



Full wwPDB EM Validation Report ⓘ

Mar 6, 2026 – 09:27 PM UTC

PDB ID : 7AM2 / pdb_00007am2
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:

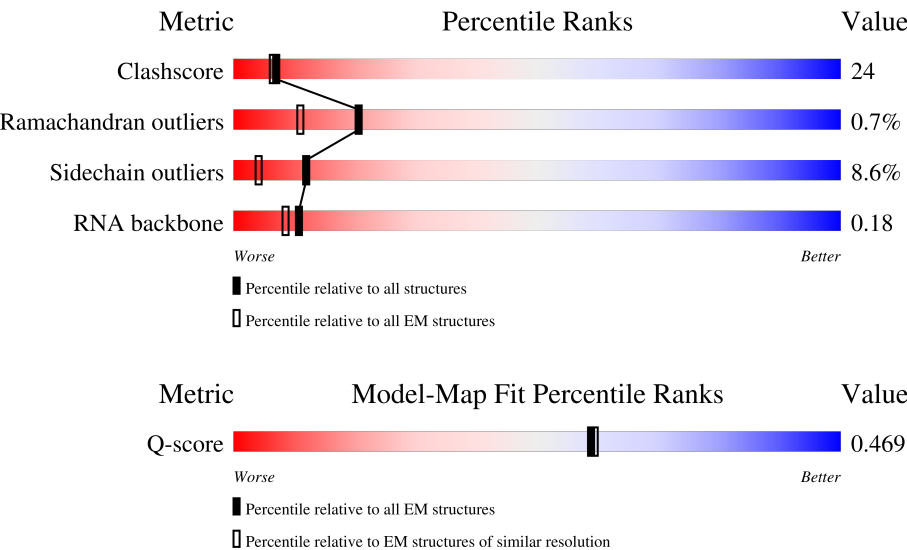
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data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

1 Overall quality at a glance i

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

The reported resolution of this entry is 3.40 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	14717 (2.90 - 3.90)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	467	45%29%24%
2	B	436	63%34%
3	C	262	42%34%5%19%

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Mol	Chain	Length	Quality of chain
4	E	346	
5	F	171	
6	G	374	
7	I	305	
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	

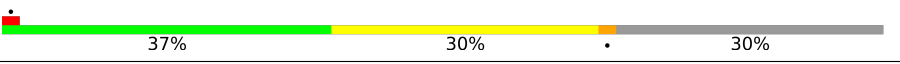
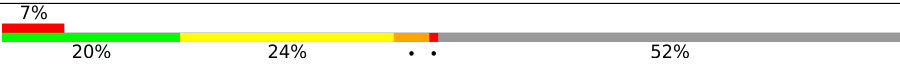
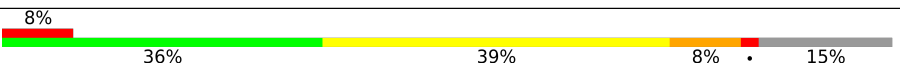
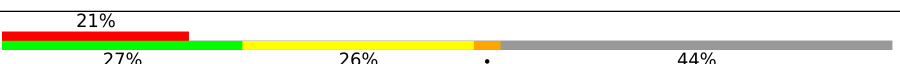
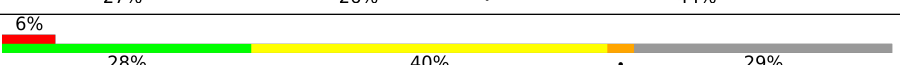
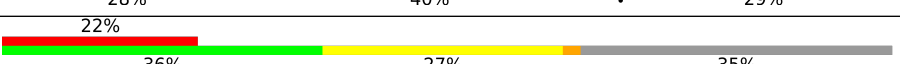
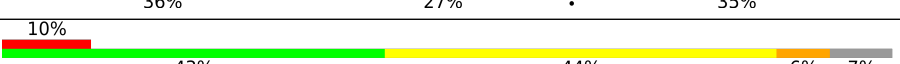
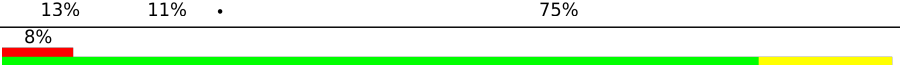
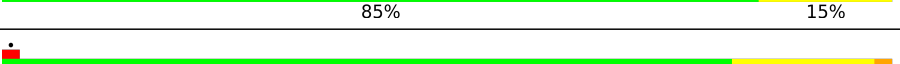
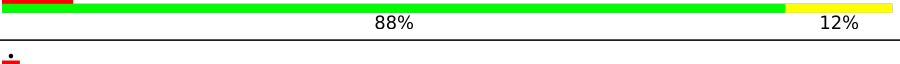
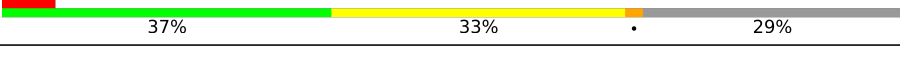
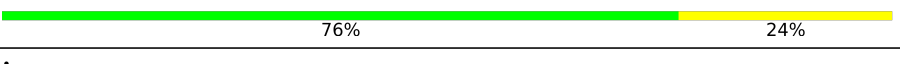
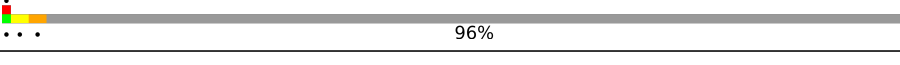
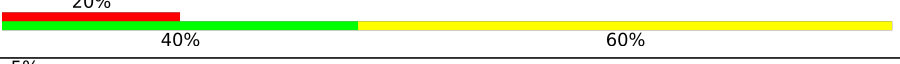
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Mol	Chain	Length	Quality of chain
29	BO	190	
30	At	183	
31	Au	186	
32	Ae	311	
33	Af	155	
34	Ah	570	
35	Ap	240	
36	Al	346	
37	Ab	262	
38	Aa	195	
39	BP	254	
40	Az	152	
41	Am	340	
42	As	249	
43	BG	1347	
44	Ad	237	
45	Aw	187	
46	BH	229	
47	Aj	503	
48	Ar	205	
49	An	331	
50	BF	109	
51	Av	192	
52	BM	457	
53	Ag	244	

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Mol	Chain	Length	Quality of chain
54	Bl	266	
55	Ax	216	
56	BS	416	
57	BX	569	
57	BY	569	
58	BZ	413	
59	CC	150	
60	CD	126	
61	BT	464	
62	BU	497	
63	BW	776	
64	BV	787	
65	U7	40	
66	U6	187	
67	U1	46	
68	U3	75	
69	U4	136	
70	U5	94	
71	BR	301	
72	U2	37	
73	1	19000	
74	R1	3	
75	R2	35	
76	R5	5	
77	U8	59	

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
1	A	356	Total	C	N	O	S	0	0
			2909	1877	482	535	15		

- Molecule 2 is a protein called uL4m.

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

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

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

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

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

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

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

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

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

- 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		

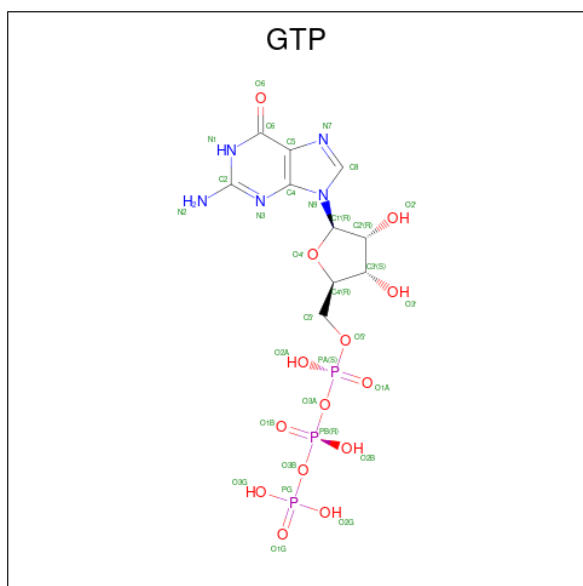
- Molecule 76 is a RNA chain called R5.

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 (CCD ID: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$) (labeled as "Ligand of Interest" by depositor).

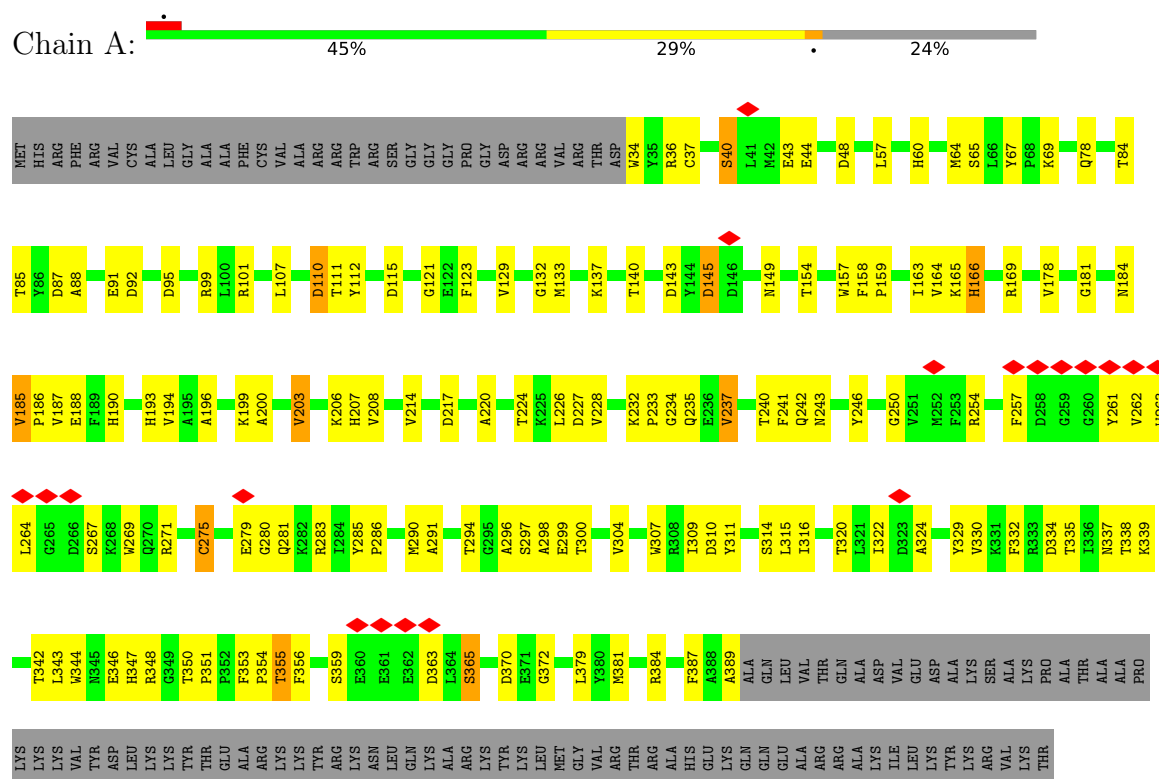


Mol	Chain	Residues	Atoms						AltConf
79	BW	1	Total	C	H	N	O	P	0
			43	10	12	5	13	3	

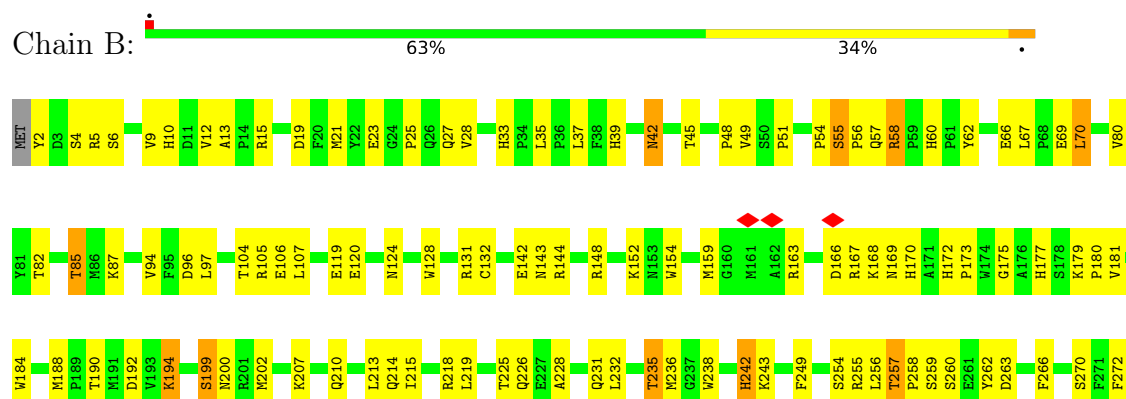
3 Residue-property plots

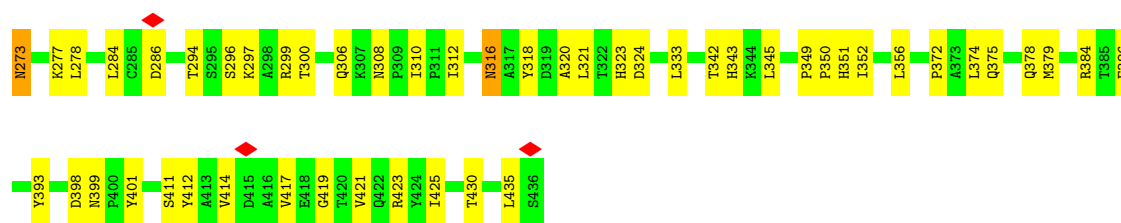
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: Ribosomal protein L3-like protein

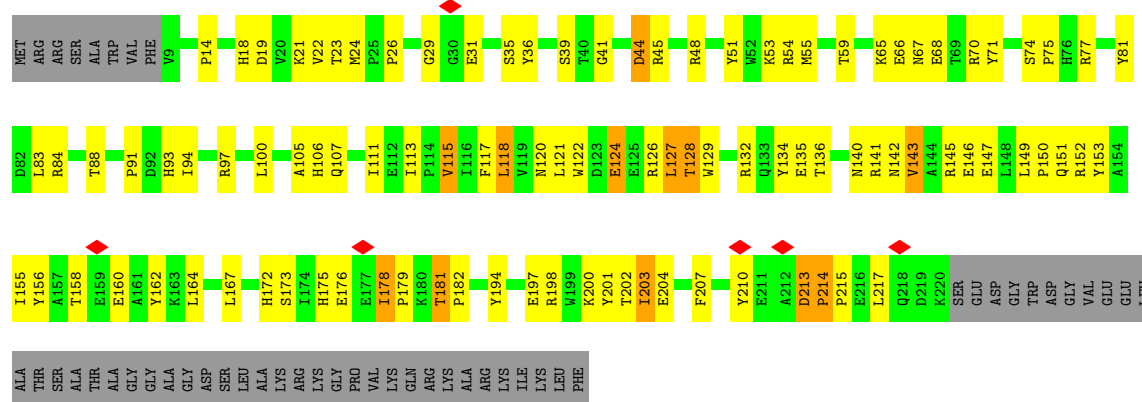


• Molecule 2: uL4m

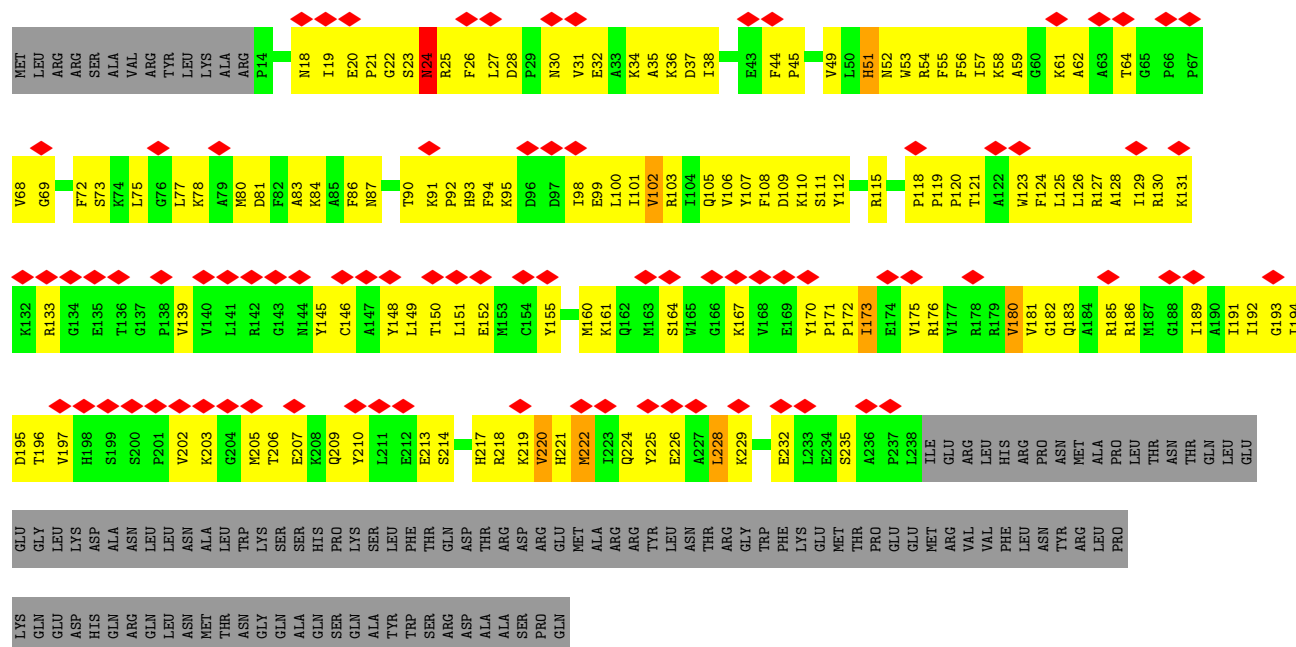
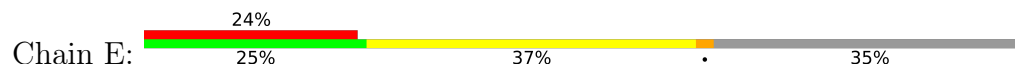




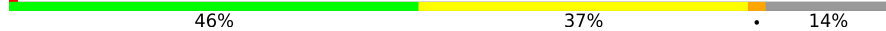
• Molecule 3: RIBOSOMAL_L9 domain-containing protein



• Molecule 4: Putative ribosomal protein L11



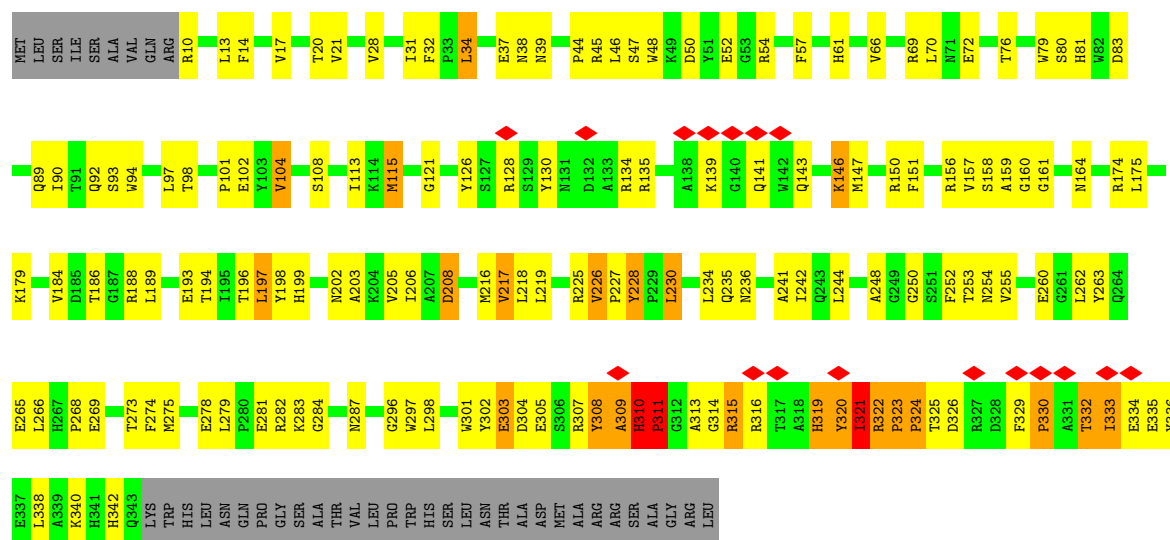
• Molecule 5: 50S ribosomal protein L13-like protein

Chain F: 



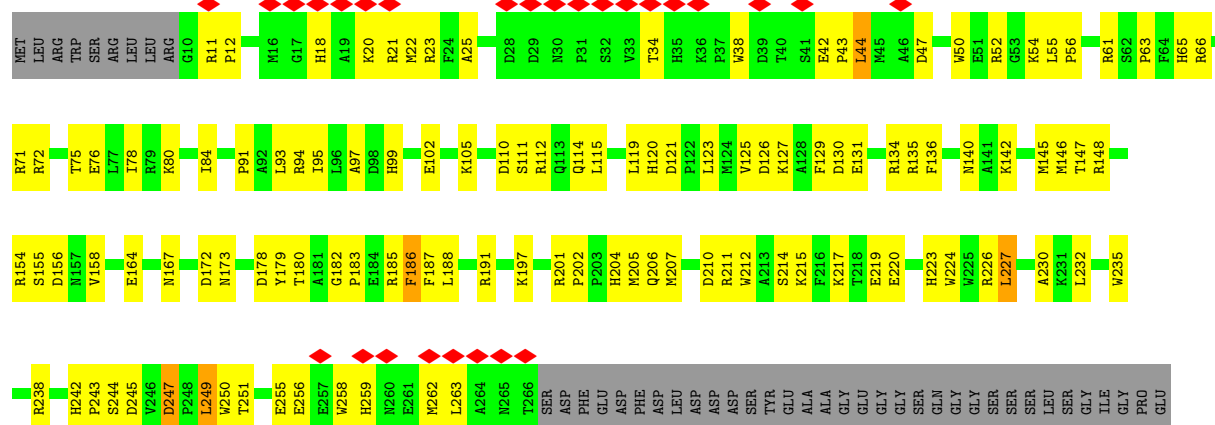
• Molecule 6: Ribosomal_L18e/L15P domain-containing protein

Chain G: 



• Molecule 7: Putative 50S ribosomal protein L17

Chain I: 



PRO
GLN
LYS
TYR

• Molecule 8: bL19m

Chain J:  35% 50% 12% ..

MET G1 R4 E5 R6 T7 F11 F12 R15 F19 F20 S21 S22 L23 L24 R27 T28 Q29 R30 A31 I37 S41 M42 K43 P44 A45 K46 H47 T48 K49 E50 Q51 V52 T53 O54 S55 P56 T58 C59 N60 F61 E62 Y63 N64 P65 R66 P67 V68 R69 L70 L71 G72

T73 V74 M75 D76 A77 T78 E79 E80 E81 T82 S83 R84 R85 R86 G87 L88 K89 Y90 Y91 A92 R93 S94 N98 M99 M100 L101 W102 I103 P104 A105 G106 N107 P108 K109 L110 L111 A112 Y112 E113 V114 T115 O116 A117 K118 P119 S120 F121 E122 H123 Y124 L125 D126 R127 R128 S129 E133 L136

R139 A140 R141 MET LYS

• Molecule 9: bL20m

Chain K:  54% 36% 8% ..

MET LEU ARG SER THR VAL LEU Y10 Y11 R12 A13 T14 L20 M23 L24 R25 G26 R27 E31 R32 K33 V34 R38 I39 T40 F41 L42 M43 Q46 T47 R50 V51 E52 R59 V62 V66 D67 S68 A69 H73 G74 S75 D76 W77 R81 N82 D83

L84 N88 L89 Y102 E103 P104 L105 A106 F107 R108 A109 A110 M111 E112 R117 P121 P122 P123 P124 M125 T126 A127 Q128 E132 T136 R137 P138 E139 D140 A144 H145 P146 A147 A148 R149 E153 E157 R158 M159 T162 G163 R164 S165 D166 V167 L168 Q169 R170 E171 G172

P173 R174 T175 W179 A182 L188 GLY SER ALA GLN LYS

• Molecule 10: bL21m

Chain L:  58% 34% ..

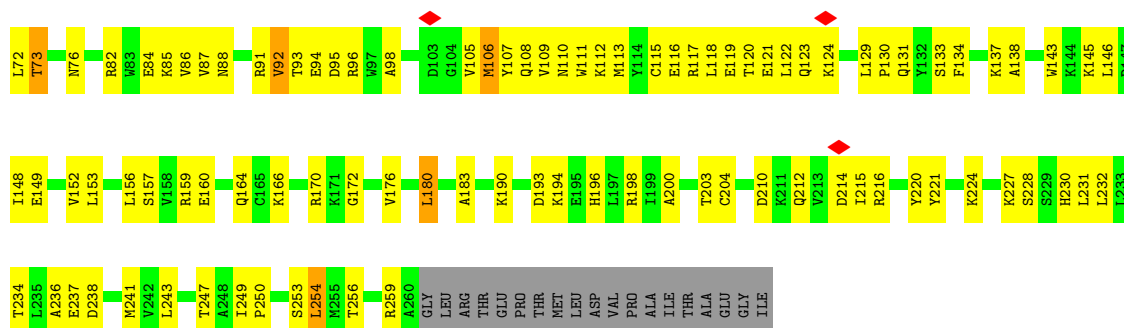
MET L2 L16 K21 F22 V25 N29 S35 D38 V39 V42 Q43 R44 Q52 I53 A54 L55 M60 V61 G62 G63 P64 R65 P66 T67 G70 R71 P72 L73 L74 V77 R78 T79 T80 A81 D82 Q86 K87 R88 R89 R90 N91 V92 V93 S94 T98

R105 W106 L107 Q110 T114 I115 L116 R117 T118 R119 E120 Y123 E124 P125 T126 V127 V128 G129 E130 K133 L139 R140 D141 D145 Y146 H147 P148 N149 P150 V151 F152 D156 L160 K164 D165 W166 N167 K168 E171 E177 M178 M179 GLU ALA PRO THR PRO GLU LYS

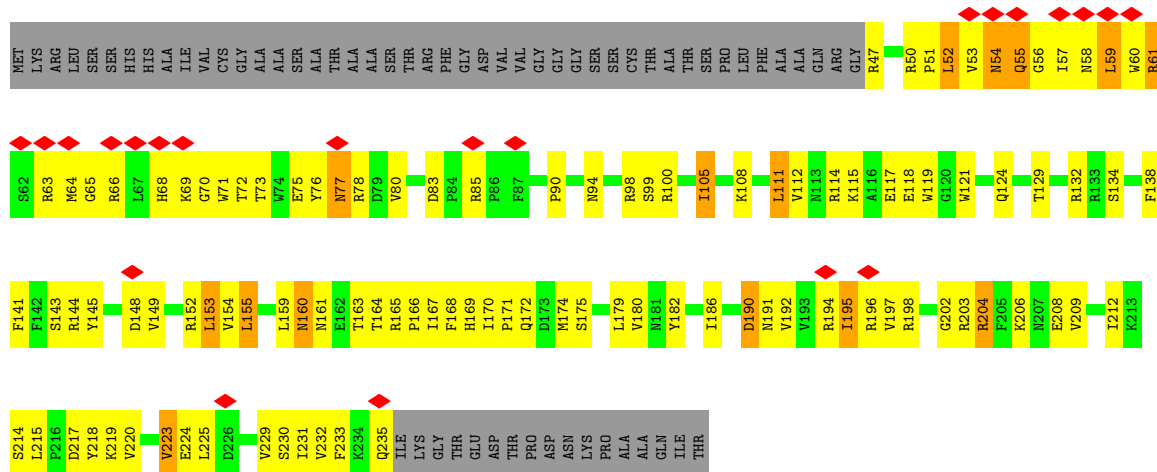
• Molecule 11: uL22m

Chain M:  43% 48% 7% ..

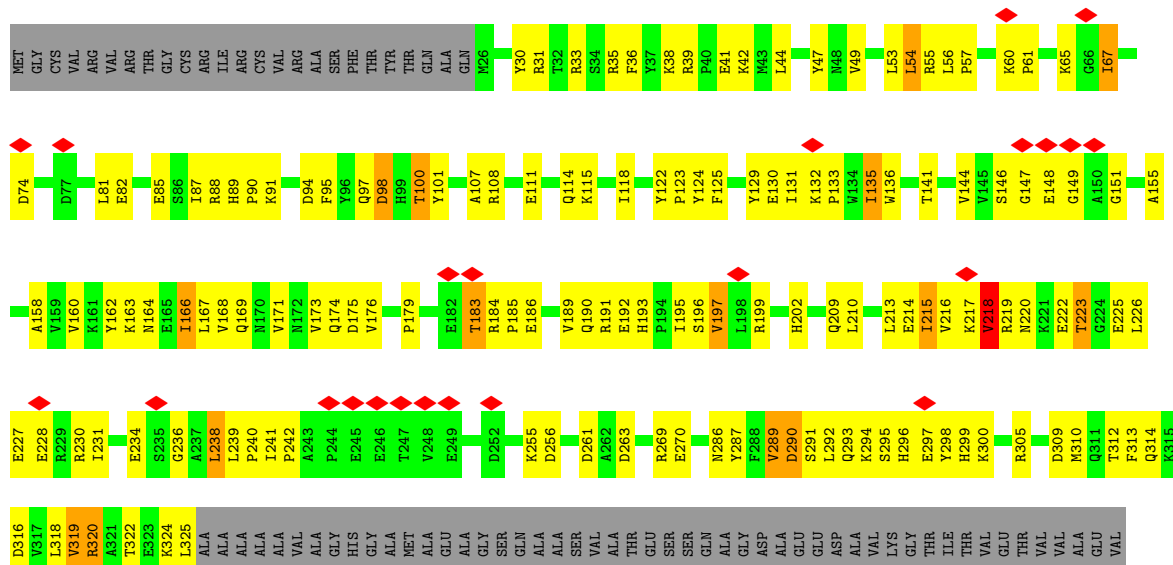
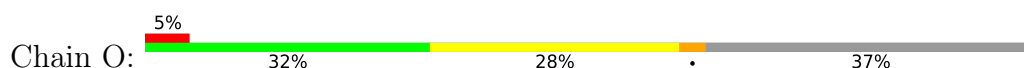
MET P2 R7 Y8 I10 G11 L12 R13 P14 A15 P16 K17 R18 Q19 N20 L26 Q29 K30 H31 Y32 A33 R34 E35 L36 W37 K39 R40 Q41 Y42 Y43 S44 T45 R46 P47 I50 Q51 K52 S56 T57 P58 R59 I60 L61 L62 D63 R64 T65 L66 W67 R68 S69 G70 W71

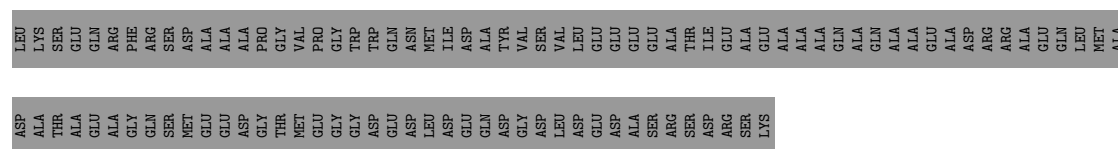


• Molecule 12: uL23m

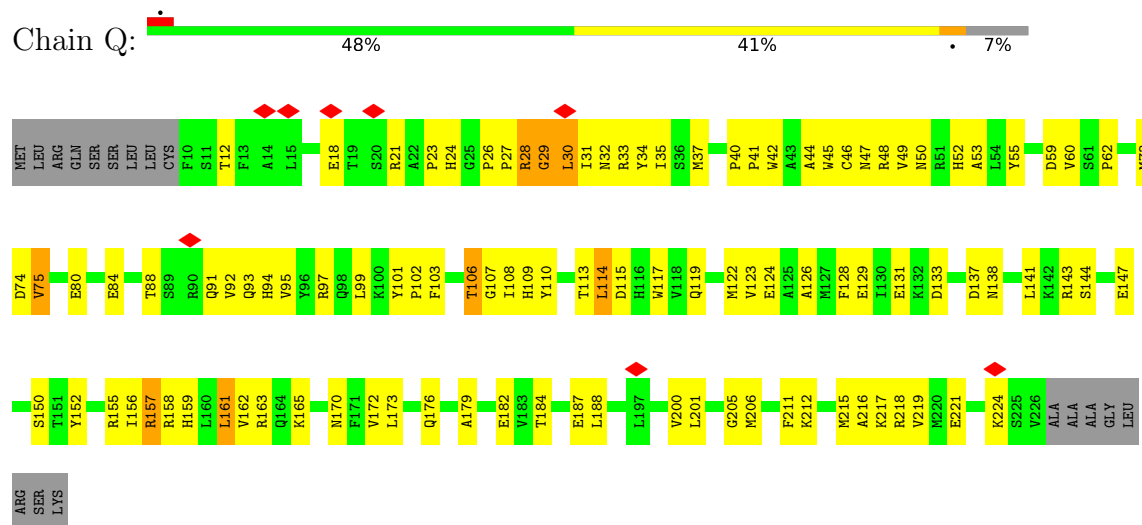


• Molecule 13: uL24m

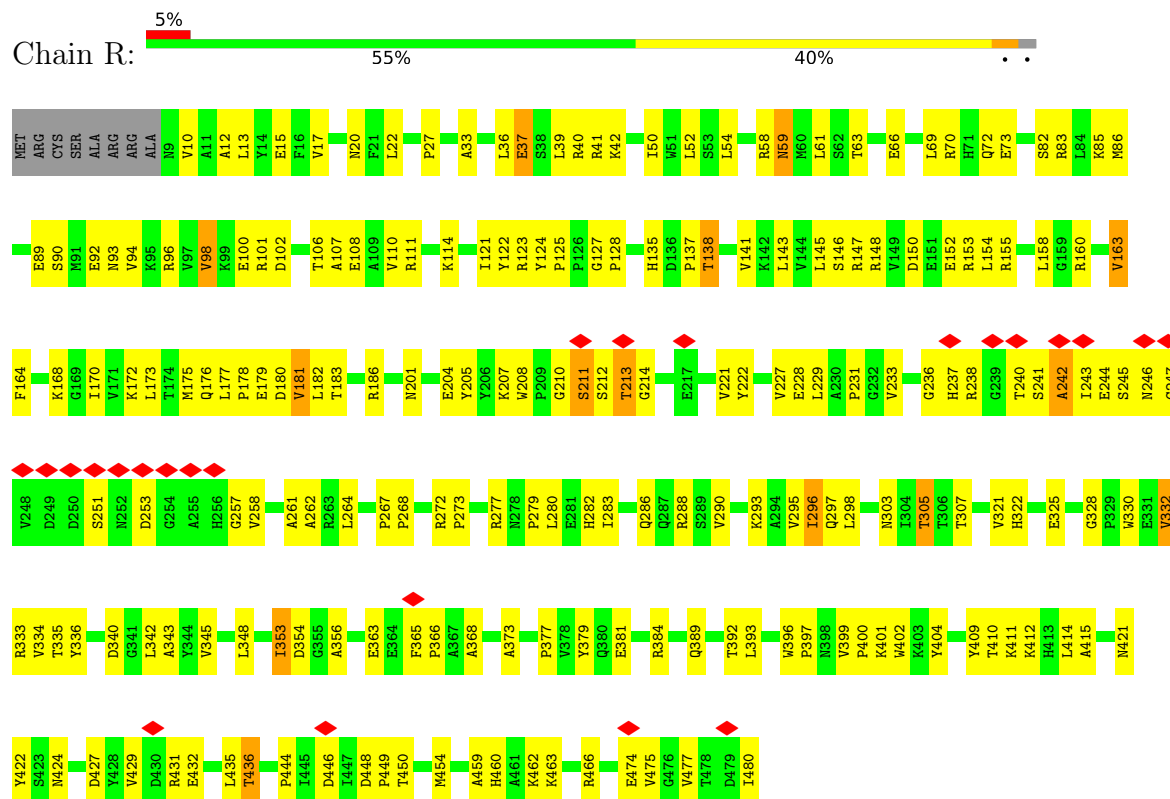




• Molecule 14: bL28m

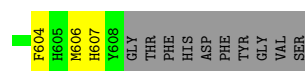


• Molecule 15: uL29m

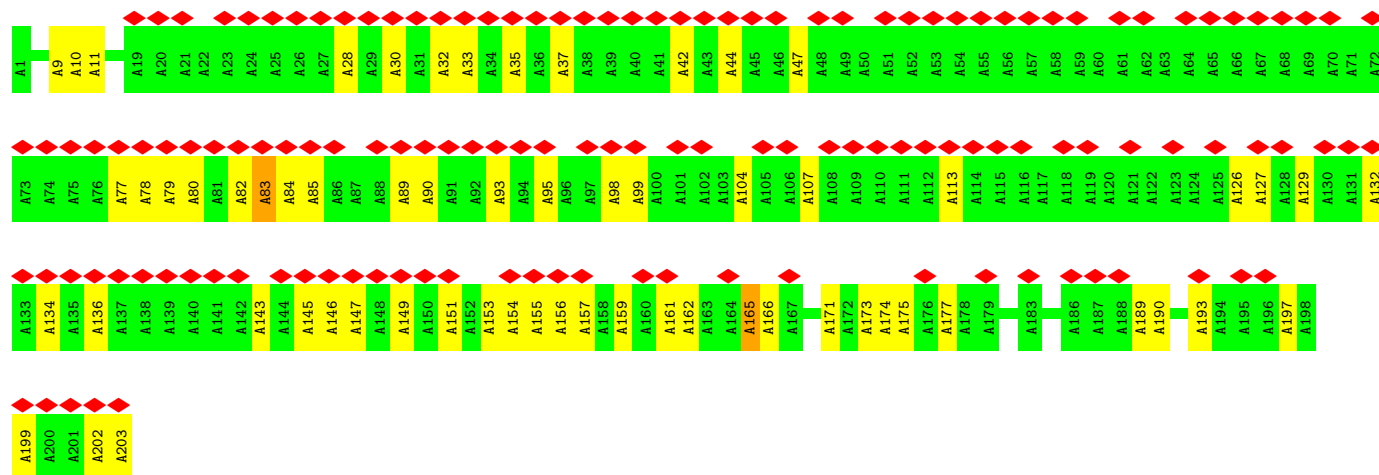


• Molecule 16: uL30m

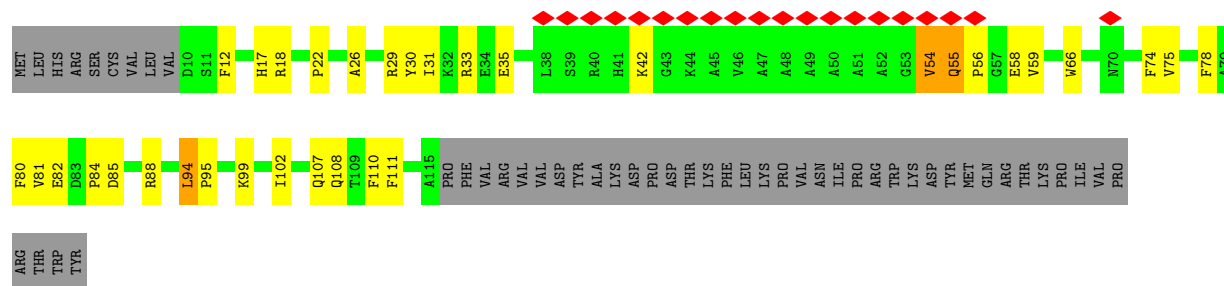




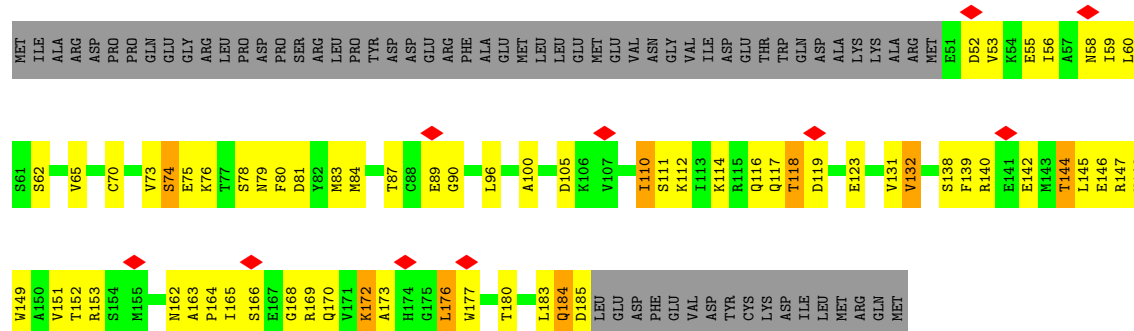
• Molecule 22: UA



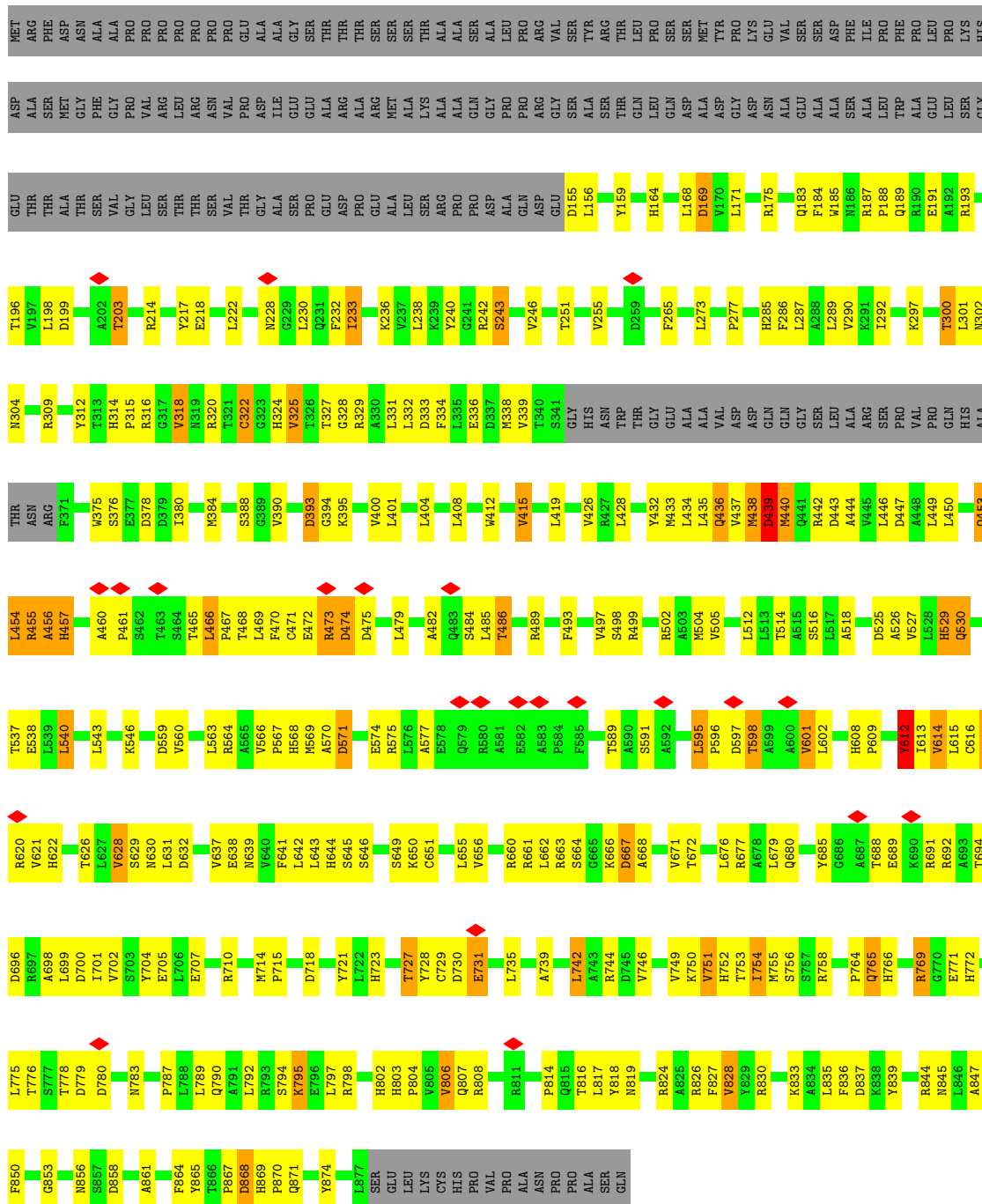
• Molecule 23: mL95



• Molecule 24: RNA uridylyltransferase



• Molecule 25: mL67

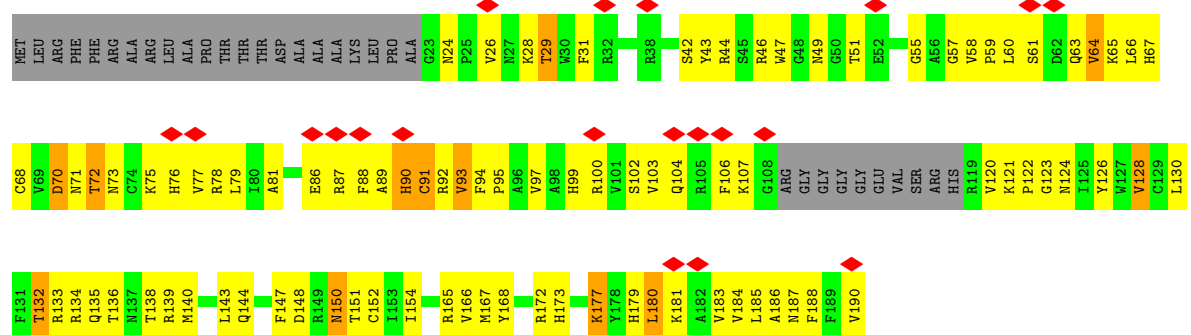


Chain BQ:





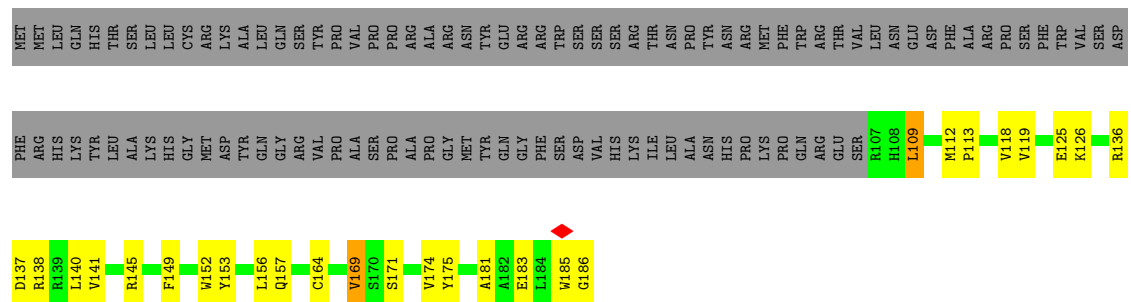
Chain BO:



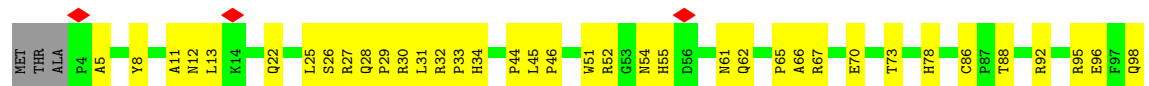
Chain At: 54% 36% 10%

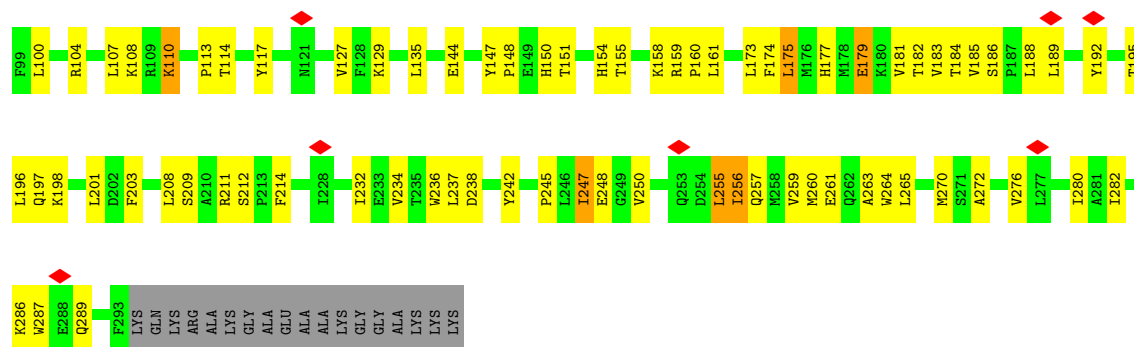


Chain Au: 28% 13% 57%

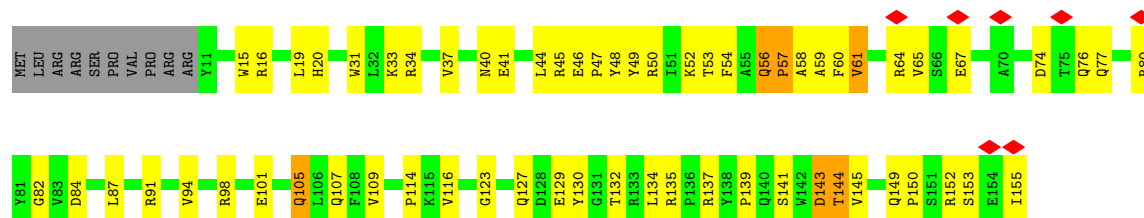


Chain Ae: 58% 34% 7%

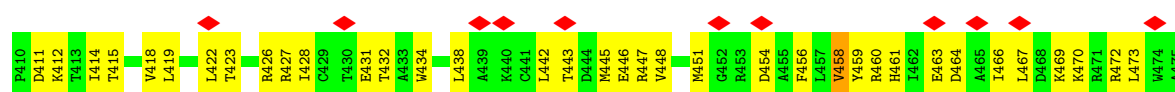
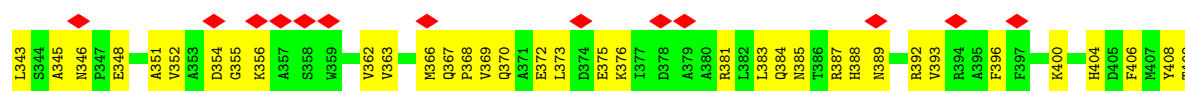
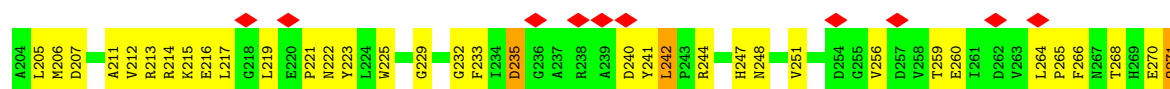
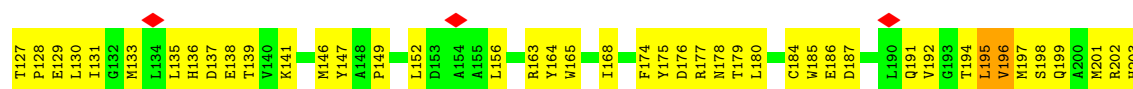
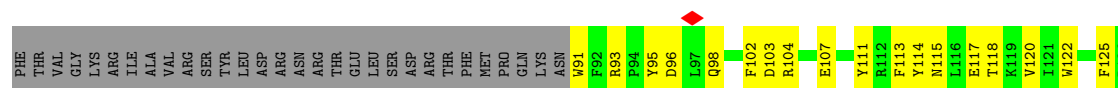


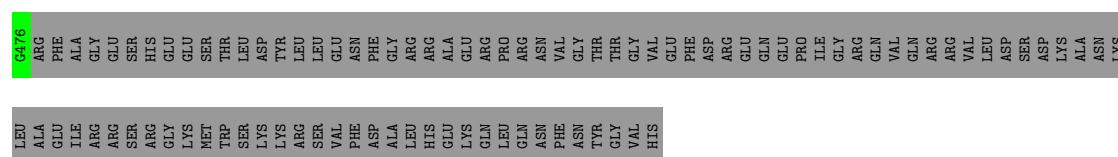


• Molecule 33: mL63

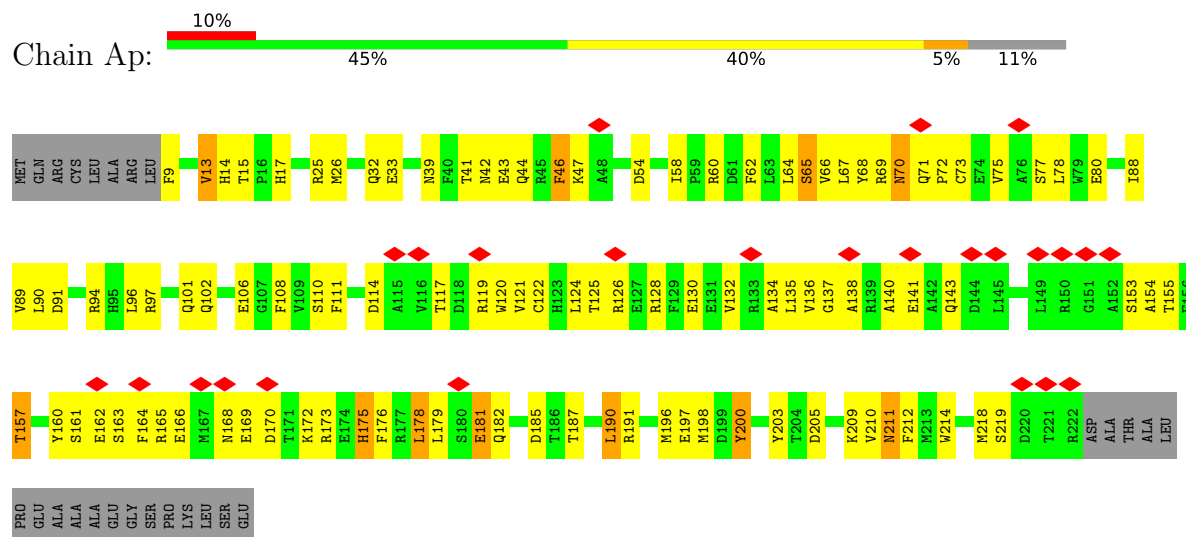


• Molecule 34: mL68

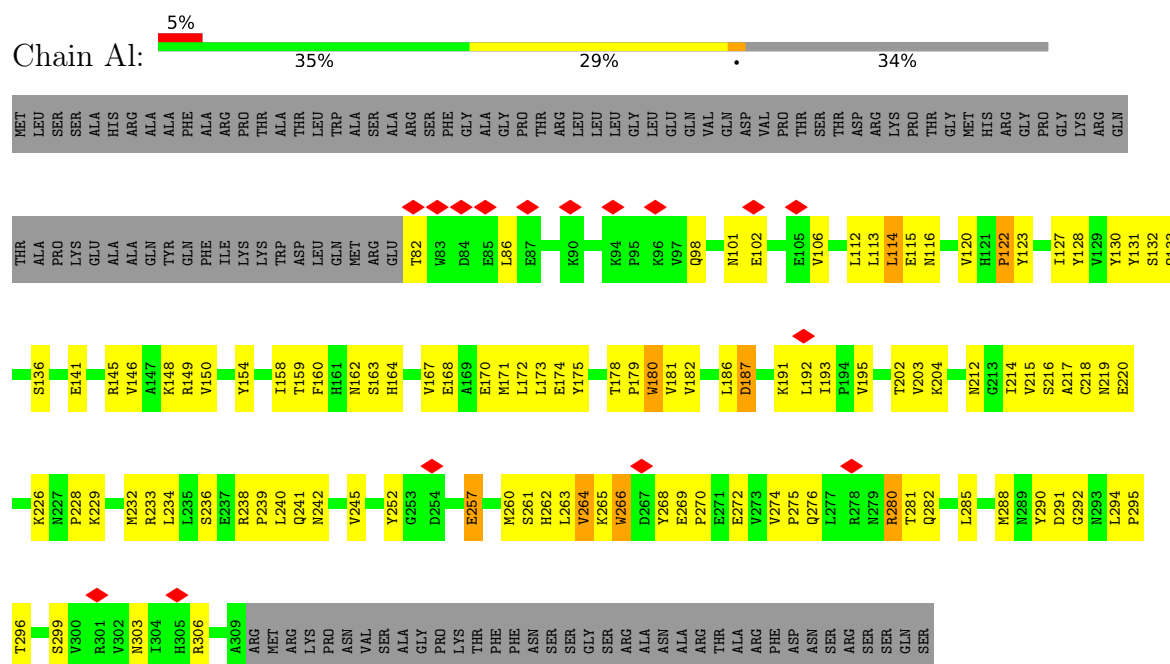




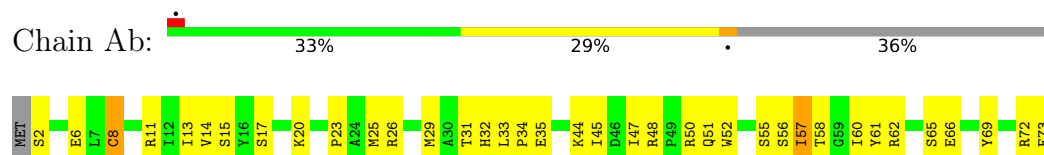
• Molecule 35: mL80

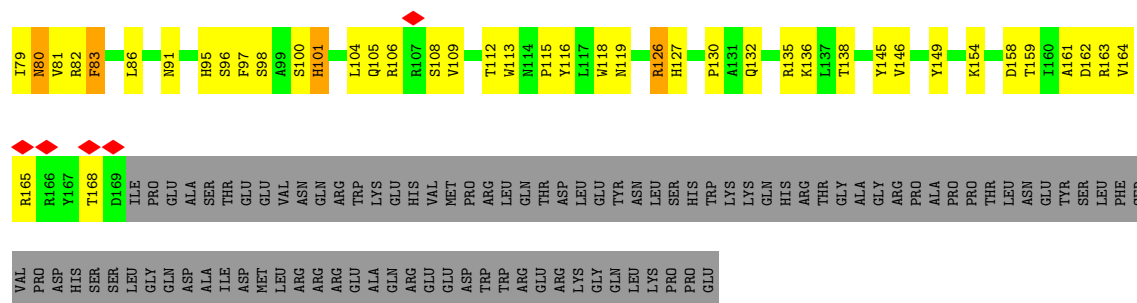


• Molecule 36: mL74

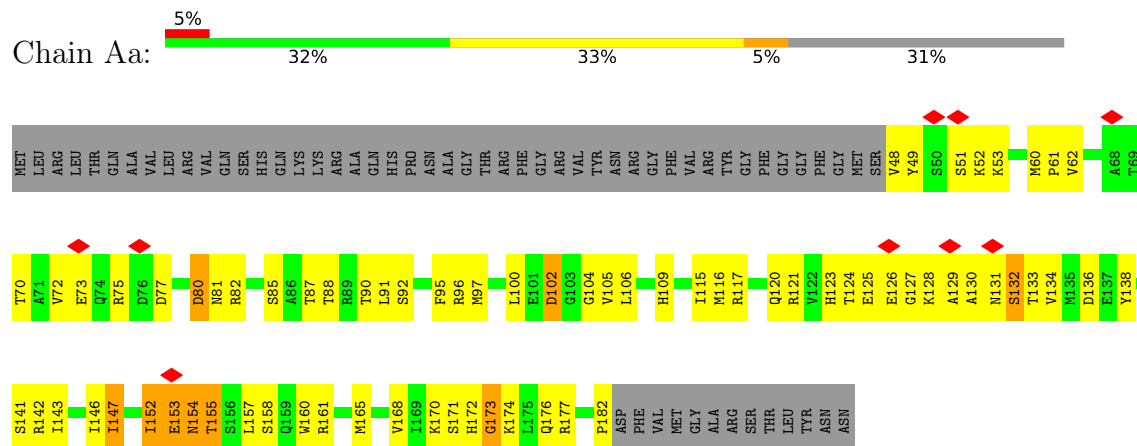


• Molecule 37: L51_S25_CI-B8 domain-containing protein

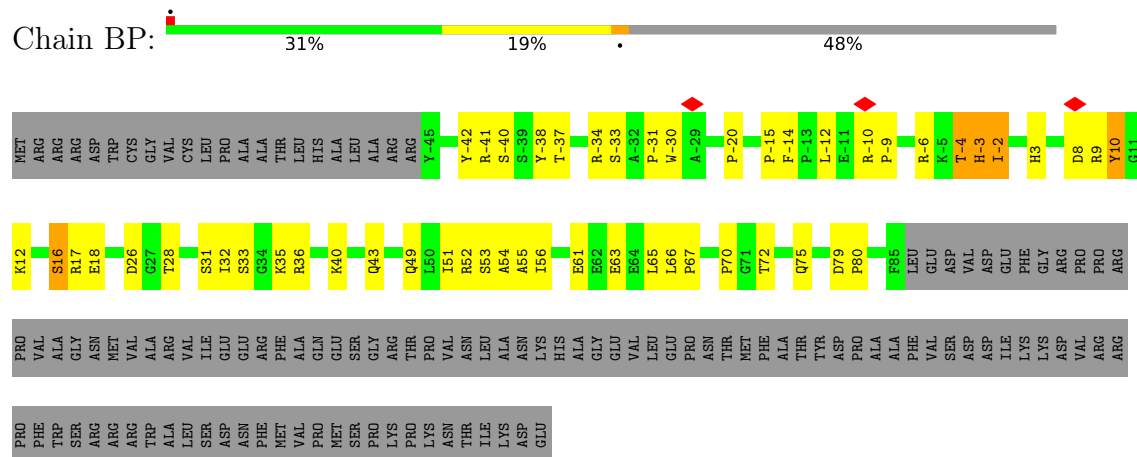




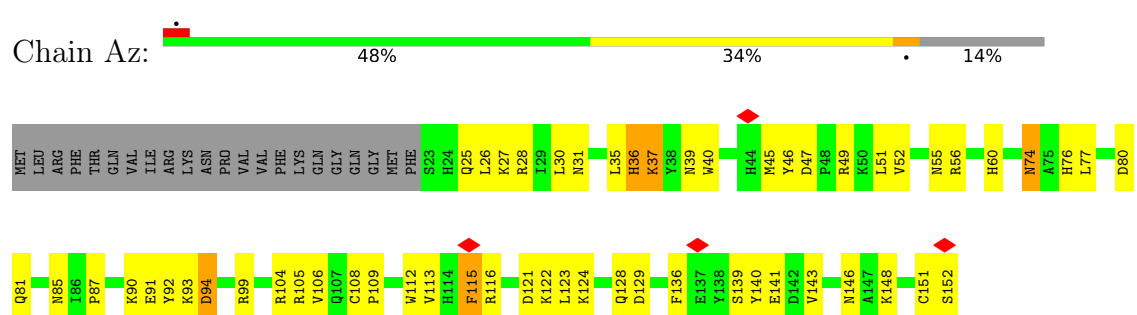
• Molecule 38: mL42



• Molecule 39: mL52,mL52

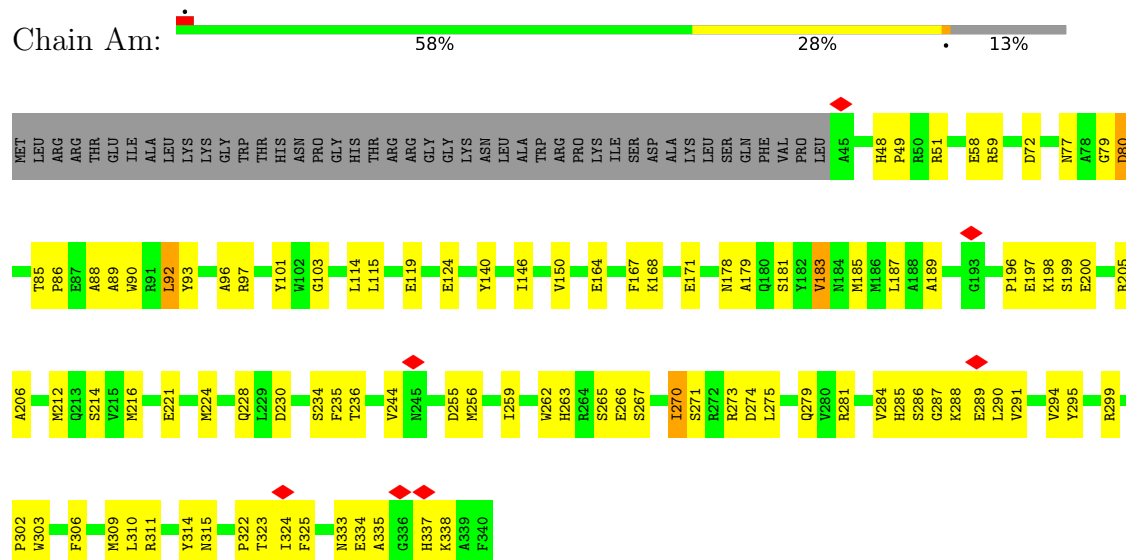


• Molecule 40: mL93



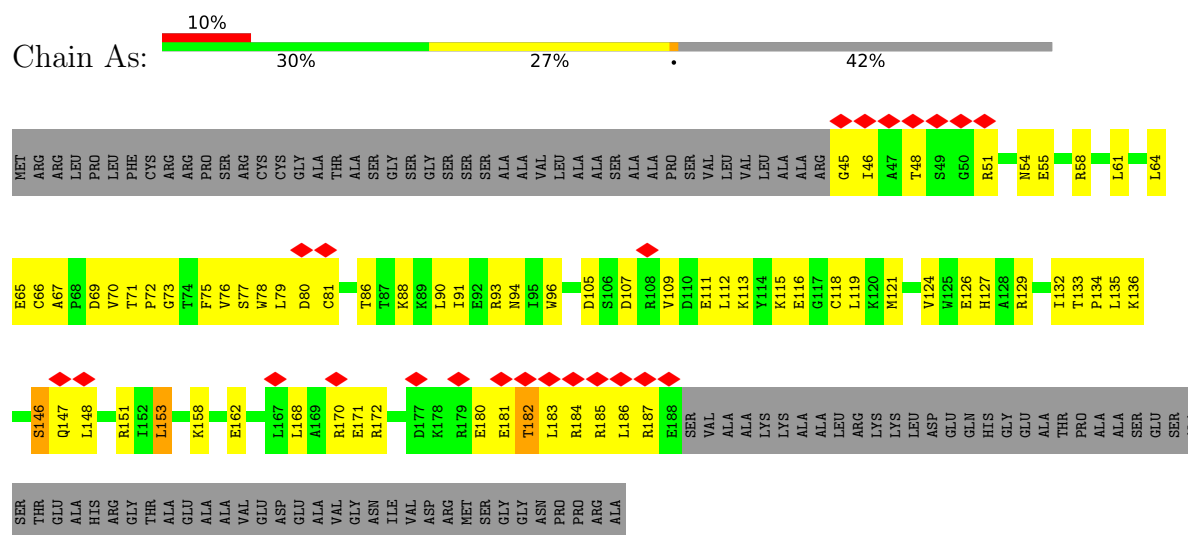
- Molecule 41: mL75

Chain Am:



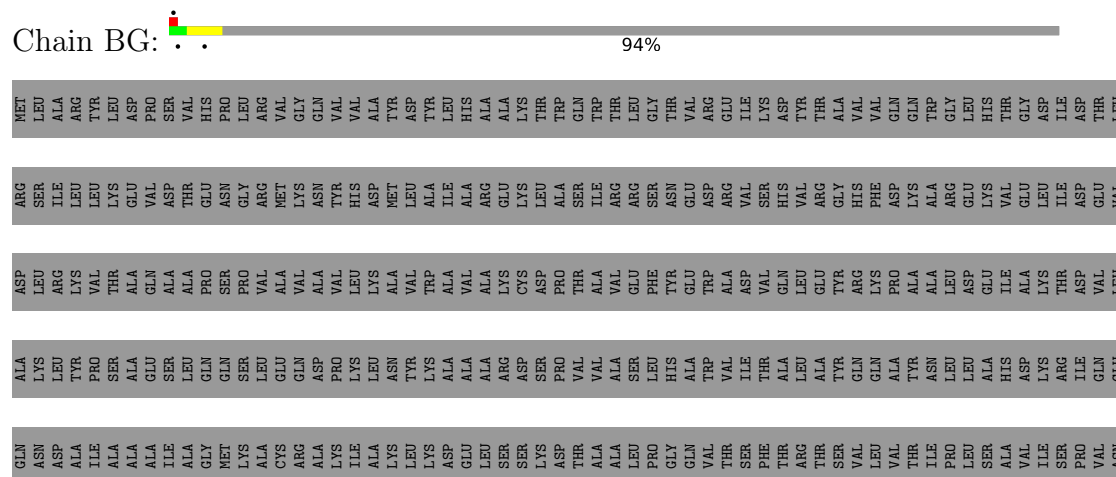
- Molecule 42: mL85

Chain As:



- Molecule 43: mL100

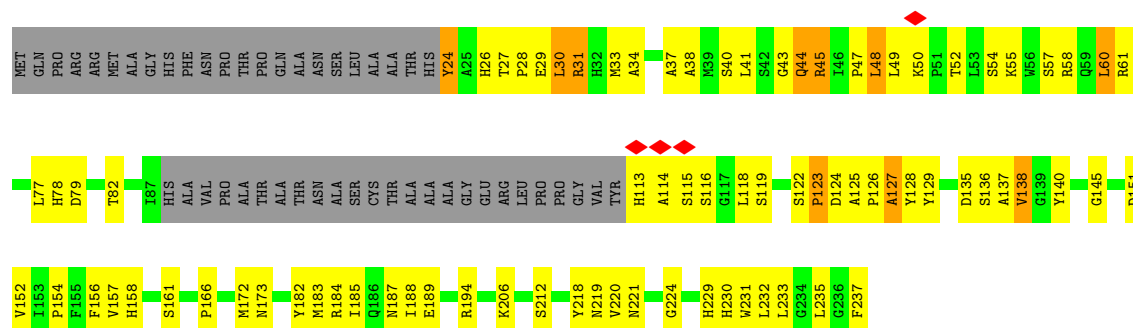
Chain BG:



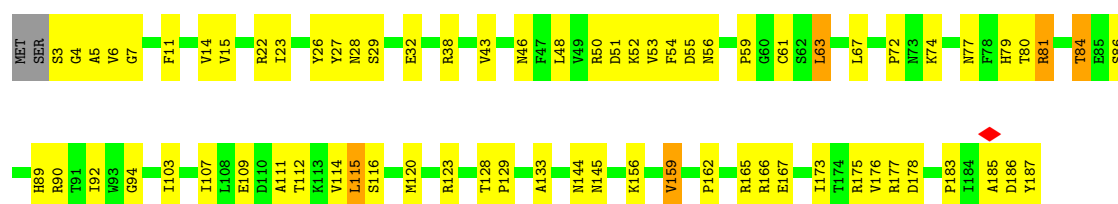
K1327	A1261
Q1328	C1262
R1329	H1263
S1330	V1264
G1331	P1265
K1332	G1266
I1333	D1267
A1334	Q1268
S1335	T1269
Q1336	L1270
P1337	F1271
L1338	V1272
M1339	S1273
E1340	N1274
V1341	S1275
C1342	F1276
N1343	T1277
K1344	
ASN	L1280
GLU	L1281
PHE	T1282
	R1283
	T1284
	D1285
	P1288
	K1289
	C1290
	D1291
	R1292
	T1295
	F1296
	M1299
	S1300
	V1301
	M1304
	R1307
	M1308
	P1309
	Y1310
	K1311
	P1312
	V1313
	D1314
	T1315
	P1316
	G1317
	P1318
	S1319
	Y1320
	A1321
	T1322
	L1323
	Y1324
	P1325
	R1326

Chain Ad:

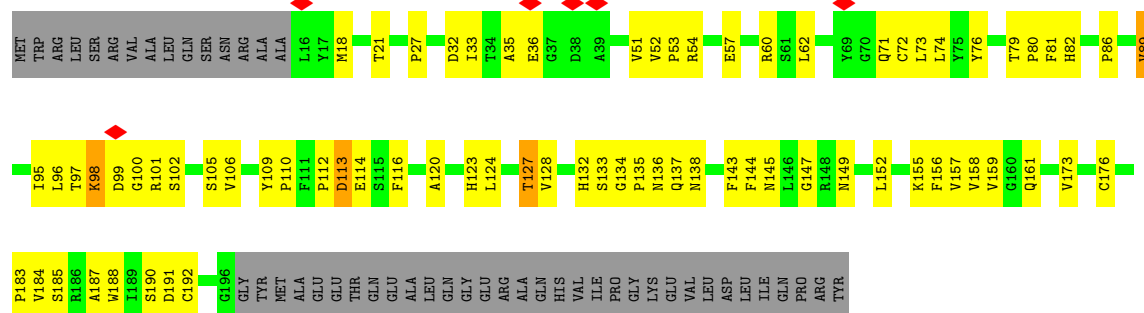




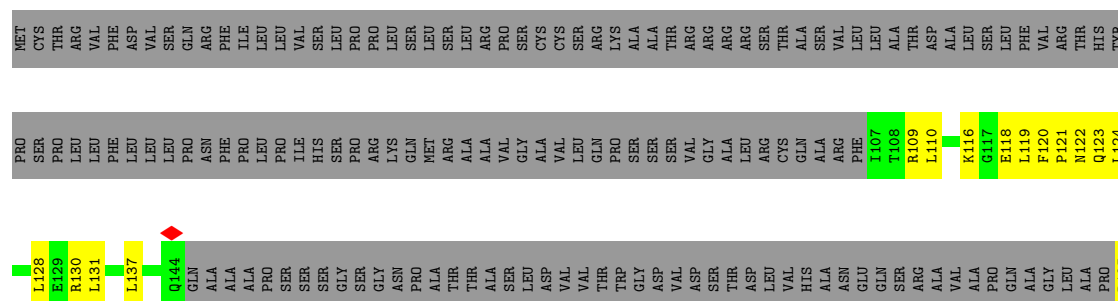
• Molecule 45: mL89

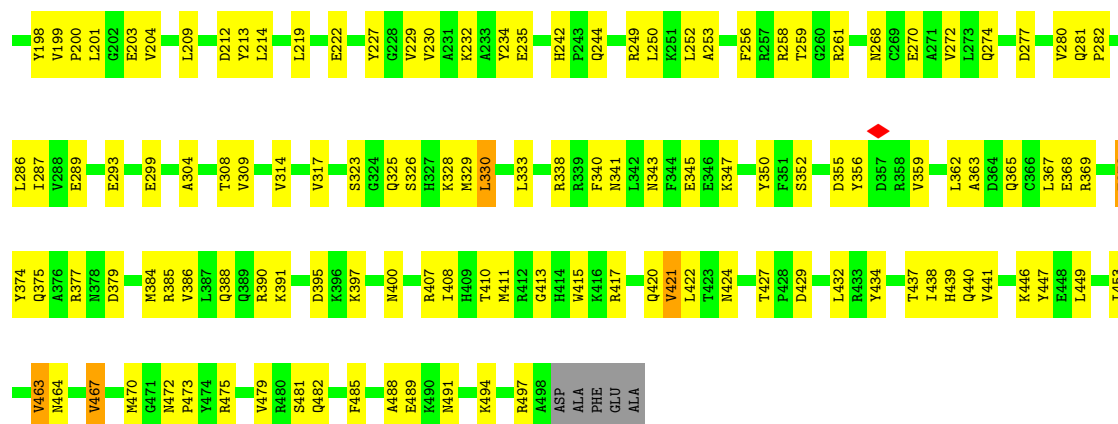


• Molecule 46: Peptidyl-prolyl cis-trans isomerase



• Molecule 47: mL72





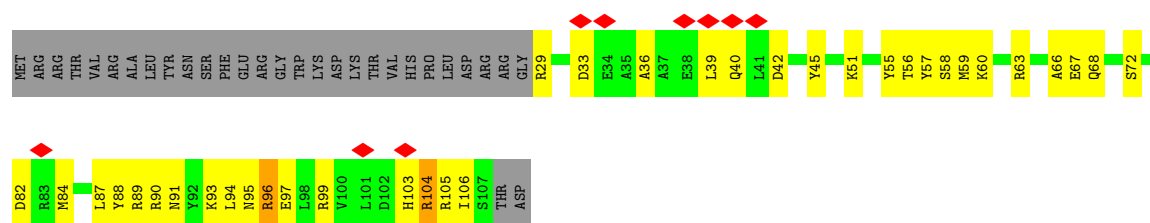
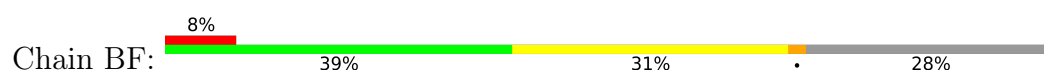
• Molecule 48: mL84



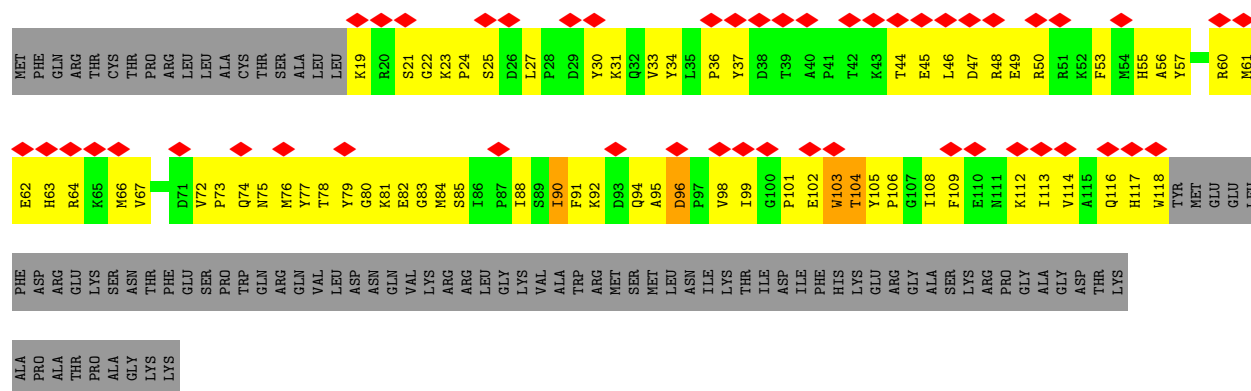
• Molecule 49: mL76



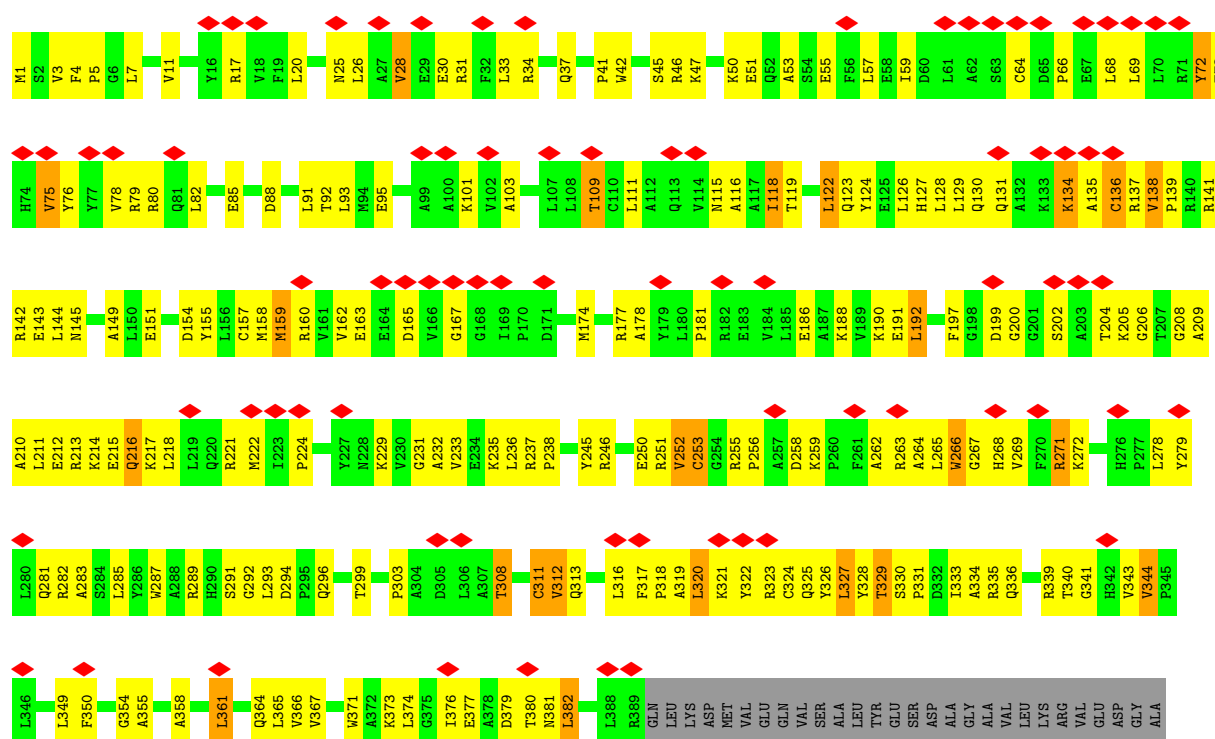
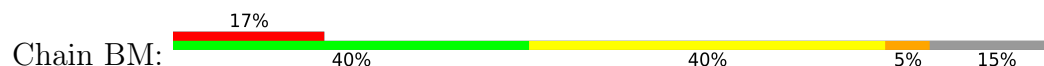
• Molecule 50: mL99



• Molecule 51: mL88



• Molecule 52: mL70



LYS VAL LEU CYS PRO SER LEU SER GLU ARG GLU SER LEU THR MET ARG GLY ALA PRO GLU ASP THR SER SER ARG VAL VAL ALA ALA ALA ARG VAL ALA ALA PRO GLU

• Molecule 53: mL59/64

Chain Ag:  31% 19% 49%

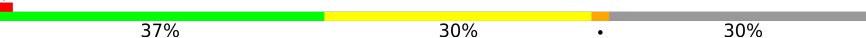
MET ALA PHE ARG GLY SER SER ALA ARG LEU ALA ALA THR PRO GLY MET ARG GLY ILE PRO E21 E22 T23 P24 V25 K26 Y27 V28 P29 E30 K31 L32 N33 I34 Q35 N36 A37 K38 W39 W40 M41 Q42 R43 V47 Y48 R49 S56 W57 L58 E59 K60 A61 R62 F66 T67 K68

P72 R75 Q76 R77 Y78 A82 E88 T96 C97 D98 Y99 P102 P103 I106 R107 A108 Q109 S110 R116 Y117 Y118 T123 I124 E125 S126 Y127 R128 Y129 Q130 R143 Q144 ARG PRO THR ARG THR ASN ARG LYS VAL LEU LEU ASP VAL VAL HIS MET TYR THR ASP MET THR LYS HIS MET ASN GLN LEU

ILE ARG ASP TYR ARG SER ARG TRP ILE VAL ASN THR VAL ARG SER LEU VAL MET SER ARG MET LYS GLU SER GLU GLU ALA TYR LEU HIS PHE LYS LYS VAL GLN ASP PHE TRP SER ASN ARG LYS VAL LEU LEU ASP VAL VAL HIS MET TYR THR ASP MET THR LYS HIS MET ASN GLN LEU

LEU GLN SER ALA LYS ASP LEU PRO ILE THR ASN ILE LYS PHE LEU ALA GLU

• Molecule 54: Peptidyl-prolyl cis-trans isomerase

Chain Bl:  37% 30% 30%

MET ARG VAL TRP VAL THR LEU PRO HIS SER LEU PRO THR ALA ALA THR LEU LEU ASP VAL VAL ASP VAL VAL THR LEU LEU

ALA GLU THR THR MET PHE ALA THR SER THR ILE ARG TRP ARG ALA ALA GLY ALA GLY H81 H82 F83 F84 D85 I86 A87 I88 P92 P93 H94 A95 V96 Y97 C105 P106 I107 A108 S109 E110 N111 F112 L113 K114 L115 V121 L122 P123 I128 D129 G130 I131 G132 E133 F136

R137 D138 Q139 L141 L142 Q143 L144 T145 T146 R147 T149 T150 V151 H152 R153 V154 G157 Y158 A159 V160 V161 G162 G163 D164 I165 V166 G170 S175 I176 Y177 G178 E179 P184 E185 E186 V187 K188 D193 L198 A201 V202 S203 L207 S210 Q211 F212 F213 I214 L215

T216 H222 L223 V234 D235 G236 W237 V240 K241 A242 I243 E244 L248 A250 G252 E253 P254 R257 V258 V259 V260 V261 E262 K265 L266

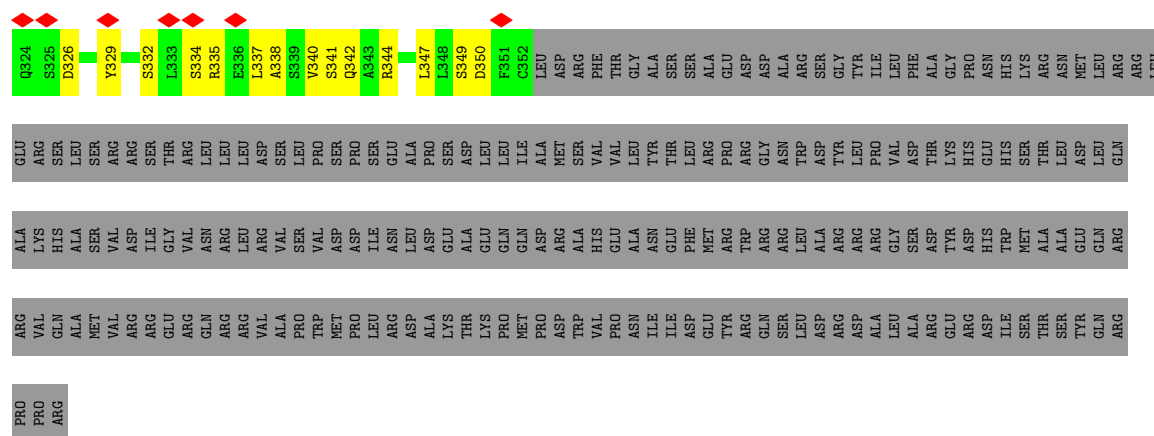
• Molecule 55: LIM zinc-binding domain-containing protein

Chain Ax:  39% 57% 34% 23%

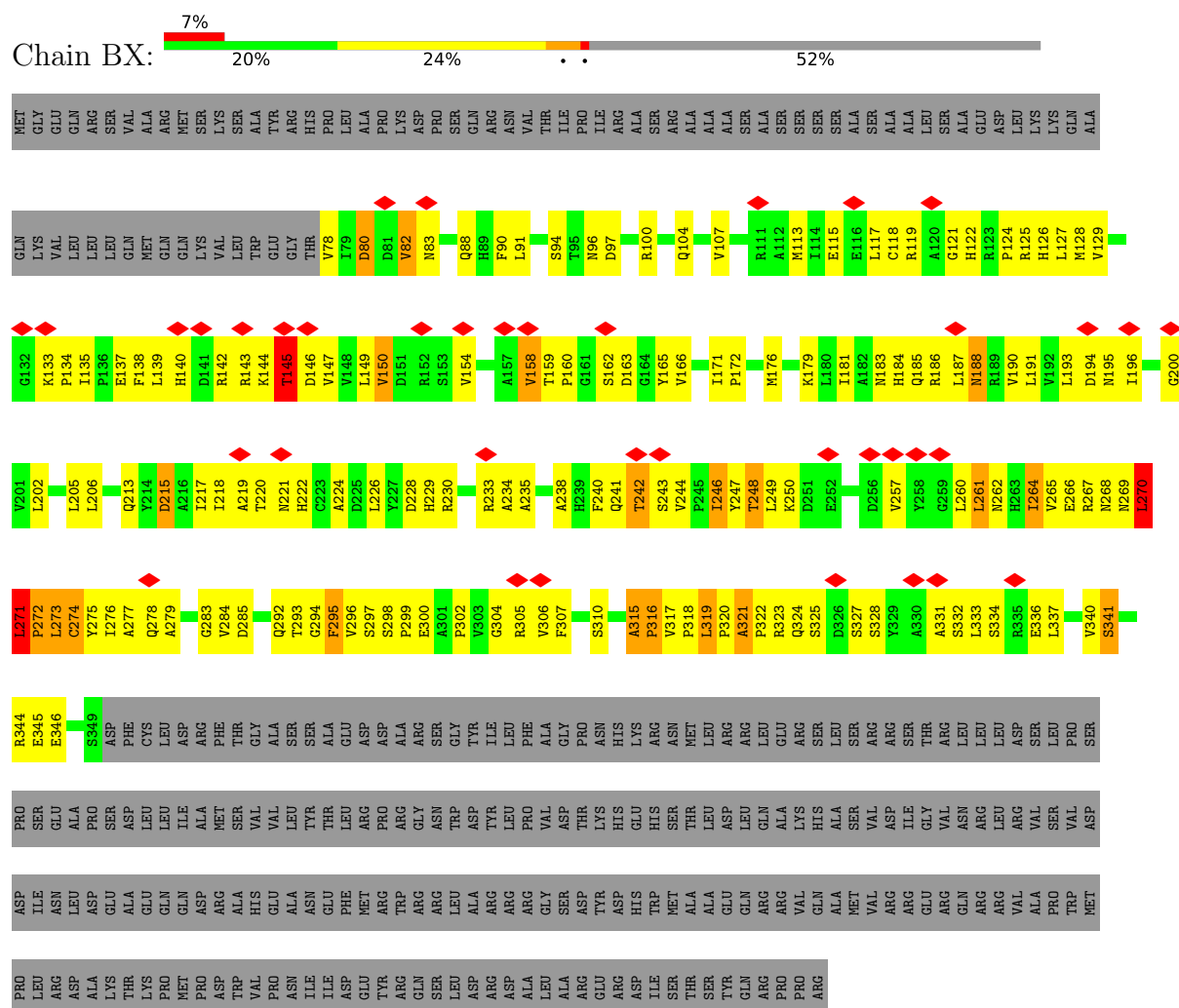
MET TYR PHE TYR ARG ARG ILE PRO SER LEU ALA SER LYS MET ASN HIS MET ARG GLN PHE SER LEU PRO ARG ARG ILE MET MET ALA ALA THR THR ALA ALA VAL PRO CYS ARG ALA MET H46 P49 A50 S51 G52 H53 K54 V55 R56 T57 Q58 H59 S60

W63 W64 M65 Q66 S67 K68 A69 Y70 H71 L72 Y73 T74 A75 V76 P77 H77 E78 E79 A80 A81 S82 R83 P84 H85 H86 F86 P87 P88 A89 Y89 T90 E91 D92 V93 D94 Q95 Q96 P96 N97 V98 V99 P100 D101 G102 V103 G104 C105 K106 R107 N108 C109 D109 K110 P111 I112 D113 G114 D115 D116 I117 N118 S119 P124 S125

G126 N127 A128 R129 V130 P131 T132 T133 Q134 G135 Y136 F137 F138 H139 V140 K141 C142 F143 A144 K145 W146 N147 C148 K149 Y150 R151 I152 M155 Q156 F157 Y158 S159 K160 D161 S162 R163 A164 W165 C166 L167 S168 C169 A170 L171 G172 R173 D174 I175 I176 R177 V178 T179 R180 R181 W182 H183 T184 S185 Y186

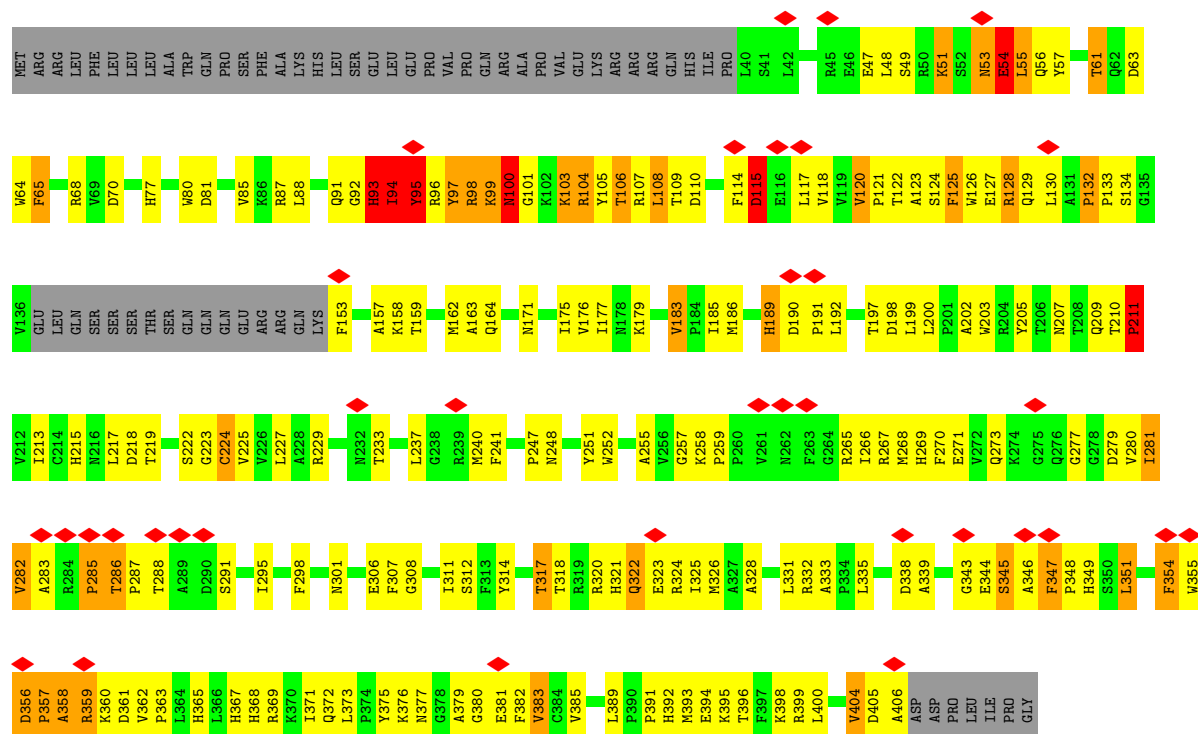


• Molecule 57: SpoU_methylase domain-containing protein

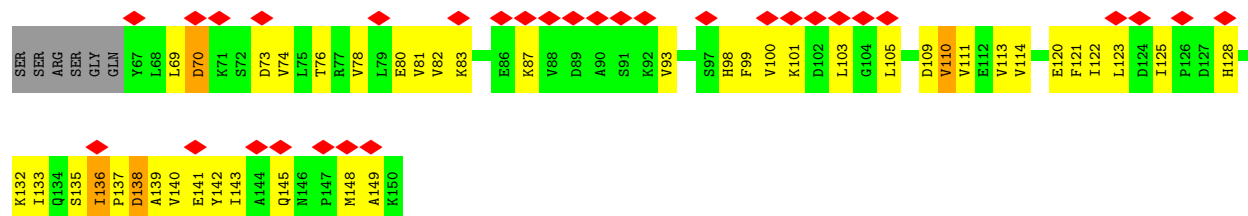
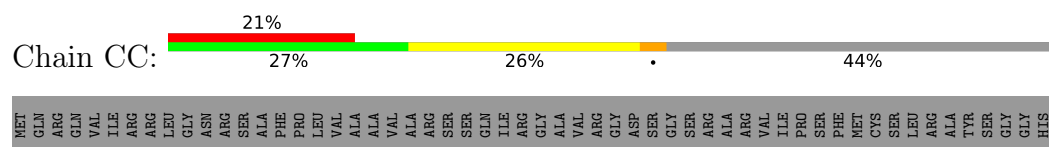


• Molecule 58: Pseudouridylate synthase-like protein

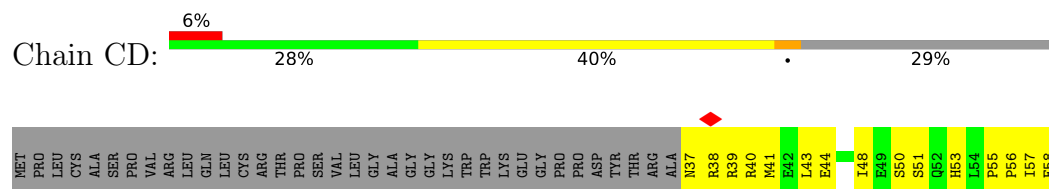




• Molecule 59: Acyl carrier protein

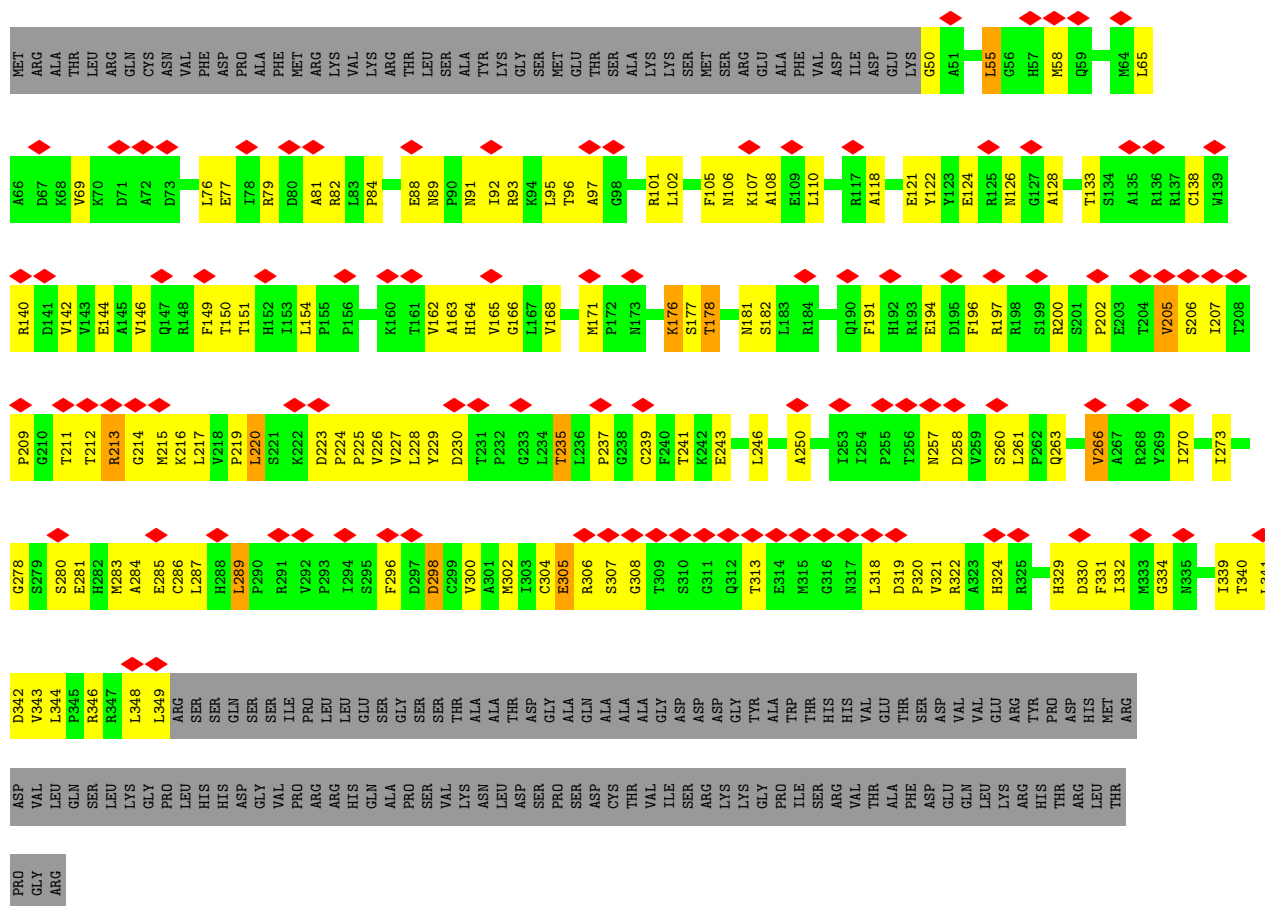


• Molecule 60: L0R8F8

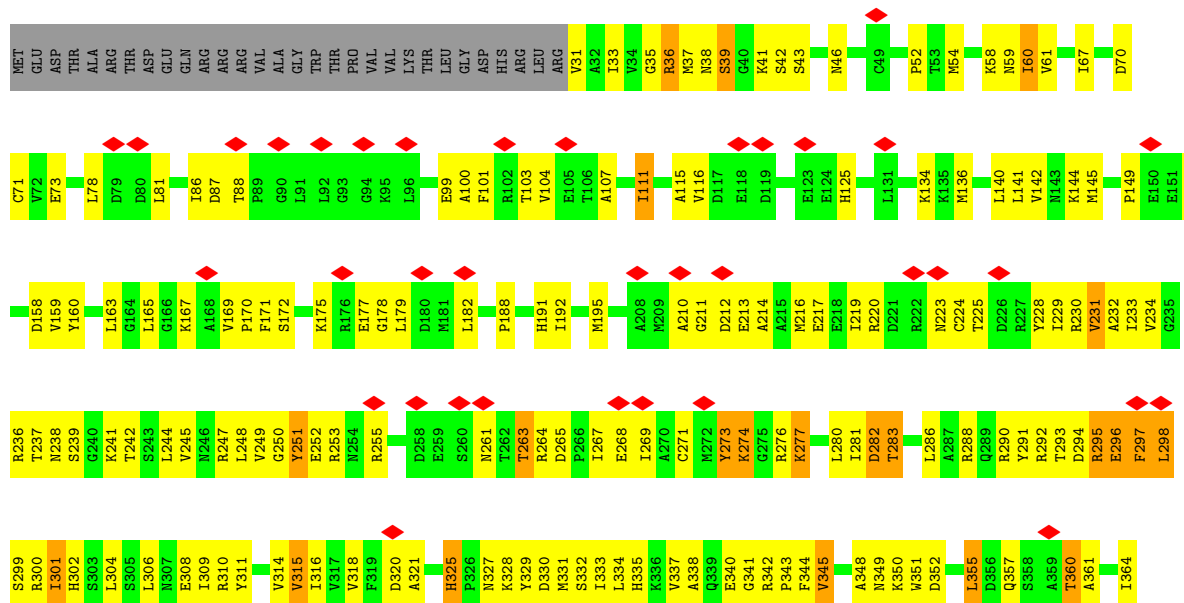
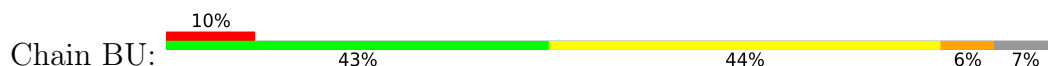


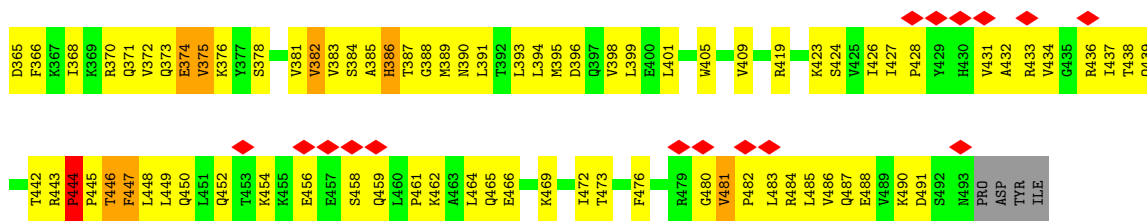
• Molecule 61: G domain-containing protein



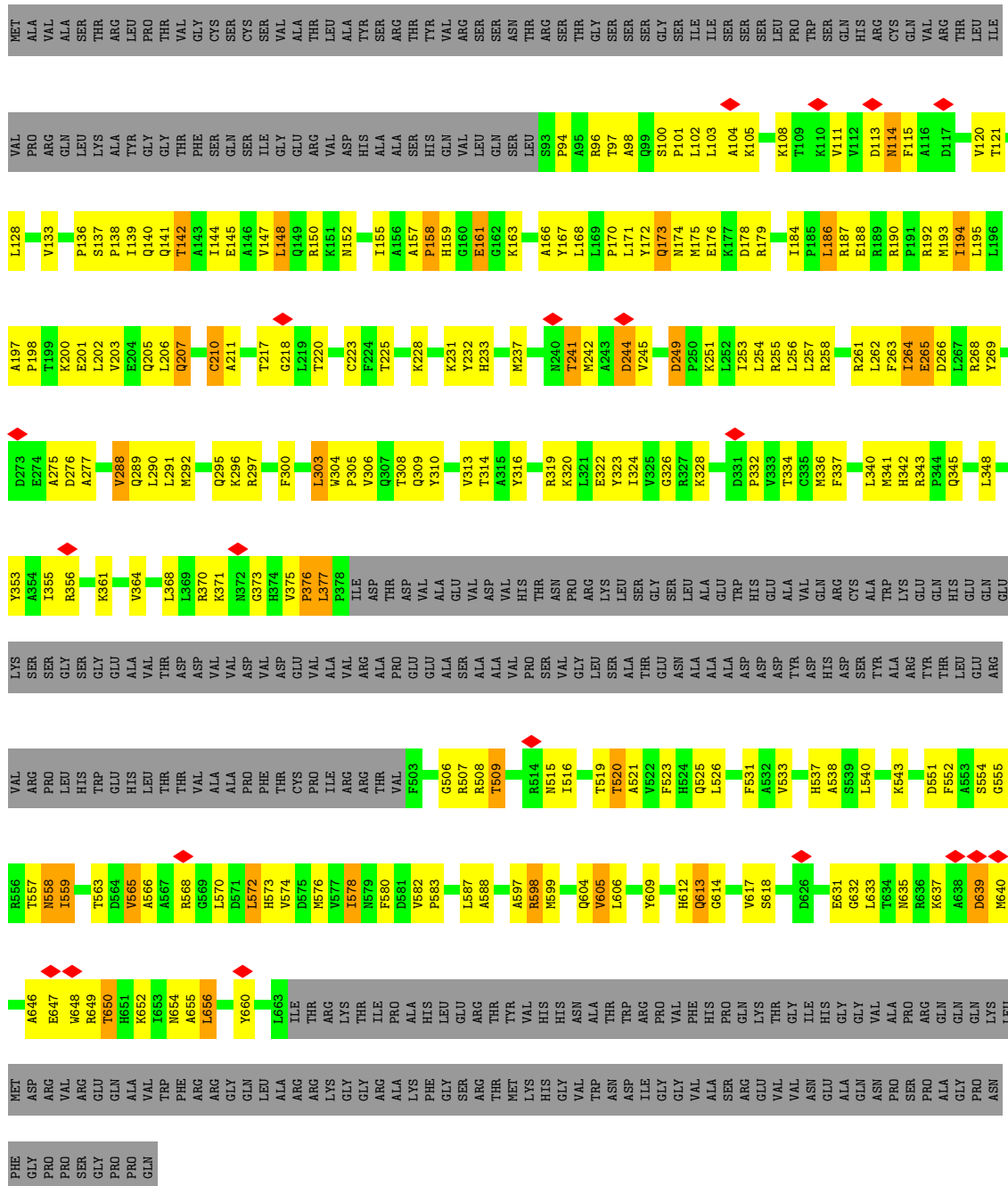
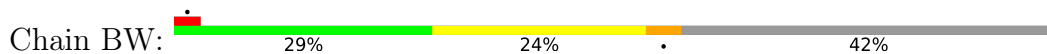


● Molecule 62: GTPase Der

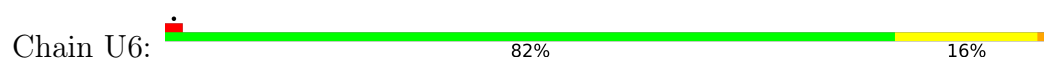




• Molecule 63: DEAD/DEAH box helicase-like protein

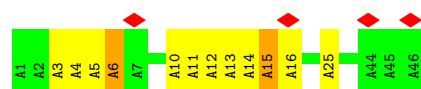
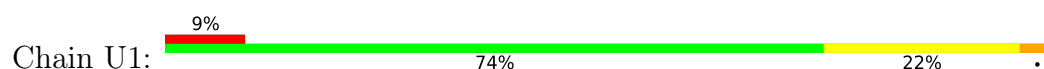


• Molecule 64: G domain-containing protein





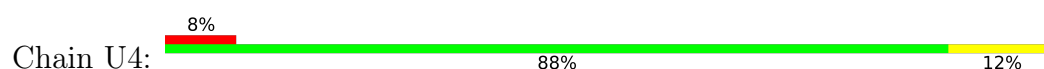
• Molecule 67: U1



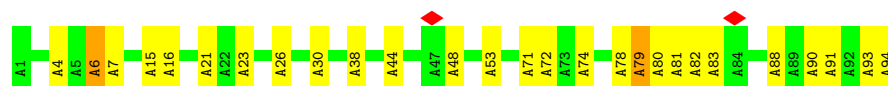
• Molecule 68: U3



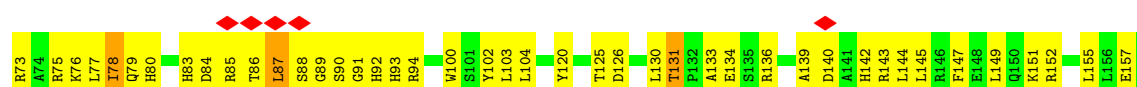
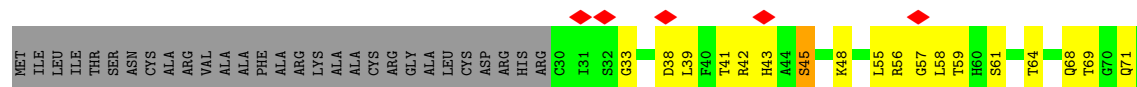
• Molecule 69: U4



• Molecule 70: U5

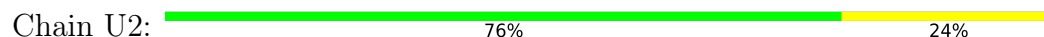


• Molecule 71: mL78

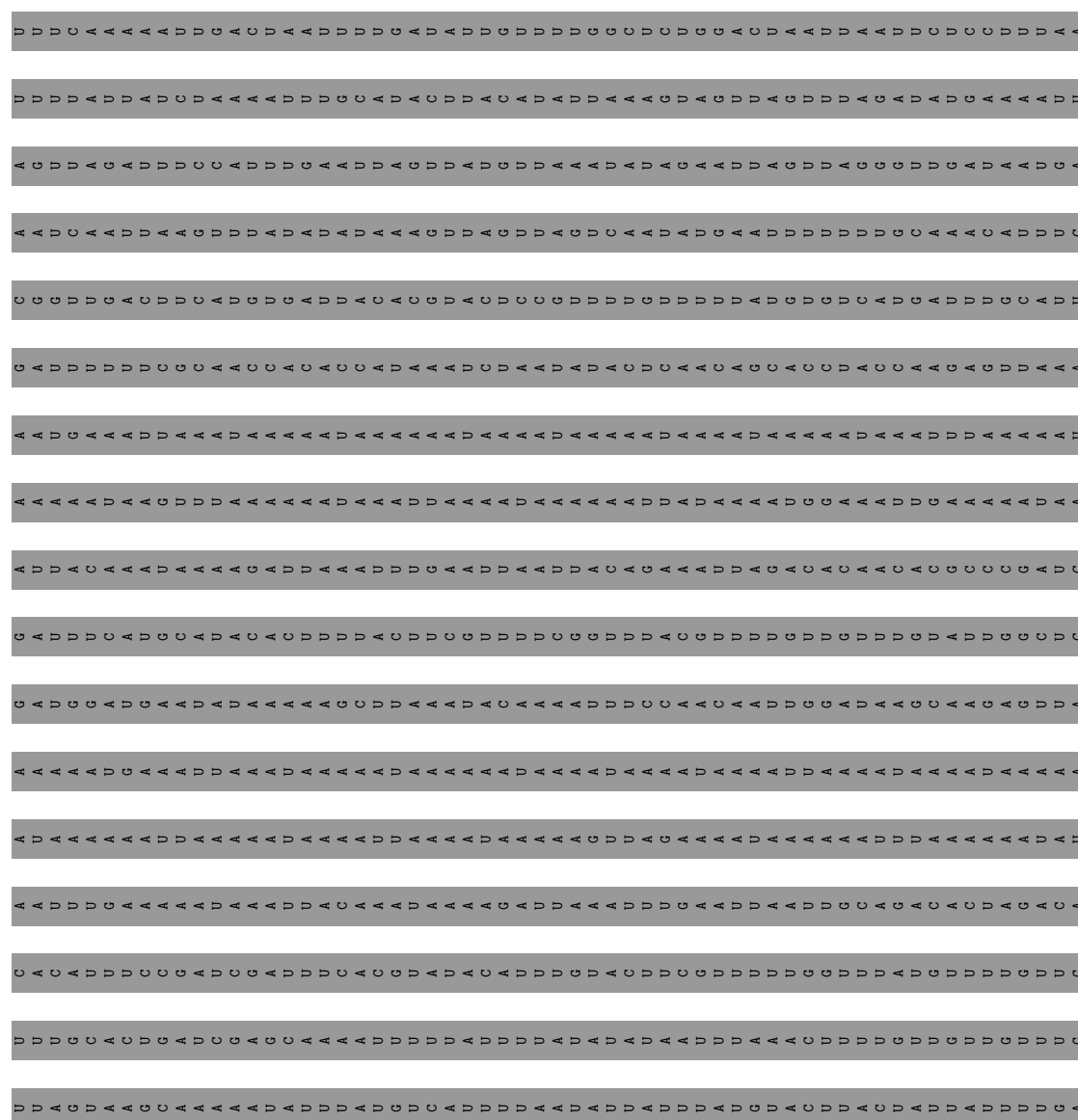




Molecule 72: U2



Molecule 73: Ribosomal RNA









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4 Experimental information

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 ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.222	Depositor
Minimum map value	-0.120	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.013	Depositor
Recommended contour level	0.04	Depositor
Map size (Å)	489.6, 489.6, 489.6	wwPDB
Map dimensions	408, 408, 408	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.2, 1.2, 1.2	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	0.36	0/3011	0.45	0/4097
2	B	0.89	1/3623 (0.0%)	0.44	1/4931 (0.0%)
3	C	0.33	0/1831	0.49	2/2498 (0.1%)
4	E	0.26	0/1864	0.47	0/2512
5	F	0.39	0/1272	0.47	0/1730
6	G	0.51	0/2857	0.82	15/3879 (0.4%)
7	I	0.33	0/2220	0.45	0/2998
8	J	0.60	0/1175	1.01	3/1582 (0.2%)
9	K	0.37	0/1499	0.44	0/2026
10	L	0.34	0/1452	0.45	0/1970
11	M	0.37	0/2168	0.47	0/2928
12	N	0.44	0/1650	0.68	2/2242 (0.1%)
13	O	0.31	0/2529	0.49	0/3422
14	Q	0.39	0/1827	0.57	1/2463 (0.0%)
15	R	0.28	0/3852	0.44	0/5243
16	S	0.36	0/1271	0.45	0/1712
17	T	0.39	0/501	0.50	0/665
18	V	0.40	0/1231	0.51	0/1645
19	Z	0.32	0/940	0.45	0/1279
20	BA	0.23	0/797	0.43	0/1084
21	CA	0.37	0/4341	0.66	10/5889 (0.2%)
22	UA	0.42	0/1014	1.05	6/1418 (0.4%)
23	BB	0.47	0/922	0.65	0/1248
24	CB	0.25	0/1092	0.52	0/1477
25	BK	0.34	0/5536	0.58	6/7536 (0.1%)
26	BQ	0.28	0/3310	0.44	0/4478
27	BN	0.40	0/1539	0.73	4/2093 (0.2%)
28	BE	0.30	0/337	0.52	0/458
29	BO	0.31	0/1311	0.56	0/1766
30	At	0.34	0/1373	0.45	0/1848
31	Au	0.27	0/702	0.41	0/943
32	Ae	0.30	0/2436	0.43	0/3316

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	Af	0.45	0/1228	0.65	1/1671 (0.1%)
34	Ah	0.22	0/3327	0.43	0/4518
35	Ap	0.22	0/1819	0.39	0/2458
36	Al	0.35	0/1909	0.55	0/2606
37	Ab	0.37	0/1454	0.44	0/1966
38	Aa	0.31	0/1103	0.52	0/1498
39	BP	0.33	0/1109	0.47	0/1507
40	Az	0.36	0/1192	0.43	0/1613
41	Am	0.35	0/2508	0.51	1/3392 (0.0%)
42	As	0.28	0/1204	0.53	2/1622 (0.1%)
43	BG	0.24	0/692	0.61	1/935 (0.1%)
44	Ad	0.51	0/1547	0.79	5/2097 (0.2%)
45	Aw	1.01	2/1552 (0.1%)	0.64	1/2107 (0.0%)
46	BH	0.31	0/1430	0.41	0/1937
47	Aj	0.32	0/2837	0.43	0/3821
48	Ar	0.30	0/1689	0.53	0/2280
49	An	0.28	0/1990	0.57	4/2701 (0.1%)
50	BF	0.25	0/675	0.51	0/907
51	Av	0.29	0/853	0.60	1/1152 (0.1%)
52	BM	0.19	0/3136	0.42	0/4259
53	Ag	0.35	0/1063	0.44	0/1442
54	Bl	0.21	0/1440	0.40	0/1953
55	Ax	0.27	0/1439	0.60	1/1952 (0.1%)
56	BS	0.33	0/1016	0.57	0/1388
57	BX	0.35	0/2126	0.82	6/2892 (0.2%)
57	BY	0.24	0/2152	0.52	1/2927 (0.0%)
58	BZ	0.49	0/2911	0.89	17/3954 (0.4%)
59	CC	0.18	0/679	0.41	0/921
60	CD	0.23	0/774	0.56	0/1034
61	BT	0.21	0/2399	0.50	0/3255
62	BU	0.38	0/3739	0.67	7/5052 (0.1%)
63	BW	0.43	0/3658	0.65	0/4940
64	BV	0.27	0/1634	0.57	0/2212
66	U6	0.67	0/934	1.03	1/1306 (0.1%)
67	U1	0.61	0/229	1.03	0/319
68	U3	0.51	0/374	0.88	2/522 (0.4%)
69	U4	0.18	0/679	0.44	0/949
70	U5	0.33	0/469	0.74	0/655
71	BR	0.29	0/1745	0.48	0/2370
72	U2	0.37	0/184	0.73	0/256
73	1	0.54	15/18754 (0.1%)	0.56	7/29135 (0.0%)
74	R1	0.42	0/68	0.92	0/103
75	R2	0.35	0/729	1.12	10/1111 (0.9%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	R5	0.33	0/109	0.61	0/166
77	U8	1.29	0/294	1.74	1/410 (0.2%)
All	All	0.42	18/144335 (0.0%)	0.58	119/199647 (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 (18) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	194	LYS	CE-NZ	48.95	2.96	1.49
45	Aw	81	ARG	CD-NE	30.26	1.88	1.46
45	Aw	81	ARG	NE-CZ	21.91	1.57	1.33
73	1	106	A	C6-N1	21.73	1.79	1.35
73	1	106	A	N1-C2	21.59	1.77	1.34
73	1	106	A	N3-C4	21.02	1.76	1.34
73	1	106	A	C2-N3	20.30	1.74	1.33
73	1	106	A	C5-C6	15.53	1.72	1.41
73	1	106	A	C5-C4	13.75	1.66	1.38
73	1	208	U	C2-N3	13.61	1.65	1.37
73	1	208	U	N3-C4	13.38	1.65	1.38
73	1	208	U	N1-C2	12.54	1.63	1.38
73	1	208	U	N1-C6	11.34	1.60	1.38
73	1	208	U	C4-C5	10.73	1.65	1.43
73	1	208	U	C5-C6	9.56	1.53	1.34
73	1	415	U	C1'-N1	5.95	1.56	1.47
73	1	411	A	C1'-N9	-5.53	1.38	1.47
73	1	409	U	C1'-N1	5.13	1.56	1.48

All (119) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
57	BX	272	PRO	N-CA-C	21.57	143.51	113.53
45	Aw	81	ARG	CD-NE-CZ	21.11	153.95	124.40
6	G	311	PRO	N-CA-C	11.29	135.74	112.47
57	BX	270	LEU	N-CA-C	-10.08	100.30	111.28
44	Ad	123	PRO	N-CA-C	-9.98	95.66	111.03
73	1	471	A	C1'-C2'-O2'	-9.85	93.62	108.40
62	BU	301	ILE	N-CA-C	9.16	119.21	110.42
25	BK	456	ALA	N-CA-C	-8.84	95.89	109.24
58	BZ	53	ASN	N-CA-C	-8.79	102.97	114.31
25	BK	472	GLU	N-CA-C	-8.74	99.69	110.88
22	UA	80	ALA	N-CA-C	-8.45	101.58	112.23
44	Ad	31	ARG	N-CA-C	-8.40	102.04	111.71
73	1	106	A	N1-C2-N3	-8.35	104.26	129.30
73	1	471	A	C4'-C3'-O3'	8.19	125.28	113.00
6	G	308	TYR	CA-CB-CG	-8.10	99.33	113.90
8	J	65	PRO	CB-CA-C	-7.96	100.40	113.06
58	BZ	106	THR	CB-CA-C	-7.79	92.94	110.07
51	Av	103	TRP	N-CA-C	7.77	119.39	111.07
73	1	474	U	C4'-C3'-O3'	7.73	124.59	113.00
75	R2	240	U	C1'-C2'-O2'	-7.58	97.04	108.40
21	CA	525	PRO	N-CA-C	-7.40	97.22	112.47
75	R2	130	U	C3'-C2'-O2'	7.40	121.80	110.70
25	BK	457	HIS	N-CA-C	-7.39	102.78	112.24
6	G	308	TYR	N-CA-CB	7.29	122.81	110.49
6	G	319	HIS	N-CA-C	-7.16	103.48	111.28
57	BX	271	LEU	N-CA-C	-7.15	100.64	109.65
33	Af	57	PRO	N-CA-C	-7.15	103.60	113.53
14	Q	29	GLY	N-CA-C	-7.09	104.22	112.73
58	BZ	132	PRO	CA-C-N	6.99	128.58	119.84
58	BZ	132	PRO	C-N-CA	6.99	128.58	119.84
75	R2	237	U	C1'-C2'-O2'	-6.95	97.98	108.40
75	R2	128	U	C4'-C3'-O3'	-6.76	99.26	109.40
42	As	146	SER	CA-C-N	6.72	133.80	121.70
42	As	146	SER	C-N-CA	6.72	133.80	121.70
25	BK	474	ASP	CB-CA-C	6.59	123.62	110.17
58	BZ	93	HIS	N-CA-C	-6.59	96.76	110.80
12	N	69	LYS	N-CA-C	-6.59	105.10	113.01
77	U8	46	ALA	N-CA-C	-6.57	104.36	112.38
21	CA	487	SER	N-CA-C	6.50	118.03	111.07
75	R2	240	U	C2'-C3'-O3'	-6.49	103.96	113.70
6	G	311	PRO	N-CA-CB	-6.42	96.50	103.25
68	U3	29	ALA	N-CA-C	-6.41	103.97	113.40
75	R2	239	U	C3'-C2'-O2'	6.39	120.28	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
27	BN	186	GLN	N-CA-C	-6.35	104.63	112.38
62	BU	444	PRO	N-CA-CB	-6.30	96.97	103.08
43	BG	1337	PRO	N-CA-C	-6.30	108.13	114.68
49	An	101	ARG	CA-C-N	6.25	127.66	119.84
49	An	101	ARG	C-N-CA	6.25	127.66	119.84
44	Ad	124	ASP	CB-CA-C	6.20	123.22	110.40
6	G	332	THR	CB-CA-C	6.13	120.96	110.79
73	1	106	A	C2-N3-C4	6.10	128.91	110.60
6	G	320	TYR	CA-C-O	-6.10	113.96	120.42
58	BZ	95	TYR	N-CA-C	-6.09	98.61	108.41
27	BN	75	TYR	CB-CA-C	6.06	117.05	110.08
55	Ax	75	VAL	N-CA-C	-6.03	102.33	108.96
21	CA	317	SER	CA-C-N	6.02	125.70	119.56
21	CA	317	SER	C-N-CA	6.02	125.70	119.56
6	G	330	PRO	N-CA-C	5.97	122.00	113.47
57	BX	315	ALA	CA-C-N	5.97	127.30	119.84
57	BX	315	ALA	C-N-CA	5.97	127.30	119.84
58	BZ	115	ASP	CA-C-N	-5.97	110.44	122.55
58	BZ	115	ASP	C-N-CA	-5.97	110.44	122.55
44	Ad	127	ALA	N-CA-C	-5.93	104.65	112.24
58	BZ	379	ALA	N-CA-C	-5.91	102.57	110.55
25	BK	436	GLN	N-CA-C	-5.89	106.01	113.43
6	G	310	HIS	CB-CA-C	5.86	121.71	110.17
25	BK	455	ARG	N-CA-C	-5.80	101.69	113.29
2	B	194	LYS	CD-CE-NZ	5.75	130.28	111.90
73	1	345	A	C4'-C3'-O3'	-5.72	100.82	109.40
57	BY	284	VAL	N-CA-C	-5.71	105.83	111.77
62	BU	296	GLU	N-CA-C	-5.63	106.23	114.39
21	CA	415	SER	N-CA-C	-5.61	105.17	111.28
58	BZ	211	PRO	N-CA-CB	-5.59	97.38	103.25
73	1	471	A	C3'-C2'-O2'	5.57	119.05	110.70
58	BZ	94	ILE	O-C-N	5.56	127.29	122.12
8	J	127	GLU	N-CA-C	-5.52	105.26	111.28
41	Am	288	LYS	N-CA-C	-5.52	106.55	113.28
21	CA	534	ASP	CA-C-N	-5.51	111.95	122.53
21	CA	534	ASP	C-N-CA	-5.51	111.95	122.53
6	G	303	GLU	N-CA-C	-5.51	106.44	112.72
6	G	309	ALA	N-CA-C	-5.49	105.25	112.72
27	BN	79	LEU	N-CA-C	-5.49	105.30	111.28
3	C	128	THR	CB-CA-C	-5.43	100.33	109.72
8	J	64	ASN	N-CA-C	5.35	119.52	112.35
22	UA	134	ALA	N-CA-C	-5.33	107.32	113.88

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	An	105	TRP	N-CA-C	-5.33	105.47	111.28
75	R2	236	U	C4'-C3'-O3'	-5.30	101.45	109.40
22	UA	127	ALA	N-CA-C	-5.29	105.94	112.72
3	C	127	LEU	N-CA-C	-5.29	106.40	112.86
58	BZ	94	ILE	CB-CA-C	-5.29	103.84	112.03
58	BZ	54	GLU	N-CA-C	-5.29	104.35	111.54
22	UA	161	ALA	N-CA-C	-5.27	106.70	113.23
12	N	68	HIS	N-CA-C	-5.26	106.09	112.88
44	Ad	30	LEU	N-CA-C	-5.26	105.51	113.51
57	BX	269	ASN	CB-CA-C	5.22	118.99	110.17
22	UA	30	ALA	N-CA-C	-5.21	107.06	113.41
22	UA	165	ALA	N-CA-C	-5.18	106.64	113.17
62	BU	444	PRO	CB-CA-C	-5.17	104.61	110.92
58	BZ	357	PRO	N-CA-C	-5.16	106.48	113.40
58	BZ	99	LYS	CA-C-O	-5.15	114.60	120.32
58	BZ	354	PHE	CA-C-N	-5.12	115.50	122.87
58	BZ	354	PHE	C-N-CA	-5.12	115.50	122.87
21	CA	528	CYS	CB-CA-C	-5.12	100.23	110.42
27	BN	74	PRO	N-CA-C	-5.12	107.53	114.80
62	BU	52	PRO	CA-C-N	5.10	131.28	121.54
62	BU	52	PRO	C-N-CA	5.10	131.28	121.54
68	U3	28	ALA	CA-C-O	-5.10	116.15	121.55
62	BU	295	ARG	N-CA-C	-5.09	103.10	113.29
21	CA	523	GLN	CA-C-N	-5.09	116.99	123.15
21	CA	523	GLN	C-N-CA	-5.09	116.99	123.15
75	R2	129	U	C3'-C2'-O2'	5.06	122.19	114.60
6	G	143	GLN	N-CA-C	-5.05	106.95	113.01
49	An	108	GLU	CB-CA-C	5.05	119.58	111.66
75	R2	237	U	C2'-C3'-O3'	-5.05	106.13	113.70
6	G	311	PRO	CA-N-CD	-5.02	104.97	112.00
6	G	323	PRO	CA-C-N	5.02	126.12	119.84
6	G	323	PRO	C-N-CA	5.02	126.12	119.84
75	R2	130	U	C4'-C3'-O3'	-5.01	105.48	113.00
66	U6	76	ALA	CA-C-O	-5.01	115.87	121.23

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	115	0
2	B	3513	0	3413	165	0
3	C	1772	0	1734	85	0
4	E	1818	0	1867	158	0
5	F	1231	0	1205	72	0
6	G	2767	0	2676	180	0
7	I	2153	0	2089	112	0
8	J	1146	0	1148	108	0
9	K	1467	0	1469	69	0
10	L	1419	0	1443	53	0
11	M	2116	0	2150	125	0
12	N	1599	0	1591	133	0
13	O	2477	0	2477	143	0
14	Q	1785	0	1784	127	0
15	R	3755	0	3722	183	0
16	S	1244	0	1272	72	0
17	T	487	0	495	34	0
18	V	1202	0	1224	76	0
19	Z	907	0	896	45	0
20	BA	786	0	812	48	0
21	CA	4230	0	4140	262	0
22	UA	1015	0	1017	42	0
23	BB	894	0	872	51	0
24	CB	1074	0	1076	70	0
25	BK	5419	0	5423	281	0
26	BQ	3230	0	3136	164	0
27	BN	1507	0	1479	127	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
28	BE	325	0	296	10	0
29	BO	1281	0	1287	95	0
30	At	1346	0	1299	72	0
31	Au	681	0	673	25	0
32	Ae	2354	0	2324	90	0
33	Af	1192	0	1165	75	0
34	Ah	3242	0	3132	168	0
35	Ap	1775	0	1699	90	0
36	Al	1857	0	1823	89	0
37	Ab	1413	0	1353	86	0
38	Aa	1076	0	1058	64	0
39	BP	1070	0	1019	52	0
40	Az	1150	0	1082	54	0
41	Am	2435	0	2356	79	0
42	As	1187	0	1203	65	0
43	BG	675	0	675	51	0
44	Ad	1502	0	1488	100	0
45	Aw	1509	0	1470	93	0
46	BH	1394	0	1350	51	0
47	Aj	2777	0	2778	120	0
48	Ar	1644	0	1608	93	0
49	An	1946	0	1905	118	0
50	BF	661	0	655	30	0
51	Av	828	0	811	87	0
52	BM	3069	0	3105	183	0
53	Ag	1031	0	999	49	0
54	Bl	1409	0	1400	69	0
55	Ax	1388	0	1305	87	0
56	BS	978	0	941	70	0
57	BX	2086	0	2075	156	0
57	BY	2111	0	2093	144	0
58	BZ	2829	0	2808	233	0
59	CC	668	0	668	32	0
60	CD	761	0	775	49	0
61	BT	2346	0	2366	105	0
62	BU	3680	0	3731	240	0
63	BW	3589	0	3714	195	0
64	BV	1596	0	1586	89	0
65	U7	200	0	48	5	0
66	U6	935	0	937	28	0
67	U1	230	0	232	18	0
68	U3	375	0	377	16	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
69	U4	680	0	682	11	0
70	U5	470	0	472	32	0
71	BR	1703	0	1703	95	0
72	U2	185	0	187	18	0
73	1	16777	0	8400	800	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	54	0
78	BU	32	0	12	9	0
79	BW	31	12	12	4	0
All	All	139523	12	129194	6399	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 24.

All (6399) 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
45:Aw:81:ARG:NE	73:1:106:A:C2	1.71	1.54
45:Aw:81:ARG:NE	73:1:106:A:C6	1.75	1.51
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
45:Aw:81:ARG:NE	73:1:106:A:N3	1.70	1.39
45:Aw:81:ARG:NE	45:Aw:81:ARG:CD	1.88	1.35
45:Aw:81:ARG:NE	73:1:106:A:C4	1.97	1.33
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
45:Aw:81:ARG:NE	73:1:106:A:C5	2.02	1.28
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
21:CA:525:PRO:HG2	21:CA:582:HIS:C	1.66	1.21
62:BU:444:PRO:CB	62:BU:445:PRO:HD2	1.73	1.19

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
45:Aw:81:ARG:CZ	73:1:106:A:N3	2.10	1.14
2:B:194:LYS:NZ	73:1:208:U:N1	1.96	1.13
45:Aw:81:ARG:CZ	73:1:106:A:C4	2.31	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
45:Aw:81:ARG:CZ	73:1:106:A:C2	2.34	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
44:Ad:31:ARG:HD2	70:U5:44:ALA:HA	1.37	1.07
23:BB:55:GLN:HA	23:BB:55:GLN:HE21	1.14	1.06
45:Aw:81:ARG:CD	73:1:106:A:C4	2.38	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
51:Av:105:TYR:HB3	51:Av:108:ILE:HB	1.34	1.02
57:BX:321:ALA:N	57:BX:322:PRO:HD3	1.75	1.02
4:E:20:GLU:HG3	51:Av:104:THR:HG21	1.43	1.00
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
45:Aw:81:ARG:CD	73:1:106:A:N3	2.25	0.98
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
63:BW:186:LEU:HD13	63:BW:242:MET:HE2	1.46	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
25:BK:473:ARG:HD3	25:BK:473:ARG:C	1.93	0.92
21:CA:348:ARG:HD3	44:Ad:48:LEU:HD21	1.52	0.92
55:Ax:130:VAL:HB	55:Ax:131:PRO:HD3	1.51	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
45:Aw:81:ARG:CD	73:1:106:A:C2	2.53	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
45:Aw:81:ARG:CZ	73:1:106:A:C5	2.52	0.90
58:BZ:92:GLY:CA	58:BZ:94:ILE:HG23	2.01	0.90
45:Aw:81:ARG:CZ	73:1:106:A:C6	2.55	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
45:Aw:81:ARG:NH1	73:1:106:A:N3	2.19	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
39:BP:8:ASP:CG	73:1:411:A:H61	1.80	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)
41:Am:119:GLU:HG2	41:Am:235:PHE:HB2	1.55	0.87
34:Ah:434:TRP:HB2	34:Ah:451:MET:HG3	1.56	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
48:Ar:40:ARG:HG3	48:Ar:95:ARG:HG3	1.56	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
4:E:21:PRO:HB3	51:Av:102:GLU:N	1.91	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
37:Ab:136:LYS:HG3	41:Am:337:HIS:HB3	1.56	0.85
45:Aw:81:ARG:NH1	73:1:106:A:C4	2.43	0.85
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
4:E:123:TRP:H	51:Av:23:LYS:HD2	1.42	0.85
68:U3:32:ALA:C	68:U3:56:ALA:HB3	1.99	0.85
33:Af:54:PHE:HA	33:Af:91:ARG:NH1	1.90	0.85
4:E:185:ARG:HH22	51:Av:116:GLN:HA	1.40	0.85
49:An:148:ASP:HB3	49:An:154:LEU:HB2	1.58	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
25:BK:437:VAL:HG11	38:Aa:168:VAL:HG21	1.59	0.85
12:N:59:LEU:HD23	12:N:59:LEU:O	1.77	0.85
32:Ae:247:ILE:HD11	41:Am:287:GLY:HA2	1.59	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
55:Ax:83:ARG:HG3	55:Ax:84:PRO:HD3	1.57	0.84
37:Ab:2:SER:N	37:Ab:8:CYS:HG	1.75	0.84
50:BF:68:GLN:NE2	73:1:573:A:N1	2.25	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
53:Ag:49:ARG:NH2	73:1:84:U:O2	2.11	0.83
48:Ar:70:TYR:HA	48:Ar:77:TYR:HA	1.60	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
21:CA:484:HIS:ND1	21:CA:489:LEU:HA	1.94	0.83
55:Ax:165:TRP:HB3	55:Ax:170:ALA:HB2	1.61	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
47:Aj:250:LEU:HD21	47:Aj:272:VAL:HG21	1.62	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
36:Al:164:HIS:O	36:Al:238:ARG:NH1	2.13	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
49:An:108:GLU:CB	49:An:111:ASP:HA	2.10	0.81
2:B:194:LYS:CE	73:1:208:U:C5	2.62	0.81
4:E:21:PRO:HA	51:Av:101:PRO:HG2	1.61	0.81
6:G:310:HIS:HB2	36:Al:229:LYS:HA	1.61	0.81
45:Aw:81:ARG:CD	73:1:106:A:C5	2.64	0.81
48:Ar:19:TYR:HD1	48:Ar:43:LYS:HG2	1.44	0.81
73:1:165:G:H4'	73:1:166:U:H5'	1.62	0.81
25:BK:474:ASP:HB3	38:Aa:129:ALA:HB2	1.63	0.81
62:BU:264:ARG:HD2	62:BU:301:ILE:HD11	1.60	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BN:80:VAL:HG13	35:Ap:46:PHE:CZ	2.16	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:110:GLY:HA3	57:BY:113:MET:HE2	1.62	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
45:Aw:81:ARG:HD2	73:1:106:A:C4	2.15	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
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
47:Aj:109:ARG:NH2	73:1:500:U:OP1	2.16	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
63:BW:599:MET:HE2	79:BW:801:ATP:C2	2.17	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
34:Ah:186:GLU:HA	34:Ah:196:VAL:HG13	1.64	0.79
58:BZ:186:MET:HE2	75:R2:238:U:O2	1.82	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Ah:104:ARG:HH11	54:Bl:150:THR:HG22	1.48	0.78
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
32:Ae:209:SER:OG	67:U1:12:ALA:HB3	1.81	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
49:An:108:GLU:HB2	49:An:111:ASP:CA	2.14	0.78
34:Ah:259:THR:HG22	34:Ah:260:GLU:H	1.49	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
32:Ae:175:LEU:H	32:Ae:214:PHE:HE2	1.32	0.78
49:An:108:GLU:HB2	49:An:111:ASP:HA	1.65	0.78
27:BN:80:VAL:HG22	35:Ap:46:PHE:HE2	1.48	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
49:An:108:GLU:HB2	49:An:111:ASP:CB	2.14	0.77
73:1:472:A:P	73:1:472:A:O4'	2.42	0.77
4:E:21:PRO:HB3	51:Av:101:PRO:HB2	1.64	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
33:Af:56:GLN:NE2	33:Af:56:GLN:HA	2.00	0.77
39:BP:8:ASP:CG	73:1:411:A:N6	2.42	0.77
48:Ar:19:TYR:H	48:Ar:43:LYS:HB3	1.48	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
13:O:318:LEU:HD11	49:An:223:ILE:HG23	1.67	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BN:80:VAL:HG22	35:Ap:46:PHE:CE2	2.20	0.77
73:1:537:U:OP2	73:1:827:A:N6	2.18	0.77
2:B:48:PRO:O	30:At:148:ASN:ND2	2.18	0.77
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
35:Ap:44:GLN:NE2	42:As:77:SER:OG	2.18	0.77
41:Am:197:GLU:HA	41:Am:200:GLU:HB3	1.67	0.77
73:1:296:U:H3	73:1:302:A:H61	1.31	0.77
4:E:98:ILE:HG12	51:Av:90:ILE:HG13	1.67	0.76
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
55:Ax:128:ALA:HB1	55:Ax:134:GLN:HB2	1.64	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
54:Bl:248:LEU:HA	54:Bl:254:PRO:HA	1.68	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
6:G:193:GLU:HB2	45:Aw:7:GLY:HA3	1.68	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
45:Aw:81:ARG:HD3	73:1:106:A:N3	2.00	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
34:Ah:147:TYR:OH	34:Ah:387:ARG:NH1	2.18	0.76
55:Ax:105:CYS:HB3	55:Ax:110:LYS:H	1.50	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:80:VAL:HG13	35:Ap:46:PHE:HZ	1.50	0.76
27:BN:187:ARG:HD3	27:BN:191:ARG:CG	2.16	0.76
44:Ad:129:TYR:HB3	45:Aw:107:ILE:HD12	1.68	0.76
46:BH:51:VAL:HG23	46:BH:52:VAL:HG13	1.68	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BX:318:PRO:C	57:BX:320:PRO:HD2	2.11	0.76
12:N:50:ARG:HD3	18:V:30:GLU:CD	2.11	0.75
33:Af:56:GLN:HB3	33:Af:57:PRO:HD2	1.67	0.75
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
42:As:113:LYS:HB3	42:As:121:MET:HB3	1.68	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
47:Aj:365:GLN:NE2	47:Aj:368:GLU:OE1	2.19	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
42:As:180:GLU:HB3	60:CD:57:ILE:HD13	1.66	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
28:BE:105:TYR:HB2	41:Am:115:LEU:HD23	1.67	0.75
57:BX:96:ASN:O	57:BX:100:ARG:NE	2.20	0.75
54:Bl:83:PHE:HB2	54:Bl:95:ARG:HD2	1.69	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
47:Aj:338:ARG:NH2	73:1:332:U:OP2	2.19	0.74
59:CC:99:PHE:HB2	59:CC:135:SER:HA	1.69	0.74
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
35:Ap:75:VAL:HG13	43:BG:1338:LEU:HB3	1.68	0.74
40:Az:40:TRP:HE1	40:Az:99:ARG:HH11	1.35	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
31:Au:186:GLY:HA2	42:As:88:LYS:HE2	1.69	0.74
52:BM:157:CYS:SG	52:BM:235:LYS:NZ	2.60	0.74
44:Ad:118:LEU:HB3	44:Ad:123:PRO:HG2	1.70	0.74
73:1:236:A:O2'	73:1:287:G:N7	2.17	0.74
15:R:128:PRO:HD2	54:Bl:153:ARG:HH12	1.51	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
32:Ae:186:SER:H	32:Ae:197:GLN:HE22	1.35	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:Am:273:ARG:O	41:Am:273:ARG:NH2	2.20	0.74
4:E:131:LYS:HG3	4:E:146:CYS:HB3	1.70	0.74
18:V:103:LYS:HB3	44:Ad:173:ASN:HA	1.68	0.74
26:BQ:188:ARG:HA	26:BQ:191:PHE:HB3	1.70	0.74
27:BN:111:GLY:O	42:As:129:ARG:NH2	2.18	0.74
57:BX:321:ALA:N	57:BX:322:PRO:CD	2.51	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
45:Aw:80:THR:OG1	73:1:106:A:N6	2.20	0.74
45:Aw:81:ARG:CD	73:1:106:A:N1	2.51	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
15:R:212:SER:O	30:At:104:ARG:NH2	2.20	0.73
25:BK:435:LEU:H	25:BK:438:MET:HE2	1.53	0.73
32:Ae:247:ILE:CD1	41:Am:287:GLY:HA2	2.18	0.73
53:Ag:107:ARG:NH2	53:Ag:109:GLN:OE1	2.21	0.73
29:BO:183:VAL:HG12	29:BO:185:LEU:H	1.51	0.73
34:Ah:346:ASN:HD22	34:Ah:461:HIS:HB2	1.50	0.73
36:Al:179:PRO:HG2	36:Al:195:VAL:HB	1.70	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
12:N:54:ASN:HD22	12:N:54:ASN:C	1.96	0.73
26:BQ:433:GLY:O	31:Au:145:ARG:NH2	2.21	0.73
29:BO:103:VAL:HG22	29:BO:122:PRO:HB3	1.69	0.73
49:An:195:ARG:HA	49:An:198:LEU:HB2	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
12:N:64:MET:HE2	73:1:96:U:H3	1.53	0.73
49:An:102:PRO:HB2	49:An:105:TRP:HB2	1.70	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
36:Al:239:PRO:O	36:Al:241:GLN:NE2	2.20	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
11:M:137:LYS:NZ	73:1:132:U:OP2	2.21	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
45:Aw:81:ARG:CD	73:1:106:A:C6	2.71	0.73
49:An:89:PRO:HD2	49:An:92:TYR:HB2	1.69	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
51:Av:85:SER:HB3	51:Av:96:ASP:HB2	1.71	0.73
15:R:127:GLY:HA2	54:Bl:201:ALA:HB1	1.71	0.72
21:CA:100:LYS:NZ	21:CA:227:ASP:O	2.22	0.72
25:BK:474:ASP:HB2	38:Aa:128:LYS:O	1.88	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
49:An:105:TRP:CD1	49:An:108:GLU:HA	2.24	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
23:BB:54:VAL:CG1	23:BB:58:GLU:HB2	2.20	0.72
49:An:138:GLN:HE21	49:An:142:TYR:HB3	1.54	0.72
77:U8:9:ALA:O	77:U8:10:ALA:HB2	1.89	0.72
9:K:165:SER:HB2	47:Aj:198:TYR:HD1	1.52	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
14:Q:162:VAL:HG11	49:An:246:LEU:HD12	1.71	0.72
54:Bl:146:TYR:OH	54:Bl:210:SER:O	2.07	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
35:Ap:26:MET:N	35:Ap:26:MET:SD	2.63	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BO:87:ARG:HG2	29:BO:90:HIS:HB3	1.71	0.72
2:B:398:ASP:OD2	30:At:93:LYS:NZ	2.22	0.72
6:G:330:PRO:HA	6:G:333:ILE:CG2	2.18	0.72
16:S:308:VAL:O	33:Af:40:ASN:ND2	2.22	0.72
21:CA:519:ALA:HB1	21:CA:549:LEU:HD13	1.71	0.72
48:Ar:26:ARG:HB3	48:Ar:41:LEU:HA	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
44:Ad:129:TYR:CB	45:Aw:107:ILE:HD12	2.19	0.72
55:Ax:129:ARG:N	55:Ax:134:GLN:HB3	2.05	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
33:Af:61:VAL:HG12	33:Af:65:VAL:HG23	1.72	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
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
35:Ap:161:SER:O	35:Ap:165:ARG:NH2	2.22	0.71
48:Ar:22:ILE:HG12	48:Ar:41:LEU:HB2	1.73	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
49:An:99:GLY:HA3	49:An:218:PRO:HD3	1.72	0.71
73:1:847:A:H4'	73:1:848:U:H2'	1.71	0.71
2:B:243:LYS:NZ	47:Aj:449:LEU:O	2.20	0.71
7:I:20:LYS:NZ	73:1:603:A:OP1	2.23	0.71
49:An:116:MET:O	49:An:216:ARG:NH2	2.23	0.71
51:Av:104:THR:HG23	51:Av:104:THR:O	1.91	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
4:E:126:LEU:HD22	51:Av:25:SER:HB3	1.72	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
44:Ad:29:GLU:O	44:Ad:30:LEU:HB2	1.90	0.71
47:Aj:343:ASN:ND2	73:1:333:A:N7	2.39	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
10:L:168:LYS:HG3	38:Aa:126:GLU:HA	1.73	0.71
29:BO:177:LYS:HB2	73:1:1132:A:H4'	1.73	0.71
34:Ah:293:SER:O	34:Ah:400:LYS:NZ	2.24	0.71
45:Aw:79:HIS:O	45:Aw:84:THR:OG1	2.08	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
25:BK:316:ARG:HE	73:1:1158:A:H61	1.38	0.71
34:Ah:315:LYS:HG2	34:Ah:327:GLY:HA3	1.71	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
55:Ax:53:HIS:HB2	73:1:277:A:C5	2.27	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
21:CA:172:ARG:NH1	21:CA:215:SER:O	2.23	0.70
2:B:69:GLU:OE2	30:At:159:TYR:OH	2.08	0.70
20:BA:127:CYS:SG	20:BA:131:ARG:NH2	2.63	0.70
32:Ae:33:PRO:HB2	32:Ae:54:ASN:HD21	1.56	0.70
32:Ae:66:ALA:HB1	32:Ae:70:GLU:HB2	1.72	0.70
38:Aa:52:LYS:HG3	38:Aa:53:LYS:H	1.56	0.70
38:Aa:152:ILE:O	38:Aa:154:ASN:N	2.20	0.70
41:Am:311:ARG:HG3	73:1:417:A:O2'	1.90	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
34:Ah:268:THR:HB	34:Ah:271:GLN:HG2	1.73	0.70
55:Ax:65:MET:O	55:Ax:70:HIS:NE2	2.24	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
44:Ad:45:ARG:O	44:Ad:45:ARG:HG2	1.91	0.70
44:Ad:61:ARG:H	44:Ad:230:HIS:HE1	1.37	0.70
47:Aj:116:LYS:NZ	73:1:496:U:O4	2.17	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
34:Ah:95:TYR:HB3	34:Ah:141:LYS:HA	1.73	0.70
45:Aw:176:VAL:H	47:Aj:439:HIS:HD2	1.36	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
55:Ax:131:PRO:O	55:Ax:133:THR:N	2.22	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
35:Ap:102:GLN:NE2	35:Ap:106:GLU:OE2	2.25	0.70
38:Aa:102:ASP:N	38:Aa:102:ASP:OD1	2.25	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
34:Ah:139:THR:HG23	34:Ah:146:MET:HE1	1.72	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
12:N:56:GLY:N	12:N:59:LEU:HB2	2.07	0.69
33:Af:61:VAL:HG12	33:Af:65:VAL:CG2	2.21	0.69
34:Ah:443:THR:HG22	34:Ah:445:MET:H	1.56	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
5:F:23:LEU:HB3	5:F:62:MET:HE2	1.74	0.69
14:Q:31:ILE:CG2	14:Q:41:PRO:HB3	2.23	0.69
32:Ae:247:ILE:CD1	41:Am:287:GLY:CA	2.70	0.69
55:Ax:55:VAL:N	73:1:278:C:OP2	2.24	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
36:Al:181:VAL:HB	36:Al:193:ILE:HB	1.73	0.69
37:Ab:162:ASP:OD1	37:Ab:165:ARG:NH1	2.25	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
34:Ah:120:VAL:HG13	34:Ah:131:ILE:HD11	1.75	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
10:L:168:LYS:HG3	38:Aa:126:GLU:HG2	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
48:Ar:122:LEU:HD11	48:Ar:195:ILE:HG21	1.75	0.69
49:An:131:GLU:HG3	49:An:180:ARG:HH11	1.58	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:Af:149:GLN:OE1	33:Af:152:ARG:NH2	2.25	0.69
34:Ah:129:GLU:HG3	34:Ah:130:LEU:HG	1.74	0.69
51:Av:106:PRO:HD2	51:Av:108:ILE:HD12	1.73	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
37:Ab:132:GLN:HA	37:Ab:135:ARG:HH12	1.57	0.69
44:Ad:34:ALA:HB3	44:Ad:45:ARG:HH11	1.56	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
25:BK:457:HIS:HD2	25:BK:504:MET:HE2	1.58	0.69
34:Ah:343:LEU:HD23	34:Ah:458:VAL:HG21	1.74	0.69
35:Ap:187:THR:O	35:Ap:191:ARG:N	2.25	0.69
49:An:109:PHE:CG	49:An:109:PHE:O	2.46	0.69
73:1:472:A:OP1	73:1:472:A:H8	1.75	0.69
4:E:185:ARG:HH12	51:Av:117:HIS:H	1.41	0.68
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
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
34:Ah:113:PHE:HA	34:Ah:117:GLU:HB2	1.74	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
4:E:21:PRO:HB3	51:Av:102:GLU:H	1.55	0.68
4:E:195:ASP:HB3	51:Av:56:ALA:HB1	1.75	0.68
11:M:216:ARG:NH1	73:1:266:U:O2	2.26	0.68
49:An:108:GLU:HB2	49:An:111:ASP:HB2	1.75	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
62:BU:331:MET:HE1	62:BU:368:ILE:HG22	1.74	0.68
73:1:290:C:O2'	73:1:295:G:O2'	2.10	0.68
9:K:102:TYR:O	37:Ab:108:SER:OG	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
14:Q:155:ARG:NH1	40:Az:45:MET:SD	2.66	0.68
39:BP:8:ASP:OD1	73:1:411:A:N6	2.26	0.68
53:Ag:48:TYR:O	73:1:80:A:O2'	2.11	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
9:K:144:ALA:HB1	47:Aj:222:GLU:HG3	1.75	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
33:Af:144:THR:HB	47:Aj:209:LEU:HD22	1.75	0.68
34:Ah:168:ILE:HG23	34:Ah:205:LEU:HD21	1.76	0.68
45:Aw:81:ARG:HD2	73:1:106:A:C5	2.29	0.68
49:An:170:GLU:HB2	49:An:173:LEU:HB3	1.74	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
42:As:109:VAL:HG23	42:As:121:MET:HG3	1.76	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
37:Ab:26:ARG:HA	37:Ab:29:MET:HE2	1.76	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
5:F:139:ASN:HB2	38:Aa:133:THR:HG21	1.76	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
49:An:145:ARG:HB3	49:An:153:PRO:HB3	1.76	0.67
73:1:1131:A:H61	73:1:1149:A:H62	1.41	0.67
4:E:21:PRO:CB	51:Av:101:PRO:HB2	2.24	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
42:As:170:ARG:NH1	60:CD:50:SER:OG	2.28	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
22:UA:203:ALA:HB3	35:Ap:166:GLU:HB2	1.77	0.67
25:BK:236:LYS:NZ	73:1:38:A:OP1	2.26	0.67
33:Af:53:THR:CG2	33:Af:56:GLN:HG2	2.25	0.67
63:BW:641:MET:HE1	63:BW:646:ALA:HB2	1.77	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
73:1:475:A:H2'	73:1:476:A:C8	2.29	0.67
2:B:69:GLU:OE2	30:At:139:TRP:NE1	2.20	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
32:Ae:212:SER:HB2	32:Ae:214:PHE:CE2	2.29	0.67
38:Aa:123:HIS:NE2	38:Aa:136:ASP:OD1	2.27	0.67
42:As:93:ARG:NH1	42:As:111:GLU:OE2	2.27	0.67
45:Aw:173:ILE:HG23	47:Aj:440:GLN:HB2	1.77	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
33:Af:137:ARG:NH1	47:Aj:289:GLU:OE1	2.28	0.67
56:BS:378:HIS:HB2	56:BS:386:GLN:H	1.57	0.67
3:C:14:PRO:HB2	40:Az:104:ARG:HE	1.60	0.67
12:N:64:MET:HE3	14:Q:48:ARG:NE	2.10	0.67
13:O:55:ARG:NH1	73:1:518:U:O2	2.27	0.67
27:BN:308:SER:OG	42:As:54:ASN:ND2	2.28	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:75:SER:HB3	9:K:111:MET:HE1	1.77	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
49:An:101:ARG:NH2	49:An:102:PRO:O	2.28	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
14:Q:97:ARG:HE	36:Al:296:THR:HG22	1.60	0.66
15:R:138:THR:OG1	15:R:336:TYR:O	2.13	0.66
25:BK:830:ARG:NH1	73:1:1168:A:O4'	2.28	0.66
36:Al:260:MET:O	36:Al:262:HIS:ND1	2.28	0.66
54:Bl:82:ALA:HA	54:Bl:265:LYS:HA	1.77	0.66
54:Bl:160:VAL:HG13	54:Bl:214:ILE:HB	1.77	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
12:N:153:LEU:O	15:R:63:THR:OG1	2.13	0.66
18:V:78:TYR:OH	73:1:195:G:OP1	2.09	0.66
22:UA:171:ALA:O	22:UA:175:ALA:N	2.24	0.66
25:BK:437:VAL:HG11	38:Aa:168:VAL:CG2	2.25	0.66
35:Ap:126:ARG:NH2	35:Ap:130:GLU:OE2	2.28	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
15:R:70:ARG:HH11	56:BS:416:TYR:HE2	1.42	0.66
51:Av:61:MET:HG3	51:Av:62:GLU:H	1.59	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
48:Ar:22:ILE:HG23	48:Ar:41:LEU:HD13	1.76	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
32:Ae:257:GLN:NE2	32:Ae:261:GLU:OE2	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Ah:265:PRO:O	34:Ah:271:GLN:NE2	2.28	0.66
41:Am:299:ARG:NH2	73:1:422:U:OP1	2.29	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
34:Ah:448:VAL:HG22	34:Ah:456:PHE:HD2	1.60	0.66
44:Ad:44:GLN:HG2	44:Ad:45:ARG:N	2.09	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
16:S:362:ARG:NH2	44:Ad:206:LYS:O	2.29	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
25:BK:457:HIS:CD2	25:BK:504:MET:HE2	2.31	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
42:As:112:LEU:HD23	42:As:116:GLU:HG3	1.77	0.66
47:Aj:420:GLN:NE2	73:1:506:A:OP1	2.29	0.66
48:Ar:105:ASN:ND2	58:BZ:61:THR:OG1	2.29	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
40:Az:105:ARG:NH2	73:1:79:A:OP1	2.29	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
63:BW:175:MET:HE1	63:BW:193:MET:HE3	1.77	0.65
71:BR:87:LEU:HD21	73:1:135:A:H2	1.60	0.65
2:B:58:ARG:NH2	30:At:145:GLY:O	2.23	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:O:295:SER:OG	15:R:381:GLU:OE1	2.13	0.65
29:BO:88:PHE:C	29:BO:91:CYS:H	2.05	0.65
39:BP:12:LYS:HA	39:BP:17:ARG:HD2	1.78	0.65
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
31:Au:185:TRP:H	31:Au:185:TRP:HE3	1.45	0.65
37:Ab:20:LYS:NZ	37:Ab:51:GLN:O	2.29	0.65
48:Ar:106:THR:OG1	58:BZ:115:ASP:OD2	2.09	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
34:Ah:423:THR:O	34:Ah:426:ARG:NH2	2.30	0.65
44:Ad:27:THR:HG21	44:Ad:30:LEU:HD22	1.79	0.65
63:BW:136:PRO:HB2	63:BW:141:GLN:HG3	1.77	0.65
4:E:127:ARG:HB3	51:Av:88:ILE:HG22	1.78	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
37:Ab:100:SER:O	37:Ab:106:ARG:NH2	2.30	0.65
37:Ab:132:GLN:HA	37:Ab:135:ARG:NH1	2.11	0.65
62:BU:327:ASN:HD22	73:1:915:U:H4'	1.62	0.65
68:U3:26:ALA:C	68:U3:28:ALA:H	2.04	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
23:BB:42:LYS:HD2	23:BB:42:LYS:C	2.22	0.65
27:BN:239:HIS:ND1	27:BN:288:VAL:O	2.30	0.65
47:Aj:253:ALA:HB2	47:Aj:268:ASN:HB3	1.79	0.65
48:Ar:103:ARG:NH1	48:Ar:139:TYR:O	2.29	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
32:Ae:45:LEU:HD12	32:Ae:46:PRO:HD2	1.77	0.65
34:Ah:295:SER:O	34:Ah:381:ARG:NH1	2.30	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
62:BU:250:GLY:C	62:BU:252:GLU:N	2.52	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
9:K:52:GLU:O	38:Aa:49:TYR:OH	2.15	0.65
13:O:47:TYR:OH	73:1:126:U:OP2	2.14	0.65
21:CA:600:LEU:HD13	21:CA:606:MET:HE2	1.78	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
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
2:B:386:GLU:OE2	45:Aw:90:ARG:NH2	2.20	0.64
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
31:Au:109:LEU:HB3	34:Ah:242:LEU:HD21	1.79	0.64
38:Aa:173:GLY:HA2	38:Aa:176:GLN:HB2	1.79	0.64
42:As:45:GLY:O	42:As:48:THR:OG1	2.12	0.64
54:Bl:142:PRO:HB3	54:Bl:165:ILE:HG22	1.79	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
6:G:314:GLY:O	36:Al:122:PRO:HG2	1.97	0.64
7:I:211:ARG:NH2	26:BQ:436:ILE:O	2.31	0.64
16:S:254:VAL:HG21	33:Af:52:LYS:HD2	1.78	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
48:Ar:22:ILE:HB	48:Ar:39:GLU:HB2	1.79	0.64
52:BM:116:ALA:O	52:BM:119:THR:OG1	2.14	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BX:261:LEU:O	57:BX:265:VAL:N	2.27	0.64
62:BU:274:LYS:HG3	62:BU:395:MET:HE3	1.79	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
38:Aa:120:GLN:NE2	38:Aa:124:THR:OG1	2.31	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
44:Ad:40:SER:CB	70:U5:38:ALA:HB1	2.27	0.64
48:Ar:26:ARG:HG2	48:Ar:40:ARG:HG2	1.79	0.64
48:Ar:40:ARG:HB2	48:Ar:95:ARG:HE	1.62	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
9:K:158:ARG:NH2	47:Aj:203:GLU:OE1	2.29	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
35:Ap:120:TRP:HB2	43:BG:1338:LEU:HD11	1.80	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
15:R:231:PRO:O	30:At:127:GLN:NE2	2.30	0.64
15:R:384:ARG:NH1	40:Az:85:ASN:O	2.30	0.64
18:V:44:PHE:HD1	18:V:57:ALA:HB2	1.62	0.64
41:Am:270:ILE:HD13	41:Am:275:LEU:HD13	1.80	0.64
48:Ar:113:ARG:NH2	48:Ar:130:ASP:OD2	2.26	0.64
57:BY:342:GLN:NE2	57:BX:328:SER:OG	2.30	0.64
62:BU:274:LYS:HD3	62:BU:274:LYS:C	2.23	0.64
64:BV:304:GLN:O	64:BV:308:SER:OG	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:B:55:SER:HB2	47:Aj:438:ILE:HD11	1.80	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
41:Am:58:GLU:HG3	41:Am:59:ARG:HG3	1.80	0.64
54:Bl:113:LEU:HD11	54:Bl:265:LYS:HD3	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
24:CB:114:LYS:HD2	29:BO:177:LYS:HZ2	1.62	0.63
38:Aa:127:GLY:HA3	38:Aa:130:ALA:HB3	1.79	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
2:B:13:ALA:O	37:Ab:48:ARG:NH2	2.31	0.63
7:I:127:LYS:HB2	7:I:205:MET:HE3	1.80	0.63
21:CA:344:ARG:HG2	44:Ad:48:LEU:CD1	2.28	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
24:CB:117:GLN:HA	73:1:1136:U:O4	1.98	0.63
27:BN:80:VAL:HA	35:Ap:46:PHE:CE2	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Ah:343:LEU:HD13	34:Ah:370:GLN:HB3	1.81	0.63
40:Az:115:PHE:HD2	73:1:61:U:H3	1.45	0.63
45:Aw:165:ARG:HE	45:Aw:177:ARG:HD3	1.61	0.63
47:Aj:122:ASN:HA	47:Aj:330:LEU:HD11	1.80	0.63
49:An:308:GLU:OE2	49:An:311:ARG:NH2	2.32	0.63
51:Av:55:HIS:CE1	51:Av:66:MET:HB3	2.34	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
24:CB:162:ASN:OD1	24:CB:163:ALA:N	2.31	0.63
42:As:181:GLU:OE1	42:As:185:ARG:NH2	2.31	0.63
55:Ax:105:CYS:SG	55:Ax:108:CYS:N	2.67	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
47:Aj:270:GLU:O	47:Aj:274:GLN:NE2	2.21	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
30:At:12:THR:HG21	73:1:111:A:C8	2.33	0.63
32:Ae:247:ILE:HD11	41:Am:287:GLY:CA	2.29	0.63
48:Ar:126:LEU:HB2	48:Ar:159:ILE:HB	1.80	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
14:Q:101:TYR:OH	53:Ag:25:VAL:O	2.16	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
30:At:160:THR:OG1	30:At:161:GLN:NE2	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Au:138:ARG:NH1	73:1:592:A:N7	2.47	0.63
33:Af:143:ASP:OD1	33:Af:143:ASP:N	2.27	0.63
35:Ap:60:ARG:HD3	35:Ap:102:GLN:HE22	1.64	0.63
57:BX:179:LYS:HZ3	57:BX:247:TYR:HB3	1.63	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
2:B:42:ASN:HD22	45:Aw:173:ILE:HD11	1.63	0.63
4:E:59:ALA:HB3	4:E:98:ILE:HG23	1.81	0.63
4:E:120:PRO:HD2	51:Av:23:LYS:HG2	1.80	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
41:Am:164:GLU:HA	41:Am:185:MET:HE1	1.80	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
8:J:48:THR:HG22	8:J:51:GLN:CD	2.24	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
35:Ap:32:GLN:NE2	42:As:91:ILE:O	2.32	0.63
40:Az:148:LYS:HG3	45:Aw:67:LEU:HD21	1.81	0.63
51:Av:44:THR:O	51:Av:48:ARG:N	2.30	0.63
52:BM:92:THR:HA	52:BM:95:GLU:HB2	1.80	0.63
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
47:Aj:137:LEU:HB3	47:Aj:277:ASP:HB3	1.79	0.62
47:Aj:232:LYS:NZ	47:Aj:235:GLU:OE2	2.31	0.62
48:Ar:24:PHE:HE1	48:Ar:35:PHE:HB3	1.64	0.62
49:An:100:ILE:N	49:An:214:VAL:O	2.31	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Ah:104:ARG:N	34:Ah:107:GLU:OE1	2.23	0.62
44:Ad:24:TYR:CD1	44:Ad:24:TYR:O	2.53	0.62
52:BM:262:ALA:HB3	52:BM:265:LEU:HG	1.81	0.62
53:Ag:35:GLN:O	53:Ag:41:ASN:ND2	2.31	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
32:Ae:61:ASN:O	32:Ae:92:ARG:NH2	2.32	0.62
44:Ad:154:PRO:HG2	44:Ad:194:ARG:HE	1.63	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: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:469:THR:C	21:CA:471:SER:H	2.08	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
25:BK:439:ASP:OD2	38:Aa:138:TYR:HA	1.99	0.62
48:Ar:198:MET:HB3	48:Ar:202:GLY:HA3	1.81	0.62
49:An:107:ASP:N	49:An:107:ASP:OD1	2.32	0.62
52:BM:25:ASN:N	52:BM:30:GLU:OE1	2.29	0.62
54:Bl:136:PHE:O	54:Bl:137:ARG:HG2	1.99	0.62
54:Bl:161:GLN:NE2	54:Bl:211:GLN:OE1	2.30	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
9:K:73:HIS:O	38:Aa:87:THR:OG1	2.15	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
49:An:194:ASP:O	49:An:198:LEU:N	2.30	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Ah:49:TYR:CE2	34:Ah:51:ALA:HA	2.33	0.62
34:Ah:136:HIS:HB2	34:Ah:387:ARG:HG2	1.82	0.62
61:BT:164:HIS:HB2	61:BT:226:VAL:HA	1.82	0.62
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
2:B:10:HIS:NE2	37:Ab:56:SER:O	2.24	0.62
4:E:27:LEU:HD21	4:E:160:MET:HE1	1.80	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
30:At:39:ARG:NH1	47:Aj:481:SER:OG	2.33	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
63:BW:172:TYR:OH	63:BW:210:CYS:SG	2.53	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
8:J:62:GLU:O	8:J:63:TYR:HB2	1.98	0.62
21:CA:530:ALA:O	21:CA:556:ARG:HB2	2.00	0.62
36:Al:173:LEU:HB2	52:BM:5:PRO:HG3	1.81	0.62
38:Aa:116:MET:HE3	38:Aa:143:ILE:HG23	1.82	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
44:Ad:78:HIS:NE2	44:Ad:145:GLY:O	2.25	0.62
52:BM:28:VAL:HG22	52:BM:30:GLU:H	1.63	0.62
54:Bl:105:CYS:O	54:Bl:109:SER:OG	2.15	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
62:BU:291:TYR:C	62:BU:291:TYR:CD1	2.77	0.62
5:F:51:HIS:HD2	5:F:126:TRP:HE1	1.46	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
34:Ah:128:PRO:HB2	34:Ah:418:VAL:HG11	1.82	0.61
34:Ah:428:ILE:O	34:Ah:432:THR:OG1	2.18	0.61
38:Aa:171:SER:H	38:Aa:176:GLN:HE22	1.48	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
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
16:S:368:ASP:OD2	47:Aj:352:SER:OG	2.18	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
44:Ad:40:SER:HB3	70:U5:38:ALA:CB	2.30	0.61
47:Aj:314:VAL:HG11	47:Aj:367:LEU:HG	1.83	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
10:L:90:ARG:HH21	37:Ab:96:SER:HB3	1.66	0.61
51:Av:48:ARG:NH2	51:Av:77:TYR:OH	2.33	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
15:R:211:SER:HB3	30:At:105:VAL:HG22	1.83	0.61
32:Ae:245:PRO:HG2	41:Am:290:LEU:HD13	1.83	0.61
34:Ah:125:PHE:HD2	34:Ah:165:TRP:HE1	1.46	0.61
49:An:108:GLU:HB3	49:An:111:ASP:HA	1.82	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:261:ALA:HB2	30:At:112:ARG:HB3	1.83	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
37:Ab:20:LYS:O	73:1:510:U:N3	2.33	0.61
40:Az:52:VAL:O	40:Az:56:ARG:NH1	2.32	0.61
40:Az:116:ARG:NH2	73:1:61:U:OP2	2.30	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
73:1:471:A:HO2'	73:1:472:A:P	2.22	0.61
73:1:509:U:H4'	73:1:510:U:OP2	1.99	0.61
1:A:129:VAL:HG22	32:Ae:44:PRO:HD3	1.83	0.61
1:A:389:ALA:O	24:CB:114:LYS:NZ	2.25	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
14:Q:170:ASN:ND2	49:An:279:GLU:OE1	2.34	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
41:Am:92:LEU:O	41:Am:96:ALA:N	2.33	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
61:BT:289:LEU:HA	61:BT:302:MET:HE2	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
6:G:263:TYR:HH	18:V:130:SER:HG	1.47	0.61
14:Q:165:LYS:NZ	40:Az:91:GLU:OE2	2.30	0.61
17:T:30:LYS:NZ	73:1:1102:C:O2'	2.26	0.61
20:BA:52:MET:HE1	20:BA:146:VAL:HA	1.82	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:341:MET:H	63:BW:343:ARG:HH11	1.48	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
24:CB:144:THR:C	24:CB:146:GLU:H	2.09	0.61
29:BO:86:GLU:OE1	29:BO:97:VAL:HG11	2.01	0.61
34:Ah:118:THR:O	34:Ah:122:TRP:N	2.26	0.61
35:Ap:187:THR:HA	35:Ap:190:LEU:HB2	1.82	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
2:B:37:LEU:O	37:Ab:26:ARG:NH2	2.34	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
37:Ab:65:SER:OG	37:Ab:91:ASN:ND2	2.21	0.60
48:Ar:26:ARG:HH11	48:Ar:95:ARG:HD3	1.66	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
24:CB:169:ARG:NH2	24:CB:169:ARG:O	2.29	0.60
49:An:126:LEU:O	49:An:130:THR:OG1	2.16	0.60
49:An:246:LEU:HG	49:An:247:PRO:HD2	1.83	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
48:Ar:25:THR:H	48:Ar:40:ARG:HH22	1.50	0.60
49:An:108:GLU:C	49:An:111:ASP:H	2.09	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:Bl:111:ASN:HB2	54:Bl:177:TYR:HE1	1.65	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
61:BT:58:MET:HE2	61:BT:237:PRO:HD3	1.83	0.60
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
10:L:133:LYS:NZ	38:Aa:95:PHE:O	2.28	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
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
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
33:Af:45:ARG:NH2	39:BP:79:ASP:OD2	2.34	0.60
36:Al:123:TYR:HD1	36:Al:186:LEU:HD12	1.67	0.60
40:Az:76:HIS:CD2	40:Az:93:LYS:HB2	2.36	0.60
48:Ar:17:LEU:HD22	48:Ar:43:LYS:HD2	1.82	0.60
49:An:126:LEU:HD23	49:An:129:LEU:HD21	1.83	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
35:Ap:181:GLU:O	35:Ap:185:ASP:N	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BQ:265:SER:HB2	56:BS:304:ARG:HD3	1.84	0.60
34:Ah:300:THR:HA	34:Ah:332:LEU:HB3	1.83	0.60
41:Am:311:ARG:HD2	73:1:417:A:N3	2.16	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
4:E:148:TYR:HE2	51:Av:72:VAL:HG22	1.67	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
30:At:56:ASN:OD1	30:At:57:MET:N	2.35	0.60
42:As:147:GLN:HA	42:As:148:LEU:C	2.26	0.60
44:Ad:48:LEU:N	44:Ad:48:LEU:CD2	2.65	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
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
36:Al:131:TYR:CZ	36:Al:171:MET:HB2	2.37	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
34:Ah:130:LEU:HB3	34:Ah:133:MET:HE2	1.83	0.60
34:Ah:348:GLU:HA	34:Ah:351:ALA:HB3	1.83	0.60
35:Ap:64:LEU:O	35:Ap:68:TYR:N	2.34	0.60
37:Ab:52:TRP:CE3	73:1:515:A:H4'	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:An:207:PHE:O	49:An:210:THR:OG1	2.17	0.60
59:CC:83:LYS:HA	59:CC:93:VAL:HG21	1.84	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:128:TRP:NE1	2:B:132:CYS:HG	2.00	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
4:E:101:ILE:HD11	51:Av:19:LYS:HD3	1.84	0.59
4:E:119:PRO:HB3	51:Av:23:LYS:HA	1.83	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
34:Ah:223:TYR:CZ	34:Ah:225:TRP:HB2	2.37	0.59
34:Ah:299:LEU:HD21	34:Ah:466:ILE:HA	1.84	0.59
38:Aa:82:ARG:NH2	38:Aa:85:SER:O	2.34	0.59
42:As:72:PRO:HD3	42:As:135:LEU:HB3	1.84	0.59
44:Ad:40:SER:HB3	70:U5:38:ALA:HB1	1.83	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
18:V:22:ARG:NH2	53:Ag:40:TRP:O	2.34	0.59
27:BN:124:THR:HG22	27:BN:125:ALA:H	1.67	0.59
34:Ah:187:ASP:HB3	34:Ah:191:GLN:HB2	1.84	0.59
44:Ad:157:VAL:HG21	44:Ad:232:LEU:HD13	1.84	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
54:Bl:237:TRP:HB2	54:Bl:241:LYS:HZ2	1.67	0.59
55:Ax:107:ASN:HD21	55:Ax:164:ALA:HB3	1.65	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
15:R:229:LEU:HD22	30:At:119:HIS:HD2	1.67	0.59
24:CB:183:LEU:HB3	24:CB:185:ASP:H	1.66	0.59
36:Al:127:ILE:HD12	36:Al:158:ILE:HG21	1.84	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
2:B:21:MET:HE1	37:Ab:44:LYS:HE3	1.82	0.59
6:G:333:ILE:HG23	6:G:334:GLU:N	2.10	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
36:Al:191:LYS:O	52:BM:190:LYS:HE2	2.02	0.59
41:Am:262:TRP:N	41:Am:266:GLU:OE2	2.31	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
4:E:155:TYR:CE2	51:Av:106:PRO:HG2	2.37	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
41:Am:299:ARG:NH1	73:1:423:U:OP1	2.35	0.59
71:BR:87:LEU:HA	71:BR:94:ARG:NE	2.18	0.59
2:B:131:ARG:NH2	30:At:29:ASP:OD2	2.35	0.59
15:R:212:SER:OG	30:At:104:ARG:NE	2.35	0.59
25:BK:546:LYS:NZ	25:BK:721:TYR:O	2.31	0.59
33:Af:54:PHE:HA	33:Af:91:ARG:HH12	1.66	0.59
35:Ap:94:ARG:HG3	43:BG:1340:GLU:HG2	1.84	0.59
47:Aj:317:VAL:HG21	47:Aj:363:ALA:HB2	1.85	0.59
61:BT:278:GLY:C	61:BT:280:SER:H	2.09	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
2:B:128:TRP:NE1	2:B:132:CYS:SG	2.76	0.59
5:F:83:TYR:OH	73:1:1122:U:OP2	2.19	0.59
11:M:58:PRO:HG2	47:Aj:473:PRO:HB3	1.85	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
15:R:222:TYR:O	30:At:112:ARG:NH1	2.35	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
40:Az:105:ARG:NH1	40:Az:106:VAL:O	2.35	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
32:Ae:247:ILE:HD12	41:Am:286:SER:O	2.03	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
10:L:39:VAL:HG23	37:Ab:104:LEU:HB2	1.83	0.59
11:M:9:ASN:ND2	11:M:14:PRO:O	2.35	0.59
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
33:Af:15:TRP:HE1	33:Af:16:ARG:HH21	1.51	0.59
34:Ah:114:TYR:OH	34:Ah:178:ASN:OD1	2.14	0.59
39:BP:9:ARG:NH2	73:1:411:A:C2	2.71	0.59
44:Ad:27:THR:CG2	44:Ad:30:LEU:HD22	2.33	0.59
48:Ar:35:PHE:CE2	48:Ar:38:GLU:HB2	2.37	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
1:A:64:MET:HG2	32:Ae:110:LYS:HB2	1.84	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
34:Ah:419:LEU:O	34:Ah:423:THR:HG23	2.03	0.59
34:Ah:443:THR:N	34:Ah:446:GLU:OE2	2.25	0.59
35:Ap:182:GLN:O	35:Ap:182:GLN:NE2	2.36	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
51:Av:55:HIS:ND1	51:Av:67:VAL:O	2.35	0.58
51:Av:106:PRO:HD2	51:Av:108:ILE:CD1	2.32	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:C:35:SER:OG	40:Az:129:ASP:OD1	2.20	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
44:Ad:54:SER:OG	44:Ad:55:LYS:N	2.35	0.58
44:Ad:61:ARG:H	44:Ad:230:HIS:CE1	2.19	0.58
54:Bl:184:PRO:HA	54:Bl:187:VAL:HG12	1.84	0.58
55:Ax:53:HIS:HB2	73:1:277:A:C4	2.39	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
73:1:45:U:O2'	73:1:46:U:O5'	2.19	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
34:Ah:213:ARG:O	34:Ah:217:LEU:N	2.35	0.58
62:BU:352:ASP:OD2	62:BU:387:THR:OG1	2.16	0.58
62:BU:424:SER:O	62:BU:424:SER:OG	2.22	0.58
2:B:398:ASP:OD1	30:At:94:TYR:OH	2.21	0.58
3:C:68:GLU:OE2	53:Ag:116:ARG:HB2	2.03	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
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
25:BK:440:MET:HE2	25:BK:442:ARG:HD3	1.85	0.58
35:Ap:54:ASP:HB2	35:Ap:214:TRP:CE2	2.39	0.58
37:Ab:48:ARG:HB3	37:Ab:50:ARG:HH21	1.69	0.58
40:Az:55:ASN:ND2	40:Az:91:GLU:OE1	2.35	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
1:A:78:GLN:NE2	41:Am:79:GLY:O	2.37	0.58
2:B:12:VAL:HG13	37:Ab:60:ILE:HG13	1.85	0.58
8:J:59:CYS:SG	8:J:60:ASN:N	2.76	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:R:163:VAL:O	15:R:168:LYS:NZ	2.36	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
32:Ae:108:LYS:HG3	32:Ae:110:LYS:HE3	1.84	0.58
33:Af:144:THR:O	33:Af:144:THR:OG1	2.20	0.58
47:Aj:385:ARG:HA	47:Aj:388:GLN:HE21	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
30:At:58:ASN:OD1	40:Az:140:TYR:OH	2.19	0.58
40:Az:105:ARG:NH1	40:Az:108:CYS:O	2.34	0.58
55:Ax:106:PHE:O	55:Ax:163:ARG:NH2	2.37	0.58
55:Ax:204:HIS:O	55:Ax:206:HIS:ND1	2.37	0.58
57:BY:195:ASN:HD21	57:BY:303:VAL:H	1.50	0.58
58:BZ:92:GLY:C	58:BZ:94:ILE:H	2.11	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
6:G:66:VAL:N	45:Aw:186:ASP:OD2	2.30	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
21:CA:303:HIS:HA	21:CA:380:MET:HE2	1.86	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
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
9:K:102:TYR:HB3	37:Ab:108:SER:HB2	1.86	0.58
14:Q:27:PRO:O	36:Al:268:TYR:OH	2.22	0.58
14:Q:162:VAL:HG23	49:An:242:PHE:HB2	1.85	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
32:Ae:287:TRP:C	32:Ae:289:GLN:H	2.10	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:Ap:41:THR:HG22	35:Ap:43:GLU:H	1.67	0.58
49:An:172:THR:O	49:An:176:ARG:N	2.25	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
73:1:331:U:O2'	73:1:501:G:O2'	2.20	0.58
7:I:105:LYS:NZ	7:I:136:PHE:O	2.33	0.58
12:N:153:LEU:HB2	12:N:168:PHE:CE1	2.39	0.58
15:R:229:LEU:HD22	30:At:119:HIS:CD2	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
26:BQ:272:ASP:OD1	26:BQ:272:ASP:N	2.37	0.58
44:Ad:48:LEU:N	44:Ad:48:LEU:HD22	2.19	0.58
44:Ad:172:MET:HE2	44:Ad:218:TYR:HD2	1.69	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
1:A:99:ARG:NH2	32:Ae:147:TYR:OH	2.36	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
7:I:127:LYS:NZ	7:I:173:ASN:OD1	2.37	0.58
8:J:4:ARG:HG3	8:J:4:ARG:O	2.04	0.58
25:BK:454:LEU:C	25:BK:456:ALA:H	2.11	0.58
34:Ah:300:THR:HG22	34:Ah:301:THR:H	1.68	0.58
43:BG:1308:MET:HG3	43:BG:1309:PRO:HD2	1.85	0.58
58:BZ:219:THR:OG1	75:R2:134:U:P	2.61	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
73:1:836:U:O2'	73:1:837:U:OP1	2.21	0.58
6:G:329:PHE:HB3	6:G:332:THR:CG2	2.34	0.57
7:I:123:LEU:HD11	7:I:205:MET:HE1	1.86	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
34:Ah:427:ARG:O	34:Ah:431:GLU:HB2	2.04	0.57
37:Ab:76:SER:HB3	47:Aj:424:ASN:HD21	1.69	0.57
58:BZ:92:GLY:C	58:BZ:94:ILE:N	2.59	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
21:CA:349:ALA:HB2	44:Ad:33:MET:SD	2.44	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
34:Ah:54:TYR:O	34:Ah:55:HIS:C	2.46	0.57
36:Al:149:ARG:NH2	36:Al:203:VAL:O	2.37	0.57
39:BP:40:LYS:NZ	39:BP:43:GLN:OE1	2.33	0.57
59:CC:135:SER:OG	59:CC:138:ASP:OD1	2.21	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
27:BN:86:THR:HG22	35:Ap:43:GLU:OE1	2.05	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
44:Ad:125:ALA:N	44:Ad:126:PRO:CD	2.67	0.57
47:Aj:242:HIS:HD2	47:Aj:244:GLN:HB3	1.68	0.57
48:Ar:44:ARG:HB2	48:Ar:48:GLN:HA	1.85	0.57
52:BM:47:LYS:HD2	52:BM:50:LYS:HG3	1.85	0.57
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
36:Al:299:SER:O	36:Al:303:ASN:ND2	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:Ab:65:SER:HG	37:Ab:91:ASN:HD22	1.50	0.57
47:Aj:280:VAL:HG12	47:Aj:281:GLN:HG3	1.87	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
32:Ae:150:HIS:ND1	41:Am:216:MET:SD	2.77	0.57
45:Aw:81:ARG:HH22	53:Ag:75:ARG:NH1	2.02	0.57
48:Ar:44:ARG:HA	48:Ar:47:ALA:HB3	1.86	0.57
51:Av:46:LEU:HG	51:Av:75:ASN:HA	1.86	0.57
58:BZ:347:PHE:HB3	58:BZ:359:ARG:HA	1.86	0.57
59:CC:87:LYS:NZ	59:CC:109:ASP:OD2	2.25	0.57
25:BK:419:LEU:HD23	25:BK:419:LEU:H	1.70	0.57
27:BN:84:ALA:HB3	35:Ap:42:ASN:HB3	1.87	0.57
34:Ah:138:GLU:HG3	34:Ah:146:MET:SD	2.43	0.57
54:Bl:97:THR:HB	54:Bl:234:VAL:HB	1.85	0.57
58:BZ:252:TRP:CD1	58:BZ:312:SER:HG	2.22	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
15:R:213:THR:HG22	30:At:104:ARG:HE	1.69	0.57
24:CB:169:ARG:HD2	60:CD:113:LYS:HG2	1.86	0.57
25:BK:473:ARG:C	25:BK:473:ARG:CD	2.74	0.57
26:BQ:297:GLU:O	26:BQ:301:ARG:N	2.32	0.57
53:Ag:36:ASN:HA	53:Ag:41:ASN:HD21	1.70	0.57
57:BY:274:CYS:O	57:BY:317:VAL:N	2.38	0.57
58:BZ:54:GLU:O	58:BZ:55:LEU:C	2.45	0.57
60:CD:105:ARG:O	60:CD:109:ILE:N	2.38	0.57
63:BW:96:ARG:C	63:BW:98:ALA:H	2.13	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
1:A:339:LYS:HE2	32:Ae:30:ARG:HA	1.86	0.57
9:K:50:ARG:HH22	10:L:94:SER:HB3	1.70	0.57
14:Q:48:ARG:HH11	36:Al:294:LEU:HD23	1.69	0.57
20:BA:75:PRO:HA	20:BA:78:ARG:HB2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
30:At:37:SER:O	30:At:41:THR:HG23	2.04	0.57
30:At:142:GLU:OE2	45:Aw:166:ARG:NH2	2.36	0.57
34:Ah:313:LEU:O	34:Ah:317:LEU:N	2.37	0.57
37:Ab:2:SER:N	37:Ab:8:CYS:SG	2.77	0.57
52:BM:333:ILE:HB	52:BM:381:ASN:HB3	1.87	0.57
63:BW:341:MET:HE2	63:BW:342:HIS:CE1	2.40	0.57
63:BW:573:HIS:ND1	63:BW:573:HIS:O	2.38	0.57
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:290:VAL:HG11	45:Aw:59:PRO:HG3	1.86	0.57
15:R:322:HIS:N	15:R:325:GLU:OE1	2.36	0.57
22:UA:83:ALA:HA	55:Ax:127:ASN:HB2	1.87	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
30:At:87:ARG:HB2	30:At:89:ILE:HD12	1.87	0.57
37:Ab:14:VAL:HG22	37:Ab:57:ILE:HD11	1.85	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
55:Ax:96:PRO:HB2	55:Ax:98:VAL:HG23	1.86	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
4:E:119:PRO:HB2	51:Av:24:PRO:HD3	1.86	0.57
4:E:120:PRO:HB2	51:Av:23:LYS:NZ	2.19	0.57
6:G:335:GLU:HG3	36:Al:115:GLU:O	2.04	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
15:R:212:SER:N	30:At:108:MET:HB2	2.20	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
44:Ad:41:LEU:O	44:Ad:41:LEU:HG	2.03	0.56
52:BM:91:LEU:O	52:BM:95:GLU:N	2.37	0.56
55:Ax:117:ILE:HG13	55:Ax:119:SER:H	1.69	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:12:ARG:HH11	37:Ab:115:PRO:HB3	1.69	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
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
27:BN:202:LEU:HD13	42:As:51:ARG:HH21	1.70	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:278:GLU:OE1	6:G:278:GLU:N	2.39	0.56
9:K:112:GLU:OE1	38:Aa:92:SER:OG	2.20	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
14:Q:31:ILE:HB	36:Al:268:TYR:OH	2.04	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Al:229:LYS:HE2	36:Al:233:ARG:NH2	2.20	0.56
37:Ab:135:ARG:HD2	41:Am:333:ASN:H	1.69	0.56
39:BP:-4:THR:C	39:BP:-2:ILE:H	2.13	0.56
39:BP:9:ARG:NH1	73:1:411:A:N1	2.51	0.56
44:Ad:158:HIS:NE2	44:Ad:189:GLU:OE1	2.37	0.56
45:Aw:165:ARG:NH2	45:Aw:167:GLU:OE2	2.37	0.56
46:BH:191:ASP:OD1	46:BH:192:CYS:N	2.37	0.56
48:Ar:24:PHE:HA	48:Ar:40:ARG:HH12	1.71	0.56
52:BM:141:ARG:HH12	52:BM:267:GLY:HA2	1.69	0.56
53:Ag:75:ARG:CZ	73:1:107:U:C4	2.89	0.56
55:Ax:158:TYR:O	55:Ax:165:TRP:N	2.31	0.56
57:BY:128:MET:HE3	57:BY:166:VAL:HG23	1.87	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
27:BN:216:ASP:OD1	27:BN:223:ALA:N	2.34	0.56
33:Af:53:THR:HG21	33:Af:56:GLN:HG2	1.87	0.56
33:Af:150:PRO:HD2	47:Aj:355:ASP:OD1	2.06	0.56
39:BP:80:PRO:O	48:Ar:142:ARG:NH1	2.38	0.56
41:Am:51:ARG:NH1	41:Am:309:MET:SD	2.79	0.56
48:Ar:26:ARG:HG3	48:Ar:27:THR:HG23	1.87	0.56
51:Av:104:THR:O	51:Av:104:THR:CG2	2.53	0.56
52:BM:218:LEU:HD21	52:BM:221:ARG:HB3	1.87	0.56
55:Ax:53:HIS:N	73:1:277:A:H2'	2.20	0.56
58:BZ:233:THR:HG22	58:BZ:237:LEU:HD13	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
71:BR:176:GLN:HE21	71:BR:296:TRP:CD1	2.24	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
30:At:53:THR:HG21	45:Aw:61:CYS:HB3	1.86	0.56
32:Ae:183:VAL:HG12	32:Ae:232:ILE:HG23	1.87	0.56
35:Ap:153:SER:OG	35:Ap:154:ALA:N	2.38	0.56
47:Aj:479:VAL:HA	47:Aj:482:GLN:HE21	1.71	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
58:BZ:49:SER:O	58:BZ:49:SER:OG	2.17	0.56
61:BT:171:MET:HG2	61:BT:235:THR:HB	1.87	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
16:S:276:MET:HE3	16:S:303:ARG:HH11	1.71	0.56
27:BN:160:GLU:OE1	27:BN:200:ARG:NH2	2.38	0.56
47:Aj:407:ARG:HD3	47:Aj:411:MET:HB2	1.88	0.56
50:BF:55:TYR:HA	50:BF:63:ARG:HH11	1.70	0.56
56:BS:389:SER:O	56:BS:390:ALA:C	2.47	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:24:MET:HE2	3:C:67:ASN:HA	1.86	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
11:M:12:LEU:HD11	30:At:34:LYS:NZ	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:M:12:LEU:HD11	30:At:34:LYS:HZ1	1.71	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
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
73:1:542:G:N2	73:1:596:U:HO2'	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
15:R:212:SER:N	30:At:108:MET:SD	2.78	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
51:Av:47:ASP:HA	51:Av:50:ARG:HB3	1.87	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
4:E:185:ARG:NH2	51:Av:116:GLN:HA	2.17	0.56
13:O:230:ARG:O	13:O:239:LEU: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
34:Ah:383:LEU:HB3	34:Ah:387:ARG:HE	1.70	0.56
48:Ar:24:PHE:CD2	48:Ar:25:THR:HB	2.40	0.56
49:An:128:LYS:O	49:An:132:VAL:HG23	2.06	0.56
55:Ax:49:PRO:HA	64:BV:165:LEU:HB3	1.86	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:319:LEU:HD23	21:CA:319:LEU:C	2.31	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:525:PRO:CD	21:CA:582:HIS:H	2.19	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
32:Ae:247:ILE:HG12	41:Am:290:LEU:HD12	1.86	0.56
49:An:109:PHE:O	49:An:109:PHE:CD1	2.59	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
73:1:128:U:O2'	73:1:129:U:O2	2.13	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
5:F:130:ASP:OD2	32:Ae:62:GLN:NE2	2.37	0.55
8:J:121:PHE:CZ	8:J:125:LEU:HD21	2.41	0.55
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
37:Ab:6:GLU:HB2	37:Ab:62:ARG:HH22	1.70	0.55
38:Aa:125:GLU:HA	38:Aa:128:LYS:HD3	1.87	0.55
42:As:180:GLU:O	42:As:184:ARG:NH2	2.38	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
3:C:29:GLY:H	40:Az:128:GLN:HE22	1.54	0.55
6:G:48:TRP:HZ3	47:Aj:118:GLU:HB2	1.72	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
15:R:212:SER:HB3	30:At:108:MET: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
57:BX:278:GLN:CD	57:BX:278:GLN:N	2.64	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:126:TRP:CB	58:BZ:132:PRO:HB3	2.37	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
14:Q:115:ASP:HB2	49:An:276:ARG:HH22	1.71	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
26:BQ:436:ILE:HG13	31:Au:145:ARG:HD2	1.89	0.55
55:Ax:94:ASP:OD1	55:Ax:199:GLN:NE2	2.40	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:192:ASP:OD1	2:B:192:ASP:N	2.35	0.55
3:C:118:LEU:HD11	3:C:155:ILE:HG23	1.88	0.55
6:G:193:GLU:HB2	45:Aw:7:GLY:CA	2.35	0.55
10:L:52:GLN:HG3	47:Aj:195:ARG:HD2	1.87	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
45:Aw:46:ASN:ND2	45:Aw:86:SER:OG	2.40	0.55
52:BM:159:MET:HG2	52:BM:163:GLU:HB2	1.89	0.55
54:Bl:153:ARG:NH1	54:Bl:161:GLN:OE1	2.39	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
73:1:1131: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
5:F:7:CYS:HB2	5:F:46:MET:HE3	1.89	0.55
7:I:146:MET:HE1	73:1:1169:A:H62	1.71	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
34:Ah:131:ILE:HG21	34:Ah:422:LEU:HD11	1.88	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:U6:93:ALA:C	66:U6:95:ALA:H	2.13	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
4:E:56:PHE:HB3	51:Av:21:SER:C	2.32	0.55
6:G:315:ARG:HA	6:G:323:PRO:HD3	1.87	0.55
14:Q:47:ASN:HB2	36:Al:285:LEU:HD11	1.88	0.55
14:Q:107:GLY:HA3	14:Q:122:MET:HE2	1.87	0.55
21:CA:486:LEU:C	21:CA:486:LEU:HD12	2.31	0.55
24:CB:138:SER:OG	24:CB:139:PHE:N	2.39	0.55
32:Ae:282:ILE:HG23	32:Ae:286:LYS:HB2	1.88	0.55
37:Ab:57:ILE:HG22	37:Ab:69:TYR:HB2	1.88	0.55
43:BG:1266:GLY:HA3	43:BG:1288:PRO:HG2	1.89	0.55
44:Ad:40:SER:OG	70:U5:38:ALA:HB1	2.07	0.55
47:Aj:122:ASN:HB2	47:Aj:356:TYR:OH	2.05	0.55
47:Aj:413:GLY:O	47:Aj:415:TRP:N	2.38	0.55
48:Ar:26:ARG:NH1	48:Ar:95:ARG:HD3	2.22	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
2:B:375:GLN:O	30:At:113:ARG:NH2	2.39	0.55
6:G:202:ASN:HD21	45:Aw:89:HIS:HE1	1.53	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)
14:Q:45:TRP:CD1	14:Q:45:TRP:H	2.24	0.55
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
31:Au:157:GLN:HE21	35:Ap:203:TYR:HD2	1.53	0.55
32:Ae:52:ARG:NH1	32:Ae:55:HIS:O	2.39	0.55
34:Ah:198:SER:H	34:Ah:201:MET:HG3	1.72	0.55
41:Am:281:ARG:HA	41:Am:284:VAL:HG22	1.88	0.55
49:An:145:ARG:NH1	49:An:156:GLU:O	2.39	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
38:Aa:80:ASP:N	38:Aa:80:ASP:OD1	2.33	0.55
44:Ad:156:PHE:HD2	45:Aw:145:ASN: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
14:Q:165:LYS:HE2	40:Az:55:ASN:HD21	1.72	0.55
15:R:450:THR:HG21	15:R:454:MET:HG3	1.89	0.55
21:CA:349:ALA:HB2	44:Ad:33:MET:HG2	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
51:Av:45:GLU:HA	51:Av:48:ARG:HB3	1.87	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
32:Ae:247:ILE:HD12	41:Am:286:SER:C	2.32	0.55
49:An:117:SER:HB2	49:An:120:GLU:HG3	1.87	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
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
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
15:R:227:VAL:HG11	30:At:116:LEU:HD13	1.88	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
36:Al:120:VAL:H	36:Al:162:ASN:HD21	1.54	0.54
48:Ar:24:PHE:CE1	48:Ar:35:PHE:HB3	2.42	0.54
57:BX:194:ASP:HA	57:BX:220:THR:CB	2.37	0.54
60:CD:38:ARG:C	60:CD:40:ARG:H	2.16	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
2:B:384:ARG:HE	30:At:109:VAL:HG12	1.72	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
14:Q:74:ASP:O	14:Q:150:SER:OG	2.19	0.54
16:S:384:HIS:ND1	16:S:384:HIS:O	2.40	0.54
25:BK:833:LYS:NZ	73:1:1178:U:O4	2.31	0.54
25:BK:861:ALA:HB3	25:BK:874:TYR:HB2	1.87	0.54
34:Ah:104:ARG:NH2	54:Bl:164:ASP:O	2.35	0.54
44:Ad:166:PRO:HB3	44:Ad:187:ASN:H	1.72	0.54
48:Ar:44:ARG:HD2	48:Ar:48:GLN:HA	1.89	0.54
54:Bl:237:TRP:HB2	54:Bl:241:LYS:NZ	2.22	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
14:Q:47:ASN:HD22	36:Al:294:LEU:HD21	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
40:Az:27:LYS:O	40:Az:31:ASN:ND2	2.40	0.54
40:Az:60:HIS:HB3	49:An:228:ARG:HH11	1.71	0.54
52:BM:222:MET:SD	52:BM:222:MET:N	2.80	0.54
54:Bl:141:LEU:HG	54:Bl:142:PRO:HD2	1.89	0.54
73:1:473:U:O2'	73:1:474:U:H5'	2.06	0.54
18:V:60:GLY:HA3	18:V:76:MET:HE2	1.89	0.54
34:Ah:107:GLU:N	34:Ah:107:GLU:OE2	2.40	0.54
45:Aw:114:VAL:HG23	45:Aw:115:LEU:HD23	1.89	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
21:CA:488:PHE:O	21:CA:488:PHE:CD1	2.61	0.54
44:Ad:220:VAL:HG13	44:Ad:224:GLY:HA3	1.89	0.54
58:BZ:92:GLY:C	58:BZ:94:ILE:HG23	2.32	0.54
62:BU:33:ILE:HD13	62:BU:111:ILE:HG13	1.90	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:191:ASN:OD1	12:N:191:ASN:N	2.39	0.54
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
36:Al:260:MET:O	36:Al:262:HIS:N	2.40	0.54
41:Am:322:PRO:HB2	41:Am:324:ILE:HG12	1.89	0.54
47:Aj:323:SER:O	47:Aj:323:SER:OG	2.25	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
73:1:305: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
21:CA:240:SER:O	21:CA:240:SER:OG	2.23	0.54
32:Ae:5:ALA:HB3	32:Ae:12:ASN:HD21	1.73	0.54
34:Ah:317:LEU:HD13	34:Ah:363:VAL:HG21	1.90	0.54
36:Al:98:GLN:HB2	36:Al:101:ASN:HB3	1.89	0.54
48:Ar:133:GLN:NE2	48:Ar:137:GLU:OE1	2.41	0.54
58:BZ:176:VAL:HG11	58:BZ:385:VAL:HG21	1.90	0.54
62:BU:274:LYS:HB2	62:BU:395:MET:HE2	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:641:PHE:HD2	25:BK:754:ILE:HD11	1.72	0.54
35:Ap:137:GLY:O	35:Ap:141:GLU:N	2.41	0.54
36:Al:182:VAL:HG22	52:BM:190:LYS:HE3	1.89	0.54
36:Al:268:TYR:C	36:Al:268:TYR:CD1	2.85	0.54
39:BP:18:GLU:OE1	39:BP:18:GLU:N	2.41	0.54
48:Ar:19:TYR:CD1	48:Ar:43:LYS:HG2	2.34	0.54
49:An:113:VAL:HG23	49:An:114:LEU:HD23	1.89	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
62:BU:449:LEU:HD13	62:BU:486:VAL:HG13	1.90	0.54
63:BW:103:LEU:C	63:BW:105:LYS:H	2.14	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:BB:42:LYS:HG3	23:BB:55:GLN:HG3	1.90	0.54
25:BK:474:ASP:CB	38:Aa:129:ALA:HB2	2.37	0.54
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
30:At:74:HIS:NE2	40:Az:146:ASN:O	2.41	0.54
35:Ap:62:PHE:CZ	35:Ap:88:ILE:HG13	2.43	0.54
48:Ar:44:ARG:HH12	48:Ar:58:THR:HB	1.73	0.54
49:An:116:MET:HB3	49:An:120:GLU:HB2	1.90	0.54
51:Av:33:VAL:HG13	51:Av:34:TYR:CD1	2.43	0.54
52:BM:79:ARG:NH2	52:BM:379:ASP:OD1	2.40	0.54
54:Bl:107:ILE:N	54:Bl:186:GLU:OE2	2.36	0.54
54:Bl:198:LEU:HD13	54:Bl:214:ILE:HG12	1.88	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
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
25:BK:378:ASP:OD1	25:BK:378:ASP:N	2.39	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
35:Ap:32:GLN:HG3	42:As:94:ASN:ND2	2.23	0.54
41:Am:311:ARG:HG2	41:Am:315:ASN:HD21	1.73	0.54
45:Aw:175:ARG:NH2	47:Aj:440:GLN:O	2.41	0.54
48:Ar:60:SER:O	48:Ar:64:HIS:ND1	2.41	0.54
49:An:105:TRP:CZ2	49:An:212:VAL:HG12	2.43	0.54
49:An:105:TRP:O	49:An:109:PHE:N	2.41	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
5:F:91:TYR:HD1	32:Ae:65:PRO:HD3	1.74	0.53
6:G:301:TRP:CZ2	6:G:308:TYR:CG	2.96	0.53
11:M:16:PRO:HG2	11:M:26:LEU:HD11	1.90	0.53
13:O:95:PHE:HB3	73:1:579:U:C4	2.43	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
44:Ad:45:ARG:HB2	44:Ad:45:ARG:HH21	1.73	0.53
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
66:U6:50:ALA:O	66:U6:51:ALA:HB3	2.06	0.53
73:1:243:G:O6	73:1:254:U:H1'	2.09	0.53
73:1:427:G:O2'	73:1:428:U:O2	2.21	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
34:Ah:207:ASP:OD2	34:Ah:225:TRP:NE1	2.38	0.53
34:Ah:406:PHE:O	34:Ah:409:THR:OG1	2.20	0.53
43:BG:1261:ALA:HB3	43:BG:1270:PHE:CE1	2.42	0.53
45:Aw:50:ARG:NE	45:Aw:51:ASP:OD1	2.33	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
32:Ae:264:TRP:HE3	32:Ae:265:LEU:HD23	1.73	0.53
34:Ah:197:MET:HB3	34:Ah:201:MET:HB2	1.89	0.53
47:Aj:340:PHE:HD2	73:1:356:A:H5'	1.73	0.53
49:An:111:ASP:O	49:An:114:LEU:N	2.37	0.53
51:Av:114:VAL:HA	51:Av:118:TRP:HE1	1.73	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
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
28:BE:111:PRO:HB2	41:Am:224:MET:HE2	1.90	0.53
38:Aa:102:ASP:O	39:BP:-34:ARG:NH2	2.41	0.53
43:BG:1304:MET:HB2	43:BG:1316:PRO:HB3	1.91	0.53
52:BM:214:LYS:HG2	52:BM:231:GLY:C	2.34	0.53
52:BM:311:CYS:SG	52:BM:312:VAL:N	2.81	0.53
55:Ax:46:HIS:ND1	55:Ax:46:HIS:O	2.41	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
36:Al:272:GLU:C	36:Al:272:GLU:CD	2.76	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
4:E:120:PRO:HB2	51:Av:23:LYS:HZ3	1.73	0.53
6:G:265:GLU:HA	45:Aw:3:SER:HB2	1.90	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: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
37:Ab:55:SER:OG	37:Ab:72:ARG:N	2.41	0.53
40:Az:37:LYS:NZ	73:1:76:U:C4	2.77	0.53
48:Ar:144:ASP:OD2	48:Ar:146:ARG:NH2	2.32	0.53
52:BM:282:ARG:HB3	52:BM:285:LEU:HB3	1.91	0.53
53:Ag:110:SER:OG	53:Ag:123:THR:OG1	2.21	0.53
54:Bl:153:ARG:HB3	54:Bl:161:GLN:HB3	1.89	0.53
57:BY:113:MET:HB3	57:BY:117:LEU:HD13	1.91	0.53
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
4:E:148:TYR:O	51:Av:79:TYR:OH	2.19	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
36:Al:275:PRO:O	36:Al:276:GLN:HG2	2.09	0.53
40:Az:40:TRP:CE2	40:Az:81:GLN:HG3	2.44	0.53
45:Aw:81:ARG:NH1	53:Ag:72:PRO:HG2	2.24	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
14:Q:29:GLY:C	14:Q:30:LEU:HD22	2.34	0.53
15:R:233:VAL:HA	15:R:240:THR:HG23	1.91	0.53
24:CB:73:VAL:HG11	24:CB:83:MET:HE3	1.91	0.53
25:BK:776:THR:OG1	25:BK:790:GLN:NE2	2.42	0.53
27:BN:145:LYS:HZ3	27:BN:207:LEU:HD13	1.74	0.53
34:Ah:295:SER:H	34:Ah:381:ARG:HH12	1.56	0.53
35:Ap:66:VAL:O	35:Ap:70:ASN:ND2	2.39	0.53
36:Al:116:ASN:HD22	36:Al:154:TYR:HE1	1.56	0.53
38:Aa:161:ARG:O	38:Aa:165:MET:HG2	2.08	0.53
45:Aw:3:SER:OG	45:Aw:4:GLY:N	2.42	0.53
49:An:238:PRO:HB2	49:An:240:LEU:HD13	1.90	0.53
52:BM:214:LYS:HB3	52:BM:232:ALA:HA	1.90	0.53
54:Bl:88:ILE:HA	54:Bl:258:VAL:HG13	1.91	0.53
54:Bl:164:ASP:OD1	54:Bl:164:ASP:N	2.34	0.53
55:Ax:130:VAL:HB	55:Ax:131:PRO:CD	2.34	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
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
3:C:150:PRO:HB2	34:Ah:54:TYR:CE2	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
9:K:123:PRO:HD2	33:Af:77:GLN:HA	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
32:Ae:151:THR:HG22	32:Ae:160:PRO:HD3	1.91	0.53
34:Ah:211:ALA:HB1	34:Ah:279:PHE:HE2	1.74	0.53
47:Aj:131:LEU:HD23	47:Aj:282:PRO:HG2	1.91	0.53
49:An:109:PHE:CE2	49:An:114:LEU:HD23	2.43	0.53
54:Bl:85:ASP:HB2	54:Bl:262:GLU:HB3	1.90	0.53
57:BY:116:GLU:C	57:BY:120:ALA:HB2	2.33	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
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
2:B:82:THR:O	2:B:85:THR:OG1	2.26	0.52
4:E:49:VAL:HA	4:E:107:TYR:HA	1.90	0.52
6:G:146:LYS:HB2	6:G:147:MET:HE2	1.91	0.52
7:I:140:ASN:HD21	42:As:119:LEU:HD21	1.74	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
27:BN:133:ARG:HH22	42:As:107:ASP:HB3	1.72	0.52
29:BO:58:VAL:HB	29:BO:135:GLN:HE22	1.74	0.52
34:Ah:282:PRO:HB3	34:Ah:415:THR:HB	1.91	0.52
36:Al:212:ASN:HA	36:Al:215:VAL:HG12	1.90	0.52
41:Am:284:VAL:HG23	41:Am:285:HIS:CD2	2.44	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:226:GLN:HE21	2:B:272:PHE:HB2	1.74	0.52
4:E:23:SER:O	4:E:24:ASN:C	2.51	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
18:V:76:MET:HE3	18:V:76:MET:HA	1.91	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
25:BK:469:LEU:O	25:BK:470:PHE:C	2.52	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
37:Ab:80:ASN:HD21	45:Aw:185:ALA:HB1	1.73	0.52
40:Az:80:ASP:OD1	40:Az:81:GLN:N	2.43	0.52
40:Az:94:ASP:N	40:Az:94:ASP:OD1	2.39	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:33:HIS:HB2	47:Aj:441:VAL:HG22	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
35:Ap:173:ARG:HA	35:Ap:176:PHE:HD2	1.74	0.52
45:Aw:81:ARG:HB2	73:1:106:A:C6	2.44	0.52
45:Aw:111:ALA:HA	45:Aw:114:VAL:HG22	1.90	0.52
53:Ag:66:PHE:CE1	53:Ag:107:ARG:HB2	2.44	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
77:U8:2:ALA:C	77:U8:4:ALA:N	2.67	0.52
2:B:169:ASN:ND2	73:1:217:A:H5''	2.24	0.52
4:E:217:HIS:HB3	51:Av:103:TRP:O	2.10	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
14:Q:46:CYS:HB3	36:Al:288:MET:HE1	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BN:236:LEU:HG	27:BN:239:HIS:CE1	2.44	0.52
33:Af:77:GLN:HB3	39:BP:-20:PRO:HB3	1.90	0.52
37:Ab:154:LYS:O	37:Ab:158:ASP:HB2	2.09	0.52
47:Aj:340:PHE:H	47:Aj:410:THR:HG22	1.74	0.52
52:BM:158:MET:HG2	52:BM:217:LYS:HG2	1.92	0.52
54:Bl:159:LEU:HD12	54:Bl:213:PHE:HB2	1.91	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:222:SER:HG	58:BZ:367:HIS:HD1	1.52	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
68:U3:26:ALA:C	68:U3:28:ALA:N	2.68	0.52
2:B:119:GLU:OE2	44:Ad:212:SER:OG	2.26	0.52
4:E:95:LYS:HG2	51:Av:92:LYS:HD2	1.91	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
19:Z:90:LEU:HA	19:Z:93:MET:HE3	1.91	0.52
26:BQ:96:GLU:O	26:BQ:100:ASP:N	2.42	0.52
30:At:156:GLN:O	30:At:156:GLN:NE2	2.42	0.52
35:Ap:75:VAL:HG22	43:BG:1338:LEU:HD13	1.92	0.52
45:Aw:81:ARG:NH2	73:1:106:A:C6	2.77	0.52
47:Aj:256:PHE:HD1	47:Aj:261:ARG:HD2	1.73	0.52
51:Av:60:ARG:HH11	51:Av:118:TRP:HA	1.74	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
5:F:76:THR:OG1	5:F:77:ALA:N	2.34	0.52
6:G:194:THR:OG1	45:Aw:22:ARG:NH1	2.43	0.52
9:K:42:LEU:O	9:K:46:GLN:HG2	2.09	0.52
14:Q:155:ARG:NH2	49:An:270:LYS:HG2	2.25	0.52
16:S:306:HIS:HB3	48:Ar:204:LEU:HD23	1.91	0.52
24:CB:177:TRP:CE2	29:BO:167:MET:HG3	2.44	0.52
25:BK:619:ARG:C	25:BK:621:VAL:H	2.16	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Ah:282:PRO:HA	34:Ah:412:LYS:HG2	1.91	0.52
36:Al:187:ASP:N	36:Al:187:ASP:OD1	2.42	0.52
48:Ar:59:PRO:HB2	48:Ar:64:HIS:CE1	2.45	0.52
49:An:134:PHE:CG	49:An:134:PHE:O	2.62	0.52
51:Av:47:ASP:HB3	51:Av:50:ARG:HE	1.75	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
54:Bl:151:VAL:HB	54:Bl:258:VAL:HB	1.92	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: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
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
4:E:22:GLY:O	51:Av:106:PRO:HD3	2.10	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
20:BA:93:HIS:O	20:BA:97:SER:OG	2.18	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
34:Ah:375:GLU:CD	34:Ah:434:TRP:HE1	2.18	0.52
41:Am:189:ALA:HB3	41:Am:199:SER:HB3	1.92	0.52
44:Ad:79:ASP:HB3	44:Ad:82:THR:HG22	1.91	0.52
44:Ad:219:ASN:ND2	73:1:358:A:OP1	2.43	0.52
49:An:107:ASP:O	49:An:111:ASP:N	2.43	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:263:PHE:C	63:BW:265:GLU:H	2.18	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:130:ARG:HD2	51:Av:27:LEU:HD22	1.92	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
23:BB:54:VAL:HG11	32:Ae:108:LYS:HB3	1.91	0.52
25:BK:454:LEU:CB	25:BK:468:THR:HB	2.35	0.52
25:BK:559:ASP:CG	25:BK:715:PRO:HB2	2.33	0.52
25:BK:571:ASP:N	25:BK:571:ASP:OD1	2.42	0.52
45:Aw:77:ASN:O	73:1:106:A:N6	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
54:Bl:184:PRO:O	54:Bl:188:LYS:N	2.42	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
62:BU:297:PHE:CG	62:BU:298:LEU:N	2.76	0.52
63:BW:175:MET:HE2	63:BW:269:TYR:HD2	1.74	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
3:C:71:TYR:HE2	53:Ag:102:PRO:HG3	1.75	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
16:S:360:ARG:HG3	33:Af:155:ILE:HD12	1.91	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
32:Ae:78:HIS:CE1	41:Am:262:TRP:HA	2.44	0.52
34:Ah:229:GLY:N	34:Ah:232:GLY:O	2.43	0.52
36:Al:229:LYS:HE2	36:Al:233:ARG:HH22	1.74	0.52
37:Ab:66:GLU:O	37:Ab:91:ASN:ND2	2.42	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
57:BX:183:ASN:CG	57:BX:271:LEU:HG	2.35	0.52
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:244:LEU:HD23	62:BU:244:LEU:C	2.35	0.52
62:BU:286:LEU:HD13	62:BU:290:ARG:HG2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
37:Ab:118:TRP:HZ3	38:Aa:91:LEU:HD11	1.74	0.52
37:Ab:132:GLN:OE1	37:Ab:135:ARG:NH2	2.35	0.52
44:Ad:27:THR:HG23	44:Ad:27:THR:O	2.09	0.52
44:Ad:60:LEU:HD11	44:Ad:233:LEU:HD12	1.92	0.52
44:Ad:126:PRO:HG2	44:Ad:129:TYR:HE1	1.75	0.52
48:Ar:22:ILE:HG12	48:Ar:41:LEU:CB	2.39	0.52
49:An:132:VAL:HG13	49:An:180:ARG:HD3	1.91	0.52
51:Av:106:PRO:O	51:Av:108:ILE:HG13	2.10	0.52
53:Ag:28:VAL:HG12	53:Ag:30:GLU:H	1.75	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
67:U1:12:ALA:O	67:U1:13:ALA:C	2.52	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
10:L:70:GLY:HA3	10:L:74:LEU:HG	1.92	0.51
11:M:87:VAL:HG22	47:Aj:449:LEU:HD22	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
45:Aw:77:ASN:HB3	73:1:106:A:N7	2.26	0.51
51:Av:83:GLY:N	51:Av:99:ILE:O	2.40	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:355:THR:OG1	1:A:356:PHE:N	2.43	0.51
4:E:219:LYS:C	4:E:221:HIS:H	2.16	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
15:R:409:TYR:O	15:R:412:LYS:NZ	2.43	0.51
21:CA:164:TYR:OH	44:Ad:28:PRO:HG3	2.09	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
27:BN:117:CYS:SG	27:BN:229:GLY:HA2	2.51	0.51
30:At:14:LYS:NZ	73:1:110:U:O5'	2.40	0.51
33:Af:141:SER:OG	33:Af:143:ASP:OD1	2.24	0.51
36:Al:215:VAL:HA	36:Al:219:ASN:HD22	1.75	0.51
42:As:55:GLU:O	42:As:58:ARG:N	2.31	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
55:Ax:73:THR:OG1	55:Ax:202:PRO:O	2.21	0.51
55:Ax:100:PRO:HG3	55:Ax:131:PRO:HG2	1.92	0.51
57:BX:185:GLN:CD	57:BX:271:LEU:HD13	2.36	0.51
63:BW:244:ASP:N	63:BW:244:ASP:OD1	2.42	0.51
72:U2:12:ALA:C	72:U2:14:ALA:H	2.19	0.51
3:C:152:ARG:NH2	14:Q:115:ASP:OD1	2.40	0.51
6:G:175:LEU:HB2	6:G:216:MET:HE3	1.92	0.51
6:G:321:ILE:C	6:G:323:PRO:HD2	2.34	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
34:Ah:389:ASN:ND2	49:An:195:ARG:HD2	2.24	0.51
46:BH:57:GLU:CD	46:BH:60:ARG:HH21	2.18	0.51
54:Bl:175:SER:N	54:Bl:179:GLU:O	2.30	0.51
56:BS:380:TYR:CB	56:BS:386:GLN:HB2	2.41	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
12:N:57:ILE:HB	18:V:37:MET:HE1	1.92	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
34:Ah:388:HIS:O	34:Ah:389:ASN:ND2	2.43	0.51
44:Ad:114:ALA:HB2	44:Ad:125:ALA:O	2.10	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
11:M:95:ASP:HB2	47:Aj:463:VAL:HB	1.91	0.51
12:N:75:GLU:HA	12:N:75:GLU:OE2	2.11	0.51
13:O:310:MET:HE3	13:O:314:GLN:HE21	1.74	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
21:CA:474:GLU:O	21:CA:478:THR:OG1	2.20	0.51
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
32:Ae:117:TYR:CE2	41:Am:224:MET:HG2	2.45	0.51
34:Ah:185:TRP:HB3	34:Ah:191:GLN:HB3	1.91	0.51
34:Ah:314:TYR:O	34:Ah:318:LYS:N	2.43	0.51
41:Am:259:ILE:HG22	41:Am:267:SER:HA	1.91	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:157:ALA:HB3	63:BW:163:LYS:HZ2	1.74	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:O:230:ARG:HB3	13:O:239:LEU:HB2	1.92	0.51
15:R:123:ARG:O	54:Bl:203:SER:OG	2.20	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
34:Ah:135:LEU:O	34:Ah:139:THR:OG1	2.19	0.51
37:Ab:33:LEU:HD21	37:Ab:45:ILE:HD12	1.93	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
15:R:377:PRO:HB3	40:Az:52:VAL:HG11	1.92	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:517:LEU:HG	21:CA:518:GLN:H	1.74	0.51
25:BK:783:ASN:ND2	37:Ab:104:LEU:O	2.44	0.51
27:BN:181:ARG:HB2	27:BN:184:ALA:N	2.15	0.51
30:At:142:GLU:OE1	30:At:147:LEU:HD12	2.11	0.51
34:Ah:163:ARG:NE	34:Ah:280:ILE:O	2.40	0.51
35:Ap:72:PRO:HA	35:Ap:122:CYS:O	2.11	0.51
38:Aa:152:ILE:C	38:Aa:154:ASN:H	2.13	0.51
42:As:146:SER:HB3	42:As:147:GLN:CB	2.41	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
55:Ax:91:GLU:OE1	55:Ax:91:GLU:N	2.33	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
14:Q:119:GLN:HB3	49:An:267:GLN:HE22	1.75	0.51
17:T:60:CYS:SG	17:T:63:CYS:HB2	2.50	0.51
20:BA:70:ASP:CG	20:BA:77:ARG:HH21	2.18	0.51
25:BK:638:GLU:OE1	71:BR:85:ARG:NE	2.43	0.51
41:Am:255:ASP:OD1	41:Am:255:ASP:N	2.42	0.51
47:Aj:299:GLU:HG2	47:Aj:373:PHE:HE1	1.76	0.51
49:An:201:VAL:O	49:An:205:ILE:HG23	2.11	0.51
53:Ag:125:HIS:CE1	53:Ag:143:ARG:HD2	2.45	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
27:BN:80:VAL:CG2	35:Ap:46:PHE:HE2	2.23	0.51
29:BO:128:VAL:HG13	29:BO:152:CYS:HB2	1.93	0.51
30:At:59:ALA:HB1	73:1:109:U:H4'	1.92	0.51
34:Ah:466:ILE:O	34:Ah:470:LYS:HE3	2.11	0.51
37:Ab:161:ALA:HB1	37:Ab:165:ARG:HD3	1.92	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
54:Bl:97:THR:N	54:Bl:235:ASP:OD1	2.44	0.51
55:Ax:54:LYS:H	73:1:278:C:C5'	2.24	0.51
56:BS:392:LEU:O	56:BS:396:THR:N	2.44	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
4:E:152:GLU:HG2	51:Av:99:ILE:HG21	1.93	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:Q:109:HIS:CD2	14:Q:122:MET:HE1	2.46	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
34:Ah:50:LYS:HG3	34:Ah:51:ALA:N	2.26	0.51
34:Ah:136:HIS:ND1	34:Ah:387:ARG:HD3	2.26	0.51
35:Ap:200:TYR:HB3	35:Ap:214:TRP:CE3	2.46	0.51
37:Ab:135:ARG:NH1	37:Ab:135:ARG:HB3	2.25	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
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
25:BK:867:PRO:CB	27:BN:188:ARG:CZ	2.89	0.50
36:Al:214:ILE:HG22	36:Al:219:ASN:HD21	1.75	0.50
41:Am:167:PHE:HB3	41:Am:168:LYS:HZ2	1.76	0.50
41:Am:295:TYR:HB2	67:U1:25:ALA:HB1	1.93	0.50
44:Ad:129:TYR:HB2	45:Aw:107:ILE:HD12	1.92	0.50
46:BH:54:ARG:N	46:BH:114:GLU:OE2	2.44	0.50
49:An:287:TRP:HD1	49:An:288:LEU:HD23	1.76	0.50
54:Bl:193:ASP:OD1	54:Bl:193:ASP:N	2.40	0.50
55:Ax:55:VAL:HG23	73:1:277:A:OP1	2.11	0.50
55:Ax:162:SER:O	55:Ax:163:ARG:NH2	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CA:279:GLY:HA2	21:CA:598:VAL:HG21	1.92	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:837:ASP:OD1	73:1:1178:U:O2'	2.26	0.50
26:BQ:67:LEU:O	26:BQ:70:PHE:N	2.44	0.50
33:Af:57:PRO:O	33:Af:58:ALA:HB3	2.11	0.50
34:Ah:203:HIS:HA	34:Ah:206:MET:HG2	1.93	0.50
41:Am:89:ALA:HA	41:Am:92:LEU:HD12	1.92	0.50
47:Aj:122:ASN:OD1	47:Aj:123:GLN:HG3	2.12	0.50
47:Aj:128:LEU:HD11	47:Aj:130:ARG:CZ	2.41	0.50
47:Aj:463:VAL:HG12	47:Aj:464:ASN:H	1.75	0.50
49:An:225:GLU:HA	49:An:228:ARG:HG3	1.92	0.50
49:An:265:ASP:OD1	49:An:265:ASP:N	2.43	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
16:S:298:ARG:NH2	33:Af:46:GLU:O	2.40	0.50
18:V:121:SER:HB3	73:1:90:A:C2	2.46	0.50
28:BE:83:SER:HB2	41:Am:303:TRP:CD2	2.47	0.50
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
10:L:89:MET:HG3	37:Ab:97:PHE:HB2	1.93	0.50
18:V:148:PHE:HD2	36:Al:264:VAL:HG21	1.76	0.50
21:CA:146:GLY:H	21:CA:210:GLN:NE2	2.09	0.50
23:BB:81:VAL:HG21	32:Ae:107:LEU:HB2	1.93	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BE:91:ILE:HG22	28:BE:92:GLU:H	1.75	0.50
47:Aj:212:ASP:OD1	47:Aj:227:TYR:OH	2.25	0.50
55:Ax:75:VAL:HG22	55:Ax:79:GLU:HB3	1.92	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
60:CD:53:HIS:C	60:CD:55:PRO:HD3	2.37	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
73:1:848:U:O2'	73:1:849:U:O5'	2.26	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
11:M:241:MET:HE3	11:M:243:LEU:HD21	1.93	0.50
15:R:435:LEU:HD23	26:BQ:80:PRO:HD2	1.93	0.50
21:CA:572:SER:OG	21:CA:573:CYS:N	2.45	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
32:Ae:287:TRP:HB3	57:BX:181:ILE:HG13	1.93	0.50
35:Ap:168:ASN:HA	35:Ap:172:LYS:HB3	1.93	0.50
36:Al:171:MET:HE3	36:Al:173:LEU:HG	1.92	0.50
42:As:75:PHE:HZ	42:As:91:ILE:HD11	1.75	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
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
77:U8:27:ALA:O	77:U8:28:ALA:C	2.54	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
21:CA:163:GLY:HA3	44:Ad:26:HIS:CE1	2.47	0.50
27:BN:222:ASP:OD1	27:BN:222:ASP:N	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:At:77:ARG:HA	30:At:81:GLU:OE2	2.12	0.50
34:Ah:362:VAL:HG22	34:Ah:366:MET:HB3	1.93	0.50
52:BM:137:ARG:HB2	52:BM:271:ARG:HD2	1.94	0.50
53:Ag:75:ARG:NH1	73:1:107:U:O4	2.45	0.50
53:Ag:77:ARG:HA	53:Ag:130:GLN:NE2	2.26	0.50
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
3:C:210:TYR:HE1	36:Al:102:GLU:HG3	1.77	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
30:At:10:GLY:HA3	73:1:89:U:OP2	2.11	0.50
32:Ae:86:CYS:SG	32:Ae:88:THR:OG1	2.65	0.50
37:Ab:45:ILE:HD13	37:Ab:83:PHE:HE2	1.77	0.50
45:Aw:77:ASN:HA	73:1:106:A:H62	1.77	0.50
45:Aw:176:VAL:N	47:Aj:439:HIS:HD2	2.08	0.50
58:BZ:103:LYS:HG3	58:BZ:105:TYR:CE1	2.47	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
73:1:99:A:O2'	73:1:100:A:O4'	2.25	0.50
77:U8:45:ALA:O	77:U8:46:ALA:C	2.55	0.50
1:A:65:SER:HA	32:Ae:113:PRO:HB3	1.94	0.50
3:C:54:ARG:NH2	30:At:68:ASN:OD1	2.44	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
7:I:207:MET:HE2	31:Au:156:LEU:HD13	1.92	0.50
9:K:31:GLU:HB2	9:K:34:VAL:HG22	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
28:BE:111:PRO:O	41:Am:228:GLN:NE2	2.45	0.50
30:At:99:THR:OG1	40:Az:152:SER:O	2.29	0.50
34:Ah:111:TYR:HD1	34:Ah:115:ASN:HD22	1.58	0.50
34:Ah:233:PHE:HB3	34:Ah:235:ASP:OD1	2.12	0.50
35:Ap:32:GLN:HE21	42:As:96:TRP:HE1	1.59	0.50
35:Ap:97:ARG:HG2	35:Ap:101:GLN:HE21	1.77	0.50
35:Ap:110:SER:HB3	35:Ap:125:THR:HG22	1.93	0.50
39:BP:63:GLU:HB3	39:BP:65:LEU:HD23	1.94	0.50
42:As:126:GLU:OE1	42:As:129:ARG:NH1	2.45	0.50
48:Ar:111:PHE:HB2	48:Ar:195:ILE:HG13	1.94	0.50
55:Ax:128:ALA:C	55:Ax:134:GLN:HB3	2.37	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: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
77:U8:2:ALA:O	77:U8:3:ALA:C	2.54	0.50
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
27:BN:299:TYR:OH	27:BN:301:GLU:OE1	2.21	0.50
34:Ah:103:ASP:O	54:Bl:257:ARG:NH1	2.45	0.50
45:Aw:90:ARG:O	45:Aw:94:GLY:N	2.33	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
56:BS:296:GLY:C	56:BS:298:GLY:H	2.20	0.50
62:BU:328:LYS:HE2	73:1:917:U:N3	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
71:BR:277:ARG:C	71:BR:279:GLN:H	2.20	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
10:L:168:LYS:CG	38:Aa:126:GLU:HA	2.42	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
14:Q:60:VAL:HG11	53:Ag:60:LYS:HB3	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:532:LYS:HB3	21:CA:554:ARG:HA	1.94	0.49
25:BK:334:PHE:CE1	25:BK:338:MET:HE3	2.47	0.49
26:BQ:428:ARG:NH1	73:1:544:U:H1'	2.27	0.49
26:BQ:442:LEU:C	73:1:593:U:H3	2.20	0.49
29:BO:134:ARG:NH1	29:BO:148:ASP:O	2.45	0.49
35:Ap:108:PHE:HE1	35:Ap:128:ARG:HH11	1.60	0.49
41:Am:72:ASP:O	41:Am:85:THR:OG1	2.28	0.49
47:Aj:325:GLN:HE22	47:Aj:328:LYS:HD2	1.77	0.49
48:Ar:170:TYR:CZ	48:Ar:188:ARG:HD3	2.47	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
53:Ag:43:ARG:NH1	73:1:225:U:O2'	2.45	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
3:C:152:ARG:O	49:An:282:ARG:NE	2.42	0.49
4:E:203:LYS:HB2	51:Av:37:TYR:CD2	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
33:Af:127:GLN:OE1	33:Af:127:GLN:N	2.45	0.49
35:Ap:43:GLU:HA	35:Ap:46:PHE:CD1	2.47	0.49
36:Al:260:MET:HE3	36:Al:265:LYS:HE2	1.93	0.49
40:Az:77:LEU:HD23	40:Az:87:PRO:HB3	1.94	0.49
44:Ad:37:ALA:O	44:Ad:38:ALA:HB3	2.12	0.49
44:Ad:184:ARG:NH2	73:1:185:U:OP2	2.40	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
17:T:67:LYS:HZ3	17:T:83:PRO:C	2.21	0.49
25:BK:482:ALA:HB3	25:BK:484:SER:OG	2.12	0.49
38:Aa:153:GLU:O	38:Aa:155:THR:HG22	2.11	0.49
46:BH:82:HIS:CD2	46:BH:100:GLY:HA3	2.47	0.49
47:Aj:249:ARG:HD3	47:Aj:272:VAL:HG12	1.94	0.49
47:Aj:368:GLU:HG3	47:Aj:390:ARG:NH1	2.26	0.49
52:BM:115:ASN:OD1	52:BM:119:THR:OG1	2.24	0.49
52:BM:208:GLY:H	52:BM:211:LEU:HD23	1.77	0.49
55:Ax:53:HIS:HA	73:1:278:C:N1	2.28	0.49
55:Ax:131:PRO:C	55:Ax:133:THR:H	2.15	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
21:CA:216:ARG:HH12	44:Ad:28:PRO:HB2	1.76	0.49
27:BN:177:GLY:N	27:BN:180:SER:OG	2.45	0.49
36:Al:260:MET:C	36:Al:262:HIS:H	2.19	0.49
37:Ab:11:ARG:HG3	37:Ab:60:ILE:HB	1.94	0.49
47:Aj:201:LEU:HA	47:Aj:204:VAL:HG22	1.95	0.49
48:Ar:192:ARG:HD2	58:BZ:65:PHE:CE2	2.47	0.49
49:An:109:PHE:O	49:An:110:ALA:HB3	2.12	0.49
52:BM:101:LYS:HZ3	52:BM:103:ALA:HB3	1.77	0.49
53:Ag:103:PRO:HG2	53:Ag:106:ILE:HG12	1.93	0.49
55:Ax:97:MET:HE2	55:Ax:199:GLN:HG2	1.94	0.49
60:CD:38:ARG:C	60:CD:40:ARG:N	2.70	0.49
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
77:U8:40:ALA:O	77:U8:41:ALA:C	2.54	0.49
6:G:80:SER:OG	6:G:83:ASP:OD1	2.29	0.49
9:K:165:SER:HB2	47:Aj:198:TYR:CD1	2.39	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:216:ARG:NH2	44:Ad:28:PRO:HG2	2.27	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
34:Ah:104:ARG:NH1	54:Bl:150:THR:HG22	2.23	0.49
35:Ap:97:ARG:HD2	43:BG:1340:GLU:HB3	1.95	0.49
42:As:146:SER:HB3	42:As:147:GLN:HB3	1.93	0.49
48:Ar:22:ILE:CG2	48:Ar:41:LEU:HB2	2.43	0.49
48:Ar:106:THR:O	58:BZ:114:PHE:HB2	2.13	0.49
55:Ax:52:GLY:C	73:1:278:C:O4'	2.56	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:125:PHE:CE1	58:BZ:128:ARG:HD2	2.48	0.49
58:BZ:371:ILE:HG23	58:BZ:371:ILE:O	2.12	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
20:BA:102:PRO:HG3	33:Af:60:PHE:CD2	2.47	0.49
24:CB:89:GLU:HG3	24:CB:90:GLY:H	1.76	0.49
32:Ae:33:PRO:HB2	32:Ae:54:ASN:ND2	2.27	0.49
34:Ah:136:HIS:HB2	34:Ah:387:ARG:HH11	1.76	0.49
48:Ar:35:PHE:O	48:Ar:72:PRO:HG3	2.13	0.49
55:Ax:54:LYS:H	73:1:278:C:H5''	1.77	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: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
12:N:60:TRP:C	73:1:99:A:OP1	2.56	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
21:CA:561:PHE:C	21:CA:561:PHE:CD1	2.90	0.49
24:CB:114:LYS:HA	73:1:1134:U:OP1	2.13	0.49
27:BN:80:VAL:HA	35:Ap:46:PHE:HE2	1.78	0.49
34:Ah:392:ARG:O	34:Ah:396:PHE:N	2.33	0.49
36:Al:234:LEU:O	36:Al:238:ARG:N	2.42	0.49
40:Az:40:TRP:NE1	40:Az:99:ARG:HH11	2.04	0.49
48:Ar:27:THR:O	48:Ar:32:GLN:HB2	2.13	0.49
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:199:LYS:HZ1	25:BK:864:PHE:HB3	1.77	0.49
2:B:15:ARG:N	2:B:19:ASP:OD2	2.36	0.49
4:E:127:ARG:HD2	51:Av:24:PRO:HB2	1.94	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
19:Z:103:ASN:OD1	19:Z:103:ASN:N	2.43	0.49
23:BB:54:VAL:HB	32:Ae:108:LYS:HG2	1.94	0.49
25:BK:240:TYR:OH	73:1:1158:A:H8	1.96	0.49
26:BQ:188:ARG:HD2	26:BQ:228:PRO:HA	1.95	0.49
34:Ah:174:PHE:HB3	34:Ah:176:ASP:O	2.13	0.49
34:Ah:354:ASP:CG	34:Ah:363:VAL:HG12	2.38	0.49
39:BP:33:SER:H	39:BP:36:ARG:HB3	1.77	0.49
41:Am:119:GLU:OE2	41:Am:236:THR:OG1	2.25	0.49
49:An:174:ARG:O	49:An:178:LEU:HG	2.13	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
54:Bl:150:THR:OG1	54:Bl:151:VAL:N	2.44	0.49
57:BX:195:ASN:H	57:BX:220:THR:HG21	1.78	0.49
58:BZ:115:ASP:C	58:BZ:117:LEU:H	2.21	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
64:BV:281:MET:HE3	64:BV:285:TYR:HE2	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:R:348:LEU:HA	49:An:314:MET:HE1	1.94	0.49
16:S:255:GLY:HA2	33:Af:49:TYR:HA	1.95	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
29:BO:75:LYS:C	29:BO:77:VAL:H	2.20	0.49
49:An:101:ARG:HG2	49:An:105:TRP:HB3	1.95	0.49
53:Ag:58:LEU:O	53:Ag:62:ARG:HG2	2.13	0.49
54:Bl:107:ILE:O	54:Bl:177:TYR:OH	2.27	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
73:1:1174: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
18:V:74:LYS:NZ	21:CA:138:TYR:OH	2.35	0.49
21:CA:344:ARG:HG2	44:Ad:48:LEU:HD13	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
31:Au:125:GLU:CD	34:Ah:247:HIS:HB2	2.38	0.49
33:Af:134:LEU:HD11	47:Aj:362:LEU:HG	1.94	0.49
34:Ah:50:LYS:O	34:Ah:51:ALA:HB3	2.11	0.49
35:Ap:160:TYR:HE1	35:Ap:175:HIS:HE1	1.59	0.49
52:BM:255:ARG:HB3	52:BM:256:PRO:HD3	1.95	0.49
58:BZ:280:VAL:C	58:BZ:282:VAL:H	2.20	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
34:Ah:248:ASN:HB2	55:Ax:183:HIS:CD2	2.47	0.48
36:Al:193:ILE:HD11	36:Al:218:CYS:HB2	1.95	0.48
45:Aw:81:ARG:HH22	53:Ag:75:ARG:HH12	1.61	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:128:MET:HE2	57:BY:168:ASP:HB2	1.95	0.48
57:BY:212:TYR:OH	57:BX:334:SER:O	2.25	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
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
70:U5:78:ALA:C	70:U5:80:ALA:H	2.21	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
26:BQ:200:GLY:C	26:BQ:202:ASN:H	2.20	0.48
31:Au:112:MET:SD	31:Au:113:PRO:HD2	2.53	0.48
31:Au:136:ARG:HH11	31:Au:137:ASP:HB3	1.77	0.48
34:Ah:164:TYR:O	34:Ah:168:ILE:HG13	2.14	0.48
35:Ap:89:VAL:O	35:Ap:89:VAL:HG12	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
27:BN:157:GLN:NE2	73:1:1175:C:O2'	2.45	0.48
29:BO:121:LYS:HD3	29:BO:123:GLY:N	2.29	0.48
33:Af:130:TYR:OH	47:Aj:293:GLU:OE2	2.31	0.48
34:Ah:432:THR:HB	34:Ah:434:TRP:CE2	2.49	0.48
43:BG:1280:LEU:O	43:BG:1283:ARG:NH2	2.42	0.48
47:Aj:375:GLN:O	47:Aj:375:GLN:NE2	2.45	0.48
52:BM:366:VAL:HB	52:BM:374:LEU:HD13	1.95	0.48
55:Ax:49:PRO:C	64:BV:165:LEU:HD23	2.38	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:83:MET:HE2	24:CB:83:MET:HB3	1.77	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
29:BO:81:ALA:HA	29:BO:99:HIS:CE1	2.48	0.48
34:Ah:318:LYS:HB3	34:Ah:325:VAL:O	2.13	0.48
43:BG:1312:PRO:HB2	43:BG:1314:ASP:OD1	2.14	0.48
48:Ar:43:LYS:HB2	48:Ar:45:GLU:OE1	2.13	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
57:BX:80:ASP:OD1	57:BX:80:ASP:N	2.46	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:164:TYR:HE1	44:Ad:28:PRO:HD3	1.79	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
29:BO:87:ARG:C	29:BO:92:ARG:HG3	2.38	0.48
33:Af:46:GLU:OE2	33:Af:64:ARG:NE	2.43	0.48
43:BG:1323:LEU:HD23	43:BG:1326:ARG:NH1	2.28	0.48
47:Aj:422:LEU:HD12	47:Aj:422:LEU:O	2.13	0.48
47:Aj:491:ASN:HA	47:Aj:494:LYS:NZ	2.28	0.48
51:Av:50:ARG:HA	51:Av:53:PHE:CD2	2.49	0.48
51:Av:63:HIS:ND1	51:Av:63:HIS:O	2.45	0.48
52:BM:93:LEU:HD13	52:BM:127:HIS:CE1	2.48	0.48
55:Ax:53:HIS:H	73:1:277:A:H2'	1.79	0.48
56:BS:392:LEU:O	56:BS:396:THR:OG1	2.22	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
58:BZ:268:MET:HE2	58:BZ:270:PHE:HE1	1.79	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
61:BT:197:ARG:HH12	62:BU:462:LYS:HZ3	1.61	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
8:J:45:TRP:HA	42:As:66:CYS:SG	2.54	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
33:Af:129:GLU:HA	47:Aj:369:ARG:NH2	2.27	0.48
34:Ah:411:ASP:OD1	34:Ah:411:ASP:N	2.44	0.48
34:Ah:448:VAL:HG21	34:Ah:460:ARG:HH21	1.79	0.48
43:BG:1325:TRP:NE1	55:Ax:93:VAL:HG11	2.29	0.48
47:Aj:410:THR:O	47:Aj:410:THR:OG1	2.31	0.48
50:BF:57:TYR:HB2	50:BF:59:MET:HE3	1.96	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
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
73:1:473:U:O2'	73:1:474:U:H6	1.97	0.48
4:E:219:LYS:C	4:E:221:HIS:N	2.70	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
7:I:156:ASP:OD1	7:I:156:ASP:N	2.46	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
14:Q:88:THR:OG1	36:Al:282:GLN:NE2	2.33	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BK:646:SER:HG	25:BK:756:SER:H	1.55	0.48
25:BK:779:ASP:OD2	37:Ab:95:HIS:NE2	2.46	0.48
34:Ah:266:PHE:HA	34:Ah:271:GLN:HE21	1.78	0.48
37:Ab:135:ARG:HB3	37:Ab:135:ARG:HH11	1.78	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
44:Ad:113:HIS:CE1	44:Ad:116:SER:HA	2.49	0.48
46:BH:128:VAL:O	46:BH:159:VAL:HG12	2.13	0.48
49:An:146:ARG:HD3	49:An:154:LEU:HD22	1.95	0.48
49:An:205:ILE:O	49:An:209:LEU:HG	2.14	0.48
53:Ag:38:LYS:HB3	73:1:85:U:H5'	1.94	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:211:GLY:C	62:BU:213:GLU:H	2.21	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
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
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
25:BK:672:THR:HG22	25:BK:714:MET:HE2	1.94	0.48
34:Ah:240:ASP:OD1	34:Ah:241:TYR:N	2.46	0.48
36:Al:192:LEU:HA	52:BM:190:LYS:NZ	2.29	0.48
44:Ad:43:GLY:HA2	73:1:201:U:C2	2.48	0.48
46:BH:32:ASP:O	46:BH:190:SER:OG	2.24	0.48
47:Aj:421:VAL:HG13	47:Aj:422:LEU:H	1.79	0.48
54:Bl:236:GLY:O	54:Bl:240:VAL:HG22	2.14	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
57:BX:316:PRO:C	57:BX:318:PRO:HD2	2.39	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
60:CD:104:SER:OG	60:CD:105:ARG:N	2.44	0.48
61:BT:77:GLU:CD	61:BT:79:ARG:HG3	2.39	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
61:BT:205:VAL:C	61:BT:207:ILE:H	2.21	0.48
63:BW:159:HIS:HA	79:BW:801:ATP:O3G	2.13	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
64:BV:137:GLN:CD	64:BV:150:THR:HG21	2.39	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:22:GLY:C	4:E:24:ASN:OD1	2.57	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
33:Af:47:PRO:HA	39:BP:70:PRO:HB3	1.95	0.48
34:Ah:294:PRO:HA	34:Ah:381:ARG:HH22	1.77	0.48
34:Ah:296:HIS:CG	34:Ah:299:LEU:HD12	2.49	0.48
39:BP:-10:ARG:HB3	39:BP:-9:PRO:HD3	1.95	0.48
44:Ad:135:ASP:OD1	44:Ad:136:SER:N	2.47	0.48
48:Ar:156:ARG:HG3	48:Ar:157:THR:HG23	1.95	0.48
49:An:131:GLU:CG	49:An:180:ARG:HH11	2.26	0.48
49:An:198:LEU:HD22	49:An:204:ILE:HG23	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
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
58:BZ:358:ALA:O	58:BZ:359:ARG:C	2.56	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:10:HIS:HE1	37:Ab:15:SER:HB3	1.78	0.48
2:B:13:ALA:HB3	11:M:106:MET:SD	2.53	0.48
2:B:350:PRO:HG2	44:Ad:140:TYR:OH	2.14	0.48
4:E:207:GLU:OE1	4:E:207:GLU:N	2.45	0.48
6:G:38:ASN:O	33:Af:107:GLN:NE2	2.46	0.48
6:G:45:ARG:NH2	33:Af:145:VAL:O	2.47	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
11:M:221:TYR:OH	26:BQ:29:ASN:O	2.28	0.48
15:R:89:GLU:O	15:R:93:ASN:N	2.43	0.48
15:R:164:PHE:HB2	49:An:300:PHE:CD2	2.49	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
27:BN:141:ARG:O	27:BN:285:LYS:NZ	2.25	0.48
33:Af:114:PRO:HA	46:BH:156:PHE:CZ	2.48	0.48
34:Ah:91:TRP:CD1	49:An:92:TYR:HD1	2.32	0.48
34:Ah:385:ASN:HA	34:Ah:392:ARG:HH21	1.79	0.48
40:Az:36:HIS:HB3	73:1:63:G:C6	2.49	0.48
43:BG:1262:CYS:HB3	43:BG:1299:MET:HG3	1.96	0.48
44:Ad:41:LEU:HD23	44:Ad:41:LEU:H	1.79	0.48
46:BH:105:SER:OG	46:BH:109:TYR:O	2.22	0.48
47:Aj:338:ARG:HH22	73:1:332:U:P	2.37	0.48
51:Av:33:VAL:HG13	51:Av:34:TYR:HD1	1.78	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
4:E:23:SER:HB2	51:Av:104:THR:HG21	1.95	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:Q:158:ARG:HE	40:Az:92:TYR:HB3	1.79	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:42:SER:C	29:BO:44:ARG:H	2.22	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
32:Ae:66:ALA:HB3	41:Am:48:HIS:HB2	1.95	0.47
33:Af:46:GLU:OE1	33:Af:50:ARG:NH1	2.37	0.47
36:Al:178:THR:HG21	52:BM:259:LYS:HG3	1.96	0.47
43:BG:1315:THR:N	43:BG:1316:PRO:HD2	2.29	0.47
44:Ad:119:SER:O	44:Ad:123:PRO:HD2	2.14	0.47
45:Aw:26:TYR:HB2	45:Aw:107:ILE:HG21	1.96	0.47
45:Aw:178:ASP:O	47:Aj:434:TYR:OH	2.21	0.47
52:BM:162:VAL:HG23	52:BM:162:VAL:O	2.14	0.47
54:Bl:222:HIS:CD2	54:Bl:223:LEU:HG	2.49	0.47
55:Ax:81:ARG:HE	55:Ax:87:PRO:HG3	1.78	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
62:BU:294:ASP:C	62:BU:296:GLU:H	2.21	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
71:BR:283:GLU:C	71:BR:287:ARG:HH11	2.22	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
23:BB:42:LYS:C	23:BB:42:LYS:CD	2.86	0.47
24:CB:148:LYS:HZ3	29:BO:165:ARG:HD2	1.78	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BN:181:ARG:CZ	27:BN:185:GLU:H	2.26	0.47
27:BN:234:GLU:HG3	27:BN:235:GLN:N	2.28	0.47
33:Af:132:THR:O	33:Af:135:ARG:NH1	2.47	0.47
34:Ah:247:HIS:O	55:Ax:144:LYS:NZ	2.42	0.47
37:Ab:52:TRP:CG	73:1:509:U:C2	3.02	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
55:Ax:68:LYS:HD2	55:Ax:80:ALA:HB3	1.95	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
15:R:322:HIS:CD2	30:At:86:ARG:HB2	2.50	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
31:Au:140:LEU:HB3	50:BF:39:LEU:HD21	1.97	0.47
33:Af:48:TYR:CG	39:BP:67:PRO:HD2	2.49	0.47
35:Ap:196:MET:HG2	35:Ap:218:MET:HG2	1.96	0.47
39:BP:49:GLN:O	39:BP:53:SER:HB3	2.14	0.47
41:Am:80:ASP:OD1	41:Am:80:ASP:N	2.47	0.47
43:BG:1299:MET:SD	55:Ax:92:ASP:HB2	2.55	0.47
53:Ag:125:HIS:HE1	53:Ag:143:ARG:HD2	1.77	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
60:CD:62:GLU:HG2	60:CD:65:CYS:HB3	1.95	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
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
2:B:57:GLN:NE2	45:Aw:162:PRO:HD2	2.29	0.47
6:G:304:ASP:O	6:G:305:GLU:HB3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
27:BN:101:ILE:HG13	42:As:65:GLU:HG3	1.95	0.47
34:Ah:104:ARG:HH22	54:Bl:164:ASP:C	2.22	0.47
35:Ap:64:LEU:HD11	35:Ap:108:PHE:CD2	2.49	0.47
35:Ap:178:LEU:HG	35:Ap:182:GLN:HB3	1.95	0.47
42:As:115:LYS:HB3	42:As:115:LYS:HE3	1.68	0.47
42:As:129:ARG:HB3	42:As:129:ARG:CZ	2.44	0.47
44:Ad:128:TYR:O	45:Aw:23:ILE:HG23	2.15	0.47
46:BH:183:PRO:HB2	46:BH:185:SER:O	2.14	0.47
48:Ar:20:ILE:HG13	48:Ar:59:PRO:HD3	1.96	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
53:Ag:96:THR:O	53:Ag:96:THR:OG1	2.26	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
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
15:R:128:PRO:HG3	54:Bl:213:PHE:CD2	2.49	0.47
25:BK:728:TYR:CZ	25:BK:730:ASP:HB3	2.49	0.47
30:At:14:LYS:HE2	30:At:14:LYS:HB3	1.75	0.47
37:Ab:154:LYS:NZ	41:Am:101:TYR:OH	2.26	0.47
38:Aa:73:GLU:C	38:Aa:75:ARG:H	2.21	0.47
38:Aa:77:ASP:O	39:BP:-6:ARG:NE	2.40	0.47
48:Ar:162:LEU:HD23	48:Ar:195:ILE:HG22	1.96	0.47
49:An:160:ARG:HA	49:An:163:ILE:HG12	1.96	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:Ax:201:PHE:CG	55:Ax:202:PRO:HD3	2.50	0.47
62:BU:290:ARG:HG3	62:BU:290:ARG:O	2.14	0.47
63:BW:543:LYS:HB2	75:R2:16:U:O4	2.14	0.47
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
7:I:47:ASP:HB2	7:I:54:LYS:HZ3	1.79	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
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
34:Ah:186:GLU:HG2	34:Ah:195:LEU:C	2.39	0.47
34:Ah:389:ASN:HD21	49:An:195:ARG:HD2	1.80	0.47
34:Ah:419:LEU:O	34:Ah:423:THR:N	2.45	0.47
34:Ah:456:PHE:HA	34:Ah:459:TYR:HB3	1.96	0.47
35:Ap:39:ASN:N	42:As:73:GLY:O	2.41	0.47
36:Al:113:LEU:C	36:Al:115:GLU:H	2.21	0.47
49:An:200:SER:O	49:An:204:ILE:HG13	2.13	0.47
53:Ag:88:GLU:OE1	53:Ag:88:GLU:N	2.48	0.47
56:BS:378:HIS:HB2	56:BS:385:PRO:HA	1.97	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
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
7:I:204:HIS:CD2	7:I:205:MET:HE2	2.49	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:82:SER:HB2	15:R:86:MET:HE3	1.97	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
24:CB:123:GLU:HG3	29:BO:181:LYS:HZ3	1.80	0.47
25:BK:454:LEU:C	25:BK:456:ALA:N	2.73	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
31:Au:138:ARG:HH12	73:1:592:A:H62	1.63	0.47
32:Ae:147:TYR:HB2	32:Ae:150:HIS:CD2	2.50	0.47
34:Ah:95:TYR:HE2	49:An:207:PHE:HE1	1.62	0.47
36:Al:141:GLU:C	36:Al:145:ARG:HH11	2.22	0.47
37:Ab:126:ARG:O	37:Ab:127:HIS:ND1	2.48	0.47
41:Am:234:SER:OG	41:Am:235:PHE:N	2.47	0.47
42:As:119:LEU:HD23	73:1:1175:C:C5	2.50	0.47
42:As:147:GLN:N	42:As:148:LEU:HB2	2.30	0.47
44:Ad:122:SER:N	44:Ad:123:PRO:CD	2.78	0.47
53:Ag:75:ARG:NH1	73:1:107:U:C4	2.83	0.47
54:Bl:157:GLY:H	54:Bl:244:GLU:CD	2.22	0.47
55:Ax:152:ILE:HG12	55:Ax:166:CYS:HA	1.96	0.47
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: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
58:BZ:377:ASN:C	58:BZ:377:ASN:OD1	2.57	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:177:SER:OG	61:BT:178:THR:N	2.47	0.47
61:BT:283:MET:O	61:BT:286:CYS:HB3	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BU:58:LYS:O	62:BU:60:ILE:N	2.47	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
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
3:C:48:ARG:HE	40:Az:136:PHE:HD1	1.63	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
21:CA:349:ALA:HB2	44:Ad:33:MET:CG	2.45	0.47
22:UA:199:ALA:HB1	35:Ap:163:SER:HB2	1.97	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
37:Ab:32:HIS:CE1	45:Aw:183:PRO:HB2	2.50	0.47
38:Aa:172:HIS:CE1	38:Aa:174:LYS:HB3	2.50	0.47
44:Ad:188:ILE:HD12	44:Ad:188:ILE:HA	1.82	0.47
46:BH:35:ALA:O	46:BH:36:GLU:HG2	2.15	0.47
47:Aj:227:TYR:HB3	47:Aj:252:LEU:HD13	1.96	0.47
47:Aj:417:ARG:O	47:Aj:421:VAL:HG12	2.14	0.47
52:BM:177:ARG:HH11	52:BM:181:PRO:HD3	1.79	0.47
54:Bl:141:LEU:O	54:Bl:143:GLN:NE2	2.48	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
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
73:1:848:U:HO2'	73:1:849:U:C5'	2.26	0.47
2:B:148:ARG:NE	2:B:167:ARG:O	2.47	0.47
2:B:384:ARG:NE	30:At:108:MET:HG2	2.30	0.47
2:B:414:VAL:HG22	2:B:421:VAL:HG22	1.95	0.47
4:E:95:LYS:HA	51:Av:92:LYS:HD3	1.95	0.47
4:E:218:ARG:HB2	51:Av:109:PHE:CD2	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:46:LEU:HD13	33:Af:153:SER:HB3	1.97	0.47
13:O:305:ARG:HB2	49:An:244:HIS:HE1	1.80	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
26:BQ:434:GLY:O	31:Au:145:ARG:HD3	2.15	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
32:Ae:28:GLN:HB3	32:Ae:29:PRO:HD2	1.97	0.47
32:Ae:159:ARG:CZ	32:Ae:272:ALA:HB2	2.45	0.47
34:Ah:146:MET:HB2	34:Ah:146:MET:HE3	1.59	0.47
34:Ah:306:PRO:HB2	34:Ah:309:SER:HB2	1.97	0.47
34:Ah:313:LEU:O	34:Ah:317:LEU:HG	2.15	0.47
37:Ab:25:MET:O	37:Ab:29:MET:HG3	2.15	0.47
40:Az:85:ASN:N	40:Az:85:ASN:OD1	2.47	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
55:Ax:53:HIS:CE1	73:1:259:U:H2'	2.50	0.47
55:Ax:159:SER:HA	55:Ax:164:ALA:HA	1.96	0.47
57:BY:111:ARG:HG3	57:BY:139:LEU:HB3	1.96	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
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:73:SER:OG	26:BQ:74:TYR:N	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BQ:185:ARG:HA	26:BQ:228:PRO:HG3	1.97	0.47
32:Ae:179:GLU:HG2	32:Ae:236:TRP:O	2.15	0.47
34:Ah:49:TYR:CE1	34:Ah:53:ASP:HB3	2.49	0.47
34:Ah:186:GLU:HB2	34:Ah:194:THR:HG23	1.95	0.47
34:Ah:242:LEU:O	34:Ah:244:ARG:N	2.47	0.47
35:Ap:94:ARG:NH1	43:BG:1344:LYS:HZ1	2.13	0.47
36:Al:132:SER:OG	36:Al:133:GLN:N	2.47	0.47
36:Al:291:ASP:N	36:Al:291:ASP:OD1	2.47	0.47
38:Aa:117:ARG:HA	38:Aa:147:ILE:HD11	1.97	0.47
41:Am:196:PRO:O	41:Am:197:GLU:HB2	2.15	0.47
41:Am:295:TYR:O	41:Am:295:TYR:CD1	2.68	0.47
44:Ad:57:SER:HA	44:Ad:138:VAL:HG22	1.97	0.47
47:Aj:131:LEU:O	47:Aj:281:GLN:NE2	2.47	0.47
47:Aj:341:ASN:ND2	73:1:356:A:N7	2.63	0.47
49:An:198:LEU:HD21	49:An:207:PHE:HB2	1.97	0.47
51:Av:36:PRO:HD3	51:Av:78:THR:HB	1.97	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
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
5:F:141:ARG:NH2	37:Ab:119:ASN:O	2.48	0.46
10:L:133:LYS:NZ	38:Aa:92:SER:O	2.48	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
14:Q:122:MET:HE3	14:Q:122:MET:HB2	1.72	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
25:BK:401:LEU:CD1	25:BK:438:MET:HE3	2.45	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
38:Aa:70:THR:HG23	38:Aa:72:VAL:HG22	1.96	0.46
43:BG:1319:SER:O	43:BG:1323:LEU:HG	2.15	0.46
48:Ar:26:ARG:CB	48:Ar:41:LEU:HA	2.42	0.46
48:Ar:98:LEU:O	48:Ar:102:TRP:N	2.39	0.46
49:An:110:ALA:O	49:An:112:VAL:N	2.48	0.46
51:Av:57:TYR:CE1	51:Av:66:MET:HE1	2.50	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:596:PRO:C	25:BK:598:THR:H	2.23	0.46
25:BK:826:ARG:CZ	73:1:1166:G:H5'	2.45	0.46
33:Af:59:ALA:HB2	33:Af:87:LEU:HB3	1.97	0.46
36:Al:272:GLU:CD	36:Al:272:GLU:O	2.58	0.46
37:Ab:13:ILE:N	37:Ab:58:THR:O	2.40	0.46
41:Am:77:ASN:N	41:Am:77:ASN:OD1	2.47	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:1:203:A:N3	73:1:203:A:OP2	2.49	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
9:K:117:ARG:NH1	38:Aa:81:ASN:HD22	2.14	0.46
11:M:39:LYS:NZ	11:M:44:SER:O	2.27	0.46
12:N:100:ARG:HA	40:Az:25:GLN:HE22	1.81	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
13:O:228:GLU:CD	13:O:238:LEU:HB3	2.41	0.46
16:S:255:GLY:O	16:S:315:LEU:HG	2.16	0.46
21:CA:216:ARG:NH1	44:Ad:28:PRO:HB2	2.30	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
31:Au:164:CYS:HB3	31:Au:169:VAL:O	2.15	0.46
32:Ae:92:ARG:HG3	32:Ae:98:GLN:HG3	1.97	0.46
32:Ae:259:VAL:O	32:Ae:263:ALA:N	2.49	0.46
34:Ah:199:GLN:HG2	50:BF:105:ARG:O	2.15	0.46
35:Ap:47:LYS:HA	35:Ap:47:LYS:HD3	1.81	0.46
43:BG:1325:TRP:CD1	55:Ax:93:VAL:HG11	2.51	0.46
44:Ad:61:ARG:N	44:Ad:230:HIS:HE1	2.10	0.46
45:Aw:128:THR:OG1	45:Aw:129:PRO:HD2	2.16	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
14:Q:155:ARG:HD3	40:Az:45:MET:SD	2.55	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:T:41:LYS:HE3	17:T:41:LYS:HB3	1.63	0.46
21:CA:302:PRO:O	21:CA:305:SER:OG	2.26	0.46
21:CA:495:ASP:HB3	21:CA:496:PRO:HD3	1.97	0.46
22:UA:83:ALA:CA	55:Ax:127:ASN:HB2	2.44	0.46
30:At:65:SER:O	30:At:69:ASN:ND2	2.48	0.46
31:Au:153:TYR:O	31:Au:156:LEU:N	2.47	0.46
32:Ae:289:GLN:NE2	67:U1:16:ALA:O	2.47	0.46
34:Ah:178:ASN:O	54:Bl:131:ILE:HD11	2.16	0.46
34:Ah:186:GLU:N	34:Ah:194:THR:O	2.45	0.46
37:Ab:75:SER:O	37:Ab:79:ILE:HG13	2.16	0.46
42:As:132:ILE:O	42:As:136:LYS:N	2.43	0.46
43:BG:1268:GLN:HE22	43:BG:1285:ASP:CG	2.24	0.46
48:Ar:19:TYR:N	48:Ar:43:LYS:HB3	2.25	0.46
48:Ar:104:VAL:HB	48:Ar:191:VAL:HG12	1.97	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
14:Q:158:ARG:HH21	40:Az:92:TYR:HB3	1.80	0.46
15:R:236:GLY:C	15:R:238:ARG:H	2.23	0.46
16:S:376:GLU:HG2	47:Aj:391:LYS:HD2	1.98	0.46
17:T:81:ILE:HG23	17:T:83:PRO:HD3	1.98	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
34:Ah:326:ALA:O	34:Ah:328:ASP:N	2.44	0.46
42:As:183:LEU:HG	42:As:187:ARG:HH21	1.79	0.46
47:Aj:328:LYS:HG3	47:Aj:427:THR:HG23	1.97	0.46
49:An:220:GLN:OE1	49:An:220:GLN:N	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:Bl:136:PHE:CG	54:Bl:137:ARG:N	2.84	0.46
54:Bl:251:ALA:HB3	54:Bl:253:GLU:HG2	1.96	0.46
55:Ax:148:CYS:HB3	55:Ax:169:CYS:HB2	1.79	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
2:B:384:ARG:HE	30:At:109:VAL:CG1	2.29	0.46
6:G:340:LYS:NZ	53:Ag:144:GLN:HG2	2.31	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
13:O:310:MET:HE3	13:O:314:GLN:NE2	2.30	0.46
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
29:BO:71:ASN:HB3	29:BO:167:MET:HE2	1.97	0.46
32:Ae:95:ARG:HA	32:Ae:95:ARG:HD3	1.69	0.46
34:Ah:179:THR:OG1	34:Ah:180:LEU:N	2.49	0.46
34:Ah:197:MET:O	34:Ah:202:ARG:NH1	2.48	0.46
34:Ah:384:GLN:O	34:Ah:392:ARG:NH2	2.49	0.46
41:Am:294:VAL:HG23	67:U1:25:ALA:HB3	1.97	0.46
42:As:148:LEU:HD13	42:As:151:ARG:HH11	1.80	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
61:BT:77:GLU:CD	61:BT:79:ARG:HE	2.23	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
14:Q:47:ASN:ND2	36:Al:294:LEU:HD21	2.31	0.46
21:CA:101:ALA:HB1	21:CA:217:HIS:CE1	2.51	0.46
21:CA:489:LEU:HD23	21:CA:489:LEU:C	2.40	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
31:AU:183:GLU:CD	43:BG:1344:LYS:HE2	2.40	0.46
49:AN:128:LYS:HD2	49:AN:128:LYS:HA	1.82	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
2:B:256:LEU:HD12	30:At:117:GLU:HA	1.98	0.46
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
13:O:30:TYR:O	13:O:31:ARG:C	2.58	0.46
15:R:61:LEU:HD21	15:R:83:ARG:HD2	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:T:56:GLU:O	17:T:68:LYS:NZ	2.49	0.46
21:CA:164:TYR:CE1	44:Ad:26:HIS:O	2.68	0.46
21:CA:485:SER:O	21:CA:486:LEU:C	2.58	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
36:Al:113:LEU:O	36:Al:114:LEU:HB3	2.15	0.46
37:Ab:45:ILE:HG22	37:Ab:47:ILE:HG23	1.98	0.46
39:BP:-41:ARG:NH1	39:BP:-38:TYR:O	2.49	0.46
45:Aw:74:LYS:HD3	73:1:109:U:C2	2.51	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:4:GLN:HG2	5:F:5:TRP:N	2.29	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
25:BK:438:MET:HE2	25:BK:438:MET:HB2	1.85	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
34:Ah:214:ARG:HA	34:Ah:217:LEU:HB3	1.96	0.46
36:Al:172:LEU:HD22	52:BM:186:GLU:HG2	1.98	0.46
44:Ad:157:VAL:HG12	44:Ad:188:ILE:CD1	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BH:80:PRO:HA	46:BH:188:TRP:HA	1.97	0.46
49:An:213:THR:HA	49:An:216:ARG:HG3	1.98	0.46
56:BS:395:ALA:O	56:BS:398:TYR:HB3	2.16	0.46
62:BU:228:TYR:O	62:BU:230:ARG:HG3	2.16	0.46
62:BU:385:ALA:O	62:BU:386:HIS:C	2.59	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
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:49:VAL:HB	30:At:150:ARG:HH12	1.81	0.46
2:B:188:MET:HE2	2:B:188:MET:HB2	1.73	0.46
2:B:242:HIS:CD2	11:M:59:ARG:HH11	2.34	0.46
3:C:217:LEU:HD21	52:BM:1:MET:H3	1.81	0.46
4:E:225:TYR:HD1	4:E:229:LYS:HZ3	1.63	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
11:M:56:SER:HB3	30:At:33:ASN:HD21	1.80	0.46
12:N:63:ARG:HH12	14:Q:91:GLN:HB3	1.81	0.46
12:N:76:TYR:C	12:N:78:ARG:N	2.73	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
33:Af:15:TRP:NE1	33:Af:16:ARG:HH21	2.13	0.46
33:Af:134:LEU:HD23	33:Af:134:LEU:HA	1.65	0.46
34:Ah:235:ASP:OD1	34:Ah:235:ASP:N	2.28	0.46
39:BP:-42:TYR:CE1	39:BP:-40:SER:HB3	2.51	0.46
44:Ad:235:LEU:HD23	44:Ad:237:PHE:CD2	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
52:BM:202:SER:HG	52:BM:204:THR:HG1	1.61	0.46
55:Ax:53:HIS:HA	73:1:278:C:C6	2.50	0.46
55:Ax:72:LEU:HD12	55:Ax:198:GLY:HA3	1.96	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:43:HIS:C	71:BR:45:SER:H	2.24	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
2:B:87:LYS:HE3	45:Aw:145:ASN:HB2	1.98	0.45
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
6:G:332:THR:HG21	36:Al:252:TYR:OH	2.16	0.45
11:M:68:ARG:HH12	73:1:122:U:H3'	1.81	0.45
15:R:261:ALA:HB3	30:At:108:MET:SD	2.56	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
30:At:112:ARG:HE	30:At:112:ARG:HB2	1.58	0.45
32:Ae:181:VAL:HG22	32:Ae:234:VAL:HG22	1.97	0.45
42:As:133:THR:OG1	42:As:134:PRO:HD3	2.16	0.45
49:An:109:PHE:HE2	49:An:114:LEU:HD23	1.79	0.45
49:An:317:ILE:HA	49:An:320:ALA:HB3	1.97	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
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
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
3:C:147:GLU:HG3	34:Ah:49:TYR:OH	2.15	0.45
4:E:21:PRO:HB2	51:Av:103:TRP:N	2.31	0.45
4:E:123:TRP:HB2	51:Av:23:LYS:HB2	1.97	0.45
6:G:126:TYR:CZ	70:U5:91:ALA:HB3	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
12:N:108:LYS:HA	40:Az:35:LEU:HD13	1.98	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
34:Ah:98:GLN:N	34:Ah:98:GLN:OE1	2.49	0.45
36:Al:216:SER:HA	36:Al:220:GLU:HG2	1.98	0.45
52:BM:41:PRO:HD2	52:BM:109:THR:HG22	1.98	0.45
54:Bl:158:TYR:OH	54:Bl:222:HIS:NE2	2.48	0.45
54:Bl:216:THR:OG1	54:Bl:244:GLU:OE2	2.22	0.45
55:Ax:147:ASN:OD1	55:Ax:148:CYS:N	2.49	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
72:U2:1:ALA:HB3	77:U8:41:ALA:C	2.38	0.45
73:1:167:U:O2	73:1:167:U:H2'	2.15	0.45
1:A:36:ARG:CZ	32:Ae:31:LEU:HD11	2.47	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
6:G:310:HIS:O	36:Al:228:PRO:HB2	2.17	0.45
7:I:227:LEU:HD13	50:BF:88:TYR:HE2	1.81	0.45
8:J:99:MET:HE2	29:BO:147:PHE:CE2	2.51	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
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
25:BK:792:LEU:HD23	25:BK:797:LEU:HD23	1.99	0.45
37:Ab:80:ASN:HA	37:Ab:83:PHE:HB2	1.97	0.45
39:BP:35:LYS:HE2	73:1:495:A:OP2	2.16	0.45
40:Az:112:TRP:N	40:Az:112:TRP:CD1	2.84	0.45
41:Am:183:VAL:O	41:Am:187:LEU:N	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:An:198:LEU:HD22	49:An:204:ILE:HG12	1.97	0.45
52:BM:376:ILE:O	52:BM:380:THR:HG23	2.16	0.45
54:Bl:240:VAL:HG12	54:Bl:243:ILE:HD12	1.99	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
62:BU:456:GLU:H	62:BU:490:LYS:NZ	2.13	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
5:F:54:ILE:HD13	5:F:99:MET:HE3	1.99	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
10:L:141:ASP:N	10:L:141:ASP:OD1	2.47	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
33:Af:54:PHE:HA	33:Af:91:ARG:HH11	1.79	0.45
36:Al:112:LEU:O	36:Al:115:GLU:HB2	2.16	0.45
38:Aa:70:THR:CG2	38:Aa:72:VAL:HG22	2.46	0.45
41:Am:86:PRO:C	41:Am:88:ALA:H	2.22	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
51:Av:113:ILE:HG13	51:Av:114:VAL:N	2.31	0.45
52:BM:17:ARG:HD2	52:BM:17:ARG:HA	1.79	0.45
55:Ax:129:ARG:N	55:Ax:134:GLN:O	2.45	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
62:BU:456:GLU:H	62:BU:490:LYS:HZ3	1.65	0.45
63:BW:237:MET:HE3	63:BW:256:LEU:HD13	1.99	0.45
63:BW:613:GLN:H	63:BW:613:GLN:HG2	1.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:237:VAL:HG11	1:A:332:PHE:CD2	2.52	0.45
3:C:29:GLY:H	40:Az:128:GLN:NE2	2.13	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
19:Z:52:TRP:HB2	19:Z:57:ALA:HB2	1.98	0.45
21:CA:252:LEU:HD21	21:CA:606:MET:HE1	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
31:Au:119:VAL:HG12	50:BF:106:ILE:HD12	1.97	0.45
33:Af:64:ARG:CB	33:Af:64:ARG:NH1	2.80	0.45
36:Al:269:GLU:OE2	36:Al:270:PRO:HD2	2.17	0.45
45:Aw:81:ARG:HD3	73:1:106:A:C2	2.46	0.45
48:Ar:35:PHE:HE1	48:Ar:94:LYS:HZ3	1.63	0.45
48:Ar:96:GLN:O	48:Ar:100:VAL:HG23	2.17	0.45
48:Ar:166:TRP:CD1	48:Ar:190:LYS:HG3	2.52	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
54:Bl:163:GLY:O	54:Bl:210:SER:OG	2.23	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
64:BV:313:LEU:C	64:BV:315:GLN:H	2.23	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:90:PRO:O	40:Az:28:ARG:HB2	2.16	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
32:Ae:188:LEU:HD12	32:Ae:188:LEU:H	1.81	0.45
35:Ap:65:SER:O	35:Ap:69:ARG:HG3	2.16	0.45
35:Ap:140:ALA:HA	35:Ap:143:GLN:HB3	1.98	0.45
41:Am:206:ALA:HB1	41:Am:212:MET:HB2	1.99	0.45
45:Aw:11:PHE:O	45:Aw:14:VAL:HG13	2.16	0.45
48:Ar:29:LEU:HD12	48:Ar:32:GLN:HA	1.99	0.45
51:Av:61:MET:HG3	51:Av:62:GLU:N	2.29	0.45
53:Ag:116:ARG:HA	53:Ag:118:TYR:CE1	2.52	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
66:U6:50:ALA:H	66:U6:54:ALA:HA	1.82	0.45
73:1:143:A:HO2'	73:1:836:U:H3	1.58	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
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:64:MET:HE3	14:Q:48:ARG:CD	2.45	0.45
12:N:194:ARG:H	12:N:224:GLU:HB3	1.81	0.45
14:Q:45:TRP:CH2	36:Al:274:VAL:HG12	2.51	0.45
16:S:278:ARG:HD2	16:S:278:ARG:HA	1.72	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:S:330:PHE:HD1	39:BP:51:ILE:HG23	1.82	0.45
16:S:375:LEU:HD22	47:Aj:390:ARG:HD3	1.98	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
29:BO:91:CYS:C	29:BO:93:VAL:H	2.25	0.45
30:At:81:GLU:HB3	30:At:91:VAL:HG21	1.99	0.45
30:At:167:PRO:O	45:Aw:166:ARG:NH1	2.49	0.45
36:Al:130:TYR:HB2	36:Al:180:TRP:HD1	1.81	0.45
41:Am:48:HIS:HB3	41:Am:49:PRO:HD3	1.99	0.45
41:Am:263:HIS:HB2	41:Am:302:PRO:HG3	1.98	0.45
44:Ad:182:TYR:HD1	44:Ad:183:MET:O	2.00	0.45
47:Aj:256:PHE:CD1	47:Aj:261:ARG:HD2	2.52	0.45
52:BM:124:TYR:HD1	52:BM:282:ARG:HG3	1.81	0.45
54:Bl:81:HIS:HB2	54:Bl:266:LEU:HB2	1.99	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
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
4:E:148:TYR:C	4:E:149:LEU:HD12	2.41	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:469:THR:C	21:CA:471:SER:N	2.75	0.45
21:CA:539:GLN:HE22	63:BW:190:ARG:HH12	1.65	0.45
25:BK:485:LEU:HG	25:BK:486:THR:N	2.32	0.45
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:685:TYR:OH	38:Aa:182:PRO:HD2	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:97:ARG:C	27:BN:99:ARG:H	2.25	0.45
27:BN:202:LEU:HD13	42:As:51:ARG:NH2	2.31	0.45
27:BN:291:LEU:HD23	27:BN:291:LEU:HA	1.78	0.45
32:Ae:154:HIS:H	32:Ae:154:HIS:CD2	2.34	0.45
33:Af:34:ARG:NH2	48:Ar:125:PRO:O	2.47	0.45
34:Ah:163:ARG:HD3	34:Ah:282:PRO:HD3	1.99	0.45
35:Ap:114:ASP:HB3	35:Ap:117:THR:OG1	2.17	0.45
35:Ap:172:LYS:H	35:Ap:172:LYS:HG2	1.54	0.45
35:Ap:176:PHE:HA	35:Ap:179:LEU:HB2	1.98	0.45
36:Al:98:GLN:HB3	36:Al:170:GLU:OE2	2.16	0.45
41:Am:124:GLU:OE1	41:Am:124:GLU:N	2.49	0.45
44:Ad:221:ASN:OD1	44:Ad:221:ASN:N	2.48	0.45
47:Aj:299:GLU:HG2	47:Aj:373:PHE:CE1	2.52	0.45
52:BM:128:LEU:HD13	52:BM:278:LEU:HG	1.99	0.45
54:Bl:112:PHE:HA	54:Bl:115:LEU:HD12	1.99	0.45
57:BY:271:LEU:HD12	57:BY:271:LEU:HA	1.87	0.45
58:BZ:98:ARG:NH2	58:BZ:98:ARG:C	2.74	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
73:1:471:A:O2'	73:1:472:A:OP2	2.28	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
4:E:120:PRO:O	51:Av:23:LYS:HD3	2.17	0.45
6:G:198:TYR:CD2	45:Aw:5:ALA:HA	2.52	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
13:O:141:THR:O	13:O:141:THR:OG1	2.35	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
24:CB:163:ALA:O	24:CB:164:PRO:C	2.60	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BN:93:VAL:HG12	27:BN:95:SER:H	1.80	0.45
28:BE:83:SER:HB2	41:Am:303:TRP:CE3	2.52	0.45
34:Ah:368:PRO:O	34:Ah:372:GLU:HG2	2.16	0.45
34:Ah:385:ASN:HD22	34:Ah:396:PHE:HD1	1.65	0.45
36:Al:262:HIS:CD2	36:Al:263:LEU:HG	2.52	0.45
37:Ab:35:GLU:OE1	45:Aw:183:PRO:HD2	2.17	0.45
38:Aa:131:ASN:OD1	38:Aa:132:SER:N	2.49	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
45:Aw:28:ASN:OD1	45:Aw:28:ASN:N	2.49	0.45
47:Aj:446:LYS:HD2	47:Aj:447:TYR:CE1	2.52	0.45
48:Ar:101:TYR:CZ	48:Ar:183:VAL:HB	2.52	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
54:Bl:131:ILE:HA	54:Bl:136:PHE:CD2	2.51	0.45
55:Ax:77:HIS:O	55:Ax:78:GLU:C	2.60	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
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
6:G:52:GLU:O	47:Aj:123:GLN:HA	2.16	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
12:N:71:TRP:CB	53:Ag:40:TRP:HZ2	2.29	0.45
19:Z:58:ASP:OD1	19:Z:58:ASP:N	2.49	0.45
20:BA:105:PRO:HD2	20:BA:113:MET:HE1	1.98	0.45
25:BK:285:HIS:CE1	38:Aa:170:LYS:HG3	2.52	0.45
25:BK:746:VAL:HG13	25:BK:746:VAL:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:Ap:67:LEU:HB3	35:Ap:124:LEU:HD21	1.99	0.45
46:BH:76:TYR:HB2	46:BH:192:CYS:SG	2.56	0.45
47:Aj:449:LEU:HD12	73:1:514:U:H5'	1.99	0.45
49:An:106:ASP:OD1	49:An:107:ASP:N	2.50	0.45
53:Ag:49:ARG:NH1	73:1:82:U:H3'	2.32	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
79:BW:801:ATP:O1A	79:BW:801:ATP:O3'	2.30	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
1:A:261:TYR:O	1:A:261:TYR:CG	2.70	0.44
2:B:255:ARG:NH1	15:R:228:GLU:O	2.38	0.44
4:E:21:PRO:HG2	51:Av:103:TRP:CE3	2.52	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
9:K:159:MET:HE2	9:K:159:MET:HB3	1.84	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
34:Ah:104:ARG:HD3	34:Ah:104:ARG:HA	1.66	0.44
34:Ah:352:VAL:C	34:Ah:355:GLY:H	2.25	0.44
40:Az:39:ASN:ND2	73:1:76:U:O2	2.50	0.44
48:Ar:41:LEU:HG	48:Ar:42:ILE:H	1.82	0.44
49:An:173:LEU:O	49:An:177:VAL:HG22	2.18	0.44
51:Av:114:VAL:HA	51:Av:118:TRP:NE1	2.32	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
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
77:U8:25:ALA:O	77:U8:26:ALA:C	2.58	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:U8:45:ALA:C	77:U8:47:ALA:N	2.70	0.44
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
6:G:308:TYR:C	6:G:310:HIS:H	2.25	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
19:Z:128:VAL:HG21	34:Ah:175:TYR:HD1	1.82	0.44
25:BK:439:ASP:OD1	25:BK:439:ASP:C	2.60	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
33:Af:64:ARG:NH1	33:Af:64:ARG:HB3	2.32	0.44
34:Ah:259:THR:HG22	34:Ah:260:GLU:N	2.26	0.44
45:Aw:63:LEU:HA	45:Aw:63:LEU:HD23	1.75	0.44
46:BH:128:VAL:HG22	46:BH:144:PHE:CD2	2.52	0.44
49:An:165:ASN:HA	49:An:202:ALA:HB2	1.98	0.44
49:An:167:VAL:HG12	49:An:200:SER:HB2	1.99	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
6:G:268:PRO:HG3	45:Aw:5:ALA:HB2	1.98	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
14:Q:117:TRP:CZ3	49:An:266:TRP:HB2	2.52	0.44
15:R:175:MET:HE2	15:R:175:MET:HB3	1.74	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
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
31:Au:149:PHE:HE1	31:Au:152:TRP:HZ3	1.66	0.44
37:Ab:168:THR:HG22	37:Ab:168:THR:O	2.18	0.44
40:Az:51:LEU:HD13	40:Az:92:TYR:HD2	1.83	0.44
43:BG:1301:VAL:O	43:BG:1319:SER:OG	2.34	0.44
47:Aj:121:PRO:O	47:Aj:124:LEU:HD12	2.18	0.44
49:An:132:VAL:HA	49:An:180:ARG:HD3	1.97	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
60:CD:120:ASN:C	60:CD:122:LEU:H	2.25	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
1:A:57:LEU:HB3	1:A:64:MET:HE3	2.00	0.44
4:E:28:ASP:O	4:E:32:GLU:HG3	2.17	0.44
5:F:40:PRO:HD2	37:Ab:113:TRP:CZ2	2.52	0.44
6:G:104:VAL:HG12	47:Aj:407:ARG:HD2	2.00	0.44
6:G:310:HIS:ND1	36:Al:229:LYS:HG3	2.33	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
14:Q:159:HIS:CD2	49:An:271:ALA:HB3	2.52	0.44
15:R:400:PRO:HD3	73:1:62:U:H3'	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:S:376:GLU:OE2	44:Ad:194:ARG:NH1	2.37	0.44
18:V:145:ASP:CG	53:Ag:143:ARG:HH22	2.25	0.44
18:V:148:PHE:CD2	36:Al:266:TRP:HZ2	2.34	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
41:Am:256:MET:HE2	41:Am:256:MET:HB2	1.74	0.44
44:Ad:183:MET:HE3	44:Ad:185:ILE:HD11	1.99	0.44
47:Aj:314:VAL:HG21	47:Aj:367:LEU:HD21	1.98	0.44
48:Ar:166:TRP:HD1	48:Ar:190:LYS:HG3	1.82	0.44
50:BF:51:LYS:NZ	50:BF:87:LEU:O	2.44	0.44
51:Av:19:LYS:HG3	73:1:461:U:H5''	1.99	0.44
52:BM:237:ARG:NH1	52:BM:336:GLN:HE22	2.16	0.44
56:BS:330:MET:HE3	56:BS:330:MET:HB3	1.90	0.44
57:BX:90:PHE:O	57:BX:94:SER:N	2.50	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
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
12:N:54:ASN:ND2	12:N:54:ASN:C	2.67	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:499:ARG:HD3	38:Aa:160:TRP:CD1	2.52	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
32:Ae:174:PHE:HB3	32:Ae:211:ARG:O	2.18	0.44
33:Af:20:HIS:HE1	48:Ar:160:GLN:NE2	2.15	0.44
34:Ah:93:ARG:NH2	34:Ah:96:ASP:H	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Aa:176:GLN:HG3	38:Aa:177:ARG:H	1.81	0.44
47:Aj:214:LEU:HD22	47:Aj:219:LEU:HB2	1.99	0.44
47:Aj:494:LYS:HB3	47:Aj:497:ARG:HH21	1.82	0.44
48:Ar:44:ARG:NH2	48:Ar:51:MET:HB2	2.33	0.44
51:Av:60:ARG:NH2	51:Av:64:ARG:HH12	2.15	0.44
53:Ag:75:ARG:HD3	53:Ag:75:ARG:HA	1.73	0.44
54:Bl:92:PRO:HA	54:Bl:93:PRO:HD3	1.87	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
1:A:342:THR:HG23	32:Ae:44:PRO:HB2	1.99	0.44
2:B:56:PRO:HB3	47:Aj:432:LEU:HD22	2.00	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: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:74:SER:C	24:CB:76:LYS:H	2.26	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
25:BK:440:MET:HE2	25:BK:440:MET:HB3	1.46	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
34:Ah:345:ALA:HB3	34:Ah:461:HIS:CE1	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Aa:100:LEU:O	39:BP:-30:TRP:NE1	2.51	0.44
40:Az:121:ASP:HA	40:Az:124:LYS:HE2	1.99	0.44
45:Aw:48:LEU:O	45:Aw:52:LYS:HG3	2.18	0.44
49:An:168:PHE:HE2	49:An:201:VAL:HB	1.83	0.44
49:An:266:TRP:HA	49:An:270:LYS:O	2.18	0.44
52:BM:88:ASP:O	52:BM:92:THR:HG23	2.18	0.44
55:Ax:54:LYS:N	73:1:278:C:OP2	2.51	0.44
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
62:BU:195:MET:HE2	62:BU:195:MET:HB3	1.90	0.44
66:U6:65:ALA:C	66:U6:67:ALA:H	2.26	0.44
1:A:250:GLY:O	1:A:254:ARG:HB2	2.18	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
8:J:92:ALA:O	8:J:93:ARG:C	2.60	0.44
14:Q:42:TRP:O	14:Q:45:TRP:HD1	2.00	0.44
14:Q:119:GLN:HB3	49:An:267:GLN:NE2	2.32	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
35:Ap:162:GLU:HA	35:Ap:165:ARG:HH21	1.83	0.44
36:Al:128:TYR:CD1	36:Al:168:GLU:HB3	2.52	0.44
37:Ab:17:SER:O	37:Ab:26:ARG:HD3	2.18	0.44
37:Ab:69:TYR:HB3	37:Ab:82:ARG:HD3	1.99	0.44
42:As:148:LEU:HD13	42:As:151:ARG:HD3	1.99	0.44
44:Ad:115:SER:O	44:Ad:115:SER:OG	2.36	0.44
48:Ar:111:PHE:CZ	48:Ar:134:LYS:HG3	2.53	0.44
49:An:152:LYS:HG3	49:An:153:PRO:HD2	1.99	0.44
52:BM:253:CYS:HB3	52:BM:259:LYS:HG2	1.99	0.44
55:Ax:81:ARG:NE	55:Ax:87:PRO:HG3	2.33	0.44
55:Ax:209:GLU:HG2	55:Ax:210:PHE:CD1	2.53	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
73:1:161:U:H2'	73:1:379:U:HO2'	1.83	0.44
2:B:87:LYS:NZ	45:Aw:133:ALA:O	2.49	0.44
4:E:51:HIS:O	4:E:106:VAL:HG22	2.18	0.44
6:G:34:LEU:HD21	47:Aj:213:TYR:HB3	1.99	0.44
6:G:102:GLU:O	47:Aj:407:ARG:NH1	2.51	0.44
8:J:61:PHE:O	8:J:62:GLU:C	2.59	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:301:ILE:HG22	33:Af:44:LEU:HD11	1.99	0.44
16:S:330:PHE:CD1	39:BP:51:ILE:HG23	2.53	0.44
16:S:346:SER:HG	73:1:368:U:H5	1.64	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
32:Ae:179:GLU:HB3	32:Ae:237:LEU:HA	2.00	0.44
33:Af:34:ARG:HH12	48:Ar:127:ARG:HG2	1.83	0.44
33:Af:64:ARG:HH11	33:Af:64:ARG:HB2	1.82	0.44
34:Ah:55:HIS:O	34:Ah:55:HIS:CG	2.70	0.44
36:Al:280:ARG:C	36:Al:282:GLN:H	2.26	0.44
42:As:168:LEU:HA	42:As:171:GLU:OE1	2.18	0.44
44:Ad:34:ALA:CB	44:Ad:45:ARG:HH11	2.28	0.44
44:Ad:126:PRO:HB2	44:Ad:128:TYR:CD2	2.53	0.44
48:Ar:118:GLN:H	48:Ar:118:GLN:HG2	1.52	0.44
49:An:260:ARG:HA	49:An:260:ARG:NH1	2.33	0.44
51:Av:94:GLN:HG3	51:Av:95:ALA:N	2.33	0.44
52:BM:229:LYS:HE3	52:BM:321:LYS:O	2.17	0.44
58:BZ:157:ALA:C	58:BZ:159:THR:H	2.26	0.44
59:CC:140:VAL:O	59:CC:143:ILE:HB	2.17	0.44
61:BT:84:PRO:HA	61:BT:105:PHE:HE2	1.83	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:1:1096:U:O4'	73:1:1096:U:O2	2.31	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
13:O:294:LYS:HG2	40:Az:49:ARG:HH22	1.83	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:249:ARG:HH11	21:CA:548:SER:C	2.22	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
32:Ae:147:TYR:HB2	32:Ae:150:HIS:HD2	1.83	0.44
32:Ae:158:LYS:HG2	32:Ae:272:ALA:O	2.17	0.44
36:Al:174:GLU:HG3	36:Al:175:TYR:O	2.18	0.44
40:Az:74:ASN:O	40:Az:90:LYS:HG2	2.17	0.44
41:Am:146:ILE:O	41:Am:150:VAL:HG12	2.18	0.44
42:As:105:ASP:C	42:As:107:ASP:H	2.26	0.44
45:Aw:27:TYR:CE2	45:Aw:29:SER:HA	2.53	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
54:Bl:139:GLN:O	54:Bl:143:GLN:NE2	2.51	0.44
55:Ax:55:VAL:HB	73:1:277:A:C5'	2.47	0.44
55:Ax:124:PRO:HD2	55:Ax:194:SER:HB2	2.00	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:101:PRO:C	63:BW:103:LEU:H	2.25	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
1:A:101:ARG:HH22	1:A:115:ASP:CG	2.26	0.43
3:C:203:ILE:HG13	3:C:204:GLU:H	1.83	0.43
4:E:99:GLU:HB3	51:Av:22:GLY:H	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
9:K:136:THR:HG23	33:Af:105:GLN:HE22	1.83	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
18:V:76:MET:HE1	73:1:344:U:H1'	1.99	0.43
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:203:THR:O	25:BK:203:THR:OG1	2.29	0.43
25:BK:742:LEU:HD11	25:BK:751:VAL:CG1	2.48	0.43
33:Af:123:GLY:HA3	47:Aj:258:ARG:HA	2.00	0.43
34:Ah:212:VAL:O	34:Ah:216:GLU:HG2	2.18	0.43
36:Al:191:LYS:HD3	36:Al:191:LYS:HA	1.64	0.43
41:Am:101:TYR:O	41:Am:103:GLY:N	2.51	0.43
42:As:168:LEU:HB3	42:As:172:ARG:HD2	1.99	0.43
48:Ar:35:PHE:CZ	48:Ar:38:GLU:HB2	2.53	0.43
49:An:318:LYS:HD3	49:An:318:LYS:HA	1.90	0.43
51:Av:56:ALA:O	51:Av:67:VAL:HG12	2.17	0.43
51:Av:73:PRO:HG2	51:Av:79:TYR:CD1	2.52	0.43
55:Ax:53:HIS:ND1	73:1:277:A:N3	2.64	0.43
57:BY:221:ASN:HB2	57:BY:222:HIS:HA	1.99	0.43
57:BX:176:MET:HE1	57:BX:250:LYS:HE3	2.00	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
73:1:203:A:HO2'	73:1:204:U:P	2.41	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
6:G:39:ASN:ND2	33:Af:107:GLN:OE1	2.51	0.43
6:G:46:LEU:CD1	33:Af:153:SER:HB3	2.48	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:88:THR:HG1	36:Al:282:GLN:HE21	1.57	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
34:Ah:274:GLU:H	34:Ah:274:GLU:HG3	1.58	0.43
35:Ap:73:CYS:HB3	35:Ap:122:CYS:HB2	2.00	0.43
45:Aw:103:ILE:O	45:Aw:107:ILE:HG12	2.18	0.43
46:BH:18:MET:HE2	46:BH:18:MET:HB3	1.87	0.43
48:Ar:170:TYR:CD1	48:Ar:188:ARG:HB3	2.54	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
3:C:140:ASN:HB3	3:C:143:VAL:CG2	2.48	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:525:PRO:HG2	21:CA:582:HIS:CA	2.41	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
30:At:56:ASN:O	30:At:59:ALA:N	2.51	0.43
34:Ah:184:CYS:O	34:Ah:195:LEU:HD12	2.18	0.43
34:Ah:442:LEU:H	34:Ah:446:GLU:CD	2.26	0.43
35:Ap:132:VAL:HA	35:Ap:135:LEU:HD13	2.00	0.43
36:Al:226:LYS:HE2	36:Al:226:LYS:HB3	1.81	0.43
37:Ab:23:PRO:HB3	37:Ab:26:ARG:NH2	2.33	0.43
37:Ab:61:TYR:N	37:Ab:61:TYR:CD1	2.87	0.43
37:Ab:165:ARG:HE	37:Ab:165:ARG:HB2	1.63	0.43
38:Aa:60:MET:HG3	38:Aa:61:PRO:HD2	2.00	0.43
46:BH:120:ALA:HA	46:BH:158:VAL:HB	2.00	0.43
49:An:102:PRO:HD3	49:An:215:ALA:HB2	1.99	0.43
52:BM:79:ARG:HG2	52:BM:382:LEU:HG	2.00	0.43
55:Ax:49:PRO:HA	64:BV:165:LEU:HD23	2.00	0.43
55:Ax:143:PHE:CE2	55:Ax:152:ILE:HB	2.54	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
61:BT:284:ALA:C	61:BT:289:LEU:HB2	2.42	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
1:A:290:MET:HE2	1:A:290:MET:HB3	1.92	0.43
1:A:381:MET:O	32:Ae:13:LEU:HD21	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
4:E:155:TYR:CZ	51:Av:106:PRO:HB2	2.53	0.43
6:G:104:VAL:HG21	73:1:182:A:C5	2.54	0.43
6:G:227:PRO:HD3	44:Ad:137:ALA:HB2	2.00	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
7:I:154:ARG:HD3	26:BQ:402:ASP:CG	2.43	0.43
11:M:113:MET:HB3	71:BR:144:LEU:HD22	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
30:At:110:LEU:O	30:At:114:GLN:HG3	2.19	0.43
33:Af:53:THR:HG23	33:Af:56:GLN:H	1.84	0.43
34:Ah:137:ASP:CG	49:An:191:THR:HB	2.43	0.43
34:Ah:314:TYR:HA	34:Ah:317:LEU:HB2	1.99	0.43
41:Am:335:ALA:O	41:Am:338:LYS:HG3	2.19	0.43
43:BG:1336:GLN:N	43:BG:1337:PRO:HD3	2.33	0.43
44:Ad:126:PRO:HG2	44:Ad:129:TYR:CE1	2.53	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
20:BA:52:MET:HE2	20:BA:52:MET:HB3	1.77	0.43
25:BK:217:TYR:HE1	38:Aa:172:HIS:HA	1.83	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
27:BN:240:MET:HE1	27:BN:298:ILE:HA	1.99	0.43
35:Ap:71:GLN:HB3	35:Ap:72:PRO:HD3	2.01	0.43
35:Ap:212:PHE:HB2	35:Ap:214:TRP:HE1	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:As:46:ILE:HG13	42:As:80:ASP:OD2	2.18	0.43
45:Aw:109:GLU:HA	45:Aw:112:THR:HG22	2.00	0.43
46:BH:62:LEU:HD23	46:BH:74:LEU:HB3	2.01	0.43
47:Aj:326:SER:OG	47:Aj:397:LYS:NZ	2.51	0.43
48:Ar:25:THR:HG23	48:Ar:25:THR:O	2.19	0.43
49:An:175:GLU:HA	49:An:178:LEU:HB2	2.00	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: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:140:GLN:O	63:BW:141:GLN:C	2.61	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
4:E:86:PHE:CE1	4:E:90:THR:HG21	2.53	0.43
6:G:39:ASN:OD1	33:Af:109:VAL:HG21	2.19	0.43
6:G:115:MET:HE3	6:G:115:MET:HB3	1.85	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
9:K:128:GLN:HE22	33:Af:82:GLY:HA2	1.84	0.43
11:M:107:TYR:OH	71:BR:143:ARG:O	2.29	0.43
11:M:117:ARG:O	11:M:121:GLU:N	2.36	0.43
14:Q:28:ARG:CD	14:Q:28:ARG:C	2.91	0.43
15:R:36:LEU:HD23	15:R:36:LEU:HA	1.83	0.43
16:S:368:ASP:OD2	47:Aj:350:TYR:OH	2.18	0.43
17:T:80:GLN:HB3	25:BK:839:TYR:CE2	2.53	0.43
21:CA:298:PHE:C	21:CA:300:ARG:H	2.25	0.43
22:UA:28:ALA:O	22:UA:32:ALA:N	2.36	0.43
25:BK:456:ALA:O	25:BK:457:HIS:C	2.61	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
31:Au:126:LYS:HZ1	50:BF:97:GLU:C	2.26	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Ah:409:THR:OG1	34:Ah:414:ILE:HD11	2.19	0.43
35:Ap:32:GLN:HE21	42:As:96:TRP:NE1	2.16	0.43
37:Ab:52:TRP:CE2	73:1:509:U:C6	3.06	0.43
41:Am:93:TYR:OH	41:Am:97:ARG:NH1	2.52	0.43
48:Ar:88:LEU:HD13	48:Ar:88:LEU:HA	1.90	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
55:Ax:132:THR:N	55:Ax:134:GLN:HG3	2.34	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
62:BU:71:CYS:SG	62:BU:100:ALA:HA	2.58	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
3:C:197:GLU:O	3:C:200:LYS:HB2	2.18	0.43
6:G:83:ASP:C	6:G:90:ILE:HD11	2.43	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
13:O:298:TYR:OH	40:Az:47:ASP:OD2	2.35	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
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
32:Ae:173:LEU:HD11	32:Ae:203:PHE:CE1	2.54	0.43
36:Al:162:ASN:O	36:Al:163:SER:OG	2.29	0.43
38:Aa:75:ARG:N	38:Aa:75:ARG:HD2	2.34	0.43
42:As:187:ARG:NH1	60:CD:61:ALA:HB1	2.34	0.43
44:Ad:231:TRP:O	44:Ad:235:LEU:HB2	2.19	0.43
55:Ax:110:LYS:HA	55:Ax:110:LYS:HD3	1.92	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
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
2:B:25:PRO:HB3	37:Ab:34:PRO:HB3	2.01	0.43
4:E:151:LEU:HD23	51:Av:112:LYS:HE2	2.01	0.43
6:G:310:HIS:O	36:Al:228:PRO:CB	2.67	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
18:V:92:MET:HE2	18:V:92:MET:HB2	1.83	0.43
21:CA:517:LEU:HD12	21:CA:588:PHE:HB3	1.99	0.43
22:UA:47:ALA:HB3	55:Ax:157:PHE:O	2.18	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
26:BQ:432:PHE:C	26:BQ:434:GLY:H	2.25	0.43
30:At:78:GLY:H	30:At:81:GLU:HG3	1.84	0.43
34:Ah:438:LEU:HD12	34:Ah:447:ARG:HD3	2.00	0.43
35:Ap:134:ALA:O	35:Ap:138:ALA:N	2.41	0.43
36:Al:216:SER:OG	36:Al:217:ALA:N	2.52	0.43
42:As:181:GLU:HA	42:As:184:ARG:NH2	2.33	0.43
44:Ad:47:PRO:HB2	44:Ad:50:LYS:HB2	2.01	0.43
46:BH:62:LEU:HD22	46:BH:95:ILE:HG13	2.01	0.43
49:An:140:ASP:OD2	49:An:176:ARG:NH2	2.52	0.43
51:Av:30:TYR:HB3	51:Av:84:MET:SD	2.59	0.43
55:Ax:55:VAL:HG13	55:Ax:56:ARG:H	1.84	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:212:THR:OG1	61:BT:213:ARG:N	2.51	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BU:481:VAL:C	62:BU:483:LEU:H	2.26	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
2:B:2:TYR:C	2:B:4:SER:H	2.27	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
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:434:LEU:C	25:BK:436:GLN:H	2.27	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
30:At:14:LYS:HG3	73:1:106:A:OP1	2.19	0.43
32:Ae:236:TRP:CH2	32:Ae:242:TYR:HB2	2.54	0.43
33:Af:34:ARG:HB2	48:Ar:205:TYR:CD2	2.54	0.43
34:Ah:50:LYS:HB2	34:Ah:50:LYS:HE2	1.81	0.43
34:Ah:98:GLN:HB3	34:Ah:102:PHE:CE1	2.53	0.43
34:Ah:356:LYS:HA	34:Ah:356:LYS:HD2	1.91	0.43
34:Ah:443:THR:O	34:Ah:447:ARG:NH1	2.52	0.43
36:Al:257:GLU:HB3	36:Al:265:LYS:NZ	2.33	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
47:Aj:384:MET:HB3	47:Aj:384:MET:HE2	1.60	0.43
47:Aj:485:PHE:CD1	47:Aj:488:ALA:HB3	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Ar:25:THR:H	48:Ar:40:ARG:NH2	2.16	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
54:Bl:130:GLY:HA2	54:Bl:133:GLU:OE1	2.19	0.43
55:Ax:54:LYS:HG2	73:1:278:C:H6	1.83	0.43
55:Ax:87:PRO:HG2	55:Ax:90:THR:OG1	2.19	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
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:130:ARG:HA	51:Av:27:LEU:HD22	2.01	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
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
16:S:285:MET:HE1	73:1:490:U:C5	2.54	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:390:MET:HG2	21:CA:394:GLU:CD	2.43	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
22:UA:42:ALA:HB3	55:Ax:155:ASN:HD22	1.84	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BK:787:PRO:HG2	38:Aa:154:ASN:ND2	2.34	0.43
27:BN:121:PHE:N	27:BN:121:PHE:CD1	2.87	0.43
33:Af:139:PRO:O	33:Af:144:THR:OG1	2.36	0.43
34:Ah:215:LYS:HD2	34:Ah:221:PRO:HG3	1.99	0.43
41:Am:291:VAL:O	41:Am:291:VAL:HG13	2.19	0.43
42:As:119:LEU:HD23	73:1:1175:C:C4	2.54	0.43
48:Ar:68:TRP:O	48:Ar:77:TYR:HB2	2.17	0.43
50:BF:94:LEU:HA	50:BF:97:GLU:OE1	2.19	0.43
53:Ag:47:VAL:HG22	73:1:80:A:C5	2.54	0.43
54:Bl:96:VAL:HG22	54:Bl:236:GLY:HA3	2.01	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:146:LEU:C	64:BV:147:LEU:HD12	2.44	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
5:F:64:GLY:HA3	41:Am:314:TYR:CE1	2.54	0.42
6:G:322:ARG:O	6:G:323:PRO:C	2.62	0.42
8:J:49:LYS:NZ	27:BN:79:LEU:HD21	2.33	0.42
9:K:136:THR:HG23	33:Af:105:GLN:NE2	2.34	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
24:CB:80:PHE:CZ	29:BO:185:LEU:HD12	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
37:Ab:6:GLU:HB3	37:Ab:62:ARG:HH12	1.84	0.42
37:Ab:136:LYS:N	41:Am:334:GLU:O	2.38	0.42
40:Az:30:LEU:HD23	40:Az:30:LEU:HA	1.88	0.42
41:Am:196:PRO:C	41:Am:198:LYS:H	2.27	0.42
46:BH:110:PRO:HB2	46:BH:137:GLN:HB2	2.01	0.42
48:Ar:40:ARG:N	48:Ar:40:ARG:HD3	2.34	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
53:Ag:78:TYR:HB3	53:Ag:82:ALA:HB3	2.01	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
64:BV:300:ALA:C	64:BV:302:ARG:H	2.27	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:34:MET:HE1	5:F:103:LEU:HD22	2.01	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
24:CB:84:MET:HE2	24:CB:132:VAL:HG13	2.01	0.42
25:BK:175:ARG:NH1	25:BK:183:GLN:OE1	2.28	0.42
25:BK:474:ASP:HB2	38:Aa:128:LYS:C	2.44	0.42
25:BK:498:SER:HG	25:BK:538:GLU:C	2.26	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
26:BQ:390:LEU:C	26:BQ:392:GLY:H	2.27	0.42
27:BN:185:GLU:O	27:BN:188:ARG:HB3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:Ab:52:TRP:CE3	73:1:509:U:C4	3.07	0.42
42:As:158:LYS:O	42:As:162:GLU:N	2.50	0.42
44:Ad:58:ARG:HD3	44:Ad:233:LEU:HD11	2.01	0.42
48:Ar:26:ARG:HG3	48:Ar:27:THR:N	2.34	0.42
48:Ar:99:ASP:O	48:Ar:103:ARG:HG3	2.18	0.42
51:Av:55:HIS:HA	51:Av:67:VAL:O	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
1:A:353:PHE:HB3	1:A:354:PRO:HD3	2.01	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
15:R:128:PRO:CG	54:Bl:159:LEU:HD13	2.49	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
29:BO:183:VAL:C	29:BO:185:LEU:H	2.27	0.42
32:Ae:189:LEU:HD11	32:Ae:192:TYR:HB2	2.01	0.42
34:Ah:199:GLN:O	34:Ah:203:HIS:HB2	2.18	0.42
34:Ah:270:GLU:OE1	34:Ah:270:GLU:N	2.40	0.42
35:Ap:173:ARG:HA	35:Ap:176:PHE:CD2	2.53	0.42
36:Al:170:GLU:HG2	52:BM:188:LYS:HE2	2.01	0.42
42:As:46:ILE:HA	42:As:81:CYS:HB2	2.00	0.42
42:As:113:LYS:HA	42:As:118:CYS:O	2.19	0.42
45:Aw:186:ASP:OD1	45:Aw:187:TYR:N	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Aj:234:TYR:HD1	47:Aj:234:TYR:HA	1.75	0.42
48:Ar:26:ARG:HB3	48:Ar:40:ARG:O	2.20	0.42
49:An:142:TYR:CD2	49:An:144:LEU:HG	2.54	0.42
51:Av:84:MET:HE3	51:Av:84:MET:HB3	1.82	0.42
52:BM:42:TRP:O	52:BM:46:ARG:HG2	2.19	0.42
54:Bl:249:THR:HG22	54:Bl:253:GLU:O	2.19	0.42
55:Ax:147:ASN:HB3	55:Ax:165:TRP:CZ2	2.55	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
61:BT:212:THR:O	61:BT:213:ARG:C	2.62	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
63:BW:376:PRO:C	63:BW:377:LEU:HD12	2.45	0.42
67:U1:5:ALA:O	67:U1:6:ALA:HB2	2.19	0.42
70:U5:81:ALA:C	70:U5:83:ALA:H	2.27	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
2:B:21:MET:HE3	2:B:21:MET:HB3	1.78	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
10:L:70:GLY:HA2	38:Aa:104:GLY:HA3	2.00	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
22:UA:85:ALA:HA	55:Ax:125:SER:HB2	2.01	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
30:At:134:ASP:HA	30:At:159:TYR:HB3	2.00	0.42
32:Ae:286:LYS:HE2	66:U6:24:ALA:HB3	2.00	0.42
33:Af:80:ARG:HB3	33:Af:84:ASP:OD2	2.19	0.42
34:Ah:127:THR:HG23	34:Ah:127:THR:O	2.19	0.42
35:Ap:68:TYR:CE2	35:Ap:136:VAL:HG11	2.55	0.42
42:As:105:ASP:OD1	42:As:105:ASP:N	2.49	0.42
42:As:182:THR:HA	42:As:185:ARG:HG3	2.00	0.42
44:Ad:31:ARG:HD2	70:U5:44:ALA:CA	2.28	0.42
44:Ad:40:SER:HB3	70:U5:38:ALA:HB2	2.00	0.42
44:Ad:49:LEU:O	44:Ad:61:ARG:NH1	2.52	0.42
46:BH:33:ILE:HG23	46:BH:81:PHE:HE2	1.83	0.42
47:Aj:219:LEU:HB3	47:Aj:222:GLU:CD	2.44	0.42
48:Ar:26:ARG:HD2	48:Ar:41:LEU:N	2.34	0.42
55:Ax:145:CYS:HB2	55:Ax:166:CYS:HB3	1.23	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
21:CA:344:ARG:HE	44:Ad:48:LEU:HD13	1.83	0.42
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: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
30:At:56:ASN:HD21	45:Aw:54:PHE:HE2	1.67	0.42
30:At:60:ARG:NH1	45:Aw:72:PRO:HD3	2.35	0.42
30:At:142:GLU:HB2	30:At:146:PRO:HA	2.01	0.42
32:Ae:255:LEU:O	32:Ae:259:VAL:HG22	2.19	0.42
36:Al:128:TYR:CE1	36:Al:168:GLU:HB3	2.54	0.42
48:Ar:39:GLU:OE2	48:Ar:83:ARG:NH1	2.53	0.42
49:An:124:TYR:HE2	49:An:185:VAL:HG11	1.84	0.42
49:An:219:LEU:HB3	49:An:221:HIS:CE1	2.55	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
54:Bl:146:TYR:CD1	54:Bl:165:ILE:HD11	2.55	0.42
55:Ax:144:LYS:HZ3	55:Ax:183:HIS:HB3	1.85	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
62:BU:229:ILE:HD11	62:BU:276:ARG:HD3	2.02	0.42
62:BU:491:ASP:OD1	62:BU:491:ASP:N	2.51	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
72:U2:1:ALA:CB	77:U8:41:ALA:C	2.89	0.42
73:1:164:U:H3'	73:1:165:G:H2'	2.01	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
23:BB:82:GLU:HG2	32:Ae:104:ARG:HA	2.02	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:617:LYS:C	25:BK:619:ARG:H	2.28	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
32:Ae:8:TYR:HB2	32:Ae:11:ALA:HB3	2.02	0.42
32:Ae:181:VAL:HG13	32:Ae:234:VAL:HG22	2.02	0.42
32:Ae:196:LEU:HD21	32:Ae:248:GLU:HA	2.02	0.42
33:Af:31:TRP:HA	33:Af:34:ARG:HG2	2.00	0.42
35:Ap:91:ASP:HB3	35:Ap:198:MET:SD	2.60	0.42
41:Am:171:GLU:H	41:Am:171:GLU:HG2	1.54	0.42
44:Ad:24:TYR:CD1	44:Ad:24:TYR:C	2.97	0.42
47:Aj:227:TYR:HA	47:Aj:230:VAL:HG22	1.99	0.42
47:Aj:286:LEU:O	47:Aj:289:GLU:N	2.50	0.42
53:Ag:76:GLN:HG2	53:Ag:78:TYR:CZ	2.54	0.42
55:Ax:131:PRO:N	55:Ax:134:GLN:HA	2.35	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
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
64:BV:155:GLY:C	64:BV:156:TRP:HD1	2.26	0.42
73:1:160:U:C5	73:1:164:U:H4'	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:1:473:U:C2'	73:1:474:U:H6	2.33	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
7:I:52:ARG:C	7:I:54:LYS:H	2.28	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
11:M:92:VAL:HG12	47:Aj:467:VAL:HA	2.01	0.42
12:N:66:ARG:HB2	36:Al:295:PRO:HB3	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
32:Ae:238:ASP:OD1	32:Ae:238:ASP:N	2.51	0.42
34:Ah:469:LYS:HA	34:Ah:469:LYS:HD3	1.83	0.42
35:Ap:88:ILE:HG12	35:Ap:90:LEU:H	1.83	0.42
37:Ab:98:SER:HB3	37:Ab:101:HIS:HD2	1.85	0.42
38:Aa:97:MET:HE2	38:Aa:97:MET:HB3	1.90	0.42
41:Am:90:TRP:CD1	41:Am:114:LEU:HD11	2.55	0.42
42:As:67:ALA:HB1	42:As:70:VAL:CG2	2.49	0.42
42:As:79:LEU:HD23	42:As:79:LEU:HA	1.80	0.42
49:An:101:ARG:HH21	49:An:105:TRP:HB3	1.85	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
54:Bl:136:PHE:O	54:Bl:138:ASP:N	2.53	0.42
54:Bl:170:GLY:O	54:Bl:211:GLN:NE2	2.50	0.42
55:Ax:129:ARG:HG3	55:Ax:130:VAL:HG22	2.00	0.42
58:BZ:97:TYR:N	58:BZ:97:TYR:HD1	2.16	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
64:BV:177:ARG:O	64:BV:181:LEU:HB2	2.19	0.42
71:BR:159:SER:O	71:BR:159:SER:OG	2.28	0.42
77:U8:10:ALA:O	77:U8:11:ALA:C	2.61	0.42
2:B:124:ASN:HD21	2:B:200:ASN:ND2	2.17	0.42
2:B:412:TYR:CE2	45:Aw:11:PHE:HB2	2.55	0.42
5:F:9:GLU:HB2	38:Aa:157:LEU:HD13	2.01	0.42
6:G:197:LEU:HB3	6:G:266:LEU:HD21	2.01	0.42
7:I:105:LYS:HB3	31:Au:174:VAL:HG22	2.02	0.42
9:K:11:TYR:CZ	9:K:13:ALA:HA	2.55	0.42
10:L:89:MET:HB3	37:Ab:95:HIS:O	2.20	0.42
10:L:139:LEU:HD11	10:L:148:PRO:HB3	2.02	0.42
15:R:298:LEU:HD13	30:At:110:LEU:HD13	2.00	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
22:UA:165:ALA:HB2	35:Ap:176:PHE:CZ	2.55	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:133:ARG:NH1	42:As:107:ASP:OD2	2.51	0.42
27:BN:160:GLU:O	73:1:1174:U:H5'	2.20	0.42
30:At:64:GLN:CD	40:Az:143:VAL:HG23	2.44	0.42
34:Ah:156:LEU:HD13	34:Ah:426:ARG:HD3	2.01	0.42
35:Ap:128:ARG:O	35:Ap:132:VAL:HG13	2.19	0.42
35:Ap:205:ASP:OD2	35:Ap:211:ASN:ND2	2.47	0.42
39:BP:-14:PHE:CE2	39:BP:-12:LEU:HB3	2.55	0.42
41:Am:271:SER:OG	41:Am:274:ASP:OD1	2.37	0.42
44:Ad:43:GLY:HA2	73:1:201:U:N1	2.34	0.42
47:Aj:286:LEU:HD23	47:Aj:286:LEU:HA	1.85	0.42
49:An:108:GLU:O	49:An:111:ASP:N	2.53	0.42
49:An:125:LEU:O	49:An:129:LEU:N	2.40	0.42
49:An:157:LEU:HG	49:An:158:PRO:O	2.19	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
57:BX:270:LEU:HD12	57:BX:270:LEU:C	2.45	0.42
59:CC:74:VAL:HG23	59:CC:120:GLU:CD	2.45	0.42
61:BT:266:VAL:O	61:BT:270:ILE:HG12	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BU:46:ASN:HA	62:BU:59:ASN:CG	2.45	0.42
62:BU:212:ASP:O	62:BU:213:GLU:HG2	2.20	0.42
63:BW:105:LYS:HZ2	63:BW:332:PRO:HD2	1.84	0.42
63:BW:648:TRP:NE1	73:1:340:U:H3	2.18	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
2:B:51:PRO:HA	30:At:151:PHE:CE2	2.54	0.42
2:B:435:LEU:HB3	53:Ag:68:LYS:HE3	2.01	0.42
3:C:19:ASP:CG	3:C:45:ARG:HH21	2.28	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
25:BK:626:THR:O	25:BK:630:ASN:ND2	2.31	0.42
34:Ah:93:ARG:HH22	34:Ah:96:ASP:H	1.67	0.42
34:Ah:301:THR:N	34:Ah:332:LEU:HA	2.35	0.42
34:Ah:472:ARG:HD3	34:Ah:472:ARG:HA	1.78	0.42
35:Ap:25:ARG:O	35:Ap:197:GLU:HA	2.20	0.42
36:Al:136:SER:HB2	36:Al:175:TYR:HD2	1.84	0.42
37:Ab:130:PRO:HA	41:Am:333:ASN:OD1	2.19	0.42
41:Am:214:SER:OG	41:Am:216:MET:O	2.37	0.42
42:As:67:ALA:HB1	42:As:70:VAL:HG21	2.00	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
48:Ar:13:PRO:HD2	48:Ar:17:LEU:HD12	2.02	0.42
49:An:191:THR:HG1	49:An:194:ASP:CG	2.26	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
73:1:165:G:H5''	73:1:166:U:H5'	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:51:PRO:HA	30:At:151:PHE:CD2	2.55	0.42
2:B:306:GLN:HG2	2:B:308:ASN:H	1.85	0.42
4:E:95:LYS:HG3	51:Av:91:PHE:C	2.45	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
16:S:380:LEU:HD11	44:Ad:151:ASP:HB2	2.02	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
30:At:141:ASP:OD1	30:At:143:THR:HG23	2.20	0.42
32:Ae:195:THR:HA	32:Ae:198:LYS:HB3	2.01	0.42
34:Ah:177:ARG:HA	34:Ah:177:ARG:HD2	1.78	0.42
35:Ap:111:PHE:HB2	35:Ap:121:VAL:O	2.20	0.42
41:Am:178:ASN:N	41:Am:181:SER:OG	2.53	0.42
43:BG:1311:LYS:HB3	43:BG:1315:THR:HG21	2.01	0.42
44:Ad:151:ASP:OD1	44:Ad:152:VAL:N	2.52	0.42
47:Aj:121:PRO:HB2	47:Aj:333:LEU:HD11	2.02	0.42
47:Aj:410:THR:HG23	73:1:356:A:OP1	2.19	0.42
48:Ar:73:ASP:N	48:Ar:73:ASP:OD1	2.51	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
53:Ag:38:LYS:N	73:1:85:U:OP2	2.36	0.42
55:Ax:190:HIS:ND1	55:Ax:190:HIS:O	2.53	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
58:BZ:200:LEU:C	58:BZ:202:ALA:H	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:C:26:PRO:O	3:C:41:GLY:HA3	2.19	0.41
3:C:210:TYR:HB3	36:A1:148:LYS:HE3	2.02	0.41
4:E:205:MET:HE2	4:E:205:MET:HB3	1.89	0.41
6:G:151:PHE:HE2	18:V:40:TRP:CD1	2.38	0.41
6:G:297:TRP:CD1	6:G:297:TRP:H	2.37	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: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
19:Z:92:MET:HE3	19:Z:92:MET:HB3	1.81	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
26:BQ:97:GLU:HB2	26:BQ:141:GLN:CD	2.45	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
32:Ae:148:PRO:HA	32:Ae:151:THR:HG23	2.01	0.41
34:Ah:137:ASP:CG	49:An:192:SER:H	2.27	0.41
37:Ab:73:PHE:HZ	73:1:508:G:C8	2.37	0.41
37:Ab:145:TYR:O	37:Ab:149:TYR:N	2.49	0.41
38:Aa:52:LYS:HG3	38:Aa:53:LYS:N	2.29	0.41
46:BH:123:HIS:NE2	46:BH:156:PHE:O	2.52	0.41
48:Ar:97:TRP:NE1	48:Ar:173:GLY:O	2.52	0.41
49:An:120:GLU:O	49:An:123:SER:OG	2.28	0.41
50:BF:95:ASN:HD21	50:BF:99:ARG:NH1	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
55:Ax:145:CYS:HB3	55:Ax:150:TYR:H	1.85	0.41
55:Ax:201:PHE:O	55:Ax:206:HIS:ND1	2.53	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
61:BT:278:GLY:C	61:BT:280:SER:N	2.77	0.41
62:BU:292:ARG:O	62:BU:293:THR:C	2.62	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:HI'	2.35	0.41
1:A:37:CYS:SG	32:Ae:31:LEU:HB3	2.60	0.41
1:A:85:THR:OG1	41:Am:228:GLN:NE2	2.48	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
15:R:40:ARG:HH11	15:R:100:GLU:CD	2.27	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
27:BN:107:GLY:O	42:As:58:ARG:NH2	2.36	0.41
27:BN:161:MET:HE2	27:BN:165:ARG:NE	2.35	0.41
29:BO:92:ARG:HD3	29:BO:173:HIS:CE1	2.54	0.41
35:Ap:13:VAL:HG23	35:Ap:14:HIS:H	1.85	0.41
35:Ap:17:HIS:CD2	35:Ap:17:HIS:H	2.37	0.41
36:Al:160:PHE:HA	36:Al:242:ASN:HD22	1.85	0.41
37:Ab:127:HIS:HD2	38:Aa:70:THR:OG1	2.03	0.41
40:Az:45:MET:HE3	40:Az:46:TYR:CE1	2.55	0.41
49:An:206:ASP:O	49:An:210:THR:HG23	2.20	0.41
51:Av:53:PHE:CE2	51:Av:76:MET:HG2	2.55	0.41
53:Ag:109:GLN:HG3	53:Ag:110:SER:N	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:B:256:LEU:C	2:B:258:PRO:HD3	2.45	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
9:K:179:TRP:CD1	47:Aj:229:VAL:HG13	2.55	0.41
11:M:37:TRP:CH2	11:M:47:PRO:HG3	2.54	0.41
12:N:71:TRP:HB3	53:Ag:40:TRP:HZ2	1.85	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:229:LEU:HB3	30:At:120:ALA:HA	2.02	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
30:At:83:GLU:O	30:At:87:ARG:HG2	2.19	0.41
33:Af:33:LYS:HD2	48:Ar:205:TYR:O	2.20	0.41
34:Ah:149:PRO:O	34:Ah:152:LEU:N	2.53	0.41
34:Ah:211:ALA:HB1	34:Ah:279:PHE:CE2	2.54	0.41
43:BG:1281:LEU:HD23	43:BG:1281:LEU:HA	1.85	0.41
44:Ad:41:LEU:HD23	44:Ad:41:LEU:N	2.35	0.41
45:Aw:32:GLU:N	45:Aw:32:GLU:OE1	2.54	0.41
45:Aw:54:PHE:HD1	45:Aw:56:ASN:HD21	1.68	0.41
49:An:109:PHE:CZ	49:An:185:VAL:CG2	3.03	0.41
52:BM:246:ARG:HH21	52:BM:266:TRP:NE1	2.17	0.41
54:Bl:121:VAL:O	54:Bl:123:PRO:HD3	2.20	0.41
57:BX:277:ALA:HB2	57:BX:324:GLN:HB2	2.03	0.41
58:BZ:207:ASN:CG	58:BZ:207:ASN:O	2.63	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
62:BU:294:ASP:C	62:BU:296:GLU:N	2.78	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:BR:240:LEU:HD12	71:BR:240:LEU:HA	1.85	0.41
72:U2:12:ALA:C	72:U2:14:ALA:N	2.78	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
73:1:888:C:O2'	73:1:889:U:O2	2.35	0.41
1:A:281:GLN:HG2	73:1:867:A:O2'	2.20	0.41
2:B:85:THR:H	2:B:85:THR:HG1	1.60	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:48:TRP:CZ3	47:Aj:118:GLU:HB2	2.53	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
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
33:Af:61:VAL:HG12	33:Af:65:VAL:HG21	1.99	0.41
34:Ah:442:LEU:C	49:An:189:VAL:HG11	2.45	0.41
35:Ap:157:THR:O	35:Ap:161:SER:N	2.54	0.41
38:Aa:158:SER:O	38:Aa:158:SER:OG	2.39	0.41
42:As:70:VAL:HG11	42:As:78:TRP:CZ3	2.56	0.41
44:Ad:126:PRO:CB	44:Ad:128:TYR:CD2	3.03	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
64:BV:165:LEU:C	64:BV:167:GLU:H	2.26	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
71:BR:56:ARG:C	71:BR:58:LEU:H	2.29	0.41
73:1:190:A:O2'	73:1:207:G:O6	2.23	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
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
22:UA:166:ALA:HB2	35:Ap:164:PHE:CZ	2.55	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
26:BQ:183:HIS:HE1	26:BQ:202:ASN:O	2.02	0.41
32:Ae:51:TRP:HB3	32:Ae:95:ARG:HD2	2.02	0.41
33:Af:37:VAL:O	33:Af:41:GLU:HG2	2.20	0.41
35:Ap:77:SER:HA	35:Ap:80:GLU:HB2	2.02	0.41
35:Ap:106:GLU:OE1	43:BG:1289:LYS:HA	2.20	0.41
37:Ab:50:ARG:HB2	73:1:516:A:OP1	2.20	0.41
47:Aj:304:ALA:HB1	47:Aj:377:ARG:HE	1.85	0.41
48:Ar:113:ARG:HD3	48:Ar:113:ARG:HA	1.64	0.41
49:An:225:GLU:OE1	49:An:232:ARG:NH2	2.49	0.41
52:BM:340:THR:O	52:BM:344:VAL:HG13	2.20	0.41
53:Ag:116:ARG:HA	53:Ag:118:TYR:CZ	2.55	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
62:BU:299:SER:C	62:BU:300:ARG:HG2	2.44	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BU:388:GLY:C	62:BU:391:LEU:HD13	2.45	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
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
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:106:MET:HB2	11:M:106:MET:HE2	1.51	0.41
11:M:196:HIS:HB3	11:M:238:ASP:O	2.21	0.41
11:M:254:LEU:C	11:M:256:THR:H	2.27	0.41
12:N:225:LEU:HD23	12:N:225:LEU:HA	1.85	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:461:PRO:HB3	21:CA:464:GLU:CD	2.45	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
25:BK:649:SER:C	25:BK:651:CYS:H	2.27	0.41
25:BK:787:PRO:HG2	38:Aa:154:ASN:HD21	1.86	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
33:Af:137:ARG:NH2	47:Aj:286:LEU:HD21	2.36	0.41
34:Ah:185:TRP:CB	34:Ah:191:GLN:HB3	2.50	0.41
35:Ap:126:ARG:HH21	35:Ap:130:GLU:CD	2.28	0.41
35:Ap:128:ARG:HH22	43:BG:1289:LYS:HD3	1.86	0.41
40:Az:141:GLU:N	40:Az:141:GLU:OE2	2.53	0.41
41:Am:179:ALA:O	41:Am:212:MET:HE3	2.21	0.41
42:As:61:LEU:HD23	42:As:61:LEU:HA	1.82	0.41
47:Aj:199:VAL:O	47:Aj:201:LEU:N	2.54	0.41
47:Aj:250:LEU:HD12	47:Aj:286:LEU:HD22	2.01	0.41
47:Aj:374:TYR:HB3	47:Aj:379:ASP:HB3	2.03	0.41
47:Aj:472:ASN:O	47:Aj:475:ARG:HG2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:Av:31:LYS:HB2	51:Av:85:SER:HB2	2.03	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
53:Ag:23:THR:HG21	53:Ag:26:LYS:NZ	2.36	0.41
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:288:VAL:C	63:BW:290:LEU:H	2.28	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
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
1:A:337:ASN:ND2	32:Ae:46:PRO:HA	2.36	0.41
2:B:49:VAL:HG21	2:B:214:GLN:OE1	2.21	0.41
2:B:54:PRO:HG2	47:Aj:437:THR:HG21	2.02	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
2:B:384:ARG:CZ	30:At:108:MET:HE2	2.50	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:270:SER:HB3	48:Ar:201:TYR:CD1	2.56	0.41
16:S:283:GLU:HG2	16:S:287:GLN:OE1	2.21	0.41
19:Z:55:HIS:C	19:Z:64:ILE:HD11	2.45	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
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
32:Ae:27:ARG:HE	32:Ae:27:ARG:HB3	1.67	0.41
32:Ae:177:HIS:HB3	32:Ae:270:MET:SD	2.60	0.41
34:Ah:53:ASP:C	34:Ah:55:HIS:H	2.28	0.41
35:Ap:58:ILE:HG22	35:Ap:89:VAL:HG11	2.02	0.41
36:Al:281:THR:O	36:Al:285:LEU:HG	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:Am:88:ALA:O	41:Am:92:LEU:HD12	2.21	0.41
43:BG:1263:HIS:HB2	43:BG:1296:PHE:HA	2.02	0.41
47:Aj:124:LEU:HD13	47:Aj:329:MET:HG3	2.01	0.41
47:Aj:200:PRO:O	47:Aj:204:VAL:HG13	2.21	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: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
73:1:584: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
2:B:62:TYR:OH	2:B:213:LEU:O	2.38	0.41
4:E:100:LEU:N	51:Av:22:GLY:HA2	2.36	0.41
4:E:125:LEU:HA	4:E:128:ALA:HB3	2.03	0.41
5:F:137:GLU:OE1	38:Aa:134:VAL:HG23	2.21	0.41
6:G:281:GLU:CD	6:G:284:GLY:H	2.28	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: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
21:CA:561:PHE:C	21:CA:561:PHE:HD1	2.26	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BO:100:ARG:HG2	58:BZ:307:PHE:CE2	2.56	0.41
31:Au:175:TYR:CE2	42:As:88:LYS:HD2	2.56	0.41
32:Ae:255:LEU:HD13	32:Ae:255:LEU:HA	1.95	0.41
34:Ah:373:LEU:HD23	34:Ah:376:LYS:HD2	2.03	0.41
35:Ap:197:GLU:HG2	35:Ap:219:SER:HB3	2.02	0.41
36:Al:226:LYS:O	36:Al:228:PRO:HD3	2.20	0.41
36:Al:275:PRO:C	36:Al:276:GLN:HG2	2.45	0.41
37:Ab:130:PRO:C	37:Ab:132:GLN:N	2.79	0.41
42:As:76:VAL:HG21	42:As:90:LEU:HD13	2.03	0.41
43:BG:1324:TYR:O	43:BG:1328:GLN:HB2	2.20	0.41
43:BG:1336:GLN:C	43:BG:1338:LEU:H	2.28	0.41
46:BH:133:SER:OG	46:BH:134:GLY:N	2.54	0.41
47:Aj:347:LYS:HE3	47:Aj:408:ILE:O	2.20	0.41
49:An:142:TYR:HD2	49:An:144:LEU:HG	1.86	0.41
49:An:234:HIS:O	49:An:237:GLN:NE2	2.45	0.41
52:BM:158:MET:HG2	52:BM:217:LYS:CG	2.51	0.41
53:Ag:26:LYS:HE3	53:Ag:26:LYS:HB2	1.77	0.41
54:Bl:147:ARG:HG2	54:Bl:148:ASN:OD1	2.21	0.41
55:Ax:140:VAL:HG23	55:Ax:141:LYS:HD2	2.03	0.41
56:BS:292:GLN:HA	56:BS:295:TYR:HB2	2.03	0.41
56:BS:389:SER:C	56:BS:391:SER:N	2.78	0.41
57:BY:133:LYS:HD2	57:BY:133:LYS:N	2.36	0.41
57:BX:332:SER:C	57:BX:334:SER:H	2.28	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
66:U6:162:ALA:O	66:U6:163:ALA:C	2.64	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
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
2:B:294:THR:C	18:V:29:GLN:HG3	2.46	0.41
3:C:164:LEU:O	49:An:292:ARG:HD2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:155:TYR:OH	51:Av:106:PRO:HB2	2.20	0.41
6:G:297:TRP:O	45:Aw:15:VAL:HB	2.20	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:23:MET:HE1	71:BR:61:SER:HA	2.02	0.41
9:K:82:ASN:ND2	39:BP:-4:THR:HA	2.36	0.41
9:K:182:ALA:HB1	47:Aj:232:LYS:HB2	2.02	0.41
11:M:11:GLY:C	11:M:12:LEU:HG	2.45	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
12:N:141:PHE:C	12:N:143:SER:H	2.29	0.41
13:O:136:TRP:HB3	13:O:166:ILE:HD11	2.03	0.41
13:O:164:ASN:C	13:O:197:VAL:HG13	2.46	0.41
14:Q:45:TRP:CZ2	36:Al:274:VAL:HG12	2.55	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
17:T:77:ASP:C	17:T:79:ARG:H	2.28	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
25:BK:632:ASP:N	25:BK:632:ASP:OD1	2.53	0.41
25:BK:649:SER:O	25:BK:650:LYS:HB2	2.20	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
32:Ae:287:TRP:CE3	57:BX:181:ILE:HD11	2.56	0.41
33:Af:56:GLN:HA	33:Af:56:GLN:HE21	1.82	0.41
33:Af:132:THR:OG1	46:BH:135:PRO:HD3	2.20	0.41
34:Ah:448:VAL:CG2	34:Ah:460:ARG:HH21	2.34	0.41
36:Al:260:MET:C	36:Al:262:HIS:N	2.79	0.41
37:Ab:52:TRP:HB3	73:1:509:U:N3	2.36	0.41
37:Ab:61:TYR:OH	37:Ab:86:LEU:O	2.33	0.41
37:Ab:159:THR:O	37:Ab:163:ARG:HG2	2.21	0.41
40:Az:108:CYS:SG	40:Az:112:TRP:CE3	3.14	0.41
40:Az:109:PRO:HG3	73:1:78:U:P	2.61	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:As:153:LEU:HD22	42:As:153:LEU:HA	1.87	0.41
45:Aw:120:MET:O	45:Aw:123:ARG:N	2.46	0.41
47:Aj:137:LEU:HD13	47:Aj:287:ILE:HD12	2.02	0.41
47:Aj:400:ASN:CG	47:Aj:429:ASP:HB2	2.46	0.41
48:Ar:14:GLU:N	48:Ar:16:GLN:OE1	2.54	0.41
48:Ar:75:GLU:OE1	48:Ar:75:GLU:N	2.54	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
53:Ag:27:TYR:HA	53:Ag:31:MET:HE1	2.03	0.41
55:Ax:54:LYS:HD2	55:Ax:54:LYS:HA	1.58	0.41
55:Ax:143:PHE:HE2	55:Ax:152:ILE:HB	1.85	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:115:ASP:C	58:BZ:117:LEU:N	2.79	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
61:BT:283:MET:HE3	61:BT:283:MET:HB3	1.91	0.41
62:BU:169:VAL:HA	62:BU:170:PRO:HD3	1.96	0.41
62:BU:290:ARG:O	62:BU:291:TYR:C	2.64	0.41
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: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
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
73:1:591:U:O2'	73:1:592:A:OP1	2.36	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
77:U8:58:ALA:O	77:U8:59:ALA:C	2.63	0.41
1:A:263:TRP:CE3	1:A:263:TRP:HA	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:22:VAL:HG13	3:C:23:THR:HG23	2.03	0.41
3:C:51:TYR:CE1	3:C:55:MET:HE3	2.56	0.41
3:C:68:GLU:OE2	53:Ag:116:ARG:NH1	2.53	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
23:BB:110:PHE:HE1	32:Ae:22:GLN:HA	1.86	0.41
25:BK:482:ALA:C	25:BK:484:SER:H	2.28	0.41
25:BK:608:HIS:HA	25:BK:609:PRO:HD3	1.90	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
30:At:98:THR:HB	40:Az:151:CYS:O	2.20	0.41
31:Au:181:ALA:O	35:Ap:9:PHE:N	2.53	0.41
32:Ae:52:ARG:HH12	32:Ae:55:HIS:CD2	2.38	0.41
35:Ap:169:GLU:O	35:Ap:172:LYS:NZ	2.54	0.41
36:Al:127:ILE:HB	36:Al:167:VAL:HG22	2.03	0.41
37:Ab:11:ARG:HH22	37:Ab:13:ILE:HD11	1.86	0.41
37:Ab:31:THR:OG1	37:Ab:32:HIS:N	2.53	0.41
37:Ab:116:TYR:HE2	38:Aa:142:ARG:HE	1.69	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
44:Ad:24:TYR:CZ	44:Ad:30:LEU:HD23	2.56	0.41
44:Ad:45:ARG:O	44:Ad:45:ARG:CG	2.63	0.41
44:Ad:166:PRO:HG3	44:Ad:187:ASN:HB2	2.02	0.41
44:Ad:229:HIS:O	44:Ad:233:LEU:N	2.47	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
54:Bl:136:PHE:C	54:Bl:138:ASP:H	2.29	0.41
55:Ax:81:ARG:O	55:Ax:85:HIS:HA	2.21	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BU:35:GLY:HA2	62:BU:41:LYS:HD2	2.03	0.41
62:BU:296:GLU:O	62:BU:296:GLU:HG2	2.20	0.41
63:BW:96:ARG:C	63:BW:98:ALA:N	2.75	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
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
7:I:130:ASP:OD1	31:Au:171:SER:OG	2.33	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
10:L:127:VAL:HA	38:Aa:100:LEU:HA	2.03	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
15:R:262:ALA:N	30:At:108:MET:SD	2.94	0.40
19:Z:129:TYR:OH	34:Ah:184:CYS:HB2	2.21	0.40
21:CA:319:LEU:C	21:CA:319:LEU:CD2	2.94	0.40
21:CA:345:VAL:HG23	44:Ad:33:MET:HE1	2.04	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
32:Ae:33:PRO:O	32:Ae:34:HIS:CG	2.74	0.40
34:Ah:186:GLU:HG3	34:Ah:194:THR:OG1	2.22	0.40
34:Ah:302:LEU:HD22	34:Ah:469:LYS:NZ	2.36	0.40
36:Al:290:TYR:CE2	36:Al:292:GLY:HA2	2.57	0.40
38:Aa:116:MET:HG3	38:Aa:146:ILE:HG22	2.03	0.40
41:Am:214:SER:HA	41:Am:221:GLU:OE1	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:Ad:33:MET:HE2	44:Ad:33:MET:HB3	1.98	0.40
44:Ad:119:SER:OG	44:Ad:123:PRO:HG3	2.20	0.40
44:Ad:125:ALA:C	44:Ad:127:ALA:H	2.29	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
49:An:143:GLU:O	49:An:144:LEU:HD23	2.21	0.40
51:Av:109:PHE:HA	51:Av:112:LYS:HE3	2.03	0.40
52:BM:256:PRO:HG2	52:BM:258:ASP:CG	2.46	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
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
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
9:K:43:MET:HE1	10:L:93:VAL:HG13	2.03	0.40
12:N:182:TYR:HB2	19:Z:142:PHE:CE1	2.56	0.40
14:Q:73:MET:HE2	14:Q:73:MET:HB2	1.87	0.40
15:R:20:ASN:ND2	15:R:27:PRO:HA	2.36	0.40
16:S:254:VAL:HG21	33:Af:52:LYS:CD	2.48	0.40
16:S:283:GLU:OE2	47:Aj:110:LEU:HD12	2.20	0.40
21:CA:82:THR:HG22	21:CA:197:VAL:HB	2.03	0.40
22:UA:202:ALA:HB3	35:Ap:166:GLU:OE2	2.21	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
28:BE:104:VAL:O	28:BE:105:TYR:C	2.64	0.40
29:BO:148:ASP:OD1	29:BO:168:TYR:OH	2.38	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Ae:287:TRP:C	32:Ae:289:GLN:N	2.76	0.40
33:Af:19:LEU:HD22	48:Ar:120:TRP:CG	2.56	0.40
33:Af:74:ASP:C	33:Af:76:GLN:H	2.29	0.40
34:Ah:459:TYR:O	34:Ah:463:GLU:HG2	2.20	0.40
37:Ab:23:PRO:HB3	37:Ab:26:ARG:HH21	1.87	0.40
37:Ab:105:GLN:HG3	37:Ab:105:GLN:O	2.21	0.40
40:Az:122:LYS:HG2	40:Az:123:LEU:HD23	2.03	0.40
47:Aj:485:PHE:HD1	47:Aj:488:ALA:HB3	1.86	0.40
48:Ar:182:GLU:HG3	48:Ar:183:VAL:HG13	2.03	0.40
51:Av:81:LYS:HG3	51:Av:82:GLU:HG3	2.04	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:37:MET:HA	62:BU:37:MET:HE3	2.03	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
63:BW:373:GLY:C	63:BW:558:ASN:HD21	2.29	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
1:A:338:THR:OG1	32:Ae:32:ARG:NH2	2.54	0.40
2:B:120:GLU:HB3	2:B:202:MET:HE1	2.03	0.40
2:B:219:LEU:HA	2:B:219:LEU:HD23	1.86	0.40
5:F:12:ARG:HD2	37:Ab:119:ASN:HD21	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
14:Q:176:GLN:OE1	49:An:231:MET:HA	2.21	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BK:696:ASP:O	25:BK:700:ASP:N	2.45	0.40
27:BN:120:GLY:C	27:BN:121:PHE:HD1	2.29	0.40
27:BN:133:ARG:HH12	42:As:107:ASP:CG	2.30	0.40
31:Au:140:LEU:HD23	31:Au:140:LEU:HA	1.90	0.40
34:Ah:214:ARG:CZ	34:Ah:222:ASN:HB2	2.51	0.40
39:BP:18:GLU:OE2	39:BP:43:GLN:NE2	2.46	0.40
41:Am:295:TYR:O	41:Am:295:TYR:CG	2.75	0.40
41:Am:306:PHE:CD1	73:1:420:U:H5''	2.57	0.40
42:As:80:ASP:HB2	42:As:127:HIS:CE1	2.57	0.40
43:BG:1264:VAL:HG22	55:Ax:98:VAL:HG13	2.04	0.40
45:Aw:77:ASN:HD21	53:Ag:75:ARG:NH2	2.19	0.40
48:Ar:81:VAL:HG21	48:Ar:87:PHE:CE1	2.55	0.40
48:Ar:111:PHE:HB2	48:Ar:195:ILE:HA	2.02	0.40
50:BF:93:LYS:HD2	50:BF:93:LYS:HA	1.89	0.40
51:Av:74:GLN:H	51:Av:74:GLN:HG2	1.72	0.40
51:Av:80:GLY:HA2	51:Av:84:MET:HE2	2.02	0.40
54:Bl:86:ILE:HG12	54:Bl:260:VAL:HG22	2.03	0.40
54:Bl:251:ALA:C	54:Bl:253:GLU:H	2.29	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: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
71:BR:83:HIS:O	71:BR:84:ASP:C	2.64	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
12:N:70:GLY:O	12:N:71:TRP:C	2.65	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:52:HIS:HB2	53:Ag:57:TRP:CH2	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
16:S:313:LEU:HD21	33:Af:80:ARG:HH12	1.86	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
25:BK:534:GLU:CD	25:BK:677:ARG:HG2	2.47	0.40
26:BQ:425:VAL:H	26:BQ:425:VAL:HG22	1.62	0.40
29:BO:124:ASN:HB2	29:BO:126:TYR:CZ	2.57	0.40
32:Ae:185:VAL:HG11	32:Ae:201:LEU:HD23	2.03	0.40
32:Ae:256:ILE:O	32:Ae:260:MET:HB2	2.21	0.40
33:Af:98:ARG:HD2	33:Af:101:GLU:OE1	2.22	0.40
34:Ah:408:TYR:N	34:Ah:408:TYR:CD1	2.90	0.40
34:Ah:419:LEU:C	34:Ah:423:THR:HG23	2.47	0.40
37:Ab:79:ILE:O	37:Ab:83:PHE:N	2.51	0.40
38:Aa:100:LEU:HD21	38:Aa:106:LEU:HB2	2.03	0.40
47:Aj:120:PHE:HB3	47:Aj:122:ASN:OD1	2.21	0.40
49:An:225:GLU:CD	49:An:232:ARG:HH12	2.29	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
53:Ag:77:ARG:HA	53:Ag:130:GLN:HE22	1.86	0.40
57:BX:128:MET:HE3	57:BX:166:VAL:HB	2.03	0.40
58:BZ:281:ILE:O	58:BZ:282:VAL:C	2.64	0.40
61:BT:214:GLY:C	61:BT:216:LYS:H	2.30	0.40
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
9:K:105:LEU:HD13	38:Aa:109:HIS:CD2	2.57	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
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
28:BE:94:TYR:CZ	32:Ae:161:LEU:HD13	2.56	0.40
32:Ae:26:SER:HB3	32:Ae:30:ARG:NH1	2.36	0.40
32:Ae:129:LYS:HD2	32:Ae:144:GLU:HG3	2.03	0.40
32:Ae:247:ILE:O	32:Ae:250:VAL:HG12	2.21	0.40
33:Af:34:ARG:HH21	48:Ar:124:CYS:HB2	1.86	0.40
33:Af:64:ARG:CB	33:Af:64:ARG:HH11	2.34	0.40
34:Ah:197:MET:HA	34:Ah:201:MET:HE3	2.03	0.40
34:Ah:272:ILE:HB	34:Ah:276:TYR:OH	2.21	0.40
34:Ah:443:THR:HB	34:Ah:446:GLU:HG2	2.04	0.40
35:Ap:33:GLU:HG2	35:Ap:33:GLU:O	2.22	0.40
35:Ap:209:LYS:HG3	35:Ap:210:VAL:N	2.36	0.40
36:Al:149:ARG:NH2	36:Al:204:LYS:HA	2.36	0.40
38:Aa:121:ARG:O	38:Aa:125:GLU:HG2	2.22	0.40
42:As:184:ARG:NH2	60:CD:57:ILE:HB	2.36	0.40
44:Ad:154:PRO:HA	45:Aw:144:ASN:HB3	2.03	0.40
45:Aw:156:LYS:O	45:Aw:159:VAL:HG22	2.21	0.40
46:BH:86:PRO:HA	46:BH:173:VAL:CG2	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BH:145:ASN:HB3	46:BH:149:ASN:ND2	2.36	0.40
47:Aj:119:LEU:HA	47:Aj:119:LEU:HD12	1.82	0.40
47:Aj:274:GLN:NE2	47:Aj:274:GLN:H	2.20	0.40
49:An:198:LEU:HD11	49:An:207:PHE:CD2	2.57	0.40
52:BM:141:ARG:CG	52:BM:271:ARG:HG3	2.51	0.40
54:Bl:237:TRP:H	54:Bl:237:TRP:CD1	2.40	0.40
55:Ax:211:LEU:HG	55:Ax:212:PHE:HD1	1.87	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
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
73:1:845: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 ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	354/467 (76%)	298 (84%)	55 (16%)	1 (0%)	36	65
2	B	433/436 (99%)	387 (89%)	46 (11%)	0	100	100
3	C	210/262 (80%)	182 (87%)	27 (13%)	1 (0%)	24	54

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	E	223/346 (64%)	192 (86%)	30 (14%)	1 (0%)	30	59
5	F	145/171 (85%)	125 (86%)	20 (14%)	0	100	100
6	G	332/374 (89%)	289 (87%)	36 (11%)	7 (2%)	5	24
7	I	255/305 (84%)	218 (86%)	37 (14%)	0	100	100
8	J	139/144 (96%)	108 (78%)	27 (19%)	4 (3%)	3	19
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%)	5	24
13	O	298/476 (63%)	267 (90%)	30 (10%)	1 (0%)	36	65
14	Q	215/234 (92%)	191 (89%)	23 (11%)	1 (0%)	24	54
15	R	470/480 (98%)	410 (87%)	59 (13%)	1 (0%)	43	71
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%)	14	42
22	UA	201/203 (99%)	167 (83%)	30 (15%)	4 (2%)	6	25
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%)	21	50
26	BQ	409/445 (92%)	362 (88%)	46 (11%)	1 (0%)	43	71
27	BN	192/344 (56%)	163 (85%)	27 (14%)	2 (1%)	12	40
28	BE	35/118 (30%)	26 (74%)	9 (26%)	0	100	100
29	BO	154/190 (81%)	108 (70%)	44 (29%)	2 (1%)	9	33
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%)	24	54

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
35	Ap	212/240 (88%)	193 (91%)	19 (9%)	0	100	100
36	Al	226/346 (65%)	197 (87%)	27 (12%)	2 (1%)	14	42
37	Ab	166/262 (63%)	148 (89%)	18 (11%)	0	100	100
38	Aa	133/195 (68%)	106 (80%)	23 (17%)	4 (3%)	3	18
39	BP	129/254 (51%)	105 (81%)	23 (18%)	1 (1%)	16	44
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%)	4	22
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%)	21	50
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%)	16	44
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%)	4	22
56	BS	121/416 (29%)	100 (83%)	21 (17%)	0	100	100
57	BX	270/569 (48%)	202 (75%)	64 (24%)	4 (2%)	8	30
57	BY	273/569 (48%)	214 (78%)	58 (21%)	1 (0%)	30	59
58	BZ	347/413 (84%)	277 (80%)	60 (17%)	10 (3%)	3	19
59	CC	82/150 (55%)	76 (93%)	6 (7%)	0	100	100
60	CD	88/126 (70%)	70 (80%)	17 (19%)	1 (1%)	11	38
61	BT	298/464 (64%)	235 (79%)	62 (21%)	1 (0%)	36	65
62	BU	461/497 (93%)	373 (81%)	85 (18%)	3 (1%)	18	47
63	BW	443/776 (57%)	359 (81%)	76 (17%)	8 (2%)	6	26
64	BV	195/787 (25%)	151 (77%)	42 (22%)	2 (1%)	12	40

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
66	U6	185/187 (99%)	138 (75%)	43 (23%)	4 (2%)	5	24
67	U1	44/46 (96%)	34 (77%)	8 (18%)	2 (4%)	2	12
68	U3	73/75 (97%)	55 (75%)	17 (23%)	1 (1%)	9	31
69	U4	134/136 (98%)	120 (90%)	14 (10%)	0	100	100
70	U5	92/94 (98%)	52 (56%)	38 (41%)	2 (2%)	5	24
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%)	20	47

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

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Mol	Chain	Res	Type
6	G	324	PRO
8	J	49	LYS
13	O	218	VAL
15	R	242	ALA
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

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Mol	Chain	Res	Type
6	G	321	ILE
14	Q	24	HIS
21	CA	525	PRO
22	UA	83	ALA
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

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Mol	Chain	Res	Type
63	BW	377	LEU

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	305/394 (77%)	282 (92%)	23 (8%)	12	38
2	B	380/381 (100%)	351 (92%)	29 (8%)	12	38
3	C	190/227 (84%)	172 (90%)	18 (10%)	8	29
4	E	193/301 (64%)	176 (91%)	17 (9%)	9	31
5	F	130/152 (86%)	124 (95%)	6 (5%)	24	50
6	G	290/323 (90%)	267 (92%)	23 (8%)	11	36
7	I	223/262 (85%)	211 (95%)	12 (5%)	20	47
8	J	119/122 (98%)	101 (85%)	18 (15%)	3	11
9	K	151/162 (93%)	138 (91%)	13 (9%)	10	33
10	L	151/158 (96%)	130 (86%)	21 (14%)	3	14
11	M	226/242 (93%)	206 (91%)	20 (9%)	9	31
12	N	175/220 (80%)	153 (87%)	22 (13%)	4	18
13	O	272/397 (68%)	246 (90%)	26 (10%)	8	28
14	Q	191/204 (94%)	179 (94%)	12 (6%)	16	42
15	R	406/412 (98%)	370 (91%)	36 (9%)	9	31
16	S	135/336 (40%)	123 (91%)	12 (9%)	9	31
17	T	52/74 (70%)	47 (90%)	5 (10%)	8	28
18	V	125/135 (93%)	116 (93%)	9 (7%)	13	39
19	Z	97/172 (56%)	89 (92%)	8 (8%)	10	35
20	BA	86/135 (64%)	78 (91%)	8 (9%)	8	29
21	CA	446/501 (89%)	390 (87%)	56 (13%)	4	18
23	BB	91/140 (65%)	87 (96%)	4 (4%)	25	51
24	CB	118/179 (66%)	104 (88%)	14 (12%)	5	19

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
25	BK	582/739 (79%)	518 (89%)	64 (11%)	6	22
26	BQ	347/375 (92%)	322 (93%)	25 (7%)	13	39
27	BN	159/280 (57%)	143 (90%)	16 (10%)	7	25
28	BE	35/100 (35%)	31 (89%)	4 (11%)	5	21
29	BO	136/158 (86%)	118 (87%)	18 (13%)	4	16
30	At	140/153 (92%)	132 (94%)	8 (6%)	18	45
31	Au	69/164 (42%)	65 (94%)	4 (6%)	18	45
32	Ae	249/261 (95%)	229 (92%)	20 (8%)	11	36
33	Af	125/135 (93%)	117 (94%)	8 (6%)	16	42
34	Ah	337/485 (70%)	307 (91%)	30 (9%)	9	31
35	Ap	189/208 (91%)	172 (91%)	17 (9%)	9	30
36	Al	204/299 (68%)	185 (91%)	19 (9%)	8	29
37	Ab	150/235 (64%)	138 (92%)	12 (8%)	11	36
38	Aa	118/166 (71%)	104 (88%)	14 (12%)	5	19
39	BP	110/215 (51%)	100 (91%)	10 (9%)	9	30
40	Az	123/143 (86%)	115 (94%)	8 (6%)	15	42
41	Am	250/287 (87%)	236 (94%)	14 (6%)	19	46
42	As	131/204 (64%)	123 (94%)	8 (6%)	17	43
43	BG	77/1047 (7%)	71 (92%)	6 (8%)	11	37
44	Ad	159/193 (82%)	150 (94%)	9 (6%)	18	45
45	Aw	157/159 (99%)	146 (93%)	11 (7%)	14	40
46	BH	150/189 (79%)	144 (96%)	6 (4%)	28	53
47	Aj	287/420 (68%)	272 (95%)	15 (5%)	21	48
48	Ar	169/179 (94%)	157 (93%)	12 (7%)	13	39
49	An	208/289 (72%)	195 (94%)	13 (6%)	16	42
50	BF	68/95 (72%)	65 (96%)	3 (4%)	25	51
51	Av	90/169 (53%)	85 (94%)	5 (6%)	19	46
52	BM	319/370 (86%)	284 (89%)	35 (11%)	6	22
53	Ag	106/211 (50%)	97 (92%)	9 (8%)	10	33
54	Bl	153/221 (69%)	142 (93%)	11 (7%)	13	39
55	Ax	150/190 (79%)	142 (95%)	8 (5%)	20	47

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
56	BS	103/328 (31%)	95 (92%)	8 (8%)	11	37
57	BX	226/483 (47%)	201 (89%)	25 (11%)	6	21
57	BY	229/483 (47%)	208 (91%)	21 (9%)	8	29
58	BZ	305/363 (84%)	268 (88%)	37 (12%)	5	19
59	CC	77/129 (60%)	70 (91%)	7 (9%)	9	30
60	CD	83/112 (74%)	77 (93%)	6 (7%)	13	39
61	BT	257/398 (65%)	237 (92%)	20 (8%)	11	37
62	BU	401/431 (93%)	357 (89%)	44 (11%)	6	22
63	BW	386/661 (58%)	344 (89%)	42 (11%)	6	22
64	BV	172/644 (27%)	164 (95%)	8 (5%)	23	50
71	BR	177/241 (73%)	167 (94%)	10 (6%)	19	46
All	All	12515/18241 (69%)	11433 (91%)	1082 (9%)	12	33

All (1082) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	40	SER
1	A	44	GLU
1	A	107	LEU
1	A	110	ASP
1	A	140	THR
1	A	145	ASP
1	A	166	HIS
1	A	185	VAL
1	A	203	VAL
1	A	214	VAL
1	A	237	VAL
1	A	257	PHE
1	A	262	VAL
1	A	275	CYS
1	A	304	VAL
1	A	316	ILE
1	A	334	ASP
1	A	335	THR
1	A	346	GLU
1	A	350	THR
1	A	355	THR
1	A	359	SER

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Mol	Chain	Res	Type
1	A	365	SER
2	B	6	SER
2	B	9	VAL
2	B	28	VAL
2	B	42	ASN
2	B	45	THR
2	B	55	SER
2	B	58	ARG
2	B	70	LEU
2	B	80	VAL
2	B	85	THR
2	B	94	VAL
2	B	104	THR
2	B	181	VAL
2	B	190	THR
2	B	199	SER
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	296	SER
2	B	300	THR
2	B	310	ILE
2	B	312	ILE
2	B	316	ASN
2	B	342	THR
2	B	411	SER
3	C	18	HIS
3	C	44	ASP
3	C	53	LYS
3	C	59	THR
3	C	88	THR
3	C	115	VAL
3	C	117	PHE
3	C	118	LEU
3	C	124	GLU
3	C	136	THR
3	C	143	VAL
3	C	158	THR

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Mol	Chain	Res	Type
3	C	160	GLU
3	C	178	ILE
3	C	181	THR
3	C	203	ILE
3	C	207	PHE
3	C	213	ASP
4	E	24	ASN
4	E	44	PHE
4	E	51	HIS
4	E	52	ASN
4	E	64	THR
4	E	102	VAL
4	E	109	ASP
4	E	121	THR
4	E	139	VAL
4	E	173	ILE
4	E	180	VAL
4	E	181	VAL
4	E	197	VAL
4	E	202	VAL
4	E	220	VAL
4	E	222	MET
4	E	228	LEU
5	F	1	MET
5	F	76	THR
5	F	107	VAL
5	F	112	VAL
5	F	132	VAL
5	F	145	TRP
6	G	34	LEU
6	G	76	THR
6	G	98	THR
6	G	104	VAL
6	G	108	SER
6	G	113	ILE
6	G	115	MET
6	G	139	LYS
6	G	146	LYS
6	G	197	LEU
6	G	208	ASP
6	G	217	VAL
6	G	226	VAL

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Mol	Chain	Res	Type
6	G	228	TYR
6	G	230	LEU
6	G	242	ILE
6	G	260	GLU
6	G	262	LEU
6	G	269	GLU
6	G	307	ARG
6	G	310	HIS
6	G	315	ARG
6	G	321	ILE
7	I	34	THR
7	I	44	LEU
7	I	84	ILE
7	I	186	PHE
7	I	187	PHE
7	I	219	GLU
7	I	227	LEU
7	I	232	LEU
7	I	247	ASP
7	I	249	LEU
7	I	251	THR
7	I	263	LEU
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
8	J	57	ILE
8	J	71	ILE
8	J	79	THR
8	J	84	ILE
8	J	90	VAL
8	J	101	LEU
8	J	127	GLU
8	J	129	SER
8	J	136	LEU
9	K	14	THR
9	K	20	LEU

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Mol	Chain	Res	Type
9	K	33	LYS
9	K	40	THR
9	K	51	VAL
9	K	66	VAL
9	K	84	LEU
9	K	126	THR
9	K	132	GLU
9	K	162	THR
9	K	169	GLN
9	K	175	THR
9	K	188	LEU
10	L	2	LEU
10	L	38	ASP
10	L	42	VAL
10	L	53	ILE
10	L	60	MET
10	L	77	VAL
10	L	79	VAL
10	L	91	ASN
10	L	92	VAL
10	L	93	VAL
10	L	94	SER
10	L	98	THR
10	L	114	THR
10	L	117	ARG
10	L	118	ILE
10	L	126	THR
10	L	127	VAL
10	L	128	VAL
10	L	130	GLU
10	L	151	VAL
10	L	160	LEU
11	M	20	ASN
11	M	45	THR
11	M	57	THR
11	M	61	LEU
11	M	62	LEU
11	M	63	ASP
11	M	65	THR
11	M	69	SER
11	M	73	THR
11	M	86	VAL

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Mol	Chain	Res	Type
11	M	88	ASN
11	M	92	VAL
11	M	105	VAL
11	M	106	MET
11	M	152	VAL
11	M	157	SER
11	M	180	LEU
11	M	228	SER
11	M	247	THR
11	M	254	LEU
12	N	54	ASN
12	N	55	GLN
12	N	59	LEU
12	N	61	ARG
12	N	73	THR
12	N	105	ILE
12	N	111	LEU
12	N	124	GLN
12	N	134	SER
12	N	149	VAL
12	N	153	LEU
12	N	154	VAL
12	N	155	LEU
12	N	164	THR
12	N	175	SER
12	N	180	VAL
12	N	186	ILE
12	N	190	ASP
12	N	195	ILE
12	N	204	ARG
12	N	214	SER
12	N	223	VAL
13	O	41	GLU
13	O	44	LEU
13	O	54	LEU
13	O	56	LEU
13	O	67	ILE
13	O	74	ASP
13	O	87	ILE
13	O	98	ASP
13	O	100	THR
13	O	135	ILE

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Mol	Chain	Res	Type
13	O	160	VAL
13	O	166	ILE
13	O	183	THR
13	O	196	SER
13	O	197	VAL
13	O	210	LEU
13	O	215	ILE
13	O	218	VAL
13	O	223	THR
13	O	238	LEU
13	O	269	ARG
13	O	270	GLU
13	O	289	VAL
13	O	290	ASP
13	O	319	VAL
13	O	320	ARG
14	Q	28	ARG
14	Q	30	LEU
14	Q	49	VAL
14	Q	59	ASP
14	Q	75	VAL
14	Q	92	VAL
14	Q	106	THR
14	Q	114	LEU
14	Q	157	ARG
14	Q	161	LEU
14	Q	172	VAL
14	Q	219	VAL
15	R	17	VAL
15	R	37	GLU
15	R	39	LEU
15	R	50	ILE
15	R	52	LEU
15	R	59	ASN
15	R	72	GLN
15	R	98	VAL
15	R	102	ASP
15	R	106	THR
15	R	121	ILE
15	R	138	THR
15	R	150	ASP
15	R	163	VAL

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Mol	Chain	Res	Type
15	R	170	ILE
15	R	173	LEU
15	R	181	VAL
15	R	211	SER
15	R	213	THR
15	R	237	HIS
15	R	258	VAL
15	R	283	ILE
15	R	296	ILE
15	R	305	THR
15	R	307	THR
15	R	321	VAL
15	R	332	VAL
15	R	335	THR
15	R	353	ILE
15	R	365	PHE
15	R	392	THR
15	R	393	LEU
15	R	436	THR
15	R	474	GLU
15	R	475	VAL
15	R	480	ILE
16	S	257	VAL
16	S	267	PHE
16	S	274	ASN
16	S	278	ARG
16	S	285	MET
16	S	289	THR
16	S	290	VAL
16	S	316	ASP
16	S	337	ILE
16	S	349	ASN
16	S	369	VAL
16	S	380	LEU
17	T	34	ASN
17	T	41	LYS
17	T	52	LEU
17	T	62	LEU
17	T	78	CYS
18	V	14	CYS
18	V	38	GLN
18	V	39	VAL

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Mol	Chain	Res	Type
18	V	54	VAL
18	V	58	LEU
18	V	64	ARG
18	V	133	LYS
18	V	142	LYS
18	V	150	VAL
19	Z	55	HIS
19	Z	80	ARG
19	Z	89	VAL
19	Z	97	VAL
19	Z	116	SER
19	Z	131	TRP
19	Z	149	ASP
19	Z	157	VAL
20	BA	57	LEU
20	BA	60	ASP
20	BA	68	VAL
20	BA	87	ILE
20	BA	88	VAL
20	BA	130	LEU
20	BA	138	VAL
20	BA	147	SER
21	CA	88	GLU
21	CA	98	LEU
21	CA	110	SER
21	CA	116	LEU
21	CA	118	GLU
21	CA	122	THR
21	CA	134	ARG
21	CA	137	SER
21	CA	154	LEU
21	CA	168	SER
21	CA	186	LEU
21	CA	194	PHE
21	CA	198	THR
21	CA	202	VAL
21	CA	207	THR
21	CA	215	SER
21	CA	217	HIS
21	CA	223	LEU
21	CA	227	ASP
21	CA	241	VAL

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Mol	Chain	Res	Type
21	CA	251	LEU
21	CA	256	SER
21	CA	275	ILE
21	CA	291	PHE
21	CA	292	ASP
21	CA	312	THR
21	CA	334	THR
21	CA	339	VAL
21	CA	345	VAL
21	CA	355	THR
21	CA	369	GLN
21	CA	407	SER
21	CA	416	ARG
21	CA	418	VAL
21	CA	425	ARG
21	CA	426	ILE
21	CA	437	VAL
21	CA	446	TYR
21	CA	449	ASP
21	CA	453	LEU
21	CA	455	ILE
21	CA	467	TYR
21	CA	470	HIS
21	CA	478	THR
21	CA	486	LEU
21	CA	487	SER
21	CA	492	SER
21	CA	503	THR
21	CA	521	VAL
21	CA	532	LYS
21	CA	534	ASP
21	CA	544	THR
21	CA	574	ILE
21	CA	586	LEU
21	CA	600	LEU
21	CA	607	HIS
23	BB	54	VAL
23	BB	55	GLN
23	BB	85	ASP
23	BB	94	LEU
24	CB	53	VAL
24	CB	74	SER

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Mol	Chain	Res	Type
24	CB	75	GLU
24	CB	110	ILE
24	CB	111	SER
24	CB	116	GLN
24	CB	118	THR
24	CB	132	VAL
24	CB	144	THR
24	CB	165	ILE
24	CB	172	LYS
24	CB	176	LEU
24	CB	180	THR
24	CB	184	GLN
25	BK	164	HIS
25	BK	169	ASP
25	BK	203	THR
25	BK	228	ASN
25	BK	233	ILE
25	BK	243	SER
25	BK	289	LEU
25	BK	300	THR
25	BK	304	ASN
25	BK	318	VAL
25	BK	322	CYS
25	BK	325	VAL
25	BK	393	ASP
25	BK	415	VAL
25	BK	426	VAL
25	BK	428	LEU
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	527	VAL
25	BK	529	HIS
25	BK	530	GLN
25	BK	540	LEU
25	BK	543	LEU

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Mol	Chain	Res	Type
25	BK	571	ASP
25	BK	589	THR
25	BK	595	LEU
25	BK	598	THR
25	BK	601	VAL
25	BK	612	TYR
25	BK	614	VAL
25	BK	622	HIS
25	BK	628	VAL
25	BK	631	LEU
25	BK	639	ASN
25	BK	655	LEU
25	BK	656	VAL
25	BK	664	SER
25	BK	667	ASP
25	BK	679	LEU
25	BK	688	THR
25	BK	723	HIS
25	BK	727	THR
25	BK	731	GLU
25	BK	742	LEU
25	BK	749	VAL
25	BK	751	VAL
25	BK	754	ILE
25	BK	765	GLN
25	BK	769	ARG
25	BK	778	THR
25	BK	780	ASP
25	BK	789	LEU
25	BK	794	SER
25	BK	795	LYS
25	BK	806	VAL
25	BK	828	VAL
25	BK	868	ASP
26	BQ	15	SER
26	BQ	32	MET
26	BQ	81	ILE
26	BQ	91	VAL
26	BQ	117	ASN
26	BQ	124	ILE
26	BQ	128	VAL
26	BQ	144	VAL

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Mol	Chain	Res	Type
26	BQ	157	SER
26	BQ	183	HIS
26	BQ	206	ASP
26	BQ	242	LEU
26	BQ	251	THR
26	BQ	284	SER
26	BQ	289	LEU
26	BQ	305	LEU
26	BQ	321	TYR
26	BQ	328	THR
26	BQ	379	VAL
26	BQ	390	LEU
26	BQ	410	LEU
26	BQ	425	VAL
26	BQ	428	ARG
26	BQ	441	SER
26	BQ	442	LEU
27	BN	82	GLU
27	BN	86	THR
27	BN	101	ILE
27	BN	109	LEU
27	BN	128	VAL
27	BN	151	GLU
27	BN	163	LEU
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	236	LEU
27	BN	237	HIS
28	BE	91	ILE
28	BE	102	VAL
28	BE	116	LEU
28	BE	117	ARG
29	BO	43	TYR
29	BO	61	SER
29	BO	64	VAL
29	BO	70	ASP
29	BO	72	THR

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Mol	Chain	Res	Type
29	BO	79	LEU
29	BO	90	HIS
29	BO	91	CYS
29	BO	93	VAL
29	BO	128	VAL
29	BO	132	THR
29	BO	136	THR
29	BO	138	THR
29	BO	150	ASN
29	BO	154	ILE
29	BO	177	LYS
29	BO	179	HIS
29	BO	180	LEU
30	At	25	ASP
30	At	27	VAL
30	At	40	SER
30	At	53	THR
30	At	63	THR
30	At	98	THR
30	At	138	GLU
30	At	172	THR
31	Au	109	LEU
31	Au	118	VAL
31	Au	141	VAL
31	Au	169	VAL
32	Ae	25	LEU
32	Ae	67	ARG
32	Ae	73	THR
32	Ae	96	GLU
32	Ae	100	LEU
32	Ae	110	LYS
32	Ae	114	THR
32	Ae	127	VAL
32	Ae	135	LEU
32	Ae	155	THR
32	Ae	175	LEU
32	Ae	179	GLU
32	Ae	182	THR
32	Ae	184	THR
32	Ae	208	LEU
32	Ae	247	ILE
32	Ae	255	LEU

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Mol	Chain	Res	Type
32	Ae	256	ILE
32	Ae	276	VAL
32	Ae	280	ILE
33	Af	56	GLN
33	Af	61	VAL
33	Af	67	GLU
33	Af	94	VAL
33	Af	105	GLN
33	Af	116	VAL
33	Af	143	ASP
33	Af	144	THR
34	Ah	47	ILE
34	Ah	48	SER
34	Ah	50	LYS
34	Ah	57	VAL
34	Ah	192	VAL
34	Ah	195	LEU
34	Ah	196	VAL
34	Ah	219	LEU
34	Ah	235	ASP
34	Ah	242	LEU
34	Ah	251	VAL
34	Ah	256	VAL
34	Ah	264	LEU
34	Ah	271	GLN
34	Ah	280	ILE
34	Ah	311	VAL
34	Ah	330	VAL
34	Ah	331	GLU
34	Ah	332	LEU
34	Ah	336	ASP
34	Ah	337	VAL
34	Ah	367	GLN
34	Ah	369	VAL
34	Ah	393	VAL
34	Ah	404	HIS
34	Ah	454	ASP
34	Ah	458	VAL
34	Ah	464	ASP
34	Ah	467	LEU
34	Ah	473	LEU
35	Ap	13	VAL

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Mol	Chain	Res	Type
35	Ap	15	THR
35	Ap	46	PHE
35	Ap	65	SER
35	Ap	70	ASN
35	Ap	78	LEU
35	Ap	96	LEU
35	Ap	119	ARG
35	Ap	155	THR
35	Ap	157	THR
35	Ap	170	ASP
35	Ap	175	HIS
35	Ap	178	LEU
35	Ap	181	GLU
35	Ap	190	LEU
35	Ap	200	TYR
35	Ap	211	ASN
36	Al	82	THR
36	Al	86	LEU
36	Al	106	VAL
36	Al	114	LEU
36	Al	146	VAL
36	Al	150	VAL
36	Al	159	THR
36	Al	180	TRP
36	Al	187	ASP
36	Al	202	THR
36	Al	232	MET
36	Al	236	SER
36	Al	240	LEU
36	Al	245	VAL
36	Al	257	GLU
36	Al	264	VAL
36	Al	266	TRP
36	Al	280	ARG
36	Al	306	ARG
37	Ab	8	CYS
37	Ab	57	ILE
37	Ab	80	ASN
37	Ab	81	VAL
37	Ab	83	PHE
37	Ab	101	HIS
37	Ab	109	VAL

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Mol	Chain	Res	Type
37	Ab	112	THR
37	Ab	126	ARG
37	Ab	138	THR
37	Ab	146	VAL
37	Ab	164	VAL
38	Aa	48	VAL
38	Aa	62	VAL
38	Aa	80	ASP
38	Aa	88	THR
38	Aa	90	THR
38	Aa	96	ARG
38	Aa	102	ASP
38	Aa	105	VAL
38	Aa	115	ILE
38	Aa	132	SER
38	Aa	141	SER
38	Aa	147	ILE
38	Aa	152	ILE
38	Aa	155	THR
39	BP	-37	THR
39	BP	-33	SER
39	BP	-4	THR
39	BP	-3	HIS
39	BP	-2	ILE
39	BP	3	HIS
39	BP	10	TYR
39	BP	16	SER
39	BP	32	ILE
39	BP	56	ILE
40	Az	26	LEU
40	Az	36	HIS
40	Az	37	LYS
40	Az	74	ASN
40	Az	94	ASP
40	Az	113	VAL
40	Az	115	PHE
40	Az	139	SER
41	Am	80	ASP
41	Am	92	LEU
41	Am	140	TYR
41	Am	183	VAL
41	Am	205	ARG

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Mol	Chain	Res	Type
41	Am	230	ASP
41	Am	244	VAL
41	Am	265	SER
41	Am	270	ILE
41	Am	279	GLN
41	Am	289	GLU
41	Am	310	LEU
41	Am	323	THR
41	Am	325	PHE
42	As	64	LEU
42	As	69	ASP
42	As	71	THR
42	As	86	THR
42	As	124	VAL
42	As	153	LEU
42	As	182	THR
42	As	186	LEU
43	BG	1267	ASP
43	BG	1277	THR
43	BG	1282	THR
43	BG	1295	THR
43	BG	1308	MET
43	BG	1314	ASP
44	Ad	24	TYR
44	Ad	44	GLN
44	Ad	45	ARG
44	Ad	48	LEU
44	Ad	52	THR
44	Ad	60	LEU
44	Ad	77	LEU
44	Ad	138	VAL
44	Ad	161	SER
45	Aw	6	VAL
45	Aw	38	ARG
45	Aw	43	VAL
45	Aw	53	VAL
45	Aw	55	ASP
45	Aw	63	LEU
45	Aw	84	THR
45	Aw	92	ILE
45	Aw	115	LEU
45	Aw	116	SER

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Mol	Chain	Res	Type
45	Aw	159	VAL
46	BH	79	THR
46	BH	89	VAL
46	BH	113	ASP
46	BH	116	PHE
46	BH	127	THR
46	BH	157	VAL
47	Aj	259	THR
47	Aj	308	THR
47	Aj	309	VAL
47	Aj	330	LEU
47	Aj	345	GLU
47	Aj	359	VAL
47	Aj	373	PHE
47	Aj	386	VAL
47	Aj	395	ASP
47	Aj	421	VAL
47	Aj	453	ILE
47	Aj	463	VAL
47	Aj	467	VAL
47	Aj	470	MET
47	Aj	489	GLU
48	Ar	20	ILE
48	Ar	23	ILE
48	Ar	38	GLU
48	Ar	40	ARG
48	Ar	42	ILE
48	Ar	73	ASP
48	Ar	94	LYS
48	Ar	106	THR
48	Ar	118	GLN
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	143	GLU
49	An	189	VAL
49	An	193	THR
49	An	196	LEU

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Mol	Chain	Res	Type
49	An	214	VAL
49	An	246	LEU
49	An	265	ASP
49	An	274	GLU
49	An	305	ASP
50	BF	67	GLU
50	BF	96	ARG
50	BF	104	ARG
51	Av	49	GLU
51	Av	90	ILE
51	Av	96	ASP
51	Av	98	VAL
51	Av	104	THR
52	BM	3	VAL
52	BM	20	LEU
52	BM	28	VAL
52	BM	72	TYR
52	BM	75	VAL
52	BM	78	VAL
52	BM	109	THR
52	BM	118	ILE
52	BM	122	LEU
52	BM	129	LEU
52	BM	134	LYS
52	BM	136	CYS
52	BM	138	VAL
52	BM	159	MET
52	BM	191	GLU
52	BM	192	LEU
52	BM	216	GLN
52	BM	233	VAL
52	BM	245	TYR
52	BM	252	VAL
52	BM	253	CYS
52	BM	266	TRP
52	BM	271	ARG
52	BM	308	THR
52	BM	311	CYS
52	BM	312	VAL
52	BM	320	LEU
52	BM	326	TYR
52	BM	327	LEU

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Mol	Chain	Res	Type
52	BM	329	THR
52	BM	343	VAL
52	BM	344	VAL
52	BM	349	LEU
52	BM	361	LEU
52	BM	382	LEU
53	Ag	56	SER
53	Ag	58	LEU
53	Ag	75	ARG
53	Ag	96	THR
53	Ag	97	CYS
53	Ag	98	ASP
53	Ag	99	VAL
53	Ag	126	SER
53	Ag	128	ARG
54	Bl	131	ILE
54	Bl	144	LEU
54	Bl	153	ARG
54	Bl	154	VAL
54	Bl	160	VAL
54	Bl	166	VAL
54	Bl	176	ILE
54	Bl	186	GLU
54	Bl	207	LEU
54	Bl	234	VAL
54	Bl	258	VAL
55	Ax	55	VAL
55	Ax	57	THR
55	Ax	77	HIS
55	Ax	83	ARG
55	Ax	94	ASP
55	Ax	105	CYS
55	Ax	168	SER
55	Ax	169	CYS
56	BS	286	LEU
56	BS	299	VAL
56	BS	303	ILE
56	BS	320	VAL
56	BS	380	TYR
56	BS	387	SER
56	BS	399	ILE
56	BS	411	SER

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Mol	Chain	Res	Type
57	BY	89	HIS
57	BY	93	LEU
57	BY	108	ILE
57	BY	113	MET
57	BY	140	HIS
57	BY	145	THR
57	BY	156	VAL
57	BY	158	VAL
57	BY	191	LEU
57	BY	204	THR
57	BY	208	THR
57	BY	225	ASP
57	BY	248	THR
57	BY	257	VAL
57	BY	265	VAL
57	BY	266	GLU
57	BY	271	LEU
57	BY	273	LEU
57	BY	306	VAL
57	BY	349	SER
57	BY	350	ASP
57	BX	78	VAL
57	BX	80	ASP
57	BX	82	VAL
57	BX	107	VAL
57	BX	145	THR
57	BX	147	VAL
57	BX	150	VAL
57	BX	158	VAL
57	BX	162	SER
57	BX	163	ASP
57	BX	165	TYR
57	BX	188	ASN
57	BX	215	ASP
57	BX	242	THR
57	BX	246	ILE
57	BX	248	THR
57	BX	260	LEU
57	BX	261	LEU
57	BX	264	ILE
57	BX	270	LEU
57	BX	271	LEU

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Mol	Chain	Res	Type
57	BX	273	LEU
57	BX	274	CYS
57	BX	319	LEU
57	BX	341	SER
58	BZ	48	LEU
58	BZ	51	LYS
58	BZ	54	GLU
58	BZ	61	THR
58	BZ	65	PHE
58	BZ	93	HIS
58	BZ	94	ILE
58	BZ	95	TYR
58	BZ	97	TYR
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	115	ASP
58	BZ	118	VAL
58	BZ	120	VAL
58	BZ	125	PHE
58	BZ	183	VAL
58	BZ	185	ILE
58	BZ	189	HIS
58	BZ	209	GLN
58	BZ	211	PRO
58	BZ	213	ILE
58	BZ	224	CYS
58	BZ	227	LEU
58	BZ	286	THR
58	BZ	311	ILE
58	BZ	317	THR
58	BZ	322	GLN
58	BZ	345	SER
58	BZ	347	PHE
58	BZ	351	LEU
58	BZ	383	VAL
58	BZ	400	LEU
58	BZ	404	VAL
59	CC	70	ASP

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Mol	Chain	Res	Type
59	CC	100	VAL
59	CC	105	LEU
59	CC	110	VAL
59	CC	122	ILE
59	CC	136	ILE
59	CC	138	ASP
60	CD	37	ASN
60	CD	60	THR
60	CD	80	VAL
60	CD	100	ARG
60	CD	103	SER
60	CD	118	LEU
61	BT	55	LEU
61	BT	76	LEU
61	BT	138	CYS
61	BT	146	VAL
61	BT	151	THR
61	BT	176	LYS
61	BT	178	THR
61	BT	205	VAL
61	BT	220	LEU
61	BT	235	THR
61	BT	258	ASP
61	BT	266	VAL
61	BT	273	ILE
61	BT	289	LEU
61	BT	298	ASP
61	BT	305	GLU
61	BT	313	THR
61	BT	329	HIS
61	BT	339	ILE
61	BT	343	VAL
62	BU	31	VAL
62	BU	36	ARG
62	BU	39	SER
62	BU	42	SER
62	BU	60	ILE
62	BU	73	GLU
62	BU	78	LEU
62	BU	103	THR
62	BU	111	ILE
62	BU	116	VAL

Continued on next page...

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Mol	Chain	Res	Type
62	BU	141	LEU
62	BU	179	LEU
62	BU	225	THR
62	BU	231	VAL
62	BU	237	THR
62	BU	242	THR
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	298	LEU
62	BU	309	ILE
62	BU	315	VAL
62	BU	320	ASP
62	BU	325	HIS
62	BU	345	VAL
62	BU	355	LEU
62	BU	360	THR
62	BU	364	ILE
62	BU	365	ASP
62	BU	366	PHE
62	BU	374	GLU
62	BU	375	VAL
62	BU	382	VAL
62	BU	386	HIS
62	BU	396	ASP
62	BU	427	ILE
62	BU	446	THR
62	BU	447	PHE
62	BU	448	LEU
62	BU	481	VAL
63	BW	100	SER
63	BW	111	VAL
63	BW	113	ASP
63	BW	114	ASN
63	BW	142	THR
63	BW	148	LEU
63	BW	161	GLU
63	BW	173	GLN

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Mol	Chain	Res	Type
63	BW	186	LEU
63	BW	194	ILE
63	BW	195	LEU
63	BW	205	GLN
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	253	ILE
63	BW	265	GLU
63	BW	288	VAL
63	BW	303	LEU
63	BW	340	LEU
63	BW	509	THR
63	BW	519	THR
63	BW	520	THR
63	BW	526	LEU
63	BW	559	ILE
63	BW	565	VAL
63	BW	574	VAL
63	BW	578	ILE
63	BW	598	ARG
63	BW	605	VAL
63	BW	613	GLN
63	BW	639	ASP
63	BW	650	THR
63	BW	652	LYS
63	BW	656	LEU
63	BW	660	TYR
64	BV	105	LYS
64	BV	135	LEU
64	BV	157	ARG
64	BV	160	GLU
64	BV	163	GLN
64	BV	227	THR
64	BV	303	LEU
64	BV	323	THR

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Mol	Chain	Res	Type
71	BR	45	SER
71	BR	59	THR
71	BR	69	THR
71	BR	76	LYS
71	BR	78	ILE
71	BR	87	LEU
71	BR	131	THR
71	BR	270	GLU
71	BR	276	SER
71	BR	281	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (320) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	161	ASN
1	A	235	GLN
2	B	33	HIS
2	B	60	HIS
2	B	74	GLN
2	B	124	ASN
2	B	133	GLN
2	B	172	HIS
2	B	177	HIS
2	B	200	ASN
2	B	226	GLN
2	B	351	HIS
2	B	355	GLN
2	B	378	GLN
3	C	151	GLN
3	C	175	HIS
3	C	192	GLN
4	E	93	HIS
4	E	198	HIS
5	F	32	GLN
5	F	37	GLN
5	F	133	HIS
5	F	135	HIS
6	G	18	HIS
6	G	19	GLN
6	G	77	HIS
6	G	89	GLN
6	G	199	HIS

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Mol	Chain	Res	Type
6	G	202	ASN
6	G	319	HIS
7	I	18	HIS
7	I	65	HIS
7	I	120	HIS
7	I	206	GLN
7	I	222	HIS
7	I	229	HIS
7	I	242	HIS
8	J	8	ASN
8	J	98	ASN
8	J	123	HIS
9	K	56	HIS
9	K	96	GLN
9	K	128	GLN
9	K	145	HIS
10	L	14	GLN
10	L	30	HIS
10	L	76	HIS
10	L	86	GLN
10	L	91	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	93	ASN
12	N	123	HIS
12	N	161	ASN
12	N	235	GLN
13	O	52	ASN
13	O	113	HIS
13	O	164	ASN
13	O	169	GLN
13	O	170	ASN
13	O	172	ASN
13	O	212	HIS
13	O	260	GLN
13	O	314	GLN
14	Q	47	ASN

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Mol	Chain	Res	Type
14	Q	71	HIS
14	Q	164	GLN
14	Q	175	GLN
15	R	67	HIS
15	R	176	GLN
15	R	416	GLN
16	S	256	ASN
16	S	374	GLN
16	S	392	GLN
18	V	38	GLN
18	V	106	GLN
18	V	114	ASN
19	Z	67	ASN
19	Z	70	HIS
19	Z	91	ASN
19	Z	99	HIS
20	BA	91	HIS
20	BA	121	GLN
20	BA	125	ASN
21	CA	136	GLN
21	CA	171	HIS
21	CA	210	GLN
21	CA	217	HIS
21	CA	221	HIS
21	CA	231	HIS
21	CA	244	GLN
21	CA	276	ASN
21	CA	303	HIS
21	CA	329	ASN
21	CA	363	HIS
21	CA	408	GLN
21	CA	470	HIS
21	CA	491	ASN
21	CA	562	ASN
23	BB	28	GLN
23	BB	55	GLN
24	CB	58	ASN
24	CB	108	HIS
25	BK	162	HIS
25	BK	178	ASN
25	BK	189	GLN
25	BK	304	ASN

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Mol	Chain	Res	Type
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	802	HIS
25	BK	819	ASN
25	BK	856	ASN
25	BK	871	GLN
26	BQ	12	GLN
26	BQ	22	HIS
26	BQ	25	HIS
26	BQ	93	ASN
26	BQ	117	ASN
26	BQ	202	ASN
26	BQ	271	HIS
26	BQ	302	GLN
26	BQ	351	ASN
27	BN	78	ASN
27	BN	186	GLN
27	BN	237	HIS
29	BO	24	ASN
29	BO	49	ASN
29	BO	99	HIS
29	BO	135	GLN
29	BO	144	GLN
29	BO	173	HIS
29	BO	175	ASN
29	BO	176	HIS
29	BO	179	HIS
30	At	69	ASN
30	At	73	HIS
30	At	148	ASN
30	At	161	GLN
31	Au	122	HIS
31	Au	157	GLN
32	Ae	12	ASN
32	Ae	37	HIS
32	Ae	54	ASN
32	Ae	72	ASN
32	Ae	74	ASN

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Mol	Chain	Res	Type
32	Ae	78	HIS
32	Ae	79	GLN
32	Ae	154	HIS
32	Ae	170	HIS
33	Af	20	HIS
33	Af	56	GLN
33	Af	77	GLN
33	Af	105	GLN
34	Ah	115	ASN
34	Ah	183	HIS
34	Ah	191	GLN
34	Ah	271	GLN
34	Ah	346	ASN
34	Ah	384	GLN
34	Ah	389	ASN
34	Ah	461	HIS
35	Ap	36	GLN
35	Ap	44	GLN
35	Ap	81	HIS
35	Ap	87	GLN
35	Ap	101	GLN
35	Ap	168	ASN
35	Ap	175	HIS
35	Ap	189	HIS
35	Ap	207	ASN
36	Al	98	GLN
36	Al	116	ASN
36	Al	133	GLN
36	Al	162	ASN
36	Al	190	HIS
36	Al	201	GLN
36	Al	219	ASN
36	Al	248	ASN
36	Al	283	HIS
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

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Mol	Chain	Res	Type
38	Aa	120	GLN
38	Aa	154	ASN
38	Aa	176	GLN
39	BP	3	HIS
39	BP	49	GLN
39	BP	75	GLN
40	Az	24	HIS
40	Az	70	HIS
40	Az	76	HIS
40	Az	114	HIS
40	Az	118	HIS
40	Az	128	GLN
41	Am	148	ASN
41	Am	162	GLN
41	Am	184	ASN
41	Am	285	HIS
41	Am	315	ASN
42	As	54	ASN
42	As	94	ASN
42	As	147	GLN
43	BG	1268	GLN
44	Ad	84	GLN
44	Ad	230	HIS
45	Aw	46	ASN
45	Aw	56	ASN
45	Aw	77	ASN
45	Aw	89	HIS
46	BH	138	ASN
46	BH	149	ASN
47	Aj	221	GLN
47	Aj	242	HIS
47	Aj	325	GLN
47	Aj	327	HIS
47	Aj	341	ASN
47	Aj	365	GLN
47	Aj	388	GLN
47	Aj	389	GLN
47	Aj	439	HIS
47	Aj	482	GLN
47	Aj	491	ASN
48	Ar	96	GLN
48	Ar	105	ASN

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Mol	Chain	Res	Type
49	An	122	GLN
49	An	138	GLN
49	An	244	HIS
49	An	262	HIS
49	An	267	GLN
49	An	301	GLN
51	Av	117	HIS
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
53	Ag	41	ASN
53	Ag	130	GLN
54	Bl	143	GLN
54	Bl	173	GLN
55	Ax	85	HIS
55	Ax	95	GLN
55	Ax	183	HIS
55	Ax	188	ASN
56	BS	292	GLN
56	BS	378	HIS
57	BY	83	ASN
57	BY	84	HIS
57	BY	89	HIS
57	BY	140	HIS
57	BY	213	GLN
57	BY	262	ASN
57	BY	263	HIS
57	BY	278	GLN
57	BY	324	GLN
57	BY	342	GLN
57	BX	183	ASN
57	BX	188	ASN
57	BX	229	HIS
57	BX	278	GLN
58	BZ	67	GLN
58	BZ	90	GLN
58	BZ	93	HIS
58	BZ	100	ASN

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Mol	Chain	Res	Type
58	BZ	154	HIS
58	BZ	173	HIS
58	BZ	215	HIS
58	BZ	269	HIS
58	BZ	273	GLN
58	BZ	301	ASN
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
61	BT	164	HIS
62	BU	59	ASN
62	BU	125	HIS
62	BU	289	GLN
62	BU	313	HIS
62	BU	325	HIS
62	BU	327	ASN
62	BU	390	ASN
62	BU	430	HIS
63	BW	114	ASN
63	BW	173	GLN
63	BW	283	HIS
63	BW	342	HIS
63	BW	374	HIS
63	BW	524	HIS
63	BW	525	GLN
63	BW	537	HIS
63	BW	558	ASN
63	BW	579	ASN
64	BV	170	ASN
64	BV	232	HIS
64	BV	235	HIS
71	BR	80	HIS
71	BR	113	GLN
71	BR	142	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
73	1	790/19000 (4%)	466 (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%)	492 (59%)	88 (10%)

All (492) 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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
73	1	470	U
73	1	471	A
73	1	472	A
73	1	473	U
73	1	474	U
73	1	479	A
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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:

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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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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 oligosaccharides 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	$\# Z > 2$
79	ATP	BW	801	-	32,33,33	0.50	0	48,52,52	0.65	0
78	GTP	BU	501	-	33,34,34	0.61	0	50,54,54	0.69	1 (2%)

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
79	ATP	BW	801	-	-	1/22/38/38	0/3/3/3
78	GTP	BU	501	-	-	7/22/38/38	0/3/3/3

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
78	BU	501	GTP	O4'-C4'-C3'	-2.59	100.02	105.15

There are no chirality outliers.

All (8) torsion outliers are listed below:

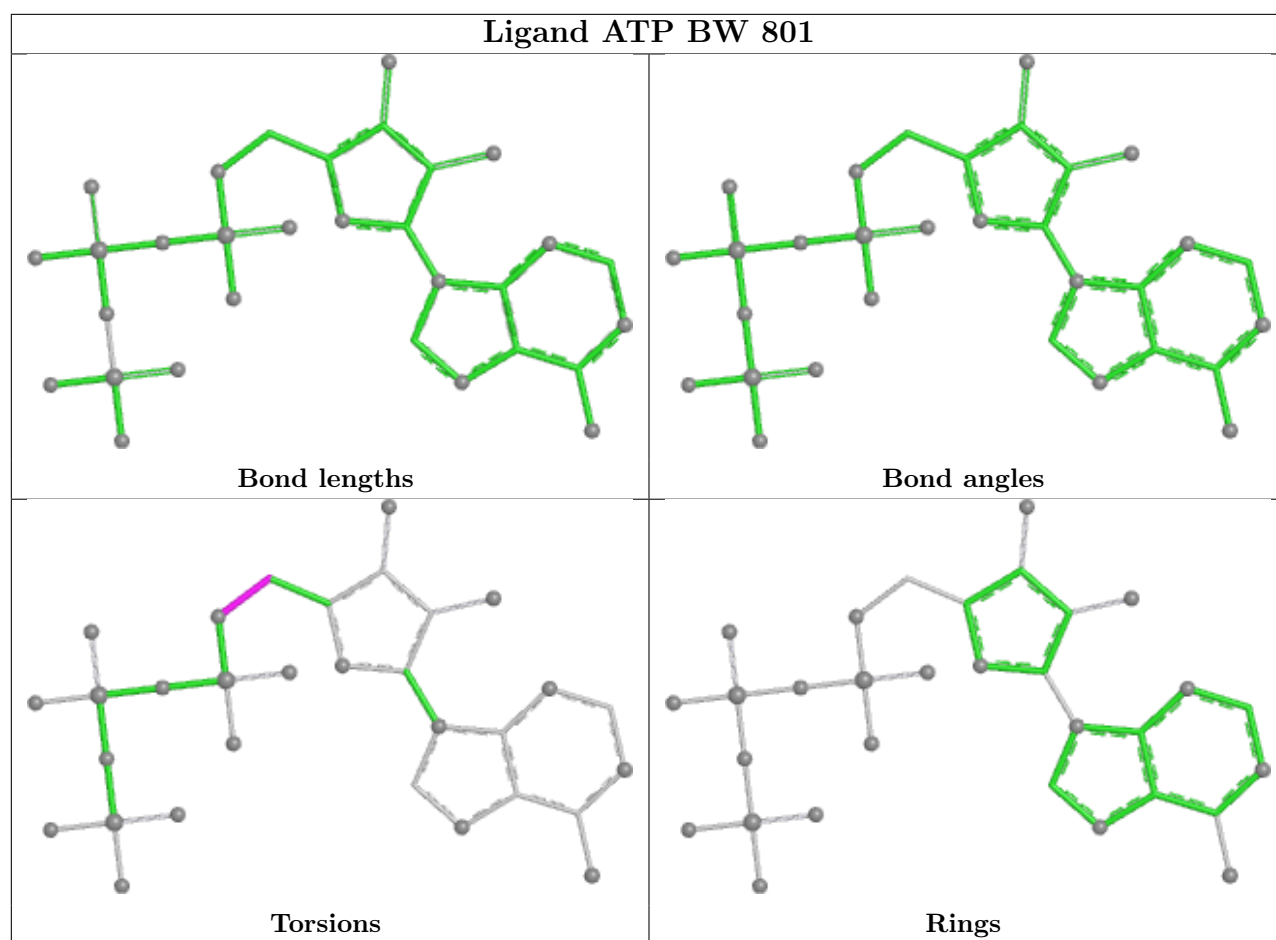
Mol	Chain	Res	Type	Atoms
78	BU	501	GTP	PB-O3A-PA-O5'
78	BU	501	GTP	C5'-O5'-PA-O3A
78	BU	501	GTP	C5'-O5'-PA-O2A
78	BU	501	GTP	O4'-C1'-N9-C4
78	BU	501	GTP	O4'-C4'-C5'-O5'
78	BU	501	GTP	O4'-C1'-N9-C8
78	BU	501	GTP	C4'-C5'-O5'-PA
79	BW	801	ATP	C4'-C5'-O5'-PA

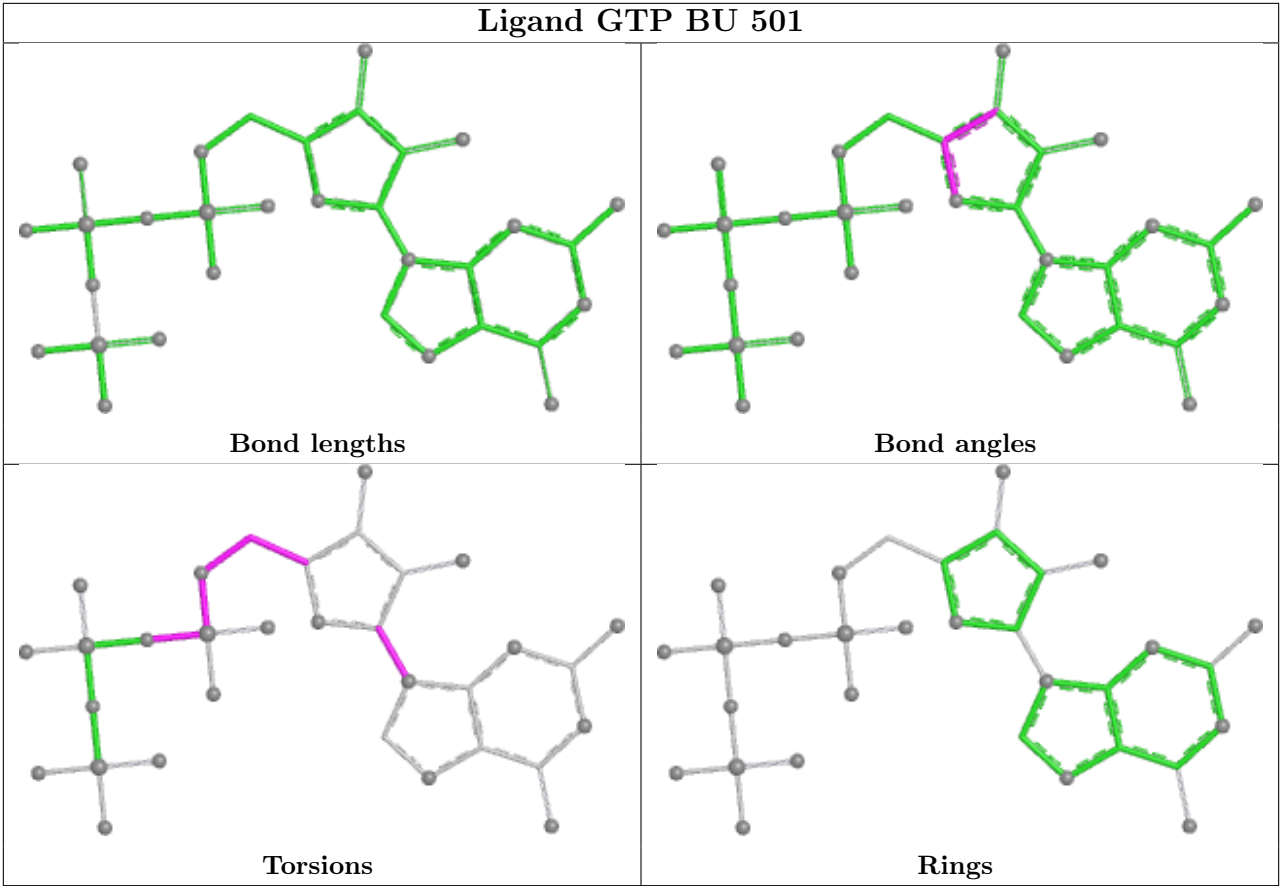
There are no ring outliers.

2 monomers are involved in 13 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
79	BW	801	ATP	4	0
78	BU	501	GTP	9	0

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





5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

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

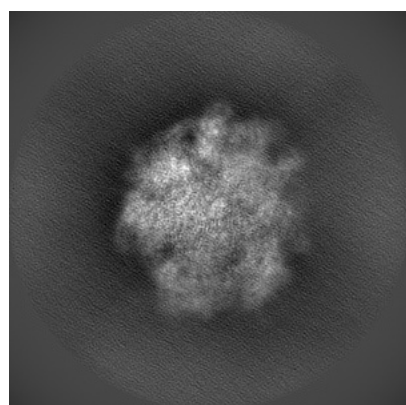
6 Map visualisation [i](#)

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.

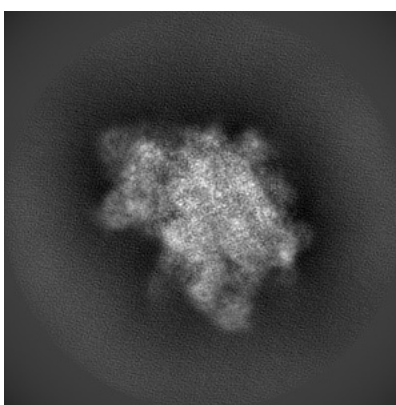
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

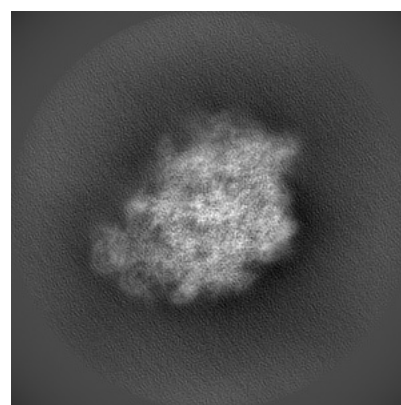
6.1.1 Primary map



X



Y

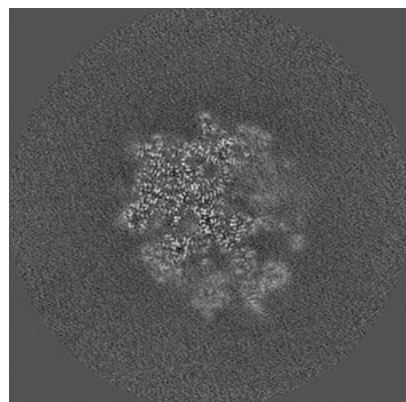


Z

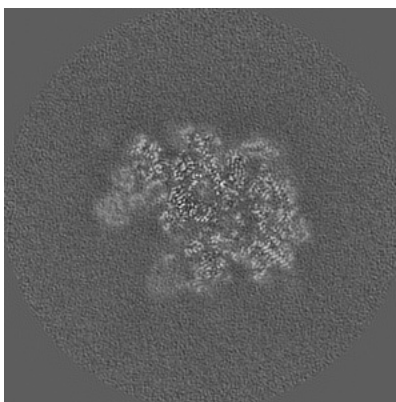
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

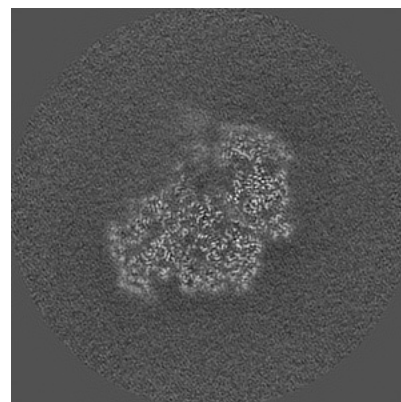
6.2.1 Primary map



X Index: 204



Y Index: 204

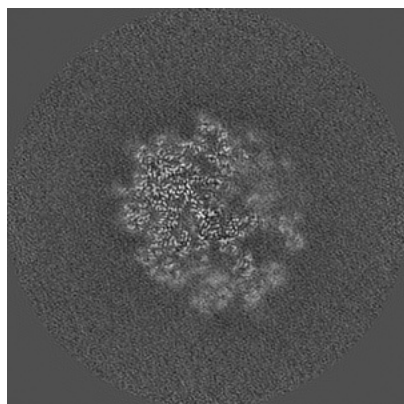


Z Index: 204

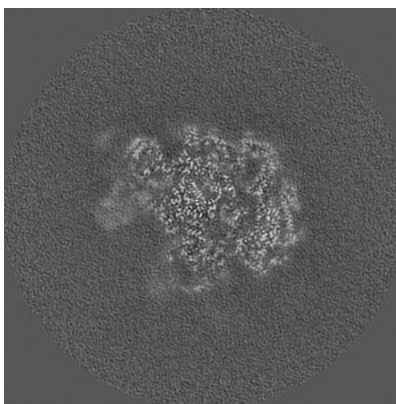
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

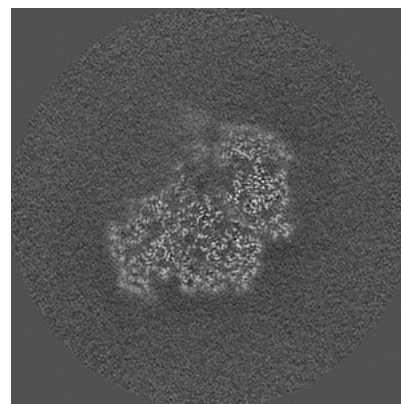
6.3.1 Primary map



X Index: 208



Y Index: 198

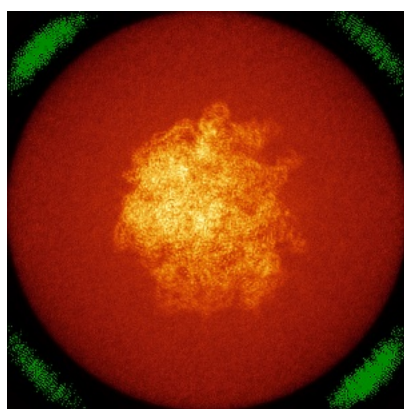


Z Index: 204

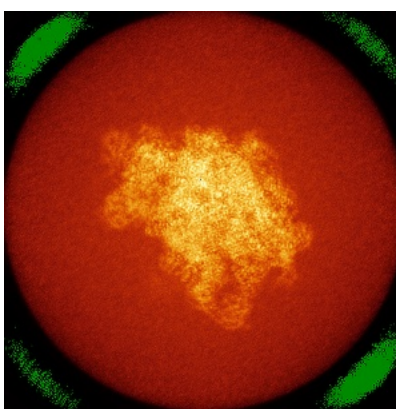
The images above show the largest variance slices of the map in three orthogonal directions.

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

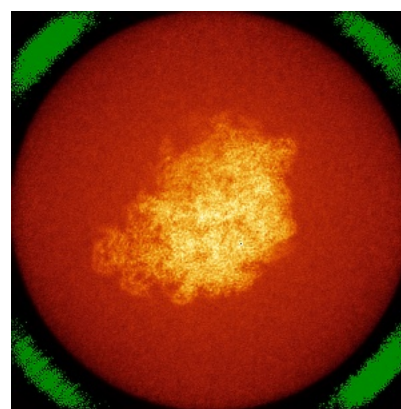
6.4.1 Primary map



X



Y

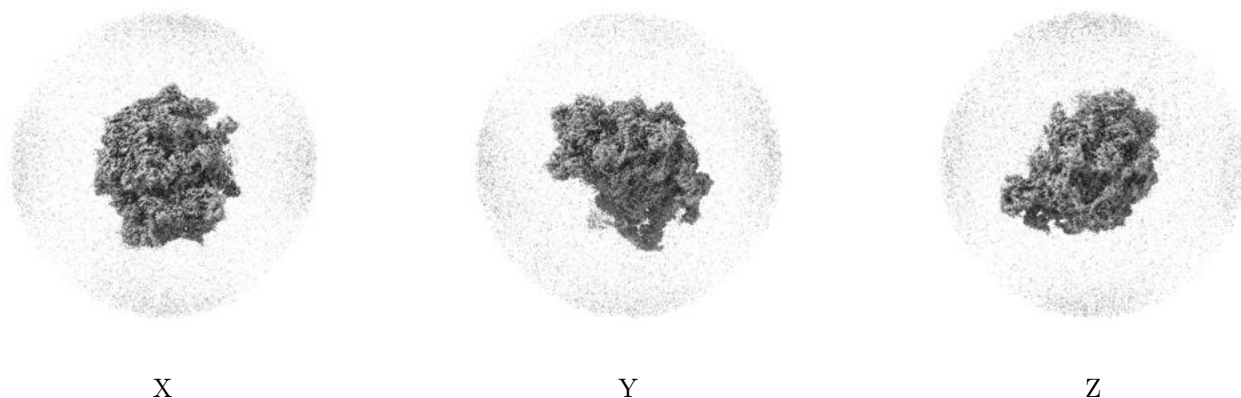


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.04. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

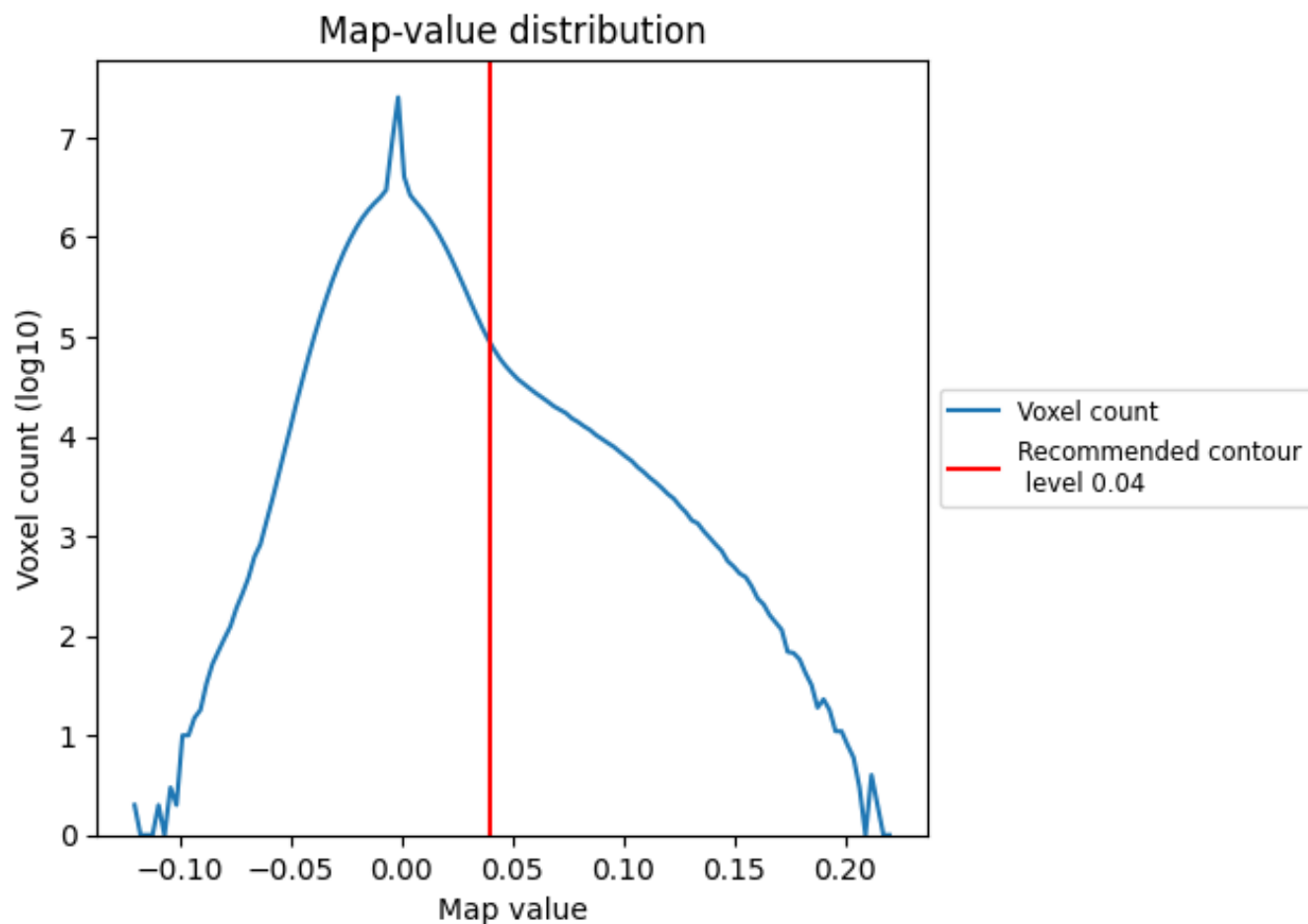
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

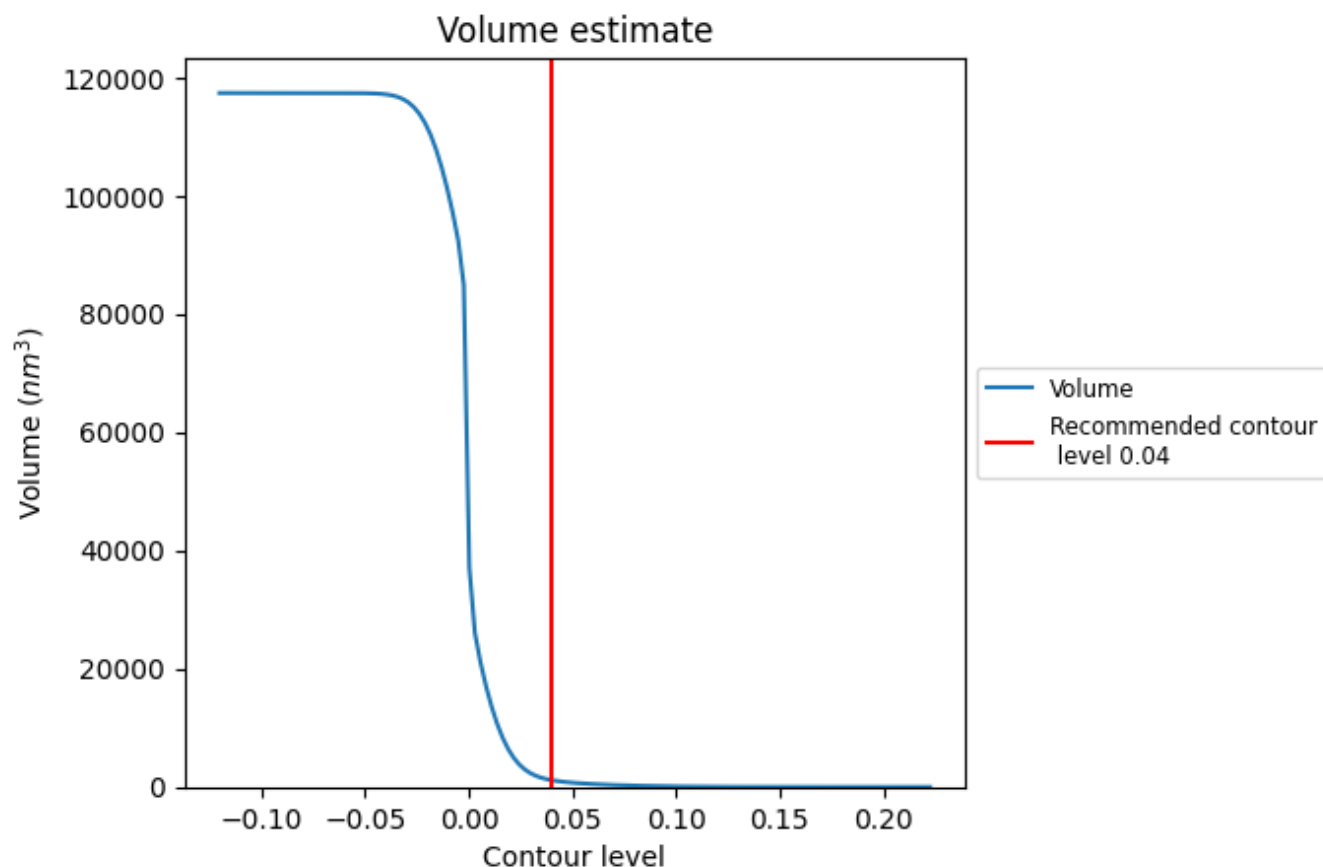
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

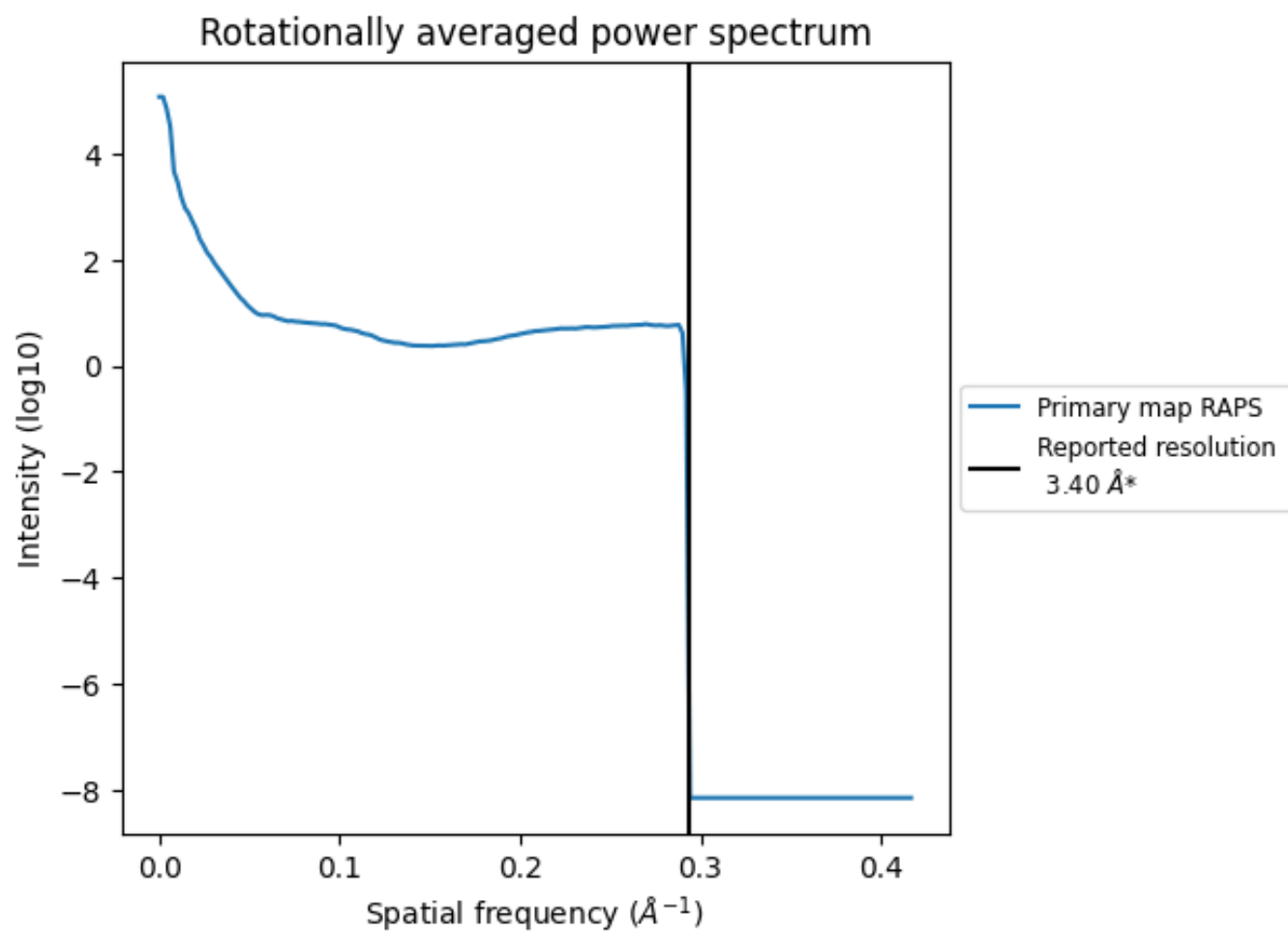
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1146 nm³; this corresponds to an approximate mass of 1035 kDa.

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

7.3 Rotationally averaged power spectrum [i](#)



*Reported resolution corresponds to spatial frequency of 0.294 Å⁻¹

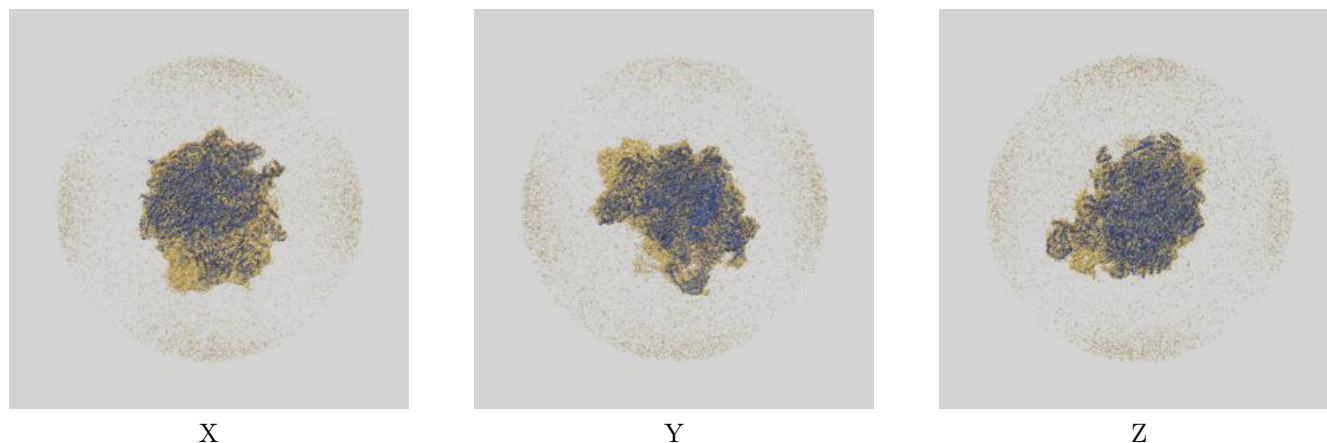
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

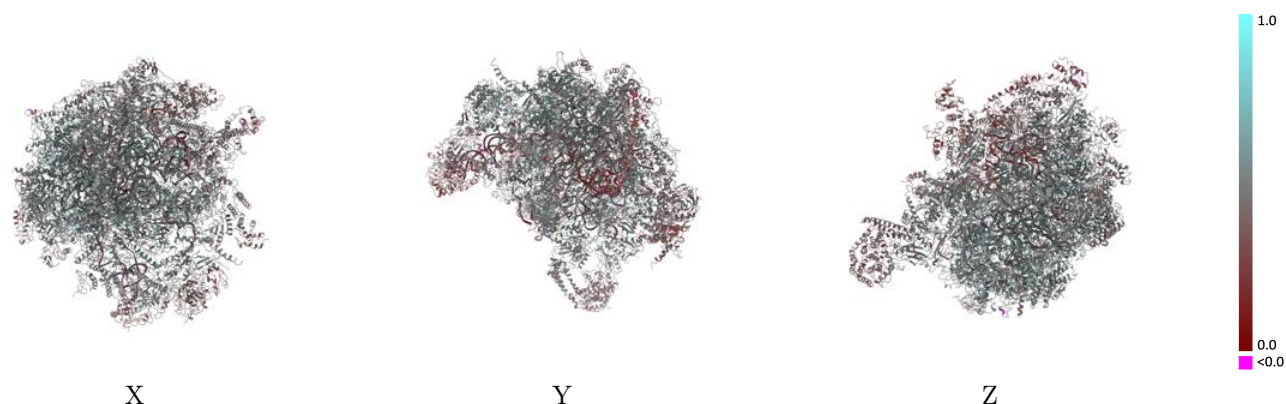
This section contains information regarding the fit between EMDB map EMD-11821 and PDB model 7AM2. Per-residue inclusion information can be found in section [3](#) on page [20](#).

9.1 Map-model overlay [i](#)



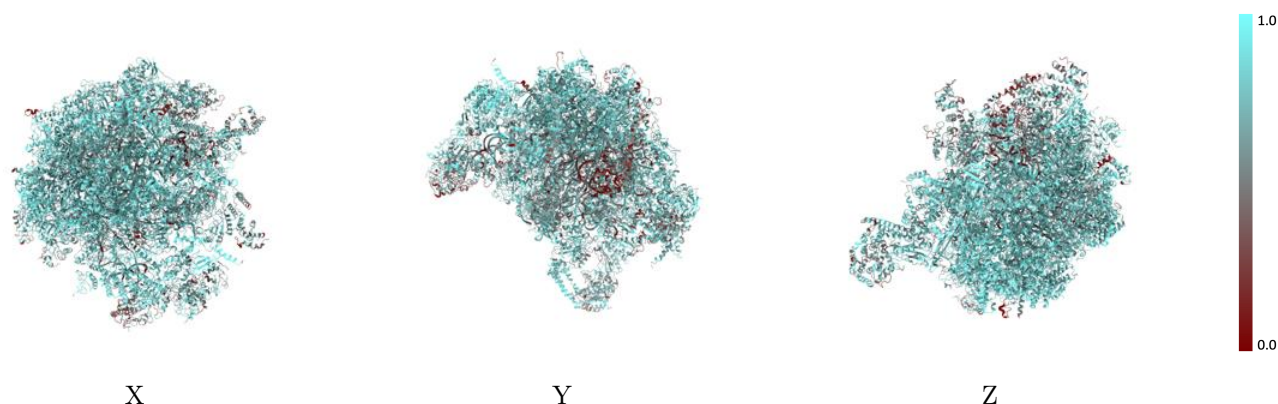
The images above show the 3D surface view of the map at the recommended contour level 0.04 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



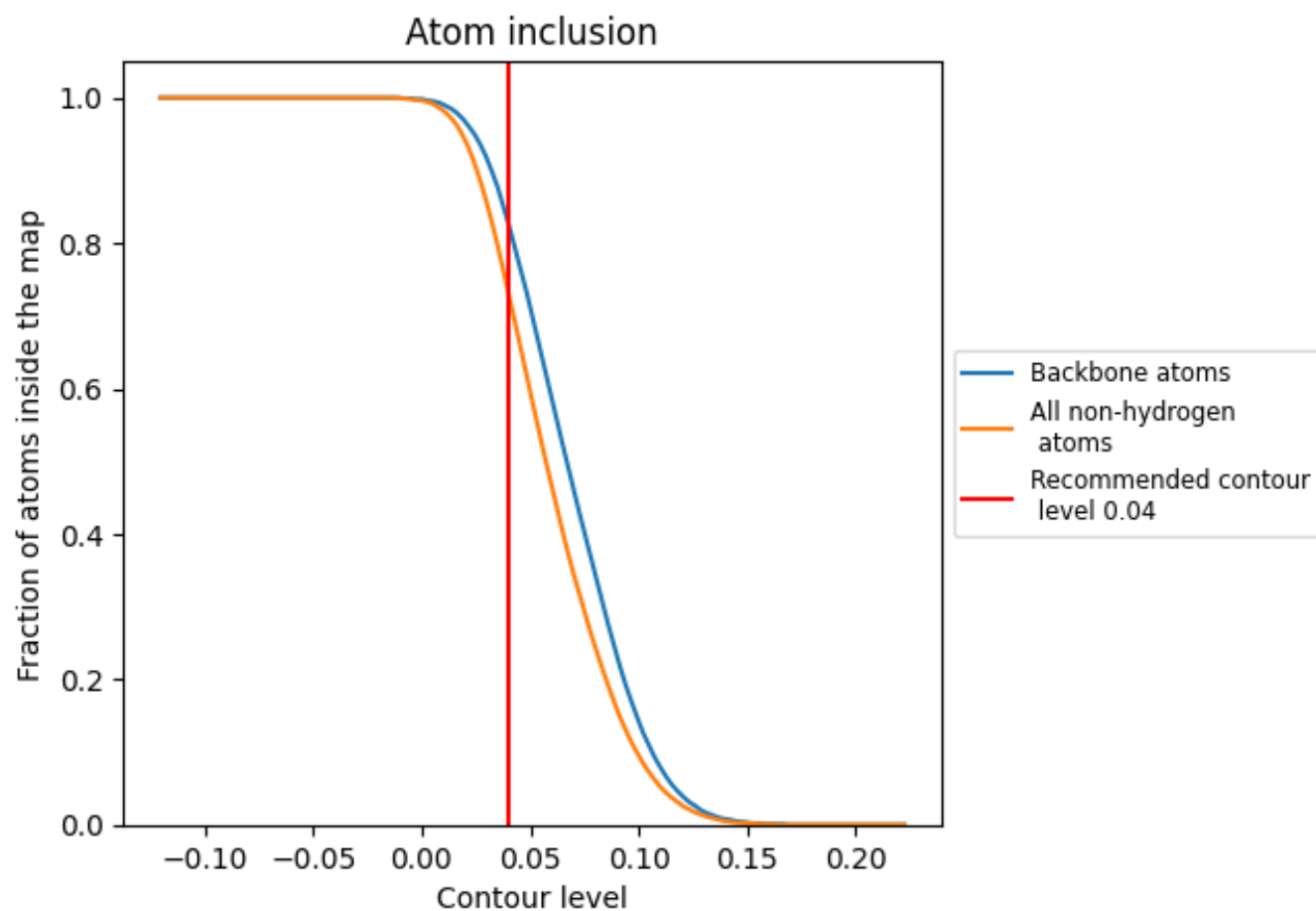
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.04).

9.4 Atom inclusion [i](#)



At the recommended contour level, 83% of all backbone atoms, 73% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.04) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7320	 0.4690
1	 0.7180	 0.4210
A	 0.7990	 0.5290
Aa	 0.7820	 0.5070
Ab	 0.8220	 0.5180
Ad	 0.8320	 0.5290
Ae	 0.7890	 0.5050
Af	 0.7710	 0.5090
Ag	 0.8150	 0.5250
Ah	 0.6620	 0.3970
Aj	 0.8210	 0.5190
Al	 0.7450	 0.4990
Am	 0.8200	 0.5130
An	 0.6080	 0.4010
Ap	 0.6860	 0.4290
Ar	 0.7540	 0.4800
As	 0.6880	 0.4540
At	 0.8440	 0.5220
Au	 0.7930	 0.4740
Av	 0.4000	 0.3300
Aw	 0.8590	 0.5230
Ax	 0.2640	 0.3760
Az	 0.8470	 0.5230
B	 0.8400	 0.5370
BA	 0.6560	 0.4420
BB	 0.7040	 0.5030
BE	 0.7550	 0.5050
BF	 0.7080	 0.4870
BG	 0.5940	 0.4300
BH	 0.8280	 0.5060
BK	 0.7860	 0.5000
BM	 0.6160	 0.3750
BN	 0.7360	 0.4700
BO	 0.7050	 0.4770
BP	 0.8190	 0.5310



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Chain	Atom inclusion	Q-score
BQ	 0.7440	 0.4700
BR	 0.7380	 0.4710
BS	 0.5660	 0.4300
BT	 0.5040	 0.4440
BU	 0.6810	 0.4650
BV	 0.5760	 0.4260
BW	 0.7660	 0.5110
BX	 0.6740	 0.4250
BY	 0.5730	 0.3530
BZ	 0.7190	 0.4910
Bl	 0.7890	 0.4370
C	 0.7890	 0.4870
CA	 0.7560	 0.4660
CB	 0.7050	 0.4570
CC	 0.5140	 0.3370
CD	 0.7130	 0.4440
E	 0.4920	 0.3790
F	 0.8040	 0.5490
G	 0.7750	 0.5130
I	 0.7630	 0.4960
J	 0.7840	 0.5040
K	 0.8160	 0.5230
L	 0.8220	 0.5310
M	 0.8150	 0.5270
N	 0.7440	 0.4920
O	 0.7420	 0.4850
Q	 0.7880	 0.4930
R	 0.8080	 0.4870
R1	 0.8550	 0.4300
R2	 0.8290	 0.3970
R5	 0.7100	 0.1690
S	 0.7870	 0.5270
T	 0.8500	 0.5420
U1	 0.8040	 0.4680
U2	 0.8970	 0.5410
U3	 0.8190	 0.4520
U4	 0.8220	 0.4370
U5	 0.8490	 0.5050
U6	 0.8820	 0.4860
U7	 0.8200	 0.4720
U8	 0.8310	 0.5330
UA	 0.3680	 0.3300

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Chain	Atom inclusion	Q-score
V	 0.7790	 0.5250
Z	 0.8030	 0.4950