57:BX:195:ASN:H	57:BX:220:THR:HG21	1.78	0.49
63:BW:639:ASP:OD1	63:BW:639:ASP:N	2.45	0.49
64:BV:159:ARG:HE	64:BV:162:GLY:HA2	1.78	0.49
72:U2:32:ALA:HB1	77:U8:13:ALA:HB1	1.94	0.49
73:1:144:U:H5"	73:1:836:U:C4	2.48	0.49
73:1:1136:U:O2'	73:1:1143:U:N3	2.46	0.49
6:G:263:TYR:OH	18:V:130:SER:OG	2.28	0.49
7:I:72:ARG:HH22	73:1:543:U:H2'	1.77	0.49
7:I:212:TRP:HA	26:BQ:437:SER:OG	2.12	0.49
9:K:168:LEU:HB3	9:K:171:GLU:CB	2.43	0.49
11:M:200:ALA:HB2	11:M:236:ALA:HB2	1.95	0.49
13:O:214:GLU:O	13:O:231:ILE:HG22	2.13	0.49
16:S:275:ARG:HD2	70:U5:72:ALA:HB3	1.93	0.49
16:S:292:PRO:HB2	16:S:294:ILE:HG23	1.95	0.49
20:BA:68:VAL:HA	20:BA:113:MET:O	2.13	0.49
20:BA:105:PRO:HG2	20:BA:135:PHE:CE1	2.48	0.49
21:CA:515:ARG:HB3	21:CA:589:VAL:HB	1.95	0.49
21:CA:528:CYS:SG	21:CA:562:ASN:ND2	2.77	0.49
21:CA:575:ARG:NH1	21:CA:580:GLY:H	2.11	0.49
26:BQ:169:PHE:CG	71:BR:278:ARG:HD3	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BX:80:ASP:OD1	57:BX:80:ASP:N	2.46	0.49
58:BZ:130:LEU:HD12	58:BZ:130:LEU:N	2.28	0.49
60:CD:67:LEU:O	60:CD:71:LEU:N	2.34	0.49
61:BT:133:THR:HG21	61:BT:142:VAL:HG22	1.95	0.49
61:BT:205:VAL:HG23	61:BT:206:SER:H	1.77	0.49
63:BW:655:ALA:HA	73:1:990:A:OP1	2.12	0.49
71:BR:258:ASP:HA	71:BR:261:ARG:HB2	1.94	0.49
73:1:848:U:O2'	73:1:849:U:O5'	2.26	0.49
73:1:1174:U:H3'	73:1:1175:C:H5"	1.95	0.49
1:A:157:TRP:CD1	8:J:23:LEU:HD13	2.48	0.49
3:C:36:TYR:CG	3:C:91:PRO:HD3	2.48	0.49
12:N:204:ARG:NH2	73:1:558:C:OP2	2.45	0.49
13:O:183:THR:OG1	13:O:184:ARG:N	2.46	0.49
15:R:282:HIS:O	15:R:286:GLN:HG2	2.12	0.49
18:V:31:TYR:HB3	18:V:34:GLN:HG3	1.94	0.49
25:BK:376:SER:HB2	25:BK:378:ASP:OD1	2.13	0.49
29:BO:63:GLN:HA	29:BO:81:ALA:HB3	1.93	0.49
29:BO:66:LEU:HD12	29:BO:99:HIS:CE1	2.48	0.49
39:BP:-37:THR:O	39:BP:-37:THR:OG1	2.31	0.49
52:BM:255:ARG:HB3	52:BM:256:PRO:HD3	1.95	0.49
62:BU:325:HIS:CD2	62:BU:325:HIS:H	2.31	0.49
63:BW:150:ARG:NH2	63:BW:268:ARG:HH21	2.09	0.49
73:1:415:U:H4'	73:1:416:U:O5'	2.13	0.49
73:1:909:U:H2'	73:1:910:U:C6	2.48	0.49
7:I:148:ARG:HD3	17:T:71:GLU:HG2	1.95	0.48
7:I:235:TRP:HB3	73:1:596:U:O4	2.13	0.48
10:L:123:TYR:CZ	10:L:125:PRO:HB3	2.48	0.48
11:M:57:THR:HG22	11:M:58:PRO:HD2	1.95	0.48
12:N:172:GLN:NE2	12:N:217:ASP:HB3	2.28	0.48
14:Q:74:ASP:OD1	14:Q:75:VAL:N	2.44	0.48
26:BQ:40:PRO:HG3	73:1:530:U:H5"	1.94	0.48
26:BQ:233:SER:OG	26:BQ:234:ASP:OD1	2.31	0.48
27:BN:90:SER:O	27:BN:91:SER:HB3	2.13	0.48
27:BN:207:LEU:HD12	27:BN:225:ILE:HD13	1.95	0.48
29:BO:29:THR:O	29:BO:31:PHE:N	2.45	0.48
52:BM:361:LEU:HD13	52:BM:364:GLN:NE2	2.28	0.48
57:BY:110:GLY:O	57:BY:113:MET:HG2	2.13	0.48
57:BY:291:THR:H	57:BY:344:ARG:HH12	1.61	0.48
57:BX:206:LEU:HD21	57:BX:226:LEU:HD22	1.95	0.48
57:BX:266:GLU:OE1	57:BX:317:VAL:HG12	2.13	0.48
57:BX:285:ASP:OD1	57:BX:325:SER:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:57:TYR:HB2	58:BZ:120:VAL:HG13	1.95	0.48
58:BZ:106:THR:O	58:BZ:106:THR:HG23	2.13	0.48
61:BT:82:ARG:HH22	61:BT:332:ILE:HA	1.77	0.48
62:BU:87:ASP:OD1	62:BU:88:THR:N	2.46	0.48
63:BW:647:GLU:OE1	73:1:381:A:H5'	2.12	0.48
73:1:45:U:O2'	73:1:46:U:O5'	2.19	0.48
76:R5:3:U:H2'	76:R5:4:U:C6	2.48	0.48
1:A:185:VAL:HG22	1:A:186:PRO:HD2	1.94	0.48
3:C:213:ASP:O	3:C:215:PRO:HD3	2.13	0.48
4:E:92:PRO:O	4:E:94:PHE:HD1	1.96	0.48
6:G:302:TYR:CD1	6:G:308:TYR:CE2	2.96	0.48
12:N:233:PHE:HD1	15:R:22:LEU:HD12	1.78	0.48
26:BQ:115:ARG:HH22	26:BQ:117:ASN:HD22	1.60	0.48
57:BY:107:VAL:HA	57:BY:168:ASP:HA	1.93	0.48
57:BX:128:MET:HB2	57:BX:150:VAL:HG21	1.94	0.48
58:BZ:63:ASP:OD2	58:BZ:64:TRP:NE1	2.46	0.48
62:BU:297:PHE:CZ	62:BU:298:LEU:HD22	2.48	0.48
62:BU:391:LEU:N	62:BU:391:LEU:HD12	2.28	0.48
71:BR:136:ARG:O	71:BR:140:ASP:N	2.35	0.48
73:1:57:A:N6	73:1:120:A:H62	2.10	0.48
73:1:846:A:H5'	73:1:847:A:C2'	2.41	0.48
4:E:69:GLY:O	4:E:73:SER:OG	2.14	0.48
6:G:333:ILE:O	6:G:334:GLU:HB3	2.13	0.48
12:N:209:VAL:HG12	26:BQ:63:ARG:HH11	1.78	0.48
13:O:263:ASP:HA	15:R:41:ARG:NH1	2.28	0.48
14:Q:29:GLY:C	14:Q:30:LEU:HD22	2.34	0.48
15:R:108:GLU:OE1	15:R:111:ARG:NH2	2.46	0.48
21:CA:206:VAL:HG13	21:CA:207:THR:O	2.13	0.48
21:CA:528:CYS:O	21:CA:529:ALA:HB2	2.12	0.48
24:CB:140:ARG:NH2	24:CB:145:LEU:HB2	2.28	0.48
26:BQ:73:SER:OG	26:BQ:74:TYR:N	2.46	0.48
27:BN:157:GLN:NE2	73:1:1175:C:O2'	2.45	0.48
27:BN:299:TYR:OH	27:BN:301:GLU:OE1	2.21	0.48
29:BO:121:LYS:HD3	29:BO:123:GLY:N	2.29	0.48
43:BG:1280:LEU:O	43:BG:1283:ARG:NH2	2.42	0.48
52:BM:366:VAL:HB	52:BM:374:LEU:HD13	1.95	0.48
57:BY:260:LEU:HA	57:BY:263:HIS:HB3	1.94	0.48
62:BU:54:MET:HG3	62:BU:311:TYR:HE2	1.77	0.48
62:BU:290:ARG:HG2	73:1:914:A:H5"	1.96	0.48
62:BU:438:THR:N	62:BU:450:GLN:O	2.41	0.48
63:BW:631:GLU:O	63:BW:633:LEU:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:BV:290:THR:OG1	64:BV:291:ASP:N	2.47	0.48
71:BR:268:PRO:O	71:BR:269:ARG:NH2	2.46	0.48
73:1:40:C:N3	73:1:41:A:N6	2.60	0.48
73:1:455:U:H2'	73:1:456:A:C8	2.47	0.48
73:1:1087:G:H2'	73:1:1088:U:H4'	1.94	0.48
75:R2:240:U:H2'	75:R2:241:U:C6	2.48	0.48
1:A:347:HIS:HD2	23:BB:111:PHE:HE1	1.60	0.48
2:B:260:SER:N	2:B:378:GLN:HE22	2.10	0.48
4:E:59:ALA:N	4:E:98:ILE:O	2.40	0.48
4:E:80:MET:SD	4:E:81:ASP:N	2.86	0.48
5:F:5:TRP:HA	5:F:46:MET:SD	2.54	0.48
13:O:179:PRO:HA	13:O:186:GLU:OE1	2.14	0.48
15:R:477:VAL:HG23	15:R:477:VAL:O	2.13	0.48
21:CA:208:ARG:N	21:CA:230:TYR:OH	2.45	0.48
24:CB:96:LEU:O	24:CB:100:ALA:N	2.45	0.48
25:BK:466:LEU:O	25:BK:466:LEU:HG	2.13	0.48
26:BQ:183:HIS:CE1	26:BQ:204:SER:HB3	2.48	0.48
26:BQ:356:SER:O	26:BQ:360:LYS:N	2.41	0.48
27:BN:234:GLU:HG3	27:BN:235:GLN:N	2.28	0.48
29:BO:81:ALA:HA	29:BO:99:HIS:CE1	2.48	0.48
43:BG:1312:PRO:HB2	43:BG:1314:ASP:OD1	2.14	0.48
52:BM:214:LYS:HG2	52:BM:231:GLY:C	2.34	0.48
57:BY:257:VAL:O	57:BY:261:LEU:N	2.40	0.48
57:BY:282:ALA:HB3	57:BY:285:ASP:HB2	1.94	0.48
59:CC:111:VAL:O	59:CC:114:VAL:HB	2.13	0.48
62:BU:232:ALA:O	62:BU:316:ILE:N	2.39	0.48
63:BW:266:ASP:OD1	63:BW:304:TRP:NE1	2.43	0.48
12:N:203:ARG:NH1	12:N:218:TYR:OH	2.46	0.48
13:O:184:ARG:NH1	13:O:185:PRO:HD2	2.28	0.48
14:Q:50:ASN:H	14:Q:53:ALA:HB3	1.78	0.48
15:R:342:LEU:HA	15:R:345:VAL:HG12	1.93	0.48
17:T:46:HIS:HE1	73:1:861:U:O2	1.96	0.48
18:V:104:ARG:NE	73:1:184:G:N3	2.62	0.48
21:CA:262:VAL:HG11	21:CA:521:VAL:HG21	1.94	0.48
25:BK:566:VAL:HG22	25:BK:680:GLN:HB2	1.95	0.48
25:BK:642:LEU:HD11	25:BK:739:ALA:HB2	1.95	0.48
25:BK:671:VAL:HG11	25:BK:702:VAL:CG1	2.43	0.48
43:BG:1323:LEU:HD23	43:BG:1326:ARG:NH1	2.28	0.48
52:BM:93:LEU:HD13	52:BM:127:HIS:CE1	2.48	0.48
57:BY:90:PHE:CD1	57:BY:93:LEU:HD22	2.48	0.48
57:BX:278:GLN:CB	57:BX:336:GLU:HG2	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:280:VAL:O	58:BZ:282:VAL:N	2.46	0.48
63:BW:96:ARG:O	63:BW:97:THR:OG1	2.24	0.48
64:BV:132:THR:HA	64:BV:138:PHE:HB2	1.95	0.48
68:U3:48:ALA:H	68:U3:67:ALA:HB3	1.78	0.48
73:1:552:A:H61	73:1:584:U:H3	1.60	0.48
2:B:173:PRO:HD3	73:1:527:U:O2'	2.13	0.48
3:C:115:VAL:HG12	3:C:156:TYR:HA	1.95	0.48
14:Q:93:GLN:HB2	14:Q:94:HIS:HD2	1.79	0.48
14:Q:144:SER:H	14:Q:147:GLU:HB2	1.78	0.48
15:R:40:ARG:NH1	15:R:96:ARG:HH12	2.12	0.48
21:CA:83:ASP:OD1	21:CA:253:ARG:NE	2.47	0.48
21:CA:439:SER:OG	21:CA:440:ASP:N	2.46	0.48
23:BB:22:PRO:HG3	25:BK:324:HIS:CE1	2.48	0.48
23:BB:55:GLN:N	23:BB:56:PRO:HD2	2.29	0.48
25:BK:570:ALA:O	25:BK:574:GLU:HG3	2.13	0.48
26:BQ:73:SER:O	26:BQ:77:GLN:HG2	2.13	0.48
56:BS:409:LEU:HD23	56:BS:409:LEU:H	1.77	0.48
58:BZ:200:LEU:HA	58:BZ:203:TRP:CE3	2.49	0.48
59:CC:87:LYS:NZ	59:CC:109:ASP:OD2	2.25	0.48
62:BU:46:ASN:HA	62:BU:59:ASN:ND2	2.29	0.48
62:BU:293:THR:OG1	62:BU:294:ASP:N	2.47	0.48
73:1:229:A:N3	73:1:231:C:N4	2.61	0.48
5:F:104:LYS:HB3	5:F:104:LYS:HE3	1.49	0.48
6:G:325:THR:O	6:G:325:THR:CG2	2.60	0.48
8:J:4:ARG:O	8:J:4:ARG:CG	2.58	0.48
9:K:62:VAL:O	9:K:66:VAL:HG12	2.13	0.48
11:M:123:GLN:O	11:M:123:GLN:NE2	2.45	0.48
16:S:251:TYR:HE2	20:BA:88:VAL:HG21	1.78	0.48
21:CA:486:LEU:HG	21:CA:487:SER:N	2.29	0.48
21:CA:568:ARG:HH22	63:BW:305:PRO:HG3	1.79	0.48
39:BP:51:ILE:O	39:BP:55:ALA:N	2.45	0.48
43:BG:1273:SER:O	43:BG:1276:PHE:N	2.43	0.48
43:BG:1326:ARG:O	43:BG:1331:GLY:N	2.47	0.48
46:BH:128:VAL:O	46:BH:159:VAL:HG12	2.13	0.48
57:BY:116:GLU:C	57:BY:120:ALA:HB2	2.33	0.48
57:BX:135:ILE:HG22	57:BX:137:GLU:OE2	2.13	0.48
57:BX:274:CYS:HB3	57:BX:320:PRO:HG3	1.96	0.48
58:BZ:88:LEU:O	58:BZ:94:ILE:HA	2.13	0.48
59:CC:99:PHE:HE1	59:CC:113:VAL:HG21	1.79	0.48
62:BU:332:SER:OG	73:1:890:C:H5'	2.14	0.48
63:BW:186:LEU:HD13	63:BW:242:MET:HB3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:1:117:U:O2'	73:1:118:U:OP1	2.29	0.48
73:1:459:A:H2'	73:1:460:A:H8	1.76	0.48
73:1:543:U:H5'	73:1:597:U:O5'	2.14	0.48
3:C:36:TYR:CD1	3:C:91:PRO:HD3	2.49	0.48
4:E:225:TYR:HD1	4:E:229:LYS:HZ3	1.61	0.48
6:G:329:PHE:HB3	6:G:332:THR:HG23	1.95	0.48
8:J:52:ILE:O	8:J:55:SER:HB3	2.13	0.48
12:N:50:ARG:HD2	18:V:28:PRO:O	2.12	0.48
12:N:63:ARG:NH1	14:Q:91:GLN:HB3	2.29	0.48
12:N:198:ARG:NH1	73:1:561:U:H5'	2.29	0.48
13:O:94:ASP:OD1	13:O:94:ASP:N	2.45	0.48
24:CB:176:LEU:HD12	24:CB:177:TRP:H	1.79	0.48
25:BK:502:ARG:HB3	25:BK:505:VAL:HG23	1.96	0.48
57:BY:183:ASN:HB3	57:BY:188:ASN:ND2	2.29	0.48
57:BX:277:ALA:HB1	57:BX:278:GLN:NE2	2.29	0.48
58:BZ:257:GLY:N	58:BZ:307:PHE:O	2.47	0.48
59:CC:142:TYR:HA	59:CC:145:GLN:HB2	1.94	0.48
61:BT:194:GLU:HB3	62:BU:426:ILE:HB	1.95	0.48
61:BT:200:ARG:NH1	73:1:983:A:H5'	2.26	0.48
63:BW:159:HIS:HA	79:BW:801:ATP:O3G	2.13	0.48
63:BW:186:LEU:HD13	63:BW:242:MET:CE	2.43	0.48
63:BW:217:THR:OG1	63:BW:218:GLY:N	2.46	0.48
64:BV:137:GLN:NE2	64:BV:139:PHE:HZ	2.03	0.48
73:1:471:A:O2'	73:1:472:A:OP2	2.28	0.48
73:1:1136:U:H4'	73:1:1137:U:N3	2.29	0.48
75:R2:133:U:O4'	75:R2:133:U:O2	2.32	0.48
1:A:227:ASP:OD1	1:A:228:VAL:N	2.47	0.48
4:E:23:SER:O	4:E:24:ASN:C	2.51	0.48
11:M:131:GLN:O	11:M:190:LYS:NZ	2.30	0.48
13:O:217:LYS:HA	13:O:227:GLU:CG	2.43	0.48
14:Q:212:LYS:HA	14:Q:215:MET:HB2	1.96	0.48
20:BA:116:VAL:HG22	20:BA:146:VAL:HG21	1.96	0.48
21:CA:98:LEU:HD22	21:CA:160:PHE:HB2	1.96	0.48
25:BK:230:LEU:O	25:BK:251:THR:OG1	2.32	0.48
26:BQ:319:ARG:HA	26:BQ:322:VAL:HG22	1.96	0.48
26:BQ:322:VAL:O	26:BQ:326:THR:N	2.33	0.48
29:BO:87:ARG:HA	29:BO:92:ARG:NE	2.28	0.48
39:BP:-10:ARG:HB3	39:BP:-9:PRO:HD3	1.95	0.48
52:BM:210:ALA:O	52:BM:213:ARG:HB2	2.13	0.48
57:BY:137:GLU:HA	57:BY:140:HIS:HB2	1.95	0.48
57:BY:221:ASN:N	57:BY:249:LEU:O	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BX:115:GLU:HB3	57:BX:138:PHE:CZ	2.49	0.48
58:BZ:358:ALA:O	58:BZ:360:LYS:N	2.47	0.48
61:BT:306:ARG:O	61:BT:322:ARG:NH1	2.42	0.48
61:BT:330:ASP:OD1	61:BT:331:PHE:N	2.46	0.48
62:BU:327:ASN:ND2	73:1:915:U:H4'	2.29	0.48
63:BW:174:ASN:HB3	63:BW:269:TYR:OH	2.14	0.48
64:BV:215:LEU:HD22	64:BV:220:ILE:HD11	1.96	0.48
72:U2:28:ALA:O	72:U2:29:ALA:HB3	2.14	0.48
73:1:556:A:H5'	73:1:557:A:N3	2.29	0.48
1:A:271:ARG:HG2	58:BZ:372:GLN:NE2	2.29	0.48
2:B:13:ALA:HB3	11:M:106:MET:SD	2.53	0.48
4:E:207:GLU:OE1	4:E:207:GLU:N	2.45	0.48
6:G:310:HIS:H	6:G:311:PRO:HD2	1.79	0.48
11:M:109:VAL:HG21	71:BR:144:LEU:HD13	1.96	0.48
15:R:89:GLU:O	15:R:93:ASN:N	2.43	0.48
15:R:228:GLU:HA	15:R:233:VAL:O	2.14	0.48
19:Z:53:MET:SD	19:Z:78:ASN:HB3	2.54	0.48
21:CA:216:ARG:N	21:CA:223:LEU:O	2.33	0.48
24:CB:123:GLU:HG3	29:BO:181:LYS:NZ	2.29	0.48
25:BK:469:LEU:O	25:BK:470:PHE:C	2.52	0.48
27:BN:141:ARG:O	27:BN:285:LYS:NZ	2.25	0.48
43:BG:1262:CYS:HB3	43:BG:1299:MET:HG3	1.96	0.48
63:BW:114:ASN:N	63:BW:114:ASN:ND2	2.62	0.48
64:BV:133:THR:HB	64:BV:136:LEU:HB3	1.96	0.48
69:U4:64:ALA:O	69:U4:68:ALA:N	2.40	0.48
73:1:128:U:H1'	73:1:129:U:OP1	2.14	0.48
5:F:4:GLN:HG2	5:F:5:TRP:N	2.29	0.47
5:F:51:HIS:CD2	5:F:126:TRP:HE1	2.27	0.47
6:G:218:LEU:HD23	6:G:241:ALA:HB1	1.95	0.47
6:G:225:ARG:HH11	6:G:227:PRO:HB3	1.78	0.47
8:J:55:SER:CA	8:J:119:GLY:HA3	2.40	0.47
10:L:141:ASP:N	10:L:141:ASP:OD1	2.47	0.47
11:M:148:ILE:HG12	13:O:30:TYR:CE1	2.49	0.47
12:N:112:VAL:HG11	15:R:399:VAL:HG21	1.96	0.47
15:R:208:TRP:HB3	15:R:211:SER:CB	2.44	0.47
18:V:18:THR:HG22	18:V:19:ARG:HD2	1.96	0.47
19:Z:66:LEU:HD11	19:Z:92:MET:HB2	1.96	0.47
19:Z:76:ARG:HE	73:1:71:A:P	2.36	0.47
20:BA:71:VAL:HG23	20:BA:117:ALA:HB2	1.95	0.47
29:BO:132:THR:OG1	29:BO:133:ARG:N	2.47	0.47
29:BO:184:VAL:HG23	29:BO:186:ALA:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BG:1315:THR:N	43:BG:1316:PRO:HD2	2.29	0.47
52:BM:162:VAL:HG23	52:BM:162:VAL:O	2.14	0.47
58:BZ:80:TRP:HH2	58:BZ:126:TRP:HE1	1.61	0.47
60:CD:58:GLU:OE1	60:CD:104:SER:HA	2.13	0.47
63:BW:170:PRO:HA	63:BW:173:GLN:HB3	1.96	0.47
63:BW:257:LEU:HD22	70:U5:6:ALA:HB3	1.95	0.47
63:BW:375:VAL:HG23	63:BW:555:GLY:HA2	1.96	0.47
66:U6:54:ALA:O	66:U6:55:ALA:HB2	2.13	0.47
73:1:165:G:O4’	73:1:165:G:N3	2.47	0.47
73:1:344:U:O2	73:1:344:U:O4’	2.31	0.47
2:B:225:THR:OG1	2:B:226:GLN:N	2.47	0.47
5:F:132:VAL:HG21	23:BB:31:ILE:HG12	1.96	0.47
15:R:366:PRO:HG2	15:R:368:ALA:HB2	1.96	0.47
18:V:104:ARG:NH2	73:1:184:G:H1’	2.29	0.47
18:V:104:ARG:CZ	73:1:184:G:H1’	2.43	0.47
20:BA:72:ARG:HH21	20:BA:77:ARG:HA	1.79	0.47
21:CA:416:ARG:HE	21:CA:416:ARG:HA	1.79	0.47
23:BB:29:ARG:NH2	25:BK:329:ARG:O	2.47	0.47
25:BK:440:MET:HE2	25:BK:440:MET:HB3	1.80	0.47
25:BK:493:PHE:O	25:BK:497:VAL:HG22	2.14	0.47
25:BK:560:VAL:HG22	25:BK:577:ALA:HB2	1.94	0.47
25:BK:619:ARG:C	25:BK:621:VAL:H	2.16	0.47
27:BN:181:ARG:CZ	27:BN:185:GLU:H	2.26	0.47
46:BH:72:CYS:SG	46:BH:73:LEU:N	2.87	0.47
52:BM:55:GLU:O	52:BM:59:ILE:N	2.37	0.47
57:BX:172:PRO:HD3	57:BX:240:PHE:HE1	1.79	0.47
63:BW:121:THR:HG22	63:BW:173:GLN:NE2	2.29	0.47
73:1:815:A:H2’	73:1:816:C:H5”	1.95	0.47
2:B:266:PHE:O	2:B:270:SER:N	2.48	0.47
2:B:349:PRO:HG2	2:B:352:ILE:HB	1.95	0.47
6:G:70:LEU:HD23	6:G:70:LEU:HA	1.72	0.47
11:M:46:ARG:NH1	73:1:517:U:C2	2.83	0.47
12:N:57:ILE:HG21	18:V:40:TRP:HE1	1.79	0.47
13:O:316:ASP:O	13:O:320:ARG:N	2.47	0.47
14:Q:18:GLU:HG2	73:1:195:G:N2	2.21	0.47
15:R:92:GLU:HG3	56:BS:380:TYR:HE1	1.79	0.47
18:V:64:ARG:HB3	18:V:64:ARG:NH1	2.28	0.47
25:BK:433:MET:O	25:BK:436:GLN:HB2	2.14	0.47
39:BP:49:GLN:O	39:BP:53:SER:HB3	2.14	0.47
57:BY:183:ASN:HB2	57:BY:265:VAL:CG1	2.44	0.47
57:BX:273:LEU:HD23	57:BX:274:CYS:N	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:CD:62:GLU:HG2	60:CD:65:CYS:HB3	1.95	0.47
62:BU:290:ARG:HG3	62:BU:290:ARG:O	2.14	0.47
62:BU:343:PRO:HD3	62:BU:405:TRP:CD1	2.49	0.47
62:BU:355:LEU:HD23	62:BU:355:LEU:H	1.79	0.47
62:BU:390:ASN:HB3	62:BU:393:LEU:HD23	1.97	0.47
64:BV:160:GLU:OE2	73:1:279:U:H2'	2.15	0.47
66:U6:156:ALA:O	66:U6:160:ALA:N	2.43	0.47
68:U3:26:ALA:C	68:U3:28:ALA:N	2.68	0.47
71:BR:130:LEU:H	71:BR:130:LEU:HD12	1.79	0.47
73:1:299:U:H4'	73:1:300:A:O5'	2.14	0.47
6:G:304:ASP:O	6:G:305:GLU:HB3	2.14	0.47
6:G:315:ARG:NE	6:G:323:PRO:HB3	2.29	0.47
8:J:79:THR:HG21	8:J:83:SER:HB3	1.96	0.47
11:M:41:GLN:O	11:M:43:TYR:N	2.47	0.47
12:N:194:ARG:HB2	12:N:196:ARG:HH11	1.77	0.47
14:Q:21:ARG:NH1	73:1:196:A:C4	2.82	0.47
14:Q:129:GLU:O	14:Q:133:ASP:HB2	2.14	0.47
15:R:141:VAL:HA	15:R:363:GLU:HA	1.94	0.47
24:CB:147:ARG:HA	24:CB:151:VAL:HG23	1.96	0.47
46:BH:183:PRO:HB2	46:BH:185:SER:O	2.14	0.47
52:BM:237:ARG:HH11	52:BM:336:GLN:HE22	1.62	0.47
52:BM:324:CYS:O	52:BM:327:LEU:HB3	2.13	0.47
57:BY:177:LYS:CB	57:BY:263:HIS:HE1	2.28	0.47
58:BZ:53:ASN:HB2	58:BZ:124:SER:OG	2.14	0.47
59:CC:135:SER:OG	59:CC:138:ASP:OD1	2.21	0.47
62:BU:447:PHE:CD1	62:BU:447:PHE:N	2.80	0.47
63:BW:292:MET:O	63:BW:296:LYS:N	2.45	0.47
73:1:98:G:OP1	73:1:98:G:H2'	2.15	0.47
73:1:592:A:H1'	73:1:594:U:C5	2.49	0.47
1:A:233:PRO:HG3	1:A:309:ILE:HD12	1.96	0.47
2:B:131:ARG:O	2:B:131:ARG:NH1	2.47	0.47
7:I:244:SER:OG	7:I:245:ASP:N	2.47	0.47
11:M:256:THR:HG23	17:T:81:ILE:HG12	1.97	0.47
15:R:94:VAL:O	15:R:98:VAL:HG23	2.14	0.47
25:BK:728:TYR:CZ	25:BK:730:ASP:HB3	2.49	0.47
50:BF:55:TYR:HA	50:BF:63:ARG:NH1	2.29	0.47
52:BM:159:MET:SD	52:BM:160:ARG:HD2	2.54	0.47
57:BY:212:TYR:OH	57:BX:334:SER:O	2.25	0.47
62:BU:274:LYS:CG	62:BU:395:MET:HE2	2.44	0.47
63:BW:263:PHE:C	63:BW:265:GLU:H	2.18	0.47
63:BW:543:LYS:HB2	75:R2:16:U:O4	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:67:LEU:HD21	2:B:70:LEU:HD11	1.95	0.47
5:F:45:GLY:HA3	73:1:149:U:C6	2.49	0.47
8:J:53:ILE:HG13	8:J:124:TYR:CG	2.50	0.47
21:CA:156:ARG:H	21:CA:229:GLY:HA2	1.78	0.47
21:CA:252:LEU:HB2	21:CA:584:VAL:HB	1.94	0.47
23:BB:54:VAL:CG2	23:BB:58:GLU:HG3	2.44	0.47
24:CB:78:SER:HB2	24:CB:149:TRP:CH2	2.50	0.47
24:CB:176:LEU:HD12	24:CB:177:TRP:N	2.29	0.47
25:BK:559:ASP:CG	25:BK:715:PRO:HB2	2.33	0.47
26:BQ:314:ARG:NE	26:BQ:316:SER:OG	2.45	0.47
27:BN:231:PHE:HA	27:BN:234:GLU:HG2	1.95	0.47
29:BO:121:LYS:HG2	29:BO:122:PRO:HD2	1.96	0.47
56:BS:378:HIS:HB2	56:BS:385:PRO:HA	1.97	0.47
61:BT:177:SER:OG	61:BT:178:THR:N	2.47	0.47
63:BW:300:PHE:HE1	70:U5:48:ALA:N	2.13	0.47
73:1:572:A:H8	73:1:572:A:OP2	1.98	0.47
73:1:1119:G:O2'	73:1:1120:U:H5'	2.13	0.47
1:A:296:ALA:HB3	8:J:6:ARG:HD2	1.97	0.47
2:B:23:GLU:HB2	2:B:27:GLN:HG2	1.97	0.47
4:E:28:ASP:OD1	4:E:31:VAL:HG12	2.15	0.47
4:E:54:ARG:HG3	4:E:101:ILE:HG23	1.95	0.47
4:E:219:LYS:C	4:E:221:HIS:H	2.16	0.47
5:F:66:ASN:O	5:F:87:LEU:HD12	2.15	0.47
6:G:334:GLU:CG	6:G:334:GLU:O	2.62	0.47
7:I:95:ILE:HD11	73:1:1169:A:H2'	1.95	0.47
8:J:37:ILE:HD12	8:J:44:PRO:HD3	1.96	0.47
8:J:116:ALA:HB2	27:BN:88:PHE:CZ	2.49	0.47
15:R:12:ALA:O	15:R:15:GLU:HG2	2.15	0.47
15:R:135:HIS:O	15:R:137:PRO:HD3	2.15	0.47
18:V:102:ASN:ND2	18:V:105:VAL:HG13	2.30	0.47
20:BA:74:GLU:HB3	20:BA:75:PRO:HD3	1.97	0.47
21:CA:451:VAL:O	21:CA:453:LEU:HG	2.15	0.47
21:CA:455:ILE:HG13	21:CA:456:PRO:HD2	1.97	0.47
21:CA:461:PRO:HG3	21:CA:499:ARG:HA	1.97	0.47
23:BB:54:VAL:HG22	23:BB:58:GLU:HG3	1.97	0.47
24:CB:114:LYS:HB3	73:1:1133:U:H4'	1.97	0.47
25:BK:755:MET:HG2	25:BK:803:HIS:NE2	2.29	0.47
26:BQ:234:ASP:OD1	26:BQ:234:ASP:N	2.48	0.47
26:BQ:270:SER:OG	26:BQ:275:THR:OG1	2.30	0.47
27:BN:184:ALA:O	27:BN:187:ARG:HB3	2.15	0.47
29:BO:94:PHE:HB2	73:1:1130:U:O2'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BY:128:MET:HB2	57:BY:166:VAL:HG23	1.96	0.47
57:BY:190:VAL:CG1	57:BY:218:ILE:HG12	2.44	0.47
57:BY:192:VAL:HB	57:BY:297:SER:OG	2.15	0.47
57:BX:83:ASN:HA	57:BX:88:GLN:NE2	2.27	0.47
57:BX:127:LEU:HD23	57:BX:143:ARG:HH21	1.80	0.47
57:BX:183:ASN:CG	57:BX:271:LEU:HG	2.35	0.47
57:BX:193:LEU:HD11	57:BX:205:LEU:HD12	1.96	0.47
57:BX:321:ALA:H	57:BX:322:PRO:CD	2.19	0.47
58:BZ:88:LEU:HD12	58:BZ:95:TYR:OH	2.14	0.47
58:BZ:268:MET:HA	58:BZ:281:ILE:HD13	1.96	0.47
58:BZ:321:HIS:O	58:BZ:325:ILE:HG22	2.15	0.47
58:BZ:346:ALA:HB3	58:BZ:349:HIS:HA	1.95	0.47
59:CC:141:GLU:N	59:CC:141:GLU:OE2	2.44	0.47
60:CD:120:ASN:O	60:CD:121:LYS:HG3	2.15	0.47
61:BT:283:MET:O	61:BT:286:CYS:HB3	2.15	0.47
62:BU:58:LYS:O	62:BU:60:ILE:N	2.47	0.47
62:BU:244:LEU:HD23	62:BU:244:LEU:C	2.35	0.47
62:BU:276:ARG:HD2	62:BU:399:LEU:CD1	2.41	0.47
62:BU:294:ASP:O	62:BU:295:ARG:HB3	2.14	0.47
63:BW:142:THR:HG21	63:BW:337:PHE:CZ	2.50	0.47
67:U1:12:ALA:O	67:U1:13:ALA:C	2.52	0.47
73:1:84:U:C2	73:1:86:A:N7	2.83	0.47
73:1:109:U:HO2'	73:1:110:U:P	2.35	0.47
73:1:231:C:N3	73:1:304:G:H4'	2.30	0.47
73:1:1113:A:C5	73:1:1158:A:H5"	2.50	0.47
4:E:108:PHE:CZ	67:U1:11:ALA:HA	2.50	0.47
7:I:47:ASP:HB2	7:I:54:LYS:NZ	2.30	0.47
10:L:150:PRO:HG2	10:L:152:PHE:CZ	2.50	0.47
12:N:80:VAL:HG23	18:V:20:GLN:HE22	1.79	0.47
19:Z:76:ARG:NH2	73:1:70:G:O2'	2.48	0.47
26:BQ:17:ALA:O	26:BQ:20:SER:OG	2.25	0.47
27:BN:96:VAL:HG12	27:BN:100:ILE:HD11	1.96	0.47
27:BN:224:THR:OG1	27:BN:225:ILE:N	2.48	0.47
46:BH:35:ALA:O	46:BH:36:GLU:HG2	2.15	0.47
52:BM:177:ARG:HH11	52:BM:181:PRO:HD3	1.79	0.47
57:BY:117:LEU:HD23	57:BY:169:PHE:CD2	2.49	0.47
57:BY:251:ASP:N	57:BY:251:ASP:OD1	2.47	0.47
57:BY:264:ILE:O	57:BY:270:LEU:HD11	2.15	0.47
57:BY:291:THR:N	57:BY:344:ARG:HH22	2.13	0.47
61:BT:89:ASN:ND2	61:BT:92:ILE:HG12	2.30	0.47
62:BU:351:TRP:CG	62:BU:382:VAL:HG13	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:BW:172:TYR:OH	63:BW:210:CYS:SG	2.53	0.47
63:BW:292:MET:HG3	73:1:346:A:H1'	1.97	0.47
63:BW:370:ARG:HD3	63:BW:370:ARG:HA	1.65	0.47
2:B:148:ARG:NE	2:B:167:ARG:O	2.47	0.47
2:B:414:VAL:HG22	2:B:421:VAL:HG22	1.95	0.47
11:M:196:HIS:HA	11:M:241:MET:HE1	1.96	0.47
14:Q:201:LEU:HD11	14:Q:211:PHE:CD2	2.49	0.47
15:R:107:ALA:O	15:R:111:ARG:HB2	2.15	0.47
15:R:244:GLU:HA	15:R:247:CYS:HB3	1.97	0.47
25:BK:830:ARG:NH1	73:1:1168:A:O5'	2.48	0.47
25:BK:870:PRO:HA	27:BN:194:ARG:O	2.14	0.47
26:BQ:298:PHE:CZ	56:BS:299:VAL:HG13	2.50	0.47
27:BN:119:LEU:HB3	27:BN:121:PHE:HE1	1.80	0.47
29:BO:180:LEU:HD23	29:BO:181:LYS:N	2.30	0.47
43:BG:1321:ALA:HA	43:BG:1324:TYR:HB3	1.97	0.47
46:BH:89:VAL:HG13	46:BH:143:PHE:HB2	1.96	0.47
52:BM:126:LEU:O	52:BM:130:GLN:HG3	2.15	0.47
57:BY:111:ARG:HG3	57:BY:139:LEU:HB3	1.96	0.47
57:BX:185:GLN:CD	57:BX:271:LEU:HD13	2.36	0.47
58:BZ:87:ARG:NH1	58:BZ:134:SER:OG	2.47	0.47
62:BU:290:ARG:O	62:BU:290:ARG:CG	2.63	0.47
62:BU:335:HIS:ND1	73:1:889:U:H1'	2.30	0.47
78:BU:501:GTP:O2A	78:BU:501:GTP:H3'	2.15	0.47
63:BW:237:MET:HA	63:BW:241:THR:HG21	1.97	0.47
64:BV:156:TRP:HB2	73:1:283:G:O5'	2.14	0.47
70:U5:26:ALA:O	70:U5:30:ALA:N	2.48	0.47
72:U2:12:ALA:C	72:U2:14:ALA:H	2.19	0.47
73:1:40:C:H42	73:1:41:A:H62	1.63	0.47
73:1:885:C:N4	73:1:982:A:H61	2.13	0.47
73:1:919:A:C5	73:1:920:U:C4	3.03	0.47
5:F:115:LEU:HD21	73:1:141:A:C5	2.50	0.47
6:G:158:SER:O	6:G:161:GLY:N	2.48	0.47
8:J:91:TYR:CD2	8:J:127:GLU:HG3	2.50	0.47
11:M:212:GLN:HA	26:BQ:35:TYR:O	2.15	0.47
21:CA:509:ARG:HH22	21:CA:512:SER:HB3	1.80	0.47
25:BK:302:ASN:HB2	73:1:37:A:OP2	2.14	0.47
26:BQ:185:ARG:HA	26:BQ:228:PRO:HG3	1.97	0.47
46:BH:57:GLU:CD	46:BH:60:ARG:HH21	2.18	0.47
52:BM:377:GLU:O	52:BM:381:ASN:ND2	2.48	0.47
57:BY:192:VAL:HA	57:BY:218:ILE:O	2.15	0.47
57:BY:207:ARG:O	57:BY:211:GLY:N	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:270:PHE:HE2	58:BZ:322:GLN:HB2	1.79	0.47
59:CC:99:PHE:HD1	59:CC:136:ILE:HG12	1.80	0.47
62:BU:134:LYS:HB2	62:BU:136:MET:SD	2.55	0.47
62:BU:191:HIS:CD2	69:U4:36:ALA:HB1	2.50	0.47
62:BU:292:ARG:HD3	62:BU:292:ARG:HA	1.74	0.47
63:BW:157:ALA:CB	63:BW:158:PRO:CD	2.89	0.47
73:1:359:C:H6	73:1:360:U:H3	1.63	0.47
73:1:854:A:O5'	73:1:854:A:H8	1.98	0.47
1:A:370:ASP:OD1	8:J:31:ALA:HB1	2.15	0.46
3:C:39:SER:OG	3:C:84:ARG:O	2.32	0.46
6:G:321:ILE:C	6:G:323:PRO:HD2	2.34	0.46
12:N:53:VAL:O	12:N:53:VAL:HG13	2.16	0.46
12:N:63:ARG:HD2	73:1:98:G:N3	2.29	0.46
13:O:166:ILE:HG13	13:O:197:VAL:HG12	1.97	0.46
15:R:85:LYS:O	15:R:89:GLU:HG2	2.15	0.46
15:R:459:ALA:HB1	56:BS:388:ARG:HG2	1.97	0.46
17:T:69:GLN:OE1	25:BK:824:ARG:NH1	2.48	0.46
18:V:132:ARG:HD3	73:1:90:A:H62	1.80	0.46
20:BA:127:CYS:HB2	20:BA:138:VAL:HG22	1.97	0.46
22:UA:84:ALA:HB1	22:UA:90:ALA:HB3	1.97	0.46
24:CB:153:ARG:HH21	60:CD:120:ASN:HD21	1.63	0.46
25:BK:388:SER:O	25:BK:394:GLY:HA2	2.16	0.46
27:BN:133:ARG:N	27:BN:133:ARG:HD2	2.30	0.46
29:BO:59:PRO:O	29:BO:86:GLU:N	2.43	0.46
29:BO:180:LEU:HA	29:BO:185:LEU:HD21	1.97	0.46
43:BG:1319:SER:O	43:BG:1323:LEU:HG	2.15	0.46
52:BM:69:LEU:HD21	52:BM:371:TRP:CE3	2.50	0.46
57:BY:342:GLN:HE22	57:BX:327:SER:HB3	1.79	0.46
57:BX:96:ASN:OD1	57:BX:97:ASP:N	2.48	0.46
59:CC:82:VAL:HG11	59:CC:136:ILE:HD12	1.96	0.46
62:BU:267:ILE:HG21	62:BU:308:GLU:OE2	2.15	0.46
63:BW:292:MET:N	63:BW:292:MET:SD	2.87	0.46
63:BW:316:TYR:CD2	63:BW:587:LEU:HD22	2.50	0.46
1:A:269:TRP:CE3	29:BO:24:ASN:HB3	2.50	0.46
3:C:122:TRP:CH2	3:C:127:LEU:HD22	2.51	0.46
6:G:69:ARG:HH21	6:G:72:GLU:HG3	1.80	0.46
12:N:111:LEU:HD12	12:N:111:LEU:H	1.80	0.46
13:O:191:ARG:HH22	56:BS:325:ARG:HB3	1.78	0.46
20:BA:104:LEU:HD13	20:BA:135:PHE:CE2	2.50	0.46
21:CA:488:PHE:O	21:CA:489:LEU:HB3	2.14	0.46
25:BK:240:TYR:OH	73:1:1158:A:H8	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BK:826:ARG:CZ	73:1:1166:G:H5'	2.45	0.46
52:BM:250:GLU:HA	52:BM:265:LEU:O	2.14	0.46
52:BM:266:TRP:CZ2	52:BM:269:VAL:HG13	2.50	0.46
57:BY:93:LEU:HD12	57:BY:99:TYR:HD2	1.80	0.46
57:BY:129:VAL:HG12	57:BY:130:GLU:H	1.81	0.46
58:BZ:224:CYS:H	58:BZ:368:HIS:HB3	1.80	0.46
61:BT:81:ALA:HB2	61:BT:105:PHE:HB3	1.96	0.46
64:BV:156:TRP:O	73:1:283:G:H3'	2.16	0.46
66:U6:73:ALA:O	66:U6:74:ALA:HB3	2.16	0.46
71:BR:89:GLY:O	71:BR:91:GLY:N	2.48	0.46
73:1:203:A:N3	73:1:203:A:OP2	2.49	0.46
73:1:559:U:HO2'	73:1:560:U:P	2.36	0.46
2:B:33:HIS:HD2	2:B:35:LEU:H	1.62	0.46
3:C:74:SER:OG	3:C:81:TYR:O	2.33	0.46
3:C:121:LEU:HD11	3:C:153:TYR:HD2	1.80	0.46
6:G:234:LEU:HB2	6:G:252:PHE:HE1	1.80	0.46
11:M:39:LYS:NZ	11:M:44:SER:O	2.27	0.46
12:N:165:ARG:NE	12:N:224:GLU:OE1	2.35	0.46
13:O:148:GLU:OE1	13:O:149:GLY:N	2.48	0.46
16:S:255:GLY:O	16:S:315:LEU:HG	2.16	0.46
26:BQ:98:LEU:O	26:BQ:102:THR:OG1	2.23	0.46
26:BQ:183:HIS:CG	56:BS:310:LEU:HD22	2.50	0.46
26:BQ:366:PRO:O	26:BQ:370:SER:N	2.45	0.46
27:BN:306:ASP:N	27:BN:306:ASP:OD1	2.44	0.46
29:BO:47:TRP:CE3	29:BO:57:GLY:HA2	2.51	0.46
29:BO:87:ARG:HE	29:BO:89:ALA:HB3	1.79	0.46
29:BO:181:LYS:HB2	29:BO:181:LYS:HE3	1.75	0.46
57:BX:97:ASP:N	57:BX:97:ASP:OD1	2.49	0.46
57:BX:129:VAL:O	57:BX:149:LEU:HA	2.15	0.46
58:BZ:47:GLU:OE2	58:BZ:103:LYS:NZ	2.45	0.46
58:BZ:320:ARG:HA	75:R2:132:U:H1'	1.96	0.46
61:BT:163:ALA:HA	61:BT:225:PRO:HG2	1.97	0.46
78:BU:501:GTP:PA	78:BU:501:GTP:H2'	2.56	0.46
73:1:224:U:H2'	73:1:225:U:O4'	2.15	0.46
1:A:60:HIS:CD2	1:A:69:LYS:HE2	2.50	0.46
1:A:164:VAL:HA	1:A:203:VAL:HG11	1.97	0.46
1:A:169:ARG:HD3	73:1:1118:U:C4	2.51	0.46
3:C:194:TYR:CD1	3:C:201:TYR:HD2	2.31	0.46
4:E:54:ARG:HH21	4:E:56:PHE:HZ	1.63	0.46
4:E:99:GLU:OE1	4:E:99:GLU:N	2.48	0.46
17:T:41:LYS:HE3	17:T:41:LYS:HB3	1.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:495:ASP:HB3	21:CA:496:PRO:HD3	1.97	0.46
26:BQ:297:GLU:OE2	26:BQ:328:THR:OG1	2.26	0.46
52:BM:141:ARG:HH22	52:BM:268:HIS:N	2.13	0.46
57:BY:186:ARG:HA	57:BY:293:THR:HG21	1.97	0.46
57:BX:191:LEU:HD22	57:BX:217:ILE:HG23	1.98	0.46
62:BU:250:GLY:N	78:BU:501:GTP:H4'	2.30	0.46
62:BU:297:PHE:CE1	62:BU:298:LEU:HD22	2.50	0.46
62:BU:374:GLU:OE2	62:BU:469:LYS:NZ	2.41	0.46
62:BU:446:THR:HG21	62:BU:485:LEU:CG	2.43	0.46
73:1:881:A:C2	73:1:988:A:N1	2.83	0.46
75:R2:235:U:H2'	75:R2:236:U:C2	2.50	0.46
4:E:183:GLN:HA	4:E:186:ARG:HB3	1.97	0.46
4:E:232:GLU:O	4:E:235:SER:OG	2.31	0.46
8:J:59:CYS:HA	8:J:112:TYR:CB	2.45	0.46
8:J:121:PHE:CG	27:BN:80:VAL:HB	2.51	0.46
13:O:316:ASP:HA	13:O:319:VAL:HG22	1.97	0.46
17:T:81:ILE:HG23	17:T:83:PRO:HD3	1.98	0.46
20:BA:70:ASP:CG	20:BA:77:ARG:HH21	2.18	0.46
21:CA:162:ASP:HB2	21:CA:197:VAL:HG23	1.98	0.46
21:CA:588:PHE:HD1	21:CA:590:LEU:HG	1.80	0.46
26:BQ:197:LEU:HD12	26:BQ:198:PRO:HD2	1.98	0.46
26:BQ:236:GLU:O	26:BQ:240:ILE:HD12	2.15	0.46
29:BO:94:PHE:HB3	73:1:1131:A:O4'	2.14	0.46
56:BS:341:GLU:O	56:BS:343:THR:N	2.46	0.46
57:BY:253:ASP:HB3	57:BY:306:VAL:HB	1.96	0.46
59:CC:121:PHE:CE2	59:CC:143:ILE:HG23	2.51	0.46
61:BT:168:VAL:HB	61:BT:228:LEU:HD22	1.97	0.46
61:BT:320:PRO:O	61:BT:324:HIS:ND1	2.48	0.46
62:BU:344:PHE:HE1	62:BU:378:SER:HB3	1.80	0.46
62:BU:462:LYS:O	62:BU:466:GLU:HG3	2.16	0.46
63:BW:232:TYR:O	63:BW:232:TYR:CG	2.69	0.46
63:BW:319:ARG:HH11	63:BW:641:MET:CG	2.27	0.46
71:BR:79:GLN:HB3	71:BR:85:ARG:NH2	2.30	0.46
71:BR:240:LEU:HG	71:BR:244:LEU:HG	1.97	0.46
71:BR:258:ASP:HA	71:BR:261:ARG:HD3	1.97	0.46
73:1:99:A:H1'	73:1:100:A:OP1	2.15	0.46
2:B:5:ARG:HG2	71:BR:48:LYS:HG2	1.97	0.46
2:B:60:HIS:CD2	2:B:62:TYR:HB2	2.49	0.46
7:I:115:LEU:HG	7:I:125:VAL:HG22	1.96	0.46
7:I:155:SER:OG	7:I:156:ASP:N	2.48	0.46
13:O:115:LYS:HA	13:O:118:ILE:HG22	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Z:69:THR:HG21	19:Z:75:LEU:O	2.16	0.46
21:CA:105:ARG:NH1	75:R2:8:U:O5'	2.48	0.46
21:CA:497:THR:O	21:CA:500:ALA:N	2.49	0.46
25:BK:290:VAL:O	25:BK:292:ILE:N	2.48	0.46
25:BK:559:ASP:OD1	25:BK:715:PRO:HB2	2.16	0.46
25:BK:591:SER:HB3	25:BK:597:ASP:HB2	1.97	0.46
25:BK:861:ALA:CB	25:BK:874:TYR:HB2	2.46	0.46
26:BQ:301:ARG:HH12	56:BS:292:GLN:HG2	1.81	0.46
46:BH:127:THR:HG23	46:BH:158:VAL:HG13	1.96	0.46
52:BM:31:ARG:NH2	52:BM:51:GLU:HB2	2.30	0.46
52:BM:266:TRP:HZ2	52:BM:269:VAL:HG13	1.80	0.46
57:BY:270:LEU:HB3	57:BY:295:PHE:HB2	1.97	0.46
63:BW:538:ALA:HB2	73:1:972:U:H4'	1.95	0.46
70:U5:78:ALA:O	70:U5:80:ALA:N	2.48	0.46
70:U5:79:ALA:HB3	73:1:401:U:H1'	1.97	0.46
73:1:1090:G:C4	73:1:1090:G:OP2	2.69	0.46
74:R1:8:U:C2'	75:R2:242:U:H5"	2.46	0.46
2:B:277:LYS:HB2	2:B:323:HIS:CD2	2.50	0.46
2:B:284:LEU:HD21	2:B:343:HIS:CE1	2.50	0.46
3:C:197:GLU:HB3	3:C:200:LYS:HB2	1.97	0.46
4:E:183:GLN:HE22	73:1:461:U:H5'	1.80	0.46
5:F:49:GLY:HA3	5:F:124:LYS:HE2	1.98	0.46
11:M:112:LYS:HE2	11:M:112:LYS:HB3	1.80	0.46
13:O:261:ASP:OD1	19:Z:151:THR:OG1	2.33	0.46
21:CA:101:ALA:HB1	21:CA:217:HIS:CE1	2.51	0.46
21:CA:536:PHE:CZ	63:BW:187:ARG:HD2	2.51	0.46
22:UA:89:ALA:O	22:UA:93:ALA:N	2.48	0.46
24:CB:152:THR:OG1	24:CB:170:GLN:OE1	2.23	0.46
25:BK:159:TYR:OH	25:BK:199:ASP:OD2	2.18	0.46
25:BK:828:VAL:HA	25:BK:845:ASN:HB3	1.98	0.46
50:BF:33:ASP:N	50:BF:33:ASP:OD1	2.49	0.46
50:BF:58:SER:O	50:BF:58:SER:OG	2.32	0.46
57:BY:123:ARG:O	57:BY:170:ALA:N	2.40	0.46
58:BZ:88:LEU:CD2	58:BZ:133:PRO:HG2	2.46	0.46
61:BT:200:ARG:NH2	73:1:984:U:H5'	2.31	0.46
62:BU:142:VAL:HG11	62:BU:160:TYR:CD2	2.50	0.46
73:1:47:A:H1'	73:1:48:U:OP1	2.16	0.46
73:1:283:G:O2'	73:1:284:A:C8	2.69	0.46
73:1:469:G:H2'	73:1:470:U:C5	2.51	0.46
73:1:862:A:H2	73:1:1109:A:N3	2.14	0.46
1:A:285:TYR:HB3	5:F:79:PRO:HG3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:150:PRO:HA	14:Q:110:TYR:CD2	2.51	0.46
8:J:133:GLU:HG3	24:CB:184:GLN:HA	1.98	0.46
15:R:61:LEU:HD21	15:R:83:ARG:HD2	1.96	0.46
17:T:56:GLU:O	17:T:68:LYS:NZ	2.49	0.46
18:V:74:LYS:NZ	21:CA:138:TYR:OH	2.35	0.46
22:UA:77:ALA:O	22:UA:79:ALA:N	2.49	0.46
22:UA:143:ALA:O	22:UA:147:ALA:N	2.49	0.46
25:BK:188:PRO:HD2	25:BK:189:GLN:NE2	2.31	0.46
25:BK:436:GLN:OE1	25:BK:436:GLN:HA	2.15	0.46
25:BK:661:ARG:HH12	71:BR:87:LEU:CB	2.29	0.46
27:BN:152:LEU:HB3	27:BN:203:LEU:HD21	1.97	0.46
39:BP:-41:ARG:NH1	39:BP:-38:TYR:O	2.49	0.46
46:BH:112:PRO:HA	46:BH:136:ASN:O	2.15	0.46
52:BM:26:LEU:O	52:BM:312:VAL:HG11	2.15	0.46
57:BY:212:TYR:HA	57:BX:328:SER:HB2	1.98	0.46
57:BY:217:ILE:O	57:BY:247:TYR:HB2	2.16	0.46
58:BZ:125:PHE:CZ	58:BZ:128:ARG:HD2	2.51	0.46
62:BU:299:SER:O	62:BU:300:ARG:HD3	2.15	0.46
73:1:58:A:N6	73:1:112:U:C4	2.83	0.46
73:1:162:G:H1'	73:1:846:A:C5	2.51	0.46
73:1:258:U:O2	73:1:258:U:H2'	2.15	0.46
1:A:387:PHE:HE1	29:BO:88:PHE:CE1	2.33	0.46
5:F:75:GLN:HB3	5:F:82:LYS:HE3	1.98	0.46
6:G:31:ILE:HD11	6:G:44:PRO:HB3	1.96	0.46
6:G:57:PHE:CD2	39:BP:28:THR:HG23	2.50	0.46
6:G:130:TYR:CE2	6:G:134:ARG:HD2	2.51	0.46
6:G:188:ARG:HH22	73:1:188:A:P	2.38	0.46
7:I:99:HIS:O	7:I:102:GLU:HG2	2.16	0.46
8:J:59:CYS:O	8:J:60:ASN:HB2	2.16	0.46
11:M:159:ARG:NE	11:M:243:LEU:HD13	2.31	0.46
18:V:69:ARG:HB2	18:V:69:ARG:NH2	2.30	0.46
21:CA:248:HIS:HB2	21:CA:588:PHE:CE1	2.51	0.46
21:CA:522:LEU:HB3	21:CA:525:PRO:HG3	1.97	0.46
26:BQ:426:PHE:HA	26:BQ:429:VAL:HG23	1.97	0.46
29:BO:72:THR:HG22	29:BO:73:ASN:H	1.80	0.46
46:BH:80:PRO:HA	46:BH:188:TRP:HA	1.97	0.46
56:BS:395:ALA:O	56:BS:398:TYR:HB3	2.16	0.46
57:BX:179:LYS:HZ3	57:BX:247:TYR:HB3	1.81	0.46
62:BU:228:TYR:O	62:BU:230:ARG:HG3	2.16	0.46
63:BW:289:GLN:NE2	73:1:345:A:OP2	2.49	0.46
71:BR:131:THR:HG23	71:BR:133:ALA:N	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:BR:164:ALA:HB1	71:BR:166:PRO:HD2	1.97	0.46
73:1:171:U:O5'	73:1:171:U:H6	1.99	0.46
73:1:855:A:O5'	73:1:855:A:H8	1.99	0.46
75:R2:132:U:O2	75:R2:132:U:O4'	2.30	0.46
2:B:242:HIS:CD2	11:M:59:ARG:HH11	2.34	0.46
9:K:43:MET:O	9:K:47:THR:HG22	2.16	0.46
9:K:103:GLU:HG2	10:L:22:PHE:CE2	2.51	0.46
12:N:63:ARG:HH12	14:Q:91:GLN:HB3	1.81	0.46
12:N:198:ARG:CZ	73:1:561:U:H5'	2.46	0.46
13:O:123:PRO:HA	15:R:414:LEU:HD21	1.98	0.46
15:R:288:ARG:NH1	15:R:293:LYS:HG2	2.31	0.46
20:BA:141:VAL:HG23	20:BA:142:SER:H	1.80	0.46
21:CA:190:PRO:HG3	21:CA:593:GLY:H	1.81	0.46
26:BQ:440:ARG:HB2	26:BQ:443:GLU:O	2.15	0.46
27:BN:128:VAL:HG12	27:BN:132:LYS:HB3	1.96	0.46
39:BP:-42:TYR:CE1	39:BP:-40:SER:HB3	2.51	0.46
52:BM:26:LEU:HD22	52:BM:31:ARG:HE	1.81	0.46
52:BM:30:GLU:HA	52:BM:33:LEU:HB3	1.97	0.46
57:BY:306:VAL:HG23	57:BY:309:SER:OG	2.16	0.46
57:BX:292:GLN:OE1	57:BX:293:THR:N	2.48	0.46
58:BZ:51:LYS:NZ	65:U7:40:UNK:O	2.49	0.46
62:BU:36:ARG:NH1	62:BU:115:ALA:HB2	2.30	0.46
63:BW:163:LYS:O	63:BW:166:ALA:HB3	2.16	0.46
63:BW:640:MET:HG3	73:1:342:A:C8	2.50	0.46
71:BR:267:GLU:HB3	71:BR:270:GLU:HG3	1.97	0.46
73:1:59:U:H5'	73:1:60:A:OP2	2.16	0.46
73:1:219:A:N3	73:1:219:A:H2'	2.31	0.46
73:1:580:A:H5"	73:1:582:U:O4	2.16	0.46
77:U8:2:ALA:C	77:U8:4:ALA:N	2.67	0.46
2:B:419:GLY:O	6:G:278:GLU:HA	2.17	0.45
4:E:206:THR:OG1	4:E:209:GLN:HB2	2.16	0.45
11:M:68:ARG:HH12	73:1:122:U:H3'	1.81	0.45
18:V:71:ILE:CG2	18:V:74:LYS:H	2.29	0.45
21:CA:90:ASP:HB3	21:CA:92:ASN:OD1	2.16	0.45
24:CB:142:GLU:OE1	24:CB:142:GLU:N	2.49	0.45
25:BK:660:ARG:O	25:BK:663:ARG:HG2	2.16	0.45
26:BQ:351:ASN:HD22	26:BQ:354:LEU:HB2	1.81	0.45
29:BO:187:ASN:OD1	29:BO:188:PHE:N	2.49	0.45
52:BM:192:LEU:HD21	52:BM:252:VAL:O	2.17	0.45
52:BM:213:ARG:O	52:BM:217:LYS:HB2	2.15	0.45
52:BM:214:LYS:NZ	52:BM:231:GLY:HA3	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BM:263:ARG:HD3	52:BM:264:ALA:H	1.81	0.45
57:BY:90:PHE:HA	57:BY:93:LEU:HB3	1.98	0.45
58:BZ:88:LEU:CB	58:BZ:95:TYR:HE1	2.22	0.45
60:CD:53:HIS:C	60:CD:55:PRO:HD3	2.37	0.45
61:BT:304:CYS:HB3	61:BT:318:LEU:HD22	1.98	0.45
63:BW:371:LYS:HD3	63:BW:371:LYS:HA	1.67	0.45
63:BW:576:MET:HA	63:BW:604:GLN:O	2.15	0.45
71:BR:103:LEU:HD21	71:BR:155:LEU:HD12	1.97	0.45
73:1:40:C:N4	73:1:41:A:H62	2.13	0.45
73:1:144:U:C2	73:1:836:U:H5'	2.51	0.45
6:G:126:TYR:CZ	70:U5:91:ALA:HB3	2.51	0.45
6:G:146:LYS:CB	6:G:147:MET:HE2	2.47	0.45
6:G:157:VAL:HG12	21:CA:117:VAL:HG22	1.97	0.45
8:J:53:ILE:HD13	27:BN:75:TYR:CD2	2.52	0.45
14:Q:80:GLU:HG2	14:Q:102:PRO:HB3	1.96	0.45
21:CA:275:ILE:HG21	21:CA:410:LEU:HD11	1.98	0.45
26:BQ:232:THR:HG23	26:BQ:236:GLU:HB3	1.98	0.45
26:BQ:250:CYS:O	26:BQ:254:GLU:N	2.49	0.45
52:BM:41:PRO:HD2	52:BM:109:THR:HG22	1.98	0.45
57:BY:176:MET:HG2	57:BY:177:LYS:HG2	1.98	0.45
57:BY:284:VAL:O	57:BY:284:VAL:HG12	2.16	0.45
57:BY:335:ARG:CZ	57:BX:334:SER:HA	2.47	0.45
71:BR:159:SER:OG	71:BR:159:SER:O	2.28	0.45
73:1:167:U:O2	73:1:167:U:H2'	2.15	0.45
77:U8:27:ALA:O	77:U8:28:ALA:C	2.54	0.45
2:B:167:ARG:HB3	2:B:172:HIS:CE1	2.51	0.45
4:E:38:ILE:HD12	4:E:38:ILE:HA	1.84	0.45
4:E:61:LYS:HA	4:E:61:LYS:HD3	1.56	0.45
4:E:150:THR:HG22	4:E:151:LEU:N	2.30	0.45
6:G:164:ASN:HA	18:V:111:ARG:NH2	2.31	0.45
7:I:227:LEU:HD13	50:BF:88:TYR:HE2	1.81	0.45
10:L:164:LYS:HE2	10:L:164:LYS:HB2	1.65	0.45
12:N:197:VAL:HG13	12:N:219:LYS:HD3	1.97	0.45
13:O:89:HIS:CD2	13:O:91:LYS:HB2	2.51	0.45
14:Q:21:ARG:HB3	73:1:196:A:H4'	1.97	0.45
14:Q:26:PRO:CG	14:Q:29:GLY:HA3	2.46	0.45
14:Q:122:MET:HE2	14:Q:122:MET:HB2	1.53	0.45
15:R:66:GLU:HA	15:R:69:LEU:HG	1.97	0.45
18:V:55:TRP:O	18:V:83:ILE:HG12	2.16	0.45
21:CA:160:PHE:O	21:CA:223:LEU:HA	2.16	0.45
21:CA:174:ARG:NH1	21:CA:181:HIS:HB2	2.30	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BK:792:LEU:HD23	25:BK:797:LEU:HD23	1.99	0.45
39:BP:35:LYS:HE2	73:1:495:A:OP2	2.16	0.45
52:BM:376:ILE:O	52:BM:380:THR:HG23	2.16	0.45
57:BY:319:LEU:HD23	57:BY:319:LEU:HA	1.74	0.45
58:BZ:286:THR:HB	58:BZ:288:THR:H	1.81	0.45
60:CD:38:ARG:C	60:CD:40:ARG:N	2.70	0.45
63:BW:612:HIS:HA	73:1:924:A:H4'	1.97	0.45
71:BR:244:LEU:HA	71:BR:244:LEU:HD23	1.74	0.45
72:U2:6:ALA:HA	73:1:844:A:H5'	1.98	0.45
73:1:807:A:HO2'	73:1:808:A:P	2.33	0.45
6:G:227:PRO:HG2	6:G:228:TYR:CD2	2.52	0.45
7:I:18:HIS:O	29:BO:46:ARG:NH1	2.49	0.45
7:I:178:ASP:OD1	7:I:180:THR:HG23	2.16	0.45
7:I:242:HIS:CD2	7:I:244:SER:H	2.34	0.45
13:O:219:ARG:HB2	13:O:226:LEU:HB3	1.97	0.45
13:O:294:LYS:O	13:O:298:TYR:HB3	2.16	0.45
14:Q:28:ARG:HB2	18:V:141:PRO:HG2	1.93	0.45
15:R:145:LEU:HD22	15:R:356:ALA:HB1	1.99	0.45
15:R:253:ASP:OD1	15:R:253:ASP:N	2.40	0.45
20:BA:104:LEU:HD23	20:BA:104:LEU:HA	1.85	0.45
21:CA:216:ARG:HH11	21:CA:219:ASN:HD22	1.64	0.45
29:BO:139:ARG:HH21	29:BO:143:LEU:HD23	1.82	0.45
46:BH:53:PRO:HD2	46:BH:114:GLU:OE1	2.17	0.45
46:BH:74:LEU:HD13	46:BH:106:VAL:HG12	1.98	0.45
52:BM:17:ARG:HD2	52:BM:17:ARG:HA	1.79	0.45
58:BZ:363:PRO:HG3	58:BZ:392:HIS:ND1	2.31	0.45
61:BT:284:ALA:O	61:BT:289:LEU:HB2	2.17	0.45
61:BT:304:CYS:HA	61:BT:307:SER:HB3	1.97	0.45
61:BT:340:THR:OG1	61:BT:341:LEU:N	2.49	0.45
62:BU:268:GLU:HG3	62:BU:269:ILE:N	2.32	0.45
63:BW:613:GLN:H	63:BW:613:GLN:HG2	1.47	0.45
73:1:551:A:H2'	73:1:552:A:O4'	2.16	0.45
76:R5:2:U:H2'	76:R5:3:U:H6	1.78	0.45
77:U8:45:ALA:O	77:U8:46:ALA:C	2.55	0.45
1:A:237:VAL:HG11	1:A:332:PHE:CD2	2.52	0.45
8:J:50:GLU:O	8:J:53:ILE:HG22	2.16	0.45
11:M:39:LYS:HE3	73:1:521:U:H5"	1.98	0.45
12:N:98:ARG:HB3	12:N:98:ARG:NH1	2.32	0.45
15:R:353:ILE:HG12	15:R:353:ILE:H	1.71	0.45
16:S:351:HIS:HB3	73:1:358:A:N6	2.32	0.45
17:T:60:CYS:SG	17:T:63:CYS:N	2.71	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Z:52:TRP:HB2	19:Z:57:ALA:HB2	1.98	0.45
24:CB:89:GLU:HG3	24:CB:90:GLY:N	2.31	0.45
24:CB:114:LYS:HD3	73:1:1133:U:H4'	1.97	0.45
25:BK:595:LEU:O	25:BK:597:ASP:N	2.50	0.45
26:BQ:131:PHE:HE1	26:BQ:151:VAL:HG23	1.80	0.45
27:BN:121:PHE:CE2	27:BN:128:VAL:HG11	2.52	0.45
29:BO:106:PHE:CG	29:BO:107:LYS:N	2.84	0.45
52:BM:212:GLU:OE1	52:BM:216:GLN:NE2	2.50	0.45
52:BM:292:GLY:O	52:BM:293:LEU:HD23	2.17	0.45
57:BX:277:ALA:CB	57:BX:324:GLN:HB2	2.46	0.45
57:BX:341:SER:O	57:BX:344:ARG:HG2	2.17	0.45
60:CD:71:LEU:HD23	60:CD:118:LEU:HD23	1.98	0.45
60:CD:94:GLU:HA	60:CD:97:VAL:HG12	1.99	0.45
61:BT:250:ALA:O	61:BT:332:ILE:HG12	2.15	0.45
61:BT:307:SER:HA	61:BT:322:ARG:NE	2.31	0.45
62:BU:456:GLU:H	62:BU:490:LYS:NZ	2.13	0.45
71:BR:277:ARG:C	71:BR:279:GLN:H	2.20	0.45
77:U8:2:ALA:O	77:U8:3:ALA:C	2.54	0.45
1:A:121:GLY:HA2	1:A:217:ASP:HB2	1.97	0.45
3:C:93:HIS:ND1	3:C:93:HIS:O	2.50	0.45
4:E:20:GLU:HG3	4:E:23:SER:HB2	1.99	0.45
4:E:172:PRO:HB3	4:E:228:LEU:HD23	1.99	0.45
6:G:28:VAL:HG21	16:S:324:ILE:HG12	1.97	0.45
6:G:319:HIS:H	6:G:319:HIS:CD2	2.33	0.45
7:I:178:ASP:OD1	7:I:179:TYR:N	2.50	0.45
8:J:47:HIS:HB3	8:J:52:ILE:HG13	1.98	0.45
12:N:99:SER:O	12:N:99:SER:OG	2.25	0.45
13:O:124:TYR:HA	13:O:129:TYR:CG	2.52	0.45
19:Z:159:LEU:HD12	19:Z:160:GLN:H	1.82	0.45
21:CA:119:ASP:OD1	21:CA:130:SER:HB2	2.16	0.45
21:CA:241:VAL:HG23	21:CA:242:ALA:H	1.81	0.45
21:CA:563:VAL:O	21:CA:564:SER:OG	2.31	0.45
24:CB:146:GLU:HG3	24:CB:147:ARG:HB2	1.98	0.45
25:BK:233:ILE:HG21	25:BK:301:LEU:HD11	1.98	0.45
25:BK:750:LYS:HE2	25:BK:802:HIS:CD2	2.52	0.45
26:BQ:142:LEU:HA	56:BS:309:PRO:HA	1.98	0.45
57:BY:188:ASN:HD22	57:BY:265:VAL:HG21	1.81	0.45
57:BY:264:ILE:O	57:BY:264:ILE:HG22	2.15	0.45
58:BZ:51:LYS:HE2	58:BZ:51:LYS:HA	1.98	0.45
61:BT:102:LEU:HD21	61:BT:149:PHE:HB3	1.98	0.45
64:BV:288:LEU:HD21	64:BV:293:VAL:HG11	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:U6:50:ALA:H	66:U6:54:ALA:HA	1.82	0.45
73:1:160:U:C4	73:1:164:U:H4'	2.51	0.45
73:1:213:U:H2'	73:1:214:U:O4'	2.17	0.45
73:1:508:G:H4'	73:1:509:U:OP2	2.15	0.45
73:1:1089:U:H2'	73:1:1090:G:C2	2.52	0.45
73:1:1115:A:OP2	73:1:1115:A:H8	1.99	0.45
77:U8:30:ALA:O	77:U8:31:ALA:HB2	2.16	0.45
3:C:142:ASN:HD22	3:C:145:ARG:HE	1.64	0.45
7:I:41:SER:HA	7:I:45:MET:HE2	1.99	0.45
8:J:59:CYS:SG	8:J:70:LEU:HB3	2.57	0.45
10:L:133:LYS:H	10:L:149:ASN:HD21	1.65	0.45
12:N:194:ARG:H	12:N:224:GLU:HB3	1.81	0.45
16:S:278:ARG:HD2	16:S:278:ARG:HA	1.72	0.45
16:S:330:PHE:HD1	39:BP:51:ILE:HG23	1.82	0.45
18:V:104:ARG:NH2	73:1:184:G:O2'	2.50	0.45
21:CA:484:HIS:O	21:CA:489:LEU:HA	2.17	0.45
21:CA:532:LYS:HE2	21:CA:554:ARG:H	1.81	0.45
22:UA:156:ALA:HA	22:UA:159:ALA:HB3	1.98	0.45
23:BB:33:ARG:HD2	25:BK:333:ASP:HB3	1.98	0.45
24:CB:147:ARG:HD2	24:CB:169:ARG:HH12	1.82	0.45
24:CB:172:LYS:HA	24:CB:172:LYS:HD2	1.76	0.45
26:BQ:184:ARG:NH2	26:BQ:188:ARG:HH22	2.10	0.45
26:BQ:442:LEU:C	73:1:593:U:H3	2.20	0.45
52:BM:124:TYR:HD1	52:BM:282:ARG:HG3	1.81	0.45
56:BS:296:GLY:C	56:BS:298:GLY:H	2.20	0.45
57:BY:206:LEU:HD22	57:BY:217:ILE:HG21	1.99	0.45
58:BZ:197:THR:HA	58:BZ:200:LEU:HG	1.99	0.45
61:BT:197:ARG:HH12	62:BU:462:LYS:HZ3	1.65	0.45
73:1:71:A:H2'	73:1:72:U:C4'	2.42	0.45
73:1:165:G:H4'	73:1:166:U:C5'	2.41	0.45
73:1:878:G:H8	73:1:878:G:O5'	2.00	0.45
73:1:972:U:O2	73:1:972:U:H2'	2.16	0.45
1:A:40:SER:HB3	23:BB:75:VAL:HG22	1.98	0.45
3:C:105:ALA:HB2	73:1:911:U:H1'	1.98	0.45
4:E:19:ILE:HD12	4:E:19:ILE:HA	1.83	0.45
9:K:33:LYS:N	73:1:173:U:OP1	2.47	0.45
15:R:153:ARG:NH2	15:R:354:ASP:OD2	2.43	0.45
20:BA:83:LEU:O	20:BA:87:ILE:HG23	2.17	0.45
21:CA:539:GLN:HE22	63:BW:190:ARG:HH12	1.65	0.45
24:CB:148:LYS:HZ1	29:BO:165:ARG:HB2	1.82	0.45
25:BK:485:LEU:HG	25:BK:486:THR:N	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BK:613:ILE:HB	25:BK:621:VAL:HG22	1.99	0.45
25:BK:661:ARG:HB3	25:BK:667:ASP:OD2	2.17	0.45
25:BK:836:PHE:CZ	25:BK:844:ARG:HD3	2.52	0.45
26:BQ:85:GLU:HA	26:BQ:88:GLN:HE22	1.82	0.45
26:BQ:115:ARG:NH2	26:BQ:116:GLU:O	2.50	0.45
26:BQ:390:LEU:O	26:BQ:392:GLY:N	2.50	0.45
27:BN:291:LEU:HD23	27:BN:291:LEU:HA	1.78	0.45
52:BM:128:LEU:HD13	52:BM:278:LEU:HG	1.99	0.45
57:BY:271:LEU:HD12	57:BY:271:LEU:HA	1.87	0.45
58:BZ:114:PHE:CG	58:BZ:114:PHE:O	2.69	0.45
60:CD:89:ARG:HA	60:CD:92:ARG:HD2	1.98	0.45
69:U4:26:ALA:HB3	69:U4:107:ALA:HB1	1.98	0.45
71:BR:125:THR:OG1	71:BR:126:ASP:N	2.49	0.45
73:1:278:C:H2'	73:1:279:U:C6	2.51	0.45
73:1:841:A:N6	73:1:854:A:H61	2.14	0.45
1:A:91:GLU:O	1:A:95:ASP:HB2	2.16	0.45
1:A:311:TYR:CZ	1:A:372:GLY:HA2	2.51	0.45
11:M:12:LEU:HD13	73:1:511:A:C8	2.52	0.45
11:M:124:LYS:HG3	71:BR:102:TYR:OH	2.16	0.45
14:Q:113:THR:HG22	14:Q:163:ARG:HG3	1.98	0.45
15:R:353:ILE:HG12	15:R:356:ALA:CB	2.45	0.45
16:S:265:HIS:HB3	16:S:267:PHE:CD2	2.52	0.45
21:CA:100:LYS:H	21:CA:538:LEU:HD11	1.82	0.45
21:CA:407:SER:O	21:CA:411:LEU:HD13	2.17	0.45
25:BK:847:ALA:HB3	25:BK:853:GLY:HA2	1.99	0.45
26:BQ:94:PRO:CB	56:BS:310:LEU:HG	2.44	0.45
27:BN:93:VAL:HG12	27:BN:95:SER:H	1.80	0.45
39:BP:9:ARG:CZ	73:1:411:A:N1	2.75	0.45
43:BG:1268:GLN:HB3	43:BG:1270:PHE:CE1	2.51	0.45
52:BM:141:ARG:HH21	52:BM:272:LYS:HG2	1.81	0.45
52:BM:200:GLY:O	52:BM:209:ALA:N	2.49	0.45
52:BM:361:LEU:HA	52:BM:364:GLN:HE21	1.82	0.45
56:BS:292:GLN:O	56:BS:296:GLY:N	2.47	0.45
57:BY:183:ASN:HB2	57:BY:265:VAL:HG11	1.99	0.45
57:BY:193:LEU:HA	57:BY:298:SER:O	2.16	0.45
58:BZ:80:TRP:HB2	58:BZ:85:VAL:CG2	2.47	0.45
62:BU:191:HIS:CG	69:U4:36:ALA:HB1	2.51	0.45
63:BW:163:LYS:NZ	79:BW:801:ATP:O1G	2.49	0.45
64:BV:99:GLU:HA	64:BV:146:LEU:O	2.16	0.45
73:1:73:G:O2'	73:1:75:A:N6	2.50	0.45
73:1:577:A:H2'	73:1:577:A:N3	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:1:827:A:H5'	73:1:828:A:OP1	2.17	0.45
2:B:218:ARG:HE	2:B:254:SER:HB2	1.82	0.45
2:B:236:MET:HG2	2:B:238:TRP:CZ2	2.51	0.45
2:B:321:LEU:HD11	6:G:97:LEU:HD11	1.99	0.45
4:E:145:TYR:HB2	4:E:189:ILE:HD13	1.98	0.45
4:E:220:VAL:O	4:E:220:VAL:HG22	2.16	0.45
5:F:16:LEU:HD11	5:F:145:TRP:CZ3	2.52	0.45
9:K:137:ARG:NH1	9:K:138:PRO:HD2	2.32	0.45
12:N:53:VAL:O	12:N:53:VAL:HG22	2.17	0.45
19:Z:58:ASP:OD1	19:Z:58:ASP:N	2.49	0.45
25:BK:746:VAL:HG13	25:BK:746:VAL:O	2.17	0.45
26:BQ:407:LYS:HB2	26:BQ:409:LYS:HZ2	1.82	0.45
46:BH:76:TYR:HB2	46:BH:192:CYS:SG	2.56	0.45
58:BZ:63:ASP:OD1	65:U7:30:UNK:N	2.50	0.45
58:BZ:255:ALA:HA	58:BZ:335:LEU:HA	1.98	0.45
58:BZ:258:LYS:HB3	58:BZ:306:GLU:OE1	2.17	0.45
73:1:96:U:H3'	73:1:97:U:C5'	2.46	0.45
73:1:285:U:H3'	73:1:286:G:N2	2.32	0.45
73:1:887:A:C2	73:1:980:G:N1	2.85	0.45
77:U8:40:ALA:O	77:U8:41:ALA:C	2.54	0.45
1:A:261:TYR:CG	1:A:261:TYR:O	2.70	0.44
2:B:255:ARG:NH1	15:R:228:GLU:O	2.38	0.44
4:E:214:SER:HA	4:E:217:HIS:CG	2.52	0.44
5:F:65:ASP:OD2	5:F:69:ARG:NH1	2.44	0.44
19:Z:81:ARG:HH22	73:1:67:U:P	2.39	0.44
23:BB:42:LYS:CG	23:BB:55:GLN:HG3	2.47	0.44
24:CB:80:PHE:CZ	24:CB:131:VAL:HG21	2.52	0.44
25:BK:287:LEU:HD13	25:BK:332:LEU:HG	1.99	0.44
25:BK:384:MET:HG3	25:BK:404:LEU:HD12	1.98	0.44
25:BK:560:VAL:O	25:BK:564:ARG:HG2	2.17	0.44
26:BQ:22:HIS:O	26:BQ:24:LYS:NZ	2.38	0.44
27:BN:132:LYS:HE2	27:BN:133:ARG:CZ	2.47	0.44
29:BO:75:LYS:HB2	29:BO:103:VAL:HA	1.99	0.44
57:BY:136:PRO:HB2	57:BY:138:PHE:CD2	2.52	0.44
57:BX:115:GLU:O	57:BX:119:ARG:N	2.44	0.44
62:BU:229:ILE:CD1	62:BU:276:ARG:HD3	2.46	0.44
62:BU:274:LYS:CB	62:BU:395:MET:HE2	2.47	0.44
63:BW:200:LYS:HE3	63:BW:225:THR:HB	1.98	0.44
64:BV:198:ALA:H	64:BV:231:ARG:HB3	1.82	0.44
73:1:250:A:C5	73:1:251:U:H1'	2.52	0.44
73:1:563:U:O2'	73:1:564:U:O4'	2.24	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:23:SER:N	4:E:24:ASN:OD1	2.50	0.44
4:E:226:GLU:OE1	4:E:226:GLU:N	2.50	0.44
7:I:186:PHE:HB3	26:BQ:417:PRO:O	2.17	0.44
9:K:67:ASP:HB2	9:K:77:TRP:HB2	1.98	0.44
10:L:87:LYS:HB2	10:L:87:LYS:HE3	1.73	0.44
11:M:71:TRP:HA	11:M:76:ASN:HD22	1.83	0.44
12:N:119:TRP:CZ3	12:N:121:TRP:HA	2.53	0.44
12:N:232:VAL:O	12:N:232:VAL:HG23	2.16	0.44
14:Q:29:GLY:O	14:Q:30:LEU:HD13	2.16	0.44
15:R:177:LEU:HD23	15:R:177:LEU:HA	1.78	0.44
24:CB:84:MET:HE2	24:CB:132:VAL:HG13	1.99	0.44
26:BQ:256:TYR:CE1	26:BQ:289:LEU:HD22	2.52	0.44
26:BQ:260:PHE:CE1	26:BQ:287:ALA:HB2	2.53	0.44
46:BH:128:VAL:HG22	46:BH:144:PHE:CD2	2.52	0.44
52:BM:135:ALA:HA	52:BM:136:CYS:HA	1.56	0.44
57:BY:190:VAL:HB	57:BY:295:PHE:HE1	1.81	0.44
58:BZ:153:PHE:HZ	58:BZ:198:ASP:HB3	1.81	0.44
61:BT:65:LEU:O	61:BT:69:VAL:HG23	2.17	0.44
61:BT:106:ASN:OD1	61:BT:107:LYS:N	2.49	0.44
62:BU:314:VAL:HG11	62:BU:398:VAL:HG13	1.99	0.44
63:BW:635:ASN:HB2	63:BW:641:MET:HB2	1.98	0.44
73:1:217:A:H2'	73:1:218:A:O4'	2.17	0.44
73:1:845:A:N6	73:1:851:U:N3	2.61	0.44
73:1:847:A:H8	73:1:849:U:C4	2.35	0.44
1:A:246:TYR:HB2	1:A:294:THR:O	2.16	0.44
2:B:166:ASP:OD1	2:B:168:LYS:HG2	2.17	0.44
3:C:23:THR:OG1	3:C:66:GLU:OE2	2.25	0.44
3:C:181:THR:HG22	3:C:182:PRO:HD2	2.00	0.44
4:E:91:LYS:HB3	4:E:92:PRO:HD3	1.99	0.44
7:I:42:GLU:O	7:I:44:LEU:N	2.50	0.44
7:I:154:ARG:O	13:O:89:HIS:NE2	2.50	0.44
8:J:49:LYS:HA	8:J:52:ILE:CD1	2.44	0.44
11:M:17:LYS:HE2	11:M:33:ALA:O	2.18	0.44
11:M:98:ALA:O	11:M:108:GLN:HA	2.17	0.44
11:M:116:GLU:O	11:M:119:GLU:HG2	2.16	0.44
12:N:60:TRP:C	73:1:99:A:OP1	2.56	0.44
12:N:129:THR:HG21	15:R:389:GLN:OE1	2.17	0.44
13:O:135:ILE:HG21	13:O:213:LEU:O	2.17	0.44
18:V:71:ILE:CD1	73:1:970:U:H5'	2.48	0.44
21:CA:189:PRO:HA	21:CA:190:PRO:HD2	1.91	0.44
21:CA:559:SER:HB2	21:CA:561:PHE:CD2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:561:PHE:C	21:CA:561:PHE:CD1	2.90	0.44
23:BB:22:PRO:HG3	25:BK:324:HIS:HE1	1.81	0.44
24:CB:151:VAL:HG11	24:CB:169:ARG:HD3	1.99	0.44
26:BQ:169:PHE:CD2	71:BR:278:ARG:HB2	2.52	0.44
43:BG:1301:VAL:O	43:BG:1319:SER:OG	2.34	0.44
52:BM:141:ARG:HD2	52:BM:271:ARG:HB3	1.99	0.44
52:BM:339:ARG:CZ	52:BM:355:ALA:HB1	2.48	0.44
57:BY:266:GLU:OE2	57:BY:266:GLU:HA	2.18	0.44
58:BZ:96:ARG:HD3	58:BZ:103:LYS:CB	2.47	0.44
61:BT:55:LEU:HD12	61:BT:55:LEU:O	2.18	0.44
63:BW:137:SER:CB	63:BW:138:PRO:CD	2.93	0.44
72:U2:1:ALA:CB	77:U8:41:ALA:CB	2.94	0.44
73:1:243:G:H8	73:1:243:G:O5'	2.00	0.44
73:1:917:U:H1'	73:1:918:A:C8	2.52	0.44
4:E:28:ASP:O	4:E:32:GLU:HG3	2.17	0.44
7:I:250:TRP:CD1	7:I:258:TRP:HZ3	2.35	0.44
13:O:100:THR:OG1	13:O:101:TYR:N	2.50	0.44
13:O:223:THR:HB	13:O:227:GLU:H	1.82	0.44
13:O:225:GLU:HG2	13:O:227:GLU:HB3	1.98	0.44
13:O:255:LYS:HA	19:Z:154:LYS:HD2	1.99	0.44
15:R:400:PRO:HD3	73:1:62:U:H3'	1.99	0.44
21:CA:185:TYR:CE2	21:CA:236:LEU:HD11	2.53	0.44
21:CA:425:ARG:HD2	21:CA:453:LEU:CB	2.45	0.44
23:BB:18:ARG:NH2	25:BK:312:TYR:HB3	2.33	0.44
23:BB:59:VAL:HG23	23:BB:59:VAL:O	2.18	0.44
25:BK:230:LEU:O	25:BK:232:PHE:N	2.50	0.44
26:BQ:164:LEU:HD11	26:BQ:246:PHE:CD1	2.52	0.44
27:BN:147:GLU:OE1	27:BN:147:GLU:N	2.51	0.44
50:BF:51:LYS:NZ	50:BF:87:LEU:O	2.44	0.44
52:BM:237:ARG:NH1	52:BM:336:GLN:HE22	2.16	0.44
57:BX:90:PHE:O	57:BX:94:SER:N	2.50	0.44
58:BZ:115:ASP:C	58:BZ:117:LEU:H	2.21	0.44
62:BU:290:ARG:CD	73:1:914:A:H5"	2.48	0.44
63:BW:142:THR:HG21	63:BW:337:PHE:HZ	1.82	0.44
63:BW:167:TYR:CD2	63:BW:313:VAL:HG11	2.53	0.44
69:U4:47:ALA:HB2	69:U4:121:ALA:HB1	2.00	0.44
71:BR:87:LEU:HD12	71:BR:89:GLY:H	1.82	0.44
73:1:109:U:O2'	73:1:110:U:O5'	2.20	0.44
73:1:278:C:O2'	73:1:279:U:OP1	2.35	0.44
73:1:473:U:H2'	73:1:474:U:C6	2.52	0.44
1:A:145:ASP:OD1	1:A:149:ASN:HB2	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:142:ASN:O	3:C:146:GLU:N	2.45	0.44
9:K:146:PRO:O	9:K:149:ARG:HG2	2.17	0.44
15:R:154:LEU:HB3	15:R:158:LEU:HD21	1.99	0.44
21:CA:114:THR:HG22	21:CA:135:VAL:HG23	1.99	0.44
24:CB:70:CYS:HB2	24:CB:84:MET:HG2	1.99	0.44
25:BK:568:HIS:HB3	25:BK:704:TYR:CZ	2.52	0.44
26:BQ:95:TYR:HB2	56:BS:310:LEU:HD21	2.00	0.44
29:BO:73:ASN:OD1	29:BO:120:VAL:HG22	2.16	0.44
29:BO:75:LYS:C	29:BO:77:VAL:H	2.20	0.44
57:BY:207:ARG:HE	57:BY:236:ARG:HH12	1.66	0.44
57:BX:134:PRO:O	57:BX:135:ILE:HD13	2.17	0.44
57:BX:183:ASN:ND2	57:BX:271:LEU:HG	2.33	0.44
58:BZ:287:PRO:HD2	58:BZ:291:SER:OG	2.17	0.44
63:BW:654:ASN:ND2	73:1:991:A:OP1	2.50	0.44
73:1:472:A:H2'	73:1:473:U:O4'	2.17	0.44
73:1:865:A:C6	73:1:1106:G:N2	2.85	0.44
77:U8:34:ALA:O	77:U8:35:ALA:CB	2.64	0.44
2:B:154:TRP:HB3	26:BQ:28:LEU:HD11	2.00	0.44
4:E:118:PRO:HA	4:E:119:PRO:HD3	1.91	0.44
4:E:210:TYR:O	4:E:214:SER:OG	2.27	0.44
5:F:9:GLU:HG3	25:BK:771:GLU:HA	2.00	0.44
5:F:34:MET:HE3	5:F:34:MET:HB2	1.77	0.44
5:F:108:ASN:O	5:F:112:VAL:HG13	2.17	0.44
6:G:57:PHE:HD2	39:BP:28:THR:HG23	1.82	0.44
6:G:174:ARG:HG2	6:G:219:LEU:HD11	2.00	0.44
8:J:53:ILE:HD11	8:J:124:TYR:CE1	2.52	0.44
12:N:47:ARG:HB3	73:1:90:A:OP1	2.18	0.44
12:N:63:ARG:HH21	12:N:63:ARG:HG3	1.83	0.44
13:O:175:ASP:N	13:O:175:ASP:OD1	2.50	0.44
13:O:320:ARG:NH1	13:O:324:LYS:HD3	2.29	0.44
15:R:449:PRO:HG2	56:BS:374:GLN:O	2.18	0.44
18:V:38:GLN:HE22	73:1:100:A:N6	2.15	0.44
21:CA:155:LEU:HA	21:CA:230:TYR:H	1.82	0.44
21:CA:274:PHE:CD2	21:CA:599:ALA:HA	2.53	0.44
24:CB:151:VAL:HG13	60:CD:113:LYS:HG2	1.98	0.44
25:BK:286:PHE:O	25:BK:290:VAL:HG12	2.18	0.44
26:BQ:200:GLY:C	26:BQ:202:ASN:H	2.20	0.44
26:BQ:364:ALA:HB1	26:BQ:368:ALA:HB2	1.99	0.44
27:BN:165:ARG:HD3	27:BN:165:ARG:H	1.83	0.44
29:BO:139:ARG:HH12	29:BO:190:VAL:HG13	1.81	0.44
52:BM:88:ASP:O	52:BM:92:THR:HG23	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:354:PHE:CE1	58:BZ:362:VAL:HG22	2.52	0.44
61:BT:101:ARG:HB2	61:BT:128:ALA:HB1	2.00	0.44
61:BT:178:THR:O	61:BT:182:SER:OG	2.30	0.44
61:BT:212:THR:OG1	61:BT:213:ARG:N	2.51	0.44
1:A:250:GLY:O	1:A:254:ARG:HB2	2.18	0.44
3:C:217:LEU:HD21	52:BM:1:MET:H3	1.83	0.44
4:E:72:PHE:CD1	4:E:77:LEU:HD23	2.52	0.44
5:F:46:MET:HG3	25:BK:772:HIS:CD2	2.52	0.44
6:G:310:HIS:HD2	6:G:311:PRO:HD2	1.83	0.44
7:I:61:ARG:H	7:I:65:HIS:CD2	2.35	0.44
7:I:95:ILE:HG12	73:1:1170:G:C8	2.52	0.44
14:Q:42:TRP:O	14:Q:45:TRP:HD1	2.00	0.44
19:Z:99:HIS:HB2	19:Z:105:LEU:HD11	1.99	0.44
21:CA:73:LEU:HD22	21:CA:265:ARG:HG3	1.99	0.44
21:CA:140:GLU:HA	70:U5:16:ALA:O	2.18	0.44
25:BK:663:ARG:NH1	26:BQ:121:TYR:OH	2.46	0.44
26:BQ:406:PHE:HD2	26:BQ:411:TYR:HE2	1.66	0.44
27:BN:238:ARG:O	27:BN:241:THR:OG1	2.24	0.44
29:BO:67:HIS:ND1	29:BO:77:VAL:HA	2.32	0.44
52:BM:253:CYS:HB3	52:BM:259:LYS:HG2	1.99	0.44
57:BY:192:VAL:O	57:BY:298:SER:N	2.39	0.44
57:BY:197:GLU:HB3	57:BY:202:LEU:HD11	2.00	0.44
57:BX:315:ALA:N	57:BX:316:PRO:HD2	2.33	0.44
58:BZ:159:THR:HA	58:BZ:162:MET:HB3	2.00	0.44
58:BZ:345:SER:HB3	61:BT:260:SER:HA	2.00	0.44
61:BT:307:SER:OG	61:BT:308:GLY:N	2.51	0.44
62:BU:255:ARG:NH2	62:BU:265:ASP:HB3	2.29	0.44
70:U5:78:ALA:C	70:U5:80:ALA:H	2.21	0.44
4:E:51:HIS:O	4:E:106:VAL:HG22	2.18	0.44
8:J:128:ARG:NH2	27:BN:75:TYR:O	2.51	0.44
12:N:155:LEU:HD22	12:N:155:LEU:HA	1.85	0.44
15:R:340:ASP:OD1	15:R:343:ALA:HB3	2.18	0.44
16:S:330:PHE:CD1	39:BP:51:ILE:HG23	2.53	0.44
19:Z:112:PRO:HA	19:Z:113:PRO:HD2	1.92	0.44
20:BA:68:VAL:HG23	20:BA:114:PHE:O	2.17	0.44
21:CA:457:CYS:HB2	21:CA:461:PRO:HB2	1.98	0.44
25:BK:265:PHE:HB3	25:BK:273:LEU:HD12	2.00	0.44
25:BK:460:ALA:N	25:BK:461:PRO:HD3	2.32	0.44
52:BM:229:LYS:HE3	52:BM:321:LYS:O	2.17	0.44
58:BZ:280:VAL:C	58:BZ:282:VAL:H	2.20	0.44
59:CC:140:VAL:O	59:CC:143:ILE:HB	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:BT:84:PRO:HA	61:BT:105:PHE:HE2	1.83	0.44
62:BU:274:LYS:HG3	62:BU:395:MET:HE3	1.99	0.44
62:BU:383:VAL:HG13	62:BU:391:LEU:CD1	2.48	0.44
78:BU:501:GTP:N9	78:BU:501:GTP:H5'	2.33	0.44
73:1:559:U:OP1	73:1:559:U:H4'	2.16	0.44
73:1:809:A:H3'	73:1:809:A:N3	2.33	0.44
73:1:1096:U:O4'	73:1:1096:U:O2	2.31	0.44
77:U8:45:ALA:C	77:U8:47:ALA:N	2.70	0.44
2:B:254:SER:HB3	2:B:257:THR:HG23	2.00	0.44
2:B:299:ARG:HG3	73:1:87:A:C6	2.53	0.44
4:E:170:TYR:HA	4:E:171:PRO:HA	1.84	0.44
6:G:54:ARG:HD3	39:BP:31:SER:OG	2.18	0.44
6:G:79:TRP:CE3	6:G:90:ILE:HD12	2.53	0.44
7:I:56:PRO:HG3	7:I:91:PRO:HB2	1.99	0.44
17:T:72:TRP:CD2	17:T:82:LYS:HD2	2.53	0.44
21:CA:143:ARG:HA	21:CA:143:ARG:HD3	1.79	0.44
21:CA:470:HIS:N	21:CA:470:HIS:CD2	2.85	0.44
26:BQ:105:LEU:HD23	26:BQ:109:LEU:HG	2.00	0.44
27:BN:93:VAL:HB	27:BN:96:VAL:HG23	2.00	0.44
27:BN:165:ARG:HH12	73:1:1173:U:H3'	1.82	0.44
46:BH:35:ALA:HA	46:BH:187:ALA:HA	1.98	0.44
46:BH:145:ASN:HD21	46:BH:152:LEU:HD12	1.83	0.44
57:BY:131:CYS:SG	57:BY:152:ARG:NH1	2.91	0.44
58:BZ:210:THR:O	58:BZ:210:THR:CG2	2.66	0.44
61:BT:93:ARG:HD3	61:BT:349:LEU:HD21	2.00	0.44
61:BT:200:ARG:HH11	73:1:983:A:C5'	2.27	0.44
62:BU:428:PRO:HD2	62:BU:431:VAL:HG12	2.00	0.44
63:BW:320:LYS:O	63:BW:324:ILE:HG12	2.17	0.44
64:BV:194:MET:HB3	64:BV:226:LEU:HD12	1.99	0.44
64:BV:223:SER:OG	64:BV:224:VAL:N	2.51	0.44
66:U6:41:ALA:HB2	66:U6:68:ALA:HB1	2.00	0.44
73:1:479:A:H2'	73:1:480:A:C8	2.53	0.44
3:C:203:ILE:HG13	3:C:204:GLU:H	1.83	0.43
8:J:48:THR:O	8:J:48:THR:HG23	2.17	0.43
8:J:139:ARG:O	8:J:141:ARG:NH1	2.43	0.43
11:M:145:LYS:NZ	11:M:149:GLU:OE1	2.47	0.43
12:N:129:THR:HG22	12:N:132:ARG:NH1	2.33	0.43
14:Q:50:ASN:O	14:Q:53:ALA:N	2.51	0.43
15:R:89:GLU:HA	15:R:92:GLU:HG2	1.99	0.43
15:R:208:TRP:CD2	15:R:211:SER:HB2	2.53	0.43
15:R:373:ALA:HB1	15:R:379:TYR:CD1	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:UA:33:ALA:O	73:1:256:A:N6	2.51	0.43
24:CB:169:ARG:NE	60:CD:110:MET:HG2	2.33	0.43
25:BK:742:LEU:HD11	25:BK:751:VAL:CG1	2.48	0.43
29:BO:87:ARG:C	29:BO:92:ARG:HG3	2.38	0.43
57:BY:221:ASN:HB2	57:BY:222:HIS:HA	1.99	0.43
57:BX:191:LEU:HA	57:BX:304:GLY:HA3	1.99	0.43
58:BZ:328:ALA:O	58:BZ:332:ARG:HA	2.18	0.43
62:BU:219:ILE:O	62:BU:224:CYS:N	2.42	0.43
62:BU:409:VAL:HG21	62:BU:476:PHE:CD2	2.53	0.43
62:BU:473:THR:HB	62:BU:484:ARG:HH12	1.83	0.43
64:BV:161:VAL:HG23	73:1:280:A:H5'	1.99	0.43
69:U4:62:ALA:O	69:U4:66:ALA:N	2.50	0.43
2:B:67:LEU:HD11	2:B:70:LEU:HD21	2.00	0.43
4:E:51:HIS:HB2	4:E:53:TRP:NE1	2.32	0.43
7:I:111:SER:HB3	7:I:129:PHE:HZ	1.83	0.43
12:N:168:PHE:HE2	12:N:223:VAL:HG11	1.83	0.43
12:N:230:SER:OG	12:N:231:ILE:N	2.50	0.43
13:O:111:GLU:OE1	13:O:114:GLN:HG3	2.18	0.43
13:O:309:ASP:HA	13:O:312:THR:HG22	2.00	0.43
14:Q:137:ASP:O	14:Q:141:LEU:HG	2.18	0.43
15:R:454:MET:SD	56:BS:376:HIS:N	2.91	0.43
19:Z:99:HIS:CD2	19:Z:101:SER:H	2.25	0.43
21:CA:351:LEU:HD23	21:CA:351:LEU:HA	1.87	0.43
21:CA:429:ARG:HD2	21:CA:507:TYR:CD1	2.52	0.43
21:CA:517:LEU:CG	21:CA:518:GLN:H	2.31	0.43
52:BM:131:GLN:HG2	52:BM:281:GLN:HE22	1.83	0.43
52:BM:364:GLN:NE2	52:BM:365:LEU:HG	2.33	0.43
57:BY:136:PRO:HB2	57:BY:138:PHE:HD2	1.83	0.43
57:BX:184:HIS:CE1	67:U1:4:ALA:CB	3.01	0.43
58:BZ:92:GLY:N	58:BZ:94:ILE:CG2	2.79	0.43
58:BZ:269:HIS:HE1	58:BZ:285:PRO:O	2.01	0.43
63:BW:167:TYR:HB3	63:BW:313:VAL:HG11	2.01	0.43
64:BV:316:HIS:O	64:BV:320:HIS:N	2.46	0.43
67:U1:14:ALA:O	67:U1:16:ALA:N	2.52	0.43
68:U3:47:ALA:HA	68:U3:67:ALA:HB3	2.00	0.43
71:BR:181:ARG:HA	71:BR:296:TRP:HZ3	1.83	0.43
73:1:509:U:C5	73:1:517:U:N3	2.86	0.43
73:1:580:A:O2'	73:1:581:U:OP2	2.36	0.43
73:1:884:C:N4	73:1:984:U:O2'	2.50	0.43
73:1:916:G:O2'	73:1:917:U:O4'	2.34	0.43
1:A:112:TYR:HB2	66:U6:144:ALA:HB2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:140:ASN:HB3	3:C:143:VAL:CG2	2.48	0.43
4:E:219:LYS:C	4:E:221:HIS:N	2.70	0.43
5:F:4:GLN:HB2	25:BK:765:GLN:O	2.18	0.43
6:G:305:GLU:H	6:G:309:ALA:CB	2.06	0.43
6:G:329:PHE:O	6:G:333:ILE:HG22	2.18	0.43
7:I:63:PRO:CG	73:1:818:A:H4'	2.48	0.43
10:L:177:GLU:OE1	10:L:177:GLU:N	2.51	0.43
11:M:51:GLN:OE1	11:M:51:GLN:N	2.50	0.43
11:M:164:GLN:NE2	17:T:55:GLU:O	2.48	0.43
12:N:64:MET:HB3	14:Q:48:ARG:NH1	2.33	0.43
15:R:373:ALA:HB1	15:R:379:TYR:CG	2.53	0.43
17:T:73:CYS:HB2	17:T:78:CYS:HB3	1.57	0.43
21:CA:119:ASP:O	21:CA:120:THR:OG1	2.27	0.43
21:CA:470:HIS:HB2	21:CA:472:VAL:HG13	2.00	0.43
21:CA:571:MET:O	21:CA:575:ARG:N	2.50	0.43
25:BK:290:VAL:O	25:BK:292:ILE:HG23	2.18	0.43
25:BK:850:PHE:CD1	25:BK:858:ASP:HA	2.53	0.43
46:BH:120:ALA:HA	46:BH:158:VAL:HB	2.00	0.43
52:BM:79:ARG:HG2	52:BM:382:LEU:HG	2.00	0.43
56:BS:307:ALA:O	56:BS:311:PRO:HA	2.18	0.43
57:BX:202:LEU:O	57:BX:206:LEU:HD13	2.18	0.43
58:BZ:95:TYR:HD2	58:BZ:122:THR:CG2	2.31	0.43
62:BU:344:PHE:CE2	62:BU:483:LEU:HD23	2.53	0.43
63:BW:637:LYS:HA	63:BW:637:LYS:HD2	1.80	0.43
71:BR:87:LEU:HD13	71:BR:90:SER:HA	2.00	0.43
73:1:316:A:H2'	73:1:317:A:C8	2.53	0.43
77:U8:23:ALA:O	77:U8:24:ALA:HB2	2.18	0.43
2:B:243:LYS:HB3	2:B:243:LYS:HE2	1.82	0.43
3:C:113:ILE:HD13	14:Q:131:GLU:HG2	1.99	0.43
5:F:7:CYS:HB2	5:F:46:MET:HE3	1.99	0.43
6:G:104:VAL:HG21	73:1:182:A:C5	2.54	0.43
6:G:273:THR:OG1	6:G:274:PHE:N	2.50	0.43
6:G:308:TYR:H	6:G:311:PRO:HD3	1.81	0.43
7:I:121:ASP:HB2	26:BQ:440:ARG:HG2	2.00	0.43
11:M:113:MET:HB3	71:BR:144:LEU:HD22	2.00	0.43
14:Q:179:ALA:O	14:Q:182:GLU:HG2	2.18	0.43
21:CA:394:GLU:HG3	21:CA:395:GLN:OE1	2.18	0.43
21:CA:452:VAL:HG12	21:CA:511:VAL:O	2.18	0.43
21:CA:489:LEU:O	21:CA:489:LEU:CD2	2.58	0.43
25:BK:404:LEU:O	25:BK:408:LEU:N	2.51	0.43
26:BQ:202:ASN:O	26:BQ:204:SER:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BG:1336:GLN:N	43:BG:1337:PRO:HD3	2.33	0.43
46:BH:52:VAL:HG23	46:BH:52:VAL:O	2.17	0.43
52:BM:330:SER:O	52:BM:381:ASN:ND2	2.51	0.43
57:BY:111:ARG:HB2	57:BY:139:LEU:HD13	2.00	0.43
58:BZ:92:GLY:H	58:BZ:94:ILE:HG22	1.83	0.43
58:BZ:130:LEU:N	58:BZ:130:LEU:CD1	2.81	0.43
61:BT:93:ARG:NH1	61:BT:348:LEU:O	2.51	0.43
61:BT:202:PRO:HD2	61:BT:205:VAL:HG21	2.01	0.43
62:BU:236:ARG:HH12	62:BU:327:ASN:HB2	1.83	0.43
71:BR:248:THR:HA	71:BR:251:VAL:HG12	2.00	0.43
73:1:414:U:O2	73:1:414:U:H2'	2.18	0.43
1:A:299:GLU:HA	73:1:1155:A:H1'	2.00	0.43
2:B:144:ARG:NH2	12:N:75:GLU:HG2	2.31	0.43
3:C:178:ILE:HD12	3:C:179:PRO:HD2	2.00	0.43
5:F:82:LYS:O	77:U8:5:ALA:HB2	2.19	0.43
7:I:215:LYS:HE3	26:BQ:430:GLY:O	2.19	0.43
12:N:94:ASN:OD1	13:O:107:ALA:HB3	2.19	0.43
14:Q:114:LEU:H	14:Q:114:LEU:HG	1.68	0.43
15:R:411:LYS:HG3	56:BS:374:GLN:OE1	2.18	0.43
15:R:429:VAL:HA	15:R:432:GLU:HB3	2.01	0.43
16:S:385:HIS:O	16:S:389:GLN:N	2.30	0.43
25:BK:434:LEU:HA	25:BK:437:VAL:HG22	2.00	0.43
26:BQ:139:GLU:O	26:BQ:143:ASN:N	2.50	0.43
27:BN:132:LYS:HE2	27:BN:133:ARG:NH1	2.33	0.43
46:BH:62:LEU:HD23	46:BH:74:LEU:HB3	2.01	0.43
50:BF:82:ASP:HB2	50:BF:89:ARG:HD3	2.00	0.43
57:BY:84:HIS:O	57:BY:88:GLN:N	2.47	0.43
57:BX:133:LYS:O	57:BX:135:ILE:HG12	2.19	0.43
57:BX:316:PRO:C	57:BX:318:PRO:HD2	2.39	0.43
57:BX:317:VAL:HG12	57:BX:318:PRO:HD3	2.01	0.43
58:BZ:96:ARG:NE	58:BZ:103:LYS:HE2	2.33	0.43
58:BZ:106:THR:OG1	58:BZ:107:ARG:N	2.48	0.43
58:BZ:158:LYS:HE3	58:BZ:158:LYS:HB3	1.88	0.43
61:BT:220:LEU:HG	61:BT:226:VAL:HG23	2.00	0.43
62:BU:101:PHE:HA	62:BU:104:VAL:HG22	1.99	0.43
62:BU:344:PHE:CE1	62:BU:378:SER:HB3	2.52	0.43
63:BW:297:ARG:HH12	63:BW:303:LEU:HB2	1.83	0.43
64:BV:174:ILE:HD12	64:BV:174:ILE:HA	1.82	0.43
73:1:171:U:C5'	73:1:833:A:H5"	2.49	0.43
73:1:908:G:H8	73:1:908:G:OP2	2.00	0.43
75:R2:129:U:H6	75:R2:129:U:H2'	1.71	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:188:MET:HE2	2:B:188:MET:HB2	1.93	0.43
4:E:86:PHE:CE1	4:E:90:THR:HG21	2.53	0.43
6:G:158:SER:O	6:G:160:GLY:N	2.51	0.43
6:G:310:HIS:CD2	6:G:310:HIS:N	2.83	0.43
7:I:11:ARG:HB2	7:I:12:PRO:HD3	2.01	0.43
11:M:106:MET:HE2	11:M:106:MET:HB2	1.74	0.43
11:M:117:ARG:O	11:M:121:GLU:N	2.36	0.43
15:R:36:LEU:HD23	15:R:36:LEU:HA	1.83	0.43
17:T:80:GLN:HB3	25:BK:839:TYR:CE2	2.53	0.43
22:UA:28:ALA:O	22:UA:32:ALA:N	2.36	0.43
25:BK:614:VAL:N	25:BK:621:VAL:HG22	2.33	0.43
27:BN:187:ARG:HD3	27:BN:191:ARG:HG2	1.95	0.43
52:BM:283:ALA:O	52:BM:287:TRP:HD1	2.02	0.43
52:BM:293:LEU:HD21	52:BM:303:PRO:HB3	2.00	0.43
52:BM:330:SER:HB2	52:BM:331:PRO:HD3	1.99	0.43
57:BY:93:LEU:HD12	57:BY:99:TYR:CD2	2.53	0.43
57:BX:195:ASN:HB2	57:BX:307:PHE:HB3	2.01	0.43
58:BZ:103:LYS:HE3	58:BZ:103:LYS:HB3	1.84	0.43
58:BZ:358:ALA:O	58:BZ:359:ARG:C	2.56	0.43
62:BU:71:CYS:SG	62:BU:100:ALA:HA	2.58	0.43
62:BU:211:GLY:C	62:BU:213:GLU:H	2.21	0.43
73:1:35:U:C5	73:1:36:U:H1'	2.54	0.43
73:1:989:A:H8	73:1:989:A:OP2	2.01	0.43
73:1:1123:A:H1'	73:1:1124:U:OP2	2.18	0.43
1:A:241:PHE:CD2	1:A:324:ALA:HB2	2.54	0.43
2:B:85:THR:H	2:B:85:THR:HG1	1.56	0.43
3:C:197:GLU:O	3:C:200:LYS:HB2	2.18	0.43
4:E:22:GLY:C	4:E:24:ASN:OD1	2.57	0.43
7:I:223:HIS:CE1	50:BF:87:LEU:HD13	2.53	0.43
9:K:20:LEU:CD1	71:BR:64:THR:HB	2.48	0.43
10:L:145:ASP:OD1	10:L:146:ARG:N	2.52	0.43
11:M:12:LEU:HB3	73:1:511:A:C4	2.54	0.43
11:M:85:LYS:HB3	11:M:85:LYS:HE3	1.89	0.43
11:M:96:ARG:HD3	11:M:111:TRP:CD2	2.54	0.43
12:N:233:PHE:HA	15:R:22:LEU:HD11	2.00	0.43
13:O:292:LEU:CB	15:R:124:TYR:HB2	2.47	0.43
15:R:146:SER:OG	15:R:147:ARG:N	2.51	0.43
16:S:257:VAL:N	16:S:313:LEU:O	2.52	0.43
24:CB:52:ASP:OD1	24:CB:52:ASP:N	2.50	0.43
25:BK:331:LEU:O	25:BK:334:PHE:N	2.49	0.43
25:BK:626:THR:HG23	25:BK:715:PRO:HG3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BQ:163:ARG:NH1	26:BQ:248:GLU:OE2	2.52	0.43
26:BQ:184:ARG:HE	26:BQ:188:ARG:NH2	2.17	0.43
56:BS:299:VAL:CG1	56:BS:301:ARG:HE	2.32	0.43
57:BX:117:LEU:HD22	57:BX:240:PHE:HD2	1.84	0.43
57:BX:202:LEU:HD23	57:BX:224:ALA:HB3	2.00	0.43
61:BT:77:GLU:CD	61:BT:79:ARG:HG3	2.39	0.43
61:BT:219:PRO:HA	61:BT:227:VAL:HG23	2.00	0.43
62:BU:59:ASN:O	62:BU:61:VAL:HG13	2.19	0.43
62:BU:290:ARG:HA	62:BU:290:ARG:HD2	1.86	0.43
62:BU:294:ASP:C	62:BU:296:GLU:H	2.21	0.43
71:BR:145:LEU:HG	71:BR:149:LEU:HD23	2.00	0.43
73:1:58:A:N6	73:1:112:U:O4	2.51	0.43
7:I:43:PRO:O	7:I:44:LEU:HD13	2.19	0.43
7:I:238:ARG:NH2	13:O:88:ARG:O	2.52	0.43
11:M:130:PRO:HG3	26:BQ:124:ILE:HD13	2.00	0.43
14:Q:108:ILE:HG13	14:Q:119:GLN:HG3	2.00	0.43
15:R:261:ALA:HA	15:R:264:LEU:CG	2.49	0.43
18:V:19:ARG:HA	18:V:19:ARG:NE	2.34	0.43
21:CA:517:LEU:HD12	21:CA:588:PHE:HB3	1.99	0.43
25:BK:325:VAL:HG13	25:BK:327:THR:HG23	2.00	0.43
25:BK:450:LEU:HD13	25:BK:493:PHE:HZ	1.83	0.43
26:BQ:171:TYR:HD1	26:BQ:238:LYS:HB2	1.83	0.43
26:BQ:355:LYS:HE3	26:BQ:355:LYS:HB3	1.83	0.43
29:BO:42:SER:C	29:BO:44:ARG:H	2.22	0.43
46:BH:62:LEU:HD22	46:BH:95:ILE:HG13	2.01	0.43
46:BH:123:HIS:NE2	46:BH:156:PHE:O	2.52	0.43
57:BY:113:MET:HB3	57:BY:117:LEU:HD22	2.00	0.43
58:BZ:132:PRO:HA	58:BZ:133:PRO:HD3	1.68	0.43
61:BT:223:ASP:O	61:BT:225:PRO:HD3	2.18	0.43
62:BU:142:VAL:HG23	62:BU:142:VAL:O	2.19	0.43
62:BU:210:ALA:HA	62:BU:211:GLY:HA3	1.64	0.43
71:BR:283:GLU:C	71:BR:287:ARG:HH11	2.22	0.43
73:1:846:A:H8	73:1:847:A:H2	1.66	0.43
75:R2:236:U:OP2	75:R2:236:U:C6	2.72	0.43
1:A:348:ARG:NH1	23:BB:108:GLN:O	2.52	0.43
3:C:100:LEU:HD21	3:C:106:HIS:HA	2.01	0.43
5:F:29:ILE:HG13	5:F:145:TRP:CE2	2.53	0.43
5:F:62:MET:HB2	5:F:67:TRP:NE1	2.34	0.43
6:G:174:ARG:HB3	73:1:191:A:N6	2.34	0.43
6:G:326:ASP:OD1	6:G:326:ASP:N	2.51	0.43
7:I:75:THR:HB	7:I:119:LEU:HD22	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:J:58:THR:O	8:J:59:CYS:SG	2.77	0.43
9:K:102:TYR:CE1	25:BK:775:LEU:HB3	2.54	0.43
12:N:159:LEU:HD23	12:N:159:LEU:HA	1.69	0.43
12:N:204:ARG:HE	12:N:204:ARG:HB2	1.57	0.43
13:O:33:ARG:HD3	13:O:36:PHE:CZ	2.54	0.43
13:O:132:LYS:HB2	13:O:133:PRO:HD3	2.00	0.43
13:O:296:HIS:NE2	13:O:300:LYS:HE3	2.33	0.43
16:S:275:ARG:HH11	70:U5:72:ALA:HB2	1.84	0.43
16:S:359:MET:SD	16:S:363:ARG:NH2	2.92	0.43
18:V:125:GLU:HG3	18:V:126:TRP:CD1	2.54	0.43
21:CA:456:PRO:HB2	21:CA:462:ALA:HA	2.01	0.43
21:CA:562:ASN:O	21:CA:564:SER:N	2.49	0.43
25:BK:615:LEU:HG	25:BK:616:CYS:SG	2.59	0.43
25:BK:752:HIS:ND1	25:BK:804:PRO:HG3	2.33	0.43
26:BQ:184:ARG:O	26:BQ:188:ARG:N	2.36	0.43
26:BQ:270:SER:HG	26:BQ:275:THR:HG1	1.57	0.43
29:BO:124:ASN:HB2	29:BO:126:TYR:CE2	2.54	0.43
39:BP:53:SER:OG	39:BP:54:ALA:N	2.51	0.43
43:BG:1322:THR:HG22	43:BG:1326:ARG:CZ	2.49	0.43
50:BF:42:ASP:OD2	50:BF:45:TYR:N	2.52	0.43
52:BM:28:VAL:HG13	52:BM:30:GLU:HG2	2.01	0.43
52:BM:46:ARG:O	52:BM:50:LYS:HG2	2.18	0.43
57:BY:174:PRO:HB2	57:BY:248:THR:OG1	2.18	0.43
57:BX:217:ILE:HD13	57:BX:246:ILE:HG22	2.01	0.43
59:CC:98:HIS:HB3	59:CC:101:LYS:HB2	2.00	0.43
60:CD:103:SER:OG	60:CD:104:SER:N	2.51	0.43
61:BT:205:VAL:C	61:BT:207:ILE:H	2.21	0.43
62:BU:442:THR:HA	62:BU:447:PHE:HA	2.00	0.43
62:BU:454:LYS:O	62:BU:456:GLU:HG2	2.19	0.43
63:BW:377:LEU:O	63:BW:554:SER:HA	2.18	0.43
73:1:254:U:H2'	73:1:255:U:O4'	2.18	0.43
73:1:406:U:O2'	73:1:407:U:O4'	2.36	0.43
73:1:444:A:H2'	73:1:445:A:C8	2.53	0.43
1:A:43:GLU:OE2	1:A:43:GLU:N	2.52	0.43
1:A:297:SER:HB3	8:J:5:GLU:OE2	2.19	0.43
3:C:124:GLU:OE1	3:C:124:GLU:HA	2.19	0.43
4:E:170:TYR:CZ	4:E:232:GLU:HA	2.54	0.43
5:F:22:GLN:O	5:F:26:VAL:HG23	2.19	0.43
6:G:255:VAL:HG23	6:G:255:VAL:O	2.19	0.43
6:G:315:ARG:HD3	6:G:323:PRO:HB3	2.01	0.43
7:I:71:ARG:O	7:I:75:THR:HG22	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:I:91:PRO:HB3	73:1:1169:A:C5	2.53	0.43
11:M:18:ARG:HA	11:M:18:ARG:HD3	1.66	0.43
13:O:81:LEU:HD12	13:O:81:LEU:HA	1.91	0.43
13:O:230:ARG:N	13:O:239:LEU:O	2.52	0.43
14:Q:21:ARG:NH2	73:1:196:A:C8	2.87	0.43
15:R:345:VAL:O	15:R:348:LEU:HB2	2.19	0.43
17:T:55:GLU:HB2	17:T:68:LYS:HZ3	1.84	0.43
21:CA:266:LEU:HD21	21:CA:604:PHE:CZ	2.54	0.43
21:CA:470:HIS:CD2	21:CA:470:HIS:H	2.37	0.43
21:CA:597:TRP:O	21:CA:601:ARG:N	2.52	0.43
23:BB:42:LYS:C	23:BB:42:LYS:CD	2.86	0.43
24:CB:153:ARG:NH2	60:CD:120:ASN:HD21	2.17	0.43
25:BK:171:LEU:HD13	25:BK:865:TYR:CD1	2.54	0.43
27:BN:121:PHE:N	27:BN:121:PHE:CD1	2.87	0.43
50:BF:94:LEU:HA	50:BF:97:GLU:OE1	2.19	0.43
57:BY:128:MET:HB2	57:BY:166:VAL:O	2.18	0.43
58:BZ:369:ARG:NH1	58:BZ:406:ALA:O	2.51	0.43
62:BU:214:ALA:HA	62:BU:217:GLU:HB3	1.99	0.43
62:BU:419:ARG:O	62:BU:423:LYS:HG2	2.19	0.43
63:BW:635:ASN:HA	63:BW:639:ASP:OD1	2.19	0.43
64:BV:105:LYS:NZ	64:BV:195:GLU:HG2	2.25	0.43
64:BV:204:PHE:CZ	64:BV:287:PHE:HB2	2.54	0.43
64:BV:233:TRP:CD1	64:BV:273:PRO:HB3	2.54	0.43
70:U5:90:ALA:HB3	73:1:336:U:O4	2.19	0.43
71:BR:168:LEU:HD22	71:BR:251:VAL:HG23	2.00	0.43
73:1:116:U:C4	73:1:120:A:H1'	2.54	0.43
73:1:425:A:H2	73:1:428:U:C2	2.37	0.43
1:A:196:ALA:HA	1:A:199:LYS:HD3	2.00	0.42
4:E:107:TYR:CD2	4:E:111:SER:HB3	2.49	0.42
5:F:40:PRO:HG3	9:K:69:ALA:HA	2.01	0.42
8:J:49:LYS:NZ	27:BN:79:LEU:HD21	2.33	0.42
13:O:53:LEU:HD23	13:O:54:LEU:HD13	2.02	0.42
13:O:220:ASN:OD1	13:O:220:ASN:N	2.49	0.42
14:Q:165:LYS:HD3	14:Q:165:LYS:HA	1.74	0.42
15:R:183:THR:HG23	15:R:186:ARG:HH11	1.84	0.42
16:S:243:THR:O	16:S:244:THR:OG1	2.36	0.42
16:S:282:LEU:HD23	16:S:287:GLN:HB2	2.01	0.42
18:V:62:MET:O	21:CA:119:ASP:HB2	2.19	0.42
21:CA:278:PHE:HB2	21:CA:403:ASN:OD1	2.19	0.42
21:CA:482:LYS:HD3	21:CA:482:LYS:HA	1.68	0.42
23:BB:99:LYS:HD2	23:BB:102:ILE:HD11	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:CB:80:PHE:CZ	29:BO:185:LEU:HD12	2.54	0.42
25:BK:171:LEU:HD21	27:BN:192:TYR:HB3	2.00	0.42
25:BK:449:LEU:O	25:BK:489:ARG:NH1	2.52	0.42
25:BK:525:ASP:O	25:BK:529:HIS:HB2	2.19	0.42
25:BK:613:ILE:HA	25:BK:621:VAL:O	2.18	0.42
25:BK:818:TYR:O	25:BK:856:ASN:HB2	2.19	0.42
46:BH:110:PRO:HB2	46:BH:137:GLN:HB2	2.01	0.42
50:BF:72:SER:O	50:BF:72:SER:OG	2.37	0.42
52:BM:322:TYR:O	52:BM:325:GLN:HB3	2.18	0.42
57:BX:261:LEU:HD23	57:BX:265:VAL:HG21	2.00	0.42
58:BZ:96:ARG:HG3	58:BZ:121:PRO:HD2	2.01	0.42
60:CD:40:ARG:O	60:CD:44:GLU:HG2	2.19	0.42
60:CD:90:LYS:HD2	60:CD:90:LYS:HA	1.88	0.42
61:BT:346:ARG:O	61:BT:346:ARG:NE	2.48	0.42
65:U7:4:UNK:CB	65:U7:37:UNK:HA	2.49	0.42
68:U3:41:ALA:H	68:U3:49:ALA:HB2	1.84	0.42
73:1:864:A:N6	73:1:1106:G:H22	2.16	0.42
2:B:297:LYS:HB2	2:B:297:LYS:HE2	1.71	0.42
3:C:128:THR:O	3:C:128:THR:CG2	2.62	0.42
4:E:45:PRO:HD2	4:E:107:TYR:OH	2.19	0.42
5:F:16:LEU:HD11	5:F:145:TRP:CE3	2.54	0.42
5:F:132:VAL:HG23	23:BB:30:TYR:HE2	1.83	0.42
8:J:139:ARG:HB3	8:J:141:ARG:NH1	2.35	0.42
9:K:38:ARG:O	9:K:42:LEU:HG	2.19	0.42
10:L:64:PRO:HB2	10:L:65:ARG:NH2	2.34	0.42
11:M:72:LEU:HD23	11:M:72:LEU:HA	1.87	0.42
25:BK:175:ARG:NH1	25:BK:183:GLN:OE1	2.28	0.42
25:BK:727:THR:OG1	25:BK:729:CYS:SG	2.74	0.42
26:BQ:13:ARG:HA	26:BQ:13:ARG:HD3	1.75	0.42
27:BN:185:GLU:O	27:BN:188:ARG:HB3	2.19	0.42
56:BS:378:HIS:HD2	56:BS:380:TYR:CB	2.32	0.42
57:BY:259:GLY:O	57:BY:263:HIS:N	2.51	0.42
57:BX:104:GLN:HA	57:BX:171:ILE:HD12	2.00	0.42
58:BZ:266:ILE:HD11	58:BZ:298:PHE:CE1	2.54	0.42
60:CD:78:THR:O	60:CD:80:VAL:N	2.50	0.42
62:BU:345:VAL:HG22	62:BU:401:LEU:HD22	2.00	0.42
63:BW:568:ARG:HD3	63:BW:568:ARG:HA	1.82	0.42
73:1:123:U:C4	73:1:124:A:C6	3.08	0.42
73:1:985:A:H5"	73:1:986:A:C8	2.54	0.42
73:1:1176:A:N3	73:1:1176:A:H2'	2.34	0.42
75:R2:238:U:O2'	75:R2:239:U:H5'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:353:PHE:HB3	1:A:354:PRO:HD3	2.01	0.42
1:A:389:ALA:O	24:CB:114:LYS:NZ	2.25	0.42
4:E:167:LYS:HE3	4:E:170:TYR:O	2.19	0.42
6:G:323:PRO:N	6:G:324:PRO:CD	2.82	0.42
8:J:44:PRO:HA	8:J:82:THR:HG21	2.01	0.42
11:M:119:GLU:HG3	11:M:120:THR:HG23	2.01	0.42
11:M:200:ALA:HB2	11:M:236:ALA:CB	2.49	0.42
12:N:50:ARG:HD3	18:V:30:GLU:OE1	2.19	0.42
12:N:203:ARG:HG2	73:1:559:U:OP2	2.19	0.42
13:O:238:LEU:HD23	56:BS:349:ASP:HA	2.00	0.42
19:Z:148:GLU:HB3	19:Z:152:ARG:HD3	2.01	0.42
21:CA:278:PHE:HE1	21:CA:508:ARG:HG2	1.84	0.42
22:UA:189:ALA:O	22:UA:193:ALA:N	2.51	0.42
26:BQ:185:ARG:NH2	26:BQ:236:GLU:OE1	2.50	0.42
26:BQ:304:ALA:HB1	26:BQ:321:TYR:HE1	1.84	0.42
52:BM:42:TRP:O	52:BM:46:ARG:HG2	2.19	0.42
57:BY:323:ARG:HB2	57:BY:326:ASP:OD2	2.19	0.42
57:BX:90:PHE:HB2	57:BX:158:VAL:HG21	2.01	0.42
59:CC:80:GLU:HA	59:CC:83:LYS:HG3	2.01	0.42
61:BT:181:ASN:OD1	61:BT:181:ASN:N	2.53	0.42
62:BU:39:SER:HB3	62:BU:61:VAL:HA	2.01	0.42
62:BU:274:LYS:HB2	62:BU:395:MET:CE	2.48	0.42
62:BU:288:ARG:O	62:BU:291:TYR:HB3	2.19	0.42
63:BW:115:PHE:O	63:BW:120:VAL:HG22	2.18	0.42
63:BW:137:SER:HB2	63:BW:138:PRO:HD2	2.01	0.42
67:U1:5:ALA:O	67:U1:6:ALA:HB2	2.19	0.42
71:BR:277:ARG:O	71:BR:278:ARG:HB3	2.19	0.42
73:1:58:A:C6	73:1:112:U:C4	3.07	0.42
73:1:73:G:H3'	73:1:73:G:N3	2.35	0.42
73:1:607:U:H2'	73:1:608:A:O4'	2.19	0.42
73:1:835:A:O2'	73:1:836:U:H4'	2.19	0.42
73:1:854:A:N6	73:1:855:A:N1	2.68	0.42
1:A:163:ILE:CD1	1:A:224:THR:HB	2.48	0.42
3:C:122:TRP:CZ2	3:C:127:LEU:HA	2.54	0.42
3:C:149:LEU:N	3:C:150:PRO:HD2	2.34	0.42
4:E:25:ARG:HA	4:E:25:ARG:HH11	1.84	0.42
7:I:224:TRP:CH2	26:BQ:429:VAL:HG22	2.55	0.42
10:L:62:GLY:HA2	10:L:67:THR:HA	2.01	0.42
11:M:176:VAL:HG22	11:M:231:LEU:HD11	2.00	0.42
12:N:204:ARG:HH21	73:1:558:C:P	2.42	0.42
16:S:301:ILE:HA	16:S:304:VAL:HG22	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:T:34:ASN:OD1	17:T:34:ASN:N	2.52	0.42
18:V:42:MET:HB2	73:1:97:U:N3	2.28	0.42
21:CA:105:ARG:HG3	75:R2:9:U:OP2	2.20	0.42
21:CA:138:TYR:HB2	70:U5:15:ALA:HB2	2.02	0.42
21:CA:161:ARG:O	21:CA:198:THR:OG1	2.36	0.42
21:CA:457:CYS:SG	21:CA:506:PRO:HD2	2.59	0.42
21:CA:480:PHE:HE1	21:CA:484:HIS:NE2	2.18	0.42
21:CA:525:PRO:HB3	21:CA:583:SER:OG	2.19	0.42
25:BK:155:ASP:OD1	25:BK:156:LEU:N	2.52	0.42
25:BK:440:MET:CE	25:BK:442:ARG:HD3	2.50	0.42
25:BK:646:SER:OG	25:BK:756:SER:N	2.39	0.42
26:BQ:92:LYS:HD3	26:BQ:92:LYS:HA	1.76	0.42
46:BH:33:ILE:HG23	46:BH:81:PHE:HE2	1.83	0.42
56:BS:367:ALA:HB1	73:1:117:U:C5	2.54	0.42
57:BX:221:ASN:O	57:BX:222:HIS:ND1	2.52	0.42
58:BZ:94:ILE:HD11	58:BZ:105:TYR:CD1	2.54	0.42
60:CD:72:LEU:HD22	60:CD:88:ARG:HG2	2.00	0.42
60:CD:122:LEU:HD23	60:CD:122:LEU:HA	1.83	0.42
62:BU:231:VAL:O	62:BU:281:ILE:HG12	2.19	0.42
63:BW:167:TYR:O	63:BW:171:LEU:HG	2.18	0.42
63:BW:614:GLY:O	63:BW:618:SER:N	2.52	0.42
64:BV:102:PHE:HB3	64:BV:193:LEU:HD12	2.01	0.42
71:BR:41:THR:OG1	71:BR:42:ARG:N	2.51	0.42
73:1:41:A:N1	73:1:136:A:H4'	2.34	0.42
73:1:143:A:O2'	73:1:836:U:N3	2.33	0.42
73:1:218:A:C2	73:1:319:A:H5'	2.55	0.42
73:1:414:U:O2	73:1:414:U:C2'	2.68	0.42
73:1:554:G:N7	73:1:573:A:H8	2.17	0.42
4:E:108:PHE:CZ	67:U1:11:ALA:CA	3.01	0.42
4:E:209:GLN:O	4:E:213:GLU:N	2.50	0.42
6:G:282:ARG:HA	6:G:282:ARG:HD2	1.84	0.42
6:G:313:ALA:HB1	6:G:316:ARG:HH21	1.82	0.42
8:J:128:ARG:HG3	27:BN:73:TRP:CE2	2.55	0.42
11:M:249:ILE:HD13	11:M:254:LEU:HD12	2.01	0.42
12:N:167:ILE:HG23	12:N:220:VAL:HG13	2.00	0.42
13:O:216:VAL:HG13	13:O:228:GLU:HB2	2.00	0.42
15:R:40:ARG:O	15:R:101:ARG:NH2	2.45	0.42
15:R:236:GLY:O	15:R:257:GLY:HA3	2.19	0.42
16:S:352:MET:HG2	73:1:358:A:C6	2.54	0.42
21:CA:115:LEU:HD12	21:CA:116:LEU:H	1.83	0.42
21:CA:276:ASN:ND2	21:CA:512:SER:OG	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:455:ILE:CG1	21:CA:456:PRO:HD2	2.49	0.42
21:CA:524:ASP:N	21:CA:525:PRO:HD3	2.35	0.42
25:BK:454:LEU:C	25:BK:456:ALA:N	2.73	0.42
25:BK:455:ARG:HD2	25:BK:455:ARG:HA	1.71	0.42
26:BQ:305:LEU:O	26:BQ:306:LEU:HD23	2.20	0.42
27:BN:187:ARG:HG3	27:BN:188:ARG:N	2.34	0.42
52:BM:214:LYS:HG2	52:BM:232:ALA:N	2.35	0.42
52:BM:253:CYS:CB	52:BM:259:LYS:HG2	2.49	0.42
52:BM:335:ARG:O	52:BM:339:ARG:N	2.36	0.42
57:BY:135:ILE:HG23	57:BY:139:LEU:HG	2.01	0.42
57:BX:248:THR:O	57:BX:249:LEU:HD23	2.20	0.42
57:BX:298:SER:O	57:BX:300:GLU:N	2.52	0.42
58:BZ:377:ASN:C	58:BZ:377:ASN:OD1	2.57	0.42
62:BU:229:ILE:HD11	62:BU:276:ARG:HD3	2.02	0.42
62:BU:274:LYS:HG3	62:BU:395:MET:HE2	2.01	0.42
62:BU:491:ASP:OD1	62:BU:491:ASP:N	2.51	0.42
64:BV:137:GLN:CD	64:BV:150:THR:HG21	2.39	0.42
64:BV:150:THR:HG23	64:BV:152:GLY:N	2.35	0.42
71:BR:103:LEU:HD23	71:BR:152:ARG:HD3	2.00	0.42
73:1:164:U:H3'	73:1:165:G:H2'	2.01	0.42
73:1:190:A:O2'	73:1:207:G:O6	2.23	0.42
73:1:921:U:C4	73:1:922:G:C6	3.07	0.42
1:A:166:HIS:NE2	1:A:220:ALA:O	2.53	0.42
2:B:105:ARG:HG2	2:B:106:GLU:O	2.18	0.42
3:C:68:GLU:HG2	3:C:70:ARG:HH21	1.85	0.42
5:F:133:HIS:CD2	5:F:135:HIS:HB2	2.54	0.42
6:G:130:TYR:O	6:G:134:ARG:HG3	2.20	0.42
7:I:76:GLU:O	7:I:80:LYS:HG3	2.19	0.42
9:K:103:GLU:HG2	10:L:22:PHE:CZ	2.55	0.42
11:M:29:GLN:NE2	11:M:30:LYS:H	2.18	0.42
11:M:131:GLN:HG2	11:M:236:ALA:HA	2.02	0.42
11:M:143:TRP:CZ3	11:M:227:LYS:HB3	2.54	0.42
13:O:166:ILE:N	13:O:195:ILE:O	2.52	0.42
21:CA:458:GLY:H	21:CA:506:PRO:HG2	1.84	0.42
25:BK:277:PRO:HB3	25:BK:375:TRP:CD1	2.55	0.42
25:BK:394:GLY:O	25:BK:395:LYS:HD2	2.19	0.42
25:BK:806:VAL:HG13	25:BK:807:GLN:H	1.84	0.42
26:BQ:126:SER:O	26:BQ:152:ARG:NE	2.52	0.42
27:BN:239:HIS:CD2	27:BN:292:HIS:HB2	2.54	0.42
57:BY:186:ARG:O	57:BY:293:THR:HB	2.18	0.42
57:BX:145:THR:HB	57:BX:146:ASP:H	1.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:77:HIS:HB3	58:BZ:80:TRP:CD1	2.55	0.42
58:BZ:267:ARG:HG3	58:BZ:295:ILE:HG12	2.01	0.42
60:CD:98:THR:HG21	60:CD:110:MET:HG3	2.01	0.42
61:BT:96:THR:HG23	61:BT:97:ALA:N	2.35	0.42
62:BU:99:GLU:OE2	62:BU:99:GLU:N	2.49	0.42
62:BU:158:ASP:OD1	62:BU:159:VAL:HG13	2.20	0.42
62:BU:302:HIS:NE2	62:BU:306:LEU:HD11	2.34	0.42
62:BU:337:VAL:HG11	62:BU:344:PHE:HB3	2.01	0.42
63:BW:323:TYR:CE2	73:1:340:U:H5"	2.55	0.42
73:1:160:U:C5	73:1:164:U:H4'	2.55	0.42
73:1:492:U:H2'	73:1:493:U:O4'	2.20	0.42
73:1:903:A:OP2	73:1:903:A:H8	2.03	0.42
2:B:107:LEU:HD23	2:B:107:LEU:HA	1.76	0.42
3:C:111:ILE:O	3:C:141:ARG:HG3	2.20	0.42
4:E:55:PHE:HB2	4:E:102:VAL:HG23	2.00	0.42
4:E:131:LYS:HG3	4:E:146:CYS:SG	2.59	0.42
8:J:54:GLY:O	8:J:119:GLY:HA2	2.19	0.42
11:M:32:TYR:CE1	18:V:11:LYS:HG3	2.55	0.42
11:M:68:ARG:NH1	73:1:122:U:H3'	2.34	0.42
11:M:84:GLU:HA	11:M:93:THR:HA	2.01	0.42
12:N:111:LEU:O	12:N:115:LYS:N	2.43	0.42
14:Q:84:GLU:HA	14:Q:99:LEU:HA	2.02	0.42
19:Z:80:ARG:HG3	73:1:70:G:N7	2.35	0.42
21:CA:532:LYS:O	21:CA:554:ARG:HG2	2.19	0.42
22:UA:98:ALA:HB1	22:UA:104:ALA:HB3	2.01	0.42
22:UA:107:ALA:O	22:UA:113:ALA:N	2.48	0.42
24:CB:184:GLN:H	24:CB:184:GLN:HG3	1.67	0.42
25:BK:246:VAL:HG13	73:1:1159:U:H1'	2.01	0.42
25:BK:332:LEU:HD11	25:BK:390:VAL:HG21	2.02	0.42
25:BK:514:THR:O	25:BK:518:ALA:N	2.51	0.42
25:BK:598:THR:OG1	25:BK:602:LEU:HB2	2.19	0.42
29:BO:60:LEU:HD11	29:BO:64:VAL:HG21	2.01	0.42
52:BM:85:GLU:O	52:BM:88:ASP:HB2	2.20	0.42
52:BM:162:VAL:HB	52:BM:165:ASP:HB3	2.02	0.42
58:BZ:97:TYR:N	58:BZ:97:TYR:HD1	2.16	0.42
59:CC:78:VAL:HA	59:CC:81:VAL:HG12	2.00	0.42
62:BU:36:ARG:NH1	62:BU:38:ASN:HB2	2.35	0.42
63:BW:186:LEU:HD13	63:BW:242:MET:HE1	2.00	0.42
64:BV:177:ARG:O	64:BV:181:LEU:HB2	2.19	0.42
2:B:124:ASN:HD21	2:B:200:ASN:ND2	2.17	0.42
6:G:197:LEU:HB3	6:G:266:LEU:HD21	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:K:11:TYR:CZ	9:K:13:ALA:HA	2.55	0.42
10:L:139:LEU:HD11	10:L:148:PRO:HB3	2.02	0.42
19:Z:64:ILE:HG21	19:Z:97:VAL:HG21	2.02	0.42
20:BA:119:GLU:HG2	20:BA:122:ARG:HE	1.84	0.42
21:CA:481:ALA:HB1	21:CA:482:LYS:HE2	2.00	0.42
23:BB:18:ARG:NE	25:BK:312:TYR:HB3	2.35	0.42
24:CB:55:GLU:HA	24:CB:58:ASN:HD22	1.85	0.42
26:BQ:92:LYS:O	26:BQ:94:PRO:HD3	2.19	0.42
26:BQ:111:GLU:O	71:BR:167:TYR:OH	2.20	0.42
26:BQ:162:GLU:OE1	71:BR:279:GLN:NE2	2.46	0.42
27:BN:160:GLU:O	73:1:1174:U:H5'	2.20	0.42
39:BP:-14:PHE:CE2	39:BP:-12:LEU:HB3	2.55	0.42
57:BY:188:ASN:ND2	57:BY:265:VAL:HG21	2.35	0.42
57:BY:192:VAL:HG23	57:BY:296:VAL:O	2.19	0.42
61:BT:266:VAL:O	61:BT:270:ILE:HG12	2.20	0.42
62:BU:212:ASP:O	62:BU:213:GLU:HG2	2.20	0.42
64:BV:137:GLN:HB2	64:BV:150:THR:CG2	2.50	0.42
73:1:562:U:H4'	73:1:563:U:O5'	2.18	0.42
73:1:601:A:H61	73:1:1166:G:N2	2.17	0.42
73:1:970:U:H1'	73:1:971:A:O4'	2.19	0.42
1:A:307:TRP:HZ3	1:A:379:LEU:HG	1.83	0.42
8:J:74:VAL:O	8:J:75:MET:HG2	2.20	0.42
14:Q:26:PRO:CD	14:Q:30:LEU:HD23	2.48	0.42
21:CA:422:LEU:HD13	21:CA:422:LEU:HA	1.92	0.42
21:CA:536:PHE:O	21:CA:540:GLU:N	2.42	0.42
24:CB:148:LYS:HZ3	29:BO:165:ARG:HD2	1.85	0.42
25:BK:596:PRO:C	25:BK:598:THR:H	2.23	0.42
25:BK:626:THR:O	25:BK:630:ASN:ND2	2.31	0.42
43:BG:1264:VAL:HB	43:BG:1265:PRO:HD3	2.01	0.42
46:BH:124:LEU:O	46:BH:127:THR:HB	2.20	0.42
52:BM:80:ARG:NE	52:BM:291:SER:OG	2.52	0.42
52:BM:122:LEU:HD12	52:BM:123:GLN:HG2	2.01	0.42
58:BZ:351:LEU:HD12	58:BZ:351:LEU:HA	1.63	0.42
60:CD:63:GLN:HA	60:CD:66:HIS:ND1	2.34	0.42
62:BU:273:TYR:HB2	62:BU:274:LYS:H	1.63	0.42
63:BW:184:ILE:O	63:BW:192:ARG:NH1	2.51	0.42
63:BW:268:ARG:O	63:BW:308:THR:HA	2.20	0.42
63:BW:297:ARG:NH1	63:BW:303:LEU:HB2	2.35	0.42
64:BV:135:LEU:CD1	64:BV:171:ALA:HB2	2.45	0.42
71:BR:151:LYS:HD3	71:BR:151:LYS:HA	1.59	0.42
73:1:154:U:O2	73:1:154:U:H2'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:1:165:G:H5”	73:1:166:U:H5’	2.02	0.42
73:1:508:G:N3	73:1:519:U:O2	2.53	0.42
73:1:907:C:H5’	73:1:908:G:OP2	2.20	0.42
1:A:163:ILE:HD11	1:A:226:LEU:HD21	2.01	0.42
1:A:240:THR:OG1	1:A:300:THR:HG23	2.20	0.42
2:B:306:GLN:HG2	2:B:308:ASN:H	1.85	0.42
7:I:188:LEU:HD11	7:I:258:TRP:CE2	2.55	0.42
7:I:238:ARG:NH2	13:O:89:HIS:O	2.40	0.42
12:N:160:ASN:OD1	12:N:160:ASN:N	2.53	0.42
15:R:122:TYR:O	15:R:123:ARG:HG3	2.19	0.42
18:V:132:ARG:HA	18:V:136:ALA:HB3	2.02	0.42
21:CA:105:ARG:CZ	75:R2:9:U:H3’	2.49	0.42
21:CA:484:HIS:CE1	21:CA:489:LEU:HA	2.54	0.42
25:BK:412:TRP:O	25:BK:415:VAL:HG12	2.20	0.42
25:BK:598:THR:HA	25:BK:601:VAL:HG22	2.02	0.42
25:BK:835:LEU:HD23	25:BK:835:LEU:HA	1.81	0.42
26:BQ:20:SER:HB2	26:BQ:24:LYS:NZ	2.35	0.42
26:BQ:79:VAL:HG12	26:BQ:83:VAL:HB	2.00	0.42
26:BQ:247:SER:OG	26:BQ:259:ALA:HB1	2.20	0.42
27:BN:164:HIS:CE1	27:BN:174:LEU:HD21	2.55	0.42
29:BO:68:CYS:HB3	29:BO:76:HIS:HA	2.01	0.42
43:BG:1311:LYS:HB3	43:BG:1315:THR:HG21	2.01	0.42
52:BM:45:SER:HA	52:BM:118:ILE:HG21	2.01	0.42
52:BM:174:MET:O	52:BM:178:ALA:N	2.40	0.42
57:BX:82:VAL:HG12	57:BX:154:VAL:HG22	2.01	0.42
57:BX:158:VAL:HG13	57:BX:159:THR:HG23	2.02	0.42
57:BX:277:ALA:CB	57:BX:305:ARG:HG2	2.46	0.42
61:BT:154:LEU:HD22	61:BT:164:HIS:HE1	1.82	0.42
61:BT:166:GLY:O	61:BT:229:TYR:N	2.43	0.42
62:BU:145:MET:HB2	62:BU:171:PHE:O	2.19	0.42
62:BU:461:PRO:HD2	62:BU:464:LEU:HB2	2.01	0.42
63:BW:193:MET:N	63:BW:244:ASP:O	2.45	0.42
63:BW:650:THR:HG23	73:1:378:A:C2	2.55	0.42
64:BV:226:LEU:HD12	64:BV:226:LEU:HA	1.84	0.42
64:BV:228:LYS:HD3	64:BV:231:ARG:HD3	2.01	0.42
71:BR:256:GLU:O	71:BR:260:GLY:N	2.39	0.42
73:1:349:A:H2’	73:1:350:A:O4’	2.20	0.42
73:1:457:C:H2’	73:1:458:A:C8	2.55	0.42
73:1:527:U:H2’	73:1:528:A:C8	2.54	0.42
73:1:559:U:H3’	73:1:560:U:C5’	2.49	0.42
2:B:21:MET:HE3	2:B:21:MET:HB3	1.96	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:26:PRO:O	3:C:41:GLY:HA3	2.19	0.41
6:G:151:PHE:HE2	18:V:40:TRP:CD1	2.38	0.41
7:I:91:PRO:HG3	73:1:1169:A:N6	2.35	0.41
9:K:59:ARG:HH21	73:1:410:A:P	2.41	0.41
11:M:198:ARG:NH1	25:BK:807:GLN:OE1	2.52	0.41
12:N:63:ARG:HG3	12:N:63:ARG:NH2	2.35	0.41
13:O:228:GLU:CD	13:O:238:LEU:HB3	2.41	0.41
13:O:324:LYS:HD2	13:O:324:LYS:HA	1.75	0.41
15:R:229:LEU:HD12	15:R:229:LEU:H	1.85	0.41
15:R:298:LEU:HD23	15:R:298:LEU:HA	1.88	0.41
24:CB:110:ILE:H	24:CB:110:ILE:HG12	1.66	0.41
25:BK:214:ARG:O	25:BK:218:GLU:N	2.52	0.41
25:BK:616:CYS:O	25:BK:618:GLY:N	2.52	0.41
25:BK:649:SER:O	25:BK:650:LYS:HB2	2.20	0.41
26:BQ:233:SER:OG	26:BQ:234:ASP:N	2.53	0.41
27:BN:121:PHE:N	27:BN:121:PHE:HD1	2.18	0.41
50:BF:95:ASN:HD21	50:BF:99:ARG:NH1	2.18	0.41
52:BM:45:SER:OG	52:BM:118:ILE:HD13	2.20	0.41
52:BM:151:GLU:OE1	52:BM:213:ARG:NH1	2.52	0.41
56:BS:307:ALA:HB1	56:BS:311:PRO:HB3	2.01	0.41
57:BY:107:VAL:HG12	57:BY:168:ASP:HB2	2.02	0.41
57:BX:337:LEU:HA	57:BX:340:VAL:HG12	2.02	0.41
58:BZ:177:ILE:HG12	58:BZ:225:VAL:HB	2.02	0.41
60:CD:100:ARG:HA	60:CD:100:ARG:HD3	1.56	0.41
61:BT:229:TYR:HD1	61:BT:229:TYR:HA	1.69	0.41
63:BW:257:LEU:HD23	63:BW:257:LEU:HA	1.86	0.41
65:U7:25:UNK:O	65:U7:26:UNK:C	2.68	0.41
71:BR:266:SER:O	71:BR:268:PRO:HD3	2.20	0.41
73:1:508:G:N2	73:1:519:U:H1'	2.35	0.41
1:A:200:ALA:HB2	25:BK:198:LEU:HD22	2.02	0.41
8:J:61:PHE:HE2	29:BO:143:LEU:HD11	1.84	0.41
10:L:42:VAL:HG23	10:L:43:GLN:O	2.20	0.41
12:N:105:ILE:HG12	19:Z:86:ILE:CD1	2.49	0.41
12:N:171:PRO:HG2	12:N:174:MET:HG3	2.01	0.41
13:O:238:LEU:O	56:BS:347:VAL:HG11	2.20	0.41
19:Z:111:LYS:HG2	19:Z:112:PRO:HD2	2.02	0.41
23:BB:78:PHE:HB3	23:BB:80:PHE:CZ	2.56	0.41
25:BK:297:LYS:HE2	25:BK:297:LYS:HB3	1.84	0.41
25:BK:526:ALA:O	25:BK:530:GLN:HG3	2.20	0.41
25:BK:569:MET:SD	25:BK:676:LEU:HD13	2.60	0.41
25:BK:833:LYS:NZ	73:1:1178:U:O4	2.31	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BO:92:ARG:HD3	29:BO:173:HIS:CE1	2.54	0.41
43:BG:1268:GLN:HE22	43:BG:1285:ASP:CG	2.24	0.41
57:BY:114:ILE:HG22	57:BY:142:ARG:HH21	1.85	0.41
57:BX:185:GLN:NE2	57:BX:271:LEU:HD13	2.35	0.41
60:CD:57:ILE:HD11	60:CD:59:PRO:HG3	2.03	0.41
62:BU:433:ARG:HH11	62:BU:454:LYS:HD3	1.84	0.41
67:U1:15:ALA:O	67:U1:16:ALA:HB2	2.19	0.41
73:1:554:G:O2'	73:1:555:U:O5'	2.37	0.41
73:1:882:G:C2	73:1:883:U:C5	3.08	0.41
73:1:1109:A:C2	73:1:1110:A:C6	3.08	0.41
2:B:96:ASP:OD1	2:B:97:LEU:N	2.53	0.41
4:E:149:LEU:HB2	4:E:191:ILE:HG13	2.02	0.41
6:G:244:LEU:HA	6:G:244:LEU:HD23	1.82	0.41
7:I:247:ASP:OD2	26:BQ:407:LYS:NZ	2.51	0.41
9:K:122:PRO:HD3	39:BP:-31:PRO:HB3	2.02	0.41
11:M:37:TRP:CH2	11:M:47:PRO:HG3	2.54	0.41
12:N:202:GLY:HA3	12:N:215:LEU:O	2.20	0.41
13:O:313:PHE:HE1	14:Q:173:LEU:HB2	1.85	0.41
15:R:236:GLY:C	15:R:238:ARG:H	2.23	0.41
19:Z:82:ASN:N	73:1:69:G:OP1	2.53	0.41
19:Z:83:PRO:HD2	73:1:76:U:H5"	2.03	0.41
21:CA:353:ARG:HG2	21:CA:360:ARG:HH11	1.86	0.41
25:BK:393:ASP:OD1	25:BK:395:LYS:HG2	2.20	0.41
43:BG:1281:LEU:HD23	43:BG:1281:LEU:HA	1.85	0.41
57:BX:277:ALA:HB2	57:BX:324:GLN:HB2	2.03	0.41
58:BZ:251:TYR:CD2	58:BZ:323:GLU:HG3	2.55	0.41
58:BZ:266:ILE:O	58:BZ:295:ILE:HA	2.19	0.41
60:CD:103:SER:H	60:CD:106:VAL:CG1	2.33	0.41
71:BR:240:LEU:HD12	71:BR:240:LEU:HA	1.85	0.41
73:1:201:U:H4'	73:1:202:A:OP2	2.13	0.41
73:1:574:A:O2'	73:1:575:G:H8	2.03	0.41
1:A:281:GLN:HG2	73:1:867:A:O2'	2.20	0.41
3:C:175:HIS:HE1	3:C:178:ILE:HD13	1.84	0.41
6:G:17:VAL:O	6:G:20:THR:HG22	2.21	0.41
6:G:310:HIS:CD2	6:G:311:PRO:HD2	2.55	0.41
7:I:112:ARG:NH2	7:I:126:ASP:HA	2.35	0.41
7:I:201:ARG:HB2	7:I:206:GLN:NE2	2.36	0.41
9:K:88:ASN:ND2	10:L:72:PRO:HG3	2.34	0.41
12:N:160:ASN:HD21	12:N:235:GLN:NE2	2.05	0.41
13:O:111:GLU:HB2	13:O:114:GLN:HG3	2.02	0.41
15:R:92:GLU:HG3	56:BS:380:TYR:CE1	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:R:208:TRP:HD1	15:R:213:THR:HG23	1.85	0.41
15:R:296:ILE:H	15:R:296:ILE:HG12	1.66	0.41
16:S:355:LYS:HE3	16:S:355:LYS:HB2	1.86	0.41
18:V:14:CYS:O	18:V:18:THR:N	2.32	0.41
21:CA:464:GLU:OE2	21:CA:499:ARG:HG2	2.21	0.41
25:BK:662:LEU:HA	25:BK:662:LEU:HD23	1.80	0.41
26:BQ:406:PHE:CD2	26:BQ:417:PRO:HG3	2.55	0.41
26:BQ:435:HIS:HD2	26:BQ:437:SER:HB2	1.84	0.41
46:BH:101:ARG:NH2	73:1:365:U:O2	2.54	0.41
50:BF:104:ARG:NH1	73:1:565:U:H3'	2.35	0.41
52:BM:111:LEU:HD12	52:BM:111:LEU:HA	1.81	0.41
52:BM:134:LYS:HB2	52:BM:134:LYS:HE3	1.65	0.41
52:BM:205:LYS:HE2	52:BM:205:LYS:HB2	1.73	0.41
52:BM:214:LYS:HB2	52:BM:235:LYS:CG	2.50	0.41
58:BZ:96:ARG:NH2	58:BZ:121:PRO:HG2	2.34	0.41
58:BZ:268:MET:HE1	58:BZ:270:PHE:HE1	1.86	0.41
61:BT:77:GLU:CD	61:BT:79:ARG:HE	2.23	0.41
61:BT:200:ARG:NE	73:1:983:A:H5'	2.35	0.41
62:BU:167:LYS:HA	62:BU:167:LYS:HD3	1.90	0.41
62:BU:357:GLN:HB3	62:BU:361:ALA:H	1.86	0.41
62:BU:459:GLN:H	62:BU:459:GLN:HG2	1.65	0.41
62:BU:462:LYS:HB3	63:BW:356:ARG:NH1	2.34	0.41
66:U6:70:ALA:CB	66:U6:73:ALA:HB3	2.42	0.41
70:U5:81:ALA:O	70:U5:82:ALA:HB3	2.20	0.41
73:1:203:A:HO2'	73:1:204:U:P	2.43	0.41
1:A:186:PRO:HG3	25:BK:869:HIS:ND1	2.35	0.41
3:C:175:HIS:CE1	3:C:178:ILE:HD13	2.55	0.41
6:G:227:PRO:HG2	6:G:228:TYR:CE2	2.56	0.41
6:G:253:THR:HG23	6:G:255:VAL:HG13	2.03	0.41
7:I:197:LYS:HD3	7:I:197:LYS:HA	1.95	0.41
10:L:21:LYS:HE2	10:L:21:LYS:HB2	1.77	0.41
11:M:221:TYR:OH	26:BQ:29:ASN:O	2.28	0.41
13:O:202:HIS:CG	13:O:213:LEU:HD12	2.56	0.41
14:Q:55:TYR:HE2	73:1:83:U:OP1	2.03	0.41
14:Q:157:ARG:HG2	14:Q:161:LEU:HD23	2.02	0.41
20:BA:74:GLU:OE2	20:BA:78:ARG:HG3	2.20	0.41
21:CA:455:ILE:HG21	21:CA:510:LEU:HD13	2.03	0.41
21:CA:489:LEU:HD23	21:CA:489:LEU:C	2.40	0.41
25:BK:336:GLU:O	25:BK:339:VAL:HG22	2.21	0.41
25:BK:715:PRO:HD2	25:BK:718:ASP:HB2	2.02	0.41
26:BQ:25:HIS:CD2	26:BQ:27:SER:H	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BQ:183:HIS:HE1	26:BQ:202:ASN:O	2.02	0.41
52:BM:340:THR:O	52:BM:344:VAL:HG13	2.20	0.41
57:BY:184:HIS:HB2	57:BY:188:ASN:HB2	2.01	0.41
57:BX:124:PRO:O	57:BX:144:LYS:HB3	2.20	0.41
57:BX:186:ARG:HA	57:BX:299:PRO:O	2.21	0.41
57:BX:200:GLY:HA2	57:BX:234:ALA:HB2	2.03	0.41
57:BX:279:ALA:HB2	57:BX:306:VAL:CG1	2.50	0.41
58:BZ:98:ARG:NH2	58:BZ:98:ARG:C	2.74	0.41
62:BU:352:ASP:N	62:BU:384:SER:OG	2.46	0.41
62:BU:357:GLN:HB3	62:BU:360:THR:HB	2.02	0.41
62:BU:465:GLN:NE2	62:BU:488:GLU:OE2	2.53	0.41
64:BV:157:ARG:HA	73:1:284:A:OP2	2.20	0.41
73:1:163:U:HO2'	73:1:166:U:P	2.43	0.41
73:1:473:U:C2'	73:1:474:U:H6	2.33	0.41
75:R2:131:U:H6	75:R2:131:U:H2'	1.54	0.41
1:A:133:MET:HG3	1:A:158:PHE:CE2	2.55	0.41
2:B:192:ASP:OD1	11:M:2:PRO:HG3	2.20	0.41
4:E:161:LYS:HZ3	4:E:180:VAL:HB	1.86	0.41
6:G:188:ARG:HD3	6:G:203:ALA:O	2.21	0.41
8:J:50:GLU:H	8:J:50:GLU:HG3	1.61	0.41
9:K:153:GLU:O	9:K:157:GLU:HG2	2.21	0.41
9:K:168:LEU:O	9:K:171:GLU:HB2	2.20	0.41
11:M:196:HIS:HB3	11:M:238:ASP:O	2.21	0.41
12:N:225:LEU:HD23	12:N:225:LEU:HA	1.85	0.41
13:O:30:TYR:O	13:O:31:ARG:C	2.58	0.41
13:O:147:GLY:HA3	13:O:199:ARG:HH21	1.86	0.41
14:Q:137:ASP:OD1	14:Q:138:ASN:N	2.52	0.41
15:R:272:ARG:HA	15:R:273:PRO:HD3	1.89	0.41
15:R:396:TRP:CD1	15:R:397:PRO:HA	2.56	0.41
16:S:318:ALA:O	16:S:322:ILE:HG12	2.20	0.41
21:CA:539:GLN:OE1	63:BW:190:ARG:NH1	2.54	0.41
21:CA:563:VAL:HA	63:BW:304:TRP:HB3	2.02	0.41
24:CB:140:ARG:O	24:CB:145:LEU:HD23	2.21	0.41
24:CB:148:LYS:HD2	29:BO:165:ARG:HD3	2.02	0.41
25:BK:444:ALA:HA	25:BK:447:ASP:HB2	2.03	0.41
26:BQ:265:SER:O	56:BS:304:ARG:NE	2.53	0.41
26:BQ:435:HIS:CD2	26:BQ:437:SER:HB2	2.56	0.41
29:BO:99:HIS:HD2	29:BO:128:VAL:HB	1.86	0.41
46:BH:18:MET:HE3	46:BH:18:MET:O	2.20	0.41
52:BM:1:MET:HA	52:BM:4:PHE:CE1	2.56	0.41
52:BM:208:GLY:O	52:BM:212:GLU:N	2.42	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BX:117:LEU:HD22	57:BX:240:PHE:CD2	2.56	0.41
58:BZ:365:HIS:NE2	58:BZ:392:HIS:O	2.45	0.41
59:CC:125:ILE:HD12	59:CC:125:ILE:HA	1.97	0.41
62:BU:294:ASP:HB2	62:BU:299:SER:CB	2.51	0.41
62:BU:438:THR:HG22	62:BU:439:GLN:HG2	2.03	0.41
63:BW:94:PRO:HB3	73:1:385:A:H62	1.85	0.41
63:BW:609:TYR:HB2	63:BW:617:VAL:HG21	2.01	0.41
73:1:581:U:H5'	73:1:582:U:OP2	2.19	0.41
73:1:848:U:HO2'	73:1:849:U:P	2.43	0.41
77:U8:43:ALA:O	77:U8:44:ALA:HB2	2.20	0.41
1:A:185:VAL:HG13	1:A:186:PRO:O	2.20	0.41
2:B:49:VAL:HG21	2:B:214:GLN:OE1	2.21	0.41
2:B:207:LYS:HE3	2:B:324:ASP:O	2.21	0.41
2:B:321:LEU:O	73:1:512:A:N6	2.53	0.41
3:C:100:LEU:HD11	3:C:106:HIS:HB2	2.02	0.41
10:L:166:TRP:HA	10:L:166:TRP:CE3	2.56	0.41
15:R:288:ARG:HE	15:R:288:ARG:HB2	1.74	0.41
16:S:283:GLU:HG2	16:S:287:GLN:OE1	2.21	0.41
21:CA:425:ARG:CD	21:CA:435:ALA:HB2	2.46	0.41
21:CA:480:PHE:CD1	21:CA:486:LEU:HA	2.56	0.41
21:CA:485:SER:O	21:CA:486:LEU:C	2.58	0.41
25:BK:193:ARG:NH1	25:BK:222:LEU:HD13	2.36	0.41
25:BK:575:ARG:CZ	25:BK:620:ARG:HB2	2.51	0.41
25:BK:765:GLN:O	25:BK:769:ARG:HB3	2.20	0.41
26:BQ:114:ILE:HG12	26:BQ:161:ARG:CZ	2.51	0.41
26:BQ:237:LYS:HE3	26:BQ:237:LYS:HB3	1.80	0.41
27:BN:88:PHE:O	27:BN:88:PHE:CG	2.72	0.41
27:BN:124:THR:HG22	27:BN:125:ALA:N	2.36	0.41
43:BG:1263:HIS:HB2	43:BG:1296:PHE:HA	2.02	0.41
52:BM:253:CYS:O	52:BM:256:PRO:HD2	2.21	0.41
57:BX:240:PHE:O	57:BX:242:THR:N	2.50	0.41
58:BZ:91:GLN:HB3	74:R1:8:U:O2	2.20	0.41
58:BZ:344:GLU:OE1	61:BT:239:CYS:HA	2.20	0.41
59:CC:111:VAL:HG21	60:CD:69:ARG:HB2	2.02	0.41
62:BU:216:MET:SD	62:BU:220:ARG:HG3	2.61	0.41
62:BU:264:ARG:HD2	62:BU:301:ILE:CD1	2.39	0.41
62:BU:385:ALA:O	62:BU:386:HIS:C	2.59	0.41
62:BU:487:GLN:HG3	63:BW:364:VAL:HG22	2.03	0.41
63:BW:521:ALA:O	63:BW:525:GLN:HG3	2.21	0.41
66:U6:89:ALA:O	66:U6:90:ALA:HB2	2.20	0.41
73:1:578:U:HO2'	73:1:580:A:H8	1.67	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:1:584:U:H5"	73:1:585:U:OP2	2.20	0.41
73:1:917:U:H1'	73:1:918:A:N7	2.35	0.41
75:R2:15:U:H3'	75:R2:16:U:C5'	2.51	0.41
77:U8:18:ALA:O	77:U8:19:ALA:HB3	2.21	0.41
4:E:125:LEU:HA	4:E:128:ALA:HB3	2.03	0.41
7:I:183:PRO:HG2	7:I:186:PHE:HA	2.02	0.41
8:J:50:GLU:OE2	8:J:51:GLN:N	2.54	0.41
11:M:19:GLN:HE21	11:M:19:GLN:HB3	1.70	0.41
11:M:176:VAL:O	11:M:180:LEU:N	2.36	0.41
12:N:76:TYR:C	12:N:78:ARG:N	2.73	0.41
12:N:206:LYS:HE2	12:N:212:ILE:HG13	2.03	0.41
13:O:35:ARG:O	13:O:39:ARG:HG3	2.20	0.41
13:O:310:MET:O	13:O:314:GLN:HG2	2.21	0.41
15:R:114:LYS:HD2	15:R:114:LYS:HA	1.71	0.41
18:V:45:LYS:NZ	73:1:195:G:OP2	2.54	0.41
21:CA:250:ILE:O	21:CA:586:LEU:N	2.53	0.41
21:CA:392:ARG:H	21:CA:392:ARG:HG2	1.72	0.41
21:CA:424:CYS:SG	21:CA:437:VAL:HA	2.61	0.41
21:CA:474:GLU:HA	21:CA:477:PHE:CE2	2.56	0.41
23:BB:17:HIS:CG	73:1:1119:G:H1'	2.55	0.41
26:BQ:184:ARG:HG2	26:BQ:202:ASN:ND2	2.32	0.41
26:BQ:381:SER:H	26:BQ:384:GLN:HE22	1.69	0.41
29:BO:73:ASN:OD1	29:BO:73:ASN:N	2.53	0.41
29:BO:100:ARG:HG2	58:BZ:307:PHE:CE2	2.56	0.41
43:BG:1324:TYR:O	43:BG:1328:GLN:HB2	2.20	0.41
46:BH:133:SER:OG	46:BH:134:GLY:N	2.54	0.41
52:BM:158:MET:HG2	52:BM:217:LYS:CG	2.51	0.41
56:BS:292:GLN:HA	56:BS:295:TYR:HB2	2.03	0.41
57:BY:133:LYS:HD2	57:BY:133:LYS:N	2.36	0.41
58:BZ:81:ASP:O	58:BZ:85:VAL:HG23	2.21	0.41
61:BT:122:TYR:O	61:BT:126:ASN:ND2	2.49	0.41
62:BU:234:VAL:O	62:BU:318:VAL:HG12	2.21	0.41
62:BU:384:SER:H	62:BU:389:MET:HB2	1.86	0.41
63:BW:254:LEU:HD23	63:BW:254:LEU:HA	1.84	0.41
63:BW:368:LEU:HG	63:BW:606:LEU:HD22	2.03	0.41
67:U1:10:ALA:O	67:U1:11:ALA:HB3	2.21	0.41
73:1:93:U:C4	73:1:94:U:C4	3.09	0.41
73:1:123:U:O4	73:1:124:A:N6	2.54	0.41
73:1:1134:U:C4	73:1:1135:U:O4	2.74	0.41
73:1:1137:U:O4	73:1:1144:A:C8	2.74	0.41
74:R1:8:U:H4'	74:R1:9:U:OP2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:242:GLN:OE1	8:J:15:ARG:NH2	2.34	0.41
2:B:169:ASN:O	2:B:175:GLY:HA3	2.21	0.41
2:B:170:HIS:HE1	73:1:216:U:H4'	1.86	0.41
6:G:334:GLU:O	6:G:334:GLU:HG2	2.21	0.41
7:I:142:LYS:HD3	73:1:1170:G:O6	2.21	0.41
8:J:103:ILE:HG21	8:J:112:TYR:CE2	2.56	0.41
8:J:125:LEU:O	8:J:128:ARG:HB3	2.21	0.41
9:K:82:ASN:ND2	39:BP:-4:THR:HA	2.36	0.41
11:M:36:LEU:HD12	11:M:36:LEU:HA	1.71	0.41
11:M:118:LEU:HA	11:M:121:GLU:HG3	2.02	0.41
11:M:121:GLU:OE1	11:M:122:LEU:HG	2.21	0.41
13:O:136:TRP:HB3	13:O:166:ILE:HD11	2.03	0.41
14:Q:128:PHE:HA	14:Q:131:GLU:OE1	2.21	0.41
15:R:466:ARG:HH12	73:1:116:U:H1'	1.86	0.41
20:BA:55:ALA:O	20:BA:59:ILE:HG12	2.21	0.41
20:BA:112:GLU:HG3	20:BA:137:ARG:HD2	2.02	0.41
21:CA:155:LEU:HD12	21:CA:229:GLY:HA3	2.01	0.41
21:CA:381:GLU:O	21:CA:385:LYS:HG3	2.21	0.41
23:BB:18:ARG:HH21	25:BK:312:TYR:HB3	1.85	0.41
24:CB:56:ILE:H	24:CB:56:ILE:HG12	1.72	0.41
24:CB:73:VAL:HG11	24:CB:83:MET:HE3	2.02	0.41
25:BK:632:ASP:N	25:BK:632:ASP:OD1	2.53	0.41
26:BQ:104:SER:HA	26:BQ:107:LYS:HB2	2.03	0.41
26:BQ:182:PRO:HG3	26:BQ:236:GLU:HG2	2.03	0.41
27:BN:305:LEU:H	27:BN:305:LEU:HD12	1.86	0.41
39:BP:-45:TYR:H1	39:BP:-45:TYR:HD1	1.69	0.41
50:BF:103:HIS:CG	73:1:566:G:C6	3.08	0.41
52:BM:93:LEU:HD13	52:BM:127:HIS:HE1	1.86	0.41
52:BM:155:TYR:OH	52:BM:167:GLY:O	2.39	0.41
52:BM:235:LYS:O	52:BM:238:PRO:HD2	2.20	0.41
56:BS:346:LYS:HD3	56:BS:346:LYS:HA	1.76	0.41
57:BY:98:LYS:HE2	57:BY:98:LYS:HB2	1.85	0.41
57:BY:125:ARG:HD3	57:BY:125:ARG:HA	1.94	0.41
57:BX:218:ILE:HG22	57:BX:219:ALA:N	2.36	0.41
57:BX:264:ILE:O	57:BX:268:ASN:N	2.54	0.41
57:BX:278:GLN:CG	57:BX:336:GLU:HG2	2.51	0.41
58:BZ:198:ASP:N	58:BZ:198:ASP:OD1	2.53	0.41
58:BZ:199:LEU:HB3	58:BZ:203:TRP:CZ3	2.56	0.41
58:BZ:215:HIS:HD2	58:BZ:241:PHE:CE1	2.38	0.41
59:CC:70:ASP:OD1	59:CC:70:ASP:N	2.52	0.41
62:BU:169:VAL:HA	62:BU:170:PRO:HD3	1.96	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BU:334:LEU:HD13	62:BU:375:VAL:HG11	2.03	0.41
64:BV:189:ARG:HD2	64:BV:189:ARG:HA	1.79	0.41
68:U3:28:ALA:O	68:U3:29:ALA:CB	2.66	0.41
71:BR:43:HIS:C	71:BR:45:SER:H	2.24	0.41
71:BR:75:ARG:HG2	71:BR:79:GLN:HG3	2.02	0.41
71:BR:258:ASP:O	71:BR:262:LEU:HG	2.21	0.41
72:U2:1:ALA:HB3	77:U8:41:ALA:C	2.38	0.41
73:1:245:U:H2'	73:1:246:U:C6	2.55	0.41
73:1:293:U:H4'	73:1:294:U:O5'	2.20	0.41
73:1:547:U:H3	73:1:594:U:H2'	1.86	0.41
73:1:834:A:H2'	73:1:835:A:O4'	2.21	0.41
73:1:1171:G:H5'	73:1:1171:G:N3	2.36	0.41
77:U8:31:ALA:HB2	77:U8:45:ALA:CA	2.51	0.41
1:A:263:TRP:CE3	1:A:263:TRP:HA	2.56	0.41
3:C:22:VAL:HG13	3:C:23:THR:HG23	2.03	0.41
3:C:162:TYR:HH	3:C:172:HIS:CD2	2.39	0.41
3:C:194:TYR:HD1	3:C:201:TYR:CD2	2.34	0.41
11:M:11:GLY:HA2	11:M:12:LEU:HA	1.46	0.41
12:N:60:TRP:HE3	73:1:98:G:C4'	2.33	0.41
13:O:60:LYS:HD2	13:O:61:PRO:HD2	2.03	0.41
13:O:162:TYR:CE2	13:O:163:LYS:HG3	2.56	0.41
13:O:228:GLU:HG2	13:O:238:LEU:HD22	2.03	0.41
13:O:316:ASP:OD1	14:Q:173:LEU:HD21	2.20	0.41
15:R:148:ARG:HB2	15:R:330:TRP:CZ2	2.55	0.41
16:S:311:ASP:OD1	16:S:312:GLN:N	2.53	0.41
17:T:82:LYS:HB2	25:BK:844:ARG:NH2	2.36	0.41
18:V:26:LEU:HD12	18:V:27:LYS:H	1.86	0.41
18:V:63:ARG:HE	18:V:63:ARG:HB2	1.62	0.41
25:BK:608:HIS:HA	25:BK:609:PRO:HD3	1.90	0.41
26:BQ:27:SER:OG	26:BQ:28:LEU:N	2.54	0.41
26:BQ:97:GLU:HB2	26:BQ:141:GLN:NE2	2.36	0.41
27:BN:176:ASP:OD2	27:BN:187:ARG:NE	2.52	0.41
39:BP:66:LEU:HA	39:BP:67:PRO:HD3	1.91	0.41
39:BP:72:THR:OG1	39:BP:75:GLN:N	2.52	0.41
52:BM:237:ARG:HG3	52:BM:335:ARG:HH11	1.85	0.41
52:BM:374:LEU:HD12	52:BM:374:LEU:HA	1.93	0.41
57:BY:110:GLY:HA3	57:BY:113:MET:HE2	2.03	0.41
57:BX:183:ASN:HB3	57:BX:271:LEU:CD2	2.51	0.41
61:BT:81:ALA:HB3	61:BT:108:ALA:HA	2.03	0.41
61:BT:92:ILE:O	61:BT:101:ARG:NH1	2.47	0.41
62:BU:35:GLY:HA2	62:BU:41:LYS:HD2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BU:296:GLU:O	62:BU:296:GLU:HG2	2.20	0.41
63:BW:147:VAL:HG23	63:BW:170:PRO:HB2	2.02	0.41
63:BW:201:GLU:OE1	63:BW:201:GLU:N	2.54	0.41
63:BW:251:LYS:HD3	63:BW:251:LYS:HA	1.79	0.41
63:BW:572:LEU:HG	63:BW:573:HIS:H	1.86	0.41
64:BV:313:LEU:C	64:BV:315:GLN:H	2.23	0.41
73:1:485:U:H5	73:1:486:U:C2	2.39	0.41
75:R2:13:U:O2'	75:R2:14:U:O5'	2.39	0.41
75:R2:130:U:H6	75:R2:130:U:H2'	1.61	0.41
1:A:243:ASN:OD1	1:A:243:ASN:N	2.53	0.40
2:B:213:LEU:HD12	2:B:214:GLN:H	1.86	0.40
2:B:259:SER:OG	2:B:378:GLN:OE1	2.28	0.40
2:B:333:LEU:HD23	2:B:333:LEU:HA	1.87	0.40
2:B:372:PRO:HG3	15:R:221:VAL:HG12	2.02	0.40
3:C:106:HIS:O	73:1:902:G:H1'	2.21	0.40
4:E:53:TRP:HB3	4:E:55:PHE:CE1	2.55	0.40
6:G:14:PHE:O	39:BP:-15:PRO:HD2	2.21	0.40
8:J:88:LEU:HD23	8:J:88:LEU:HA	1.76	0.40
8:J:102:TRP:HB3	29:BO:144:GLN:HB2	2.03	0.40
9:K:84:LEU:HD22	9:K:89:LEU:HD12	2.02	0.40
10:L:39:VAL:HB	10:L:115:ILE:HG23	2.04	0.40
12:N:209:VAL:O	26:BQ:65:PHE:HA	2.21	0.40
12:N:229:VAL:HG23	15:R:10:VAL:HG13	2.03	0.40
21:CA:522:LEU:CB	21:CA:525:PRO:HG3	2.51	0.40
22:UA:132:ALA:O	22:UA:136:ALA:N	2.54	0.40
25:BK:827:PHE:HA	25:BK:830:ARG:HB2	2.04	0.40
26:BQ:81:ILE:H	26:BQ:81:ILE:HG12	1.63	0.40
29:BO:65:LYS:HE3	29:BO:78:ARG:HH21	1.84	0.40
46:BH:76:TYR:CD1	46:BH:95:ILE:HD11	2.56	0.40
46:BH:96:LEU:O	46:BH:102:SER:OG	2.39	0.40
46:BH:132:HIS:HE1	46:BH:155:LYS:O	2.04	0.40
56:BS:371:ILE:HA	56:BS:372:PRO:HD3	1.94	0.40
57:BY:91:LEU:HD12	57:BY:91:LEU:HA	1.88	0.40
57:BY:232:VAL:HG13	57:BY:239:HIS:HB3	2.03	0.40
57:BX:229:HIS:CD2	57:BX:230:ARG:N	2.89	0.40
58:BZ:95:TYR:CD2	58:BZ:122:THR:HG22	2.54	0.40
58:BZ:200:LEU:HA	58:BZ:200:LEU:HD23	1.89	0.40
58:BZ:398:LYS:HD3	58:BZ:398:LYS:HA	1.65	0.40
60:CD:51:SER:O	60:CD:51:SER:OG	2.37	0.40
61:BT:140:ARG:O	61:BT:144:GLU:HG3	2.20	0.40
62:BU:329:TYR:O	62:BU:333:ILE:HD12	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:BW:178:ASP:OD2	63:BW:268:ARG:HG2	2.21	0.40
63:BW:531:PHE:HB3	63:BW:559:ILE:HD11	2.02	0.40
73:1:361:A:N7	73:1:362:A:C6	2.89	0.40
73:1:509:U:C5	73:1:517:U:C4	3.09	0.40
73:1:549:C:N4	73:1:588:A:O2'	2.54	0.40
73:1:556:A:H5'	73:1:557:A:C2	2.56	0.40
73:1:577:A:O2'	73:1:578:U:O5'	2.35	0.40
2:B:194:LYS:HD3	73:1:208:U:C4	2.56	0.40
2:B:210:GLN:HA	6:G:89:GLN:HE22	1.86	0.40
4:E:161:LYS:NZ	4:E:180:VAL:HB	2.37	0.40
8:J:52:ILE:HD13	8:J:77:ALA:HB3	2.03	0.40
12:N:182:TYR:HB2	19:Z:142:PHE:CE1	2.56	0.40
15:R:20:ASN:ND2	15:R:27:PRO:HA	2.36	0.40
21:CA:82:THR:HG22	21:CA:197:VAL:HB	2.03	0.40
25:BK:179:ASP:N	25:BK:179:ASP:OD1	2.54	0.40
25:BK:191:GLU:OE1	25:BK:191:GLU:N	2.47	0.40
25:BK:499:ARG:HD2	25:BK:499:ARG:HA	1.88	0.40
29:BO:148:ASP:OD1	29:BO:168:TYR:OH	2.38	0.40
52:BM:124:TYR:O	52:BM:128:LEU:HG	2.22	0.40
52:BM:139:PRO:HA	52:BM:142:ARG:HE	1.86	0.40
56:BS:392:LEU:HD12	56:BS:393:ALA:N	2.36	0.40
57:BY:190:VAL:HG11	57:BY:218:ILE:HG12	2.02	0.40
57:BY:288:THR:O	57:BY:347:LEU:HD21	2.21	0.40
61:BT:226:VAL:HG23	61:BT:226:VAL:O	2.21	0.40
61:BT:287:LEU:HB3	61:BT:305:GLU:OE2	2.21	0.40
62:BU:274:LYS:CB	62:BU:395:MET:CE	3.00	0.40
63:BW:108:LYS:HA	63:BW:108:LYS:HD3	1.80	0.40
68:U3:13:ALA:O	68:U3:17:ALA:N	2.55	0.40
73:1:235:G:O2'	73:1:236:A:O4'	2.39	0.40
73:1:430:A:H4'	73:1:473:U:OP1	2.22	0.40
2:B:219:LEU:HA	2:B:219:LEU:HD23	1.86	0.40
6:G:275:MET:SD	6:G:275:MET:N	2.94	0.40
6:G:279:LEU:HD22	6:G:298:LEU:HD11	2.04	0.40
8:J:66:ARG:NE	24:CB:81:ASP:OD1	2.54	0.40
9:K:167:VAL:HG21	9:K:179:TRP:HH2	1.85	0.40
12:N:60:TRP:HB2	73:1:99:A:OP2	2.20	0.40
13:O:295:SER:O	13:O:299:HIS:HB2	2.21	0.40
13:O:322:THR:CG2	14:Q:206:MET:HB3	2.52	0.40
15:R:37:GLU:H	15:R:37:GLU:HG3	1.56	0.40
15:R:179:GLU:HA	15:R:182:LEU:HB2	2.04	0.40
15:R:204:GLU:OE1	15:R:207:LYS:HE3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:UA:126:ALA:HA	22:UA:129:ALA:HB3	2.04	0.40
25:BK:432:TYR:CZ	25:BK:446:LEU:HD13	2.56	0.40
25:BK:696:ASP:O	25:BK:700:ASP:N	2.45	0.40
39:BP:18:GLU:OE2	39:BP:43:GLN:NE2	2.46	0.40
50:BF:93:LYS:HD2	50:BF:93:LYS:HA	1.89	0.40
58:BZ:100:ASN:HD22	58:BZ:101:GLY:H	1.66	0.40
58:BZ:282:VAL:O	61:BT:211:THR:HB	2.22	0.40
61:BT:283:MET:HE2	61:BT:283:MET:HB3	1.94	0.40
61:BT:287:LEU:HD23	61:BT:287:LEU:HA	1.82	0.40
62:BU:144:LYS:HD3	62:BU:144:LYS:HA	1.93	0.40
63:BW:194:ILE:O	63:BW:194:ILE:HG13	2.20	0.40
64:BV:104:GLY:O	64:BV:110:LYS:NZ	2.49	0.40
73:1:610:A:H2	73:1:611:A:C4	2.38	0.40
77:U8:21:ALA:HA	77:U8:50:ALA:O	2.21	0.40
3:C:65:LYS:HD2	3:C:65:LYS:HA	1.70	0.40
3:C:107:GLN:H	3:C:107:GLN:HG2	1.75	0.40
7:I:99:HIS:HE1	73:1:1170:G:N3	2.19	0.40
8:J:53:ILE:HG13	8:J:124:TYR:CD1	2.56	0.40
8:J:56:PRO:HD2	8:J:115:THR:O	2.21	0.40
8:J:59:CYS:O	8:J:112:TYR:HA	2.21	0.40
8:J:79:THR:O	8:J:80:GLU:HB2	2.21	0.40
11:M:107:TYR:OH	71:BR:147:PHE:HB2	2.22	0.40
13:O:95:PHE:HB3	73:1:579:U:O4	2.20	0.40
13:O:219:ARG:HH21	13:O:222:GLU:HA	1.85	0.40
13:O:286:ASN:O	13:O:290:ASP:HB2	2.21	0.40
13:O:291:SER:O	13:O:291:SER:OG	2.38	0.40
14:Q:156:ILE:HD12	14:Q:156:ILE:HA	1.83	0.40
15:R:54:LEU:HD11	15:R:90:SER:HB2	2.02	0.40
16:S:268:LYS:HE2	73:1:400:U:C4	2.57	0.40
16:S:295:PRO:HG2	16:S:296:PRO:HD3	2.03	0.40
21:CA:166:LEU:HA	21:CA:166:LEU:HD23	1.78	0.40
21:CA:343:LEU:HA	21:CA:346:CYS:SG	2.61	0.40
21:CA:461:PRO:O	21:CA:464:GLU:HB2	2.21	0.40
21:CA:497:THR:OG1	21:CA:498:PRO:HD2	2.21	0.40
24:CB:177:TRP:HZ3	29:BO:76:HIS:CD2	2.38	0.40
25:BK:502:ARG:NH2	25:BK:505:VAL:HG21	2.36	0.40
26:BQ:425:VAL:H	26:BQ:425:VAL:HG22	1.62	0.40
29:BO:91:CYS:C	29:BO:93:VAL:H	2.25	0.40
29:BO:124:ASN:HB2	29:BO:126:TYR:CZ	2.57	0.40
52:BM:154:ASP:OD2	52:BM:210:ALA:HB2	2.21	0.40
52:BM:317:PHE:HA	52:BM:318:PRO:HD3	1.95	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BU:125:HIS:CE1	62:BU:163:LEU:HD23	2.56	0.40
63:BW:128:LEU:CD1	63:BW:133:VAL:HB	2.51	0.40
63:BW:589:TYR:O	63:BW:593:SER:OG	2.32	0.40
64:BV:224:VAL:O	64:BV:295:ILE:HA	2.22	0.40
73:1:98:G:H8	73:1:98:G:OP1	2.04	0.40
73:1:573:A:H3'	73:1:574:A:C5'	2.51	0.40
73:1:875:A:C6	73:1:876:G:C6	3.10	0.40
75:R2:9:U:N3	75:R2:20:U:C4	2.90	0.40
1:A:296:ALA:HB3	8:J:6:ARG:CD	2.51	0.40
2:B:177:HIS:HE1	73:1:178:U:OP1	2.04	0.40
2:B:249:PHE:O	2:B:278:LEU:HD12	2.22	0.40
2:B:375:GLN:HG3	2:B:379:MET:HB3	2.04	0.40
4:E:54:ARG:NH2	4:E:56:PHE:HZ	2.19	0.40
4:E:148:TYR:C	4:E:149:LEU:HD12	2.41	0.40
6:G:217:VAL:HG23	6:G:236:ASN:O	2.22	0.40
6:G:305:GLU:HA	6:G:309:ALA:HB3	2.04	0.40
6:G:311:PRO:HB3	6:G:316:ARG:HB3	2.04	0.40
6:G:342:HIS:ND1	6:G:342:HIS:N	2.67	0.40
7:I:61:ARG:H	7:I:65:HIS:HD2	1.67	0.40
7:I:210:ASP:OD1	7:I:211:ARG:N	2.55	0.40
8:J:113:GLU:OE2	8:J:114:VAL:N	2.53	0.40
11:M:146:LEU:HD23	11:M:204:CYS:SG	2.61	0.40
11:M:221:TYR:HB3	73:1:577:A:H62	1.85	0.40
12:N:64:MET:HE3	14:Q:48:ARG:CD	2.52	0.40
13:O:42:LYS:HG2	73:1:132:U:H5	1.87	0.40
15:R:401:LYS:HA	15:R:460:HIS:NE2	2.37	0.40
15:R:462:LYS:HE2	15:R:462:LYS:HB2	1.83	0.40
17:T:29:PRO:HA	73:1:1102:C:O4'	2.21	0.40
21:CA:85:HIS:O	21:CA:248:HIS:HA	2.21	0.40
21:CA:148:LEU:HA	21:CA:149:PRO:HD3	1.86	0.40
21:CA:191:GLY:HA2	21:CA:281:GLU:OE1	2.20	0.40
23:BB:18:ARG:HE	25:BK:312:TYR:HB3	1.87	0.40
24:CB:105:ASP:O	24:CB:112:LYS:HB2	2.21	0.40
25:BK:485:LEU:HG	25:BK:486:THR:H	1.87	0.40
25:BK:642:LEU:CD1	25:BK:739:ALA:HB2	2.51	0.40
25:BK:643:LEU:HD12	25:BK:754:ILE:HB	2.04	0.40
25:BK:699:LEU:HD23	25:BK:699:LEU:HA	1.92	0.40
26:BQ:260:PHE:HE1	26:BQ:287:ALA:HB2	1.85	0.40
27:BN:97:ARG:C	27:BN:99:ARG:H	2.25	0.40
46:BH:86:PRO:HA	46:BH:173:VAL:CG2	2.51	0.40
46:BH:145:ASN:HB3	46:BH:149:ASN:ND2	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BM:141:ARG:CG	52:BM:271:ARG:HG3	2.51	0.40
56:BS:301:ARG:HG3	56:BS:301:ARG:H	1.67	0.40
57:BX:184:HIS:CE1	67:U1:4:ALA:HB1	2.56	0.40
58:BZ:326:MET:HB2	58:BZ:326:MET:HE2	1.88	0.40
62:BU:231:VAL:HG22	62:BU:280:LEU:HA	2.03	0.40
62:BU:328:LYS:HE3	62:BU:328:LYS:HB3	1.91	0.40
63:BW:139:ILE:HD12	63:BW:139:ILE:HA	1.86	0.40
63:BW:276:ASP:OD1	63:BW:277:ALA:N	2.55	0.40
63:BW:613:GLN:O	63:BW:617:VAL:HG23	2.22	0.40
71:BR:172:PRO:HG2	71:BR:290:TRP:CZ3	2.56	0.40
73:1:96:U:C6	73:1:97:U:H5"	2.56	0.40
73:1:172:A:C2	73:1:531:A:C2	3.09	0.40
73:1:218:A:C2	73:1:319:A:H3'	2.56	0.40
73:1:259:U:H4'	73:1:260:U:OP2	2.21	0.40
73:1:480:A:HO2'	73:1:481:U:P	2.44	0.40
73:1:845:A:O2'	73:1:846:A:P	2.79	0.40
73:1:877:G:N1	73:1:992:G:N2	2.69	0.40
73:1:894:U:C5	73:1:918:A:C6	3.10	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	354/467 (76%)	298 (84%)	55 (16%)	1 (0%)	41 72
2	B	433/436 (99%)	387 (89%)	46 (11%)	0	100 100
3	C	210/262 (80%)	182 (87%)	27 (13%)	1 (0%)	29 61
4	E	223/346 (64%)	192 (86%)	30 (14%)	1 (0%)	34 67
5	F	145/171 (85%)	125 (86%)	20 (14%)	0	100 100
6	G	332/374 (89%)	289 (87%)	36 (11%)	7 (2%)	7 30

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	I	255/305 (84%)	218 (86%)	37 (14%)	0	100	100
8	J	139/144 (96%)	108 (78%)	27 (19%)	4 (3%)	4	24
9	K	177/194 (91%)	159 (90%)	18 (10%)	0	100	100
10	L	176/186 (95%)	159 (90%)	17 (10%)	0	100	100
11	M	257/279 (92%)	218 (85%)	39 (15%)	0	100	100
12	N	187/252 (74%)	154 (82%)	29 (16%)	4 (2%)	7	30
13	O	298/476 (63%)	267 (90%)	30 (10%)	1 (0%)	41	72
14	Q	215/234 (92%)	191 (89%)	23 (11%)	1 (0%)	29	61
15	R	470/480 (98%)	410 (87%)	59 (13%)	1 (0%)	47	78
16	S	148/409 (36%)	135 (91%)	13 (9%)	0	100	100
17	T	53/83 (64%)	47 (89%)	6 (11%)	0	100	100
18	V	139/151 (92%)	114 (82%)	25 (18%)	0	100	100
19	Z	111/197 (56%)	95 (86%)	16 (14%)	0	100	100
20	BA	104/167 (62%)	85 (82%)	19 (18%)	0	100	100
21	CA	535/618 (87%)	417 (78%)	113 (21%)	5 (1%)	17	49
22	UA	201/203 (99%)	167 (83%)	30 (15%)	4 (2%)	7	30
23	BB	104/156 (67%)	87 (84%)	17 (16%)	0	100	100
24	CB	133/202 (66%)	95 (71%)	38 (29%)	0	100	100
25	BK	690/893 (77%)	608 (88%)	78 (11%)	4 (1%)	25	57
26	BQ	409/445 (92%)	362 (88%)	46 (11%)	1 (0%)	47	78
27	BN	192/344 (56%)	163 (85%)	27 (14%)	2 (1%)	15	46
28	BE	35/118 (30%)	26 (74%)	9 (26%)	0	100	100
29	BO	154/190 (81%)	108 (70%)	44 (29%)	2 (1%)	12	39
30	At	163/183 (89%)	136 (83%)	27 (17%)	0	100	100
31	Au	78/186 (42%)	72 (92%)	6 (8%)	0	100	100
32	Ae	288/311 (93%)	243 (84%)	45 (16%)	0	100	100
33	Af	143/155 (92%)	126 (88%)	17 (12%)	0	100	100
34	Ah	395/570 (69%)	347 (88%)	46 (12%)	2 (0%)	29	61
35	Ap	212/240 (88%)	193 (91%)	19 (9%)	0	100	100
36	Al	226/346 (65%)	197 (87%)	27 (12%)	2 (1%)	17	49
37	Ab	166/262 (63%)	148 (89%)	18 (11%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
38	Aa	133/195 (68%)	106 (80%)	23 (17%)	4 (3%)	4 23
39	BP	129/254 (51%)	105 (81%)	23 (18%)	1 (1%)	19 51
40	Az	128/152 (84%)	121 (94%)	7 (6%)	0	100 100
41	Am	294/340 (86%)	265 (90%)	29 (10%)	0	100 100
42	As	142/249 (57%)	125 (88%)	17 (12%)	0	100 100
43	BG	83/1347 (6%)	64 (77%)	17 (20%)	2 (2%)	6 28
44	Ad	185/237 (78%)	165 (89%)	20 (11%)	0	100 100
45	Aw	183/187 (98%)	160 (87%)	23 (13%)	0	100 100
46	BH	179/229 (78%)	158 (88%)	20 (11%)	1 (1%)	25 57
47	Aj	338/503 (67%)	303 (90%)	35 (10%)	0	100 100
48	Ar	193/205 (94%)	148 (77%)	45 (23%)	0	100 100
49	An	236/331 (71%)	206 (87%)	28 (12%)	2 (1%)	19 51
50	BF	77/109 (71%)	65 (84%)	12 (16%)	0	100 100
51	Av	98/192 (51%)	75 (76%)	23 (24%)	0	100 100
52	BM	387/457 (85%)	345 (89%)	42 (11%)	0	100 100
53	Ag	122/244 (50%)	105 (86%)	17 (14%)	0	100 100
54	Bl	184/266 (69%)	164 (89%)	20 (11%)	0	100 100
55	Ax	165/216 (76%)	122 (74%)	39 (24%)	4 (2%)	6 28
56	BS	121/416 (29%)	100 (83%)	21 (17%)	0	100 100
57	BX	270/569 (48%)	202 (75%)	64 (24%)	4 (2%)	10 36
57	BY	273/569 (48%)	214 (78%)	58 (21%)	1 (0%)	34 67
58	BZ	347/413 (84%)	277 (80%)	60 (17%)	10 (3%)	4 24
59	CC	82/150 (55%)	76 (93%)	6 (7%)	0	100 100
60	CD	88/126 (70%)	70 (80%)	17 (19%)	1 (1%)	14 44
61	BT	298/464 (64%)	235 (79%)	62 (21%)	1 (0%)	41 72
62	BU	461/497 (93%)	373 (81%)	85 (18%)	3 (1%)	22 55
63	BW	443/776 (57%)	359 (81%)	76 (17%)	8 (2%)	8 32
64	BV	195/787 (25%)	151 (77%)	42 (22%)	2 (1%)	15 46
66	U6	185/187 (99%)	138 (75%)	43 (23%)	4 (2%)	6 29
67	U1	44/46 (96%)	34 (77%)	8 (18%)	2 (4%)	2 16
68	U3	73/75 (97%)	55 (75%)	17 (23%)	1 (1%)	11 37

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
69	U4	134/136 (98%)	120 (90%)	14 (10%)	0	100 100
70	U5	92/94 (98%)	52 (56%)	38 (41%)	2 (2%)	6 29
71	BR	210/301 (70%)	178 (85%)	32 (15%)	0	100 100
72	U2	35/37 (95%)	24 (69%)	11 (31%)	0	100 100
77	U8	57/59 (97%)	34 (60%)	8 (14%)	15 (26%)	0 0
All	All	15214/22450 (68%)	12822 (84%)	2281 (15%)	111 (1%)	26 55

All (111) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	G	310	HIS
6	G	311	PRO
6	G	333	ILE
8	J	60	ASN
12	N	77	ASN
21	CA	486	LEU
21	CA	529	ALA
21	CA	534	ASP
22	UA	82	ALA
58	BZ	128	ARG
58	BZ	356	ASP
62	BU	444	PRO
63	BW	158	PRO
64	BV	134	ARG
64	BV	137	GLN
67	U1	6	ALA
77	U8	5	ALA
77	U8	10	ALA
77	U8	28	ALA
77	U8	31	ALA
77	U8	33	ALA
77	U8	34	ALA
77	U8	35	ALA
77	U8	44	ALA
4	E	24	ASN
6	G	159	ALA
6	G	324	PRO
8	J	49	LYS
13	O	218	VAL
15	R	242	ALA

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Mol	Chain	Res	Type
25	BK	617	LYS
38	Aa	173	GLY
39	BP	-3	HIS
55	Ax	132	THR
58	BZ	55	LEU
58	BZ	100	ASN
58	BZ	358	ALA
60	CD	39	ARG
62	BU	251	TYR
66	U6	55	ALA
66	U6	162	ALA
67	U1	15	ALA
68	U3	27	ALA
77	U8	4	ALA
8	J	42	MET
12	N	52	LEU
12	N	65	GLY
21	CA	254	CYS
22	UA	44	ALA
22	UA	78	ALA
27	BN	90	SER
29	BO	29	THR
38	Aa	51	SER
38	Aa	153	GLU
46	BH	98	LYS
49	An	111	ASP
49	An	112	VAL
55	Ax	77	HIS
57	BX	145	THR
58	BZ	211	PRO
58	BZ	281	ILE
63	BW	558	ASN
63	BW	572	LEU
77	U8	3	ALA
77	U8	11	ALA
77	U8	19	ALA
77	U8	30	ALA
77	U8	53	ALA
6	G	321	ILE
14	Q	24	HIS
21	CA	525	PRO
22	UA	83	ALA

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Mol	Chain	Res	Type
27	BN	85	THR
34	Ah	55	HIS
43	BG	1331	GLY
55	Ax	130	VAL
55	Ax	131	PRO
57	BY	266	GLU
57	BX	321	ALA
61	BT	213	ARG
63	BW	188	GLU
63	BW	376	PRO
66	U6	74	ALA
66	U6	77	ALA
12	N	160	ASN
25	BK	439	ASP
34	Ah	51	ALA
36	Al	261	SER
58	BZ	285	PRO
62	BU	297	PHE
70	U5	7	ALA
70	U5	79	ALA
77	U8	32	ALA
1	A	159	PRO
8	J	63	TYR
25	BK	486	THR
25	BK	612	TYR
26	BQ	203	ASN
29	BO	28	LYS
38	Aa	154	ASN
43	BG	1318	PRO
58	BZ	359	ARG
36	Al	122	PRO
63	BW	632	GLY
6	G	322	ARG
57	BX	316	PRO
58	BZ	282	VAL
3	C	214	PRO
63	BW	264	ILE
57	BX	296	VAL
63	BW	377	LEU

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	305/394 (77%)	289 (95%)	16 (5%)	23 53
2	B	380/381 (100%)	359 (94%)	21 (6%)	21 51
3	C	190/227 (84%)	178 (94%)	12 (6%)	18 47
4	E	193/301 (64%)	181 (94%)	12 (6%)	18 48
5	F	130/152 (86%)	126 (97%)	4 (3%)	40 68
6	G	290/323 (90%)	266 (92%)	24 (8%)	11 36
7	I	223/262 (85%)	212 (95%)	11 (5%)	25 55
8	J	119/122 (98%)	103 (87%)	16 (13%)	4 15
9	K	151/162 (93%)	143 (95%)	8 (5%)	22 52
10	L	151/158 (96%)	132 (87%)	19 (13%)	4 17
11	M	226/242 (93%)	210 (93%)	16 (7%)	14 44
12	N	175/220 (80%)	155 (89%)	20 (11%)	5 21
13	O	272/397 (68%)	257 (94%)	15 (6%)	21 51
14	Q	191/204 (94%)	175 (92%)	16 (8%)	11 36
15	R	406/412 (98%)	379 (93%)	27 (7%)	16 46
16	S	135/336 (40%)	126 (93%)	9 (7%)	16 46
17	T	52/74 (70%)	49 (94%)	3 (6%)	20 50
18	V	125/135 (93%)	121 (97%)	4 (3%)	39 67
19	Z	97/172 (56%)	90 (93%)	7 (7%)	14 43
20	BA	86/135 (64%)	82 (95%)	4 (5%)	26 57
21	CA	446/501 (89%)	403 (90%)	43 (10%)	8 29
23	BB	91/140 (65%)	88 (97%)	3 (3%)	38 66
24	CB	118/179 (66%)	106 (90%)	12 (10%)	7 26
25	BK	582/739 (79%)	539 (93%)	43 (7%)	13 42
26	BQ	347/375 (92%)	330 (95%)	17 (5%)	25 55
27	BN	159/280 (57%)	142 (89%)	17 (11%)	6 24

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
28	BE	35/100 (35%)	32 (91%)	3 (9%)	10	35
29	BO	136/158 (86%)	125 (92%)	11 (8%)	11	38
30	At	140/153 (92%)	132 (94%)	8 (6%)	20	50
31	Au	69/164 (42%)	65 (94%)	4 (6%)	20	50
32	Ae	249/261 (95%)	233 (94%)	16 (6%)	17	47
33	Af	125/135 (93%)	117 (94%)	8 (6%)	17	47
34	Ah	337/485 (70%)	317 (94%)	20 (6%)	19	49
35	Ap	189/208 (91%)	173 (92%)	16 (8%)	10	35
36	Al	204/299 (68%)	189 (93%)	15 (7%)	13	42
37	Ab	150/235 (64%)	141 (94%)	9 (6%)	19	49
38	Aa	118/166 (71%)	109 (92%)	9 (8%)	13	41
39	BP	110/215 (51%)	101 (92%)	9 (8%)	11	37
40	Az	123/143 (86%)	116 (94%)	7 (6%)	20	50
41	Am	250/287 (87%)	237 (95%)	13 (5%)	23	53
42	As	131/204 (64%)	124 (95%)	7 (5%)	22	52
43	BG	77/1047 (7%)	69 (90%)	8 (10%)	7	25
44	Ad	159/193 (82%)	151 (95%)	8 (5%)	24	54
45	Aw	157/159 (99%)	154 (98%)	3 (2%)	57	78
46	BH	150/189 (79%)	145 (97%)	5 (3%)	38	66
47	Aj	287/420 (68%)	274 (96%)	13 (4%)	27	58
48	Ar	169/179 (94%)	159 (94%)	10 (6%)	19	49
49	An	208/289 (72%)	196 (94%)	12 (6%)	20	50
50	BF	68/95 (72%)	63 (93%)	5 (7%)	13	42
51	Av	90/169 (53%)	82 (91%)	8 (9%)	9	33
52	BM	319/370 (86%)	283 (89%)	36 (11%)	6	21
53	Ag	106/211 (50%)	98 (92%)	8 (8%)	13	41
54	Bl	153/221 (69%)	144 (94%)	9 (6%)	19	49
55	Ax	150/190 (79%)	140 (93%)	10 (7%)	16	46
56	BS	103/328 (31%)	98 (95%)	5 (5%)	25	55
57	BX	226/483 (47%)	205 (91%)	21 (9%)	9	31
57	BY	229/483 (47%)	211 (92%)	18 (8%)	12	39

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
58	BZ	305/363 (84%)	276 (90%)	29 (10%)	8 29
59	CC	77/129 (60%)	73 (95%)	4 (5%)	23 53
60	CD	83/112 (74%)	78 (94%)	5 (6%)	19 49
61	BT	257/398 (65%)	242 (94%)	15 (6%)	20 50
62	BU	401/431 (93%)	361 (90%)	40 (10%)	7 27
63	BW	386/661 (58%)	352 (91%)	34 (9%)	10 33
64	BV	172/644 (27%)	166 (96%)	6 (4%)	36 65
71	BR	177/241 (73%)	171 (97%)	6 (3%)	37 65
All	All	12515/18241 (69%)	11643 (93%)	872 (7%)	19 44

All (872) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	40	SER
1	A	48	ASP
1	A	103	LYS
1	A	112	TYR
1	A	140	THR
1	A	145	ASP
1	A	165	LYS
1	A	166	HIS
1	A	185	VAL
1	A	257	PHE
1	A	262	VAL
1	A	275	CYS
1	A	334	ASP
1	A	346	GLU
1	A	355	THR
1	A	359	SER
2	B	6	SER
2	B	26	GLN
2	B	42	ASN
2	B	55	SER
2	B	58	ARG
2	B	70	LEU
2	B	104	THR
2	B	120	GLU
2	B	131	ARG
2	B	199	SER

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Mol	Chain	Res	Type
2	B	235	THR
2	B	242	HIS
2	B	257	THR
2	B	262	TYR
2	B	263	ASP
2	B	273	ASN
2	B	286	ASP
2	B	300	THR
2	B	342	THR
2	B	378	GLN
2	B	411	SER
3	C	17	ARG
3	C	53	LYS
3	C	70	ARG
3	C	88	THR
3	C	115	VAL
3	C	117	PHE
3	C	124	GLU
3	C	136	THR
3	C	158	THR
3	C	181	THR
3	C	207	PHE
3	C	213	ASP
4	E	24	ASN
4	E	26	PHE
4	E	44	PHE
4	E	51	HIS
4	E	64	THR
4	E	82	PHE
4	E	102	VAL
4	E	109	ASP
4	E	121	THR
4	E	198	HIS
4	E	210	TYR
4	E	222	MET
5	F	1	MET
5	F	76	THR
5	F	104	LYS
5	F	145	TRP
6	G	34	LEU
6	G	47	SER
6	G	71	ASN

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Mol	Chain	Res	Type
6	G	76	THR
6	G	83	ASP
6	G	98	THR
6	G	104	VAL
6	G	115	MET
6	G	139	LYS
6	G	145	ARG
6	G	146	LYS
6	G	156	ARG
6	G	158	SER
6	G	208	ASP
6	G	224	GLU
6	G	228	TYR
6	G	269	GLU
6	G	283	LYS
6	G	304	ASP
6	G	307	ARG
6	G	310	HIS
6	G	315	ARG
6	G	316	ARG
6	G	334	GLU
7	I	34	THR
7	I	94	ARG
7	I	186	PHE
7	I	187	PHE
7	I	191	ARG
7	I	219	GLU
7	I	227	LEU
7	I	247	ASP
7	I	249	LEU
7	I	255	GLU
7	I	263	LEU
8	J	2	TYR
8	J	5	GLU
8	J	6	ARG
8	J	19	PHE
8	J	20	PHE
8	J	37	ILE
8	J	46	LYS
8	J	50	GLU
8	J	52	ILE
8	J	55	SER

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Mol	Chain	Res	Type
8	J	57	ILE
8	J	71	ILE
8	J	84	ILE
8	J	127	GLU
8	J	129	SER
8	J	136	LEU
9	K	14	THR
9	K	33	LYS
9	K	40	THR
9	K	126	THR
9	K	162	THR
9	K	169	GLN
9	K	174	ARG
9	K	175	THR
10	L	2	LEU
10	L	33	LYS
10	L	38	ASP
10	L	66	PHE
10	L	71	ARG
10	L	91	ASN
10	L	92	VAL
10	L	93	VAL
10	L	98	THR
10	L	101	ARG
10	L	114	THR
10	L	117	ARG
10	L	126	THR
10	L	130	GLU
10	L	151	VAL
10	L	159	ASP
10	L	160	LEU
10	L	164	LYS
10	L	165	ASP
11	M	17	LYS
11	M	20	ASN
11	M	45	THR
11	M	57	THR
11	M	63	ASP
11	M	65	THR
11	M	70	CYS
11	M	73	THR
11	M	86	VAL

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Mol	Chain	Res	Type
11	M	88	ASN
11	M	106	MET
11	M	124	LYS
11	M	157	SER
11	M	228	SER
11	M	247	THR
11	M	259	ARG
12	N	47	ARG
12	N	54	ASN
12	N	55	GLN
12	N	59	LEU
12	N	61	ARG
12	N	66	ARG
12	N	71	TRP
12	N	73	THR
12	N	98	ARG
12	N	111	LEU
12	N	123	HIS
12	N	134	SER
12	N	153	LEU
12	N	154	VAL
12	N	155	LEU
12	N	164	THR
12	N	175	SER
12	N	190	ASP
12	N	204	ARG
12	N	214	SER
13	O	41	GLU
13	O	54	LEU
13	O	56	LEU
13	O	74	ASP
13	O	98	ASP
13	O	100	THR
13	O	130	GLU
13	O	140	ASP
13	O	175	ASP
13	O	238	LEU
13	O	261	ASP
13	O	269	ARG
13	O	279	ARG
13	O	290	ASP
13	O	320	ARG

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Mol	Chain	Res	Type
14	Q	10	PHE
14	Q	11	SER
14	Q	28	ARG
14	Q	48	ARG
14	Q	59	ASP
14	Q	73	MET
14	Q	92	VAL
14	Q	103	PHE
14	Q	106	THR
14	Q	114	LEU
14	Q	143	ARG
14	Q	157	ARG
14	Q	190	LYS
14	Q	197	LEU
14	Q	214	LEU
14	Q	219	VAL
15	R	37	GLU
15	R	39	LEU
15	R	46	ASP
15	R	52	LEU
15	R	59	ASN
15	R	72	GLN
15	R	102	ASP
15	R	111	ARG
15	R	150	ASP
15	R	172	LYS
15	R	173	LEU
15	R	211	SER
15	R	213	THR
15	R	237	HIS
15	R	247	CYS
15	R	296	ILE
15	R	335	THR
15	R	350	LEU
15	R	353	ILE
15	R	365	PHE
15	R	392	THR
15	R	393	LEU
15	R	394	MET
15	R	436	THR
15	R	468	MET
15	R	470	HIS

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Mol	Chain	Res	Type
15	R	474	GLU
16	S	267	PHE
16	S	270	SER
16	S	274	ASN
16	S	278	ARG
16	S	289	THR
16	S	337	ILE
16	S	349	ASN
16	S	377	LYS
16	S	380	LEU
17	T	34	ASN
17	T	62	LEU
17	T	78	CYS
18	V	14	CYS
18	V	53	ARG
18	V	58	LEU
18	V	132	ARG
19	Z	55	HIS
19	Z	76	ARG
19	Z	85	GLU
19	Z	116	SER
19	Z	131	TRP
19	Z	140	ARG
19	Z	149	ASP
20	BA	60	ASP
20	BA	121	GLN
20	BA	132	ARG
20	BA	147	SER
21	CA	88	GLU
21	CA	110	SER
21	CA	134	ARG
21	CA	137	SER
21	CA	154	LEU
21	CA	156	ARG
21	CA	194	PHE
21	CA	198	THR
21	CA	207	THR
21	CA	217	HIS
21	CA	223	LEU
21	CA	227	ASP
21	CA	241	VAL
21	CA	251	LEU

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Mol	Chain	Res	Type
21	CA	267	ARG
21	CA	275	ILE
21	CA	291	PHE
21	CA	292	ASP
21	CA	299	ARG
21	CA	312	THR
21	CA	334	THR
21	CA	355	THR
21	CA	369	GLN
21	CA	407	SER
21	CA	413	PHE
21	CA	416	ARG
21	CA	426	ILE
21	CA	445	HIS
21	CA	446	TYR
21	CA	449	ASP
21	CA	453	LEU
21	CA	467	TYR
21	CA	470	HIS
21	CA	480	PHE
21	CA	486	LEU
21	CA	492	SER
21	CA	513	ARG
21	CA	534	ASP
21	CA	544	THR
21	CA	561	PHE
21	CA	586	LEU
21	CA	600	LEU
21	CA	606	MET
23	BB	42	LYS
23	BB	55	GLN
23	BB	85	ASP
24	CB	66	ARG
24	CB	74	SER
24	CB	92	ARG
24	CB	111	SER
24	CB	112	LYS
24	CB	114	LYS
24	CB	115	ARG
24	CB	116	GLN
24	CB	144	THR
24	CB	169	ARG

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Mol	Chain	Res	Type
24	CB	176	LEU
24	CB	180	THR
25	BK	164	HIS
25	BK	169	ASP
25	BK	203	THR
25	BK	233	ILE
25	BK	243	SER
25	BK	280	LEU
25	BK	304	ASN
25	BK	318	VAL
25	BK	322	CYS
25	BK	393	ASP
25	BK	415	VAL
25	BK	438	MET
25	BK	439	ASP
25	BK	440	MET
25	BK	453	GLN
25	BK	454	LEU
25	BK	466	LEU
25	BK	471	CYS
25	BK	473	ARG
25	BK	475	ASP
25	BK	489	ARG
25	BK	527	VAL
25	BK	540	LEU
25	BK	571	ASP
25	BK	598	THR
25	BK	612	TYR
25	BK	614	VAL
25	BK	622	HIS
25	BK	639	ASN
25	BK	664	SER
25	BK	667	ASP
25	BK	688	THR
25	BK	727	THR
25	BK	731	GLU
25	BK	742	LEU
25	BK	751	VAL
25	BK	758	ARG
25	BK	765	GLN
25	BK	769	ARG
25	BK	778	THR

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Mol	Chain	Res	Type
25	BK	780	ASP
25	BK	794	SER
25	BK	868	ASP
26	BQ	32	MET
26	BQ	71	LEU
26	BQ	100	ASP
26	BQ	128	VAL
26	BQ	140	ARG
26	BQ	164	LEU
26	BQ	206	ASP
26	BQ	237	LYS
26	BQ	284	SER
26	BQ	289	LEU
26	BQ	321	TYR
26	BQ	381	SER
26	BQ	390	LEU
26	BQ	411	TYR
26	BQ	425	VAL
26	BQ	428	ARG
26	BQ	441	SER
27	BN	86	THR
27	BN	109	LEU
27	BN	110	PHE
27	BN	126	ARG
27	BN	133	ARG
27	BN	151	GLU
27	BN	163	LEU
27	BN	165	ARG
27	BN	168	THR
27	BN	185	GLU
27	BN	187	ARG
27	BN	201	THR
27	BN	202	LEU
27	BN	212	HIS
27	BN	222	ASP
27	BN	233	GLN
27	BN	236	LEU
28	BE	105	TYR
28	BE	116	LEU
28	BE	117	ARG
29	BO	43	TYR
29	BO	61	SER

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Mol	Chain	Res	Type
29	BO	64	VAL
29	BO	72	THR
29	BO	79	LEU
29	BO	91	CYS
29	BO	132	THR
29	BO	136	THR
29	BO	150	ASN
29	BO	179	HIS
29	BO	180	LEU
30	At	23	ASP
30	At	25	ASP
30	At	53	THR
30	At	63	THR
30	At	98	THR
30	At	132	ARG
30	At	138	GLU
30	At	172	THR
31	Au	117	ARG
31	Au	141	VAL
31	Au	162	ARG
31	Au	171	SER
32	Ae	25	LEU
32	Ae	30	ARG
32	Ae	73	THR
32	Ae	100	LEU
32	Ae	114	THR
32	Ae	127	VAL
32	Ae	144	GLU
32	Ae	155	THR
32	Ae	174	PHE
32	Ae	175	LEU
32	Ae	179	GLU
32	Ae	182	THR
32	Ae	211	ARG
32	Ae	214	PHE
32	Ae	217	ASP
32	Ae	247	ILE
33	Af	61	VAL
33	Af	67	GLU
33	Af	74	ASP
33	Af	94	VAL
33	Af	105	GLN

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Mol	Chain	Res	Type
33	Af	107	GLN
33	Af	143	ASP
33	Af	144	THR
34	Ah	48	SER
34	Ah	57	VAL
34	Ah	93	ARG
34	Ah	97	LEU
34	Ah	126	ASP
34	Ah	196	VAL
34	Ah	235	ASP
34	Ah	256	VAL
34	Ah	274	GLU
34	Ah	280	ILE
34	Ah	330	VAL
34	Ah	331	GLU
34	Ah	332	LEU
34	Ah	336	ASP
34	Ah	350	ARG
34	Ah	367	GLN
34	Ah	404	HIS
34	Ah	454	ASP
34	Ah	464	ASP
34	Ah	467	LEU
35	Ap	13	VAL
35	Ap	15	THR
35	Ap	46	PHE
35	Ap	65	SER
35	Ap	70	ASN
35	Ap	119	ARG
35	Ap	155	THR
35	Ap	157	THR
35	Ap	163	SER
35	Ap	165	ARG
35	Ap	170	ASP
35	Ap	172	LYS
35	Ap	175	HIS
35	Ap	178	LEU
35	Ap	200	TYR
35	Ap	211	ASN
36	Al	85	GLU
36	Al	114	LEU
36	Al	116	ASN

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Mol	Chain	Res	Type
36	Al	150	VAL
36	Al	159	THR
36	Al	180	TRP
36	Al	187	ASP
36	Al	190	HIS
36	Al	232	MET
36	Al	236	SER
36	Al	238	ARG
36	Al	264	VAL
36	Al	266	TRP
36	Al	280	ARG
36	Al	306	ARG
37	Ab	8	CYS
37	Ab	20	LYS
37	Ab	69	TYR
37	Ab	72	ARG
37	Ab	80	ASN
37	Ab	83	PHE
37	Ab	100	SER
37	Ab	126	ARG
37	Ab	138	THR
38	Aa	62	VAL
38	Aa	75	ARG
38	Aa	80	ASP
38	Aa	88	THR
38	Aa	102	ASP
38	Aa	140	ASN
38	Aa	141	SER
38	Aa	155	THR
38	Aa	178	ARG
39	BP	-37	THR
39	BP	-4	THR
39	BP	-3	HIS
39	BP	-2	ILE
39	BP	9	ARG
39	BP	10	TYR
39	BP	32	ILE
39	BP	56	ILE
39	BP	79	ASP
40	Az	37	LYS
40	Az	40	TRP
40	Az	74	ASN

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Mol	Chain	Res	Type
40	Az	94	ASP
40	Az	115	PHE
40	Az	138	TYR
40	Az	139	SER
41	Am	50	ARG
41	Am	80	ASP
41	Am	92	LEU
41	Am	140	TYR
41	Am	183	VAL
41	Am	205	ARG
41	Am	230	ASP
41	Am	247	GLU
41	Am	273	ARG
41	Am	274	ASP
41	Am	289	GLU
41	Am	323	THR
41	Am	325	PHE
42	As	69	ASP
42	As	71	THR
42	As	85	HIS
42	As	86	THR
42	As	153	LEU
42	As	182	THR
42	As	186	LEU
43	BG	1267	ASP
43	BG	1273	SER
43	BG	1282	THR
43	BG	1287	CYS
43	BG	1295	THR
43	BG	1314	ASP
43	BG	1320	TYR
43	BG	1343	ASN
44	Ad	24	TYR
44	Ad	41	LEU
44	Ad	44	GLN
44	Ad	45	ARG
44	Ad	48	LEU
44	Ad	52	THR
44	Ad	77	LEU
44	Ad	161	SER
45	Aw	55	ASP
45	Aw	63	LEU

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Mol	Chain	Res	Type
45	Aw	116	SER
46	BH	54	ARG
46	BH	75	TYR
46	BH	79	THR
46	BH	113	ASP
46	BH	116	PHE
47	Aj	114	TYR
47	Aj	120	PHE
47	Aj	234	TYR
47	Aj	235	GLU
47	Aj	259	THR
47	Aj	308	THR
47	Aj	345	GLU
47	Aj	373	PHE
47	Aj	395	ASP
47	Aj	453	ILE
47	Aj	470	MET
47	Aj	481	SER
47	Aj	489	GLU
48	Ar	20	ILE
48	Ar	38	GLU
48	Ar	40	ARG
48	Ar	63	PHE
48	Ar	73	ASP
48	Ar	106	THR
48	Ar	109	LEU
48	Ar	181	ARG
48	Ar	186	ASN
48	Ar	196	ARG
49	An	98	ARG
49	An	107	ASP
49	An	109	PHE
49	An	134	PHE
49	An	152	LYS
49	An	166	PHE
49	An	189	VAL
49	An	196	LEU
49	An	214	VAL
49	An	222	GLU
49	An	251	ARG
49	An	265	ASP
50	BF	54	HIS

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Mol	Chain	Res	Type
50	BF	67	GLU
50	BF	96	ARG
50	BF	101	LEU
50	BF	104	ARG
51	Av	29	ASP
51	Av	37	TYR
51	Av	43	LYS
51	Av	49	GLU
51	Av	96	ASP
51	Av	98	VAL
51	Av	103	TRP
51	Av	104	THR
52	BM	20	LEU
52	BM	43	TYR
52	BM	61	LEU
52	BM	65	ASP
52	BM	72	TYR
52	BM	109	THR
52	BM	129	LEU
52	BM	133	LYS
52	BM	136	CYS
52	BM	137	ARG
52	BM	138	VAL
52	BM	142	ARG
52	BM	177	ARG
52	BM	191	GLU
52	BM	192	LEU
52	BM	205	LYS
52	BM	212	GLU
52	BM	216	GLN
52	BM	217	LYS
52	BM	222	MET
52	BM	233	VAL
52	BM	245	TYR
52	BM	250	GLU
52	BM	263	ARG
52	BM	266	TRP
52	BM	271	ARG
52	BM	286	TYR
52	BM	308	THR
52	BM	311	CYS
52	BM	326	TYR

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Mol	Chain	Res	Type
52	BM	327	LEU
52	BM	329	THR
52	BM	359	GLU
52	BM	361	LEU
52	BM	364	GLN
52	BM	389	ARG
53	Ag	43	ARG
53	Ag	54	GLU
53	Ag	56	SER
53	Ag	75	ARG
53	Ag	96	THR
53	Ag	118	TYR
53	Ag	126	SER
53	Ag	128	ARG
54	Bl	85	ASP
54	Bl	104	ARG
54	Bl	154	VAL
54	Bl	160	VAL
54	Bl	176	ILE
54	Bl	188	LYS
54	Bl	193	ASP
54	Bl	207	LEU
54	Bl	230	PHE
55	Ax	59	HIS
55	Ax	77	HIS
55	Ax	94	ASP
55	Ax	101	ASP
55	Ax	105	CYS
55	Ax	145	CYS
55	Ax	154	HIS
55	Ax	165	TRP
55	Ax	168	SER
55	Ax	169	CYS
56	BS	286	LEU
56	BS	380	TYR
56	BS	387	SER
56	BS	397	LYS
56	BS	411	SER
57	BY	89	HIS
57	BY	93	LEU
57	BY	108	ILE
57	BY	139	LEU

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Mol	Chain	Res	Type
57	BY	140	HIS
57	BY	146	ASP
57	BY	176	MET
57	BY	189	ARG
57	BY	204	THR
57	BY	225	ASP
57	BY	248	THR
57	BY	265	VAL
57	BY	273	LEU
57	BY	292	GLN
57	BY	295	PHE
57	BY	306	VAL
57	BY	328	SER
57	BY	350	ASP
57	BX	80	ASP
57	BX	115	GLU
57	BX	145	THR
57	BX	163	ASP
57	BX	165	TYR
57	BX	188	ASN
57	BX	215	ASP
57	BX	229	HIS
57	BX	242	THR
57	BX	248	THR
57	BX	260	LEU
57	BX	261	LEU
57	BX	270	LEU
57	BX	271	LEU
57	BX	273	LEU
57	BX	274	CYS
57	BX	285	ASP
57	BX	305	ARG
57	BX	319	LEU
57	BX	341	SER
57	BX	344	ARG
58	BZ	51	LYS
58	BZ	54	GLU
58	BZ	61	THR
58	BZ	65	PHE
58	BZ	93	HIS
58	BZ	95	TYR
58	BZ	97	TYR

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Mol	Chain	Res	Type
58	BZ	98	ARG
58	BZ	100	ASN
58	BZ	103	LYS
58	BZ	104	ARG
58	BZ	108	LEU
58	BZ	109	THR
58	BZ	114	PHE
58	BZ	115	ASP
58	BZ	120	VAL
58	BZ	125	PHE
58	BZ	189	HIS
58	BZ	209	GLN
58	BZ	211	PRO
58	BZ	224	CYS
58	BZ	227	LEU
58	BZ	286	THR
58	BZ	317	THR
58	BZ	332	ARG
58	BZ	345	SER
58	BZ	347	PHE
58	BZ	383	VAL
58	BZ	400	LEU
59	CC	70	ASP
59	CC	105	LEU
59	CC	110	VAL
59	CC	138	ASP
60	CD	37	ASN
60	CD	60	THR
60	CD	69	ARG
60	CD	103	SER
60	CD	121	LYS
61	BT	53	TRP
61	BT	55	LEU
61	BT	76	LEU
61	BT	136	ARG
61	BT	176	LYS
61	BT	178	THR
61	BT	196	PHE
61	BT	205	VAL
61	BT	220	LEU
61	BT	229	TYR
61	BT	235	THR

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Mol	Chain	Res	Type
61	BT	258	ASP
61	BT	266	VAL
61	BT	289	LEU
61	BT	305	GLU
62	BU	36	ARG
62	BU	42	SER
62	BU	58	LYS
62	BU	60	ILE
62	BU	78	LEU
62	BU	103	THR
62	BU	111	ILE
62	BU	136	MET
62	BU	146	ASP
62	BU	179	LEU
62	BU	225	THR
62	BU	251	TYR
62	BU	253	ARG
62	BU	263	THR
62	BU	271	CYS
62	BU	273	TYR
62	BU	274	LYS
62	BU	277	LYS
62	BU	282	ASP
62	BU	283	THR
62	BU	297	PHE
62	BU	298	LEU
62	BU	309	ILE
62	BU	355	LEU
62	BU	358	SER
62	BU	360	THR
62	BU	365	ASP
62	BU	366	PHE
62	BU	370	ARG
62	BU	374	GLU
62	BU	386	HIS
62	BU	416	LYS
62	BU	417	PHE
62	BU	427	ILE
62	BU	446	THR
62	BU	447	PHE
62	BU	448	LEU
62	BU	462	LYS

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Mol	Chain	Res	Type
62	BU	466	GLU
62	BU	484	ARG
63	BW	96	ARG
63	BW	100	SER
63	BW	113	ASP
63	BW	114	ASN
63	BW	142	THR
63	BW	148	LEU
63	BW	173	GLN
63	BW	186	LEU
63	BW	195	LEU
63	BW	206	LEU
63	BW	207	GLN
63	BW	210	CYS
63	BW	220	THR
63	BW	223	CYS
63	BW	241	THR
63	BW	244	ASP
63	BW	245	VAL
63	BW	249	ASP
63	BW	288	VAL
63	BW	297	ARG
63	BW	303	LEU
63	BW	338	ARG
63	BW	503	PHE
63	BW	519	THR
63	BW	537	HIS
63	BW	554	SER
63	BW	559	ILE
63	BW	598	ARG
63	BW	613	GLN
63	BW	639	ASP
63	BW	645	TYR
63	BW	650	THR
63	BW	656	LEU
63	BW	660	TYR
64	BV	135	LEU
64	BV	153	TYR
64	BV	163	GLN
64	BV	227	THR
64	BV	231	ARG
64	BV	323	THR

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Mol	Chain	Res	Type
71	BR	45	SER
71	BR	47	PHE
71	BR	59	THR
71	BR	76	LYS
71	BR	131	THR
71	BR	281	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (291) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	109	GLN
1	A	161	ASN
1	A	235	GLN
1	A	249	GLN
2	B	33	HIS
2	B	60	HIS
2	B	72	HIS
2	B	124	ASN
2	B	156	ASN
2	B	170	HIS
2	B	172	HIS
2	B	177	HIS
2	B	200	ASN
2	B	226	GLN
2	B	355	GLN
2	B	378	GLN
3	C	151	GLN
3	C	175	HIS
3	C	192	GLN
4	E	18	ASN
4	E	52	ASN
4	E	93	HIS
4	E	198	HIS
5	F	32	GLN
5	F	133	HIS
5	F	135	HIS
6	G	19	GLN
6	G	71	ASN
6	G	89	GLN
6	G	199	HIS
6	G	202	ASN
6	G	319	HIS

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Mol	Chain	Res	Type
7	I	18	HIS
7	I	65	HIS
7	I	120	HIS
7	I	206	GLN
7	I	229	HIS
7	I	242	HIS
8	J	8	ASN
8	J	98	ASN
8	J	123	HIS
9	K	96	GLN
9	K	128	GLN
9	K	145	HIS
10	L	30	HIS
10	L	86	GLN
10	L	149	ASN
11	M	19	GLN
11	M	29	GLN
11	M	31	HIS
11	M	41	GLN
11	M	76	ASN
11	M	230	HIS
12	N	54	ASN
12	N	161	ASN
12	N	235	GLN
13	O	52	ASN
13	O	114	GLN
13	O	164	ASN
13	O	169	GLN
13	O	170	ASN
13	O	193	HIS
13	O	212	HIS
13	O	260	GLN
14	Q	47	ASN
14	Q	71	HIS
14	Q	159	HIS
14	Q	164	GLN
14	Q	175	GLN
15	R	167	HIS
15	R	176	GLN
16	S	256	ASN
16	S	392	GLN
18	V	38	GLN

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Mol	Chain	Res	Type
18	V	70	GLN
18	V	106	GLN
18	V	114	ASN
19	Z	70	HIS
19	Z	91	ASN
19	Z	99	HIS
20	BA	91	HIS
21	CA	136	GLN
21	CA	210	GLN
21	CA	217	HIS
21	CA	221	HIS
21	CA	276	ASN
21	CA	303	HIS
21	CA	329	ASN
21	CA	363	HIS
21	CA	470	HIS
21	CA	562	ASN
23	BB	55	GLN
24	CB	58	ASN
24	CB	108	HIS
24	CB	117	GLN
25	BK	162	HIS
25	BK	189	GLN
25	BK	424	GLN
25	BK	453	GLN
25	BK	457	HIS
25	BK	630	ASN
25	BK	633	HIS
25	BK	772	HIS
25	BK	790	GLN
25	BK	802	HIS
25	BK	871	GLN
26	BQ	22	HIS
26	BQ	25	HIS
26	BQ	41	HIS
26	BQ	117	ASN
26	BQ	183	HIS
26	BQ	202	ASN
26	BQ	271	HIS
26	BQ	351	ASN
27	BN	78	ASN
27	BN	186	GLN

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Mol	Chain	Res	Type
29	BO	49	ASN
29	BO	99	HIS
29	BO	175	ASN
29	BO	179	HIS
30	At	26	HIS
30	At	69	ASN
30	At	73	HIS
30	At	161	GLN
31	Au	122	HIS
31	Au	143	GLN
31	Au	157	GLN
32	Ae	12	ASN
32	Ae	37	HIS
32	Ae	54	ASN
32	Ae	55	HIS
32	Ae	78	HIS
32	Ae	154	HIS
32	Ae	170	HIS
32	Ae	197	GLN
33	Af	20	HIS
33	Af	56	GLN
33	Af	77	GLN
33	Af	105	GLN
34	Ah	183	HIS
34	Ah	191	GLN
34	Ah	271	GLN
34	Ah	346	ASN
34	Ah	389	ASN
34	Ah	461	HIS
35	Ap	36	GLN
35	Ap	44	GLN
35	Ap	71	GLN
35	Ap	81	HIS
35	Ap	87	GLN
35	Ap	101	GLN
35	Ap	175	HIS
35	Ap	189	HIS
36	Al	98	GLN
36	Al	162	ASN
36	Al	190	HIS
36	Al	219	ASN
36	Al	248	ASN

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Mol	Chain	Res	Type
36	Al	293	ASN
36	Al	303	ASN
37	Ab	32	HIS
37	Ab	80	ASN
37	Ab	84	HIS
37	Ab	101	HIS
37	Ab	127	HIS
38	Aa	109	HIS
38	Aa	112	HIS
38	Aa	120	GLN
38	Aa	176	GLN
39	BP	3	HIS
40	Az	24	HIS
40	Az	25	GLN
40	Az	31	ASN
40	Az	36	HIS
40	Az	70	HIS
40	Az	76	HIS
40	Az	107	GLN
40	Az	114	HIS
40	Az	118	HIS
40	Az	128	GLN
41	Am	148	ASN
41	Am	152	GLN
41	Am	162	GLN
41	Am	184	ASN
41	Am	263	HIS
41	Am	285	HIS
41	Am	315	ASN
42	As	54	ASN
42	As	94	ASN
42	As	149	GLN
43	BG	1268	GLN
43	BG	1339	ASN
44	Ad	84	GLN
44	Ad	230	HIS
45	Aw	12	HIS
45	Aw	46	ASN
45	Aw	56	ASN
45	Aw	77	ASN
45	Aw	89	HIS
46	BH	132	HIS

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Mol	Chain	Res	Type
46	BH	149	ASN
47	Aj	221	GLN
47	Aj	242	HIS
47	Aj	244	GLN
47	Aj	325	GLN
47	Aj	327	HIS
47	Aj	341	ASN
47	Aj	388	GLN
47	Aj	389	GLN
47	Aj	439	HIS
47	Aj	468	HIS
47	Aj	472	ASN
47	Aj	482	GLN
47	Aj	491	ASN
48	Ar	55	ASN
48	Ar	96	GLN
48	Ar	105	ASN
48	Ar	164	HIS
49	An	122	GLN
49	An	138	GLN
49	An	262	HIS
49	An	267	GLN
49	An	301	GLN
50	BF	40	GLN
52	BM	127	HIS
52	BM	130	GLN
52	BM	268	HIS
52	BM	296	GLN
52	BM	325	GLN
52	BM	364	GLN
52	BM	381	ASN
52	BM	384	HIS
54	Bl	173	GLN
55	Ax	95	GLN
55	Ax	183	HIS
55	Ax	188	ASN
56	BS	292	GLN
56	BS	378	HIS
57	BY	84	HIS
57	BY	89	HIS
57	BY	140	HIS
57	BY	262	ASN

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Mol	Chain	Res	Type
57	BY	263	HIS
57	BY	278	GLN
57	BY	324	GLN
57	BY	342	GLN
57	BX	83	ASN
57	BX	88	GLN
57	BX	188	ASN
57	BX	229	HIS
57	BX	342	GLN
58	BZ	67	GLN
58	BZ	90	GLN
58	BZ	93	HIS
58	BZ	100	ASN
58	BZ	173	HIS
58	BZ	269	HIS
58	BZ	273	GLN
58	BZ	329	HIS
58	BZ	349	HIS
58	BZ	372	GLN
59	CC	98	HIS
59	CC	119	GLN
60	CD	45	GLN
60	CD	120	ASN
61	BT	147	GLN
61	BT	152	HIS
62	BU	59	ASN
62	BU	289	GLN
62	BU	325	HIS
62	BU	327	ASN
62	BU	386	HIS
62	BU	390	ASN
62	BU	430	HIS
63	BW	114	ASN
63	BW	173	GLN
63	BW	283	HIS
63	BW	374	HIS
63	BW	525	GLN
63	BW	537	HIS
63	BW	558	ASN
63	BW	579	ASN
63	BW	642	GLN
64	BV	232	HIS

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Mol	Chain	Res	Type
64	BV	235	HIS
64	BV	315	GLN
64	BV	324	GLN
71	BR	80	HIS
71	BR	113	GLN
71	BR	142	HIS
71	BR	246	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
73	1	790/19000 (4%)	465 (58%)	77 (9%)
74	R1	2/3 (66%)	2 (100%)	1 (50%)
75	R2	32/35 (91%)	24 (75%)	10 (31%)
76	R5	4/5 (80%)	0	0
All	All	828/19043 (4%)	491 (59%)	88 (10%)

All (491) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
73	1	35	U
73	1	36	U
73	1	39	U
73	1	41	A
73	1	42	A
73	1	43	A
73	1	45	U
73	1	46	U
73	1	47	A
73	1	48	U
73	1	50	A
73	1	51	U
73	1	53	A
73	1	58	A
73	1	59	U
73	1	60	A
73	1	62	U
73	1	63	G
73	1	64	A
73	1	68	U
73	1	69	G

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Mol	Chain	Res	Type
73	1	70	G
73	1	71	A
73	1	72	U
73	1	75	A
73	1	76	U
73	1	78	U
73	1	79	A
73	1	83	U
73	1	84	U
73	1	85	U
73	1	86	A
73	1	87	A
73	1	88	U
73	1	90	A
73	1	91	U
73	1	95	U
73	1	96	U
73	1	97	U
73	1	98	G
73	1	99	A
73	1	100	A
73	1	103	U
73	1	104	U
73	1	106	A
73	1	107	U
73	1	108	U
73	1	110	U
73	1	111	A
73	1	115	U
73	1	116	U
73	1	117	U
73	1	118	U
73	1	119	G
73	1	122	U
73	1	123	U
73	1	127	A
73	1	128	U
73	1	129	U
73	1	130	U
73	1	131	U
73	1	132	U
73	1	133	A

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Mol	Chain	Res	Type
73	1	136	A
73	1	137	U
73	1	138	A
73	1	139	U
73	1	141	A
73	1	143	A
73	1	144	U
73	1	145	A
73	1	146	U
73	1	148	U
73	1	149	U
73	1	150	A
73	1	153	U
73	1	154	U
73	1	155	U
73	1	156	A
73	1	160	U
73	1	161	U
73	1	162	G
73	1	163	U
73	1	164	U
73	1	165	G
73	1	166	U
73	1	167	U
73	1	168	U
73	1	179	U
73	1	180	U
73	1	181	A
73	1	182	A
73	1	183	U
73	1	184	G
73	1	185	U
73	1	188	A
73	1	191	A
73	1	193	U
73	1	198	A
73	1	201	U
73	1	202	A
73	1	203	A
73	1	204	U
73	1	209	U
73	1	211	U

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Mol	Chain	Res	Type
73	1	215	U
73	1	219	A
73	1	221	U
73	1	225	U
73	1	230	A
73	1	234	U
73	1	236	A
73	1	237	U
73	1	239	U
73	1	240	A
73	1	241	U
73	1	243	G
73	1	246	U
73	1	247	A
73	1	249	U
73	1	250	A
73	1	251	U
73	1	252	U
73	1	253	U
73	1	256	A
73	1	257	G
73	1	258	U
73	1	259	U
73	1	260	U
73	1	262	A
73	1	266	U
73	1	271	U
73	1	272	A
73	1	274	U
73	1	275	U
73	1	276	A
73	1	277	A
73	1	279	U
73	1	280	A
73	1	281	G
73	1	282	U
73	1	283	G
73	1	284	A
73	1	285	U
73	1	286	G
73	1	287	G
73	1	288	C

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Mol	Chain	Res	Type
73	1	290	C
73	1	291	A
73	1	292	G
73	1	293	U
73	1	294	U
73	1	295	G
73	1	297	U
73	1	299	U
73	1	300	A
73	1	302	A
73	1	303	U
73	1	307	C
73	1	308	C
73	1	309	U
73	1	310	A
73	1	311	U
73	1	316	A
73	1	317	A
73	1	318	U
73	1	319	A
73	1	320	G
73	1	321	U
73	1	322	A
73	1	323	A
73	1	327	U
73	1	328	A
73	1	329	U
73	1	331	U
73	1	332	U
73	1	333	A
73	1	336	U
73	1	337	A
73	1	339	A
73	1	340	U
73	1	342	A
73	1	343	A
73	1	344	U
73	1	345	A
73	1	346	A
73	1	347	A
73	1	348	U
73	1	351	U

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Mol	Chain	Res	Type
73	1	360	U
73	1	361	A
73	1	362	A
73	1	363	U
73	1	364	U
73	1	365	U
73	1	370	U
73	1	377	U
73	1	379	U
73	1	380	G
73	1	381	A
73	1	382	A
73	1	384	A
73	1	387	U
73	1	399	U
73	1	400	U
73	1	402	U
73	1	403	U
73	1	404	U
73	1	405	U
73	1	407	U
73	1	408	U
73	1	413	U
73	1	414	U
73	1	415	U
73	1	416	U
73	1	417	A
73	1	418	U
73	1	419	A
73	1	420	U
73	1	425	A
73	1	427	G
73	1	428	U
73	1	429	A
73	1	452	A
73	1	453	A
73	1	454	A
73	1	461	U
73	1	462	U
73	1	463	U
73	1	464	A
73	1	469	G

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Mol	Chain	Res	Type
73	1	470	U
73	1	471	A
73	1	472	A
73	1	473	U
73	1	474	U
73	1	480	A
73	1	481	U
73	1	482	A
73	1	483	U
73	1	484	A
73	1	485	U
73	1	487	U
73	1	489	A
73	1	490	U
73	1	492	U
73	1	493	U
73	1	495	A
73	1	498	G
73	1	501	G
73	1	502	U
73	1	503	U
73	1	504	U
73	1	505	A
73	1	506	A
73	1	508	G
73	1	509	U
73	1	510	U
73	1	511	A
73	1	512	A
73	1	514	U
73	1	515	A
73	1	516	A
73	1	517	U
73	1	518	U
73	1	519	U
73	1	520	A
73	1	521	U
73	1	522	U
73	1	523	A
73	1	524	U
73	1	525	U
73	1	526	U

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Mol	Chain	Res	Type
73	1	528	A
73	1	529	A
73	1	535	A
73	1	542	G
73	1	543	U
73	1	544	U
73	1	545	U
73	1	546	A
73	1	547	U
73	1	548	A
73	1	549	C
73	1	555	U
73	1	556	A
73	1	557	A
73	1	558	C
73	1	559	U
73	1	560	U
73	1	561	U
73	1	563	U
73	1	564	U
73	1	565	U
73	1	566	G
73	1	568	A
73	1	571	U
73	1	572	A
73	1	573	A
73	1	574	A
73	1	575	G
73	1	580	A
73	1	581	U
73	1	583	A
73	1	584	U
73	1	585	U
73	1	590	A
73	1	591	U
73	1	592	A
73	1	594	U
73	1	595	A
73	1	596	U
73	1	597	U
73	1	598	U
73	1	600	A

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Mol	Chain	Res	Type
73	1	601	A
73	1	602	A
73	1	603	A
73	1	604	A
73	1	605	U
73	1	610	A
73	1	611	A
73	1	613	U
73	1	808	A
73	1	809	A
73	1	810	U
73	1	811	U
73	1	812	A
73	1	813	U
73	1	814	A
73	1	816	C
73	1	817	A
73	1	821	U
73	1	827	A
73	1	828	A
73	1	829	U
73	1	830	A
73	1	835	A
73	1	836	U
73	1	837	U
73	1	838	A
73	1	839	A
73	1	844	A
73	1	845	A
73	1	846	A
73	1	847	A
73	1	848	U
73	1	849	U
73	1	850	U
73	1	861	U
73	1	865	A
73	1	867	A
73	1	869	U
73	1	872	A
73	1	873	A
73	1	874	U
73	1	876	G

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Mol	Chain	Res	Type
73	1	878	G
73	1	881	A
73	1	886	U
73	1	888	C
73	1	889	U
73	1	891	U
73	1	894	U
73	1	895	U
73	1	896	U
73	1	897	A
73	1	899	A
73	1	902	G
73	1	903	A
73	1	904	G
73	1	905	A
73	1	906	A
73	1	907	C
73	1	908	G
73	1	909	U
73	1	912	A
73	1	913	U
73	1	914	A
73	1	915	U
73	1	916	G
73	1	917	U
73	1	918	A
73	1	919	A
73	1	920	U
73	1	924	A
73	1	970	U
73	1	971	A
73	1	973	A
73	1	974	U
73	1	975	U
73	1	976	U
73	1	977	A
73	1	978	U
73	1	979	U
73	1	981	A
73	1	983	A
73	1	984	U
73	1	985	A

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Mol	Chain	Res	Type
73	1	986	A
73	1	987	U
73	1	988	A
73	1	989	A
73	1	990	A
73	1	991	A
73	1	1088	U
73	1	1089	U
73	1	1090	G
73	1	1091	G
73	1	1092	G
73	1	1094	U
73	1	1095	U
73	1	1096	U
73	1	1097	A
73	1	1098	A
73	1	1099	A
73	1	1100	A
73	1	1101	U
73	1	1102	C
73	1	1103	G
73	1	1104	U
73	1	1106	G
73	1	1108	A
73	1	1112	C
73	1	1113	A
73	1	1115	A
73	1	1116	U
73	1	1118	U
73	1	1119	G
73	1	1120	U
73	1	1123	A
73	1	1124	U
73	1	1125	A
73	1	1126	U
73	1	1127	A
73	1	1128	U
73	1	1129	U
73	1	1130	U
73	1	1135	U
73	1	1136	U
73	1	1141	U

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Mol	Chain	Res	Type
73	1	1146	U
73	1	1147	U
73	1	1151	A
73	1	1152	A
73	1	1154	U
73	1	1155	A
73	1	1156	A
73	1	1157	U
73	1	1158	A
73	1	1160	U
73	1	1161	A
73	1	1162	G
73	1	1164	A
73	1	1165	C
73	1	1168	A
73	1	1169	A
73	1	1170	G
73	1	1171	G
73	1	1173	U
73	1	1174	U
73	1	1175	C
73	1	1176	A
73	1	1177	U
73	1	1178	U
74	R1	8	U
74	R1	9	U
75	R2	10	U
75	R2	11	U
75	R2	13	U
75	R2	14	U
75	R2	15	U
75	R2	16	U
75	R2	17	U
75	R2	18	U
75	R2	19	U
75	R2	20	U
75	R2	124	U
75	R2	126	U
75	R2	129	U
75	R2	130	U
75	R2	131	U
75	R2	132	U

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Mol	Chain	Res	Type
75	R2	133	U
75	R2	134	U
75	R2	236	U
75	R2	237	U
75	R2	239	U
75	R2	240	U
75	R2	241	U
75	R2	242	U

All (88) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
73	1	45	U
73	1	47	A
73	1	50	A
73	1	52	U
73	1	58	A
73	1	59	U
73	1	74	A
73	1	95	U
73	1	99	A
73	1	109	U
73	1	115	U
73	1	117	U
73	1	128	U
73	1	131	U
73	1	155	U
73	1	165	G
73	1	201	U
73	1	202	A
73	1	258	U
73	1	278	C
73	1	293	U
73	1	299	U
73	1	321	U
73	1	342	A
73	1	343	A
73	1	344	U
73	1	345	A
73	1	346	A
73	1	398	U
73	1	413	U

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Mol	Chain	Res	Type
73	1	414	U
73	1	415	U
73	1	416	U
73	1	417	A
73	1	418	U
73	1	419	A
73	1	420	U
73	1	461	U
73	1	462	U
73	1	463	U
73	1	469	G
73	1	470	U
73	1	472	A
73	1	473	U
73	1	479	A
73	1	480	A
73	1	481	U
73	1	482	A
73	1	483	U
73	1	508	G
73	1	509	U
73	1	513	U
73	1	545	U
73	1	562	U
73	1	571	U
73	1	572	A
73	1	580	A
73	1	590	A
73	1	591	U
73	1	594	U
73	1	595	A
73	1	596	U
73	1	836	U
73	1	911	U
73	1	914	A
73	1	916	G
73	1	970	U
73	1	972	U
73	1	974	U
73	1	976	U
73	1	1096	U
73	1	1097	A

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Mol	Chain	Res	Type
73	1	1112	C
73	1	1123	A
73	1	1127	A
73	1	1172	A
73	1	1177	U
74	R1	8	U
75	R2	13	U
75	R2	128	U
75	R2	129	U
75	R2	130	U
75	R2	132	U
75	R2	235	U
75	R2	236	U
75	R2	239	U
75	R2	240	U
75	R2	241	U

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

2 ligands 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	$\#\|Z\| > 2$
78	GTP	BU	501	-	26,34,34	0.97	2 (7%)	32,54,54	0.99	3 (9%)
79	ATP	BW	801	-	26,33,33	0.70	0	31,52,52	0.82	1 (3%)

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
78	GTP	BU	501	-	-	5/18/38/38	0/3/3/3
79	ATP	BW	801	-	-	1/18/38/38	0/3/3/3

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
78	BU	501	GTP	C5-C6	-2.61	1.42	1.47
78	BU	501	GTP	C8-N7	-2.13	1.31	1.35

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
78	BU	501	GTP	O4'-C4'-C3'	-2.58	100.02	105.11
79	BW	801	ATP	C5-C6-N6	2.32	123.87	120.35
78	BU	501	GTP	PB-O3B-PG	2.24	140.51	132.83
78	BU	501	GTP	O6-C6-C5	2.01	128.30	124.37

There are no chirality outliers.

All (6) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
78	BU	501	GTP	PB-O3A-PA-O5'
78	BU	501	GTP	C5'-O5'-PA-O3A
78	BU	501	GTP	C5'-O5'-PA-O2A
78	BU	501	GTP	O4'-C4'-C5'-O5'
78	BU	501	GTP	C4'-C5'-O5'-PA
79	BW	801	ATP	C4'-C5'-O5'-PA

There are no ring outliers.

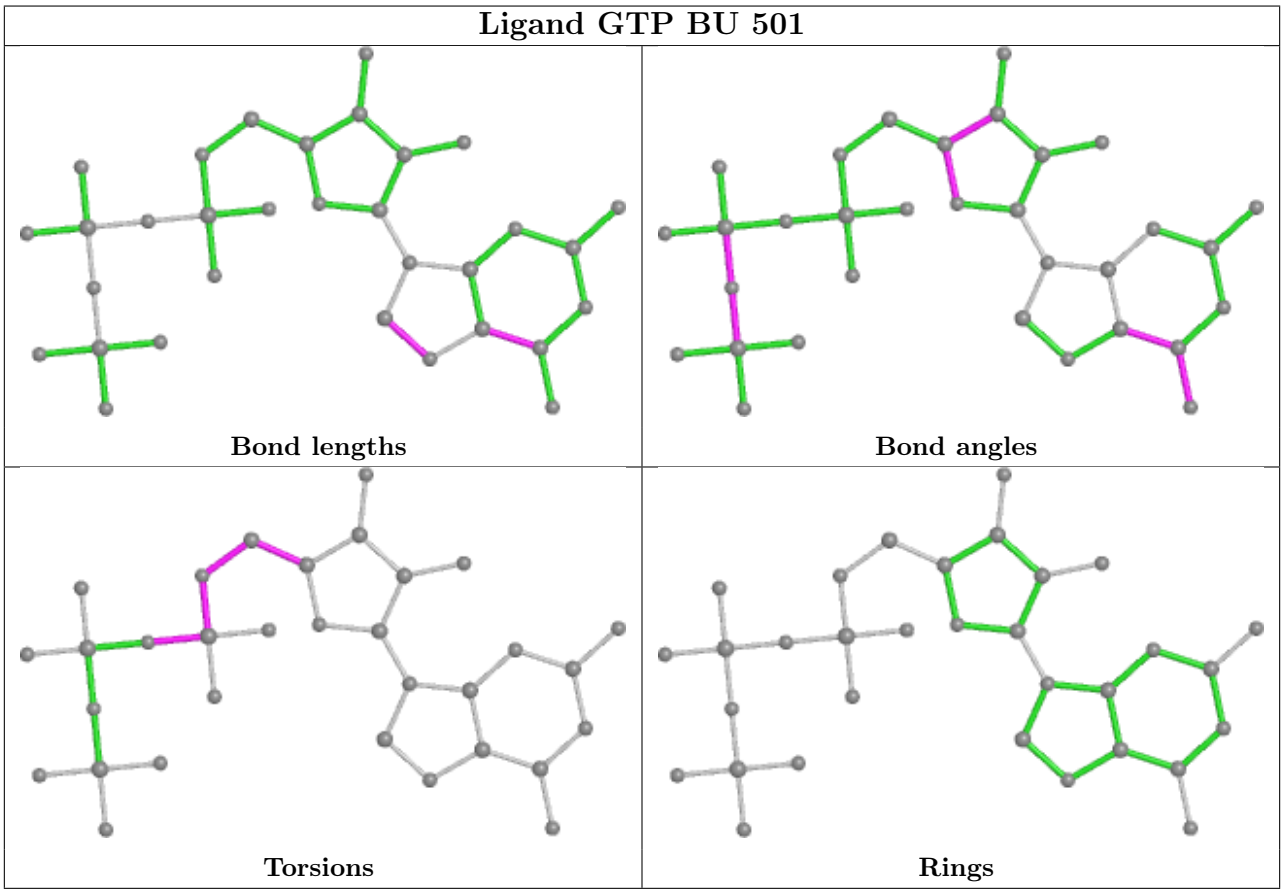
2 monomers are involved in 11 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
78	BU	501	GTP	9	0
79	BW	801	ATP	2	0

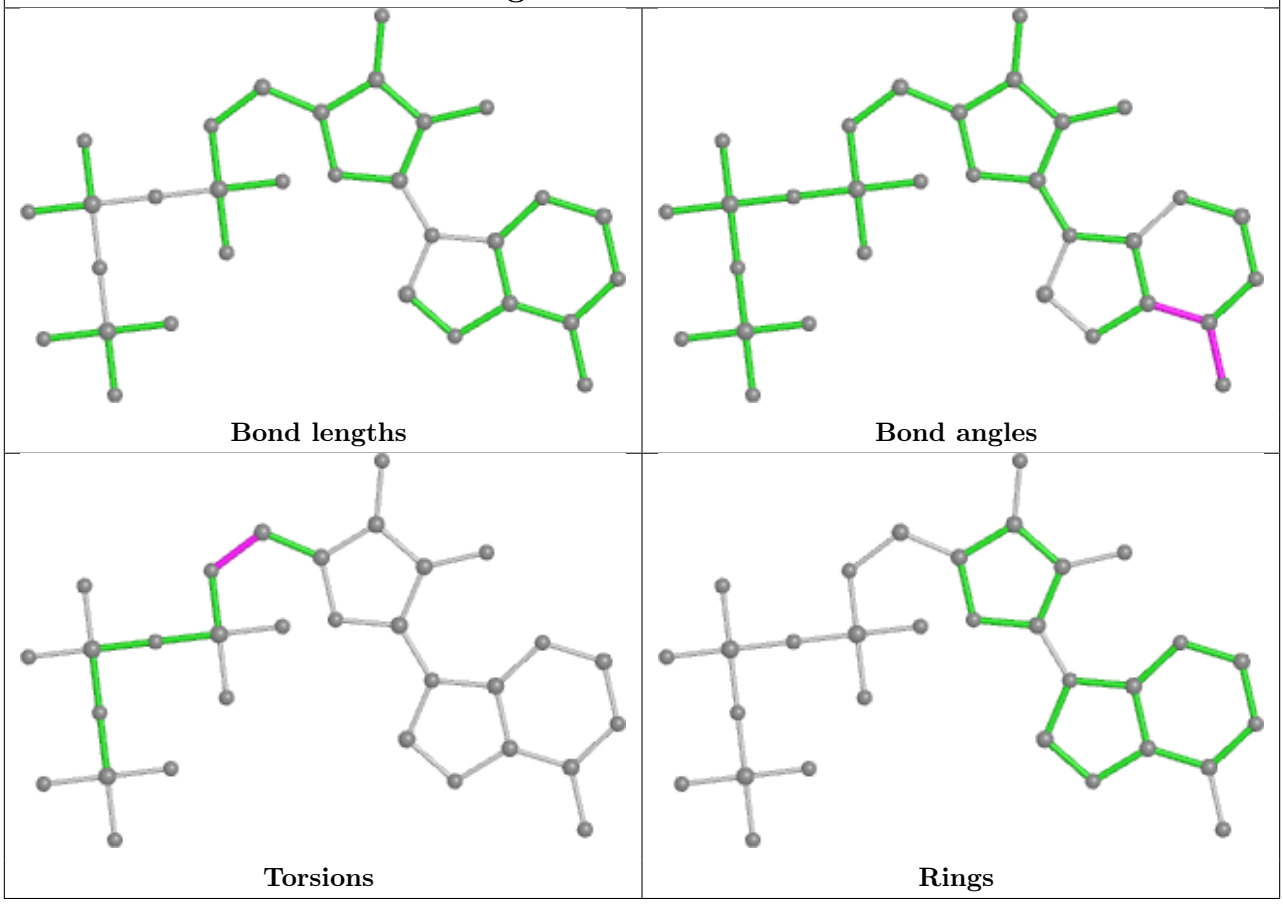
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In

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

Ligand GTP BU 501



Ligand ATP BW 801



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
75	R2	2

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	R2	21:U	O3'	122:U	P	84.98
1	R2	134:U	O3'	235:U	P	16.60

6 Map visualisation

This section contains visualisations of the EMDB entry EMD-11821. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

This section was not generated.

6.2 Central slices

This section was not generated.

6.3 Largest variance slices

This section was not generated.

6.4 Orthogonal surface views

This section was not generated.

6.5 Mask visualisation

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

7 Map analysis

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

7.1 Map-value distribution

This section was not generated.

7.2 Volume estimate versus contour level

This section was not generated.

7.3 Rotationally averaged power spectrum

This section was not generated. The rotationally averaged power spectrum had issues being displayed.

8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit

This section was not generated.